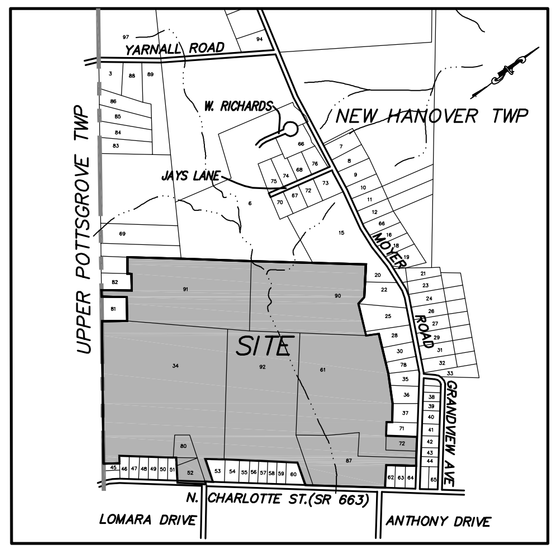
AMENDED FINAL SUBDIVISION PLANS

PREPARED FOR

ZAVITSANOS TRACT

SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA



LOCATION MAP
SCALE: 1" = 800'

OWNER / APPLICANT

KTMT REALTY, L.P.
1030 REED AVENUE, SUITE 100
WYOMISSING, PA. 19610
PH. (610) 288-7720
c/o MICHAEL V. TULIO

APRIL 7, 2005
REVISED: JUNE 1, 2015

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REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	2/24/12
FOR TOWNSHIP SUBMISSION	BSF	1/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/11/11
ADD PHASING INFORMATION	BSF	05/31/11
PER BCE, F.C., McM. & GAN.FLMG. LTRS. 11/07-01/08	BSF	10/19/10
REV. R/W AND SITE DATA	BSF	10/17/07
REV. FOR E&S SUBMISSION	BSF	08/21/07
REV. FOR VALUE ENGINEERING	BSF	05/10/07
REV. PER TWP COMMENTS DATED 11/28/06	BSF	01/02/07
REV. PER TWP COMMENTS DATED 9/11/06	BSF	10/12/06
REV. PER MCCD VERBAL COMMENTS 8/02/06	BSF	08/02/06
REV. PER TWP COMMENTS DATED 2/10/06	BSF	06/07/06
REV. PER MCCD LTR DATED 5/8/06	BSF	06/05/06
REV. PER TWP AUTHORITY LTR 1/30/06	BSF	03/03/06
REV. PER MCCD LTR DATED 1/05/06	BSF	02/28/06
REV. PER TWP. COMMENTS DATED 11/11/05	BSF	12/19/05
REV. PER TWP. COMMENTS DATED 8/31/05	BSF	10/14/05
REVISED TOWNSHIP SUBMISSION	BSF	07/07/05
REVISED PER TWP & CLIENT REVIEWS	BSF	07/01/05

PLAN NOTATION

ONLY THOSE PLANS WHICH CONTAIN AN IMPRESSED SEAL OR A RED INK SEAL OF THE RESPONSIBLE PROFESSIONAL SHALL BE CONSIDERED VALID. THIS PLAN HAS BEEN SPECIFICALLY PREPARED FOR THE OWNER DESIGNATED HEREON. ANY MODIFICATION, REVISION, DUPLICATION OR USE WITHOUT THE WRITTEN CONSENT OF VAN CLEEF ENGINEERING ASSOCIATES IS PROHIBITED. RELIANCE ON THIS PLAN FOR ANY PURPOSE OTHER THAN THAT WHICH IS INTENDED SHALL BE AT THE SOLE DISCRETION AND LIABILITY OF THE APPLICABLE PARTY.

Van Cleef
ENGINEERING ASSOCIATES

4 WELLINGTON BLVD., WYOMISSING, PA 19610
EMAIL: BERKSCOUNTYPA@VCEA.ORG WEB: WWW.VCEA.ORG
PHONE (610) 670-6630 FAX (610) 670-4603

Consulting Civil Engineering
Environmental Engineering
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture

OFFICES THROUGHOUT
NJ, EASTERN PA, DE, AND MD

SAM ERNEY
12/21/2010
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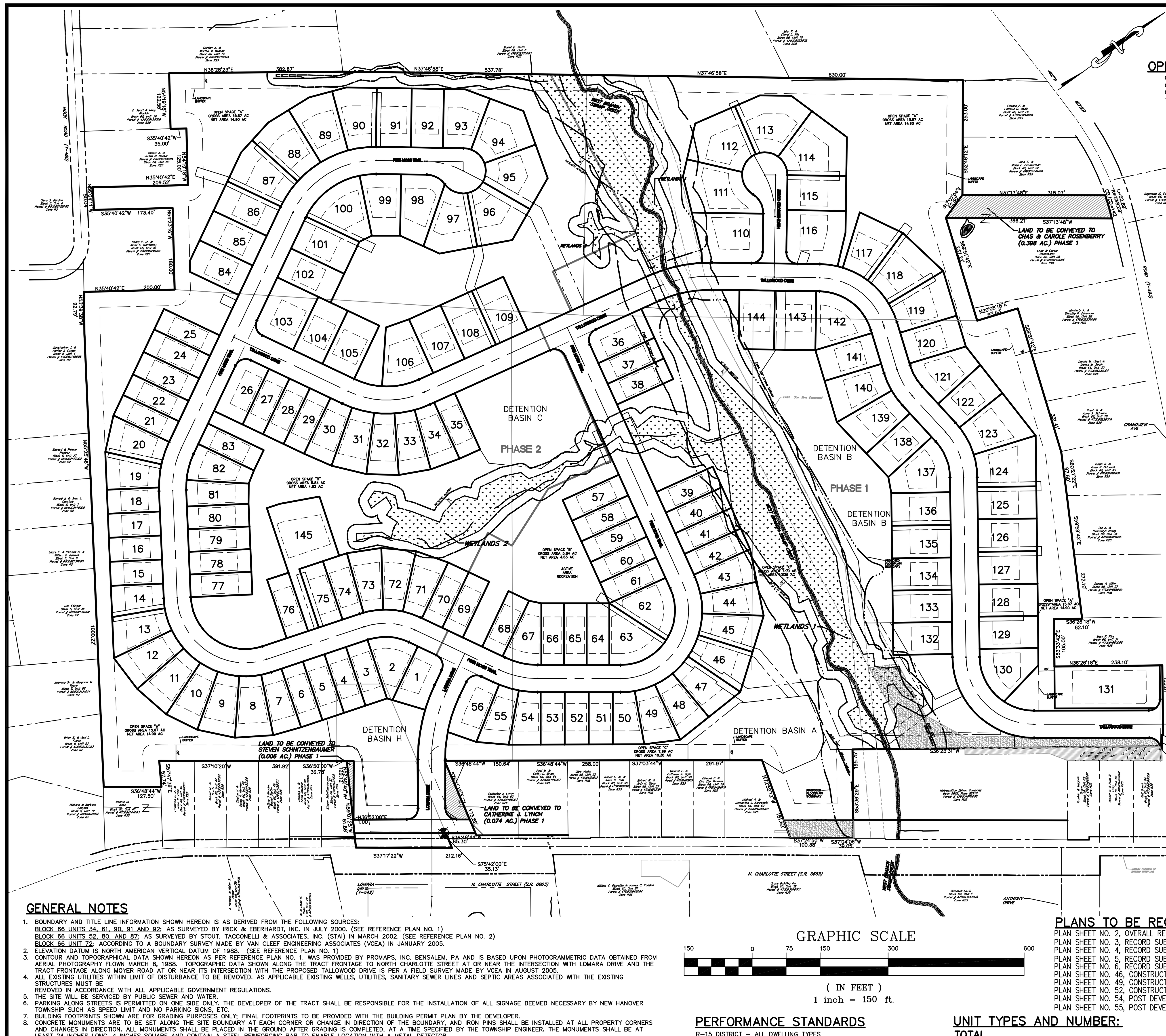


OPEN SPACE NOTE

OPEN SPACE LAND MAY NOT BE SEPARATELY SOLD, NOR SHALL SUCH LAND BE FURTHER DEVELOPED OR SUBDIVIDED.

OPEN SPACE SUMMARY

OPEN SPACE "A"	NET 14.90 AC
OPEN SPACE "B"	NET 4.63 AC
OPEN SPACE "C"	NET 7.99 AC
TOTAL	=27.52 AC NET

LENGTH OF PROPOSED STREETS

LOMARA DRIVE	440.06 FT.
TALLOWOOD DRIVE	2,893.24 FT.
PIXIE MOSS TRAIL	3,394.14 FT.
HEATHERWOOD COURT	279.13 FT.

LOT RESTRICTIONS

1. ALL LOTS SHALL BE DEED RESTRICTED TO REQUIRE THAT ACCESS BE TAKEN VIA THE LOWER ORDER STREET.
2. A DEED RESTRICTION SHALL BE PLACED ON ANY INDIVIDUAL LOTS AGAINST FILLING IN OF THE WETLAND AREAS OR OTHERWISE DISTURBING THEM. LOTS CONTAINING WETLAND MARGINS ARE PROHIBITED FROM ANY ACTIVITIES WHICH WOULD NEGATIVELY AFFECT THE FUNCTIONALITY OF THE ASSOCIATED WETLANDS.
3. THE HOMEOWNERS ASSOCIATION WILL ASSUME RESPONSIBILITY FOR THE MAINTENANCE OF DETENTION BASINS "A", "B", "C" AND "H".
4. AFFECTED LOTS CONTAINING WETLAND MARGIN AREAS: 39, 40, 41, 42, 43, 71, AND 72. AFFECTED LOTS CONTAINING STREAM CORRIDORS: 36, 37, 38, 39, 40, 41, 42, 43, 44, 110, 111, 112, 132, AND 144.

SITE STATISTICS

1. SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX ASSESSMENT INFORMATION AS FOLLOWS:
NEW HANOVER TOWNSHIP
1) BLOCK 66, UNIT 34 (TMP-470004072003) 5) BLOCK 66, UNIT 90 (TMP-470005242003)
2) BLOCK 66, UNIT 52 (TMP-470004112008) 6) BLOCK 66, UNIT 91 (TMP-470005125003)
3) BLOCK 66, UNIT 61 (TMP-470005209009) 7) BLOCK 66, UNIT 92 (TMP-470004077007)
4) BLOCK 66, UNIT 80 (TMP-470004116004) 8) BLOCK 66, UNIT 72 (TMP-470001884004)
2. RECORDED DEED DATA IS AS FOLLOWS:
AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT NORRISTOWN, PENNSYLVANIA.
1) DEED BOOK 5862 / PAGE 2537 5) DEED BOOK 5862 / PAGE 2537
2) DEED BOOK 5862 / PAGE 2537 6) DEED BOOK 5862 / PAGE 2537
3) DEED BOOK 5862 / PAGE 2537 7) DEED BOOK 5928 / PAGE 2347
4) DEED BOOK 5862 / PAGE 2537 8) DEED BOOK 5549 / PAGE 2505
3. NAMES AND ADDRESSES OF THE OWNERS OF THE SUBJECT TRACT:
1) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
2) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
3) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
4) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
5) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
6) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
7) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
8) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610

RESOURCE PROTECTION STANDARDS

1. BASE SITE AREA CALCULATION:

GROSS TRACT AREA	= 72.377 AC.
– ULTIMATE R/W	= 0.492 AC.
– EASEMENTS	= 3.608 AC.
– CONVEYANCES	= 0.478 AC.
BASE TRACT AREA	= 67.799 AC.

2. LAND WITHIN RESOURCE RESTRICTIONS AND PROTECTION:

TYPE	RATIO	ACRES	ACRES X RATIO
FLOOD WAY	100%	0.00	0.00
FLOOD WAY FRINGE	80%	0.00	0.00
FLOOD PLAIN SOILS	100%	12.18	12.18
WOODLANDS	50%	15.44	7.72
WATERCOURSES	100%	0.06	0.06
WETLANDS	100%	0.82	0.82
POND SHORELINES	80%	0.00	0.00
WETLAND MARGINS	80%	1.32	1.06
15-25 PERCENT SLOPES	70%	0.29	0.20
25+ PERCENT SLOPES	80%	0.01	0.01
TOTALS		30.12	22.05

NOTE: WHEN TWO OR MORE RESOURCES OVERLAPPED, ONLY THE RESOURCE WITH THE HIGHEST OPEN SPACE RATIO WAS USED IN THE CALCULATIONS FOR THE AREA OF OVERLAP.

3. RECREATION LAND = 1/3 (0.35) (67.799 AC. – 22.05 AC.) = 5.34 AC.
4. COMBINE RESOURCE PROTECTION LAND WITH RECREATION LAND = 22.05 AC. + 5.34 AC. = 27.39 AC.
5. STANDARD MINIMUM OPEN SPACE = (67.799) (0.35) = 23.73 AC.
6. REQUIRED OPEN SPACE = 27.39 AC.
7. NET BUILDABLE SITE AREA = 67.799 AC. – 27.39 AC. = 40.41 AC.
8. ALLOWABLE DWELLING UNITS = (67.799) (4.0) = 271 D.U.
9. MAXIMUM IMPERVIOUS COVER = (67.799) (0.30) = 20.340 AC.
10. SITE CAPACITY SUMMARY:
A. REQUIRED OPEN SPACE = 27.39 AC.
B. NET BUILDABLE SITE AREA = 40.41 AC.
C. MAXIMUM DWELLING UNITS = 271

NATURAL RESOURCES PROTECTION NOTE

ALL DEVELOPMENT ACTIVITIES, SUCH AS CLEARING, GRADING, REGRADING, DRIVEWAYS, ROADS, BUILDINGS, SEPTIC SYSTEMS, RETENTION/DETENTION BASINS AND UTILITY EASEMENTS SHALL BE LIMITED TO THE NATURAL RESOURCE PROTECTION STANDARDS AS SPECIFIED IN THE NEW HANOVER TOWNSHIP ZONING ORDINANCE [CHAPTER 27] AS LAST AMENDED. THE REMAINING NATURAL RESOURCES SHALL REMAIN IN THEIR NATURAL CONDITION, INCLUDING THE NATURAL FOREST GROUND COVER. THIS RESTRICTION SHALL RUN WITH THE LAND AND BE BINDING ON ALL PRESENT AND FUTURE OWNERS AND/OR LESSEES.

NATURAL RESOURCE DISTURBANCE

PROTECTED NATURAL RESOURCE	AREA OF RESOURCE AT SITE	ALLOWABLE DISTURBANCE (%)	ALLOWABLE DISTURBANCE (Ac.)	PROPOSED DISTURBANCE (Ac.)
FLOOD PLAIN	3.68	0	0	0.28 (1)
FLOOD PLAIN SOILS	12.18	0	0	3.41 (1)
15-25 PERCENT SLOPES	1.29	30	0.39	0.28
25 + PERCENT SLOPES	0.29	20	0.06	0.04
WOODLANDS	22.10	50	11.05	10.88
WATERCOURSES, PONDS, ETC.	0	0	0	0 (1)
WETLANDS	4.47	0	0	0.35 (1)
WETLAND MARGINS	3.18	20	0.64	0.60

(1) THE AMOUNT OF DISTURBANCE SHOWN IS PERMISSIBLE PURSUANT TO THE CRITERIA ESTABLISHED WITHIN SECTION 1601 OF THE NEW HANOVER TOWNSHIP ZONING ORDINANCE.

DWELLING TYPES AND UNIT MIX PROPOSED

THE FOLLOWING LOTS ARE DESIGNATED AS DETACHED DWELLINGS (305.2.B.(1)):
84 THRU 130 AND 132 THRU 144
TOTAL NUMBER OF DETACHED DWELLINGS TYPE = 60 (42% OF TOTAL)

THE FOLLOWING LOTS ARE DESIGNATED AS VILLAGE HOUSE (305.2.B.(3)):
1 THRU 83
TOTAL NUMBER OF VILLAGE HOUSE TYPE = 83 (58% OF TOTAL)

LOTS 131 AND 145 = HAVE EXISTING HOMES

FOR 61 THRU 150 DWELLINGS MAX. % OF ANY D.U. TYPE = 60%
MIN. % OF ANY D.U. TYPE = 15%

REFERENCE PLANS

1. "ZAVITSANOS, MCCORMICK & PASCAL TRACTS, PLAN OF SURVEY PREPARED FOR HERITAGE BUILDING GROUP" PREPARED BY IRICK & EBERHARDT INCORPORATED, DATED AUGUST 7, 2000 (JOB NUMBER:2041) AND SIGNED BY PHILIP J. MIENTUS, PA PLS NO. 043352E.
2. "EXISTING FEATURES/SURVEY PLAN AS PART OF ZAVITSANOS TRACT PREPARED FOR HERITAGE BUILDING GROUP" PREPARED BY STOUT, TACCONELLI & ASSOCIATES, INC. (PROJECT NO. 3401, DRAWING FILE NO. 3401SURVEY) DATED SEPTEMBER 16, 2005 AND SIGNED BY CLIFFORD T. STOUT, PA PLS NO. 282-A.
3. "SUBDIVISION PLAN OF CIANIULLI TRACT PREPARED FOR HERITAGE CONSTRUCTION COMPANY" AS PREPARED BY STOUT, TACCONELLI & ASSOCIATES, INC. DATED JUNE 30, 2000 LAST REVISED OCTOBER 22, 2001 AND RECORDED IN PLAN BOOK A60 PAGE 285.

ZONING DATA – 'R-15', Residential District

702.1.G. USE B2 – PERFORMANCE STANDARD DEVELOPMENT

DESCRIPTION	REQUIRED	PROVIDED
MINIMUM SITE AREA:	10.000 AC.	67.799 AC.(1)
MAXIMUM DENSITY (4 D.U./AC):	274 UNITS	145 UNITS (2.14 D.U./AC.)
MINIMUM OPEN SPACE (35%):	23.730 AC.	27.520 AC.(2)
MAXIMUM IMPERVIOUS SURFACE (30%):	20.340 AC. (30%)	18.288 AC. (27.0%)
MINIMUM OFF-STREET PARKING (PER D.U.):	2.25	2.25

(1) BASE SITE AREA SHOWN DOES NOT INCLUDE ULTIMATE RIGHT-OF WAY AREAS, EXISTING EASEMENTS AND THE CONVEYANCES.
(2) DOES NOT INCLUDE AREAS ANTICIPATED FOR STORM WATER DETENTION/RETENTION.

305.2.B.(1) DETACHED DWELLING

DESCRIPTION	REQUIRED
MINIMUM LOT AREA (SF):	8,000 SF
MAXIMUM BUILDING COVERAGE (%):	30%
MINIMUM FRONT YARD (FT):	30'
MINIMUM SIDE YARD (FT):	10'
MINIMUM REAR YARD (FT):	40'
MINIMUM LOT WIDTH AT SETBACK (FT):	70'

305.2.B.(3) VILLAGE HOUSE

DESCRIPTION	REQUIRED
MINIMUM LOT AREA (SF):	6,000 SF
MAXIMUM BUILDING COVERAGE (%):	35%
MINIMUM FRONT YARD (FT):	GARAGE 25' HOUSE 15'
MINIMUM SIDE YARD (FT):	GARAGE 5', 5' HOUSE 5', 5'
MINIMUM REAR YARD (FT):	GARAGE 30' HOUSE 30'
MINIMUM LOT WIDTH AT SETBACK (FT):	50'

DETENTION BASIN NOTE

"THE RETENTION/DETENTION BASIN AND STORMWATER FACILITIES (AS SHOWN ON THIS PLAN) ARE A BASIC AND PERPETUAL PART OF THE STORM DRAINAGE SYSTEM OF THE TOWNSHIP OF NEW HANOVER, AND AS SUCH ARE TO BE PROTECTED AND PRESERVED, IN ACCORDANCE WITH THE APPROVED FINAL PLAN BY THE OWNER(S) ON WHOSE LANDS THE STRUCTURE(S) IS(ARE) LOCATED. THE TOWNSHIP OF NEW HANOVER AND/OR ITS AGENTS RESERVES THE RIGHT AND PRIVILEGE TO ENTER UPON SUCH LANDS FROM TIME TO TIME FOR THE PURPOSE OF INSPECTION OF SAID RETENTION/DETENTION BASIN IN ORDER TO DETERMINE THAT THE STRUCTURAL AND DESIGN INTEGRITY ARE BEING MAINTAINED BY THE OWNER(S)."

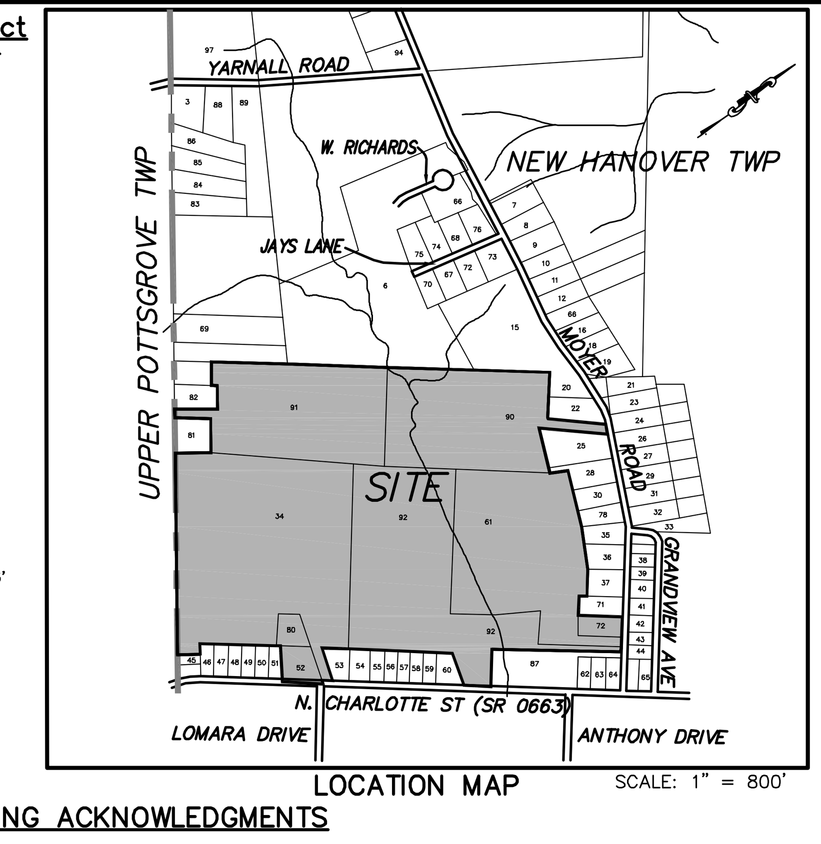
"IN THE EVENT THAT MAINTENANCE AND STRUCTURAL INTEGRITY ARE NOT MAINTAINED BY THE OWNER(S) AS REQUIRED BY THE TOWNSHIP, THE OWNER(S) HEREBY GRANTS TO THE TOWNSHIP THE RIGHT TO ENTER UPON SUCH PROPERTY AND TO PERFORM ANY AND ALL IMPROVEMENTS, REVISIONS OR MAINTENANCE AS MAY BE DETERMINED NECESSARY BY THE TOWNSHIP AND TO RECOVER THE COSTS THEREOF FROM THE PROPERTY OWNER BY ALL LAWFUL MEANS INCLUDING, BUT NOT LIMITED TO, THE IMPOSITION OF A MUNICIPAL LIEN ON THE PROPERTY."

FIRE HYDRANT NOTE

THE FIRE HYDRANTS NEED TO BE PROVIDED WITH THE MAIN STEAMER BEING A FIVE INCH (5") STORZ CONNECTION WITH SIDE PORTS BEING TWO AND ONE-HALF NST. A THIRTY FOOT (30') AREA OF THE CURBING WHERE THE HYDRANT IS LOCATED NEEDS TO BE PAINTED TRAFFIC YELLOW WITH THE HYDRANT BEING IN THE MIDDLE OF THE MARKED AREA. ON THE BARREL OF THE HYDRANT BELOW THE TWO AND ONE-HALF INCH (2 ½") PORT, A THREE INCH (3") REFLECTIVE NUMBER NEEDS TO BE PLACED ON THE HYDRANT WHICH WOULD INDICATE THE DIAMETER SIZE OF THE WATER MAIN THAT THE HYDRANT IS CONNECTED TO. THE DEVELOPER SHALL PAY THE HYDRANT STANDBY FEE IMPOSED BY THE WATER COMPANY UNTIL THE ROADWAYS ARE DEDICATED TO THE RESPONSIBLE PARTY.

AVERAGE LOT SIZE

TOTAL NUMBER OF LOTS = 145 LOTS
AVERAGE LOT SIZE FOR DETACHED DWELLING 2.B.(1) = 11,183 SQ.FT., AVERAGE LOT SIZE FOR VILLAGE HOUSE 2.B.(3) = 7,476 SQ.FT.



RECORDING ACKNOWLEDGMENTS

STATE OF PENNSYLVANIA:
COUNTY OF MONTGOMERY: SS

ON THIS ______ DAY OF ______ A.D. 20____, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED ______ (OWNER OF RECORD), WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER OF RECORD OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE SUBDIVISION PLAN HEREOF WAS MADE AT HIS/HER DIRECTION, THAT HE/SHE ACKNOWLEDGES THE SAME TO HIS/HER ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

CATHERINE J. LYNCH
REGISTERED OWNER OF RECORD

SWORN AND SUBSCRIBED TO BEFORE ME THIS ______ DAY OF A.D. 20____

NOTARY PUBLIC ______ MY COMMISSION EXPIRES ______

STATE OF PENNSYLVANIA:
COUNTY OF MONTGOMERY: SS

ON THIS ______ DAY OF ______ A.D. 20____, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED ______ (OWNER OF RECORD), WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER OF RECORD OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE SUBDIVISION PLAN HEREOF WAS MADE AT HIS/HER DIRECTION, THAT HE/SHE ACKNOWLEDGES THE SAME TO HIS/HER ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

STEVEN SCHNITZENBAUMER
REGISTERED OWNER OF RECORD

SWORN AND SUBSCRIBED TO BEFORE ME THIS ______ DAY OF A.D. 20____

NOTARY PUBLIC ______ MY COMMISSION EXPIRES ______

STATE OF PENNSYLVANIA:
COUNTY OF MONTGOMERY: SS

ON THIS ______ DAY OF ______ A.D. 20____, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED ______ (OWNER OF RECORD), WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER OF RECORD OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE SUBDIVISION PLAN HEREOF WAS MADE AT HIS/HER DIRECTION, THAT HE/SHE ACKNOWLEDGES THE SAME TO HIS/HER ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

CHAS & CAROLE ROSENBERRY
REGISTERED OWNER OF RECORD

SWORN AND SUBSCRIBED TO BEFORE ME THIS ______ DAY OF A.D. 20____

NOTARY PUBLIC ______ MY COMMISSION EXPIRES ______

AT A MEETING HELD ON ______ 20__ THE NEW HANOVER TOWNSHIP AUTHORITY APPROVED THE SUBDIVISION/LAND DEVELOPMENT PLAN OF THE PROPERTY OF KTMT REALTY, LP.

CHAIRMAN OF THE AUTHORITY ______

AUTHORITY SECRETARY ______

REVIEWED BY THE NEW HANOVER TOWNSHIP ENGINEER THE ______ DAY OF ______ 20__

TOWNSHIP ENGINEER ______

AT A MEETING HELD ON ______ 20__ THE BOARD OF SUPERVISORS OF NEW HANOVER TOWNSHIP, BY RESOLUTION ______ DULY ENACTED AND APPROVED THIS SUBDIVISION/LAND DEVELOPMENT PLAN OF THE PROPERTY OF KTMT REALTY LP.

CHAIRMAN OF THE BOARD OF SUPERVISORS ______

TOWNSHIP SECRETARY ______ TOWNSHIP SEAL

MCPC NO. ______

STATE OF PENNSYLVANIA)
COUNTY OF BERKS) SS:

ON THE ______ DAY OF ______, A.D. 20____, BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC, PERSONALLY APPEARED MICHAEL V. TULIO, VICE PRESIDENT OF COVENTRY DEVELOPERS, INC., GENERAL PARTNER TO KTMT REALTY, L.P., WHO, BEING DULY SWORN ACCORDING TO LAW, INDICATED THAT SAID PARTNERSHIP (KTMT REALTY, L.P.) IS THE OWNER OF RECORD OF THE PROPERTIES SHOWN ON THIS PLAN, THAT THE SUBDIVISION PLAN HEREOF WAS MADE AT THE DIRECTION OF THE PARTNERSHIP, THAT HE ACKNOWLEDGES THE SAME TO BE THE PARTNERSHIP'S ACT AND PLAN, AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW, AND THAT ALL STREETS AND SPACES CONTAINED IN LOT NUMBERS AND ALL OTHER PUBLIC IMPROVEMENTS SHOWN, AND NOT HERETOFORE DEDICATED, ARE HEREBY OFFERED FOR DEDICATION TO THE PUBLIC USE.

KTMT REALTY, L.P.
By Its General Partner
COVENTRY DEVELOPERS, INC.:

BY: ______
MICHAEL V. TULIO, VICE PRESIDENT

ATTEST: ______

SWORN AND SUBSCRIBED TO BEFORE ME THIS ______ DAY OF ______, A.D. 20____.

NOTARY PUBLIC ______
MY COMMISSION EXPIRES ______

REVIEWED BY THE NEW HANOVER TOWNSHIP PLANNING COMMISSION, AND RECOMMENDED FOR APPROVAL THIS ____ DAY OF ______ 20__

PLANNING COMMISSION CHAIRMAN ______

GENERAL NOTES

1. BOUNDARY AND TITLE LINE INFORMATION SHOWN HEREON IS AS DERIVED FROM THE FOLLOWING SOURCES:
BLOCK 66 UNITS 34, 61, 90, 91 AND 92: AS SURVEYED BY IRICK & EBERHARDT, INC. IN JULY 2000. (SEE REFERENCE PLAN NO. 1)
BLOCK 66 UNITS 52, 80 AND 87: AS SURVEYED BY STOUT, TACCONELLI & ASSOCIATES, INC. (STAI) IN MARCH 2002. (SEE REFERENCE PLAN NO. 2)
BLOCK 66 UNIT 72: ACCORDING TO A BOUNDARY SURVEY MADE BY VAN CLEEF ENGINEERING ASSOCIATES (VCEA) IN JANUARY 2005.
2. ELEVATION DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988. (SEE REFERENCE PLAN NO. 1)
3. CONTOUR AND TOPOGRAPHICAL DATA SHOWN HEREON AS PER REFERENCE PLAN NO. 1, WAS PROVIDED BY PROMAPS, INC. BENSALEM, PA AND IS BASED UPON PHOTOGRAMMETRIC DATA OBTAINED FROM AERIAL PHOTOGRAPHY FLOWN MARCH 8, 1988. TOPOGRAPHIC DATA SHOWN ALONG THE TRACT FRONTAGE TO NORTH CHARLOTTE STREET AT OR NEAR THE INTERSECTION WITH LOMARA DRIVE AND THE TRACT FRONTAGE ALONG MOYER ROAD AT OR NEAR ITS INTERSECTION WITH THE PROPOSED TALLOWOOD DRIVE IS PER A FIELD SURVEY MADE BY VCEA IN AUGUST 2005.
4. ALL EXISTING UTILITIES WITHIN LIMIT OF DISTURBANCE TO BE REMOVED. AS APPLICABLE EXISTING WELLS, UTILITIES, SANITARY SEWER LINES AND SEPTIC AREAS ASSOCIATED WITH THE EXISTING STRUCTURES MUST BE REMOVED IN ACCORDANCE WITH ALL APPLICABLE GOVERNMENT REGULATIONS.
5. THE SITE WILL BE SERVICED BY PUBLIC SEWER AND WATER.
6. PARKING ALONG STREETS IS PERMITTED ON ONE SIDE ONLY. THE DEVELOPER OF THE TRACT SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL SIGNAGE DEEMED NECESSARY BY NEW HANOVER TOWNSHIP SUCH AS SPEED LIMIT AND NO PARKING SIGNS, ETC.
7. BUILDING FOOTPRINTS SHOWN ARE FOR GRADING PURPOSES ONLY; FINAL FOOTPRINTS TO BE PROVIDED WITH THE BUILDING PERMIT PLAN BY THE DEVELOPER.
8. CONCRETE MONUMENTS ARE TO BE SET ALONG THE SITE BOUNDARY AT EACH CORNER OR CHANGE IN DIRECTION OF THE BOUNDARY, AND IRON PINS SHALL BE INSTALLED AT ALL PROPERTY CORNERS AND CHANGES IN DIRECTION. ALL MONUMENTS SHALL BE PLACED IN THE GROUND AFTER GRADING IS COMPLETED, AT A TIME SPECIFIED BY THE TOWNSHIP ENGINEER. THE MONUMENTS SHALL BE AT LEAST 24 INCHES LONG, 4 INCHES SQUARE AND CONTAIN A STEEL REINFORCING BAR TO ENABLE LOCATION WITH A METAL DETECTOR.
9. PROPOSED STREETS AND THE ENTIRE STORM WATER PIPING SYSTEM SHALL BE OFFERED FOR DEDICATION TO NEW HANOVER TOWNSHIP.
10. THE AREA BETWEEN THE ULTIMATE RIGHT-OF-WAY AND THE TITLE LINE OF ALL EXISTING STREETS IS OFFERED FOR DEDICATION TO THE AGENCY HAVING JURISDICTION, IF NOT ACCEPTED THE AREAS SHELL BE OFFERED TO THE TOWNSHIP.
11. ALL LOTS SHALL BE DEED RESTRICTED TO REQUIRE THAT ACCESS BE TAKEN VIA THE LOWER ORDER STREET.
12. ALL PUBLIC IMPROVEMENTS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE NEW HANOVER TOWNSHIP STANDARDS AND SPECIFICATIONS.
13. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL CHARGES OR RATES FOR THE ADEQUATE WATER SUPPLY TO EACH FIRE HYDRANT WITHIN THE SUBDIVISION UNTIL SUCH TIME AS THE STREETS ARE ACCEPTED AS PUBLIC STREETS BY THE BOARD OF SUPERVISORS.
14. STREET NAME SIGNS ARE TO BE POSTED IMMEDIATELY AFTER THE COMPLETION OF THE ROAD BINDER COURSE OR PRIOR TO ISSUANCE OF THE FIRST OCCUPANCY PERMIT. WHICHEVER OCCURS FIRST.
15. A POLE LAMP SHALL BE INSTALLED ON EACH LOT AT THE DRIVEWAY LOCATION, 10 FEET BEHIND THE ULTIMATE RIGHT OF WAY LINE. THE INSTALLATION OF THE LAMP IS TO MEET THE SATISFACTION OF THE TOWNSHIP ENGINEER. DETAILS OF THE PROPOSED LAMP SHALL BE PROVIDED TO THE TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
16. PROVISIONS SHALL BE MADE FOR ENERGIZING STREET LIGHTING AFTER 50% OR MORE OF THE DWELLINGS HAVE BEEN OCCUPIED. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL CHARGES OR RATES OF THE STREETS LIGHTED UNTIL SUCH TIME THAT THE STREETS ARE ACCEPTED OR CONDEMNED AS PUBLIC STREETS BY THE BOARD OF SUPERVISORS.
17. ALL SANITARY FACILITIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT NEW HANOVER TOWNSHIP AUTHORITY STANDARDS AND WILL BE OFFERED FOR DEDICATION TO THE AUTHORITY.
18. NO PLANTINGS WILL BE DONE IN THE SANITARY AND STORM SEWER EASEMENTS. FOR LOTS WITH VILLAGE DWELLING UNITS, WHERE SUCH INSTALLATION IS REQUIRED BY ORDINANCE, ONLY FENCES (INSTEAD OF WALLS OR SHRUBS) SHALL BE SET WITHIN EASEMENT AREAS.
19. IT IS ANTICIPATED THAT ALL UNITS WILL BE PROVIDED WITH BASEMENTS. SANITARY SERVICE TO EACH BASEMENT IS NOT GUARANTEED.
20. AS-BUILT RECORD DRAWINGS MUST BE SUBMITTED AND APPROVED BEFORE EITHER SANITARY AND/OR STORM SEWERS ARE ACCEPTED FOR DEDICATION. THE DRAWINGS MUST BE ACCOMPANIED BY A CERTIFICATE FROM THE DEVELOPER'S ENGINEER ATTESTING TO THEIR CORRECTNESS.
21. IN ORDER FOR THE TOWNSHIP AUTHORITY TO ACCEPT OWNERSHIP AND MAINTENANCE RESPONSIBILITIES FOR ANY SANITARY SEWER, THE DEVELOPER MUST PROVIDE AN ACCEPTABLE SANITARY SEWER RIGHT-OF-WAY AND EXECUTE ALL APPLICABLE RIGHT-OF-WAY AGREEMENTS, COMPLETE WITH LEGAL DESCRIPTION AND DRAWINGS IN A FORM ACCEPTABLE TO THE TOWNSHIP AND ITS SOLICITOR.
22. OPEN SPACE (A, B, & C) AS DEPICTED HEREON IS TO BE FOR "ACTIVE AND PASSIVE RECREATION" AND IS TO BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION, WITH EASEMENTS TO THE TOWNSHIP. THE HOMEOWNERS ASSOCIATION SHALL MAINTAIN ALL OPEN SPACE AREA INCLUDING THE DETENTION FACILITIES. THE OPEN SPACE PROVIDED WILL BE MAINTAINED IN A NATURAL CONDITION, WHERE IT IS NOT DISTURBED.
23. ADDITIONAL BUFFER YARD PLANTINGS SHALL BE PROVIDED AS DIRECTED BY THE TOWNSHIP ENGINEER WHERE EXISTING PLANTINGS DO NOT MEET THE REQUIREMENTS OF THE ZONING AND/OR SUBDIVISION AND LAND DEVELOPMENT ORDINANCES AT THE TIME OF CONSTRUCTION.
24. THE HOMEOWNERS ASSOCIATION SHALL MAINTAIN THE SIDEWALKS AND RIGHT OF WAY AREA ALONG THE FRONTAGES OF OPEN SPACE AREAS.
25. ALL INTERNAL CURBING TO BE BELGIAN BLOCK.
26. A SPECIAL PERMIT FOR ACCESS TO THE SITE FOR CONSTRUCTION VEHICLES MUST BE OBTAINED FROM NEW HANOVER TOWNSHIP PRIOR TO THE START OF CONSTRUCTION.
27. STREET NAME AND TRAFFIC CONTROL SIGNS SHALL BE CONSISTENT IN DESIGN AND SPECIFICATION WITH THOSE IN GENERAL USE WITHIN THE TOWNSHIP. SIGN TYPES, LOCATION AND INSTALLATION SHALL BE SUBJECT TO APPROVAL BY THE TOWNSHIP ENGINEER.
28. RESIDENTIAL MAILBOXES TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWNSHIP'S STANDARD CONSTRUCTION AND MATERIALS SPECIFICATIONS FOR PUBLIC IMPROVEMENTS MANUAL.
29. A HIGHWAY OCCUPANCY PERMIT FROM PADOT IS REQUIRED TO BE OBTAINED PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN THE STATE RIGHT OF WAY (NORTH CHARLOTTE STREET).
30. THE FIRE DEPARTMENT WILL HAVE THE OPTION TO USE ANY HOUSES TO BE DEMOLISHED FOR TRAINING PURPOSES.
31. THE MULTI-USE PATHWAY SHALL BE CONSTRUCTED AS EARLY AS POSSIBLE. THE TRAIL SYSTEM SHOULD BE AT LEAST DELINEATED AND GRADED PRIOR TO THE CONSTRUCTION OF ANY HOMES SO THAT POTENTIAL BUYERS ARE AWARE OF THE EXISTENCE OF THE TRAIL.
32. A WOODEN GUIDE RAIL SHALL BE INSTALLED ALONG BOTH SIDES OF PIXIE MOSS TRAIL AND TALLOWOOD DRIVE AT THE CULVERT CROSSINGS.
33. ALL SIGNAGE SHOULD BE INSTALLED PRIOR TO THE FIRST USE AND OCCUPANCY PERMIT BEING ISSUED FOR THE DEVELOPMENT, OR AT THE TIME OF COMPLETION OF ROAD BINDER COURSE, WHICHEVER COMES FIRST.
34. ALL GRATES FOR YARD INLETS TO BE PENNDOT APPROVED CAST GRAY IRON GRATES.
35. CLEAR SIGHT TRIANGLES, AS NOTED ON THESE PLANS, ARE TO BE KEPT CLEAR OF ALL OBSTRUCTIONS INCLUDING PLANT MATERIAL, BETWEEN AN AREA FROM TWO FEET ABOVE THE CURB LINE AND SEVEN FEET ABOVE THE CURB LINE. THE DEVELOPER, INDIVIDUAL LOT OWNER AND H.O.A. ARE ALL RESPONSIBLE TO MEET THIS REQUIREMENT.
36. PRIOR TO CONSTRUCTION THE DEVELOPER MUST SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE TOWNSHIP.
37. ALL PROPOSED SIDEWALKS, PATHS AND RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA AND PENNDOT RC-67M STANDARDS, AS AMENDED.
38. MS4 MEDALLIONS SHALL BE PLACED ON ALL INLETS.

GRAPHIC SCALE
150 0 75 150 300 600
(IN FEET)
1 inch = 150 ft.

PERFORMANCE STANDARDS

R-15 DISTRICT – ALL DWELLING TYPES

	REQUIRED	PROVIDED
MIN. SITE AREA (AC)	10 AC	69.799 AC
MAX. DENSITY (DU/AC)	4.0 DU/AC	2.14 DU/AC
MIN. OPEN SPACE (%)	35%	40.6%
MAX. IMPERVIOUS SURFACE (%)	30%	27.0%

DWELLING UNIT MIX

	REQUIRED	PROVIDED
NO. OF DWELLINGS	61–150	145
MAX. ANY DWELLING TYPE (%)	60%	57.9%
MIN. ANY DWELLING TYPE (%)	15%	42.1%

GRANTED WAIVERS

THE FOLLOWING WAIVERS FROM THE NEW HANOVER TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE (SALDO) WERE GRANTED AT THE SEPTEMBER 11, 2006 NEW HANOVER TOWNSHIP BOARD OF SUPERVISOR'S MEETING:

A. SECTION 806.3.C(6).– TO ALLOW FOR 3:1 DETENTON BASIN SIDE SLOPES PROVIDED THE BASINS ARE MAINTAINED BY THE HOMEOWNER'S ASSOCIATION. BASINS A, B, C AND H.
B. SECTION 806.5.I.– TO ALLOW FOR A FLAT BOTTOM BMP TYPE BASINS, TO PROMOTE GROUNDWATER RECHARGE, PROVIDED FENCING IS INSTALLED AROUND EACH BMP TYPE BASIN. BASINS A, B, C AND H.
C. SECTION 812.3.– TO ACCEPT A FEE IN LIEU OF THE REQUIRED CURBING ALONG MOYER ROAD.
D. SECTION 812.5.– TO ACCEPT A FEE IN LIEU OF WIDENING MOYER ROAD.
E. SECTION 813.5.– TO ALLOW A CARTWAY WIDTH OF THIRTY-TWO FEET (32') FOR INTERNAL ROADS AND ON-STREET PARKING ONLY ON ONE SIDE OF THE STREETS.
F. SECTION 813.8.B.– TO ALLOW ONLY ONE (1) INTERSECTON TO A STREET OF EQUAL OF HIGHER CLASSIFICATION.
G. SECTION 822.– TO ACCEPT A FEE IN LIEU OF SIDEWALK INSTALLATION ALONG MOYER ROAD AND ALONG ONE (1) SIDE OF TALLOWOOD DRIVE (FORMALLY ROBERT F. MACEY DRIVE).
H. SECTION 804.3.– TO ALLOW INSTALLATION OF A FENCE WHERE STORM SEWER EASEMENTS ARE PROPOSED WITHIN THE WIDER SIDE YARD AREAS OF THE OFF CENTER DETACHED DWELLING LOTS AND WHERE THE INSTALLATION OF A WALL, HEDGE OR FENCE IS REQUIRED BY THE ZONING ORDINANCE.
I. SECTION 820.2.– TO ALLOW THE SPACING OF STREET TREES TO BE AT A DISTANCE OF GREATER THAN SIXTY (60) FEET, BUT STILL MEET THE MINIMUM REQUIRED NUMBER OF TREES.

REQUESTED WAIVERS

1. SECTION 811.E.– TO ALLOW THE GRADE OF THE DIAMETER OF THE TURNAROUND TO EXCEED 5.47%.
2. SECTION 806.3.B.– TO ALLOW HDPE PIPE TO BE USED FOR THE STORM DRAINAGE CONVEYANCE FACILITIES THROUGHOUT THE SITE.
3. SECTION 823.7.– TO ALLOW PARKING LOT STEEPER THAN 5.00%.

UNIT TYPES AND NUMBER:

TOTAL

305.2.B.(1) DETACHED DWELLING	62	(84–145)
305.2.B.(3) VILLAGE HOUSE	83	(1–83)
TOTAL	145	

PHASE 1

305.2.B.(1) DETACHED DWELLING	35	(110–144)
305.2.B.(3) VILLAGE HOUSE	33	(36–68)
TOTAL	68	

PHASE 2

305.2.B.(1) DETACHED DWELLING	27	(84–109, 145)
305.2.B.(3) VILLAGE HOUSE	50	(1–35, 69–83)
TOTAL	77	

PLANS TO BE RECORDED

PLAN SHEET NO. 2, OVERALL RECORD SUBDIVISION PLAN
PLAN SHEET NO. 3, RECORD SUBDIVISION PLAN – SECTION 1
PLAN SHEET NO. 4, RECORD SUBDIVISION PLAN – SECTION 2
PLAN SHEET NO. 5, RECORD SUBDIVISION PLAN – SECTION 3
PLAN SHEET NO. 6, RECORD SUBDIVISION PLAN – SECTION 4
PLAN SHEET NO. 46, CONSTRUCTION DETAILS
PLAN SHEET NO. 49, CONSTRUCTION DETAILS
PLAN SHEET NO. 52, CONSTRUCTION DETAILS
PLAN SHEET NO. 54, POST DEVELOPMENT STORMWATER MANAGEMENT PLAN – OVERALL
PLAN SHEET NO. 55, POST DEVELOPMENT STORMWATER MANAGEMENT PLAN

NOTE

BENCHMARK R.R. SPIKE (FD.) MET ED POLE ELEV. 358.75 NAVD 88

LEGEND

EXISTING ADJACENT PROPERTY BOUNDARY
EXISTING PROPERTY BOUNDARY
EXISTING ROAD CENTERLINE
PROPOSED BOUNDARY SETBACK LINE
PROPOSED BOUNDARY LOT LINE
PROPOSED ROAD CENTERLINE
DELINEATED WETLANDS

PLAN RECORDING NOTE

PLAN WILL NOT BE RECORDED AND NO PERMIT SHALL BE ISSUED FOR ANY INDIVIDUAL BUILDING LOT OR LOTS OR SITE IMPROVEMENTS UNTIL DEVELOPMENT AGREEMENTS, INCLUDING A STORMWATER MANAGEMENT OPERATIONS AND MAINTENANCE AGREEMENT, WITH NEW HANOVER TOWNSHIP HAVE BEEN DULY EXECUTED.

CERTIFICATION OF ACCURACY

I HEREBY CERTIFY THAT THE PLAN SHOWN AND DESCRIBED HEREON, AS WELL AS ALL DRAWINGS BEARING MY SEAL, ARE TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE NEW HANOVER TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE AND WERE PREPARED BY ME OR UNDER MY DIRECTION AND FOR WHICH I ACCEPT FULL RESPONSIBILITY. THE PERIMETER MONUMENTS SHALL BE ACCURATELY PLACED AS REQUIRED BY THE TOWNSHIP.

CHRISTOPHER S. PECORA, PE, PLS #47117E DATE

PHASING DATA

PHASE 1	68 LOTS
PHASE 2	77 LOTS
TOTAL	145 LOTS

WETLANDS CERTIFICATION

I HEREBY CERTIFY THAT A SITE INVESTIGATION WAS MADE BY ME AND THAT THE WETLANDS SHOWN ARE IN ACCORDANCE WITH OUR FIELD INVESTIGATION AND IS BASED ON U.S. ARMY CORPS. OF ENGINEER GUIDELINES.

SIGNATURE ______ DATE ______

OFF-STREET PARKING:

TOTAL

REQUIRED PARKING 2.25 PER DWELLING UNIT (NOT COUNTING GARAGES)
2.25 x 145 = 326.25 (327) SPACES
ON-LOT PARKING PROVIDED 87 x 2 = 174 SPACES
(SITEWIDE) 58 x 3 = 174 SPACES
348 SPACES

PHASE 1

	REQUIRED	PROVIDED
305.2.B.(1) DETACHED DWELLING	2.25/DU	3.00/DU
305.2.B.(3) VILLAGE HOUSE	2.25/DU	2.00/DU

ADDITIONAL SPACES REQ'D. = 0.25 x 33 UNITS = 9 SPACES

PHASE 2

	REQUIRED	PROVIDED
305.2.B.(1) DETACHED DWELLING	2.25/DU	3.00/DU
305.2.B.(3) VILLAGE HOUSE	2.25/DU	2.00/DU

ADDITIONAL SPACES REQ'D. = 0.25 x 50 UNITS = 13 SPACES
PLUS LOTS 90, 95 AND 96 HAVE ONLY 2 SPACES
ADDITIONAL SPACES REQ'D. = 0.25 x 3 UNITS = 1 SPACE
TOTAL PHASE 2 ADDITIONAL SPACES REQ'D. = 14 SPACES
PHASE 1 & 2 ADDITIONAL SPACES REQ'D. = 9+14=23 PROVIDED

SURVEYOR'S CERTIFICATE OF ACCURACY

I, DAVID H. ARTMAN, PA PROFESSIONAL LAND SURVEYOR NO. SU051039E, A REGISTERED SURVEYOR OF THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THE PROPOSED LOTS, EASEMENTS AND RIGHT OF WAYS ARE CORRECT IN ALL DIMENSIONAL ASPECTS TO THE BEST OF MY KNOWLEDGE, I FURTHER CERTIFY THAT THE PORTION OF THE BOUNDARY LINE DESCRIBED HEREON FOR BLOCK 66 UNIT 72 AND THE TITLE LINE ALONG NORTH CHARLOTTE ROAD AT BLOCK 66 UNITS 87 AND 92 ARE TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF THE TOWNSHIP OF NEW HANOVER AND WAS PREPARED BY ME OR UNDER MY DIRECTION AND FOR WHICH I ACCEPT FULL RESPONSIBILITY.

DAVID H. ARTMAN, PLS NO. SU051039E

DATE

SURVEYOR'S CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THE THAT THE PORTIONS OF THE BOUNDARY LINE DESCRIBED HEREON FOR BLOCK 66 UNITS 52, 80 AND 87 ARE TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF THE TOWNSHIP OF NEW HANOVER AND WAS PREPARED BY ME OR UNDER MY DIRECTION AND FOR WHICH I ACCEPT FULL RESPONSIBILITY.

CLIFFORD T. STOUT, P.L.S. 282-A

DATE

SURVEYOR'S CERTIFICATE OF ACCURACY

I HEREBY CERTIFY THAT THE TOPOGRAPHIC INFORMATION SHOWN HEREON AND THE PORTIONS OF THE BOUNDARY LINE DESCRIBED HEREON FOR BLOCK 66 UNITS 34, 61, 90, 91 AND 92 ARE TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF THE TOWNSHIP OF NEW HANOVER AND WAS PREPARED BY ME OR UNDER MY DIRECTION AND FOR WHICH I ACCEPT FULL RESPONSIBILITY.

PHILIP J. MIENTUS, PLS NO. 043352 E

DATE

MCPC & RECORDER'S CERTIFICATE

MCPC NO. 01-406-2

PROCESSED AND REVIEWED. REPORT PREPARED BY MONTGOMERY COUNTY PLANNING COMMISSION IN ACCORDANCE WITH THE MUNICIPALITIES PLANNING CODE.

CERTIFIED THIS DATE

FOR THE DIRECTOR
MONTGOMERY COUNTY PLANNING COMMISSION

RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC. IN AND FOR THE COUNTY OF MONTGOMERY, AT NORRISTOWN, PENNSYLVANIA IN PLAN BOOK ______, PAGE ______, ON ______, 20__.

RECORDER OF DEEDS

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE:	4/07/05
SCALE:	1"=150'
DESIGNED BY:	BSF/CSP
DRAWN BY:	GDM/SPE
CHECKED BY:	BSF/CSP
JOB NO.	0405NHT.02

DAVID H. ARTMAN, PA PLS, SU051039-E

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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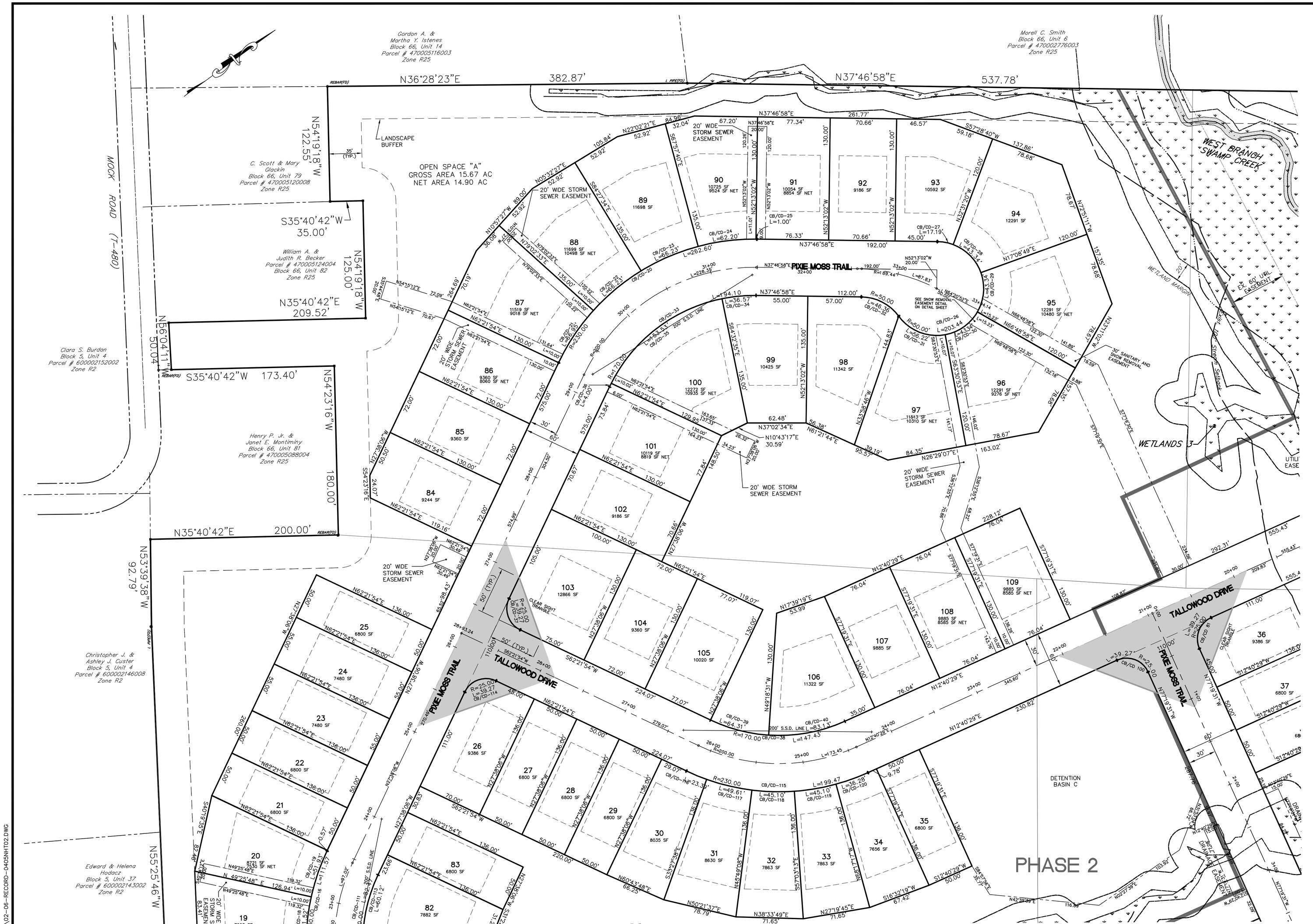
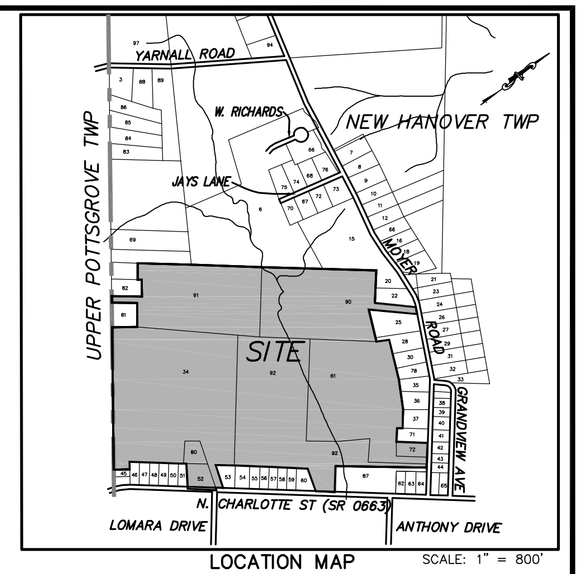
OVERALL RECORD SUBDIVISION PLAN
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA



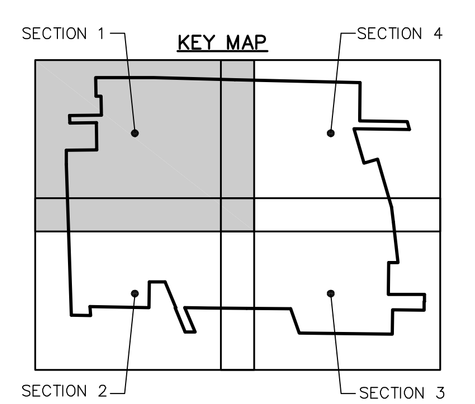


LOCATION MAP SCALE: 1" = 800'

CURVE TABLE

CURVE NO.	CORD BEARING	CORD DIST.	CURVE NO.	CORD BEARING	CORD DIST.
CB/CD-1	S08°07'52"E	35.36'	CB/CD-71	S74°27'10"W	30.43'
CB/CD-2	N40°22'59"W	167.71'	CB/CD-72	N81°36'59"E	252.99'
CB/CD-3	N44°46'10"E	110.52'	CB/CD-73	N42°29'49"E	34.69'
CB/CD-4	N32°01'16"W	58.13'	CB/CD-74	N87°08'46"E	227.14'
CB/CD-5	S72°38'06"E	35.36'	CB/CD-75	N74°41'04"W	85.81'
CB/CD-6	N40°25'57"E	89.64'	CB/CD-76	S82°44'53"E	80.29'
CB/CD-7	N71°32'07"E	287.64'	CB/CD-77	S89°24'10"E	39.08'
CB/CD-8	N22°07'35"E	22.77'	CB/CD-78	S76°30'58"W	41.72'
CB/CD-9	N33°26'20"E	48.15'	CB/CD-79	S73°57'38"W	141.67'
CB/CD-10	N48°48'42"E	48.15'	CB/CD-80	S25°13'44"W	117.37'
CB/CD-11	N63°29'08"E	43.79'	CB/CD-81	S32°19'31"E	35.36'
CB/CD-12	N78°09'32"E	48.15'	CB/CD-82	N20°07'53"W	302.58'
CB/CD-13	S86°28'07"E	48.15'	CB/CD-83	N71°08'32"W	38.77'
CB/CD-14	S70°46'36"E	50.76'	CB/CD-84	N57°58'19"W	43.79'
CB/CD-15	S59°00'01"E	22.42'	CB/CD-85	N43°17'53"W	48.15'
CB/CD-16	S41°31'56"E	110.48'	CB/CD-86	N27°13'34"W	52.50'
CB/CD-17	S54°25'01"E	8.13'	CB/CD-87	N10°44'08"W	50.76'
CB/CD-18	S46°59'14"E	51.41'	CB/CD-88	N04°46'35"E	46.41'
CB/CD-19	S34°06'09"E	51.82'	CB/CD-89	N19°35'22"E	46.41'
CB/CD-20	S05°04'26"W	248.57'	CB/CD-90	N32°01'45"E	31.58'
CB/CD-21	S19°17'47"E	66.71'	CB/CD-91	N49°42'49"E	100.75'
CB/CD-22	S02°42'30"E	66.00'	CB/CD-92	N42°17'52"E	41.98'
CB/CD-23	S13°47'23"W	66.00'	CB/CD-93	N57°09'03"E	45.03'
CB/CD-24	S29°47'10"W	62.01'	CB/CD-94	N60°33'59"E	14.44'
CB/CD-25	S37°39'29"W	1.00'	CB/CD-95	S17°21'54"W	35.36'
CB/CD-26	N25°39'08"W	89.44'	CB/CD-96	S40°22'59"E	141.23'
CB/CD-27	S47°37'48"W	17.10'	CB/CD-97	S34°56'59"E	81.49'
CB/CD-28	S82°18'45"W	42.00'	CB/CD-98	S47°41'53"E	60.60'
CB/CD-29	N48°01'06"W	42.00'	CB/CD-99	S81°52'08"W	35.36'
CB/CD-30	N01°39'03"E	42.00'	CB/CD-100	S57°40'29"W	35.36'
CB/CD-31	N58°41'57"E	53.31'	CB/CD-101	N20°07'53"W	201.72'
CB/CD-32	S64°20'52"W	44.72'	CB/CD-102	N48°43'42"W	114.87'
CB/CD-33	S05°04'26"W	183.73'	CB/CD-103	N08°27'55"E	114.87'
CB/CD-34	S31°37'10"W	36.50'	CB/CD-104	N49°42'49"E	74.47'
CB/CD-35	S00°24'55"E	148.36'	CB/CD-105	S40°25'57"W	134.47'
CB/CD-36	S26°57'39"E	4.00'	CB/CD-106	S55°49'54"W	40.96'
CB/CD-37	S72°38'06"E	35.36'	CB/CD-107	S42°18'39"W	43.79'
CB/CD-38	N37°31'12"E	142.86'	CB/CD-108	S28°20'10"W	43.79'
CB/CD-39	N51°31'41"E	6.3.92'	CB/CD-109	S19°55'28"W	8.95'
CB/CD-40	N26°40'59"E	82.30'	CB/CD-110	N71°32'07"E	191.76'
CB/CD-41	S25°13'44"W	143.46'	CB/CD-111	S41°31'56"E	81.66'
CB/CD-42	S23°20'06"W	122.09'	CB/CD-112	S51°39'50"E	22.81'
CB/CD-43	S35°53'20"W	21.81'	CB/CD-113	S37°46'00"E	59.81'
CB/CD-44	N07°13'02"W	35.36'	CB/CD-114	S17°21'54"W	35.36'
CB/CD-45	S81°33'04"E	48.99'	CB/CD-115	N37°31'12"E	193.28'
CB/CD-46	N08°26'56"E	87.18'	CB/CD-116	N59°27'08"E	23.38'
CB/CD-47	S75°25'42"E	58.01'	CB/CD-117	N50°21'37"E	49.51'
CB/CD-48	N13°13'41"W	45.00'	CB/CD-118	N38°33'49"E	45.03'
CB/CD-49	S43°30'57"W	50.00'	CB/CD-119	N27°19'45"E	45.03'
CB/CD-50	S79°21'03"E	45.61'	CB/CD-120	N17°11'36"E	36.24'
CB/CD-51	N84°16'24"E	34.42'			
CB/CD-52	N73°57'38"E	212.51'			
CB/CD-53	S44°03'24"W	39.34'			
CB/CD-54	S52°12'09"W	11.76'			
CB/CD-55	S63°54'37"W	61.49'			
CB/CD-56	S84°53'12"W	69.56'			
CB/CD-57	N76°55'02"W	44.22'			
CB/CD-58	S82°44'53"E	53.52'			
CB/CD-59	N74°41'04"W	128.72'			
CB/CD-60	S86°23'59"N	12.78'			
CB/CD-61	N80°44'12"W	67.64'			
CB/CD-62	N61°49'15"W	50.64'			
CB/CD-63	N81°36'59"E	168.66'			
CB/CD-64	S81°35'55"E	112.17'			
CB/CD-65	N53°45'08"E	69.31'			
CB/CD-66	N08°17'50"W	35.52'			
CB/CD-67	N18°31'56"E	15.81'			
CB/CD-68	N26°43'56"W	22.57'			
CB/CD-69	S81°42'10"W	35.19'			
CB/CD-70	N60°48'42"W	6.31'			

KEY MAP



GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

LEGEND
- EXISTING ADJACENT PROPERTY BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING ROAD CENTERLINE
- PROPOSED BOUNDARY SETBACK LINE
- PROPOSED BOUNDARY LOT LINE
- PROPOSED ROAD CENTERLINE
- 100 YR FLOOD PLAIN
- PROPOSED FLOODPLAIN
- DELINEATED WETLANDS

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	BSF	07/01/05

DATE: 4/07/05
SCALE: 1"=50'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
DAVID H. ARTMAN, PA PLS, SU051039-E

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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RECORD SUBDIVISION PLAN - SECTION 1
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

3/60

SAM ERNEY 12/21/2010
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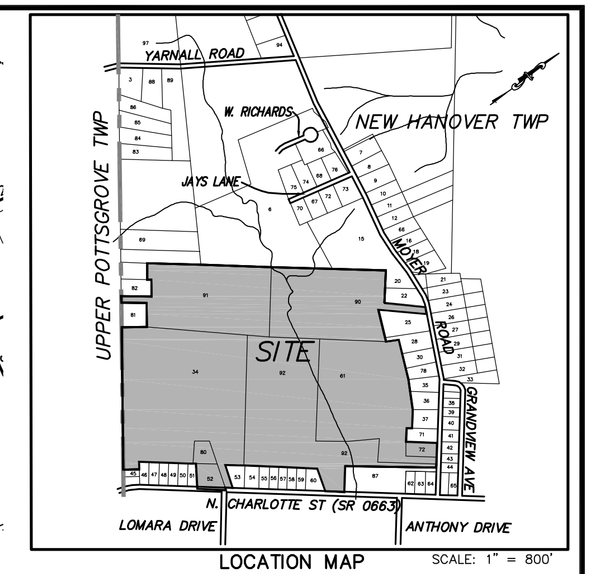
RECORD SUBDIVISION PLAN - SECTION 2
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

4/60

LOCATION MAP
SCALE: 1" = 800'



CURVE TABLE

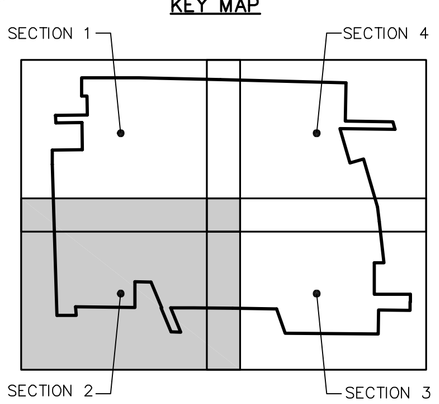
CURVE NO.	CORD BEARING	CORD DIST.
CB/CD-1	S08°07'52"E	35.36'
CB/CD-2	N60°22'59"W	167.71'
CB/CD-3	N44°46'10"E	110.52'
CB/CD-4	N32°01'16"W	58.13'
CB/CD-5	S72°38'06"E	35.36'
CB/CD-6	N40°25'57"E	89.64'
CB/CD-7	N71°32'07"E	287.64'
CB/CD-8	N22°07'35"E	22.77'
CB/CD-9	N33°26'20"E	48.15'
CB/CD-10	N48°48'42"E	48.15'
CB/CD-11	N63°29'08"E	43.79'
CB/CD-12	N78°09'32"E	48.15'
CB/CD-13	S86°28'07"E	48.15'
CB/CD-14	S70°40'36"E	50.76'
CB/CD-15	S59°00'01"E	22.42'
CB/CD-16	S41°31'56"E	110.48'
CB/CD-17	S54°25'01"E	8.13'
CB/CD-18	S46°59'14"E	51.41'
CB/CD-19	S34°06'09"E	51.82'
CB/CD-20	S05°04'26"W	248.57'
CB/CD-21	S19°17'47"E	66.71'
CB/CD-22	S02°42'36"E	66.00'
CB/CD-23	S13°47'23"W	66.00'
CB/CD-24	S29°47'10"W	62.01'
CB/CD-25	S37°39'29"W	1.00'
CB/CD-26	N25°39'08"W	89.44'
CB/CD-27	S47°37'48"W	17.10'
CB/CD-28	S82°18'45"W	42.00'
CB/CD-29	N48°01'06"W	42.00'
CB/CD-30	N01°39'05"E	42.00'
CB/CD-31	N58°41'57"E	53.31'
CB/CD-32	S64°20'52"W	44.72'
CB/CD-33	S05°04'26"W	183.73'
CB/CD-34	S31°37'10"W	36.50'
CB/CD-35	S00°24'52"E	148.36'
CB/CD-36	S26°57'39"E	4.00'
CB/CD-37	S72°38'06"E	35.36'
CB/CD-38	N37°31'12"E	142.86'
CB/CD-39	N51°31'41"E	63.92'
CB/CD-40	N26°40'59"E	82.30'
CB/CD-41	S25°13'44"W	143.46'
CB/CD-42	S23°20'06"W	122.09'
CB/CD-43	S35°53'20"W	21.86'
CB/CD-44	N07°13'02"W	35.36'
CB/CD-45	S81°33'04"E	48.99'
CB/CD-46	N08°26'56"E	87.18'
CB/CD-47	S75°25'42"E	58.01'
CB/CD-48	N13°13'41"W	45.00'
CB/CD-49	S43°30'57"W	50.00'
CB/CD-50	S79°21'03"E	45.61'
CB/CD-51	N84°16'24"E	34.42'
CB/CD-52	N73°57'38"E	212.51'
CB/CD-53	S44°03'24"W	39.34'
CB/CD-54	S52°12'08"W	11.76'
CB/CD-55	S63°54'37"W	61.49'
CB/CD-56	S84°53'12"W	69.56'
CB/CD-57	N76°55'02"W	44.22'
CB/CD-58	S82°44'53"E	53.52'
CB/CD-59	N74°41'04"W	128.72'
CB/CD-60	S86°23'59"W	12.78'
CB/CD-61	N80°44'12"W	67.64'
CB/CD-62	N61°49'15"W	50.64'
CB/CD-63	N81°36'59"E	168.66'
CB/CD-64	S81°35'50"E	112.17'
CB/CD-65	N53°45'08"E	69.31'
CB/CD-66	N08°17'50"W	35.52'
CB/CD-67	N18°31'56"E	15.81'
CB/CD-68	N26°43'56"W	22.57'
CB/CD-69	S81°42'10"W	35.19'
CB/CD-70	N60°48'42"W	6.31'

CURVE NO.	CORD BEARING	CORD DIST.
CB/CD-71	S74°27'10"W	30.43'
CB/CD-72	N81°36'59"E	252.99'
CB/CD-73	N42°29'49"E	34.69'
CB/CD-74	N87°08'46"E	227.14'
CB/CD-75	N74°41'04"W	85.81'
CB/CD-76	S82°44'53"E	80.29'
CB/CD-77	S82°23'59"W	39.08'
CB/CD-78	S76°30'58"W	41.72'
CB/CD-79	S73°57'38"W	141.67'
CB/CD-80	S25°13'44"W	48.15'
CB/CD-81	S32°19'31"E	35.36'
CB/CD-82	N20°07'53"W	302.58'
CB/CD-83	N71°08'32"W	38.77'
CB/CD-84	N57°58'19"W	43.79'
CB/CD-85	N43°17'51"W	48.15'
CB/CD-86	N27°13'34"W	52.50'
CB/CD-87	N11°44'06"E	50.76'
CB/CD-88	N04°46'35"E	46.41'
CB/CD-89	N19°35'22"E	46.41'
CB/CD-90	N33°01'45"E	31.58'
CB/CD-91	N49°42'49"E	100.75'
CB/CD-92	N42°17'52"E	41.98'
CB/CD-93	N53°09'03"E	45.03'
CB/CD-94	N60°33'59"E	14.44'
CB/CD-95	S17°21'54"W	1.00'
CB/CD-96	S40°22'59"E	141.23'
CB/CD-97	S34°56'59"E	81.49'
CB/CD-98	S47°41'53"E	60.60'
CB/CD-99	S81°52'08"E	35.36'
CB/CD-100	S87°46'29"E	35.36'
CB/CD-101	N20°07'53"W	201.72'
CB/CD-102	N48°43'42"W	114.87'
CB/CD-103	N08°27'55"W	114.87'
CB/CD-104	N49°42'49"E	74.47'
CB/CD-105	S40°05'57"W	134.47'
CB/CD-106	S55°49'54"W	40.96'
CB/CD-107	S42°18'39"W	43.79'
CB/CD-108	S28°20'10"W	43.79'
CB/CD-109	S19°52'28"W	8.95'
CB/CD-110	N71°32'07"E	191.76'
CB/CD-111	S41°31'56"E	81.66'
CB/CD-112	S51°39'50"E	22.81'
CB/CD-113	S33°56'20"E	59.81'
CB/CD-114	S17°21'54"W	35.36'
CB/CD-115	N37°31'12"E	193.28'
CB/CD-116	N59°27'08"E	23.38'
CB/CD-117	N50°21'37"E	49.51'
CB/CD-118	N18°33'49"E	45.03'
CB/CD-119	N27°19'45"E	45.03'
CB/CD-120	N17°11'36"E	36.24'

LEGEND

- EXISTING ADJACENT PROPERTY BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING ROAD CENTERLINE
- PROPOSED BOUNDARY SETBACK LINE
- PROPOSED BOUNDARY LOT LINE
- PROPOSED ROAD CENTERLINE
- DELINEATED WETLANDS

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

KEY MAP


REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	BSF	07/01/05

DATE: 4/07/05
SCALE: 1"=50'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: DAVID H. ARTMAN, PA PLS, SU051039-E

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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SAM ERNEY
12/21/2010
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SAM ERNEY 12/21/2010
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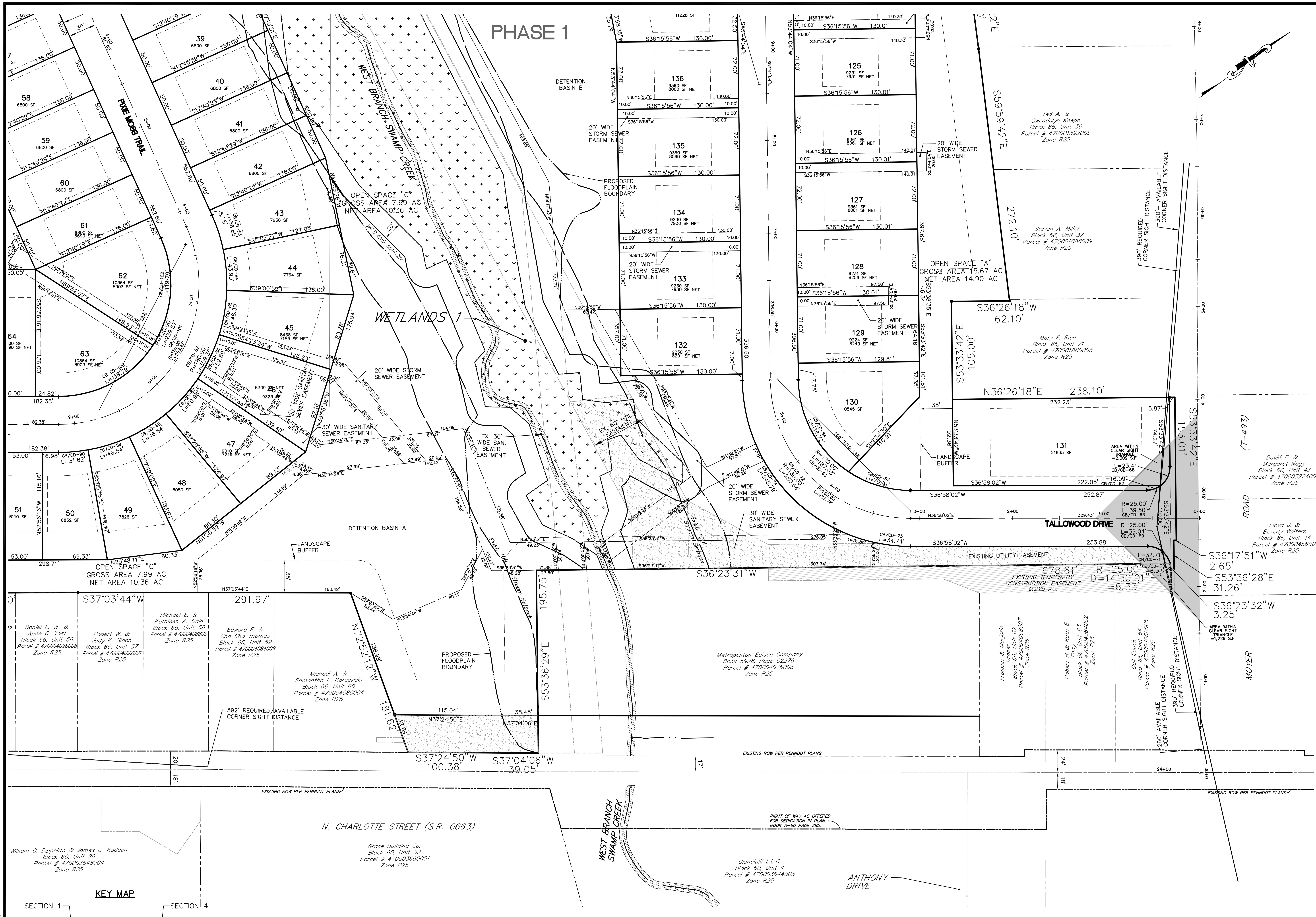

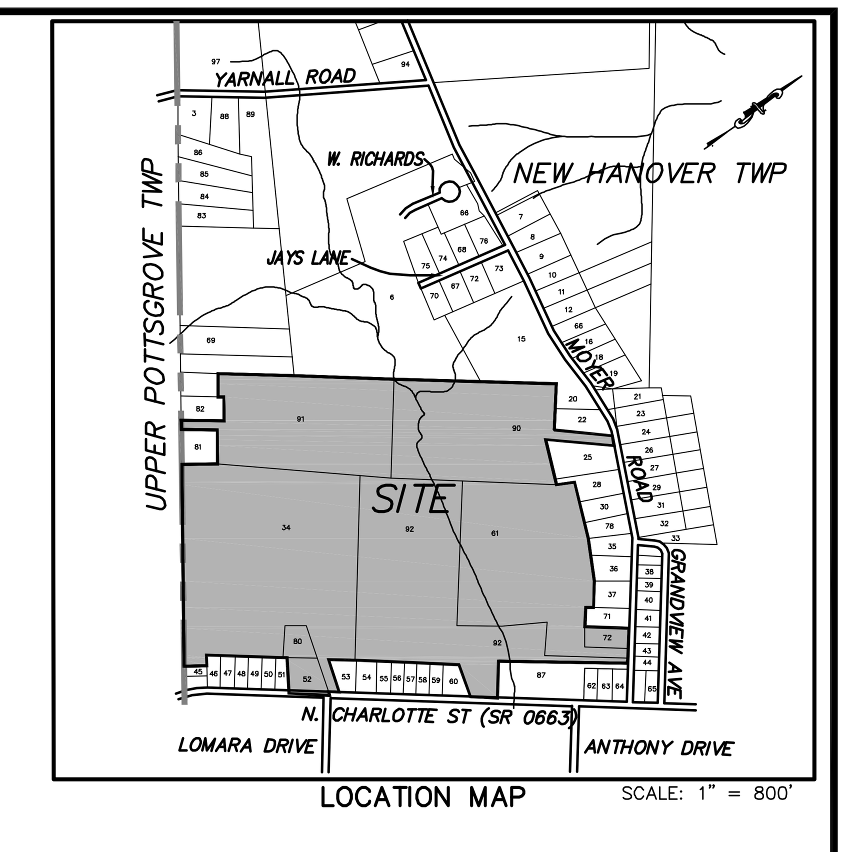

LOCATION MAP SCALE: 1" = 800'

CURVE TABLE

CURVE NO.	CORD BEARING	CORD DIST.	CURVE NO.	CORD BEARING	CORD DIST.
CB/CD-1	S08°07'52"E	35.36'	CB/CD-71	S74°27'10"W	30.43'
CB/CD-2	N40°22'59"W	167.71'	CB/CD-72	N81°36'59"E	252.99'
CB/CD-3	N44°46'10"E	110.52'	CB/CD-73	N42°29'49"E	34.69'
CB/CD-4	N32°01'16"W	58.13'	CB/CD-74	N87°08'46"E	227.14'
CB/CD-5	S72°38'06"E	35.36'	CB/CD-75	N74°41'04"W	85.81'
CB/CD-6	N40°25'57"E	89.64'	CB/CD-76	S82°44'53"E	80.29'
CB/CD-7	N71°32'07"E	287.64'	CB/CD-77	S89°24'10'E	39.08'
CB/CD-8	N22°07'35"E	22.77'	CB/CD-78	S76°30'58"W	41.72'
CB/CD-9	N33°26'20"E	48.15'	CB/CD-79	S73°57'38"W	141.67'
CB/CD-10	N48°48'42"E	48.15'	CB/CD-80	S25°13'44"W	117.37'
CB/CD-11	N63°29'08"E	43.79'	CB/CD-81	S32°19'31"E	35.36'
CB/CD-12	N78°09'32"E	48.15'	CB/CD-82	N20°07'53"W	302.58'
CB/CD-13	S86°28'07"E	48.15'	CB/CD-83	N71°08'32"W	38.77'
CB/CD-14	S70°40'36"E	50.76'	CB/CD-84	N57°58'19"W	43.79'
CB/CD-15	S59°00'01"E	22.42'	CB/CD-85	N43°17'53"W	48.15'
CB/CD-16	S41°31'56"E	110.48'	CB/CD-86	N27°13'34"W	52.50'
CB/CD-17	S54°25'01"E	8.13'	CB/CD-87	N10°44'08"W	50.76'
CB/CD-18	S46°59'14"E	51.41'	CB/CD-88	N04°46'35"E	46.41'
CB/CD-19	S34°06'09"E	51.82'	CB/CD-89	N19°35'22"E	46.41'
CB/CD-20	S05°04'26"W	248.57'	CB/CD-90	N32°01'45"E	31.58'
CB/CD-21	S19°17'47"E	66.71'	CB/CD-91	N49°42'49"E	100.75'
CB/CD-22	S02°42'30"E	66.00'	CB/CD-92	N42°17'52"E	41.98'
CB/CD-23	S13°47'23"W	66.00'	CB/CD-93	N53°09'03"E	45.03'
CB/CD-24	S29°47'10"W	62.01'	CB/CD-94	N60°33'59"E	14.44'
CB/CD-25	S37°39'29"W	1.00'	CB/CD-95	S17°21'54"W	35.36'
CB/CD-26	N25°39'08"W	89.44'	CB/CD-96	S40°22'59"E	141.23'
CB/CD-27	S47°37'48"W	17.10'	CB/CD-97	S34°56'59"E	81.49'
CB/CD-28	S82°18'45"W	42.00'	CB/CD-98	S47°41'53"E	60.60'
CB/CD-29	N48°01'06"W	42.00'	CB/CD-99	S81°52'08"W	35.36'
CB/CD-30	N01°39'03"E	42.00'	CB/CD-100	S57°40'29"W	35.36'
CB/CD-31	N58°41'57"E	53.31'	CB/CD-101	N20°07'53"W	201.72'
CB/CD-32	S64°20'52"W	44.72'	CB/CD-102	N48°43'42"W	114.87'
CB/CD-33	S05°04'26"W	183.73'	CB/CD-103	N08°27'55"E	114.87'
CB/CD-34	S31°37'10"W	36.50'	CB/CD-104	N49°42'49"E	74.47'
CB/CD-35	S00°24'55"E	148.36'	CB/CD-105	S40°25'57"W	134.47'
CB/CD-36	S26°57'39"E	4.00'	CB/CD-106	S55°49'54"W	40.96'
CB/CD-37	S72°38'06"E	35.36'	CB/CD-107	S42°18'39"W	43.79'
CB/CD-38	N37°31'12"E	142.86'	CB/CD-108	S28°20'10"W	43.79'
CB/CD-39	N51°31'41"E	63.92'	CB/CD-109	S19°55'28"W	8.95'
CB/CD-40	N26°40'59"E	82.30'	CB/CD-110	N71°32'07"E	191.76'
CB/CD-41	S25°13'44"W	143.46'	CB/CD-111	S41°31'56"E	81.66'
CB/CD-42	S23°20'06"W	122.09'	CB/CD-112	S51°39'50"E	22.81'
CB/CD-43	S35°53'20"W	21.81'	CB/CD-113	S37°46'00"E	59.81'
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CB/CD-47	S75°25'42"E	58.01'	CB/CD-117	N50°21'37"E	49.51'
CB/CD-48	N13°13'41"W	45.00'	CB/CD-118	N38°33'49"E	45.03'
CB/CD-49	S43°30'57"W	50.00'	CB/CD-119	N27°19'45"E	45.03'
CB/CD-50	S79°21'03"E	45.61'	CB/CD-120	N17°11'36"E	36.24'
CB/CD-51	N84°16'24"E	34.42'			
CB/CD-52	N73°57'38"E	212.51'			
CB/CD-53	S44°03'24"W	39.34'			
CB/CD-54	S52°12'09"W	11.76'			
CB/CD-55	S63°54'37"W	61.49'			
CB/CD-56	S84°53'12"W	69.56'			
CB/CD-57	N76°55'02"W	44.22'			
CB/CD-58	S82°44'53"E	53.52'			
CB/CD-59	N74°41'04"W	128.72'			
CB/CD-60	S86°23'59"W	12.78'			
CB/CD-61	N80°44'12"W	67.64'			
CB/CD-62	N61°49'15"W	50.64'			
CB/CD-63	N81°36'59"E	168.66'			
CB/CD-64	S81°35'55"E	112.17'			
CB/CD-65	N53°45'08"E	69.31'			
CB/CD-66	N08°17'50"W	35.52'			
CB/CD-67	N18°31'56"E	15.81'			
CB/CD-68	N26°43'56"W	22.57'			
CB/CD-69	S81°42'10"W	35.19'			
CB/CD-70	N60°48'42"W	6.31'			

LEGEND

- EXISTING ADJACENT PROPERTY BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING ROAD CENTERLINE
- PROPOSED BOUNDARY SETBACK LINE
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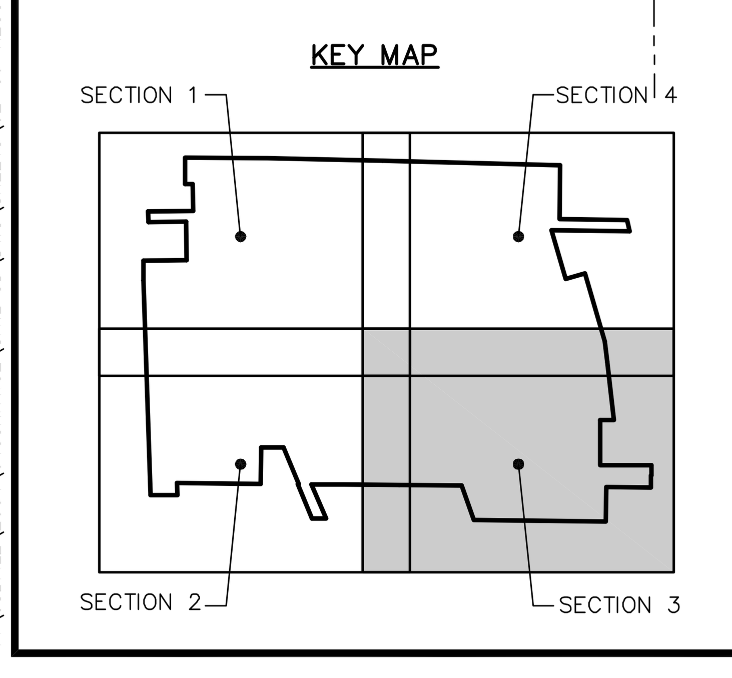
- DELINEATED WETLANDS



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
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SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

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SCALE:	1"=50'
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DRAWN BY:	GDM/SPE
CHECKED BY:	BSF/CSP
JOB NO.	0405NHT.02

BY: DAVID H. ARTMAN, PA PLS, SU051039-E

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

Van Cleef ENGINEERING ASSOCIATES

Consulting Civil Engineering
Environmental Engineering
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture

OFFICES THROUGHOUT NJ, EASTERN PA, DE, AND MD

4 WELLINGTON BLVD., WYOMISSING, PA 19610
EMAIL: BERKSCOUNTYPA@VCEA.ORG WEB: WWW.VCEA.ORG
PHONE (610) 670-6630 FAX (610) 670-4603

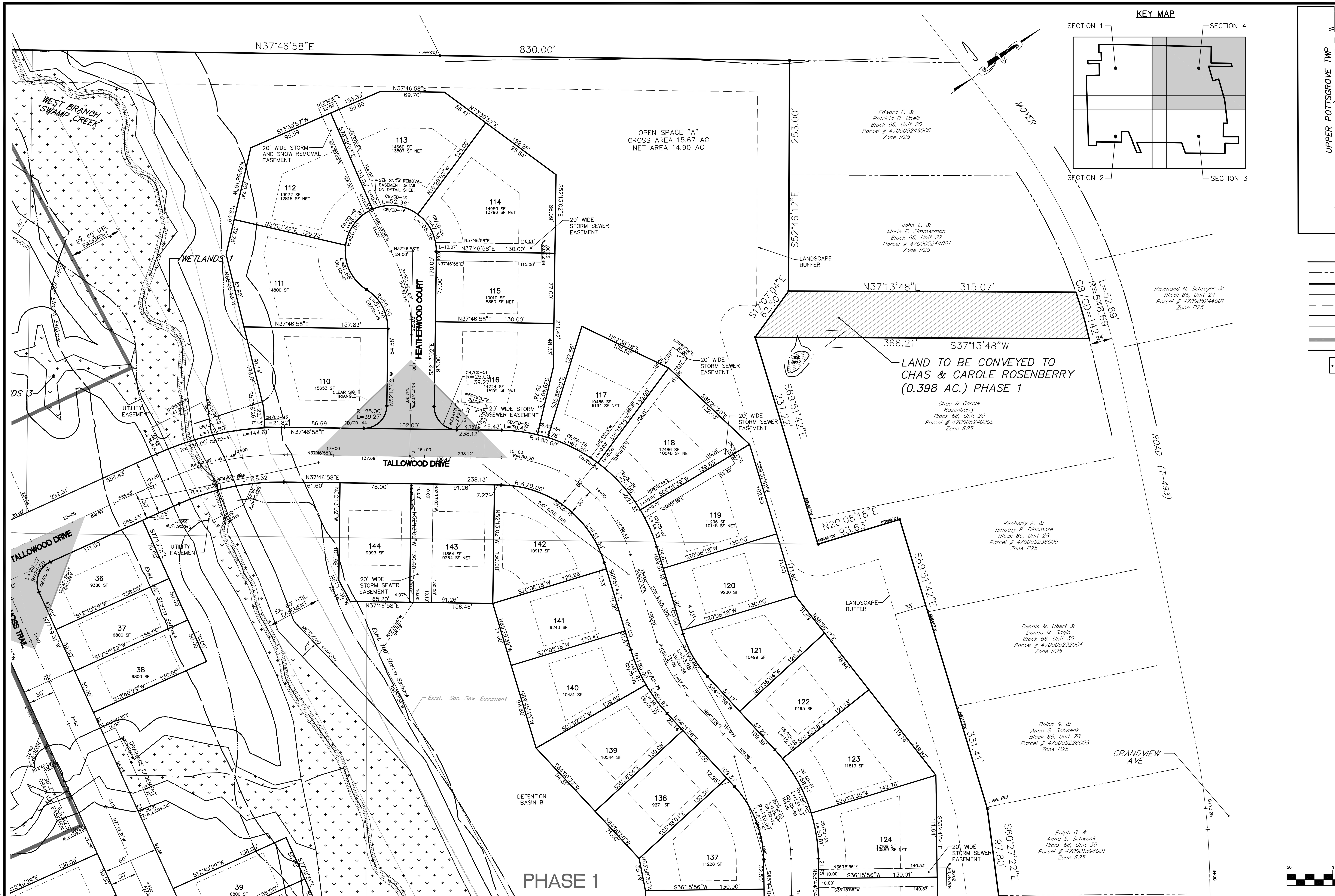
RECORD SUBDIVISION PLAN - SECTION 3

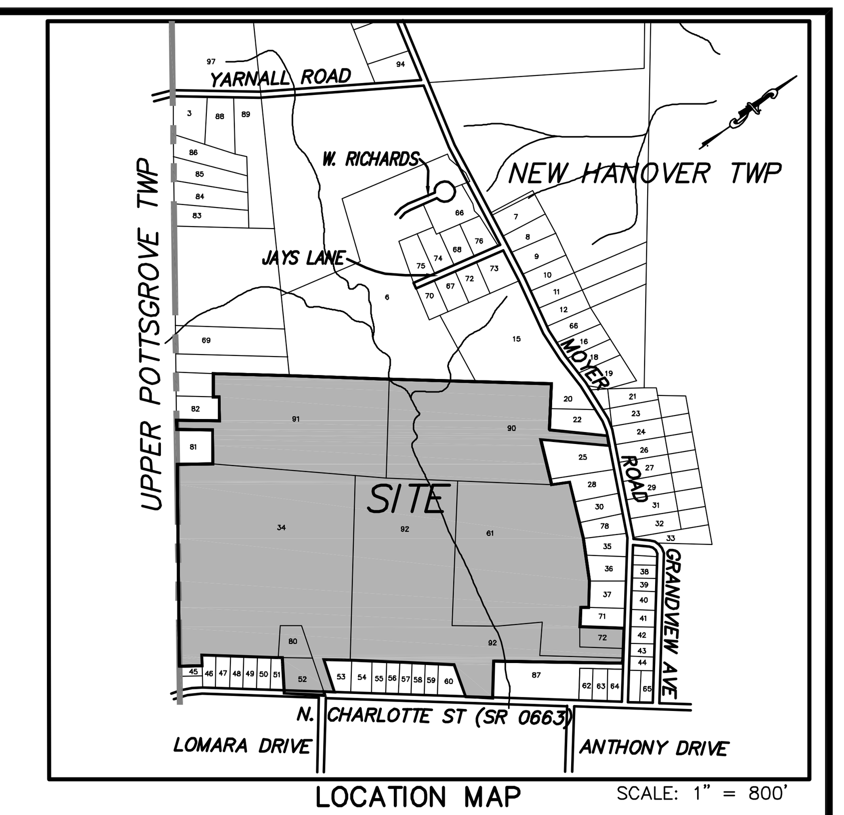
FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA





LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING ADJACENT PROPERTY BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING ROAD CENTERLINE
- PROPOSED BOUNDARY SETBACK LINE
- PROPOSED BOUNDARY LOT LINE
- PROPOSED ROAD CENTERLINE
- 100 YR FLOOD PLAIN
- PROPOSED FLOODPLAIN
- DELINEATED WETLANDS

CURVE TABLE

CURVE NO.	CORD BEARING	CORD DIST.	CURVE NO.	CORD BEARING	CORD DIST.
CB/CD-1	S08°07'52"E	35.36'	CB/CD-71	S74°27'10"W	30.43'
CB/CD-2	N40°22'59"W	167.71'	CB/CD-72	N81°36'59"E	252.99'
CB/CD-3	N44°46'10"E	110.52'	CB/CD-73	N42°29'49"E	34.69'
CB/CD-4	N32°01'16"W	58.13'	CB/CD-74	N87°08'46"E	227.14'
CB/CD-5	S72°38'06"E	35.36'	CB/CD-75	N74°41'04"W	85.81'
CB/CD-6	N40°25'57"E	89.64'	CB/CD-76	S82°44'53"E	80.29'
CB/CD-7	N71°32'07"E	287.64'	CB/CD-77	S89°24'10'E	39.08'
CB/CD-8	N22°07'35"E	22.77'	CB/CD-78	S76°30'58"W	41.72'
CB/CD-9	N33°26'20"E	48.15'	CB/CD-79	S73°57'38"W	141.67'
CB/CD-10	N48°48'42"E	48.15'	CB/CD-80	S25°13'44"W	117.37'
CB/CD-11	N63°29'08"E	43.79'	CB/CD-81	S32°19'31"E	35.36'
CB/CD-12	N78°09'32"E	48.15'	CB/CD-82	N20°07'53"W	302.58'
CB/CD-13	S86°28'07"E	48.15'	CB/CD-83	N71°08'32"W	38.77'
CB/CD-14	S70°40'36"E	50.76'	CB/CD-84	N57°58'19"W	43.79'
CB/CD-15	S59°00'01"E	22.42'	CB/CD-85	N43°17'53"W	48.15'
CB/CD-16	S41°31'56"E	110.48'	CB/CD-86	N27°13'34"W	52.50'
CB/CD-17	S54°25'01"E	8.13'	CB/CD-87	N10°44'08"W	50.76'
CB/CD-18	S46°59'14"E	51.41'	CB/CD-88	N04°46'35"E	46.41'
CB/CD-19	S34°06'09"E	51.82'	CB/CD-89	N19°35'22"E	46.41'
CB/CD-20	S05°04'26"W	248.57'	CB/CD-90	N32°01'45"E	31.58'
CB/CD-21	S19°17'47"E	66.71'	CB/CD-91	N49°42'49"E	100.75'
CB/CD-22	S02°42'30"E	66.00'	CB/CD-92	N42°17'52"E	41.98'
CB/CD-23	S13°47'23"W	66.00'	CB/CD-93	N53°09'03"E	45.03'
CB/CD-24	S29°47'10"W	62.01'	CB/CD-94	N60°33'59"E	14.44'
CB/CD-25	S37°39'29"W	1.00'	CB/CD-95	S17°21'54"W	35.36'
CB/CD-26	N25°39'08"W	89.44'	CB/CD-96	S40°22'59"E	141.23'
CB/CD-27	S47°37'48"W	17.10'	CB/CD-97	S34°56'59"E	81.49'
CB/CD-28	S82°18'45"W	42.00'	CB/CD-98	S47°41'53"E	60.60'
CB/CD-29	N48°01'06"W	42.00'	CB/CD-99	S81°52'08"W	35.36'
CB/CD-30	N01°39'03"E	42.00'	CB/CD-100	S57°40'29"W	35.36'
CB/CD-31	N58°41'57"E	53.31'	CB/CD-101	N20°07'53"W	201.72'
CB/CD-32	S64°20'52"W	44.72'	CB/CD-102	N48°43'42"W	114.87'
CB/CD-33	S05°04'26"W	183.73'	CB/CD-103	N08°27'55"E	114.87'
CB/CD-34	S31°37'10"W	36.50'	CB/CD-104	N49°42'49"E	74.47'
CB/CD-35	S00°24'55"E	148.36'	CB/CD-105	S40°25'57"W	134.47'
CB/CD-36	S26°57'39"E	4.00'	CB/CD-106	S55°49'54"W	40.96'
CB/CD-37	S72°38'06"E	35.36'	CB/CD-107	S42°18'39"W	43.79'
CB/CD-38	N37°31'12"E	142.86'	CB/CD-108	S28°20'10"W	43.79'
CB/CD-39	N51°31'41"E	63.92'	CB/CD-109	S19°55'28"W	8.95'
CB/CD-40	N26°40'59"E	82.30'	CB/CD-110	N71°32'07"E	191.76'
CB/CD-41	S25°13'44"W	143.46'	CB/CD-111	S41°31'56"E	81.66'
CB/CD-42	S23°20'06"W	122.09'	CB/CD-112	S51°39'50"E	22.81'
CB/CD-43	S35°53'20"W	21.81'	CB/CD-113	S37°46'00"E	59.81'
CB/CD-44	N07°13'02"W	35.36'	CB/CD-114	S17°21'54"W	35.36'
CB/CD-45	S81°33'04"E	48.99'	CB/CD-115	N37°31'12"E	193.28'
CB/CD-46	N08°26'56"E	87.18'	CB/CD-116	N59°27'08"E	23.38'
CB/CD-47	S75°25'42"E	58.01'	CB/CD-117	N50°21'37"E	49.51'
CB/CD-48	N13°13'41"W	45.00'	CB/CD-118	N38°33'49"E	45.03'
CB/CD-49	S43°30'57"W	50.00'	CB/CD-119	N27°19'45"E	45.03'
CB/CD-50	S79°21'03"E	45.61'	CB/CD-120	N17°11'36"E	36.24'
CB/CD-51	N84°16'24"E	34.42'			
CB/CD-52	N73°57'38"E	212.51'			
CB/CD-53	S44°03'24"W	39.34'			
CB/CD-54	S52°12'09"W	11.76'			
CB/CD-55	S63°54'37"W	61.49'			
CB/CD-56	S84°53'12"W	69.56'			
CB/CD-57	N76°55'02"W	44.22'			
CB/CD-58	S82°44'53"E	53.52'			
CB/CD-59	N74°41'04"W	128.72'			
CB/CD-60	S86°23'59"W	12.78'			
CB/CD-61	N80°44'12"W	67.64'			
CB/CD-62	N61°49'15"W	50.64'			
CB/CD-63	N81°36'59"E	168.66'			
CB/CD-64	S81°35'55"E	112.17'			
CB/CD-65	N53°45'08"E	69.31'			
CB/CD-66	N08°17'50"W	35.52'			
CB/CD-67	N18°31'56"E	15.81'			
CB/CD-68	N26°43'56"W	22.57'			
CB/CD-69	S81°42'10"W	35.19'			
CB/CD-70	N60°48'42"W	6.31'			

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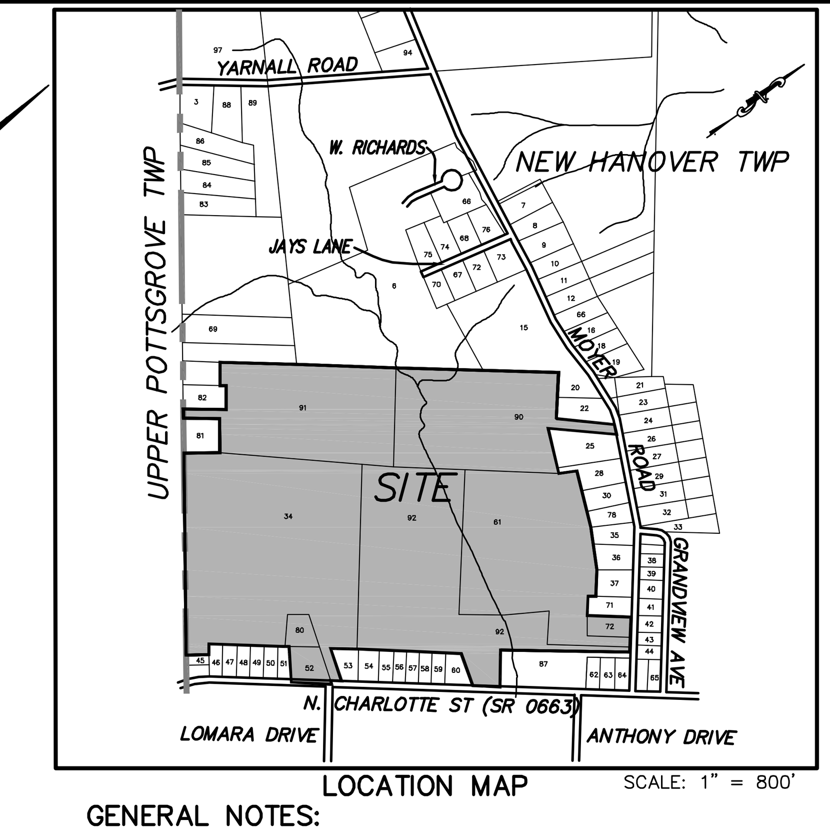
RECORD SUBDIVISION PLAN - SECTION 4
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\02-06-RECORD-0405NHT02.DWG



LOCATION MAP SCALE: 1" = 800'

GENERAL NOTES:

1. TITLE LINE AND TOPOGRAPHICAL INFORMATION TAKEN FROM EXISTING DEEDS, PLANS OF RECORD AND VERIFIED BY ACTUAL FIELD MEASUREMENTS TAKEN BY STOUT, TACCONELLI & ASSOCIATES, INC. IN APRIL 2003.

