



GENERAL NOTES

CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS.

1. THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:

- a) CONTROL POINT ASSOCIATES, INC. 1600 MANOR DRIVE, SUITE 100 CHALFONT, PA 18914
b) TRAFFIC PLANNING AND DESIGN INC. 2500 EAST HIGH STREET, SUITE 650 POTTSVILLE, PA 19464
c) REPORT OF GEOTECHNICAL INVESTIGATION BY WYHTESSON ASSOCIATES, INC. PREPARED FOR THE AUTOWASH GROUP, DATED JULY 25, 2017.
d) POST CONSTRUCTION STORMWATER MANAGEMENT REPORT BY BOHLER ENGINEERING PLLC. PREPARED FOR WAYNE PROPERTY ACQUISITION INC., DATED JULY 13, 2018, LAST REVISED AUGUST 31, 2018.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT HESHE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE. THIS IS CONTRACTOR'S RESPONSIBILITY.

2. ALL ACCESSIBLE ADA PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE 'AMERICANS WITH DISABILITIES ACT' (ADA) CODE (42 U.S.C. § 12101 et seq. AND 42 U.S.C. § 4153 et seq.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED.

3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.

4. THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

5. ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT.

6. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN THE PLANS AND THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.

7. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

8. ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE REDONE OR REPAIRED DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER, THEREAFTER, PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.

9. CONTRACTOR MUST REFER TO THE ARCHITECTURAL/BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.

10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE LATEST OIL, PLANS AND THE LATEST ARCHITECTURAL/BUILDING PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLAN, WHERE APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND BOHLER ENGINEERING, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST.

11. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR.

12. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (IT TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES.

13. THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.

14. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, REPERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL, INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.

15. ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.

16. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICT/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

17. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY. SAME BEING WHOLLY OUTSIDE OF ENGINEER'S SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD IS NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES, AT ANY TIME.

18. ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKERS COMPENSATION INSURANCE, EMPLOYERS LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING, AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS, ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.

19. BOHLER ENGINEERING WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME. HEREUNDER, BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION. IN WRITING, BY THE CONTRACTOR. BOHLER ENGINEERING WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OR CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

20. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE NAMED AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE FOR JOB SITE SAFETY.

21. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH THESE NOTES HEREIN, FOR AND FROM ALL FEES, ATTORNEY'S FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SAME.

22. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTORS PRICE.

23. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.

24. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTORS FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS.

25. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLANS) AND DESIGN AND, FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURES TO OR TO MAINTAIN OR PRESERVE THE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

26. ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, UNLESS NOTED OTHERWISE.

27. ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES, AND ALL APPLICABLE OSHA REQUIREMENTS.

28. CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURERS STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

29. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER, THE USE OF THE WORDS CERTIFY OR CERTIFICATION CONSTITUTES AN EXPRESSION OF "PROFESSIONAL OPINION" REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERSIGNED PROFESSIONAL KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

30. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (29 U.S.C. 651 et seq.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.

31. BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME.

32. THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION, ONLY, REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.

33. CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REGULATIONS, STATUTES, ORDINANCES AND CODES.

34. PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR TO: A. OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES HAVING JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK AND DEMOLITION WORK.

35. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND REFERENCED DOCUMENTS AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS SHALL BE IDENTIFIED BY THE CONTRACTOR TO THE ENGINEER IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF ACTIVITY.

36. PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR TO: A. ENSURE COPIES OF ALL PERMITS AND APPROVALS ARE ON SITE FOR REVIEW.

37. B. THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO SITE DISTURBANCE.

38. C. ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE, SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.

39. D. PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.

40. E. FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENT AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.

41. F. COORDINATION WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES.

42. G. A COMPLETE INSPECTION FOR CONTAMINANTS, BY A LICENSED ENVIRONMENTAL TESTING AGENCY, OF ALL BUILDINGS AND/OR STRUCTURES TO BE REMOVED SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS. ALL CONTAMINANTS SHALL BE REMOVED AND DISPOSED OF BY A FEDERALLY LICENSED CONTRACTOR IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. ALL ENVIRONMENTAL WORK INCLUDING HAZARDOUS MATERIAL, SOILS, ASBESTOS, OR OTHER REFERENCED OR IMPLIED HEREIN IS SOLELY THE RESPONSIBILITY OF THE OWNER'S ENVIRONMENTAL CONSULTANT.

43. THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE.

44. IN THE ABSENCE OF SPECIFIC REQUIREMENTS, THE CONTRACTOR SHALL PERFORM EARTH MOVEMENT ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE IN ACCORDANCE WITH DIRECTION BY OWNER'S GEOTECHNICAL ENGINEER.

45. EXPLOSIVES SHALL NOT BE USED WITHOUT PRIOR WRITTEN CONSENT OF BOTH THE OWNER AND APPLICABLE GOVERNMENTAL AUTHORITIES. ALL THE REQUIRED PERMITS AND EXPLOSIVE CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS SHALL BE IN PLACE PRIOR TO STARTING AN EXPLOSIVE PROGRAM. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES.

46. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH: THE "MANUAL ON UNIFORM TRAFFIC CONTROL," AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHTS-OF-WAY.

47. THE CONTRACTOR SHALL CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY WHERE REQUIRED.

48. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINES, WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.

49. USE DUST CONTROL MEASURES TO LIMIT THE AMOUNT OF AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR TO WITHIN FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.

50. THE CONTRACTOR IS RESPONSIBLE TO SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.

51. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.

52. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.

53. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES. THE CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNUSABLE MATERIAL, OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND LAWS.

54. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH THESE NOTES HEREIN, FOR AND FROM ALL FEES, ATTORNEY'S FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SAME.

55. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTORS PRICE.

56. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.

57. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTORS FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS.

58. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLANS) AND DESIGN AND, FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURES TO OR TO MAINTAIN OR PRESERVE THE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

GENERAL GRADING & UTILITY NOTES

1. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE INDEPENDENTLY CONFIRMED WITH LOCAL UTILITY COMPANIES PRIOR TO CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED, IN WRITING, TO THE ENGINEER. CONSTRUCTION MUST COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADATIONS TO EXISTING POSITIONS OF EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2. CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL EXISTING UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY BETWEEN THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE OR APPLICABLE CODES, REGULATIONS, LAWS, RULES, STATUTES AND/OR ORDINANCES, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, OF SAID CONFLICT AND/OR DISCREPANCY PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTOR'S FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITY TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, STATUTES, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SAME.

4. THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.

5. THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES.

6. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE THE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS WITH JURISDICTION AND/OR CONTROL OF THE SITE, AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-IN CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE PLANS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.

7. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS, TESTING AND APPURTENANCES REQUIRED BY THE UTILITY COMPANY TO PROVIDE FULL AND COMPLETE WORKING SERVICE. CONTRACTOR MUST CONTACT THE APPLICABLE UTILITY COMPANY TO CONFIRM THE SIZE AND TYPE OF WATER METER AND/OR VAULT, PRIOR TO COMMENCING CONSTRUCTION.

8. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.

9. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER. AFTER THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. SUBBASE MATERIAL FOR SUBGRADE AREAS MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIAL. ALL SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

10. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND MUST BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY. SPECIFICATIONS WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS. FILL AND COMPACTION MUST, AT A MINIMUM, COMPLY WITH THE STATE DOT REQUIREMENTS AND SPECIFICATIONS AND CONSULTANT SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTION AND BACKFILL.

11. THE CONTRACTOR MUST COMPLY, TO THE FULLEST EXTENT, WITH THE LATEST OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.

12. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUTT JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.

13. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, UTILITY VALVES, AND SANITARY CLEANOUTS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

14. DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF EXCAVATION TO IDENTIFY THE EXISTING LOCATION OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE FROM THE INFORMATION CONTAINED IN THE UTILITY PLAN. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THESE PLANS, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER AT THE COMPLETION OF WORK.

15. WHEN THE SITE IMPROVEMENT PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING BUT NOT LIMITED TO STORM SEWER, SANITARY SEWER, UTILITIES, AND IRRIGATION LINE, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST CAP ENDS AS APPROPRIATE, MARK LOCATIONS WITH A 2X4 STAKE, AND MUST NOTE THE LOCATION OF ALL OF THE ABOVE ON A CLEAN COPY OF THESE PLANS, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER UPON COMPLETION OF THE WORK.

16. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. CONTRACTOR MUST CONFIRM AND ENSURE 0.75% MINIMUM SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT (EXCEPT WHERE ADA REQUIREMENTS LIMIT GRADES), TO PREVENT PONDING. CONTRACTOR MUST IMMEDIATELY NOTIFY, IN WRITING, TO THE ENGINEER, ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER NOTIFICATION, THIS SHALL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS THE DESIGN ENGINEER FOR ANY DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM SAME.

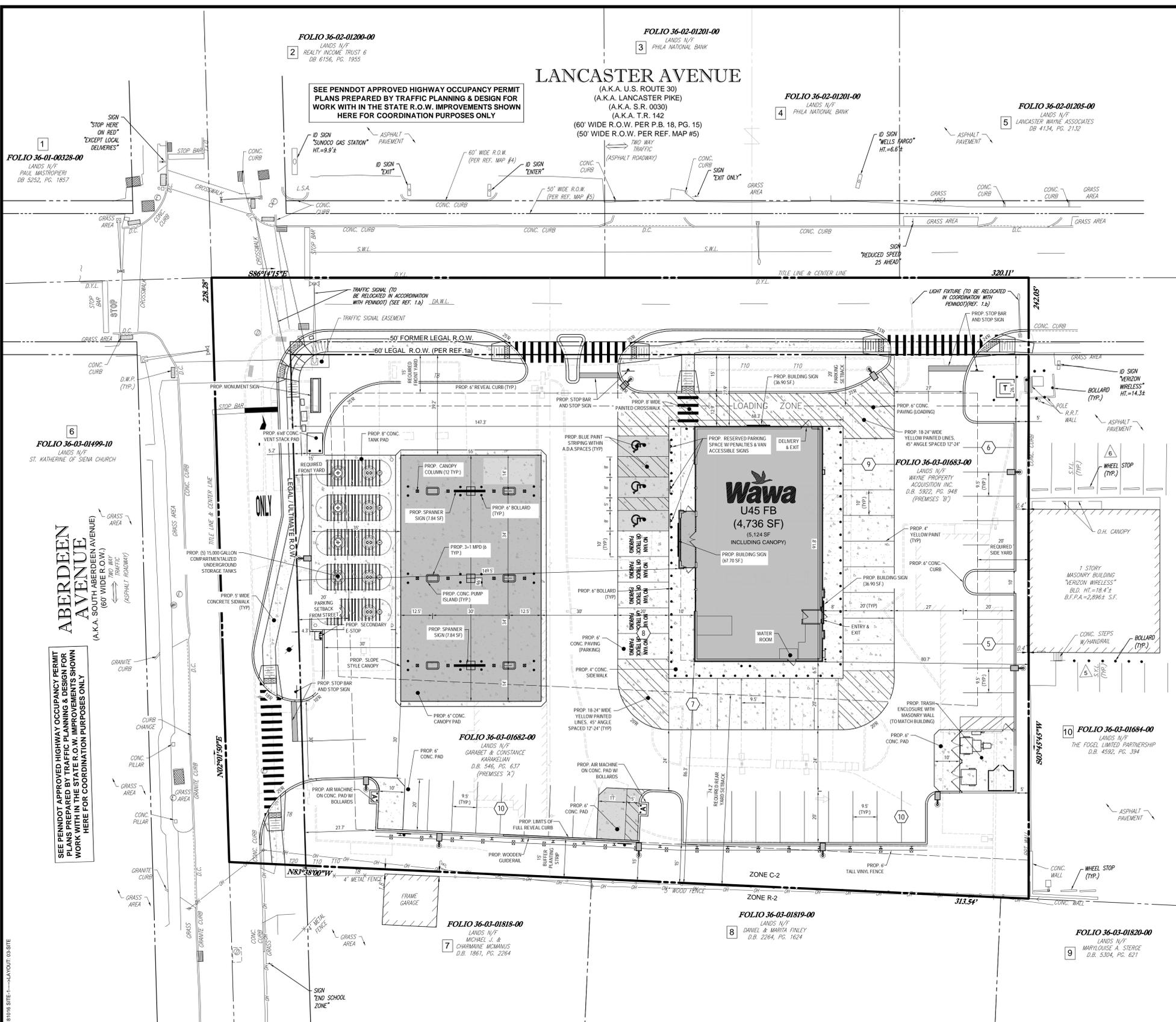
17. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. IT IS CONTRACTOR'S OBLIGATION TO ENSURE THAT DESIGN ENGINEER APPROVES FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION OF SAME.

18. REFER TO SITE PLAN FOR ADDITIONAL NOTES.

19. IN THE EVENT OF DISCREPANCIES AND/OR CONFLICTS BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE AND CONTROL. CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER, IN WRITING, OF ANY DISCREPANCIES AND/OR CONFLICTS.

20. CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO ENGINEER AND OWNER PRIOR TO INITIATING ANY WORK.

21. TOP AND BOTTOM OF WALL ELEVATIONS (TW & BW) REPRESENT THE PROPOSED FINISHED GRADE AT THE FACE OF WALL AND DO NOT REPRESENT THE ELEVATION OF THE PROPOSED WALL (INCLUDING THE GAP UNIT OR FOOTING). WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURAL DESIGN DRAWINGS. STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL ENGINEER IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE ALL WALLS SHOWN HEREON MUST BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER AND THAT SIGNED AND SEALED SHOP DRAWINGS ARE APPROVED BY THE MUNICIPALITY PRIOR TO THEIR CONSTRUCTION. FURTHER, THE CONTRACTOR OR SHALL ENSURE THAT THE CONTRACTOR SHALL ENSURE THAT THE UTILITY, AND OTHER SITE AMENITIES IN THE VICINITY OF THE RETAIN



**SITE DATA**  
 TOWNSHIP OF RADNOR, DELAWARE COUNTY, PA  
 ZONED: C-2 - GENERAL COMMERCIAL DISTRICT  
 LOT AREA (TO TITLE): 1.71 Ac.  
 - LEGAL/ULTIMATE ROW: 0.36 Ac.  
 LOT AREA (TO LEGAL/ULTIMATE ROW): 1.35a Ac.

