CERTIFICATIONS & APPROVALS: CERTIFICATION OF OWNERSHIP (CORPORATION) CORPORATION NAME BEING DULY SWORN ACCORDING TO LAW, AND ACTING IN MY CAPACITY AS DEPOSE AND SAY THAT THE ABOVE NAMED CORPORATION IS THE TRUE AND LAWFUL OWNER OF PROPERTY KNOWN AS ; THAT THE ABOVE DESCRIBED PROPERTY IS IN PEACEFUL POSSESSION OF SAID CORPORATION AND THAT THERE ARE NO SUITS OR LIENS PENDING AFFECTING THE TITLE THEREOF. CORPORATION CORPORATION OFFICIAL I HEREBY CERTIFY THAT THIS PLAN CORRECTLY AND ACCURATELY REPRESENTS THE LANDS OF THE OWNER AND, WHERE APPLICABLE, THE LOTS, BUILDINGS, STREETS, PARKING AREAS. WALKWAYS. AND OTHER STRUCTURES AND IMPROVEMENTS SHOWN REGISTERED ENGINEER OR SURVEYOR CITY OF BETHLEHEM PLANNING COMMISSION APPROVAL REVIEWED BY THE CITY OF BETHLEHEM PLANNING COMMISSION CHAIRPERSON REVIEWED BY THE LEHIGH VALLEY PLANNING COMMISSION OF LEHIGH AND NORTHAMPTON COUNTIES LVPC STAFF PERSON RESPONSIBLE FOR REVIEW PROOF OF RECORDING RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF NORTHAMPTON , IN MAP BOOK VOLUME _____

THE FOLLOWING WAIVERS HAVE BEEN REQUESTED FROM THE CITY OF BETHLEHEM BOARD OF COMMISSIONERS:

NORTHAMPTON COUNTY RECORDER OF DEEDS

FROM SWMO APPENDIX A. (STORM SEWER PIPES DESIGN REQUIREMENTS A.)- TO ALLOW FOR STORM SEWER PIPE SIZES OF 15" IN LIEU OF THE REQUIRED 18" MINIMUM

FROM SWMO APPENDIX A. (STORM SEWER PIPES DESIGN REQUIREMENTS B.)- TO ALLOW FOR HDPE STORM SEWER PIPE IN LIEU OF THE REQUIRED RCP

FROM SALDO SECTION 1349.08(f)(1)- TO PERMIT LESS THAN THE REQUIRED AMOUNT OF

LANDSCAPE AREA IN THE PARKING AREA

PRELIMINARY | FINAL LAND DEVELOPMENT PLANS

_____ FOR _____

BETHLEHEM SHARED SERVICES, LLC PROPOSED

OFFICE, RETAIL & TAVERN MIXED-USE DEVELOPMENT

LOCATION OF SITE
LEHIGH VALLEY INDUSTRIAL PARK 7: LOT 11
1810 SPILLMAN DRIVE
CITY OF BETHLEHEM
NORTHAMPTON COUNTY, PA

PARCEL: P7-6-6-11-0204

PROPOSED OFFICE (1810 SPILLMAN DRIVE), & PROPOSED RETAIL AND TAVERN (1830 SPILLMAN DRIVE)

United States Cold Storage

ulily Bethlehem

CSTK

ethlehem

IQor

Alpha Ackaging

Alpha Ackaging

Alpha Ackaging

Alpha Ackaging

Fourty, St.

E oth St.

Banda Ackaging

Alpha Ackaging

WE

Fourty, St.

E oth St.

Banda Ackaging

Alpha Ackaging

Alpha

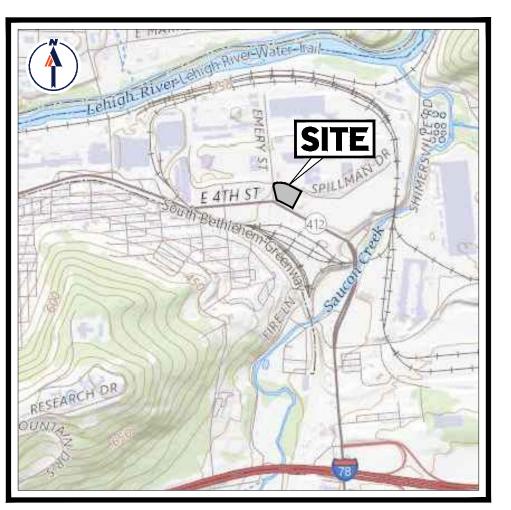
LOCATION MAP

OWNER: LEHIGH VALLEY INDUSTRIAL PARK, INC. 1720 SPILLMAN DRIVE BETHLEHEM, PA 18015 (610) 866-4600

APPLICANT:
BETHLEHEM SHARED SERVICES, LLC
1605 VALLEY CENTER PARKWAY
BETHLEHEM, PA 18017
(484) 285-0400



SOIL MAP



U.S.G.S. MAPSCALE: 1" = 2,000'

DRAWING SHEET INDEX

SHEET TITLE	SHEET NUMBER		
COVER SHEET	C-101		
NOTES SHEET	C-102		
EXISTING CONDITIONS/DEMOLITION PLAN	C-201		
SITE PLAN	C-301		
GRADING PLAN	C-401		
ADA GRADING PLAN	C-402		
PRE-DEVELOPMENT DRAINAGE AREA PLAN	C-403		
POST-DEVELOPMENT DRAINAGE AREA PLAN	C-404		
UTILITY PLAN	C-501		
SOIL EROSION AND SEDIMENT POLLUTION CONTROL PLAN	C-601		
SOIL EROSION AND SEDIMENT POLLUTION CONTROL NOTES & DETAILS	C-602, C-603 & C-604		
LANDSCAPE PLAN	C-701		
LANDSCAPE NOTES AND DETAILS	C-702		
LIGHTING PLAN	C-703		
LIGHTING DETAILS	C-704 & C-705		
PROFILES	C-801 & C-802		
DETAILS SHEET	C-901 & C-902		
TRUCK TURN PLAN	C-903		
FIRE TUCK TURN PLAN	C-904		

AMERICANS WITH DISABILITIES ACT (ADA)

THE PERMIT AND/OR PLAN HAS NOT BEEN REVIEWED TO DETERMINE ITS COMPLIANCE WITH TITLE III OF THE AMERICANS WITH DISABILITIES ACT OF 1990 (ADA) WHICH PROHIBITS DISCRIMINATION ON THE BASIS OF DISABILITY IN PUBLIC ACCOMMODATIONS AND COMMERCIAL FACILITIES, COMPLIANCE WITH TITLE III OF THIS ACT WITH REGARD TO PUBLIC ACCOMMODATIONS AND COMMERCIAL FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/OWNER.

THE LAND DEVELOPMENT AS SUBMITTED AND AS BUILT ACCORDING TO THE INFORMATION INCLUDED IN THE CURRENT DESIGN WILL MEET THE ACCESSIBILITY REQUIREMENT AS EXISTING UNDER THE CURRENT BUILDING CODES ESTABLISHED IN LOWER MACUNGIE TOWNSHIP.

REQUIRED APPROVALS

NPDES PERMIT LVPC FIRE DEPARTMENT WATER DEPARTMENT SEWER DEPARTMENT ACT 537 SEWAGE FACILITIES PLANNING <u>AGENCY</u>

NORTHAMPTON COUNTY CONSERVATION DISTRICT LEHIGH VALLEY PLANNING COMMISSION BETHLEHEM FIRE DEPARTMENT CITY OF BETHLEHEM CITY OF BETHLEHEM DATE RECEIVED

- NEGLIVED

PREPARED BY



SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN

REVISIONS REV DATE COMMENT DRAWN BY CHECKED BY CHECKED BY 1 04/22/2022 PER NPDES SUBMISSION TK 2 07/11/2022 REV PER CITY COMMENTS TCK MMC MMC



20212392542 & 20212392479 NOT APPROVED FOR

CONSTRUCTION

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: PY212051 DRAWN BY: TK CHECKED BY: MMC DATE: 04/01/2022

PY212051-CNDS-2

PROJECT:

PRELIMINARY/

FINAL LAND

DEVELOPMENT

PLANS

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL

MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK 1810 SPILLMAN DRIVE CITY OF BETHLEHEM NORTHAMPTON COUNTY PENNSYLVANIA



74 W BROAD STREET, SUITE 500
BETHLEHEM, PA 18018
Phone: (610) 709-9971
Fax: (610) 709-9976
www.BohlerEngineering.com



HEET TITLE:

COVER SHEET

HEET NUMBER:

C-101

FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT

CONSTRUCTION.

- THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING PENNSYLVANIA, LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE ENGINEER OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER, IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE
- THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN. THE CONTRACTOR MUST ENSURE THAT ALL SURCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS. THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. 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

SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE ENGINEER OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED, NO CONSTRUCTION OR FABRICATION IS TO BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE CONDITIONS OF APPROVAL TO ALL PLANS AND OTHER DOCLIMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND
- THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND

CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.

STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS IN AND CONDITIONS OF THE

- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL. CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING, BUT NOT LIMITED TO, MECHANICAL. ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE), THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND ENGINEER OF RECORD AND BOHLER. IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.
- CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.
- THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY ENGINEER OF RECORD AND BOHLER, 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 RE-DONE OR REPAIRED DUE TO DIMENSIONS, MEASUREMENTS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO ROTH (A) THE CONTRACTOR GIVING ENGINEER OF RECORD AND BOHLER WRITTEN NOTIFICATION OF SAME AND (B) ENGINEER OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH
- THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS. FABRICATION/ORDERING OF PARTS AND MATERIALS AND COMMENCEMENT OF SITE WORK SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS, DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS, THE
- CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS. THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED
- WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS. THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH THEREIN 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: (A) THE PLANS: AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK IF A GEOTECHNICAL REPORT WAS NOT CREATED. THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF ANY AND ALL MUNICIPAL. COUNTY. STATE, AND FEDERAL LAWS AND
- 2. ENGINEER OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.
- THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED. DURING EXCAVATION (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 PROPÉRTIES. ALL OF THIS WORK IS TO BE PERFORMED AT CONTRACTOR'S SOLE COST AND EXPENSE
- THE CONTRACTOR MUST EXERCISE EXTREME CAUTION 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. THE 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.
- 15. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE, ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.
- 16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
- THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERT' DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY FOLIPMENT 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. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
- THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL, LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY JOB SITE SUPERVISION. OR ANYTHING RELATED TO SAME. THE ENGINEER OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO RFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER OF RECORD'S AND BOHLER SERVICES RELATED TO THE PROJECT. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR ANY JOB SITE CONDITIONS, AT ANY TIME.
- THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING. TO THE ENGINEER OF RECORD AND BOHLER. ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE. IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS.
- THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS, AND CURRENT CODES, RULES, STATUTES AND THE LIKE, IF THE CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THE LIKE. THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND HOLD THI ENGINEER OF RECORD AND BOHLER HARMLESS FOR AND FROM ALL INJURIES. CLAIMS AND DAMAGES THAT ENGINEER AND BOHLER SUFFER AND ANY AND ALL COSTS THAT ENGINEER AND BOHLER INCUR AS RELATED TO SAME.

ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE SPECIFIED AND COMMERCIALLY REASONABLE STATUTORY WORKER'S

COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE (CGL) INCLUDING ALSO ALL

- UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER, AND ITS PAST, PRESENT AND FUTURE OWNERS OFFICERS DIRECTORS PARTNERS SHAREHOLDERS MEMBERS PRINCIPALS COMMISSIONERS AGENTS SERVANTS EMPLOYEES AFEILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO BY THE CONTRACTOR HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION AND AFTER ALL PERMITS ARE ISSUED. WHICHEVER DATE IS LATER IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL TO THE FULLEST EXTENT. PERMITTED LINDER THE LAW INDEMNIEY DEFEND AND HOLD HARMLESS ROHLER AND ITS PAST PRESENT AND FLITLIRE 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 ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT. INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTOR(S), ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. THE CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION. SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
- THE ENGINEER OF RECORD AND BOHLER ARE 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 CONFLICTS IN SCOPE AND REVISIONS THAT RESULT FROM SAME THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS FOR COMPLETION OF THE WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER, NOR THE PRESENCE OF BOHLER 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 (HEREIN "BOHLER PARTIES"). RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS. METHODS. SEQUENCE. TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING. OVERSEEING. SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH
- JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION, THE CONTRACTOR OR ITS EMPLOYEES RELATING TO THEIR WORK AND ANY AND ALL HEALTH AND SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY DEFEND. PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, SERVICES AND/OR VIOLATIONS OF THIS NOTE, THESE NOTES OR ANY NOTES IN THE PLAN SET AND, FURTHER, THI CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE
- WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER. BOHLER 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 EVALUATING CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND 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. BOHLER WILL PERFORM ITS SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT, DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE. MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
- IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS. INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN ENGINEER'S SCOPE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING HEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT, AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER PARTIES TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, CLAIMS, INJURIES,
- THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE RIGHT OF WAY OR ON SITE, THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILIT'

PENALTIES AND THE LIKE RELATED TO SAME.

- 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 PLAN(S) AND DESIGN: AND. FURTHER, THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE 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 THE ENGINEER OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT ENGINEER OF RECORD AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL STATE AND LOCAL RULES AND REGULATIONS LAWS ORDINANCES AND CODES AND ALL APPLICABLE 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

- 29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS AND/OR ANY OTHER AGENCY WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. ENGINEER OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK.
- 30. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO THEY AGREE TO JOINTLY INDEPENDENTLY SEPARATELY COLLECTIVELY AND SEVERALLY INDEMNIEY DEFEND PROTECT AND HOLD ENGINEER OF RECORD AND BOHLER PARTIES HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
- 31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES. INCLUDING THOSE OF ALL SUBCONTRACTORS. ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED. TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES. AS APPROPRIATE AND FURTHER. THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO SC
- 32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE ENGINEER OF RECORD AND BOHLER. THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION' CONSTITUTE(S) AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE ENGINEER OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.
- 33. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE SUBMITTALS PREPARED FOR ANY CONSTRUCTION DETAILED ITEMS AND TO COORDINATE THE SUBMITTALS WITH THE RESPECTIVE GOVERNING AGENCIES OR SERVICE PROVIDERS, WHO SHALL HAVE THE FINAL AUTHORITY IN APPROVING THE

DEMOLITION NOTES

(Rev. 2/2021)

- THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN. AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES. IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS'
- THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS STREETS SIDEWALKS WALKWAYS AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPLICABLE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR
- WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON
- THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN

UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS

- A. THE CONTRACTOR MUST ALSO REVIEW ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS. THIS PLAN IS NOT INTENDED TO AND DOES NOT PROVIDE DIRECTION REGARDING THE MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED MUST BE IN STRICT ACCORDANCE AND CONFORMANCE WITH ALL STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS, TH CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FOR THE CONTRACTOR AND THE PUBLIC.
- THE CONTRACTOR MUST PROVIDE ALL "METHODS AND MEANS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE THE CONTRACTOR AT THE CONTRACTOR'S SOLE COST MUST REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN. CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS CONTRACTOR'S REPAIRS MUST INCLUDE THE RESTORATION OF ALL ITEMS AND FEATURES REPAIRED TO THEIR PRE-DEMOLITION CONDITION. OR BETTER, CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE
- 6. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, COMPLYING WITH ALL OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY AND SAFETY TO ALL PROPERTY ON THE SITE OR ADJACENT OR NEAR TO THE SAME
- THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO. THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND/OR NECESSARY SAFETY FEATURES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM AREAS OF CONSTRUCTION AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION N SUCH A MANNER AS TO PREVENT THE ENTRY OF ALL UNAUTHORIZED PERSONS AT ANY TIME, TO OR NEAR THE DEMOLITION AREA.
- PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE APPLICABLE SAFETY STANDARDS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT. ANY SUCH CONCERNS MUST BE CONVEYED TO THE ENGINEER OF RECORD AND BOHLER, IN WRITING AND MUST ADDRESS ALL ISSUES AND ITEMS RESPONDED TO, BY THE ENGINEER OF RECORD AND BY BOHLER, IN WRITING. 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, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.
- THE CONTRACTOR MUST BECOME FAMILIAR WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AND/OR DISCONNECTION 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, REMOVED AND/OR ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES STATUTES, LAWS, ORDINANCES AND CODES.
- 10. PRIOR TO COMMENCING ANY DEMOLITION, THE CONTRACTOR MUST: A. OBTAIN ALL REQUIRED PERMITS AND MAINTAIN THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND ALL PUBLIC AGENCIES WITH
- JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK, AND DEMOLITION WORK. NOTIFY, AT A MINIMUM, THE MUNICIPAL ENGINEER, DESIGN ENGINEER, AND LOCAL SOIL CONSERVATION JURISDICTION, AT LEAST 72 BUSINESS HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- C. INSTALL THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE, AND MAINTAIN SAID CONTROLS UNTIL SITE IS STABILIZED D. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR MUST CALL THE STATE ONE-CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARK OUT,
- IN ADVANCE OF ANY EXCAVATION. LOCATE AND PROTECT ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN AND ADJACENT TO THE LIMITS OF PROJECT ACTIVITIES. THE CONTRACTOR MUST USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL UNDERGROUND UTILITIES.
- PROTECT AND MAINTAIN IN OPERATION ALL ACTIVE LITILITIES AND SYSTEMS THAT ARE NOT BEING REMOVED DURING ANY DEMO ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) FOR THE TEMPORARY OR PERMANENT TERMINATION OF SERVICE REQUIRED BY THE PROJECT PLANS AND SPECIFICATIONS REGARDING THE METHODS AND MEANS TO CONSTRUCT SAME. THESE ARE NOT THE ENGINEER OF RECORD'S RESPONSIBILITY IN THE EVENT OF ARANDONMENT. THE CONTRACTOR MUST PROVIDE THE LITHLITY ENGINEER AND OWNER WITH IMMEDIATE WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED
- ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS NECESSARY OR AS REQUIRED TO MINIMIZE THE IMPACT ON, OF, AND TO THE AFFECTED PARTIES. WORK REQUIRED TO BE PERFORMED "OFF-PEAK" IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. IN THE EVENT THE CONTRACTOR DISCOVERS ANY HAZARDOUS MATERIAL, THE REMOVAL OF WHICH IS NOT ADDRESSED IN THE PROJECT PLANS AND SPECIFICATIONS OR THE CONTRACT WITH THE OWNER/DEVELOPER. THE CONTRACTOR MUST IMMEDIATELY CEASE ALL WORK IN THE AREA OF DISCOVERY, AND IMMEDIATELY NOTIFY, IN WRITING AND VERBALLY, THE OWNER AND ENGINEER OF RECORD AND BOHLER, THE DISCOVERY OF SUCH MATERIALS TO PURSUE PROPER AND COMPLIANT REMOVAL OF SAME

IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS.

- . THE CONTRACTOR MUST NOT PERFORM ANY EARTH MOVEMENT ACTIVITIES, DEMOLITION OR REMOVAL OF FOUNDATION WALLS, FOOTINGS, OR OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE, UNLESS SAME IS IN STRICT ACCORDANCE AND CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, OR PURSUANT TO THE WRITTEN DIRECTION OF THE OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.
- 12. DEMOLITION ACTIVITIES AND EQUIPMENT MUST NOT USE OR INCLUDE AREAS OUTSIDE THE DEFINED PROJECT LIMIT LINE, WITHOUT SPECIFIC WRITTEN PERMISSION AND AUTHORITY OF AND FROM THE OWNER AND ALL GOVERNMENTAL AGENCIES WITH JURISDICTION.
- 13. THE CONTRACTOR MUST BACKFILL ALL EXCAVATION RESULTING FROM, OR INCIDENTAL TO, DEMOLITION ACTIVITIES. BACKFILL MUST BE ACCOMPLISHED WITH APPROVED BACKELL MATERIALS AND MUST BE SUFFICIENTLY COMPACTED TO SUPPORT ALL NEW IMPROVEMENTS AND MUST BE PERFORMED IN COMPLIANCE WITH THE RECOMMENDATIONS AND GUIDANCE ARTICULATED IN THE GEOTECHNICAL REPORT. BACKFILLING MUST OCCUR IMMEDIATELY AFTER DEMOLITION ACTIVITIES AND MUST BE PERFORMED SO AS TO PREVENT WATER ENTERING THE EXCAVATION. FINISHED SURFACES MUST BE GRADED TO PROMOTE POSITIVE DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR COMPACTION TESTING AND MUST SUBMI SUCH REPORTS AND RESULTS TO THE ENGINEER OF RECORD AND THE OWNER.
- 14 EXPLOSIVES MUST NOT BE USED WITHOUT PRIOR WRITTEN CONSENT FROM BOTH THE OWNER AND ALL APPLICABLE NECESSARY AND REQUIRED GOVERNMENTAL AUTHORITIES. PRIOR TO COMMENCING ANY EXPLOSIVE PROGRAM AND/OR ANY DEMOLITION ACTIVITIES. THE CONTRACTOR MUST ENSURE AND OVERSEE THE INSTALLATION OF ALL OF THE REQUIRED PERMIT AND EXPLOSIVE CONTROL MEASURES THAT THE FEDERAL, STATE, AND LOCAL GOVERNMENTS REQUIRE. THE CONTRACTOR IS ALSO RESPONSIBLE TO CONDUCT AND PERFORM ALL INSPECTION AND SEISMIC VIBRATION ESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES AND THE LIKE
- 15. IN ACCORDANCE WITH FEDERAL STATE AND/OR LOCAL STANDARDS THE CONTRACTOR MUST USE DUST CONTROL MEASURES TO LIMIT AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR. AFTER THE DEMOLITION IS COMPLETE. THE CONTRACTOR MUST CLEAN ALL ADJACEN' STRUCTURES AND IMPROVEMENTS TO REMOVE ALL DUST AND DEBRIS WHICH THE DEMOLITION OPERATIONS CAUSE. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION AT CONTRACTOR'S SOLE COST.
- 16. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS OUTSIDE OF APPROVED AREAS WILL NOT BE PERMITTED, INCLUDING BUT NOT LIMITED TO, THE PUBLIC

. THE CONTRACTOR MUST MAINTAIN A RECORD SET OF PLANS WHICH INDICATES THE LOCATION OF EXISTING UTILITIES THAT ARE CAPPED,

ABANDONED IN PLACE, OR RELOCATED DUE TO DEMOLITION ACTIVITIES. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND

- WORKMAN-LIKE MANNER AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK, ALL OF WHICH IS AT THE 8. THE CONTRACTOR MUST EMPTY, CLEAN AND REMOVE FROM THE SITE ALL UNDERGROUND STORAGE TANKS, IF ENCOUNTERED, IN ACCORDANCE
- WITH FEDERAL, STATE, COUNTY AND LOCAL REQUIREMENTS, PRIOR TO CONTINUING CONSTRUCTION IN THE AREA AROUND THE TANK WHICH EMPTYING, CLEANING AND REMOVAL ARE AT THE CONTRACTOR'S SOLE COST.

SITE LAYOUT NOTES

THE ENTITY WITH JURISDICTION OVER THE PROJECT.

- 1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN. AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES. IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS'
- PRIOR TO THE COMMENCEMENT OF GENERAL CONSTRUCTION, THE CONTRACTOR MUST INSTALL SOIL EROSION CONTROL AND ANY STORMWATER POLITION PREVENTION PLAN (SWPPP) MEASURES NECESSARY AS INDICATED ON THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH APPLICABLE AND/OR APPROPRIATE AGENCIES' GUIDELINES TO PREVENT SEDIMENT AND/OR LOOSE DEBRIS FROM WASHING ONTO ADJACENT PROPERTIES OR THE RIGHT OF WAY.
- 3. ALL DIRECTIONAL/TRAFFIC SIGNING AND PAVEMENT STRIPING MUST CONFORM TO THE LATEST STANDARDS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE STATE OR LOCALLY APPROVED SUPPLEMENTS, GUIDELINES, RULES, REGULATIONS, STANDARDS THE LOCATIONS OF PROPOSED UTILITY POLES AND TRAFFIC SIGNS SHOWN ON THE PLANS ARE SCHEMATIC AND PRELIMINARY. THE CONTRACTOR IS

SOLELY RESPONSIBLE FOR FIELD-VERIFYING THEIR LOCATION. THE CONTRACTOR MUST COORDINATE THE RELOCATION OF TRAFFIC SIGNS WITH

- 5. ALL DIMENSIONS SHOWN ARE TO BOTTOM FACE OF CURB. EDGE OF PAVEMENT, OR EDGE OF BUILDING, EXCEPT WHEN DIMENSION IS TO A UNLESS NOTED CLEARLY OTHERWISE
- PROPERTY LINE. STAKE OUT OF LOCATIONS OF INLETS, LIGHT POLES, ETC. MUST BE PERFORMED IN STRICT ACCORDANCE WITH THE DETAILS,

DRAINAGE AND UTILITY NOTES

- GENERAL THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS'
- LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE, AND THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM HOSE LOCATIONS AND SERVICES WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCING ANY CONSTRUCTION OR EXCAVATION. THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM ALL SANITARY CONNECTION POINTS AND ALL OTHER UTILITY SERVICE CONNECTION POINTS IN THE FIELD, PRIOR TO COMMENCING ANY CONSTRUCTION. THE CONTRACTOR MUST REPORT ALL DISCREPANCIES, ERRORS AND OMISSIONS IN WRITING TO THE ENGINEER OF RECORD
- THE CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM, 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 OF THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY
- EXISTING UTILITIES WHICH OCCUR DURING CONSTRUCTION, AT NO COST TO THE OWNER AND AT CONTRACTOR'S SOLE COST AND EXPENSE. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES WHICH OCCURS DURING CONSTRUCTION. THE CONTRACTOR MUST FIELD VERIFY THE PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES BY USING A TEST
- PIT TO CONFIRM EXACT DEPTH, PRIOR TO COMMENCEMENT OF CONSTRUCTION. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SITE PLAN DOCUMENTS AND ARCHITECTURAL PLANS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS; GREASE TRAP REQUIREMENTS; AND DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITY 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 OF THE APPLICABLE JURISDICTION AND REGULATORY AGENCIES AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY E-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE DOCUMENTS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY
- ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE EXACTLY AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND THE CONTRACTOR MUST COORDINATE SAME WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST COMPLY WITH APPLICABLE REQUIREMENTS AND SPECIFICATIONS. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR DESIGN OF TRENCH BACKFILL OR FOR COMPACTION REQUIREMENTS

NOTIFY THE ENGINEER OF RECORD, IN WRITING, AND PRIOR TO CONSTRUCTION, MUST RESOLVE SAME.

- DURING THE INSTALLATION OF SANITARY, STORM, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE, IN ANY RESPECT, FROM THE INFORMATION CONTAINED IN THESE PLANS. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE APPROPRIATE PLAN(S), WHICH THE CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER IMMEDIATELY UPON THE COMPLETION OF WORK.
- THE CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SANITARY, WATER AND STORM SYSTEMS, ARE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND OR STATE DOT DETAILS AS APPLICABLE. THE CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAN 0. FINAL LOCATIONS OF PROPOSED UTILITY POLES, AND/ OR POLES TO BE RELOCATED ARE AT THE SOLE DISCRETION OF THE RESPECTIVE UTILITY
- WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. THE CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.
- . THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED FINISHED GRADES WITH NO TRIPPING OR SAFETY HAZARD IN ACCORDANCE WITH ALL APPLICABLE STANDARDS. REQUIREMENTS. RULES. STATUTES LAWS ORDINANCES AND CODES

SITE-SPECIFIC

(Rev. 2/2021)

SAME BASED UPON FINAL ARCHITECTURAL PLANS.