2. ELEVATION INFORMATION AS SHOWN HEREON IS BASED ON NORTH AMERICAN VERTICAL DATUM AS DEPICTED ON THE F.E.M.A. FLOODWAY MAP FOR NEW HANOVER TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA, COMMUNITY PANEL NO. 421914 0008, NOTED AS RM-10, A SQUARE CUT IN SOUTHEAST WINGWALL OF SANATOGA ROAD BRIDGE OVER THE WEST BRANCH SWAMP CREEK ELEVATION 259.13.

3. FIELD SURVEYED CONTOUR DATA AS SHOWN HEREON HAS BEEN PREPARED BY STOUT, TACCONELLI & ASSOCIATES, INC.

4. A SITE INVESTIGATION WAS PERFORMED BY NOVA CONSULTANTS, LTD. AND FIELD LOCATED BY VAN CLEEF ENGINEERING ASSOCIATES IN AUGUST, 2005 TO VERIFY THE EXISTENCE OF WETLANDS ON SITE. FIELD INVESTIGATION WAS BASED ON U.S. ARMY CORPS. OF ENGINEERS GUIDELINES.

5. THE FIRE DEPARTMENT WILL HAVE THE OPTION TO USE ANY HOUSES TO BE DEMOLISHED FOR TRAINING PURPOSES. ALL OTHER EXISTING STRUCTURES ARE TO BE REMOVED. ALL EXISTING UTILITIES WITHIN LIMIT OF DISTURBANCE TO BE REMOVED. ALL EXISTING WELLS, UTILITIES, SANITARY SEWER LINES AND SEPTIC AREAS ASSOCIATES WITH THE EXISTING STRUCTURES MUST BE REMOVED IN ACCORDANCE WITH ALL APPLICABLE GOVERNMENT REGULATIONS.

6. NO CERTIFICATION IS MADE BY VAN CLEEF ENGINEERING ASSOCIATES AS TO THE POSITION OF ANY UTILITIES OR TO THE COMPLETENESS OF ANY UTILITIES SHOWN. ALL CONTRACTORS WORKING ON THIS SITE SHALL COMPLY WITH THE REQUIREMENTS OF ACT 187 OF 1996 (UNDERGROUND UTILITY LINE PROTECTION LAW). VAN CLEEF ENGINEERING ASSOCIATES HAS REGISTERED THIS SITE WITH THE PA ONE-CALL SYSTEM (SERIAL NO. 20150721082). THE FOLLOWING IS A LIST OF REGISTERED UTILITY USERS FOR NEW HANOVER TOWNSHIP:

COMPANY:COMCAST CABLEVISION
ADDRESS:4400 WAYNE AVE
PHILADELPHIA, PA. 19140
CONTACT:BOB HARVEY
EMAIL:bob_harvey@cable.comcast.com

COMPANY:FIRSTENERGY CORP
ADDRESS:76 S MAIN STAKRON, OH. 443081890
CONTACT:OFFICE PERSONNEL

COMPANY:NEW HANOVER TOWNSHIP
AUTHORITY/NEW HANOVER TOWNSHIP
ADDRESS:2943 N CHARLOTTE STGILBERTSVILLE, PA. 19525
CONTACT:DENNIS FLYNN
EMAIL:dflynn@newhanover-pa.org

COMPANY:COMCAST CABLEVISION
ADDRESS:190 SHOEMAKER RDPOTTSTOWN, PA. 19464
CONTACT:DAVE FIEDLER

COMPANY:SUPERIOR WATER CO
ADDRESS:1885 SWAMP PIKEPO BOX 525GILBERTSVILLE, PA. 19525
CONTACT:DAVID RINEHART
EMAIL:drinehart@superiorwaterco.com

COMPANY:UGI UTILITIES INC
ADDRESS:225 MORGANTOWN ROAD
READING, PA. 19611
CONTACT:KURT ZIELASKOWSKI
EMAIL:kzielaskowski@ugi.com

COMPANY:VERIZON PENNSYLVANIA LLC
ADDRESS:180 SHEREE BLVD STE 2100 ROOM
N/AEXTON, PA. 19341
CONTACT:KELLY BLOUNT
EMAIL:kelly.b.blount@verizon.com

SITE STATISTICS

1. SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX ASSESSMENT INFORMATION AS FOLLOWS:

NEW HANOVER TOWNSHIP
1) BLOCK 66, UNIT 34 (TMP-470004072003)
2) BLOCK 66, UNIT 52 (TMP-470004112008)
3) BLOCK 66, UNIT 61 (TMP-470005209009)
4) BLOCK 66, UNIT 80 (TMP-470004116004)
5) BLOCK 66, UNIT 90 (TMP-470005242003)
6) BLOCK 66, UNIT 91 (TMP-470005125003)
7) BLOCK 66, UNIT 92 (TMP-470004077007)
8) BLOCK 66, UNIT 72 (TMP-470001884004)

2. RECORDED DEED DATA IS AS FOLLOWS:

AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT NORRISTOWN, PENNSYLVANIA.

1) DEED BOOK 5862 / PAGE 2537
2) DEED BOOK 5862 / PAGE 2537
3) DEED BOOK 5862 / PAGE 2537
4) DEED BOOK 5862 / PAGE 2537
5) DEED BOOK 5862 / PAGE 2537
6) DEED BOOK 5862 / PAGE 2537
7) DEED BOOK 5928 / PAGE 2347
8) DEED BOOK 5549 / PAGE 2505

3. NAMES AND ADDRESSES OF THE OWNERS OF THE SUBJECT TRACT:

1) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
2) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
3) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
4) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
5) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
6) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
7) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610
8) KTMT REALTY, LP. 1030 REED AVENUE, SUITE 100 WYOMISSING, PA. 19610

LEGEND

EXISTING CONTOUR	SLOPES 15-25%
EXISTING WOODLANDS	SLOPES > 25%
EXISTING CURB TO REMAIN	DELINEATED WETLANDS
EXISTING STORM SEWER	SOIL LINE
EXISTING SANITARY SEWER	
EXISTING WATER MAIN	
EXISTING ELECTRIC	
EXISTING TREE (SURVEY)	
RIPARIAN BUFFER ZONE 1	
RIPARIAN BUFFER ZONE 2	

NATURAL RESOURCE DISTURBANCE

PROTECTED NATURAL RESOURCE	AREA OF RESOURCE AT SITE	ALLOWABLE DISTURBANCE (%)	ALLOWABLE DISTURBANCE (Ac.)	PROPOSED DISTURBANCE (Ac.)
FLOOD PLAIN	3.68	0	0	0.28 (1)
FLOOD PLAIN SOILS	12.18	0	0	3.41 (1)
15-25 PERCENT SLOPES	1.29	30	0.39	0.28
25 + PERCENT SLOPES	0.29	20	0.06	0.04
WOODLANDS	22.10	50	11.05	10.88
WATERCOURSES, PONDS, ETC.	0	0	0	0 (1)
WETLANDS	4.47	0	0	0.35 (1)
WETLAND MARGINS	3.18	20	0.64	0.60

(1) THE AMOUNT OF DISTURBANCE SHOWN IS PERMISSIBLE PURSUANT TO THE CRITERIA ESTABLISHED WITHIN SECTION 1601 OF THE NEW HANOVER TOWNSHIP ZONING ORDINANCE.

NOTE

BENCHMARK R.R. SPIKE (FD.) MET ED POLE ELEV. 358.75 NAVD 88

SOILS DATA:

DATA OBTAINED FROM SOIL SURVEY OF MONTGOMERY COUNTY, PENNSYLVANIA, ISSUED FEBRUARY 2009.

Bo - BOWMANSVILLE SILT LOAM.

CrB - CROTON SILT LOAM, 3 TO 8 PERCENT SLOPES.

RhB - REAVILLE SHALY SILT LOAM, 3 TO 8 PERCENT SLOPES.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

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BY: DAVID H. ARTMAN, PA PLS, SU051039-E

CHRISTOPHER S. PECORA, PE, PLS 47117E

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OVERALL EXISTING FEATURES PLAN

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
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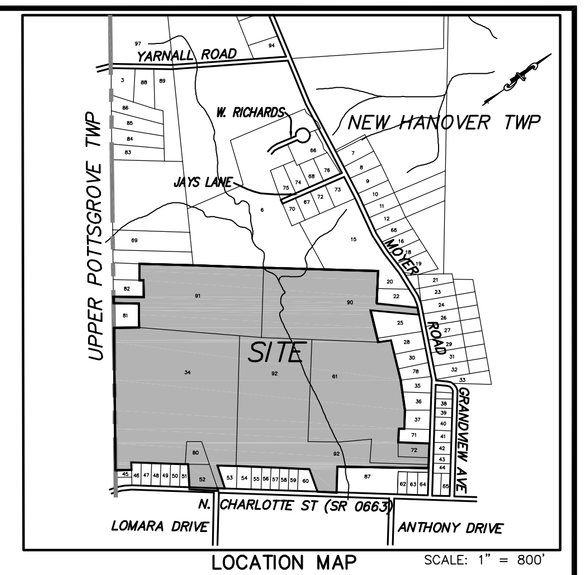

LOCATION MAP SCALE: 1" = 800'

GENERAL CONSTRUCTION NOTES

1. SITE SHALL BE PROPERLY GRADED TO INSURE DRAINAGE FLOW AWAY FROM THE HOUSES AND TO THE NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION.
2. SUMP PUMPS, IF APPLICABLE, SHALL NOT DISCHARGE ONTO DRIVEWAYS, SIDEWALKS, STREETS, OR SANITARY SEWERS.
3. NO CERTIFICATION IS MADE BY VCEA AS TO THE ACTUAL UNDERGROUND POSITION OF ANY UTILITIES OR TO THE COMPLETENESS OR ACCURACY OF THE UTILITY MARKOUTS BY OTHERS.
4. IT IS IMPERATIVE THAT UTILITY COMPANIES ARE NOTIFIED PRIOR TO ANY EXCAVATION AND/OR CONSTRUCTION. CALL 1-800-242-1776 TO ORDER UTILITY MARKOUTS BY OTHERS.
5. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PUBLIC OR PRIVATE UTILITIES WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS EXPENSE, ALL EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
6. THE CONTRACTOR, DURING THE PERFORMANCE OF ALL WORK ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT, IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS, CODES AND REGULATIONS.
7. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY DESIGN INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
8. ALL MATERIAL USED FOR FILL OR BACKFILL SHALL BE FREE OF WOOD, ROOTS, ROCKS, BOULDERS OR ANY OTHER NON-COMPACABLE SOIL TYPE MATERIAL. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN-MADE FILLS AND REFUSE DEBRIS DERIVED FROM ANY SOURCE.
9. ALL EXCAVATIONS, INCLUDING TRENCHES, SHALL BE KEPT DRY TO PROTECT THEIR INTEGRITY.
10. MATERIALS USED TO CONSTRUCT EMBANKMENTS FOR ANY PURPOSE, BACKFILL AROUND DRAINAGE STRUCTURES OR IN UTILITY TRENCHES OR ANY OTHER DEPRESSIONS REQUIRING FILL OR BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AS SET OUT IN ASTM STANDARD D-698 UNLESS SPECIFIED ELSEWHERE WITHIN THE CONSTRUCTION PLANS OR IF SPECIFIED DIFFERENTLY BY THE TOWNSHIP ENGINEER. CONTRACTOR TO VERIFY COMPACTION REQUIREMENTS WITH TOWNSHIP ENGINEER'S OFFICE PRIOR TO EXCAVATION.
11. ALL CONSTRUCTION DEBRIS INCLUDING EXCESS EXCAVATED MATERIAL, SCRAP WOOD, BRICKS, BLOCKS, ETC. SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH FEDERAL, STATE & LOCAL REQUIREMENTS.
12. ELEVATIONS, DIMENSIONS, AND THE LOCATIONS OF LINEAR FEATURES SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
13. TITLE LINE AND TOPOGRAPHICAL INFORMATION TAKEN FROM EXISTING DEEDS, PLANS OF RECORD AND VERIFIED BY ACTUAL FIELD MEASUREMENTS TAKEN BY STOUT, TACCONELLI & ASSOCIATES, INC. IN APRIL 2003.
14. ELEVATION INFORMATION AS SHOWN HEREON IS BASED ON NORTH AMERICAN VERTICAL DATUM AS DEPICTED ON THE F.E.M.A. FLOODWAY MAP FOR NEW HANOVER TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA, COMMUNITY PANEL NO. 421914 0008, NOTED AS RM-10, A SQUARE CUT IN SOUTHEAST WINGWALL OF SANATOGA ROAD BRIDGE OVER THE WEST BRANCH SWAMP CREEK ELEVATION 259.13.
15. FIELD SURVEYED CONTOUR DATA AS SHOWN HEREON HAS BEEN PREPARED BY STOUT, TACCONELLI & ASSOCIATES, INC.
16. A SITE INVESTIGATION WAS PERFORMED BY JOHN F. SZCZEPANSKI OF NOVA CONSULTANTS, LTD. TO VERIFY THE EXISTENCE OF WETLANDS ON SITE. FIELD INVESTIGATION WAS BASED ON U.S. ARMY CORPS. OF ENGINEERS GUIDELINES.
17. ALL DRIVEWAYS SHALL BE AT LEAST 5 FEET FROM ANY SIDE OR REAR PROPERTY LINE.
18. BUILDING AND DRIVEWAY LOCATIONS ARE SHOWN SCHEMATICALLY ONLY. MODIFICATIONS SUBJECT TO APPROVAL BY TOWNSHIP ENGINEER.
19. TOPSOIL MAY NOT BE REMOVED FROM THE SITE WITHOUT APPROVAL BY THE TOWNSHIP.
20. DRAINAGE/STORM SEWER EASEMENTS ARE TO BE MAINTAINED AND NOT ALTERED FROM FINAL APPROVAL GRADES AND LANDSCAPING EXCEPT BY SPECIFIC WRITTEN AUTHORIZATION OF TOWNSHIP OFFICIALS. THE LOT OWNER AND/OR HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR LAWN MOWING AND LANDSCAPING UPKEEP WITHIN EASEMENT AREAS IN ADDITION TO LOT AREA. ACCESS OVER AND THROUGH EASEMENTS IS GRANTED TO TOWNSHIP OFFICIALS.
21. STORM SEWER STRUCTURES (I.E. ENDWALLS, INLETS, END SECTIONS, ETC.) MAY NOT BE LOCATED ON TOP OF OR WITHIN TEN (10) FEET OF ELECTRIC, WATER, SANITARY SEWER, AND GAS SERVICE AND/OR MAINS, UNLESS APPROVAL IS RECEIVED FROM THE TOWNSHIP, AND FROM THE AUTHORITY OR UTILITY HAVING JURISDICTION OVER SAME.
22. THE MINIMUM DEPTH OF TOPSOIL TO BE REPLACED SHALL BE EIGHT (8) INCHES, OR THE EXISTING DEPTH OF TOPSOIL ENCOUNTERED ON THE SITE, WHICHEVER IS GREATER.
23. MUD SEDIMENT AND/OR DEBRIS TRACKED FROM THE SITE ONTO PUBLIC CARTWAY SHALL BE IMMEDIATELY REMOVED BY BROOMING AND/OR MECHANICAL MEANS TO THE SATISFACTION OF THE TOWNSHIP. USE OF A BACKHOE BUCKET TO SCRAPE ROADWAY SURFACE IS PROHIBITED. WHERE MUD AND/OR SEDIMENT IS CAUSING SLICK AND/OR HAZARDOUS CONDITIONS, ROADWAY SURFACE SHALL BE IMMEDIATELY PRESSURE WASHED TO REMOVE CONDITION. ALL SEDIMENT LADEN WATER MUST BE FILTERED IN A MANNER SATISFACTORY TO THE CONSERVATION DISTRICT BEFORE ENTERING STORM SEWERS AND/OR DRAINAGE CHANNELS
24. FIRST FLOOR ELEVATION AND GARAGE FLOOR ELEVATION ARE APPROXIMATE. FINAL ELEVATIONS WILL BE ESTABLISHED AND SUBMITTED AS PART OF THE BUILDING PERMIT PLAN.
25. ALL BASIN OUTLET PIPES SHALL HAVE "O" RING JOINTS.
26. WOODEN GUIDE RAIL SHALL BE INSTALLED ALONG BOTH SIDES OF PIXIE MOSS TRAIL AND TALLOWOOD DRIVE AT THE CULVERT CROSSING.
27. ALL GRATES FOR YARD INLETS TO BE PENNDOT APPROVED CAST GRAY IRON GRATES.

LEGEND

	WETLAND MARGIN
	EXISTING WOODLANDS
	PROPOSED WOODLANDS
	EXISTING CURB TO REMAIN
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING WATER MAIN
OHW	EXISTING ELECTRIC
	EXISTING TREE (SURVEY)
CrB2 Bp	SOIL LINE
258.1 x	SPOT ELEVATION
	PROPOSED FENCE (DETENTION BASIN / LOT)
	PROPOSED FLOODPLAIN
	WOODEN GUIDE RAIL
340	EXISTING CONTOUR
236	PROPOSED CONTOUR
	DELINEATED WETLANDS
	PROPOSED BIKE PATH
	TREE PROTECTION AREA
TC	TOP OF CURB ELEVATION
BC	BOTTOM OF CURB ELEVATION
FF	FIRST FLOOR ELEVATION
TW	TOP OF WALL ELEVATION
GF	GARAGE FLOOR ELEVATION
BF	BASEMENT FLOOR ELEVATION
WO	WALKOUT ELEVATION
DL	DAYLIGHT BASEMENT ELEVATION

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SOILS DATA:

DATA OBTAINED FROM SOIL SURVEY OF MONTGOMERY COUNTY, PENNSYLVANIA, ISSUED FEBRUARY 2009.

Bo – BOWMANSVILLE SILT LOAM.

CrB – CROTON SILT LOAM, 3 TO 8 PERCENT SLOPES.

RhB – REAVILLE SHALY SILT LOAM, 3 TO 8 PERCENT SLOPES.

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PA Law requires 3 working days notice before you excavate
P.A. ONE CALL SYSTEM, INC.

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR. DATED 11/18/11	BSF	12/15/11
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REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=100'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY:
CHRISTOPHER S. PECORA, PE, PLS 47117E

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OVERALL GRADING PLAN
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

8/60

SAM ERNEY 12/21/2010
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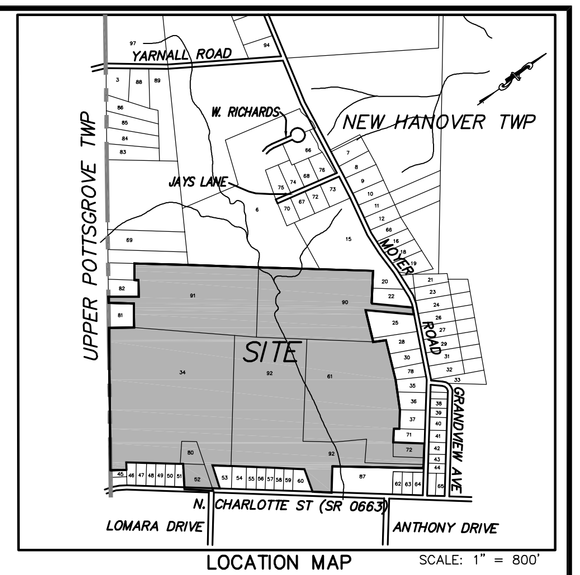
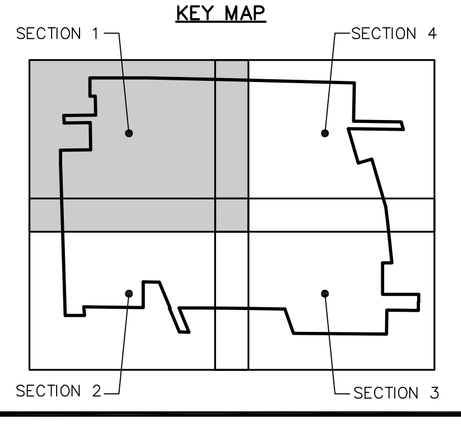


LOCATION MAP SCALE: 1" = 800'



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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LEGEND

WETLAND MARGIN	EXISTING CONTOUR
EXISTING WOODLANDS	PROPOSED CONTOUR
PROPOSED WOODLANDS	DELINATED WETLANDS
EXISTING CURB TO REMAIN	PROPOSED BIKE PATH
EXISTING STORM SEWER	TREE PROTECTION AREA
EXISTING SANITARY SEWER	TOP OF CURB ELEVATION
EXISTING WATER MAIN	BOTTOM OF CURB ELEVATION
EXISTING ELECTRIC	FIRST FLOOR ELEVATION
EXISTING TREE (SURVEY)	TOP OF WALL ELEVATION
SOIL LINE	GARAGE FLOOR ELEVATION
SPOT ELEVATION	BASEMENT FLOOR ELEVATION
PROPOSED FENCE (DETENTION BASIN / LOT)	WALKOUT ELEVATION
WOODEN GUIDE RAIL	DAYLIGHT BASEMENT ELEVATION

TC
BC
FF
TW
GF
BF
WO
DL

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GRADING PLAN - SECTION 1
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

9/60

SAM ERNEY 12/21/2010
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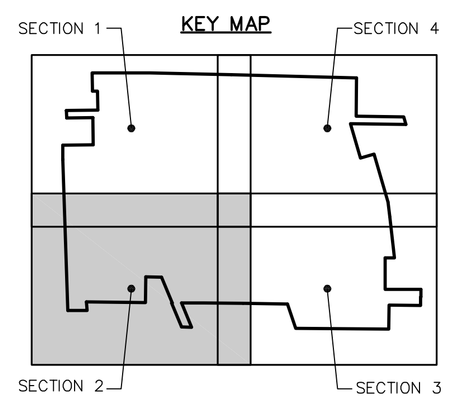
LOCATION MAP SCALE: 1" = 800'

KEY MAP



LEGEND

WETLAND MARGIN	EXISTING CONTOUR
EXISTING WOODLANDS	PROPOSED CONTOUR
PROPOSED WOODLANDS	DELINEATED WETLANDS
EXISTING CURB TO REMAIN	PROPOSED BIKE PATH
EXISTING STORM SEWER	TREE PROTECTION AREA
EXISTING SANITARY SEWER	TOP OF CURB ELEVATION (TC)
EXISTING WATER MAIN	BOTTOM OF CURB ELEVATION (BC)
EXISTING ELECTRIC	FIRST FLOOR ELEVATION (FF)
EXISTING TREE (SURVEY)	TOP OF WALL ELEVATION (TW)
SOIL LINE	GARAGE FLOOR ELEVATION (GF)
SPOT ELEVATION	BASEMENT FLOOR ELEVATION (BF)
PROPOSED FENCE (DETENTION BASIN / LOT)	WALKOUT ELEVATION (WO)
WOODEN GUIDE RAIL	DAYLIGHT BASEMENT ELEVATION (DL)

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

SOILS DATA:

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BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

GRADING PLAN - SECTION 2
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

10/60

SAM ERNEY 12/21/2010
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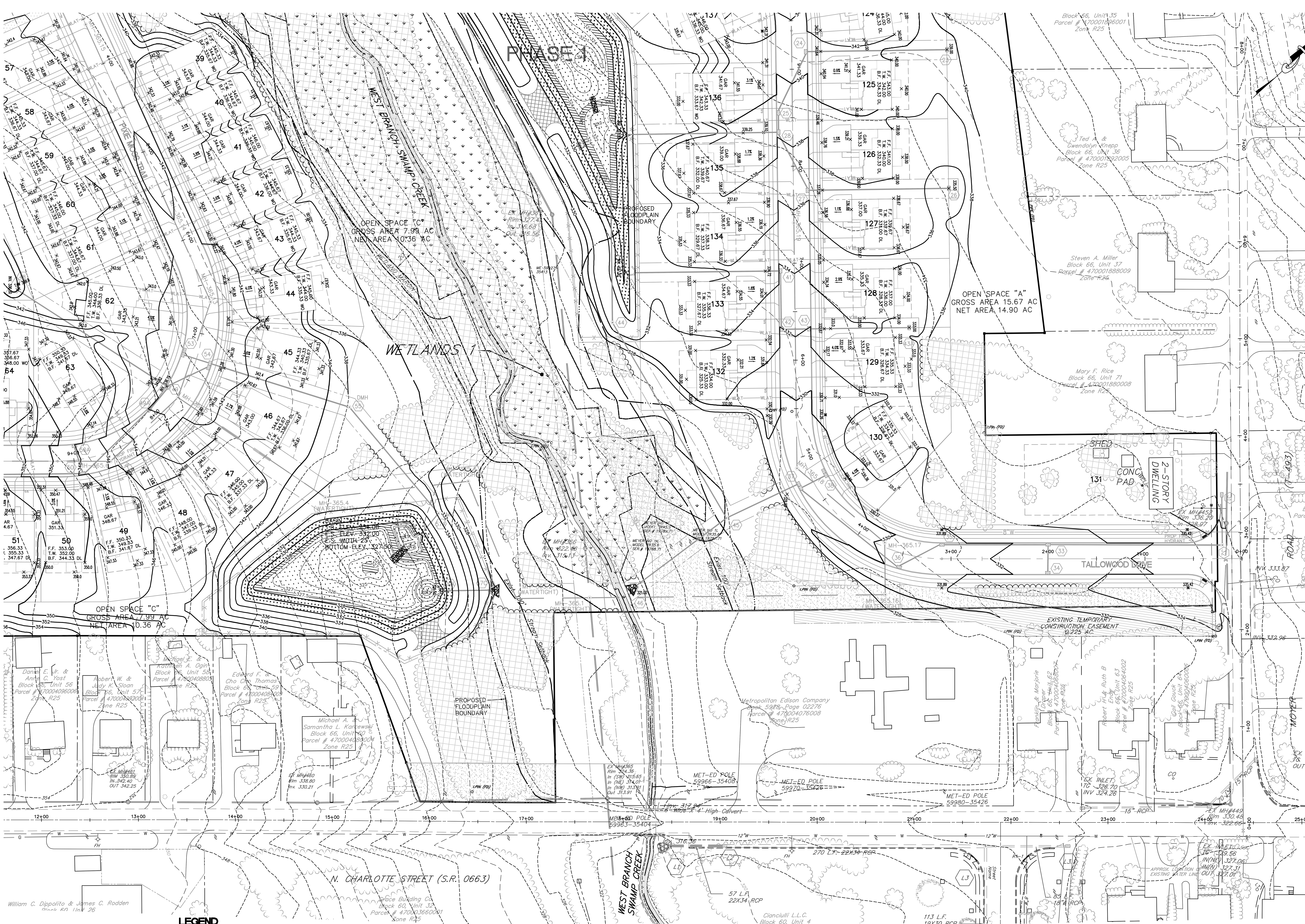

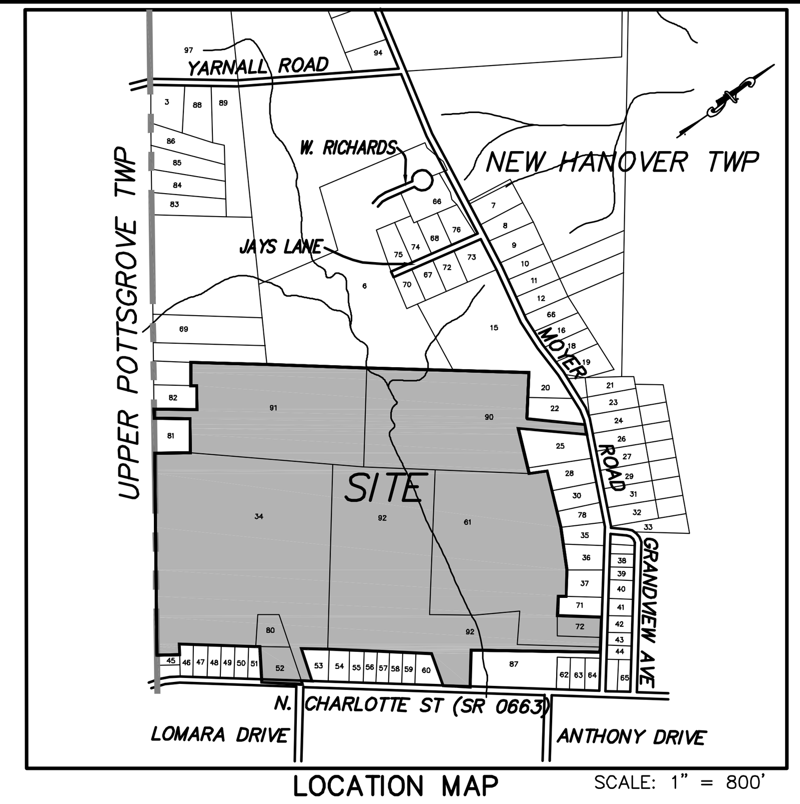

LOCATION MAP SCALE: 1" = 800'

LEGEND

- WETLAND MARGIN
- EXISTING WOODLANDS
- PROPOSED WOODLANDS
- EXISTING CURB TO REMAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC (OHW)
- EXISTING TREE (SURVEY)
- SOIL LINE (CrB/Bo)
- SPOT ELEVATION (258.1)
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED FLOODPLAIN
- WOODEN GUIDE RAIL
- EXISTING CONTOUR (340)
- PROPOSED CONTOUR (236)
- DELINEATED WETLANDS
- PROPOSED BIKE PATH
- TREE PROTECTION AREA
- TC — TOP OF CURB ELEVATION
- BC — BOTTOM OF CURB ELEVATION
- FF — FIRST FLOOR ELEVATION
- TW — TOP OF WALL ELEVATION
- GF — GARAGE FLOOR ELEVATION
- BF — BASEMENT FLOOR ELEVATION
- WO — WALKOUT ELEVATION
- DL — DAYLIGHT BASEMENT ELEVATION

GRAPHIC SCALE
50 0 25 50 100 200
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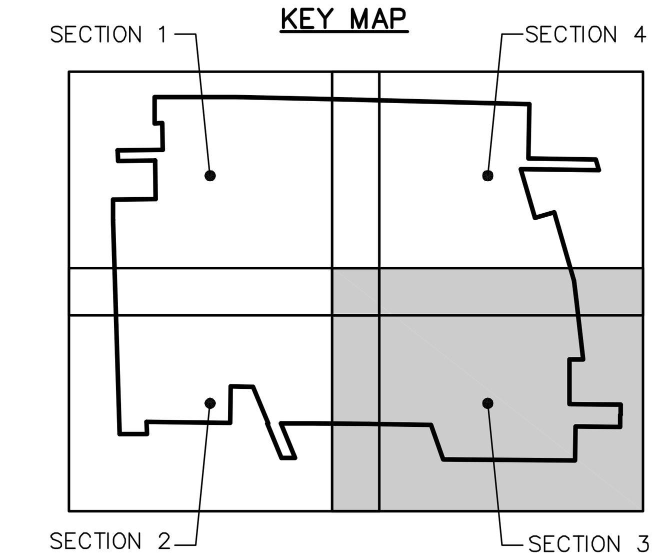

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SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE:	4/07/05
SCALE:	1" = 50'
DESIGNED BY:	BSF/CSP
DRAWN BY:	GDM/SPE
CHECKED BY:	BSF/CSP
JOB NO.	0405NHT.02

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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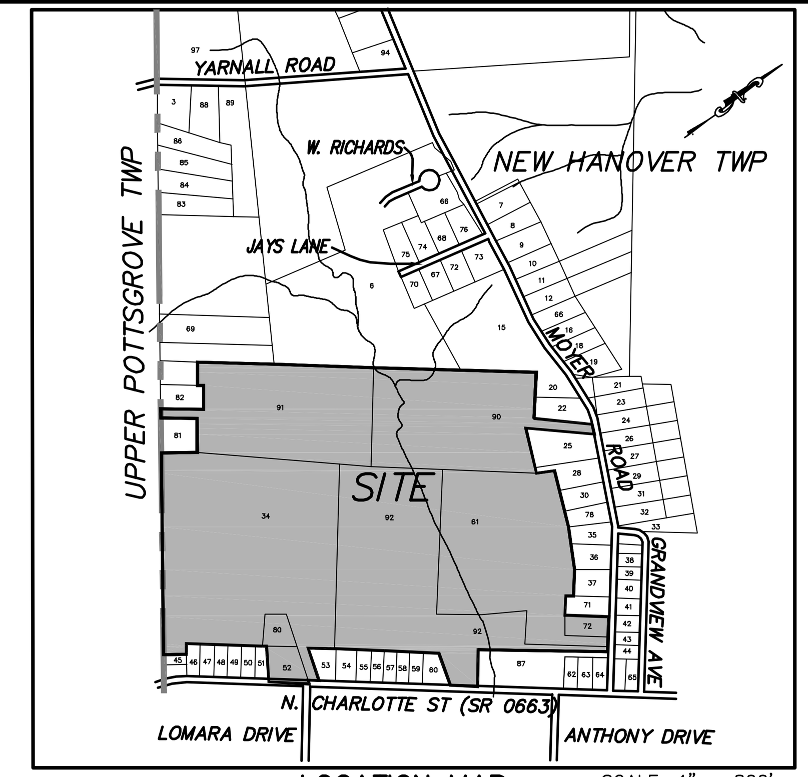
GRADING PLAN - SECTION 3
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

LEGEND

- WETLAND MARGIN
- EXISTING WOODLANDS
- PROPOSED WOODLANDS
- EXISTING CURB TO REMAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
- SOIL LINE
- SPOT ELEVATION
- PROPOSED FENCE (DETENTION BASIN / LOT)
- WOODEN GUIDE RAIL
- PROPOSED FLOODPLAIN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DELINEATED WETLANDS
- PROPOSED BIKE PATH
- TREE PROTECTION AREA

TC	TOP OF CURB ELEVATION
BC	BOTTOM OF CURB ELEVATION
FF	FIRST FLOOR ELEVATION
TW	TOP OF WALL ELEVATION
GF	GARAGE FLOOR ELEVATION
BF	BASEMENT FLOOR ELEVATION
WO	WALKOUT ELEVATION
DL	DAYLIGHT BASEMENT ELEVATION



LOCATION MAP SCALE: 1" = 800'

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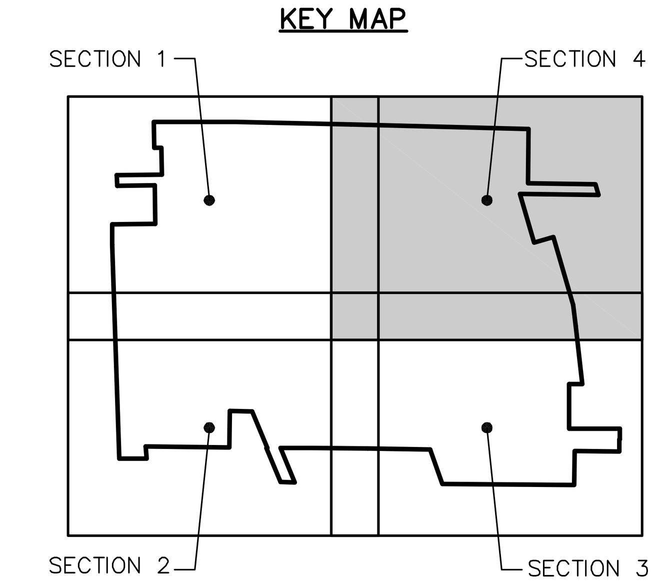
RhB – REAVILLE SHALY SILT LOAM, 3 TO 8 PERCENT SLOPES.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

KEY MAP



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GRADING PLAN - SECTION 4

FOR

ZAVITSANOS TRACT

SITUATED IN

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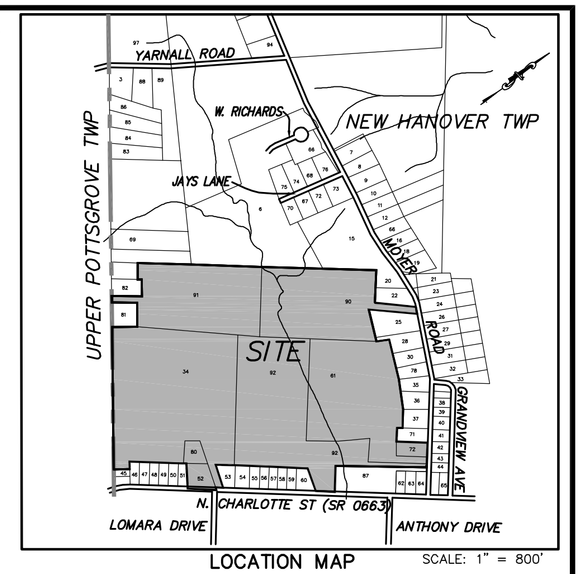
MONTGOMERY COUNTY, PENNSYLVANIA



LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING WOODLANDS
- EXISTING CURB TO REMAIN
- PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- OHW — EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
- PROPOSED FIRE HYDRANT
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN W/GATE VALVE
- SAN — PROPOSED SANITARY LATERAL W/CLEANOUT
- WTR — PROPOSED WATER LATERAL W/VALVE
- SPOT ELEVATION
- TC — TOP OF CURB ELEVATION
- BC — BOTTOM OF CURB ELEVATION
- FF — FIRST FLOOR ELEVATION
- GF — GARAGE FLOOR ELEVATION
- PROPOSED FLOODPLAIN
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED RETAINING WALL
- PROPOSED BIKE PATH
- WOODEN GUIDE RAIL

FIRE HYDRANT NOTE

THE FIRE HYDRANTS NEED TO BE PROVIDED WITH THE MAIN STEAMER BEING A FIVE INCH (5") STORZ CONNECTION WITH SIDE PORTS BEING TWO AND ONE-HALF NST. A THIRTY FOOT (30") AREA OF THE CURBING WHERE THE HYDRANT IS LOCATED NEEDS TO BE PAINTED TRAFFIC YELLOW WITH THE HYDRANT BEING IN THE MIDDLE OF THE MARKED AREA. ON THE BARREL OF THE HYDRANT BELOW THE TWO AND ONE-HALF INCH (2 ½") PORT, A THREE INCH (3") REFLECTIVE NUMBER NEEDS TO BE PLACED ON THE HYDRANT WHICH WOULD INDICATE THE DIAMETER SIZE OF THE WATER MAIN THAT THE HYDRANT IS CONNECTED TO. THE DEVELOPER SHALL PAY THE THE HYDRANT STANDBY FEE IMPOSED BY THE WATER COMPANY UNTIL THE ROADWAYS ARE DEDICATED TO THE RESPONSIBLE PARTY.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

GENERAL CONSTRUCTION NOTES

1. ALL UTILITIES SHALL BE PLACED UNDERGROUND.
2. SUMP PUMPS, IF APPLICABLE, AND ROOF DRAINS SHALL NOT DISCHARGE ONTO DRIVEWAYS, SIDEWALKS, STREETS, OR SANITARY SEWERS.
3. NO CERTIFICATION IS MADE BY VCEA AS TO THE ACTUAL UNDERGROUND POSITION OF ANY UTILITIES OR TO THE COMPLETENESS OR ACCURACY OF THE UTILITY MARKOUTS BY OTHERS.
4. IT IS IMPERATIVE THAT UTILITY COMPANIES ARE NOTIFIED PRIOR TO ANY EXCAVATION AND/OR CONSTRUCTION. CALL 1-800-242-1776 TO ORDER UTILITY MARKOUTS BY OTHERS.
5. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PUBLIC OR PRIVATE UTILITIES WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE. THE CONTRACTOR SHALL BE RESPPONSIBLE FOR REPAIRING, AT HIS EXPENSE, ALL EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
6. THE CONTRACTOR, DURING THE PERFORMANCE OF ALL WORK ASSOCIATED WITH THE CONSTRUCTION OF THE PROJECT, IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS, CODES AND REGULATIONS.
7. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE DESIGN ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
8. ELEVATIONS, DIMENSIONS, AND THE LOCATIONS OF LINEAR FEATURES SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
9. BUILDING AND DRIVEWAY LOCATIONS ARE SHOWN SCHEMATICALLY ONLY. MODIFICATIONS SUBJECT TO APPROVAL BY TOWNSHIP ENGINEER.
10. DRAINAGE/STORM SEWER EASEMENTS ARE TO BE MAINTAINED AND NOT ALTERED FROM FINAL APPROVAL GRADES AND LANDSCAPING EXCEPT BY SPECIFIC WRITTEN AUTHORIZATION OF TOWNSHIP OFFICIALS. THE LOT OWNER AND/OR HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR LAWN MOWING AND LANDSCAPING UPKEEP WITHIN EASEMENT AREAS IN ADDITION TO LOT AREA. ACCESS OVER AND THROUGH EASEMENTS IS GRANTED TO TOWNSHIP OFFICIALS.
11. STORM SEWER STRUCTURES (I.E. ENDWALLS, INLETS, END SECTIONS, ETC.) MAY NOT BE LOCATED ON TOP OF OR WITHIN TEN (10) FEET OF ELECTRIC, WATER, SANITARY SEWER, AND GAS SERVICE AND/OR MAINS, UNLESS APPROVAL IS RECEIVED FROM THE TOWNSHIP, AND FROM THE AUTHORITY OR UTILITY HAVING JURISDICTION OVER SAME.
12. HYDRANTS AND VALVES ARE NOT TO BE CONSTRUCTED IN SIDEWALK OR RAMP LOCATIONS.
13. BUILDING FOOTPRINTS SHOWN ARE FOR GRADING PURPOSES ONLY; FINAL FOOTPRINTS TO BE PROVIDED WITH THE BUILDING PERMIT PLAN.
14. PROPOSED STREETS AND THE STORM WATER PIPING SYSTEM SHALL BE OFFERED FOR DEDICATION TO NEW HANOVER TOWNSHIP.
15. THE AREA BETWEEN THE ULTIMATE RIGHT-OF-WAY AND THE TITLE LINE OF ALL EXISTING STREETS IS OFFERED FOR DEDICATION TO THE AGENCY HAVING JURISDICTION.
16. ALL PUBLIC IMPROVEMENTS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE NEW HANOVER TOWNSHIP STANDARDS AND SPECIFICATIONS.
17. THE WETLAND AREAS ARE TO BE LOCATED IN THE FIELD AND STAKED PRIOR TO THE START OF CONSTRUCTION. DURING CONSTRUCTION THE WETLAND AREAS ARE TO BE PHYSICALLY PROTECTED FROM ACCESS BY CONSTRUCTION EQUIPMENT AND PERSONNEL.
18. ALL DEVELOPMENT ACTIVITIES, SUCH AS CLEARING, GRADING, REGRADING, DRIVEWAYS, ROADS, BUILDINGS, DETENTION BASINS AND UTILITY EASEMENTS SHALL BE LIMITED TO THE NATURAL RESOURCE PROTECTION STANDARDS AS SPECIFIED IN THE NEW HANOVER TOWNSHIP ZONING ORDINANCE [CHAPTER 27] AS LAST AMENDED. THE REMAINING NATURAL RESOURCES SHALL REMAIN IN THEIR NATURAL CONDITION, INCLUDING THE NATURAL FOREST GROUND COVER. THIS RESTRICTION SHALL RUN WITH THE LAND AND BE BINDING ON ALL PRESENT AND FUTURE OWNERS AND/OR LESSEES.
19. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL CHARGES OR RATES FOR THE ADEQUATE WATER SUPPLY TO EACH FIRE HYDRANT WITHIN THE SUBDIVISION UNTIL SUCH TIME AS THE STREETS ARE ACCEPTED AS PUBLIC STREETS BY THE BOARD OF SUPERVISORS.
20. A POLE LAMP SHALL BE INSTALLED ON EACH LOT AT THE DRIVEWAY LOCATION, 10 FEET BEHIND THE ULTIMATE RIGHT OF WAY LINE. THE INSTALLATION OF THE LAMP IS TO MEET THE SATISFACTION OF THE TOWNSHIP ENGINEER. DETAILS OF THE PROPOSED LAMP SHALL BE PROVIDED TO THE TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
21. PROVISIONS SHALL BE MADE FOR ENERGIZING STREET LIGHTING AFTER 50% OR MORE OF THE DWELLINGS HAVE BEEN OCCUPIED. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL CHARGES OR RATES OF THE STREETS LIGHTED UNTIL SUCH TIME THAT THE STREETS ARE ACCEPTED OR CONDEMNED AS PUBLIC STREETS BY THE BOARD OF SUPERVISORS.
22. ALL SANITARY FACILITIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT NEW HANOVER TOWNSHIP AUTHORITY STANDARDS AND WILL BE OFFERED FOR DEDICATION TO THE NEW HANOVER TOWNSHIP AUTHORITY.
23. IT IS ANTICIPATED THAT ALL UNITS WILL BE PROVIDED WITH BASEMENTS. SANITARY SERVICE TO EACH BASEMENT IS NOT GUARANTEED.
24. NO PLANTINGS WILL BE DONE IN THE SANITARY AND STORM SEWER EASEMENTS. FOR LOTS WITH VILLAGE DWELLING UNITS, WHERE SUCH INSTALLATION IS REQUIRED BY ORDINANCE, ONLY FENCES (INSTEAD OF WALLS OR SHRUBS) SHALL BE SET WITHIN EASEMENT AREAS.
25. MANHOLES IN NON-IMPROVED AREAS MUST BE EXTENDED 18 INCHES ABOVE GRADE.
26. FOR LATERALS TIEING INTO MANHOLES THE FOLLOWING REQUIREMENTS ARE APPLICABLE:
    A. THE LATERAL MUST TIE INTO THE MANHOLE AT THE INVERT OF THE MANHOLE BASE
    B. A CHANNEL SHOULD BE CONSTRUCTED IN THE MANHOLE BASE FROM THE LATERAL TO THE EFFLUENT LINE.
    C. A 6-INCH OPENING WITH AN "A-LOK" OR APPROVED EQUAL JOINT SHOULD BE PRECAST PRECAST IN THE MANHOLE BASE.
    D. LATERALS SHOULD NOT TIE IN AT ACUTE ANGLES TO THE FLOW.
27. IN ACCORDANCE WITH THE AUTHORITY'S STANDARD CONSTRUCTION AND MATERIAL SPECS FOR SANITARY SEWER EXTENSIONS, PRIOR TO COMMENCING CONSTRUCTION, SHOP DRAWINGS OF ALL MATERIALS TO BE USED IN THE CONSTRUCTION OF THE SANITARY SEWER SYSTEM MUST BE SUBMITTED AND THE MATERIALS MUST BE INSPECTED BY A REPRESENTATIVE OF THE NEW HANOVER TOWNSHIP AUTHORITY.
28. CONNECTIONS TO EXISTING MANHOLES SHOULD BE MADE BY CUTTING REQUIRED OPENINGS BY SUCH METHODS SO AS TO PREVENT CRACKING AND SPALLING CONCRETE. MAKE OPENINGS OF SUFFICIENT SIZE TO ACCOMMODATE PIPE WITH PVC WATERSTOP INSTALLED AND ONE-INCH ANNULAR GROUT SPACE. GROUT ANNULAR SPACE USING NON-SHRINK, NON-METALLIC GROUT.
29. AS-BUILT RECORD DRAWINGS MUST BE SUBMITTED AND APPROVED BEFORE ANY SEWERS ARE ACCEPTED FOR DEDICATION. THE DRAWINGS MUST BE ACCOMPANIED BY A CERTIFICATE FROM THE DEVELOPER'S ENGINEER ATTESTING TO THEIR CORRECTNESS.
30. IN ORDER FOR THE AUTHORITY TO ACCEPT OWNERSHIP AND MAINTENANCE RESPONSIBILITIES FOR ANY SANITARY SEWER, THE DEVELOPER MUST PROVIDE AN ACCEPTABLE SANITARY SEWER RIGHT-OF-WAY AND EXECUTE ALL APPLICABLE RIGHT-OF-WAY AGREEMENTS, COMPLETE WITH LEGAL DESCRIPTION AND DRAWINGS IN A FORM ACCEPTABLE TO THE AUTHORITY AND ITS SOLICITOR.
31. ALL OUTLET BASIN PIPES SHALL HAVE "O" RING JOINTS.
32. INLETS 11, 18, 19, 20, 27, 28, 57, 70, 71, 99, 101 SHALL ALL BE SUMPED ONE INCH WITH SOME ADDITIONAL PAVING ON THE DOWNSTREAM SIDE OF EACH INLET.
33. WOODEN GUIDE RAIL SHALL BE INSTALLED ALONG BOTH SIDES OF PIXIE MOSS TRAIL AND TALLWOOD DRIVE AT THE CULVERT CROSSINGS.
34. ALL GRATES FOR YARD INLETS TO BE PENNDOT APPROVED CAST GRAY IRON GRATES.

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BY: _____
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OVERALL UTILITY PLAN
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

18/60

SAM ERNEY 12/21/2010
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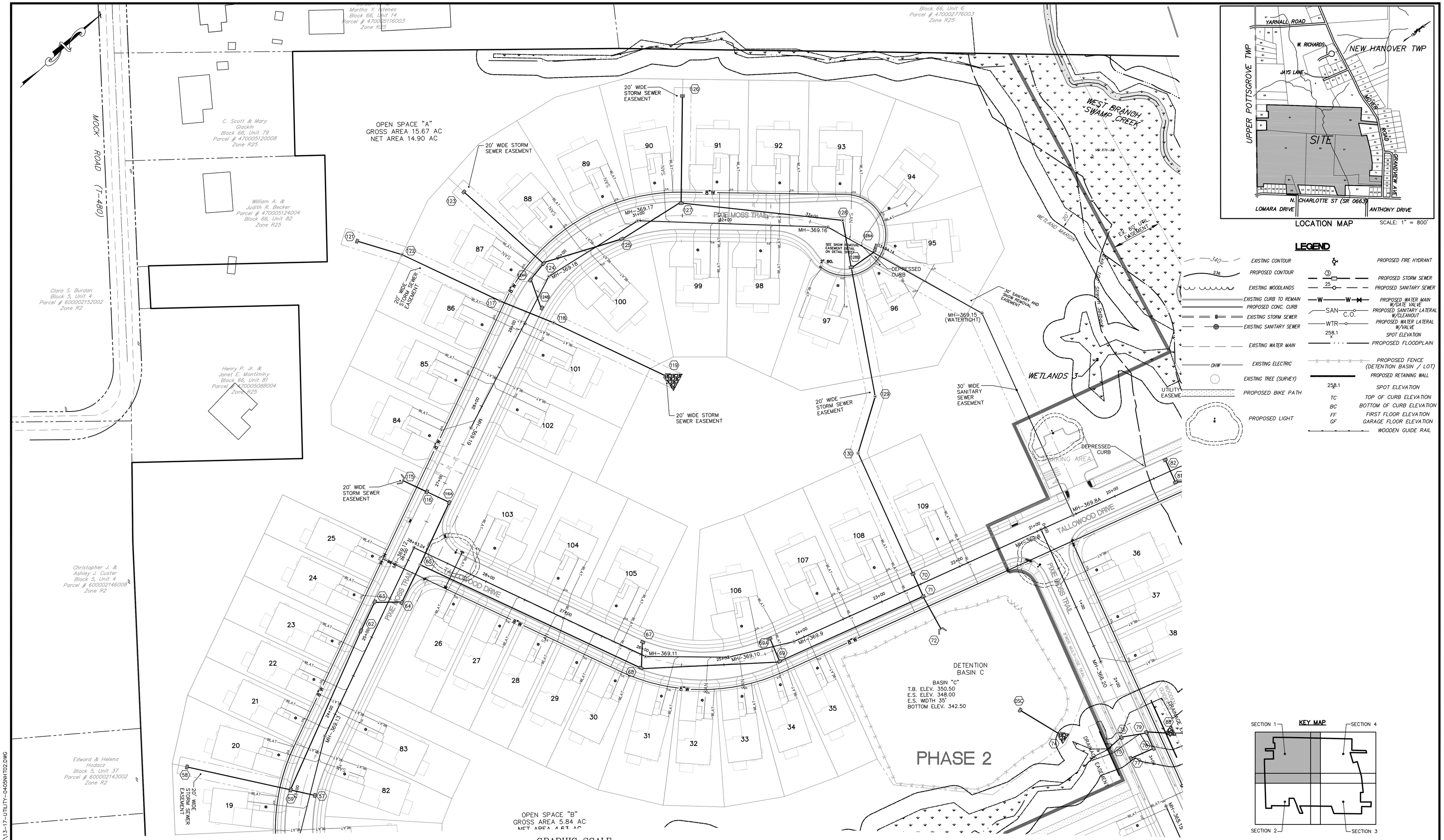

LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING WOODLANDS
- EXISTING CURB TO REMAIN
- PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
- PROPOSED BIKE PATH
- PROPOSED LIGHT
- PROPOSED FIRE HYDRANT
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN W/GATE VALVE
- PROPOSED SANITARY LATERAL W/CLEANOUT
- PROPOSED WATER LATERAL W/VALVE
- SPOT ELEVATION
- PROPOSED FLOODPLAIN
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED RETAINING WALL
- SPOT ELEVATION
- TOP OF CURB ELEVATION
- BOTTOM OF CURB ELEVATION
- FIRST FLOOR ELEVATION
- GARAGE FLOOR ELEVATION
- WOODEN GUIDE RAIL

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft.

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UTILITY PLAN - SECTION 1
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

14/60

SAM ERNEY 12/21/2010
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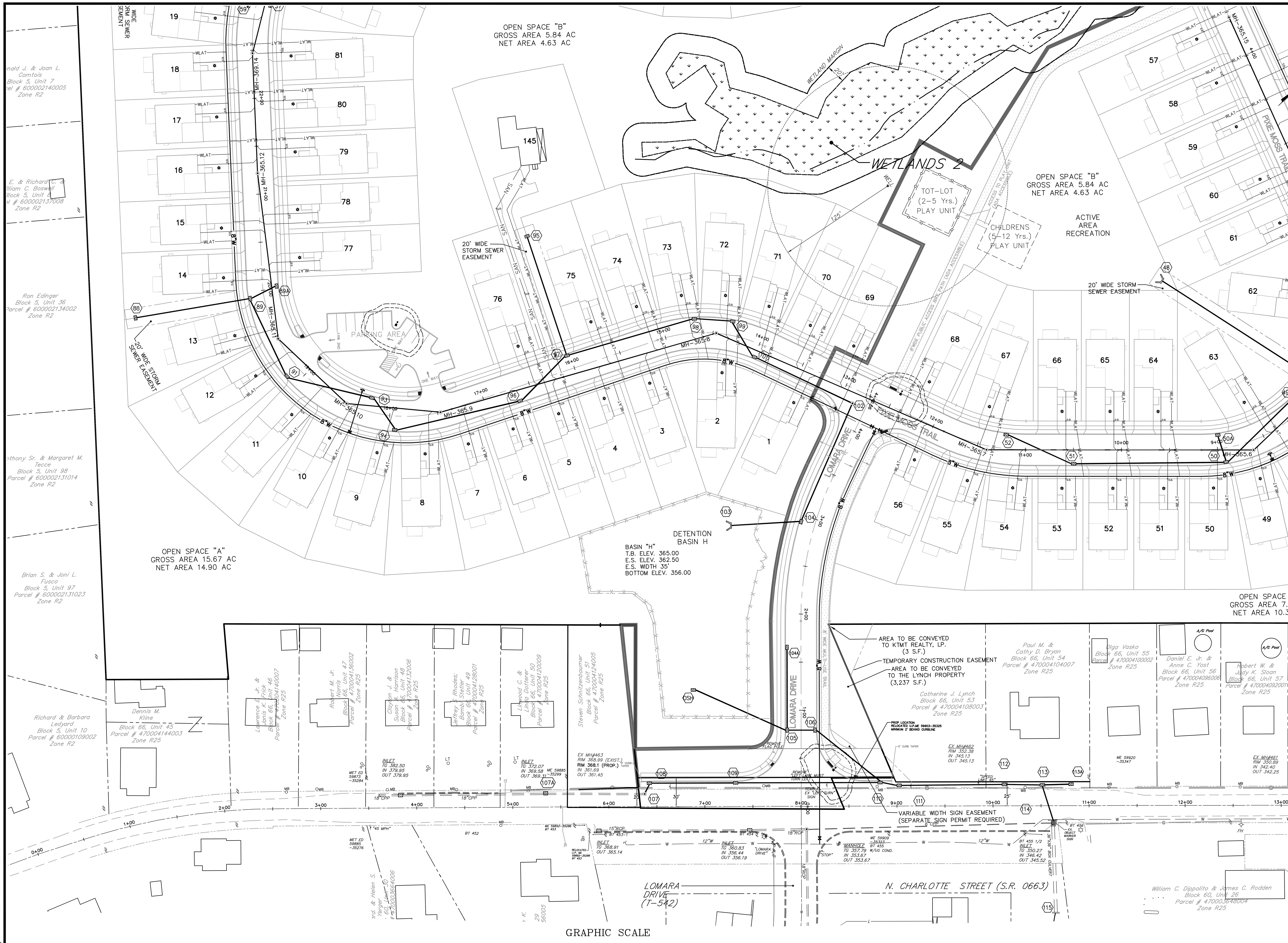
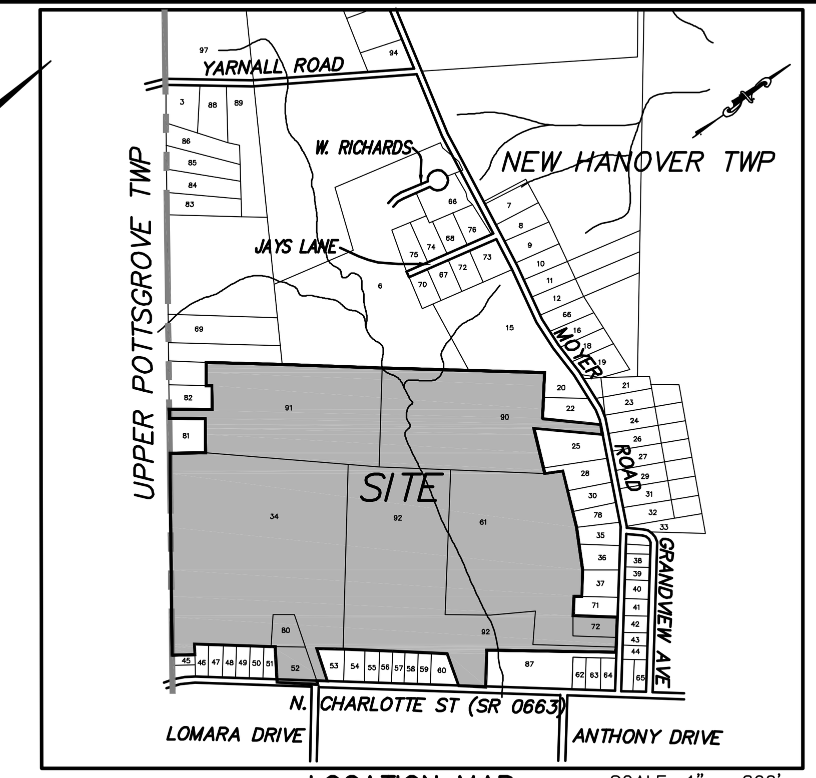
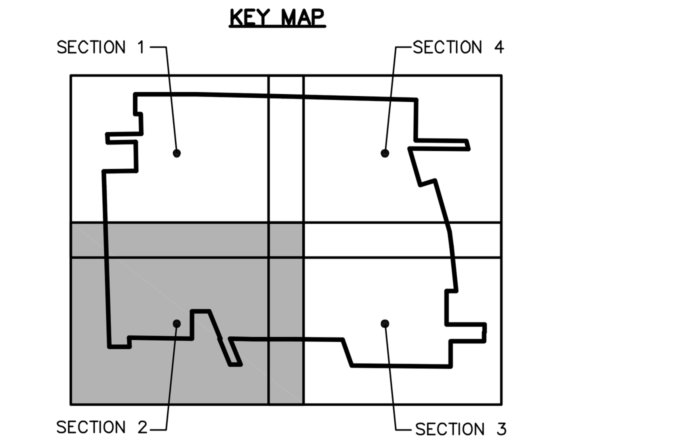




LOCATION MAP SCALE: 1" = 800'

LEGEND

EXISTING CONTOUR		PROPOSED FIRE HYDRANT	
PROPOSED CONTOUR		PROPOSED STORM SEWER	
EXISTING WOODLANDS		PROPOSED SANITARY SEWER	
EXISTING CURB TO REMAIN		PROPOSED WATER MAIN W/GATE VALVE	
PROPOSED CONC. CURB		PROPOSED SANITARY LATERAL W/CLEANOUT	
EXISTING STORM SEWER		PROPOSED WATER LATERAL W/VALVE	
EXISTING SANITARY SEWER		SPOT ELEVATION	258.1
EXISTING WATER MAIN			
EXISTING ELECTRIC	OHW	PROPOSED FENCE (DETENTION BASIN / LOT)	
EXISTING TREE (SURVEY)		PROPOSED RETAINING WALL	
PROPOSED BIKE PATH		SPOT ELEVATION	258.1
PROPOSED LIGHT		TOP OF CURB ELEVATION	TC
		BOTTOM OF CURB ELEVATION	BC
		FIRST FLOOR ELEVATION	FF
		GARAGE FLOOR ELEVATION	GF
		WOODEN GUIDE RAIL	



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DATE:	4/07/05
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JOB NO.	0405NHT.02

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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UTILITY PLAN - SECTION 2
FOR
ZAVITSANOS TRACT
SITUATED IN
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MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
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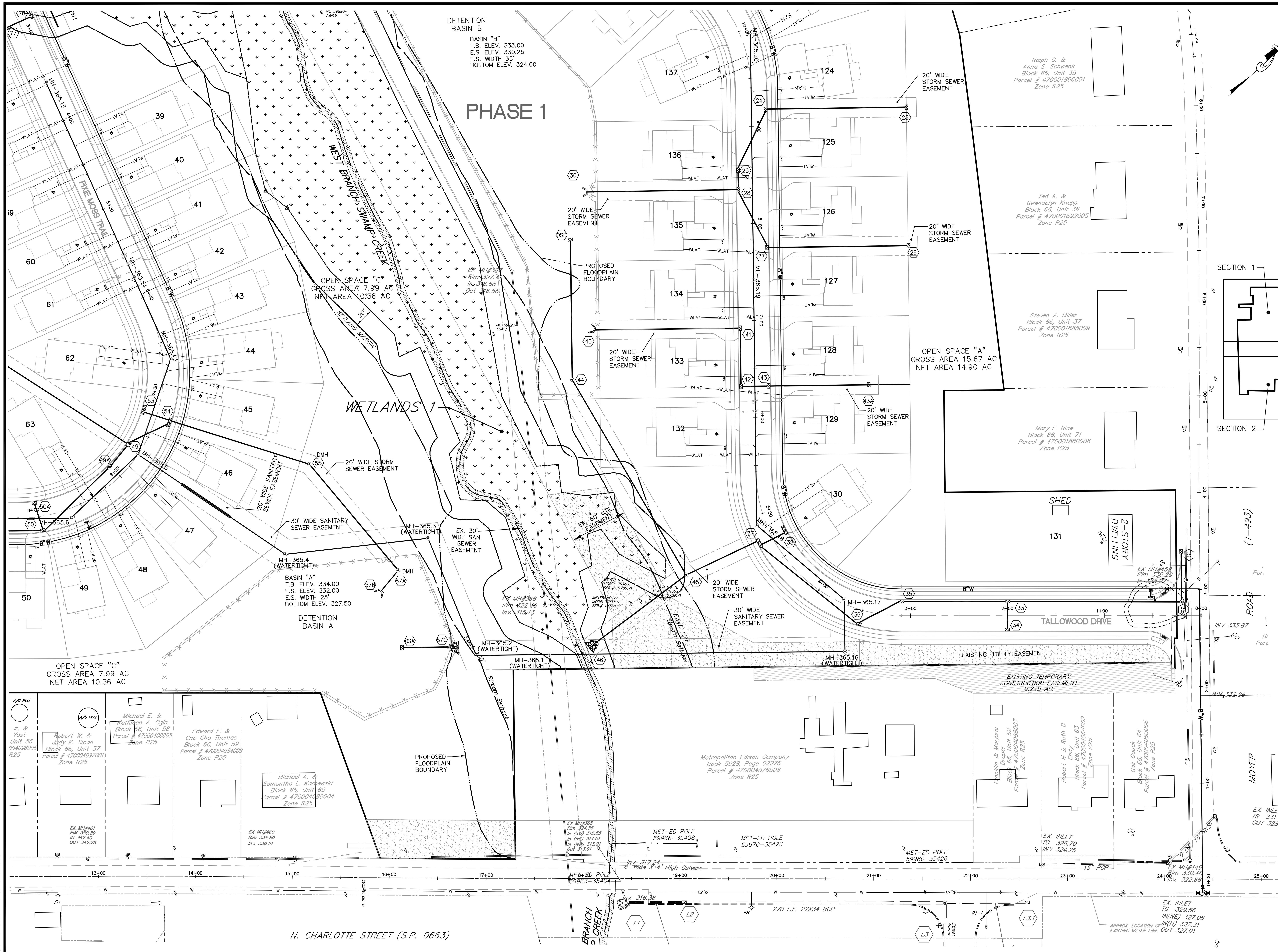
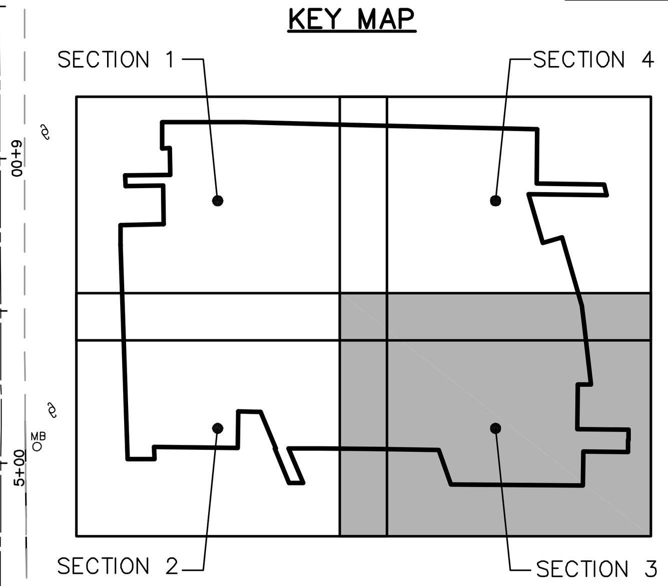
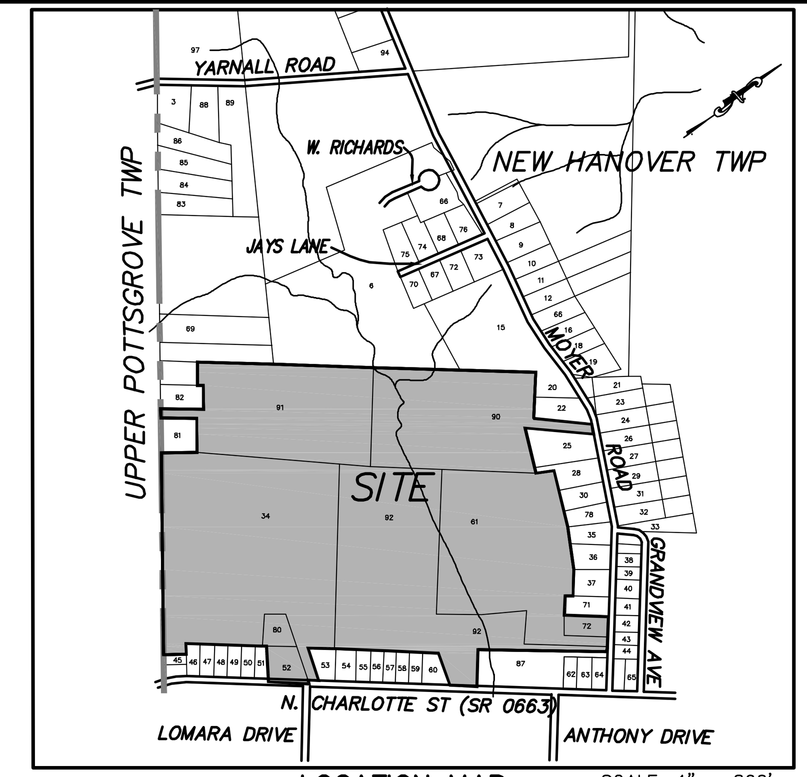


KEY MAP



LOCATION MAP SCALE: 1" = 800'



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING WOODLANDS
- EXISTING CURB TO REMAIN
- PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
- PROPOSED FIRE HYDRANT
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN W/GATE VALVE
- PROPOSED SANITARY LATERAL W/CLEANOUT
- PROPOSED WATER LATERAL W/VALVE
- 258.1 SPOT ELEVATION
- TC TOP OF CURB ELEVATION
- BC BOTTOM OF CURB ELEVATION
- FF FIRST FLOOR ELEVATION
- GF GARAGE FLOOR ELEVATION
- PROPOSED FLOODPLAIN
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED RETAINING WALL
- PROPOSED BIKE PATH
- PROPOSED LIGHT
- WOODEN GUIDE RAIL

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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UTILITY PLAN - SECTION 3
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
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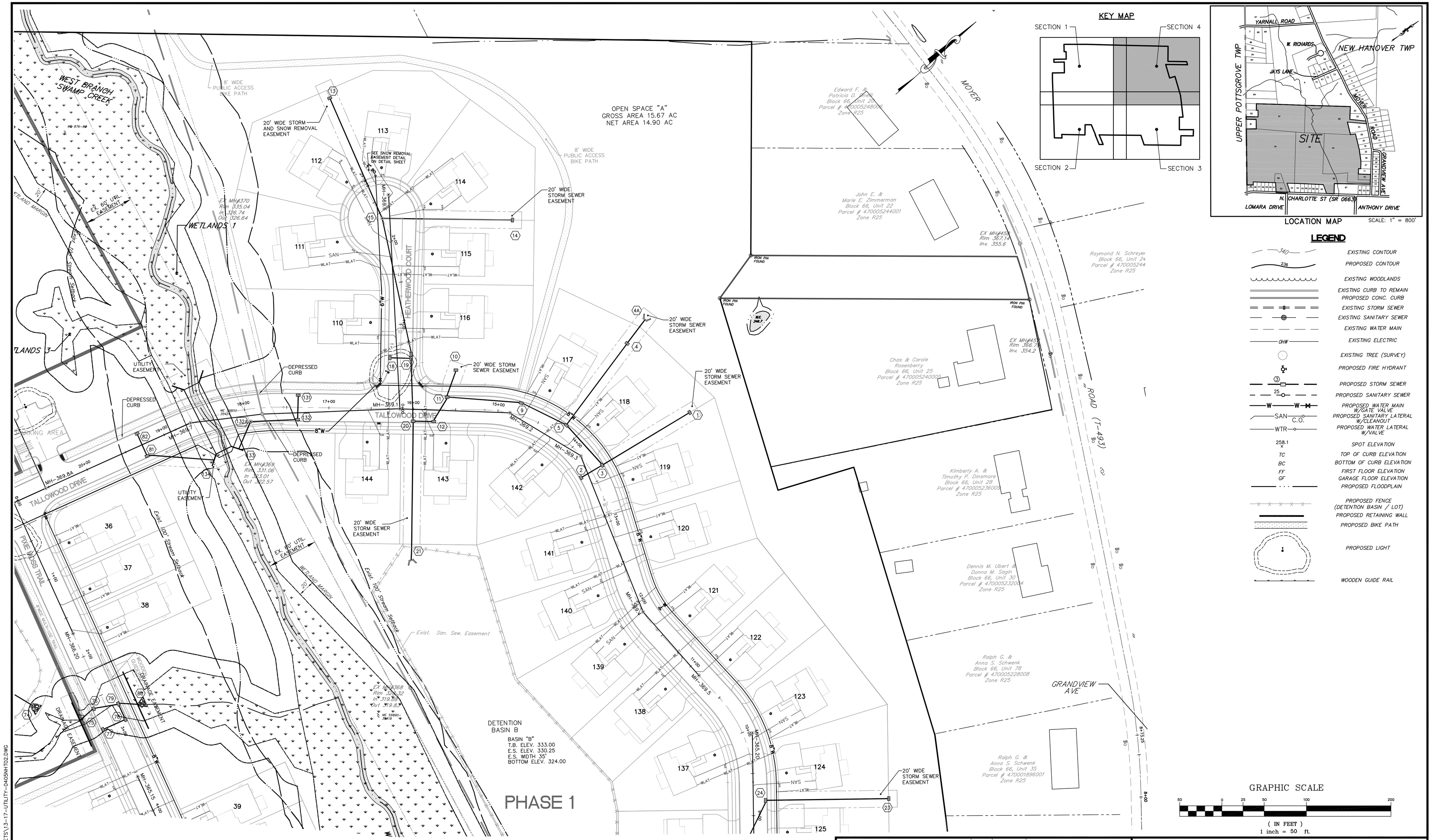

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UTILITY PLAN - SECTION 4
FOR
ZAVITSANOS TRACT
SITUATED IN
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MONTGOMERY COUNTY, PENNSYLVANIA

17/60

SAM ERNEY 12/21/2010
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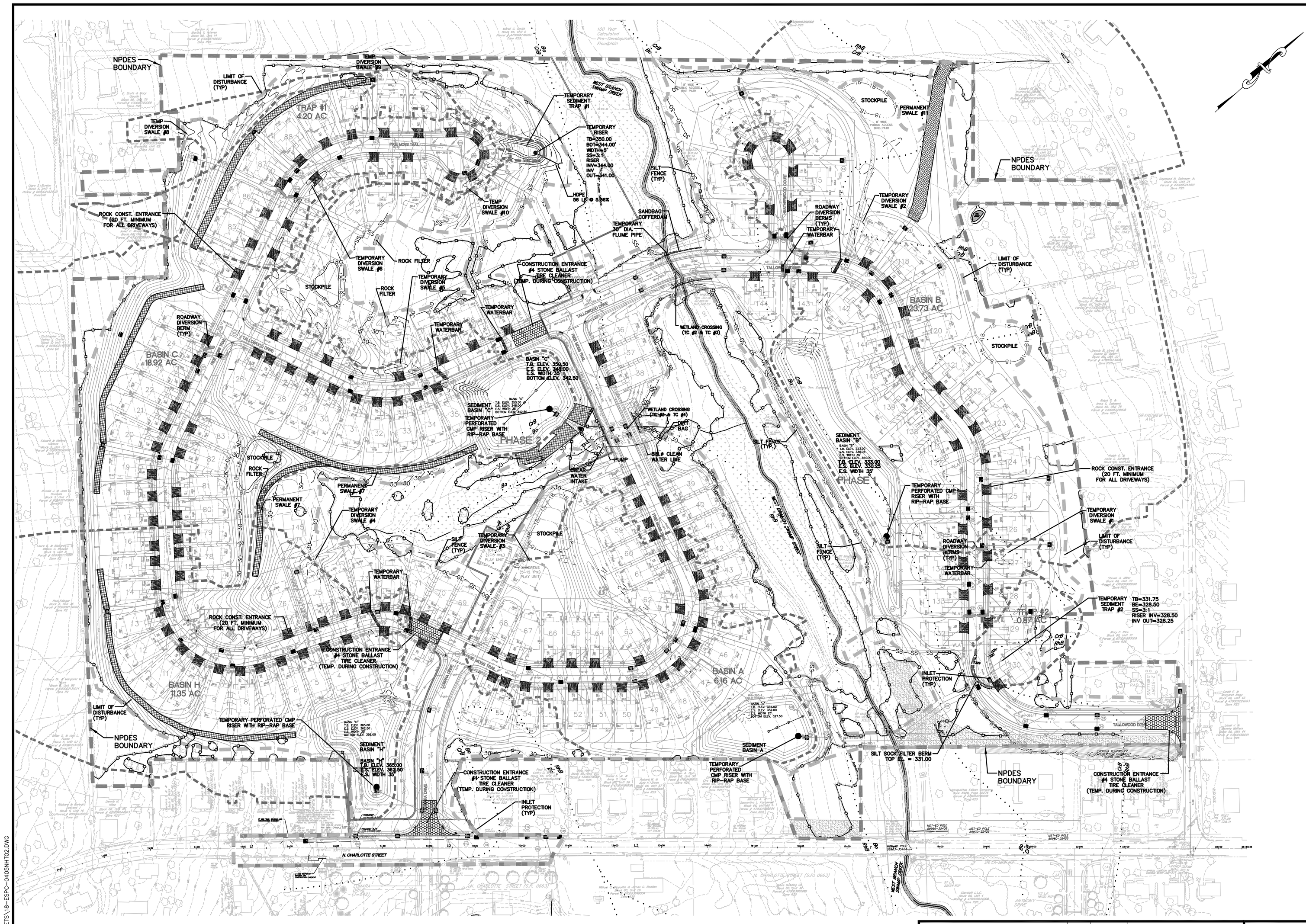

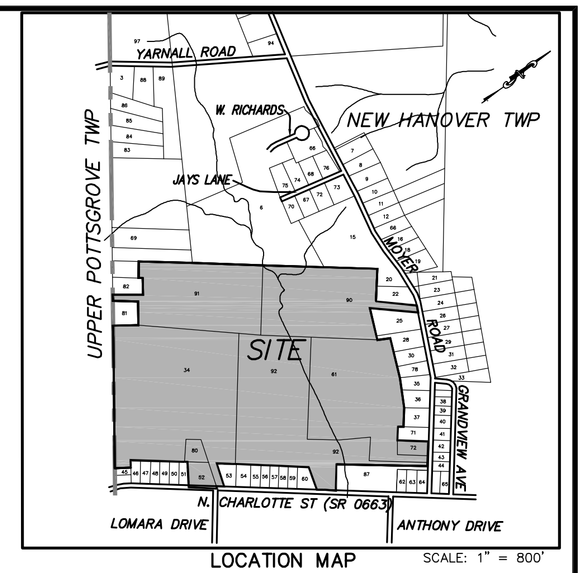

LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR
- TEMPORARY CONTOUR
- PROPOSED CONTOUR
- 100 YR FLOOD PLAIN
- EXISTING WOODLANDS
- PROPOSED WOODLANDS
- EXISTING CURB TO REMAIN
- PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN W/GATE VALVE
- PROPOSED SANITARY LATERAL W/CLEANOUT
- PROPOSED WATER LATERAL W/VALVE
- SPOT ELEVATION
- TOP OF CURB ELEVATION
- BOTTOM OF CURB ELEVATION
- FIRST FLOOR ELEVATION
- GARAGE FLOOR ELEVATION
- PROPOSED FENCE / GUIDERAIL
- SOIL LINE
- ON LOT CONSTRUCTION ENTRANCE
- SITE CONSTRUCTION ENTRANCE
- 18" SILT FENCE
- 30" SILT FENCE
- SUPER SILT FENCE
- ROCK FILTER
- INLET PROTECTION
- LIMIT OF GRADING DISTURBANCE
- TOPSOIL STOCKPILE
- TEMPORARY WATERBAR
- PROPOSED FENCE (DETENTION BASIN / LOT)
- WOOD BAFFLE
- WETLANDS
- EROSION CONTROL BLANKET (ECB)
- SEDIMENT TRAP DRAINAGE AREA LINE
- SEDIMENT BASIN DRAINAGE AREA LINE
- NPDES BOUNDARY LINE
- TREE PROTECTION

Before You Dig Anywhere
In... PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE
PA Law requires 3 working days notice before you excavate
PA ONE CALL SYSTEM, INC.