**SITE DESIGN REQUIREMENTS**  
 REQUIREMENTS TAKEN FROM:  
 - THE RADNOR ZONING ORDINANCE, ENACTED 2/25/1974, AS AMENDED.  
 EXISTING ZONING: C-2 GENERAL COMMERCIAL DISTRICT  
 PROPOSED USES: RETAIL STORE (PERMITTED BY RIGHT)

REQUIREMENTS	REQUIRED	EXISTING **	PROVIDED
MIN. LOT AREA (TO TITLE)	20,000 SF	74,384 SF (1.71 Ac.)	74,384 SF (1.71 Ac.)
MIN. LOT WIDTH @ BUILDING SETBACK LINE:	100.0 FEET	289.2 FEET	289.2 FEET
MIN. REQUIRED FRONT YARD:	15.0 FEET	LANCASTER AVE: 16.5 FEET ABERDEEN AVE: 36.8 FEET	LANCASTER AVE: 27.9 FEET ABERDEEN AVE: 149.5 FEET
MIN. REQUIRED SIDE YARD:	20.0 FEET (ABUTTING COMMERCIAL)	n/a	80.7 FEET
MIN. REQUIRED REAR YARD:	35.0 FEET (ABUTTING RESIDENTIAL)	n/a	n/a
MIN. BUFFER TO RESIDENTIAL:	35.0 FEET OF LOT DEPTH (74.2 FEET) <sup>1</sup>	18.7 FEET	86.3 FEET
MAX. BUILDING COVERAGE**:	15.0 FEET	0.0 FEET	15.0 FEET
MAX. LOT COVERAGE**:	30.0%	13.8% (10,271 SF)	14.0% (10,392 SF)
MAX. BUILDING HEIGHT**:	70.0%	66.1% (48,160 SF)	64.8% (48,206 SF)
MAX. BUILDING DIMENSION:	35.0 FEET	<35.0 FEET	<35.0 FEET
MIN. PARKING SETBACK (TO STREETS R.O.W.):	16.0 FEET	84.7 FEET	91.8 FEET
MIN. LOADING SETBACK:	20.0 FEET (COMMERCIAL)	LANCASTER AVE: 6.2 FEET ABERDEEN AVE: 4.8 FEET	LANCASTER AVE: 26.1 FEET ABERDEEN AVE: 27.7 FEET
MIN. LOADING SETBACK (TO STREETS R.O.W.):	15.0 FEET	LANCASTER AVE: N/A ABERDEEN AVE: N/A	LANCASTER AVE: 15.0 FEET ABERDEEN AVE: 147.3 FEET
MAX. NUMBER OF DRIVEWAYS (PER 500 FEET OF FRONTAGE):	2	LANCASTER AVE: 3 ABERDEEN AVE: 2	LANCASTER AVE: 2 ABERDEEN AVE: 1
MAX. DRIVEWAY WIDTH:	35.0 FEET	LANCASTER AVE: 47.0 FEET ABERDEEN AVE: 31.2 FEET	LANCASTER AVE: 30.0 FEET ABERDEEN AVE: 30.0 FEET

**NOTES:**

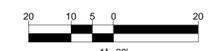
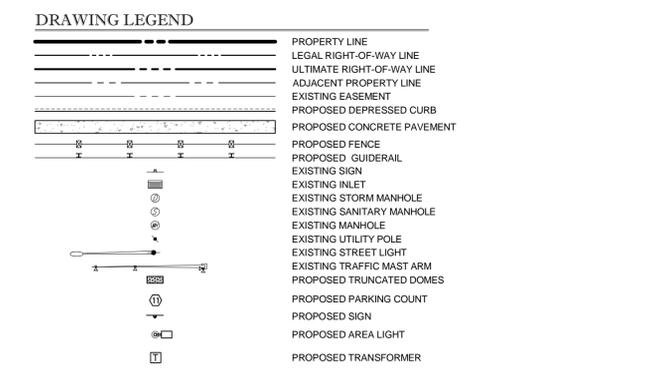
- \* LOT DEPTH TAKEN AT DEEPEST PART OF THE PROPERTY ALONG THE EASTERN PROPERTY LINE: 212.1 x 0.36 = 74.2 FEET.
- \*\* SIGNAGE SHOWN ON THIS PLAN FOR COORDINATION PURPOSES ONLY & SHALL NOT BE CONSIDERED PART OF THE LAND DEVELOPMENT PLAN APPROVAL. SIGNAGE PERMIT AND ZONING APPLICATION REQUIRED FOR ALL SIGNAGE.
- \*\* FOR THE PURPOSES OF CALCULATING THE EXISTING CONDITIONS, IT HAS BEEN ASSUMED THAT THE TWO LOTS HAVE BEEN CONSOLIDATED.
- \*\* BUILDING AND IMPERVIOUS AREA PERCENTAGES CALCULATED AS RATIO OF BUILDING / IMPERVIOUS COVER WITHIN LEGAL / ULTIMATE R.O.W. TO THE TITLED LOT.

**PARKING REQUIREMENTS**  
 RETAIL: 1 SPACE / 200 SF + 1 SPACE / 2 EMPLOYEES (MAX. SHIFT)  
 5112 x 0.8 / 200 = 20.45 + 5 = 25.45 OR 26 SPACES  
 REQUIRED PARKING: 26 SPACES  
 PROVIDED PARKING: 55 SPACES (INCLUDING 3 ADA SPACES)

**LOADING REQUIREMENTS**  
 REQUIRED: (2,000 - 8,000 SF RETAIL) = 1 SPACE (12' x 30')  
 PROVIDED: 1 SPACE (12.9' x 68.3')

**ADJACENT PROPERTY OWNER INFORMATION**

FOLIO NUMBER	LANDS N/F	OWNER	ADDRESS
1	36-01-00328-00	PAUL MASTROPERI	907 SEACREST RD, OCEAN CITY NJ 08226-4735
2	36-02-01200-00	REALTY INCOME TRUST 6	11995 EL CAMINO REAL, SAN DIEGO, CA 92130
3	36-02-01201-00	PHILA NATIONAL BANK	301 MIDLAND AVE, WAYNE, PA 19087-4305
4	36-03-01818-00	MCMANUS/CHARMAINE G. MCMANUS	DR 1861, PG. 2264
5	36-03-01820-00	MARILOUISE A. STERGE	DR 5304, PG. 621
6	36-03-01819-00	DANIEL FINLEY/MARITA FINLEY	DR 2264, PG. 1624
7	36-03-01818-00	MARILOUISE A. STERGE	DR 5304, PG. 621
8	36-03-01819-00	DANIEL FINLEY/MARITA FINLEY	DR 2264, PG. 1624
9	36-03-01818-00	MARILOUISE A. STERGE	DR 5304, PG. 621
10	36-03-01819-00	DANIEL FINLEY/MARITA FINLEY	DR 2264, PG. 1624



1" = 20'

REVISION 1 - 2018.08.31

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 1-800-242-1776

**REVISIONS**

REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

**CALL BEFORE YOU DIG!**

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

POCS SERIAL NUMBER

**NOT APPROVED FOR CONSTRUCTION**

PROJECT NO.: PC181016  
 DRAWN BY: MCM  
 CHECKED BY: EAB  
 DATE: 2018.07.13  
 SCALE: AS NOTED  
 CAD ID: PC181016 SITE-1

**PRELIMINARY LAND DEVELOPMENT PLANS**

FOR

**WAYNE PROPERTY ACQUISITION INC.**

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE  
 RADNOR TOWNSHIP  
 DELAWARE COUNTY, PA

**BOHLER ENGINEERING**

1600 MANOR DRIVE, SUITE 200  
 CHALFONT, PENNSYLVANIA 18914  
 Phone: (215) 996-9100  
 Fax: (215) 996-9102  
 www.BohlerEngineering.com

**EA BRITZ**

PROFESSIONAL ENGINEER  
 PENNSYLVANIA LICENSE # 68971643

SHEET TITLE:

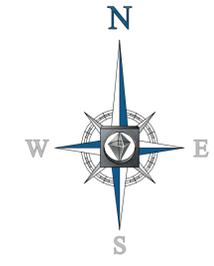
**SITE PLAN**

SHEET NUMBER:

**3**

OF 19

R:\PROJECTS\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 SITE-1 - LAYOUT-03.SHEET



FOLIO 36-02-01200-00  
LANDS N/F  
REALTY INCOME TRUST 6  
DB 6156, PG. 1955

FOLIO 36-02-01201-00  
LANDS N/F  
PHILA NATIONAL BANK

FOLIO 36-02-01201-00  
LANDS N/F  
PHILA NATIONAL BANK

FOLIO 36-02-01205-00  
LANDS N/F  
LANCASTER WAYNE ASSOCIATES  
DB 4134, PG. 2132

# LANCASTER AVENUE

(A.K.A. U.S. ROUTE 30)  
(A.K.A. LANCASTER PIKE)  
(A.K.A. S.R. 0030)

(60' WIDE R.O.W. PER P.B. 18, PG. 15)  
(50' WIDE R.O.W. PER REF. MAP #5)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT  
PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR  
WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN  
HERE FOR COORDINATION PURPOSES ONLY

FOLIO 36-01-00328-00  
LANDS N/F  
PAUL MASTROPieri  
DB 5252, PG. 1857

FOLIO 36-03-01499-10  
LANDS N/F  
ST. KATHERINE OF SIENA CHURCH

FOLIO 36-03-01683-00  
LANDS N/F  
WAYNE PROPERTY  
ACQUISITION INC.  
D.B. 5322, PG. 548  
(PREMISES 'B')

FOLIO 36-03-01682-00  
LANDS N/F  
GARABET & CONSTANCE  
KARAMELIAN  
D.B. 546, PG. 637  
(PREMISES 'A')

FOLIO 36-03-01818-00  
LANDS N/F  
MICHAEL J. &  
CHARMAINE MCANIAS  
D.B. 1861, PG. 2264

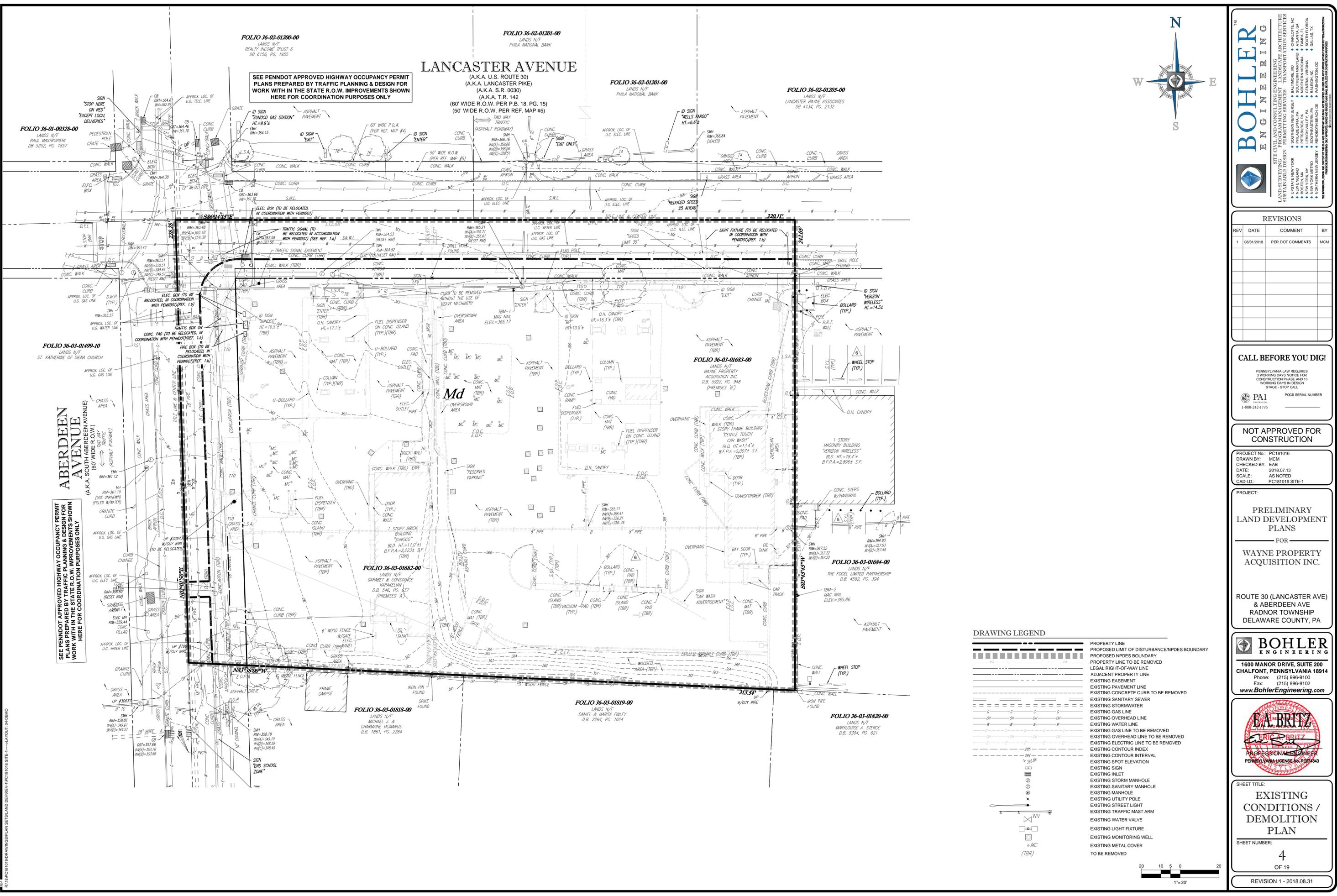
FOLIO 36-03-01819-00  
LANDS N/F  
DANIEL & MARITA FINLEY  
D.B. 2264, PG. 1624

FOLIO 36-03-01820-00  
LANDS N/F  
MARYLOUISE A. STERGE  
D.B. 5304, PG. 621

# ABERDEEN AVENUE

(A.K.A. SOUTH ABERDEEN AVENUE)  
(60' WIDE R.O.W.)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT  
PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR  
WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN  
HERE FOR COORDINATION PURPOSES ONLY



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REV	DATE	COMMENT	BY	
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LAND DEVELOPMENT  
PLANS**

FOR  
**WAYNE PROPERTY  
ACQUISITION INC.**

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& ABERDEEN AVE  
RADNOR TOWNSHIP  
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**EA BRITZ**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE071643

SHEET TITLE:  
**EXISTING  
CONDITIONS /  
DEMOLITION  
PLAN**

SHEET NUMBER:  
**4**  
OF 19

REVISION 1 - 2018.08.31

**DRAWING LEGEND**

	PROPERTY LINE
	PROPOSED LIMIT OF DISTURBANCE/NDPS BOUNDARY
	PROPOSED NPDES BOUNDARY
	LEGAL RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	EXISTING EASEMENT
	EXISTING PAVEMENT LINE
	EXISTING CONCRETE CURB TO BE REMOVED
	EXISTING SANITARY SEWER
	EXISTING STORMWATER
	EXISTING GAS LINE
	EXISTING OVERHEAD LINE
	EXISTING WATER LINE
	EXISTING GAS LINE TO BE REMOVED
	EXISTING OVERHEAD LINE TO BE REMOVED
	EXISTING ELECTRIC LINE TO BE REMOVED
	EXISTING CONTOUR INDEX
	EXISTING CONTOUR INTERVAL
	EXISTING SPOT ELEVATION
	EXISTING SIGN
	EXISTING INLET
	EXISTING STORM MANHOLE
	EXISTING SANITARY MANHOLE
	EXISTING MANHOLE
	EXISTING UTILITY POLE
	EXISTING STREET LIGHT
	EXISTING TRAFFIC MAST ARM
	EXISTING WATER VALVE
	EXISTING LIGHT FIXTURE
	EXISTING MONITORING WELL
	EXISTING METAL COVER
	TO BE REMOVED



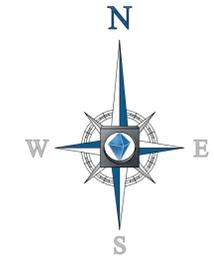
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# LANCASTER AVENUE

(A.K.A. U.S. ROUTE 30)  
(A.K.A. LANCASTER PIKE)  
(A.K.A. S.R. 0030)  
(A.K.A. T.R. 142)