COMPANY REGARDLESS OF WHAT THIS PLAN DEPICTS

- THESE PLANS INVOLVE BUILDINGS THAT MAY BE BUILT AT A LATER DATE. THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING, BUT NOT LIMITED O STORM, SANITARY, TELECOM, GAS, AND ELECTRIC, AND IRRIGATION LINES TO A POINT AT LEAST FIVE FEET (5') BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST CAP ENDS AS APPROPRIATE, MARK LOCATIONS WITH A STAKE, AND MUST NOTE THE LOCATION OF ALL OF THE ABOVE ON A CLEAN COPY OF A PLAN, WHICH THE CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER UPON COMPLETION OF WORK
- 4. STORM AND SANITARY PIPE LENGTHS INDICATED IN THE PLANS ARE NOMINAL AND ARE MEASURED FROM THE CENTERS OF INLETS AND MANHOLES. 15. UNLESS OTHERWISE NOTED, ALL NEW UTILITIES/SERVICES, INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE, TELECOM, GAS, ETC. MUST BE INSTALLED UNDERGROUND. ALL NEW UTILITY SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY SERVICE PROVIDERS'
- INSTALLATION SPECIFICATIONS AND STANDARDS. THE CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS. MUST BE REPAIRED IN ACCORDANCE WITH
- HE REFERENCED MUNICIPAL, COUNTY, AND/OR DOT DETAILS AS APPLICABLE. CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY(IES) HAVING JURISDICTION.
- VARIOUS ASPECTS OF THE UTILITY DESIGNS DEPICTED ON THE PLANS ARE SCHEMATIC IN ORDER TO PROVIDE PLAN CLARITY OR TO CONVEY A DESIGN INTENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY CONFIGURE ALL STRUCTURES IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL, SERVICE PROVIDER, OR MANUFACTURER REQUIREMENTS IN ORDER TO ACHIEVE PROPER SITING, OPERATION, CONNECTIONS SEPARATIONS, AND ACCESSES. THE CONTRACTOR SHALL REVIEW THE PLAN SPECIFICATIONS AND PREPARE STRUCTURE DESIGNS THAT INCORPORATE ANY AND ALL INTEGRAL COMPONENTS, SUCH AS TRASH RACKS, GATES, VALVES, INTERNAL OR EXTERNAL LININGS, WATER QUALITY DEVICES SUMPS RESTRAINTS STEPS FRAMES AND GRATES PIPE/CONDUIT CONNECTIONS MATERIALS FTC. SHOULD DISCREPANCIES OR CONFLICTS ARISE UPON THE DESIGN OF THESE STRUCTURES OR INCORPORATION OF THE VARIOUS ELEMENTS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD OR BOHLER IN WRITING.
- SANITARY SEWER SERVICE SHALL BE PROVIDED BY CITY OF BETHLEHEM AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF BETHLEHEM STANDARD SPECIFICATIONS
- 19. THE CONTRACTOR MUST NOTIFY, IN WRITING, CITY OF BETHLEHEM AT LEAST THREE (3) BUSINESS DAYS PRIOR TO INSTALLATION OF THE SANITARY OMPONENTS. FAILURE TO HAVÉ SANITARY INSTALLATION AND TESTING OBSERVED BÝ CITY OF BETHLEHEM MAY REQUIRE RE-EXCAVATION OF THE SANITARY LINE(S), AND RE-TESTING, WHICH WILL BE DONE AT THE SOLE EXPENSE OF THE CONTRACTOR.
- 20. SANITARY SEWERS CROSSING STREAMS SHALL BE CONFIGURED TO BE NEARLY PERPENDICULAR TO THE STREAM AND SHALL BE PROVIDED WITH A CONCRETE ENCASEMENT FOR THE ENTIRE CROSSING. A MINIMUM OF THREE FEET (3') OF COVER SHALL BE PROVIDED TO THE TOP OF THE ENCASEMENT. IN OTHER WET AREAS, SUCH AS WETLANDS, FLOODPLAINS, OR ALLUVIAL AREAS, ADDITIONAL MEASURES MAY BE REQUIRED, SUCH AS CONCRETE ENCASEMENTS OR ANTI-SEEP COLLARS, AS SPECIFIED ON THE PLANS OR AS REQUIRED BY CITY OF BETHLEHEM.

2. ALL SEWER MAINS AND LATERALS SHALL HAVE A MINIMUM COVER OF FOUR FEET (4'), AS MEASURED FROM THE TOP OF THE PIPE TO THE PROPOSED

DIRECTION. CLEANOUTS SHALL BE THE SAME SIZE AS THE PIPING SERVED BY CLEANOUT, EXCEPT THAT CLEANOUTS FOR PIPING LARGER THAN

- 21 LINESS OTHERWISE NOTED SANITARY MAIN SHALL BE SDR 35 PVC FOR NORMAL DEPTHS AND DUCTILE IRON PIPE (DIP) WHERE ANY PORTION OF A SEWER SEGMENT IS 16' IN DEPTH OR GREATER. SANITARY LATERALS SHALL BE SDR 35 PVC LINLESS INDICATED IN WRITING OTHERWISE
- CLEANOUTS SHALL BE PROVIDED FOR ALL LATERALS LONGER THAN 75' AND REGARDLESS OF LENGTH, SHALL BE PROVIDED AT ALL CHANGES OF
- FOUR INCHES (4") SHALL NOT NEED TO BE LARGER THAN FOUR INCHES (4"). 24. SEWERS CONVEYING SANITARY FLOW, COMBINED SANITARY AND STORMWATER FLOW, OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST TEN FEET (10') HORIZONTALLY. IF SUCH HORIZONTAL SEPARATION IS NOT POSSIBLE. THE PIPES MUST BE IN SEPARATE TRENCHES WITH AT LEAST 18" RELOW THE ROTTOM OF THE WATER MAIN OR SLICH OTHER SEPARATION AS APPROVED BY THE GOVERNING AGENCY WITH JURISDICTION OVER SAME. WHERE APPROPRIATE SEPARATION IS NOT POSSIBLE. THE SEWER MUST BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DIP USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST TEN FEET (10') ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS

POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER MUST BE PROVIDED.

25. NO PLANTINGS SHALL BE LOCATED WITHIN TEN FEET (10') OF SANITARY SEWER MAINS OR LATERALS.

- UNLESS INDICATED OTHERWISE STORM MAINS MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH WATER TIGHT JOINTS. WHEN HIGH DENSITY POLYETHYLENE PIPE (HDPE) IS SPECIFIED, IT MUST CONFORM TO AASHTO M252 FOR PIPES 4" TO 10" AND TO AASHTO M294 FOR PIPES 12" TO 60" AND BE TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR WATER TIGHT JOINTS. PIPE FOR ROOF DRAINS SHALL BE HDPE, SDR 35 PVC, OR PVC SCHEDULE 40 UNLESS INDICATED OTHERWISE. HDPE PIPE JOINT GASKETS SHALL BE PROVIDED AND CONFORM TO
- 27. A MINIMUM OF FOUR FEET (4') OF HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN STORM STRUCTURES AND OTHER UTILITIES. A MINIMUM OF 18" OF VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN WATER MAIN AND STORM SEWER.
- 28. UNLESS SPECIFIC MUNICIPAL DETAILS DICTATE OTHERWISE, ALL STORM STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT REVISION OF PENNDOT PUBLICATION 408 - "SPECIFICATIONS". PUBLICATION 72M - "STANDARDS FOR ROADWAY CONSTRUCTION" 29. ALL INLETS SHALL BE PROVIDED WITH BICYCLE SAFE GRATES.
- 30. ALL STORM PIPE CONNECTIONS TO STRUCTURES SHALL BE MADE WATER TIGHT.

. WATER SERVICE SHALL BE PROVIDE THE CITY OF BETHLEHEM AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF BETHLEHEM STANDARD

- 2. THE WATER MAIN PIPING MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER AUTHORITY. ABSENT SPECIFIC REQUIREMENTS, WATER MAIN PIPING SHALL BE CEMENT LINED DUCTILE IRON PIPE (DIP) WITH A MINIMUM THICKNESS CLASS 52. ALL PIPE AND APPURTENANCES SHALL COMPLY WITH THE APPLICABLE AWWA STANDARDS IN EFFECT AT THE TIME OF APPLICATION.
- 33. ALL WATER MAINS AND SERVICE LINES SHALL HAVE A MINIMUM COVER OF FOUR FEET (4'), AS MEASURED FROM THE TOP OF THE PIPE TO THE
- 34. WATER MAINS AND LATERALS SHALL BE HORIZONTALLY SEPARATED FROM STORM STRUCTURES BY A MINIMUM OF FOUR FEET (4'). A MINIMUM OF 18" OF VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN WATER MAIN AND STORM SEWER 35. WATER JOINTS SHALL BE MECHANICAL JOINTS WITH THRUST BLOCKING AT ALL CHANGES IN DIRECTION, AND/OR AS DEFINED IN THE
- SPECIFICATIONS/DETAILS

SITE SPECIFIC NOTES PROPERTY OWNER

(Rev. 1/2020)

- LEHIGH VALLEY INDUSTRIAL PARK, INC. 1720 SPILLMAN DRIVE, BETHLEHEM, PA 18015 (610) 866-4600
- EXISTING PROPERTY INFORMATION: TPN P7-6-6-11-0204
- 1810 SPILLMAN DRIVE, BETHLEHEM, PA 18015 CITY OF BETHLEHEM ZONED: IR - INDUSTRIAL REDEVELOPMENT LVIP ZONES: MIXED COMMERCIAL BUSINESS PARK AREA
- APPLICANT BETHLEHEM SHARED SERVICES, LLC 1605 VALLEY CENTER PARKWAY, BETHLEHEM, PA 18017
- 4 CONTRACTOR IS RESPONSIBLE TO ORTAIN ALL SPECIFIC RESOURCES, TECHNICAL REPORTS, AND DESIGN DOCUMENTS RELATED TO THIS PROJECT
- AND FAMILIARIZE HIM/HERSELF WITH THE SAME FOR APPLICATION BOTH PRIOR TO AND DURING CONSTRUCTION. 5. ALL ELEVATIONS ARE SHOWN IN ACCORDANCE WITH THE REFERENCED BENCHMARK AND MUST BE VERIFIED BY GENERAL CONTRACTOR PRIOR TO
- 6. BY GRAPHIC PLOTTING ONLY, THE PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FLOOD INSURANCE RATE MAP NUMBER 42095C0326E, EFFECTIVE 7/16/2014.
- 7. ALL CURB AND PAVEMENT RADII ARE 5', UNLESS OTHERWISE NOTED. 8. MEASUREMENTS ARE TAKE FROM THE FACE OF CURB. WHERE APPLICABLE.
- 9. ALL PROPOSED PINS AND MONUMENTS SHALL BE PLACED AND CERTIFIED BY A LICENSED PENNSYLVANIA PROFESSIONAL SURVEYOR.

GRADING NOTES

CONTRACTOR COMMENCING ANY WORK.

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS TH GENERAL NOTES ARE REFERENCED HEREIN. AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES. IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS'

- SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN TH GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET, IF NO GEOTECHNICAL REPORT HAS BEEN REFERENCED. THE CONTRACTOR MUST HAVE A GEOTECHNICAL ENGINEER PROVIDE WRITTEN SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO THE CONTRACTOR COMMENCING THE GRADING WORK. THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS OF ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS, WHICH HAVE
- 3. THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. THE CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO THE ENGINEER OF RECORD AND THE OWNER PRIOR TO THE
- 4. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. SHOULD DISCREPANCIES BETWEEN THE PLANS AND INFORMATION OBTAINED THROUGH FIELD VERIFICATIONS BE IDENTIFIED OR EXIST, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR MUST COMPACT ALL EXCAVATED OR FILLED AREAS IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT'S GUIDANCE. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED. THIS REPORT MUST VERIFY 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 WHICH ARE IN EFFECT AND WHICH ARE APPLICABLE TO THE PROJECT, SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE MUST BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED AS THE GEOTECHNICAL REPORT DIRECTS. 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, EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.
- 6. IN THE EVENT OF A DISCREPANCY(IES) AND/OR A CONFLICT(S) BETWEEN PLANS, OR RELATIVE TO OTHER PLANS, THE GRADING PLAN TAKES PRECEDENCE AND CONTROLS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCY(IES AND/OR CONFLICT(S).
- THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL AS NECESSARY TO CONFORM TO THE PROPOSED GRADING, AND

SITE SPECIFIC

8. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE PAVEMENT GRADE UNLESS OTHERWISE NOTED.

TO BACKFILL EXCAVATIONS FOR THE INSTALLATION OF UNDERGROUND IMPROVEMENTS.

- THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE IS PROVIDED IN BOTH PAVED AND LAWN AREAS AFTER CONSTRUCTION. THE MINIMUM SLOPES FOR IMPROVEMENTS ARE 1% ON ALL CONCRETE SURFACES, 1.5% MINIMUM IN ASPHALT (EXCEPT WHERE ADA LIMITS SLOPE), AND 2% IN LAWN AREAS. ANY LOCALIZED DEPRESSIONS MUST BE ELIMINATED.
- 10. THE CONTRACTOR MUST ENSURE POSITIVE DRAINAGE AWAY FROM STRUCTURES. WHERE THE GRADING ALONG AND ADJACENT TO A BUILDING ARE SCHEMATIC DUE TO A GENERIC BUILDING FOOTPRINT. THE GRADES MUST BE ADJUSTED BASED ON FINAL ARCHITECTURAL PLANS TO PROVIDE THE MINIMUM REVEAL AS REQUIRED BY THE ARCHITECT AND TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING. ALL GRADING AND MINIMUM SLOPES AND SEPARATIONS MUST COMPLY WITH THE LATEST LOCAL AND STATE BUILDING CODES AND ALL OTHER APPLICABLE REQUIREMENTS RULES, STATUTES, LAWS, ORDINANCES, AND CODES.
- 11. WHERE SUBGRADE BUILDING AREAS ARE PROVIDED. THE CONTRACTOR MUST DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED SUBGRADE BUILDING AREA. WHERE GROUNDWATER IS ENCOUNTERED AT THE ELEVATION OF THE SUBGRADE BUILDING AREA APPROPRIATE CONSTRUCTION METHODS SHALL BE EMPLOYED TO PREVENT GROUNDWATER FROM ENTERING THE STRUCTURE(S). IF AND WHERE SUMP PUMPS ARE PROVIDED, ALL DISCHARGES MUST BE CONNECTED TO THE STORM SEWER OR OTHERWISE PROTECTED FROM CAUSING SURFACE
- 12. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A GEOTECHNICAL ENGINEER AND IMPLEMENT RECOMMENDED STABILIZATION MEASURES FOR ANY CUT SLOPES IN EXCESS OF 2:1 AND/OR FILL SLOPES IN EXCESS OF 3:1.
- 13. ALL SLOPES 3:1 OR GREATER SHALL BE STABILIZED IN ACCORDANCE WITH THE PLANS OR GEOTECHNICAL SPECIFICATIONS.
- 14. THE TOP AND BOTTOM OF WALL ELEVATIONS (TW & BW) REPRESENT THE PROPOSED FINISHED GRADE AT THE FACE OF THE WALL AND DO NOT REPRESENT THE ELEVATION OF THE PROPOSED WALL, WHICH MAY INCLUDE CAP UNITS AND FOOTINGS. WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURE DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT THE 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. ADDITIONALLY, THE CONTRACTOR SHALL ENSURE THAT FENCING, GUIDERAIL, UTILITIES, AND OTHER SITE FEATURES IN THE VICINITY OF THE WALL(S), SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGNS (BY OTHERS).
- 15. ALL DISTURBED TOPSOIL ON THE SITE IS TO BE REDISTRIBUTED ON SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. REMOVAL OF TOPSOIL IS NOT ALLOWED, UNLESS OTHERWISE SPECIFIED BY THE SITE GEOTECHNICAL ENGINEER DUE TO THE SOIL'S UNSUITABILITY FOR PLACEMENT.

ACCESSIBILITY DESIGN GUIDELINES

(Rev. 1/2020)

ALL ACCESSIBLE (A K.A. ADA) COMPONENTS AND ACCESSIBLE ROUTES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF (A) THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.); AND (B) ANY APPLICABLE LOCAL AND STATE GUIDELINES, AND ANY AND ALL AMENDMENTS TO BOTH. WHICH ARE IN EFFECT WHEN THESE PLANS WERE

- 2. THE CONTRACTOR MUST REVIEW ALL DOCUMENTS REFERENCED IN THESE NOTES FOR ACCURACY, COMPLIANCE AND CONSISTENCY WITH INDUSTRY GUIDELINES.
- THE CONTRACTOR MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ACCESSIBLE (ADA) COMPONENTS AND ACCESSIBLE ROLITES FOR THE SITE FINISHED SURFACES ALONG THE ACCESSIBLE ROLITE OF TRAVEL FROM PARKING SPACES. PUBLIC TRANSPORTATION PEDESTRIAN ACCESS, AND INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT, MUST COMPLY WITH THE ACCESSIBLE
- A. ACCESSIBLE <u>PARKING SPACES</u> AND <u>ACCESS AISLES</u> SLOPES MUST NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.

GUIDELINES AND REQUIREMENTS WHICH INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- B. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE MUST PROVIDE A 36-INCHES MINIMUM WIDTH (48-INCHES PREFERRED), OR AS SPECIFIED BY THE GOVERNING AGENCY. UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS) MUST NOT REDUCE THIS MINIMUM WIDTH. TH SLOPE MUST NOT EXCEED 1:20 (5.0%) IN THE DIRECTION OF TRAVEL AND MUST NOT EXCEED 1:50 (2.0%) IN CROSS SLOPE. WHERE ACCESSIBLE PATH OF TRAVEL IS GREATER THAN 1:20 (5.0%) AN ACCESSIBLE RAMP MUST BE PROVIDED. ALONG THE ACCESSIBLE PATH OF TRAVEL OPENINGS MUST NOT EXCEED 1/2-INCH IN WIDTH. VERTICAL CHANGES OF UP TO 1/2-INCH ARE PERMITTED ONLY IF THEY INCLUDES A 1/4-INCH BEVEL AT A SLOPE NOT STEEPER THAN 1:2. NO VERTICAL CHANGES OVER 1/4-INCH ARE PERMITTED
- ACCESSIBLE RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%) AND A RISE OF 30-INCHES. LEVEL LANDINGS MUST BE PROVIDED AT EACH END OF ACCESSIBLE RAMPS. LANDING MUST PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES. AND MUST NOT EXCEED 1:50 (2.0%) SLOPE IN ANY DIRECTION RAMPS THAT CHANGE DIRECTION RETWEEN RUNS AT LANDINGS MUST HAVE A CLEAR LANDING OF A MINIMUM OF 60 INCHES BY 60-INCHES, HAND RAILS ON BOTH SIDES OF THE RAMP MUST BE PROVIDED ON AN ACCESSIBLE RAMP WITH A RISE GREATER THAN 6-INCHES.
- D. ACCESSIBLE CURB RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%). WHERE FLARED SIDES ARE PROVIDED, THEY MUST NOT EXCEED 1:10 10%) SLOPE. LEVEL LANDING MUST BE PROVIDED AT RAMPS TOP AT A MINIMUM OF 36-INCHES LONG (48-INCHES PREFERRED). IN ALTERATIONS, WHEN THERE IS NO LANDING AT THE TOP, FLARE SIDES SLOPES MUST NOT EXCEED A SLOPE OF 1:12 (8.3%).
- FEWER THAN 60-INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE CLÈARLÝ PERMITTED BY ACCESSIBLE STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117.1-2009 AND OTHER REFERENCES INCORPORATED BY CODE). F WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION MODIFICATION REVISION OR EXTENSION OF OR TO ACCESSIBLE COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, THE CONTRACTOR MUST VERIFY ALL EXISTING ELEVATIONS SHOWN ON THE PLAN. NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN ALLOWS FOR STEEPER RAMP SLOPES N RARE CIRCUMSTANCES. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCIES

E. DOORWAY LANDINGS AREAS MUST BE PROVIDED ON THE EXTERIOR SIDE OF ANY DOOR LEADING TO AN ACCESSIBLE PATH OF TRAVEL. THIS

LANDING MUST BE SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO

AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR IN ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS BEFORE COMMENCING ANY

- WORK. CONSTRUCTED IMPROVEMENTS MUST FALL WITHIN THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE ACCESSIBLE GUIDELINES. G. THE CONTRACTOR MUST VERIFY ALL OF THE SLOPES OF THE CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-CONFORMANCE EXISTS OR IS OBSERVED OR DISCOVERED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN
- WRITING, PRIOR TO POURING CONCRETE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND/OR REPLACE NON-CONFORMING CONCRETE AND/OR PAVEMENT SURFACES. 4. IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION TO ENSURE SAME IS CONSISTENT WITH THE

6. UTILITY AS-BUILTS:

LOCAL BUILDING CODE PRIOR TO COMMENCING CONSTRUCTION REFERENCES AND CONTACT INFORMATION

PLANS BY CONTROL POINT ASSOCIATES, INC 1600 MANOR DRIVE, SUITE 210, CHALFONT, PA 18914 ENTITLED: "BOUNDARY & TOPOGRAPHIC SURVEY" FILE NO: 02-210198-00

DATED: 09/29/2021

DATED 04/01/2022

GEOTECHNICAL REPORT A REPORT BY KLEINFELDER 6330 HEDGEWOOD DRIVE, SUITE 310, ALLENTOWN, PA 18106 ENTITLED: "GEOTECHNICAL ENGINEERING REPORT"

PROJECT: "BETHLEHEM AREA LOUNGE & BAR"

- DATED 11/04/2021 ENVIRONMENTAL SITE REPORT: A REPORT BY KLEINFELDER 435 INDEPENDENCE AVENUE, SUITE C,
- MECHANICSBURG, PA 17055 ENTITLED: "PHASE 1 ENVIRONMENTAL SITE ASSESSMENT PROJECT: "CIGAR'S INTERNATIONAL - EMERY DRIVE" DATED 10/19/2021
- SWM CALCS: A REPORT BY BOHLER ENGINEERING 74 W. BROAD STREET, SUITE 500, BETHLEHEM, PA 18018 ENTITLED: "SUPPLEMENTAL STORMWATER CALCULATIONS" PROJECT: PY212051
- . ARCHITEC MKSD ARCHITECTS 1209 HAUSMAN ROAD, SUITE A, ALLENTOWN, PA 18104 (610) 336-2081
- HANOVER ENGINEERING ASSOCIATES. INC. 252 BRODHEAD ROAD, SUITE 100, BETHLEHEM, PA 18017



THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS, HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK REFERENCED OR DERIVED FROM THESE DOCUMENTS, BY OTHERS.

SITE SPECIFIC NOTES REQUESTED BY CITY

DESCRIBED IN APPENDIX A OF THE CITY'S SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

4 ACCURATE AS BUILT PLANS SHALL BE KEPT LIP TO DATE DURING THE CONSTRUCTION PROCESS AT THE COMPLETION OF THE PROJECT RECORD DRAWINGS SHALL BE DEVELOPED FROM THE AS-BUILT PLANS AND SUBMITTED TO THE CITY ENGINEER'S OFFICE ALL FINAL DRAWINGS SHALL SHOW NORTH AMERICAN DATUM (NAD) 1983 STATE PLANE COORDINATES IN FEET (PENNSYLVANIA SOUTH, PIPS ZONE 3 702) AND THE DIGITAL FILI SHALL BE IN STATE PLANE FEET COORDINATES AS APPLICABLE. THE HARD COPY OF THE RECORD DRAWINGS SHALL BE IN THE FORM OF A MYLAR COPY, THE ENGINEER OF RECORD SHALL CERTIFY (I.E. P.E. STAMPED AND SIGNED) THAT THE RECORD DRAWINGS COMPLY SUBSTANTIALLY WITH THE APPROVED PLAN AND THAT THEY CONFORM TO INDUSTRY STANDARDS. ALL DIGITAL FILES SHALL RESIDE ON PC COMPATIBLE CD ROM CONTAINING THE DIGITAL REPRESENTATION OF THE FINAL PLAN AS PRESENTED ON THE TWENTY-FOUR (24) INCH BY THIRTY-SIX (36) INCH SHEETS THE DIGITAL MAP SHALL BE AUTOCAD COMPATIBLE. ALL LAYERS INCLUDED IN THE DIGITAL MAPS SHALL BE THE STANDARDIZED LAYER PREPARED AND UTILIZED BY THE CITY OF BETHLEHEM TO ENSURE COMPATIBILITY WITH THE CITY'S EXISTING CAD STANDARDS AND AS

2. ANY CHANGE IN THE LOCATION OF THE FIRE DEPARTMENT CONNECTION MUST BE APPROVED BY THE CITY OF BETHLEHEM FIRE DEPARTMENT

(Rev. 2/2021)

REVISIONS

COMMENT

04/22/2022 SUBMISSION **REV PER CITY** 07/11/2022 COMMENTS

REV DATE



NOT APPROVED FOR CONSTRUCTION

WHETHER IT'S ON PRIVATE OR PUBLIC LAND.

1-800-242-1776

20212392542 & 20212392479

'HIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENC' IEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUC

DOCUMENT UNLESS INDICATED OTHERWISE. PROJECT No.: DRAWN BY:

CHECKED BY: CAD I.D.: PY212051-CNDS-2 PRELIMINARY/

> FINAL LAND DEVELOPMENT **PLANS**

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM **NORTHAMPTON COUNTY**

PENNSYLVANIA

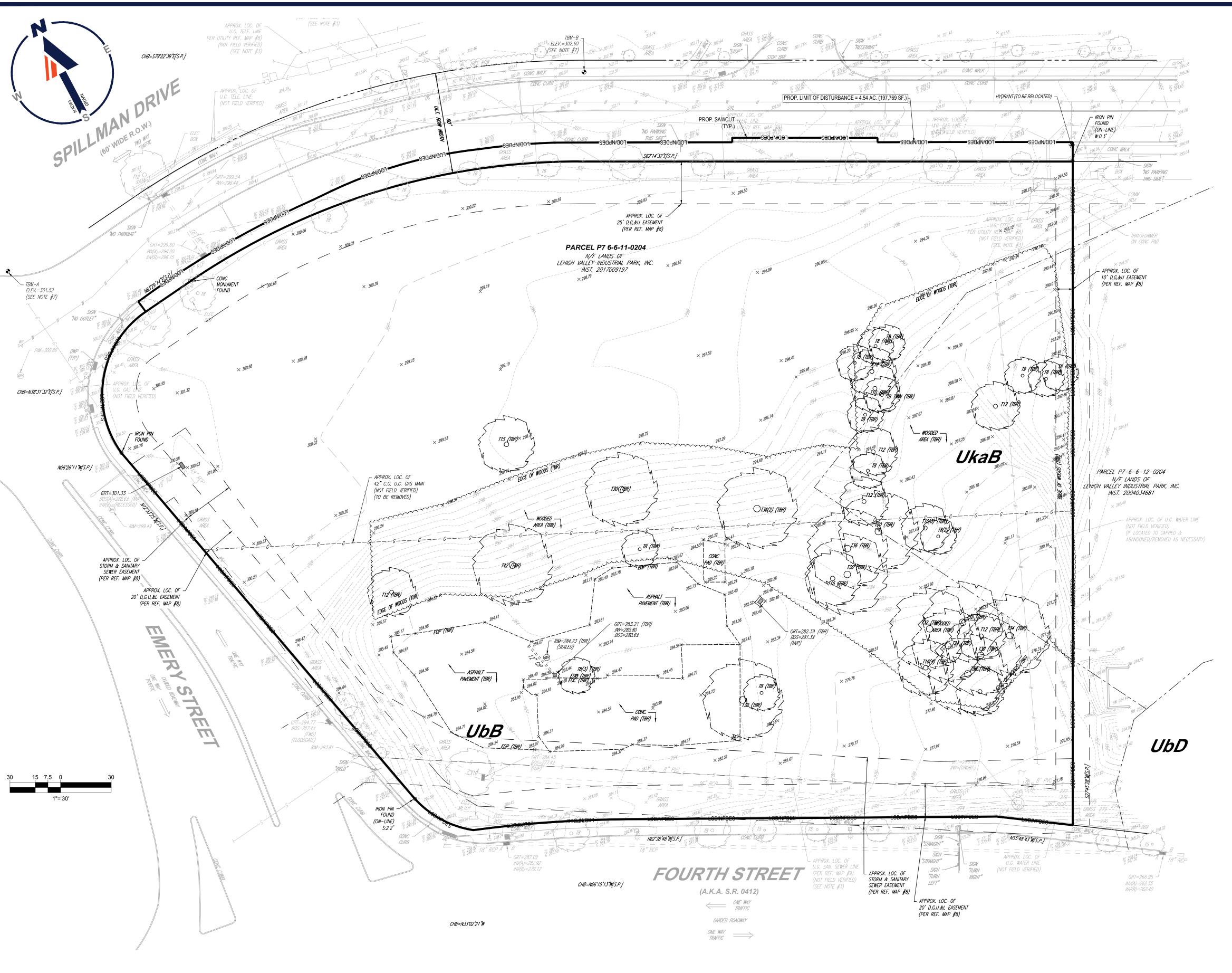
74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976



www.BohlerEngineering.com

SHEET TITLE:

NOTES



EXISTING		
PROPERTY LINE		
R.O.W. LINE		
EASEMENT LINE		
RETAINING WALL		
CONCRETE CURB		
FLUSH CURB		
SOIL BOUNDARY & TYPE	—— – – — ИкаВ	
TREELINE	~~~~~	
CONCRETE MONUMENT/ IRON PIN	· •	
SIGN	-	
AREA LIGHT	○	
TREE		
DRAINAGE INLET		
STORM/SANITARY MANHOLE	<i>D S</i>	
WATER/GAS VALVES	WV GV ⊠ ⊠	
ROOF DRAIN/CLEANOUT	o RD o ^{CO}	
FIRE HYDRANT	V	
LIGHT POLE		
CONTOUR	123	
ELECTRIC LINE	—— E———	
TELEPHONE LINE	—— <i>T</i> ———	
GAS LINE	——- G———	
WATER LINE	W	
SANITARY SEWER	—— <i>S</i> ———	
STORM PIPE	= = = = =	

LEGEND			
TO BE REMOVED			
CONCRETE CURB			
TREELINE	~~~~~~		
DRAINAGE INLET			
STORM/SANITARY MANHOLE	(<u>D</u>) (<u>S</u>)		
ROOF DRAIN/CLEANOUT	○ RD ○ ^{CO}		
GAS LINE			
WATER LINE			
SANITARY SEWER	——-S———		
STORM PIPE	=======		
LEGEND			
PROPOSED			

PROJECT SITE BOUNDARY PSB PSB _____

SURVEY NOTES:

- 1. PROPERTY KNOWN AS PARCEL P7-6-6-11-0204 AS IDENTIFIED ON THE TAX MAPS OF THE CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA.
- 2. AREA = 191,515 SQUARE FEET OR 4.397 ACRES.
- LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
- THIS PLAN IS BASED ON INFORMATION PROVIDED BY CLIENT, A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC., AND OTHER REFERENCE MATERIAL AS LISTED HEREON.