SOILS DATA:

DATA OBTAINED FROM SOIL SURVEY OF MONTGOMERY COUNTY, PENNSYLVANIA, ISSUED FEBRUARY 2009.

Bo – BOWMANSVILLE SILT LOAM.

CrB – CROTON SILT LOAM, 3 TO 8 PERCENT SLOPES.

RhB – REAVILLE SHALY SILT LOAM, 3 TO 8 PERCENT SLOPES.

GENERAL EROSION CONTROL NOTES:

1. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE DISTURBING WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.
2. ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED MUST BE STABILIZED 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 1 YEAR MAY BE STABILIZED IN ACCORDANCE WITH TEMPORARY SEEDING SPECIFICATIONS.
3. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROL 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.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ANY DEBRIS AND FLUSH OUT ALL EXISTING AND PROPOSED STORM DRAINAGE FACILITIES WITHIN THE PROJECT LIMITS AT THE COMPLETION OF CONSTRUCTION.
5. LIMIT OF DISTURBANCE AREA = 57.09 Ac
6. ALL SOILS THAT APPEAR TO BE "UNSTABLE AND ERODABLE" SHALL BE LINED WITH AN APPROVED EROSION AND SEDIMENTATION CONTROL LINING.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

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REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
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DATE: 4/07/05
SCALE: 1"=100'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
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JOB NO. 0405NHT.02

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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OVERALL EROSION CONTROL PLAN
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

18/60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\18-ESPC-0405NHT02.DWG

PHASE 2

BASIN A
6.16 AC

TEMPORARY DIVERSION SWALE - #3

STOCKPILE

TOT - LOT (2-5 Yrs.) PLAY UNIT

PRESCHOOLERS (5-12 Yrs.) PLAY UNIT

NPDES BOUNDARY

ADDITIONAL AREA= 1,033 SF

CONSTRUCTION ENTRANCE #4 - STONE BALLAST TIRE CLEANER (TEMP. DURING CONSTRUCTION)

INLET PROTECTION (TYP)

PIXIE MOSS TRAIL

LOMARA DRIVE

N. CHARLOTTE STREET

TOWNSHIP ULTIMATE R/W

PENNDOT R/W (FOR STOUDT HOP)

PENNDOT R/W

5' WIDE TEMP. GRADING AND CONSTRUCTION EASEMENT

Edward & Helena Hadasz
Block 5, Unit 37
Parcel # 6000021430D0
Zone R2

Ronald J. & Joan V. Comtois
Block 5, Unit 7
Parcel # 6000021400D5
Zone R2

Laure E. & Richard C. & William C. Bidwell
Block 5, Unit 8
Parcel # 6000021370D5
Zone R2

Ron Edinger
Block 5, Unit 36
Parcel # 6000021340D2
Zone R2

Anthony Sr. & Margaret M. Tacce
Block 5, Unit 98
Parcel # 6000021310I4
Zone R2

Brian S. & Jodi L. Fusco
Block 5, Unit 97
Parcel # 6000021310I3
Zone R2

Richard & Barbara Ledyard
Block 5, Unit 10
Parcel # 6000010900I2
Zone R2

Dennis M. Kline
Block 66, Unit 42
Parcel # 4280014400I3
Zone R25

Robert M. & Sharon Stiefel
Block 66, Unit 47
Parcel # 4700410600I2
Zone R25

Daniel J. & Susan M. Mullen
Block 66, Unit 48
Parcel # 4700410400I2
Zone R25

Lawrence J. & Jo Ann Rhoades
Block 66, Unit 49
Parcel # 4700410200I2
Zone R25

Edward C. & Elizabeth Lingwood
Block 66, Unit 50
Parcel # 4700410000I2
Zone R25

Christian Schmeltzenmeier
Block 66, Unit 51
Parcel # 4700409800I2
Zone R25

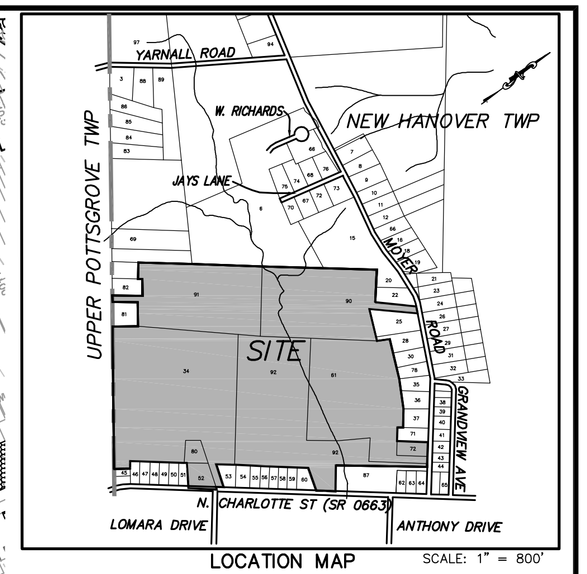
Paul M. & Cathy L. Rice
Block 66, Unit 54
Parcel # 4700404104I2
Zone R25

Katherine A. Kirsch
Block 66, Unit 53
Parcel # 4700404080I2
Zone R25

Dale Vokes
Block 66, Unit 55
Parcel # 4700401000I2
Zone R25

Daniel E. Jr. & Anne C. Yost
Block 66, Unit 56
Parcel # 4700404060I2
Zone R25

Robert & Judy K.
Block 66, Unit 57
Parcel # 4700404020I2
Zone R25



LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR
- TEMPORARY CONTOUR
- PROPOSED CONTOUR
- 100 YR FLOOD PLAIN
- EXISTING WOODLANDS
- PROPOSED WOODLANDS
- EXISTING CURB TO REMAIN
- PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
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- GARAGE FLOOR ELEVATION
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- LIMIT OF GRADING DISTURBANCE
- TOPSOIL STOCKPILE
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- PROPOSED FENCE (DETENTION BASIN / LOT)
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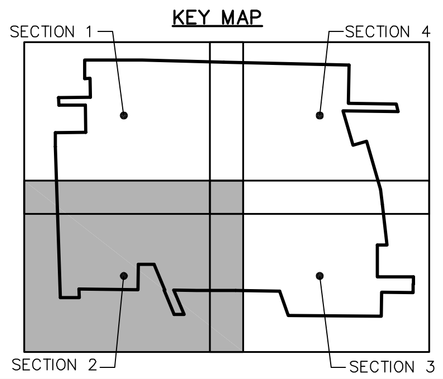
- SEDIMENT TRAP DRAINAGE AREA LINE
- SEDIMENT BASIN DRAINAGE AREA LINE
- NPDES BOUNDARY LINE
- TREE PROTECTION

KEY MAP



GRAPHIC SCALE

100 0 25 50 100 200

(IN FEET)
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PA ONE CALL SYSTEM, INC.

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CrB – CROTON SILT LOAM, 3 TO 8 PERCENT SLOPES,

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EROSION CONTROL PLAN - PHASE 1 - SHEET 1 OF 3

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

19/60

SAM_ERNEY 12/21/2010
F:_JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\19-21-ESPC-PH1-0405NHT02.DWG

8IN.Ø CLEAN WATER LINE

(TYP.)

BASIN "B"
T.B. ELEV. 333.00
E.S. ELEV. 330.25
E.S. WIDTH 35'
BOTTOM ELEV. 324.00

T.B. ELEV. 333.00
E.S. ELEV. 330.25
E.S. WIDTH 35'

PHASE 1

WEST BRANCH SWAMP CREEK RHB

PINE MOSS TRAIL

TEMPORARY PERFORATED CMP RISER WITH RIP-RAP BASE

BASIN B
23.73 AC

ROCK CONST. ENTRANCE (20 FT. MINIMUM FOR ALL DRIVEWAYS)

TEMPORARY DIVERSION SWALE #1

LIMIT OF DISTURBANCE (TYP)

SILT FENCE (TYP)

ROADWAY DIVERSION BERMS (TYP)

TEMPORARY WATERBAR

TRAP #2
0.80 AC

TEMPORARY SEDIMENT TRAP #2

TB=331.75
BE=328.50
SS=3:1
RISER INV=328.50
INV OUT=328.25

CrB
RhB

INLET PROTECTION (TYP)

BASIN A
6.16 AC

BASIN "A"
T.B. ELEV. 334.00
E.S. ELEV. 332.00
E.S. WIDTH 25'
BOTTOM ELEV. 327.50

SEDIMENT BASIN A

TEMPORARY PERFORATED CMP RISER WITH RIP-RAP BASE

SILT SOCK FILTER BERM
TOP EL. = 331.00

NPDES BOUNDARY

CONSTRUCTION ENTRANCE #4 STONE BALLAST TIRE CLEANER (TEMP. DURING CONSTRUCTION)

TALLOWOOD DRIVE

EXISTING TEMPORARY CONSTRUCTION EASEMENT 0.225 AC.

MET-ED POLE 59966-35408

MET-ED POLE 59970-35426

MET-ED POLE 59980-35426

MET-ED POLE 59963-35404

Bo

CrB

RhB

WEST BRANCH SWAMP CREEK

N. CHARLOTTE STREET (S.R. 0663)

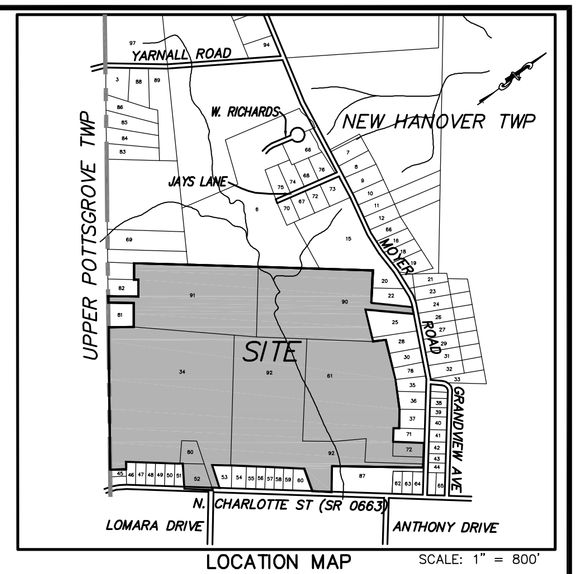
270 LF. 22X14 RCP

57 LF. 22X14 RCP

113 LF.

85 LF. 18" RCP

APPROX. LOCATION OF EXISTING WATER LINE (TYP.)



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SECTION 1 — SECTION 4 — SECTION 2 — SECTION 3

KEY MAP

GRAPHIC SCALE

100 0 25 50 100 200

(IN FEET)
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DATE: 4/07/05
SCALE: 1"=50'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
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JOB NO. 0405NHT.02

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CHRISTOPHER S. PECORA, PE, PLS 47117E

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EROSION CONTROL PLAN - PHASE 1 - SHEET 2 OF 3

FOR

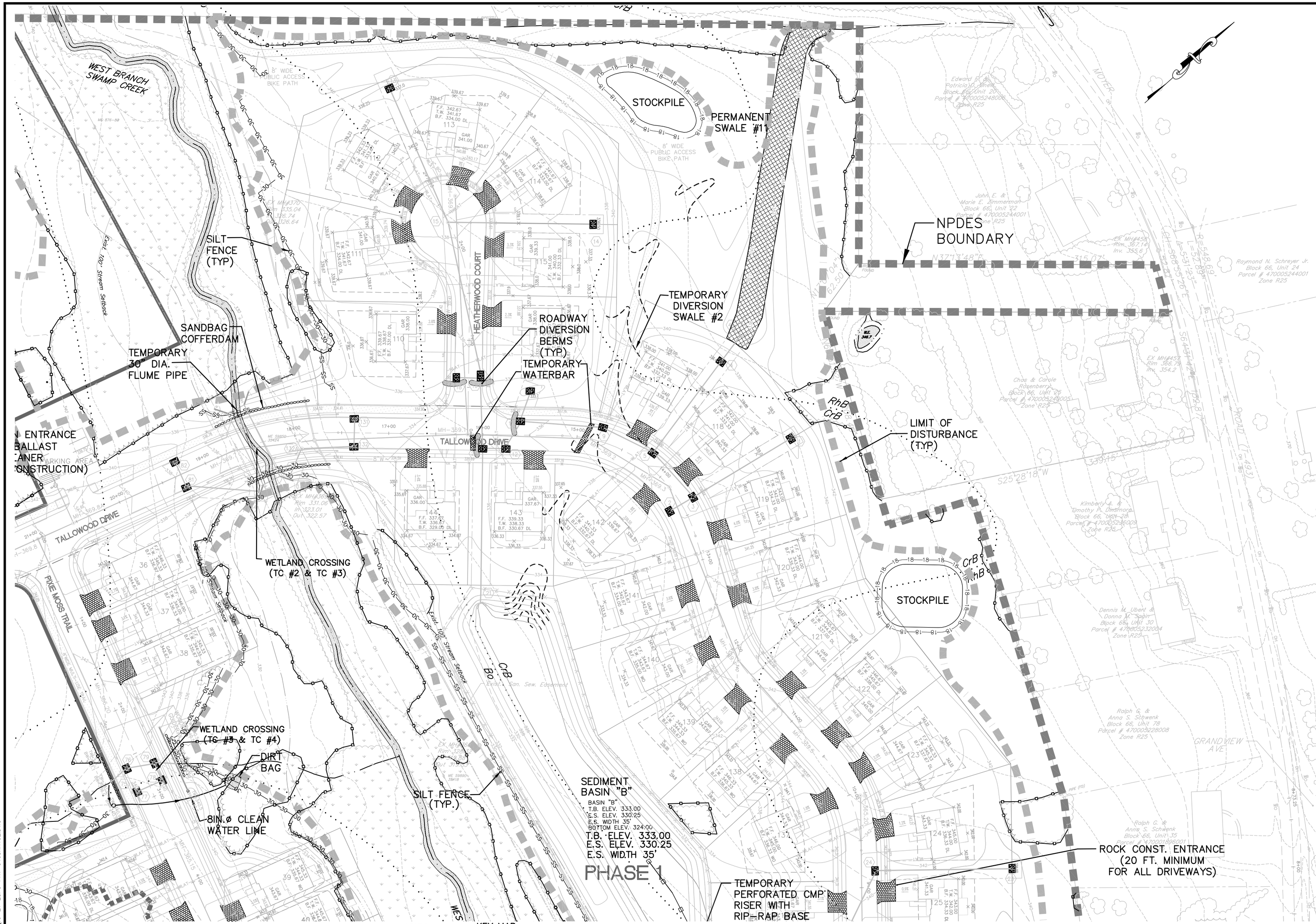
ZAVITSANOS TRACT

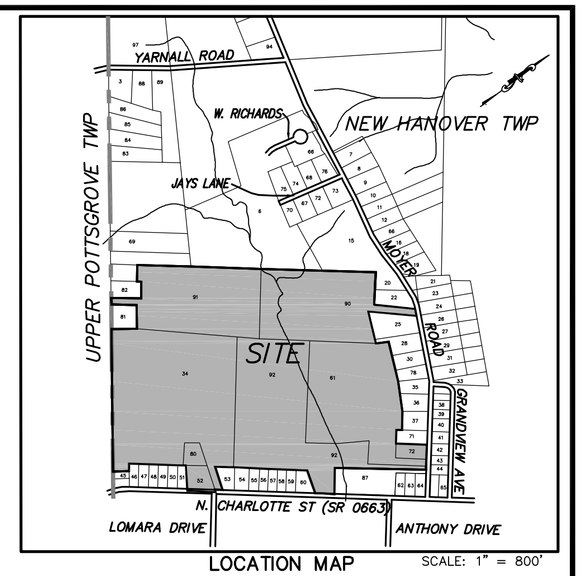
SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

20/60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\19-21-ESPC-PH1-0405NHT02.DWG





LOCATION MAP SCALE: 1" = 800'

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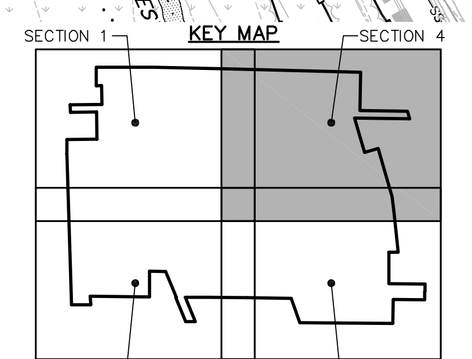

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100 0 25 50 100 200

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EROSION CONTROL PLAN - PHASE 1 - SHEET 3 OF 3

FOR

ZAVITSANOS TRACT

SITUATED IN

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MONTGOMERY COUNTY, PENNSYLVANIA

21/60

SAM ERNEY 12/21/2010
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PHASE 2

CMP RISER WITH RIP-RAP BASE

PUMP

CLEAR WATER INTAKE

STOCKPILE

ROCK FILTER

PERMANENT SWALE #7

PERMANENT SWALE #7

TEMPORARY DIVERSION SWALE #4

SILT FENCE (TYP)

TEMPORARY WATERBAR

BASIN A
6.16 AC

ROCK CONST. ENTRANCE (20 FT. MINIMUM FOR ALL DRIVEWAYS)

CONSTRUCTION ENTRANCE #4 STONE BALLAST TIRE CLEANER (TEMP. DURING CONSTRUCTION)

LIMIT OF DISTURBANCE (TYP)

NPDES BOUNDARY

TEMPORARY PERFORATED CMP RISER WITH RIP-RAP BASE

BASIN "H"
T.B. ELEV. 365.00
E.S. ELEV. 362.50
E.S. WIDTH 35'
BOTTOM ELEV. 356.00

SEDIMENT BASIN "H"

BASIN "H"
T.B. ELEV. 365.00
E.S. ELEV. 362.50
E.S. WIDTH 35'

5' WIDE TEMP. GRADING AND CONSTRUCTION EASEMENT

L1 L2 L3

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00

LOCATION MAP

SCALE: 1" = 800'

YARNALL ROAD
W. RICHARDS
NEW HANOVER TWP
JAYS LANE
UPPER POTTSGROVE TWP
SITE
GRANDVIEW AVE
N. CHARLOTTE ST (SR 0663)
LOMARA DRIVE
ANTHONY DRIVE

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SECTION 1 SECTION 4 SECTION 2 SECTION 3

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SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NH1.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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Environmental Engineering
Municipal Engineering
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Professional Planning
Landscape Architecture
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PHONE (610) 670-6630 FAX (610) 670-4603

EROSION CONTROL PLAN - PHASE 2 - SHEET 1 OF 2

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

22/60

SAM ERNEY 12/21/2010
F:\...\08FILE\200A\0405NH1.02\CIVIL 3D\DWG\SHEETS\22-23-ESPC-PH2-0405NH102.DWG

NPDES BOUNDARY

LIMIT OF DISTURBANCE (TYP)

TEMP DIVERSION SWALE #9

TEMP DIVERSION SWALE #8

TEMPORARY SEDIMENT TRAP #1

TEMPORARY RISER
TB=350.00
BOT=344.00'
WIDTH=5'
SS=3:1
RISER
INV=344.00
INV
OUT=341.00

HDPE 56 LF @ 5.36%

TEMP DIVERSION SWALE #10

ROCK CONST. ENTRANCE (20 FT. MINIMUM FOR ALL DRIVEWAYS)

TEMPORARY DIVERSION SWALE #6

ROCK FILTER

STOCKPILE

ROCK FILTER

TEMPORARY DIVERSION SWALE #5

TEMPORARY WATERBAR

TEMPORARY WATERBAR

ROADWAY DIVERSION BERM (TYP)

BASIN "C"
T.B. ELEV. 350.50
E.S. ELEV. 348.00
E.S. WIDTH 35'
BOTTOM ELEV. 342.50

SEDIMENT BASIN "C"

TEMPORARY PERFORATED CMP RISER WITH RIP-RAP BASE

PHASE 2

PUMP

CLEAR WATER INTAKE

STOCKPILE

ROCK FILTER

PERMANENT SWALE #7

PERMANENT SWALE #7

PIXIE MOSS TRAIL

TALLOWOOD DRIVE

WEST BRANCH SWAMP CREEK

Stream Setback

Clara S. Burdan
Block 5, Unit 4
Parcel # 60000215000
Zone R2

C. Scott & Mary Glacken
Block 66, Unit 79
Parcel # 47000120006
Zone R25

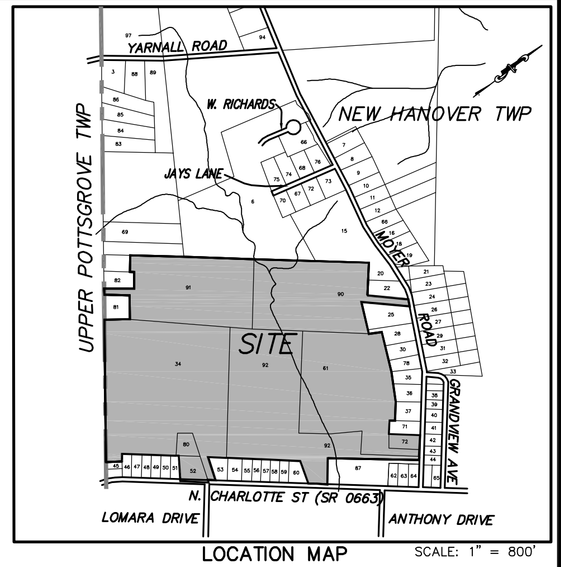
William A. & Judith R. Glacken
Parcel # 47000124004
Block 66, Unit 83
Zone R25

Janet E. Montimiry
Block 66, Unit 81
Parcel # 47000168004
Zone R25

Christopher & Ashley V. Custer
Block 5, Unit 1
Parcel # 60000214600
Zone R2

Edward & Helena Hidalgo
Block 5, Unit 37
Parcel # 61000243000
Zone R2

Ronald J. & Joan C. Comisso
Block 5, Unit 7
Parcel # 60000214905
Zone R2

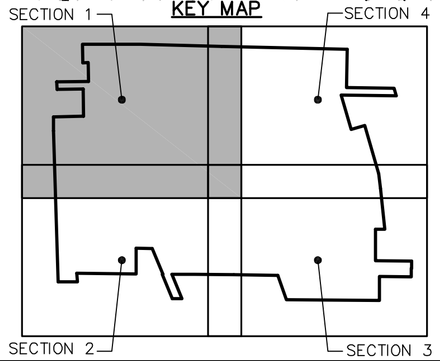


LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR
- TEMPORARY CONTOUR
- PROPOSED CONTOUR
- 100 YR FLOOD PLAIN
- EXISTING WOODLANDS
- PROPOSED WOODLANDS
- EXISTING CURB TO REMAIN
- PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN W/GATE VALVE
- PROPOSED SANITARY LATERAL W/CLEANOUT
- PROPOSED WATER LATERAL W/VALVE
- SPOT ELEVATION
- TOP OF CURB ELEVATION
- BOTTOM OF CURB ELEVATION
- FIRST FLOOR ELEVATION
- GARAGE FLOOR ELEVATION
- PROPOSED FENCE / GUIDERAIL
- SOIL LINE
- ON LOT CONSTRUCTION ENTRANCE
- SITE CONSTRUCTION ENTRANCE
- 18" SILT FENCE
- 30" SILT FENCE
- SUPER SILT FENCE
- ROCK FILTER
- INLET PROTECTION
- LIMIT OF GRADING DISTURBANCE
- TOPSOIL STOCKPILE
- TEMPORARY WATERBAR
- PROPOSED FENCE (DETENTION BASIN / LOT)
- WOOD BAFFLE
- WETLANDS
- EROSION CONTROL BLANKET (ECB)
- SEDIMENT TRAP DRAINAGE AREA LINE
- SEDIMENT BASIN DRAINAGE AREA LINE
- NPDES BOUNDARY LINE
- TREE PROTECTION

KEY MAP



Before You Dig Anywhere in... PENNSYLVANIA
STOP! CALL 1-800-242-1776 TOLL FREE
PA Law requires 3 working days notice before you excavate
PA ONE CALL SYSTEM, INC.

SOILS DATA:
DATA OBTAINED FROM SOIL SURVEY OF MONTGOMERY COUNTY, PENNSYLVANIA, ISSUED FEBRUARY 2009.

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GRAPHIC SCALE
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(IN FEET)
1 inch = 50 ft.

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EROSION CONTROL PLAN - PHASE 2 - SHEET 2 OF 2

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

23/60

SAM ERNEY 12/21/2010
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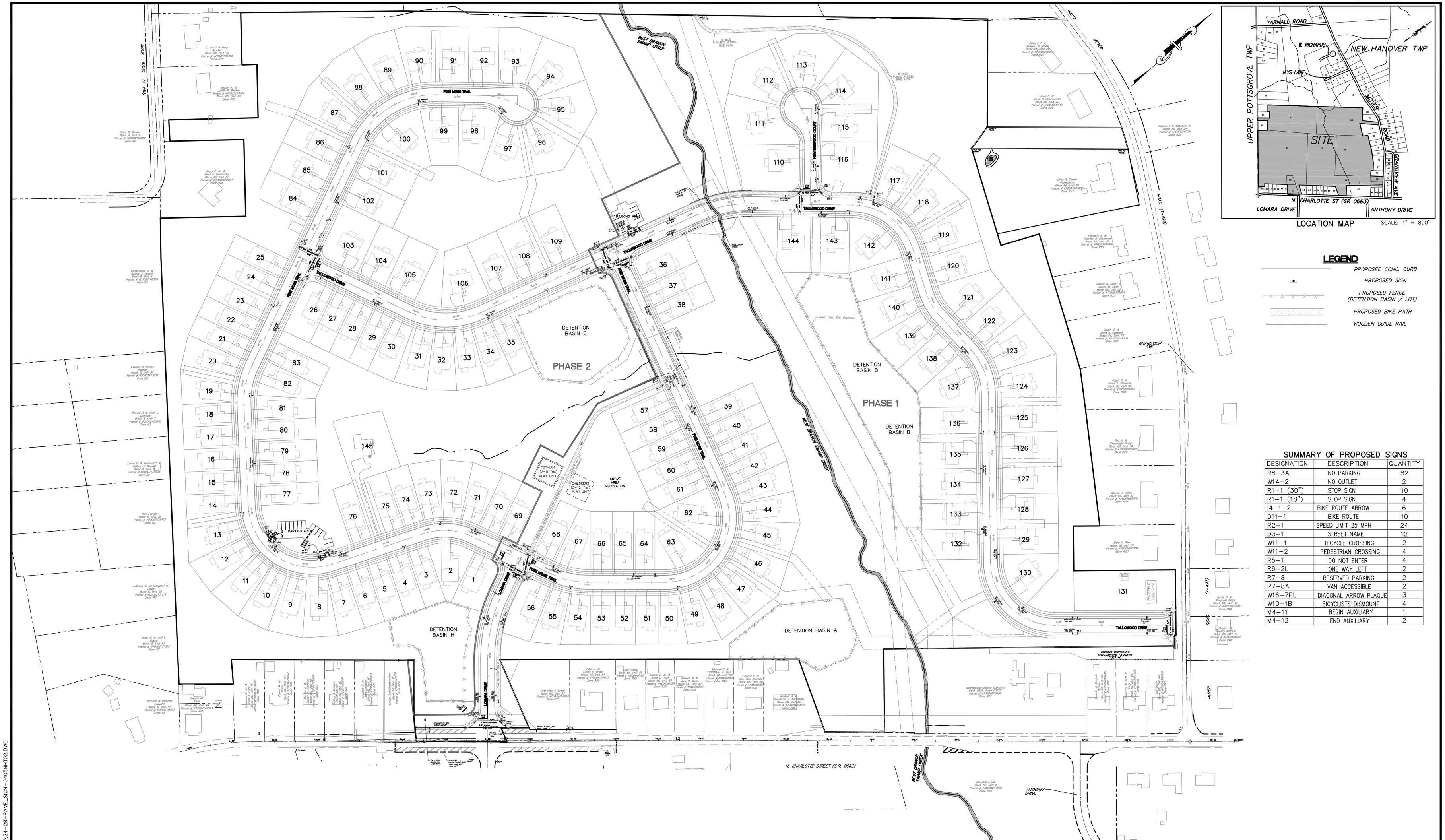

LOCATION MAP SCALE: 1" = 800'

LEGEND

- PROPOSED CONC. CURB
- PROPOSED SIGN
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED BIKE PATH
- WOODEN GUIDE RAIL

SUMMARY OF PROPOSED SIGNS

DESIGNATION	DESCRIPTION	QUANTITY
R8-3A	NO PARKING	82
W14-2	NO OUTLET	2
R1-1 (30")	STOP SIGN	10
R1-1 (18")	STOP SIGN	4
I4-1-2	BIKE ROUTE ARROW	6
D11-1	BIKE ROUTE	10
R2-1	SPEED LIMIT 25 MPH	24
D3-1	STREET NAME	12
W11-1	BICYCLE CROSSING	2
W11-2	PEDESTRIAN CROSSING	4
R5-1	DO NOT ENTER	4
R6-2L	ONE WAY LEFT	2
R7-8	RESERVED PARKING	2
R7-8A	VAN ACCESSIBLE	2
W16-7PL	DIAGONAL ARROW PLAQUE	3
W10-1B	BICYCLISTS DISMOUNT	4
M4-11	BEGIN AUXILIARY	1
M4-12	END AUXILIARY	2

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

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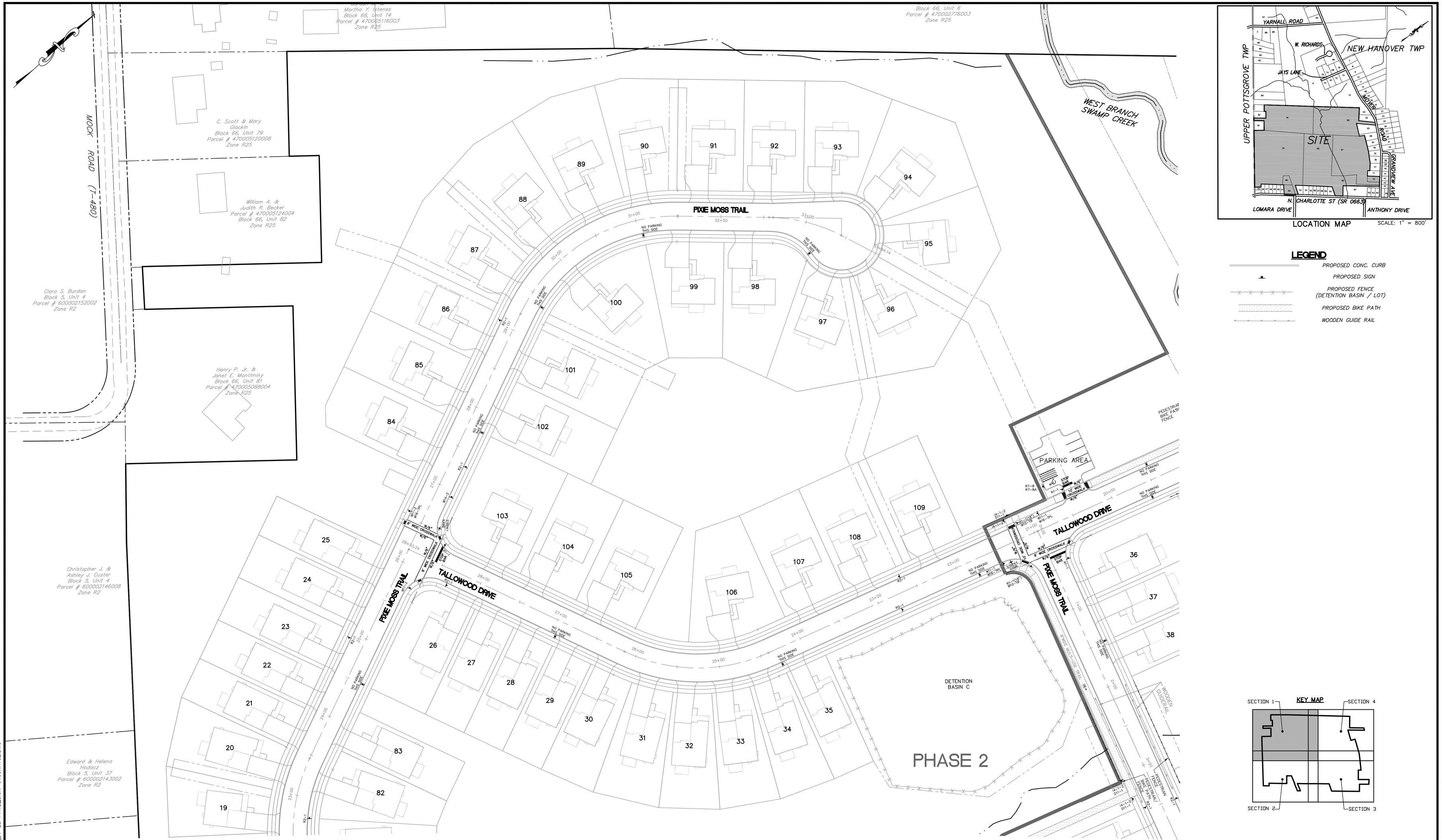
OVERALL PAVEMENT MARKING AND SIGNAGE PLAN
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

24/60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\24-28-PAVE_SIGN-0405NHT02.DWG



LOCATION MAP SCALE: 1" = 800'

LEGEND

- PROPOSED CONC. CURB
- PROPOSED SIGN
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED BIKE PATH
- WOODEN GUIDE RAIL

GRAPHIC SCALE

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(IN FEET)
1 inch = 50 ft.

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PAVEMENT MARKING AND SIGNAGE PLAN - SECTION 1
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

25/60

SAM ERNEY 12/21/2010
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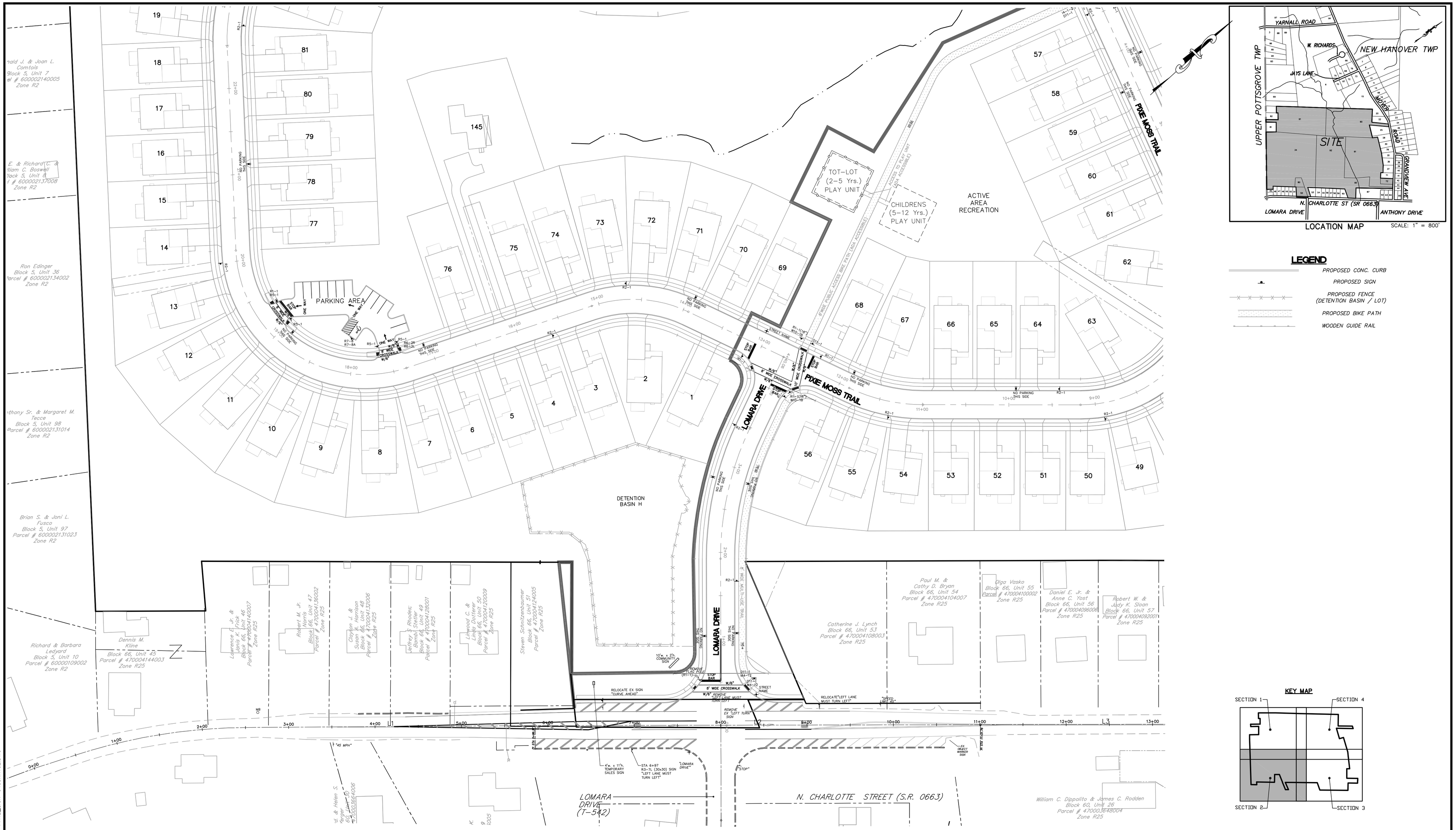

LOCATION MAP SCALE: 1" = 800'

LEGEND

- PROPOSED CONC. CURB
- PROPOSED SIGN
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED BIKE PATH
- WOODEN GUIDE RAIL

KEY MAP

GRAPHIC SCALE

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PAVEMENT MARKING AND SIGNAGE PLAN - SECTION 2

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

26/60

SAM ERNEY 12/21/2010
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PHASE 1

DETENTION BASIN B

DETENTION BASIN A

WEST BRANCH SWAMP CREEK

FIXE MOSS TRAIL

TALLOWOOD DRIVE

N. CHARLOTTE STREET (S.R. 0663)

MOYER ROAD (T-493)

EXISTING TEMPORARY CONSTRUCTION EASEMENT 0.225 AC.

Ralph G. & Anna S. Schwenk
Block 66, Unit 35
Parcel # 470001896001
Zone R25

Ted A. & Gwendolyn Knepp
Block 66, Unit 36
Parcel # 470001892005
Zone R25

Steven A. Miller
Block 66, Unit 37
Parcel # 470001898009
Zone R25

Mary F. Rice
Block 66, Unit 71
Parcel # 470001880008
Zone R25

SHED

2-STORY DWELLING

131

Jr. & Yost
Unit 56
470009608
R25

Robert W. & Judy K. Sloan
Block 66, Unit 57
Parcel # 470004092001
Zone R25

Michael E. & Kathleen A. Ogin
Block 66, Unit 58
Parcel # 470004088005
Zone R25

Edward F. & Cho Cho Thomas
Block 66, Unit 59
Parcel # 470004084006
Zone R25

Michael A. & Samantha L. Karcewski
Block 66, Unit 60
Parcel # 470004080004
Zone R25

Metropolitan Edison Company
Book 5928, Page 02276
Parcel # 470004076008
Zone R25

Franklin & Marjorie Draper
Block 66, Unit 62
Parcel # 470004068007
Zone R25

Robert H. & Ruth B. Duffy
Block 66, Unit 63
Parcel # 470004064002
Zone R25

Gail Gauck
Block 66, Unit 64
Parcel # 470004060206
Zone R25

39 40 41 42 43 44 45 46 47 48 49 50 60 61 62 63 137 136 135 134 133 132 124 125 126 127 128 129 130

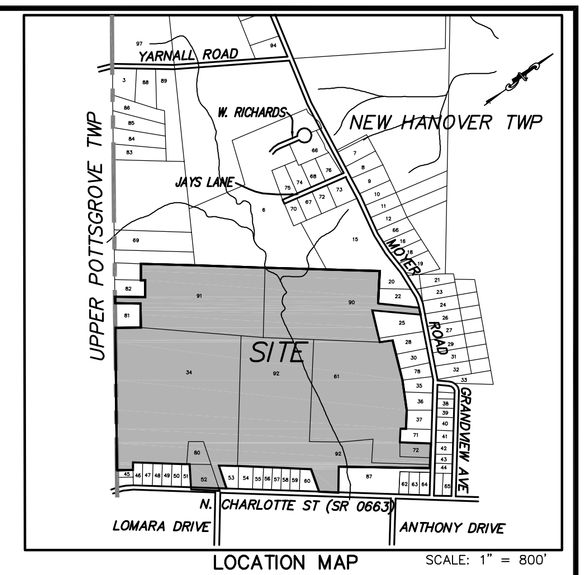
L3

13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00

0+00 1+00 2+00 0+00

LOCATION MAP

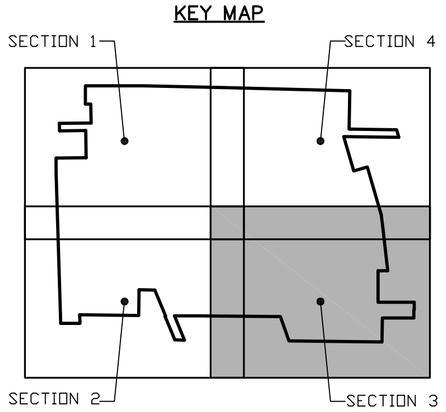
SCALE: 1" = 800'



LEGEND

- PROPOSED CONC. CURB
- PROPOSED SIGN
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED BIKE PATH
- WOODEN GUIDE RAIL

KEY MAP



GRAPHIC SCALE

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(IN FEET)
1 inch = 50 ft.

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PAVEMENT MARKING AND SIGNAGE PLAN - SECTION 3

FOR

ZAVITSANOS TRACT

SITUATED IN

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MONTGOMERY COUNTY, PENNSYLVANIA

27/60

SAM ERNEY 12/21/2010
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WEST BRANCH SWAMP CREEK

8' WIDE PUBLIC ACCESS BIKE PATH

HEATHERWOOD COURT

TALLOWOOD DRIVE

PINE MOSS TRAIL

PARKING AREA

PEDESTRIAN/BIKE PATH FENCE

PEDESTRIAN FENCE

WOODEN GUIDERAIL

Exist. San. Sew. Easement

DETENTION BASIN B

PHASE 1

MOYER ROAD (T-493)

GRANDVIEW AVE

Edward F. & Patricia O. Zinelli
Block 66, Unit 20
Parcel # 470005248006
Zone R25

John E. & Marie E. Zimmerman
Block 66, Unit 22
Parcel # 470005244001
Zone R25

Raymond N. Schreyer
Block 66, Unit 24
Parcel # 470005244
Zone R25

Chas & Carole Rosenberry
Block 66, Unit 25
Parcel # 470005240005
Zone R25

Kimberly A. & Timothy P. Dinsmore
Block 66, Unit 28
Parcel # 470005236005
Zone R25

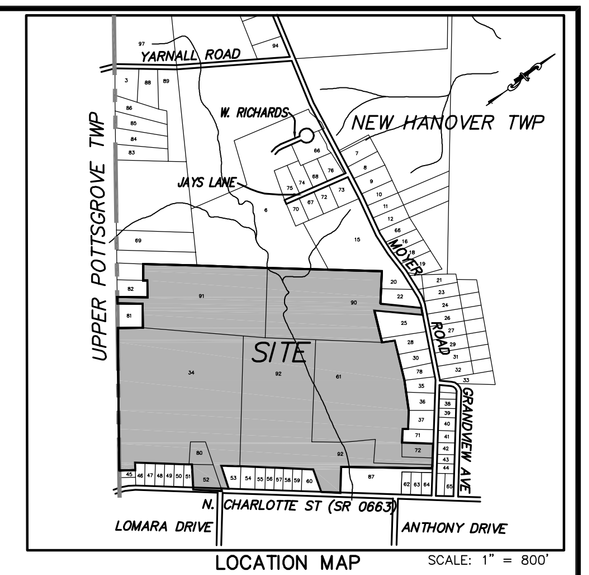
Dennis M. Ubert & Donna M. Sagin
Block 66, Unit 30
Parcel # 470005232004
Zone R25

Ralph G. & Anna S. Schwenk
Block 66, Unit 78
Parcel # 470005228008
Zone R25

Ralph G. & Anna S. Schwenk
Block 66, Unit 35
Parcel # 470001896001
Zone R25

IRON PIN FOUND

M.E. 344.7



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LEGEND

- PROPOSED CONC. CURB
- PROPOSED SIGN
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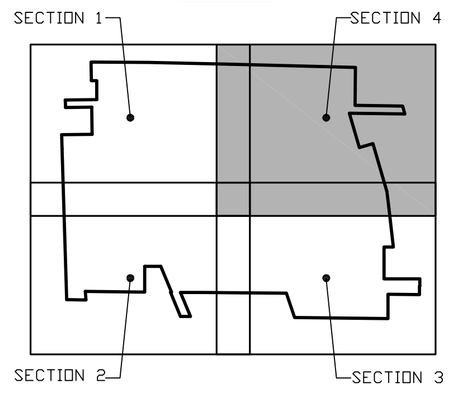
- PROPOSED BIKE PATH
- WOODEN GUIDE RAIL

KEY MAP



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PHONE (610) 670-6630 FAX (610) 670-4603

PAVEMENT MARKING AND SIGNAGE PLAN - SECTION 4

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

28/60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\24-28-PAVE_SIGN-0405NHT02.DWG

LIGHTING NOTES

ROADWAY LIGHTING:

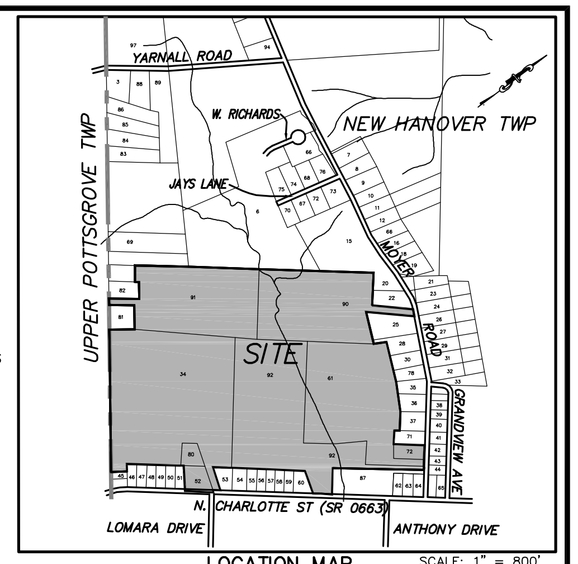
COOPER LIGHTING COMPANY
SINGLE-MOUNTED LXF LEXINGTON
100 WATT H.P.S.
TAPERED ROUND ALUM. POLE
BLACK BAKED ENAMEL FINISH OVER SATIN POLISH
8 FIXTURES TOTAL

DRIVEWAY LIGHTING:

COOPER LIGHTING COMPANY OR APPROVED EQUAL
CATALOG CUTS TO BE SUPPLIED
TO TOWNSHIP PRIOR TO CONSTRUCTION

143 FIXTURES

ALL LIGHTING INSTALLATION SHALL CONFORM TO TOWNSHIP REGULATIONS AND THE CONSTRUCTION & MATERIAL SPECIFICATION FOR PUBLIC IMPROVEMENTS



LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR / PROPOSED CONTOUR
- EXISTING WOODLANDS
- PROPOSED WOODLANDS
- EXISTING CURB TO REMAIN / PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
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- PROPOSED SANITARY LATERAL W/CLEANOUT
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- TOP OF CURB ELEVATION
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- GARAGE FLOOR ELEVATION
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- TREE PROTECTION AREA
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED FLOODPLAIN
- BASIN MIX A
- BASIN MIX B
- TREE PROTECTION FENCE

REFER TO DETAIL SHEETS FOR BASIN SEED MIXES

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

GENERAL LANDSCAPING NOTES

1. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, AND SHALL HAVE NORMAL, WELL-DEVELOPED BRANCHES AND VIGOROUS, FIBROUS ROOT SYSTEMS. ALL PLANTS SHALL BE NURSERY-GROWN UNLESS OTHERWISE STATED; THEY SHALL HAVE BEEN GROWING UNDER THE SAME CLIMATIC CONDITIONS AS THE MUNICIPALITY FOR AT LEAST TWO (2) YEARS PRIOR TO DATE OF PLANTING. ALL PLANTS WHICH ARE FOUND UNSUITABLE IN GROWTH OR CONDITION OR WHICH ARE NOT TRUE TO NAME SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE PLANTS.
2. ALL PLANT MATERIAL SHALL BE TWICE TRANSPLANTED, NURSERY-GROWN OF SPECIMEN QUALITY. THEY SHALL BE OF SYMMETRICAL GROWTH OR TYPICAL OF THE VARIETY AND SUPPLIED FROM SOURCES IN THE SAME HARDINESS ZONE AS THE DEVELOPMENT IS LOCATED AND FREE OF INSECT AND DISEASE PROBLEMS OR OBJECTIONABLE DISFIGUREMENTS. ALL PLANT MATERIAL SHALL CONFORM TO THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. ALL PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE SHALL BE TAKEN IN PREPARING PLANTS FOR MOVING. ALL BALLED AND BURLAPPED PLANTS SHALL BE DUG TO MEET OR EXCEED THE "USDA STANDARDS FOR NURSERY STOCK".
4. ALL PLANT MATERIAL SHALL MEET THE STANDARDS OF AMERICAN STANDARD FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN (2014), OR MOST RECENT EDITION, AND THE HEIGHT, SPREAD AND/OR CALIPER FOR TREES AND SHRUBS LISTED IN SECTION 515.1, RECOMMENDED PLANT LIST.
5. PLANTS SHALL BE PACKED, TRANSPORTED AND HANDLED WITH UTMOST CARE TO INSURE ADEQUATE PROTECTION AGAINST INJURY.
6. ANY PLANT MATERIAL WHICH DOES NOT SURVIVE SHALL BE REPLACED BY THE DEVELOPER. FINANCIAL SECURITY SHALL BE POSTED WITH THE TOWNSHIP IN AN AMOUNT EQUAL TO THE ESTIMATED COST OF TREES AND PLANTINGS, TO BE RELEASED EIGHTEEN (18) MONTHS FROM TOWNSHIP ACCEPTANCE OF THE INSTALLATION AND SATISFACTORY REPLACEMENT OF ALL DEAD PLANTINGS.
7. ONLY THIS PLAN SHALL BE USED FOR LANDSCAPE PLANTING AND LIGHTING LAYOUT PURPOSES.
8. THE LOCATIONS OF ALL PLANT MATERIAL INDICATED ON THE LANDSCAPE PLANS ARE APPROXIMATE. THE FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BED LINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT.
9. THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE SHOULD ANY PLANT QUANTITY DISCREPANCIES OCCUR.
10. ALL SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHOULD NOT BE BRANCHED LOWER THAN 7'-0" ABOVE GRADE. THE AREA DEFINED IN THE CLEAR SIGHT TRIANGLE FROM TWO FEET ABOVE THE CURB LINE AND SEVEN FEET ABOVE THE CURB LINE IS TO BE CLEAR OF OBSTRUCTIONS INCLUDING PLANT MATERIALS. ALL SHADE TREES PLANTED OR EXISTING IN SIGHT TRIANGLES SHALL BE PRUNED SO AS NOT TO HAVE BRANCHES BELOW 7'-0".
11. ALL PLANT MATERIAL SHALL BE PROPERLY GUYED, STAKED, WRAPPED AND PLANTED IN CONFORMANCE WITH THE TYPICAL PLANTING DETAILS. GUY WIRES SHALL BE ATTACHED TO THE TREE AT TWO-THIRDS THE HEIGHT OF THE TREE AND SHOULD BE LOCATED AT POINTS SO AS NOT TO SPLIT THE TRUNKS OF MULTI-STEMMED TREES. PROVIDE TWO TO THREE TREE STAKES PER TREE AS NOTED ON THE PLANS. INSTALL ALL PLANT MATERIAL ON UNDISTURBED GRADE. PROVIDE BURLAP WRAPPING WITH A 50% OVERLAP. CUT AND REMOVE BURLAP FROM TOP ONE-THIRD OF THE ROOT BALL.
12. PROVIDE PLANTING PITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING PITS WITH ONE PART EACH OF TOPSOIL, PEAT MOSS AND PARENT MATERIAL.
13. IF WET SOIL CONDITIONS EXIST, THEN PLANTING PITS SHALL BE EXCAVATED AN ADDITIONAL 12" AND FILLED WITH SAND.
14. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AS IT DID TO EXISTING GRADE WHEN THE PLANT WAS REMOVED.
14. NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF INSTALLATION. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT, GROWTH AND SURVIVAL OF ALL PLANTS.
15. ALL DISTURBED LAWN AREAS SHALL BE STABILIZED WITH SEED AS INDICATED ON THE LANDSCAPE PLANS. SEED MIXTURE SHALL BE AS LISTED IN THE SEEDING SCHEDULE IN THE SOIL EROSION AND SEDIMENT CONTROL NARRATIVE. ALL DISTURBED LAWN AREAS SHALL BE TOPSOILED, LIMED, FERTILIZED AND FINE GRADED PRIOR TO LAWN INSTALLATION.
16. ALL PLANTING BEDS SHALL RECEIVE MINIMUM 4" OF SHREDDED HARDWOOD BARK.
17. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS.
18. ALL EXISTING TREES AND SHRUBS TO BE PRESERVED ON SITE SHALL BE PROTECTED AGAINST CONSTRUCTION DAMAGE BY SNOW FENCING. ALL FENCING SHALL BE PLACED OUTSIDE THE INDIVIDUAL TREE CANOPY, OR AT THE SPECIFIC LOCATION DETERMINED APPROPRIATE BY THE LANDSCAPE ARCHITECT. ALL TREES TO REMAIN SHALL BE IDENTIFIED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION, GRADING OR CLEARING. ALL EXISTING VEGETATION BEING PRESERVED AND LOCATED AT THE EDGE OF THE NEW TREELINE SHALL BE PRUNED AND TRIMMED TO REMOVE DEAD OR DAMAGED BRANCHES. SEE DETAILS FOR TREE PRESERVATION.
19. PROPOSED LIGHTING WILL BE INSTALLED AT THE DEVELOPER'S EXPENSE AND THE DEVELOPER SHALL BE RESPONSIBLE FOR COSTS INVOLVED IN LIGHTING PUBLIC STREETS UNTIL SUCH TIME THAT THE STREET IS ACCEPTED BY THE TOWNSHIP.

EXISTING BUFFER PLANTINGS NOTE

ADDITIONAL BUFFER YARD PLANTINGS SHALL BE PROVIDED AS DIRECTED BY THE TOWNSHIP ENGINEER WHERE EXISTING PLANTINGS DO NOT MEET BUFFER YARD REQUIREMENTS OF THE ZONING AND/OR SUBDIVISION AND LAND DEVELOPMENT ORDINANCES.

THIS PLAN TO BE USED FOR LANDSCAPE AND LIGHTING PURPOSES ONLY.

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SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

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DESIGNED BY: BSF/CSP
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JOB NO. 0405NHT.02

BY: _____
KEVIN A. KESTER, PA RLA, LA-000883-E

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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OVERALL LANDSCAPING AND LIGHTING PLAN
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

29/60

SAM ERNEY 12/21/2010
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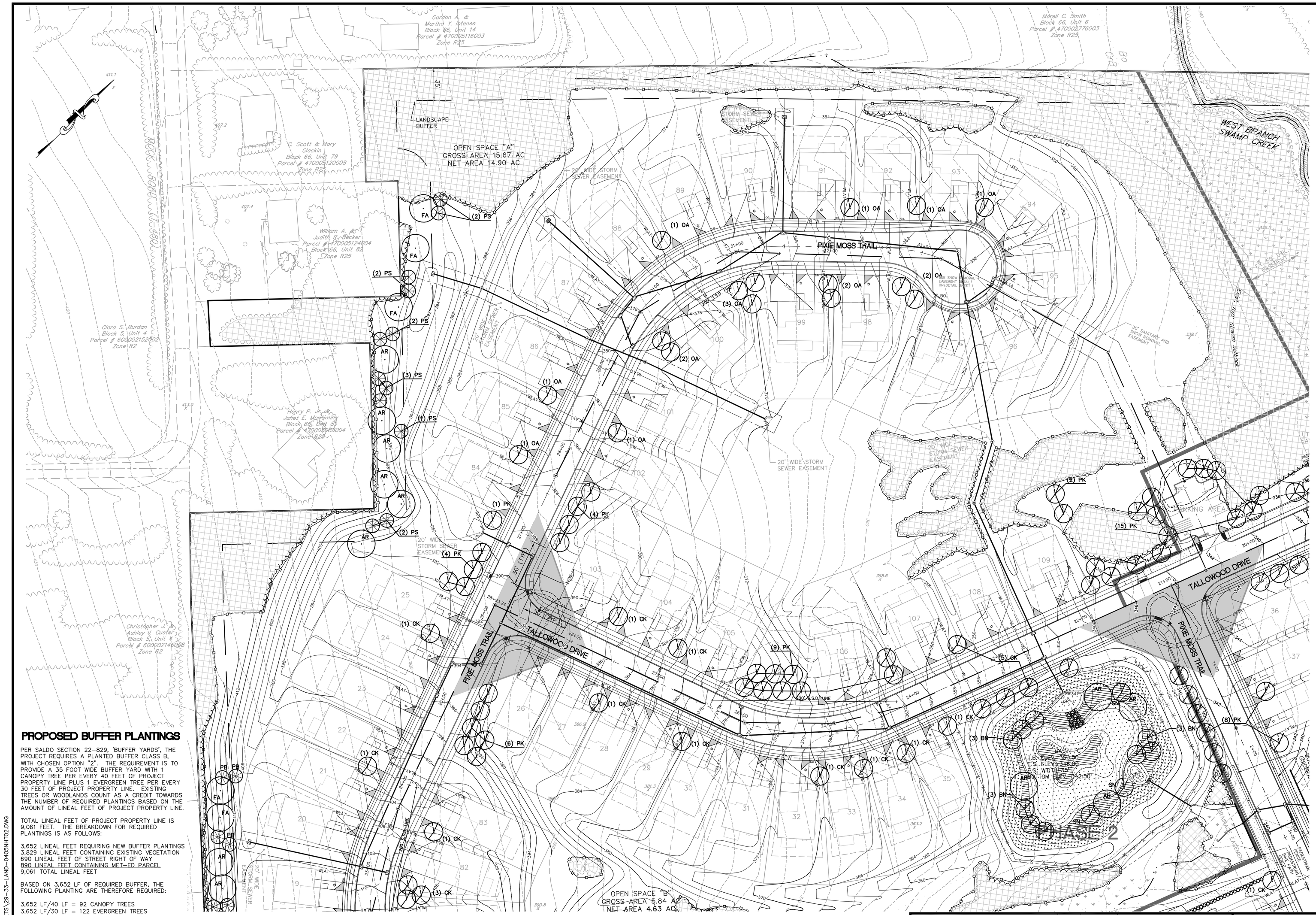

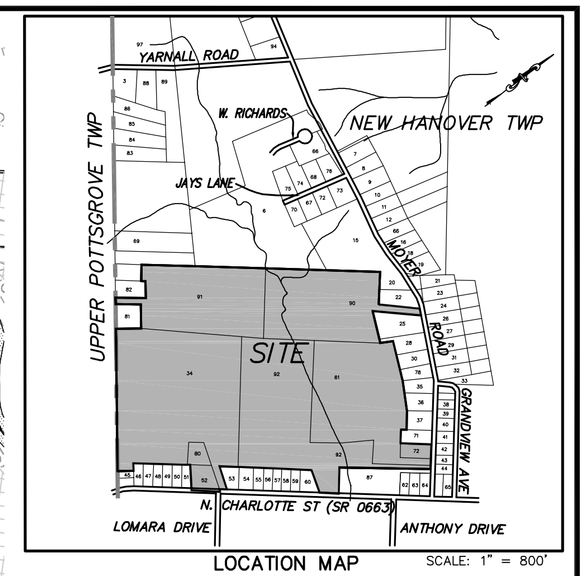

LOCATION MAP SCALE: 1" = 800'

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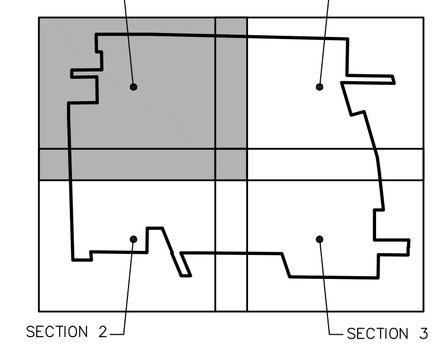
KEY MAP



THIS PLAN TO BE USED FOR LANDSCAPE AND LIGHTING PURPOSES ONLY.

PROPOSED BUFFER PLANTINGS

PER SALDO SECTION 22-829, 'BUFFER YARDS', THE PROJECT REQUIRES A PLANTED BUFFER CLASS B, WITH CHOSEN OPTION "2". THE REQUIREMENT IS TO PROVIDE A 35 FOOT WIDE BUFFER YARD WITH 1 CANOPY TREE PER EVERY 40 FEET OF PROJECT PROPERTY LINE PLUS 1 EVERGREEN TREE PER EVERY 30 FEET OF PROJECT PROPERTY LINE. EXISTING TREES OR WOODLANDS COUNT AS A CREDIT TOWARDS THE NUMBER OF REQUIRED PLANTINGS BASED ON THE AMOUNT OF LINEAL FEET OF PROJECT PROPERTY LINE.

TOTAL LINEAL FEET OF PROJECT PROPERTY LINE IS 9,061 FEET. THE BREAKDOWN FOR REQUIRED PLANTINGS IS AS FOLLOWS:

3,652 LINEAL FEET REQUIRING NEW BUFFER PLANTINGS
3,829 LINEAL FEET CONTAINING EXISTING VEGETATION
690 LINEAL FEET OF STREET RIGHT OF WAY
890 LINEAL FEET CONTAINING MET-ED PARCEL
9,061 TOTAL LINEAL FEET

BASED ON 3,652 LF OF REQUIRED BUFFER, THE FOLLOWING PLANTING ARE THEREFORE REQUIRED:

3,652 LF/40 LF = 92 CANOPY TREES
3,652 LF/30 LF = 122 EVERGREEN TREES

PROVIDED: 97 CANOPY & 137 EVERGREEN TREES

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
AG	29	ACER GINNALA	AMUR MAPLE	2" CALIPER	B&B
AR	21	ACER RUBRUM	RED MAPLE	2" CALIPER	B&B
FA	28	ULMUS AMERICANA	VALLEY FORGE ELM	2" CALIPER	B&B
PB	81	PICEA ABIES	NORWAY SPRUCE	4' HEIGHT	B&B
PS	94	PINUS STROBUS	EASTERN WHITE PINE	4' HEIGHT	B&B
QA	19	QUERCUS ALBA	WHITE OAK	2" CALIPER	B&B
--	66	THUJA OCCIDENTALIS*	AMERICAN ARBORVITAE	3' HEIGHT	B&B

*NOT A BUFFER PLANTING. LOCATED BEHIND LOT 60

STREET TREE PLANT SCHEDULE

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CALIPER / HEIGHT	CONDITION
CK	73	CORNUS KOUSA	KOUSA DOGWOOD	2" CALIPER	B&B
OA	69	OXYDENDRUM ARBOREUM	SOURWOOD	2" CALIPER	B&B
PK	114	PRUNUS KWANZAN	KWANZAN CHERRY	2" CALIPER	B&B

BASIN PLANT SCHEDULE

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CALIPER / HEIGHT
BN	6	Betula nigra 'Cully'	Heritage River Birch	8'-10' Multi.
CA	18	Cornus sericea 'Sibirica'	Tatarian Dogwood	5 Gal.
CV	10	Crataegus x viridis	Winter King Hawthorn	2"-2 1/2 Cal.
LS	9	Liquidambar styraciflua	Sweet Gum	2"-2 1/2 Cal.
PT	6	Pinus thunbergii	Japanese Black Pine	7'-8' Ht.
VD	20	Viburnum dentatum	Arrowwood Viburnum	5 Gal.

STREET TREE REQUIREMENTS

- PLANTING REQUIREMENT = 1 TREE / 30 FT. (FLOWERING TREES)
- LENGTH OF STREETS = 7,007 FT.
- REQUIRED STREET TREES = 234
- PROVIDED STREET TREES = 256

EXISTING BUFFER PLANTINGS NOTE

ADDITIONAL BUFFER YARD PLANTINGS SHALL BE PROVIDED AS DIRECTED BY THE TOWNSHIP ENGINEER WHERE EXISTING PLANTINGS DO NOT MEET BUFFER YARD REQUIREMENTS OF THE ZONING AND/OR SUBDIVISION AND LAND DEVELOPMENT ORDINANCES.

BASIN BOTTOM PLANT SCHEDULE

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CALIPER / HEIGHT
BN	23	Betula nigra 'Cully'	Heritage River Birch	8'-10' Multi.
AR	9	Acer rubrum	Red Maple	1 1/2" cal. 5 Gal
SN	9	Salix nigra	Black Willow	8'-10'

REFER TO DETAIL SHEETS FOR BASIN SEED MIXES AND ALTERNATE PLANT SPECIES IF THOSE SPECIFIED ARE NOT AVAILABLE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

1 inch = 50 ft.

LIGHTING NOTES

ROADWAY LIGHTING:

COOPER LIGHTING COMPANY
SINGLE-MOUNTED LXF LEXINGTON
100 WATT H.P.S.
TAPERED ROUND ALUM. POLE
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8 FIXTURES TOTAL

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LANDSCAPING AND LIGHTING PLAN - SECTION 1

FOR

ZAVITSANOS TRACT

SITUATED IN

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MONTGOMERY COUNTY, PENNSYLVANIA

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SAM ERNEY 12/21/2010
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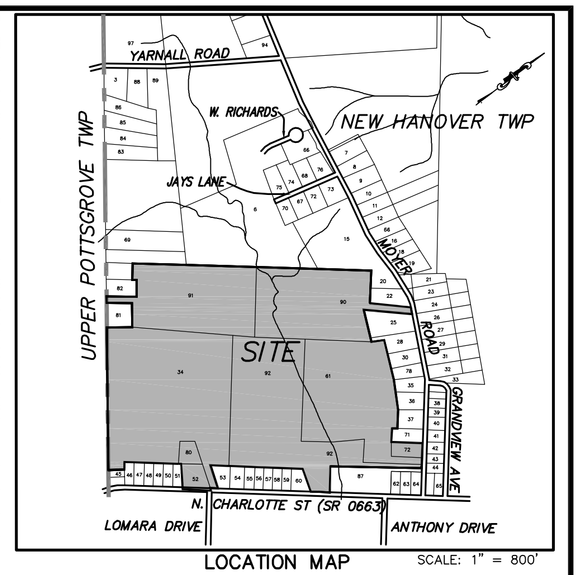

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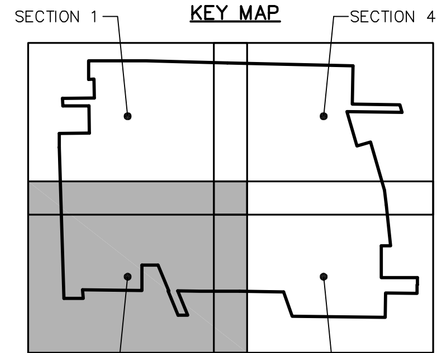

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8 FIXTURES TOTAL

DRIVEWAY LIGHTING:

COOPER LIGHTING COMPANY OR APPROVED EQUAL
CATALOG CUTS TO BE SUPPLIED
TO TOWNSHIP PRIOR TO CONSTRUCTION

143 FIXTURES

ALL LIGHTING INSTALLATION SHALL CONFORM TO TOWNSHIP REGULATIONS AND THE CONSTRUCTION & MATERIAL SPECIFICATION FOR PUBLIC IMPROVEMENTS

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
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REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
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JOB NO. 0405NHT.02

BY: KEVIN A. KESTER, PA RLA, LA-000883-E

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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PHONE (610) 670-6630 FAX (610) 670-4603

LANDSCAPING AND LIGHTING PLAN - SECTION 2

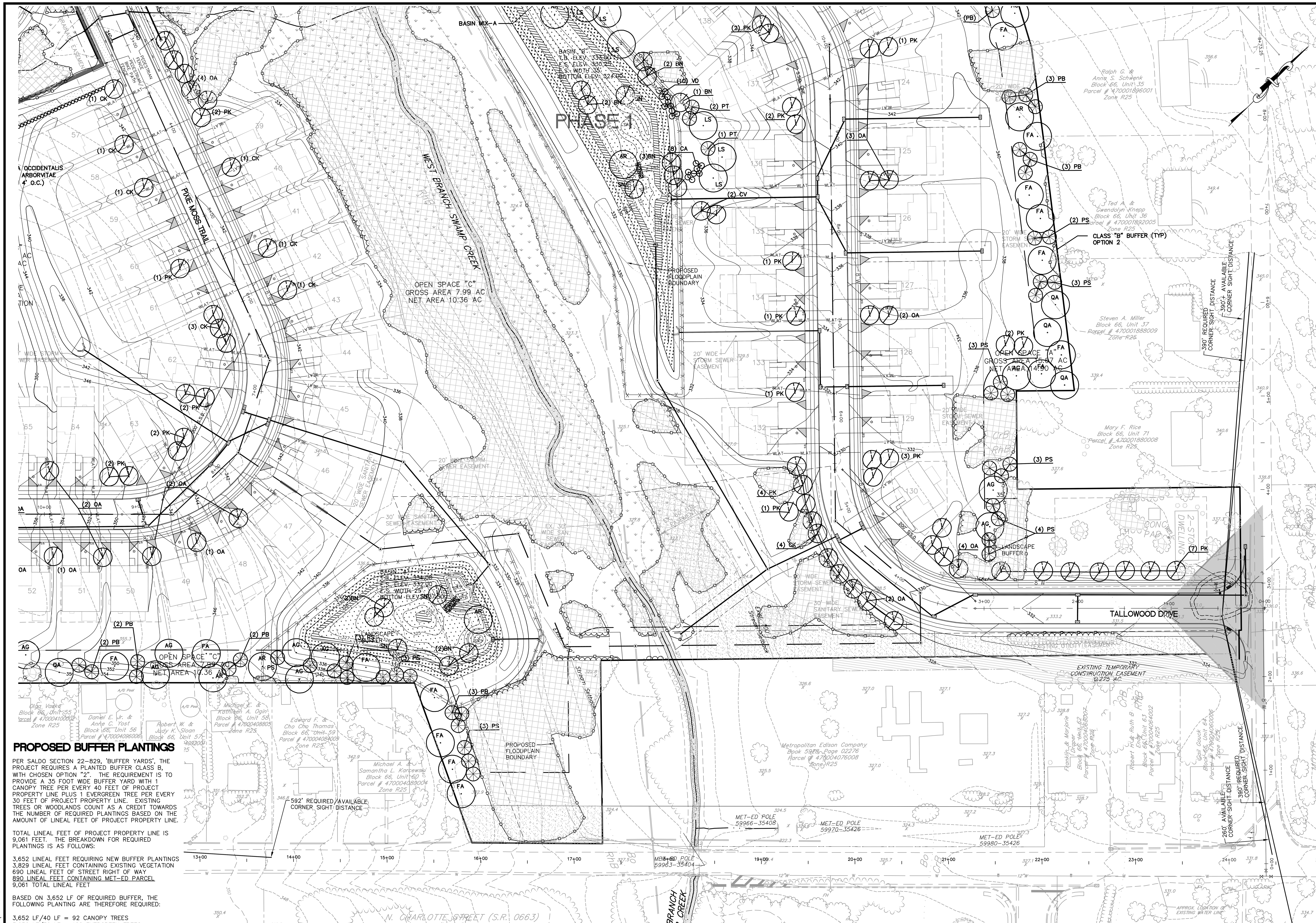
FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\29-33-LAND-0405NHT02.DWG



PROPOSED BUFFER PLANTINGS

PER SALDO SECTION 22-829, 'BUFFER YARDS', THE PROJECT REQUIRES A PLANTED BUFFER CLASS B, WITH CHOSEN OPTION "2". THE REQUIREMENT IS TO PROVIDE A 35 FOOT WIDE BUFFER YARD WITH 1 CANOPY TREE PER EVERY 40 FEET OF PROJECT PROPERTY LINE PLUS 1 EVERGREEN TREE PER EVERY 30 FEET OF PROJECT PROPERTY LINE. EXISTING TREES OR WOODLANDS COUNT AS A CREDIT TOWARDS THE NUMBER OF REQUIRED PLANTINGS BASED ON THE AMOUNT OF LINEAL FEET OF PROJECT PROPERTY LINE.

TOTAL LINEAL FEET OF PROJECT PROPERTY LINE IS 9,061 FEET. THE BREAKDOWN FOR REQUIRED PLANTINGS IS AS FOLLOWS:

3,652 LINEAL FEET REQUIRING NEW BUFFER PLANTINGS
3,829 LINEAL FEET CONTAINING EXISTING VEGETATION
690 LINEAL FEET OF STREET RIGHT OF WAY
890 LINEAL FEET CONTAINING MET-ED PARCEL
9,061 TOTAL LINEAL FEET

BASED ON 3,652 LF OF REQUIRED BUFFER, THE FOLLOWING PLANTING ARE THEREFORE REQUIRED:

3,652 LF/40 LF = 92 CANOPY TREES
3,652 LF/30 LF = 122 EVERGREEN TREES

PROVIDED: 97 CANOPY & 137 EVERGREEN TREES

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
AG	29	ACER GINNALA	AMUR MAPLE	2" CALIPER	B&B
AR	21	ACER RUBRUM	RED MAPLE	2" CALIPER	B&B
FA	28	ULMUS AMERICANA	VALLEY FORGE ELM	2" CALIPER	B&B
PB	81	PICEA ABIES	NORWAY SPRUCE	4' HEIGHT	B&B
PS	94	PINUS STROBUS	EASTERN WHITE PINE	4' HEIGHT	B&B
QA	19	QUERCUS ALBA	WHITE OAK	2" CALIPER	B&B
--	66	THUJA OCCIDENTALIS*	AMERICAN ARBORVITAE	3' HEIGHT	B&B

* NOT A BUFFER PLANTING. LOCATED BEHIND LOT 60

STREET TREE PLANT SCHEDULE

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CALIPER / HEIGHT	CONDITION
CK	73	CORNUS KOUSA	KOUSA DOGWOOD	2" CALIPER	B&B
OA	69	OXYDENDRUM ARBOREUM	SOURWOOD	2" CALIPER	B&B
PK	114	PRUNUS KWANZAN	KWANZAN CHERRY	2" CALIPER	B&B

BASIN PLANT SCHEDULE

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CALIPER / HEIGHT
BN	6	Betula nigra 'Cully'	Heritage River Birch	8'-10' Multi.
CA	18	Cornus sericea 'Sibirica'	Tatarian Dogwood	5 Gal.
CV	4	Crataegus x viridis	Winter King Hawthorn	2"-2 1/2 Cal.
LS	9	Liquidambar styraciflua	Sweet Gum	2"-2 1/2 Cal.
PT	6	Pinus thunbergii	Japanese Black Pine	7'-8' Ht.
VD	20	Viburnum dentatum	Arrowwood Viburnum	5 Gal.

STREET TREE REQUIREMENTS

- PLANTING REQUIREMENT = 1 TREE / 30 FT. (FLOWERING TREES)
- LENGTH OF STREETS = 7,007 FT.
- REQUIRED STREET TREES = 234
- PROVIDED STREET TREES = 256

EXISTING BUFFER PLANTINGS NOTE

ADDITIONAL BUFFER YARD PLANTINGS SHALL BE PROVIDED AS DIRECTED BY THE TOWNSHIP ENGINEER WHERE EXISTING PLANTINGS DO NOT MEET BUFFER YARD REQUIREMENTS OF THE ZONING AND/OR SUBDIVISION AND LAND DEVELOPMENT ORDINANCES.

BASIN BOTTOM PLANT SCHEDULE

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CALIPER / HEIGHT
BN	23	Betula nigra 'Cully'	Heritage River Birch	8'-10' Multi.
AR	9	Acer rubrum	Red Maple	1 1/2" cal. 5 Gal.
SN	9	Salix nagra	Black Willow	8'-10'

REFER TO DETAIL SHEETS FOR BASIN SEED MIXES AND ALTERNATE PLANT SPECIES IF THOSE SPECIFIED ARE NOT AVAILABLE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

LIGHTING NOTES

ROADWAY LIGHTING:

COOPER LIGHTING COMPANY
SINGLE-MOUNTED LXF LEXINGTON
100 WATT H.P.S.
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8 FIXTURES TOTAL

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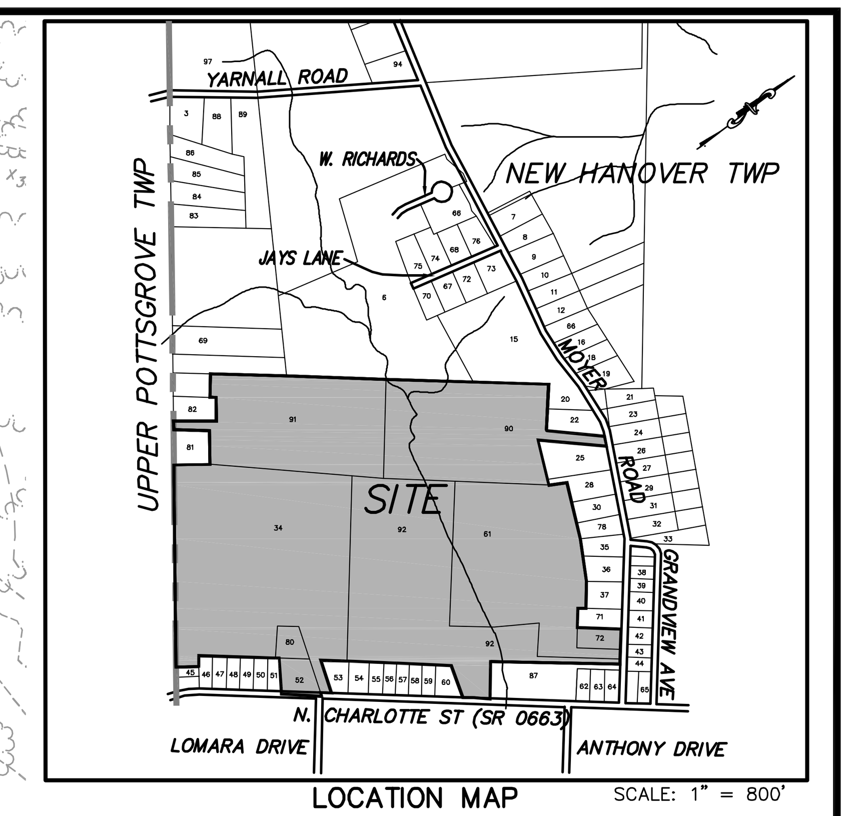
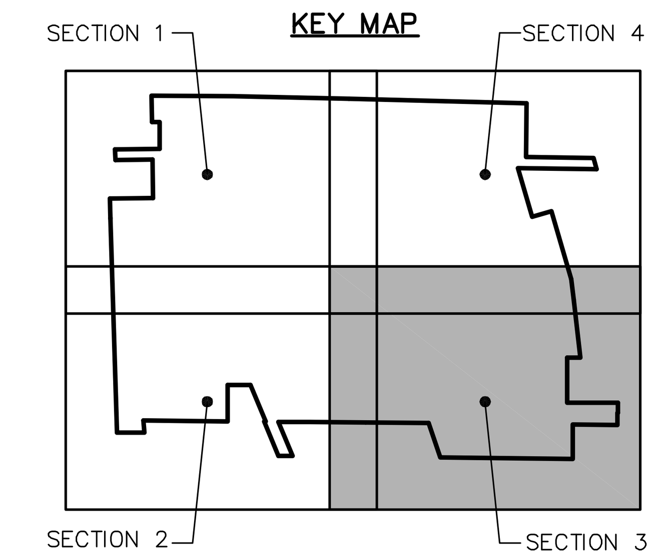


LOCATION MAP SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING WOODLANDS
- PROPOSED WOODLANDS
- EXISTING CURB TO REMAIN
- PROPOSED CONC. CURB
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRIC
- EXISTING TREE (SURVEY)
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATER MAIN W/GATE VALVE
- PROPOSED SANITARY LATERAL W/CLEANOUT
- PROPOSED WATER LATERAL W/VALVE
- 258.1 SPOT ELEVATION
- TC TOP OF CURB ELEVATION
- BC BOTTOM OF CURB ELEVATION
- FF FIRST FLOOR ELEVATION
- GF GARAGE FLOOR ELEVATION
- PROPOSED FENCE / GUIDERAIL
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- PROPOSED TREES
- LIGHT FIXTURE
- TREE PROTECTION AREA
- PROPOSED FENCE (DETENTION BASIN / LOT)
- PROPOSED FLOODPLAIN
- TREE PROTECTION FENCE

KEY MAP



THIS PLAN TO BE USED FOR LANDSCAPE AND LIGHTING PURPOSES ONLY.

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BY: KEVIN A. KESTER, PA RLA, LA-000883-E

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

LANDSCAPING AND LIGHTING PLAN - SECTION 3
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

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PER SALDO SECTION 22-829, 'BUFFER YARDS', THE PROJECT REQUIRES A PLANTED BUFFER CLASS B, WITH CHOSEN OPTION "2". THE REQUIREMENT IS TO PROVIDE A 35 FOOT WIDE BUFFER YARD WITH 1 CANOPY TREE PER EVERY 40 FEET OF PROJECT PROPERTY LINE PLUS 1 EVERGREEN TREE PER EVERY 30 FEET OF PROJECT PROPERTY LINE. EXISTING TREES OR WOODLANDS COUNT AS A CREDIT TOWARDS THE NUMBER OF REQUIRED PLANTINGS BASED ON THE AMOUNT OF LINEAL FEET OF PROJECT PROPERTY LINE.

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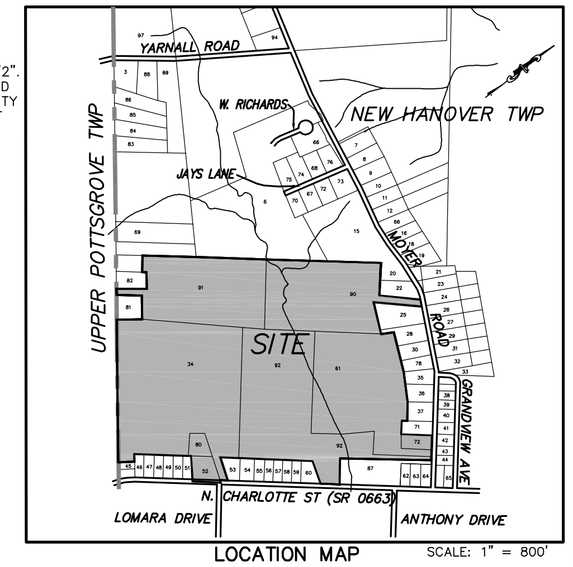

LOCATION MAP SCALE: 1" = 800'

LEGEND

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- PROPOSED WOODLANDS
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- PROPOSED CONC. CURB
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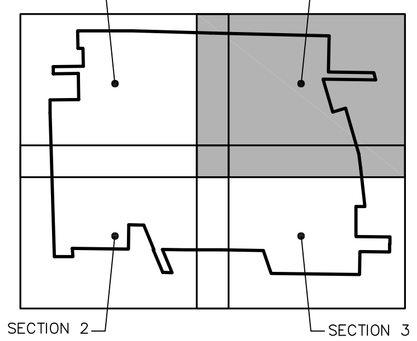
KEY MAP



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BASIN BOTTOM PLANT SCHEDULE

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- PLANTING REQUIREMENT = 1 TREE / 30 FT. (FLOWERING TREES)
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GRAPHIC SCALE

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(IN FEET)
1 inch = 50 ft.

LIGHTING NOTES

ROADWAY LIGHTING:

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SINGLE-MOUNTED LXF LEXINGTON
100 WATT H.P.S.
TAPERED ROUND ALUM. POLE
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8 FIXTURES TOTAL

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JOB NO. 0405NHT.02

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BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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LANDSCAPING AND LIGHTING PLAN - SECTION 4

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

33/60

SAM ERNEY
12/21/2010
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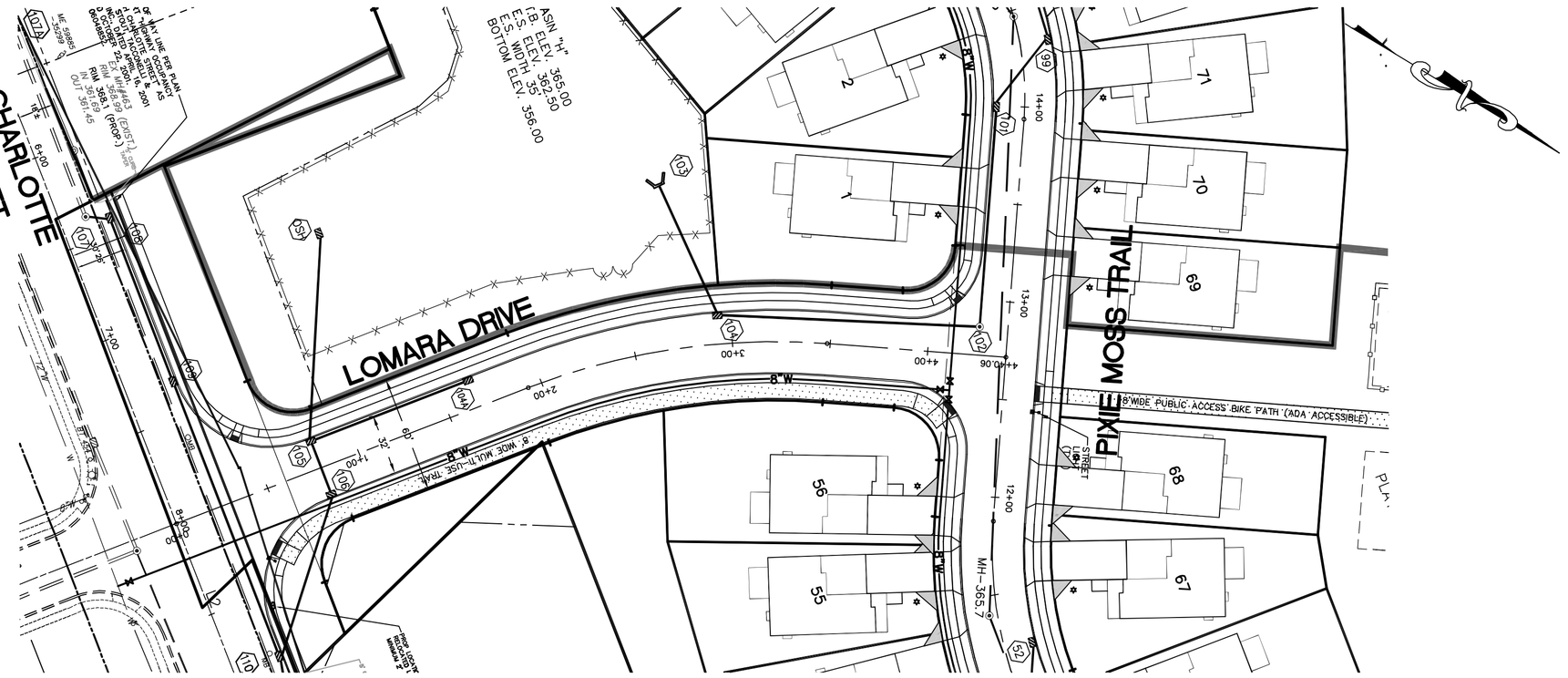
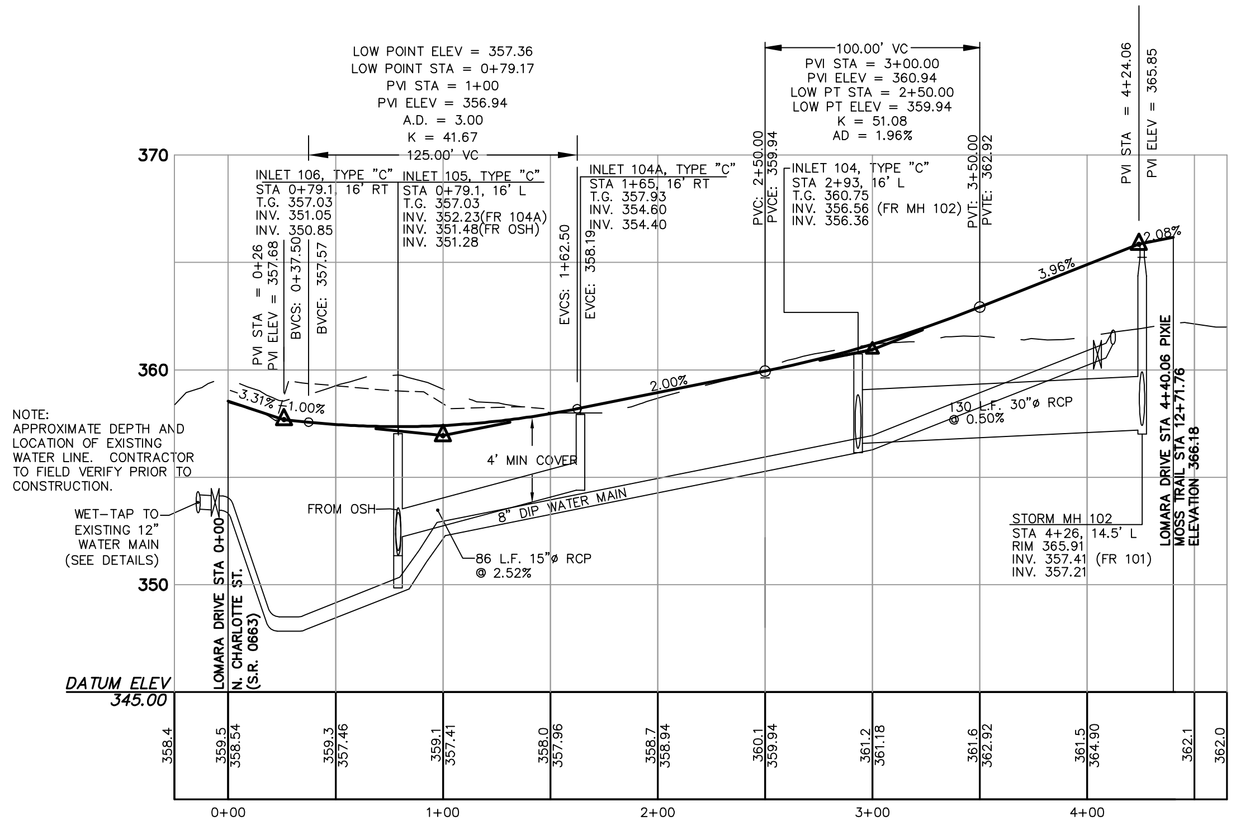
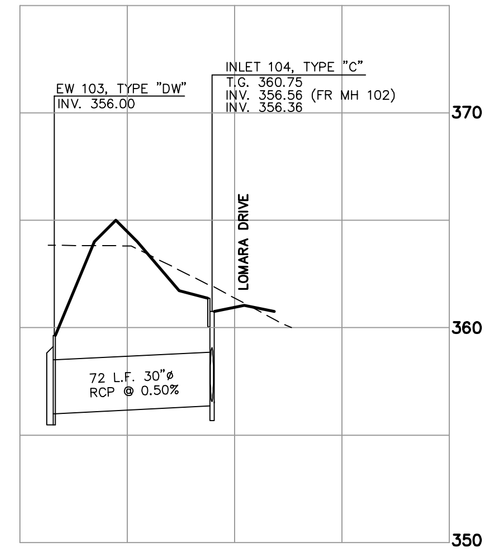




PHASE 1

LOMARA DRIVE PROFILE

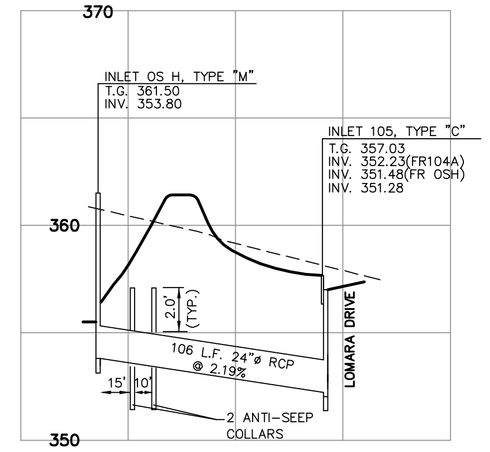
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1

END WALL 103 – INLET 104B PROFILE

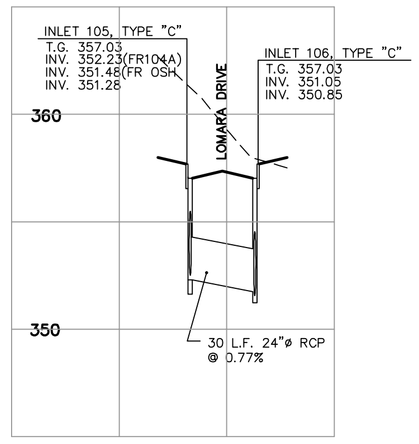
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1

INLET OS H – INLET 105 PROFILE

SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1

INLET 105 – INLET 106 PROFILE

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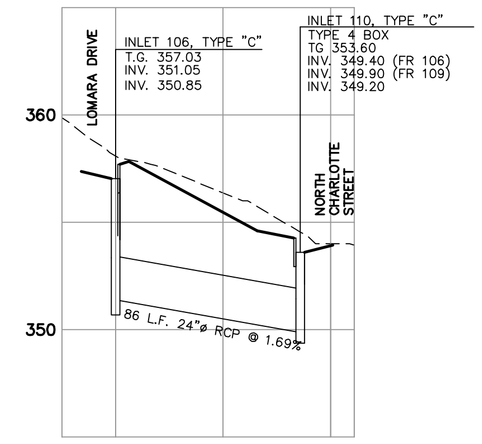
1"= 5' (VERT.)