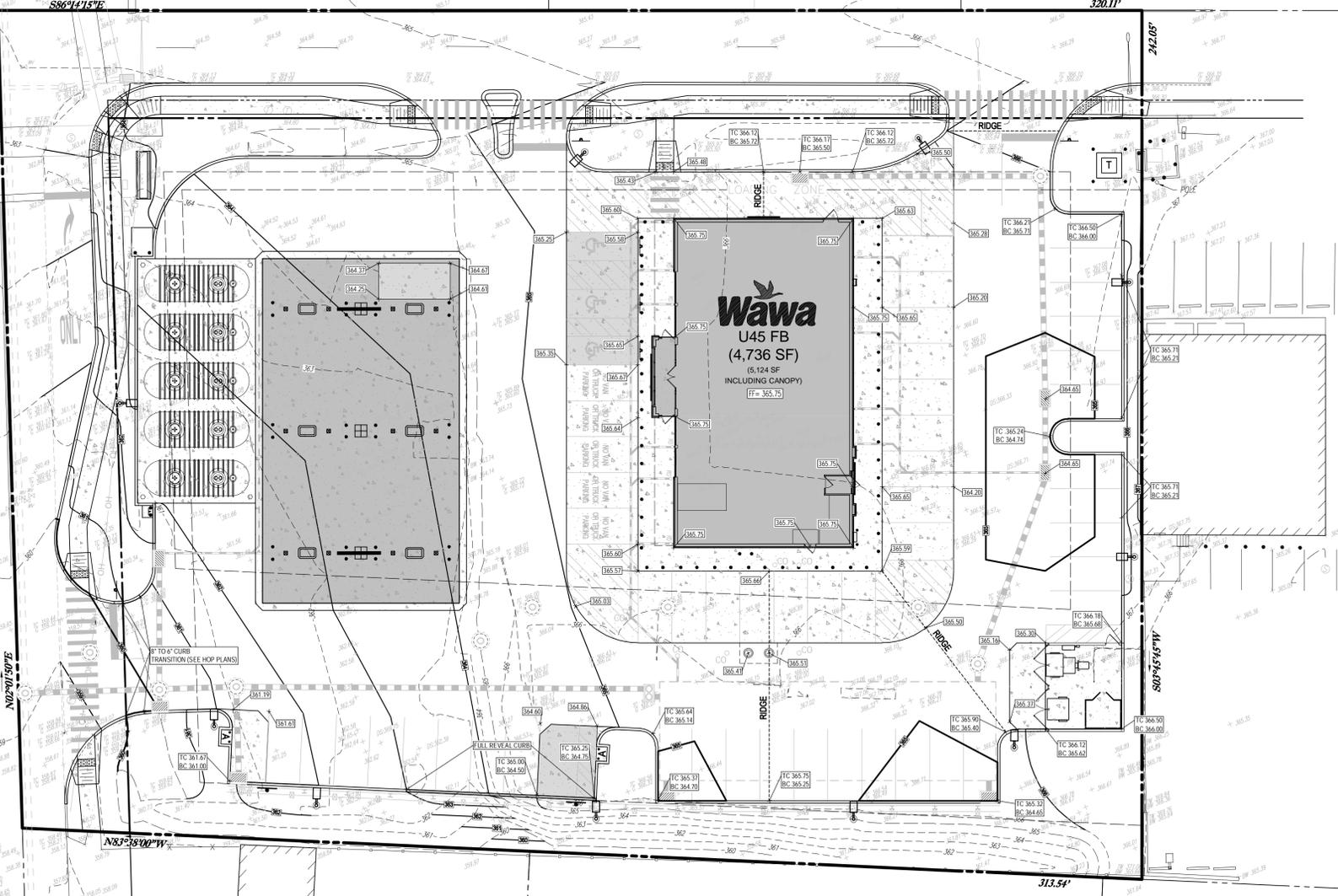
(60' WIDE R.O.W. PER P.B. 18, PG. 15)  
(50' WIDE R.O.W. PER REF. MAP #5)  
TWO WAY  
70477C  
(ASPHALT ROADWAY)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT  
PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR  
WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN  
HERE FOR COORDINATION PURPOSES ONLY



ABERDEEN AVENUE  
(A.K.A. SOUTH ABERDEEN AVENUE)  
(60' WIDE R.O.W.)  
70477C  
(ASPHALT ROADWAY)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT  
PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR  
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REVISIONS

REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

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

PAI  
POCS SERIAL NUMBER  
1-800-242-1776

NOT APPROVED FOR  
CONSTRUCTION

PROJECT No.: PC181016  
DRAWN BY: MCM  
CHECKED BY: EAB  
DATE: 2018.07.13  
SCALE: AS NOTED  
CAD I.D.: PC181016 SITE-1

PRELIMINARY  
LAND DEVELOPMENT  
PLANS  
FOR  
WAYNE PROPERTY  
ACQUISITION INC.

ROUTE 30 (LANCASTER AVE)  
& ABERDEEN AVE  
RADNOR TOWNSHIP  
DELAWARE COUNTY, PA

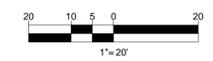
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**E.A. BRITZ**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE NO. PE071643

DRAWING LEGEND

	PROPERTY LINE
	EXISTING CONTOUR INDEX
	EXISTING CONTOUR INTERVAL
	EXISTING SPOT ELEVATION
	EXISTING STORMWATER
	PROPOSED CONTOUR INDEX
	PROPOSED CONTOUR INTERVAL
	PROPOSED RIDGE LINE
	PROPOSED SPOT ELEVATION
	PROPOSED TOP / BOTTOM CURB ELEVATION
	PROPOSED STORMWATER PIPE



SHEET TITLE:  
**GRADING PLAN**

SHEET NUMBER:  
**5**  
OF 19

REVISION 1 - 2018.08.31

R:\18PC181016\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 SITE-1-LAYOUT-06-GRADING

**LANCASTER AVENUE**

(A.K.A. U.S. ROUTE 30)  
(A.K.A. LANCASTER PIKE)  
(A.K.A. S.R. 0030)  
(A.K.A. T.R. 142)

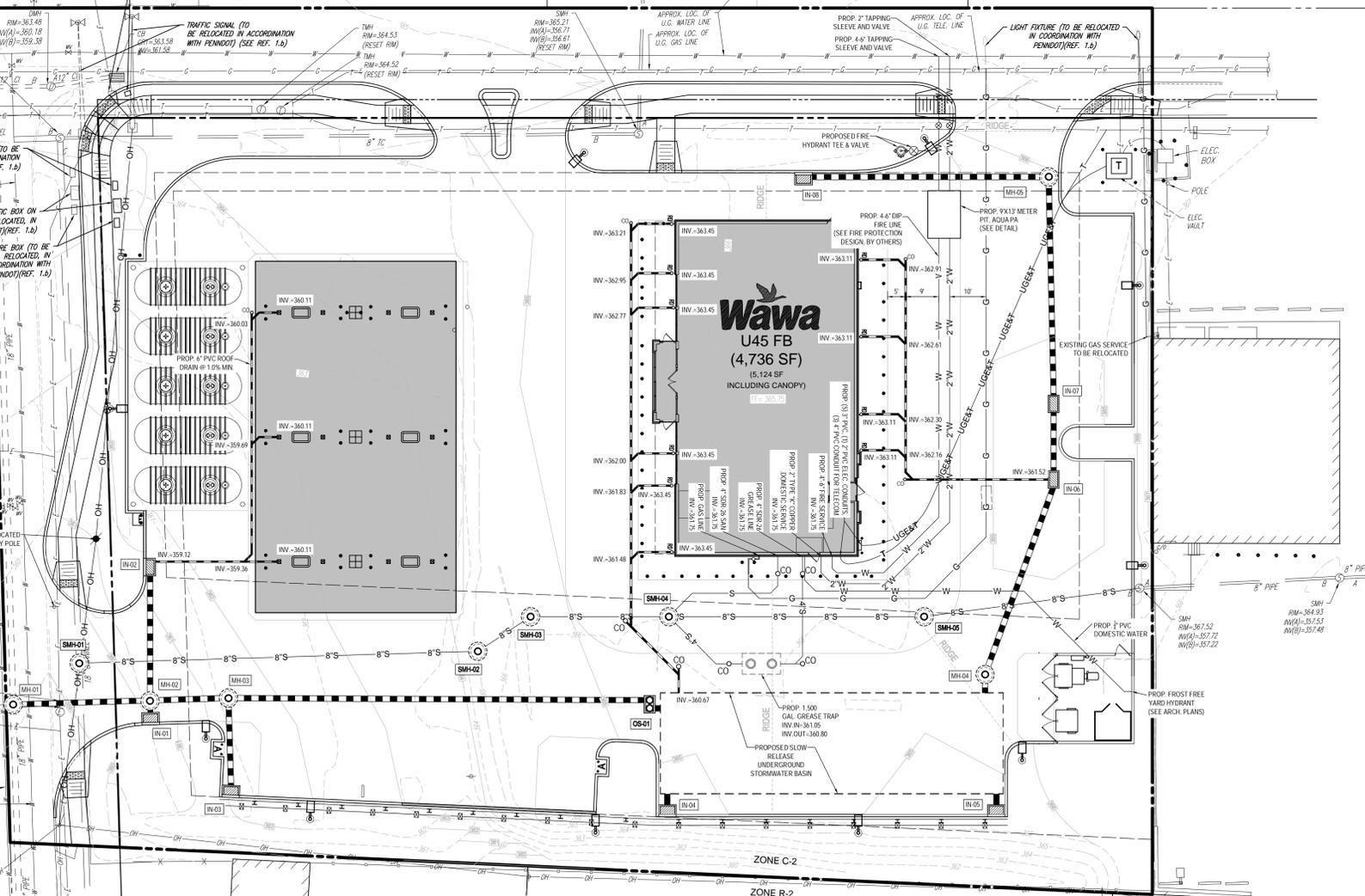
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(50' WIDE R.O.W. PER REF. MAP #5)



SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY

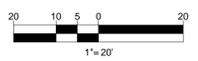
**ABERDEEN AVENUE**  
(A.K.A. SOUTH ABERDEEN AVENUE)  
(60' WIDE R.O.W.)  
(ASPHALT ROADWAY)

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**DRAWING LEGEND**

- S — S — S — S — S — PROPERTY LINE
- - - - - EXISTING SANITARY SEWER (SDR-28)
- - - - - EXISTING STORMWATER
- - - - - EXISTING GAS LINE
- - - - - EXISTING OVERHEAD LINE
- - - - - EXISTING WATER LINE
- - - - - PROPOSED STORMWATER PIPE
- - - - - PROPOSED SANITARY LINE
- - - - - PROPOSED WATERLINE
- - - - - PROPOSED GAS LINE
- - - - - PROPOSED ELECTRIC & TELEPHONE
- - - - - PROPOSED OVERHEAD UTILITY LINE
- 20 ○ EXISTING INLET
- ○ EXISTING STORM MANHOLE
- ○ EXISTING SANITARY MANHOLE
- ○ EXISTING MANHOLE
- ○ EXISTING UTILITY POLE
- ○ EXISTING STREET LIGHT
- ○ EXISTING TRAFFIC MAST ARM
- ○ EXISTING WATER VALVE
- ○ PROPOSED UTILITY MANHOLE
- ○ PROPOSED STORMWATER INLET
- ○ PROPOSED OUTLET STRUCTURE
- ○ PROPOSED TRANSFORMER
- ○ PROPOSED INLET LABEL
- ○ PROPOSED CLEANOUT
- ○ PROPOSED ROOF DRAIN



**REVISIONS**

REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

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**PRELIMINARY LAND DEVELOPMENT PLANS**  
FOR  
**WAYNE PROPERTY ACQUISITION INC.**

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE  
RADNOR TOWNSHIP  
DELAWARE COUNTY, PA

**BOHLER ENGINEERING**  
1600 MANOR DRIVE, SUITE 200  
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Phone: (215) 996-9100  
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SHEET TITLE:  
**UTILITY PLAN**

SHEET NUMBER:  
**6**  
OF 19

REVISION 1 - 2018.08.31

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GENERAL CONSERVATION NOTES AND SPECIFICATIONS

- I. GENERAL INFORMATION
A. THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE.
B. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
C. ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY.
D. DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY BY EITHER EROSION CONTROL OR SEDIMENT CONTROL MEASURES. STOCKPILES, STOCKPILES OFF-SITE UNDERGROUND UTILITY LINES AND GRADDED PERIMETER AREAS DURING NON-GERMINATION PERIODS MUST BE APPLIED AT UNIFORM RATES. CRUSHED STONE OR PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION.
E. AREAS THAT TO BE SEEDING OR MULCHED.
F. WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE, NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE. THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES. IN SMALLS AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES UNTIL THE SITE IS STABILIZED. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL, AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING MUST BE PERFORMED IMMEDIATELY. IF AT ANY TIME PRIOR TO SITE STABILIZATION ANY EARTH PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS.
G. THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER AND HAVE APPROVED BY THE COUNTY CONSERVATION DISTRICT. A SEPARATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN FOR EACH SPILL, BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED PLANS, WHERE LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION.
H. CONTRACTOR SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT OF DISPOSAL METHOD AND LOCATION OF MATERIALS IF ANY TO BE REMOVED FROM SITE.
I. STANDARD FOR DISPOSAL OF MATERIALS: ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST BE SOON IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES TO BE HAULED OFF SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION.
L. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN SOIL STABILIZATION THROUGHOUT CONSTRUCTION. ADDITIONAL MEASURES REQUIRED TO ENSURE ON-SITE AND OFF-SITE STABILIZATION AND ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE AT HIS COST TO THE OWNER. IMMEDIATE NOTIFICATION SHALL BE GIVEN TO THE OWNER AND ENGINEER SHOULD ADDITIONAL STABILIZATION MEASURES BE NECESSARY IN ACCORDANCE WITH THE NPDES AND/OR SWPPP REQUIREMENTS FOR THE PROJECT.
II. STANDARD FOR LAND GRADING
A. DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT.
1. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT EROSION AND SEDIMENTATION.
2. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
B. INSTALLATION REQUIREMENTS
1. TIMBER LOGS OR FIBERBUSH ROCKS, STUMPS AND VEGETABLE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STANDARD FOR DISPOSAL OF MATERIALS.
2. FILL MATERIALS IS FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.
3. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
4. ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.
5. (SEE I.D)
III. STANDARD FOR UTILITY TRENCH EXCAVATION
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. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED IN ONE DAY. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED UP TO A MAX OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING OF THE INSTALLED PIPE.
C. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY FINING TO A FACILITY FOR REMOVAL OF SEDIMENT AND TRENCH BACKFILLING. SEE DETAIL RE: PIPE PLACEMENT AND/OR BACKFILLING/INGRINGS.
D. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONDITIONS AND APPROVED TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY.
E. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE ON THE SITE THROUGHOUT THE TRENCHING AND BACKFILLING OPERATIONS.
F. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
IV. STANDARD FOR TEMPORARY STABILIZATION
A. STANDARD FOR TEMPORARY STABILIZATION WITH FIBERBUSH
1. MULCHING IS MOST APPLICABLE TO THOSE AREAS SUSCEPTIBLE TO PERIODIC DISTURBANCE AND REWORKING. ADDITION, STABILIZATION WITH FIBER MULCH SHALL BE USED DURING NON-GERMINATION PERIODS.
2. PERFORM ALL CULTURAL OPERATIONS BEFORE DISPOSAL OF MATERIALS.
3. GRADE AS NEEDED AND FEASIBLE - SEE STANDARD FOR LAND GRADING.
4. PROTECTIVE MATERIALS TO BE USED:
A. UNWEIGHTED SMALL GRASS (CHOPPED) STRAW OR HAY AT 3.0 TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1 AND MARCH 1) SPREAD UNIFORMLY AND ANCHORED WITH LIQUID MULCH BINDER. BINDER PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S SPECIFICATIONS.
B. HYDROMULCHER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL. LIQUID MULCH BINDERS APPLY IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. PRODUCTS TO BE APPLIED AT A RATE OF 1.0 TON PER ACRE (MINIMUM) OR PER MANUFACTURER'S SPECIFICATIONS.
B. STANDARD FOR TEMPORARY STABILIZATION WITH SEED
1. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN TWELVE (12) MONTHS MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY COVER.
2. ALL AREAS TO BE PERMANENTLY SEEDDED OR MULCHED MUST BE SEEDDED OR MULCHED CONCURRENTLY.
3. SEEDBED PREPARATION FOR TEMPORARY SEEDING
A. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
B. APPLY AGRICULTURAL LIME AT AT A RATE OF 1.0 TONS PER ACRE.
C. APPLY 10-10-10 FERTILIZER AT A RATE OF 500 POUNDS PER ACRE.
D. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4) INCHES.
C. SEEDING - SEE SEEDING SPECIFICATIONS
V. STANDARD FOR PERMANENT STABILIZATION
A. SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER
1. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION.