6. EXISTING FIRM: BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE (AREAS

- 5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN. IT IS STRONGLY RECOMMENDED THAT A COMPLETE TITLE SEARCH BE PROVIDED TO THE SURVEYOR FOR REVIEW PRIOR TO THE PLACEMENT OF OR ALTERATION TO IMPROVEMENTS ON THE PROPERTY.
- DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.), PER REF. #2.
- 7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD
- 8. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS). TEMPORARY BENCH MARKS SET:

TBM-A: MAG NAIL SET IN CONCRETE WALK, ELEVATION= 301.52' TBM-B: MAG NAIL SET IN CONCRETE WALK, ELEVATION= 302.60'

PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.

9. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. (1-800-242-1776) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBERS: 20212392542 & 20212392479

> PHONE NUMBER UTILITY COMPANY BETHLEHEM CITY PUBLIC WORKS 610-865-7050 CENTURYLINK/LUMEN 717-245-7730 PENNSYLVANIA POWER & ELECTRIC 215-774-5151 RCN CABLE(FORMERLY C-TECH)
> SERVICE ELCTRIC CABLEVISION (SVC) 610-366-2000 610-944-7801 610-866-0951 VERIZON 610-678-0034



REVISIONS

REV	DATE	COMMENT	DRAWN BY
KEV	DATE	COMMENT	CHECKED BY
1	04/00/0000	PER NPDES	TK
1	04/22/2022	SUBMISSION	MMC
2	07/11/2022	REV PER CITY	TCK
2	07/11/2022	COMMENTS	MMC
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Call before you dig YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND. 1-800-242-1776

NOT APPROVED FOR

CONSTRUCTION

20212392542 & 20212392479

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DRAWN BY: **CHECKED BY:** DATE: CAD I.D.: 04/01/2022 PY212051-LDVP-2A

> PRELIMINARY FINAL LAND **DEVELOPMENT PLANS**

BETHLEHEM SHARED

SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM **NORTHAMPTON COUNTY PENNSYLVANIA**

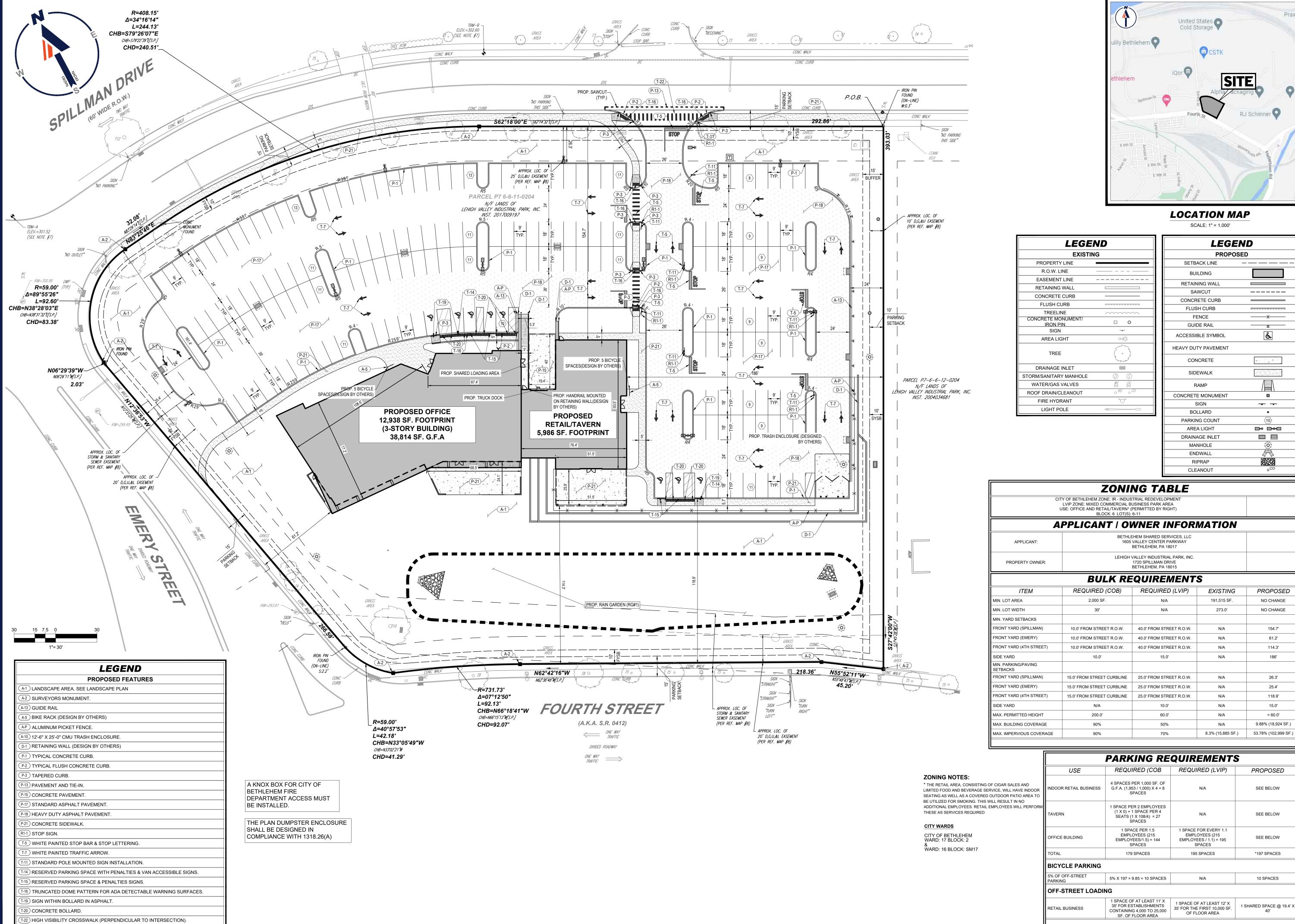
74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976

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EXISTING CONDITIONS DEMOLITION PLAN

C-201





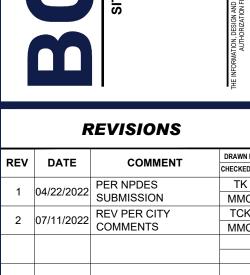
LEGEND	LEGEND	
EXISTING	PROPOSED	
PROPERTY LINE -	SETBACK LINE — — — — — —	
R.O.W. LINE	BUILDING	
EASEMENT LINE	RETAINING WALL	
RETAINING WALL	SAWCUT	
CONCRETE CURB ======	CONCRETE CURB ======	
FLUSH CURB	FLUSH CURB =	
TREELINE	FENCE X	
CONCRETE MONUMENT/ IRON PIN	CLUDE DAIL	
SIGN -	<u> </u>	
AREA LIGHT □□□□□	ACCESSIBLE SYMBOL	
TREE	HEAVY DUTY PAVEMENT	
	CONCRETE	
DRAINAGE INLET STORM/SANITARY MANHOLE	SIDEWALK	
WATER/GAS VALVES	RAMP	
ROOF DRAIN/CLEANOUT	CONCRETE MONUMENT	
FIRE HYDRANT	SIGN	
LIGHT POLE -	BOLLARD ◆	
	PARKING COUNT (10)	
	AREA LIGHT □→ □→□	
	DRAINAGE INLET	
	MANHOLE (Ô)	
	ENDWALL	
	RIPRAP	
	CLEANOUT °CO	

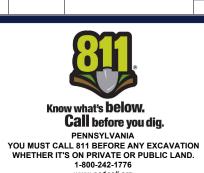
ITEM	REQUIRED (COB)	REQUIRED (LVIP)	EXISTING	PROPOSED
N. LOT AREA	2,000 SF.	N/A	191,515 SF.	NO CHANGE
N. LOT WIDTH	30'	N/A	273.0'	NO CHANGE
N. YARD SETBACKS				
ONT YARD (SPILLMAN)	10.0' FROM STREET R.O.W.	40.0' FROM STREET R.O.W.	N/A	154.7'
ONT YARD (EMERY)	10.0' FROM STREET R.O.W.	40.0' FROM STREET R.O.W.	N/A	61.2'
ONT YARD (4TH STREET)	10.0' FROM STREET R.O.W.	40.0' FROM STREET R.O.W.	N/A	114.3'
DE YARD	10.0'	15.0'	N/A	186'
N. PARKING/PAVING TBACKS				
CONT YARD (SPILLMAN)	15.0' FROM STREET CURBLINE	25.0' FROM STREET R.O.W.	N/A	26.3'
ONT YARD (EMERY)	15.0' FROM STREET CURBLINE	25.0' FROM STREET R.O.W.	N/A	25.4'
ONT YARD (4TH STREET)	15.0' FROM STREET CURBLINE	25.0' FROM STREET R.O.W.	N/A	118.9'
DE YARD	N/A	10.0'	N/A	15.0'
AX. PERMITTED HEIGHT	200.0'	60.0'	N/A	< 60.0'
AX. BUILDING COVERAGE	90%	50%	N/A	9.88% (18,924 SF.)
			0.00/ (45.005.05.)	50.700/ (400.000.0E.)

	PARKING RE	QUIREMENT	5
USE	REQUIRED (COB	REQUIRED (LVIP)	PROPOSED
INDOOR RETAIL BUSINESS	4 SPACES PER 1,000 SF. OF G.F.A. (1,953 / 1,000) X 4 = 8 SPACES	N/A	SEE BELOW
TAVERN	1 SPACE PER 2 EMPLOYEES (1 X 0) + 1 SPACE PER 4 SEATS (1 X 108/4) = 27 SPACES	N/A	SEE BELOW
OFFICE BUILDING	1 SPACE PER 1.5 EMPLOYEES (215 EMPLOYEES/1.5) = 144 SPACES	1 SPACE FOR EVERY 1.1 EMPLOYEES (215 EMPLOYEES / 1.1) = 195 SPACES	SEE BELOW
TOTAL	179 SPACES	195 SPACES	*197 SPACES
BICYCLE PARKING	•		
5% OF OFF-STREET PARKING	5% X 197 = 9.85 = 10 SPACES	N/A	10 SPACES
OFF-STREET LOADI	NG		
RETAIL BUSINESS	1 SPACE OF AT LEAST 11' X 35' FOR ESTABLISHMENTS CONTAINING 4,000 TO 25,000 SF. OF FLOOR AREA	1 SPACE OF AT LEAST 12' X 35' FOR THE FIRST 10,000 SF. OF FLOOR AREA	1 SHARED SPACE @ 19.4' X 40'
	USE INDOOR RETAIL BUSINESS TAVERN OFFICE BUILDING TOTAL BICYCLE PARKING 5% OF OFF-STREET PARKING OFF-STREET LOADII	USE REQUIRED (COB INDOOR RETAIL BUSINESS 4 SPACES PER 1,000 SF. OF G.F.A. (1,953 / 1,000) X 4 = 8 SPACES TAVERN 1 SPACE PER 2 EMPLOYEES (1 X 0) + 1 SPACE PER 4 SEATS (1 X 108/4) = 27 SPACES OFFICE BUILDING 1 SPACE PER 1.5 EMPLOYEES (215 EMPLOYEES/1.5) = 144 SPACES TOTAL 179 SPACES BICYCLE PARKING 5% OF OFF-STREET PARKING 5% OF OFF-STREET LOADING 5% X 197 = 9.85 = 10 SPACES OFF-STREET LOADING 1 SPACE OF AT LEAST 11' X 35' FOR ESTABLISHMENTS CONTAINING 4,000 TO 25,000	INDOOR RETAIL BUSINESS

*189 ARE STANDARD SPACES AND 8 ARE ACCESSIBLE SPACES.

REVISION 2 - 07/11/2022





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DRAWN BY: DATE: CAD I.D.: PY212051-LDVP-2

PRELIMINARY FINAL LAND **DEVELOPMENT**

PLANS

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL

MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM **NORTHAMPTON COUNTY**



PENNSYLVANIA

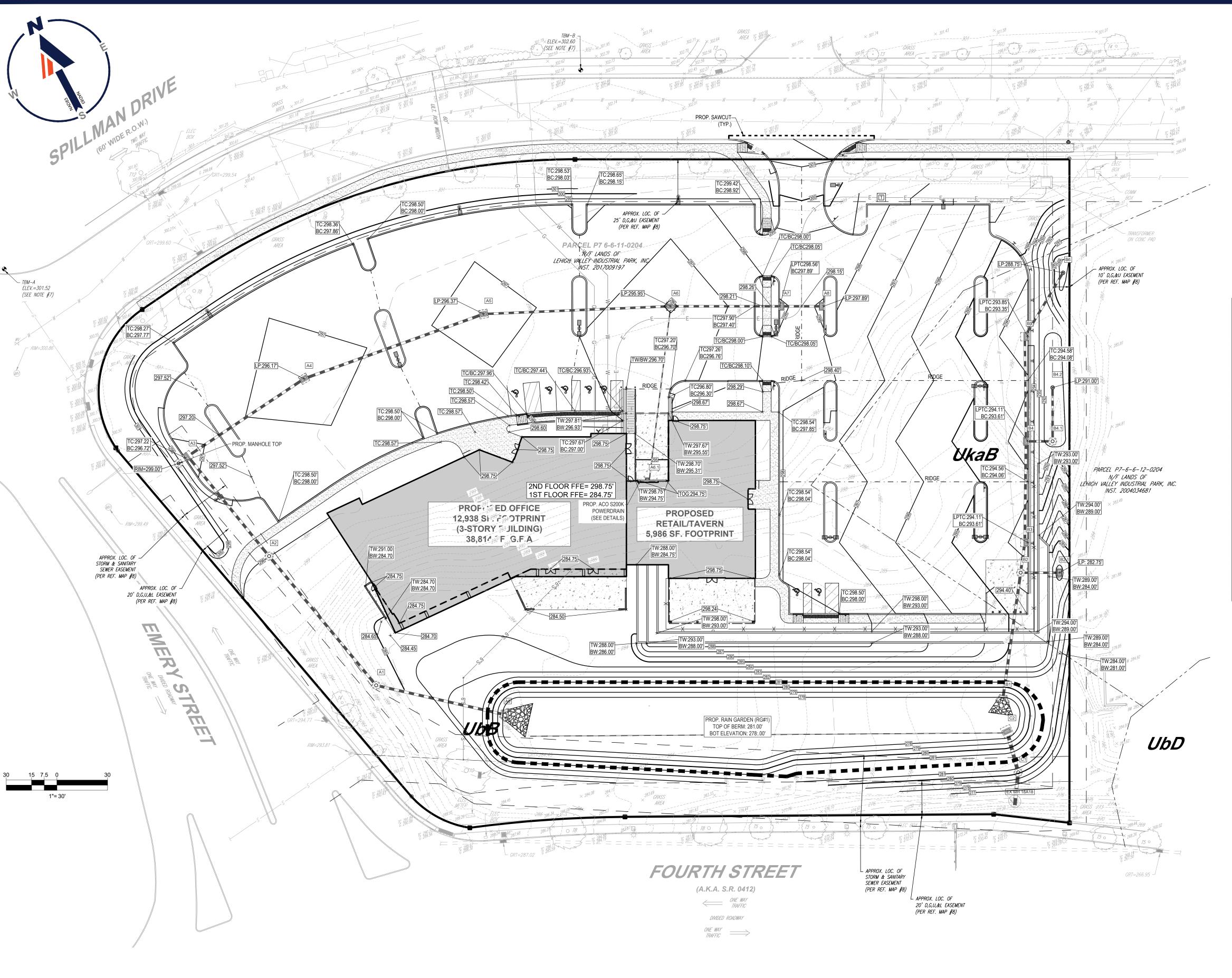
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SHEET TITLE:

SITE PLAN

C-301





U.S.G.S. MAP SCALE: 1" =2,000'

LEGE	ND	
EXISTING		
PROPERTY LINE		
R.O.W. LINE		
EASEMENT LINE		
RETAINING WALL		
CONCRETE CURB		
FLUSH CURB		
SOIL BOUNDARY & TYPE	UkaB	
TREELINE	~~~~~	
CONCRETE MONUMENT/ IRON PIN	· ©	
SIGN		
AREA LIGHT	Ϣ	
TREE		
DRAINAGE INLET		
STORM/SANITARY MANHOLE	<i>D S</i>	
WATER/GAS VALVES	WV GV ⊠ ⊠	
ROOF DRAIN/CLEANOUT	o RD o CO	
FIRE HYDRANT	V	
LIGHT POLE		
CONTOUR	<i>123</i>	
ELECTRIC LINE	—— E———	
TELEPHONE LINE		
GAS LINE	G	
WATER LINE	W	
SANITARY SEWER	S	
STORM PIPE	= = = = =	

LEGEI	VD	
PROPOSED		
BUILDING		
RETAINING WALL		
PROJECT SITE BOUNDARY	PSB PSB	
SAWCUT		
CONCRETE CURB		
FLUSH CURB		
FENCE	X	
GUIDE RAIL		
ACCESSIBLE SYMBOL	&	
CONCRETE	V	
SIDEWALK		
RAMP		
CONCRETE MONUMENT		
SIGN	-u	
BOLLARD	۵	
AREA LIGHT	□ • □••□	
DRAINAGE INLET		
MANHOLE	0	
ENDWALL		
RIPRAP		
CLEANOUT	°co	
ELECTRIC LINE	123	
ELECTRIC LINE	——Е——	
GAS LINE	——————————————————————————————————————	
WATER LINE	W	
SANITARY SEWER	———S———	
STORM PIPE		
SPOT ELEVATION	123.00 TC 123.50 BC 123.00	



REVISIONS

REV	DATE	COMMENT	DRAWN B
	DAIL	oommen.	CHECKED
1	04/22/2022	PER NPDES	TK
'	04/22/2022	SUBMISSION	MMC
2	07/11/2022	REV PER CITY	TCK
	07/11/2022	COMMENTS	MMC



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PRELIMINARY/
FINAL LAND
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LEHIGH VALLEY INDUSTRIAL PARK 1810 SPILLMAN DRIVE CITY OF BETHLEHEM NORTHAMPTON COUNTY

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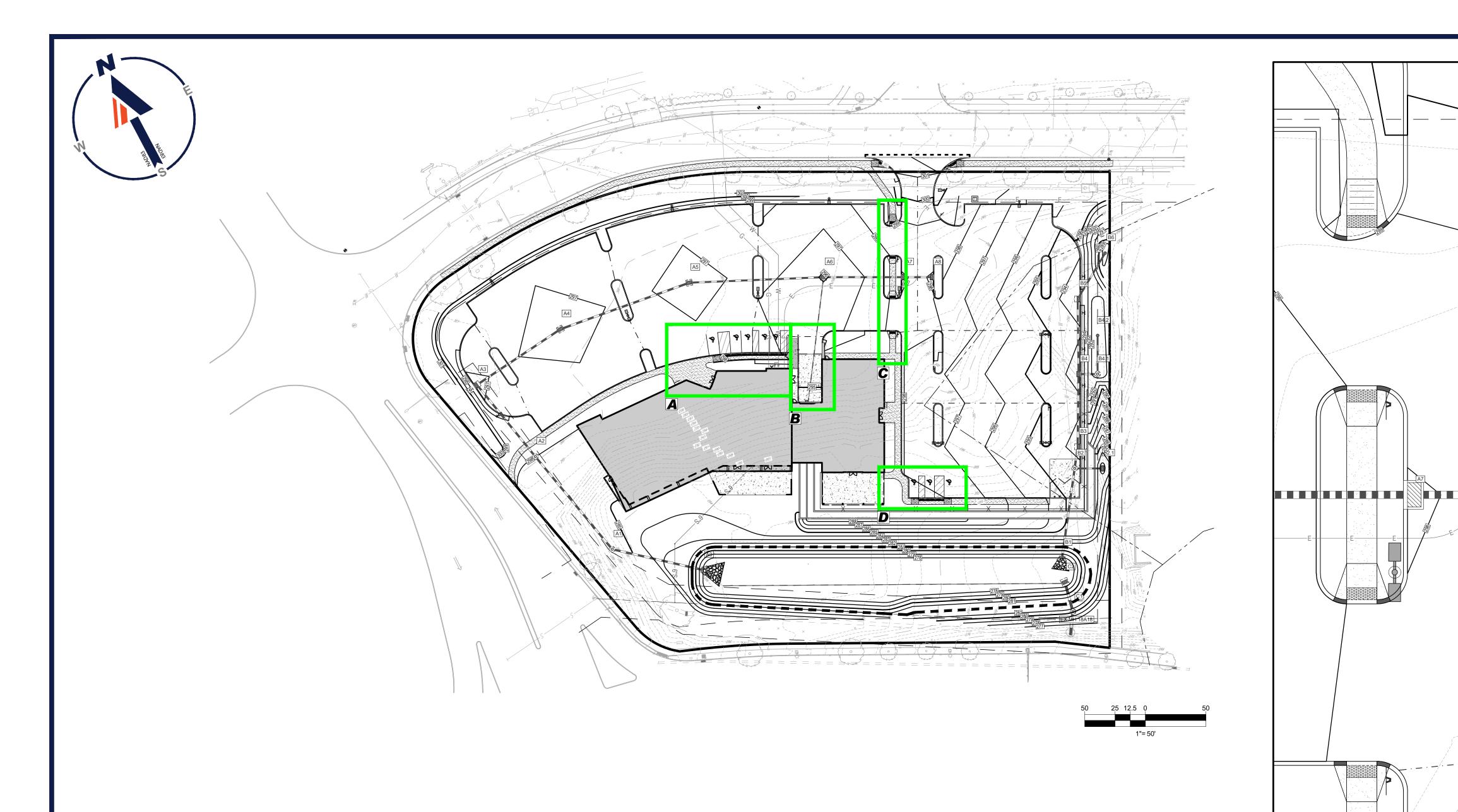


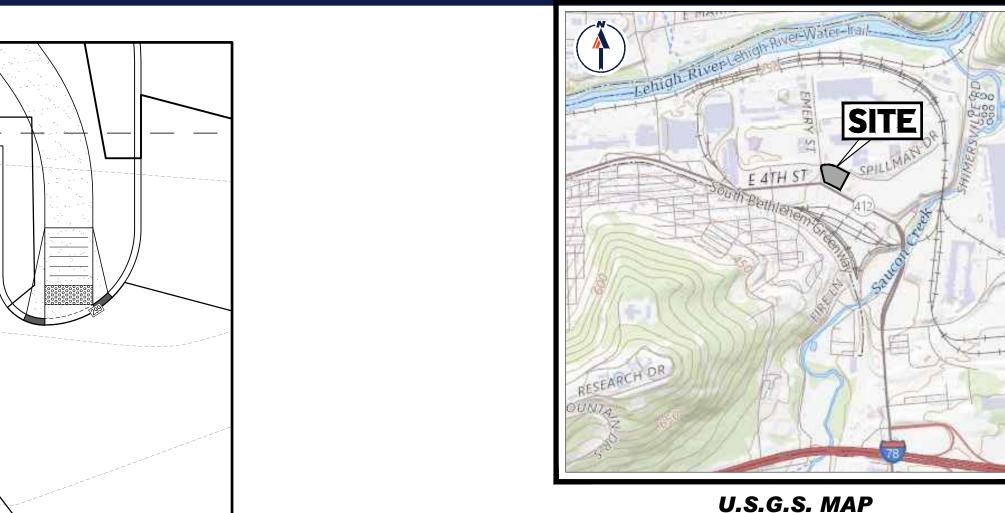
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GRADING PLAN

FT NUMBER:

C-401

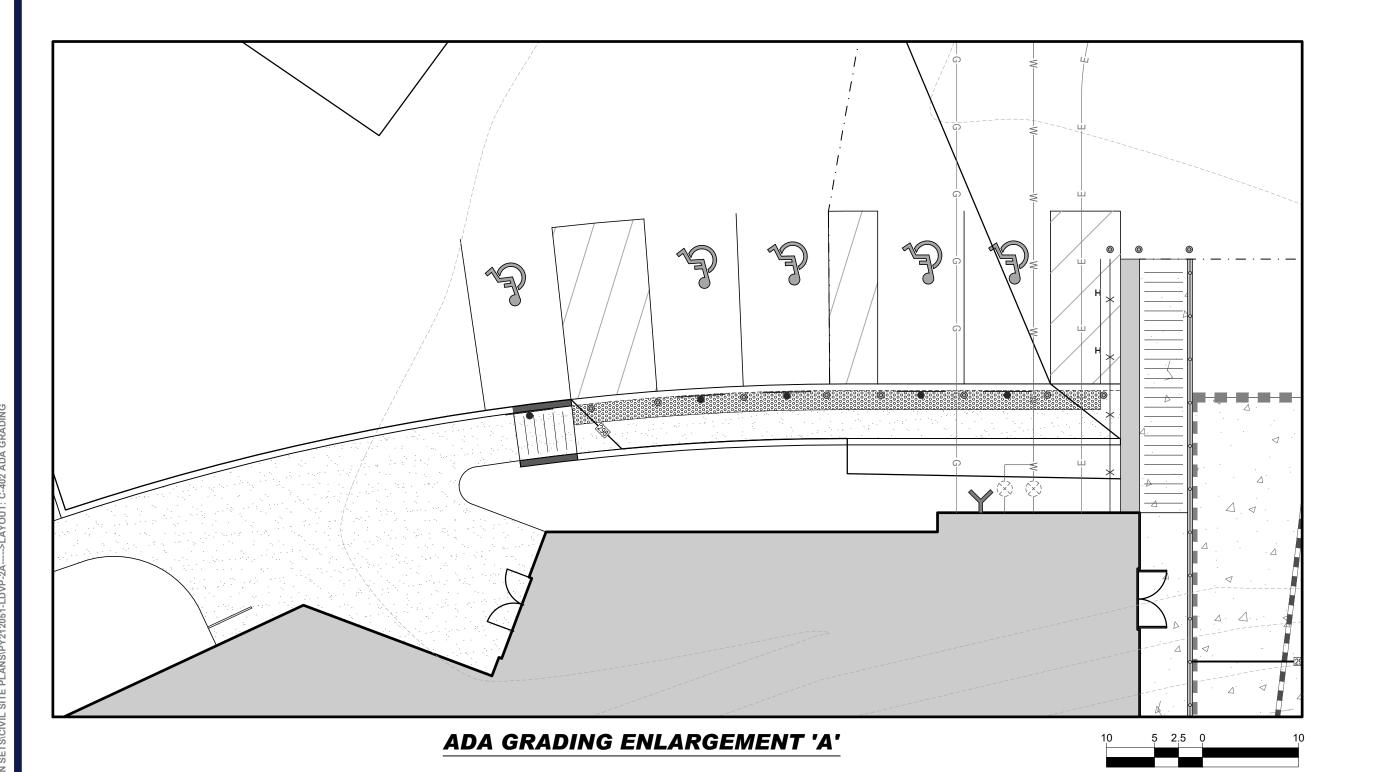


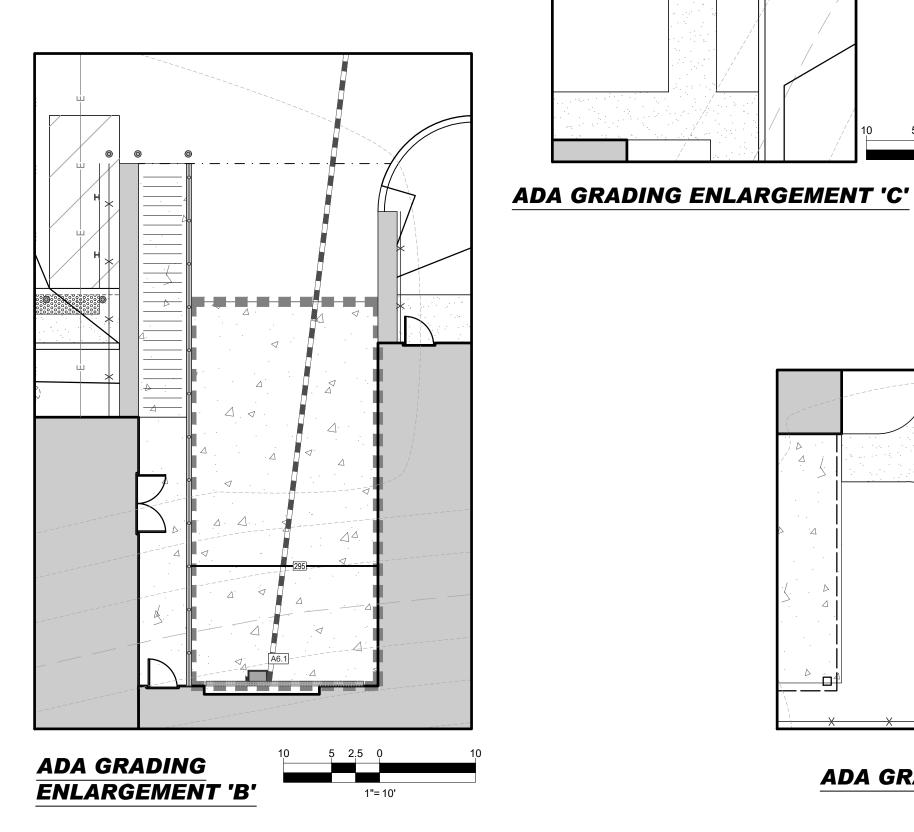


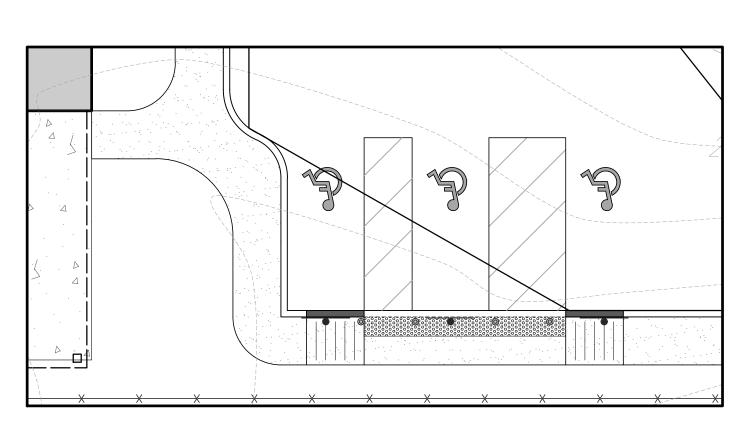
U.S.G.S. MAP

LEGEI	VD
EXISTIN	G
PROPERTY LINE	
R.O.W. LINE	
EASEMENT LINE	
RETAINING WALL	
CONCRETE CURB	
FLUSH CURB	
SOIL BOUNDARY & TYPE	—— – – ШкаВ
TREELINE	~~~~~
CONCRETE MONUMENT/ IRON PIN	⊡ ◎
SIGN	
AREA LIGHT	Ϣ
TREE	
DRAINAGE INLET	
STORM/SANITARY MANHOLE	Ø (S)
WATER/GAS VALVES	₩V GV
ROOF DRAIN/CLEANOUT	O RD O CO
FIRE HYDRANT	V
LIGHT POLE	0
CONTOUR	<i>123</i>
ELECTRIC LINE	——- E-———
TELEPHONE LINE	
GAS LINE	
WATER LINE	W
SANITARY SEWER	S
STORM PIPE	=====