PHASE 1

INLET 106 – INLET 110 PROFILE

SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
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SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

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DESIGNED BY: BSF/CSP
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CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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LOMARA DRIVE PLAN AND PROFILE
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

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SAM ERNEY 12/21/2010
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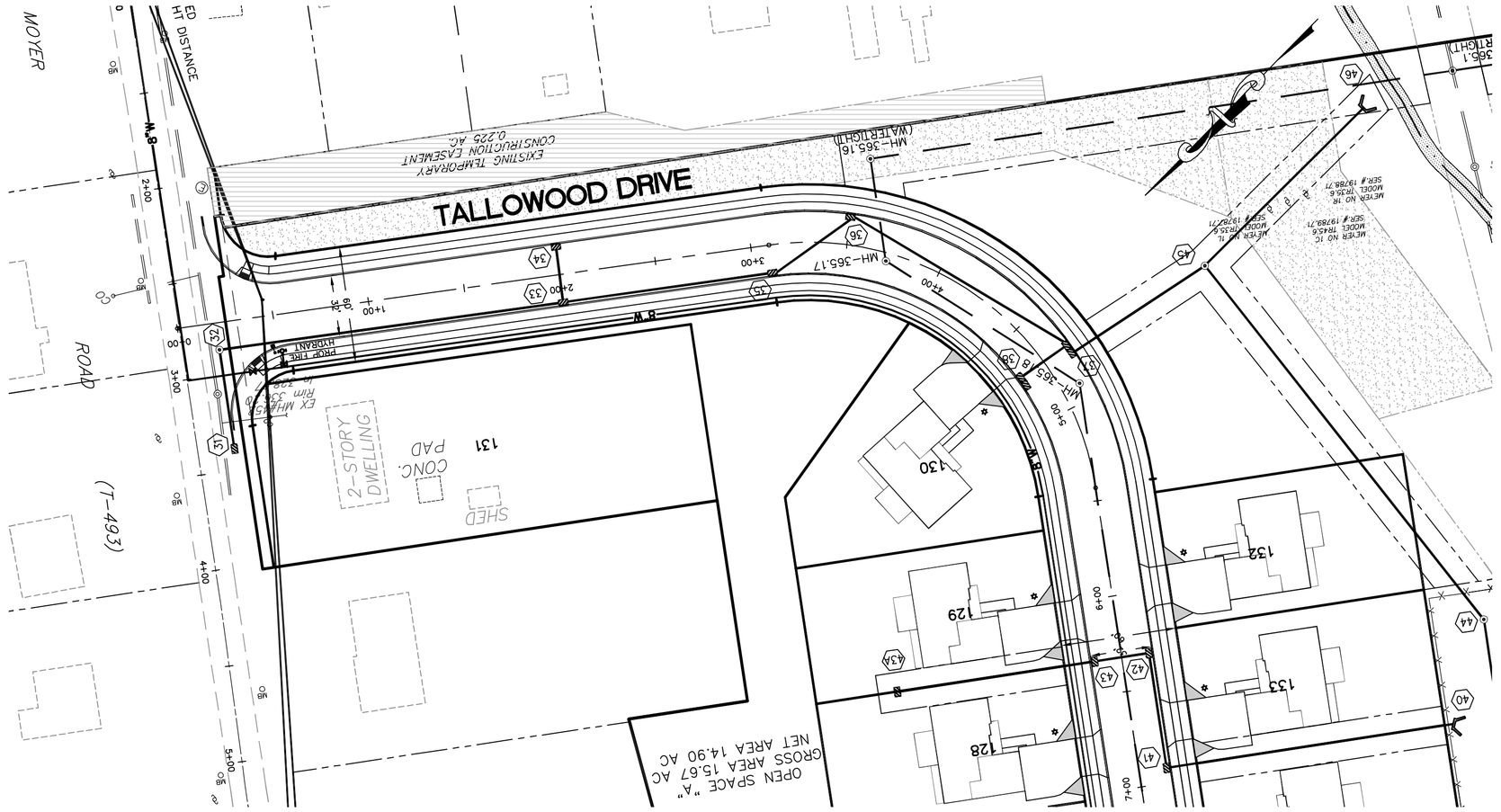
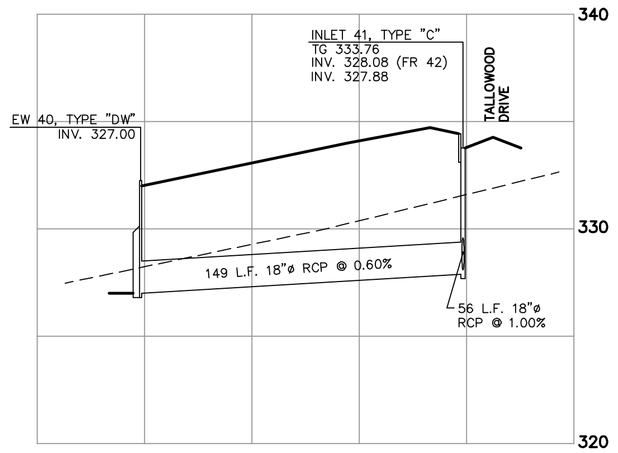
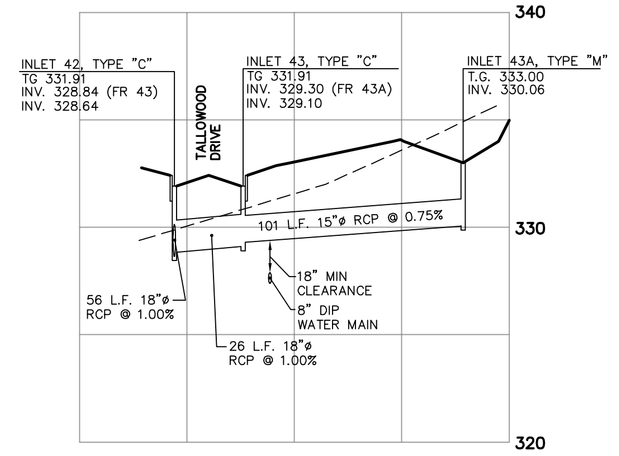
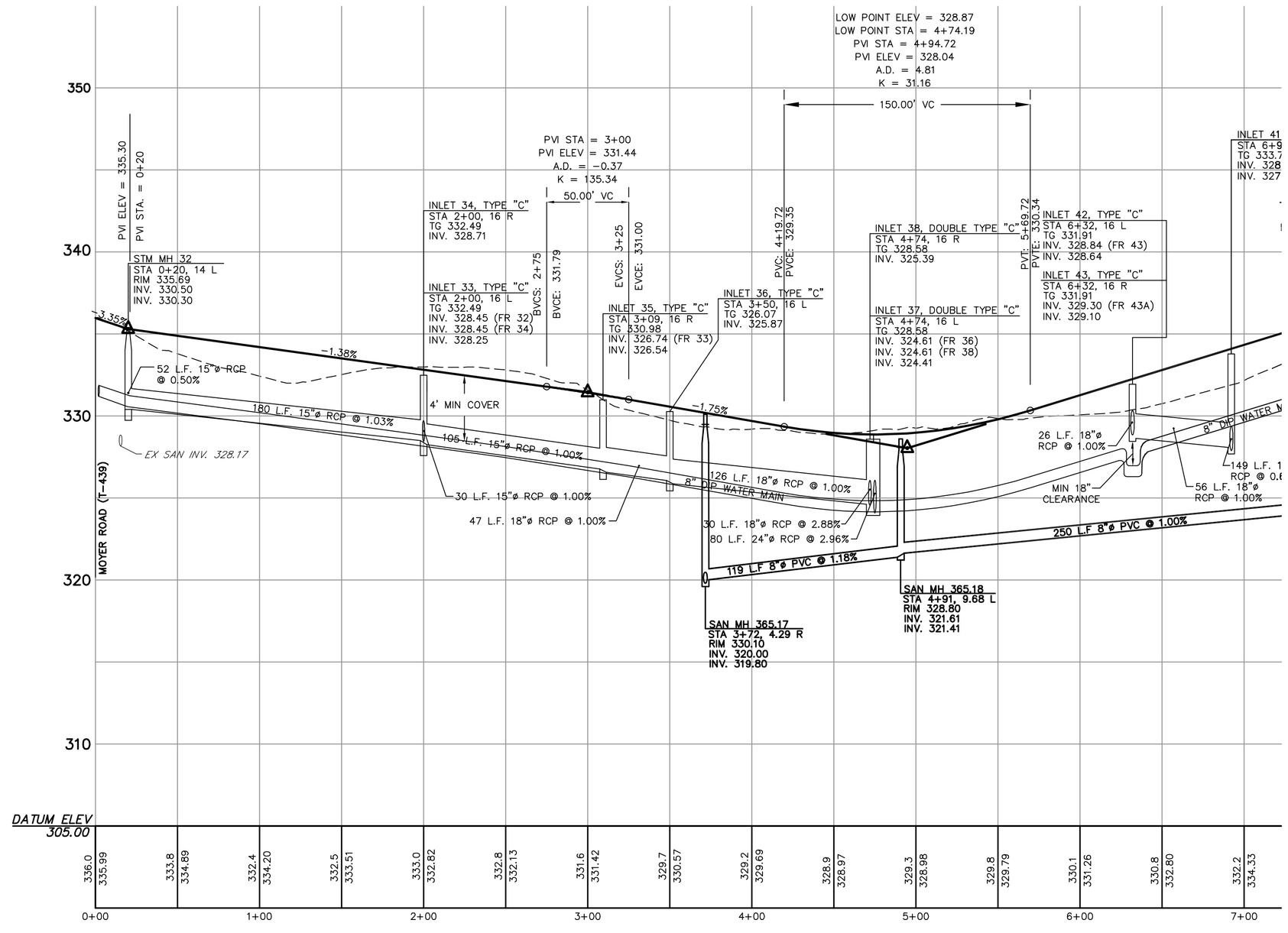




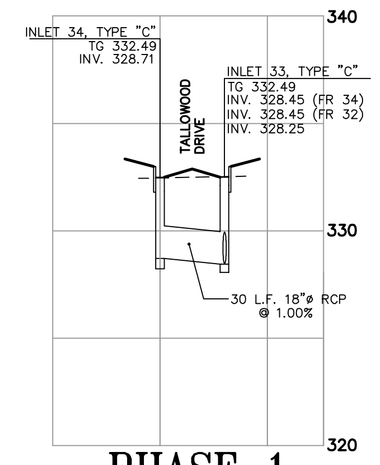
PHASE 1
EW 40 – INLET 41 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



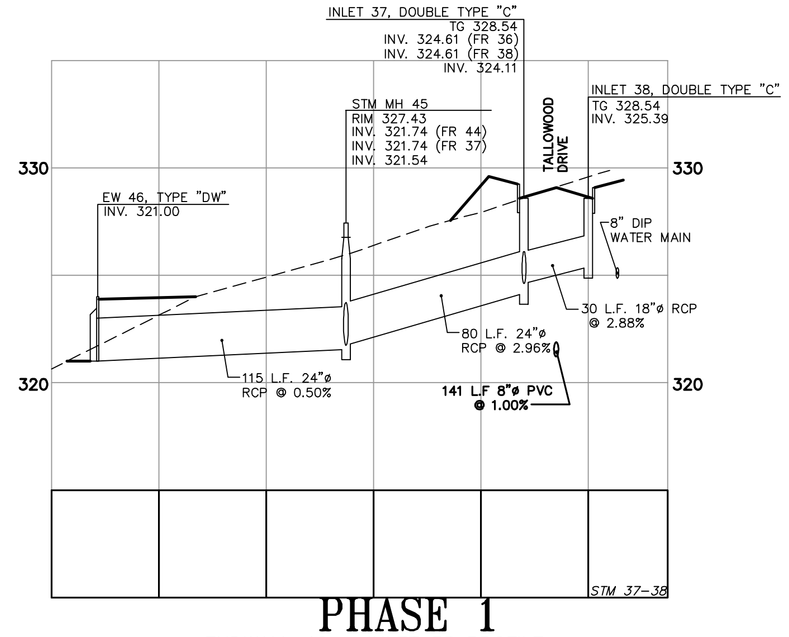
PHASE 1
INLET 42 – INLET 43A PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
TALLOWOOD DRIVE PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
INLET 34 – INLET 33 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
ENDWALL 46 – INLET 38 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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TALLOWOOD DRIVE PLAN AND PROFILE
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

35
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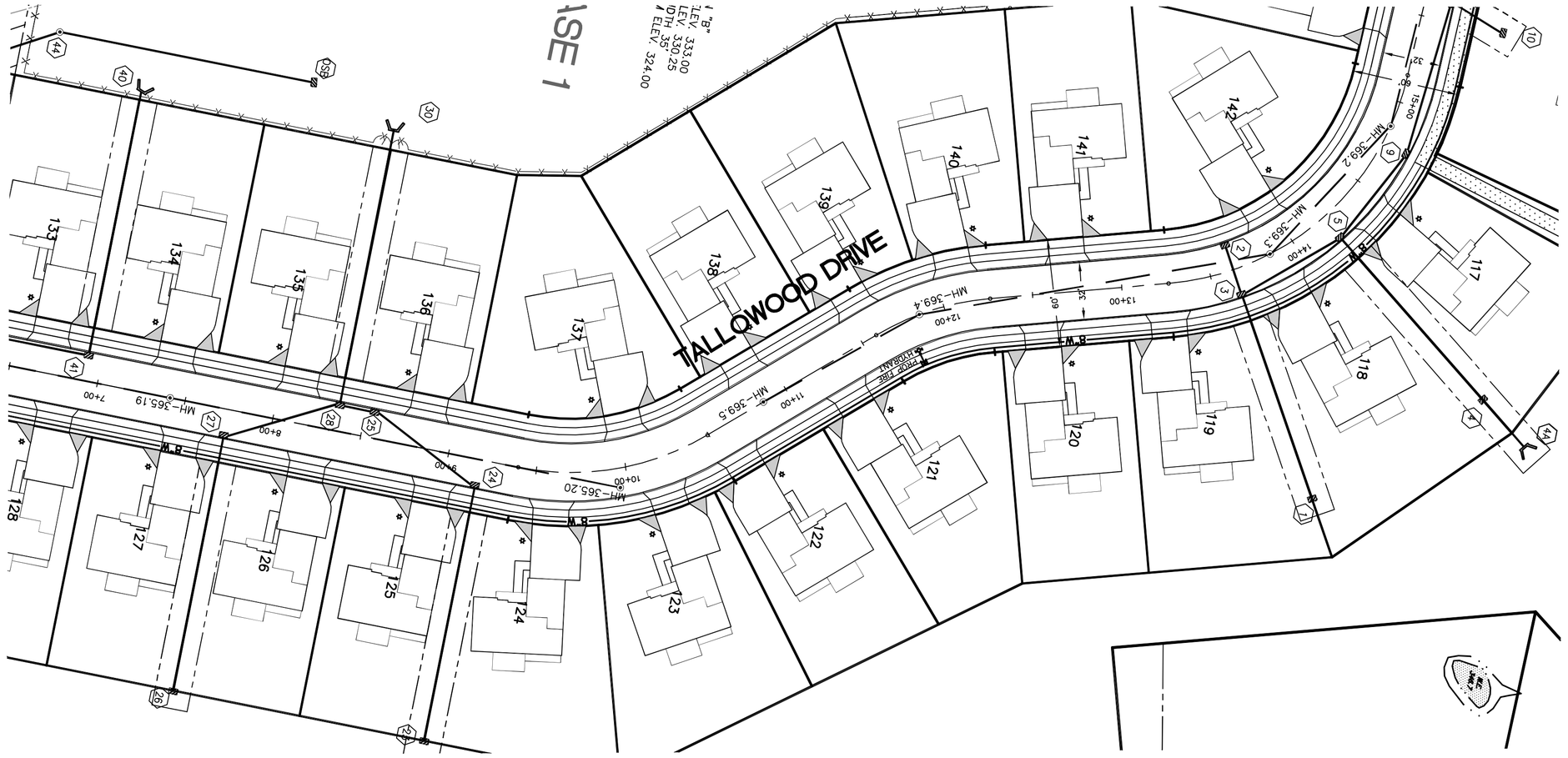
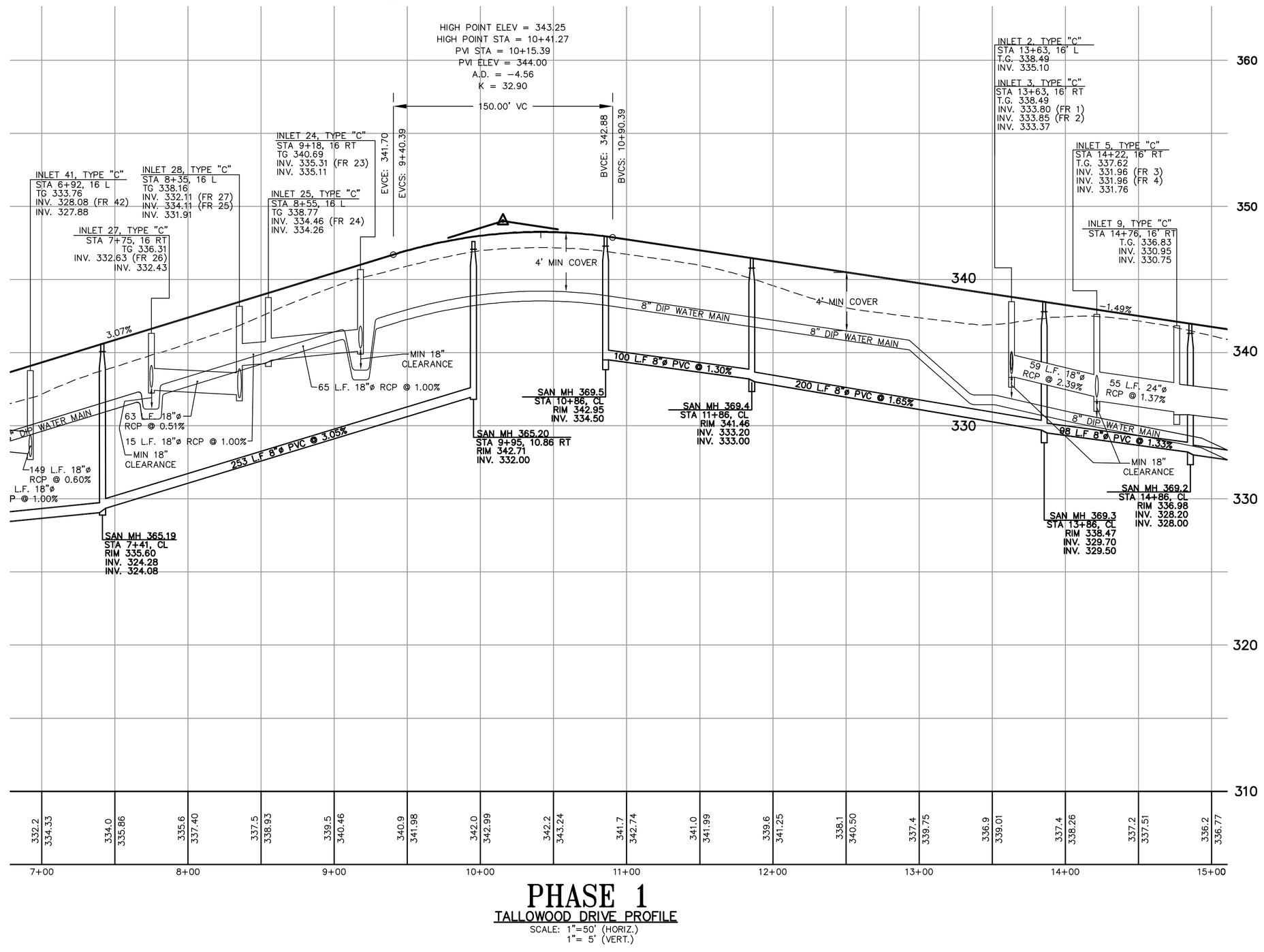
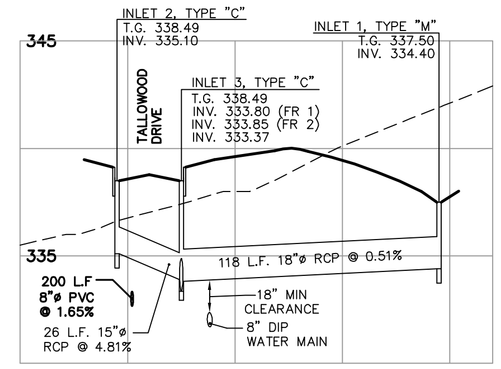
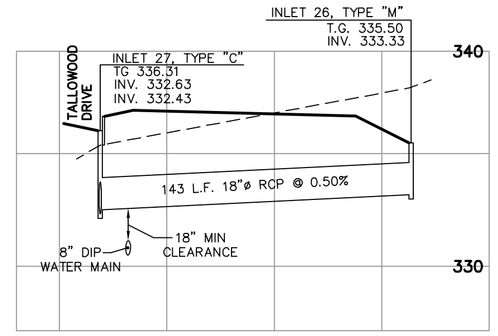




PHASE 1
TALLOWOOD DRIVE PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
INLET 2 – INLET 1 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
INLET 27 – INLET 26 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
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REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
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TALLOWOOD DRIVE PLAN AND PROFILE
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MONTGOMERY COUNTY, PENNSYLVANIA

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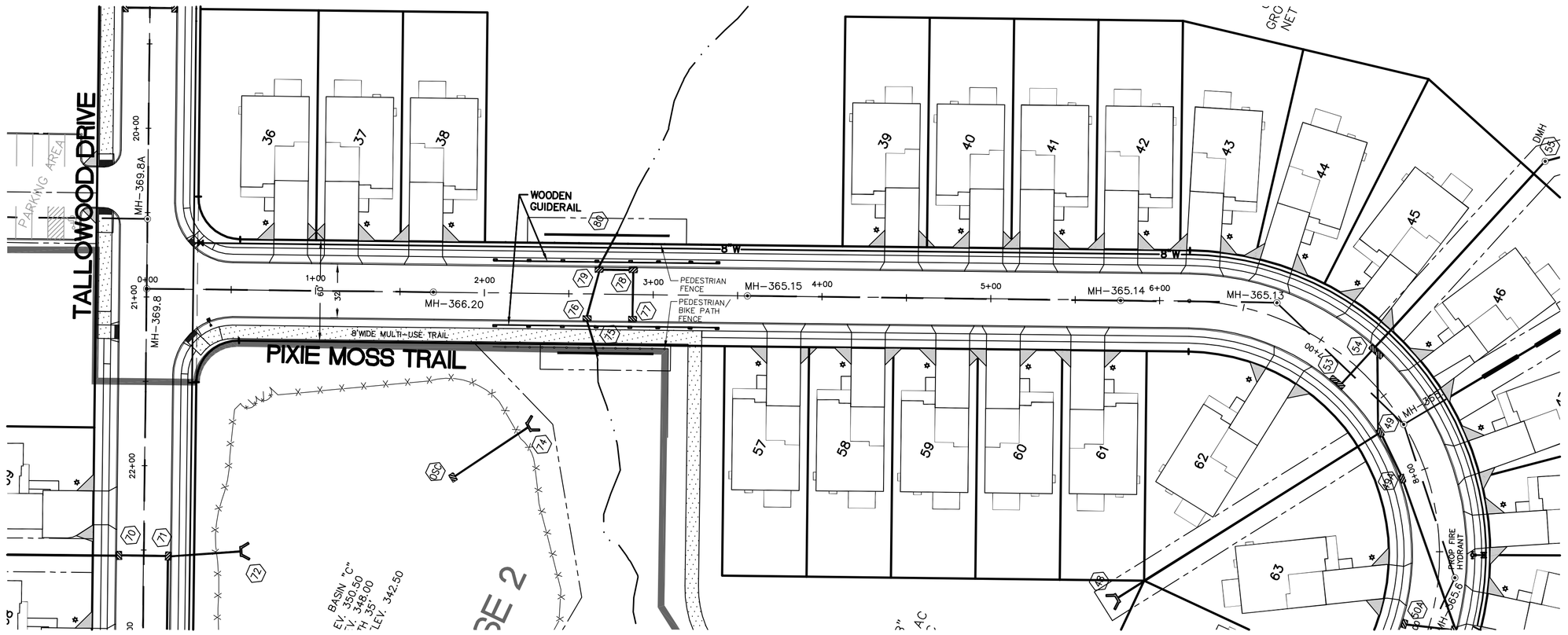
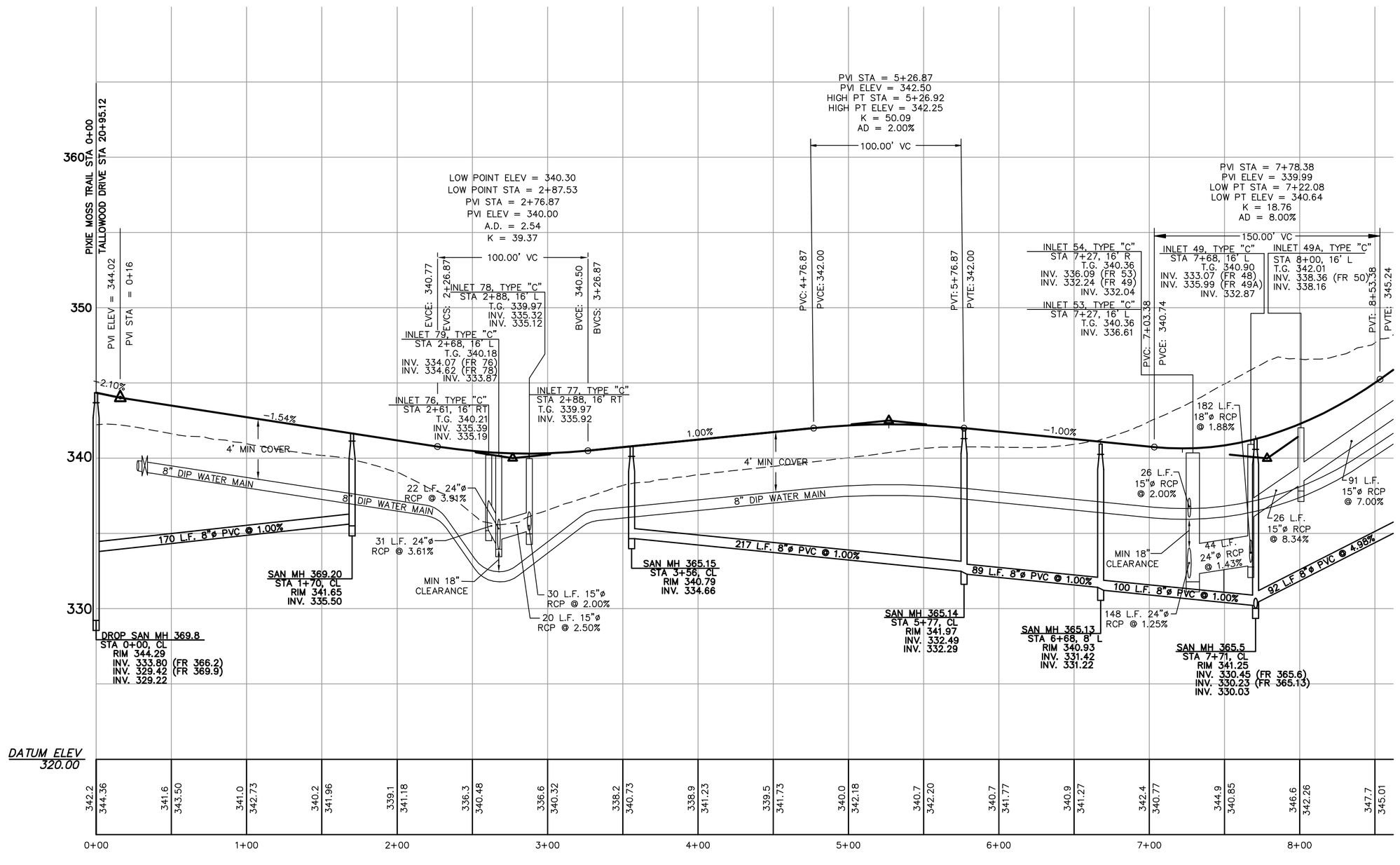
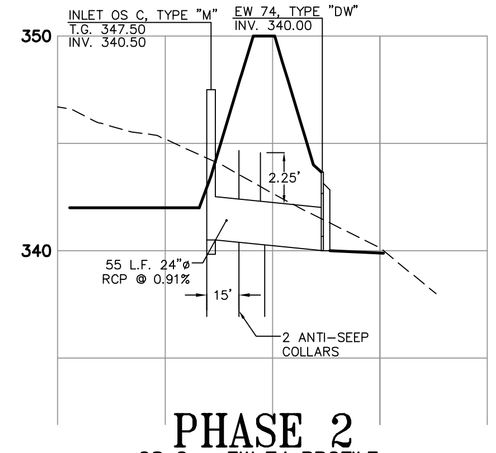
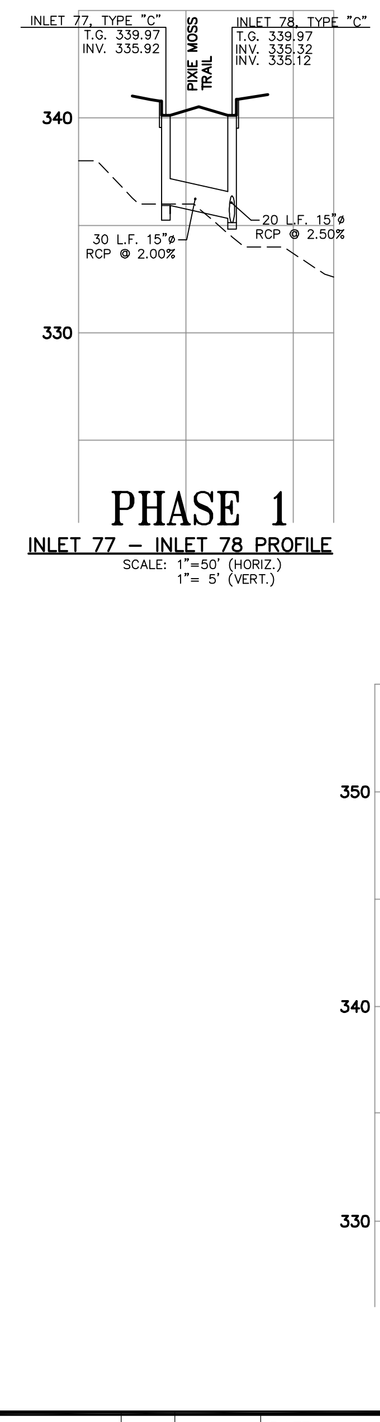




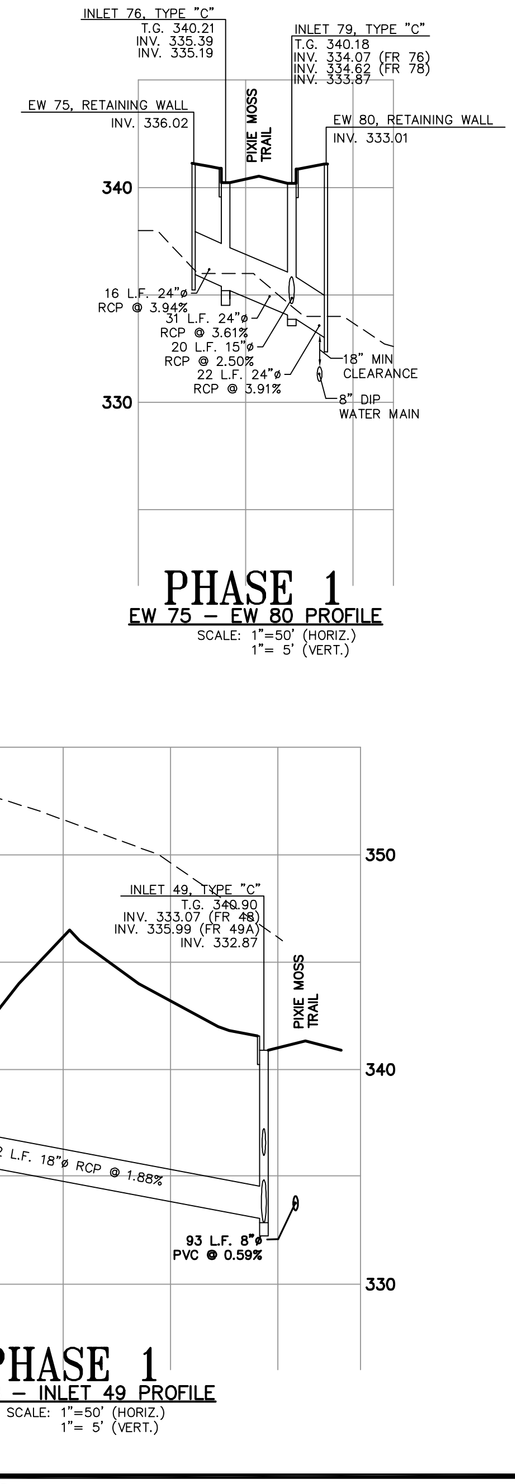
PHASE 1
PIXIE MOSS TRAIL PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



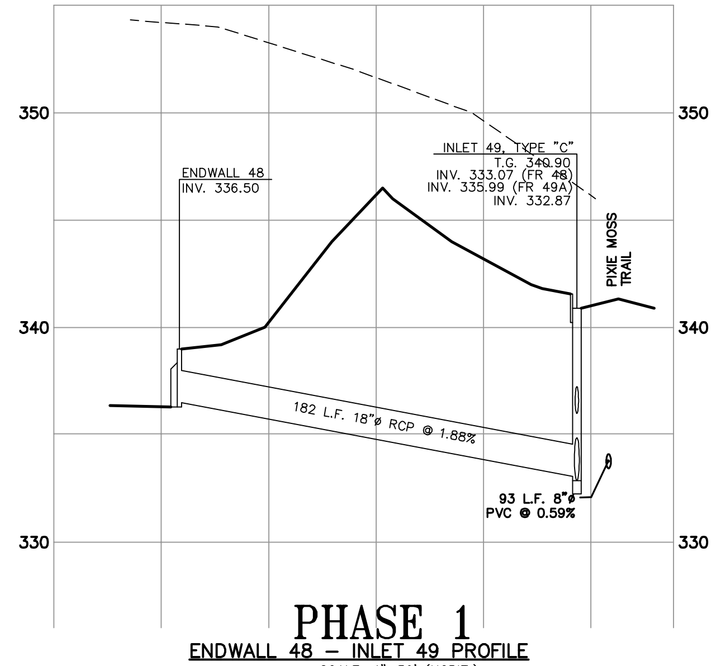
PHASE 2
OS C – EW 74 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
INLET 77 – INLET 78 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
EW 75 – EW 80 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
ENDWALL 48 – INLET 49 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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PIXIE MOSS TRAIL PLAN AND PROFILE
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

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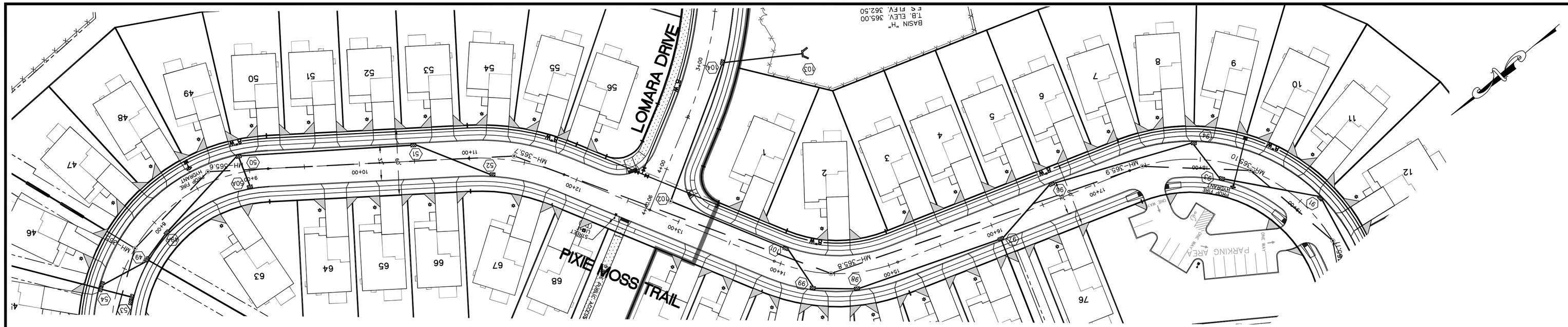
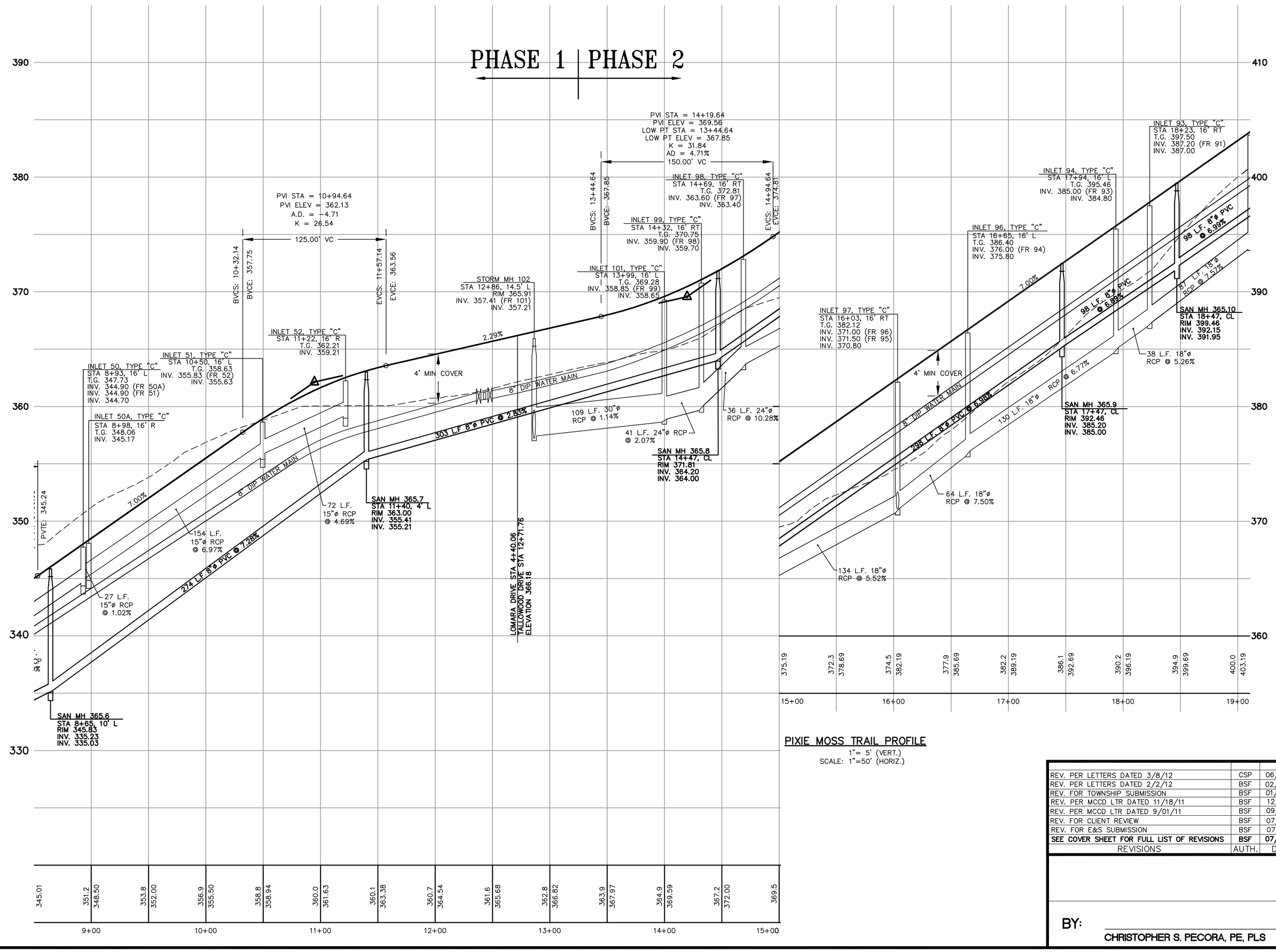
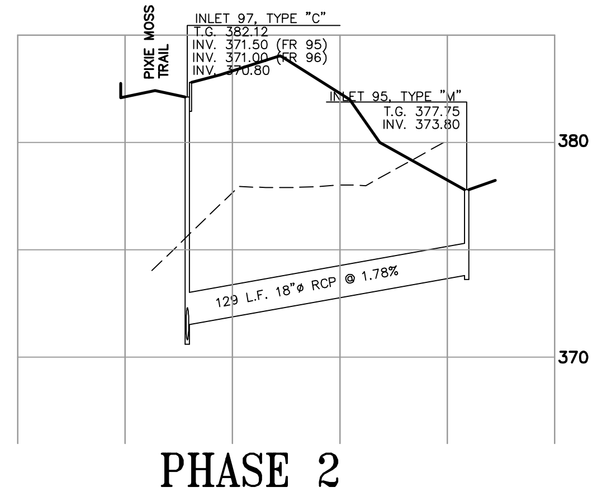




PIXIE MOSS TRAIL PROFILE
1"= 5' (VERT.)
SCALE: 1"=50' (HORIZ.)



PHASE 2
INLET 97 – INLET 95 PROFILE
1"= 5' (VERT.)
SCALE: 1"=50' (HORIZ.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
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PIXIE MOSS TRAIL PLAN AND PROFILE
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

39
60

SAM ERNEY 12/21/2010
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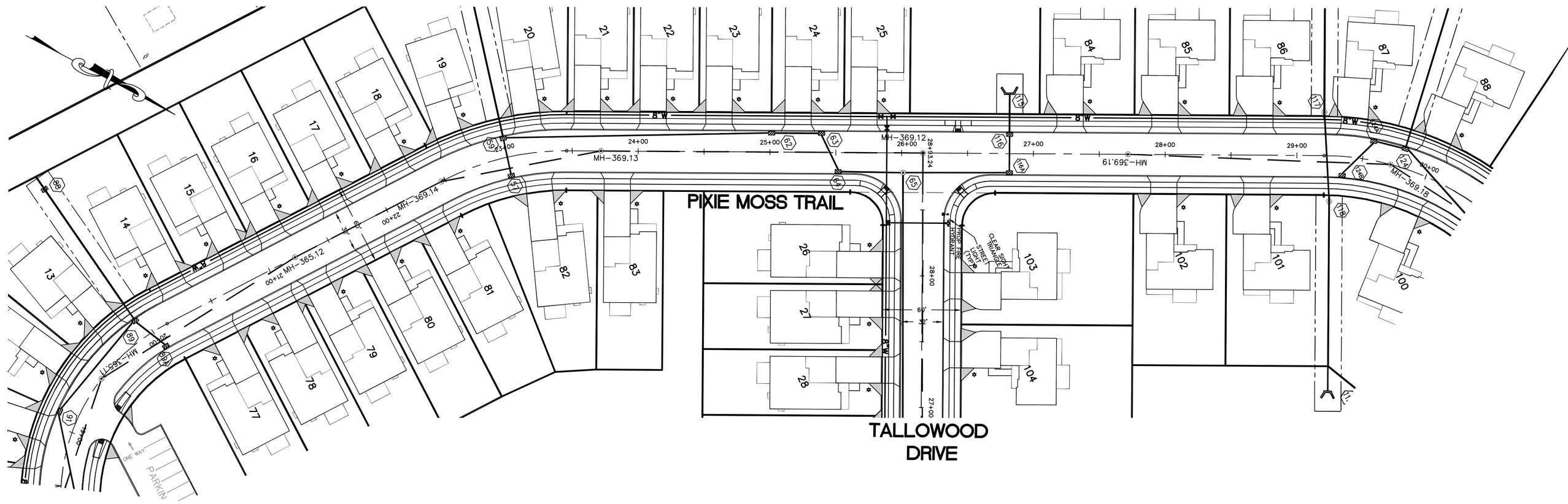

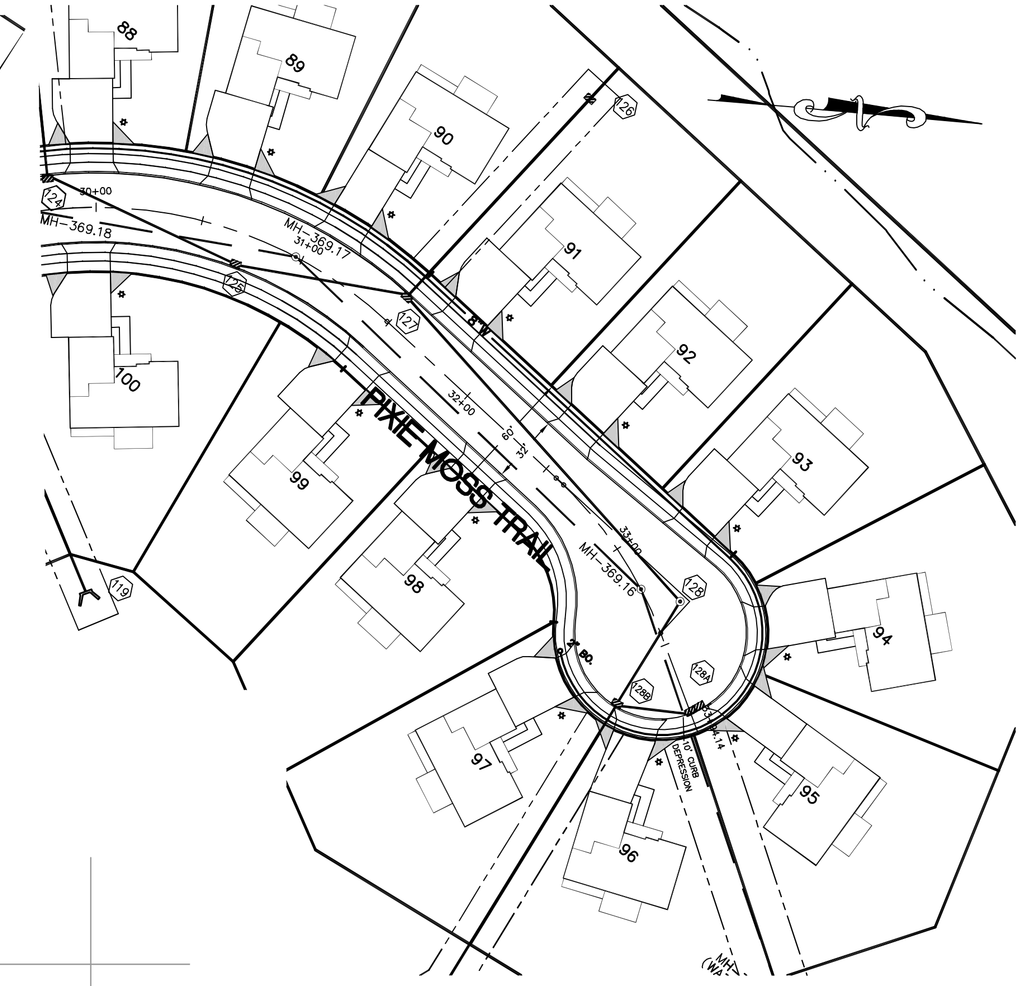

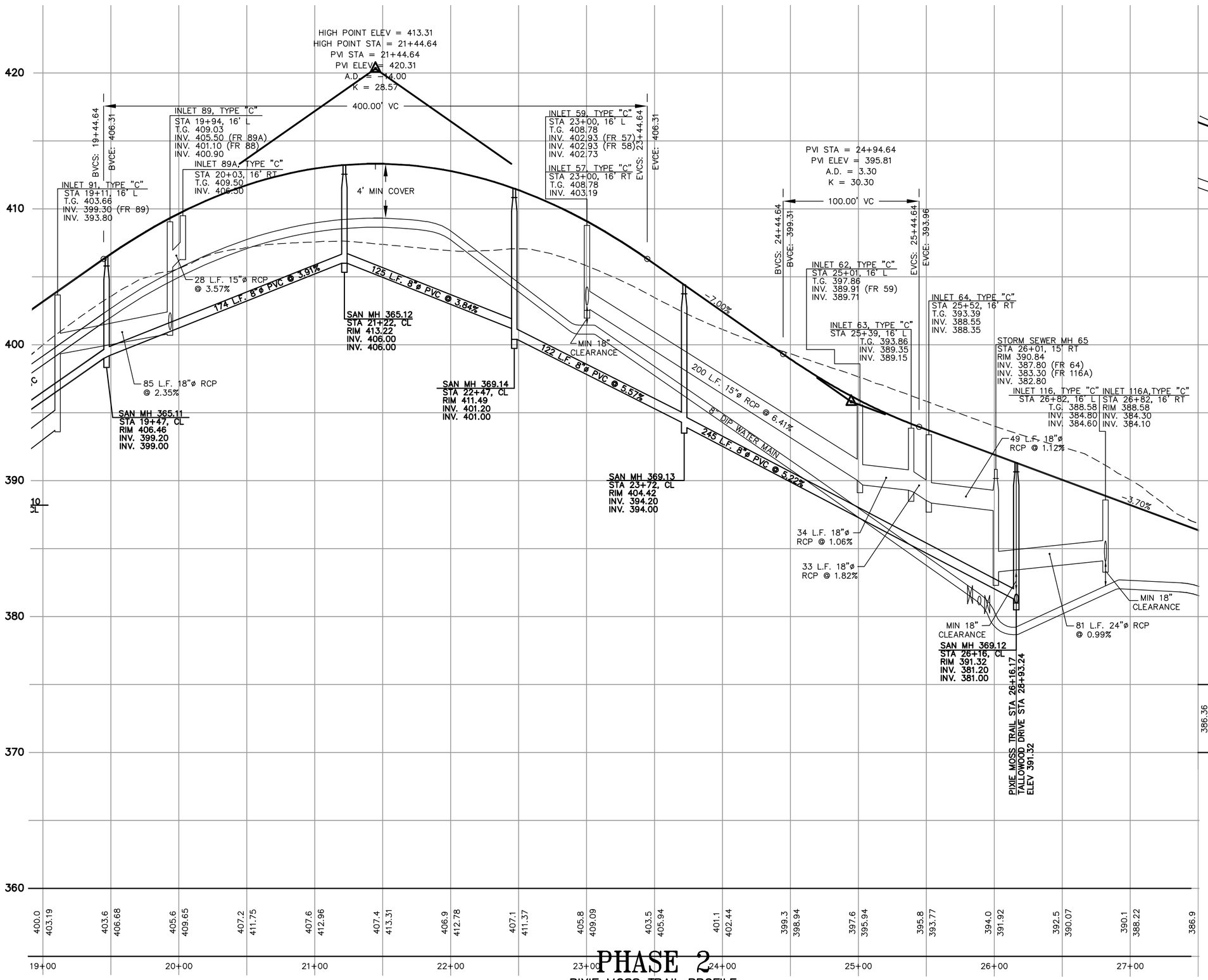

PHASE 2

PIXIE MOSS TRAIL PROFILE

SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
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REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
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JOB NO. 0405NHT.02

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PIXIE MOSS TRAIL PLAN AND PROFILE

FOR

ZAVITSANOS TRACT

SITUATED IN

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MONTGOMERY COUNTY, PENNSYLVANIA

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SAM ERNEY 12/21/2010
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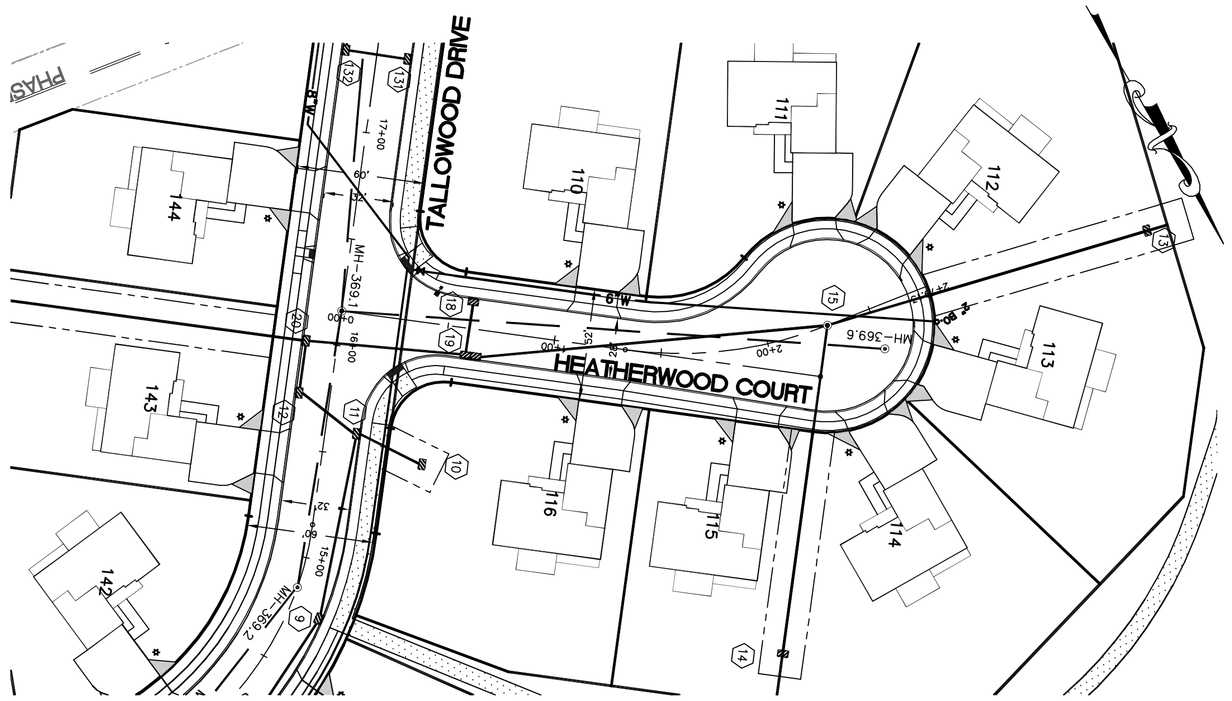
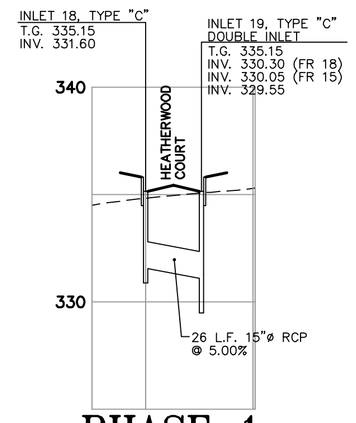
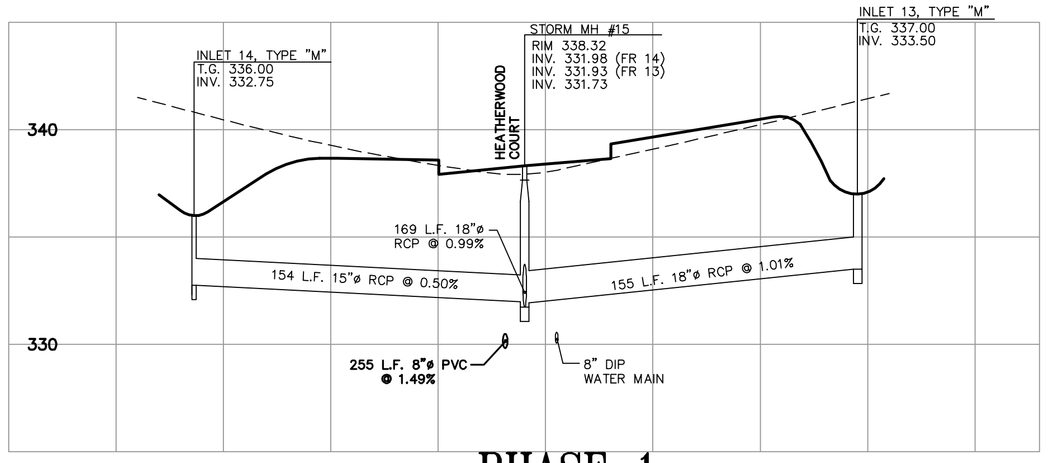
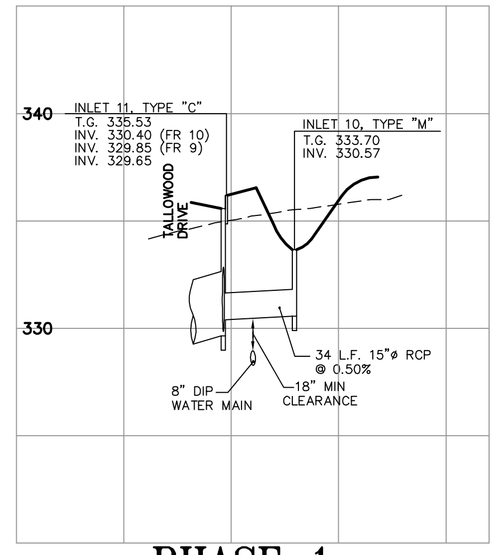




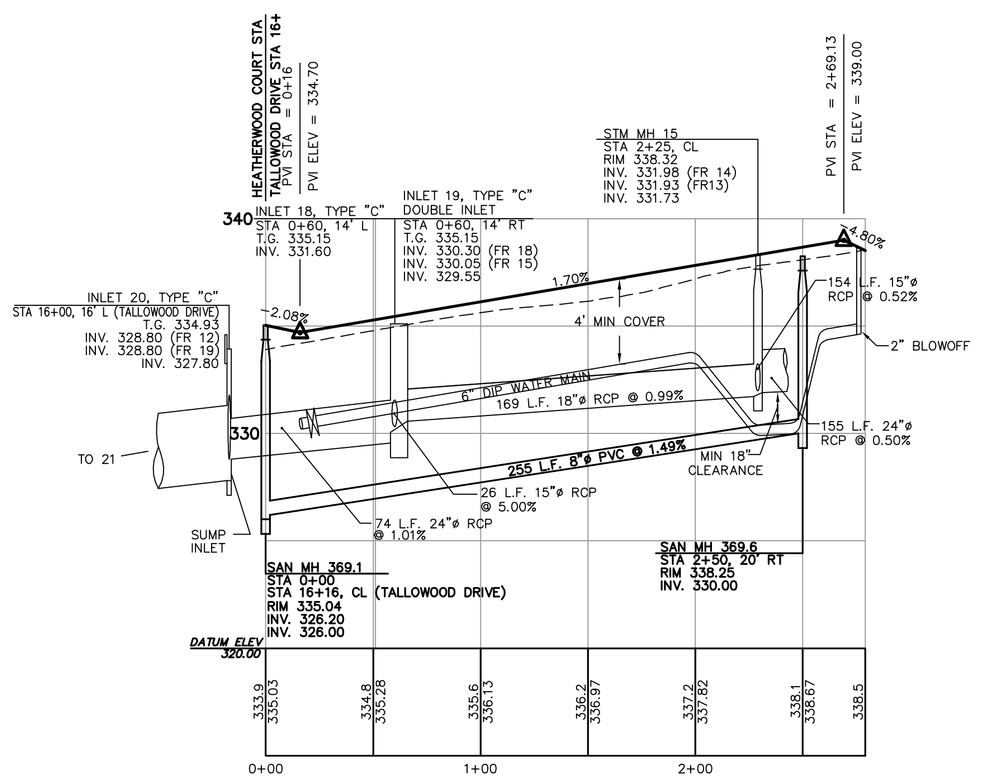
PHASE 1
INLET 18 – INLET 19 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



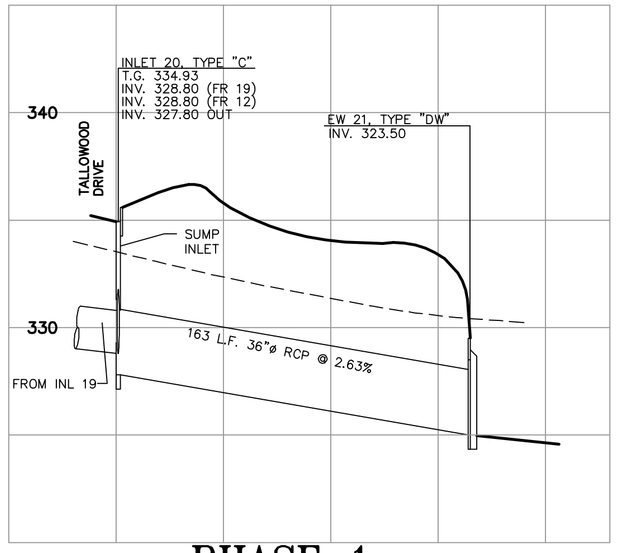
PHASE 1
INLET 14 – INLET 13 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



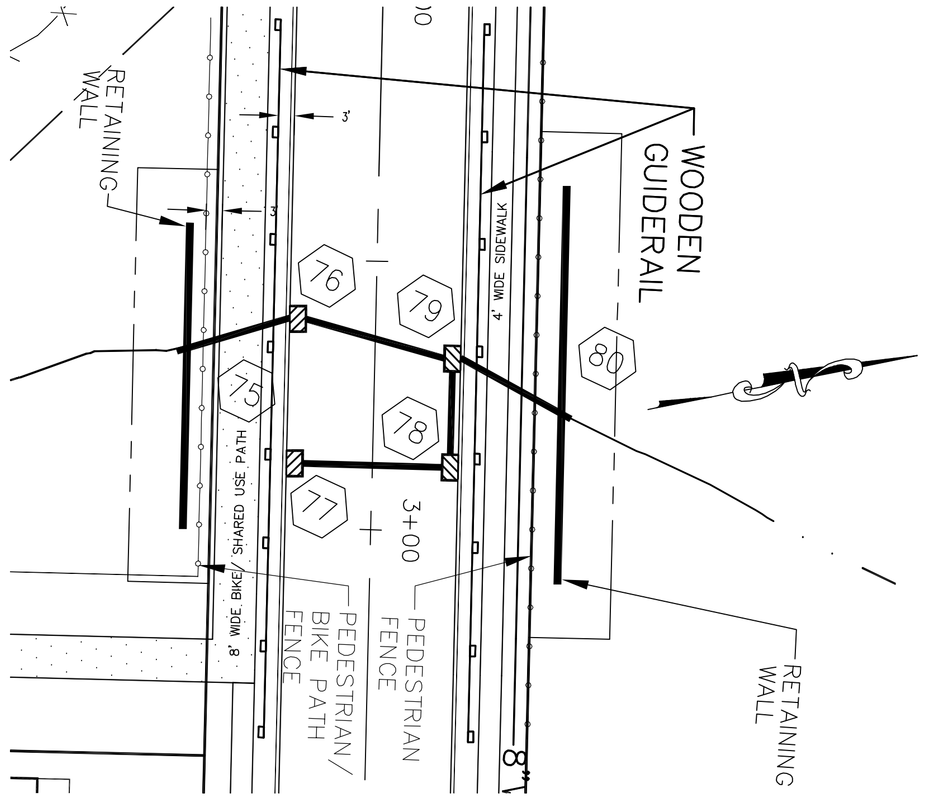
PHASE 1
INLET 11 – INLET 10 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



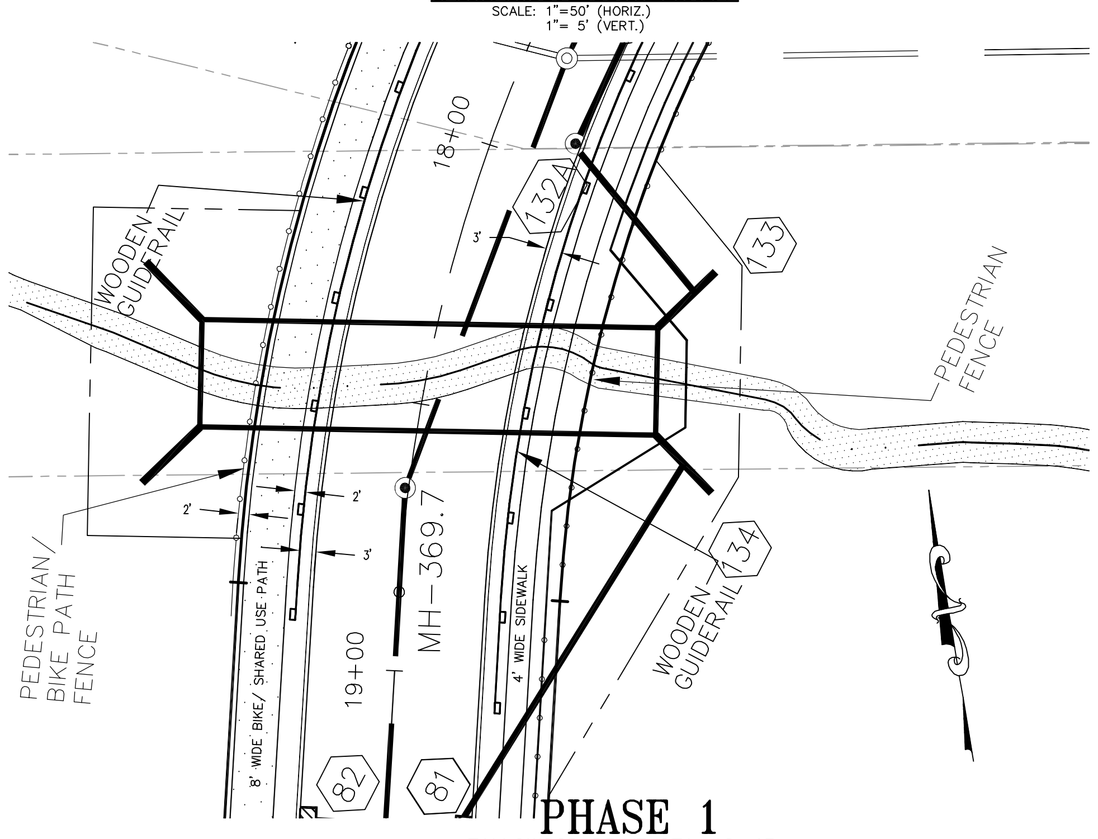
PHASE 1
HEATHERWOOD COURT PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
INLET 20 – ENDWALL 21 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
PIXIE MOSS TRAIL STA . 2+75
SCALE: 1"=20'



PHASE 1
TALLOWOOD DRIVE STA. 18+45
SCALE: 1"=20'

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
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HEATHERWOOD COURT PLAN AND PROFILE
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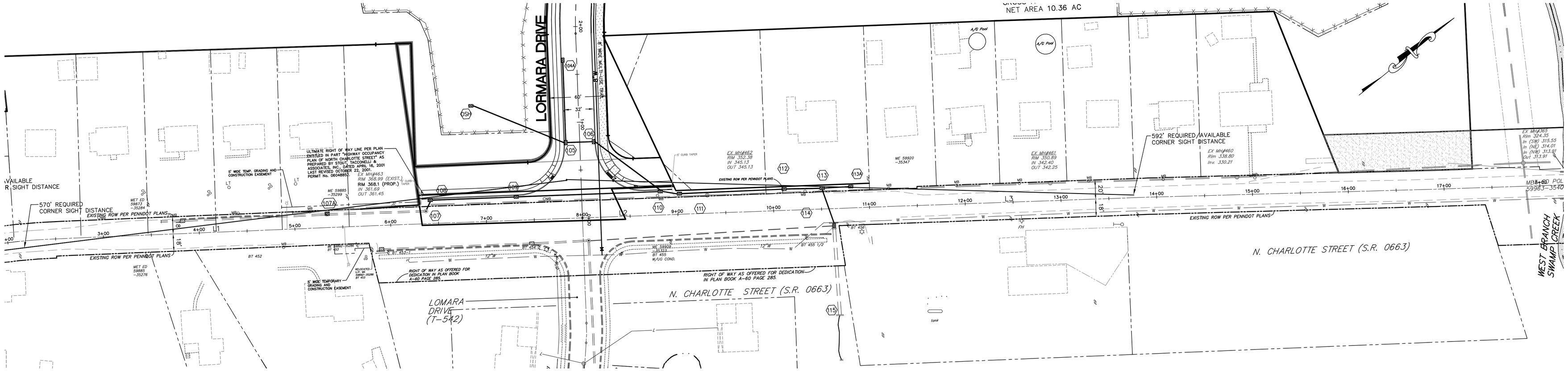
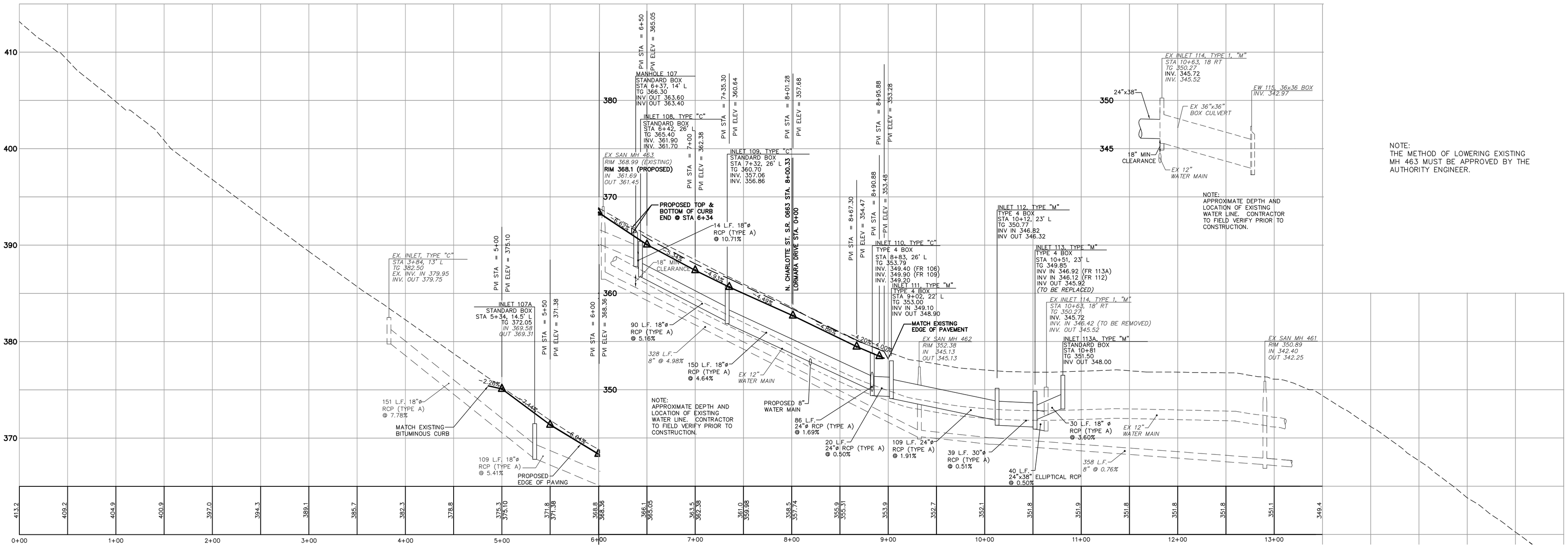
SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\34-45 PROFILES-0405NHT02.DWG





NOTE:
THE METHOD OF LOWERING EXISTING MH 463 MUST BE APPROVED BY THE AUTHORITY ENGINEER.

PHASE 1
NORTH CHARLOTTE STREET PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS			
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15	
REV. PER LETTERS DATED 5/2/12	BSF	02/24/12	
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12	
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11	
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11	
REV. FOR CLIENT REVIEW	BSF	07/27/11	
REV. FOR E&S SUBMISSION	BSF	07/21/11	
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**	

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

Van Cleef ENGINEERING ASSOCIATES
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Environmental Engineering
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NORTH CHARLOTTE STREET PLAN AND PROFILE
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

42/60

SAM ERNEY 12/21/2010
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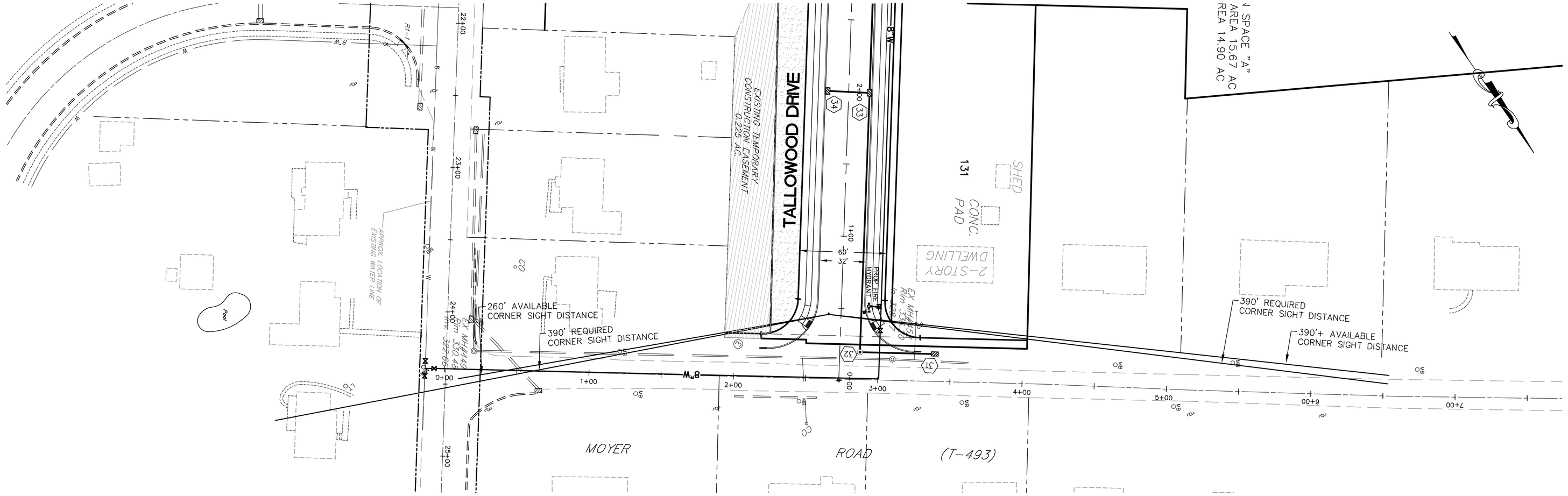

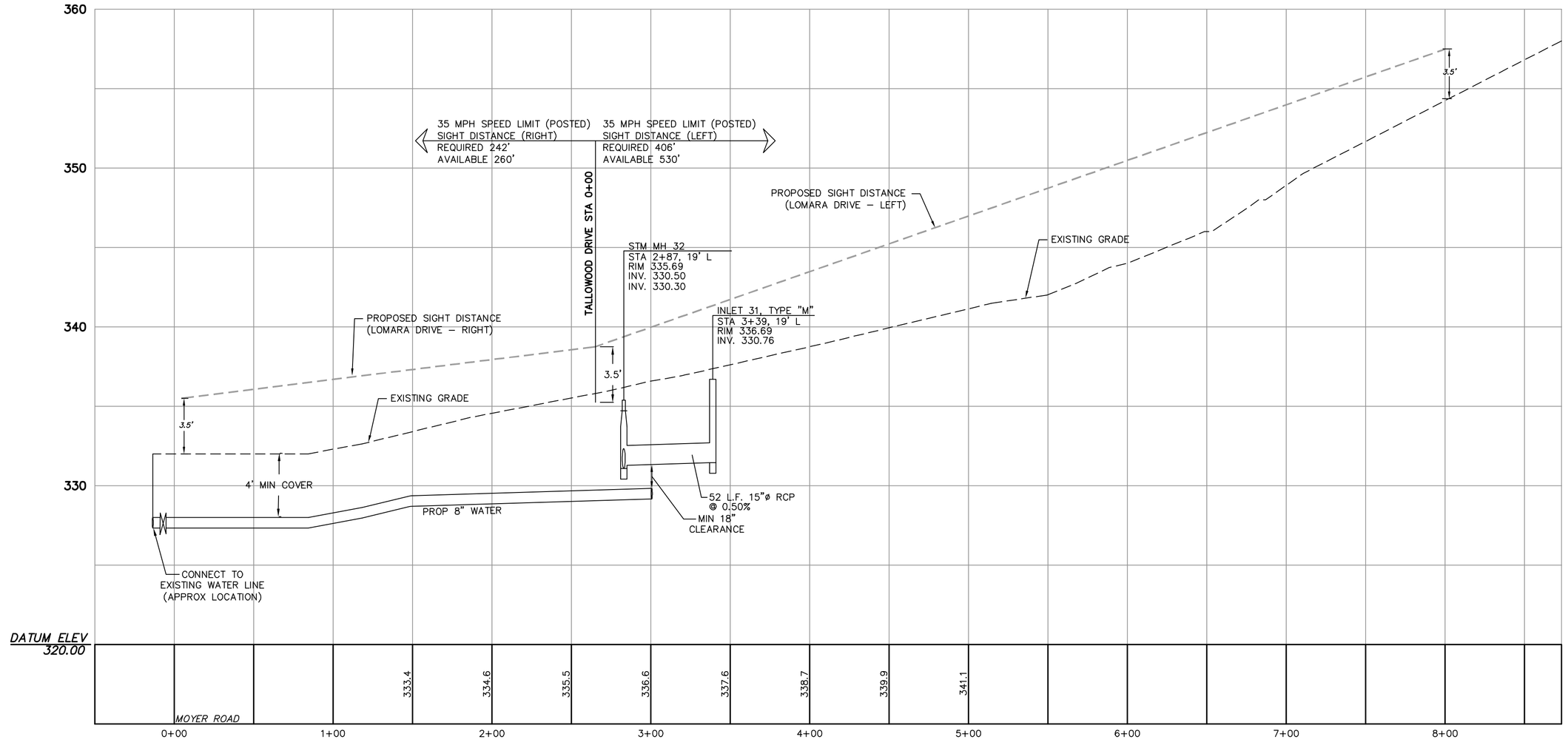

PHASE 1

MOYER ROAD PROFILE

SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
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REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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MOYER ROAD SIGHT DISTANCE PLAN AND PROFILE

FOR

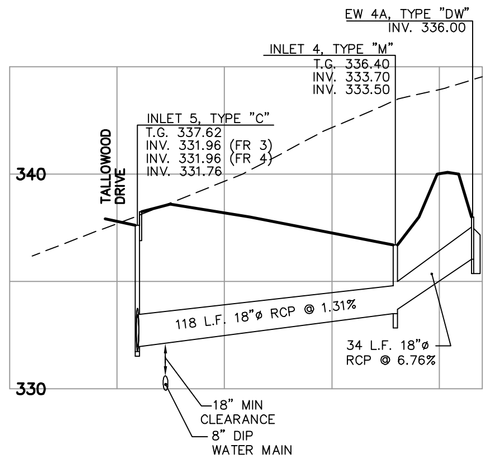
ZAVITSANOS TRACT

SITUATED IN

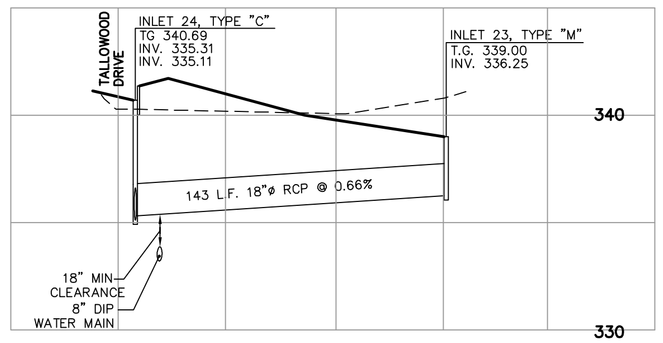
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

43/60

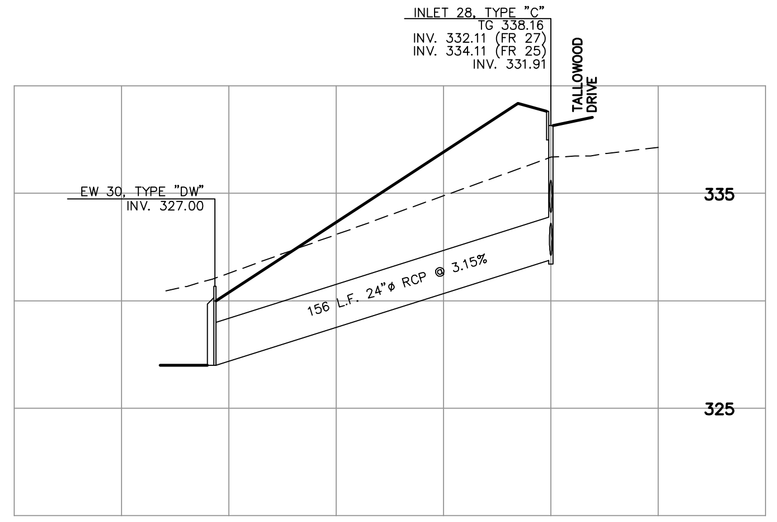
SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\34-45 PROFILES-0405NHT02.DWG



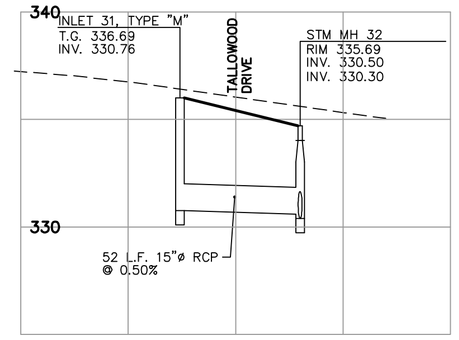
PHASE 1
INLET 5 – ENDWALL 4A PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



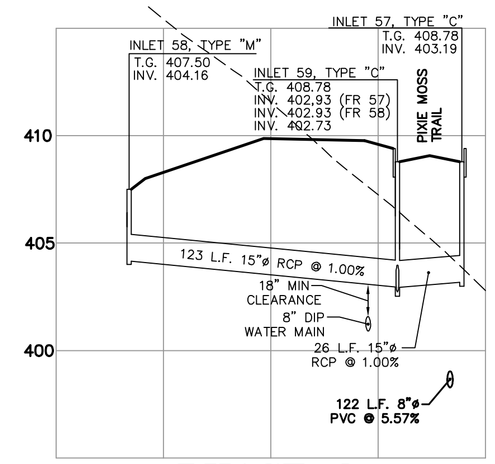
PHASE 1
INLET 24 – INLET 23 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



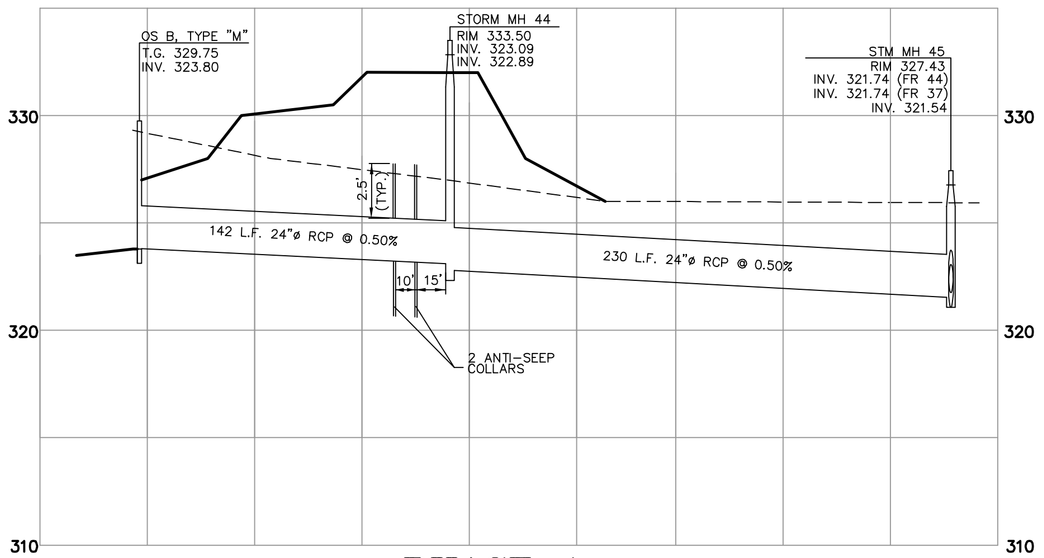
PHASE 1
ENDWALL 30 – INLET 28 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



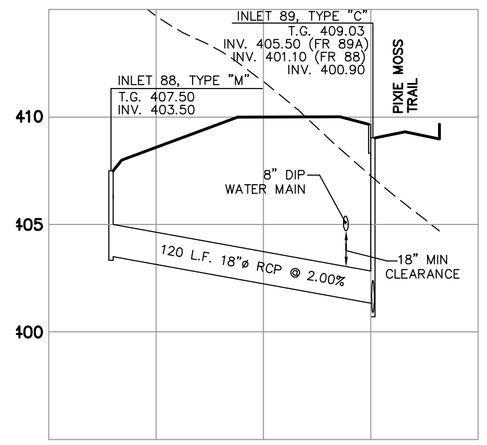
PHASE 1
INLET 31 – MANHOLE 32 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



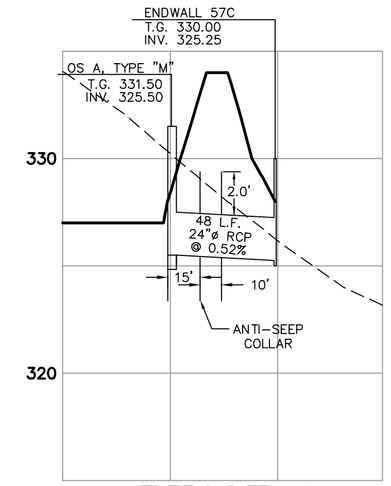
PHASE 2
INLET 58 – INLET 57 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