E&S SUPPLEMENTAL NOTES

- EAS PLANNING AND DESIGN §102.4(b)(4)
THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE:
• ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE
• PROTECT WOODLAND/EXISTING TREES WITH TREE PROTECTION FENCING
• SEQUENCE CONSTRUCTION ACTIVITIES BY LIMITING DISTURBANCES TO A SPECIFIC TASK SUCH THAT EACH TASK IS COMPLETED BEFORE THE NEXT TASK IS INITIATED
• MAINTAIN EXISTING GRADES ONE SITE WHERE PRACTICABLE.
THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION:
• ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE
• PROTECT WOODLAND/EXISTING TREES WITH TREE PROTECTION FENCING
• UTILIZE THE EXISTING CONVEYANCE SYSTEMS WITHIN ABERDEEN AVENUE.
• MAINTAIN EXISTING FLOW PATHS TO POLE#2
THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:
• ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE
• USE OF TRACKED MACHINERY WHERE PRACTICAL DURING EARTHMOVING OPERATIONS
THE FOLLOWING MEASURES ARE TAKEN TO PREVENT OR MINIMIZE GENERATION OF INCREASED STORM WATER RUNOFF:
• UTILIZE UNDERGROUND SLOW RELEASE BASIN TO HELP REDUCE RUNOFF RATES AND VOLUME.
• UTILIZE PERIMETER CONTROLS SUCH AS SILT SOCK, SILT FENCE AND INLET PROTECTION WHILE NOT OVERLOADING ANY SPECIFIC BMP ENSURING LONGER SUSTAINABILITY OF THE EROSION AND SEDIMENT CONTROLS
RECYCLING OR DISPOSAL OF MATERIALS §102.4(b)(5)(2)
1) ANTICIPATED CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO: TWO ONE-STORY BUILDINGS, SIDEWALK AND ASPHALT AREAS.
2) ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND EITHER RECYCLED IN ACCORDANCE WITH DEPS SOLID WASTE REGULATIONS (25 PA CODE 260.1 ET SEQ., 271.1 ET SE., AND 287.1 ET SEQ.) AND/OR AN ADDITIONAL LOCAL, STATE, OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WATER MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
POTENTIAL THERMAL IMPACT TO SURFACE WATERS §102.4(b)(5)(2)(ii)
THERMAL IMPACTS HAVE BEEN AVOIDED IN THE E&S CONDITION THROUGH THE USE OF INLET PROTECTION, SILT SOCKS AND AN UNDERGROUND SLOW RELEASE BASIN TO ENSURE THAT RUNOFF FILTERS THROUGH A MEDIA, WHICH SHOULD REDUCE THE WATER TEMPERATURE OF STORMWATER FLOWS THAT WOULD OTHERWISE COME DIRECTLY FROM THE PAVEMENT.
EAS PLAN DESIGNED AND IMPLEMENTED TO BE CONSISTENT WITH PCSM PLAN §102.4(b)(5)(iv)
1) THERE ARE NO EXISTING/PROPOSED RIPARIAN BUFFERS OUTSIDE THE LIMIT OF DISTURBANCE.
2) THERE ARE NO PROPOSED INFILTRATION BMP'S OUTSIDE OF THE PROPOSED GRADING AREAS.
EXISTING/PROPOSED RIPARIAN FOREST BUFFERS §102.4(b)(5)(v)
1) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS SHOWN ON THE PLAN MAPS.
2) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS OUTSIDE THE LIMIT OF DISTURBANCE.
3) THERE ARE NO NEARBY WETLANDS WITHIN THE RIPARIAN FOREST BUFFER ON THIS SITE.
ANTIDRAINAGE ANALYSIS
EVALUATIONS OF NON-DISCHARGE ALTERNATIVE ONLY PERTAIN TO HQ OR EV WATERS PER THE PADEP & WATER QUALITY ANTIDRAINAGE DOCUMENT DATED NOV. 28, 2003. THE SUBJECT SITE IS LOCATED WITHIN THE DARBY CREEK SUB-BASIN IN THE DELAWARE RIVER MAJOR RIVER BASIN. THE CLOSEST RECEIVING WATER IS THAN CREEK WHICH HAS A CWF AND MF CHAPTER 93 CLASSIFICATION.

SEEDING SPECIFICATIONS

- 1. SEEDING DATES
A. SEEDING SHALL OCCUR BETWEEN MARCH 1ST AND MAY 15TH OR BETWEEN AUGUST 15TH AND NO LATER THAN OCTOBER 15TH.
B. IF SEEDING CANNOT BE CONDUCTED DURING THE TIMEFRAMES NOTED ABOVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL CONSERVATION DISTRICT AND ALL APPROPRIATE AGENCIES TO DETERMINE AN ACCEPTABLE MEANS IN WHICH TO STABILIZE THE SITE THROUGH THE NEXT GROWING SEASON.
2. SEED MIXTURES: SEED MIXTURE TO BE USED ON THIS SITE SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE NOTED ON THE PLANS. RATES ARE IN THE FORM OF POUNDS PER ACRE (LBA) PER PURE LIVE SEED (POUNDS / ACRE PLS). CONTRACTOR WILL NEED TO ADJUST ACCORDINGLY BASED ON THE SEED GERMINATION AND PURITY RATING (SEE ITEM #3 BELOW).
A. TEMPORARY SEED MIXTURES: DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE DISTURBED AGAIN WITHIN TWELVE (12) MONTHS MUST BE SEEDDED WITH A TEMPORARY SEED MIXTURE AS FOLLOWS:
ANNUAL RYE (40 POUNDS / ACRE PLS) OR SPRING OATS (36 POUNDS / ACRE PLS) OR WINTER RYE (160 POUNDS / ACRE PLS) (REFERENCE: PENN STATE 'EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND', TABLE 5)
B. PERMANENT SEEDING SHALL CONSIST OF A NURSE CROP PLUS A PERMANENT SEED MIXTURE, AS FOLLOWS:
I. NURSE CROP (SELECT ONE):
ANNUAL RYE (10 POUNDS / ACRE PLS) OR SPRING OATS (10 POUNDS / ACRE PLS) OR WINTER RYE (60 POUNDS / ACRE PLS) (REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION, TABLE 11.4, SEED MIX #1)
II. PERMANENT SEED MIX:
TALL FESCUE'S (84 POUNDS / ACRE PLS) OR FINE FESCUE (36 POUNDS / ACRE PLS) OR KENTUCKY BLUEGRASS (26 POUNDS / ACRE PLS) PLUS REDTOP (3 POUNDS / ACRE PLS) OR PERENNIAL RYEGRASS (15 POUNDS / ACRE PLS) (REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION, TABLE 11.4, SEED MIX #2)
3. PURE LIVE SEED:
A. SEED USED FOR THE PURPOSE OF PERMANENT STABILIZATION SHALL BE LABELED WITH GERMINATION AND PURITY PERCENTAGES. UNLABELED SEED WILL BE REJECTED. SEED SHALL NOT BE USED MORE THAN ONE (1) YEAR BEYOND THE LABEL DATE.
B. DETERMINING THE PERCENT PURE LIVE SEED (PERCENT PLS) OF A LABELED SEED: MULTIPLY BY THE PERCENTAGE OF PURE SEED BY THE PERCENTAGE OF GERMINATION AND DIVIDE THE RESULT BY 100 ([(PURE % \* GERMINATION) / 100]
C. DETERMINING THE ACTUAL SEED RATE: SIMPLY DIVIDE THE PERCENT PLS RATING OF THE SEED INTO THE PLS REQUIRED, AS NOTED ABOVE. THE RESULT IS THE POUNDS OF SEED REQUIRED. FOR EXAMPLE: IF THE REQUIRED RATE IS 84 POUNDS PLS, AND THE SEED IS RATED AT 30% PLS, DIVIDE 84 BY 0.35 TO GET 182.9 POUNDS, WHICH IS THE AMOUNT OF THAT SEED REQUIRED PER ACRE.
4. APPLICATION OF SEED: SEEDING SHALL BE APPLIED AND ESTABLISHED IN ACCORDANCE WITH THE 'EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL', AS PUBLISHED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER QUALITY PROTECTION (MOST RECENT EDITION)
A. SEED SHALL BE APPLIED IN A NON-COMPACTED, ROUGHENED TOPSOIL.
B. SEED MAY BE APPLIED THROUGH ANY OF THE FOLLOWING MEANS AND METHODS, OR OTHER ACCEPTED INDUSTRY PRACTICES, UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE PLANS:
I. DRILL SEEDING
II. BROADCAST SEEDING (TWO DIRECTIONS)
III. HYDROSEEDING (TWO DIRECTIONS)
C. ALL SEED SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED UNTIL A 70% PERENNIAL COVER IS ACHIEVED.
I. TEMPORARY STABILIZATION WITH STRAW:
1. STRAW MULCH SHALL BE APPLIED ON TOP OF THE FRESHLY SEEDED AREAS AT A RATE OF 3 TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1ST AND MARCH 1ST)
2. STRAW SHALL BE STABILIZED WITH A WOOD OR PAPER FIBER MULCH AND TACKIFIER SOLUTION IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S SPECIFICATIONS.
II. TEMPORARY PERMANENT STABILIZATION WITH EROSION CONTROL MATTING/BLANKETS (WHERE SPECIFIED):
1. MATTING/BLANKETS SHALL BE INSTALLED IN AREAS AS NOTED ON THE EROSION & SEDIMENT CONTROL PLAN OR WITHIN 50 FEET OF PONDS, STREAMS OR WETLANDS. THE PRODUCT SHALL BE INSTALLED AND STAPLED ON TOP OF THE SEEDING IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
2. AREAS WITH MATTING/BLANKETS SHALL NOT BE TRACKED (CATWALKED) AFTER INSTALLATION.
3. MATTING/BLANKETS SHALL BE VISUALLY INSPECTED DAILY TO ENSURE THAT THE PRODUCT IS FUNCTIONING PROPERLY, IS HELD FAST TO THE SOIL SURFACE AND IS IN GOOD CONDITION.
D. ONCE SEED HAS BEEN SET, VEHICULAR TRAFFIC OR OTHER SOURCES OF COMPACTION SHALL BE AVOIDED.
E. IRRIGATION: NEW SEED APPLICATIONS SHOULD BE SUPPLIED WITH ADEQUATE WATER, A MINIMUM OF 1/2" TWICE A DAY, UNTIL VEGETATION IS WELL ESTABLISHED (A MINIMUM OF 75% COVER).
5. STANDARD FOR PERMANENT STABILIZATION WITH SOIL
I. METHODS AND MATERIALS
A. CULTIVATED SOIL IS PREFERRED OVER NATIVE OR PASTURE SOIL. SPECIFY "CERTIFIED SOIL," OR OTHER HIGH QUALITY CULTIVATED SOIL.
B. SOIL SHOULD BE FREE OF WEEDS AND UNSUITABLE CROPPED WEEDS OR GRASSES.
C. SOIL SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 6-8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING. (EXCLUDES TOP GROWTH)
D. SOIL SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER OF THE STOP. BROKEN PASSES OR TOPS AND UNEVEN ENDS WILL NOT BE ACCEPTABLE.
E. A SOIL OF KENTUCKY 31 TALL FESCUE WITH BLUEGRASS, OR FESCUE BLEND IS PREFERRED.
F. ONLY MOST FRESH UNWEATED SOIL SHOULD BE USED. SOIL SHOULD BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.
II. SITE PREPARATIONS: SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER (ITEM VA ABOVE)
I. SOIL PLACEMENT
A. SOIL STRIPS SHOULD BE LAD ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE. STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP, ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOIL. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOIL.
B. PLACE SOIL STRIPS WITH SLIGHT EVEN SPACES THAT ARE STAGGERED. OPEN SPACES WRITE EROSION.
C. ROLL OR TAMP SOIL IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOIL CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOIL. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN ORDER TO PREVENT WEEDS, WHICH WOULD CAUSE DRYING OF THE ROOTS.
D. ON SLOPES GREATER THAN 3:1 TO 1, SECURE SOIL TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES OR A BODDGRADABLE FASTER.
E. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUT, OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST TURTLE AND UNDERCUTTING OF SOIL. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOIL IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL.
F. IMMEDIATELY FOLLOWING INSTALLATION, SOIL SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER WITHIN 3.0 TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.
G. FOLLOW-UP INSPECTION: AFTER THE FIRST GROWING SEASON, THE SOIL SHOULD BE INSPECTED TO DETERMINE IF ADDITIONAL FERTILIZATION OR LIMING IS NEEDED.

DELAWARE COUNTY SOIL CONSERVATION DISTRICT E&S NOTES

- 1.) STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.
2.) THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
3.) 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. THE OPERATOR SHALL MAINTAIN AND MAKE AVAILABLE TO LOCAL CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGARDING, AND RE-STABILIZATION SHALL BE PERFORMED IMMEDIATELY.
4.) 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.
5.) BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED EAS CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE LOCAL CONSERVATION DISTRICT.
6.) THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE LOCAL CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
7.) ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
8.) THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
9.) A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL TROLL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
10.) EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
11.) AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
12.) AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING 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.
13.) ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
14.) IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
15.) AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
16.) SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
17.) HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
18.) MULCH WITH MULCH CONTROL, NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
19.) STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
20.) 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, REGARDING, RE-SEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
21.) SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
22.) THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BLDG. MATERIAL OR WASTES AT THE SITE.
23.) THE NPDES BOUNDARY IS EQUAL TO THE OUTER PERIMETER BOUNDARY 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 ROADWAY IMPROVEMENTS.
31.) THE PROJECT'S RECEIVING WATERCOURSE IS THAN CREEK, AND THE CHAPTER 93 CLASSIFICATION IS CWF/MF.