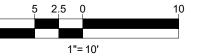
SCALE: 1" =2,000'			
LEGEND			
PROPOSE			
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RETAINING WALL			
PROJECT SITE BOUNDARY	PSB PSB		
SAWCUT			
CONCRETE CURB			
FLUSH CURB			
FENCE	X		
GUIDE RAIL			
ACCESSIBLE SYMBOL	&		
CONCRETE	v · · · · · · · · · · · ·		
SIDEWALK			
RAMP			
CONCRETE MONUMENT			
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AREA LIGHT	□→ □→□		
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WATER LINE	———W——		
SANITARY SEWER	———S———		
STORM PIPE			
SPOT ELEVATION	123.00 TC 123.50 BC 123.00		







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1	04/22/2022	PER NPDES	TŁ
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	07/11/2022	COMMENTS	MM



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CITY OF BETHLEHEM
NORTHAMPTON COUNTY **PENNSYLVANIA**

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Phone: (610) 709-9971

Fax: (610) 709-9976

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GRADING PLAN

C-402



ANALYSIS PER 2005 HISTORICAL AERIAL

R.O.W. LINE	
EASEMENT LINE	
DRAINAGE AREA BOUNDARY	
TIME OF CONCENTRATION	— −⊳ — −⊳ —
RETAINING WALL	
CONCRETE CURB	
FLUSH CURB	
SOIL BOUNDARY & TYPE	—— – – ШкаВ
TREELINE	
CONCRETE MONUMENT/ IRON PIN	
SIGN	-
AREA LIGHT	o=\$\dag{\psi}
TREE	
DRAINAGE INLET	
STORM/SANITARY MANHOLE	Ø (S)
WATER/GAS VALVES	₩V GV
ROOF DRAIN/CLEANOUT	o RD o ^{CO}
FIRE HYDRANT	~
LIGHT POLE	
CONTOUR	123
ELECTRIC LINE	——-E-——
TELEPHONE LINE	
GAS LINE	G
WATER LINE	W
SANITARY SEWER	S
STORM PIPE	

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT

	REVISIONS							
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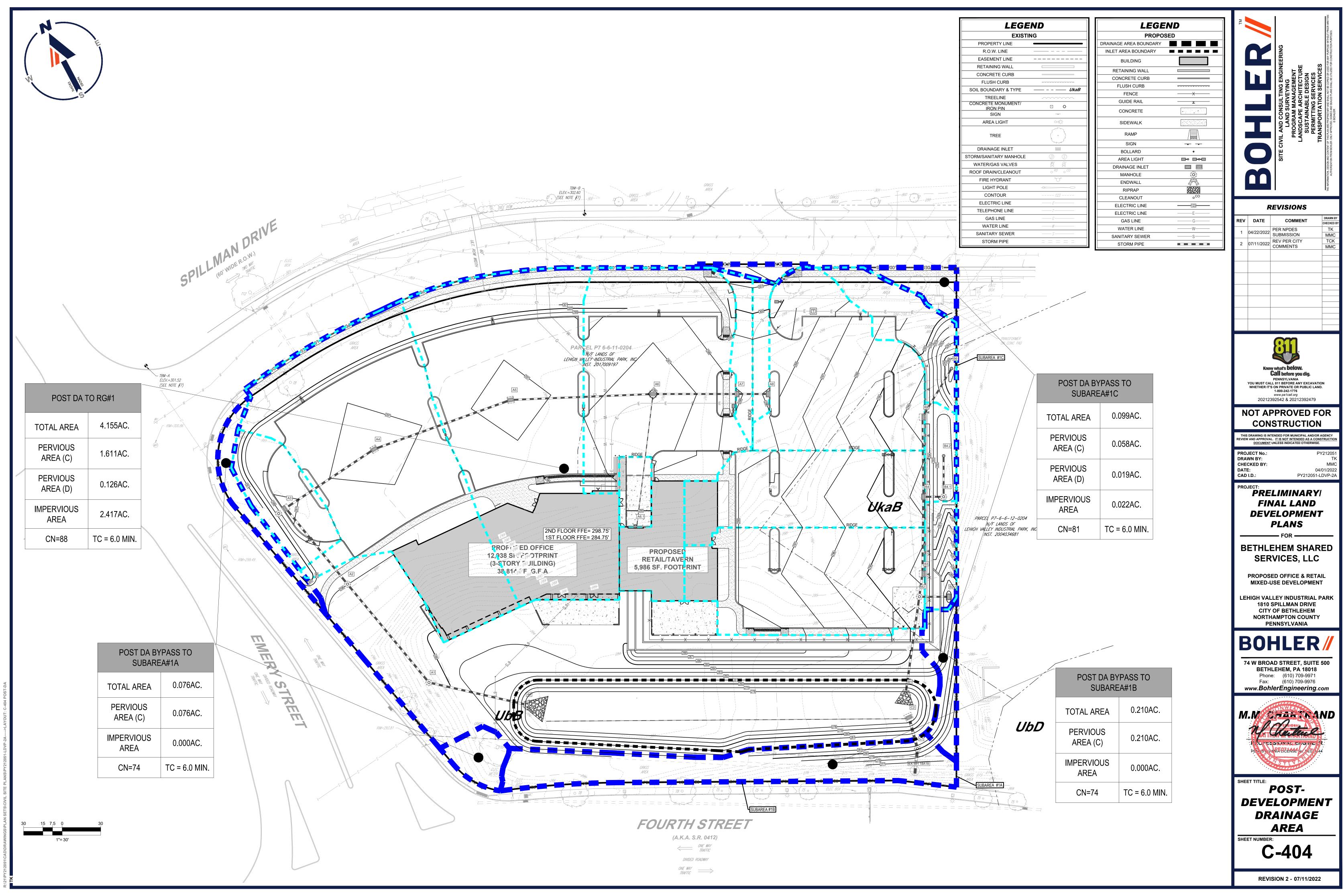


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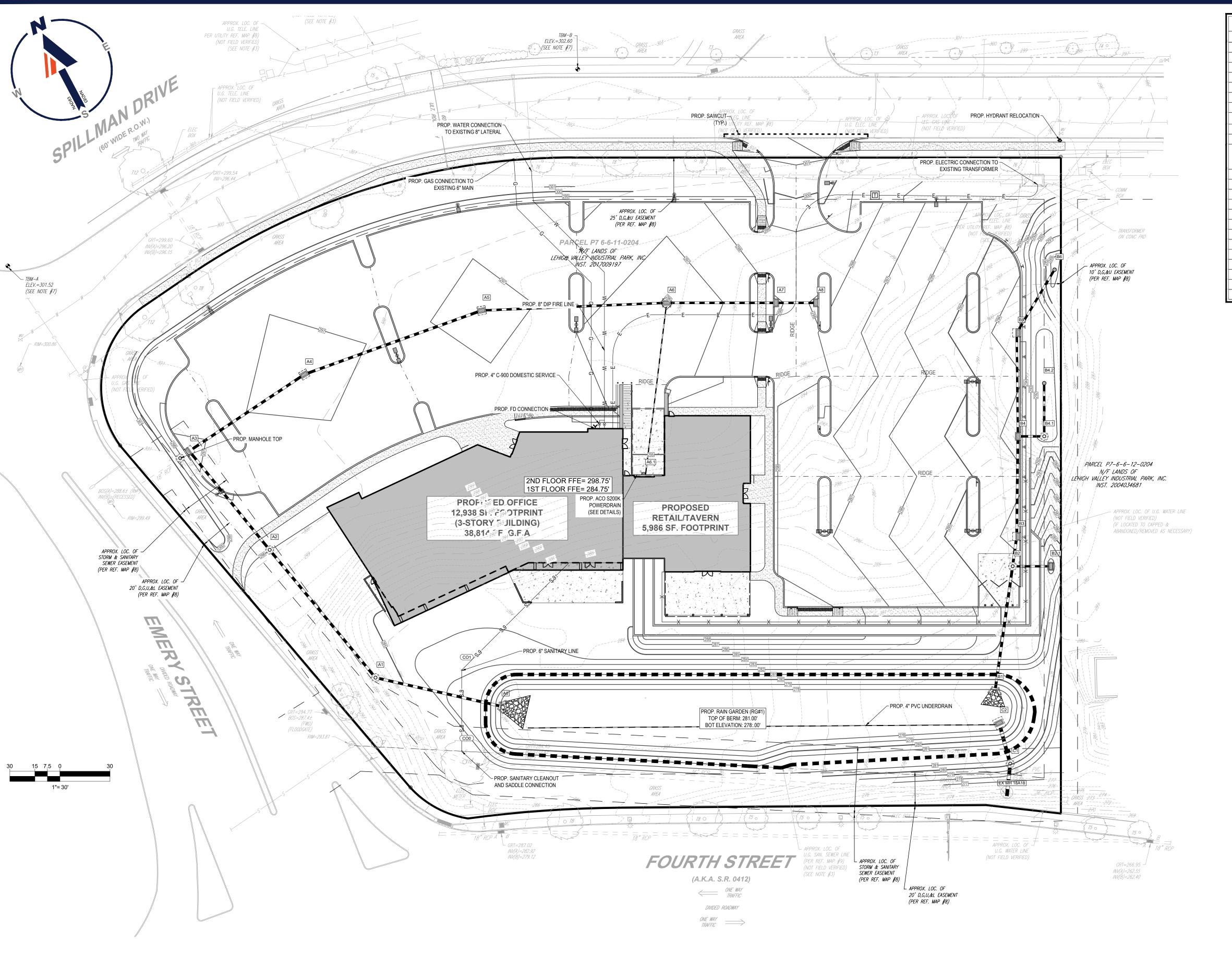
PRE-DEVELOPMENT DRAINAGE AREA

ET NUMBER:

C-403



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LEGEND				
EXISTIN	G			
PROPERTY LINE				
R.O.W. LINE				
EASEMENT LINE				
RETAINING WALL				
CONCRETE CURB				
FLUSH CURB				
TREELINE	~~~~~			
CONCRETE MONUMENT/ IRON PIN				
SIGN	-			
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TREE				
DRAINAGE INLET				
STORM/SANITARY MANHOLE	Ø S			
WATER/GAS VALVES	₩ GV			
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FIRE HYDRANT	V			
LIGHT POLE	+			
CONTOUR	123			
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TELEPHONE LINE	—— <i>T</i> ———			
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WATER LINE	——W			
SANITARY SEWER	S			
STORM PIPE	= = = = =			

	LEGEI	ND							
	PROPOSED								
	BUILDING								
	RETAINING WALL								
	PROJECT SITE BOUNDARY	PSB PSB							
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	GUIDE RAIL								
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	SIDEWALK								
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	WATER LINE	———W——							
	SANITARY SEWER	———S———							
	STORM PIPE								



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 CHECKED BY:
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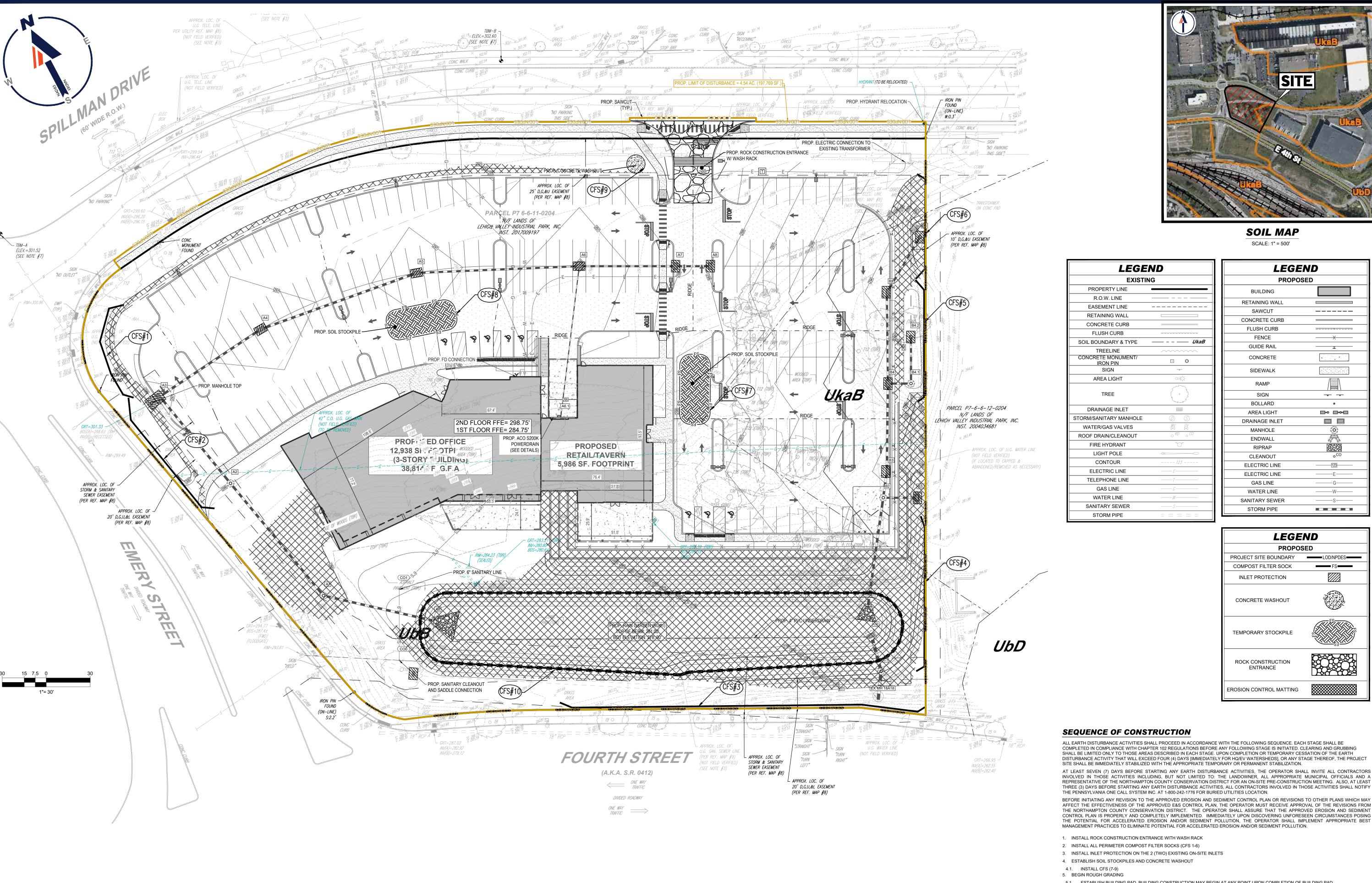


SHEET TITLE:

UTILITY PLAN

HEET NUMBER

C-501



THIS PLAN IS FOR SOIL EROSION & SEDIMENT

POLLUTION CONTROL PURPOSES ONLY

CHAPTER 93 RECEIVING WATERSHED AND STREAM CLASSIFICATION:

SAUCON CREEK, HQ-CWF, MF



SOIL MAP SCALE: 1" = 500'

LEGEND EXISTING PROPERTY LINE EASEMENT LINE RETAINING WAL CONCRETE CURB FLUSH CURB SOIL BOUNDARY & TYPE TREELINE CONCRETE MONUMEN IRON PIN SIGN AREA LIGHT DRAINAGE INLET STORM/SANITARY MANHOLF WATER/GAS VALVES ROOF DRAIN/CLEANOUT LIGHT POLE CONTOUR ELECTRIC LINE **TELEPHONE LINE** GAS LINE WATER LINE SANITARY SEWER STORM PIPE

PROPOSED					
BUILDING					
RETAINING WALL					
SAWCUT					
CONCRETE CURB					
FLUSH CURB					
FENCE	X				
GUIDE RAIL					
CONCRETE	v				
SIDEWALK					
RAMP					
SIGN					
BOLLARD	*				
AREA LIGHT	□ • □••□				
DRAINAGE INLET					
MANHOLE	(0)				
ENDWALL					
RIPRAP					
CLEANOUT	°CO				
ELECTRIC LINE	123				
ELECTRIC LINE	——Е——				
GAS LINE	——-G——				
WATER LINE	W				
SANITARY SEWER	S				
STORM PIPE					

LEGEND								
PROPOSED								
PROJECT SITE BOUNDARY	LOD/NPDES-							
COMPOST FILTER SOCK	FS							
INLET PROTECTION								
CONCRETE WASHOUT								
TEMPORARY STOCKPILE								
ROCK CONSTRUCTION ENTRANCE								
EROSION CONTROL MATTING								

SEQUENCE OF CONSTRUCTION

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 [IMMEDIATELY FOR HQ/EV WATERSHEDS], OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

REPRESENTATIVE OF THE NORTHAMPTON 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 NORTHAMPTON 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 ROCK CONSTRUCTION ENTRANCE WITH WASH RACK
- 2. INSTALL ALL PERIMETER COMPOST FILTER SOCKS (CFS 1-6)
- 3. INSTALL INLET PROTECTION ON THE 2 (TWO) EXISTING ON-SITE INLETS 4. ESTABLISH SOIL STOCKPILES AND CONCRETE WASHOUT
- 4.1. INSTALL CFS (7-9) BEGIN ROUGH GRADING
- 5.1. ESTABLISH BUILDING PAD. BUILDING CONSTRUCTION MAY BEGIN AT ANY POINT UPON COMPLETION OF BUILDING PAD 6. INSTALL STORM SEWER PIPE RUN C FROM DOWNSTREAM TO UPSTREAM
- 7. INSTALL RAIN GARDEN RG#1. THIS STAGE IS A CRITICAL STAGE AND A LICENSE PROFESSIONAL SHALL BE ON SITE TO OVERSEE THE
- 7.1. INSTALL CFS 10
- 8. INSTALL STORM SEWER PIPE RUNS A AND B FROM DOWNSTREAM TO UPSTREAM
- 8.1. INSTALL INLET PROTECTION AS NECESSARY
- 9. BEGIN FINAL GRADING
- 10. INSTALL BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALKS
- 11. INSTALL FINAL VEGETATION AND LANDSCAPING
- 12. INSTALL PLANTING SOIL AND RAIN GARDEN (RG#1) PLANTINGS. REMOVE ANY ACCUMULATED SEDIMENT. THIS STAGE IS A CRITICAL STAGE AND A LICENSE PROFESSIONAL SHALL BE ON SITE TO OVERSEE THE INSTALLATION OF THE PLATING SOIL AND PLANTINGS.
- 13. INSTALL SOIL CAP ACROSS ALL LANDSCAPE AREAS EXCLUDING RG#1 14. A NOTICE OF TERMINATION FORM SHOULD E SUBMITTED TO THE NORTHAMTPON COUNTY CONSERVATION DISTRICT UPON STABILAZATION AND FINAL COMPLETION OF THIS PROJECT

	F	REVISIONS	
REV	DATE	COMMENT	DRAWN E
1	04/22/2022	PER NPDES SUBMISSION	TK MMC
2	07/11/2022	REV PER CITY COMMENTS	TCK MMC



YOU MUST CALL 811 BEFORE ANY EXCAVATION

1-800-242-1776 20212392542 & 20212392479

NOT APPROVED FOR CONSTRUCTION

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY EVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE. PROJECT No.: DRAWN BY:

CAD I.D.: PY212051-LDVP-2 **PRELIMINARY** FINAL LAND

DEVELOPMENT PLANS

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL

MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM **NORTHAMPTON COUNTY PENNSYLVANIA**

74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971

Fax: (610) 709-9976 www.BohlerEngineering.com



SOIL EROSION & SEDIMENT **POLLUTION CONTROL PLAN**

C-601

GENERAL CONSERVATION NOTES AND SPECIFICATIONS

GENERAL INFORMATION

- THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
- ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY. DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS, STOCKPILES, OFF-SITE UNDERGROUND UTILITY LINES AND GRADED PERIMETER AREAS. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION.
- AREAS THAT FAIL TO GERMINATE MUST BE RE-SEEDED OR MULCHED. 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 SWALES AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES. UNTIL THE SITE IS STABILIZED. ALL EROSION AND SEDIMENTATION 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 E&SP PROBLEMS OCCUR WHICH
- REQUIRE ADDITIONAL CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS. 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 SPOIL. BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED PLANS. WHETHER LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT OF DISPOSAL METHOD AND LOCATION OF MATERIALS (IF ANY) TO BE
- ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO 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. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN SOIL STABILIZATION THROUGHOUT CONSTRUCTION. ADDITIONAL MEASURES REQUIRED TO ENSURE ON-SITE AND OFF-SITE STABILIZATION IN AND ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT NO COST TO THE OWNER. IMMEDIATE NOTIFICATION SHALL BE GIVEN TO THE OWNER AND ENGINEER SHOULD ADDITION STABILIZATION MEASURES BE NECESSARY; IN ACCORDANCE WITH THE NPDES AND/OR SWPPP

STANDARD FOR LAND GRADING

REQUIREMENTS FOR THE PROJECT.

- A. DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND A.1. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO
- PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FULL SLOPES. A.2. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS INSTALLATION REQUIREMENTS B.1. TIMBER, LOGS, BRUSH, RUBBISH, 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 B.2. FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.
- ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
- B.4. ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.

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 LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT. PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED. THE SAME DAY. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR A MAX. OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING
- OF THE INSTALLED PIPE. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING TO A FACILITY FOR REMOVAL OF SEDIMENT (SEDIMENT FILTER BAG, SEE DETAIL) BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND

APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES / FACILITIES WILL BE INSTALLED. SEEDING AND

MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FORM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

IV. STANDARD FOR TEMPORARY STABILIZATION

A.4. PROTECTIVE MATERIALS TO BE USED:

- A. STANDARD FOR TEMPORARY STABILIZATION WITH FIBERMULCH A.1. MULCHING IS MOST APPLICABLE TO THOSE AREAS SUBJECT TO PERIODIC DISTURBANCE AND REWORKING IN ADDITION,
- PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
- STABILIZATION WITH FIBER MULCH SHALL BE USED DURING NON-GERMINATION PERIODS. GRADE AS NEED AND FEASIBLE. SEE STANDARD FOR LAND GRADING
- A.4.a. UNROTTED SMALL-GRAIN UN-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. A.4.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 INSTALLED AT A RATE OF 1 TON PER ACRE (MINIMUM) OR PER MANUFACTURER'S SPECIFICATIONS. B. STANDARD FOR TEMPORARY STABILIZATION WITH SEED
- B.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.
- ALL AREAS TO BE PERMANENTLY SEEDED SHALL ALSO RECEIVE TEMPORARY SEEDING CONCURRENTLY SEEDBED PREPARATION FOR TEMPORARY SEEDING
- B.3.A. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE. B.3.B. APPLY AGRICULTURAL LIME AT A RATE OF 1 TONE PER ACRE B 3 C. APPLY 10-10-10 FERTILIZER A RATE OF 500 POLINDS PER ACRE
- B.3.D. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4) INCHES.

SEEDING: SEE SEEDING SPECIFICATIONS

STANDARD FOR PERMANENT STABILIZATION

- A. SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER A 1 SITE PREPARATION
- A.1.a. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, A.1.b. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO
- BETWEEN 5.5 AND 7 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES. A.1.c. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION. THE SURFACE SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5 INCHES TO PROVIDE A GOOD BOND WITH THE TOPSOIL. A.2.a. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
- A.2.b. ALL DISTURBED TOPSOIL ON-SITE IS TO BE REDISTRIBUTED ON-SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY THE CITY OF BETHLEHEM. UNIFORM APPLICATION TO A DEPTH OF 6-8 INCHES (LINSETTLED) IS RECOMMENDED. SOILS WITH A PHIOF 4 (LOR LESS OR CONTAINING IRON SUILEDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE
- A.3.a. A SOIL TEST SHALL BE CONDUCTED TO ACCURATELY DETERMINE NECESSARY SOIL AMENDMENTS. A.3.b. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
- A 3 c SOIL MODIFICATIONS: A.3.c.1. APPLY 10-20-20 RATED FERTILIZER AT A RATE OF 1000 POUNDS PER ACRE OR 25 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST A.3.c.2. APPLY AGRICULTURAL LIME AT A RATE OF 6 TONS PER ACRE OR 240 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL
- A.3.d. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONARI Y LINIFORM FINE SEEDRED IS PREPARED A.3.e. REMOVE FROM THE SURFACE ALL STONES ONE INCH (1") OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE.
- CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL. A.3.f. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RE-TILLED AND FIRMED SEEDING: SEE SEEDING SPECIFICATIONS
- A.5. SEED BED AREAS SHALL ALSO BE STABILIZED USING AN APPROVED METHOD (EG: HYDROMULCHING) AS OUTLINED IN ITEM IV.A.

B. STANDARD FOR PERMANENT STABILIZATION WITH SOD

- METHODS AND MATERIALS B.1.a. CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR OTHER HIGH QUALITY CULTIVATED
- B.1.b. SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES. B.1.c. SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING. (EXCLUDES TOP
- B.1.d. SOD 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 0% OF THE STRIP. BROKEN PADS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE. B.1.e. A SOD OF KENTUCKY 31 TALL FESCUE WITH BLUEGRASS, OR A FESCUE BLEND IS PREFERRED.
- B.1.f. ONLY MOIST, FRESH UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS
- B.2. SITE PREPARATIONS: SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER (ITEM V.A. ABOVE) B.3.a. SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND
- PERIODS OF HIGH TEMPERATURE. LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD. B.3.b. PLACE SOD STRIPS WITH SNUG EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES INVITE EROSION. B.3.c. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN ORDER TO PREVENT VOIDS, WHICH WOULD CAUSE DRYING OF THE

WORKING LIP ON STEEP SLOPES. THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING

- B.3.d. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES OR A BIODEGRADABLE
- B.3.e. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING
- CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK. B.3.f. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.
- FOLLOW-UP INSPECTION: AFTER THE FIRST GROWING SEASON, THE SOD SHOULD BE INSPECTED TO DETERMINE IF ADDITIONAL FERTILIZATION OR LIMING IS NEEDED.