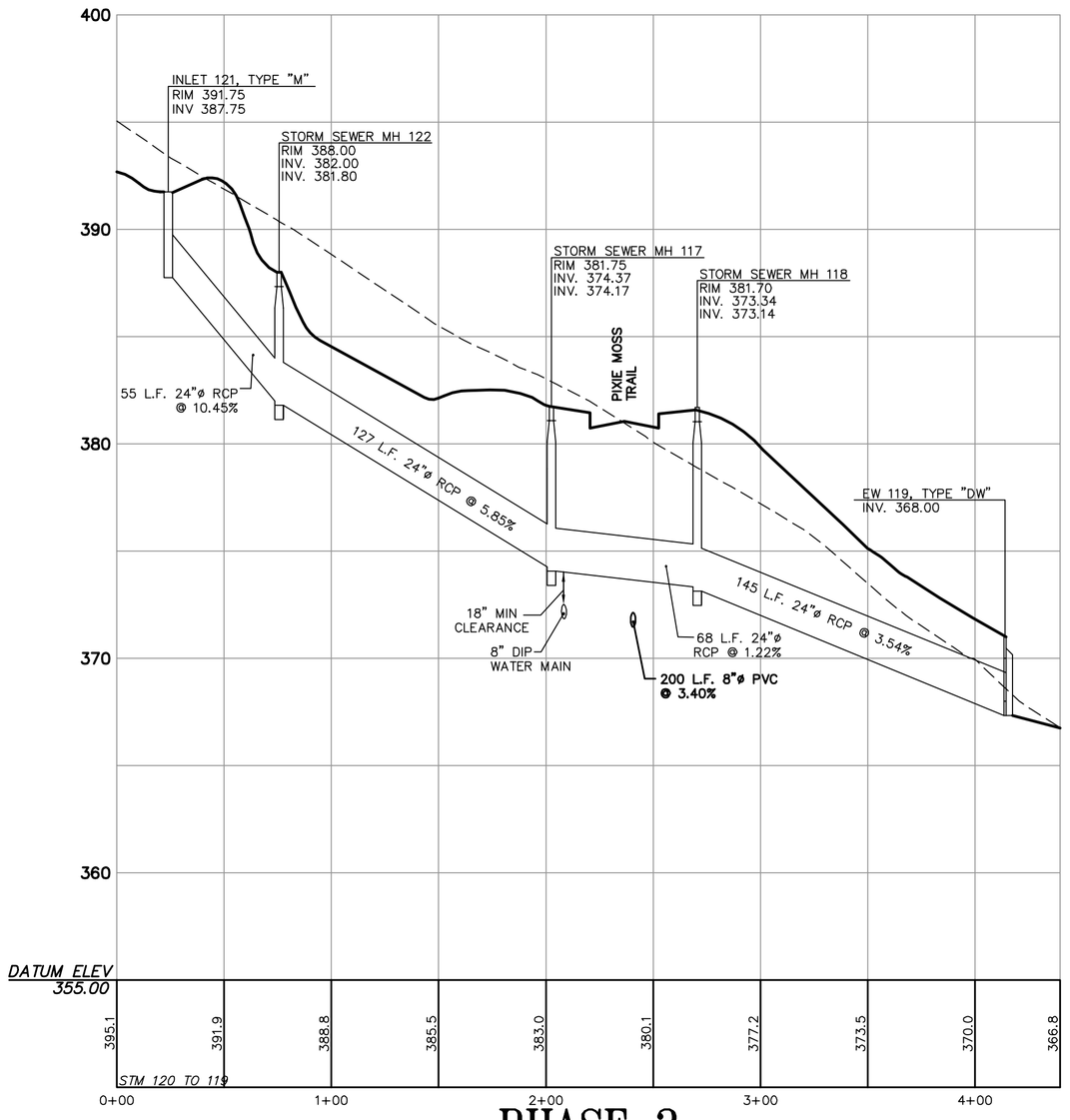
PHASE 1
OUTLET STRUCTURE B – MANHOLE 45 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



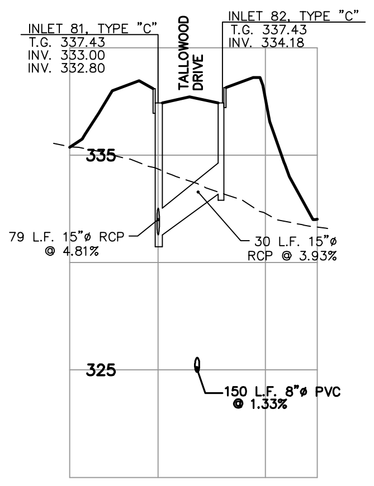
PHASE 2
INLET 88 – INLET 89 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



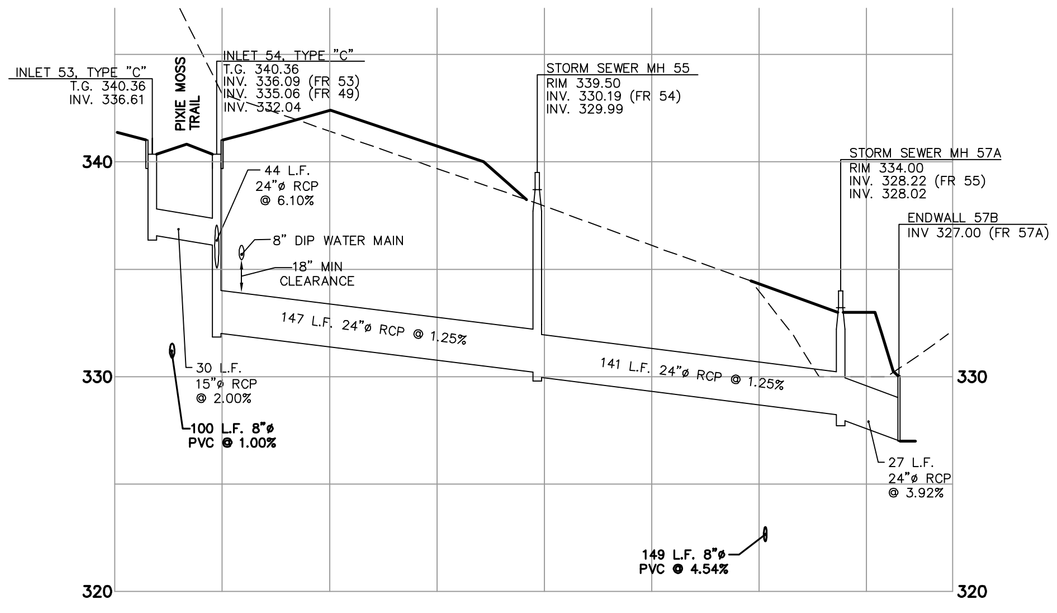
PHASE 1
OUTLET STRUCTURE A – ENDWALL 57C PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



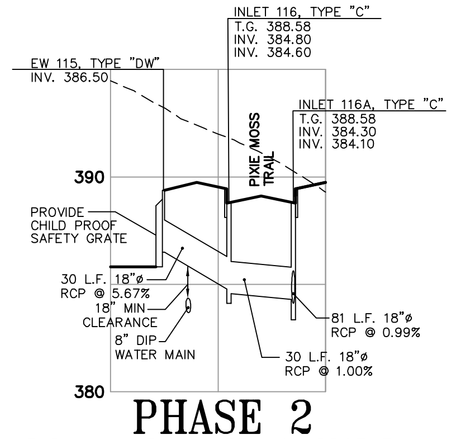
PHASE 2
INLET 121 – ENDWALL 119 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
INLET 81 – INLET 82 PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1
INLET 53 – ENDWALL 57B PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 2
ENDWALL 115 – INLET 116A PROFILE
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
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REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

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BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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MISCELLANEOUS PROFILES
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
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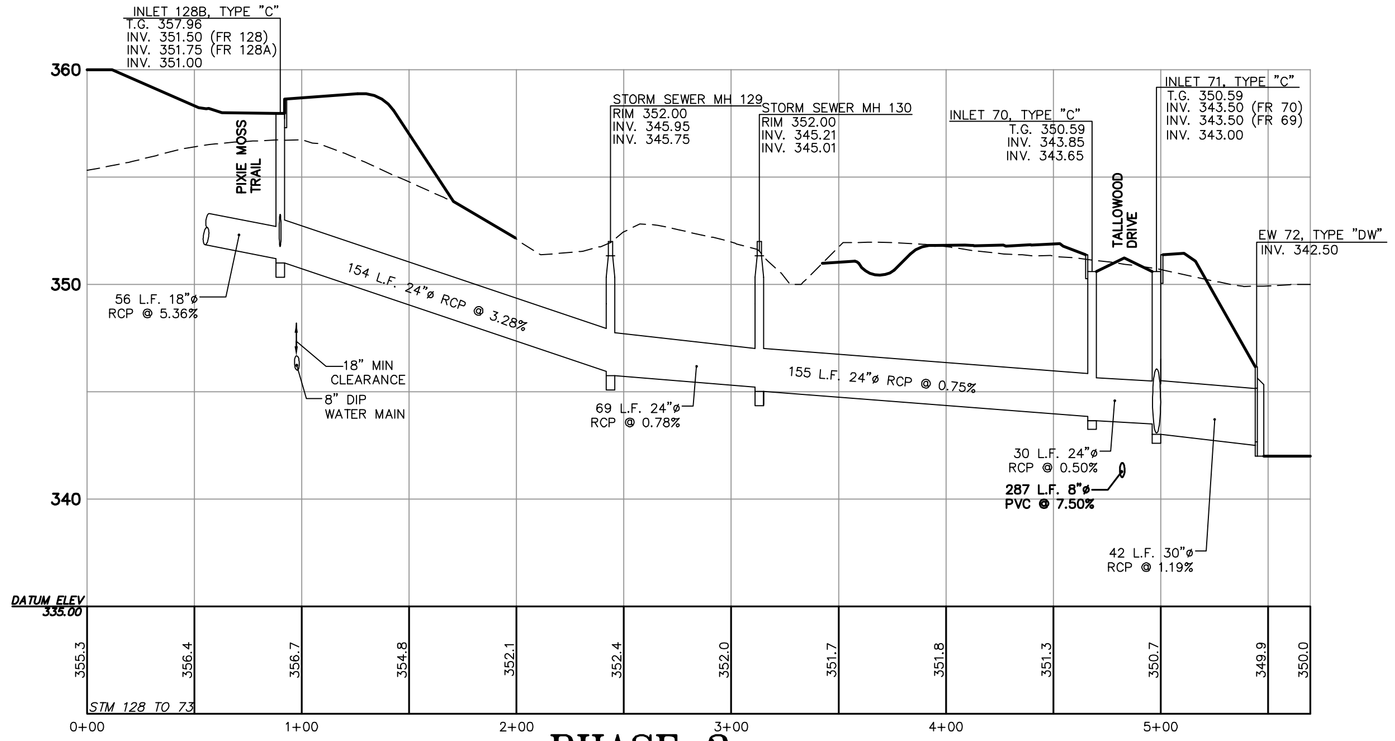
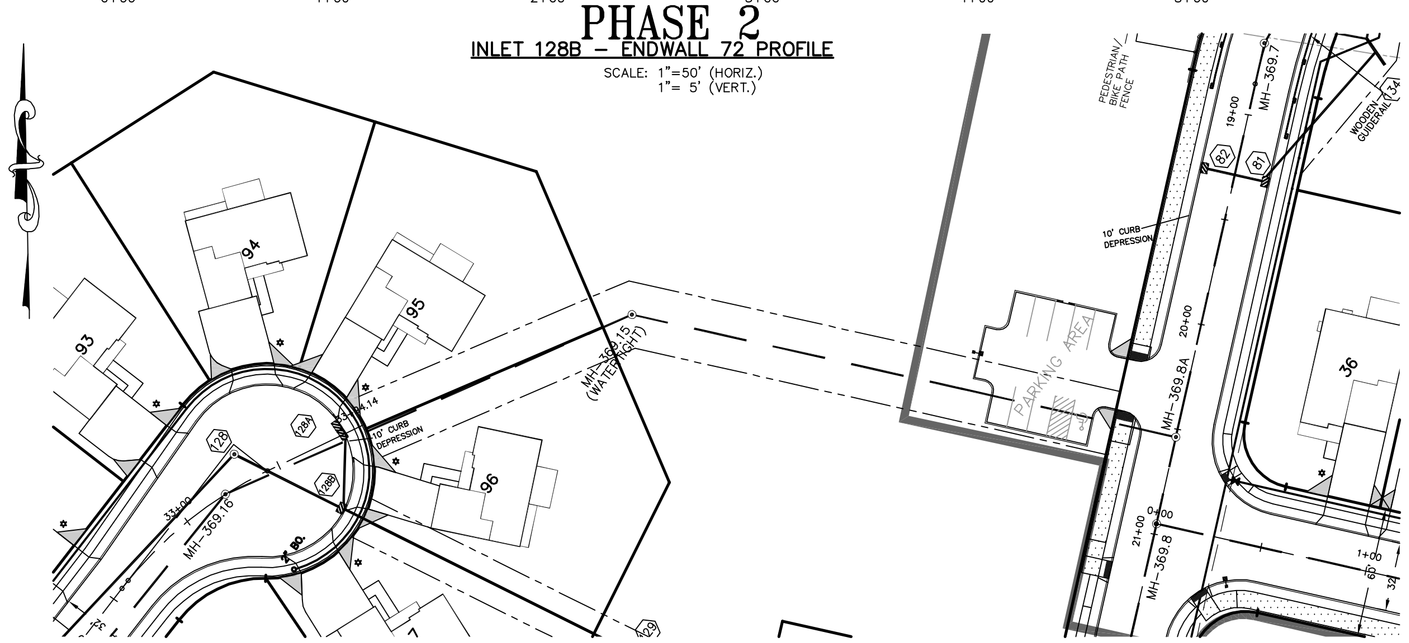


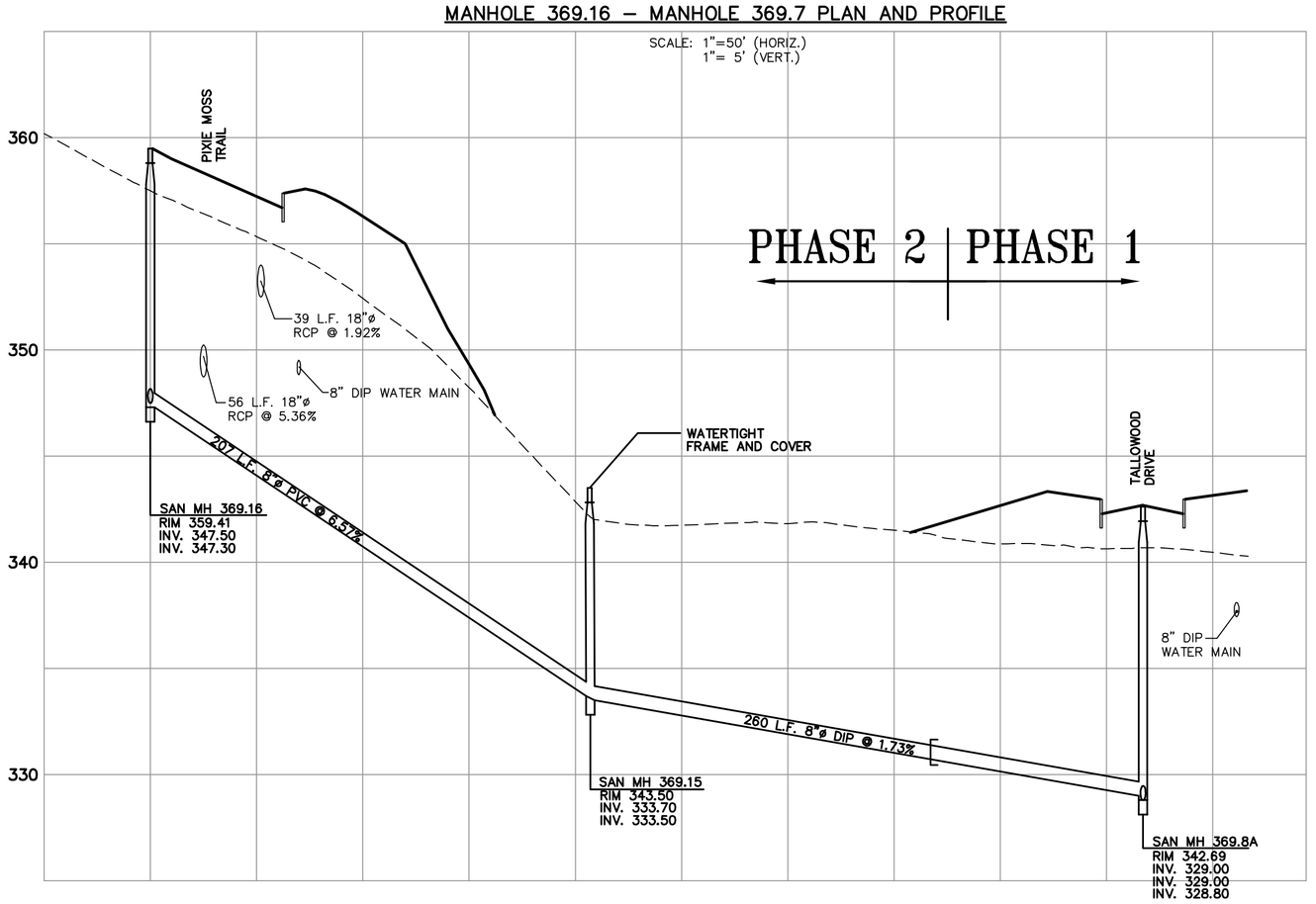
PHASE 2

INLET 128B – ENDWALL 72 PROFILE

SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



MANHOLE 369.16 – MANHOLE 369.7 PLAN AND PROFILE

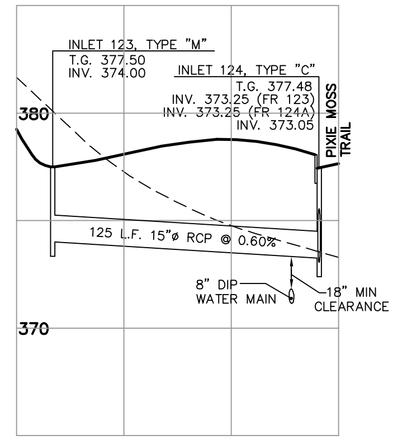


PHASE 2 | PHASE 1

PHASE 2

SAN. MH-369.16 – SAN. MH-369.8A PROFILE

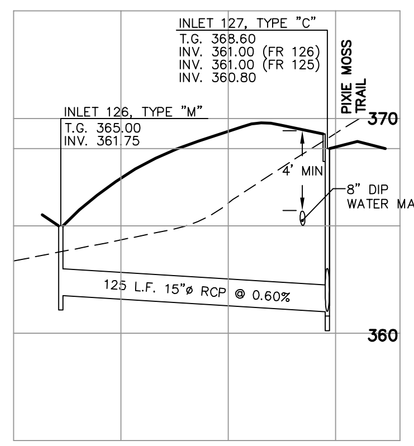
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 2

INLET 123 – INLET 124 PROFILE

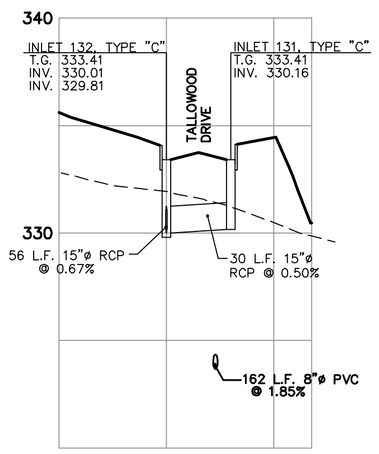
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 2

INLET 126 – INLET 127 PROFILE

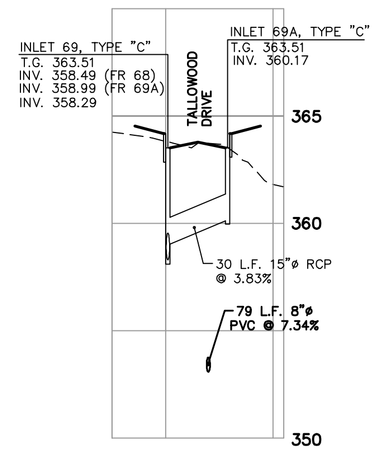
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1

INLET 132 – INLET 131 PROFILE

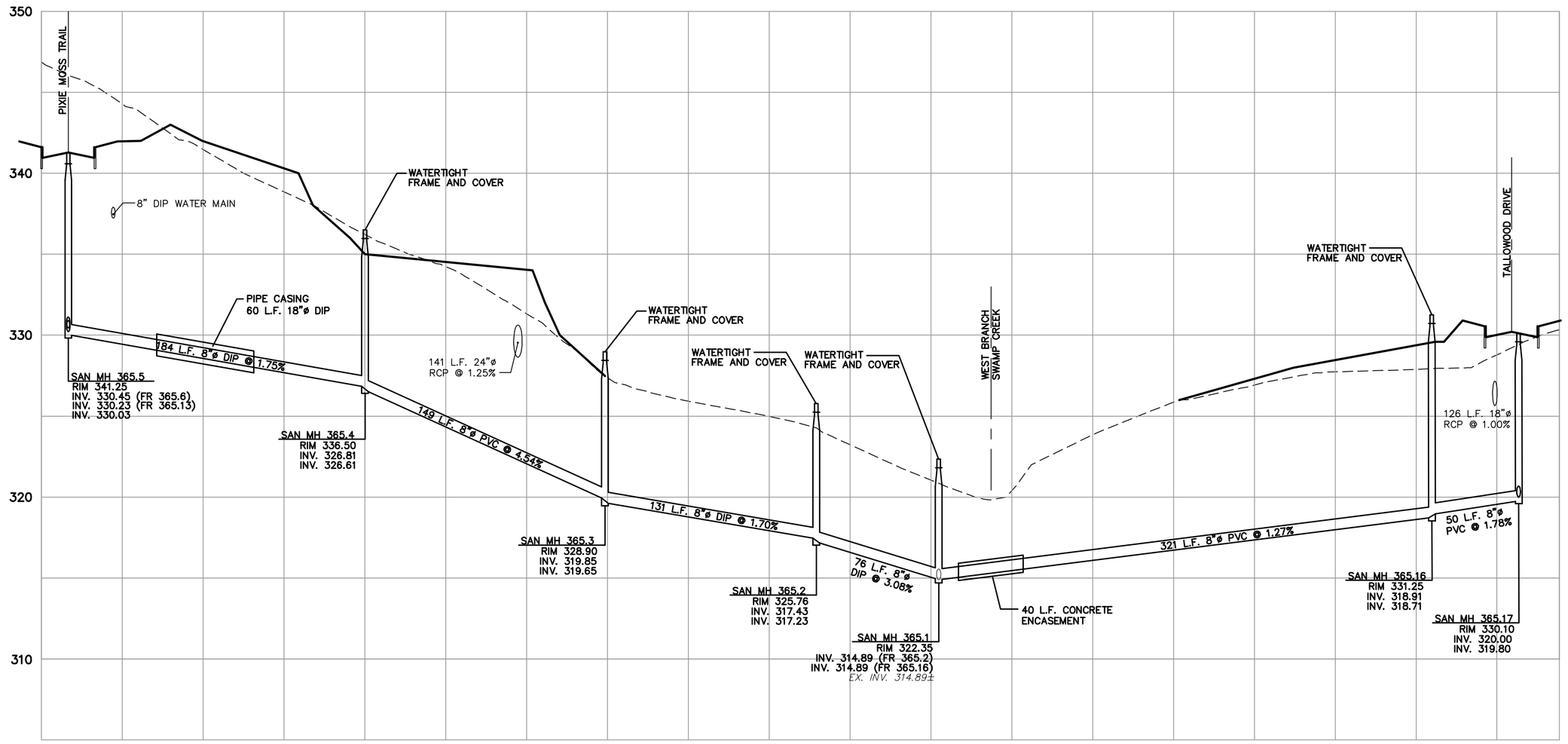
SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 2

INLET 69 – INLET 69A PROFILE

SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)



PHASE 1

SAN. MH-365.5 – SAN. MH-365.17 PROFILE

SCALE: 1"=50' (HORIZ.)
1"= 5' (VERT.)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=50' HORZ. 1"=5' VERT.
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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MISCELLANEOUS PROFILES

FOR

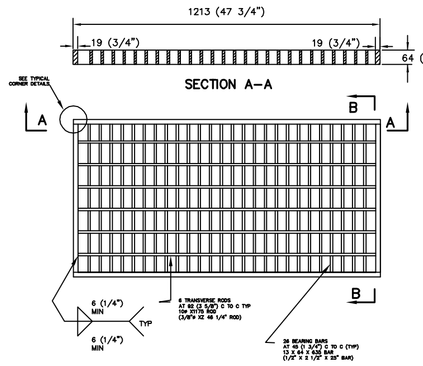
ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

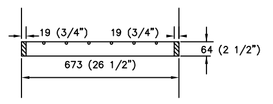
45/60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\34-45 PROFILES-0405NHT02.DWG



STRUCTURAL STEEL GRATE BICYCLE SAFE

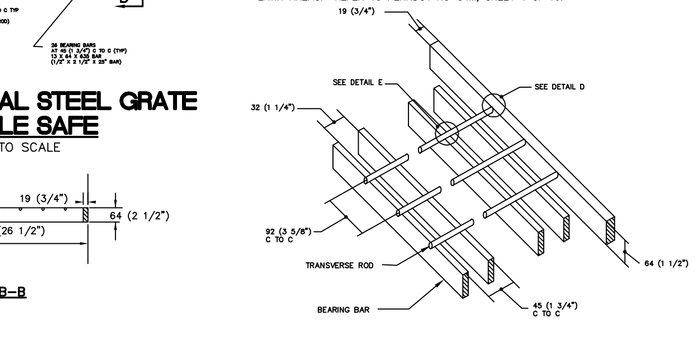
NOT TO SCALE



SECTION B-B

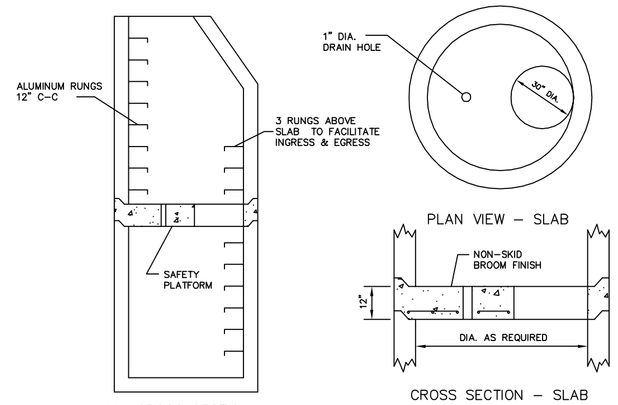
NOTES

1. THIS SHEET DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. PERMIT ONLY GRATES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15. FOR DEVIATIONS OR MODIFICATIONS TO OF THE STANDARDS SUBMIT SHOP DRAWING FOR APPROVAL.
2. WELD STRUCTURAL STEEL GRATES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408 , SECTION 1150.03(c).
3. PROVIDE TRANSVERSE BARS MEETING THE REQUIREMENTS OF PUBLICATION 408.
4. PROVIDE BICYCLE-SAFE , STRUCTURAL STEEL OR CAST IRON VANE GRATES FOR INSTALLATION WHERE BICYCLE TRAFFIC IS ANTICIPATED , SUCH AS CURBED ROADWAYS IN URBAN AREAS OR ROADWAYS SPECIFICALLY ESTABLISHED AND SIGNED AS BIKEWAYS OR HAVING BIKE LANES. ALTERNATE BICYCLE-SAFE GRATE DESIGNS SHALL REQUIRE A SHOP DRAWING SUBMISSION, AS SPECIFIED IN NOTE 1, AND SHALL CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PROPER INSTALLATION WITH THE CURRENT CONCRETE TOP UNITS
5. FABRICATE SLOTS BY BURNING, DRILLING, SHEARING OR PUNCHING. HAVE THE BOTTOM OF ALL BURNED OR DRILLED SLOTS CONFORM TO THE SHAPE OF THE ROD.
6. PROVIDE STRUCTURAL STEEL GRATES WITH THE GRATE SPACERS LOCATED FLUSH ALONG THE TOP SURFACE OF THE GRATE.
7. USE TWO-PIECE BICYCLE SAFE GRATE WITH A MINIMUM BAR THICKNESS OF 1" IN LAWN AREAS. REFER TO PENNDOT RC-34M, SHEET 4 OF 10.



BAR and ROD SPACING DETAIL

NOT TO SCALE



MH CROSS SECTION

CROSS SECTION - SLAB

MANHOLE SPECIFICATIONS

1. CONCRETE IS DESIGNED TO OBTAIN A STRENGTH OF 4,000 PSI IN 28 DAYS.
2. REINFORCING STEEL HAS A MINIMUM YIELD STRENGTH OF 60,000 PSI.
3. SLAB IS DESIGNED FOR A CONCENTRATED LOAD (P) AS FOLLOWS:

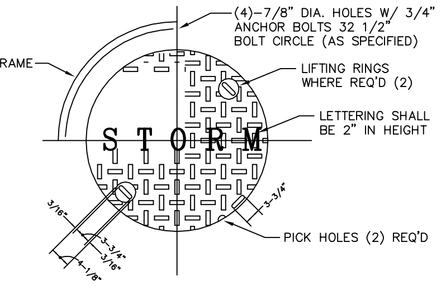
MH DIA. (FT)	P (LB)
4	12,000
5	10,000
6	8,000

SAFETY PLATFORM FOR DEEP MANHOLE

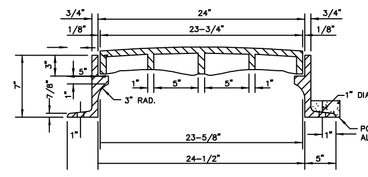
NOT TO SCALE

NOTES:

1. MANHOLE FRAME AND COVER PATTERN No. 1270 MOD. TO BE MFG. BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL.
2. FRAME TO BE SET IN FULL MORTAR BED.

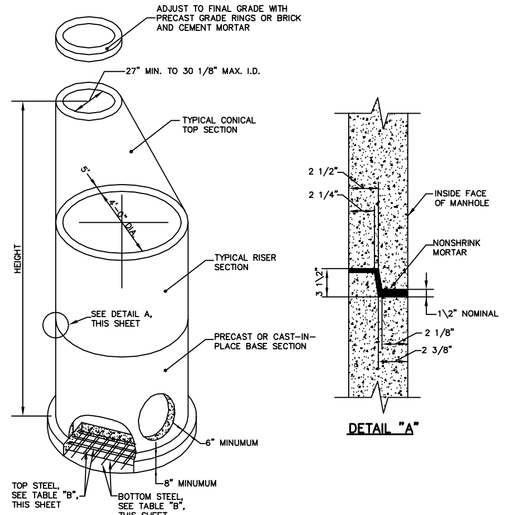


PLAN



STORM MANHOLE FRAME AND COVER DETAIL

NOT TO SCALE



DETAIL "A"

TABLE "B"

PRECAST MANHOLE HEIGHT	TOP STEEL REQUIREMENTS	BOTTOM STEEL REQUIREMENTS
≤ 30'-0"	#5 BARS AT 12" C. TO C. OR 0.18 IN²/FT WWF *	#4 BARS AT 12" C. TO C. OR 0.20 IN²/FT WWF *
< 30'-0" TO 50'-0"	#6 BARS AT 12" C. TO C. OR 0.15 IN²/FT WWF *	#4 BARS AT 6" C. TO C. OR 0.24 IN²/FT WWF *

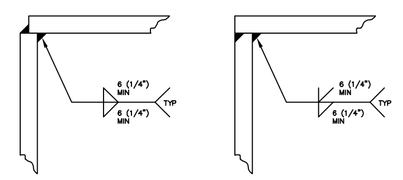
* PROVIDE WELDED WIRE FABRICK MEETING THE REQUIREMENTS OF PA. D.O.T. PUBLICATION 408 SPECIFICATIONS, SECTION 709.3

NOTES

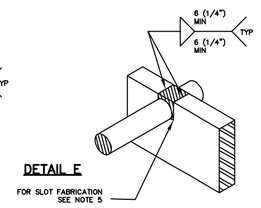
1. PRECAST MANHOLES, MEETING THE REQUIREMENTS OF PA. D.O.T. PUBLICATION 408 SPECIFICATIONS, SECTION 713.2(C), MAY BE SUBSTITUTED FOR TYPES A AND B MANHOLES.
2. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PA. D.O.T. PUBLICATION 408 SPECIFICATIONS, SECTION 605.2(C). ALTERNATE CONFIGURATIONS AND DIMENTIONS, AND APPROVED BY THE ENGINEER, MAY BE USED.

PRECAST CONCRETE STORM MANHOLE DETAIL

NOT TO SCALE

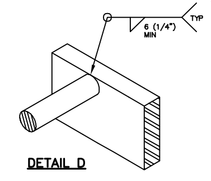


TYPICAL CORNER DETAILS

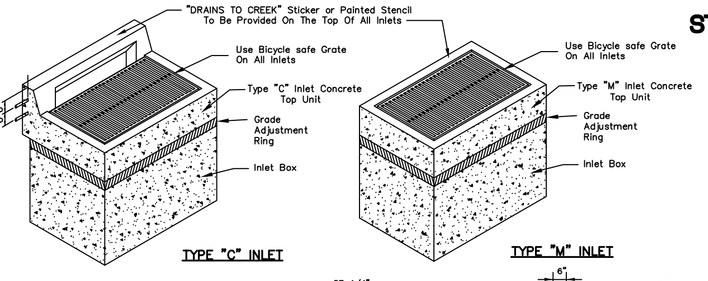


DETAIL E

FOR SLOT FABRICATION SEE NOTE 5

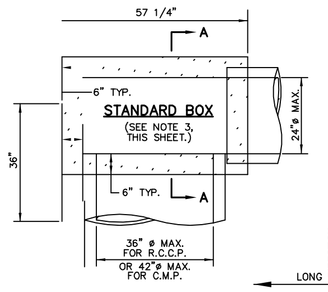


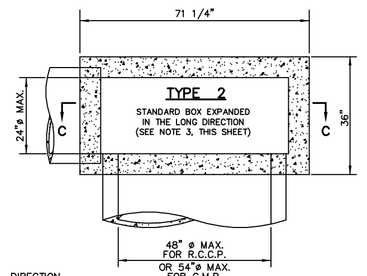
DETAIL D

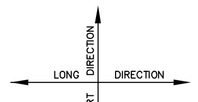


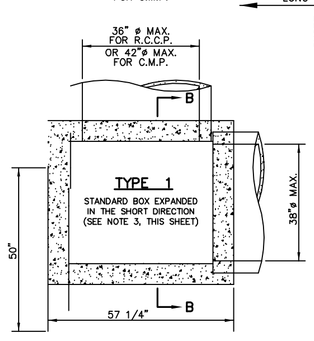
TYPE "C" INLET

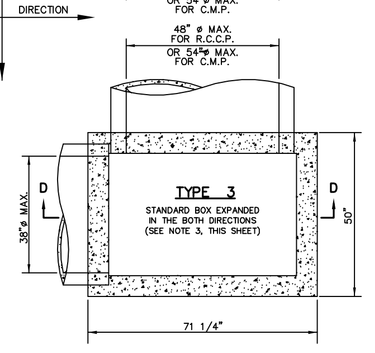
TYPE "M" INLET





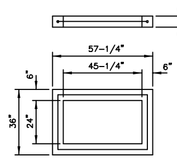




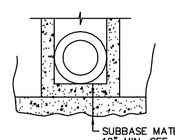


PRECAST CONCRETE INLET BOXES

NOT TO SCALE

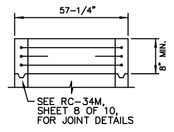


PRECAST CONCRETE GRADE ADJUSTMENT RING

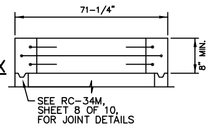


DETAIL A

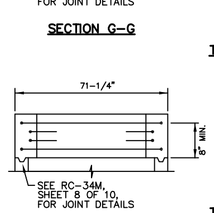
PRECAST CONCRETE INLET BOX BASE PREPARATION



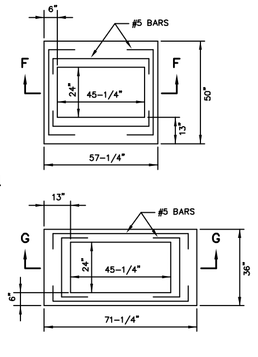
SECTION F-F



SECTION G-G

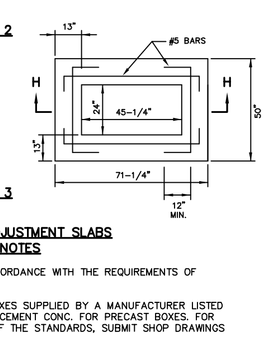


SECTION H-H



TYPE 1

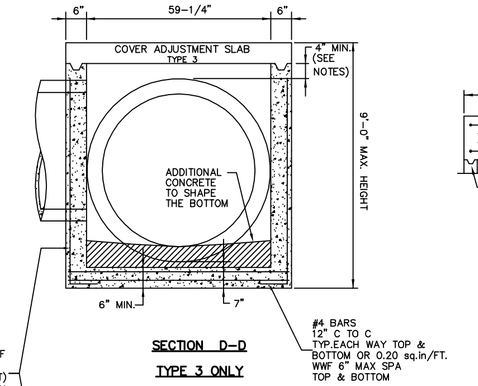
TYPE 2



TYPE 3

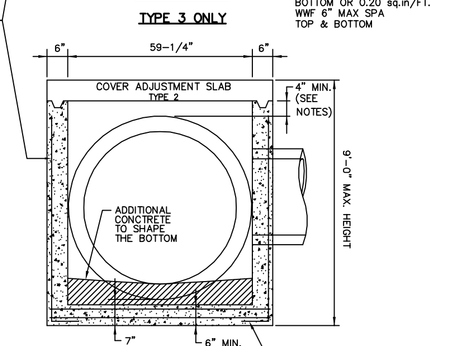
COVER ADJUSTMENT SLABS NOTES

1. CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 714.
2. PERMIT ONLY PRECAST INLET BOXES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15. USE CLASS AA CEMENT CONC. FOR PRECAST BOXES. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE STANDARD INLET BOXES AND COVER ADJUSTMENT SLABS WITH A 24" X 46" OPENING TO ACCOMMODATE STANDARD TOP COMPONENTS.
4. FOR INLETS THAT DEVIATE FROM THE STANDARD SUBMIT SPECIAL DETAILS AND DESIGN FOR THE INLETS WALL AND BASE TO THE BUREAU OF CONSTRUCTION FOR REVIEW AND APPROVAL. CONSTRUCT INLETS THAT EXCEED 5' IN HEIGHT WITH STEPS SIMILAR TO MANHOLES (SEE RC- 39M). FOR INLETS OTHER THAN AS SHOWN ON THE STANDARDS, PROVIDE REINFORCEMENT BASED ON PHL 93 (HS 25) LOADING AND IN ACCORDANCE WITH PUBLICATION 408M.
5. LOCATE PIPE OR PIPES, AS INDICATED, WITH THE INLET BOTTOM SHAPED TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE. WHEN PROJECT CONDITIONS REQUIRED PIPE BLOCKOUTS TO BE FORMED WITHIN 4" FROM THE TOP OF THE INLET BOX, PROVIDE AN ADDITIONAL #10 (#3) REINFORCEMET BAR LOCATED 1 5/8" FROM THE TOP OF THE INLET BASE, FULL WIDTH ALONG THE INLET FACE. REMOVE ANY VISIBLE PORTION OF THE BAR, IF REQUIRED DURING INSTALLATION AND PRIOR TO JOINING THE PIPE TO THE INLET. IF REINFORCED CONCRETE PIPE IS USED. THE PIPE BLOCKOUT MAY BE FORMED "FLUSH" WITH THE INLET BASE. LIMIT PIPE BLOCKOUT OF WALL TO 1".
6. PLACE SUBBASE MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 350.2, IN LAYERS 4" THICK, COMPACTED TO A DENSITY SATISFACTORY TO THE ENGINEER AND INCIDENTAL TO THE INLET PAY ITEM.
7. FOR PIPE DIAMETERS LARGER THAN 48" RCP OR 54" CMP, USE A MODIFIED INLET BOX, SHEET 9.
8. PROVIDE CONSTRUCTION JOINTS AS REQUIRED FOR INLET BOXES THAT ARE NOT MONOLITHIC. SEE DETAILS A & B.
9. TAPERS MAY BE PROVIDED IN VERTICAL FACES OF PRECAST INLET BOX BASE UNITS TO FACILITATE FROM STRIPPING. TAPERS WILL RESULT IN INTERNAL BOTTOM DIMENSIONS THAT VARY TO A MAXIMUM OF 1".
10. PROVIDE SUITABLE LIFTING DEVICES FOR HANDLING AND INSTALATION. GALVANIZED METAL DEVICES AS SPECIFIED IN PUB. 408 SECTION 1105. TAPERS MAY BE PROVIDED ON INSIDE VERTICAL FACES OF PRECAST INLET TOPS TO FACILITATE FROM STRIPPING. TAPERS WILL RESULT IN INTERNAL BOTTOM DIMENSIONS THAT VARY TO A MAXIMUM OF 1".

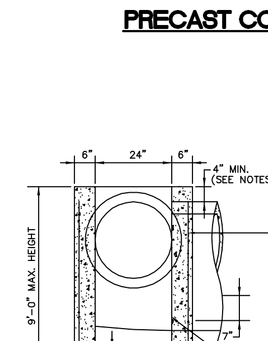


SECTION D-D

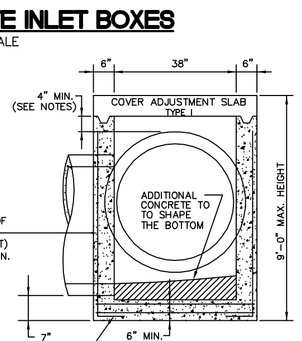
TYPE 3 ONLY



SECTION C-C



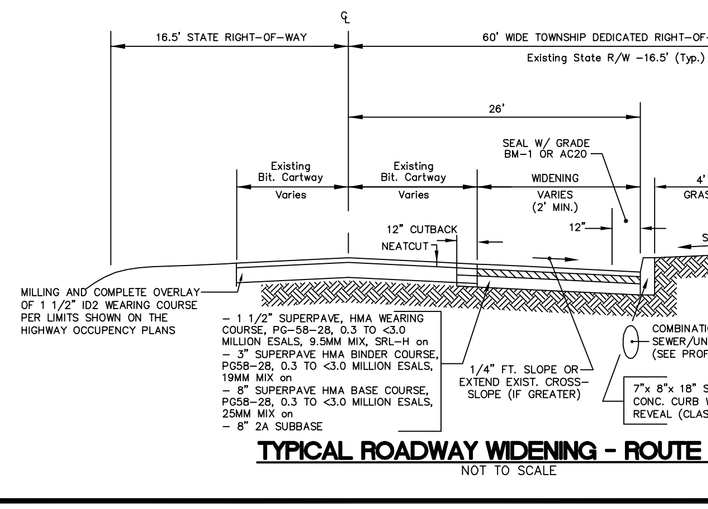
SECTION A-A



SECTION B-B

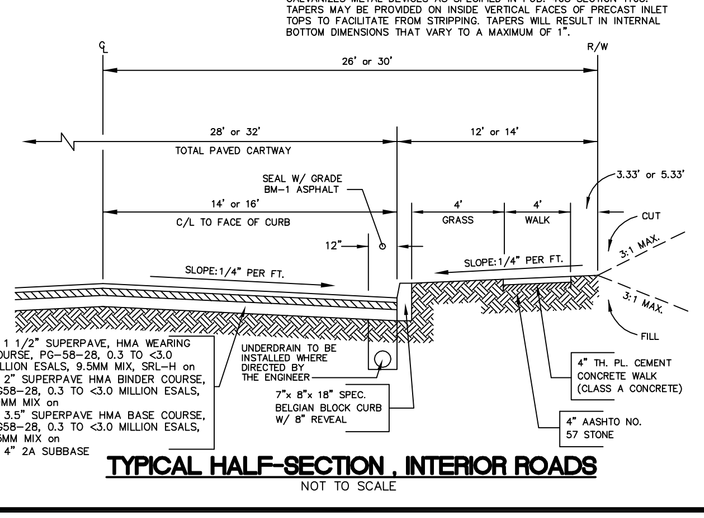
STANDARD INLET BOXES (PRECAST)

NOT TO SCALE



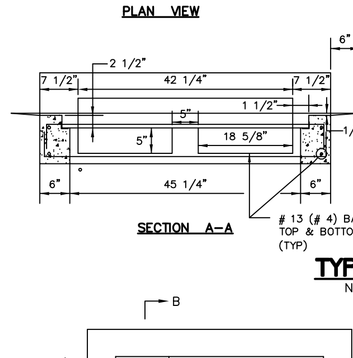
TYPICAL ROADWAY WIDENING - ROUTE 663

NOT TO SCALE

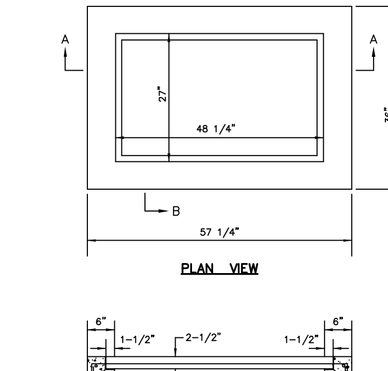


TYPICAL HALF-SECTION , INTERIOR ROADS

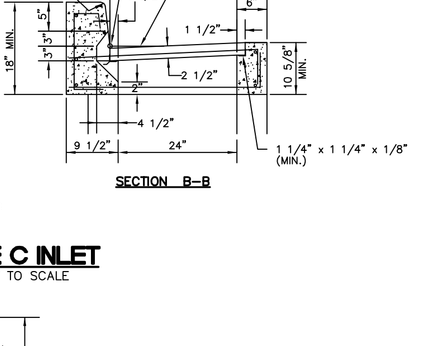
NOT TO SCALE



PLAN VIEW



SECTION A-A



DOWEL HOLE LOCATIONS

SECTION B-B

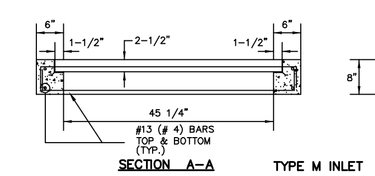
TYPE C INLET

NOT TO SCALE

PLAN VIEW

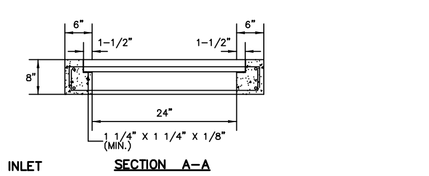
NOTES

1. PROVIDE STANDARD INLET BOXES AND COVER ADJUSTMENT SLABS WITH A 24" X 45 1/4" OPENING TO ACCOMMODATE STANDARD TOP COMPONENTS.
2. DOWEL TYPE C INLET TOP UNITS WITH 2– #6 x 1'-0" DOWEL BARS AND PLACE 1/4" PREMOLDED EXPANSION JOINT FILLER WHEN CONNECTING TO ADJACENT CURB SECTIONS.



SECTION A-A

TYPE M INLET



SECTION A-A

CONCRETE TOP UNITS

NOT TO SCALE

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	BSF	07/01/05

DATE: 4/07/05
SCALE: AS NOTED
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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Environmental Engineering
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture
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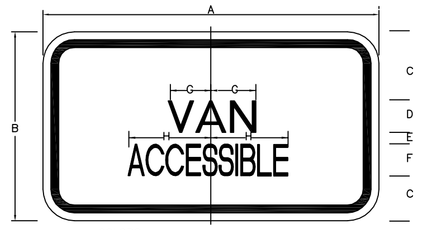
PHONE (610) 670-6630 FAX (610) 670-4603

CONSTRUCTION DETAIL SHEET
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

46
60

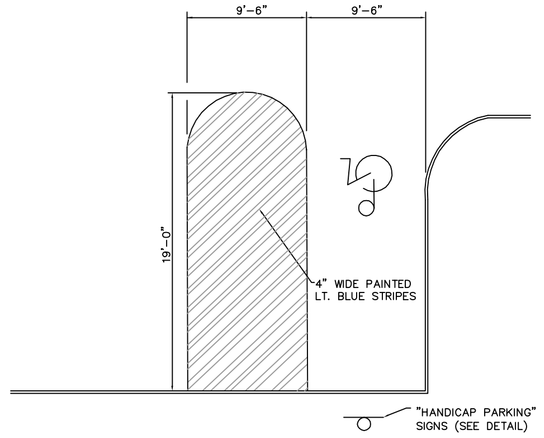
SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\46-53-DETAILS-0405NHT02.DWG



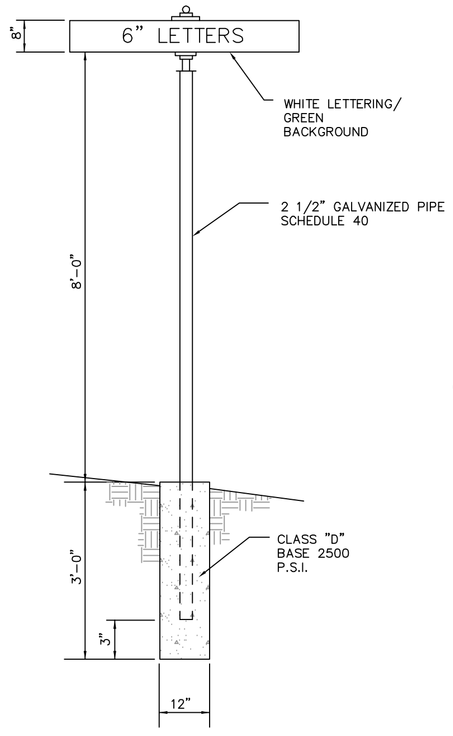
COLORS:
LEGEND AND BORDER: GREEN NON-REFLECTORIZED)
BACKGROUND: WHITE (REFLECTORIZED)

SIGN SIZE	DIMENSIONS–(INCHES)							MARGIN	BORDER	BLANK STD
	C	D	E	F	G	H				
(12x6)	(1.4)	(1.60)	(.6)	(10)	(2.2)	(4.1)	(.4)	(.4)		(BS-300150)

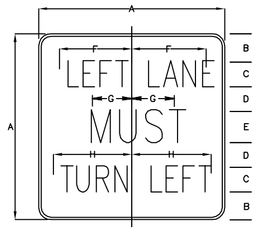
VAN ACCESSIBLE SIGN (R7-8A)
NOT TO SCALE



VAN-ACCESSIBLE HANDICAP PARKING DETAIL
NOT TO SCALE



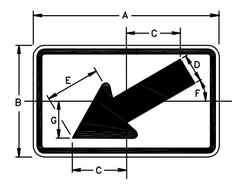
STREET SIGN
NOT TO SCALE



SIGN SIZE AxA	DIMENSIONS (IN MILLIMETERS)							MAR-GIN	BOR-DER	BLANK STD.
	B	C	D	E	F	G	H			
30x30	4.5	4C	4	5C	12.8	7.1	13.1	.5	.8	B3-30

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

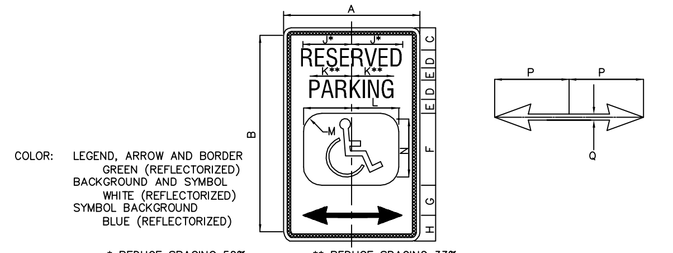
LEFT LANE TURN (R3-7L)
NOT TO SCALE



COLOR:
ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
YELLOW (REFLECTORIZED)

SIGN SIZE AxB	DIMENSIONS (IN)						MAR-GIN	BOR-DER	BLANK STD.
	C	D	E	F	G				
24X12	5.8	3	5.9	30°	3.9		.4	.6	B5-2412

DIAGONAL POINTING ARROW (W16-7L)
NOT TO SCALE

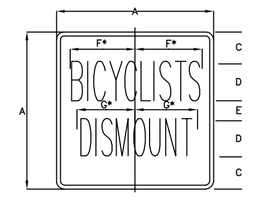


COLOR: LEGEND, ARROW AND BORDER
GREEN (REFLECTORIZED)
BACKGROUND AND SYMBOL
WHITE (REFLECTORIZED)
SYMBOL BACKGROUND
BLUE (REFLECTORIZED)

* REDUCE SPACING 50% ** REDUCE SPACING 33%

SIGN SIZE AxB	DIMENSIONS–(INCHES)													MARGIN	BORDER
	C	D	E	F	G	H	J	K	L	M	N	P	Q		
(12x18)	(2)	(2C)	(1)	(6)	(1.6)	(2.4)	(5)	(4.4)	(3)	(.4)	(4)	(3.8)	(.8)	(.4)	(.4)

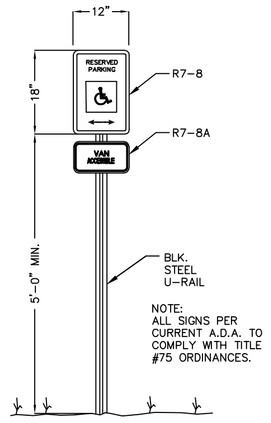
RESERVED PARKING SIGN (R7-8)
NOT TO SCALE



COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
YELLOW (REFLECTORIZED)

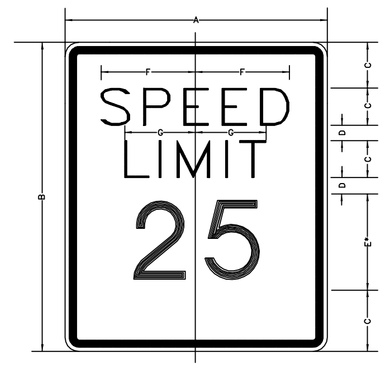
SIGN SIZE AxA	DIMENSIONS (INCHES)					MAR-GIN	BOR-DER	BLANK STD.
	C	D	E	F	G			
18x18	3.5	4B	.3	7.9	6.8	.4	.4	B3-18

BICYCLISTS DISMOUNT (W10-1B)
NOT TO SCALE



STEEL POST

(R7-8 / R7-8B) HANDICAPPED PARKING SIGN
NOT TO SCALE

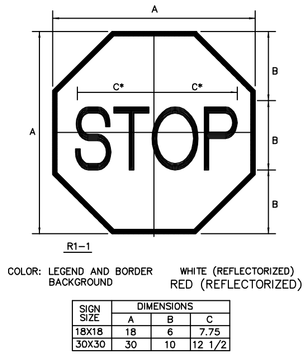


COLOR: LEGEND AND BORDER — BLACK (NON-REFLECTORIZED)
BACKGROUND — WHITE (REFLECTORIZED)

SIGN SIZE AxB	DIMENSIONS						
	A	B	C	D	E	F	G
24X30	24	30	4	2	10	9 9/16	7 5/16

* OPTICALLY SPACE NUMERALS ABOUT VERTICAL ℄

R2-1
NOT TO SCALE



R1-1

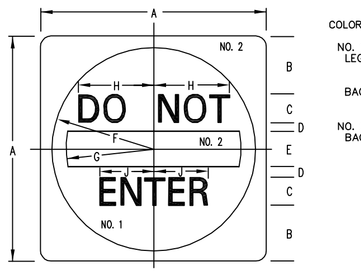
COLOR: LEGEND AND BORDER — WHITE (REFLECTORIZED)
BACKGROUND — RED (REFLECTORIZED)

SIGN SIZE	DIMENSIONS		
	A	B	C
18X18	18	6	7.75
30X30	30	10	12 1/2

*REDUCE SPACING 40%

R1-1
NOT TO SCALE

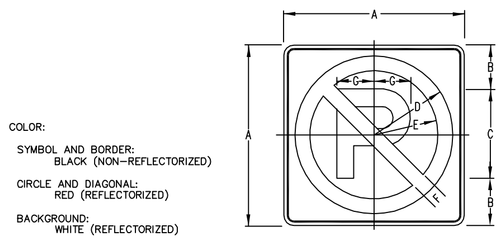
IMPORTANT NOTE
ALL TRAFFIC CONTROL AND STREET NAME SIGNS ARE TO INCLUDE HIGH INTENSITY BACKING.



COLOR:
NO. 1:
LEGEND:
WHITE (REFLECTORIZED)
BACKGROUND:
RED (REFLECTORIZED)
NO. 2:
BACKGROUND:
WHITE (REFLECTORIZED)

SIGN SIZE A x A	DIMENSIONS–(INCHES)								BLANK STD.
	B	C	D	E	F	G	H	J	
(30" x 30")	(6.6)	(40)	(1.9)	(5)	(14.6)	(12.4)	(9.9)	(7.9)	(B3-30)

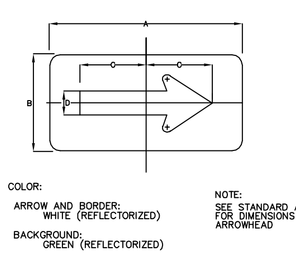
DO NOT ENTER SIGN (R5-1)
NOT TO SCALE



COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
CIRCLE AND DIAGONAL:
RED (REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

SIGN SIZE A x A	DIMENSIONS–(INCHES)						MAR-GIN	BOR-DER	BLANK STD.
	B	C	D	E	F	G			
(24" x 24")	(6)	(12E(M))	(10.5)	(8.5)	(2)	(4.8)	(0.4)	(0.6)	(B3-24)

NO PARKING SIGN (R8-3A)
NOT TO SCALE

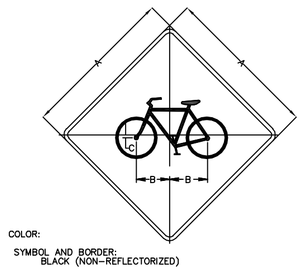


COLOR:
ARROW AND BORDER:
WHITE (REFLECTORIZED)
BACKGROUND:
GREEN (REFLECTORIZED)

NOTE:
SEE STANDARD ARROW
FOR DIMENSIONS OF
ARROWHEAD

SIGN SIZE AxB	DIMEN. (IN)		BOR-DER	BLANK STD.
	C	D		
24x12	7.6	2.6	.4	B5-2412

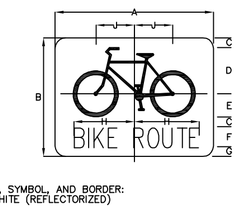
INFORMATION ARROW (I4-1-2)
NOT TO SCALE



COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
YELLOW OR FLUORESCENT
YELLOW GREEN (REFLECTORIZED)

SIGN SIZE AxB	DIMEN. (IN)		MAR-GIN	BOR-DER	BLANK STD.
	B	C			
30x30	8.6	1	.5	.8	B3-30

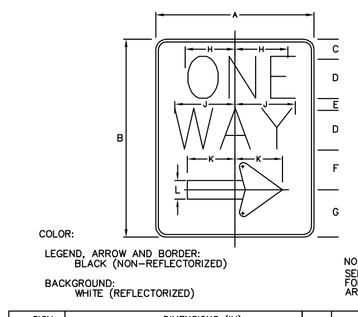
BICYCLE CROSSING (W11-1)
NOT TO SCALE



COLOR:
LEGEND, SYMBOL AND BORDER:
WHITE (REFLECTORIZED)
BACKGROUND:
GREEN (REFLECTORIZED)

SIGN SIZE AxB	DIMENSIONS (IN)							BOR-DER	BLANK STD.
	C	D	E	F	G	H	J		
24x18	1.5	7	3.5	3C	1.5	9.8	5.5	.4	B5-2418

BICYCLE ROUTE (D11-1)
NOT TO SCALE

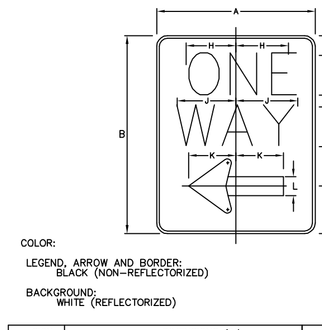


COLOR:
LEGEND, ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NOTE:
SEE STANDARD ARROW
FOR DIMENSIONS OF
ARROWHEAD

SIGN SIZE AxB	DIMENSIONS (IN)									MAR-GIN	BOR-DER	BLANK STD.
	C	D	E	F	G	H	J	K	L			
24x30	3	60	1.8	6	7.2	7.4	8.1	8	3	.4	.6	B5-3024

RIGHT ONE-WAY (R6-2R)
NOT TO SCALE

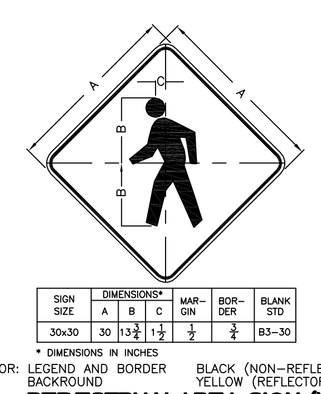


COLOR:
LEGEND, ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

NOTE:
SEE STANDARD ARROW
FOR DIMENSIONS OF
ARROWHEAD

SIGN SIZE AxB	DIMENSIONS (IN)									MAR-GIN	BOR-DER	BLANK STD.
	C	D	E	F	G	H	J	K	L			
24x30	3	60	1.8	6	7.2	7.4	8.1	8	3	.4	.6	B5-3024

LEFT ONE-WAY (R6-2L)
NOT TO SCALE

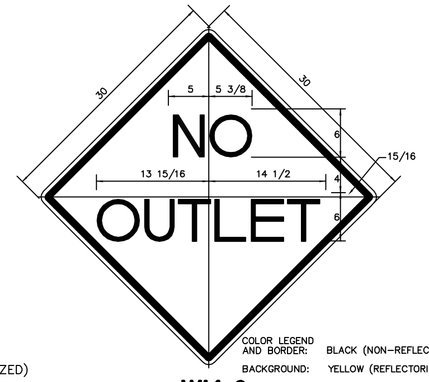


SIGN SIZE	DIMENSIONS*				MAR-GIN	BOR-DER	BLANK STD
	A	B	C				
30x30	30	13 3/4	13 1/2	1/2		1/4	B3-30

* DIMENSIONS IN INCHES

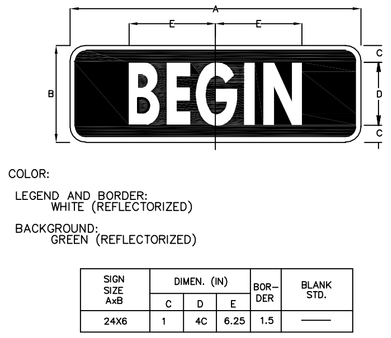
COLOR: LEGEND AND BORDER — BLACK (NON-REFLECTORIZED)
BACKGROUND — YELLOW (REFLECTORIZED)

PEDESTRIAN AREA SIGN (W11-2)
(NOT TO SCALE)



COLOR LEGEND AND BORDER: BLACK (NON-REFLECTORIZED)
BACKGROUND: YELLOW (REFLECTORIZED)

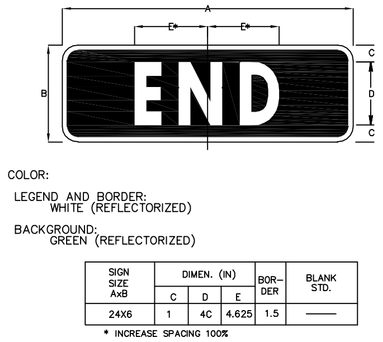
W14-2
NOT TO SCALE



COLOR:
LEGEND AND BORDER:
WHITE (REFLECTORIZED)
BACKGROUND:
GREEN (REFLECTORIZED)

SIGN SIZE AxB	DIMEN. (IN)			BOR-DER	BLANK STD.
	C	D	E		
24X6	1	4C	6.25	1.5	——

BEGIN (M4-11)
NOT TO SCALE



COLOR:
LEGEND AND BORDER:
WHITE (REFLECTORIZED)
BACKGROUND:
GREEN (REFLECTORIZED)

SIGN SIZE AxB	DIMEN. (IN)			BOR-DER	BLANK STD.
	C	D	E		
24X6	1	4C	4.625	1.5	——

* INCREASE SPACING 100%

END (M4-12)
NOT TO SCALE

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	BSF	07/01/05

DATE: 4/07/05
SCALE: AS NOTED
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

Van Cleef ENGINEERING ASSOCIATES
Consulting Civil Engineering
Environmental Engineering
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture
4 WELLINGTON BLVD., WYOMISSING, PA 19610
EMAIL: BERKSCOUNTYPA@VCEA.ORG WEB: WWW.VCEA.ORG
OFFICES THROUGHOUT NJ, EASTERN PA, DE, AND MD
PHONE (610) 670-6630 FAX (610) 670-4603

CONSTRUCTION DETAIL SHEET
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

47
60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\46-53-DETAILS-0405NHT02.DWG

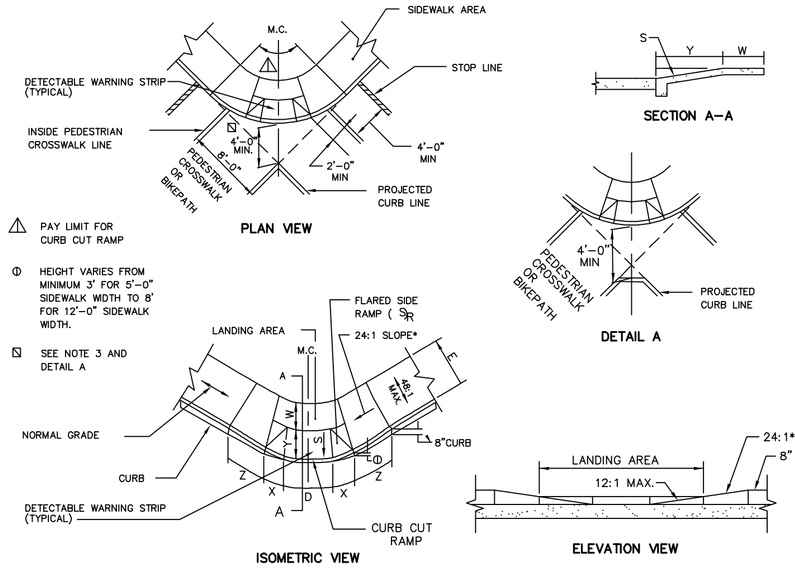


TABLE A*
TYPICAL CURB CUT RAMP DIMENSIONAL ELEMENTS FOR TYPE I CURB CUT RAMPS

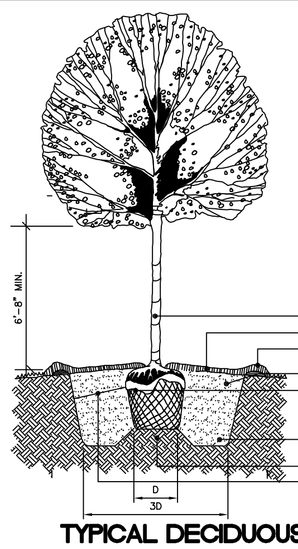
RISE OF RAMP	D	E	L	S	S_R	W	X	Y	Z
3"	3'-0"	5'-0"	3'-0"	8:1	12:1	3'-0"	3'-0"	2'-0"	10'-0"
3"	3'-0"	6'-0"	3'-0"	10:1	12:1	3'-6"	3'-0"	2'-6"	10'-0"
3"	3'-0"	7'-0"	3'-0"	12:1	12:1	4'-0"	3'-0"	3'-0"	10'-0"
4"	4'-0"	8'-0"	2'-0"	12:1	10:1	4'-0"	4'-0"	4'-0"	8'-0"
5"	4'-0"	9'-0"	–	12:1	10:1	4'-0"	4'-0"	5'-0"	6'-0"
6"	4'-0"	10'-0"	–	12:1	10:1	4'-0"	5'-0"	6'-0"	4'-0"
7"	4'-0"	11'-0"	–	12:1	10:1	4'-0"	6'-0"	7'-0"	2'-0"
8"	4'-0"	12'-0"	–	12:1	10:1	4'-0"	7'-0"	8'-0"	–

NOTES

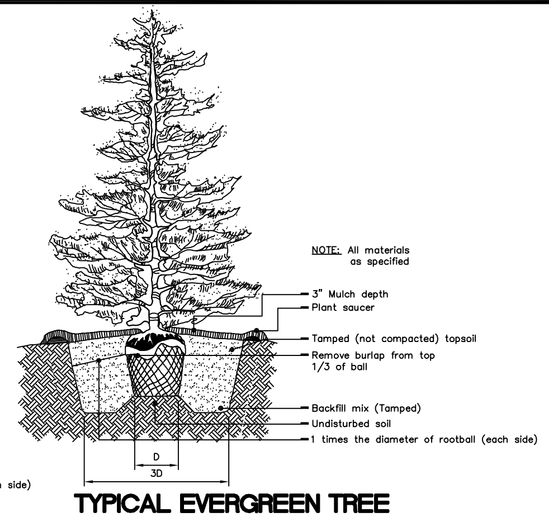
1. MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 694, AND ORDINANCE 95-4 OF NEW HANOVER TOWNSHIP.
2. PROVIDE 1/2" EXPANSION JOINT MATERIAL WHERE CURB CUT RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
3. WHEN PEDESTRIAN CROSSWALKS ARE NOT CONSTRUCTED WIDE ENOUGH TO PROVIDE MINIMUM 4'-0" WIDE OVERRUN ZONE AT THE BOTTOM OF THE RAMP, CONSTRUCT CROSSWALKS AS INDICATED IN DETAIL A.
4. PROVIDE TYPE I SINGLE CURB CUT RAMP FOR SIDEWALK SECTIONS 12'-0" WIDE OR LESS.
5. DIMENSIONS AND SLOPES SHOULD BE ADHERED TO UNLESS EXISTING CONDITIONS REQUIRE SPECIAL DESIGN BASED ON ROADWAY GRADES.
6. PROVIDE SLIP RESISTANT TEXTURE ON CURB CUT RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH OF THE CURB CUT RAMP INCLUDING FLARED SIDE RAMPS.
7. DETECTABLE WARNINGS SHALL BE PER ADAAG 4.29.5
8. ALL PROPOSED SIDEWALKS, PATHS AND RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA AND PENNDOT RC-67M STANDARDS, AS AMENDED.

DEFINITIONS

D = WIDTH OF CURB CUT RAMP
E = WIDTH OF SIDEWALK SECTION
L = LENGTH NEEDED TO MAINTAIN 12:1 SLOPE ALONG THE FACE OF THE CURB
S = SLOPE OF THE CURB CUT RAMP
S_R = FLARED SIDE RAMP SLOPE
W = WIDTH OF LANDING AREA
X = LENGTH NEEDED TO MAINTAIN SELECTED SLOPE ALONG THE FACE OF THE CURB
Y = LENGTH OF CURB CUT RAMP
Z = LENGTH NEEDED TO MAINTAIN 24:1 SLOPE ON CURB AND SIDEWALK AREAS



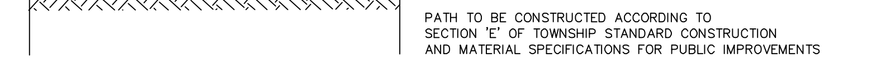
TYPICAL DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

PLANTING NOTES

1. ADDITIONAL BUFFER YARD PLANTINGS SHALL BE PROVIDED AS DIRECTED BY THE TOWNSHIP ENGINEER WHERE EXISTING PLANTINGS DO NOT MEET THE REQUIREMENTS OF THE ZONING AND/OR SUBDIVISION AND LAND DEVELOPMENT ORDINANCES.
2. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY. THEY SHALL HAVE WELL DEVELOPED BRANCHES, AND VIGOROUS FIBROUS ROOT SYSTEMS. THEY SHALL BE FREE FROM DISFIGURING KNOTS, SUN SCALE, INJURIES, ABRASIONS OF BARK, PLANT DISEASES, INSECT EGGS, BORERS, AND ALL FORMS OF INFESTATION. ALL COLLECTED MATERIAL SHALL BE CLEAN, SOUND STOCK, AND FREE FROM DECAYING STUMPS.
3. GRADING STANDARDS SHALL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1). SIZE STANDARDS TO CONFORM TO TOWNSHIP STANDARDS. LOOSE, BROKEN, OR MANUFACTURED BALLS WILL BE REJECTED.
4. BALLED AND BURLAPED, AND BALLED AND PLATFORM PLANTS, SHALL HAVE SOLID BALL OF EARTH SECURELY HELD IN PLACE BY BURLAP AND STOUT ROPE. MINIMUM BALL SIZES SHALL BE SPECIFIED IN THE "AMERICAN STANDARD FOR NURSERY STOCK (ANS Z60.1), AS SPONSORED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA).
5. PROVIDE CONTINUOUS DOUBLE-SHREDDED HARDWOOD BARK (3" THICK) AT THE BASE OF THE SPECIMEN TREES AND SHRUBS AND IN ALL PLANTING BEDS. DO NOT PILE MULCH UP AGAINST TRUNK.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING WHERE THE UNDERGROUND UTILITIES EXIST ON-SITE. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING NEAR THESE UTILITIES.
7. ALL DISTURBED PERVIOUS AREAS EXCEPT PLANTING BEDS SHALL BE SEEDED AND MULCHED.
8. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, CULTIVATING, FERTILIZING, SPRAYING, TIGHTENING, AND REPAIRING OF GUYS, REMOVAL AND REPLACEMENT OF DEAD MATERIAL, RESETTING SETTLED PLANTS TO PROPER GRADES OR UPRIGHT POSITION, AND OTHER NECESSARY OPERATIONS AS MAY BE REQUIRED TO KEEP THE PLANTS IN A LIVE AND HEALTHY GROWING CONDITION.
9. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO COMMENCING WORK TO REVIEW THE EXISTING CONDITIONS. NOTIFY THE LANDSCAPE DESIGNER AND THE TOWNSHIP ENGINEER OF ANY MAJOR DISCREPANCIES WHICH AFFECT THE WORK.
10. BEFORE MIXING PLANTING MIXTURE, CLEAN TOPSOIL OF ROOTS, PLANTS, SODS, STONE, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL OR TOXIC TO PLANT GROWTH.
11. PLANTING MIXTURE SHALL CONTAIN TOPSOIL FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT THE PROJECT SITE. OBTAIN TOPSOIL ONLY FROM NATURALLY, WELL DRAINED SITE WHERE TOPSOIL OCCURS IN A DEPTH OF NOT LESS THAN 4 INCHES. DO NOT OBTAIN FROM BOGS OR MARSHES. PLANTING MIXTURE SHALL CONTAIN ONE PART TOPSOIL, ONE PART PEAT MOSS, ONE PART COMPOST AND ONE PART PARENT MATERIAL. A SLOW RELEASE FERTILIZER (10-6-4) SHALL BE ADDED TO THE MIXTURE PER MANUFACTURERS INSTRUCTIONS.
12. NO TREES OR SHRUBS SHALL BE PLANTED ON THE DETENTION/RETENTION BASIN BERMS.
13. STREET TREES AND OTHER REQUIRED PLANT MATERIAL SHALL NOT BE PLANTED UNTIL THE FINISHED GRADING OF THE PROPERTY HAS BEEN COMPLETED.
14. MINIMUM 2" TREE CALIPER SHALL BE MEASURED AT A HEIGHT OF 4'-6" OR BREAST HEIGHT.
15. TREE WRAP SHALL NOT BE USED. REMOVE ANY WRAP USED DURING TRANSPORTATION OF PLANT MATERIAL AFTER INSTALLATION.
16. DO NOT CUT LEADER OF DECIDUOUS TREES. PRUNING TO REMOVE DEAD OR BROKEN BRANCHES IS PERMITTED BUT NO OTHER PRUNING AT TIME OF INSTALLATION. TREES SHALL BE SELECTIVELY PRUNED AFTER ONE GROWING SEASON IF NEEDED TO SHAPE OR COMPLY WITH CURRENT HORTICULTURE PRACTICES.
17. TREE STAKING/GUYING IS NOT REQUIRED. IF CONTRACTOR DEEMS IT NECESSARY, HE SHALL PLACE WARNING FLAGS ON ALL STAKES AND WIRES AND REMOVE THE STAKES AND WIRES AFTER ONE GROWING SEASON. ALL STAKING COMPONENTS SHALL BE MAINTAINED UNTIL REMOVED.
18. NO PLANTS, EXCEPT GROUND COVER, SHALL BE PLANTED LESS THAN TWO (2) FEET FROM A STRUCTURE, SIDEWALK OR CURBLINE.
19. TREES SHALL NOT INTERFERE WITH OR BE PLANTED IN CLOSE PROXIMITY TO LIGHT STANDARDS.
20. TREES AND SHRUBS SHALL BE PLANTED A MINIMUM OF TEN FEET FROM ALL UTILITY LINES. NO TREES OR SHRUBS SHALL BE PLANTED ALONG ANY DETENTION FACILITY BERMS.



PATH TO BE CONSTRUCTED ACCORDING TO SECTION 'E' OF TOWNSHIP STANDARD CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR PUBLIC IMPROVEMENTS

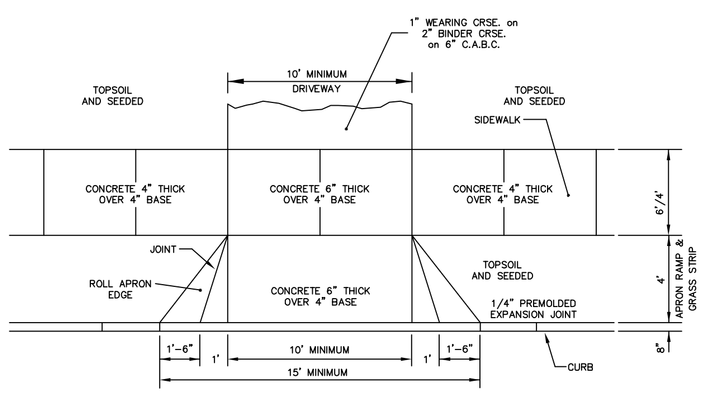
BICYCLE / SHARED USE PATH
NOT TO SCALE

GRASS SEED MIXES OUTSIDE OF DETENTION BASINS

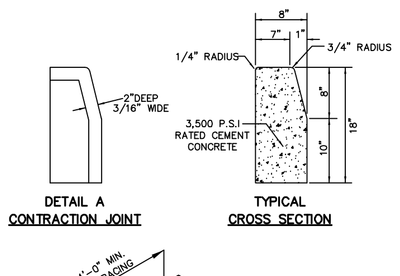
SEED MIX FOR OPEN SPACES, LOTS & STREET RIGHT OF WAYS: ERNST MIX #114
RATE: 100#-200# PER ACRE OR 3#-5# PER 1000 SQ. FT.

PERCENTAGE	BOTANICAL NAME	COMMON NAME
30%	FESTUCA RUBRA PENNLAWN	PENNLAWN CREEPING RED FESCUE
25%	POA PRATENSIS ALENE	ALENE KENTUCKY BLUEGRASS
25%	POA PRATENSIS CADIX	CADIX KENTUCKY BLUEGRASS
10%	LOLIUM MULTIFLORUM	ANNUAL RYEGRASS
10%	LOLIUM PERENNE	TURF TYPE PERENNIAL RYEGRASS

SEED MIXES BY ERNST CONSERVATION SEEDS, LLP, 9006 MERCER PIKE, MEADVILLE, PA 16335. TELEPHONE: 800-873-3321 OR 814-336-2404, FAX: 814-336-5191, OR APPROVED EQUAL

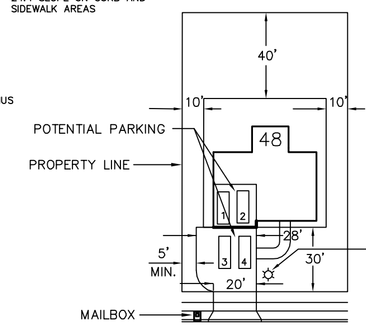


TYPE 1 SINGLE CURB CUT RAMP - PEDESTRIAN / BIKE PATH
NOT TO SCALE



DETAIL A
CONTRACTION JOINT

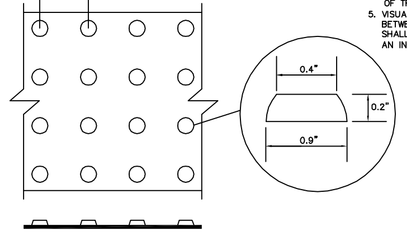
TYPICAL CROSS SECTION



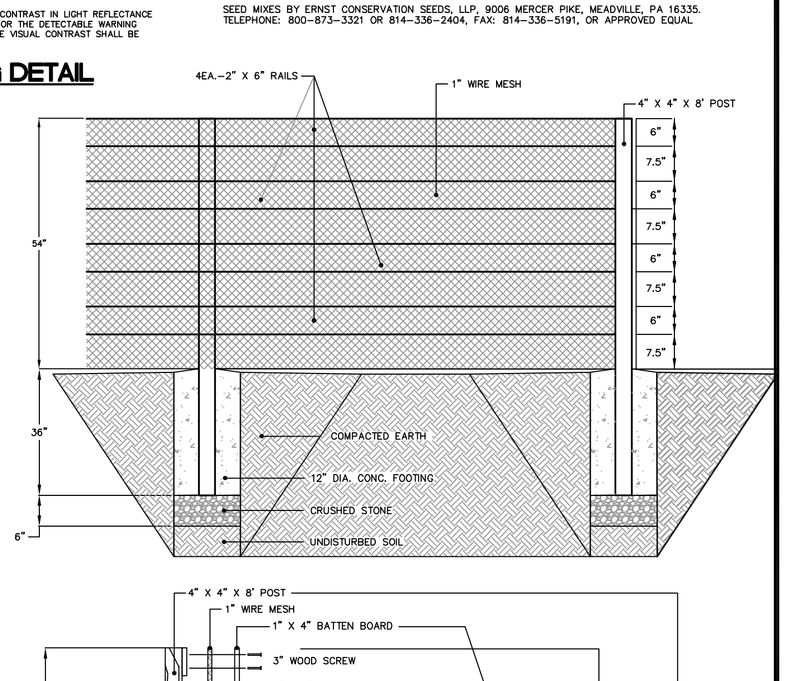
ALL PATIOS SHALL CONFORM TO SECTION 1407.

TYPICAL LAMP POST LOCATION ON EACH LOT (10' from R/W and 5' from DRIVEWAY EDGE)

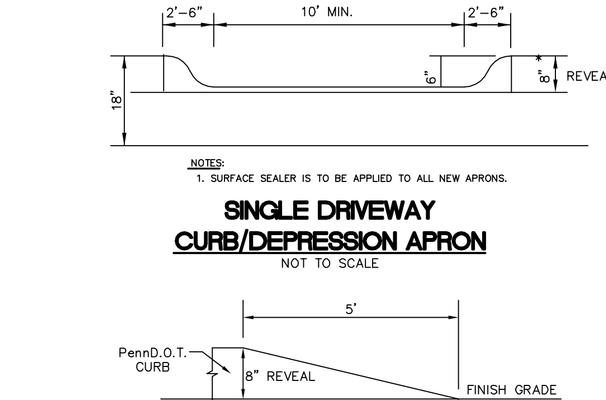
DETACHED DWELLING LOT
NOT TO SCALE



DETECTABLE WARNING DETAIL
NOT TO SCALE

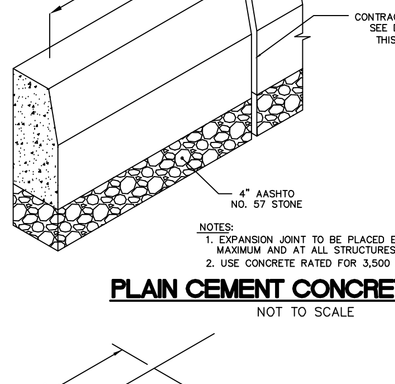


PEDESTRIAN/BICYCLE PATH FENCE AT BRIDGE CROSSING
NOT TO SCALE



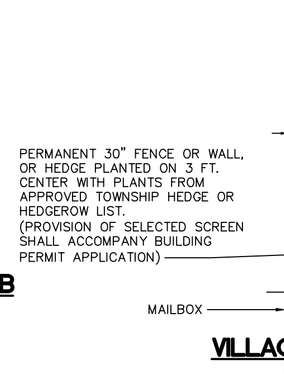
NOTES:
1. SURFACE SEALER IS TO BE APPLIED TO ALL NEW APRONS.

SINGLE DRIVEWAY CURB/DEPRESSION APRON
NOT TO SCALE



NOTES:
1. EXPANSION JOINT TO BE PLACED EVERY 60 FT. MAXIMUM AND AT ALL STRUCTURES.
2. USE CONCRETE RATED FOR 3,500 P.S.I.

PLAIN CEMENT CONCRETE CURB
NOT TO SCALE



PERMANENT 30" FENCE OR WALL, OR HEDGE PLANTED ON 3 FT. CENTER WITH PLANTS FROM APPROVED TOWNSHIP HEDGE OR HEDGEROW LIST. (PROVISION OF SELECTED SCREEN SHALL ACCOMPANY BUILDING PERMIT APPLICATION)

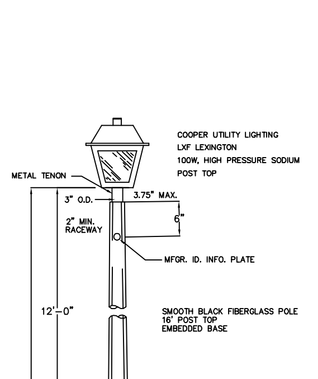
VILLAGE HOUSE LOT
NOT TO SCALE

PARKING NOTES:
1. PER ZONING DATA ON RECORD PLAN, 3.25 SPACES ARE REQUIRED PER DWELLING UNIT. ON THIS DETAIL, SPACE #4 IS PROVIDED TO COMPLY WITH THE ADDITIONAL 0.25 SPACE/D.U. REQUIREMENT ONCE THE DRIVEWAY IS FULL.
2. THE OVERFLOW PARKING SHOWN WOULD BE APPLICABLE TO ONLY ONE SIDE OF THE STREET.

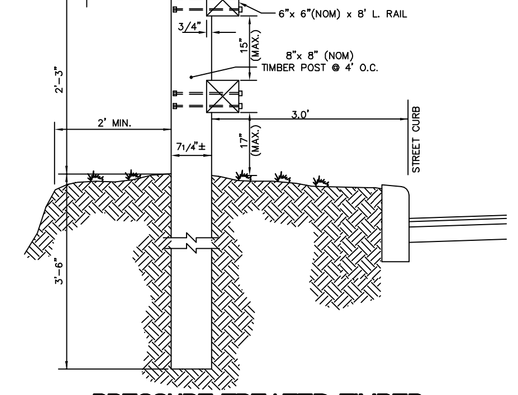
LAMP NOTE:
1. A POLE LAMP SHALL BE INSTALLED ON EACH LOT AT THE DRIVEWAY LOCATION, 10 FEET BEHIND THE ULTIMATE RIGHT-OF-WAY LINE. THE INSTALLATION OF THE LAMP IS TO MEET THE SATISFACTION OF THE TOWNSHIP ENGINEER. DETAILS OF THE PROPOSED LAMP SHALL BE PROVIDED TO THE TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

MAILBOX NOTE:
1. MAILBOXES SHALL BE INSTALLED MEETING THE REQUIREMENTS OF SECTION "L" OF THE TOWNSHIP'S STANDARD CONSTRUCTION AND MATERIAL SPECIFICATION FOR PUBLIC IMPROVEMENTS.

SIDE YARD FENCING NOTE:
1. ONLY FENCING (NO PLANTING OR WALLS) SHALL BE PLACED IN SIDE YARDS WHEN IT CONTAINS A STORM SEWER EASEMENT.

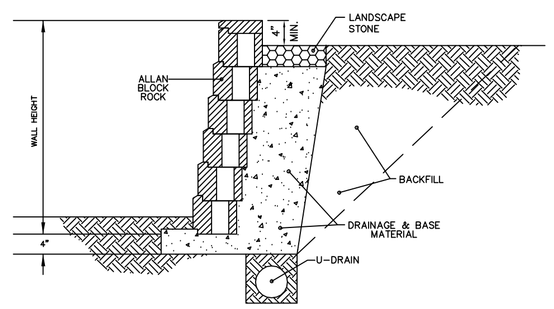


STREET LIGHT DETAIL
NOT TO SCALE



PRESSURE TREATED TIMBER VEHICULAR GUIDE RAIL DETAIL
NOT TO SCALE

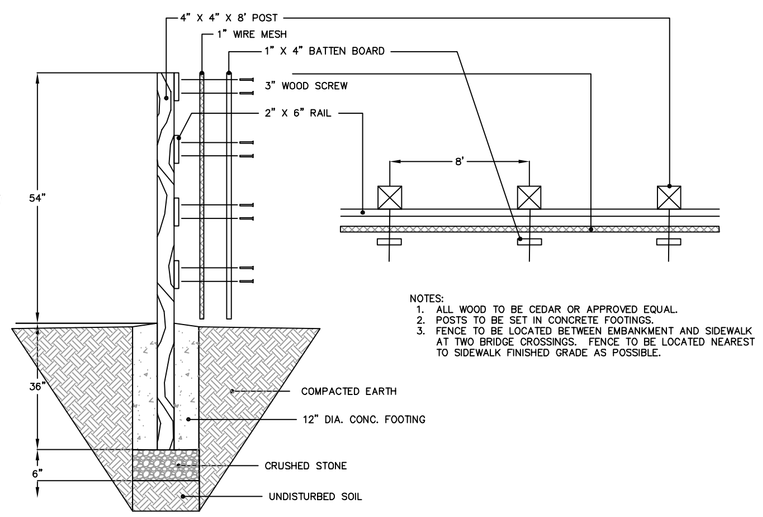
NOTE: ALL LUMBER FOR GUIDERAIL CONSTRUCTION TO BE SOUTHERN YELLOW PINE-#2 OR BETTER, WITH A MAXIMUM MOISTURE CONTENT BEFORE TREATMENT OF 19%.



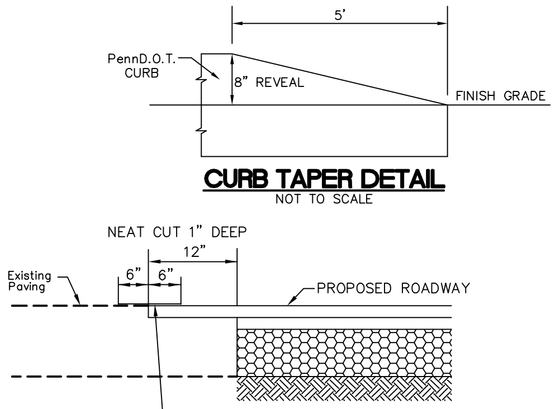
TYPICAL WALL SECTION

ALLAN BLOCK RETAINING WALL
NOT TO SCALE

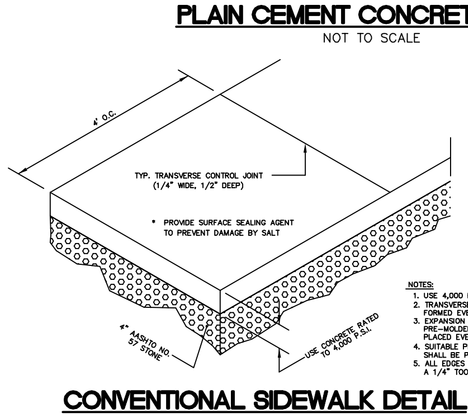
(DETAILED SIGNED AND SEALED CONSTRUCTION DRAWINGS TO BE SUBMITTED PRIOR TO CONSTRUCTION. DRAINAGE PIPE INVERTS MUST BE INCLUDED).