SEQUENCE OF BMP INSTALLATION AND REMOVAL

- §102.4(b)(5)(vi)
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. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED FOUR (4) DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.
AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS AND A REPRESENTATIVE OF THE DELAWARE COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. ALSO, AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1-800-242-1776 FOR BURIED UTILITIES LOCATION.
BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED EAS CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DELAWARE COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. 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.
1. INSTALL CONSTRUCTION ENTRANCE AS DESIGNATED ON THE PLANS.
2. INSTALL ALL PERIMETER COMPOST FILTER SOCKS, SILT FENCE, TREE PROTECTION FENCING, AND INLET PROTECTION WITHIN THE DESIGNATED LIMIT OF DISTURBANCE AS INDICATED ON THE PLANS. ONLY LIMITED CLEARING AND GRUBBING NECESSARY TO INSTALL THE PERIMETER EROSION AND SEDIMENT POLLUTION CONTROLS IS PERMITTED.
3. DEMOLISH EXISTING SITE FEATURES AND UTILITIES PROPOSED TO BE REMOVED. DURING DEMOLITION OF UTILITIES ALL UTILITY SERVICES MUST BE MAINTAINED FOR NEIGHBORING PROPERTIES WHOSE UTILITIES CURRENTLY TRAVERSE THE SITE AND ARE PROPOSED TO BE REROUTED.
4. INITIATE THE NECESSARY EARTHWORK TO REACH THE GRADES INDICATED ON THE PLANS. BUILDING CONSTRUCTION MAY COMMENCE UPON ACCEPTANCE OF BUILDING PAD BY OWNER. THE CONCRETE WASHOUT MUST BE INSTALLED BEFORE ANY CONCRETE CAN BE POURED ON-SITE. CONTRACTOR MUST PERFORM BULK OF EARTHWORK TO BALANCE CUTS AND FILLS TO THE GREATEST EXTENT POSSIBLE. ALL AREAS DISTURBED DURING THE EARTHWORK PHASE OF CONSTRUCTION MUST BE TEMPORARILY SEEDDED AND STABILIZED IN ACCORDANCE WITH THE GENERAL CONSERVATION DISTRICT SPECIFICATIONS AND SEEDING SPECIFICATIONS IF PERMANENT STABILIZATION CANNOT BE ACHIEVED WITHIN FOUR (4) DAYS.
5. CRITICAL STAGE: INSTALLATION OF BMP 6.4.11 (SLOW RELEASE BASIN) INITIATE STORM SEWER AND SUBSURFACE SLOW RELEASE BASIN INSTALLATIONS FOR THE FEATURES SHOWN ON THE PLANS STARTING AT THE FURTHEST DOWNSTREAM STRUCTURE. DO NOT INSTALL THE OUTLET STRUCTURE FILTER MEDIA AT THIS STAGE OF CONSTRUCTION. INLET FILTER MEDIA SHALL BE DISCHARGED TO THE BASIN IMMEDIATELY AFTER INSTALLATION AND REMAIN BLOCKED UNTIL SITE IS FULLY STABILIZED TO PREVENT SEDIMENT FROM ENTERING THE SUBSURFACE SLOW RELEASE BASIN. NO CONSTRUCTION EQUIPMENT, SUCH AS CRANES DURING BUILDING CONSTRUCTION, SHALL BE PARKED ON TOP OF THE SLOW RELEASE BASIN TO AVOID DAMAGING THE BASIN OR OVER-COMPACTING THE SUBSURFACE SOILS. THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT FOR THE INSTALLATION OF CRITICAL STAGE AND POST CONSTRUCTION STORMWATER BMP'S. A LICENSED PROFESSIONAL OR DESIGNER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF THE POST CONSTRUCTION BMP'S SHALL CONDUCT THE OVERSIGHT AND SIGN OFF ON THE NOTICE OF TERMINATION.
6. CONTINUE WITH THE BALANCE OF EARTHWORK INCLUDING UTILITY INSTALLATION (SANITARY LATERALS, WATER LATERALS, GAS, ELECTRIC, TELEPHONE, AND CABLE) WHERE APPLICABLE.
7. INSTALL CURBING AND INSTALL STONE BASE COURSE IN THE DRIVEWAY AND PARKING AREAS.
8. INITIATE FINAL GRADING AND PLACEMENT OF TOPSOIL IN ALL LANDSCAPE AREAS. AS SOON AS SLOPES, CHANNELS, DITCHES AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOG MUST BE APPLIED. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES HAS BEEN ACHIEVED. AS DISTURBED AREAS WITH A PROJECT APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN. IN NO CASE SHOULD AN AREA EXCEEDING 15,000 SQUARE FEET, WHICH IS TO BE STABILIZED BY VEGETATION, REACH FINAL GRADE WITHOUT BEING SEEDDED AND MULCHED. WAITING UNTIL EARTHMOVING IS COMPLETED BEFORE MAKING PREPARATIONS FOR SEEDING AND MULCHING IS NOT ACCEPTABLE. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
9. INSTALL BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALKS.
10. CRITICAL STAGE: INSTALLATION OF BMP6.4.4 WATER QUALITY FILTERS. INSTALL WATER QUALITY FILTERS IN ALL INLETS ON SITE AS SHOWN ON THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AS REQUIRED BY MANUFACTURER SPECIFICATIONS.
11. CRITICAL STAGE: INSTALLATION OF BMP6.4.11 SLOW RELEASE FILTER MEDIA IN UNDERGROUND BASIN OUTLET STRUCTURE. INSTALL UNDERDRAINS AND PROPOSED SOG MEDIA TO DEPTHS DETAILED IN THE OUTLET STRUCTURE DETAIL. SURVEY AS-BUILT SLOW RELEASE BASIN AND PROVIDE ENGINEER OF RECORD WITH AS-BUILT CONDITIONS TO CONFIRM VOLUMES HAVE BEEN CONSTRUCTED TO MEET THE PADEP REQUIREMENTS AND RADNOR TOWNSHIP ORDINANCES.
12. CRITICAL STAGE: INSTALLATION OF BMP 6.7.2 LANDSCAPE RESTORATION. INSTALL FINAL VEGETATION AND LANDSCAPING SPECIFIED ON THE LANDSCAPE PLAN.
13. UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION TO AND INSPECTION FROM DELAWARE COUNTY CONSERVATION DISTRICT, REMOVE REMAINING EROSION AND SEDIMENT CONTROL FACILITIES. ANY AREA DISTURBED DURING THE REMOVAL OF EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE STABILIZED IMMEDIATELY.
14. CLEAR SITE OF DEBRIS AND ALL UNWANTED MATERIALS. OPERATOR SHALL REMOVE FROM 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. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIAL OR WASTE AT THIS SITE.
15. DEMOLIBLIZE.
16. A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE DELAWARE COUNTY CONSERVATION DISTRICT UPON STABILIZATION AND FINAL COMPLETION OF THIS PHASE OF THE PROJECT.

BOHLER ENGINEERING
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING, PROGRAM MANAGEMENT, LANDSCAPE ARCHITECTURE, SUSTAINABLE DESIGN, PERMITTING SERVICES, TRANSPORTATION SERVICES

REVISIONS table with columns: REV, DATE, COMMENT, BY. Includes revision 1 on 08/31/2018 for PER DOT COMMENTS MCM.

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL.
PAI 1-800-242-1776

NOT APPROVED FOR CONSTRUCTION
PROJECT NO: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 2018.07.13
SCALE: AS NOTED
CAD ID: PC181016 DETAIL-1

PRELIMINARY LAND DEVELOPMENT PLANS
FOR WAYNE PROPERTY ACQUISITION INC.
ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE
RADNOR TOWNSHIP
DELAWARE COUNTY, PA

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SHEET TITLE: EROSION & SEDIMENTATION CONTROL NOTES
SHEET NUMBER: 11 OF 19
REVISION 1 - 2018.08.31

\\PC181016\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 DETAIL-1.dwg - LAYOUT: 11 - E&S NOTES





**P.C.S.W.M. B.M.P. INSPECTION AND MAINTENANCE NOTES**

1.) UNTIL THE SITE IS STABILIZED AND DURING THE CONSTRUCTION ACTIVITIES, ALL BMPS MUST BE MAINTAINED PROPERLY BY CONTRACTOR. ALL PERMANENT MAINTENANCE PROCEDURES SHALL BE PERFORMED BY THE DESIGNATED HOME OWNERS ASSOCIATION. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL BAMS 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 AND IN ACCORDANCE WITH THESE PROCEDURES, PLANS, AND DETAILS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS. ALL SITE INSPECTIONS MUST BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE INDICATING THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG MUST BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

2.) STORM WATER MANAGEMENT BASINS - BASINS SHALL BE INSPECTED FOR LITTER AND SEDIMENT ACCUMULATION ON AN ANNUAL BASIS OR AS DIRECTED BY THE TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. THE LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. THE LITTER AND SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

3.) WATER QUALITY (WQ) INLETS - WATER QUALITY INLETS SHALL BE INSPECTED FOR LITTER AND SEDIMENT ACCUMULATION ON AN ANNUAL BASIS OR AS DIRECTED BY THE TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. THE LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES AND FILTERING CAPABILITIES. THE LITTER AND SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. SEE MANUFACTURERS SPECIFICATIONS FOR OTHER PERTINENT RECOMMENDATIONS PROVIDED BY THE MANUFACTURER REGARDING MAINTENANCE OF THE DEVICES

4.) SWALES - SWALES SHALL BE INSPECTED FOR EROSION AND/OR SEDIMENT ACCUMULATION ON AN ANNUAL BASIS, AFTER A SIGNIFICANT RUNOFF EVENT OR AS DIRECTED BY THE TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. AREAS OF EROSION SHALL BE REGRADED AND STABILIZED AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. ANY REMOVED SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. ALL AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

5.) STORM DRAINAGE SYSTEMS - THE STORM WATER MANAGEMENT FACILITIES INCLUDING THE INLETS, STORM WATER PIPING, SWALES, AND BASINS ON THIS SITE SHALL BE MAINTAINED IN PROPER WORKING ORDER IN ACCORDANCE WITH THESE PLANS AND PER THE RECOMMENDATION OF THE STRUCTURE(S) MANUFACTURER(S). MAINTENANCE OF THESE STORM WATER MANAGEMENT FACILITIES, AS NOTED BELOW, SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER(S) UPON WHOSE PROPERTY THE FACILITIES ARE LOCATED.

6.) ALL ON-SITE INLETS, MANHOLES, AND STORM WATER PIPING SHALL BE CLEARED OF DEBRIS EVERY THREE (3) MONTHS OR WHEN ACCUMULATION HINDERS OPERATION OF THE FACILITY.

7.) ALL SEDIMENT/DEBRIS/LOAM REMOVED FROM THE STORM WATER MANAGEMENT SYSTEM SHALL BE DISPOSED PER LOCAL, STATE, AND FEDERAL STANDARDS.

8.) SHOULD ON-SITE EROSION OCCUR FROM THE LANDSCAPED AREAS, SOURCE OF EROSION SHALL BE IMMEDIATELY STABILIZED AND THE INLETS, MANHOLES, AND STORM WATER PIPING SHALL BE CHECKED FOR ACCUMULATION AND CLEARED IF ACCUMULATION OF SEDIMENT EXISTS.

**GENERAL SEQUENCING NOTES FOR P.C.S.W.M. B.M.P.s**

1.) A SITE INSPECTION AND APPROVAL BY THE DELAWARE COUNTY CONSERVATION DISTRICT IS REQUIRED PRIOR TO THE REMOVAL OR CONVERSION OF SEDIMENT BASINS AND TRAPS.

2.) BOHLER ENGINEERING PA, LLC SHALL BE NOTIFIED OF PRE-CONSTRUCTION MEETING DATE AND BMP CONSTRUCTION SCHEDULE.

3.) THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO LIMIT THE COMPACTION IN THE PROPOSED B.M.P. BOTTOMS.

4.) INFILTRATION TESTING SHALL BE CONDUCTED UPON SEDIMENT BASIN CONVERSION TO ENSURE THE INFILTRATION RATES HAVE NOT BEEN COMPROMISED DURING CONSTRUCTION.

5.) REFER TO THE BMP CONSTRUCTION DETAILS FOR THE CONSTRUCTION OF ALL PROPOSED STORMWATER MANAGEMENT INFILTRATION/WATER QUALITY BMPS.

6.) REFER TO THE PCSVM PLAN AND DETAILS FOR SPECIFIC BMP CONSTRUCTION GUIDELINES.

7.) AS-BUILT PLANS OF THE STORMWATER BMPS FOR EACH PROJECT PHASE SHALL BE PROVIDED WITHIN SIX MONTHS FOLLOWING THE COMPLETION OF EACH PHASE. THE AS-BUILT PLANS SHALL BE SIGNED AND SEALED BY A PA REGISTERED PROFESSIONAL ENGINEER.

8.) A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF STORMWATER BMPS.

**SLOW RELEASE SYSTEM INSPECTION AND MAINTENANCE NOTES**

SLOW RELEASE SLOW RELEASE SYSTEM - SLOW RELEASE SYSTEMS SHALL BE INSPECTED FOR EROSION AND/OR SEDIMENT ACCUMULATION ON AN ANNUAL BASIS, AFTER A SIGNIFICANT RUNOFF EVENT OR AS DIRECTED BY THE TOWNSHIP ENGINEER. NEEDED MAINTENANCE SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. AREAS OF EROSION SHALL BE REGRADED AND STABILIZED AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. ANY REMOVED SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. ALL AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

**CRITICAL STAGES**

LISTED BELOW ARE THE CRITICAL STAGES OF CONSTRUCTION. AN IMMEDIATE INSPECTION SHALL BE CONDUCTED BY A QUALIFIED SITE REPRESENTATIVE, WHERE UPON THE BUCKS COUNTY CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING.

- CONSTRUCTION SLOW RELEASE BASIN
- INSTALLATION ON WATER QUALITY FILTERS
- INSTALLATION OF SLOW RELEASE FILTER MEDIA IN UNDERGROUND BASIN OUT STRUCTURES
- INSTALLATION OF NATIVE AND ADAPTIVE SPECIES FOR LANDSCAPE RESTORATION BMP

**P.C.S.W.M. SUPPLEMENTAL NOTES**

**GENERAL PCSM PLANNING AND DESIGN §102.8(f)**

1. THE FOLLOWING MEASURES WERE TAKEN TO PRESERVE THE INTEGRITY OF STREAM CHANNELS AND TO MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM.
  - DIRECT RUNOFF FROM IMPERVIOUS SURFACES INCLUDING ROADWAYS TO BMPS.
  - USE NATIVE SPECIES, WHICH REQUIRE LESS FERTILIZATION AND CHEMICAL APPLICATION THAN NON-NATIVE SPECIES.
  - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
  - PERFORM SOIL AMENDMENTS, WHICH RESTORE SOIL POROSITY THROUGH TILLING AND COMPOSTING TO IMPROVE THE SOIL'S CAPACITY FOR INFILTRATION AND POLLUTANT REMOVAL.

2. THE FOLLOWING MEASURES WERE TAKEN TO PREVENT AN INCREASE IN THE RATE OF STORM WATER RUNOFF:
  - UTILIZE UNDERGROUND SLOW RELEASE BASIN TO HELP REDUCE RUNOFF VOLUME.
  - MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.
  - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION

3. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE ANY INCREASE IN STORM WATER RUNOFF VOLUME:
  - PROVIDE LANDSCAPE RESTORATION TO HELP REDUCE RUNOFF VOLUME.
  - MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.
  - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
  - PROVIDE AMENDED SOILS THROUGHOUT THE SITE TO HELP REDUCE RUNOFF VOLUME.

4. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE IMPERVIOUS AREAS:
  - INCREASE IN PERVIOUS AREA WITHIN LIMIT OF DISTURBANCE BY APPROXIMATELY 7%.
  - ONLY PROVIDE SIDEWALK WHERE REQUIRED BY CODE.
  - MAXIMIZE THE NUMBER OF LANDSCAPED ISLAND WITHIN THE SITE.

5. THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION:
  - ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
  - PROTECT WOODLANDS/EXISTING TREES WITH TREE PROTECTION FENCING.
  - UTILIZING THE EXISTING CONVEYANCE SYSTEM WITHIN ABERDEEN AVENUE
  - MAINTAIN EXISTING FLOW PATH TO POW2

6. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE LAND CLEARING AND GRADING:
  - PROTECT WOODLANDS/EXISTING TREES WITH TREE PROTECTION FENCING.
  - ADJUST ROAD SLOPE AND SITE GRADING SO THERE ARE NO DRASTIC PROPOSED CUTS OR FILLS TO EXISTING GRADES.
  - MAINTAIN EXISTING GRADES WITHIN THE SITE WHERE PLAUSIBLE.

7. THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:
  - ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
  - AS SPECIFIED IN THE CONSTRUCTION SEQUENCE, USE 'TREADED MACHINERY' WHERE PRACTICAL DURING EARTHMOVING OPERATIONS.
  - GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS.