GENERAL CONSERVATION PROGRAM

THE ACCOMPANYING PROGRAM IS PROPOSED TO PREVENT ACCELERATED EROSION OF THE SITE SOILS AND SUBSEQUENT SEDIMENTATION OF EXISTING STREAMS AND WETLANDS IN COMPLIANCE WITH 25 PENNSYLVANIA CODE CHAPTER 102 "EROSION AND SEDIMENT CONTROL". PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP), RULES AND REGULATIONS. THE CONSERVATION PROGRAM WAS DEVELOPED IN ACCORDANCE WITH THE APPLICABLE ORDINANCES OF PLAINFIELD. TOWNSHIP AND THE REQUIREMENTS OF THE NORTHAMPTON COUNTY CONSERVATION DISTRICT. THE PROJECT, AS DESCRIBED HEREIN, IS PRESENTED ON THE ACCOMPANYING PRELIMINARY/FINAL LAND DEVELOPMENT PLANS.

THE PROGRAM PROVIDES FOR ON-SITE RETENTION OF SOILS PRODUCED DURING THE CONSTRUCTION PERIOD. THE PROPOSED DEVELOPMENT IS SEQUENCED TO MINIMIZE THE EXTENT OF GRADING WHERE POSSIBLE AND TO MINIMIZE THE CHANGES TO EXISTING DRAINAGE PATTERNS. THE PROJECT HAS BEEN DESIGNED TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE AND MAXIMIZES PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION. THE SITE HAS BEEN DESIGNED TO MINIMIZE SOIL COMPACTION AND UTILIZE OTHER MEASURES OR CONTROLS (LISTED WITHIN THIS REPORT) THAT PREVENT OR MINIMIZE GENERATION OF INCREASED STORMWATER. THE EXTENT OF CUTS/FILLS IS INDICATED BY COMPARISON OF THE EXISTING AND PROPOSED GROUND SURFACES SHOWN ON THE PLANS.

IT IS SPECIFIED THAT CONSTRUCTION BE SEQUENCED TO MINIMIZE THE TIME OF EXPOSURE OF ANY DENUDED SOIL SURFACES AND DIRECT RUNOFF FROM THE CONSTRUCTION AREAS TO SILT FENCE. INLET PROTECTION, SEDIMENT TRAPS AND/OR SEDIMENT BASINS. THE CONTROL STRUCTURES ARE TO BE INSTALLED AS SHOWN ON THE EROSION AND SEDIMENT POLLUTION CONTROL PLAN PRIOR TO LAND DISTURBANCE AND IN THE ORDER SPECIFIED IN THE SEQUENCE OF CONSTRUCTION.

IN ADDITION, THE SITE SURFACES WILL BE PROTECTED FROM ACCELERATED SOIL EROSION BY THE INSTALLATION OF PAVEMENTS, BUILDINGS, AND EITHER TURF GRASSES OR MULCH IN ALL DISTURBED VEGETAL AREAS. GRASS SLOPES WILL TYPICALLY BE GRADED TO PRESERVE TREES AND TO PREVENT UNCONTROLLED CONCENTRATED RUNOFF PATTERNS DOWN THE SLOPE

BOHLER ENGINEERING PA, LLC TRUSTS THIS CONSERVATION PROGRAM IS IN COMPLIANCE WITH THE INTENT OF THE CLEAN STREAMS ACT, PENNSYLVANIA DEPARTMENT OF THE ENVIRONMENTAL PROTECTION RULES AND REGULATIONS, AND THE PROVISIONS SET FORTH IN THE PREVIOUSLY REFERENCED CHAPTER 102.

CONSERVATION DISTRICT NOTES

- 1) ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES. INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- 3) AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 4) ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
- 5) AREAS TO BE FILLED ARE TO BE CLEARED. GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL 6) CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
- 7) AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- 8) TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- 9) IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- 10) ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE.
- 11) ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY
- 12) THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY DWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- 13) ALL PLIMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN. OVER LINDISTLIBRED VEGETATED AREAS. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP. SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER
- 14) LINTIL THE SITE IS STABILIZED ALL EROSION AND SEDIMENT RMPS SHALL RE MAINTAINED PROPERLY MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO NORTHAMPTON COUNTY CONSERVATION DISTRICT COMPLETE. WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK. INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- 15) A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED
- 16) SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM
- 17) ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES. WETLANDS. FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED. OR PLACED IN
- 18) AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES 6 TO 12 INCHES ON COMPACTED SOILS PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A
- MINIMUM OF 2 INCHES OF TOPSOIL. 19) ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO
- SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- 20) ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- 21) FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH
- 22) FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION

- 23) FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- 24) SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- 25) ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED
- 26) IMMEDIATELY AFTER FARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT. THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS, DURING NON-GERMINATING MONTHS, MULCH OR OTHER PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN, AREAS NOT AT FINISHED
- GRADE WHICH WILL BE REACTIVATED WITHIN 1 YEAR MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS. 27) PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR
- 28) EROSION AND SEDIMENT BMPS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPS. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE
- REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT. 29) UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS
- 30) AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED. TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS. SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON. 31) UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL
- CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION. 32) FAILURE TO CORRECTLY INSTALL E&S RMPS. FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE. CIVIL. AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES,
- UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION. 33) IN THE EVENT OF SINKHOLE DISCOVERY A PROFESSIONAL GEOLOGIST OR ENGINEER WILL BE CONTACTED CONCERNING MITIGATION. ADDITIONALLY, THE
- 34) THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- 35) THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102 FROSION CONTROL
- 36) THE E&S CONTROL PLAN MAPPING MUST DISPLAY A PA ONE CALL SYSTEM INCORPORATED SYMBOL INCLUDING THE SITE IDENTIFICATION NUMBER. (THIS IS A NUMBERED SYMBOL NOT A NOTE.
- 37) AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS. BURNING CLEARED BRUSH. DISCHARGING RAINWATER FROM TRENCHES. WELDING PIPE SECTIONS. REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.
- 38) ALL WETLANDS MUST BE DELINEATED AND PROTECTED WITH ORANGE SAFETY FENCE PRIOR TO ANY EARTHMOVING ACTIVITY.

NORTHAMPTON COUNTY CONSERVATION DISTRICT WILL BE MADE AWARE OF THE SINKHOLE DISCOVERY IMMEDIATELY.

39) STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN

RECYCLING OR DISPOSAL OF MATERIALS §102.4(b)(5)(xi)

THE FOLLOWING IS A LIST THAT INCLUDES, BUT THAT IS NOT LIMITED TO, THE POTENTIAL CONSTRUCTION WASTES THAT MAY EXIST

- CONCRETE CURB AND SIDEWALK - ASPHALT - BUILDING/DEMOLITION MATERIAL
- E&S BMP COMPOST FILTER SOCKS E&S BMP - EROSION CONTROL MATTING
- F&S BMP FILTER BAG INLET PROTECTION - E&S BMP - STONE & CONCRETE BLOCK INLET PROTECTION
- E&S BMP REGULATED FILL MATERIALS

DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE.

DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 Pa. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED. BURIED. DUMPED. OR DISCHARGED AT THE SITE. BELOW IS A LIST OF METHODS FOR THE PROPER RECYCLING/DISPOSAL OF VARIOUS MATERIALS: 1.) DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PÚRPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS WILL

BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE

CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE LOCAL CONSERVATION DISTRICT. AFTER CONSTRUCTION, THE SITE WILL BE

ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE

- STABILIZED. WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION. 2.) SOLID WASTE DISPOSAL - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS WILL BE EMPTIED AS NECESSARY BY A CONTRACT TRASH
- 3.) SANITARY FACILITIES ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A LICENSED COMMERCIAL OPERATOR
- 4.) WATER SOURCE NON-STORMWATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION WHICH DISCHARGES FROM THE SITE MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE STATE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE.
- 5.) CONCRETE WASTE FROM CONCRETE READY-MIX TRUCKS DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS WILL BE ALLOWED ON THE CONSTRUCTION SITE, BUT ONLY IN SPECIFICALLY DESIGNATED DIKED AREAS PREPARED TO PREVENT CONTACT BETWEEN THE CONCRETE AND/OR WASH WATER AND STORMWATER THAT WILL BE DISCHARGED FROM THE SITE.

MAINTENANCE PROGRAM

SHALL BE REPLACED IMMEDIATELY.

PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE FACILITY IF USED.

§102.4(b)(5)(x)

THE FOLLOWING MAINTENANCE PROGRAM HAS BEEN DEVELOPED TO PROVIDE FOR THE INSPECTION OF BMPs ON A WEEKLY BASIS AND AFTER EACH MEASURABLE RUNOFF EVENT, AND TO INCLUDE THE REPAIR OF THE BMPs TO ENSURE THEIR EFFECTIVE AND EFFICIENT OPERATION:

UNTIL THE SITE IS STABILIZED AND DURING CONSTRUCTION ACTIVITIES, ALL BMPs MUST BE MAINTAINED PROPERLY BY THE CONTRACTOR. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL BMPs AFTER EACH RUNGEF EVENT AND ON A WEEKLY RASIS. 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.

- COMPOST FILTER SOCK INSPECTIONS SHALL BE CONDUCTED ON A WEEKLY BASIS AND/OR AFTER EACH RUNOFF EVENT. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES ½ THE ABOVE GROUND SOCK. THE SEDIMENT SHALL BE DISPOSED OF ON SITE AND/OR IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER SIX (6) MONTHS: PHOTODEGRADABLE SOCKS AFTER ONE (1) YEAR. UPON STABILIZATION OF THE TRIBLITARY TO THE SOCK STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT
- INLET PROTECTION (FILTER BAGS) INSPECTIONS SHALL BE CONDUCTED ON A WEEKLY BASIS AND/OR AFTER EACH RUNOFF EVENT. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. FILTER BAGS SHOULD BE CLEANED AND/OR REPLACED AFTER EACH RUNOFF EVENT. THE SEDIMENT SHALL BE DISPOSED OF ON SITE AND/OR IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. DAMAGED FILTER BAGS SHOULD BE
- ALTERNATE STONE INLET PROTECTION SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED
- RIPRAP APRON ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON
- CONCRETE WASHOUT FACILITY ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.
- EROSION CONTROL BLANKET BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.
- PUMPED WATER FILTER BAGS A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-FRODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED LINDER THE BAG TO REDUCE SLOPE STEEPNESS. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED
- IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED. PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
- 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 CONSERVATION DISTRICT AND/OR BOROUGH 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 LOCAL. STATE AND FEDERAL REGULATIONS. ALL AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
- CONSTRUCTION ENTRANCES LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED WHERE VEHICLES ENTER AND EXIT. EXITS SHALL BE MAINTAINED OR SUPPLEMENTED AS NECESSARY TO PREVENT THE RELEASE OF SEDIMENT FROM VEHICLES LEAVING THE SITE. ANY SEDIMENT DEPOSITED ON THE ROADWAY SHALL BE SWEPT AS NECESSARY THROUGHOUT THE DAY OR AT THE END OF EVERY DAY AND DISPOSED OF IN AN APPROPRIATE MANNER SEDIMENT SHALL NOT BE WASHED INTO STORM SEWER SYSTEMS. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORKDAY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEPT INTO ANY ROAD SIDE DITCH, STORM SEWER OR SURFACE WATER
- SEDIMENT BARRIERS AND BASINS/TRAPS MUST BE INSPECTED AND THEY MUST BE CLEANED OUT AT SUCH TIME AS THEIR ORIGINAL CAPACITY HAS BEEN REDUCED BY 50 PERCENT. ALL MATERIAL EXCAVATED FROM BEHIND SEDIMENT BARRIERS OR IN BASINS AND TRAPS SHALL BE INCORPORATED INTO ON-SITE SOILS OR SPREAD OUT ON AN UPLAND PORTION OF THE SITE AND STABILIZED. ADDITIONAL SEDIMENT BARRIERS MUST BE
- INSPECTIONS SHALL EVALUATE DISTURBED AREAS AND AREAS USED FOR STORING MATERIALS THAT ARE EXPOSED TO RAINFALL FOR EVIDENCE OF OR THE POTENTIAL FOR POLLUTANTS ENTERING THE DRAINAGE SYSTEM OR DISCHARGING FROM THE SITE. IF NECESSARY, THE MATERIALS MUST BE COVERED OR ORIGINAL COVERS MUST BE REPAIRED OR SUPPLEMENTED. ALL AREAS DISTURBED DURING THE EARTHWORK PHASE OF CONSTRUCTION MUST BE TEMPORARILY SEEDED AND STABILIZED WITH HYDRO-STRAW IF PERMANENT STABILIZATION CANNOT BE ACHIEVED WITHIN
- GRASSED AREAS SHALL BE INSPECTED TO CONFIRM THAT A HEALTHY STAND OF GRASS IS MAINTAINED. THE SITE HAS ACHIEVED FINAL STABILIZATION ONCE ALL AREAS ARE COVERED WITH BUILDING FOUNDATION OR PAVEMENT. OR HAVE A STAND OF GRASS WITH AT LEAST 70 PERCENT DENSITY OR GREATER IN ACCORDANCE WITH PERMIT REQUIREMENTS. THE VEGETATIVE DENSITY MUST BE MAINTAINED TO BE CONSIDERED STABILIZED. AREAS

FOUR (4) DAYS. ALSO, PROTECTIVE BERMS MUST BE CONSTRUCTED, IF NEEDED, IN ORDER TO CONTAIN RUNOFF FROM MATERIAL STORAGE AREAS.

MUST BE WATERED, FERTILIZED, AND RESEEDED AS NEEDED TO ACHIEVE THIS REQUIREMENT. • ALL DISCHARGE POINTS MUST BE INSPECTED TO DETERMINE WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING DISCHARGE OF SEDIMENT FROM THE SITE OR IMPACTS TO RECEIVING WATERS.

E+S - MONITORING, INSPECTION AND REPORTING REQUIREMENTS

(2) THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.

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

BMPs ON THE PROJECT SITE AND WILL BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

F PERMITTEE AND CO-PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY. AND WITHIN 24 HOURS AFTER FACE MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOT BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL. TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL. TO ASCERTAIN THAT E&S BMPs AND PCSM BMPs ARE PROPERLY CONSTRUCTED AND MAINTAINED TO FEFECTIVELY MINIMIZE POLITITION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A MINIMUM:

(1) A SUMMARY OF SITE CONDITIONS, E&S BMP AND PCSM BMP, IMPLEMENTATION AND MAINTENANCE AND COMPLIANCE ACTIONS; AND

WHERE E&S, PCSM OR PPC BMPs ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND CO PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT, NONCOMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:

) ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH

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

(4) THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS. ON REDUCTION, LOSS, OR FAILURE OF THE BMPs, THE PERMITTEE AND CO PERMITTEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMPs OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT. SUCH RESTORED BMPs OR ALTERNATIVE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE

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

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

E&S PLAN PLANNING & DESIGN

- THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE: ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE SEQUENCE CONSTRUCTION ACTIVITIES BY LIMITING DISTURBANCES TO A SPECIFIC TASK SUCH THAT EACH TASK IS COMPLETED BEFORE THE NEXT TASK IS INITIATED
- THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE
- GRADE SITE TO ENSURE SEDIMENT LADEN WATER IS DIRECTED TO EROSION CONTROL BMP'S HE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION: §1020455)(44) SITE THRU DESIGNATED CONSTRUCTION ENTRANCE

F TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING OPERATIONS

 GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS THE FOLLOWING MEASURES ARE TAKEN TO PREVENT OR MINIMIZE GENERATION OF INCREASED STORM WATER DIRECT RUNOFF TO BMP'S TO CONTROL RUNOFF RATES

POTENTIAL THERMAL IMPACTS TO SURFACE WATERS

ORIGINAL BMPs.

A POTENTIAL FOR THERMAL IMPACTS EXISTS IN INSTANCES WHERE SURFACE RUNOFF IS DIRECTLY CONVEYED TO A RECEIVING STREAM WITHOUT ADEQUATE ATTENUATION OR COOLING. THE SHADING EFFECTS OF THE PROPOSED AND EXISTING LANDSCAPING IN SERIES WITH THE PROPOSED UNDERGROUND STORMWATER CONVEYANCE SYSTEMS WILL PROVIDE THERMAL WATER QUALITY BENEFITS BY ALLOWING THE STORMWATER TO DECREASE IN TEMPERATURE PRIOR TO ENTERING THE DOWNSTREAM WATERSHED. ADDITIONAL THERMAL WATER QUALITY BENEFITS ARE ACHIEVED THROUGH THE IMPLEMENTATION OF TWO (2) ABOVEGROUND DETENTION BASINS, ONE (1) UNDERGROUND DETENTION BASIN, AND SÙBSTANTIAL AMOUNTS OF VEGETATION AROÙND EACH OF THE BMPS ALL OF THOSE MEASURES WILL HELP TO CONTROL RUNOFF VOLUME AND RATE AND THEREBY PROVIDE ADDITIONAL COOLING TIME, THEREBY MINIMIZING THERMAL IMPACTS TO THE RECEIVING STREAM.

DEFINITION OF CLEAN FILL AND IMPORT/EXPORT MATERIAL NOTES

IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE APPLICANT.

) CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).

2.) CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A RÉGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

3.) ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM P-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

4.) ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES. NCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHI REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.

SEEDING SPECIFICATIONS

- 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
- PLANS. RATES ARE IN THE FORM OF POUNDS PER ACRE (LB/A) 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 SEEDED WITH A TEMPORARY SEED MIXTURE AS FOLLOWS: ANNUAL RYE (40 POUNDS / ACRE PLS) OR SPRING OATS (96 POUNDS / ACRE PLS

SEED MIXTURES: SEED MIXTURE TO BE USED ON THIS SITE SHALL CONSIST OF THE FOLLOWING UNLESS OTHERWISE NOTED ON THE

- OR WINTER RYE (168 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:
- NURSE CROP (SELECT ONE): ANNUAL RYE (10 POUNDS / ACRE PLS) OR SPRING OATS (64 POUNDS / ACRE PLS)

UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE PLANS:

IN WHICH TO STABILIZE THE SITE THROUGH THE NEXT GROWING SEASON.

- OR WINTER RYE (56 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 FESCUES (60 POUNDS / ACRE PLS) OR FINE FESCUE (35 POUNDS / ACRE PLS) OR KENTUCKY BLUEGRASS (25 POUNDS / ACRE PLS) PLUS REDTOP (3 POUNDS / ACRE PLS) OR PERENNIAL RYEGRASS (15 POUNDS / ACRE PLS)

BY THE PERCENTAGE OF GERMINATION AND DIVIDE THE RESULT BY 100 ((%PURE X %GERMINATION) / 100)

E. ONCE SEED HAS BEEN SET, VEHICULAR TRAFFIC OR OTHER SOURCES OF COMPACTION SHALL BE AVOIDED

PURE LIVE SEED: MINIMUM PLS RATING ACCEPTED SHALL BE 85% PLS. SEED RATE MAY NEED TO BE ADJUSTED BASED ÓN THE PLS RATING OF THE 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

(REFERENCE: PA DEP EROSION AND SEDIMENT CONTROL PROGRAM MANUAL, LATEST EDITION, TABLE 11.4. SEED MIX #2)

- 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 64 POUNDS PLS. AND THE SEED IS RATED AT 35% PLS, DIVIDE 64 BY 0.35 TO GET 182.9 POUNDS, WHICH IS THE AMOUNT OF THAT SEED REQUIRED PER ACRE. 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 SEEDING SHALL TAKE PLACE BETWEEN MARCH 15 - OCTOBER 15 SEED SHALL BE APPLIED IN A NON-COMPACTED. ROUGHENED TOPSOIL. SEED MAY BE APPLIED THROUGH ANY OF THE FOLLOWING MEANS AND METHODS, OR OTHER ACCEPTED INDUSTRY PRACTICES,
- I. DRILL SEEDING II. BROADCAST SEEDING (TWO DIRECTIONS) III. HYDROSEEDING (TWO DIRECTIONS) D. 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.

IRRIGATION: NEW SEED APPLICATIONS SHOULD BE SUPPLIED WITH ADEQUATE WATER, A MINIMUM OF 1/4" TWICE A DAY, UNTIL VEGETATION

IS WELL ESTABLISHED (A MINIMUM OF 75% COVER).

6. STOCKPILES MUST BE STABILIZED IMMEDIATELY

CONNECTIONS.

DATED NOVEMBER 4 2021

E&S - GENERAL NOTES: 1. THIS PLAN REPRESENTS THE MINIMUM LEVEL OF IMPLEMENTATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL STRUCTURES. ADDITIONAL FACILITIES OR MEASURES SHALL BE INSTALLED WHERE NECESSARY OR WHERE DIRECTED BY EITHER THE TOWNSHIP OR THE COUNTY

THE OWNER/CONSTRUCTION MANAGER IS RESPONSIBLE FOR ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROLS AND SITE STABILIZATION. THE OWNER SHALL ASSIGN ONE INDIVIDUAL TO BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL FACILITIES

3. PROTECTION TO THE EXISTING TREES AND SHRUBS SHALL BE TAKEN BY THE CONTRACTOR TO ELIMINATE UNNECESSARY DAMAGE. 4. ANY DRY FILL HAULED OFFSITE MUST BE TAKEN TO A LOCATION WITH AN EROSION AND SEDIMENTATION CONTROL PLAN WHICH HAS BEEN

REVIEWED BY THE COUNTY CONSERVATION DISTRICT FOR ADEQUACY. 5. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN TRIBUTARY AREAS OF THOSE CONTROLS.

OTHER VEGETATIVE COVER OF THE LAND SHALL BE COMMENCED WITHIN A PROPOSED SUBDIVISION OR LAND DEVELOPMENT TRACT UNTIL SUCH TIME THAT A PLAN FOR SEDIMENTATION CONTROL AND MINIMIZING EROSION HAS BEEN REVIEWED AND FOUND SATISFACTORY BY THE COUNTY CONSERVATION DISTRICT AND REVIEWED AND APPROVED BY THE TOWNSHIP OR THERE HAS BEEN A DETERMINATION BY THE TOWNSHIP LIPON RECOMMENDATION BY THE COUNTY CONSERVATION DISTRICT. THAT SUCH PLANS ARE NOT NECESSARY

7. NO CHANGES SHALL BE MADE IN THE CONTOUR OF THE LAND. NO GRADING, EXCAVATING, REMOVAL OR DESTRUCTION OF THE TOPSOIL, TREES OR

8. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE 9. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE COUNTY

CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF

10 CONTRACTOR SHALL USE TREADED MACHINERY AND MINIMIZE SOIL COMPACTION WHEREVER POSSIBLE PREVENTIVE MEASURES AGAINST INDUCING SINKHOLES (GEOLOGIC FORMATIONS RESOLUTION)

DEVELOPMENT OF SINKHOLES AT THE SITE BOTH DURING AND FOLLOWING CONSTRUCTION.

THE FOLLOWING GENERAL CONSTRUCTION CONSIDERATIONS ARE PROVIDED TO MINIMIZE THE POTENTIAL FOR

SURFACE WATER SHOULD NOT BE ALLOWED TO COLLECT OR POOL IN LOW LYING AREAS OF THE SITE AND SHOULD BE DIRECTED TO APPROPRIATE STORMWATER CHANNELS. EXPEDITIOUS BACKFILLING OR GRADING OF LOW-LYING AREAS WILL ALSO HELP MINIMIZE THE POTENTIAL FOR THE DEVELOPMENT OF SINKHOLES.

THE BASES OF FOUNDATION EXCAVATIONS SHOULD BE REVIEWED FOR UNUSUALLY SOFT OR WET SOIL

KLEINFELDER TO DETERMINE THE EXTENT OF ANY SOLUTION ACTIVITY SO THAT REMEDIAL MEASURES CAN BE

CONDITIONS. ANY UNSTABLE AREAS ENCOUNTERED SHOULD BE FURTHER EXCAVATED AND REVIEWED BY

DESIGNED AND IMPLEMENTED THE EXTENT OF EXCAVATIONS SHOULD BE KEPT TO A MINIMUM AND THE INFLUX OF SURFACE WATER INTO

EXCAVATIONS SHOULD BE MINIMIZED. POSITIVE DRAINAGE AWAY FROM THE PROPOSED STRUCTURES SHOULD ALWAYS BE MAINTAINED. ROOF DRAINS SHOULD ALSO BE DIRECTED AWAY FROM THE STRUCTURES AND INTO DESIGNATED, STORM SEWER

UNPAVED AREAS, SWALES, AND/OR SURFACE/SUBSURFACE STORMWATER MANAGEMENT FACILITIES SHOULD BE AVOIDED IMMEDIATELY ADJACENT TO FOUNDATION AREAS.

STORM SEWER CONVEYANCE LINES SHOULD BE CONSTRUCTED WITH WATERTIGHT JOINTS.

TO LIMIT STORMWATER INFILTRATION IN FOUNDATION AREAS. CONSIDERATIONS OF KARST GEOLOGY PER GEOTECHNICAL ENGINEERING REPORT PREPARED BY KLEINFELDER,

EXTERIOR BACKFILL AROUND FOUNDATIONS SHOULD CONSIST OF FINE-GRAINED, ON-SITE SOILS, (I.E. CLAY)

REV DATE

REVISIONS

COMMENT

04/22/2022 SUBMISSION 2 07/11/2022 COMMENTS **REV PER CITY**



WHETHER IT'S ON PRIVATE OR PUBLIC LAND.

1-800-242-1776

20212392542 & 20212392479

NOT APPROVED FOR CONSTRUCTION

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DRAWN BY: **CHECKED BY** CAD I.D.: PY212051-CNDS-2 PROJECT PRELIMINARY/

FINAL LAND

DEVELOPMENT

BETHLEHEM SHARED

PROPOSED OFFICE & RETAIL

PLANS

SERVICES, LLC

MIXED-USE DEVELOPMENT LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM NORTHAMPTON COUNTY

PENNSYLVANIA

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SOIL EROSION & POLLUTION CONTROL NOTES

SOIL SUITABILITY AND CHARACTERISTICS

MAP UNIT SYMBOL	SOIL	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	BRIEF DESCRIPTION OF SOIL	DEPTH FROM SURFACE OF TYPICAL PROFILE	PERMEABILITY	SHRINK SWELL POTENTIAL	HYDROLOGIC GROUP	SUSECEPTABILITY TO FROST HEAVING	FOR USE AS ROAD FILL	FOR USE AS TOPSOIL	FOR USE AS SAND, GRAVEL AND STONE	HYDRIC
UbB	UDORTHENTS, LIMESTONE, 0 TO 8 PERCENT SLOPES	60 INCHES	40-99 IN	THIS COMPONENT IS ON HILLS, UPLANDS. THE PARENT MATERIAL CONSISTS OF GRADED AREAS OF ARGILLACEOUS LIMESTONE. DEPTH TO A ROOT RESTRICTIVE LAYER, BEDROCK, LITHIC, IS 40 TO 99 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY LOW. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS HIGH. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. A SEASONAL ZONE OF WATER SATURATION IS AT 60 INCHES DURING JANUARY, FEBRUARY, MARCH, NOVEMBER, DECMEBER. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.	0 TO 6 INCHES: SILTY CLAY LOAM 6 TO 60 INCHES: CLAY	WELL DRAINED	MODERATE	С	MODERATE	POOR	POOR	POOR	NO
UkaB	URBAN LAND, 0 TO 8 PERCENT SLOPES	-	-	URBAN LAND IS A MISCELLANEOUS AREA.		-	-	-	-	NOT RATED	NOT RATED	NOT RATED	NO

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED

- CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO THIS PROJECT.
- 1. SOIL TYPES POORLY SUITED AS SOURCES OF TOPSOIL RESTRICT OR PLACE CONDITIONS ON PLANNING VEGETATIVE STABILIZATION. ACIDIC, LOW FERTILITY, EXCESSIVE DRYNESS AND EXCESSIVE WETNESS LIMIT PLANT GROWTH.
- RESOLUTIONS: IDENTIFYING AND RESOLVING CHARACTERISTICS, THAT RENDER THE SOIL TYPES POORLY, SUITED AS TOPSOIL.
- 2. ACIDIC SOIL TYPES EXHIBITING PH REACTION VALUES LOWER THAN ABOUT 5.5, LIMIT VEGETATIVE STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC PH REACTION.
- RESOLUTIONS: APPLYING LIME CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTING VEGETATIVE SPECIES TOLERANT TO ACIDIC SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
- 3. LOW FERTILITY SOIL TYPES LACKING IN SUFFICIENT AMOUNTS OF ESSENTIAL PLANT NUTRIENTS SUCH AS: NITRPGEN, PHOSPHOROUS, POTASSIUM, SULFER, MAGNESIUM, CALCIUM, IRON, MANGANESE, BORON, CHLORINE, ZINC, COPPER AND MOLYBDENLIM LIMIT VEGETATION STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC SOIL FERTILITY.
- RESOLUTIONS: INCORPORATING SOIL NUTRIENTS CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTIVE VEGETATIVE SPECIES TOLERANT TO LOW FERTILITY SOIL CONDITIONS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE. 4. ERODIBLE SOIL TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10, LIMIT VEGETATIVE STABILIZATION OF CHANNELS.
- RESOLUTIONS: TEMPORARY CHANNEL LINING, PROVIDING PERMANENT CHANNEL LINING, DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTING VEGETATIVE WITH GREATER RETARDANCE, SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATION OF THESE AND/OR METHODS. VEGETATIVE RETARDANCE INFORMATION IS PROVIDED IN TABLES 6 AND 7 OF THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL PUBLISHED BY PADEP. 5. WET SOIL TYPES HAVE EXCESSIVE ROOT ZONE AND SOIL MOISTURES. SOME SOIL SURVEYS INDICATE WETNESS, HIGH WATER TABLE AND FLOODING. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE.
- RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO WET CONDITIONS, TILING VEGETATIVE AREAS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY THE PENN STATE.
- 6. DRY SOIL TYPES LACK SUFFICIENT ROOT ZONE SOIL MOISTURES. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE. RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO DRY CONDITIONS, IRRIGATING VEGETATED AREAS AND IMPLEMENTING COMBINATION OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
- 7. SOIL TYPES SUSCEPTIBLE TO SINKHOLE AND SOLUTION CHANNEL/CHAMBER FORMATION POSE LIMITATIONS ON LOCATING RESERVOIR AREAS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS, AND STORMWATER DETENTION
- RESOLUTIONS: LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LINING RESERVOIR AREAS WITH IMPERMEABLE LINNINGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER
- 8. SOIL TYPES THAT EXHIBIT INSTABILITY IN POND EMBANKMENTS OR SUSCEPTIBILITY TO PIPING AND SEEPING POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS.
- RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LIMITING EMBANKMENT SLOPE STEEPNESS AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. 9. SOIL THAT ARE DIFFICULT TO COMPACT, UNSUITABLE FOR WINTER GRADING, OR SUSCEPTIBLE TO FROST ACTION POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND
- RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS
- 10. SUSCEPTIBILITY FOR THE DEVELOPMENT OF SINKHOLE WITHIN IDENTIFIED SOILS.
- RESOLUTIONS: IN THE EVENT THAT PRESENCE OF A SINKHOLE IS DETECTED DURING THE COURSE OF WORK, CORRECTIVE MEASURES SHALL BE PERFORMED UNDER THE OBSERVATION AND GUIDANCE OF THE OWNER'S GEOTECHNICAL CONSULTANT. EXCAVATE THE LOOSE, WET SOILS SURROUNDING THE SINKHOLE TO EXPOSE THE SINKHOLE "THROAT" (THE OPENING IN THE ROCK) AND THE ADJACENT STABLE SOILS/ROCK WHERE POSSIBLE, THE EXCAVATION SHALL EXTEND A MINIMUM OF TWO FEET (2') BEYOND THE STABLE SOILS OR TO THE ROCK SURFACE, WHICHEVER IS ENCOUNTERED FIRST.
- FILL THE EXPOSED SINKHOLE "THROAT" WITH LEAN CONCRETE TO BLOCK THE MIGRATION OF THE UPPER LAYERS OF SOIL THROUGH THE ROCK OPENING. AFTER CONCRETE HAS CURED OVERNIGHT BACKFILL THE REMAINDER OF THE EXCAVATION WITH CLAYEY SOILS TO PROVIDE A LOW PERMEABILITY BARRIER. THE CLAYEY SOILS SHALL BE PLACED IN 8" LIFTS AND EACH LIFT COMPACTED BY REPEATED PASSES OF THE COMPACTION EQUIPMENT UNTIL STABLE. CARE SHALL BE TAKEN TO ASSURE THAT THE SOIL AT THE EDGES OF THE EXCAVATION ARE WELL COMPACTED.