NOTES:
1. ALL WOOD TO BE CEDAR OR APPROVED EQUAL.
2. POSTS TO BE SET IN CONCRETE FOOTINGS.
3. FENCE TO BE LOCATED BETWEEN EMBANKMENT AND SIDEWALK AT TWO BRIDGE CROSSINGS. FENCE TO BE LOCATED NEAREST TO SIDEWALK FINISHED GRADE AS POSSIBLE.



CURB TAPER DETAIL
NOT TO SCALE



NOTES:
1. USE 4,000 P.S.I. RATED CONCRETE.
2. TRANSVERSE CONTROL JOINTS TO BE FORMED EVERY 4'-0".
3. EXPANSION JOINTS WITH 1/2" PRE-MOLDED MATERIAL SHALL BE PLACED EVERY 30'-0".
4. SIDEWALK THICKNESS DURING SHALL BE PER PADOT 670.3.
5. ALL EDGES TO BE ROUNDED WITH A 1/4" TOOL.

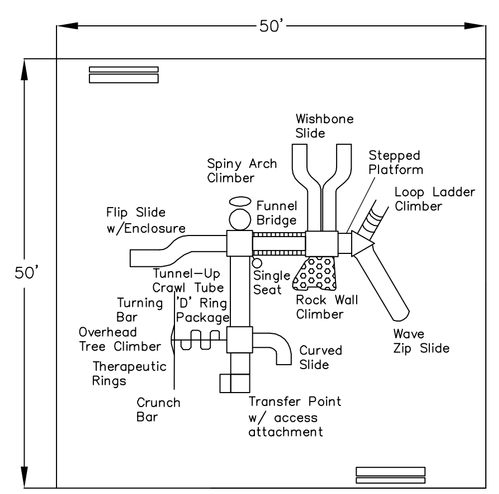
CONVENTIONAL SIDEWALK DETAIL
NOT TO SCALE

NEAT CUT DETAIL
NOT TO SCALE

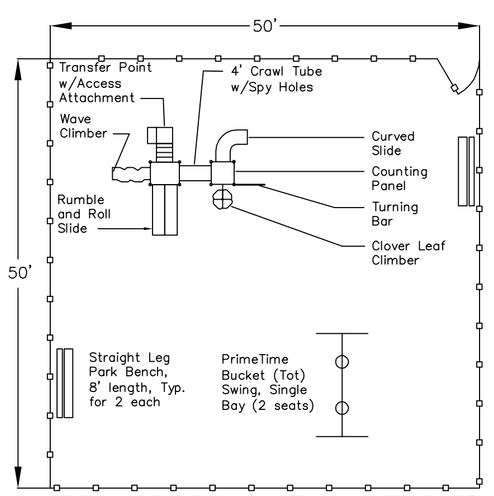
ALTERNATIVE PLANTINGS (IF SELECTED MATERIAL IS NOT AVAILABLE)

SELECTION:	ALTERNATES:
SHADE TREES:	QUERCUS PHELLOS – WILLOW OAK GLEDITSIA TRIACANTHOS INERMIS – THORNLESS HONEY LOCUST ACER SACCHARUM – SUGAR MAPLE
ORNAMENTAL TREES:	SOPHORA JAPONICA – JAPANESE PAGODA TREE MALUS FLORIBUNDA – JAPANESE FLOWERING CRAB**
EVERGREEN TREES:	ILEX OPACA – AMERICAN HOLLY PSEUDOTSUGA MENZIESII – DOUGLAS FIR

**NON-FRUIT BEARING VARIETY



CHILDRENS PLAY AREA (5-12 YR. OLD)

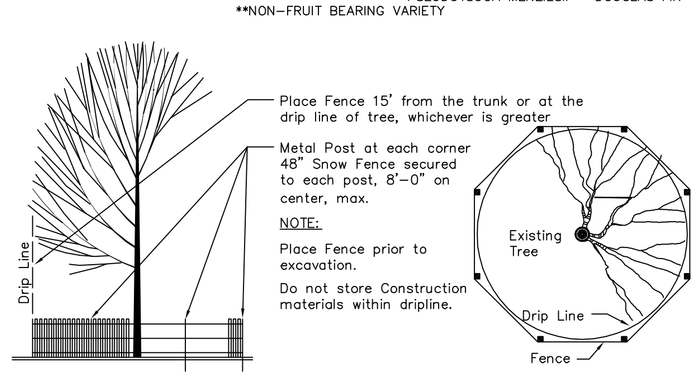


TOT-LOT AREA (AGES 2-5 YR. OLD)

ACTIVE RECREATION AREA
NOT TO SCALE

PLAY AREA NOTES

1. ALL SPECIFIED EQUIPMENT SHALL BE AS MANUFACTURED BY 'GAMETIME, INC.' OR APPROVED EQUAL.
2. PROPOSED COMPONENTS ARE AS FOLLOWS:
   - TOT-LOT UNIT: MODULAR PLAY UNIT, 'SUN VISTA' MODEL NUMBER 11779;
   - CHILDRENS UNIT: MODULAR PLAY UNIT, 'OAKDALE PLACE' MODEL NO. 11796
   - PRIMETIME SWING FOR TOTS, MODEL NUMBER 12583 WITH ENCLOSED TOT SEATS (2) MODEL NUMBER 8520
   - STRAIGHT LEG PARK BENCH, MODEL NUMBER 5532
3. BOTH PLAY AREAS SHALL BE INSTALLED WITH SAFETY SURFACING IN THE FORM OF ENGINEERED WOOD CHIP FIBERS, INSTALLED TO A DEPTH OF 12", COMPACTED DEPTH. AREA SHALL BE EXCAVATED TO REQUIRED DEPTH TO ACCOMMODATE SAFETY SURFACE AND PLAYGROUND FOOTINGS. SAFETY SURFACE MATERIAL SHALL MEET CURRENT IMPACT ATTENUATION CRITERIA REQUIREMENTS. SAFETY SURFACING SHALL BE 'FIBAR' OR APPROVED EQUAL.
4. MUNICIPALITY TO DESIGNATE PLAY EQUIPMENT COLORS (POWDER COATING) AND SLAT TYPE FOR PARK BENCHES (CHOICE OF ALUMINUM, DOUGLAS FIR AND REDWOOD).
5. LAYOUT OF PLAY EQUIPMENT SHALL MEET ALL CURRENT ASTM AND CPSC FEDERAL GUIDELINES FOR PLAY EQUIPMENT AND THE EQUIPMENT SHALL BE INSTALLED BY A CERTIFIED INSTALLER OF SUCH.
6. ALL APPROPRIATE USE ZONES SHALL BE PROVIDED AROUND THE PLAYGROUND EQUIPMENT. REFER TO CURRENT ASTM AND CPSC GUIDELINES.
7. TOT LOT PLAY AREA TO BE SURROUNDED WITH 3' SPLIT RAIL WOOD FENCE WITH MESH FENCING PLACED INSIDE THE FENCE PERIMETER, WITH ONE (1) GATE ACCESS ON THE FAR SIDE FROM THE 8' WIDE PUBLIC ACCESS BIKE PATH.
8. ACCESS TO THE PUBLIC TOT LOT AND PLAY UNIT SHALL BE ADA COMPLIANT, AT LEAST 50% OF THE PLAY ELEMENTS SHALL BE ADA ACCESSIBLE.



TREE PROTECTION FENCING
NOT TO SCALE

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: AS NOTED
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY:
CHRISTOPHER S. PECORA, PE, PLS 47117E

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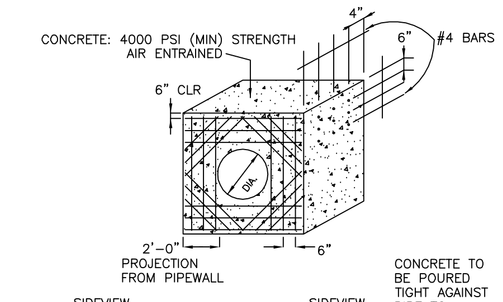
CONSTRUCTION DETAIL SHEET
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

48/60

SAM ERNEY
12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\46-53-DETAILS-0405NHT02.DWG



NOTE:
1) PRECAST COLLAR FOR PIPE DIAMETERS 12" TO 24" TO BE 8" THICK (MIN)
FOR PIPE DIAMETERS 27" TO 48" INCREASE THICKNESS TO 12" THICK(MIN).

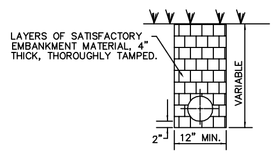
REINFORCED PRECAST CONCRETE ANTI-SEEP COLLAR

NO SCALE

ANTI-SEEP COLLAR CALCULATIONS

	DEPTH OF WATER	PIPE SLOPE	EMBANKMENT SIDE SLOPE	SATURATED ZONE (La)	SIZE OF COLLARS	# OF COLLARS	*1st COLLAR LOCATION	**2nd COLLAR LOCATION	COLLAR PROJECTION (V)	MAXIMUM SPACING (14xV)
	(Ft)	%	Z:1	(Ft)	(Ft)		(Ft)	(Ft)	(Ft)	(Ft)
BASIN A	5.75	0.52%	3	40	6.5 x 6.5	2	15	25	2.00	28.0
BASIN B	8.25	0.50%	3	60	7.5 x 7.5	2	145	160	2.50	35.0
BASIN C	7.00	0.93%	3	50	7.0 x 7.0	2	15	25	2.25	31.5
BASIN H	7.70	0.64%	3	55	6.5 x 6.5	2	15	25	2.00	28.0

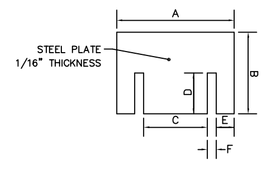
* COLLAR LOCATION IS MEASURED FROM THE OUTLET STRUCTURE
** COLLAR LOCATION IS MEASURED FROM THE OUTLET STRUCTURE



EXCAVATION OVER 3 FT. IN DEPTH AND FOR A MAXIMUM WIDTH OF 2 FT. IS PAYABLE AS CLASS 4 EXCAVATION. USE SUBSURFACE DRAIN OUTLETS FOR ALL PIPE UNDERDRAIN AND PAVEMENT BASE DRAINS.

SUBSURFACE DRAIN OUTLETS

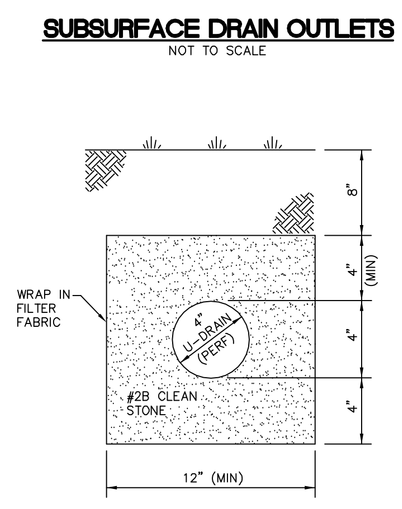
NOT TO SCALE



DIMENSION	A	B	C	D	E	F	G	RISER DIA.
	37"	15"	23"	9"	4"	3"	4"	24"
	42"	15"	28"	9"	4"	3"	4"	30"
	48"	15"	34"	9"	4"	3"	4"	36"
	54"	15"	40"	9"	4"	3"	4"	42"
	72"	15"	58"	9"	4"	3"	4"	60"

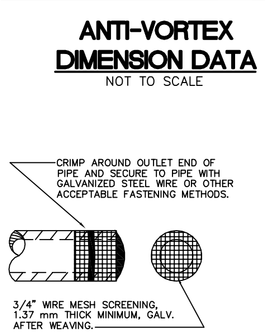
ANTI-VORTEX DIMENSION DATA

NOT TO SCALE



BASIN U-DRAIN DETAIL

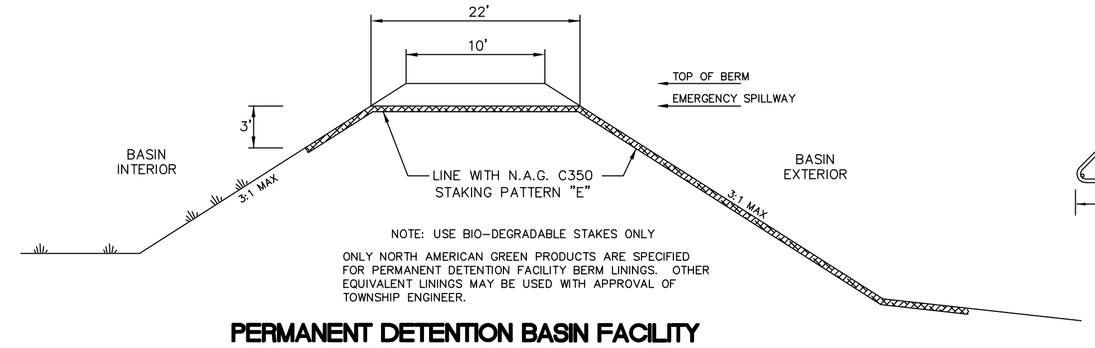
NOT TO SCALE



DETENTION BASIN OUTLET STRUCTURE

NOT TO SCALE

OUTLET STRUCTURE LOCATION	OUTLET PIPE DIAMETER (IN.) Ⓐ	OUTLET PIPE INV. (FT.) Ⓑ	BASE ORIFICE DIAMETER (IN.) Ⓒ	BASE ORIFICE INV. (FT.) Ⓓ	WEIR LENGTH (IN.) Ⓔ	WEIR INV. (FT.) Ⓕ	TOP OF GRATE ELEV. (FT.) Ⓖ	BASIN BOTTOM (FT.)
BASIN A	24	325.50	3	327.50			331.50	327.50
BASIN B	24	324.00	4	324.00			329.75	324.00
BASIN C	24	340.50	4	342.50			347.50	342.50
BASIN H	24	353.80	6	356.00			361.50	356.00



NOTE: USE BIO-DEGRADABLE STAKES ONLY

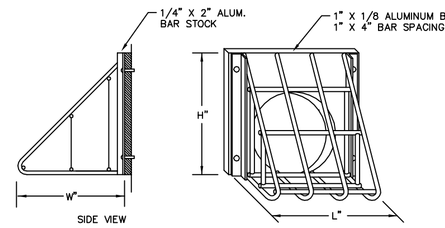
ONLY NORTH AMERICAN GREEN PRODUCTS ARE SPECIFIED FOR PERMANENT DETENTION FACILITY BERM LININGS. OTHER EQUIVALENT LININGS MAY BE USED WITH APPROVAL OF TOWNSHIP ENGINEER.

PERMANENT DETENTION BASIN FACILITY BERM CROSS-SECTION

NOT TO SCALE

NOTE: REFER TO BASIN BERM CONSTRUCTION DETAIL FOR COMPACTION AND CUT-OFF TRENCH SPECIFICATIONS

WETLAND BASIN CONSTRUCTION NOTES:
1) PROTECT BASIN AREA FROM COMPACTION PRIOR TO INSTALLATION
2) IF POSSIBLE, INSTALL BASIN DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PROTECT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES.
3) INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
4) IF NECESSARY, EXCAVATE BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
5) DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.
6) ANY SEDIMENT THAT ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

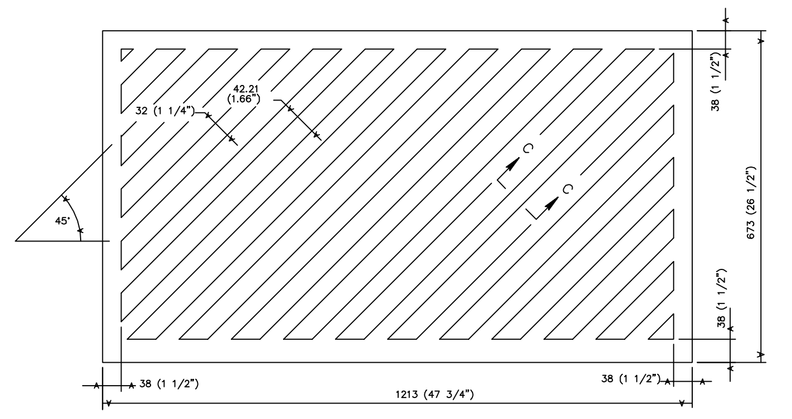


NOTES:
–WEIR RACK IS TO BE CONSTRUCTED OF ALUMINUM
–BAR SPACING 1" X 4" TYPICAL

GRATE LOCATION	PIPE (IN)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)
4A	30	36	36	36
4B	18	24	24	24
11S	24	30	30	30

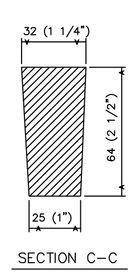
STORM SEWER HEADWALL GRATE DETAIL

NOT TO SCALE



PLAN – ONE PIECE GRATE

ASTM A-48, CLASS 35B
(SEE NOTE 1)
TO BE USED FOR ALL YARD DRAINS

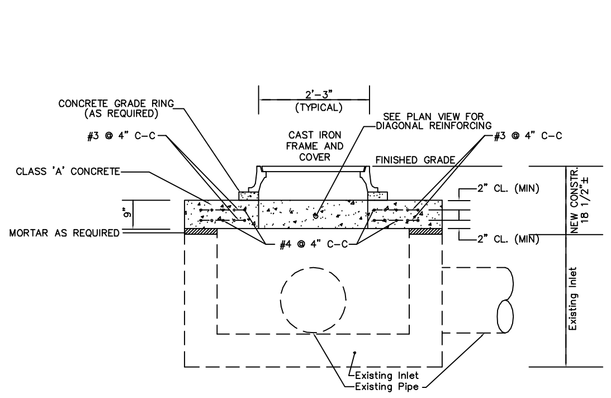


SECTION C–C

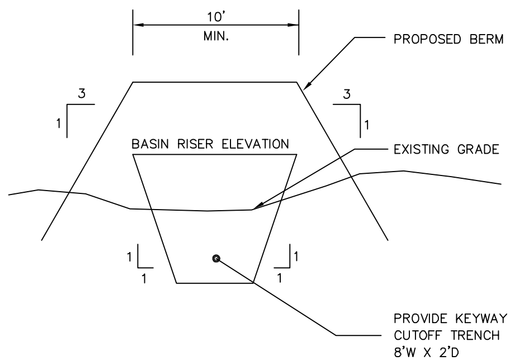
NOTES:
1. CAST IRON GRATES MAY BE USED AS ALTERNATES TO STRUCTURAL STEEL GRATES PROVIDED THEY ARE SUPPLIED BY A MANUFACTUER LISTED IN BULLETIN 15 AND APPROVED FOR HS25 LOADING. CAST IRON GRATES NOT APPROVED FOR HS25 LOADING MAY BE USED OUTSIDE OF THE TRAVEL LANES; AT THE EDGE OF OUTSIDE SHOULDERS, SWALES, WIDE MEDIAN SWALES AND INFIELD AREAS.

CAST GRAY IRON GRATES

NOT TO SCALE



X-SECTION A–A

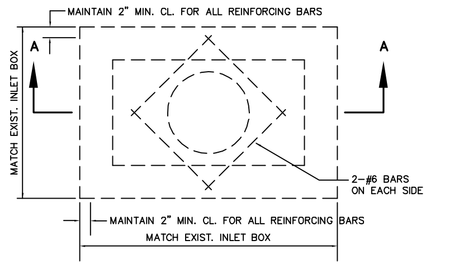


BASIN KEYWAY
The minimum top of the detention/retention basin berm shall be ten (10) feet. A cutoff trench (key-way) (key-way) of impervious material shall be provided under all embankments that require fill material. The cutoff trench shall be a minimum of eight (8) feet wide, two (2) feet deep, and have side slopes of 1:1.

BASIN BERM
All detention/retention basin embankments shall be placed in maximum of eight (8) inch lifts to a minimum of 95% of maximum dry density as established by ASTM D-1557, PTM No. 112 or PTM No. 402. Prior to proceeding to the next lift, the compaction shall be checked by the Township Engineer or Soils Engineer. The developers contractor shall obtain the services of a qualified laboratory or technician to conduct compaction tests on the leading and the trailing edge of the berm along with the top of the berm. All tests shall be furnished to the Township for review.

BASIN BERM CONSTRUCTION DETAIL

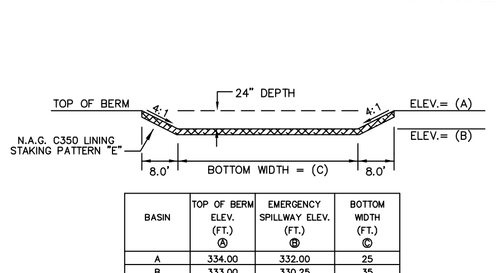
NOT TO SCALE



PLAN VIEW

EXISTING INLET CONVERTED TO MANHOLE

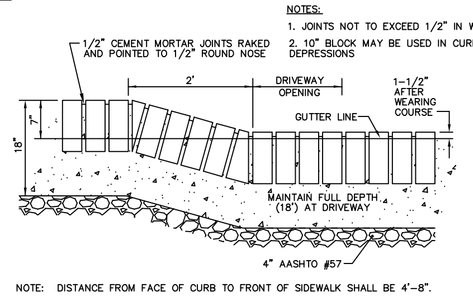
NOT TO SCALE



BASIN	TOP OF BERM ELEV. (FT.) Ⓐ	EMERGENCY SPILLWAY ELEV. (FT.) Ⓑ	BOTTOM WIDTH (FT.) Ⓒ
A	334.00	332.00	25
B	333.00	330.25	35
C	350.50	348.00	35
H	365.00	362.50	35

DETENTION BASIN FACILITY EMERGENCY SPILLWAY

NOT TO SCALE



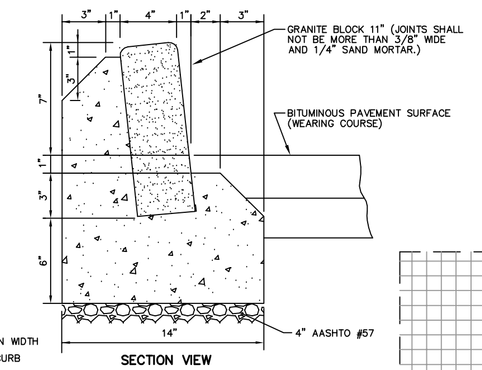
NOTE: DISTANCE FROM FACE OF CURB TO FRONT OF SIDEWALK SHALL BE 4'-8".

ELEVATION VIEW INTERIOR ROADWAY APPLICATION ONLY

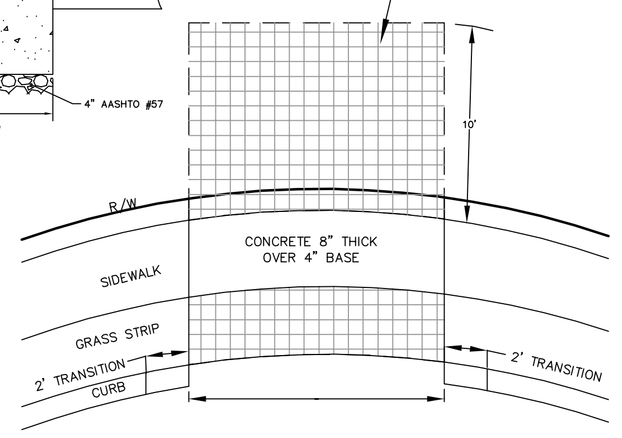
BELGIAN BLOCK CURB DETAIL

NOT TO SCALE

NOTES:
1. JOINTS NOT TO EXCEED 1/2" IN WIDTH
2. 10" BLOCK MAY BE USED IN CURB DEPRESSIONS

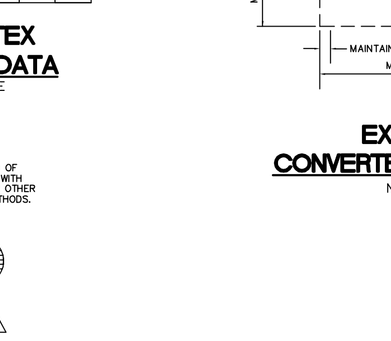


SECTION VIEW



CUL-DE-SAC SNOW REMOVAL EASEMENT

NOT TO SCALE



SECTION A–A

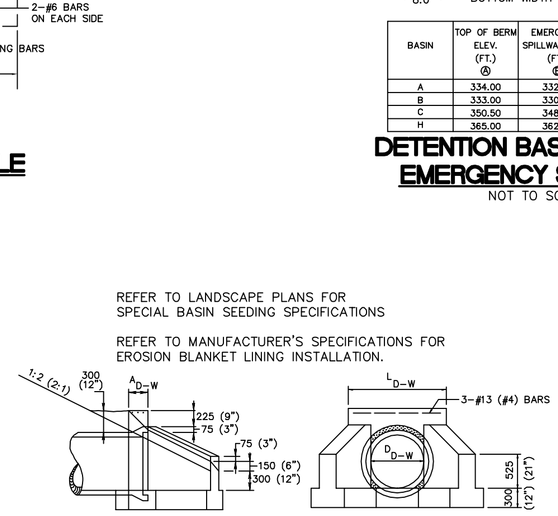
LOCATION	DIA. (in.)	L_A (ft.)	W_1 (ft.)	W_2 (ft.)	RIP-RAP SIZE	PLACEMENT THICKNESS (in.)
EW 46	24	10	6.0	16	R-4	18
EW 57C	24	10	6.0	16	R-4	18
EW 74	24	10	6.0	16	R-4	18
EW 80	24	10	6.0	16	R-4	18
EW 119	30	21	7.5	29	R-5	27

RIP-RAP APRON

NOT TO SCALE

REFER TO LANDSCAPE PLANS FOR
SPECIAL BASIN SEEDING SPECIFICATIONS

REFER TO MANUFACTURER'S SPECIFICATIONS FOR
EROSION BLANKET LINING INSTALLATION.



TYPE D-W ENDWALL

NOT TO SCALE

(SEE TABLE A FOR DIMENSIONS NOT INDICATED.)
ENDWALLS SHALL MEET PADOT CRITERIA

TABLE A (inches)
2 : 1 EMBANKMENT SLOPES

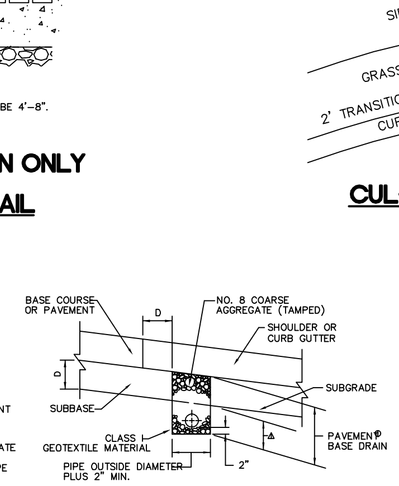
PIPE DIAMETER	SKEW ∠ = 90° TO 60° θ = 30°			SKEW ∠ = 55° θ = 35°			SKEW ∠ = 50° θ = 40°			SKEW ∠ = 45° θ = 45°			SKEW ∠ = 40° θ = 50°			SKEW ∠ = 30° θ = 60°			SKEW ∠ = 20° θ = 70°			SKEW ∠ = 10° θ = 80°			WQ	A
	D-W	D-W	$	W1	D-W	$	W1	D-W	$	W1	D-W	$	W1	D-W	$	W1	D-W	$	W1	D-W	$	W1	D-W	$	W1	D-W	D-W
(mm)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(mm)	(mm)
36	5.8	0	4.6	6.0	.33	4.9	6.2	.5	5.2	6.5	.67	5.7	7.0	.75	6.2	8.3	1.33	8.0	11.1	1.75	11.7	19.6	5.0	23.0	4.6	12
42	6.3	0	5.8	6.6	.33	6.1	6.9	.5	6.5	7.3	.67	7.1	7.8	.75	7.8	9.3	1.33	10.0	12.5	1.75	14.6	22.5	5.0	28.8	5.8	12
48	6.9	0	6.9	7.2	.33	7.3	7.5	.5	7.8	8.0	.67	8.5	8.5	.75	9.4	10.3	1.33	12.0	14.0	1.75	17.5	25.3	5.0	34.6	6.9	12
54	7.5	0	8.0	7.8	.33	8.5	8.2	.5	9.1	8.7	.67	9.9	9.3	.75	10.9	11.3	1.33	14.0	15.5	1.75	20.5	28.2	5.0	40.3	8.0	12
60	8.1	0	9.2	8.4	.33	9.8	8.8	.5	10.4	9.4	.67	11.3	10.1	.75	12.5	12.3	1.33	16.0	16.9	1.75	23.4	31.1	5.0	46.0	9.2	15
72	9.2	0	11.5	9.6	.33	12.2	10.1	.5	13.0	10.8	.67	14.1	11.7	.75	15.6	14.3	1.33	20.0	19.8	1.75	29.2	36.9	5.0	57.6	11.5	15

TYPE D-W ENDWALL

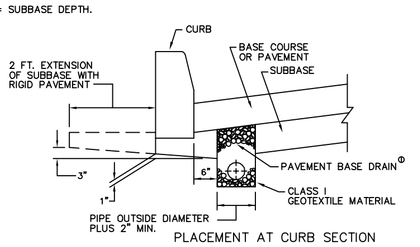
NOT TO SCALE

NOTES
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408M, SECTION 610 FOR PIPE UNDERDRAIN AND PAVEMENT BASE DRAIN, AND SECTION 610 FOR SUBSURFACE DRAIN OUTLETS.

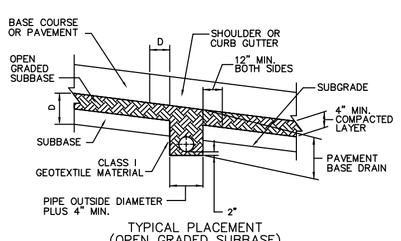
LEGEND
⏚ DEPTH BELOW SUBBASE EQUAL TO THE OUTSIDE DIAMETER OF SPECIFIED PIPE PLUS 2".
○ WHEN STORM SEWER IS REQUIRED AND IT INTERFERES WITH PLACEMENT OF PAVEMENT BASE DRAIN, ELIMINATE THE PAVEMENT BASE DRAIN AND USE COMBINATION STORM SEWER AND UNDERDRAIN.
✱ WHEN GEOTEXTILE MATERIAL IS USED FOR TYPE II BACKFILL, REPLACE FINE AGGREGATE FILTER BLANKET WITH EQUIVALENT DEPTH OF NO. 8 COARSE AGGREGATE. WHERE ACCESS BY TRENCH EQUIPMENT IS FEASIBLE, PROVIDE TRENCH WIDTH EQUAL TO PIPE OUTSIDE DIAMETER PLUS 2', BUT NOT LESS THAN 6', WHEN GEOTEXTILE MATERIAL IS INDICATED.
ⓘ TYPE I OR TYPE II BACKFILL.
D = SUBBASE DEPTH.



TYPICAL PLACEMENT
(STANDARD SUBBASE)



PLACEMENT AT CURB SECTION

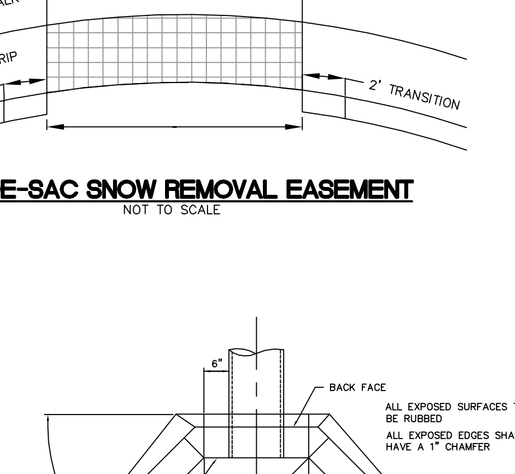


TYPICAL PLACEMENT
(OPEN GRADED SUBBASE)

PAVEMENT BASE DRAIN

NOT TO SCALE

(TO BE INSTALLED AT LOCATIONS AS DIRECTED BY ENGINEER)



D-W ENDWALL (PIPES LESS THAN 36" DIAMETER)

NO SCALE

NOTE: All endwalls must meet PADot specifications.

REV. PER LETTERS DATED 3/8/12	CSP	06/01/15	DATE: 4/07/05
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12	SCALE: AS NOTED
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12	
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11	DESIGNED BY: BSF/CSP
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11	DRAWN BY: GDM/SPE
REV. FOR CLIENT REVIEW	BSF	07/27/11	
REV. FOR E&S SUBMISSION	BSF	07/21/11	CHECKED BY: BSF/CSP
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**	
REVISIONS	AUTH.	DATE	JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

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CONSTRUCTION DETAIL SHEET

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
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EROSION & SEDIMENTATION CONTROL NARRATIVE

GENERAL INFORMATION:
PROJECT NAME: ZAVITSANOS TRACT
LOCATION: NORTH CHARLOTTE STREET, NEW HANOVER TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

OWNER: KTMT REALTY, L.P., 1030 REED AVENUE, SUITE 100, WYOMISSING, PA 19610, PHONE: (610) 288-7720
PERSON RESPONSIBLE: MICHAEL TULIO
PLAN PREPARER: CHRISTOPHER S. PECORA, P.E., P.L.S., VAN CLEEF ENGINEERING ASSOCIATES, 4 WELLINGTON BOULEVARD, WYOMISSING, PA 19610, PHONE (610) 670-6630

THIS PROPOSED RESIDENTIAL COMMUNITY IS SITUATED IN NEW HANOVER TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA AND CONSISTS OF 145 PROPOSED SINGLE FAMILY RESIDENTIAL LOTS ON 67.799 ACRES (NET AREA). ACCESS DRIVES AND STORM SEWER SYSTEMS ARE PROPOSED TO COLLECT AND DIRECT FLOWS TO PERMANENT ON-SITE DETENTION BASINS. CALCULATIONS FOR THE DETENTION BASINS CAN BE FOUND IN THE "STORMWATER MANAGEMENT REPORT". DURING CONSTRUCTION, THE DETENTION BASINS SHALL BE USED AS SEDIMENT BASINS FOR THE COLLECTION AND REMOVAL OF SEDIMENT. IN ADDITION, THERE ARE TWO TEMPORARY SEDIMENT TRAPS PROPOSED FOR THIS PROJECT.

EROSION CONTROL MEASURES CONSIST OF:
1.) PLACING TEMPORARY SEEDING ON DISTURBED AREAS AND ON TOPSOIL STOCKPILES AS NECESSARY TO PREVENT EROSION
2.) PLACING MULCH, NETTING AND SEED AS REQUIRED FOR RECURRING ERODED AREAS
3.) PLACING RIP-RAP APRONS AT STORM SEWER ENDWALLS

OTHER SEDIMENT CONTROL MEASURES (BMP's) CONSIST OF:
1.) INSTALLING SILT FENCE FOR SMALLER AREAS OF SHEET FLOW
2.) PLACEMENT OF ROCK FILTERS IN AREAS OF CONCENTRATED FLOW
3.) PLACING INLET PROTECTION AT ALL STORM GRATES
4.) CONSTRUCTING A ROCK CONSTRUCTION ENTRANCE TO PREVENT VEHICLES FROM TRACKING MUD ONTO THE EXISTING ROADS

THE SEQUENCE OF CONSTRUCTION SHALL BE DESCRIBED IN THE "CONSTRUCTION SEQUENCE" SHOWN BELOW. THIS PLAN HAS BEEN PREPARED BY CHRISTOPHER S. PECORA, P.E., P.L.S. OF VAN CLEEF ENGINEERING ASSOCIATES. MR. PECORA IS A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA AND SPECIALIZES IN LAND DEVELOPMENT DESIGN.

CONSTRUCTION SEQUENCE

1) ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 102 REGULATIONS BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

2) BEFORE IMPLEMENTING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE MONTGOMERY COUNTY CONSERVATION DISTRICT.

3) THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENTS SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 E. SEQ. AND 287.1 ET SEQ.

4) BEFORE DISPOSING OF SOIL OR RECEIVING BORROW FOR THE SITE, THE OPERATOR MUST ASSURE THAT EACH SPOIL OR BORROW AREA HAS AN EROSION AND SEDIMENT CONTROL PLAN APPROVED BY THE MONTGOMERY COUNTY CONSERVATION DISTRICT, AND WHICH IS BEING IMPLEMENTED AND MAINTAINED ACCORDING TO CHAPTER 102 REGULATIONS. THE OPERATOR SHALL ALSO NOTIFY THE MONTGOMERY COUNTY CONSERVATION DISTRICT IN WRITING OF ALL RECEIVING SPOIL AND BORROW AREAS WHEN THEY HAVE BEEN IDENTIFIED.

5) AT LEAST 7 DAYS PRIOR TO ANY EARTH DISTURBANCE ACTIVITIES, THE CONTRACTOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, AND THE MONTGOMERY COUNTY CONSERVATION DISTRICT TO ATTEND AN ON-SITE PRECONSTRUCTION MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH MOVING ACTIVITIES, CONTRACTORS SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.

6) ALL TEMPORARY EROSION CONTROL FACILITIES ARE TO BE MAINTAINED BY THE DEVELOPER AND INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.

7) IF WATERCOURSES OR WETLANDS MUST BE CROSSED FOR INSTALLATION OF CONTROLS PRIOR TO INSTALLATION OF THE PERMANENT CROSSING, A TEMPORARY CROSSING MUST BE CONSTRUCTED. SEE TEMPORARY ROAD CROSSING DETAIL.

8) PLACE ORANGE CONSTRUCTION FENCE AROUND AREAS NOT TO BE DISTURBED. CONSTRUCTION FENCE SHALL BE REPAIRED AND MAINTAINED THROUGHOUT CONSTRUCTION TO INSURE THE INTEGRITY OF THESE AREAS. FENCE MAY BE REMOVED ONCE ALL HEAVY MACHINERY ARE NO LONGER REQUIRED ON SITE.

9) AMENDED SOILS SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS SHOWN HEREON AND UPON FINAL STABILIZATION OF EACH AREA AS THEY ARE COMPLETED.

PHASE 1

1) INSTALL ROCK CONSTRUCTION ENTRANCES OFF OF MOYER ROAD AND NORTH CHARLOTTE STREET AS SHOWN ON THE PLAN.

2) INSTALL FILTER FABRIC FENCE AND SUPER SILT FENCE AND TREE PROTECTION FENCE AS SHOWN ON THE PLAN.

3) CONSTRUCT DETENTION/SEDIMENTATION BASINS A, AND B AND TEMPORARY SEDIMENT TRAP # 2.

A) EXCAVATE BASINS/TRAPS AND OUTLET ENDWALLS, OUTLET EMERGENCY STRUCTURES, AND TEMPORARY RISERS. INSTALL TEMPORARY LINING ON EMERGENCY SPILLWAYS. TEMPORARY LINING OF THE SPILLWAY CREST SHALL REMAIN UNTIL THE SITE IS FULLY STABILIZED.

B) INSTALL PROPOSED OUTLET PIPES, RIPRAP, PERMANENT OUTLET STRUCTURE, TEMPORARY BAFFLE, AND STORM SEWER RUNS AND STRUCTURES LEADING TO SEDIMENT BASINS AND SEDIMENT TRAPS. CONSTRUCT OUTLET PIPES AND ASSOCIATED STORM SEWERS TO THE TEMPORARY CROSSING AT TALLOWOOD DRIVE AND OUTLET TO THE CREEK. CONSTRUCT OUTLET PIPES AND ASSOCIATED STORM SEWERS FOR BASINS A & B. CONSTRUCT OUTLET PIPES AND ASSOCIATED STORM SEWERS FOR BASIN H TO ITS CONNECTION WITH THE EXISTING STORM SEWER IN NORTH CHARLOTTE STREET. NORTH CHARLOTTE STREET IMPROVEMENTS CAN BE INSTALLED AT THIS TIME.

C) SPREAD TOPSOIL OVER BASIN AND TRAP AREAS. SEED AND MULCH WITH PERMANENT SEED MIXTURE.

D) INSURE BASIN/TRAP OUTLETS ARE FUNCTIONAL AND STABILIZED PRIOR TO DISTURBING ADDITIONAL SITE AREA.

E) TOPSOIL FROM THE REMAINDER OF THE SITE MAY NOT BE REMOVED UNTIL THE ABOVE BASINS/TRAPS ARE INSTALLED AND FUNCTIONING PROPERLY.

4) CONSTRUCT TEMPORARY DIVERSION SWALES 1, 2 AND 3 AND PERMANENT SWALE 11 TO DIVERT RUNOFF TO THE SEDIMENT BASINS. DIVERSION SWALES MUST REMAIN UNTIL THE UPSTREAM ROADWAYS ARE INSTALLED AND ASSOCIATED STORM SEWER TO THE BASINS AND TRAPS ARE FUNCTIONAL.

5) INSTALL ROCK FILTERS JUST UPSTREAM OF WETLANDS WITHIN THE EXISTING CHANNELS AS INDICATED.

6) PERFORM CLEARING AND GRUBBING OPERATIONS AS SHOWN ON THE PLANS.

7) IN AREAS OF PROPOSED ROADWAY STRIP AND STOCKPILE TOPSOIL. ALL TOPSOIL STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY AND THE DOWNSTREAM SIDE OF SILT FENCE MUST BE INCLUDED.

8) ROUGH GRADE PROPOSED ROADS AND STABILIZE WITH STONE SUBBASE CONTINUOUSLY DURING CONSTRUCTION. CONSTRUCT PROPOSED ROADWAYS ACROSS TEMPORARY DIVERSION SWALES AND PLACE WATERBARS AS INDICATED TO CONVEY FLOW ACROSS THE ROADWAY TO THE DOWNSTREAM PORTION OF THE SWALE. THE WATERBARS AND DOWNSTREAM PORTION OF THE TEMPORARY DIVERSION SWALES MUST REMAIN UNTIL THE ROADWAY STORM SEWER IS FULLY FUNCTIONAL AND CONTRIBUTING TO THE SEDIMENT BASINS.

9) INSTALL SITE STORM SEWER, INLETS, HEADWALLS, SWALES, AND OUTLET PROTECTION. CONSTRUCT STORM SEWER CROSSING WETLANDS IN ACCORDANCE WITH PLANS AND DETAILS FOR SANDBAG COFFER DAMS AND TEMPORARY CROSSINGS. INSTALL SANITARY SEWERS. INSTALL WATER MAINS. THE REMAINING UTILITIES SHALL BE INSTALLED AS SHOWN ON THE PLANS. IMMEDIATELY PLACE INLET PROTECTION DEVICES ON STORM SEWER INLETS AS SHOWN ON THE PLANS.

10) STRIP AND STOCKPILE TOPSOIL IN REMAINING AREAS. ALL TOPSOIL STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY AND THE DOWNSTREAM SIDE OF SILT FENCE MUST BE INCLUDED.

11) COMMENCE WITH BUILDING CONSTRUCTION ON AN INDIVIDUAL LOT BY LOT BASIS. INSTALL INDIVIDUAL DRIVEWAY ROCK CONSTRUCTION ENTRANCES. ROUGH GRADE BUILDING PADS. CONSTRUCT LOT DRIVEWAYS UP TO AND INCLUDING STONE BASE. INSTALL UTILITIES ON AN INDIVIDUAL LOT BY LOT BASIS TO EACH HOUSE. UPON COMPLETION OF THE EXTERIOR OF EACH DWELLING FINE GRADE, INSTALL AMENDED SOIL IN ACCORDANCE WITH SPECIFICATIONS SHOWN HEREON AND PERMANENTLY STABILIZE AREAS NOT TO BE PAVED. DWELLING UNITS MAY NOT BE OCCUPIED UNTIL THE TOWNSHIP HAS ISSUED A CERTIFICATE OF OCCUPANCY. PAVE LOT DRIVEWAYS UPON CESSATION OF HEAVY MACHINERY OPERATION.

12) INSTALL BITUMINOUS BASE COURSE FOR PROPOSED ROADS.

13) ONCE CONSTRUCTION HAS BEEN COMPLETED ON ALL LOTS, PLACE BITUMINOUS WEARING COURSE ON PROPOSED ROADS.

14) REMOVE ALL SEDIMENT FROM BASINS AND TRAPS. AFTER (70% UNIFORM GROWTH) FINAL SITE STABILIZATION HAS TAKEN PLACE. REMOVE ALL SEDIMENT DEPOSITED WITHIN STORM SEWERS. REMOVE ALL SEDIMENT DEPOSITED IN BOTTOM OF THE SEDIMENT BASINS. CONVERT SEDIMENT BASINS TO DETENTION BASINS. THE TEMPORARY RISER AND PIPES SHOULD BE MAINTAINED DURING CONVERSION OF THE SEDIMENT BASINS TO PERMANENT DETENTION BASINS. REMOVE CLEANOUT STAKES, BAFFLES AND RE-GRADE, SEED, AND MULCH ALL DISTURBED AREAS. ONCE STABILIZATION HAS OCCURRED, REMOVE SEDIMENT BASIN DEWATERING FACILITY FROM BASINS AND INSTALL ORIFICE PLATES ON PERMANENT OUTLET STRUCTURES. RE-GRADE, SEED, AND MULCH ALL ADDITIONAL DISTURBED AREAS.

15) ANY AREA WHERE ACTIVE GRADING HAS CEASED WHICH WILL ALLOW SOIL TO BE EXPOSED MUST BE TEMPORARILY SEEDED AND MULCHED.

16) AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED IMMEDIATELY. SILT FENCE SHOULD REMAIN IN PLACE UNTIL ALL UP SLOPE WORK HAS BEEN COMPLETED AND STABILIZED.

PHASE 2

1) INSTALL ROCK CONSTRUCTION ENTRANCES ON TALLOWOOD DRIVE AND PIXIE MOSS TRAIL STREET AS SHOWN ON THE PLAN.

2) INSTALL FILTER FABRIC FENCE AND SUPER SILT FENCE AND TREE PROTECTION FENCE AS SHOWN ON THE PLAN.

3) CONSTRUCT DETENTION/SEDIMENTATION BASINS C AND H.

A) EXCAVATE BASINS/TRAPS AND OUTLET ENDWALLS, OUTLET EMERGENCY STRUCTURES, AND TEMPORARY RISERS. INSTALL TEMPORARY LINING ON EMERGENCY SPILLWAYS. TEMPORARY LINING OF THE SPILLWAY CREST SHALL REMAIN UNTIL THE SITE IS FULLY STABILIZED.

B) INSTALL PROPOSED OUTLET PIPES, RIPRAP, PERMANENT OUTLET STRUCTURE, TEMPORARY BAFFLE, AND STORM SEWER RUNS AND STRUCTURES LEADING TO SEDIMENT BASINS AND SEDIMENT TRAPS. CONSTRUCT OUTLET PIPES AND ASSOCIATED STORM SEWERS FOR BASINS C & D. SPREAD TOPSOIL OVER BASIN AND TRAP AREAS. SEED AND MULCH WITH PERMANENT SEED MIXTURE.

C) INSURE BASIN/TRAP OUTLETS ARE FUNCTIONAL AND STABILIZED PRIOR TO DISTURBING ADDITIONAL SITE AREA.

D) TOPSOIL FROM THE REMAINDER OF THE SITE MAY NOT BE REMOVED UNTIL THE ABOVE BASINS/TRAPS ARE INSTALLED AND FUNCTIONING PROPERLY.

4) CONSTRUCT TEMPORARY DIVERSION SWALES 1, 3, 5, 6 AND SWALE BEHIND LOTS 6-13 PERMANENT SWALE 7 TO DIVERT RUNOFF TO THE SEDIMENT BASINS. DIVERSION SWALES MUST REMAIN UNTIL THE UPSTREAM ROADWAYS ARE INSTALLED AND ASSOCIATED STORM SEWER TO THE BASINS AND TRAPS ARE FUNCTIONAL.

5) PERFORM CLEARING AND GRUBBING OPERATIONS AS SHOWN ON THE PLANS.

6) STRIP AND STOCKPILE TOPSOIL IN AREAS OF PROPOSED ROADWAY. ALL TOPSOIL STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY AND THE DOWNSTREAM SIDE OF SILT FENCE MUST BE INCLUDED.

7) ROUGH GRADE PROPOSED ROADS AND STABILIZE WITH STONE SUBBASE CONTINUOUSLY DURING CONSTRUCTION. CONSTRUCT PROPOSED ROADWAYS ACROSS TEMPORARY DIVERSION SWALES AND PLACE WATERBARS AS INDICATED TO CONVEY FLOW ACROSS THE ROADWAY TO THE DOWNSTREAM PORTION OF THE SWALE. THE WATERBARS AND DOWNSTREAM PORTION OF THE TEMPORARY DIVERSION SWALES MUST REMAIN UNTIL THE ROADWAY STORM SEWER IS FULLY FUNCTIONAL AND CONTRIBUTING TO THE SEDIMENT BASINS.

8) CONSTRUCT STORM SEWERS AND STRUCTURES LEADING FROM ROADS TO BASINS.

9) INSTALL SITE STORM SEWER, INLETS, HEADWALLS, SWALES, AND OUTLET PROTECTION. CONSTRUCT PIPE RUNS CROSSING WETLANDS IN ACCORDANCE WITH PLANS AND DETAILS FOR SANDBAG COFFER DAMS AND TEMPORARY CROSSINGS. INSTALL SANITARY SEWERS. INSTALL WATER MAINS. THE REMAINING UTILITIES SHALL BE INSTALLED AS SHOWN ON THE PLANS. IMMEDIATELY PLACE INLET PROTECTION DEVICES ON STORM SEWER INLETS AS SHOWN ON THE PLANS.

10) STRIP AND STOCKPILE TOPSOIL IN REMAINING AREAS. ALL TOPSOIL STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY AND THE DOWNSTREAM SIDE OF SILT FENCE MUST BE INCLUDED.

11) COMMENCE WITH BUILDING CONSTRUCTION ON AN INDIVIDUAL LOT BY LOT BASIS. INSTALL INDIVIDUAL DRIVEWAY ROCK CONSTRUCTION ENTRANCES. ROUGH GRADE BUILDING PADS. CONSTRUCT LOT DRIVEWAYS UP TO AND INCLUDING STONE BASE. INSTALL UTILITIES ON AN INDIVIDUAL LOT BY LOT BASIS TO EACH HOUSE. UPON COMPLETION OF THE EXTERIOR OF EACH DWELLING FINE GRADE, INSTALL AMENDED SOIL IN ACCORDANCE WITH SPECIFICATIONS SHOWN HEREON AND PERMANENTLY STABILIZE AREAS NOT TO BE PAVED. DWELLING UNITS MAY NOT BE OCCUPIED UNTIL THE TOWNSHIP HAS ISSUED A CERTIFICATE OF OCCUPANCY. PAVE LOT DRIVEWAYS UPON CESSATION OF HEAVY MACHINERY OPERATION.

12) INSTALL BITUMINOUS BASE COURSE FOR PROPOSED ROADS.

13) ONCE CONSTRUCTION HAS BEEN COMPLETED ON ALL LOTS, PLACE BITUMINOUS WEARING COURSE ON PROPOSED ROADS.

14) REMOVE ALL SEDIMENT FROM BASINS AND TRAPS AFTER (70% UNIFORM GROWTH) FINAL SITE STABILIZATION HAS TAKEN PLACE. REMOVE ALL SEDIMENT DEPOSITED WITHIN STORM SEWERS. REMOVE ALL SEDIMENT DEPOSITED IN BOTTOM OF THE SEDIMENT BASIN. CONVERT SEDIMENT BASINS TO DETENTION BASINS. THE TEMPORARY RISER AND PIPES SHOULD BE MAINTAINED DURING CONVERSION OF THE SEDIMENT BASINS TO PERMANENT DETENTION BASINS. REMOVE CLEANOUT STAKES, BAFFLES AND RE-GRADE, SEED, AND MULCH ALL DISTURBED AREAS. ONCE STABILIZATION HAS OCCURRED, REMOVE SEDIMENT BASIN DEWATERING FACILITY FROM BASINS AND INSTALL ORIFICE PLATES ON PERMANENT OUTLET STRUCTURES. RE-GRADE, SEED, AND MULCH ALL ADDITIONAL DISTURBED AREAS.

15) ANY AREA WHERE ACTIVE GRADING HAS CEASED WHICH WILL ALLOW SOIL TO BE EXPOSED MUST BE TEMPORARILY SEEDED AND MULCHED.

16) AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED IMMEDIATELY. SILT FENCE SHOULD REMAIN IN PLACE UNTIL ALL UP SLOPE WORK HAS BEEN COMPLETED AND STABILIZED.

UTILITY LINE TRENCH EXCAVATION

1. EXPOSED TRENCH EXCAVATIONS HAVE HIGH POTENTIAL FOR ACCELERATED EROSION AND SEDIMENT POLLUTION. SINCE THESE EXCAVATIONS ARE USUALLY LOCATED AT LOWER ELEVATIONS ALONG OR ACROSS EARTH DISTURBANCE SITES, OPEN TRENCHES SERVE TO CONCENTRATE SEDIMENT LADEN RUNOFF AND CONVEY IT TO SITE BOUNDARIES OR WATERWAYS. THE MOST IMPORTANT EROSION AND SEDIMENT POLLUTION CONTROL CONSIDERATION FOR TRENCH CONSTRUCTION IS THE LIMITING AND SPECIFIC SCHEDULING OF WORK ACTIVITIES.

2. 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 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 TO AN APPROVED FACILITY FOR REMOVAL OF SEDIMENT BEFORE PIPE PLACEMENT AND/OR 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 APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE AT THE END OF EACH WEEK.
G) SOILS EXCAVATED FROM EXISTING SURFACE LAYER SHOULD BE STOCKPILED SEPARATELY AND RETURNED AS FINAL SURFACE LAYER FOLLOWING TRENCH BACKFILLING.

PROJECT CONSTRUCTION RECYCLING AND DISPOSAL METHODS

1. TREES - CHIPPED AND REMOVED OFFSITE FOR MULCH.
2. BUILDING MATERIALS - SHALL BE REMOVED AND DISPOSED OF AT PROPER RECYCLING FACILITY AS PER NOTE #6 OF THE GENERAL EROSION & SEDIMENT CONTROL NOTES.
3. ROCK WASTE - ALL ROCKS THAT ARE SUITABLE FOR LANDSCAPING USES SHALL BE USED ON SITE OR AT ANOTHER FACILITY.
4. SOIL WASTE - ALL EXCAVATED SOIL SHALL BE USED ON SITE, AS FILL MATERIAL WHERE POSSIBLE. ANY EXCESS MATERIAL NOT USED ON SITE MAY ONLY BE DISPOSED AT A FACILITY WITH A VALID EARTH DISTURBANCE AND NPDES PERMIT APPROVED AND WERE ALL BMPS ARE PROPERLY INSTALLED. ALL SEDIMENT REMOVED DURING MAINTENANCE AND CLEANING OF EROSION AND SEDIMENTATION CONTROLS DEVICES WILL BE INCORPORATED INTO THE FINE GRADING UPSTREAM FROM A SEDIMENT CONTROL DEVICE. EXCESS MATERIAL THAT IS REMOVED FROM EROSION AND SEDIMENTATION CONTROL MEASURES AND CANNOT BE INCORPORATED INTO THE FINE GRADING STABILIZATION SHALL BE REMOVED FROM THE SITE AND MAY ONLY BE DISPOSED AT A FACILITY WITH A VALID EARTH DISTURBANCE AND NPDES PERMIT APPROVAL AND WERE ALL BMPS ARE PROPERLY INSTALLED.
5. SEDIMENT REMOVAL FROM ALL SEDIMENT BASINS TO BE RETURNED TO SITE UPSTREAM OF ALL PROPOSED BMP'S.

GENERAL EROSION & SEDIMENT CONTROL NOTES

1. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE OR AFTER ANY STAGE OR PHASE OF AN ACTIVITY, THE OPERATOR SHALL STABILIZE ANY AREA 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 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 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

2. THE PERMITTEE OR CO-PERMITTEE SHALL CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT AT LEAST SEVEN DAYS BEFORE CONSTRUCTION IS TO BEGIN TO DETERMINE IF A PRECONSTRUCTION CONFERENCE IS REQUIRED. THE PERMITTEE, CO-PERMITTEE, AND OTHERS UNDERTAKING THE EARTH DISTURBANCE ACTIVITY MUST ATTEND A PRECONSTRUCTION CONFERENCE WHEN REQUESTED BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE PERMITTEE OR CO-PERMITTEE MUST BRING A COPY OF THEIR NPDES PERMIT, A COPY OF THE STAMPED PLAN FROM THE CONSERVATION DISTRICT, AND ALL ASSOCIATED DEPARTMENT APPROVALS/PERMITS WHICH MUST BE AVAILABLE AT THE CONFERENCE UPON REQUEST. 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.

3. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.

4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE CONSTRUCTION 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.

5. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENTATION 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 (M.C.C.D.).

6. 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 MATERIAL OR WASTE AT THE SITE.

7. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE M.C.C.D. AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.

8. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF CONTROLS MUST BE STABILIZED IMMEDIATELY. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM 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 OR OTHER MOVEMENTS.

9. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

10. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES AND MEASURES AFTER EACH RUNOFF EVENT AND EACH WEEK. THE OPERATOR SHALL MAINTAIN AND MAKE AVAILABLE TO M.C.C.D. COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.

11. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.

12. TEMPORARY SEDIMENT BASIN CONSTRUCTION ITEMS CONSIST OF: EMERGENCY SPILLWAY, BAFFLE, TEMPORARY RISERS, TRASH RACK AND ANTI-VORTEX DEVICE AND EMERGENCY SPILLWAY PROTECTION.

13. PERMANENT DETENTION BASIN CONSTRUCTION ITEMS CONSIST OF CONVERSION OF TEMPORARY SPILLWAY PROTECTION TO PERMANENT SPILLWAY PROTECTION, INSTALLATION OF OUTLET STRUCTURE, REMOVING TEMPORARY RISER, AND INSTALLATION OF RIPRAP OUTLET PROTECTION.

14. ALL STRUCTURES ASSOCIATED WITH THE CONSTRUCTION OF SEDIMENT REMOVAL FACILITIES MUST BE ON SITE PRIOR TO EARTH DISTURBANCE.

15. ALL TOPSOIL STOCKPILES, EARTH BERMS, TEMPORARY SEDIMENTATION BASIN EMBANKMENTS AND CHANNELS MUST BE SEEDED AND MULCHED IMMEDIATELY. SILT FENCE MUST BE INCLUDED AROUND STOCKPILES ON THE DOWNSTREAM SIDE. STOCKPILE HEIGHT NOT TO EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

16. ONLY LIMITED UPSLOPE DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO SEDIMENTATION BASINS, SEDIMENT TRAPS OR DIVERSION BERMS, DITCHES, SWALES AND TERRACES FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE CONTROLS.

17. NO RIP-RAP APRONS WILL BE PLACED IN FOREBAYS WITHIN THE DETENTION BASINS. ALL OTHER RIP-RAP APRONS, ESPECIALLY APRONS FOR OUTLET STRUCTURE DISCHARGE ENDWALLS, WILL BE PLACED AT TIME OF ENDWALL CONSTRUCTION.

18. A WATER TRUCK WILL BE PROVIDED AS REQUIRED TO PREVENT DUST FROM LEAVING THE PROPERTY DURING DRY PERIODS OF CONSTRUCTION.

19. AT THE END OF EACH WORKING DAY, ANY SEDIMENT TRACKED OR CONVEYED ONTO A PUBLIC ROADWAY WILL BE REMOVED AND REDEPOSITED ONTO THE CONSTRUCTION SITE. REMOVAL CAN BE COMPLETED THROUGH USE OF MECHANICAL OR HAND TOOLS, BUT MUST NEVER BE WASHED OFF THE ROAD BY USE OF WATER.

20. SEDIMENT REMOVED FROM E&SPC CONTROLS & FACILITIES SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.

21. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A DIRT BAG FILTRATION DEVICE, OR EQUIVALENT SEDIMENT REMOVAL FACILITY, OVER NON-DISTURBED VEGETATED AREAS. DISCHARGE POINTS SHOULD BE ESTABLISHED TO PROVIDE FOR MAXIMUM DISTANCE TO ACTIVE WATERWAYS.

22. 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 WOOD CHIPS, HAY BALES, CRUSHED STONE AND OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

23. 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.

24. A COPY OF THIS EROSION AND SEDIMENTATION CONTROL REPORT AND PLANS MUST BE POSTED AT THE CONSTRUCTION SITE.

25. UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPS AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT.

26. PERMITTEES AND CO-PERMITTEES ARE RESPONSIBLE FOR ENSURING THAT A LICENSED PROFESSIONAL HAVE OVERSIGHT RESPONSIBILITIES FOR THE DESIGN AND PROPER INSTALLATION OF BMPS IDENTIFIED IN THE PCSM PLAN PRIOR TO THE SUBMISSION OF THE NOT FOR THIS PERMIT. THE LICENSED PROFESSIONAL SHALL CERTIFY THAT THE BMPS IDENTIFIED IN THE PLAN HAVE BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLAN. THE INSTALLATION SCHEDULE OF PCSM BMPS AND MAINTENANCE REQUIREMENTS CONTAINED WITHIN THE APPROVED PCSM PLAN MUST BE FOLLOWED, AND FAILURE TO COMPLY WITH THE INSTALLATION SCHEDULE IS A VIOLATION OF THIS PERMIT, THE CLEAN STREAMS LAW, AND THE CLEAN WATER ACT.

STABILIZATION NOTES

1. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
2. DIVERSION CHANNELS, SEDIMENTATION BASINS, SEDIMENT TRAPS, AND STOCKPILES MUST BE STABILIZED IMMEDIATELY.
3. HAY OR STRAW MULCH MUST BE APPLIED AT RATES OF AT LEAST 3.0 TONS PER ACRE.
4. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
5. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMP'S 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 DONE IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S, OR MODIFICATIONS TO THOSE INSTALLED WILL BE REQUIRED.
6. AN E&S PLAN SHALL BE SUBMITTED TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT AND IMPLEMENTED FOR ALL SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATION.
7. THE NPDES BOUNDARY IS EQUAL TO THE LIMITS OF DISTURBANCE OF THE SITE AND ANY OFF-SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL OFF-SITE FACILITIES SUCH AS UTILITIES AND ROADWAYS.
8. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (E&S MANUAL), COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION NO. 363-2134-008, APRIL 2000, AS AMENDED AND UPDATED. EROSION AND SEDIMENT CONTROL BMPS SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED AND PCSM BMPS ARE OPERATIONAL.

NPDES PERMIT NOTES

1. UPON REDUCTION, LOSS OR FAILURE OF THE BMP'S, THE PERMITEE AND COPERMITEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMPS OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT.
2. WHERE E&S BMPS ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITEE AND CO-PERMITEE SHALL IMMEDIATELY CONTACT THE MONTGOMERY COUNTY CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT.
3. PERMITEES REQUESTING A RENEWAL OF COVERAGE UNDER GENERAL PERMIT MUST SUBMIT TO THE MONTGOMERY COUNTY CONSERVATION DISTRICT AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NOI, AT LEAST 90 DAYS PRIOR TO THE EXPIRATION DATE OF THE COVERAGE.
4. PERMITEES REQUESTING A RENEWAL OF COVERAGE UNDER INDIVIDUAL PERMIT MUST SUBMIT TO THE MONTGOMERY COUNTY CONSERVATION DISTRICT AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NOI, AT LEAST 180 DAYS PRIOR TO THE EXPIRATION DATE OF THE COVERAGE.
5. NOTICE OF TERMINATION. WHERE ALL STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THIS PERMIT ARE ELIMINATED, AND BMPS IDENTIFIED IN THE POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) PLAN HAVE BEEN INSTALLED, THE PERMITEE OR CO-PERMITEE OF THE FACILITY MUST SUBMIT A NOTICE OF TERMINATION (NOT) FORM THAT IS SIGNED IN ACCORDANCE WITH PART B.I.C (SIGNATORY REQUIREMENTS) OF THIS PERMIT TO THE MONTGOMERY COUNTY CONSERVATION DISTRICT.

GENERAL MAINTENANCE NOTES

A. SILT FENCE
1. THE FENCE INSTALLATION SHOULD BE INSPECTED AFTER EACH RUNOFF EVENT. ANY NECESSARY REPAIRS WILL BE MADE IMMEDIATELY.
2. ACCUMULATED SEDIMENTS WILL BE REMOVED AS REQUIRED TO KEEP THE FENCE FUNCTIONAL. IN ALL CASES REMOVE DEPOSITS WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.
3. ANY FENCE SECTION WHICH HAS BE UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEE ROCK FILTER OUTLET DETAIL.
4. ADHERE TO ANY MANUFACTURERS RECOMMENDATIONS FOR REPLACING FILTER FABRIC FENCE DUE TO WEATHERING.
5. SUPER SILT FENCE TO BE USED IN PLACE OF LIMIT OF DISTURBANCE FENCING IN ADDITION TO THE PROPOSED SILT FENCE SHOWN ON THE PLANS.

B. CONSTRUCTION ENTRANCE
1. THE STRUCTURES THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSION 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. WASHING THE ROADWAY WITH WATER IS NOT PERMITTED.

C. SEDIMENT BASIN/TRAP
1. SEDIMENT WILL BE REMOVED FROM THE SEDIMENTATION BASINS AND TRAPS WHEN THE CAPACITY OF THE FACILITY IS REDUCED BY 200 CUBIC FEET PER ACRE OF PROJECT AREA TRIBUTARY TO IT.
2. A "CLEAN-OUT" ELEVATION WILL BE CLEARLY INDICATED ON THE PLAN DRAWINGS. THIS ELEVATION WILL BE IDENTIFIED BY APPROPRIATE STRUCTURE OR DEVICE WITHIN THE CONSTRUCTED BASIN TO INDICATE WHEN SEDIMENT SHOULD BE REMOVED.
3. SEDIMENT WILL NOT BE ALLOWED TO ENTER WATERS OF THE COMMONWEALTH DURING EITHER SEDIMENT REMOVAL OR DISPOSAL OPERATIONS.
(a) THE LOCATION OF SEDIMENT DISPOSAL AREAS MUST BE SHOWN ON A MAP WHICH IS PART OF THE EROSION AND SEDIMENT CONTROL PLAN.
4. SEDIMENTATION BASINS WILL BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.
5. SEDIMENT BASINS SHOULD NOT BE CONVERTED TO PERMANENT DETENTION BASINS UNTIL CONTRIBUTING DRAINAGE AREAS ARE 70% STABILIZED.

D. ROCK FILTERS
1. ROCK FILTERS WILL BE REMOVED WHEN CLOGGED WITH SEDIMENTS. MATERIALS MUST BE WASHED COMPLETELY FREE OF ALL FOREIGN MATERIALS OR NEW ROCK USED TO REBUILD THE FILTER.

E. BASIN OUTLETS
1. 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.
2. ANY WETLAND PLANTINGS THAT APPEAR TO BE REMOVED OR DEAD WILL BE REPLACED BY HAND.
3. ANY SEDIMENT BUILDUP WILL BE REMOVED BY HAND.
4. ALL MAINTENANCE WILL BE PERFORMED BY THE LOT OWNER OR HOMEOWNERS ASSOCIATION. AT ANYTIME THE TOWNSHIP HAS THE RIGHT TO MAINTAIN THIS FACILITY AT THE OWNERS EXPENSE.

F. POST CONSTRUCTED STORMWATER MANAGEMENT BASIN (BMP)
1. ALL BASINS WILL BE CHECKED ON A REGULAR BASIS FOR DEBRIS BUILDUP (TRASH AND CONSTRUCTION DEBRIS) THAT MAY CAUSE CLOGGING OF ORIFICES WITHIN OUTLET STRUCTURES.

PROJECT CONSTRUCTION WASTES

1. TREES - CHIPPED AND REMOVED OFFSITE FOR MULCH.
2. BUILDING MATERIALS - SHALL BE REMOVED AND DISPOSED OF AT PROPER RECYCLING FACILITY AS PER NOTE #6 OF THE GENERAL EROSION & SEDIMENT CONTROL NOTES.
3. ROCK WASTE - ALL ROCKS THAT ARE SUITABLE FOR LANDSCAPING USES SHALL BE USED ON SITE OR AT ANOTHER FACILITY.
4. SOIL WASTE - ALL EXCAVATED SOIL SHALL BE USED ON SITE, AS FILL MATERIAL WHERE POSSIBLE. ANY EXCESS MATERIAL NOT USED ON SITE MAY ONLY BE DISPOSED AT A FACILITY WITH A VALID EARTH DISTURBANCE AND NPDES PERMIT APPROVED AND WERE ALL BMPS ARE PROPERLY INSTALLED. ALL SEDIMENT REMOVED DURING MAINTENANCE AND CLEANING OF EROSION AND SEDIMENTATION CONTROLS DEVICES WILL BE INCORPORATED INTO THE FINE GRADING UPSTREAM FROM A SEDIMENT CONTROL DEVICE. EXCESS MATERIAL THAT IS REMOVED FROM EROSION AND SEDIMENTATION CONTROL MEASURES AND CANNOT BE INCORPORATED INTO THE FINE GRADING STABILIZATION SHALL BE REMOVED FROM THE SITE AND MAY ONLY BE DISPOSED AT A FACILITY WITH A VALID EARTH DISTURBANCE AND NPDES PERMIT APPROVAL AND WERE ALL BMPS ARE PROPERLY INSTALLED.
5. SEDIMENT REMOVAL FROM ALL SEDIMENT BASINS TO BE RETURNED TO SITE UPSTREAM OF ALL PROPOSED BMP'S.

STREAM CROSSING AND WETLAND RESTORATION PROCEDURES

A. THE MAXIMUM SIZE UTILITY LINE ALLOWED IS 36 INCHES IN DIAMETER.

B. ALL UTILITY LINES UNDER STREAMBEDS SHALL BE LOCATED SUCH THAT THERE WILL BE A MINIMUM OF THREE (3) FEET OF COVER BETWEEN THE TOP OF THE UTILITY LINE OR ENCASEMENT AND THE LOWEST POINT IN THE NATURAL CONTOUR OF THE STREAMBED, UNLESS THE UTILITY IS IN ROCK, WHERE A MINIMUM COVER OF ONE (1) FOOT SHALL BE PROVIDED.

C. TRENCHES EXCAVATED FOR THE INSTALLATION OF UTILITY LINES SHALL BE THE MINIMUM WIDTH NECESSARY. AS SOON AS THE UTILITY LINE IS INSTALLED AND TESTED TO ASCERTAIN NO LEAKAGE, APPROPRIATE NEW OR PREVIOUSLY EXCAVATED BACKFILL MATERIAL SHALL BE PLACED IN THE TRENCH AND THE AREA RESTORED TO ITS ORIGINAL CONDITION AND ELEVATION AND STABILIZED. BACKFILL MATERIAL STORED IN CONNECTION WITH THE INSTALLATION MUST BE PROPERLY RETAINED OUT OF THE FLOODWAY SO AS TO PREVENT ITS DISCHARGE, WASHINGS OR RUNOFF FROM ENTERING THE WATERWAY PRIOR TO ITS PLACEMENT AS BACKFILL.

D. ADEQUATE MEASURES SHALL BE USED TO PREVENT SEDIMENTATION FROM THE TRENCH FROM ENTERING THE STREAM.

E. THE BACKFILLING OF THE TRENCH IN WHICH THE PIPE WILL BE LAID SHALL BE DONE SO AS TO ELIMINATE THE FORMATION OF A PERMANENT RIDGE IN THE STREAMBED.

F. DURING CONSTRUCTION ACTIVITIES, ALL PUBLIC AND PRIVATE PROPERTY INCLUDING EXISTING VEGETATION, LANDSCAPE FEATURES AND MONUMENTS WITHIN, ALONG AND ADJACENT TO THE WORK AREA, SHALL BE PROTECTED AND PRESERVED TO THE MAXIMUM DEGREE POSSIBLE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, PRECAUTIONS TAKEN TO MINIMIZE DAMAGE, EROSION, INJURY, OR DESTRUCTION; PREVENT POLLUTION; PROVIDE PROTECTION AL ALL TREES AND OTHER WOODY PLANTS; SPECIAL CARE BEING TAKEN TO PROTECT THE NATURAL VEGETATION AND SURROUNDINGS TO INCLUDE ALL NATURAL DRAINAGE WAYS, PONDS, LAKES, SWAMPS, WOODS AND FIELDS, AND STORAGE OF MATERIALS IN SUCH MANNER TO PREVENT LEACHING WHICH WOULD BE INJURIOUS TO SOILS AND TO PLANTS. PRECAUTIONS SHOULD BE TAKEN TO PREVENT DAMAGE TO PIPES, CONDUITS AND OTHER UNDERGROUND STRUCTURES.

G. THE PERMITTEE OR CO-PERMITTEE SHALL INVESTIGATE FOR DRINKING WATER INTAKES OR RESERVOIRS FOR PUBLIC AND PRIVATE WATER SUPPLIES WITHIN FIVE (5) MILES DOWNSTREAM OF THE CROSSING AND WRITTEN NOTICE SHALL BE GIVEN AT LEAST TEN (10) DAYS PRIOR TO CONSTRUCTION TO OPERATORS OF ANY SUCH INTAKES OR RESERVOIRS. OWNERS MUST NOTIFY PUBLIC AND PRIVATE WATER SUPPLY OPERATORS IMMEDIATELY AND NO LONGER THAN ONE (1) HOUR AFTER AN OCCURRENCE AT THE CROSSING SITE WHICH RESULTS IN THE RELEASE OF SUSPENDED SOLIDS AND TURBIDITY TO THE STREAM.

H. TIMBER MATS, PADS, OR OTHER SIMILAR DEVICES SHALL BE USED WHERE CROSSINGS OF WETLAND AREAS BY CONSTRUCTION EQUIPMENT CANNOT BE AVOIDED. ORIGINAL GRADES THOUGH WETLANDS MUST BE RESTORED AFTER TRENCHING AND BACKFILLING. ANY EXCESS FILL MATERIAL MUST BE REMOVED FROM THE WETLAND AND NOT SPREAD ON-SITE. MOUNDING OF FILL MATERIAL TO ALLOW FOR SETTLEMENT IN THE TRENCH WILL BE PERMITTED IN ACCORDANCE WITH BEST CONSTRUCTION METHODS.

I. DEPOSITION OF DREDGED OR EXCAVATED MATERIALS AND ALL EARTHWORK OPERATIONS WILL BE CARRIED OUT IN SUCH A WAY AS TO MINIMIZE EROSION OF THE MATERIAL AND PRECLUDE ITS ENTERING INTO ANY WETLAND ADJACENT TO THE UTILITY LINE CROSSING.

J. UTILITY LINE CROSSINGS OF STREAMS SHOULD BE ACCOMPLISHED SO THAT THE LINE IS AT A RIGHT ANGLE TO THE STREAM WHERE POSSIBLE, UNLESS THE CROSSING IS INSTALLED ON AN EXISTING BRIDGE.

K. WHENEVER POSSIBLE, IN ACCORDANCE WITH BEST CONSTRUCTION METHODS UTILITY LINE CROSSINGS ARE TO BE MADE "IN THE DRY" BY INSTALLING SANDBAG AND PLASTIC DAMS AND PIPING STREAM FLOW THROUGH THE AFFECTED AREA.

L. PRIOR TO THE USE OF EXPLOSIVES IN A WATERCOURSE OR BODY OF WATER, A WRITTEN PERMIT MUST BE SECURED FROM THE FISH AND BOAT COMMISSION, UNDER THE PENNSYLVANIA FISH AND BOAT CODE 30 PA. C.S. SECTION 2906 (RELATING TO PERMITS FOR USE OF EXPLOSIVES). REQUESTS SHOULD BE DIRECTED TO THE FISH AND BOAT COMMISSION, DIVISION OF ENVIRONMENTAL SERVICES.

M. STAGING AREAS SHOULD BE LOCATED AT LEAST 50 FEET FROM THE EDGE OF WETLAND.

N. MOVEMENT OF VEHICLES ACROSS THE WETLAND SHOULD BE MINIMIZED. WHERE VEHICLES MUST BE MOVED ACROSS WETLANDS, THE USE OF PADS OR TIMBER MATS SHOULD BE USED.

O. EXCAVATED TOPSOIL SHOULD BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUB-SOIL. HYDRIC SOILS SHOULD BE PLACED BACK IN STREAM BED.

P. APPLY ANNUAL RYEGRASS AT THE RATE OF 40 LB PER ACRE TO AREAS WITHOUT STANDING WATER. STRAW MULCH WITHOUT BINDING AGENTS SHOULD BE APPLIED AT THE RATE OF 3 TONS PER ACRE. LIME AND FERTILIZER SHOULD NOT BE USED.

Q. TEMPORARY AND/OR PERMANENT CROSSINGS MUST BE INSTALLED PRIOR TO CROSSING OF A WETLAND OR WATERCOURSE FOR INSTALLATION OF CONTROLS.

R. WETLANDS SHOULD BE DELINEATED IN THE FIELD AND PROTECTED WITH SAFETY FENCE OR COMBINATION SAFETY/SILT FENCE.

S. BMPs SUCH AS TRENCH PLUGS SHOULD BE TAKEN TO PREVENT THE TRENCH FROM DRAINING THE WETLANDS OR CHANGING ITS HYDROLOGY.

T. UTILITY LINE STREAM CROSSING OF A STREAM 10 FT IN BOTTOM WIDTH OR LESS SHALL BE COMPLETED WITHIN 72 HOURS, INCLUDING THE TRENCH BACKFILLING, STABILIZATION OF STREAM BANKS AN STABILIZATION OF THE AREA 50 FEET BACK FROM THE TOP OF EACH STREAM BANK.

U. FACILITIES FOR REMOVING SEDIMENT FROM PUMPED WATER SHOULD BE AVAILABLE AT THE UTILITY LINE STREAM CROSSING SITE BEFORE TRENCHING COMMENCES AND MAINTAINED UNTIL TRENCH BACKFILLING IS COMPLETED. ASSEMBLY AREAS, TEMPORARY EQUIPMENT AND NONHAZARDOUS MATERIAL STORAGE AREAS SHOULD BE LOCATED AT LEAST 50 FEET BACK FROM THE TOP OF STREAM BANK.

SEDIMENT BASINS

1. APPROVAL OF THE USE OF SKIMMERS DOES NOT APPROVE USE OF ANY SKIMMERS IN VIOLATION OF ANY PATENT, PATENT RIGHTS, AND/OR PATENT LAWS.
2. BAFFLES MUST BE INSTALLED TO ALLOW BASIN MAINTENANCE AND CLEAN OUT.
3. UPON INSTALLATION OF THE TEMPORARY SEDIMENT BASIN RISER(S), AN IMMEDIATE INSPECTION SHALL BE DONE BY A QUALIFIED SITE REPRESENTATIVE AND THE MONTGOMERY COUNTY CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING THAT THE RISER IS SEALED.
4. SEDIMENT BASINS MUST BE STRUCTURALLY SOUND AND PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.

OTHER BMPS

1. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
2. AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.

CHAPTER 93 CLASSIFICATION NOTE

THE PROJECTS RECEIVING WATERCOURSE IS SWAMP CREEK AND THE CHAPTER 93 CLASSIFICATION IS TSF-MF.

DUE DILIGENCE NOTES

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 CONTRACTOR.

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).

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 OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND ON DEP'S WEB SITE.

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".

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.

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 SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT. NONCOMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:

(1) ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION;

(2) THE PERIOD OF NONCOMPLIANCE, INCLUDING EXACT DATES AND TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE;

(3) STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENCE OF THE NONCOMPLIANCE; AND

(4) THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

REDUCTION, LOSS, OR FAILURE OF THE BMPS

UPON REDUCTION, LOSS, OR FAILURE OF THE BMPS, THE PERMITTEE AND CO-PERMITTEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMPS OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT. SUCH RESTORED BMPS OR ALTERNATIVE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMPS.

TERMINATION OF COVERAGE

NOT: UPON PERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THIS PERMIT AND WHEN BMPS IDENTIFIED IN THE PCSM PLAN HAVE BEEN PROPERLY INSTALLED, THE PERMITTEE AND/OR CO-PERMITTEE OF THE FACILITY MUST SUBMIT A NOT FORM THAT IS SIGNED IN ACCORDANCE WITH PART B, SECTION 1.C, SIGNATORY REQUIREMENTS, OF THIS PERMIT. ALL LETTERS CERTIFYING DISCHARGE TERMINATION ARE TO BE SENT TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE NOT MUST CONTAIN THE FOLLOWING INFORMATION: FACILITY NAME, ADDRESS, AND LOCATION, OPERATOR NAME AND ADDRESS, PERMIT NUMBER, IDENTIFICATION AND PROOF OF ACKNOWLEDGEMENT FROM THE PERSON(S) WHO WILL BE RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE PCSM BMPS IN ACCORDANCE WITH THE APPROVED PCSM PLAN, AND THE REASON FOR PERMIT TERMINATION. UNTIL THE PERMITTEE HAS RECEIVED WRITTEN ACKNOWLEDGEMENT OF THE NOT, THE PERMITTEE WILL REMAIN RESPONSIBLE FOR OPERATING AND MAINTAINING ALL E&S BMPS AND PCSM BMPS ON THE PROJECT SITE AND WILL BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

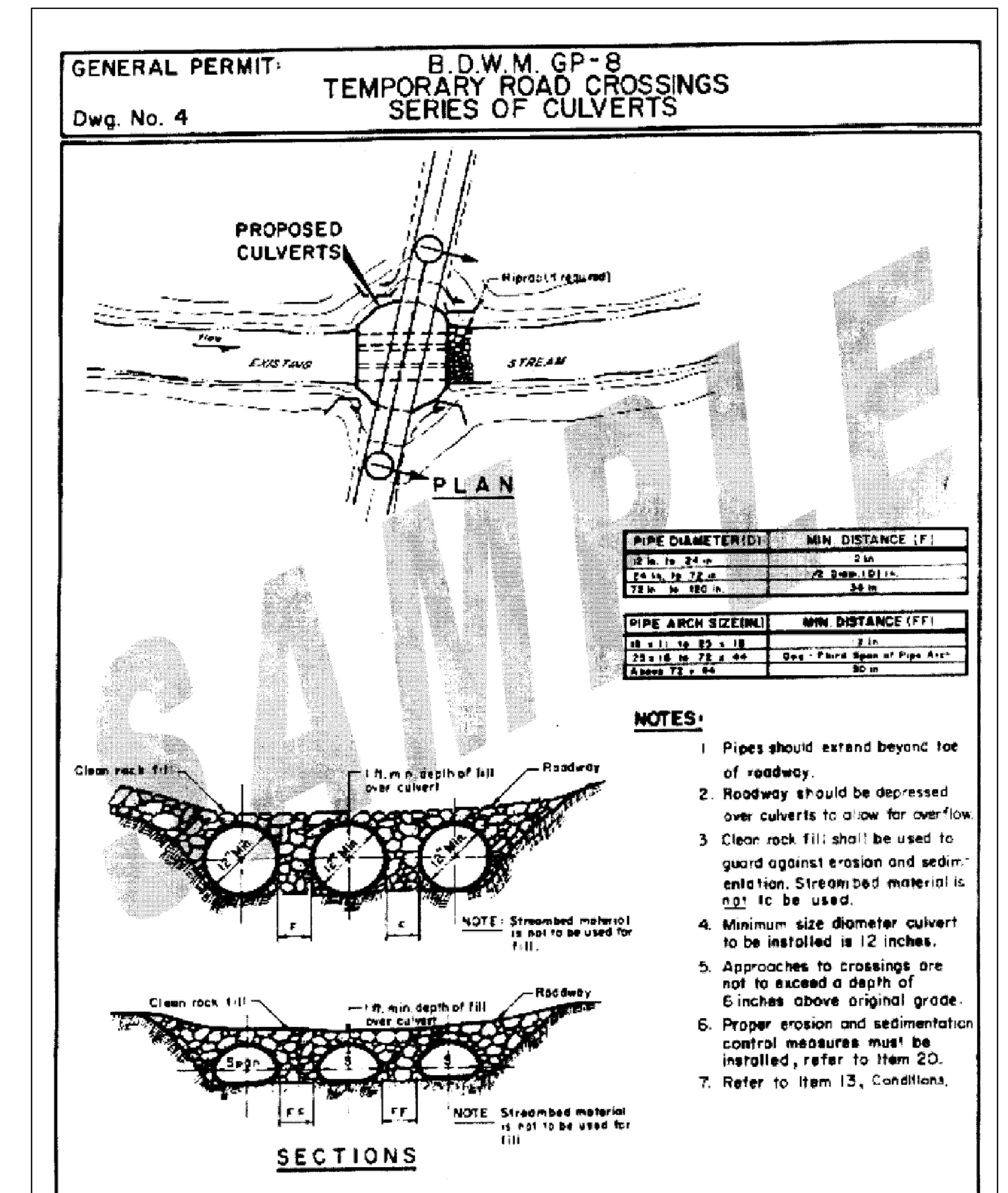
COMPLETION CERTIFICATE AND FINAL PLANS

WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMPS IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS.

AMENDED SOILS SPECIFICATIONS

THREE DAYS PRIOR TO PLACEMENT OF AMENDED SOILS THE LICENSED PROFESSIONAL SHALL BE CONTACTED TO OBSERVE THE PLACEMENT OF AMENDED SOILS. THE LICENSED PROFESSIONAL SHALL BE ONSITE TO VERIFY THE ROTOTILLING OF THE SUBSOIL AND THE APPLICATION OF THE APPROVED SOIL AMENDMENT MIXTURE.

PRIOR TO PLACEMENT OF AMENDED SOILS THE SUBBASE MUST BE ROTOTILLED TO A MINIMUM DEPTH OF 12". THE AMENDED SOIL SHALL BE PLACED THE SAME DAY THE THE SUBSOIL IS ROTOTILLED. AFTER PLACEMENT OF THE AMENDED SOIL THE AMENDED SOIL SHALL BE ROTOTILLED TO THE DEPTH OF 8".



TYPICAL TEMPORARY CROSSING DETAIL

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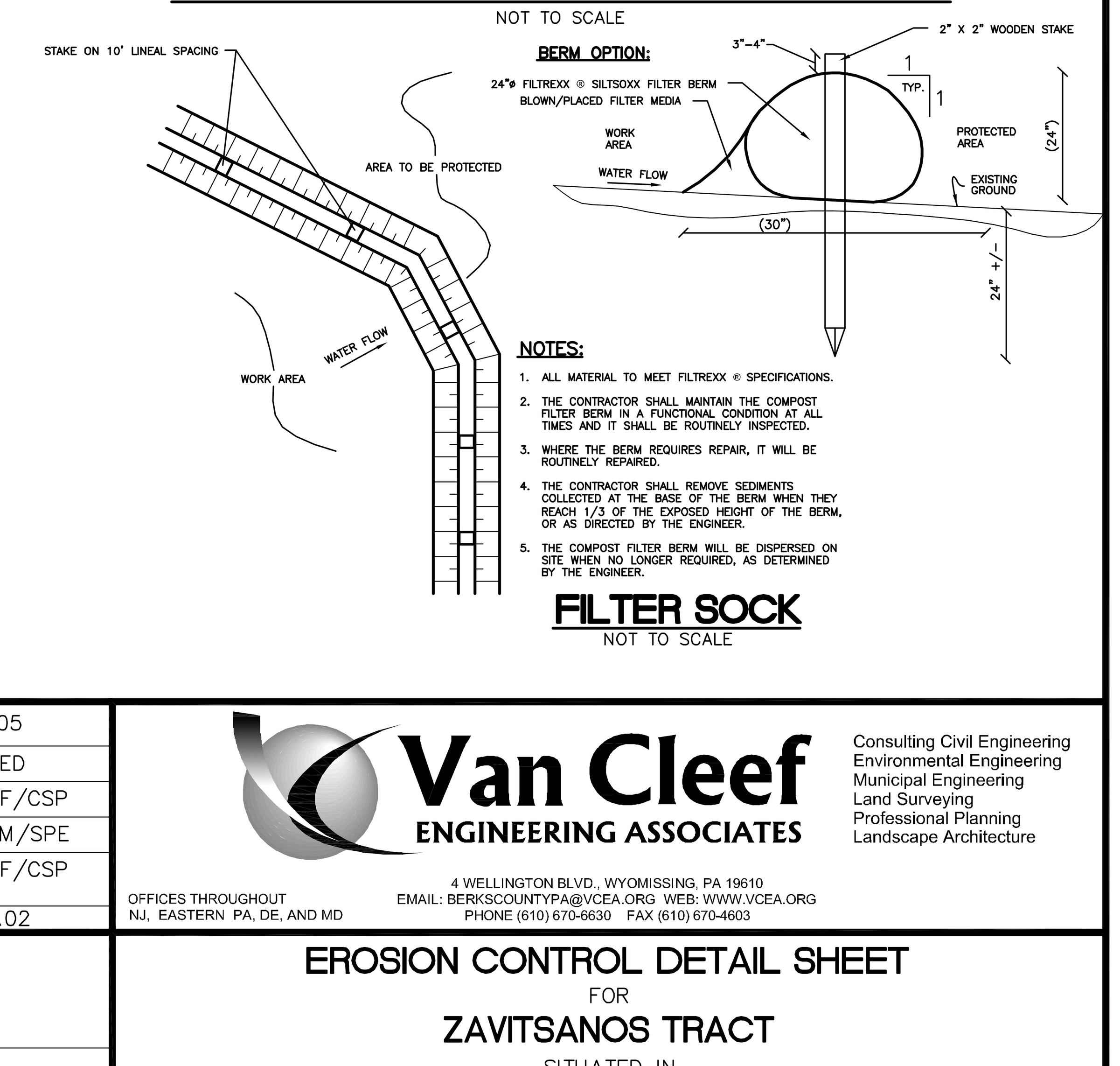

FILTER SOCK
NOT TO SCALE

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE:	4/07/05
SCALE:	AS NOTED
DESIGNED BY:	BSF/CSP
DRAWN BY:	GDM/SPE
CHECKED BY:	BSF/CSP
JOB NO.	0405NHT.02

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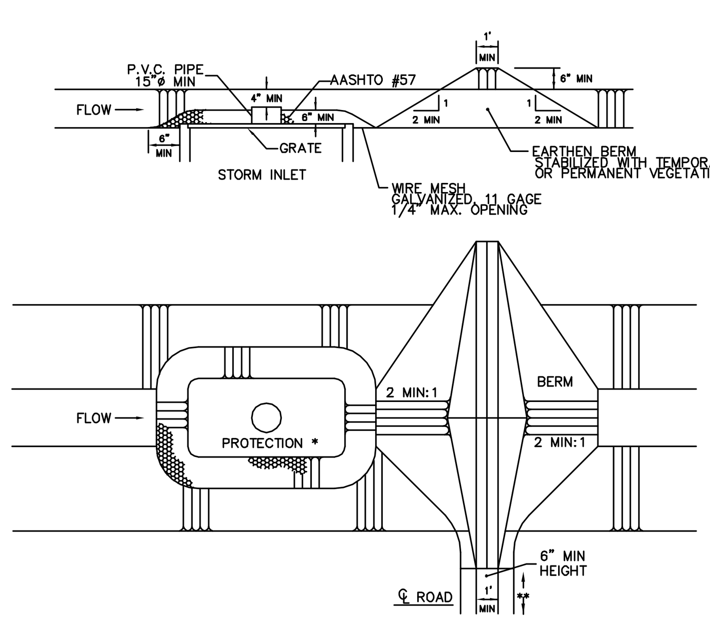
BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

EROSION CONTROL DETAIL SHEET
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\46-53-DETAILS-0405NHT02.DWG



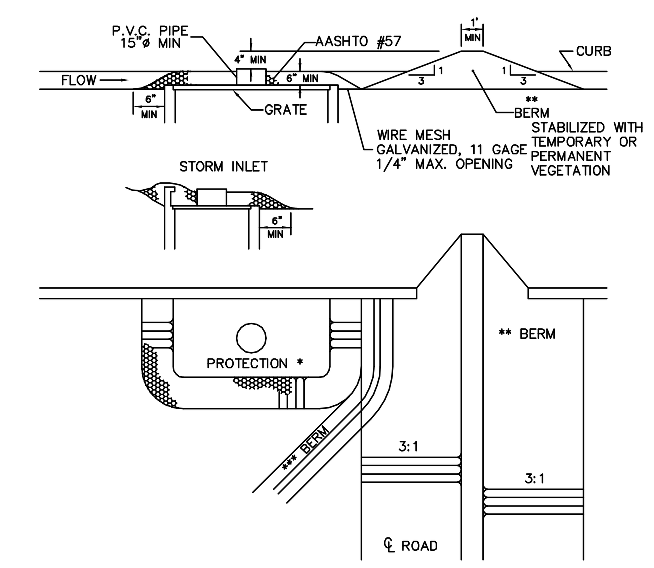
* STONE PROTECTION IS NOT REQUIRED FOR INLETS TRIBUTARY TO SEDIMENTATION BASINS AND SEDIMENT TRAPS. BERMS ARE REQUIRED FOR ALL INSTALLATIONS.