8. THE FOLLOWING MEASURES WERE TAKEN TO UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN STORM WATER RUNOFF:
  - DIRECT RUNOFF TO AN ABOVE GROUND STORM WATER BASIN TO CONTROL RUNOFF RATES.
  - UTILIZE UNDERGROUND SLOW RELEASE BASIN TO HELP REDUCE RUNOFF VOLUME.
  - PROVIDE LANDSCAPE RESTORATION TO HELP REDUCE RUNOFF VOLUME.
  - MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL.

**TYPES, DEPTH, SLOPE, LOCATIONS AND LIMITATION OF THE SOILS AND GEOLOGICAL FORMATIONS §102.8(f)(1)**

- 1) EXISTING SITE COVERAGE INCLUDES BUT IS NOT LIMITED TO ONE-STORY/MASONRY BUILDINGS, GAS CANOPIES WITH FUEL DISPENSERS, ASPHALT DRIVES, SIDEWALK, PARKING AREAS AND AREAS OF SPARSE VEGETATION.

**RECEIVING SURFACE WATERS §102.8(f)(9)**

- 1) THERE ARE NO HQ OR EV WATERSHEDS WITHIN THE SITE.
- 2) THERE ARE NO EXISTING WETLANDS ON SITE.
- 3) EXISTING & DESIGNATED USES FOR THE ITHAN CREEK ARE CWF & MF.

**RECYCLING OR DISPOSAL OF MATERIALS §102.8(f)(11)**

- 1) ANTICIPATED CONSTRUCTION WASTES INCLUDE BUT ARE NOT LIMITED TO: TWO ONE-STORY BUILDINGS, SIDEWALK AND ASPHALT AREAS.
- 2) ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA CODE 260.1 ET SEQ., 271.1 ET SE., AND 287.1 ET SEQ.) AND/OR ANY ADDITIONAL LOCAL, STATE, OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WATER MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

**GEOLOGIC FORMATIONS OR SOIL CONDITIONS §102.8(f)(12)**

- 1) THERE ARE NO KNOWN GEOLOGICAL FORMATIONS/SOIL CONDITION ISSUES THAT HAVE THE POTENTIAL TO CAUSE POLLUTION.

**POTENTIAL THERMAL IMPACT TO SURFACE WATERS §102.8(f)(13)**

A POTENTIAL FOR THERMAL IMPACTS EXISTS IN INSTANCES WHERE SURFACE RUNOFF IS DIRECTLY CONVEYED TO A RECEIVING STREAM WITHOUT ADEQUATE ATTENUATION OR COOLING. TO AVOID THERMAL IMPACTS, THE FOLLOWING HAS BEEN EMPLOYED: UNDERGROUND SLOW RELEASE, AMENDED SOILS, AND LANDSCAPE RESTORATION. ALL OF THESE MEASURES WILL HELP TO CONTROL RUNOFF VOLUME AND RATE AND THEREBY PROVIDE ADDITIONAL COOLING TIME, THEREBY MINIMIZING THERMAL IMPACTS TO THE RECEIVING STREAM.

**RIPARIAN FOREST BUFFER MANAGEMENT PLAN §102.8(f)(14)**

- 1) THERE ARE NO EXISTING/PROPOSED RIPARIAN FOREST BUFFERS SHOWN ON THE PLAN MAPS.
- 2) THE FOLLOWING IMPAIRMENTS ARE LISTED FOR THIS PORTION OF THE ITHAN CREEK:
  - a. WATER/FLOW VARIABILITY
  - b. SILTATION
  - c. HABITAT MODIFICATION
  - d. PATHOGENS

**SEQUENCE OF BMP INSTALLATION AND REMOVAL**

**§102.8(f)(7)**

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. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED FOUR (4) DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS AND A REPRESENTATIVE OF THE DELAWARE COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. ALSO, AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1-800-242-1776 FOR BURIED UTILITIES LOCATION. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DELAWARE COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. 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.

1. INSTALL CONSTRUCTION ENTRANCE AS DESIGNATED ON THE PLANS.
2. INSTALL ALL PERIMETER COMPOST FILTER SOCKS, SILT FENCE, TREE PROTECTION FENCING, AND INLET PROTECTION WITHIN THE DESIGNATED LIMIT OF DISTURBANCE AS INDICATED ON THE PLANS. ONLY LIMITED CLEARING AND GRUBBING NECESSARY TO INSTALL THE PERIMETER EROSION AND SEDIMENT POLLUTION CONTROLS IS PERMITTED.
3. DEMOLISH EXISTING SITE FEATURES AND UTILITIES PROPOSED TO BE REMOVED. DURING DEMOLITION OF UTILITIES ALL UTILITY SERVICES MUST BE MAINTAINED FOR NEIGHBORING PROPERTIES WHOSE UTILITIES CURRENTLY TRAVERSE THE SITE AND ARE PROPOSED TO BE REROUTED.
4. INITIATE THE NECESSARY EARTHWORK TO REACH THE GRADES INDICATED ON THE PLANS. BUILDING CONSTRUCTION MAY COMMENCE UPON ACCEPTANCE OF BUILDING PAD BY OWNER. THE CONCRETE WASHOUT MUST BE INSTALLED BEFORE ANY CONCRETE CAN BE POURED ON-SITE. CONTRACTOR MUST PERFORM BULK OF EARTHWORK TO BALANCE CUTS AND FILLS TO THE GREATEST EXTENT POSSIBLE. ALL AREAS DISTURBED DURING THE EARTHWORK PHASE OF CONSTRUCTION MUST BE TEMPORARILY SEEDED AND STABILIZED IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS AND SEEDING SPECIFICATIONS IF PERMANENT STABILIZATION CANNOT BE ACHIEVED WITHIN FOUR (4) DAYS.

**5. CRITICAL STAGE: INSTALLATION OF BMP 6.4.11 (SLOW RELEASE BASIN)** INITIATE STORM SEWER AND SUBSURFACE SLOW RELEASE BASIN INSTALLATIONS FOR THE FEATURES SHOWN ON THE PLANS STARTING AT THE FURTHEST DOWNSTREAM STRUCTURE. **DO NOT INSTALL THE OUTLET STRUCTURE FILTER MEDIA AT THIS STAGE OF CONSTRUCTION.** INLETS DISCHARGING TO THE BASIN MUST BE BLOCKED IMMEDIATELY AFTER INSTALLATION AND REMAIN BLOCKED UNTIL SITE IS FULLY STABILIZED TO PREVENT SEDIMENT FROM ENTERING THE SUBSURFACE SLOW RELEASE BASIN. NO CONSTRUCTION EQUIPMENT, SUCH AS CRANES DURING BUILDING CONSTRUCTION, SHALL BE PARKED ON TOP OF THE SLOW RELEASE BASINS TO AVOID DAMAGING THE BASIN OR OVER-COMPACTING THE SUBSURFACE SOILS. **THE PERMITTEE SHALL PROVIDE ENGINEERING OVSIGHT FOR THE INSTALLATION OF CRITICAL STAGE AND POST CONSTRUCTION STORMWATER BMPS.** A LICENSED PROFESSIONAL OR DESIGNEE **KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF THE POST CONSTRUCTION BMPS SHALL CONDUCT THE OVSIGHT AND SIGN OFF ON THE NOTICE OF TERMINATION.**

6. CONTINUE WITH THE BALANCE OF EARTHWORK INCLUDING UTILITY INSTALLATION (SANITARY LATERALS, WATER LATERALS, GAS, ELECTRIC, TELEPHONE, AND CABLE) WHERE APPLICABLE.

7. INSTALL CURBING AND INSTALL STONE BASE COURSE IN THE DRIVEWAY AND PARKING AREAS.

8. INITIATE FINAL GRADING AND PLACEMENT OF TOPSOIL IN ALL LANDSCAPE AREAS. AS SOON AS SLOPES, CHANNELS, DITCHES AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOD MUST BE APPLIED. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES HAS BEEN ACHIEVED. AS DISTURBED AREAS WITHIN A PROJECT APPROACH FINAL GRADE, PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN. IN NO CASE SHOULD AN AREA EXCEEDING 15,000 SQUARE FEET, WHICH IS TO BE STABILIZED BY VEGETATION, REACH FINAL GRADE WITHOUT BEING SEEDED AND MULCHED. WAITING UNTIL EARTHMOVING IS COMPLETED BEFORE MAKING PREPARATIONS FOR SEEDING AND MULCHING IS NOT ACCEPTABLE. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.

9. INSTALL BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALKS.

10. **CRITICAL STAGE: INSTALLATION OF BMP 6.4.4 WATER QUALITY FILTERS.** INSTALL WATER QUALITY FILTERS IN ALL INLETS ON SITE AS SHOWN ON THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AS REQUIRED BY MANUFACTURER SPECIFICATIONS.

11. **CRITICAL STAGE: INSTALLATION OF BMP 6.4.11 SLOW RELEASE FILTER MEDIA IN UNDERGROUND BASIN OUTLET STRUCTURE.** INSTALL UNDERDRAINS AND PROPOSED SOIL MEDIA TO DEPTHS DETAILED IN THE OUTLET STRUCTURE DETAIL. SURVEY AS-BUILT SLOW RELEASE BASIN AND PROVIDE ENGINEER OF RECORD WITH AS-BUILT CONDITIONS TO CONFIRM VOLUMES HAVE BEEN CONSTRUCTED TO MEET THE PADEP REQUIREMENTS AND RADNOR TOWNSHIP ORDINANCES.

12. **CRITICAL STAGE: INSTALLATION OF BMP 6.7.2 LANDSCAPE RESTORATION.** INSTALL FINAL VEGETATION AND LANDSCAPING SPECIFIED ON THE LANDSCAPE PLAN.

13. UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION TO AND INSPECTION FROM DELAWARE COUNTY CONSERVATION DISTRICT, REMOVE REMAINING EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE STABILIZED IMMEDIATELY.

14. CLEAR SITE OF DEBRIS AND ALL UNWANTED MATERIALS. OPERATOR SHALL REMOVE FROM 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. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIAL OR WASTE AT THIS SITE.

15. DEMOBILIZE.

16. A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE DELAWARE COUNTY CONSERVATION DISTRICT UPON STABILIZATION AND FINAL COMPLETION OF THIS PHASE OF THE PROJECT.

Z:\14-PCSVM\1016\DRAWINGS\PLAN SETS\LAND DEV\REV\1016\181016 DETAILS-1-14-PCSVM.dwg ->LAYOUT-14-PCSVM NOTES

BMP	SCHEDULE	INSPECTION TASK	MAINTENANCE	FAILURE INDICATORS
BMP 6.4.11 SUBSURFACE SLOW RELEASE/DETENTION BASIN	AFTER EACH STORM >1"	- INSPECT STRUCTURES - CONFIRM OUTLET STRUCTURE IS FREE OF DEBRIS - CONFIRM OUTLET STRUCTURE ORIFICE IS NOT CLOGGED	NEEDED MAINTENANCE SHOULD BE CONDUCTED IMMEDIATELY AFTER EACH INSPECTION. ACCUMULATED LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. THE SEDIMENT AND LITTER SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.	FAILURE INDICATORS OF THE UNDERGROUND STORMWATER BASINS INCLUDE WHEN THE BASIN DOES NOT DEWATER OR SURCHARGING OF INLETS UPSTREAM OF THE BASIN OCCURS. A QUALIFIED INDIVIDUAL, SUCH AS THE BASIN MANUFACTURER SHALL PERFORM AN INVESTIGATION IN ORDER TO DETERMINE THE CAUSE OF FAILURE. REMEDIATION SHALL BE IN ACCORDANCE WITH THE QUALIFIED INDIVIDUAL'S RECOMMENDATIONS BASED ON THEIR INVESTIGATION.
	4 TIMES PER YEAR	- INSPECT STRUCTURES - INSPECT FOR EROSION - INSPECT FOR SEDIMENT ACCUMULATION		
BMP 6.6.4 WATER QUALITY FILTERS	4 TIMES PER YEAR	- INSPECT OPERATION OF DEVICE - INSPECT FOR ACCUMULATION OF COLLECTED MATERIALS	NEEDED MAINTENANCE SHALL BE PERFORMED IMMEDIATELY AFTER THE INSPECTION. ACCUMULATION OF SEDIMENT/DEBRIS SHALL BE REMOVED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS/RECOMMENDATIONS. THE SEDIMENT/DEBRIS SHALL BE REMOVED, RECYCLED OR DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.	SIGNS OF FAILURE INCLUDE SEDIMENT/DEBRIS LADEN RUNOFF FLOWING OUT OF THE FILTER OR STANDING WATER IN THE FILTER. MAINTENANCE SHALL BE PERFORMED IMMEDIATELY IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
BMP 6.7.2 LANDSCAPE RESTORATION	ANNUALLY	- INSPECT FOR DYING/DEAD PLANT MATERIAL - INSPECT FOR INVASIVE SPECIES	REMOVE INVASIVE SPECIES AND DISCARD IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. ANY PLANT THAT IS FOUND TO BE DEAD OR IS DYING AND CANNOT BE SAVED SHALL BE REPLACED IN KIND.	FAILURE INDICATORS INCLUDE AN EXCESSIVE GROWTH OF INVASIVE SPECIES AND VEGETATION THAT FAILS TO ESTABLISH OR DIES OFF. UPON OBSERVING A FAILURE INDICATOR A QUALIFIED INDIVIDUAL (SUCH AS A LANDSCAPE ARCHITECT OR SOIL SCIENTIST/ENGINEER SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF THE FAILURE. REMEDIATION SHALL BE IN ACCORDANCE WITH THE QUALIFIED INDIVIDUAL'S RECOMMENDATIONS BASED ON THEIR INVESTIGATION.



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REVISIONS			
REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

**CALL BEFORE YOU DIG!**

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

**PAI**  
PROFESSIONAL ANNOTATED  
1-800-242-1776

POCS SERIAL NUMBER

**NOT APPROVED FOR CONSTRUCTION**

PROJECT No.:	PC181016
DRAWN BY:	MCM
CHECKED BY:	EAB
DATE:	2018.07.13
SCALE:	AS NOTED
CAD I.D.:	PC181016 DETAILS-1

PROJECT:

**PRELIMINARY LAND DEVELOPMENT PLANS**

FOR

**WAYNE PROPERTY ACQUISITION INC.**

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE  
RADNOR TOWNSHIP  
DELAWARE COUNTY, PA



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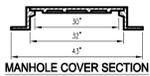
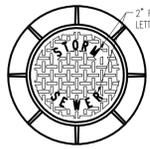


**E.A. BRITZ**  
PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE #6-PR076443

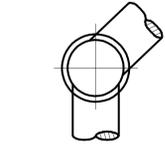
SHEET TITLE: **POST CONSTRUCTION STORMWATER MANAGEMENT NOTES**

SHEET NUMBER: **14**  
OF 19

REVISION 1 - 2018.08.31



NOTES:  
 1. STANDARD MANHOLE FRAMES & COVERS SHALL BE USED ON ALL MANHOLES NOT LOCATED WITHIN CASSEMENTS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.  
 2. STANDARD MANHOLE FRAME & COVER SHALL BE BROUGHT TO EQUIVALENT, WITH NON-PENETRATING PICK HOLES.  
 3. "FLOW-SEAL" MANHOLE COVERS SHALL BE USED ON MANHOLES LOCATED WITHIN CASSEMENTS, IN UNPAVED AREAS, AND OUTSIDE OF THE CENTERLINE OF PAVED ROADS.  
 4. ALL MANHOLE FRAME AND COVERS SHALL BE MADE IN THE USA.