TABLE 11.4

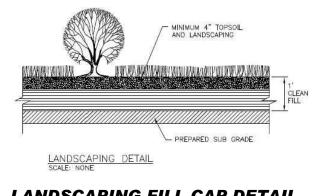
Mixture	8: - 86	Seeding Rate - Pure Live Seed			
Number	Species	Most Sites	Adverse Sites		
	Spring oats (spring), or	64	96		
0.00	Annual ryegrass (spring or fall), or	10	15		
12	Winter wheat (fall), or	90	120		
	Winter rye (fall)	56	112		
	Tall fescue, or	60	75		
1023	Fine fescue, or	35	40		
23	Kentucky bluegrass, plus	25	30		
	Redtop⁴, or	3	3		
	Perennial ryegrass	15	20		
290	Birdsfoot trefoil, plus	6	10		
3	Tall fescue	30	35		
	Birdsfoot trefoil, plus	6	10		
4	Reed canarygrass	10	15		
	Crownvetch, plus	10	15		
5 ⁸	Tall fescue, or	20	25		
	Perennial ryegrass	20	25		
A822	Crownvetch, plus	10	15		
6 5,8	Annual ryegrass	20	25		
25-04-11	Birdsfoot trefoil, plus	6	10		
7 ⁸	Crownvetch, plus	10	15		
	Tall fescue	20	30		
	Flatpea, plus	20	30		
8	Tall fescue, or	20	30		
	Perennial ryegrass	20	25		
25020	Serecia lespedeza, plus	10	20		
9 ⁶	Tall fescue, plus	20	25		
	Redtop⁴	3	3		
	Tall fescue, plus	40	60		
10	Fine fescue	10	15		
To Market	Deertongue, plus	15	20		
11	Birdsfoot trefoil	6	10		
	Switchgrass, or	15	20		
12 ⁷	Big Bluestem, plus	15	20		
	Birdsfoot trefoil	6	10		
PERM	Orchardgrass, or	20	30		
13	Smooth bromegrass, plus	25	35		
	Birdsfoot trefoil	6	10		

Soil Texture	ldeal Bulk densities	Bulk densities that may afffect root growth	Bulk densities that restrict root growth
	g/cm3	g/cm3	g/cm3
Sands, loamy sands	<1.60	1.69	1.8
Sandy loams, loams	<1.40	1.63	1.8
Sandy clay loams,			
loams, clay loams	<1.40	1.6	1.75
Slilt, silt loams	<1.30	1.6	1.75
Silt loams, silty clay			
loams	<1.10	1.55	1.65
Sandy clays, silty			
clave some clav			

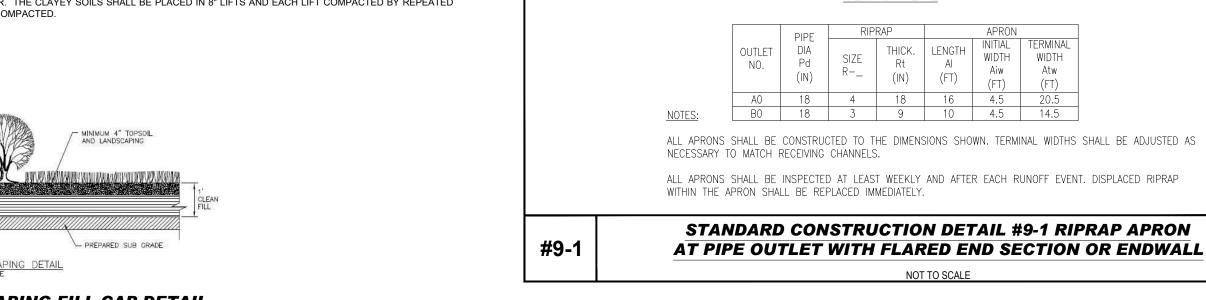
ensities	Bulk densities that restrict root		Soil Amend	TABLE 11.2 Iment Application R	ate Equivalents	
ay afffect growth	growth	100 Va 100 - 100 Val	Perm	anent Seeding App	lication Rate	
growur	growth	Soil Amendment	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	Notes
cm3	g/cm3					Or as per soil
.69	1.8	Agricultural lime				test; may not be
.63	1.8	Agricultural lime	6 tons	240 lb.	2,480 lb.	required in agricultural fields
.6	1.75	40.00.00 5 478	5-45-50-2-45-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-	000000000000000000000000000000000000000	ataca esta esta e	Or as per soil test; may not be
.6	1.75	10-20-20 fertilizer	1,000 lb.	25 lb.	210 lb.	required in agricultural fields
.55	1.65		Temp	orary Seeding App	lication Rate	
.49	1.58	Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
.39	1.47					
ı, USDA-I	VRCS	10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

	Compos		BLE 4.1 Minimum Spe	cifications	
Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filamen Polypropylene (HDMFPP)
Material Characteristics	Photo- degradable	Photo- degradable	Bio- degradable	Photo- degradable	Photo- degradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years
HAMMON COMPANY		Two-pl	y systems		
Inner Containment Netting Outer Filtration Mesh		HDPE biaxial net Continuously wound Fusion-welded junctures 3/4" X 3/4" Max. aperture size			
		Com (Wove mechar	Composite Polypropylene Fabric (Woven layer and non-woven fleece mechanically fused via needle punch)		
				3/16" Max. apertur	

TABLE 4.2				
Compost Standards				
ORGANIC MATTER CONTENT	25%-100% (DRY WEIGHT BASE)			
ORGANIC PORTION	FIBROUS AND ELONGATED			
рН	5.5-8.5			
MOISTURE CONTENT	30%-60%			
PARTICLE SIZE	30%-50% PASS THROUGH 3/8" SIEVE			
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM			







IF CONCRETE TAKE IS
EXCESSIVE THEN PLUG THROAT OF
SINKHOLE AS DIRECTED BY

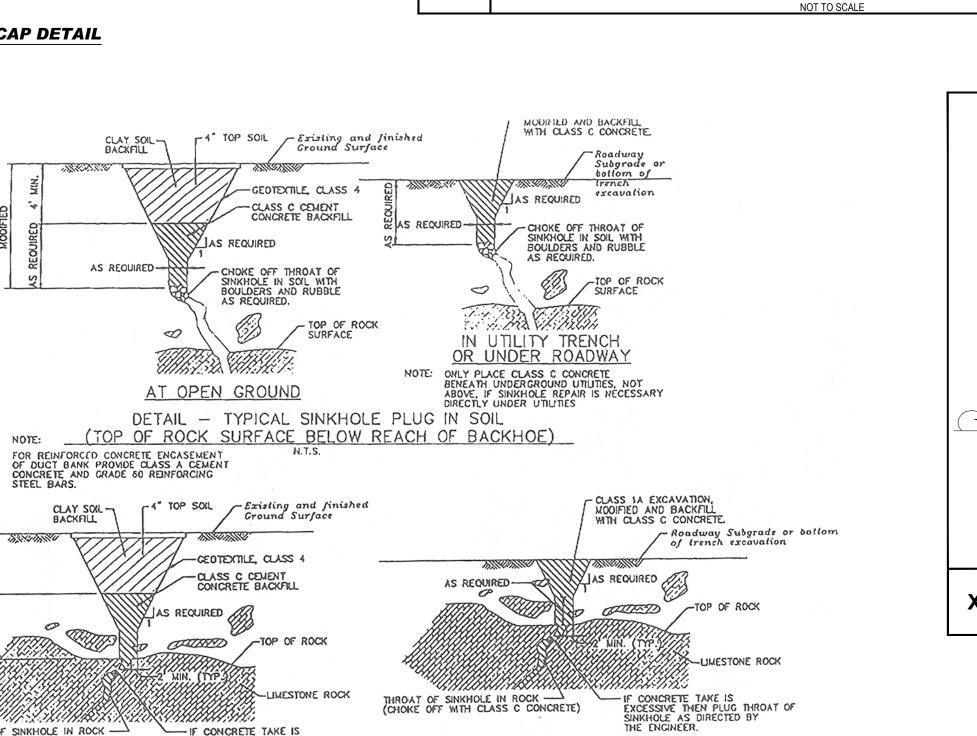
DETAIL — TYPICAL SINKHOLE PLUG IN ROCK (TOP OF ROCK SURFACE WITHIN REACH OF BACKHOE)

AT OPEN GROUND

HROAT OF SINKHOLE IN ROCK —

(CHOKE OFF WITH CLASS C CONCRETE)

CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION, AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITHIN THIS PERMIT.



IN UTILITY TRENCH

NOTE: CONTRACTOR MUST NOTIFY NORTHAMPTON COUNTY
CONSERVATION DISTRCT IF HE WANTS TO USE DIFFERENT
METHOD OF PLUGGING SINKHOLES.

IN UTILITY TRENCH
OR UNDER ROADWAY
ONLY PLACE CLASS C CONCRETE
BENEATH UNDERGROUND UTILITIES, NOT
ABOVE, IF SINKHOLE REPAIR IS NECESSARY
DIRECTLY UNDER UTILITIES

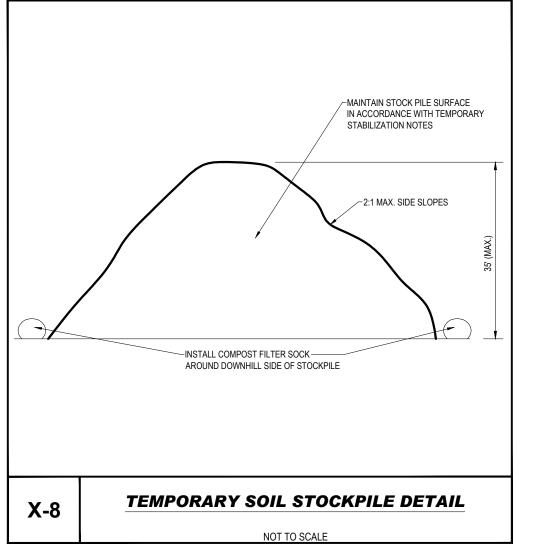
LIMITATION

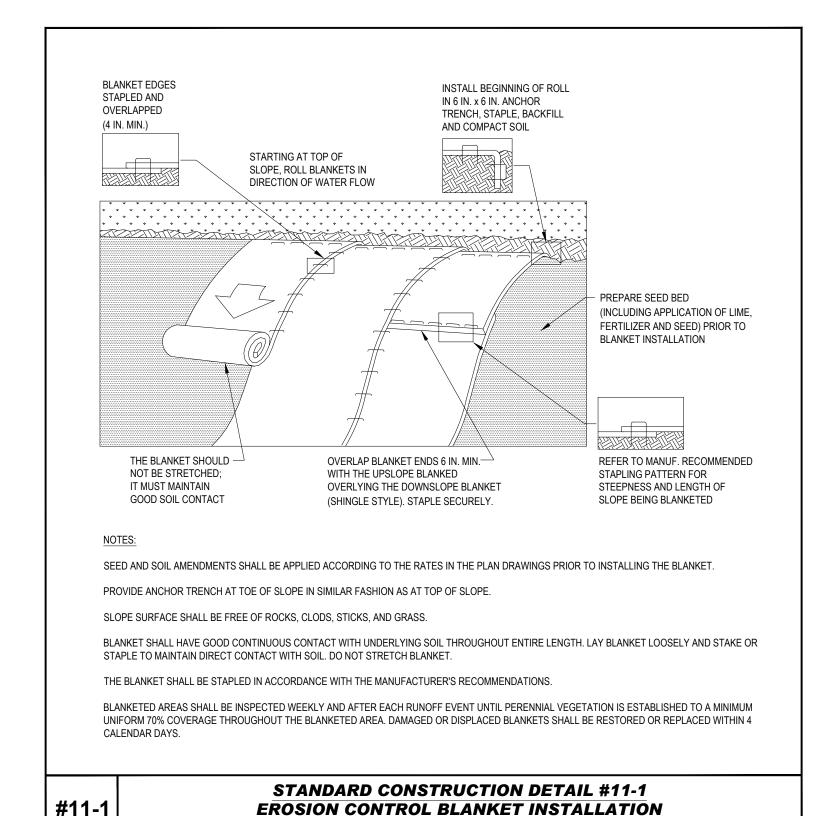
UDORTHENTS

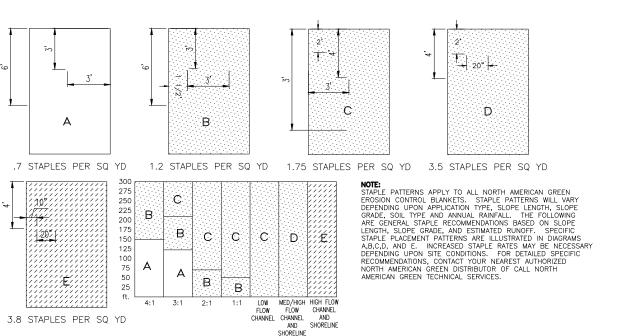
0% SLOPE

Aiw

URBAN LAND







EROSION CONTROL BLANKET STAPLE PATTERN GUIDE

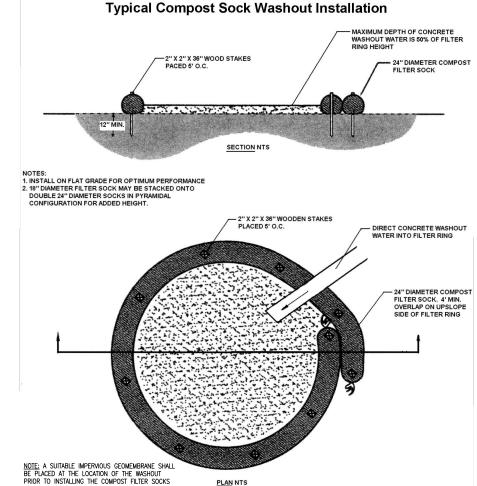


FIGURE 3.18



CITY OF BETHLEHEM **NORTHAMPTON COUNTY** PENNSYLVANIA

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PRELIMINARY/

FINAL LAND

DEVELOPMENT

PLANS

— FOR —

BETHLEHEM SHARED

SERVICES, LLC

PROPOSED OFFICE & RETAIL

MIXED-USE DEVELOPMENT

PY212051-CNDS-2

PROJECT No.:

CHECKED BY:

DRAWN BY:

CAD I.D.:

PROJECT:

04/22/2022 SUBMISSION

2 07/11/2022 REV PER CITY COMMENTS

COMMENT

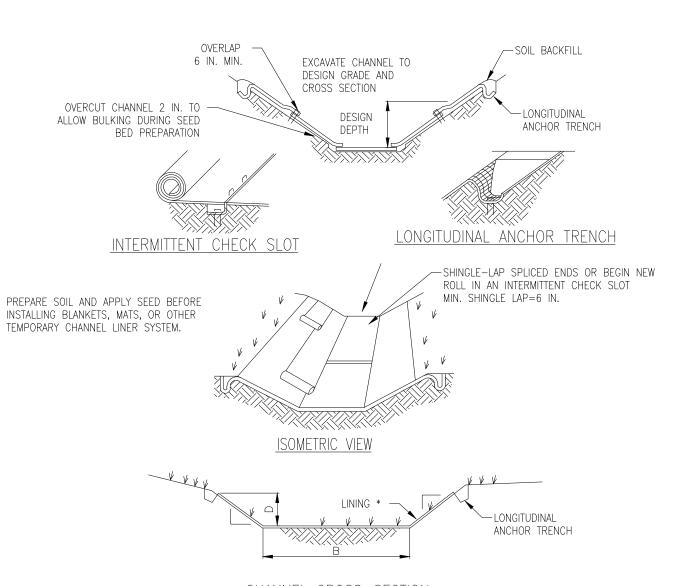
REV DATE

74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976 www.BohlerEngineering.com



SOIL EROSION & SEDIMENT POLLUTION CONTROL DETAILS

C-603



CHANNEL CROSS-SECTION * SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

CHANNEL NO.	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING *
А	2	1	7	3	3	GRASS 6"

#6-1

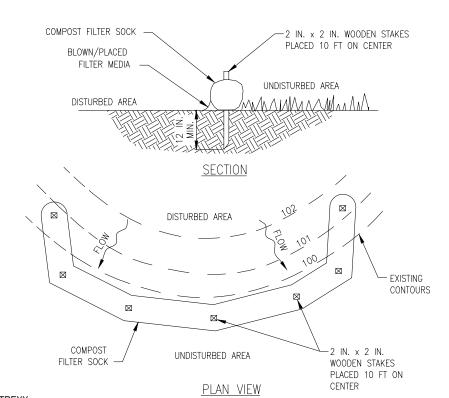
ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

INLET	MAX. CONSTRUCTION	PROTECTION
DESIGNATION	DRAINAGE AREA (AC.)	TYPE
А3	0.109	DETAIL #4-15
A 4	0.662	DETAIL #4-18
A 5	0.646	DETAIL #4-18
A6	0.524	DETAIL #4-18
A6.1	0.031	DETAIL #4-16
A7	0.042	DETAIL #4-16
A8	0.033	DETAIL #4-16
B2.1	0.025	DETAIL #4-16
В3	0.353	DETAIL #4-15
B4	0.263	DETAIL #4-15
B4.2	0.018	DETAIL #4-16
B5	0.272	DETAIL #4-15
В6	0.154	DETAIL #4-16

	SiltSoxx		Max. Allowable	Provided
	Size		Slope Length	Slope Length
Location	(inches)	Slope (%)	Above Barrier (ft)*	Above Barrier (ft)
1 NORTHWEST OF INLET A3	12	1.00	520	5
2 WEST OF INLET A3	12	1.00	520	5
3 SOUTH OF RG#1	32	4.94	663	586
4 EAST OF RG#1	12	33.33	42	20
5 EAST OF INLET B4.2	12	10.71	139	6
6 EAST OF SWALE A	12	33.33	42	84
7 EAST SOIL STOCKPILE	12	0.00	520	Stockpile
8 NORTH SOIL STOCKPILE	12	0.00	520	Stockpile
9 CONCRETE WASHOUT	12	0.00	520	Washout
10 AROUND RG#1	24	4.81	532	499



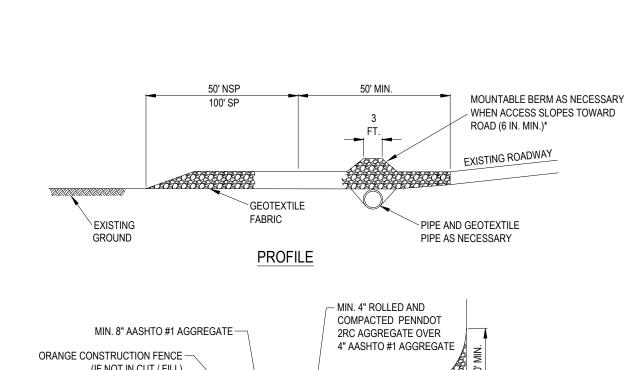
FILTREXX • SOCK MATERIAL SHALL MEET THE STANDARDS OF PA DEP EROSION CONTROL MANUAL TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF PA DEP EROSION CONTROL MANUAL TABLE 4.2 COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST EIGHT (8) FEET UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT (PA DEP EROSION CONTROL MANUAL FIGURE 4.1). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON PA DEP EROSION CONTROL MANUAL FIGURE 4.2. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

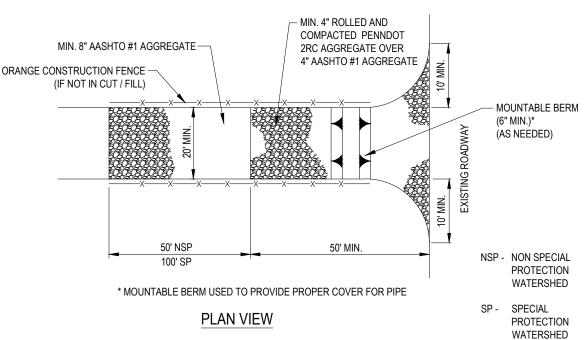
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER SIX (6) MONTHS, PHOTODEGRADABLE SOCKS AFTER ONE (1) YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO

MANUFACTURER'S RECOMMENDATIONS. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK

#4-1





REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

> STANDARD CONSTRUCTION DETAIL #3-1 (ABACT) ROCK CONSTRUCTION ENTRANCE

2 IN. X 2 IN. WOODEN STAKES-PLACED 10 FT ON CENTER WELL VEGETATED, GRASSY AREA DISCHARGE HOSE -FILTER SOCK-- HEAVY DUTY LIFTING STRAPS PLAN VIEW 2 IN. X 2 IN. WOODEN STAKES-PLACED 10 FT ON CENTER FILTER SOCK-WELL VEGETATED, GRASSY AREA BLOWN/PLACED FILTER MEDIA — BLOWN/PLACED FILTER MEDIA — FILTER SOCK-**ELEVATION VIEW** NOTES:

STANDARD CONSTRUCTION DETAIL #6-1

VEGETATED CHANNEL

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

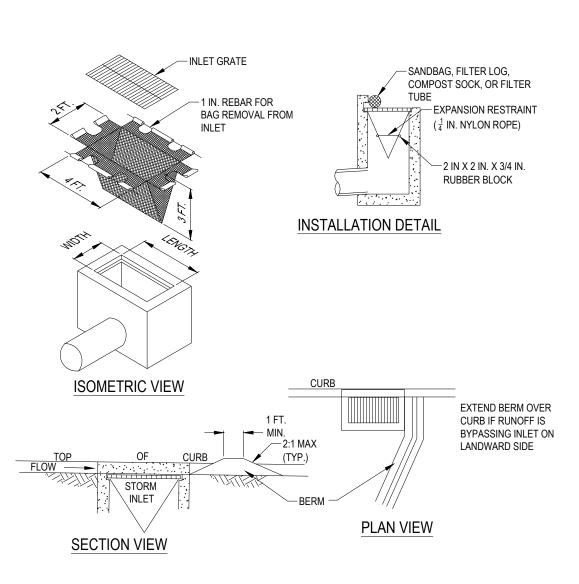
SOCK RING OR OPERATED IN CONJUNCTION WITH A SUMP PIT.

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA. AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS. AS THE PROPOSED DEVELOPMENT IS WITHIN AN IMPAIRED WATERSHED, ALL FILTER BAGS MUST BE SURROUNDED BY A COMPOST FILTER

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE



MAXIMUM DRAINAGE AREA = 1/2 ACRE.

#4-15

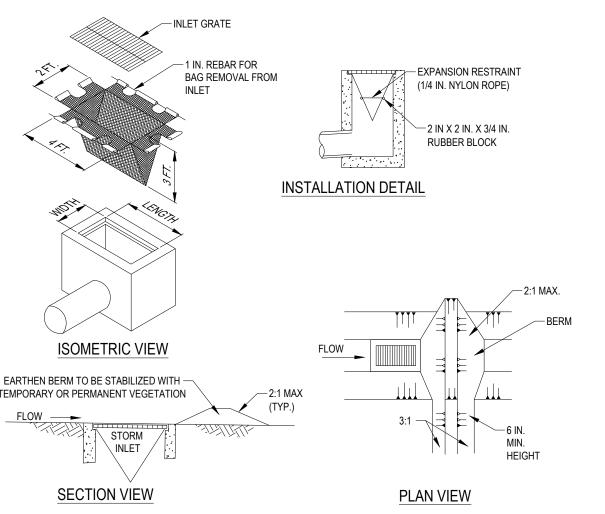
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL

ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.



NOTES:

#4-16

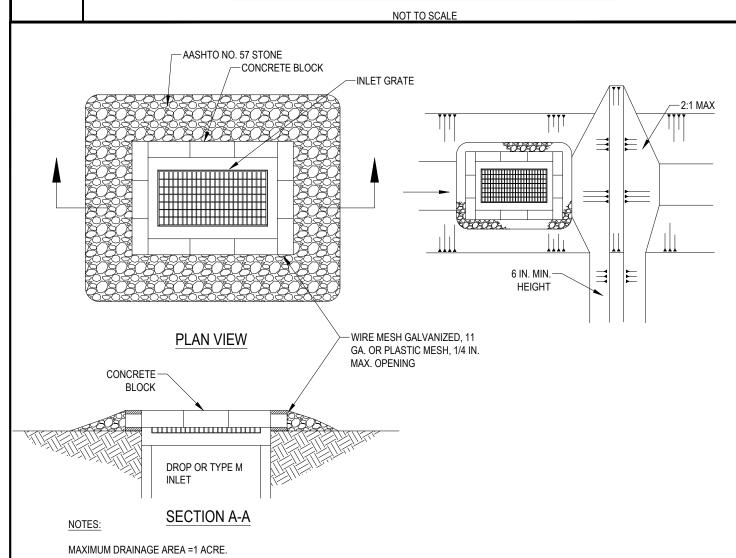
MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED

SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.



REPAIRED OR REPLACED IMMEDIATELY.

#4-18

ENTRANCE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.

TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #4-18 STONE AND

STANDARD CONSTRUCTION DETAIL #3-16 (ABACT) PUMPED WATER FILTER BAG

STANDARD CONSTRUCTION DETAIL #4-15 FILTER BAG INLET PROTECTION - TYPE C INLET

STANDARD CONSTRUCTION DETAIL #4-16 FILTER BAG INLET PROTECTION - TYPE M INLET

CONCRETE BLOCK INLET PROTECTION - TYPE M INLET

REVISION 2 - 07/11/2022

SOIL EROSION &

SEDIMENT

POLLUTION

CONTROL DETAILS

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SERVICES, LLC

PROPOSED OFFICE & RETAIL

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE**

CITY OF BETHLEHEM

NORTHAMPTON COUNTY

PENNSYLVANIA

74 W BROAD STREET, SUITE 500

BETHLEHEM, PA 18018

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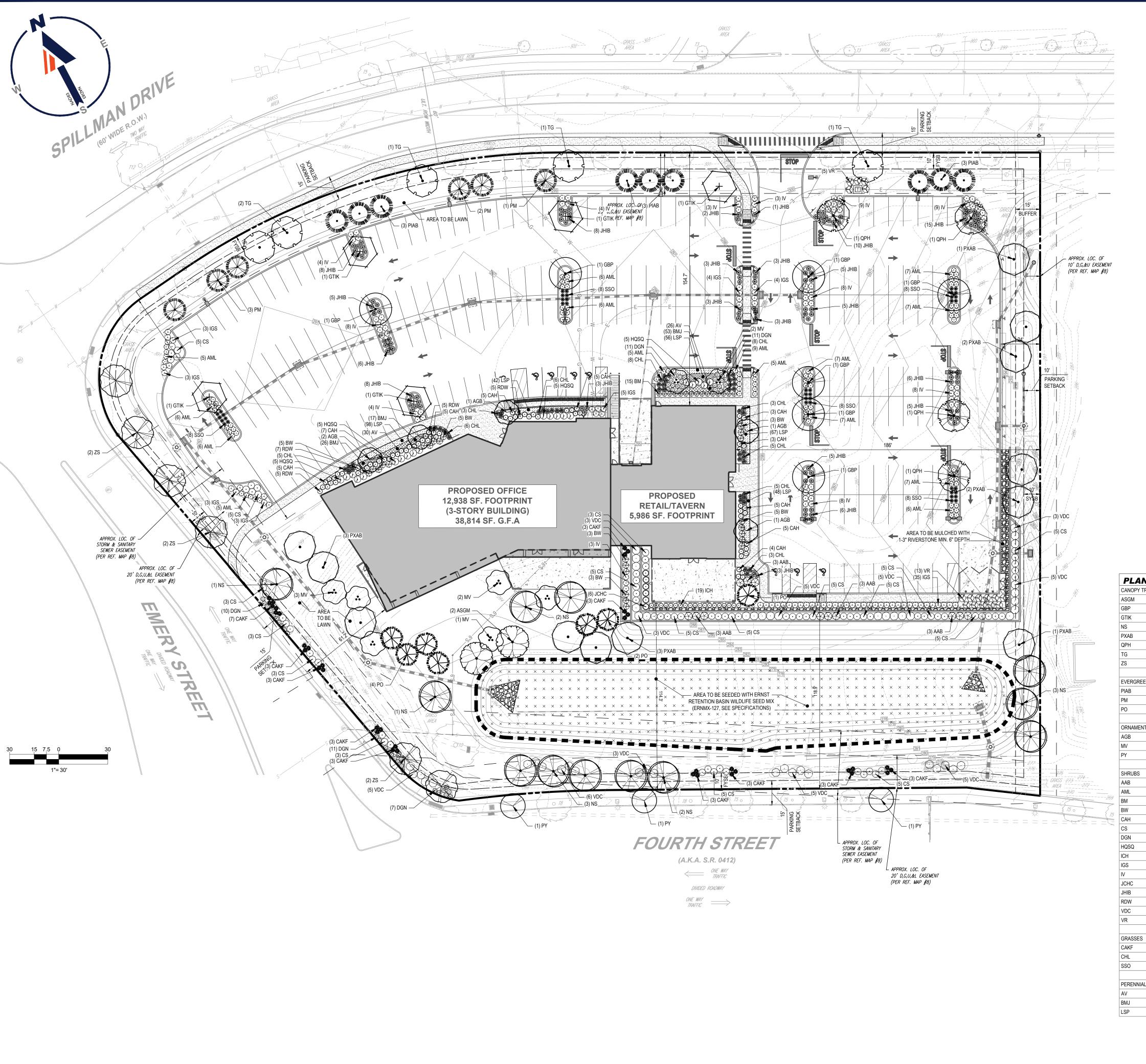
REV DATE

EARTHEN BERM TO BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATION

FOR ALL INSTALLATIONS. ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.





LOCATION MAP

SCALE: 1" = 1,000'

GENERAL NOTES:

311 LIRIOPE SPICATA

 THIS PLAN IS TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY.
 ALL DISTURBED UNPAVED AREAS, EXCLUDING PLANTING BEDS, ARE TO BE INSTALLED AS LAWN IN ACCORDANCE WITH LANDSCAPE

SPECIFICATION #2.C., UNLESS OTHERWISE STATED ON THIS PLAN.

- SHRUBS PLANTED ALONG HEAD-IN PARKING STALLS SHALL BE INSTALLED TO ALLOW A CLEARANCE OF TWO FEET FROM FACE OF CURB TO ALLOW FOR BUMPER OVERHANG.
- 4. IF IRRIGATION IS REQUIRED BY THE OWNER OR APPROVING MUNICIPALITY, THE CONTRACTOR SHALL PROVIDE AN IRRIGATION SYSTEM MEETING THE SPECIFICATIONS OF THE CHOSEN PRODUCT'S MANUFACTURER. THE IRRIGATION DESIGN SHALL ACCOMMODATE LAWN AND BED AREAS EACH UNDER SEPARATE ZONES TO MAXIMIZE WATER EFFICIENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ANY PERMITS REQUIRED FOR THE INSTALLATION OF AN IRRIGATION SYSTEM.
- 5. PLANT MATERIAL SUBSTITUTIONS MUST BE FORMALLY SUBMITTED TO BOHLER ENGINEERING AND THE MUNICIPAL ENGINEER AND LANDSCAPE CONSULTANTS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ANY PLANT MATERIAL THAT ARE TO BE INSTALLED WITHIN STORMWATER BMP FEATURES MUST BE NATIVE SPECIES.
- 6. WITHOUT EXCEPTION, WEED BARRIER FABRIC SHALL NOT BE INSTALLED WITHIN ANY BMP FACILITY. BMP FACILITIES INCLUDE RAINGARDENS, INFILTRATION TRENCHES, VEGETATIVE SWALES AND STORMWATER BASINS.

CITY OF BETHLEHEM SPECIFIC NOTES

- 1. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBANCE IS ALLOWED IN THE TREE PROTECTION ZONE UNLESS INDICATED ON THE
- BARRICADES MUST BE INSTALLED PRIOR TO ANY DESTRUCTION AND/OR CONSTRUCTION ACTIVITY.
- THE ROOT PROTECTION ZONE SHALL BE THE AREA ENCOMPASSED BY A CIRCLE WITH A RADIUS EXTENDING 1.25 FT. FROM THE TRUNK OF THE TREE FOR EVERY INCH DBH (DIAMETER AT BREAST HEIGHT) OF THE TREE.
- 4. VIOLATION OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO PENALTY PER CITY ORDINANCE.
- ALL TREES ON PUBLIC PROPERTY ARE PROTECTED BY ORDINANCE: NO PRUNING ROOT PRUNING OF ROOTS OVER ONE INCH IN DIAMETER, AND/OR TREE REMOVAL IS TO BE PERFORMED WITHOUT A PERMIT AND WORK MUST BE PERFORMED BY A CITY LICENSED TREE CONTRACTOR.
 ALL PLANT MATERIALS ARE TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
- STREET AND PARKING LOT TREES SHALL BE A MINIMUM OF 14' IN HEIGHT AND HAVE A SINGLE STRAIGHT TRUNK WITH THE FIRST LATERAL BRANCH AT 7' ABOVE THE ROOT BALL. TREES WITH AN UPRIGHT BRANCHING HABIT, SUCH AS ZELKOVA, MAY HAVE THE FIRST LATERAL BRANCH AT 6' ABOVE THE ROOT BALL.
- 8. ALL LANDSCAPING SHALL CONFORM TO THE CURRENT EDITION OF THE ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE OF THE CITY OF BETHLEHEM.

ANOPY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
SGM	2	ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE	3" CAL. MIN.	B&B	
BP	7	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY MAIDENHAIR TREE	3" CAL. MIN.	B&B	
TIK	5	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE'	SKYLINE THORNLESS HONEY LOCUST	3" CAL. MIN.	B&B	
S	12	NYSSA SYLVATICA	SOUR GUM	2.5" CAL.	B&B	
XAB	12	PLATANUS X ACERIFOLIA 'BLOODGOOD'	LONDON PLANE TREE	2.5" CAL.	B&B	
PH	4	QUERCUS PHELLOS	WILLOW OAK	3" CAL. MIN.	B&B	
G	5	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL. MIN.	B&B	
3	6	ZELKOVA SERRATA	ZELKOVA	3" CAL. MIN.	B&B	
					'	!
VERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
AB	9	PICEA ABIES	NORWAY SPRUCE	7` HT.	B&B	
М	6	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	7` HT.	B&B	
0	7	PICEA OMORIKA	SERBIAN SPRUCE	7` HT.	B&B	
	•					
RNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
GB	5	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2.5" CAL.	B&B	
V	8	MAGNOLIA VIRGINIANA	SWEET BAY	2.5" CAL.	B&B	
Y	3	PRUNUS X YEDOENSIS	YOSHINO CHERRY	3" CAL. MIN.	B&B	
HRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
AB	12	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	BRILLIANT RED CHOKEBERRY	30" MIN.	B&B	
ML	94	ARONIA MELANOCARPA 'LOW SCAPE MOUND'	LOW SCAPE MOUND CHOKEBERRY (DWARF)	18-24"	CONTAINER	
М	15	BUXUS MICROPHYLLA JAPONICA 'GREGEM'	BABY GEM BOXWOOD	18-24"	CONTAINER	
N	24	BUXUS MICROPHYLLA JAPONICA 'WINTER GEM'	WINTER GEM JAPANESE BOXWOOD	24-30"	CONTAINER	
AH	47	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET (DWARF)	24-30"	CONTAINER	
S	75	CORNUS SERICEA	RED TWIG DOGWOOD	30" MIN.	B&B	
GN	50	DEUTZIA GRACILIS 'NIKKO'	SLENDER DEUTZIA	18-24"	CONTAINER	
QSQ	20	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	30" MIN.	CONTAINER	
H	19	ILEX CRENATA 'HELERII'	HELER JAPANESE HOLLY	15-18"	CONTAINER	
S	60	ILEX GLABRA `SHAMROCK`	SHAMROCK INKBERRY	24-30"	CONTAINER	
	71	ITEA VIRGINICA `HENRY`S GARNET`	HENRY'S GARNET SWEETSPIRE	24-30"	CONTAINER	
CHC	6	JUNIPERUS CHINENSIS 'HETZII COLUMNARIS'	COLUMNAR HETZ JUNIPER	4-5`	B&B	
HIB	113	JUNIPERUS HORIZONTALIS 'MONBER'	ICEE BLUE JUNIPER	15-18" SPRD	CONTAINER	
DW	22	RHODODENDRON AZALEA `DELAWARE VALLEY WHITE`	`DELAWARE VALLEY WHITE` AZALEA	18-24"	CONTAINER	
DC	48	VIBURNUM DENTATUM 'CHRISTOM'	BLUE MUFFIN VIBURNUM	30" MIN.	B&B	
R	18	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	3-4`	B&B	
RASSES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
AKF	37	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1 GAL.	CONTAINER	
HL	52	CHASMANTHIUM LATIFOLIUM	NORTHERN SEA OATS	1 GAL.	CONTAINER	
SO	40	SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION'	STANDING OVATION LITTLE BLUESTEM GRASS	1 GAL.	CONTAINER	
ERENNIALS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
V	56	ASTILBE CHINENSIS 'VISIONS'	VISIONS CHINESE ASTILBE	1 GAL.	CONTAINER	18" o.c.
MJ	96	BRUNNERA MACROPHYLLA 'JACK FROST'	JACK FROST SIBERIAN BUGLOSS	1 GAL.	CONTAINER	14" o.c.

CREEPING LILY TURF

REVISIONS

REV	DATE	COMMENT	DRAWN BY
KEV	DATE	COMMENT	CHECKED BY
1	04/22/2022	PER NPDES	TK
'	04/22/2022	SUBMISSION	MMC
2	07/11/2022	REV PER CITY	TCK
	07/11/2022	COMMENTS	MMC



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THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:

PY212051

DRAWN BY:

TK

CHECKED BY:

MMC

DATE: 04/01/202
CAD I.D.: PY212051-LLGT-2.

PROJECT:
PRELIMINARYI
FINAL LAND
DEVELOPMENT

PLANS— FOR ———

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK 1810 SPILLMAN DRIVE CITY OF BETHLEHEM

PENNSYLVANIA ROHIFR

NORTHAMPTON COUNTY

74 W BROAD STREET, SUITE 500
BETHLEHEM, PA 18018
Phone: (610) 709-9971
Fax: (610) 709-9976
www.BohlerEngineering.com

REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA EIGENSE NO JA002729

SHEET TITLE:

CONTAINER 15" o.c.

1 GAL.

LANDSCAPE PLAN

LIEET NIIMBED:

C-701

COMPLIANCE CHART

(f)(1) LANDSCAPED OFF-STREET PARKING AND LOADING AREAS SHALL | TOTAL OFF-STREET PARKING & LOADING AREA =

CALCULATIONS (REQUIRED / PROVIDED)

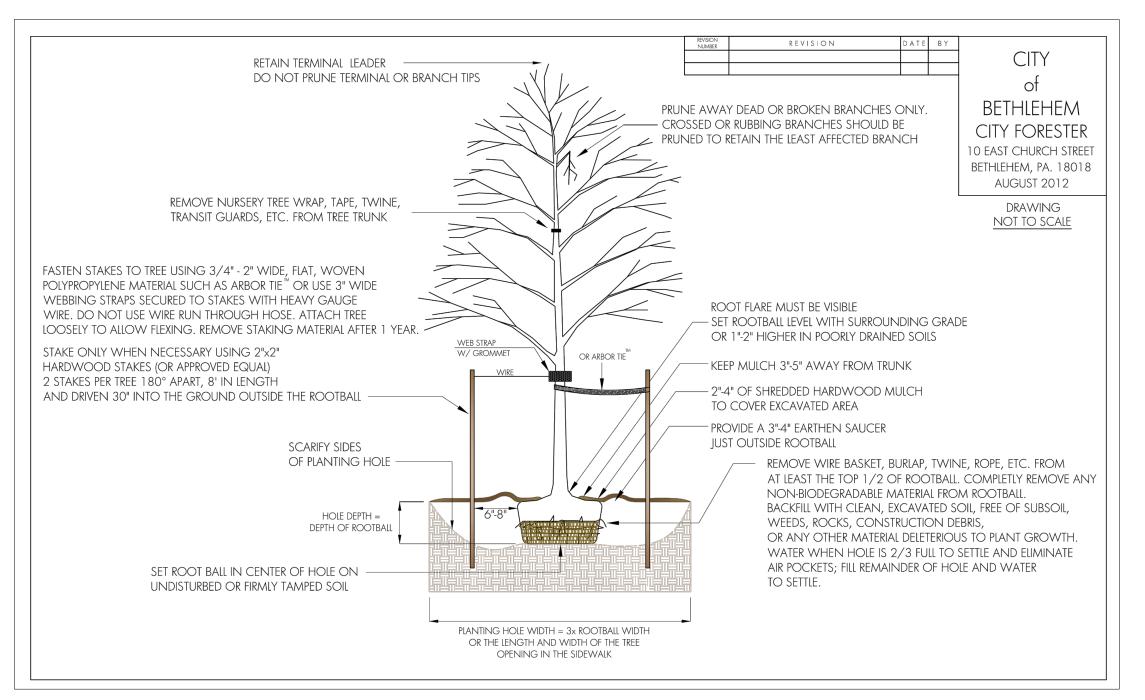
COMPLIANCE

SECTION

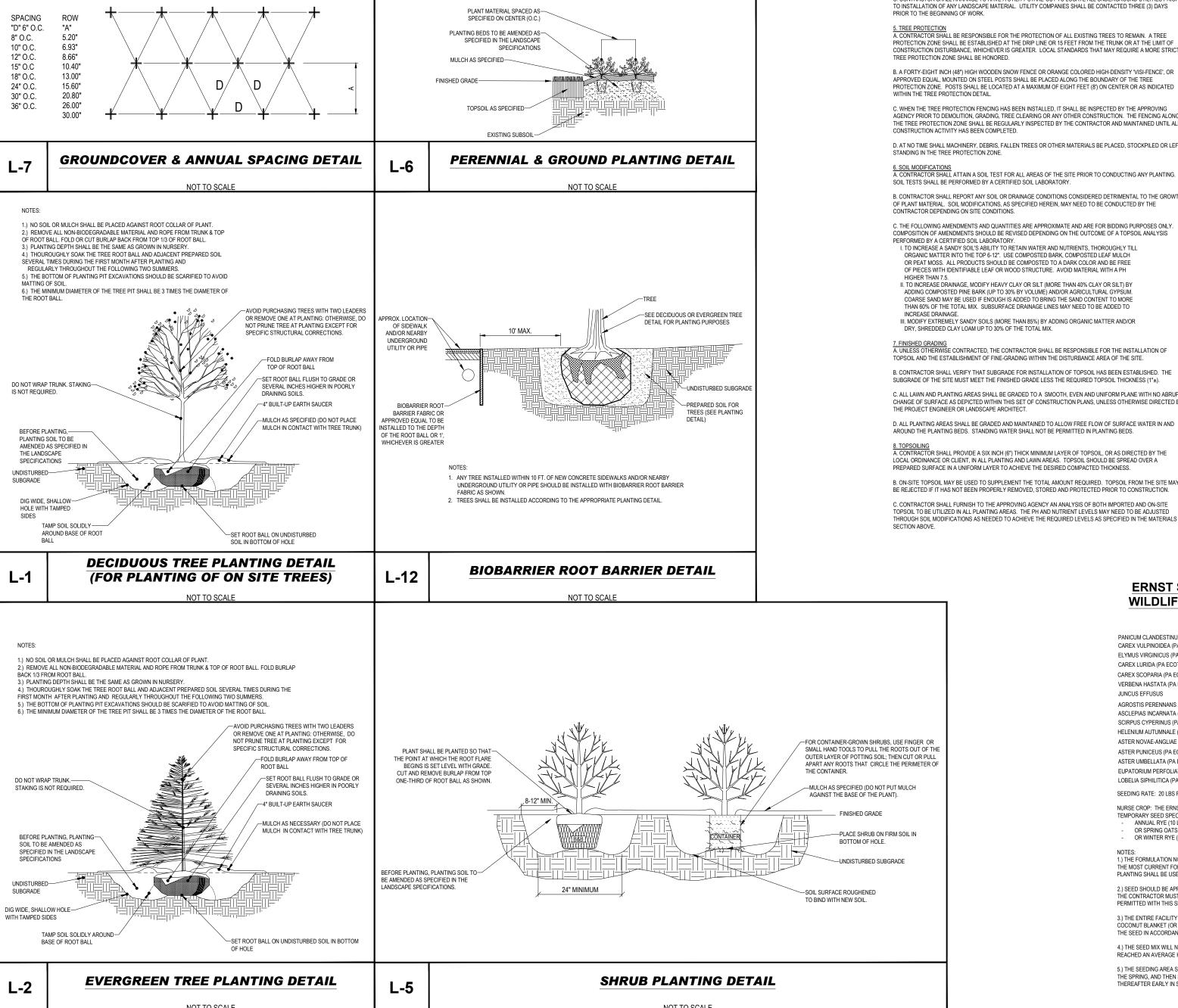
1349.08 PLANTING

REQUIREMEN

1349.08 PLANTING	HAVE A MINIMUM OF TEN (10%) PERCENT OF THE AREA REPRESENTED BY APPROVED PLANTINGS. THESE PLANTINGS SHALL BE IN ADDITION TO ANY BUFFER PLANTINGS WHICH MAY BE NECESSARY.	77,785± SF REQUIRED (10%): 7,778.5± SF LANDSCAPE AREA PROVIDED: 5,994± SF (7.7%) LANDSCAPE AREA	WAIVER
ZONING: 1308.01 ADDITIONAL REQUIREMENTS IN THE IR AND IR-R DISTRICTS	(e)2. SEE CITY SIDEWALKS REQUIREMENTS AND CITY STREET TREE REQUIREMENTS IN SEPARATE ORDINANCES. AN AVERAGE OF AT LEAST ONE STREET TREE SHALL BE PLANTED FOR EACH 40 FEET OF STREET LENGTH, UNLESS EXISTING TREES WILL BE PRESERVED TO SERVE THE SAME PURPOSE. THE SPACING OF SUCH TREES MAY	TOTAL LENGTH ALONG FOURTH STREET = 356± LF REQUIRED: 356 / 40 = 8.9 OR 9 STREET TREES PROVIDED: 6 EXISTING TREES TO REMAIN PLUS 3 PY (9 STREET TREES)	COMPLIES
DISTRICTS	VARY TO PROVIDE FOR DRIVEWAYS, GROWTH HABIT, SIGHT DISTANCE AND OTHER FEATURES, PROVIDED THE AVERAGE SEPARATION OF TREES IS MET.	TOTAL LENGTH ALONG EMERY STREET = 357± LF REQUIRED: 357 / 40 = 8.9 OR 9 STREET TREES PROVIDED: 3 EXISTING TREES TO REMAIN PLUS 6 ZS (9 STREET TREES)	COMPLIES
		TOTAL LENGTH ALONG SPILLMAN DRIVE = 615± LF REQUIRED: 615 / 40 = 15.4 OR 16 STREET TREES PROVIDED: 11 EXISTING TREES TO REMAIN PLUS 5 TG (16 STREET TREES)	COMPLIES
	(e)15.PARKING AREAS SHOULD BE WELL-SCREENED FROM AN ARTERIAL STREET BY LANDSCAPING AND A DECORATIVE MASONRY WALL. WHERE REAR PARKING IS NOT PRACTICAL, THEN PARKING SHOULD BE PROVIDED TO THE SIDE OF A BUILDING.	THE PARKING AREA HAS BEEN SCREENED FROM FOURTH STREET WITH LANDSCAPING.	COMPLIES
1318.23 BUFFER YARDS	BUFFER YARDS ARE REQUIRED ALONG REAR AND SIDE LOT LINES IN ALL PRIMARILY NON-RESIDENTIAL DISTRICTS (SUCH AS THE CM, INDUSTRIAL REDEVELOPMENT, COMMERCIAL AND INDUSTRIAL DISTRICTS), ALONG THE DISTRICT BOUNDARIES BETWEEN A NEW OR EXPANDED NON-RESIDENTIAL USE AND ANY RESIDENTIAL AND INSTITUTIONAL DISTRICTS THAT DIRECTLY ABUTS THE NON-RESIDENTIAL DISTRICT OR IS ONLY SEPARATED FROM THE NON-RESIDENTIAL DISTRICT BY AN ORDAINED ALLEY OR LOCAL STREET.	NOT ADJACENT TO RESIDENTIAL DISTRICT OR USE. NOT APPLICABLE.	NOT APPLICABLE
	(f) BUFFER YARDS SHALL INCLUDE A DENSE SCREEN PLANTING OF PRIMARILY EVERGREEN TREES AND SHRUBS, ALSO INCLUDING VEGETATIVE GROUND COVER TO THE FULL LENGTH OF THE LOT LINE. THE BUFFER YARD SHALL BE DESIGNED TO SERVE AS A BARRIER TO VISIBILITY, AIRBORNE PARTICLES, GLARE AND NOISE. SUCH SCREEN PLANTING SHALL BE LOCATED WITHIN THE BUFFER YARD, AND SHALL BE IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS: (1) PLANT MATERIALS USED IN THE SCREEN PLANTING SHALL BE AT LEAST 4 FEET IN HEIGHT WHEN PLANTED AND BE OF SUCH SPECIES AND SPACING THAT CAN BE EXPECTED TO PRODUCE, WITHIN 3 YEARS, A COMPLETE VISUAL SCREEN OF AT LEAST 6 FEET IN HEIGHT.		
	(I) IN ADDITION, AN 8 FEET MINIMUM WIDTH BUFFER STRIP ALONG A PUBLIC STREET SHALL BE REQUIRED WHERE NEW PARKING SPACES FOR 10 OR MORE VEHICLES ARE PROPOSED TO BE ADJACENT TO AND VISIBLE FROM A PUBLIC STREET. SUCH BUFFER STRIP SHALL INCLUDE PLANTS WITH AN ANTICIPATED MATURE HEIGHT OF AT LEAST 4 FEET AND DECIDUOUS SHADE TREES. THE CITY MAY REQUIRE SUCH BUFFER TO BE DESIGNED SO THAT IT IS POSSIBLE TO HAVE VIEWS AT EYE LEVEL INTO THE PARKING AREA FOR SECURITY REASONS.	THE PARKING SPACES HAVE BEEN SCREENED FROM THE STREETS WITH LANDSCAPING.	COMPLIES
1318.28 TREE CONSERVATION	(a) WHERE ANY EXISTING HEALTHY TREE(S) THAT HAS A TRUNK DIAMETER OF 8 INCHES OR GREATER (MEASURED 4.5 FEET ABOVE THE GROUND LEVEL) ARE REMOVED FROM A SITE AS PART OF OR IN PREPARATION FOR A DEVELOPMENT PROJECT, 1 NEW TREE SHALL BE PLANTED FOR EACH SUCH TREE THAT IS REMOVED. THE NEW TREES SHALL HAVE A MINIMUM TRUNK DIAMETER OF 2.5 INCHES MEASURED 6 INCHES ABOVE THE GROUND LEVEL AND SHALL MEET THE CITY SPECIES REQUIREMENTS THAT WOULD APPLY TO STREET TREES, UNLESS OTHER SPECIES ARE APPROVED BY THE CITY FORESTER. IF THERE IS MUTUAL CONSENT BY THE APPLICANT AND THE CITY, SOME OR ALL OF THE REPLACEMENT TREES MAY BE PLANTED ON CITY OWNED LAND AS AN IN LIEU OF REQUIREMENT.	TOTAL NUMBER OF TREES 8" AND GREATER TO BE REMOVED = 38 REQUIRED: 38 x 1 = 38 TREES PROVIDED: 5 AGB, 9 MV, 12 NS, 12 PXAB (38 TREES)	COMPLIES
1319.02 (j) STREET TREES AND PARKING LOT TREES	(1) STREET TREES MEETING REQUIREMENTS OF THE CITY SHALL BE REQUIRED ON EACH SIDE OF EVERY PUBLIC AND PRIVATE STREET. A MINIMUM AVERAGE OF ONE STREET TREE SHALL BE REQUIRED FOR EACH 30 FEET OF PUBLIC OR PRIVATE STREET LENGTH, UNLESS EXISTING TREES WILL BE PRESERVED TO SERVE THE SAME PURPOSE, OR UNLESS THE CITY ALLOWS AN AVERAGE OF ONE TREE FOR EVERY 50 FEET FOR TREES WITH LARGER CANOPIES. (2) IN ADDITION, A MINIMUM AVERAGE OF ONE DECIDUOUS SHADE TREE SHALL BE REQUIRED FOR EVERY 15 SURFACE PARKING SPACES.	SEE SECTION 1308.01(e)2 ABOVE. TOTAL SURFACE PARKING SPACES = 197 REQUIRED: 197 / 15 = 13.1 OR 14 SHADE TREES	SEE ABOVE
	SUCH DECIDUOUS TREES SHALL MET THE STREET TREES REQUIREMENTS OF THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE. NO MORE THAN 20 CONSECUTIVE SURFACE PARKING SPACES SHALL BE LOCATED IN A STRAIGHT ROW (NOT INCLUDING ADJACENT SPACES ACCESSED FROM A DIFFERENT AISLE) WITHOUT BEING SEPARATED BY A LANDSCAPED ISLAND WITH A DECIDUOUS TREE.	PROVIDED: 7 GBP, 5 GTIK, 2 QPH (14 SHADE TREES)	COMPLIES
LVIP PROTECTIVE COVENANTS: 305 LANDSCAPING AND FENCES	(5) STREET TREES ARE REQUIRED TO BE PLANTED WITHIN SIX (6) FEET OUTSIDE OF THE STREET RIGHT-OF-WAY LINE AND ARE TO BE A DECIDUOUS HARDWOOD TYPE AS APPROVED BY THE BUILDING COMMITTEE OF LVIP. THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY TO STREET TREE AND ALL OTHER TREE PLANTINGS: (a) STREET TREE PLANTINGS WILL INITIALLY BE PLANTED BY LVIP. AFTER ONE YEAR FROM THE DATE OF PLANTING, THE VEGETATION WILL BE THE RESPONSIBILITY OF THE DEVELOPER TO MAINTAIN AND REPLACE ANY DETERIORATED MATERIAL. REMOVAL OF ANY STREET TREE PLANTINGS BY THE DEVELOPER OR HIS REPRESENTATIVE SHALL BE REPLACED BY THE DEVELOPER OR HIS REPRESENTATIVE WITH AN IDENTICAL TREE, SPECIES, FORM AND AT A MINIMUM CALIPER OF 3 ½", ELSEWHERE ALONG THE LOT'S FRONT YARD.	NO EXISTING STREET TREES PROPOSED TO BE REMOVED. NOT APPLICABLE.	NOT APPLICABLE
	(6) THE AREA SURROUNDING EACH BUILDING SHALL BE LANDSCAPED. PARTICULAR EMPHASIS SHALL BE GIVEN TO SCREENING THE PARKING, DOCKING AND SERVICE RELATED AREAS. EACH LOT OWNER SHALL SUBMIT TO LVIP FOR ITS APPROVAL, A PLANTING PLAN. THIS PLAN SHALL NOTE A PLANTING SCHEDULE WHICH INCLUDES THE BOTANICAL NAMES, COMMON NAMES, SIZE, QUANTITY AND GENERAL REMARKS FOR EACH PLANT PROPOSED. LANDSCAPE WILL NOT BE APPROVED UNLESS THEY CONFORM TO THE FOLLOWING MINIMUM STANDARDS: (a) DECIDUOUS SHADE TREES SHALL HAVE A MINIMUM CALIPER MEASUREMENT OF THREE (3) INCHES AND DECIDUOUS FLOWERING TREES SHALL HAVE A MINIMUM CALIPER MEASUREMENT OF TWO (2) INCHES. (b) CONIFEROUS TREES SHALL HAVE A MINIMUM HEIGHT OF SEVEN (7) FEET. (c) EVERGREEN SHRUBS, EXCEPT FOR THOSE USED AS LOW GROUND COVERS, SHALL HAVE A MINIMUM HEIGHT OR SPREAD OF EIGHTEEN (18) INCHES. (d) DECIDUOUS SHRUBS SHALL HAVE A MINIMUM HEIGHT OF THIRTY (30) INCHES.	LANDSCAPING HAS BEEN PROVIDED THROUGHOUT THE SITE.	COMPLIES
	(7) OWNERS OF LOTS WHICH ARE ADJACENT TO FEDERAL, STATE OR TOWNSHIP ROADWAYS SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF AN ADEQUATE LANDSCAPE BUFFER FOR SUFFICIENT VISUAL SCREENING OF PAVED AREAS.	THE PAVED AREAS HAVE BEEN SCREENED FROM THE STREETS WITH LANDSCAPING.	COMPLIES
	(8) THE NUMBER OF TREES REQUIRED FOR EACH BUILDING SITE SHALL BE DETERMINED AS FOLLOWS: (a) MIXED COMMERCIAL / BUSINESS PARK AREA FOR LOTS FRONTING ON EAST 4TH STREET / ROUTE 412. EACH BUILDING SITE SHALL INCLUDE A MINIMUM OF SEVEN (7) DECIDUOUS TREES AND FIVE (5) EVERGREEN TREES (PER COVENANT SIZE) FOR EACH ONE (1) ACRE.	TOTAL LOT AREA = 4.4± AC REQUIRED: 4.4 x 7 = 30.8 OR 31 DECIDUOUS TREES 4.4 x 5 = 22 EVERGREEN TREES PROVIDED: 2 ASGM, 7 GBP, 5 GTIK, 4 QPH, 7 TG, 6 ZS (31 DECIDUOUS TREES); 9 PIAB, 6 PM, 7 PO (22 EVERGREEN TREES)	COMPLIES



CITY STREET TREE PLANTING DETAIL (FOR PLANTING OF STREET TREES)



LANDSCAPE SPECIFICATIONS:

1. SCOPE OF WORK:
THE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION,
PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE

A. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS B. TOPSOIL - NATURAL. FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%. A PH RANGE BETWEEN 5.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.