** EARTHEN BERM TO BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM TO BE MAINTAINED UNTIL ROADWAY IS PAVED.

INSPECTION OF ALL INLET PROTECTION SHALL BE MADE ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT (INCLUDING SNOW MELT). INLET PROTECTION SHALL BE REMOVED AFTER EVERY RUNOFF EVENT, OR WHENEVER STONE BECOMES CLOGGED AND WASHED COMPLETELY FREE OF FOREIGN MATERIALS OR NEW ROCK USED TO REBUILD THE FILTERS.

CHANNEL OR ROADSIDE SWALE STORM INLET PROTECTION AND BERM(S)

NOT TO SCALE



* STONE PROTECTION IS NOT REQUIRED FOR INLETS TRIBUTARY TO SEDIMENTATION BASINS AND SEDIMENT TRAPS. BERMS ARE REQUIRED FOR ALL INSTALLATIONS.

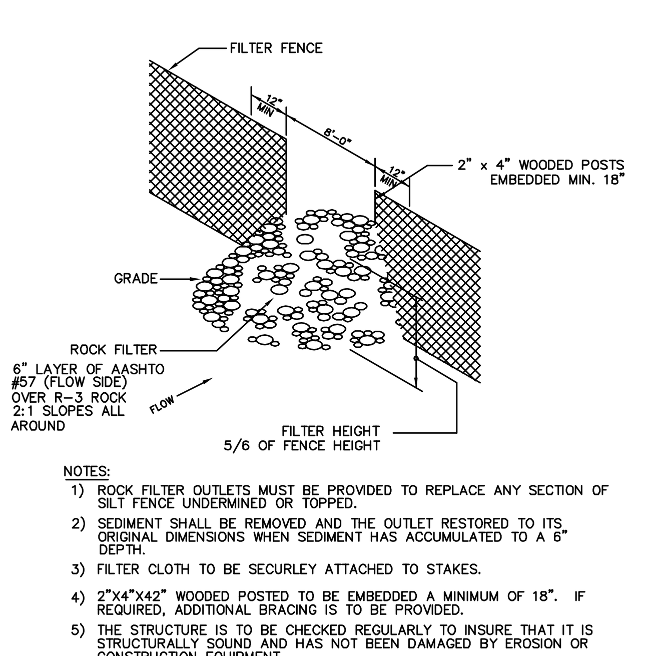
** EARTHEN BERM TO BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM TO BE MAINTAINED UNTIL ROADWAY IS PAVED.

*** SIX INCH MINIMUM HEIGHT ASPHALT BERM TO BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.

INSPECTION OF ALL INLET PROTECTION SHALL BE MADE ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT (INCLUDING SNOW MELT). INLET PROTECTION SHALL BE REMOVED AFTER EVERY RUNOFF EVENT, OR WHENEVER STONE BECOMES CLOGGED AND WASHED COMPLETELY FREE OF FOREIGN MATERIALS OR NEW ROCK USED TO REBUILD THE FILTERS.

CURBED ROADWAY STORM INLET PROTECTION AND BERM(S)

NOT TO SCALE

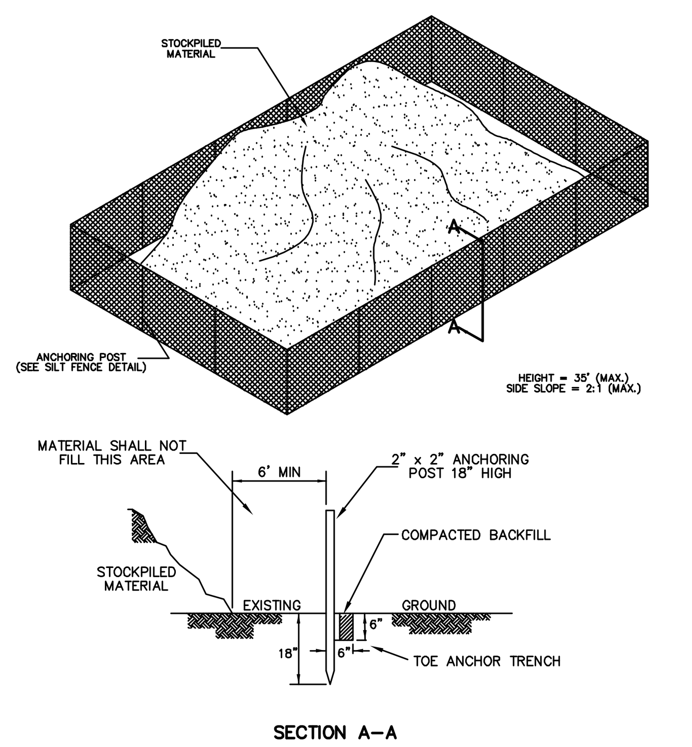


NOTES:

1) ROCK FILTER OUTLETS MUST BE PROVIDED TO REPLACE ANY SECTION OF SILT FENCE UNDERMINED OR TOPPED.
2) SEDIMENT SHALL BE REMOVED AND THE OUTLET RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A 6" DEPTH.
3) FILTER CLOTH TO BE SECURLEY ATTACHED TO STAKES.
4) 2"x4"x42" WOODED POSTED TO BE EMBEDDED A MINIMUM OF 18". IF REQUIRED, ADDITIONAL BRACING IS TO BE PROVIDED.
5) THE STRUCTURE IS TO BE CHECKED REGULARLY TO INSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT.

SEDIMENT BARRIER ROCK FILTER OUTLET

NOT TO SCALE



STOCKPILE CONTROL

NOT TO SCALE

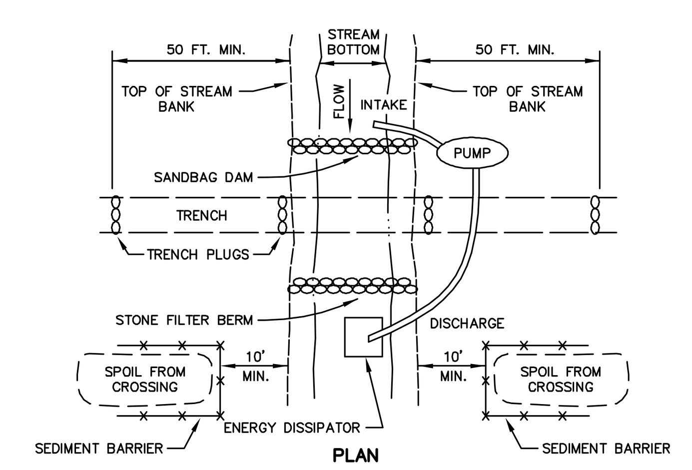
TRENCH PLUGS SHOULD BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE STREAM CHANNEL (See Figure 4.21).

A UTILITY LINE STREAM CROSSING OF A STREAM 10 FEET IN (BOTTOM) WIDTH OR LESS SHOULD BE COMPLETED WITHIN 72 HOURS (FROM START TO FINISH) INCLUDING THE TRENCH BACK-FILLING, STABILIZATION OF STREAM BANKS AND STABILIZATION OF THE AREA 50 FEET BACK FROM THE TOP OF EACH STREAM BANK.

FACILITIES FOR REMOVING SEDIMENT FROM PUMPED WATER SHOULD BE AVAILABLE AT THE UTILITY LINE STREAM CROSSING SITE BEFORE TRENCHING COMMENCES AND MAINTAINED UNTIL TRENCH BACKFILLING IS COMPLETED. ASSEMBLY AREAS, TEMPORARY EQUIPMENT AND NON-HAZARDOUS MATERIAL STORAGE AREAS SHOULD BE LOCATED AT LEAST 50 FEET BACK FROM THE TOP OF STREAM BANK.

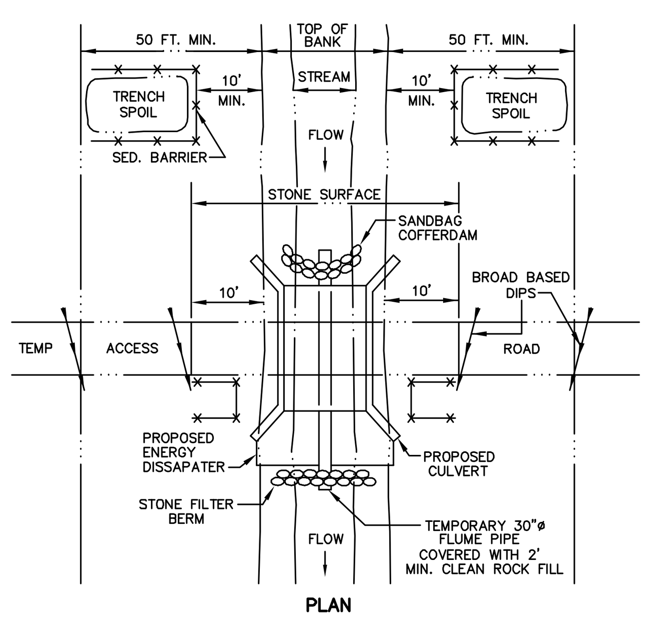
HAZARDOUS OR POLLUTIVE MATERIAL STORAGE AREAS SHOULD BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAM BANK.

ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM STREAM CROSSING.



TYPICAL CROSSING #4 (TC #4) TYPICAL STREAM CROSSING WITH PUMP BYPASS

NOT TO SCALE



TYPICAL CROSSING #2 (TC #2) TYPICAL STREAM CROSSING WITH PIPE FLUME

NOT TO SCALE

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) LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
   - D) 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 THE PREVIOUS SECTION.
   - E) WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING IN ACCORDANCE WITH ITEM b.5 OF THE PREVIOUS SECTION, BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS.
   - F) ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE AT THE END OF EACH WEEK.
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 THE 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 AREAS SEEDED AND MULCHED WITHIN THE NEXT TWO CALENDAR DAYS.

   CONSTRUCTION OF TRENCH PLUGS

a. SECTION VIEW

b. ELEVATION

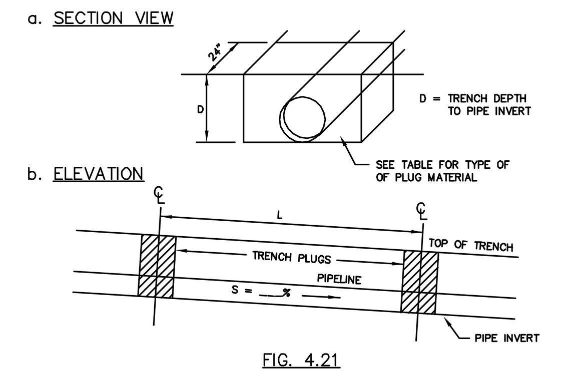
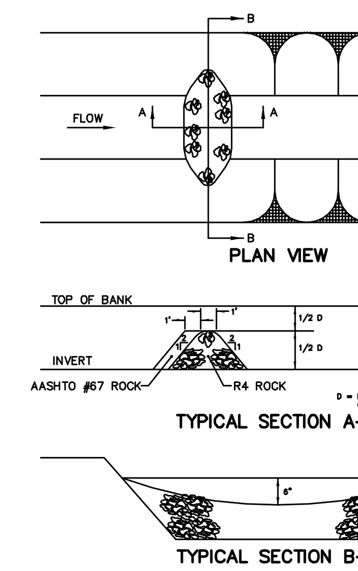


FIG. 4.21

TRENCH SLOPE (%)	L (FEET)	PLUG MATERIAL
0 – 5	--	NONE
5 – 15	500	EARTH FILLED SACKS
15 – 25	300	EARTH FILLED SACKS
25 – 35	200	EARTH FILLED SACKS
35 – 100	100	EARTH FILLED SACKS
OVER 100	50	CEMENT FILLED BAGS, (WETTED), OR MORTARED STONE

UTILITY LINE TRENCH EXCAVATION

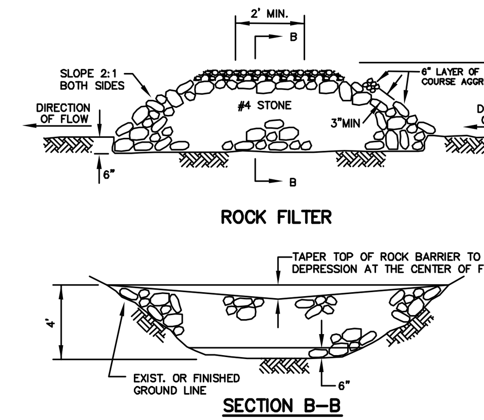
NOT TO SCALE



MAINTENANCE: INSPECTION OF ROCK FILTERS SHALL BE MADE ON A WEEKLY BASIS AND AFTER EVERY RUNOFF EVENT (INCLUDING SNOWMELT). ROCK FILTERS SHALL BE CLEANED OR REPLACED WHENEVER SEDIMENT REACHES 1/2 OF THE STONE HEIGHT OR WHEN CLOGGED WITH SEDIMENT. MATERIALS MUST BE WASHED FREE OF ALL FOREIGN MATERIALS OR NEW ROCK USED TO REBUILD THE FILTERS WHEN PLACED WITHIN SWALES. REMOVE IMMEDIATELY UPON COMPLETE STABILIZATION OF SWALE AND DRAINAGE AREA TRIBUTARY TO FILTER.

ROCK FILTER

NOT TO SCALE

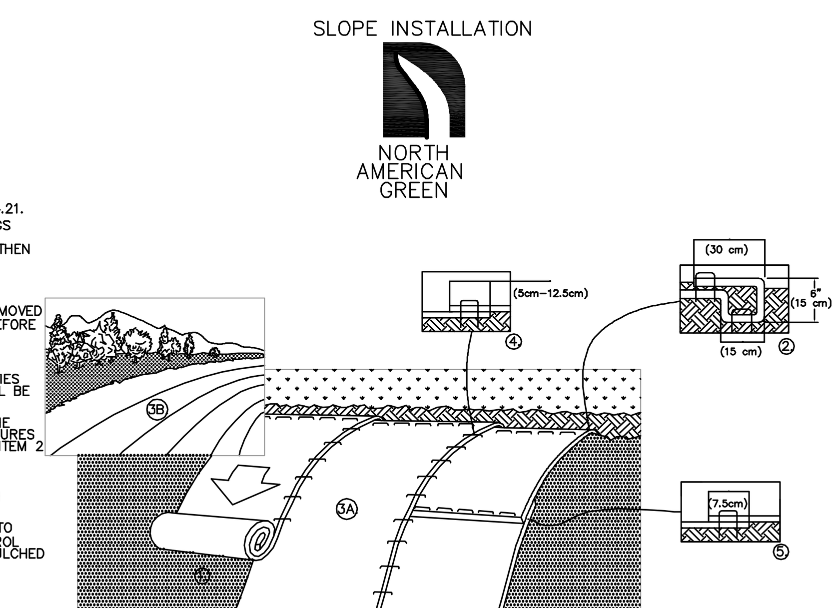


STONE FILTER BERM

NOT TO SCALE

SLOPE INSTALLATION

NORTH AMERICAN GREEN



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY 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 A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.

CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENTHS IN EXCESS OF 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

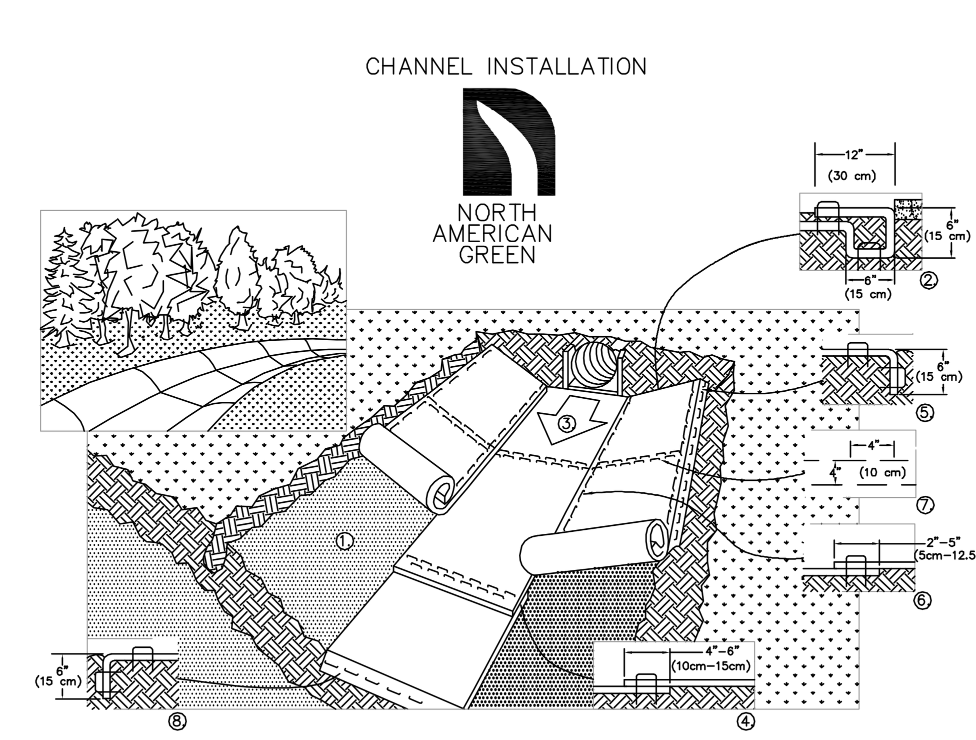
NOTE:
*ONLY BIODEGRADEABLE STAPLES OR STAKES SHALL BE UTILIZED. METAL STAPLES OR STAKES ARE NOT ACCEPTABLE.

EROSION CONTROL BLANKETS

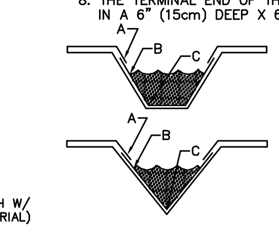
NOT TO SCALE

CHANNEL INSTALLATION

NORTH AMERICAN GREEN



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY 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 CHANNEL BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" (10cm-15cm) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (5cm-12.5cm) (DEPENDING ON BLANKET TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9m-12m) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.
*** ONLY BIODEGRADEABLE STAPLES OR STAKES SHALL BE UTILIZED. METAL STAPLES OR STAKES ARE NOT ACCEPTABLE.

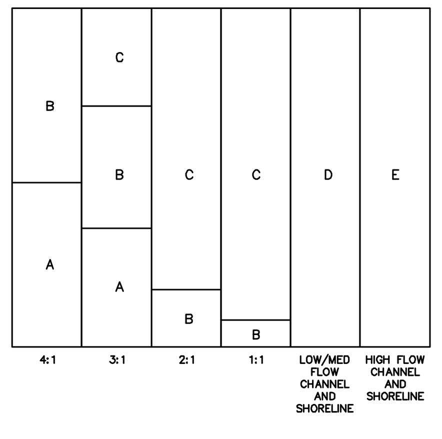
CHANNEL APPLICATION INSTALLATION GUIDE

NORTH AMERICAN GREEN

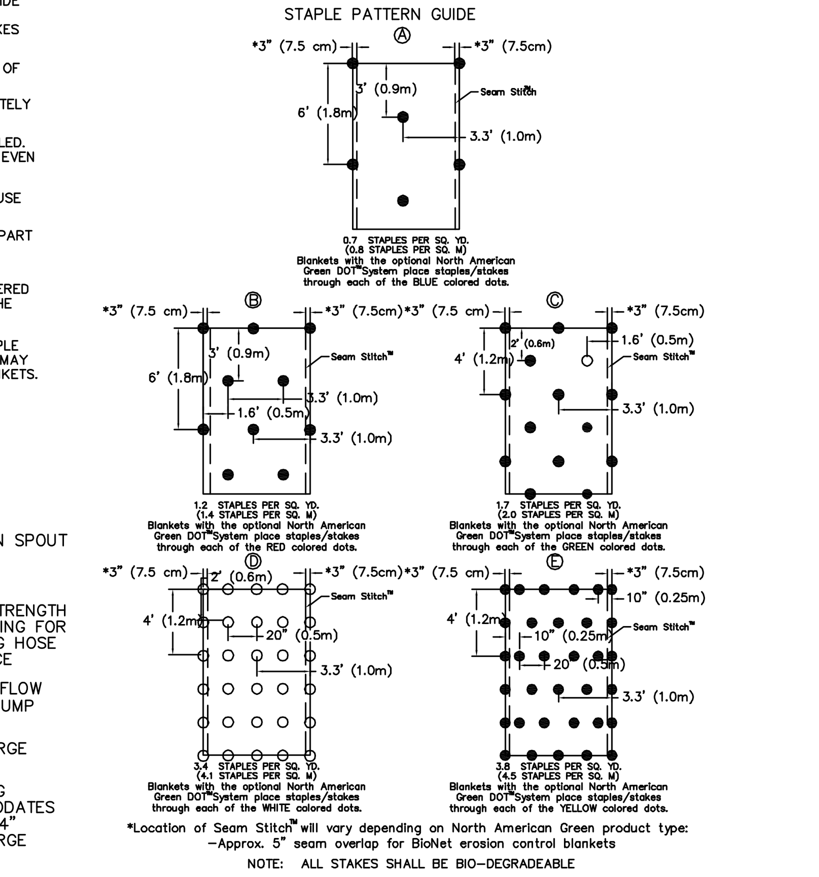
GENERAL STAPLE PATTERN GUIDE AND RECOMMENDATIONS

FOR OPTIMUM RESULTS, THESE RECOMMENDED STAPLE PATTERN GUIDES MUST BE FOLLOWED

USE COLORED SEAM STITCH FOR QUICK, ACCURATE SEAM ALIGNMENT.
*LOCATION OF SEAM STITCH WILL VARY DEPENDING ON PRODUCT TYPE.

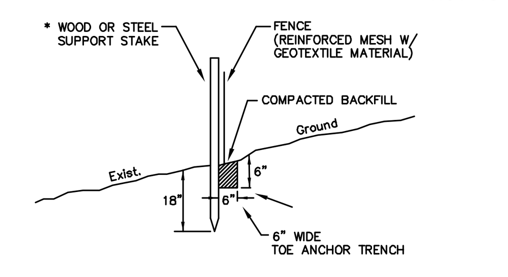


STAPLE PATTERN GUIDE

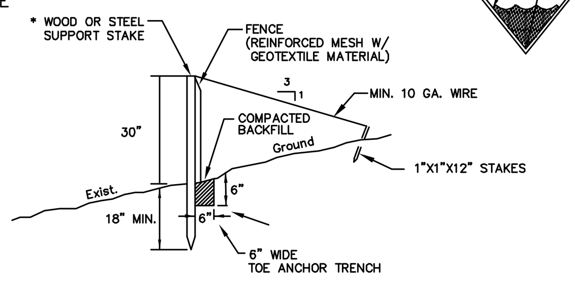


*Location of Seam Stitch will vary depending on North American Green product type: -Approx. 5" seam overlap for BioNet erosion control blankets

NOTE: ALL STAKES SHALL BE BIO-DEGRADEABLE



FILTER FABRIC FENCE INSTALLATION DETAIL
STANDARD SECTION 18" MAX. FENCE HEIGHT



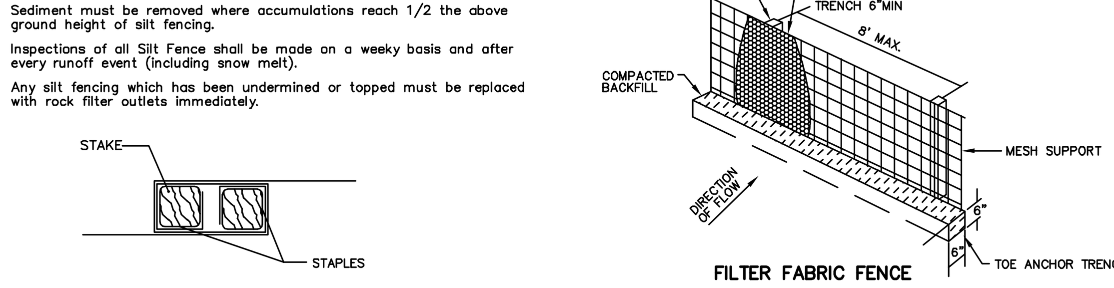
FILTER FABRIC FENCE INSTALLATION DETAIL
STANDARD SECTION 30" MAX. FENCE HEIGHT

Silt fencing must be installed parallel to existing contours or constructed level alignments. Ends of fencing must be extended 10', traveling up slope at 45 degrees to the alignment of the main fencing section.

Sediment must be removed where accumulations reach 1/2 the above ground height of silt fencing.

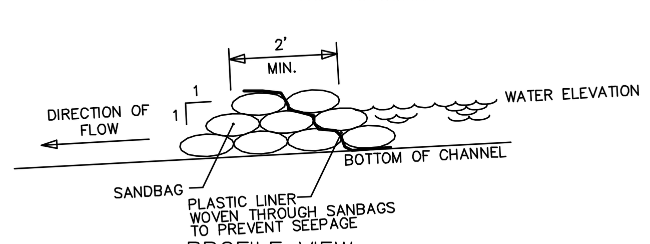
Inspections of all Silt Fence shall be made on a weeky basis and after every runoff event (including snow melt).

Any silt fencing which has been undermined or topped must be replaced with rock filter outlets immediately.



SILT FENCE DETAIL

NOT TO SCALE

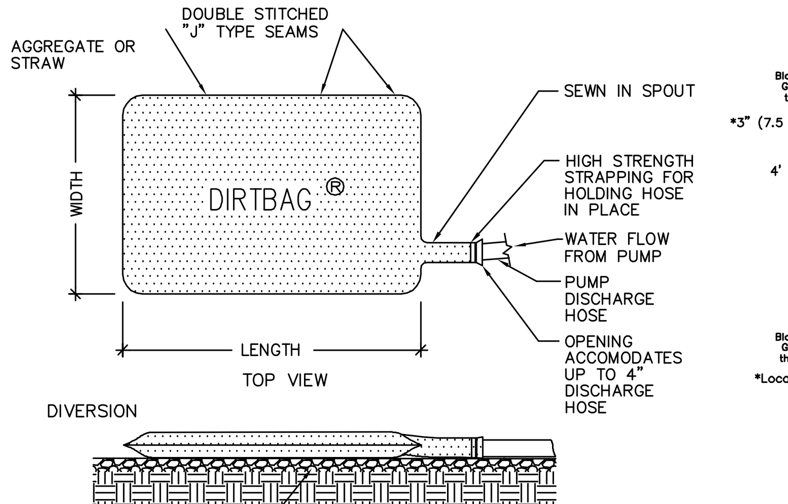


NOTES

1. STREAM BANK PROTECTION INSTALLATION SHOULD ONLY BE UNDERTAKEN DURING PERIODS OF LOW OR NO STREAM FLOW.
2. BANK EXCAVATION SHOULD BE UNDERTAKEN FROM THE TOP OF THE STREAMBANK WHEREVER POSSIBLE
3. ALL EXCAVATED CHANNEL MATERIAL WHICH WILL SUBSEQUENTLY BE USED AS BACK FILL SHALL BE PLACED IN A TEMPORARY STOCKPILE LOCATED OUTSIDE OF THE CHANNEL. PLACE SILT FENCE BARRIER AROUND THE PERIMETER OF THE STOCKPILES TO PREVENT SEDIMENT LADEN RUNOFF FROM RE-ENTERING THE CHANNEL.
4. STABILIZE DISTURBED BANK AREAS IMMEDIATELY UPON COMPLETION OF THE INSTALLATION OF THE PROTECTION (SEE PERMANENT SEEDING PROCEDURES).

SANDBAG COFFERDAM DETAIL

NOT TO SCALE



DETAIL OF DIRTBAG PUMPED SILT CONTROL SYSTEM

NOT TO SCALE

DIRTBAG SPECIFICATIONS
CONTROL OF SEDIMENT IN PUMPED WATER

1.0 Description

1.1 This work shall consist of furnishing, placing and removing the Dirtbag pumped sediment control device as directed by the design engineer or as shown on the contract drawings. The Dirtbag pumped-silt control system is marketed by:

ACF Environmental Inc.
2831 Cardwell Drive
Richmond, Virginia 23234

Phone: 800-448-3636
Fax: 804-743-7779

2.0 Materials

2.1 Dirtbag

2.1.1 The Dirtbag shall be a nonwoven bag which is sewn with a double needle matching using a high strength thread.

2.1.2 The Dirtbag seams shall have an average wide width strength per ASTM D-4884 as follows:

Dirtbag Style	Test Method	Test Result
Dirtbag 53	ASTM D-4884	60 Lbs./in.
Dirtbag 55	ASTM D-4884	100 Lbs./in.

2.1.3 Each standard Dirtbag has a fill spout large enough to accommodate a 4" discharge hose. Attached are straps to secure the hose and prevent pumped water from escaping without being filtered.

2.1.4 The geotextile fabric shall be nonwoven fabric with the following properties:

Properties	Test Method	Units	53	55
Nonwoven				
WEIGHT	ASTM D-3776	OZ/YD	8	10
GRAB TENSILE	ASTM D-4632	LBS.	203	250
PUNCTURE	ASTM D-4833	LBS.	130	165
FLOW RATE	ASTM D-4491	GAL./MIN/FT2	80	70
PERMITTIVITY	ASTM D-4491	SEC.-1	1.5	1.3
MULLEN BURST	ASTM D-3786	LBS.IN2	400	550
UV RESISTANT	ASTM D-4355	%	70	70
AOS % RETAINED	ASTM D-4751	%	100	100

All properties are minimum average roll value except the weight of the fabric which is given for information only.

3.0 Construction Sequence

3.1.1 Install Dirtbag in well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible a geotextile flow path shall be provided. Bags shall not be placed on slopes greater than 5%. Strap the neck of the Dirtbag tightly to the discharge hose. To increase the efficiency of filtration, place the bag on an aggregate or haybale bed to maximize water flow through the surface area of the bag.

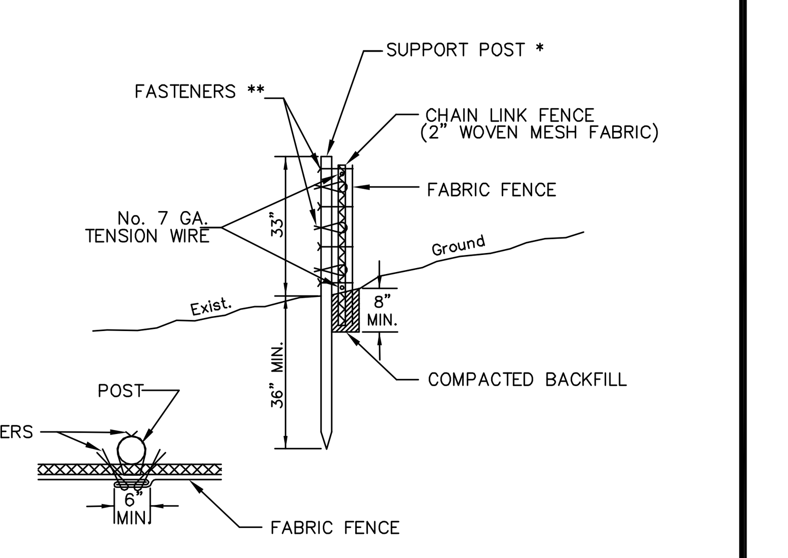
3.1.2 The Dirtbag is full when it no longer can efficiently filter sediment or pass water at a reasonable rate. Flow rates will vary depending on the size of the Dirtbag, the type and amount of sediment discharged into the Dirtbag, the type of ground, rock or other substance under the bag and the degree of the slope on which the bag lies. Under most circumstances Dirtbag will accommodate flow rates of 1500 gallons per minute. Use of excessive flow rates or overfilling Dirtbag with sediment will cause ruptures of the bags or failure of the hose attachment straps. The allowable pumping rate shall be 750 g.p.m. or half the maximum rate as specified. The bag must be replaced when it reaches half of its total capacity.

3.1.3 Dispose Dirtbag as directed by the site engineer. If allowed, the Dirtbag may be cut open and the contents seeded after removing visible fabric. Dirtbag is strong enough to be lifted with added straps if it must be hauled away (extra option). Off-site disposal may be facilitated by placing the Dirtbag in the back of a dump truck or flatbed prior to use and allowing the water to drain from the bag in place, thereby dismissing the need to lift the Dirtbag.

4.0 Basis of Payment

4.1 The payment for any Dirtbag used during construction is to be included in the bid of overall erosion and sediment control plan unless a unit price is requested.

SIMILAR DEVICE BY OTHER MANUFACTURES ALLOWED WITH APPROVAL OF MCCD



NOTES:

* POSTS SPACED @ 10' MAX. USE 2 1/2" DIA. GALVANIZED OR ALUMINUM POSTS.

** CHAIN LINK TO POST FASTENERS SPACED @ 14" MAX. USE No. 6 Ga. ALUMINUM WIRE OR No. 9 STEEL GALVANIZED PREFORMED CLIPS. CHAIN LINK TO TENSION WIRE FASTENERS SPACED @ 60" MAX. USE No. 10 Ga. GALVANIZED STEEL WIRE. FABRIC TO CHAIN LINK FASTENERS SPACED @ 24" MAX. CENTER TO CENTER.

FILTER FABRIC 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.

INSPECTIONS OF ALL SILT FENCE SHALL BE MADE ON A WEEKLY BASIS AND AFTER EVERY RUNOFF EVENT (INCLUDING SNOWMELT).

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.

SUPER FILTER FABRIC FENCE

NOT TO SCALE

SOIL TYPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	REACTION (pH)	SUITABILITY OF MATERIAL FOR– WINTER GRADING	SUITABILITY OF MATERIAL FOR– TOPSOIL	SOIL FEATURES THAT AFFECT ENGINEERING PRACTICES: CONSTRUCTION AND MAINTENANCE OF PIPELINES	PONDS/ RESEVOIR AREA	PONDS, DIKES, LEVEES/EMBANKMENTS	TERRACES, DIVERSIONS AND WATERWAYS	AGRICULTURE DRAINAGE
Bo	0-1/2	3-8	5.0 – 6.5	POOR	FAIR	FLUCTUATING HIGH WATER TABLE; FLOODING	MODERATE PERMEABILITY; HIGH WATER TABLE; VARIBLE RATE OF SEEPAGE.	IMPERMEABLE BUT LACKS STABILITY; USE FOR CORE.	GENERALLY NOT NEEDED, BECAUSE OF NEARLY LEVEL TOPOGRAPHY; HIGH WATER TABLE; FLOODING.	SEASONAL HIGH WATER TABLE AT OR ABOVE THE SURFACE; MODERATE PERMEABILITY; LACK OF SUITABLE OUTLETS.
CrB	0-1 1/2	3-5	4.0 – 6.5	POOR	FAIR	FLUCTUATING WATER TABLE.	SLOW PERMEABILITY; SLOW RATE OF SEEPAGE	IMPERMEABLE; POOR STABILITY; USE FOR CORE.	SHALLOW TO FRAGIPAN; SEEPS; DIFFICULT TO ESTABLISH VEGETATION.	SLOW PERMEABILITY; SEASONAL HIGH WATER TABLE; IN PLACES SUITABLE OUTLETS MAY BE DIFFICULT TO FIND.
RhB	0-1	1-3	4.5 – 6.5	POOR	POOR	BEDROCK AT A DEPTH OF 1 TO 3 FEET; FLUCTUATING WATER TABLE.	SLOW PERMEABILITY; BEDROCK AT A DEPTH OF 1 TO 3 FEET.	CONTAINS MANY COARSE FRAGMENTS, SOME LARGER THAN 6 INCHES IN DIAMETER.	BEDROCK AT A DEPTH OF 1 TO 3 FEET; SLOW PERMEABILITY; LOW AVAILABLE WATER CAPACITY; DIFFICULT TO ESTABLISH VEGETATION.	BEDROCK AT A DEPTH OF 1 TO 3 FEET; VERY SLOW PERMEABILITY; SEASONAL HIGH WATER TABLE.

RESOLUTION OF SOIL TYPE LIMITATIONS

1. NO GRADING SHALL BE PERFORMED IN FROZEN SOIL FOR SOIL TYPES LISTED AS POOR UNDER WINTER GRADING.
2. CARE SHALL BE TAKEN WHEN CONSTRUCTING IMPROVEMENTS IN AREAS SHOWN AS HAVING A HIGH SEASONAL WATER TABLE. ANY SUBSURFACE WATER ENCOUNTERED MUST BE PUMPED AND FILTERED PRIOR TO RELEASE PER THE DETAIL SHOWN ON THE DETAIL SHEET.
3. SOILS LISTED AS DIFFICULT TO ESTABLISH VEGETATION MUST BE LIMED AND FERTILIZED AS OUTLINED IN THE SEEDING SPECIFICATIONS. SHOULD EROSIVE CONDITIONS PERSIST, MATTING, NETTING OR SOD WILL BE UTILIZED AS OUTLINED IN THE SEEDING SPECIFICATIONS.
4. WHEN UNSUITABLE MATERIAL IS ENCOUNTERED IN EMBANKMENT AND WATERWAY AREAS, SUITABLE MATERIAL THAT COMPLIES WITH COMPACTION DETAIL SPECIFICATIONS MUST BE IMPORTED. MATERIAL MUST BE SUITABLE FOR STABILIZATION AND MINIMIZE EROSION.

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	BSF	07/01/05

DATE:	4/07/05
SCALE:	AS NOTED
DESIGNED BY:	BSF/CSP
DRAWN BY:	GDM/SPE
CHECKED BY:	BSF/CSP
JOB NO.	0405NHT.02

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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EMAIL: BERKSCOUNTYPA@VCEA.ORG WEB: WWW.VCEA.ORG
PHONE (610) 670-6630 FAX (610) 670-4603

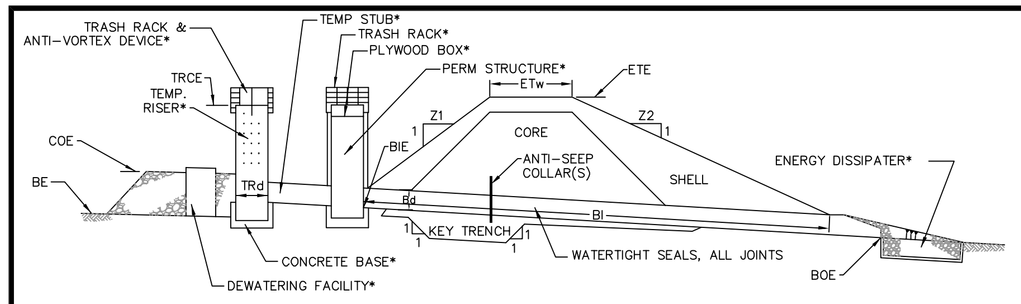
EROSION CONTROL DETAIL SHEET

FOR

ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA



EMBANKMENT SECTION ALONG PRINCIPAL SPILLWAY*

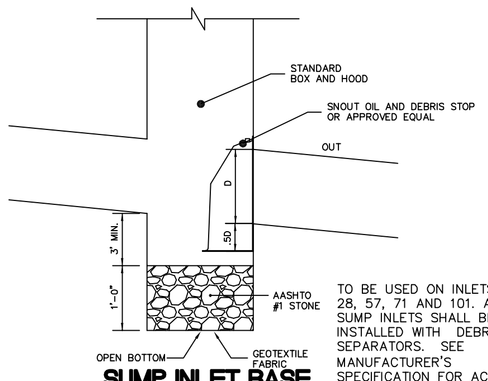
BASIN NO.	Z1 (FT)	Z2 (FT)	TEMPORARY RISER DIA TRd (IN)	TEMPORARY RISER CREST ELEV TRCE (FT)	TEMPORARY RISER MAT'L	BARREL DIA Bd (IN)	BARREL INLET ELEV BIE (FT)	BARREL MAT'L	BARREL LENGTH BI (FT)	BARREL OUTLET ELEV BOE (FT)	EMBANKMENT TOP ELEV ETE (FT)	EMBANKMENT TOP WIDTH ETw (FT)	CLEAN OUT ELEV COE (FT)	BOTTOM ELEV BE (FT)
A	3	3	36	331.17	CMP	24	325.50	RCP	48	325.25	334.00	10	328.23	327.50
B	3	3	36	328.85	CMP	24	322.00	RCP	56	321.71	333.00	10	324.54	324.00
C	3	3	36	347.17	CMP	24	340.50	RCP	54	340.00	350.50	10	343.16	342.50
H	3	3	36	361.94	CMP	24	353.80	RCP	74	353.33	365.00	10	356.96	356.00

* See Sediment Basin Temporary Riser & Permanent Structure, Emergency Spillway, Trash Rack & Anti-vortex Device, Energy Dissipater, and Sediment Storage Dewatering Facility Details.

A Clean Out Stake shall be placed near the center of each basin. Accumulated sediment shall be removed when it has reached the clean out level marked on the stake.

SEDIMENT BASINS WITH PERMANENT STORM WATER STRUCTURES*

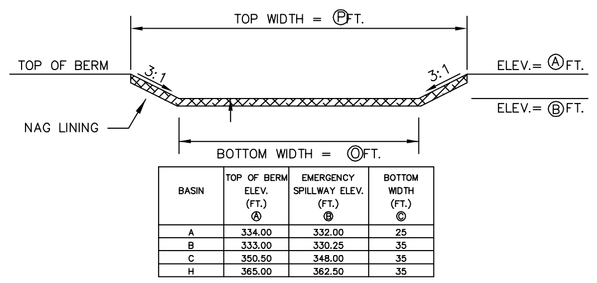
NOT TO SCALE



TO BE USED ON INLETS 20, 28, 57, 71 AND 101. ALL SUMP INLETS SHALL BE INSTALLED WITH DEBRIS SEPARATORS. SEE MANUFACTURER'S SPECIFICATION FOR ACTUAL INSTALLATION PROCEDURE.

SUMP INLET BASE

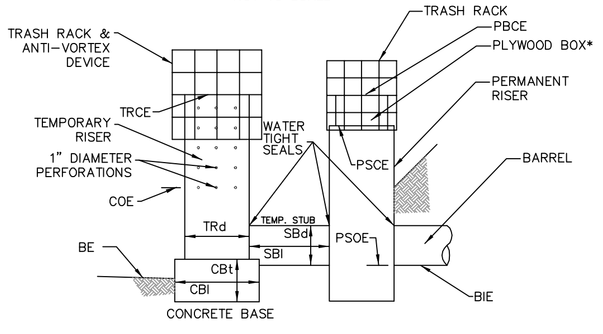
NOT TO SCALE



BASIN	TOP OF BERM ELEV. (FT.) ⓐ	EMERGENCY SPILLWAY ELEV. (FT.) @	BOTTOM WIDTH (FT.) ⓒ
A	334.00	332.00	25
B	333.00	330.25	35
C	350.50	348.00	35
H	365.00	362.50	35

TEMP. SEDIMENTATION BASIN EMERGENCY SPILLWAY

NOT TO SCALE



BASIN NO.	TEMPORARY RISER DIA TRd (IN)	TEMPORARY RISER CREST ELEV TRCE (FT)	TEMPORARY RISER MAT'L	PERFORATIONS NO. HOLES PER ROW	PERFORATIONS VERTICAL SPACING OF ROWS (FT)	CONCRETE BASE LENGTH CBl (IN)	CONCRETE BASE WIDTH CBw (IN)	CONCRETE BASE THICK. CBt (IN)	BARREL INLET ELEV BIE (FT)
A	36	331.17	CMP	2	0.96	54	54	12	325.50
B	36	328.85	CMP	10	1.39	54	54	12	322.00
C	36	347.17	CMP	10	1.34	54	54	12	340.50
H	36	361.94	CMP	4	1.70	54	54	12	353.80

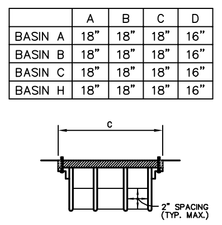
BASIN NO.	TEMPORARY STUB DIA SBd (IN)	TEMPORARY STUB INVERT ELEV SBIE (FT)	TEMPORARY STUB MAT'L	PERMANENT STRUCTURE LENGTH SBI (FT)	PERMANENT STRUCTURE CREST ELEV PSCE (FT)	PERMANENT STRUCTURE OPENING LENGTH PSOl (IN)	PERMANENT STRUCTURE OPENING WIDTH PSOw (IN)	PERMANENT STRUCTURE OUTLET ELEV PSOE (FT)
A	24	327.50	CMP	4	331.50	48	24	325.50
B	24	324.00	CMP	4	329.75	48	24	322.00
C	24	342.50	CMP	4	347.50	48	24	340.50
H	24	356.00	CMP	4	361.50	48	24	353.80

* See Trash Rack & Anti-vortex Device and Plywood Box Details.

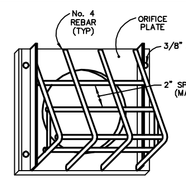
SEDIMENT BASIN TEMPORARY RISER & PERMANENT STRUCTURE*

NOT TO SCALE

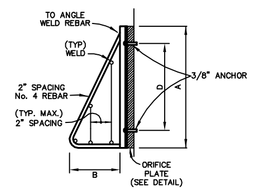
	A	B	C	D
BASIN A	18"	18"	18"	16"
BASIN B	18"	18"	18"	16"
BASIN C	18"	18"	18"	16"
BASIN H	18"	18"	18"	16"



TOP VIEW



ISOMETRIC VIEW

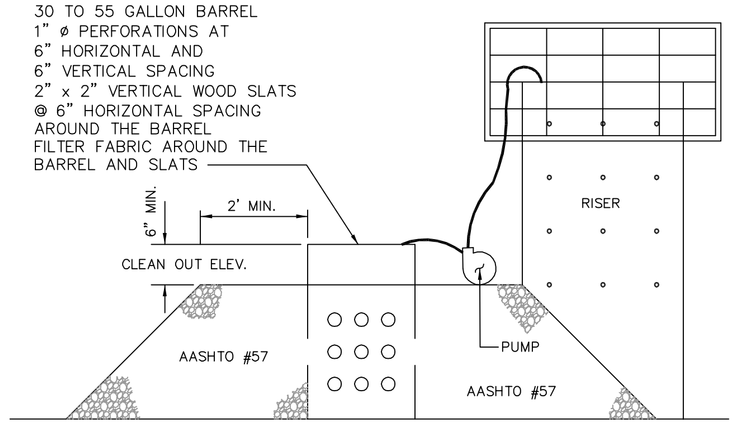


SIDE VIEW

BASIN WEIR / ORIFICE TRASH RACK DETAILS

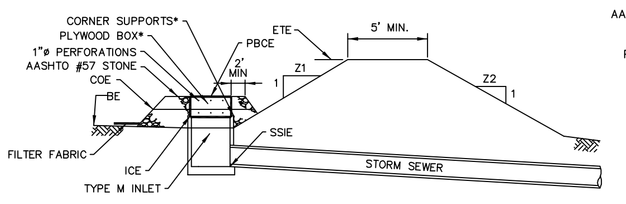
NOT TO SCALE

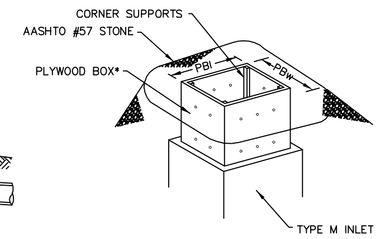
AFTER RACK IS CONSTRUCTED (WELDED) THE ASSEMBLY SHALL BE PAINTED WITH A RUST PROOF COATING.



SEDIMENT BASIN OR SEDIMENT TRAP DEWATERING FACILITY

NOT TO SCALE





TRAP NO.	Z1 (FT)	Z2 (FT)	PLYWOOD BOX LENGTH PBl (IN)	PLYWOOD BOX WDTH PWw (IN)	PERFORATIONS CREST ELEV PBCE (FT)	PERFORATIONS NO. PER ROW	PERFORATIONS ROW ELEV (FT)	INLET CREST ELEV ICE (FT)	STORM SEWER INVERT ELEV SSIE (FT)	EMBANK TOP ELEV ETE (FT)	CLEAN OUT ELEV COE (FT)	BOTTOM ELEV BE (FT)
2	3	3	48 1/4	27	329.80	10	328.80	327.75	324.45	331.00	328.80	327.75

* 3/4" Marine grade plywood box with 2" x 2" pressure treated corner supports, set into Type M Inlet 1-1/2" grate offsets, caulk all seams to form watertight seals.

Clean out stakes shall be placed near center of trap. Accumulated sediment shall be removed when it reaches the clean out mark on the stake.

MAINTENANCE

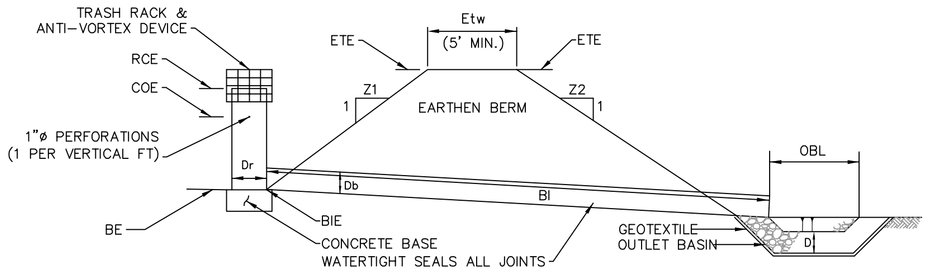
At a minimum, sediment traps shall be inspected on a weekly basis and after each runoff event. Sediment must be removed from the trap when the storage volume has been reduced to 1,300 cubic feet per acre of contributing drainage. This elevation should be clearly marked on a stake near the center of the trap.

Clogged or damaged spillways shall be immediately restored to the design specifications.

Other required maintenance shall be completed within 5 working days of inspection.

TYPE M INLET SEDIMENT TRAP CONSTRUCTION DETAIL

NOT TO SCALE



TRAP NO.	Z1 (FT)	Z2 (FT)	RISER MAT'L	RISER DIA Dr (IN)	RISER CREST ELEV RCE (FT)	RISER BOT PERF ELEV (FT)	BARREL MAT'L	BARREL DIA Bd (IN)	BARREL INLET ELEV BIE (FT)	BARREL LENGTH BI (FT)	BARREL OUTLET ELEV BOE (FT)	EMBANKMENT TOP ELEV ETE (FT)	EMBANKMENT TOP WIDTH Etw (FT)	CLEAN OUT ELEV COE (FT)	BOTTOM ELEV BE (FT)
1	3	3	CMP	24	348.54	346.18	CMP	15	344.00	56	341.00	350.00	5	346.18	344.00

TRAP NO.	CONCRETE BASE LENGTH CBl (IN)	CONCRETE BASE WIDTH CBw (IN)	CONCRETE BASE THICKNESS CBt (IN)	OUTLET BASIN RIPRAP SIZE (R-_)	OUTLET BASIN DEPTH D (IN)	OUTLET BASIN WIDTH OBW (FT)	OUTLET BASIN LENGTH OBL (FT)
1	36	36	12	4	18	6	12

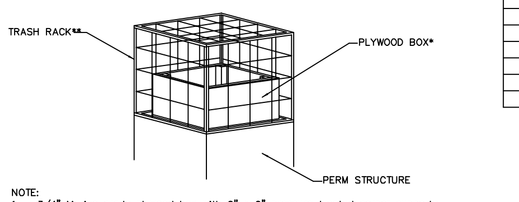
Clean out stakes shall be placed near center of trap. Accumulated sediment shall be removed when it reaches the clean out mark on the stake.

Wherever it is necessary to totally dewater a barrel/riser type trap, the riser should be designed according to the specifications shown in Standard Construction Detail #13.

STANDARD CONSTRUCTION DETAIL #12

Barrel/Riser Sediment Traps

NOT TO SCALE



NOTE:
1. 3/4" Marine grade plywood box with 2" x 2" pressure treated corner supports, set into 1 1/2" grate offsets, caulk all seams to form watertight seals.
2. Trash rack composed of 1" x 1" x 1/8" L (Typ.) and #4 Bars (Typ.) welded to the angles and at each intersection of the bars; #4 Bars spaced @ 3 the diameter of the barrel max.
3. Plywood box must be bolted or strapped to the permanent riser.
4. Top of plywood box must be at least as high as temporary riser.

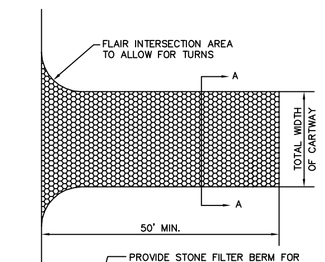
PLYWOOD BOXES AND TRASH RACKS FOR PERMANENT STRUCTURES

NOT TO SCALE

TYPICAL SECTION A-A

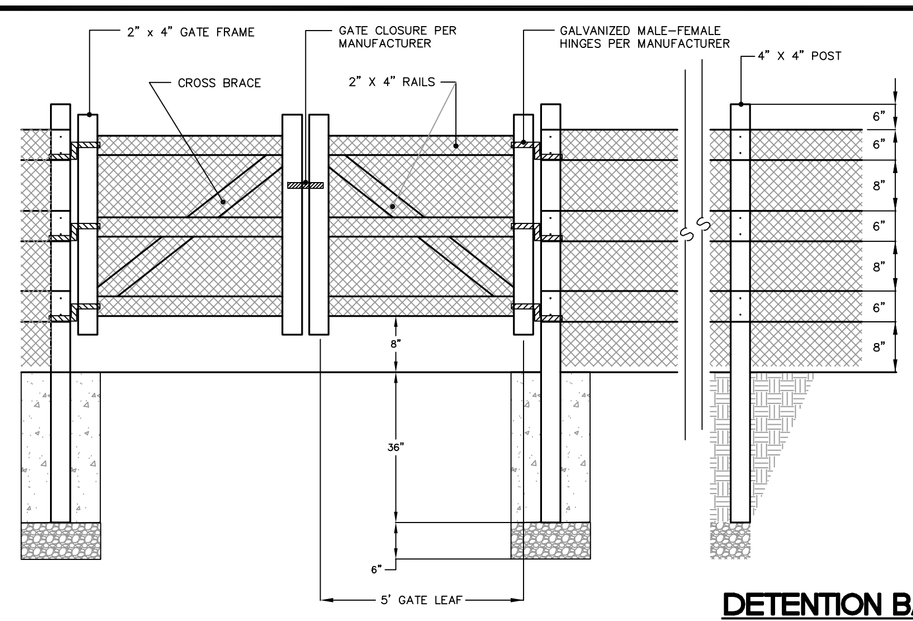
ON LOT CONSTRUCTION ENTRANCE

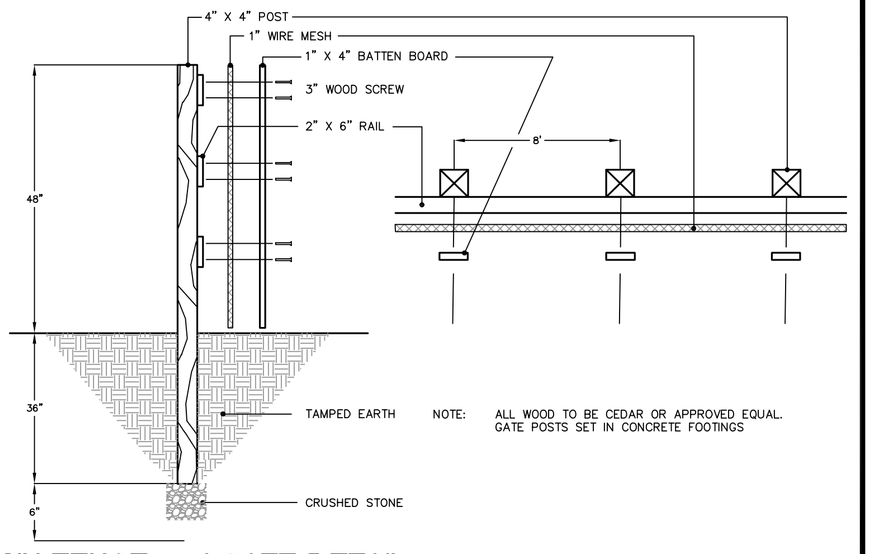
NOT TO SCALE



TIRE CLEANING AREA TEMP. DURING CONSTRUCTION

NOT TO SCALE

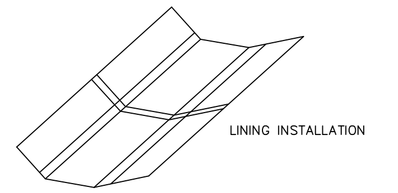


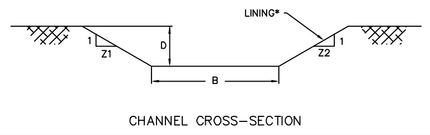


NOTE: ALL WOOD TO BE CEDAR OR APPROVED EQUAL. GATE POSTS SET IN CONCRETE FOOTINGS

DETENTION BASIN FENCE and GATE DETAIL

NOT TO SCALE





CHANNEL CROSS-SECTION

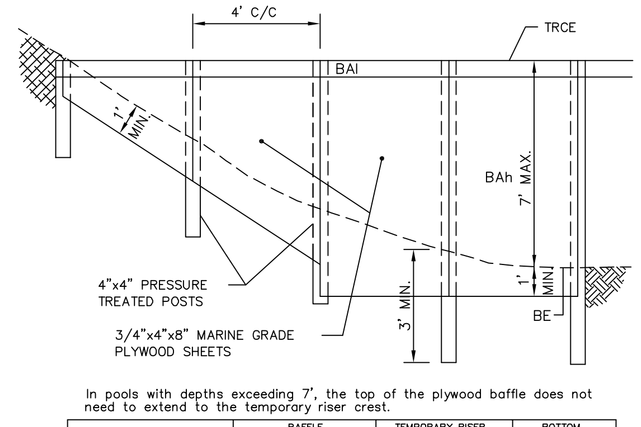
SWALE #	SWALE DEPTH @	BOTTOM WIDTH @	LINING TEMP	LINING PERM	NAG STAKING PATTERN	SIDE SLOPE Z_1	SIDE SLOPE Z_2
TEMP 1	1.25	3.0	S75	VEGETATION	D	4	4
TEMP 2	1.25	3.0	S75	VEGETATION	D	4	4
TEMP 3	1.25	3.0	S75	VEGETATION	D	4	4
TEMP 4	1.25	3.0	S75	VEGETATION	D	4	4
TEMP 5	1.25	3.0	S75	VEGETATION	D	4	4
TEMP 6	1.25	3.0	S75	VEGETATION	D	4	4
PERM 7	1.25	3.0	C125	VEGETATION	D	4	4
TEMP 8	1.25	3.0	C125	VEGETATION	D	4	4
TEMP 9	1.25	3.0	S75	VEGETATION	D	4	4
TEMP 10	1.25	3.0	S75	VEGETATION	D	4	4
PERM 11	1.25	3.0	S150	VEGETATION	D	4	4

NOTES:
1. SOME SWALES AND EMBANKMENT PROTECTION SPECIFY NORTH AMERICAN GREEN PRODUCTS. OTHER LININGS AND STAKING PATTERNS SHOWN TO BE EQUIVALENT TO PROTECTION SPECIFIED ON PLANS MAY BE USED WITH APPROVAL OF M.C.C.D. SEE MFG'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, AND VEGETATION STABILIZATION SPECIFICATIONS FOR SOIL AMENDMENTS, SEED MIXTURES, AND MULCHING INFORMATION.
2. FOR RIP-RAP LINED SWALES, PROVIDE GEOTEXTILE LINER. STONE PLACEMENT THICKNESS SHALL BE 1.25 x MAXIMUM RIP-RAP DIAMETER.
3. UNDERDRAIN PIPE AND LAWN INLETS ARE TO BE INSTALLED IN THE SWALES WHERE DIRECTED BY THE ENGINEER.

* See Manufacturer's Lining Installation Detail for Staple Patterns, and Vegetation Stabilization Specifications for Soil Amendments, Seed Mixtures, and Mulching Information.

SWALE DETAIL

NOT TO SCALE

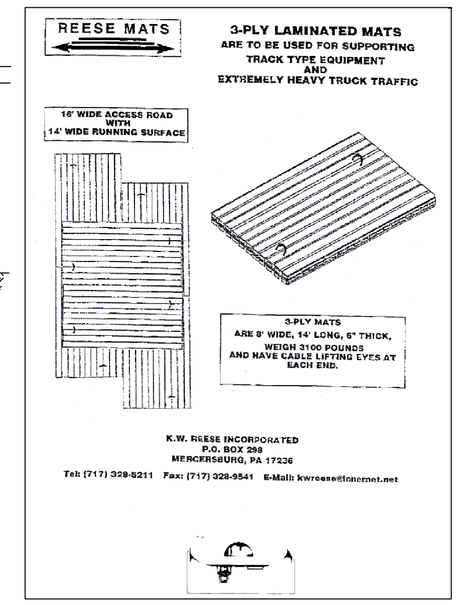


In pools with depths exceeding 7', the top of the plywood baffle does not need to extend to the temporary riser crest.

BASIN NO.	BAFFLE LENGTH BAI (FT)	BAFFLE HEIGHT (FT)	TEMPORARY RISER CREST ELEV TRCE (FT)	BOTTOM BOTTOM ELEV BE (FT)
SEDIMENT BASIN A	84	3.84	331.17	327.50
SEDIMENT BASIN B	145	5.09	328.85	324.00
SEDIMENT BASIN C	162	4.79	347.17	342.50
SEDIMENT BASIN H	NO BAFFLE REQUIRED			

SED-BASIN BAFFLE DETAIL

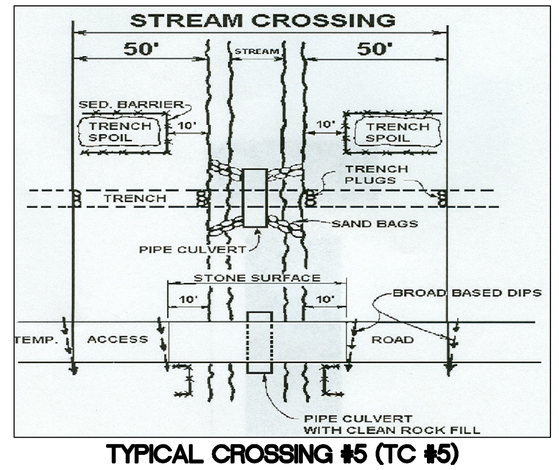
NOT TO SCALE



* OR APPROVED EQUAL

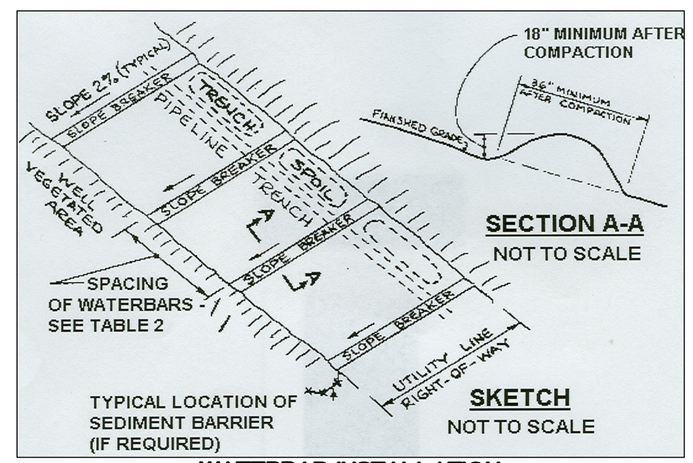
TYPICAL CROSSING #3 (TC #3) TIMBER MAT WETLANDS CROSSING

NOT TO SCALE



TYPICAL CROSSING #5 (TC #5) TYPICAL STREAM CROSSING WITH ACCESS ROAD

NOT TO SCALE



WATERBAR INSTALLATION

NOT TO SCALE

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: AS NOTED
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: CHRISTOPHER S. PECORA, PE, PLS 47117E

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Professional Planning
Landscape Architecture
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EMAIL: BERKSCOUNTYPA@VCEA.ORG WEB: WWW.VCEA.ORG
PHONE (610) 670-0630 FAX (610) 670-4603

EROSION CONTROL DETAIL SHEET

FOR

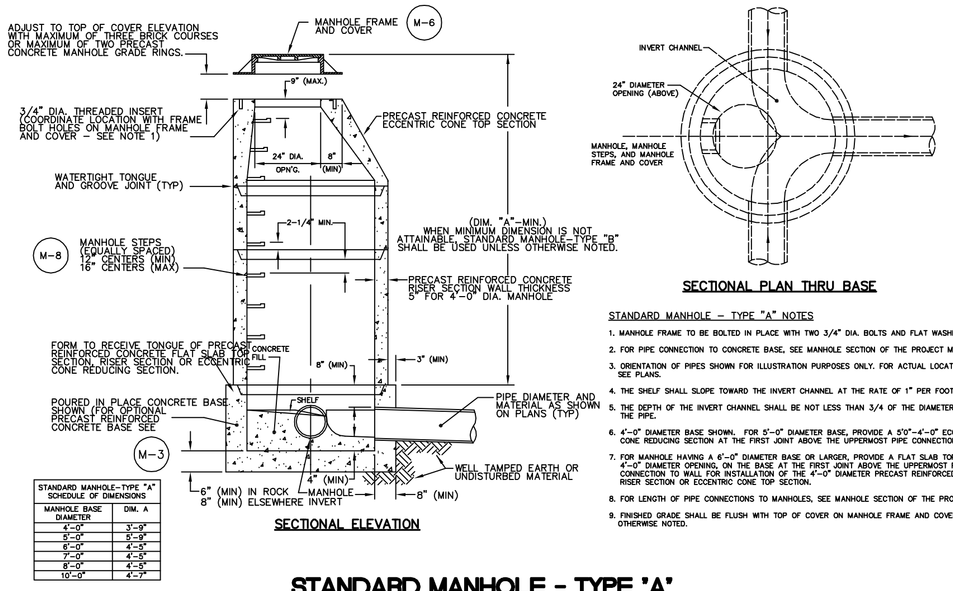
ZAVITSANOS TRACT

SITUATED IN

NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

52/60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT02\CIVIL 3D\DWG\SHEETS\46-53-DETAILS-0405NHT02.DWG



SECTIONAL ELEVATION

STANDARD MANHOLE-TYPE "A" SCHEDULE OF DIMENSIONS	
MANHOLE BASE DIAMETER	DIM. A
4'-0"	3'-4"
5'-0"	3'-4"
6'-0"	4'-0"
7'-0"	4'-0"
8'-0"	4'-0"
10'-0"	4'-0"

STANDARD MANHOLE - TYPE 'A'

NOT TO SCALE

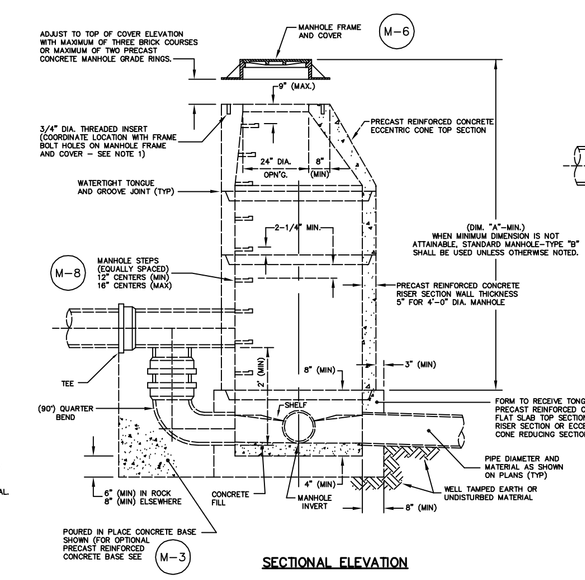
(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

M-4

SECTIONAL PLAN THRU BASE

STANDARD MANHOLE - TYPE "A" NOTES

1. MANHOLE FRAME TO BE BOLTED IN PLACE WITH TWO 3/4" DIA. BOLTS AND FLAT WASHERS.
2. FOR PIPE CONNECTION TO CONCRETE BASE, SEE MANHOLE SECTION OF THE PROJECT MANUAL.
3. ORIENTATION OF PIPES SHOWN FOR ILLUSTRATION PURPOSES ONLY. FOR ACTUAL LOCATIONS SEE PLANS.
4. THE SHELF SHALL SLOPE TOWARD THE INVERT CHANNEL AT THE RATE OF 1" PER FOOT (MIN.).
5. THE DEPTH OF THE INVERT CHANNEL SHALL BE NOT LESS THAN 3/4" OF THE DIAMETER OF THE PIPE.
6. 4'-0" DIAMETER BASE SHOWN. FOR 5'-0" DIAMETER BASE, PROVIDE A 5'0"-4'-0" ECCENTRIC CONE REDUCING SECTION AT THE FIRST JOINT ABOVE THE UPPERMOST PIPE CONNECTION TO WALL.
7. FOR MANHOLE HAVING A 6'-0" DIAMETER BASE OR LARGER, PROVIDE A FLAT SLAB TOP, WITH A 4'-0" DIAMETER OPENING, ON THE BASE AT THE FIRST JOINT ABOVE THE UPPERMOST PIPE CONNECTION TO WALL. FOR INSTALLATION OF THE 4'-0" DIAMETER PRECAST REINFORCED CONCRETE RISER SECTION OR ECCENTRIC CONE TOP SECTION.
8. FOR LENGTH OF PIPE CONNECTIONS TO MANHOLES, SEE MANHOLE SECTION OF THE PROJECT MANUAL.
9. FINISHED GRADE SHALL BE FLUSH WITH TOP OF COVER ON MANHOLE FRAME AND COVER, UNLESS OTHERWISE NOTED.



SECTIONAL ELEVATION

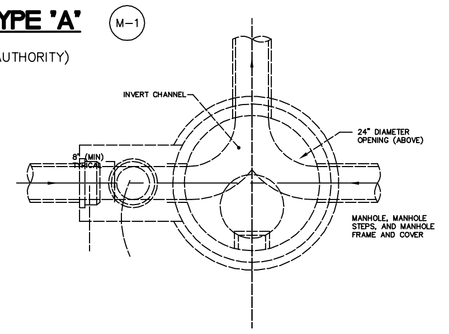
STANDARD MANHOLE-TYPE "A" SCHEDULE OF DIMENSIONS	
MANHOLE BASE DIAMETER	DIM. A
4'-0"	3'-4"
5'-0"	3'-4"
6'-0"	4'-0"
7'-0"	4'-0"
8'-0"	4'-0"
10'-0"	4'-0"

DROP MANHOLE - TYPE 'A'

NOT TO SCALE

(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

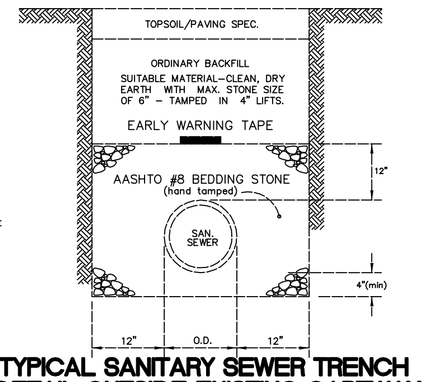
M-1



PLAN BELOW FLAT SLAB TOP SECTION

DROP MANHOLE - TYPE "A" NOTES

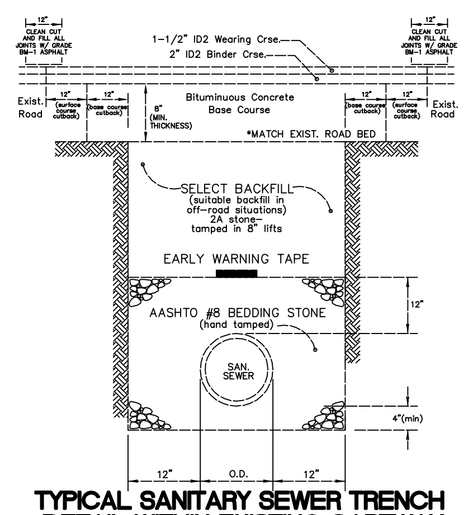
1. MANHOLE FRAME TO BE BOLTED IN PLACE WITH TWO 3/4" DIA. BOLTS AND FLAT WASHERS.
2. FOR PIPE CONNECTION TO CONCRETE BASE, SEE MANHOLE SECTION OF THE PROJECT MANUAL.
3. ORIENTATION OF PIPES SHOWN FOR ILLUSTRATION PURPOSES ONLY. FOR ACTUAL LOCATIONS SEE PLANS.
4. THE SHELF SHALL SLOPE TOWARD THE INVERT CHANNEL AT THE RATE OF 1" PER FOOT (MIN.).
5. THE DEPTH OF THE INVERT CHANNEL SHALL BE NOT LESS THAN 3/4" OF THE DIAMETER OF THE PIPE.
6. 4'-0" DIAMETER BASE SHOWN. FOR 5'-0" DIAMETER BASE, PROVIDE A 5'0"-4'-0" ECCENTRIC CONE REDUCING SECTION AT THE FIRST JOINT ABOVE THE UPPERMOST PIPE CONNECTION TO WALL.
7. FOR MANHOLE HAVING A 6'-0" DIAMETER BASE OR LARGER, PROVIDE A FLAT SLAB TOP, WITH A 4'-0" DIAMETER OPENING, ON THE BASE AT THE FIRST JOINT ABOVE THE UPPERMOST PIPE CONNECTION TO WALL. FOR INSTALLATION OF THE 4'-0" DIAMETER PRECAST REINFORCED CONCRETE RISER SECTION OR ECCENTRIC CONE TOP SECTION.
8. FOR LENGTH OF PIPE CONNECTIONS TO MANHOLES, SEE MANHOLE SECTION OF THE PROJECT MANUAL.
9. FINISHED GRADE SHALL BE FLUSH WITH TOP OF COVER ON MANHOLE FRAME AND COVER, UNLESS OTHERWISE NOTED.



TYPICAL SANITARY SEWER TRENCH DETAIL OUTSIDE EXISTING CARTWAY

NOT TO SCALE

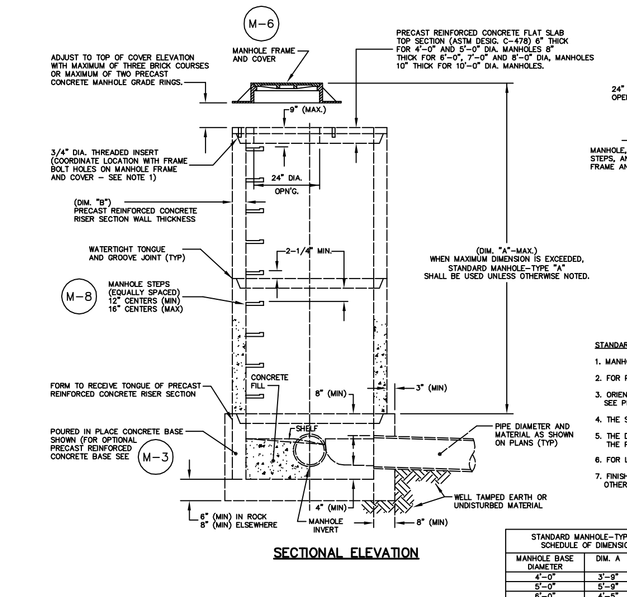
(FOR P.V.C. PIPE)



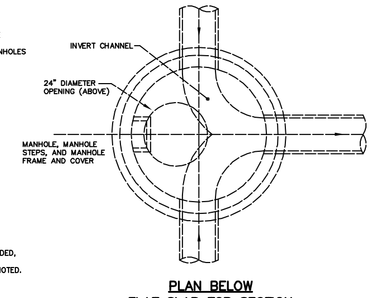
TYPICAL SANITARY SEWER TRENCH DETAIL WITHIN EXISTING CARTWAY

NOT TO SCALE

(FOR P.V.C. PIPE)



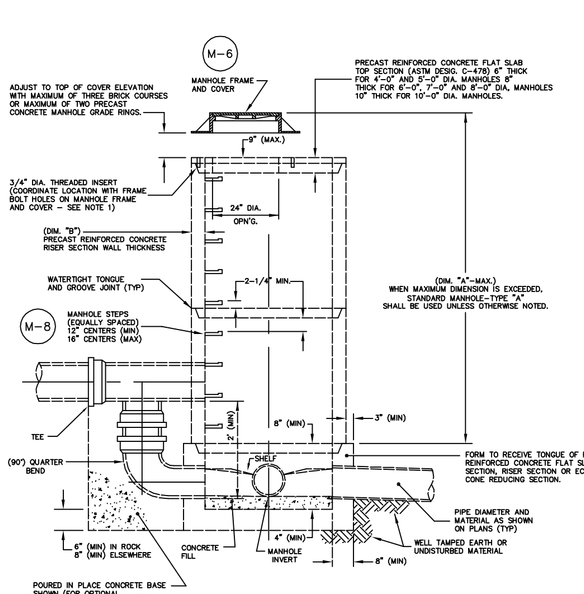
SECTIONAL ELEVATION



PLAN BELOW FLAT SLAB TOP SECTION

STANDARD MANHOLE - TYPE "A" NOTES

1. MANHOLE FRAME TO BE BOLTED IN PLACE WITH TWO 3/4" DIA. BOLTS AND FLAT WASHERS.
2. FOR PIPE CONNECTION TO CONCRETE BASE, SEE MANHOLE SECTION OF THE PROJECT MANUAL.
3. ORIENTATION OF PIPES SHOWN FOR ILLUSTRATION PURPOSES ONLY. FOR ACTUAL LOCATIONS SEE PLANS.
4. THE SHELF SHALL SLOPE TOWARD THE INVERT CHANNEL AT THE RATE OF 1" PER FOOT (MIN.).
5. THE DEPTH OF THE INVERT CHANNEL SHALL BE NOT LESS THAN 3/4" OF THE DIAMETER OF THE PIPE.
6. FOR LENGTH OF PIPE CONNECTIONS TO MANHOLES, SEE MANHOLE SECTION OF THE PROJECT MANUAL.
7. FINISHED GRADE SHALL BE FLUSH WITH TOP OF COVER ON MANHOLE FRAME AND COVER, UNLESS OTHERWISE NOTED.



SECTIONAL ELEVATION

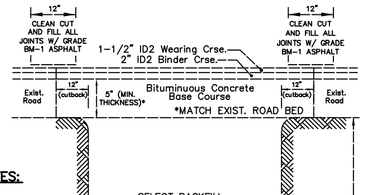
STANDARD MANHOLE-TYPE "B" SCHEDULE OF DIMENSIONS		
MANHOLE BASE DIAMETER	DIM. A	DIM. B
4'-0"	3'-4"	5"
5'-0"	3'-4"	6"
6'-0"	4'-0"	6"
7'-0"	4'-0"	8"
8'-0"	4'-0"	9"
10'-0"	4'-0"	10"

DROP MANHOLE - TYPE 'B'

NOT TO SCALE

(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

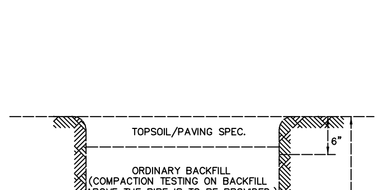
M-2



STORM SEWER TRENCH RESTORATION DETAIL WITHIN EXISTING CARTWAY

NOT TO SCALE

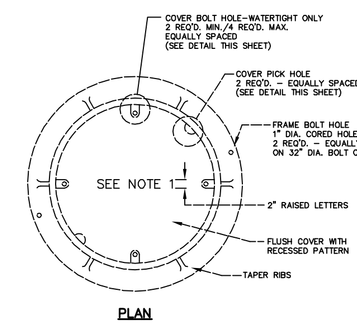
NOTE: COMPACTION TESTING IS TO BE DONE AT 50' INTERVALS FOR THE BACKFILL AROUND THE STORM SEWER PIPES IN AREAS OF PROPOSED PAVING.



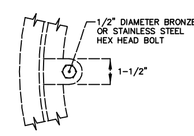
STORM SEWER TRENCH RESTORATION DETAIL OUTSIDE EXISTING CARTWAY

NOT TO SCALE

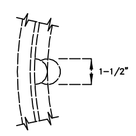
NOTE: COMPACTION TESTING IS TO BE DONE AT 50' INTERVALS FOR THE BACKFILL AROUND THE STORM SEWER PIPES IN AREAS OF PROPOSED PAVING.



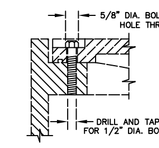
PLAN



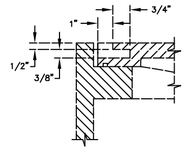
PLAN



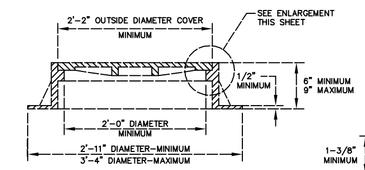
PLAN



SECTIONAL ELEVATION



SECTIONAL ELEVATION

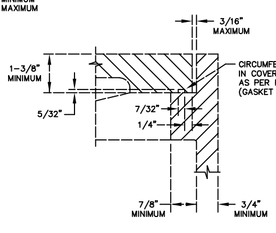


SECTIONAL ELEVATION

COVER BOLT HOLE

REQUIRED ONLY ON MANHOLES DESIGNATED TO HAVE "WATERTIGHT" COVERS

COVER PICK HOLE



ENLARGEMENT

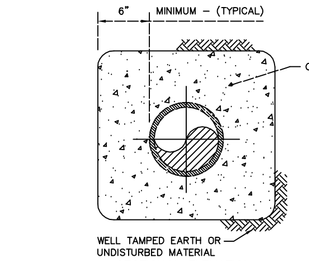
MANHOLE FRAME AND COVER NOTES:

1. "SEWER", "ELECTRIC" OR "TELEPHONE" AS APPLICABLE. ALL OTHERS SHALL HAVE NO LETTERING.
2. ALL MANHOLE FRAMES AND COVERS SHALL BE FOR HEAVY-DUTY TRAFFIC, AASHTO HIGHWAY LOADING CLASS HS-20.

STANDARD AND WATERTIGHT MANHOLE FRAME AND COVER

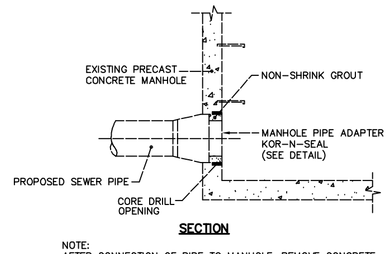
NOT TO SCALE

(NEW HANOVER TOWNSHIP SEWER AUTHORITY)



SECTIONAL ELEVATION

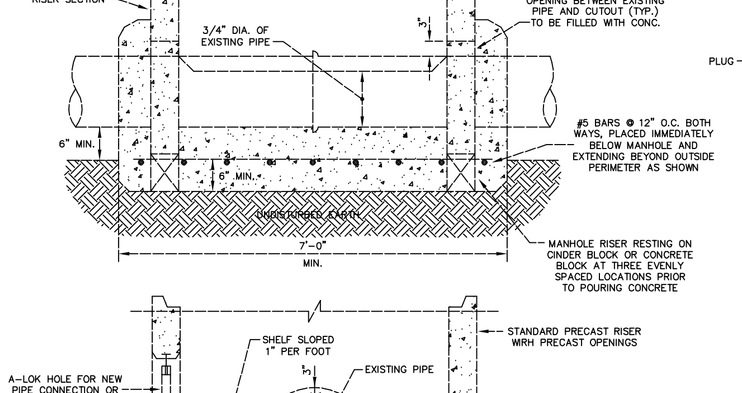
CONCRETE ENCASEMENT



SECTION

NOTE: AFTER CONNECTION OF PIPE TO MANHOLE, REMOVE CONCRETE CHANNEL AS REQUIRED AND RECONSTRUCT IN ACCORDANCE WITH DETAIL DRAWINGS.

SANITARY SEWER CONNECTION TO EXISTING MANHOLE

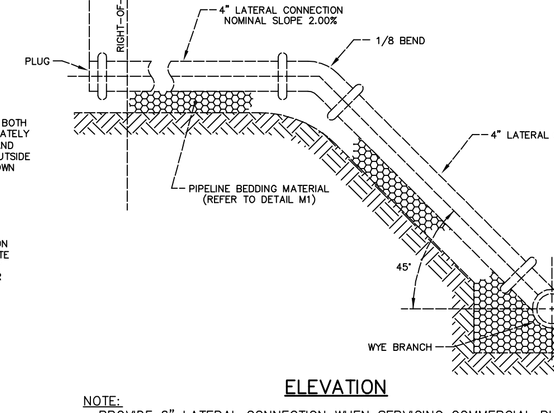


NOTES:

1. EXISTING PIPE TO REMAIN UNTIL SATISFACTORY COMPLETION OF MANHOLE TESTING.
2. REMOVE CROWN OF EXISTING PIPE FLUSH WITH CONCRETE SHELF.

DOGHOUSE MANHOLE

NOT TO SCALE



SECTIONAL ELEVATION

FIRST CLASS BEDDING AND INITIAL BACKFILL

NOT TO SCALE

PIPE BEDDING

(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

SECTIONAL ELEVATION

CONCRETE CRADLE

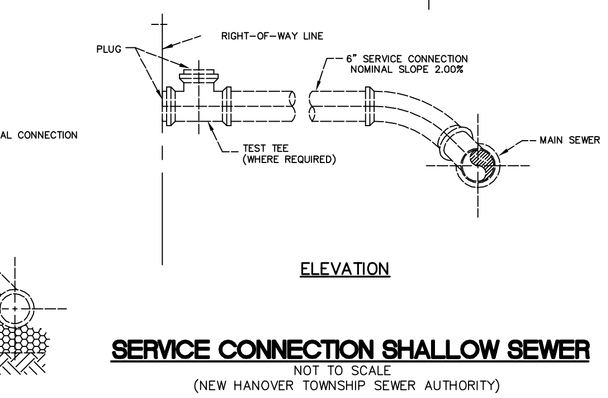
NOT TO SCALE

PIPE BEDDING

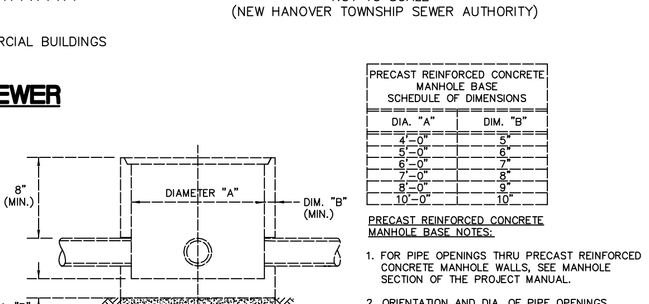
(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

SERVICE CONNECTION SHALLOW SEWER NOTE:

WHERE TEST TEE IS NOT REQUIRED, SERVICE CONNECTION SHALL BE EXTENDED TO THE RIGHT-OF-WAY LINE AND PLUGGED.



ELEVATION



LATERALS

SERVICE CONNECTION DEEP SEWER

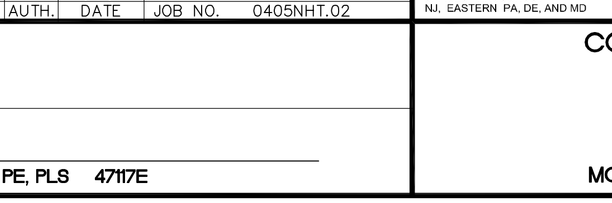
NOT TO SCALE

(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

SERVICE CONNECTION SHALLOW SEWER NOTE:

WHERE TEST TEE IS NOT REQUIRED, SERVICE CONNECTION SHALL BE EXTENDED TO THE RIGHT-OF-WAY LINE AND PLUGGED.

PLAN



ELEVATION

NOTE: PROVIDE 6" LATERAL CONNECTION WHEN SERVICING COMMERCIAL BUILDINGS AND MULTI-FAMILY DWELLING UNITS.

LATERAL CONNECTION DEEP SEWER

NOT TO SCALE

ELEVATION

SERVICE CONNECTION SHALLOW SEWER

NOT TO SCALE

(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

SECTIONAL ELEVATION

PRECAST REINFORCED CONCRETE MANHOLE BASE SCHEDULE OF DIMENSIONS	
DIA. "A"	DIM. "B"
4'-0"	5"
5'-0"	6"
6'-0"	7"
7'-0"	8"
8'-0"	9"
10'-0"	10"

PRECAST REINFORCED CONCRETE MANHOLE BASE NOTES:

1. FOR PIPE OPENINGS THRU PRECAST REINFORCED CONCRETE MANHOLE WALLS, SEE MANHOLE SECTION OF THE PROJECT MANUAL.
2. ORIENTATION AND DIA. OF PIPE OPENINGS SHOWN FOR ILLUSTRATION PURPOSES ONLY. SEE PLANS FOR LOCATION AND DIAMETER.
3. PRECAST REINFORCED CONCRETE MANHOLE BASE TO CONFORM TO ASTM SPECIFICATION C-478.
4. REINFORCING STEEL TO CONFORM TO ASTM SPECIFICATION A-185.