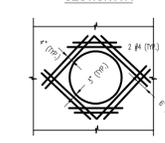
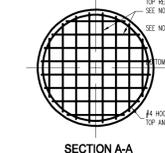


**TABLE A**  
 BASE SIZE DIMENSIONS

MANHOLE DEPTH FROM TOP OF FOOTING TO TOP OF FOOTING	FOOTING DIAMETER	FOOTING THICKNESS
10'-0" - 14'-0"	6'-0"	1'-0"
14'-0" - 18'-0"	6'-6"	1'-0"
18'-0" - 22'-0"	7'-0"	1'-0"
22'-0" - 26'-0"	7'-6"	1'-0"
26'-0" - 30'-0"	8'-0"	1'-0"

**NOTES:**

- PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE.
- CONSTRUCTION NOTES:  
 A. CONSTRUCTION TO ACCORDANCE WITH CURRENT PUBLICATION 408 SPECIFICATIONS, SECTION 605, 606, 714 AND 715.  
 B. CONCRETE SHALL BE TO THE STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS AS NOTED HERE IN.  
 C. MINIMUM CONCRETE CLASS 4.  
 D. PROVIDE 200# COILED STEEL REINFORCEMENT (AS ACCORDANCE WITH ASTM A601), STEEL WELDED WIRE FABRIC (AS ACCORDANCE WITH ASTM A601), PLAIN BUILT STEEL BARS (AS ACCORDANCE WITH ASTM A601) OR CORRODED BUILT STEEL BARS (MINIMUM YIELD STRENGTH OF 60,000 PSI).  
 E. CLEAR COVER FOR STEEL:  
 FOOTINGS: 2" (TOP BARS), 1 1/2" (BOTTOM BARS).  
 WALLS: 1 1/2" (SIDE CONCRETE).  
 F. PROVIDE 12" MINIMUM HORIZONTAL CLEARANCE BETWEEN OPENINGS LOCATED AT THE SAME DEPTH. PIPES NOT LOCATED AT THE SAME DEPTH MUST BE LOCATED VERTICALLY AT LEAST ONE TIMES MINIMUM OPENING DIAMETER APART.  
 G. FOR RISERS OR BASE SECTIONS WITH 2 OR MORE OPENINGS, PROVIDE A MINIMUM HEIGHT OF SECTION EQUAL TO TWO TIMES THE LARGEST OPENING CENTER OF OPENING TO BE LOCATED AT LEAST ONE TIMES THE OPENING FROM THE CLOSEST JOINT BETWEEN RISERS.  
 H. FOR PRECAST RISER OR BASE SECTIONS WITH ONE OPENING LOCATED AT DEPTHS TO 60" OR FOR SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT A DEPTH OF 15 FEET OR LESS, PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH REINFORCEMENT DETAIL AT OPENINGS.  
 I. FOR RISERS OR BASE SECTIONS WITH 2 OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 15 FEET, BUT LESS THAN OR EQUAL TO 30 FEET, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 SQ/IN VERTICAL FOOT FOR THE DEPTH OF THE RISER OR BASE SECTION.  
 J. FOR RISERS OR BASE SECTIONS WITH 2 OR MORE OPENINGS, LOCATED AT DEPTHS GREATER THAN 30 FEET, USE A 10 INCH THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ/IN VERTICAL FOOT EACH FACE.  
 K. RISERS OR BASE SECTIONS WITH HOLES TO BE CLEARLY MARKED WITH MINIMUM ALLOWABLE DEPTH.  
 L. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.  
 M. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 802(C). ALTERNATE CONDUITWAYS AND UNIFORMS, AS APPROVED BY THE ENGINEER, MAY BE USED.  
 N. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS.  
 O. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-STEPPED METAL STEPS.  
 P. MECHANICAL AND/OR REQUIRED FOR INSULATION OF STEPS WITHOUT HOLES.  
 Q. FOR FOOTING TOP REINFORCEMENT, BOTH DIRECTIONS, USE NO. 10 (6) BARS AT 12" ON CENTER TO 60" OR 0.30 IN/FT<sup>2</sup> BAR FOR DEPTHS TO 30", 6" MAXIMUM SPACING FOR 30" TO 60".  
 R. FOR FOOTING BOTTOM REINFORCEMENT, BOTH DIRECTIONS, USE NO. 13 (4) BARS AT 18" FOR DEPTHS TO 60" OR 0.15 IN/FT<sup>2</sup> BAR FOR DEPTHS TO 30" AND 0.16 IN/FT<sup>2</sup> BAR FOR DEPTHS GREATER THAN 30".  
 S. A SAFE BEARING CAPACITY OF (1.5x PER SQ FT) UNDER THE ENTIRE SLAB IS ASSUMED TO DETERMINE THE BASE SIZE. WHEN THE SUBSOIL IS OTHERWISE FAVORABLE, PROCEED WITH CONSTRUCTION ONLY AFTER THE ENGINEER SPECIFIES ADEQUATE BASE DESIGN.



NOTE:  
 FOR WALL THICKNESS 12" OR GREATER PLACE ADDITIONAL REINFORCEMENT AS SHOWN ABOVE AT EACH FACE OF THE WALL. USE 10# REINFORCEMENT FOR WALLS OF 12" OR GREATER. REINFORCEMENT SHALL BE PLACED IN WALL PROXIMATE REINFORCEMENT AS SHOWN ABOVE. MANHOLE REQUIRED COVER.

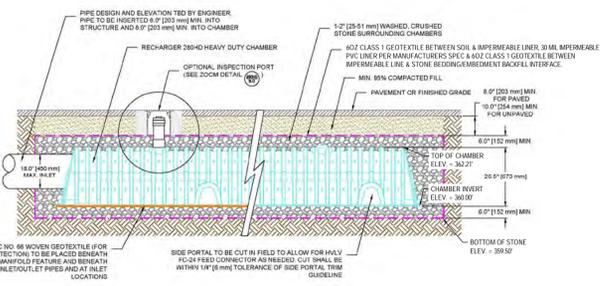
NOTES:  
 1. FOR PIPES 30 INCHES INSIDE DIAMETER OR LESS  
 2. FOR BASE SLAB DIMENSIONS SEE TABLE "A"

**REINFORCEMENT DETAIL AT OPENINGS**

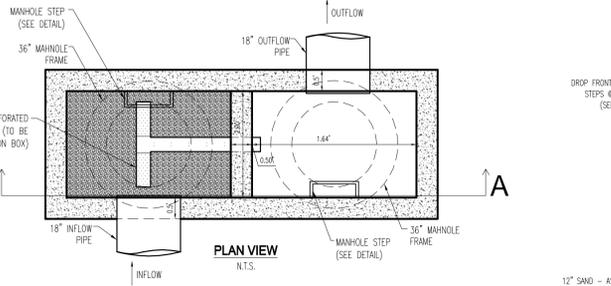
SCALE: N.T.S.  
 REV. 2015.03.09

**CULTEC RECHARGER® 280HD SPECIFICATIONS**

- GENERAL**  
 CULTEC RECHARGER® 280HD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.
- CHAMBER PARAMETERS**
- THE CHAMBERS WILL BE MANUFACTURED IN THE U.S.A. BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4418 OR 1-800-428-5832)
  - THE CHAMBER WILL BE VACUUM THERMOFORMED OF BLACK HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HDPE)
  - THE CHAMBER WILL BE ARCHED IN SHAPE.
  - THE CHAMBER WILL BE OPEN-BOTTOMED.
  - THE CHAMBER WILL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS OR SEPARATE END WALLS.
  - THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 280HD SHALL BE 26.5 INCHES (673 mm) TALL, 47 INCHES (1194 mm) WIDE AND 5 FEET (2.44 m) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 280HD SHALL BE 7 FEET (2.13 m).
  - MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 18 INCHES (450 mm).
  - THE CHAMBER WILL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLF-FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. NOMINAL INSIDE DIMENSIONS OF THE SIDE PORTAL SHALL HAVE A WIDTH OF 11.25" (286 mm) AND HEIGHT OF 11.5" (293 mm). THE SIDE PORTAL CAN ACCEPT A MAXIMUM OUTER DIAMETER (O.D.) PIPE SIZE OF 12.25 INCHES (311 mm).
  - THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLF-FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24 INCHES (614 mm) LONG.
  - THE NOMINAL STORAGE VOLUME OF THE RECHARGER 280HD CHAMBER WILL BE 6.079 FT<sup>3</sup>/FT (0.565 m<sup>3</sup>/m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 280HD SHALL BE 4.2553 FT<sup>3</sup>/UNIT (1.135 m<sup>3</sup>/UNIT) - WITHOUT STONE.
  - THE NOMINAL STORAGE VOLUME OF THE HVLF-FC-24 FEED CONNECTOR WILL BE 0.913 FT<sup>3</sup>/FT (0.085 m<sup>3</sup>/m) - WITHOUT STONE.
  - THE RECHARGER 280HD CHAMBERS WILL HAVE EIGHT (8) TWO DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNIT'S CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
  - THE RECHARGER 280HD CHAMBER SHALL HAVE 15 CORRUGATIONS.
  - THE ENDWALL OF THE CHAMBER, WHEN PRESENT, WILL BE AN INTEGRAL PART OF THE CONTINUOUSLY FORMED UNIT. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
  - THE RECHARGER 280HD STAND ALONE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS.
  - THE RECHARGER 280SHD STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 9 INCHES (229 mm) HIGH X 35 INCHES (889 mm) WIDE.
  - THE RECHARGER 280HD INTERMEDIATE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY OPEN ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 9 INCHES (229 mm) HIGH X 35 INCHES (889 mm) WIDE.
  - THE RECHARGER 280SHD END UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE FULLY OPEN END WALL AND HAVING NO SEPARATE END PLATES OR END WALLS.
  - THE HVLF-FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT WILL FIT INTO THE SIDE PORTALS OF THE RECHARGER 280HD AND ACT AS CROSS FEED CONNECTIONS.
  - CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
  - HEAVY DUTY UNITS ARE DESIGNATED BY A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
  - THE CHAMBER WILL HAVE A RAISED INTEGRAL CAP AT THE TOP OF THE ARCH IN THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.
  - THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.
  - THE CHAMBER SHALL BE MANUFACTURED IN AN IN AN ISO 9001:2008 CERTIFIED FACILITY.
  - THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S INSTALLATION INSTRUCTIONS.
  - MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12 FEET (3.66 m).

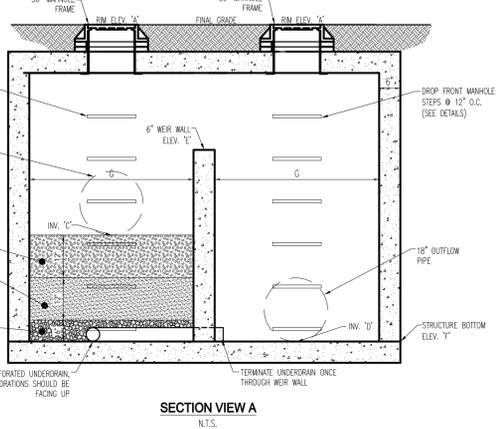


**CULTEC INTERNAL MANIFOLD - OPTIONAL INSPECTION PORT DETAIL**



**OS-01 - TYPICAL SUBSURFACE CONSTRUCTED FILTER DETAIL**

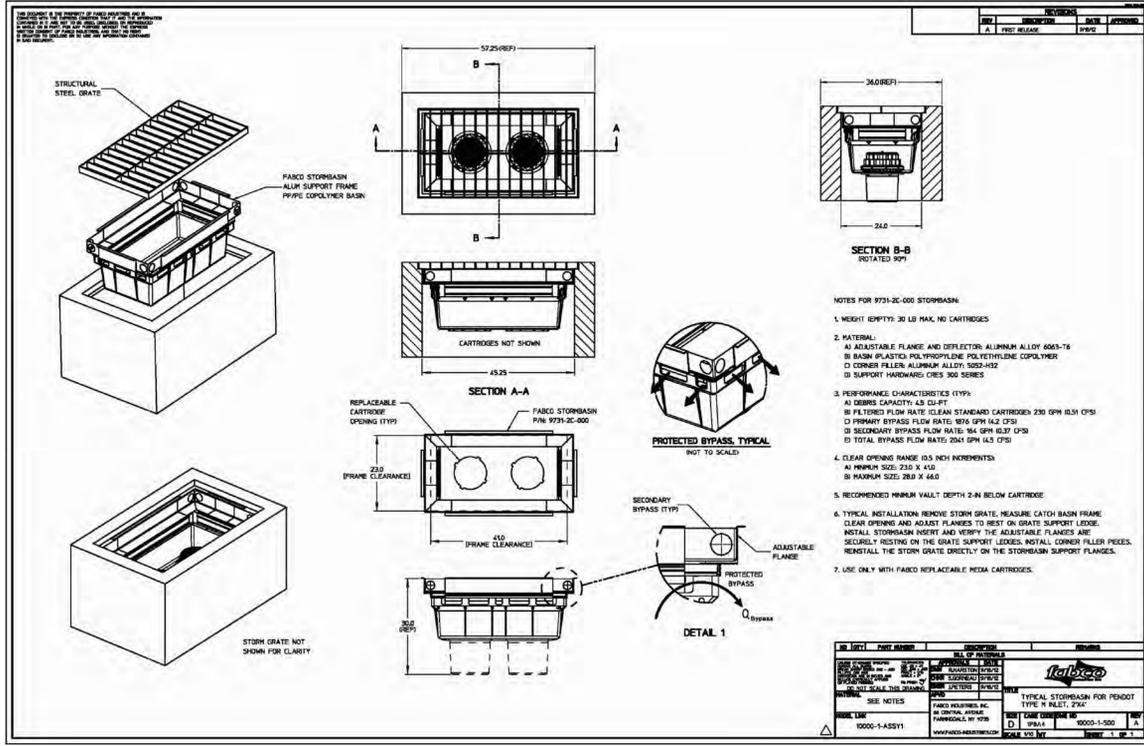
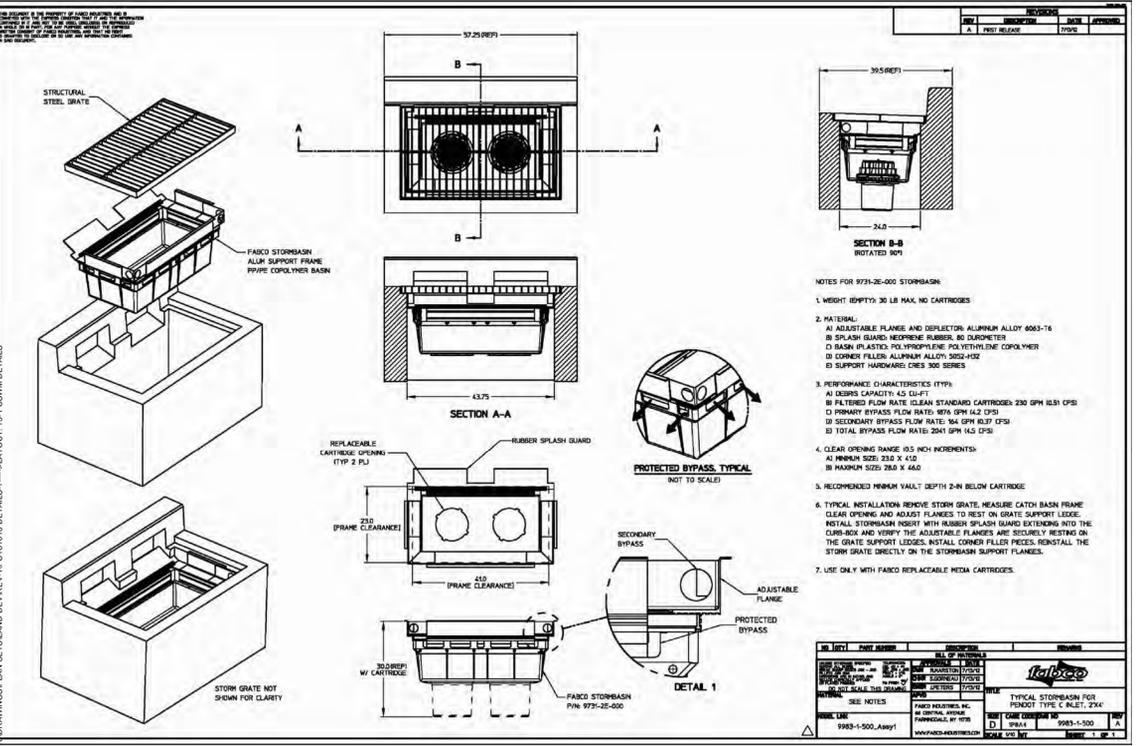
WATER QUALITY OUTLET STRUCTURE	PADOT BOX TYPE	RIM ELEV. 'A'	INFLOW INV. 'C'	OUTFLOW INV. 'D'	TOP OF WEIR ELEV. 'E'	STRUCTURE BOTTOM ELEV. 'F'	DIM. 'G'
OS-01	STANDARD BOX	365.12	360.00	357.50	361.50	357.50	1.64'