PRECAST REINFORCED CONCRETE MANHOLE BASES

NOT TO SCALE

(NEW HANOVER TOWNSHIP SEWER AUTHORITY)

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
REV. PER MCCD LTR DATED 9/01/11	BSF	09/30/11
REV. FOR CLIENT REVIEW	BSF	07/27/11
REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05

SCALE: AS NOTED

DESIGNED BY: BSF/CSP

DRAWN BY: GDM/SPE

CHECKED BY: BSF/CSP

JOB NO. 0405NHT.02

BY: _____

CHRISTOPHER S. PECORA, PE, PLS 47117E

Van Cleef ENGINEERING ASSOCIATES

Consulting Civil Engineering
Environmental Engineering
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture

4 WELLINGTON BLVD., WYOMISSING, PA 19610
EMAIL: BERKSCOUNTY-PA@VCEA.ORG WEB: WWW.VCEA.ORG
PHONE (610) 670-6630 FAX (610) 670-4603

OFFICES THROUGHOUT NJ, EASTERN PA, DE, AND MD

CONSTRUCTION DETAIL SHEET

FOR

ZAVITSANOS TRACT

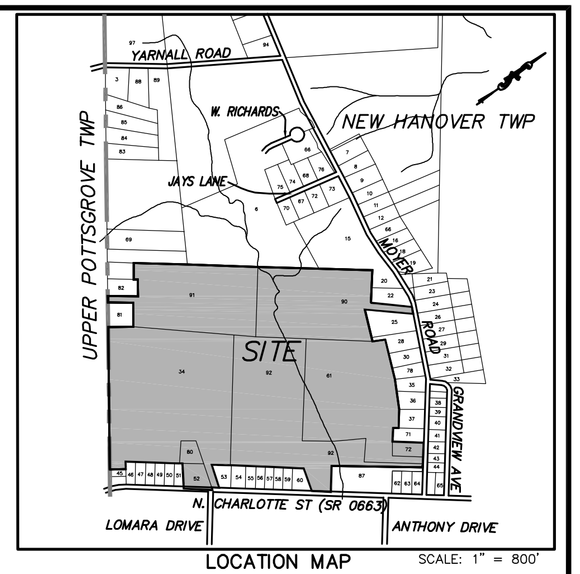
SITUATED IN

NEW HANOVER TOWNSHIP

MONTGOMERY COUNTY, PENNSYLVANIA

53/60

SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWGS\SHEETS\46-53-DETAILS-0405NHT02.DWG



LOCATION MAP SCALE: 1" = 800'

GENERAL NOTES:

1. FINAL SITE GRADING AND HOUSE CONSTRUCTION MUST PROVIDE THE DRAINAGE AREAS TO THE INLETS AND THE DETNETION BASINS AS DELINEATED ON THE POST-DEVELOPMENT DRAINAGE AREA PLAN.

2. 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.

3. ANY WETLAND PLANTINGS THAT APPEAR TO BE DEAD WILL BE REMOVED AND REPLACED BY HAND.

4. ANY SEDIMENT BUILDUP IN BASINS WILL BE REMOVED BY HAND.

5. ALL MAINTENANCE WILL BE PERFORMED BY THE LOT OWNER OR HOMEOWNERS ASSOCIATION. AT ANYTIME THE TOWNSHIP HAS THE RIGHT TO MAINTAIN THIS FACILITY AT THE OWNERS EXPENSE.

6. ALL BASINS WILL BE CHECKED ON A REGULAR BASIS FOR DEBRIS BUILDUP (TRASH AND CONSTRUCTION DEBRIS) THAT MAY CAUSE CLOGGING OF ORIFICES WITHIN OUTLET STRUCTURES.

7. ALL PROPOSED LAWN AREAS (WITHIN LIMIT OF DISTURBANCE) ARE TO BE COMPOSED OF AMENDED SOILS.

DETENTION BASIN NOTE

"THE RETENTION/DETENTION BASIN AND STORMWATER FACILITIES (AS SHOWN ON THIS PLAN) ARE A BASIC AND PERPETUAL PART OF THE STORM DRAINAGE SYSTEM OF THE TOWNSHIP OF NEW HANOVER, AND AS SUCH ARE TO BE PROTECTED AND PRESERVED, IN ACCORDANCE WITH THE APPROVED FINAL PLAN BY THE OWNER(S) ON WHOSE LANDS THE STRUCTURE(S) IS (ARE) LOCATED. THE TOWNSHIP OF NEW HANOVER AND/OR ITS AGENTS RESERVES THE RIGHT AND PRIVILEGE TO ENTER UPON SUCH LANDS FROM TIME TO TIME FOR THE PURPOSE OF INSPECTION OF SAID RETENTION/DETENTION BASIN IN ORDER TO DETERMINE THAT THE STRUCTURAL AND DESIGN INTEGRITY ARE BEING MAINTAINED BY THE OWNER(S)."

"IN THE EVENT THAT MAINTENANCE AND STRUCTURAL INTEGRITY ARE NOT MAINTAINED BY THE OWNER(S) AS REQUIRED BY THE TOWNSHIP, THE OWNER(S) HEREBY GRANTS TO THE TOWNSHIP THE RIGHT TO ENTER UPON SUCH PROPERTY AND TO PERFORM ANY AND ALL IMPROVEMENTS, REVISIONS OR MAINTENANCE AS MAY BE DETERMINED NECESSARY BY THE TOWNSHIP AND TO RECOVER THE COSTS THEREOF FROM THE PROPERTY OWNER BY ALL LAWFUL MEANS INCLUDING, BUT NOT LIMITED TO, THE IMPOSITION OF A MUNICIPAL LIEN ON THE PROPERTY."

STORMWATER MANAGEMENT REPORT:

REFERENCE IS HEREBY MADE TO THE "STORMWATER MANAGMENT REPORT FOR ZAVITSANOS TRACT VCEA NO. 04-5-NHT" AS PREPARED BY VAN CLEEF ENGINEERING ASSOCIATES DATED APRIL 8, 2005 AND LAST REVISED JANUARY 7, 2012. IN ADDITION, REFERENCE THE POST CONSTRUCTION STORMWATER MANAGEMENT REPORT FOR ZAVITSANOS TRACT (VCEA NO. 04-5-NHT) AS PREPARED BY VAN CLEEF ENGINEERING ASSOCIATES DATED OCTOBER 7, 2005 AND LAST REVISED DECEMBER 15, 2011. THE REFERENCED REPORTS, INCLUDING THE ASSOCIATED DRAINAGE PLANS, SHALL BE CONSIDERED PART OF THIS POST DEVELOPMENT STORMWATER MANAGEMENT PLAN.

STORMWATER MANAGEMENT SYSTEM ACKNOWLEDGEMENT

I, _____, WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE IS THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, DOES HEREBY ACKNOWLEDGE THAT THE STORMWATER MANAGEMENT SYSTEM SHOWN ON THIS PLAN IS TO BE A PERMANENT FIXTURE THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL OF A REVISED PLAN BY THE MUNICIPALITY.

SIGNATURE _____ DATE _____

MAINTENANCE AND INSPECTION NOTE:

THE RESULTS OF ANNUAL STORMWATER AND ROUTINE MAINTENANCE (DESCRIBED ON THE POST DEVELOPMENT STORMWATER MANAGEMENT PLAN) PERFORMED BY INDIVIDUAL LOT OWNERS OR THE HOMEOWNERS ASSOCIATION MUST BE REPORTED TO NEW HANOVER TOWNSHIP ON AN ANNUAL BASIS BY THE INDIVIDUAL LOT OWNERS OR THE HOMEOWNERS ASSOCIATION. THE REPORTING PERIOD FOR SUCH DATA SHALL BE FROM MARCH 10TH TO MARCH 9TH OF THE FOLLOWING YEAR. ALL REPORTS MUST BE SUBMITTED TO THE TOWNSHIP BY MARCH 15TH OR THE FIRST BUSINESS DAY AFTER MARCH 15TH, WHICHEVER IS FIRST.

NOTE:

THE CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN FOR WHICH A LICENSED PROFESSIONAL OR DESIGNEE SHALL BE PRESENT ON SITE ARE THE INSTALLATION OF ALL BMP'S INCLUDING THE CONSTRUCTED WETLANDS IN ALL FOUR DETENTION BASINS.

LEGEND

WETLAND MARGIN	DELINEATED WETLANDS
EXISTING WOODLANDS	
EXISTING CURB TO REMAIN	TC — TOP OF CURB ELEVATION
EXISTING STORM SEWER	BC — BOTTOM OF CURB ELEVATION
EXISTING SANITARY SEWER	FF — FIRST FLOOR ELEVATION
EXISTING WATER MAIN	GF — GARAGE FLOOR ELEVATION
EXISTING ELECTRIC	TREE PROTECTION AREA
EXISTING TREE (SURVEY)	
SOIL LINE	SOIL AMENDMENT AREA = 31.30 AC.
SPOT ELEVATION	
EXISTING CONTOUR	
PROPOSED CONTOUR	

NOTE:

ALL BUFFER AREA WHITE PINE TREES (PS - PINUS STROBUS) AS INDICATED ON THIS PLAN SHALL:
- A. BE MAINTAINED AND PROTECTED FOR THE LIFE OF THE PROJECT (50 YEARS) OR UNTIL REDEVELOPMENT OCCURS.
- B. HAVE ESCROW PROVIDED FOR THE REPLACEMENT OF ANY TREES THAT DIE WITHIN A 5 YEAR PERIOD. DEAD TREES WILL BE REPLACED WITHIN 6 MONTHS.

THERE ARE 72 TREES WHICH FALL UNDER THESE REQUIREMENTS, 50 IN POINT OF INTERESTS A-G AND 22 IN POINT OF INTEREST H.

SOILS DATA:

DATA OBTAINED FROM SOIL SURVEY OF MONTGOMERY COUNTY, PENNSYLVANIA, ISSUED FEBRUARY 2009.

Bo — BOWMANSVILLE SILT LOAM.

CrB — CROTON SILT LOAM, 3 TO 8 PERCENT SLOPES.

RhB — REAVILLE SHALY SILT LOAM, 3 TO 8 PERCENT SLOPES.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

Before You Dig Anywhere
In... PENNSYLVANIA
STOP! CALL 1-800-242-1776
TOLL FREE
PA Law requires 3 working days notice before you excavate
PA ONE CALL SYSTEM, INC.

REVISIONS	AUTH.	DATE
REV. PER LETTERS DATED 3/8/12	CSP	06/01/15
REV. PER LETTERS DATED 2/2/12	BSF	02/24/12
REV. FOR TOWNSHIP SUBMISSION	BSF	01/09/12
REV. PER MCCD LTR DATED 11/18/11	BSF	12/15/11
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REV. FOR E&S SUBMISSION	BSF	07/21/11
SEE COVER SHEET FOR FULL LIST OF REVISIONS	**BSF**	**07/01/05**

DATE: 4/07/05
SCALE: 1"=100'
DESIGNED BY: BSF/CSP
DRAWN BY: GDM/SPE
CHECKED BY: BSF/CSP
JOB NO. 0405NHT.02

BY: _____
CHRISTOPHER S. PECORA, PE, PLS 47117E

Van Cleef ENGINEERING ASSOCIATES
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Environmental Engineering
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture

OFFICES THROUGHOUT NJ, EASTERN PA, DE, AND MD
4 WELLINGTON BLVD., WYOMISSING, PA 19610
EMAIL: BERKSCOUNTYPA@VCEA.ORG WEB: WWW.VCEA.ORG
PHONE (610) 670-6630 FAX (610) 670-4603

POST DEVELOPMENT STORMWATER MANAGEMENT PLAN
FOR
ZAVITSANOS TRACT
SITUATED IN
NEW HANOVER TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

54/60

SAM ERNEY 12/21/2010
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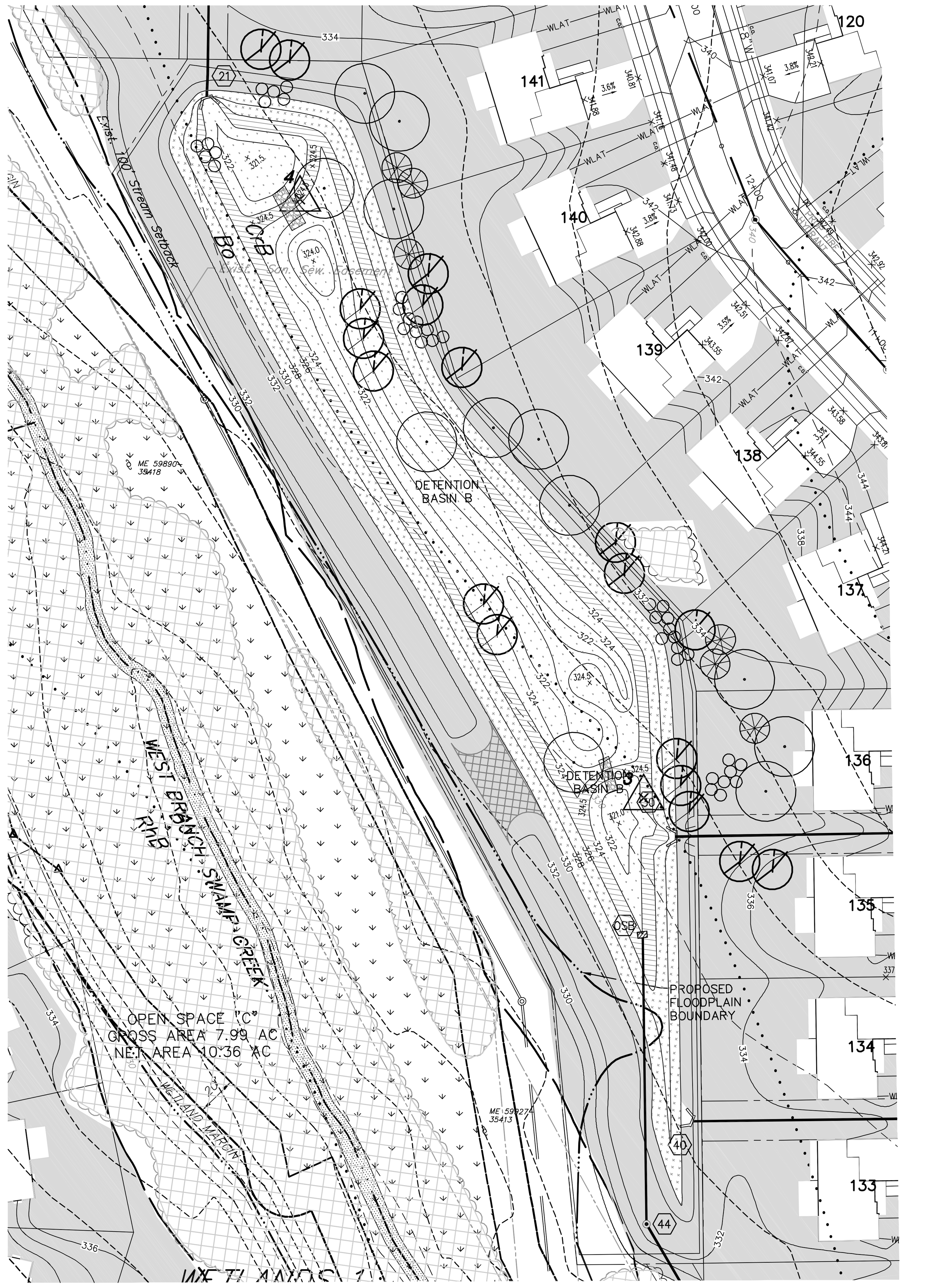
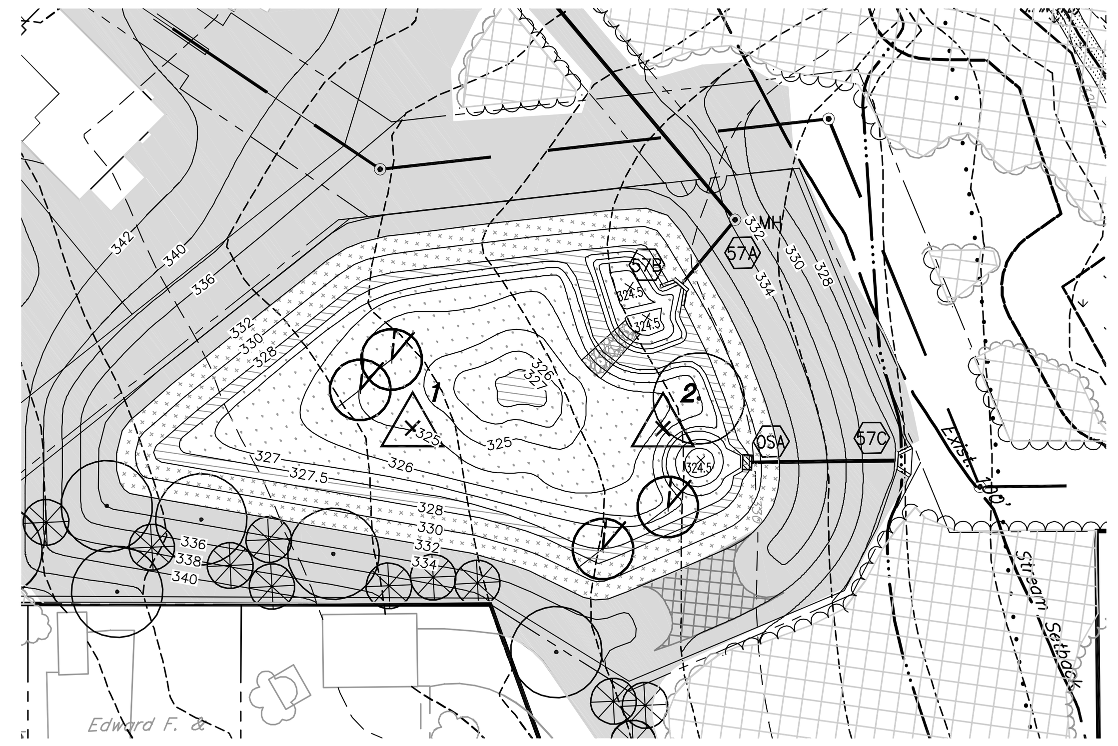
SAM ERNEY 12/21/2010
F:\JOBFILE\2004\0405NHT.02\CIVIL 3D\DWG\SHEETS\54-55-PCSWM-0405NHT02.DWG

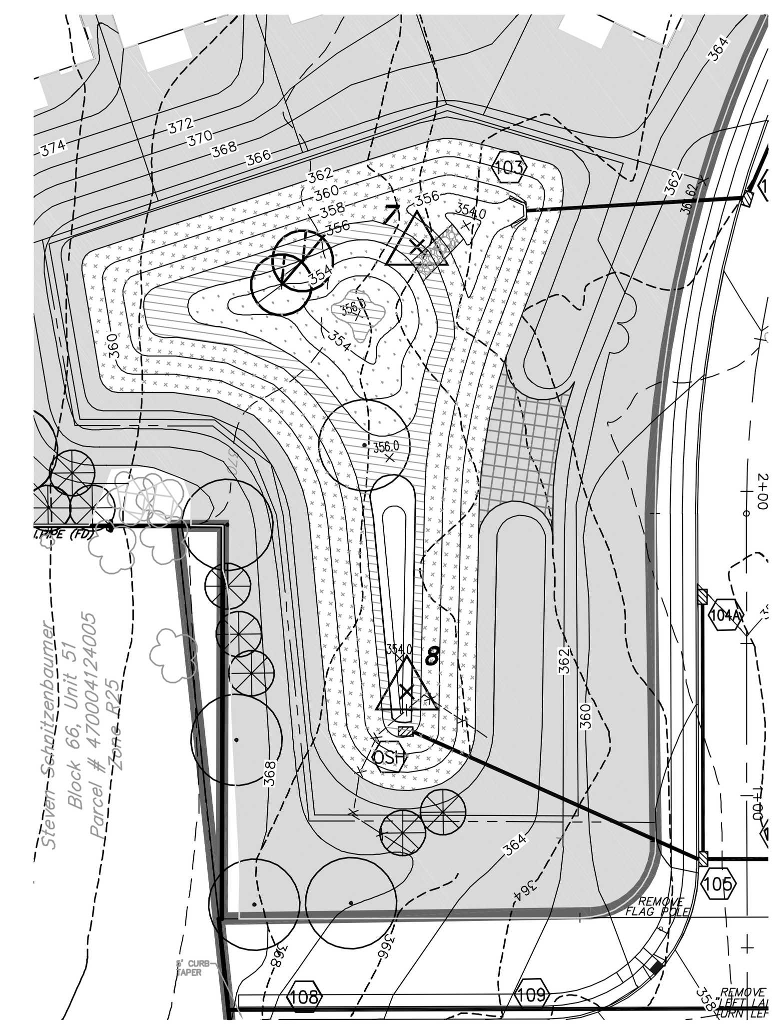


BASIN B PLAN VIEW
1" = 50'



BASIN A PLAN VIEW
1" = 50'

BASIN C PLAN VIEW
1" = 50'



BASIN H PLAN VIEW
1" = 50'

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TOLL FREE
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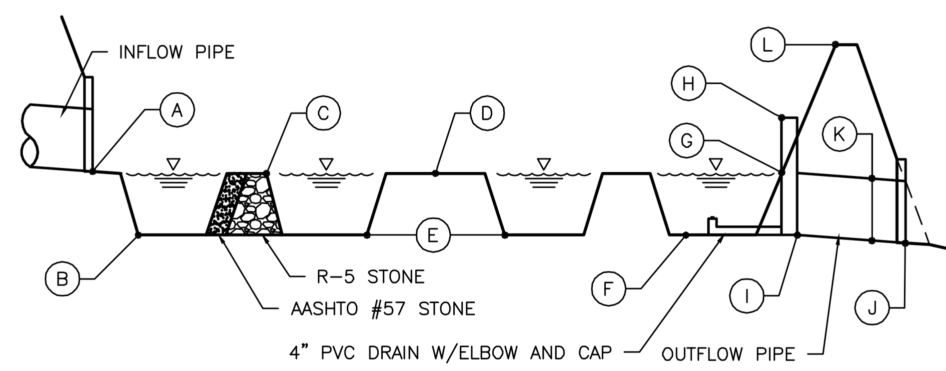
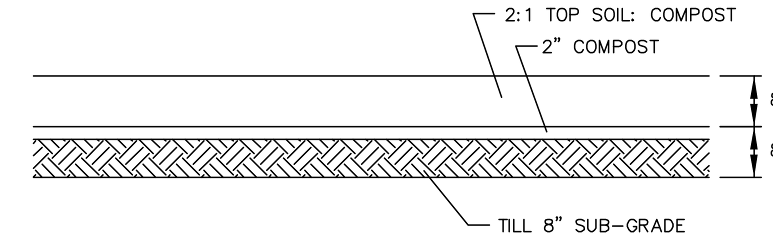


BASIN	INFLOW ELEV. A	FOREBAY BOT. ELEV. B	FOREBAY BERM ELEV. C	BASIN BOT. ELEV. D	LOW MARSH BOT. ELEV. E	MICRO POOL BOT. ELEV. F	OUTLET STRUCTURE ORIFICE ELEV. G	OUTLET STRUCTURE ORIFICE DIA. (IN)	OUTLET STRUCTURE GRATE ELEV. H	OUTFLOW PIPE INV. IN I	OUTFLOW PIPE INV. OUT J	OUTFLOW PIPE DIA. (IN) K	BASIN BERM ELEV. L
A	327.00	324.50	327.50	327.50	325.00	324.50	327.50	3	331.50	325.50	325.25	24	334.00
B	323.50	321.50	324.00	324.00	322.00	321.00	324.00	4	329.75	322.00	321.72	24	333.00
C	342.50	340.00	342.50	342.50	341.00	339.50	342.50	4	347.50	340.50	340.00	24	350.50
H	356.70	354.00	356.00	356.00	354.00	354.00	356.00	6	361.50	353.80	351.98	24	365.00

TYPICAL BASIN SECTION DETAIL
N.T.S.



SOIL AMENDMENT DETAIL
NOT TO SCALE

STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (BMP) NOTES:

ALL STORMWATER MANAGEMENT BMPs IDENTIFIED BELOW ARE INTENDED TO BE PERMANENT FIXTURES THAT CANNOT BE ALTERED OR REMOVED WITHOUT PRIOR APPROVAL OF THE TOWNSHIP.

1. FLAT BOTTOM BASINS – WATER QUALITY, GROUNDWATER RECHARGE

OPERATION NOTE:
THE MAINTENANCE FOR THE STORMWATER MANAGEMENT BASINS SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION.

CONSTRUCTION NOTES:
1) PROTECT BASIN FROM COMPACTION PRIOR TO INSTALLATION.
2) IF POSSIBLE, INSTALL INFILTRATION BASIN DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PROTECT SEDIMENT-LADEN WATER FROM ENTERING INLETS AND PIPES.
3) INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
4) IF NECESSARY, EXCAVATE BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
5) PLANTINGS SHALL BE IN ACCORDANCE WITH THE APPROVED LANDSCAPING AND LIGHTING PLAN.
6) DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.
7) ANY SEDIMENT THAT ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

MAINTENANCE AND INSPECTION NOTES:
1) CATCH BASINS AND INLETS (UPGRADIENT OF BASIN) ARE TO BE INSPECTED ON AN ANNUAL BASIS AND CLEANED WHEN THE SEDIMENT EXCEEDS THE SAFE LEVEL AS SHOWN ON THE PLANS.
2) THE VEGETATION ALONG THE SURFACE OF THE BASIN SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS IMMEDIATELY REVEGETATED.
3) VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON THE BASIN, AND CARE SHOULD BE TAKEN TO AVOID EXCESS COMPACTION BY MOWERS.
4) INSPECT BASIN AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS.
5) ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.
6) MOSQUITOES SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS.
7) ONCE ESTABLISHED, THE HOMEOWNERS ASSOCIATION SHOULD MONITOR THE WEED GROWTH CAREFULLY DURING THE FIRST YEAR. THE HEIGHT OF THE GRASS SHOULD BE KEPT BETWEEN 6 AND 8 INCHES. FOR THE SECOND YEAR AND ON, DEPENDING ON THE WETNESS OF THE GROUND AT THE TIME OF MOWING, THE AREA SHOULD NOT BE MOWED MORE THAN TWICE ANNUALLY AND NO LOWER THAN 6 INCHES.
8) REMOVE SEDIMENT FROM BASIN. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT.

2. SUMP INLETS – WATER QUALITY

OPERATION NOTE:
THE MAINTENANCE FOR THE SUMP INLETS SHALL BE THE RESPONSIBILITY OF THE TOWNSHIP.

CONSTRUCTION NOTES:
1) INLETS 20, 28, 54, 71, 104 SHALL BE CONSTRUCTED AS SUMP INLETS.
2) INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
3) DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.
4) ANY SEDIMENT THAT ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

MAINTENANCE AND INSPECTION NOTES:
1) INLETS SHOULD BE INSPECTED AND CLEANED ON AN ANNUAL BASIS. SEDIMENT SHALL NOT ACCUMULATE TO MORE THAN HALF OF THE STORAGE DEPTH. PROPERLY DISPOSE OF SEDIMENT.
2) THE VEGETATION ALONG THE SURFACE OF THE CATCH BASIN SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS IMMEDIATELY REVEGETATED.
3) INSPECT INLET AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS.
4) SOLIDS REMOVED FROM INLETS MAY BE HIGH IN POLLUTANTS SUCH AS OIL AND GREASE, METALS, ORGANIC AND INORGANIC CHEMICALS, AND NUTRIENTS. PROPER HANDLING OF THIS MATERIAL INCLUDES DISPOSAL SO AS NOT TO CONTAMINATE SURFACE WATER OR GROUNDWATER. THIS MATERIAL MAY NEED TO BE LANDFILLED.

3. DISCONNECTION OF ROOF DRAINS – INFILTRATION

CONSTRUCTION NOTES:
1) ALL ROOF DRAINS SHALL NOT BE DIRECTLY DISCHARGED TO STORMWATER CONVEYANCE SYSTEMS AND IMPERVIOUS SURFACES. ALL ROOF DRAINS SHALL DISCHARGE TO STABILIZED LAWN AREAS.

BASIN BOTTOM PLANT SCHEDULE

SYM.	QTY.	BOTANICAL NAME	COMMON NAME	CALIPER / HEIGHT
BN	23	Betula nigra 'Cully'	Heritage River Birch	8'-10' Multi.
AR	9	Acer rubrum	Red Maple	1 1/2" cal. 5 Gal
SN	9	Salix nagra	Black Willow	8'-10'

SOIL TEST DATA
X 1 SOIL PROBE LOCATION & NUMBER

BASIN	NUMBER	EX. ELEV.	PROP. ELEV	DEPTH
A	1	337	327.00	14.00'
A	2	333	327.00	10.00'
B	3	331	323.50	11.50'
B	4	331	323.50	11.50'
C	5	345	342.00	7.00'
C	6	353	342.00	15.00'
H	7	367	355.50	14.50'
H	8	367	355.50	14.50'

SOILS DATA:

DATA OBTAINED FROM SOIL SURVEY OF MONTGOMERY COUNTY, PENNSYLVANIA, ISSUED FEBRUARY 2009.

Bo – BOWMANSVILLE SILT LOAM.

CrB – CROTON SILT LOAM, 3 TO 8 PERCENT SLOPES.

RhB – REAVILLE SHALY SILT LOAM, 3 TO 8 PERCENT SLOPES.

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

DETENTION BASIN SEEDING SPECIFICATION

BASIN BOTTOM (WETLAND OR NEAR-WETLAND CONDITIONS) SEED MIXTURE

SCIENTIFIC NAME	COMMON NAME	QTY (BULK)
GRASSES & WILDFLOWERS		
AGROSTIS STOLONIFERA	CREEPING BENTGRASS	1 LB/ACRE
ALOPECURUS PRATENSIS	MEADOW FOXTAIL	2 LB/ACRE
ASCLEPIAS INCARNATE	SWAMP MILKWEED	0.2 LB/ACRE
ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.05 LB/ACRE
ASTER PUNICEUS	PURPLE-STEMMED ASTER	0.05 LB/ACRE
BROMUS ALTISSIMUS	WILD BROME GRASS	0.25 LB/ACRE
CAREX CRINITA	FRINGED SEDGE	0.5 LB/ACRE
CAREX VULPINOIDEA	FOX SEDGE	2 LB/ACRE
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	2 LB/ACRE
EUPATORIUM PERFOLIATUM	BONESET	0.1LB/ACRE
GLYCERIA STRIATA	FOWL MANNAGRASS	0.25 LB/ACRE
LEERZIA ORYZOIDES	RICE CUT-GRASS	1 LB/ACRE
PANICUM VIRGATUM	SWITCHGRASS	2 LB/ACRE
SCIRPUS ATROVIRENS	GREEN BULRUSH	0.25 LB/ACRE
SCIRPUS CYPERINUS	WOOL GRASS	0.3 LB/ACRE
SCIRPUS POLYPHYLLUS	MANY-LEAVED BULRUSH	0.2 LB/ACRE
SCIRPUS PUNGENS	COMMON THREE SQUARE	0.1 LB/ACRE
VERBENA HASTATA	BLUE VERVAIN	0.1 LB/ACRE
VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	0.1 LB/ACRE
LOLIUM MULTIFLORUM	ANNUAL RYEGRASS	10 LB/ACRE

NOTES:
- THE DETENTION BASIN SHOULD BE MONITORED DURING CONSTRUCTION AND PRIOR TO VEGETATION INSTALLATION TO DETERMINE ITS HYDROLOGY AND THE EXACT LOCATIONS FOR EACH OF THE SPECIFIED MIXES.
- THE ABOVE MIXES, WITH THE EXCEPTION OF SWITCHGRASS, CAN BE INSTALLED DURING THE SPRING OR FALL PLANTING SEASONS. IF SEEDED DURING THE FALL, INSTALL ALL MATERIALS EXCEPT SWITCHGRASS. SWITCHGRASS CAN BE OVERSEEDED DURING LATE WINTER WHEN FREEZE-THAW ACTION WILL ASSURE ADEQUATE SEED TO SOIL CONTACT.
- LIME AS PER SOIL TEST TO ACHIEVE PH 6.0-6.5.
- EXCEPT AS NOTED IN WETLANDS, SEEDED WILDFLOWERS TO BE APPLIED AT THE RATE OF 2 LBS/ACRE.
- HYDROSEED GRASS AND WILDFLOWERS. USE HARROW OR HAND RAKE SEED INTO TOP 0.5 INCHES OF SOIL.
- STABILIZE WITH BONTERRA S2 BLANKET OR EQUIVALENT IF AREA SUBJECT TO IMMINENT STORMWATER FLOWS.
- STRAW MULCH AT 1 TON PER ACRE AND APPLY MULCH TACKIFIER USING THE HYDROSEEDER IN ALL AREAS WITHOUT BIOBLANKETS.

SHORTGRASS UPLAND MEADOW

GRASS & PERENNIAL WILDFLOWER SPECIFICATION

SCIENTIFIC NAME	COMMON NAME	VARIETY	RATE – PLS
GRASSES			
BOUTELOUA CURTIPENDULA	SIDE OATS GRAMA	TRAILWAY	1 LB/AC
BOUTELOUA GRACILIS	BLUE GRAMA		1 LB/AC
FESTUCA OVINA	SHEEP'S FESCUE		5 LB/AC
LOLIUM MULTIFLORUM	ANNUAL RYEGRASS		10 LB/AC
KOELERIA CRISTATA (PYRAMIDATA)	PRAIRE JUNEGRASS		1 LB/AC
PANICUM CLANDESTINUM	TIOGA DEERTONGUE		0.5 LB/AC
SCHIZOCHARIUM SCOPARIUS	LITTLE BLUE STEM	CAMPER	6 LB/AC
SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED		0.5 LB/AC
PERENNIAL WILDFLOWERS			% TOTAL WEIGHT
ANEMONE VIRGINIANA	TALL THIMBLEWEED		3.00%
AQUILEGIA CANADENSIS	WILD COLUMBINE		4.00%
ASCLEPIAS TUBEROSA	BUTTERFLY WEED		10.00%
ASTER CONCOLOR	EASTERN SILVERY ASTER		1.00%
ASTER ERICOIDES	HEATH ASTER		1.00%
ASTER LATERIFOLIUS	CALICO ASTER		1.00%
ASTER LAEVIS	SMOOTH ASTER		2.00%
CASTILLEJA COCCINEA	INDIAN PAINTBRUSH		1.00%
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA		5.00%
COREOPSIS LANCEOLATA	LANCE-LEAVED COREOPSIS		7.00%
ECHINACEA PURPUREA	PURPLE CONEFLOWER		6.00%
EUPATORIUM COELESTINUM	HARDY AGERATUM (MISTFLWR)		2.00%
GAILLARDIA ARISTATA	BLANKET FLOWER		7.00%
GERANIUM MACULATUM	WILD GERANIUM		1.00%
HELIANTHUS MOLLIS	DOWNY SUNFLOWER		4.00%
LESPEDEZA CAPITATA OR L. HIRTA	BUSH CLOVER		5.00%
LIATRIS SPICATA	GAYFEATHER		2.00%
LUPINUS PERENNIS	PERENNIAL LUPINE		10.00%
OENOTHERA SPECIOSA	SHOWY EVENING PRIMROSE		1.00%
PENSTEMON DIGITALIS	BEARDTONGUE		3.00%
PHLOX PILOSA	PRAIRIE PHLOX		1.00%
RATIBIDA PINNATA	YELLOW CONEFLOWER		4.00%
RUDBECKIA HIRTA	BLACK-EYED SUSAN		3.00%
RUDBECKIA FULGIDA	BRILLIANT CONEFLOWER		7.00%
RUDBECKIA SUBTOMENTOSA	SWEET BLACK-EYED SUSAN		5.00%
SOLIDAGO SPECIOSA	SHOWY GOLDENROD		2.00%

NOTES:
- SEEDING WITH THE ABOVE MIX SHOULD BE COMPLETED ONLY FROM FEBRUARY TO JUNE. IF STABILIZATION IS REQUIRED DURING ANOTHER SEASON, A TEMPORARY (I.E. ANNUAL COVER) SHOULD BE USED.
- LIME AS PER SOIL TEST TO ACHIEVE PH 6.5.
- HAND SEED WILDFLOWERS IN DRIFTS BY INDIVIDUAL SPECIES AT THE RATE OF 1.75 LBS PER ACRE.
- HYDROSEED OR DRILL SEED GRASS (USING TRUAX OR EQUAL). IF HYDROSEEDED, USE HARROW TO RAKE SEED INTO TOP 0.5 INCHES OF SOIL, THEN STRAW MULCH (*DELETE ANNUAL RYEGRASS) AND TACK PER WRITTEN SPECIFICATION.

DETENTION BASIN MAINTENANCE PROGRAM

ARTIFICIAL WETLAND & NATURALIZED FACILITIES

POST-CONSTRUCTION MAINTENANCE INSPECTIONS

A. BASIN SHOULD BE INSPECTED ON THE FOLLOWING BASIS:
1. ANNUALLY FOR THE FIRST 5 YEARS
2. ONCE EVERY 3 YEARS THEREAFTER.
3. DURING OR IMMEDIATELY AFTER THE CESSATION OF A STORM EVENT GREATER THAN 2" IN 24 HOURS.

THE FOLLOWING ITEMS SHALL BE PART OF THE MAINTENANCE PROCEDURES:
1. GRASS MAINTENANCE
2. CONTROL OF NOXIOUS WEEDS AND INVASIVE PLANTS
3. MAINTENANCE OF WETLAND VEGETATION
4. REMOVAL AND DISPOSAL OF TRASH AND DEBRIS
5. REMOVAL AND DISPOSAL OF SEDIMENT
6. MAINTENANCE OF MECHANICAL COMPONENTS
7. ELIMINATION OF MOSQUITO-BREEDING HABITATS

THE ENTITY CONDUCTING THE INSPECTION SHALL BE RESPONSIBLE TO SUBMIT A REPORT TO THE MUNICIPALITY REGARDING THE CONDITION OF THE FACILITY AND RECOMMEND NECESSARY REPAIRS, IF REQUIRED BY THE MUNICIPALITY.

INSPECTION CHECKLIST:
1. OBSTRUCTION OF THE INLET OR OUTLET DEVICES BY TRASH AND DEBRIS
2. EXCESSIVE EROSION OR SEDIMENTATION
3. CRACKING OR SETTLING
4. ANIMAL BORROWING
5. PERMANENTLY PONDED AREAS
6. ALGAE GROWTH, STAGNANT POOLS, OR NOXIOUS ODORS
7. POOR OR DISTRESSED STANDS OF GRASS
8. DISTRESSED AQUATIC VEGETATION
9. DETERIORATION OF PIPES AND CONDUITS
10. DETERIORATION OF SPILLWAY
11. WASHOUT, BULGES, OR SLUMPS
12. SEEPAGE AT THE TOE OF BASIN
13. UNSTABLE SIDE SLOPES AND EMBANKMENTS
14. DETERIORATION OF DOWNSTREAM CHANNELS
15. SIGNS OF VANDALISM
16. PIPING ALONG THE OUTLET BARREL
17. DETERIORATION/SCOURING OF ENERGY DISSIPATERS
18. OUTLET PROTECTION
19. SEDIMENTATION IN RIPRAP CHANNELS

DETENTION BASIN MAINTENANCE REQUIREMENTS

ARTIFICIAL WETLAND & NATURALIZED FACILITIES

THE DETENTION BASIN SHALL BE CLEANED OF SEDIMENT AT THE COMPLETION OF SITE CONSTRUCTION ACTIVITIES. SEDIMENT REMOVAL MAY BE REQUIRED IN A 10 TO 20 YEAR PERIOD. TRASH AND FLOATING DEBRIS SHALL BE REMOVED MONTHLY. A COMPLETE ANNUAL INSPECTION SHALL BE MADE.
EROSION, DISPLACED RIP-RAP, EXPOSED SOIL, AND EMBANKMENT STABILITY ISSUES SHALL BE REPAIRED, IF NOTED. ANY OPENINGS OR DAMAGE TO THE SAFETY FENCE SHALL BE IMMEDIATELY REPAIRED.

MOW BASIN TWICE A YEAR. ONCE A YEAR MOWING IS SUFFICIENT TO KEEP A MEADOW LAWN FROM REVERTING TO WOODLAND, BUT MAY NOT BE SUFFICIENT TO DISCOURAGE WOODY SEEDLINGS, BRAMBLES, INVASIVE VINES AND MULTIFLORA ROSE. RECOMMENDED DATES FOR MOWING ARE EARLY JULY FOR THE FIRST CUTTING AND A SECOND CUTTING IN MARCH UP TO APRIL 15TH. THIS WILL MAXIMIZE BIRD AND ANIMAL HABITAT AND PROMOTE DESIRABLE AND ATTRACTIVE VEGETATION. MOW SEEDED AREAS WHEN THE GROUND IS DRY AND CUT AT HEIGHT OF 6" DURING THE DORMANT SEASON.

MONITOR BASIN FOR INTRUSION BY NOXIOUS AND INVASIVE PLANTS, SUCH AS THISTLE. ELIMINATE UNDESIRABLE PLANTS BY SPOT MOWING, SPOT SPRAYING OR WICK APPLICATION OF AN APPROPRIATE HERBICIDE OR BY MANUAL OR MECHANICAL PULLING. A COMBINATION OF STRATEGIES MAY BE THE BEST APPROACH. DO NOT USE HERBICIDES WITHIN 50 FEET OF STREAMS.

AMENDED SOILS NOTES:

THREE DAYS PRIOR TO PLACEMENT OF AMENDED SOILS THE LICENSED PROFESSIONAL SHALL BE CONTACTED TO OBSERVE THE PLACEMENT OF AMENDED SOILS. THE LICENSED PROFESSIONAL SHALL BE ONSITE TO VERIFY THE ROTOTILLING OF THE SUBSOIL AND THE APPLICATION OF THE APPROVED SOIL AMENDMENT MIXTURE.

AMENDED SOILS SHALL BE COMPOSED OF A SOIL/COMPOST MIXTURE WHERE COMPOST AND SOIL ARE COMBINED AT A RATE OF 2:1 (2 PARTS SOIL:1 PART COMPOST). IF A PROPRIETARY PRODUCT IS USED IN LIEU OF COMPOST, THEN THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED IN TERMS OF MIXING AND APPLICATION RATES.

PRIOR TO PLACEMENT OF AMENDED SOILS THE SUBBASE MUST BE ROTOTILLED TO A MINIMUM DEPTH OF 12". THE AMENDED SOIL SHALL BE PLACED THE SAME DAY THE THE SUBSOIL IS ROTOTILLED. AFTER PLACEMENT OF THE AMENDED SOIL THE AMENDED SOIL SHALL BE ROTOTILLED TO THE DEPTH OF 8".

DETENTION BASIN SEEDING SPECIFICATIONS

BASIN SIDESLOPES (UPLANDS) & DRIEST PORTIONS OF THE BASIN BOTTOM

SCIENTIFIC NAME	COMMON NAME	VARIETY	QTY (BULK)
GRASSES			
ANDROPOGON VIRGINICUS	BROOMSEDGE		0.5LB/ACRE
BOUTELOUA CURTIPENDULA	SIDE OATS GRAMA	TRAILWAY	2 LB/ACRE
BOUTELOUA GRACILIS	BLUE GRAMA		2 LB/ACRE
FESTUCA LONGIFOLIA	HARD FESCUE	SR 3100	1 LB/ACRE
FESTUCA OVINA	SHEEP'S FESCUE		5 LB/ACRE
FESTUCA RUBRA VAR. COMMUTATE	CHEWINGS FESCUE	SR 5100	0.5 LB/ACRE
KOELERIA CRISTATA (PYRAMIDATA)	PRAIRIE JUNEGRASS		0.5 LB/ACRE
PANICUM CLANDESTINUM	TIOGA DEERTONGUE		2 LB/ACRE
SCHIZOCHARIUM SCOPARIUS	LITTLE BLUE STEM	CAMPER	4 LB/ACRE
PANICUM VIRGATUM	SWITCHGRASS		1LB/ACRE
	ANNUAL RYEGRASS*		5 LB/ACRE
PERENNIAL WILDFLOWERS			
ANEMONE VIRGINIANA	TALL THIMBLEWEED		3.00%
AQUILEGIA CANADENSIS	WILD COLUMBINE		4.00%
ASCLEPIAS TUBEROSE	BUTTERFLY WEED		17.00%
ASTER ERICOIDES	HEATH ASTER		1.00%
ASTER LATERIFLORUS	CALICO ASTER		1.00%
ASTER LAEVIS	SMOOTH ASTER		2.00%
CASTILLEJA COCCINEA	INDIAN PAINTBRUSH		1.00%
CHAMAECRISTA FASCICULATE	PARTRIDGE PEA		5.00%
COREOPSIS LANCEOLATA	LANCE-LEAVED COREOPSIS		6.00%
ECHINACEA ANGUSTIFOLIA	NARROW-IVD CONEFLOWER		3.00%
ECHINACEA PURPUREA	PURPLE CONEFLOWER		2.00%
EUPATORIUM RUGOSUM	WHITE SNAKEROOT		1.00%
GAILLARDIA ARISTATA	BLANKET FLOWER		6.00%
HELIANTHUS MOLLIS	DOWNY SUNFLOWER		6.00%
LESPEDEZA CAPITATA OR L. HIRTA	BUSH CLOVER		9.00%
LIATRIS SPICATA	GAYFEATHER		2.00%
LUPINUS PERENNIS	PERENNIAL LUPINE		14.00%
MONARDA FISTULA	WILD BERGAMOT		2.00%
OENOTHERA SPECIOSA	SHOWY EVENING PRIMROSE		2.00%
PENSTEMON DIGITALIS	BEARDTONGUE		3.00%
RATIBIDA PINNATA	YELLOW CONEFLOWER		3.00%
RUDBECKIA HIRTA	BLACK-EYED SUSAN		3.00%
RUDBECKIA FULGIDA	BRILLIANT CONEFLOWER		4.00%
SOLIDAGO SPECIOSA	SHOWY GOLDENROD		1.00%

NOTES:
- THE DETENTION BASIN SHOULD BE MONITORED DURING CONSTRUCTION AND PRIOR TO VEGETATION INSTALLATION TO DETERMINE ITS HYDROLOGY AND THE EXACT LOCATIONS FOR EACH OF THE SPECIFIED MIXES.
- SEEDING OF BASIN/SWALE SIDESLOPES OR MEADOW AREAS SHOULD BE COMPLETED ONLY FROM MARCH TO JUNE, UNLESS APPROVED BY THE TWP. ENVIRONMENTAL CONSULTANT. IF STABILIZATION IS REQUIRED DURING ANOTHER SEASON, A TEMPORARY (I.E. ANNUAL) COVER SHOULD BE USED AS SPECIFIED BY THE COUNTY CONSERVATION DISTRICT TO PROVIDE COVERAGE UNTIL THE NEXT SPRING PLANTING SEASON.
- IF AN ANNUAL COVER IS USED, TILL OR REGRADE THE SURFACE BEFORE INSTALLING THE SPECIFIED MIXES AS DESCRIBED BELOW.
- LIME AS PER SOIL TEST TO ACHIEVE PH 6.5.
- SEEDED WILDFLOWERS CAN BE APPLIED IN DRIFTS (I.E., HAND SEEDED) BY INDIVIDUAL SPECIES AT THE RATE OF 1.5 LBS PER ACRE.
- HYDROSEED GRASS. USE HARROW OR HAND RAKE SEED INTO TOP 0.5 INCHES OF SOIL.
- STRAW MULCH AT 1 TON PER ACRE AND APPLY MULCH TACKIFIER USING THE HYDROSEEDER.

DETENTION BASINS/NATURAL AREAS

MAINTENANCE GUIDELINES

THE FOLLOWING RECOMMENDATIONS ARE OFFERED FOR MONITORING AND MAINTENANCE OF NATURALIZED DETENTION BASINS, PONDS, AND MEADOWS:

1. MEADOW MANAGEMENT – DURING THE ESTABLISHMENT PERIOD (TYPICALLY 2-4 YEARS), MEADOWS SHOULD BE MOWED TO FAVOR THE GROWTH OF THE SEEDED GRASSES AND WILDFLOWERS. THIS TYPICALLY INVOLVES MOWING 1-3 TIMES DURING THE FIRST GROWING SEASON WHEN WEEDS AND COMPETING ANNUAL GRASSES REACH A HEIGHT OF 12-15 INCHES. MEADOWS SHOULD BE MOWED TO A HEIGHT (TYPICALLY 6 INCHES DURING THE FIRST YEAR) JUST ABOVE THE TOPS OF NATIVE GRASSES, WHICH ARE GROWING BELOW THE WEEDS AND ANNUAL GRASSES. DURING THE SECOND GROWING SEASON 2 CUTTINGS MAY BE REQUIRED TO CONTROL ANNUAL OR PERENNIAL COMPETITORS. THE PRESENCE OF PERENNIAL INVASIVE SUCH AS CANADA THISTLE MAY REQUIRE THE USE OF A BROAD-LEAF HERBICIDE (E.G., STINGER) IN ADDITION TO MOWING. FOLLOWING ESTABLISHMENT, MEADOWS SHOULD BE MOWED ONCE A YEAR DURING EARLY SPRING (APRIL), UNLESS ADDITIONAL MOWINGS ARE REQUIRED TO PREVENT THISTLE, MUGWORT, SPOTTED KNAPWEED OR OTHER INVASIVES FROM GOING TO SEED. EARLY SPRING MOWING PROVIDES WINTER HABITAT FOR MANY SPECIES OF WILDLIFE AND ALLOWS REGENERATION OF THE MEADOW TO PROVIDE SUMMER HABITAT, AS WELL AS A SEQUENCE OF BLOOMING WILDFLOWERS.
2. INVASIVE EXOTICS – A LONG-TERM PROGRAM TO CONTROL INVASIVE EXOTIC PLANTS WITHIN NATURALIZED AREAS INCLUDES MONTHLY INSPECTIONS OF THE MEADOWS, PONDS, AND WETLANDS DURING THE GROWING SEASON TO IDENTIFY AND REMOVE INVASIVE VEGETATION. THE KEY TO AN EFFECTIVE ERADICATION PROGRAM BEGINS WITH PROPERLY IDENTIFYING THE VARIOUS INVASIVE PLANTS TO BE ELIMINATED AND DEVELOPING A PLAN SPECIFIC TO THOSE SPECIES. SOME PLANTS (E.G., TREES, LARGE SHRUBS) CAN BE PHYSICALLY REMOVED. HOWEVER, HERBACEOUS SPECIES AND VINES (E.G. JAPANESE HONEYSUCKLE, COMMON REED, CANADA THISTLE) WILL LIKELY REQUIRE THE ACCOMPANYING USE OF A BROAD-LEAF HERBICIDE TO ACHIEVE EFFECTIVE LONG-TERM RESULTS. CATTAILS (BROAD-LEAVED AND NARROW-LEAVED), ALTHOUGH NATIVE SPECIES, HAVE NOT BEEN INCLUDED AS PART OF THE PLANTINGS AND SHOULD BE REMOVED FROM THE BIOFILTERS AND AQUATIC BENCHES OF THE PONDS, AND THE FOREBAYS OF DETENTION BASIN, AT LEAST UNTIL INSTALLED VEGETATION HAS BECOME WELL ESTABLISHED. OTHERWISE, THESE AGGRESSIVE SPECIES MAY OUT-COMPETE THE INSTALLED VEGETATION AND FORM UNDESIRABLE MONOCULTURES.
3. DEER MANAGEMENT – ALTHOUGH ENTIRELY NATIVE, WHITE-TAIL DEER REPRESENT A CHALLENGE SIMILAR TO INVASIVE EXOTIC VEGETATION. AS THEIR POPULATION LEVELS CONTINUE TO GROW OR REMAIN HIGH STATEWIDE, DEER ARE BECOMING INCREASINGLY PROBLEMATIC. IN AREAS OF EXCESSIVE DEER DAMAGE, IT MAY BE DESIRABLE TO INSTALL A DEER FENCE AROUND THE PLANTING AREA DURING THE PLANT ESTABLISHMENT PERIOD. WHEN THIS FENCE IS ULTIMATELY REMOVED, ALL AVAILABLE OPTIONS TO CONTROL THE DEER POPULATION SHOULD BE CONSIDERED.
4. FOREBAY MAINTENANCE – BASIN AND POND FOREBAYS SHOULD BE MAINTAINED ON AN ANNUAL BASIS FOR THE FIRST 2-4 YEARS FOLLOWING COMPLETION OF CONSTRUCTION. ACCUMULATED SEDIMENT CAN BE REMOVED BY HAND (I.E., WITH A SHOVEL) OR BY USING A SMALL FRONT END LOADER (E.G., BOBCAT). FOREBAYS CAN BE MOWED ANNUALLY ON THE SAME SCHEDULE AS THE MEADOWS FOLLOWING ESTABLISHMENT OF THE GRASSES WITHIN THEM. ALTERNATIVELY, IF FOREBAY HYDROLOGY RESULTS IN A MORE WETLAND TYPE PLANT COMMUNITY, ANNUAL MOWING MAY NOT BE DESIRABLE, SINCE POLLUTANT REMOVAL EFFICIENCIES WOULD BE ENHANCED BY LEAVING VEGETATION UNMMOWED. AS THE SITE BECOMES MORE STABILIZED, LESS SEDIMENT SHOULD ACCUMULATE ANNUALLY WITHIN THE FOREBAYS AND THE FREQUENCY OF MAINTENANCE CAN BE ADJUSTED TO MAINTAIN THE FOREBAY'S DESIGNED STORAGE VOLUME AND FUNCTION AS A SEDIMENT TRAP. IF FOREBAYS ARE ULTIMATELY MAINTAINED ON A 3-5 YEAR SCHEDULE (OR LONGER), THE TOP LAYER OF PLANTS, ROOTS, AND SEEDS CAN BE STOCKPILED AND REPLACED AFTER EXCESS UNDERLYING SEDIMENT IS REMOVED TO REGAIN LOST STORAGE VOLUME.

LEGEND

WETLAND MARGIN
EXISTING WOODLANDS
EXISTING CURB TO REMAIN
EXISTING STORM SEWER
EXISTING SANITARY SEWER
EXISTING WATER MAIN
OHW EXISTING ELECTRIC
EXISTING TREE (SURVEY)
X 2 EXISTING INFILTRATION TEST PIT LOCATION
CrB2 Bp SOIL LINE
258.1 x SPOT ELEVATION
340 EXISTING CONTOUR
236 PROPOSED CONTOUR
DELINEATED WETLANDS
TC TOP OF CURB ELEVATION
BC BOTTOM OF CURB ELEVATION
FF FIRST FLOOR ELEVATION
GF GARAGE FLOOR ELEVATION
TREE PROTECTION AREA
SOIL AMENDMENT AREA

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POST DEVELOPMENT STORMWATER MANAGEMENT PLAN
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SITUATED IN
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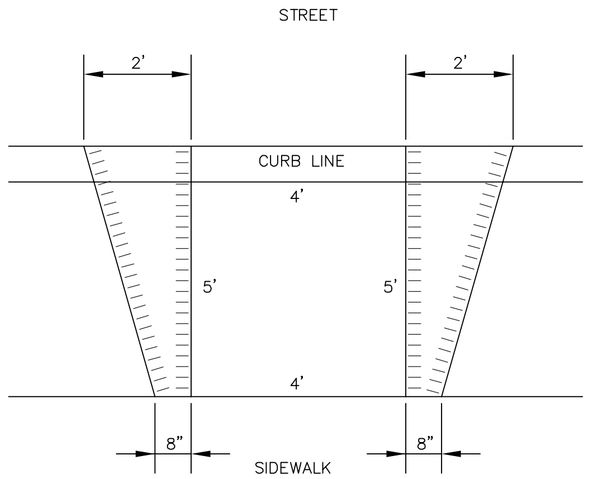
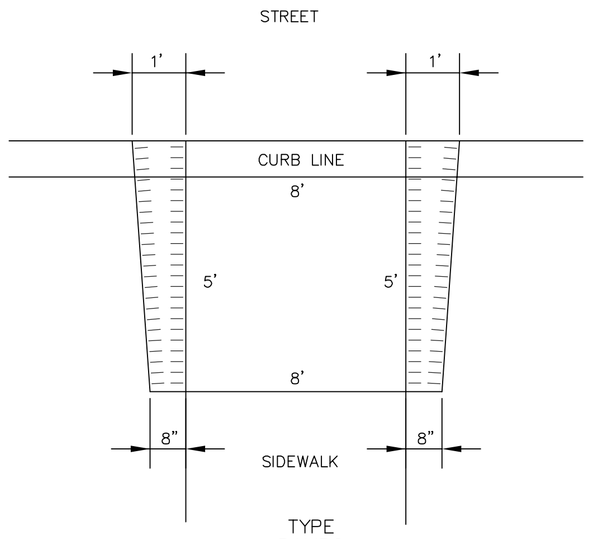


TYPE RAMPS



TYPE RAMPS

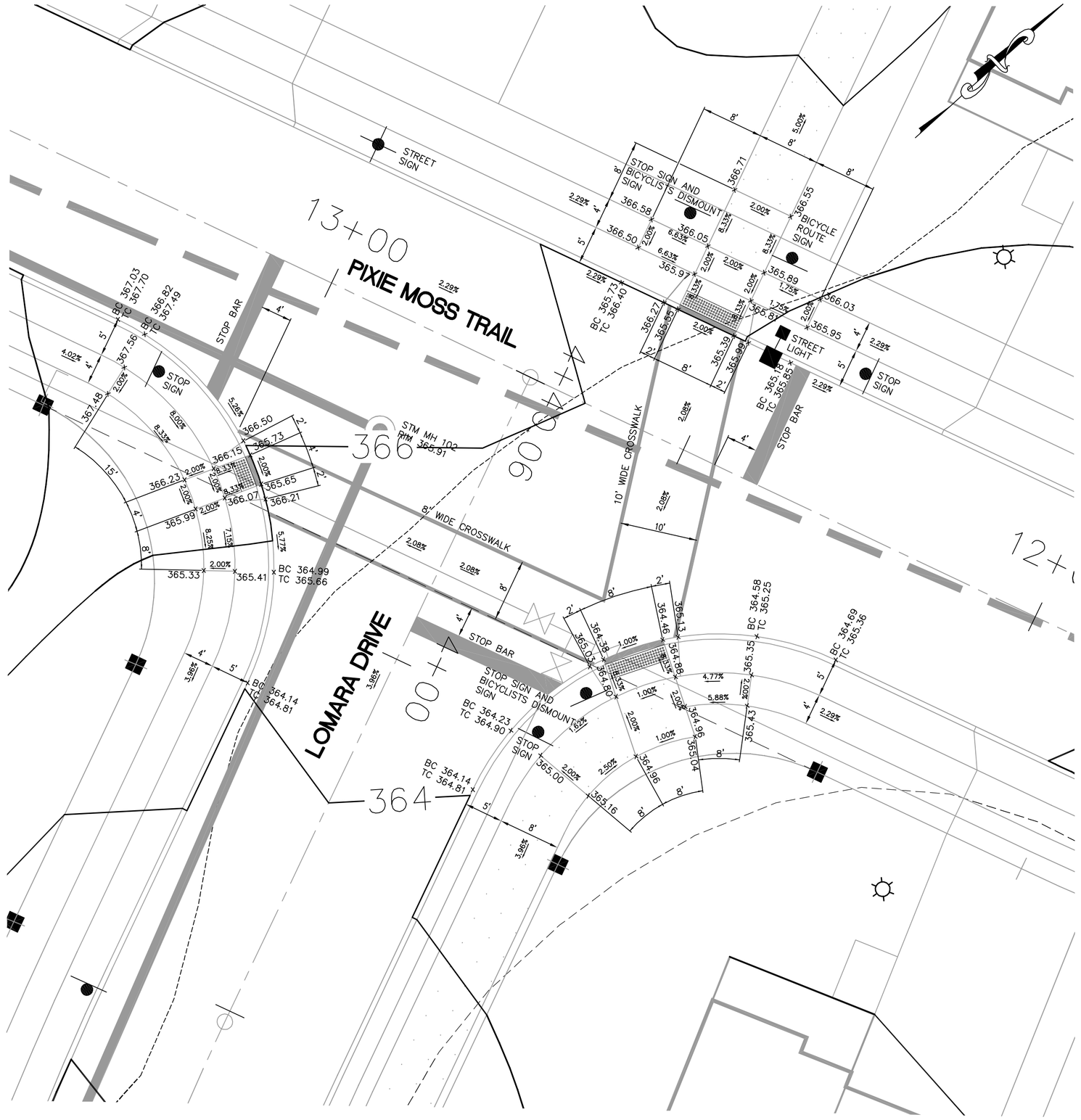
RAMP FLARE DETAILS

N.T.S.

RAMP LOCATION	STA. OFFSET	℄ ELEV.
LOMARA DRIVE	STA. 4+12.87 25.35'L	365.41
	STA. 4+15.64 28.32'L	365.52
	STA. 4+11.36 24.02'R	365.35
	STA. 4+16.90 29.79'R	365.57
HEATHERWOOD COURT	STA. 0+23.59 27.23'L	334.83
	STA. 0+29.25 21.58'L	334.92
	STA. 0+24.70 25.91'R	334.85
	STA. 0+30.63 20.54'R	334.95
PIXIE MOSS TRAIL	STA. 0+24.29 28.38'L	343.89
	STA. 0+27.05 25.48'L	343.85
	STA. 0+23.04 29.95'R	343.91
	STA. 0+28.55 24.15'R	343.83
PIXIE MOSS TRAIL	STA. 12+41.96 23.16'L	365.50
	STA. 12+47.73 28.70'L	365.63
	STA. 12+50.38 16.00'R	365.69
	STA. 12+58.38 16.00'R	365.87
PIXIE MOSS TRAIL	STA. 12+97.10 27.19'L	366.76
	STA. 13+00.00 24.42'L	366.83
PIXIE MOSS TRAIL	STA. 17+36.75 21.00'R	391.76
	STA. 17+38.36 25.00'R	391.87
	STA. 17+62.93 25.00'R	393.59
	STA. 17+64.64 21.00'R	393.71
PIXIE MOSS TRAIL	STA. 19+02.52 21.00'R	403.36
	STA. 19+04.24 25.00'R	403.49
	STA. 19+32.52 25.00'R	405.46
	STA. 19+34.23 21.00'R	405.58
PIXIE MOSS TRAIL	STA. 25+88.18 24.62'R	392.35
	STA. 25+91.04 27.42'R	392.25
	STA. 26+40.69 16.00'L	390.41
	STA. 26+44.69 16.00'L	390.26
	STA. 26+41.30 27.42'R	390.39
	STA. 26+44.16 24.62'R	390.28
TALLOWOOD DRIVE	STA. 0+35.25 22.38'L	335.09
	STA. 0+39.90 19.62'L	335.03
	STA. 0+35.30 23.04'R	335.09
	STA. 0+39.85 20.13'R	335.03
TALLOWOOD DRIVE	STA. 15+90.22 24.70'R	335.42
	STA. 15+95.59 30.63'R	335.34
	STA. 16+38.64 16.00'L	334.70
	STA. 16+42.65 16.00'L	334.64
	STA. 16+37.71 29.25'R	334.71
	STA. 16+43.36 23.59'R	334.63
TALLOWOOD DRIVE	STA. 20+21.92 21.00'R	341.45
	STA. 20+23.26 29.00'R	341.50
	STA. 20+47.26 29.00'R	342.46
	STA. 20+48.60 21.00'R	342.51
TALLOWOOD DRIVE	STA. 20+66.74 24.29'L	343.23
	STA. 20+69.64 27.05'L	343.34
	STA. 21+19.26 28.55'L	345.31
	STA. 21+25.06 23.04'L	345.54
	STA. 21+16.83 16.00'R	345.21
	STA. 21+24.83 16.00'R	345.53
TALLOWOOD DRIVE	STA. 28+65.82 25.13'L	390.53
	STA. 28+68.61 27.99'L	390.65
	STA. 28+65.82 25.13'R	390.53
	STA. 28+68.61 27.99'R	390.65

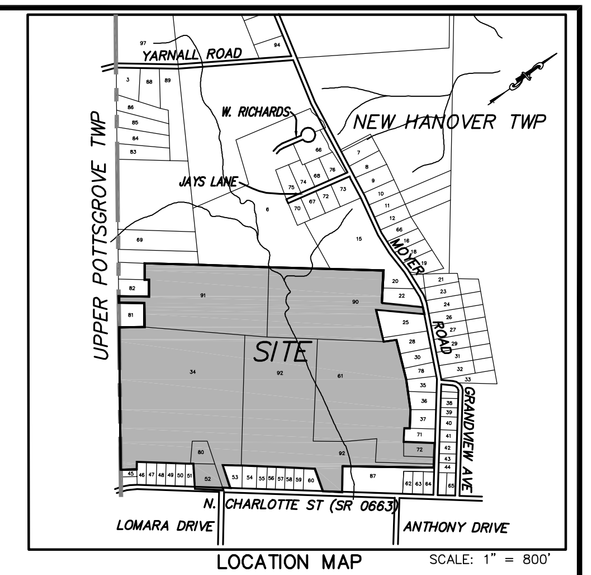
GENERAL NOTES:

1. BOUNDARY AND TITLE LINE INFORMATION SHOWN HEREON IS AS DERIVED FROM THE FOLLOWING SOURCES:
   BLOCK 66 UNITS 34, 61, 90, 91 AND 92: AS SURVEYED BY IRICK & EBERHARDT, INC. IN JULY 2000. (SEE REFERENCE PLAN NO. 1)
   BLOCK 66 UNITS 52, 80, AND 87: AS SURVEYED BY STOUT, TACCONELLI & ASSOCIATES, INC. (STAI) IN MARCH 2002. (SEE REFERENCE PLAN NO. 2)
   BLOCK 66 UNIT 72: ACCORDING TO A BOUNDARY SURVEY MADE BY VAN CLEEF ENGINEERING ASSOCIATES (VCEA) IN JANUARY 2005.
2. ELEVATION DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988. (SEE REFERENCE PLAN NO. 1)
3. CONTOUR AND TOPOGRAPHICAL DATA SHOWN HEREON AS PER REFERENCE PLAN NO. 1, WAS PROVIDED BY PROMAPS, INC. BENSALEM, PA AND IS BASED UPON PHOTOGRAMMETRIC DATA OBTAINED FROM AERIAL PHOTOGRAPHY FLOWN MARCH 8, 1988. TOPOGRAPHIC DATA SHOWN ALONG THE TRACT FRONTAGE TO NORTH CHARLOTTE STREET AT OR NEAR THE INTERSECTION WITH LOMARA DRIVE AND THE TRACT FRONTAGE ALONG MOYER ROAD AT AR NEAR ITS INTERSECTION WITH THE PROPOSED TALLOWOOD DRIVE IS PER A FIELD SURVEY MADE BY VCEA IN AUGUST 2005.
4. ALL LAYOUT AND CONSTRUCTION SHALL CONFORM TO PENN DOT ROADWAY CONSTRUCTION STANDARDS RC-67. THE PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH PENN DOT PUBLICATION 111.
5. THE ELEVATIONS SHOWN ON THIS PLAN HAVE BEEN DERIVED FROM THE DESIGN PLANS (SUBDIVISION PLANS FOR ZAVITSANOS TRACT). NONE OF THE INTERSECTION LOCATIONS HAVE BEEN SURVEYED IN THEIR AS-BUILT CONDITION AND THEREFORE THE ELEVATIONS MAY NEED TO BE ADJUSTED TO ENSURE PROPER TIE-IN GRADES AND MAXIMUM RAMP SLOPES ARE ADHERED TO.



LOMARA DRIVE AND PIXIE MOSS TRAIL

1"=10'



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(IN FEET)

1 inch = 10 ft.

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56/60

SAM ERNEY 12/21/2010
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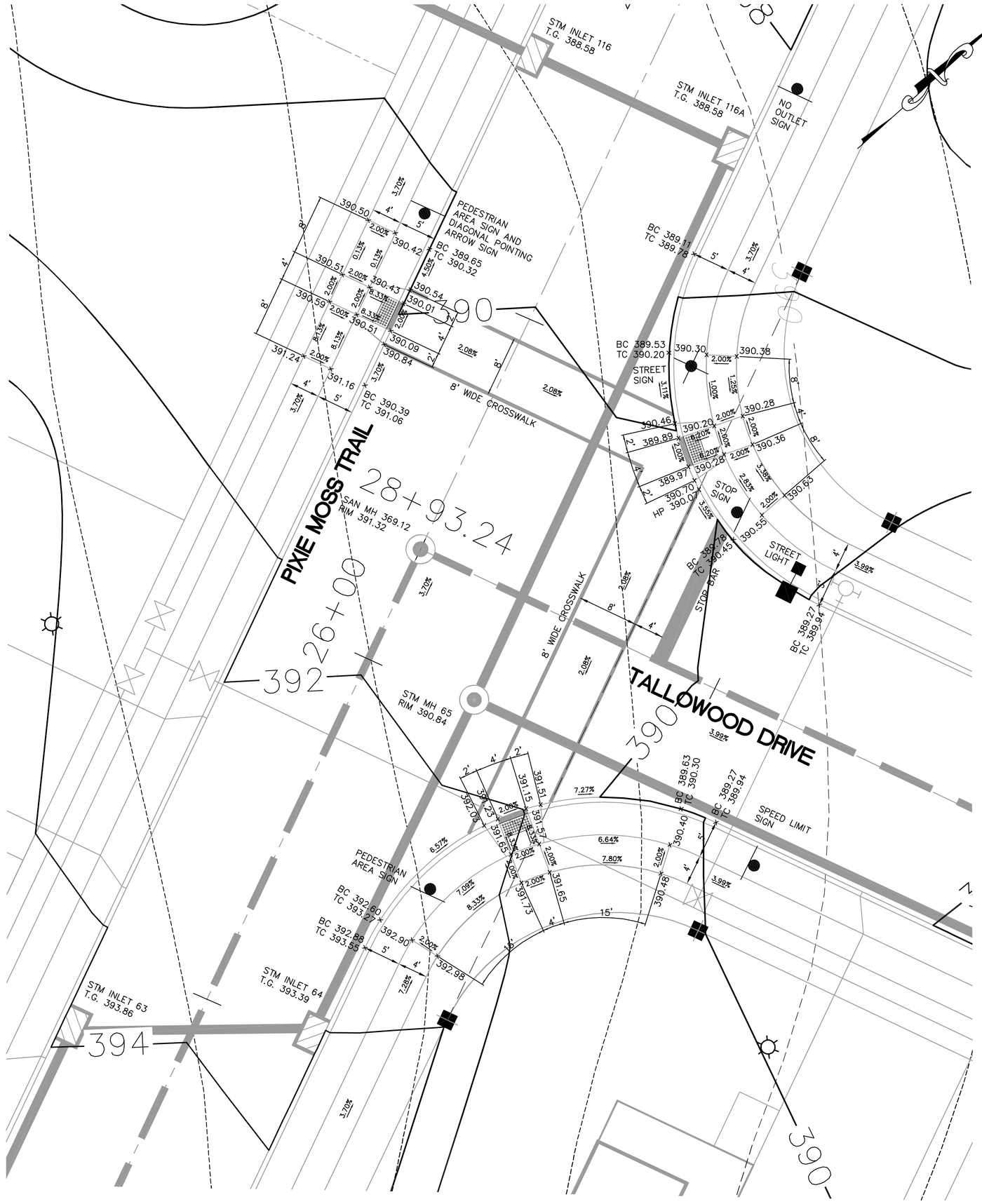
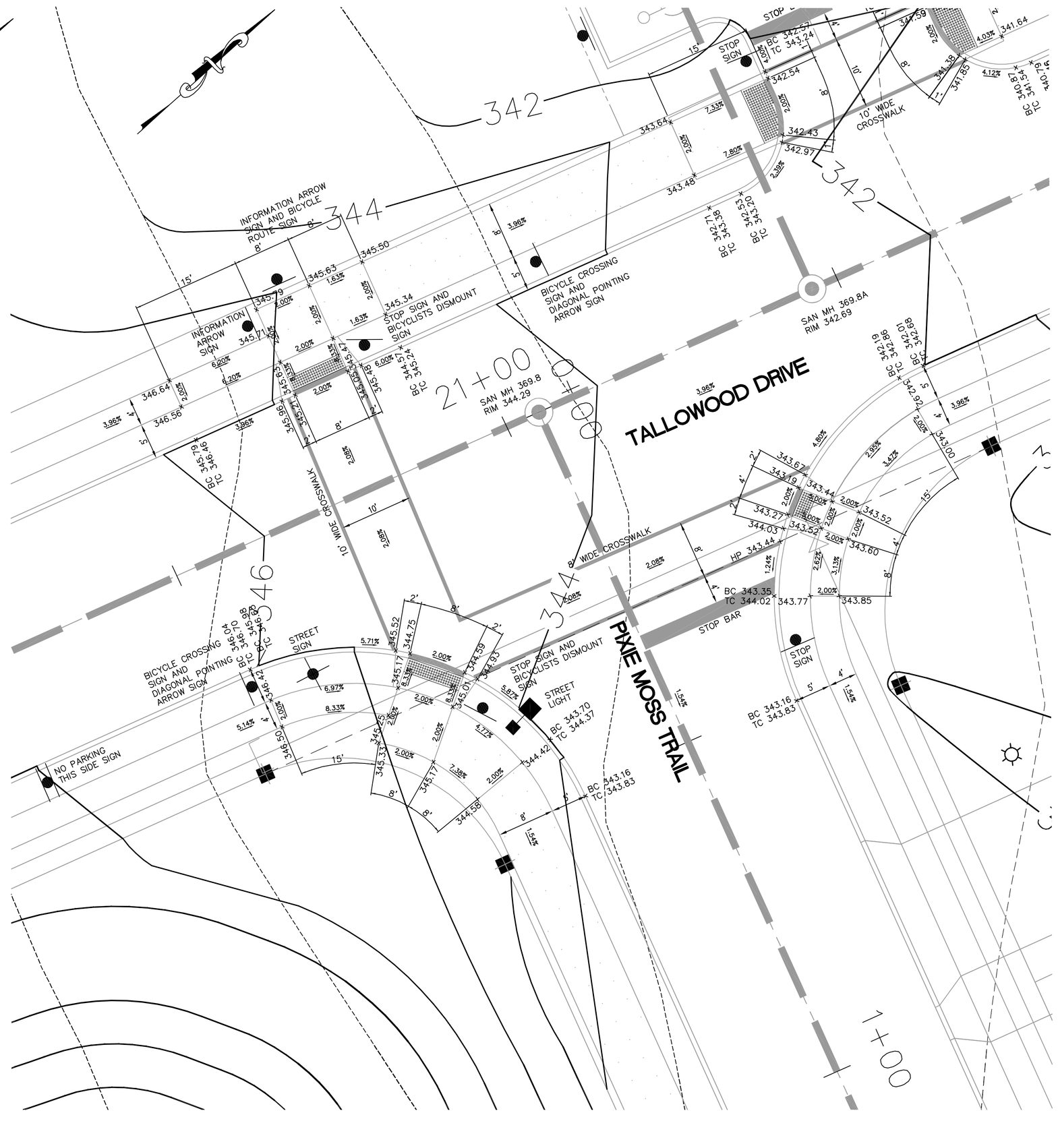


PIXIE MOSS TRAIL AND TALLOWOOD DRIVE

1"=10'



TALLOWOOD DRIVE AND PIXIE MOSS TRAIL

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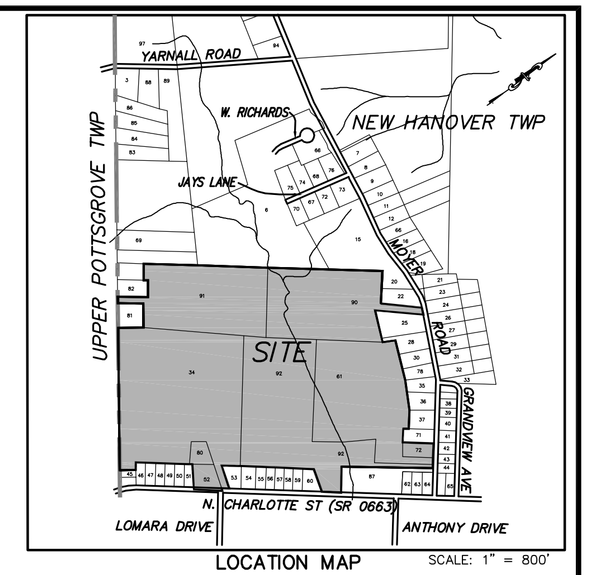

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HANDICAP RAMPS
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SITUATED IN
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MONTGOMERY COUNTY, PENNSYLVANIA

57
60

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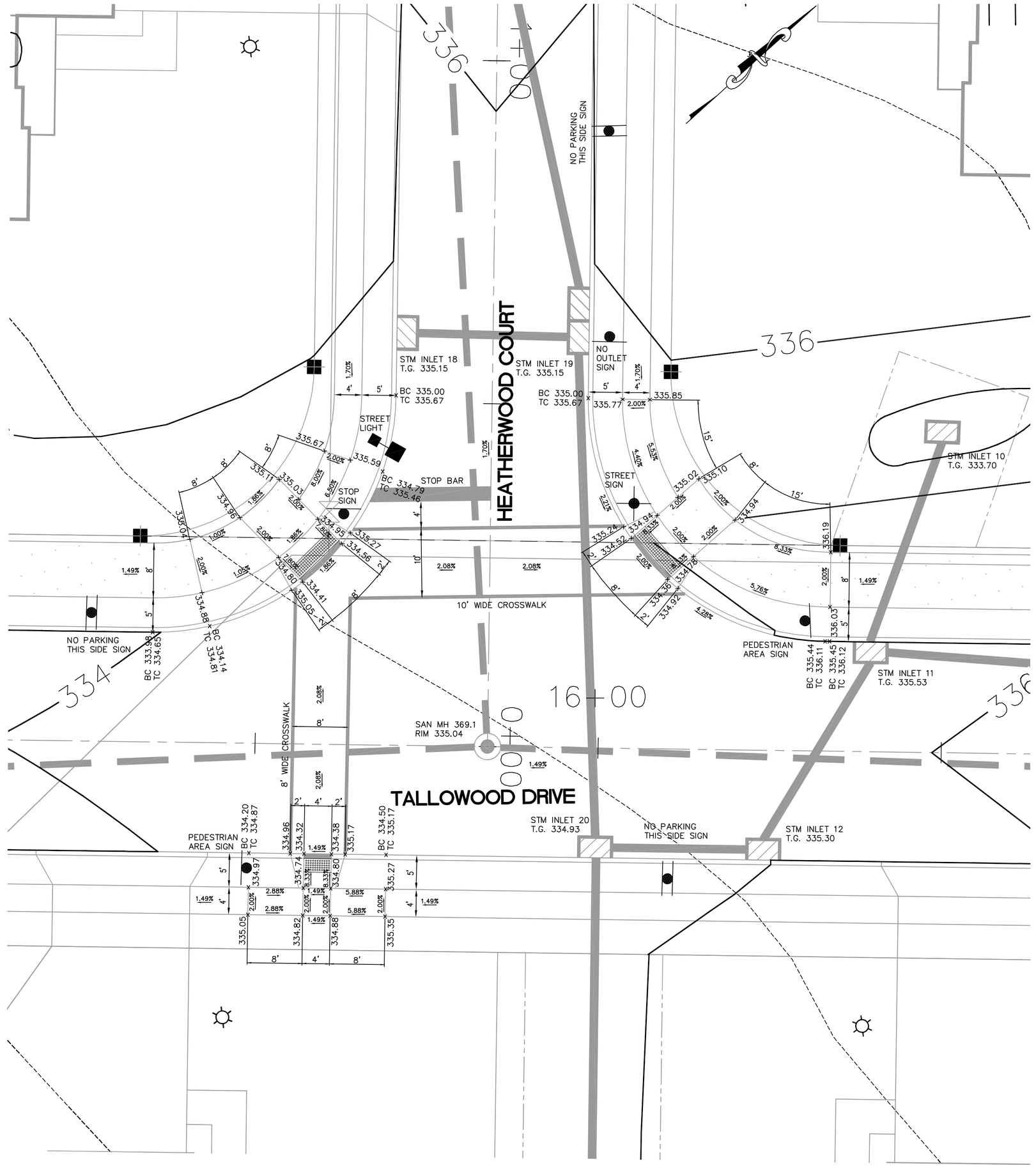

TALLOWOOD DRIVE AND HEATHERWOOD COURT
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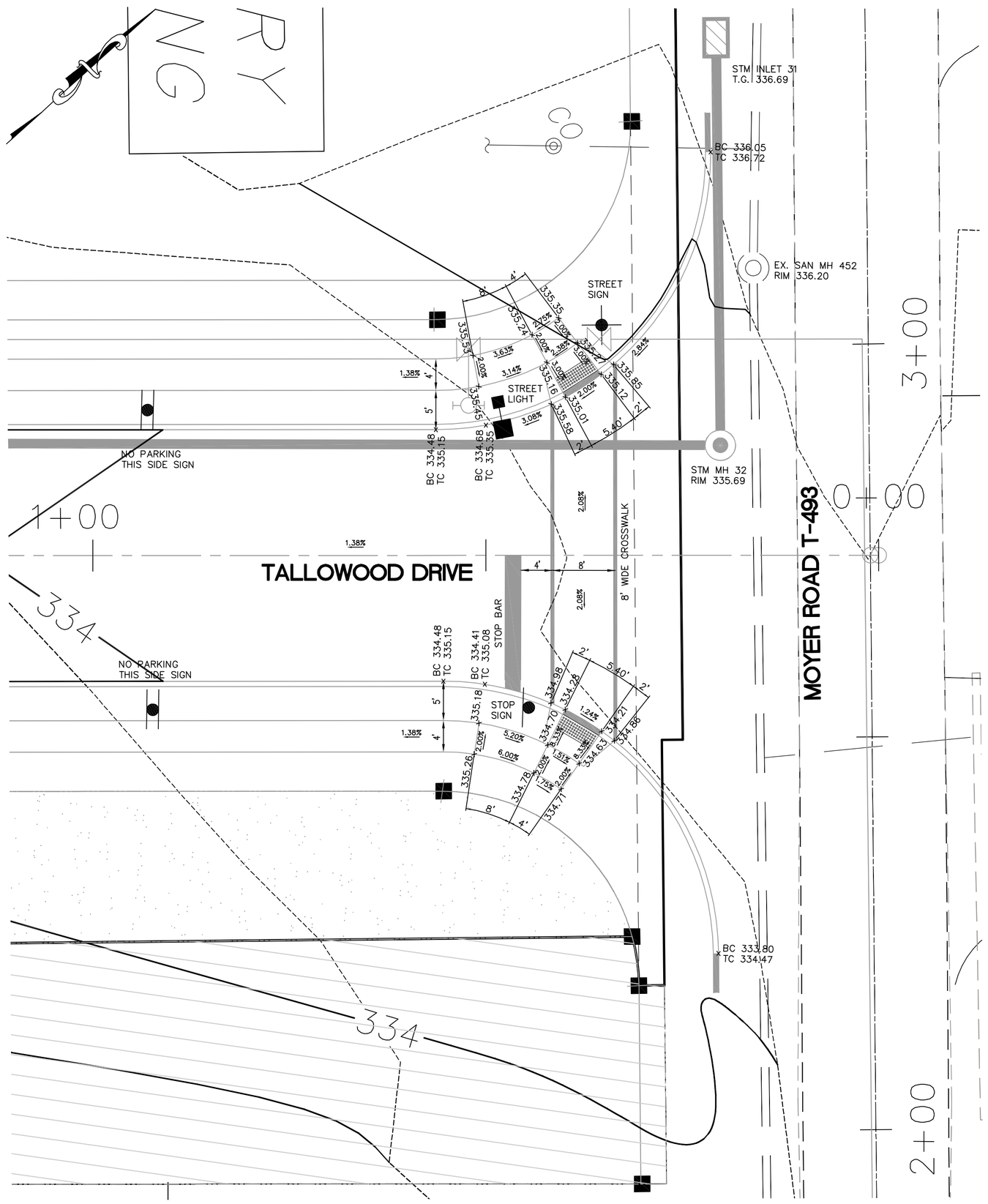
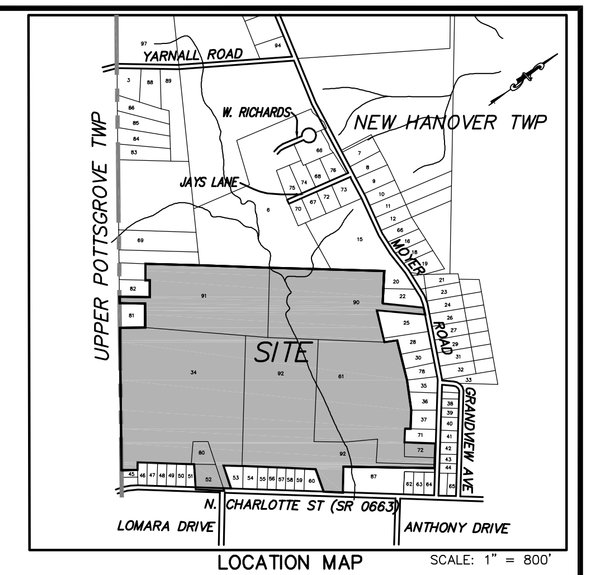


TALLOWOOD DRIVE AND MOYER TOAD T-493
1"=10'



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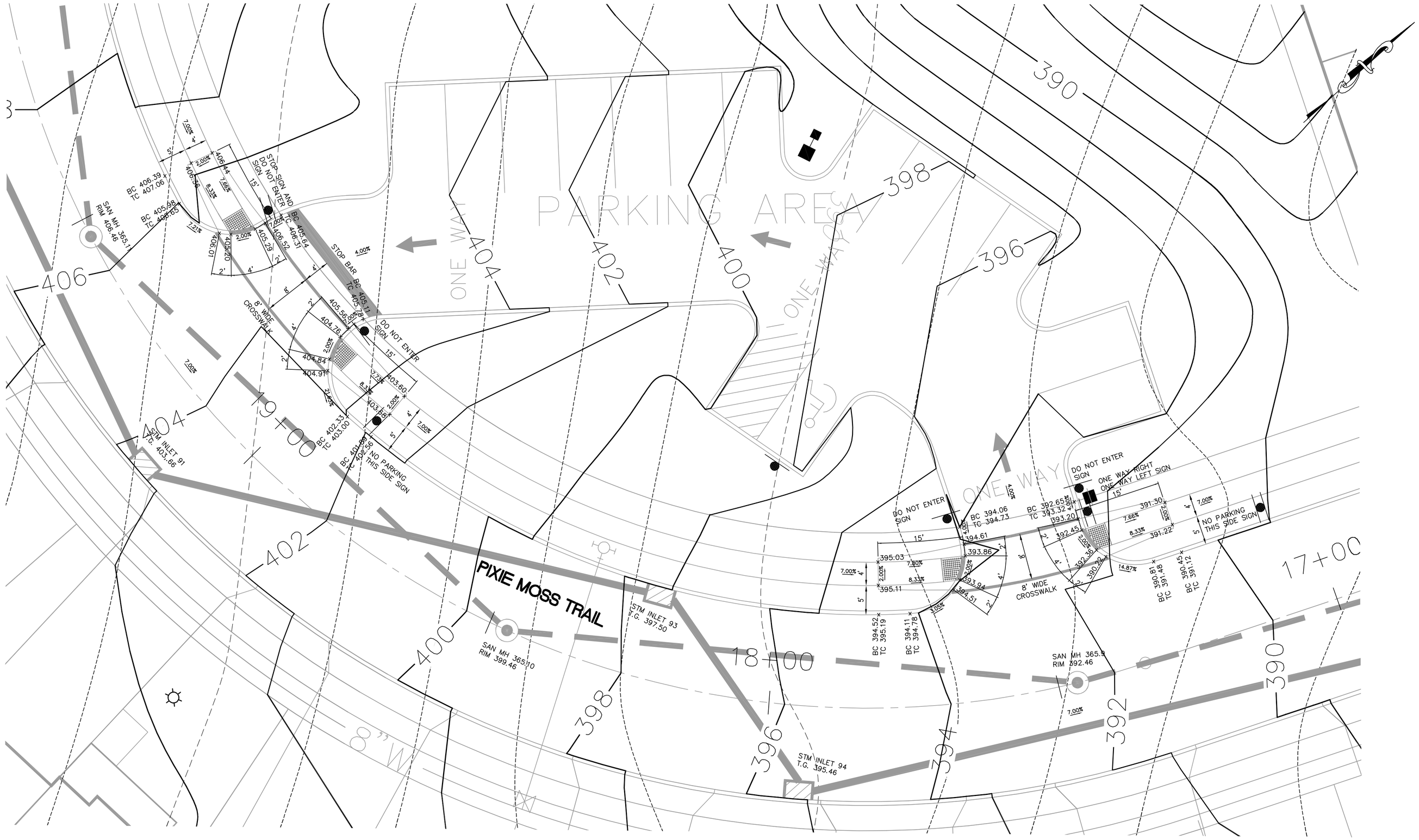

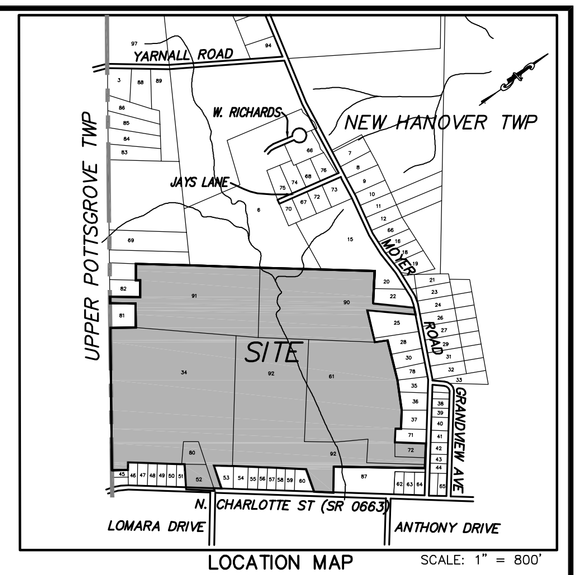

LOCATION MAP SCALE: 1" = 800'

PARKING LOT AND PIXIE MOSS TRAIL

1"=10'

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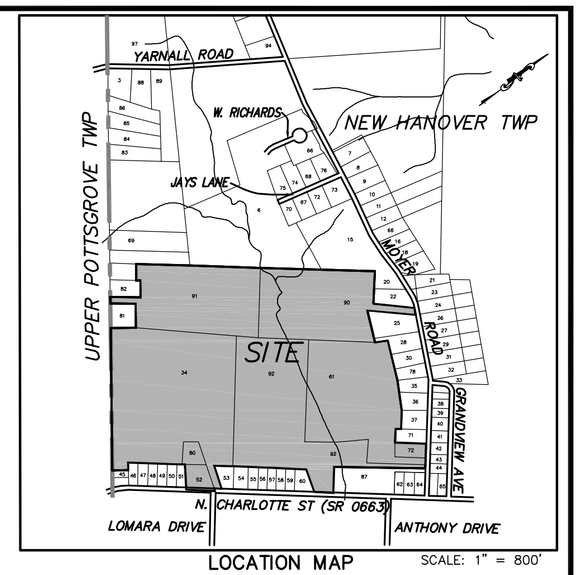

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PARKING LOT AND TALLOWOOD DRIVE

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FOR
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SITUATED IN
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MONTGOMERY COUNTY, PENNSYLVANIA

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SAM ERNEY 12/21/2010
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