**SECTION VIEW A**

**PRECAST STORM MANHOLE DETAILS**

SCALE: N.T.S.  
 REV. 2015.03.09



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**REVISIONS**

REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

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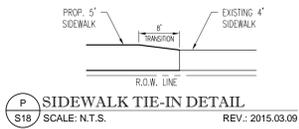
**NOT APPROVED FOR CONSTRUCTION**  
 PROJECT No.: PC181016  
 DRAWN BY: MCM  
 CHECKED BY: EAB  
 DATE: 2018.07.13  
 SCALE: AS NOTED  
 CAD ID.: PC181016 DETAILS-1

**PRELIMINARY LAND DEVELOPMENT PLANS**  
 FOR  
**WAYNE PROPERTY ACQUISITION INC.**  
 ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE  
 RADNOR TOWNSHIP  
 DELAWARE COUNTY, PA

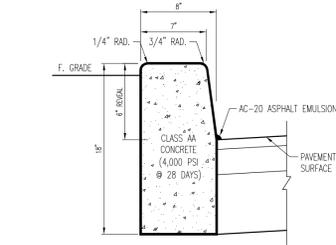
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 CHALFONT, PENNSYLVANIA 18914  
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 Fax: (215) 996-9102  
 www.BohlerEngineering.com

**E.A. BRITZ**  
 PROFESSIONAL ENGINEER  
 PENNSYLVANIA LICENSE #6 P807643

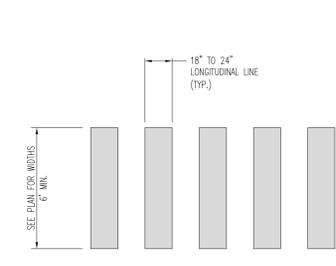
SHEET TITLE: **POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS**  
 SHEET NUMBER: **15**  
 OF 19  
 REVISION 1 - 2018.08.31



**S18 SIDEWALK TIE-IN DETAIL**  
SCALE: N.T.S. REV: 2015.03.09



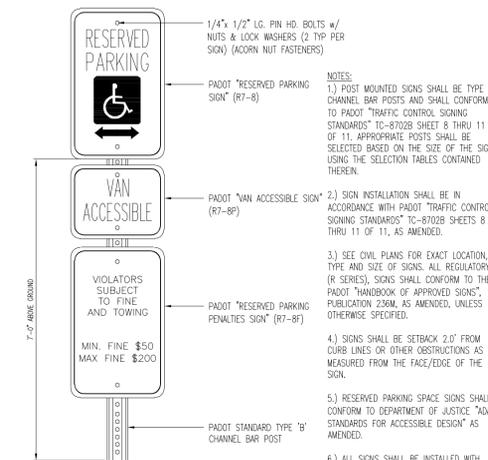
**S5 TYPICAL CONCRETE CURB DETAIL**  
SCALE: N.T.S. REV: 2017.08.02



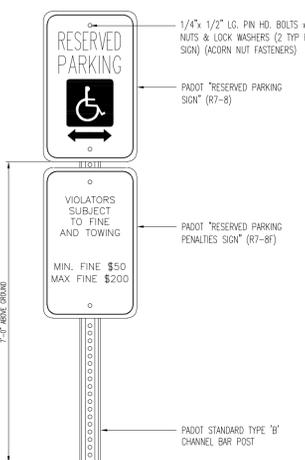
**S20 HIGH VISIBILITY CROSSWALK DETAIL (PERPENDICULAR TO INTERSECTION)**  
SCALE: N.T.S. REV: 2015.03.09



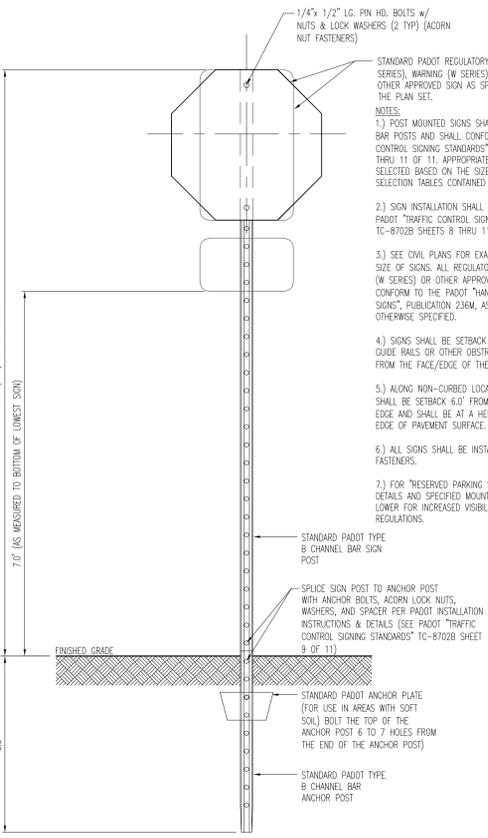
**S4 WHITE PAINTED STOP BAR DETAIL**  
SCALE: N.T.S. REV: 2016.09.29



**T S12 RESERVE PARKING SPACE w/ PENALTIES & VAN ACCESSIBLE SIGNS**  
SCALE: N.T.S. REV: 2016.01.05



**T S13 RESERVE PARKING SPACE & PENALTIES SIGNS**  
SCALE: N.T.S. REV: 2016.01.05



**T S9 STANDARD POLE MOUNTED SIGN INSTALLATION DETAIL**  
SCALE: N.T.S. REV: 2015.03.09

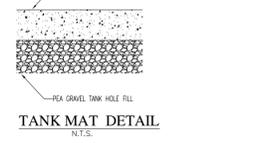
**NOTES:**  
1.) POST MOUNTED SIGNS SHALL BE TYPE B CHANNEL BAR POSTS AND SHALL CONFORM TO PADOT "TRAFFIC CONTROL SIGNING STANDARDS" TC-8702B SHEET 8 THRU 11 OF 11. APPROPRIATE POSTS SHALL BE SELECTED BASED ON THE SIZE OF THE SIGN USING THE SELECTION TABLES CONTAINED THEREIN.  
2.) SIGN INSTALLATION SHALL BE IN ACCORDANCE WITH PADOT "TRAFFIC CONTROL SIGNING STANDARDS" TC-8702B SHEETS 8 THRU 11 OF 11, AS AMENDED.  
3.) SEE CIVIL PLANS FOR EXACT LOCATION, TYPE AND SIZE OF SIGNS. ALL REGULATORY (R SERIES) SIGNS SHALL CONFORM TO THE PADOT "HANDBOOK OF APPROVED SIGNS", PUBLICATION 236M, AS AMENDED, UNLESS OTHERWISE SPECIFIED.  
4.) SIGNS SHALL BE SETBACK 2.0' FROM CURB LINES OR OTHER OBSTRUCTIONS AS MEASURED FROM THE FACE/EDGE OF THE SIGN.  
5.) RESERVED PARKING SPACE SIGNS SHALL CONFORM TO DEPARTMENT OF JUSTICE "ADA STANDARDS FOR ACCESSIBLE DESIGN" AS AMENDED.  
6.) ALL SIGNS SHALL BE INSTALLED WITH ACORN NUT FASTENERS.

**NOTES:**  
1.) THIS TYPE OF MARKING SHOULD BE USED AT LOCATIONS WHERE SUBSTANTIAL NUMBERS OF PEDESTRIANS CROSS WITHOUT ANY OTHER TRAFFIC CONTROL DEVICE, AT LOCATIONS WHERE PHYSICAL CONDITIONS ARE SUCH THAT ADDED VISIBILITY OF THE CROSSWALK IS NECESSARY, OR AT PLACES WHERE PEDESTRIANS MIGHT NOT BE EXPECTED.  
2.) ALL CROSSWALKS SHALL COMPLY WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AS AMENDED.  
3.) LONGITUDINAL LINES SHALL BE PERPENDICULAR TO TRAVELLED WAY THE EXTEND ACROSS THE FULL WIDTH OF PAVEMENT OR TO THE EDGE OF THE INTERSECTING CROSSWALK TO DISCOURAGE DIAGONAL WALKING BETWEEN CROSSWALKS.  
4.) ALL CROSSWALK LONGITUDINAL LINES SHALL BE WHITE THERMOPLAST. ALL LINES AND NEUTRAL AREAS SHALL BE OF EQUAL WIDTHS.  
5.) WARNING SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH MUTCD, AS AMENDED.  
6.) THE SPACING OF THE LINES SHALL BE SELECTED TO AVOID THE WHEEL PAIR.

**NOTES:**  
1.) POST MOUNTED SIGNS SHALL BE TYPE B CHANNEL BAR POSTS AND SHALL CONFORM TO PADOT "TRAFFIC CONTROL SIGNING STANDARDS" TC-8702B SHEET 8 THRU 11 OF 11. APPROPRIATE POSTS SHALL BE SELECTED BASED ON THE SIZE OF THE SIGN USING THE SELECTION TABLES CONTAINED THEREIN.  
2.) SIGN INSTALLATION SHALL BE IN ACCORDANCE WITH PADOT "TRAFFIC CONTROL SIGNING STANDARDS" TC-8702B SHEETS 8 THRU 11 OF 11, AS AMENDED.  
3.) SEE CIVIL PLANS FOR EXACT LOCATION, TYPE AND SIZE OF SIGNS. ALL REGULATORY (R SERIES), WARNING (W SERIES), OR OTHER APPROVED SIGNS SHALL CONFORM TO THE PADOT "HANDBOOK OF APPROVED SIGNS", PUBLICATION 236M, AS AMENDED, UNLESS OTHERWISE SPECIFIED.  
4.) SIGNS SHALL BE SETBACK 2.0' FROM CURB LINES, CURB RAILS OR OTHER OBSTRUCTIONS AS MEASURED FROM THE FACE/EDGE OF THE SIGN.  
5.) ALONG NON-CURBED LOCAL ROADWAYS SIGNS SHALL BE SETBACK 6.0' FROM THE SHOULDER/PARKING EDGE AND SHALL BE AT A HEIGHT 5.0' ABOVE THE EDGE OF PAVEMENT SURFACE.  
6.) ALL SIGNS SHALL BE INSTALLED WITH ACORN NUT FASTENERS.  
7.) FOR "RESERVED PARKING SIGN" (R7-8) REFER TO DETAILS AND SPECIFIED MOUNTING HEIGHTS WHICH ARE LOWER FOR INCREASED VISIBILITY PER ADA REGULATIONS.



**S16 SIDEWALK DETAIL**  
SCALE: N.T.S.



**TANK MAT DETAIL**  
SCALE: N.T.S.



**PARKING, CANOPY, & TRASH MAT DETAIL**  
SCALE: N.T.S.

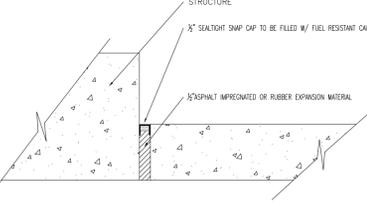


**BITUMINOUS PAVING**  
SCALE: N.T.S.

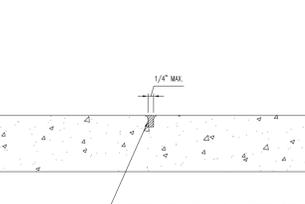
**LIST OF APPLICABLE PADOT DETAILS**

REFER TO PADOT STANDARD DETAILS AS FOLLOWS:  
SIGNAGE - PA D.O.T. PUBLICATION 236 (LATEST EDITION)  
DETAILS ARE ASSOCIATED WITH THE FOLLOWING PROPOSED SITE IMPROVEMENTS FROM PENNDOT PUBLICATION 72M

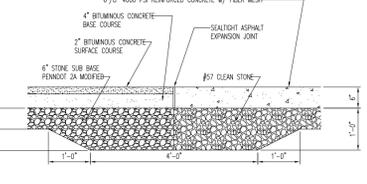
STANDARD DRAWING NUMBER	DESCRIPTION	DRAWING DATE
RC - 39M	MANHOLES	SEPTEMBER 15, 2016
RC - 45M	INLET TOPS & GRATES	SEPTEMBER 15, 2016
RC - 46M	INLET BOXES	SEPTEMBER 15, 2016
RC - 64M	CURBS & GUTTERS	JUNE 1, 2010
RC - 67M	CURB RAMPS	JUNE 10, 2013



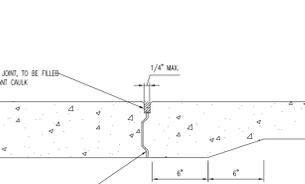
**ISOLATION JOINT DETAIL**  
SCALE: N.T.S.



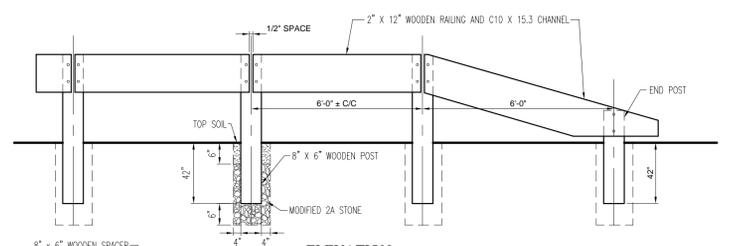
**CONTROL JOINT DETAIL**  
SCALE: N.T.S.



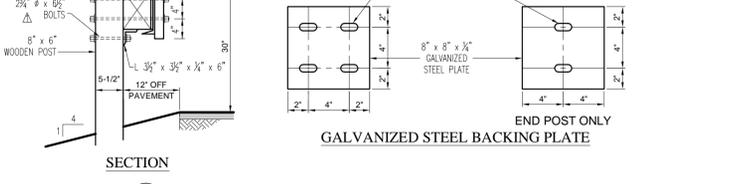
**CONCRETE TO ASPHALT TRANSITION DETAIL**  
SCALE: N.T.S.



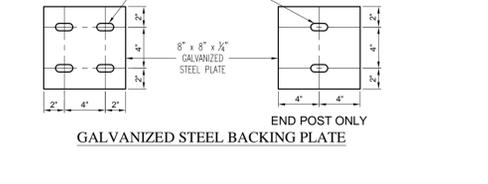
**CONSTRUCTION JOINT DETAIL**  
SCALE: N.T.S.



**ELEVATION**  
SCALE: N.T.S.



**SECTION**  
SCALE: N.T.S.



**GALVANIZED STEEL BACKING PLATE**  
SCALE: N.T.S.

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DRAWN BY: MCM  
CHECKED BY: EAB  
DATE: 2018.07.13  
SCALE: AS NOTED  
CAD I.D.: PC181016 DETAILS-1

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PROFESSIONAL ENGINEER  
PENNSYLVANIA LICENSE # 0071643

SHEET TITLE:  
**DETAILS**  
SHEET NUMBER:  
**16**  
OF 19  
REVISION 1 - 2018.08.31

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