C. LAWN - LAWN AREAS SHALL BE SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES. FOR SOIL BED PREPARATIONS, I. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.

HOLD SOD IN PLACE D. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD

I. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE. II. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.

II. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO

F. PLANT MATERIAL I. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY AMERICAN HORT (FORMERLY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION) II. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.

III. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO

REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION. IV. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1½", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. V. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH: WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.

VI. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE

TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT VII. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB. AND VIII. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES
A CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF. B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS

SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. STIE PREPARATIONS
A REFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN. B. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE 100TH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO

C. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR O INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION
A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE. PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR 15 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT

B. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY "VISI-FENCE", OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED

C. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS
A. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY. B. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE

CONTRACTOR DEPENDING ON SITE CONDITIONS. OMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL
 ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH

II. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE. III. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR

7. FINISHED GRADING
A. LINLESS OTHERWISE CONTRACTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.

B. CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"+) C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY

D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

A. CONTRACTOR SHALL PROVIDE A SIX INCH (6") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE

PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS. B. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY

D. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM

SECCIVED ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BID PURPOSES ONLY ISEE SPECIFICATION 6.A.1) II. 20 POUNDS 'NITRO-FORM' (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER

E. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

1. PLANTING A. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.

B. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS

C. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED. D. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT

BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND

E. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL F THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED. F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON TH APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THI APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. TH PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING

II. LAWN AND SEED MIXES: MARCH 1ST TO MAY 15TH OR BETWEEN AUGUST 15TH AND OCTOBER 15TH PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATI

SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR

G. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY. THE RISK OF PLANT DEATH IS GREAT INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON: ACER RUBRUM PLATANUS X ACERIFOLIA

BETULA VARIETIES POPULUS VARIETIE CRATAEGUS VARIETIES PYRUS VARIETIES KOELREUTERIA QUERCUS VARIETIES
LIQUIDAMBAR STYRACIFLUA TILIA TOMENTOSA

FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING

PLANTS: MARCH 15TH TO DECEMBER 15TH

EXISTING STRUCTURES AND SIDEWALKS

.. GROUND COVER AREAS SHALL RECEIVE A 1/4" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION. M. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM

N. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB. O. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE

<u>3. TRANSPLANTING (WHEN REQUIRED)</u> X. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT. (SEE SPECIFICATION 2.F. ABOVE)

B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.

C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10TH AND JUNE 30TH. D. LIPON REPLANTING, BACKELLI SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN. F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE T I FAST UNTIL PLANTS ARE ESTABLISHED

B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.

 $\hbox{C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT}\\$ MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

A. THE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SLIPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN

COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY

DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION. A PLANT SHALL BE CONSIDERED "DEAD OR DYIN TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND LINTIL TURNOVE O THE OWNER/OPERATOR. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE

PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE D. LAWNS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND UNTIL TURNOVER TO THE R/OPERATOR THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATION SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

A. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER

KOELREUTERIA QUERCUS VARIETIES	1	04/22/2022	PER NPDES	TK
LIQUIDAMBAR STYRACIFLUA TILIA TOMENTOSA LIRIODENDRON TULIPIFERA ZELKOVA VARIETIES	'	04/22/2022	SUBMISSION	MMC
	2	07/11/2022	REV PER CITY	TCK
H. PLANTING PITS SHALL BE DUG WITH LEVEL OR CONVEX BOTTOMS, WITH THE WIDTH THREE TIMES THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN	2	07/11/2022	COMMENTS	MMC
LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:				
I. 1 PART PEAT MOSS II. 1 PART COMPOSTED COW MANURE BY VOLUME				
III. 3 PARTS TOPSOIL BY VOLUME				
IV. 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:				
A) 2 TABLETS PER 1 GALLON PLANT B) 3 TABLETS PER 5 GALLON PLANT				
C) 4 TABLETS PER 15 GALLON PLANT				
D) LARGER PLANTS: 2 TABLETS PER ½" CALIPER OF TRUNK				
I. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.				
WATER INDROUGHLT.				
J. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF				
THE ROOT BALL.				
K. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED				
TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE. NO PRUNING SHALL BE CONDUCTED WITHIN THE FIRST				
YEAR OF PLANTING.				

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PY212051-LLGT-2 PRELIMINARY/ FINAL LAND

DEVELOPMENT PLANS

BETHLEHEM SHARED

SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM

NORTHAMPTON COUNTY

PENNSYLVANIA

74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976 www.BohlerEngineering.com

D.T. NORTH

REGISTERED LANDSCAPE ARCHITEC PENNSYLVANIA PICENSE No. LA002729

SHEET TITLE:

LANDSCAPE DETAILS

REVISION 2 - 07/11/2022

ERNST SEED CO. RETENTION BASIN WILDLIFE SEED MIX SPECIFICATIONS

<u>(</u> El	RNMX-127):	
PANICUM CLANDESTINUM 'TIOGA'	DEERTONGUE, TIOGA	30
CAREX VULPINOIDEA (PA ECOTYPE)	FOX SEDGE	29.5
ELYMUS VIRGINICUS (PA ECOTYPE)	VIRGINIA WILD RYE	20
CAREX LURIDA (PA ECOTYPE)	LURID SEDGE	7
CAREX SCOPARIA (PA ECOTYPE)	BLUNT BROOM SEDGE	7
VERBENA HASTATA (PA ECOTYPE)	BLUE VERVAIN	:
JUNCUS EFFUSUS	SOFT RUSH	1.5
AGROSTIS PERENNANS (NY ECOTYPE)	AUTUMN BENTGRASS, ALBANY PINE BUSH	0.8
ASCLEPIAS INCARNATA (PA ECOTYPE)	SWAMP MILKWEED	0.5
SCIRPUS CYPERINUS (PA ECOTYPE)	WOOL GRASS	0.3
HELENIUM AUTUMNALE (PA ECOTYPE)	COMMON SNEEZEWEED	0.2
ASTER NOVAE-ANGLIAE (PA ECOTYPE)	NEW ENGLAND ASTER	0.1
ASTER PUNICEUS (PA ECOTYPE)	PURPLESTEM ASTER ASTER	0.1
ASTER UMBELLATA (PA ECOTYPE)	FLAT TOPPED WHITE ASTER	0.1
EUPATORIUM PERFOLIATUM (PA ECOTY	(PE) BONESET	0.1
LOBELIA SIPHILITICA (PA ECOTYPE)	GREAT BLUE LOBELIA	0.1
SEEDING RATE: 20 LBS PER ACRE OF T	HE ERNST MIX	
NURSE CROP: THE ERNST SEED MIX MI	JST BE ACCOMPANIED BY ONE OF THE FOLLOWI	NG

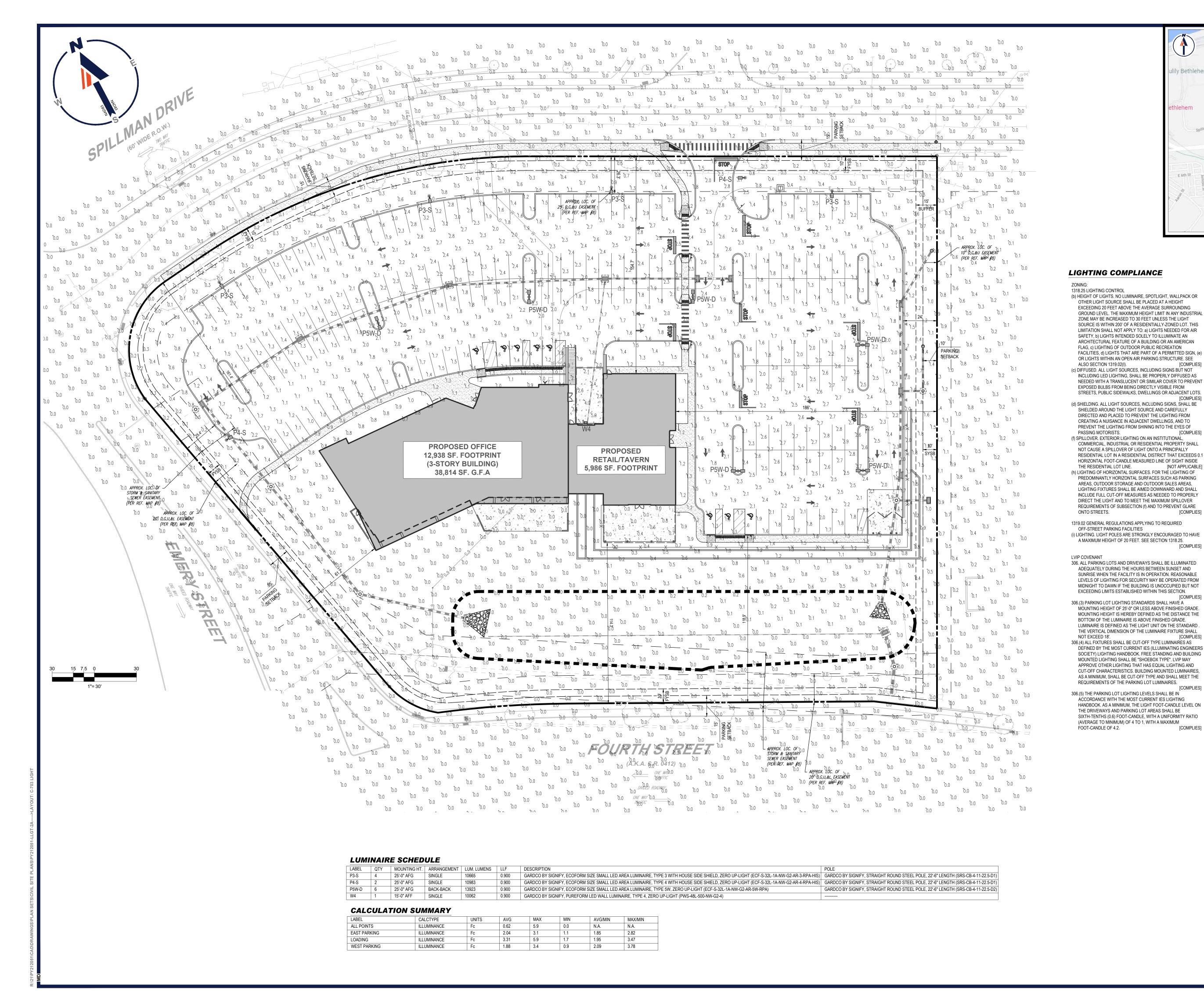
TEMPORARY SEED SPECIFICATIONS APPROPRIATE FOR THE TIME OF YEAR: ANNUAL RYE (10 LBS PER ACRE)
OR SPRING OATS (64 LBS PER ACRE OR WINTER RYE (56 LBS PER ACRE

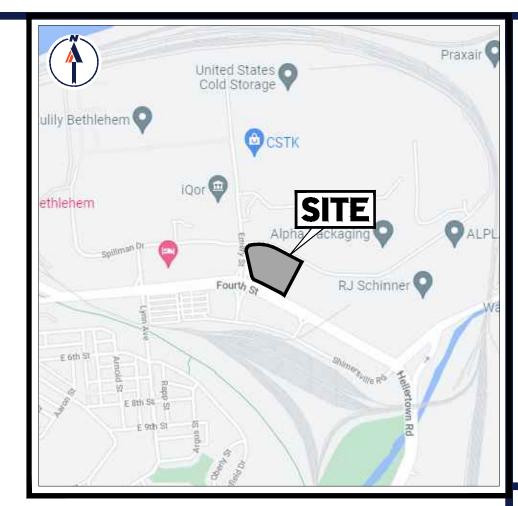
1.) THE FORMULATION NOTED ABOVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION. THE MOST CURRENT FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF

PLANTING SHALL BE USED

2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY PERMITTED WITH THIS SEED MIX; IT WILL PROHIBIT GERMINATION. 3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW & COCONUT BLANKET (OR APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF

4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND REACHED AN AVERAGE HEIGHT OF AT 12-18". 5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN THE SPRING, AND THEN SHALL BE MOWED NO MORE THAN ONCE EVERY THREE YEARS





LOCATION MAP

SCALE: 1" = 1,000'

GENERAL LIGHTING NOTES

- 1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES AR REFERENCED HEREIN, AND THE ELECTRICAL CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THES NOTES, IN THEIR ENTIRETY. THE ELECTRICAL CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
- APPLICABLE CONTRACTOR REQUIREMENTS INDICATED I THE PLANS, INCLUDING BUT NOT LIMITED TO GENERA NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL AGENCY AND GOVERNMENTAL REGULATIONS.
- 3. THE LIGHTING PLAN DEPICTS PROPOSED, SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER. ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
- 5. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT IS NOT LIMITED TO, VISUAL OBSERVATION, CLEANING OF LENSES, AND RE-LAMPING ACCORDING MANUFACTURER RECOMMENDATIONS. FAILURE FOLLOW THE ABOVE STEPS COULD RESULT IN IMPROPER LIGHT DISTRIBUTION AND FAILURE TO COMPLY WITH THE APPROVED DESIGN. UPON COMPLETION AND OWNER'S ACCEPTANCE OF THE WORK, THE ABOVE RESPONSIBILITIES BECOMES SOLELY THE OWNER'S.

- 8. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO ENSURE THAT SHIELDING AND OR ROTATED OPTICS ARE INSTALLED AS INDICATED ON THE PLAN IN ORDER TO ACHIEVE THE LIGHTING LEVELS THE REVIEWING AGENCY APPROVED.
- 9. UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.
- 10. THE LIGHT LOSS FACTORS (LLF) DEPICTED IN TH LUMINAIRE SCHEDULE ON THIS PLAN ARE BASED ON DATA PROVIDED BY THE MANUFACTURER FOLLOWING IES LM-80-08 TESTING. THE LIGHT LEVELS DEPICTED ON THIS PLAN WERE CALCULATED BASED ON THE LLF LISTED IN THE LUMINAIRE SCHEDULE.
- 11. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE PROJECT ENGINEER (BOHLER) FOR REVIEW AND APPROVAL. SUBSTITUTION REQUESTS MUST BE ACCOMPANIED BY A HORIZONTAL PHOTOMETRIC STUDY DEMONSTRATING THAT THE LUMINAIRE(S) IN QUESTION WILL MEET THE DESIGN INTENT OF THIS PLAN. SUBSTITUTION REQUESTS WITHOUT A PHOTOMETRIC STUDY WILL BE REJECTED.

REVISIONS

REV DATE COMMENT

2. THE ELECTRICAL CONTRACTOR MUST COMPLY WITH ALI

- 4. THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT GROUND LEVEL UNLESS OTHERWISE NOTED. ILLUMINATION LEVELS ARE SHOWN IN FOOT-CANDLES (FC).
- 6. THE LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES. POWER SYSTEM CONDUITS, WIRING AND OTHER ELECTRICAL COMPONENTS ARE SOLELY THE ARCHITECT'S, MECHANICAL ENGINEER'S AND/OR ELECTRICAL CONTRACTOR'S RESPONSIBILITY, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THE CONTRACTOR MUST COORDINATE WITH THE PROJECT ARCHITECT AND/OR ELECTRICAL ENGINEER REGARDING ANY AND ALL POWER SOURCES AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES.
- 7. THE ELECTRICAL CONTRACTOR MUST BRING IMMEDIATELY, IN WRITING, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURE(S) TO THE ENGINEER OF RECORD'S ATTENTION, PRIOR TO THE START OF CONSTRUCTION.

[COMPLIES]

[COMPLIES]

[COMPLIES]

	1	04/22/2022	PER NPDES SUBMISSION	TK MMC
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DEVELOPMENT PLANS

BETHLEHEM SHARED

SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

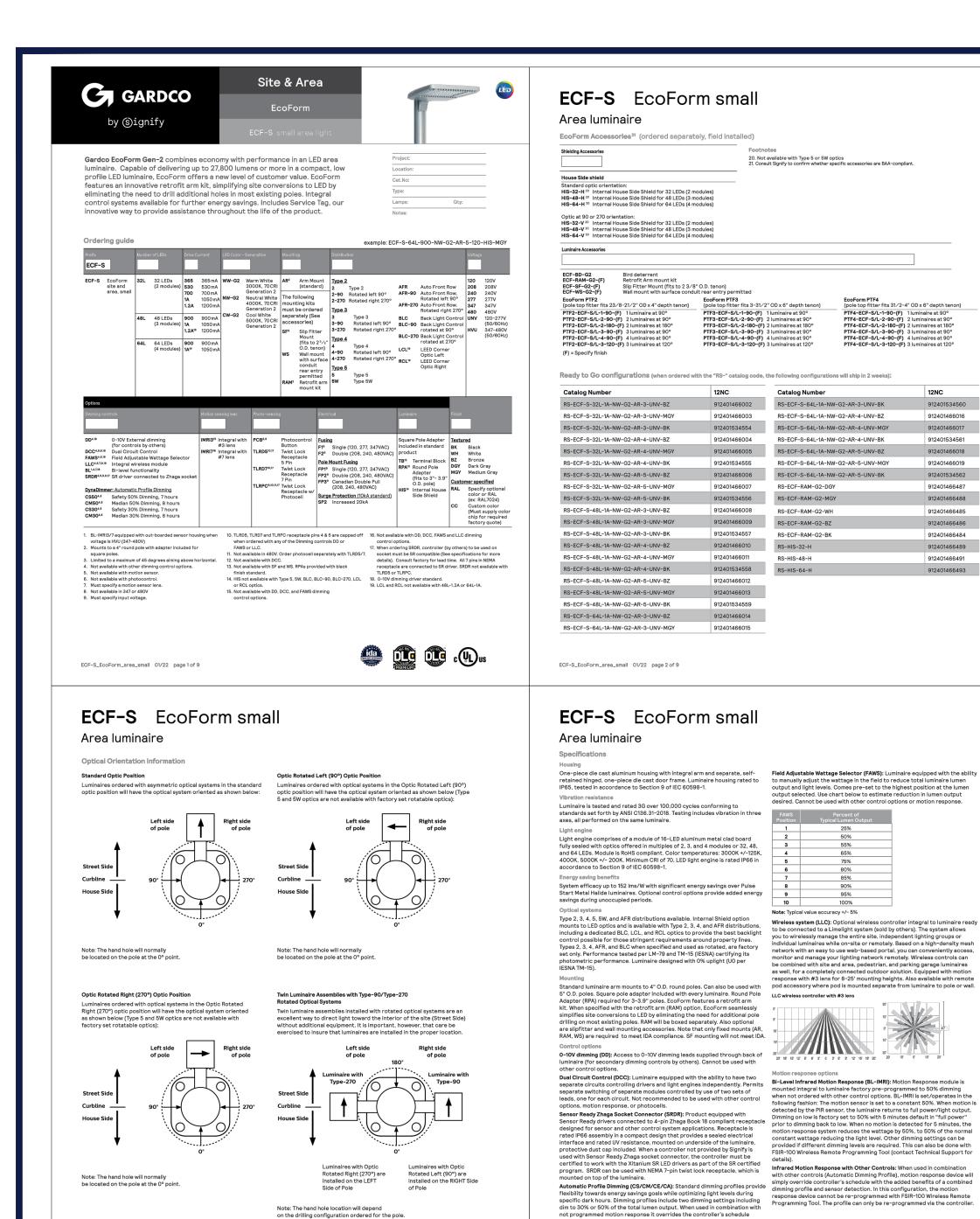
LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE CITY OF BETHLEHEM NORTHAMPTON COUNTY** PENNSYLVANIA

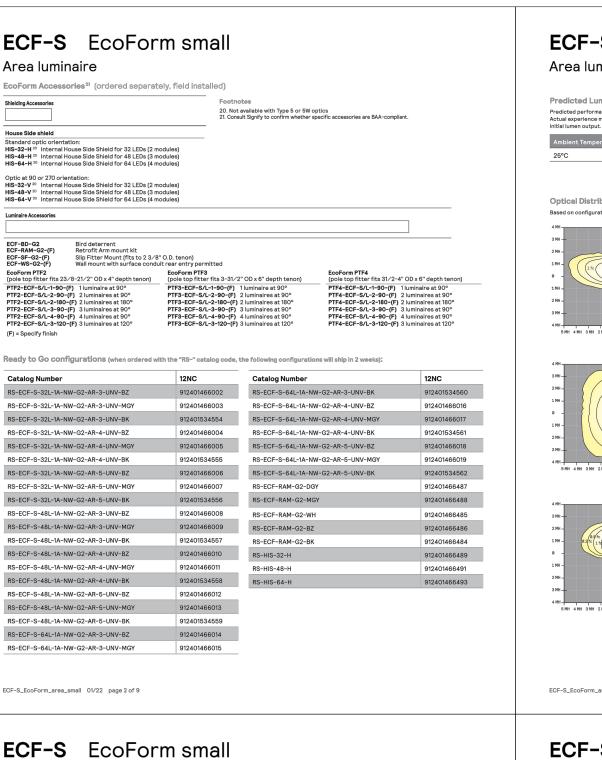
74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976 www.BohlerEngineering.com

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LIGHTING PLAN

C-703





PTF3-ECF-S/L-3-120-(F) 3 luminaires at 120

912401466004

912401534555

912401534557

Catalog Number

RS-ECF-RAM-G2-WH

RS-ECF-RAM-G2-BZ

output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

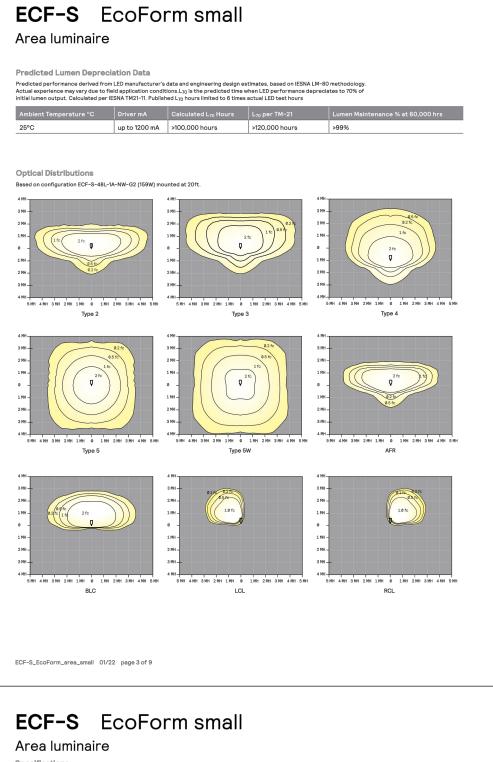
Wireless system (LLC): Optional wireless controller integral to luminaire read

Wireless system (LLC): Optional wireless controller integral to luminaire ready to be connected to a Limelight system (sold by others). The system allows you to wirelessly manage the entire site, independent lighting groups or individual luminaires while on-site or remotely. Based on a high-density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless controls can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution. Equipped with motion response with #3 lens for 8-25' mounting heights. Also available with remote pod accessory where ood is mounted separate from luminaire to pole or wall.

provided if different dimming levels are required. This can also be done with FSIR-100 Wireless Remote Programming Tool (contact Technical Support for

RS-ECF-RAM-G2-BK

RS-HIS-48-H



Infrared Motion Response Lenses (IMRI3/IMRI7): Infrared Motion Response Infrared Motion Response Integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #3 (IMRI3) is designed for mounting heights up to 20' with 4 40' diameter coverage area. Lens #7 is designed for higher mounting heights up to 40' with larger coverage areas up to 100' diameter coverage areas. See charts for approximate detection patterns:

Driver: Driver efficiency (>90% standard), 120–480V available (restrictions apply). Open/short circuit protection. All drivers are 0-10V dimming to 10% power standard, except when using Sensor Ready (SR) drivers, which uses DALI protocol (options CS50/CM50/CS30/CM30, SRDR, and TR7). Drivers are RoHS and FCC Title 47 CFR Part 15 compliant.

Button Photocontrol (PCB): Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polyvachorate housing. Rated widther of 120V or 208–277V with he applications.

Sky Approved.

Electrical

Twist-Lock Receptacle (TLRD5/TLRD7/ TLRPC): Twist Lock Receptacle with 5 pins enabling dimming or with 7 pins with additional functionality (by others) can be used with a twistlock photoelectric cell or a shorting cap. Dimming Receptacle Type B (5-pin) and Type D-24 (7-pin) in accordance to ANSI C136.41. Can be used with third-party control system. Receptacle located captions of luminaire housing. When specifying recentacle with twistlock.

This product is manufactured in one of our US factories and, as of the date of this document, this product was considered a commercially available off-the-shelf

Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving

funds administered by the Department of Transportation or other federal agencies. Prior to ordering, please visit www.signify.com/bas to view a current list of BAA-compliant products to confirm this product's current compliance.

(COTS) item meeting the requirements of the BAA. This BAA designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade

Signify

IMRI3 Luminaire or remote mount controller with #3 lens

IMRI7 Luminaire or remote mount controller with #7 lens

27'

Buy American Act of 1933 (BAA):

SRS_Spec_Sheet_US 10/21 page 4 of 5

20 18 19 12 0 0 3 0 3 0 0 12 15 18 20 20 10 0 10 20

on top of luminaire housing. When specifying receptacle with twistlock photoelectric cell, voltage must be specified. When ordering 7-pin Twistlock receptacle (TLRD7), all 7 pins are wired to respective pins with the

ordering a twist-lock receptacle with a photocell (TLRPC), the receptacle

used is a 5-pin receptacle, so pins 6 and 7 are not available (no SR driver 0-10V dimming leads (pins 4 and 5) are connected if not ordered with an

stabilized polycarbonate housing. Rated voltage of 120V or 208-277V with a

load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light

load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light. Surge protection (SPI/SP2): Surge protection device tested in accordance with ANSI/IEEC 62. 45 per ANSI/IEEC 62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA 20kV / 10kA surge protection device that provides extra protection beyond the SPI 10kV/10kA level.

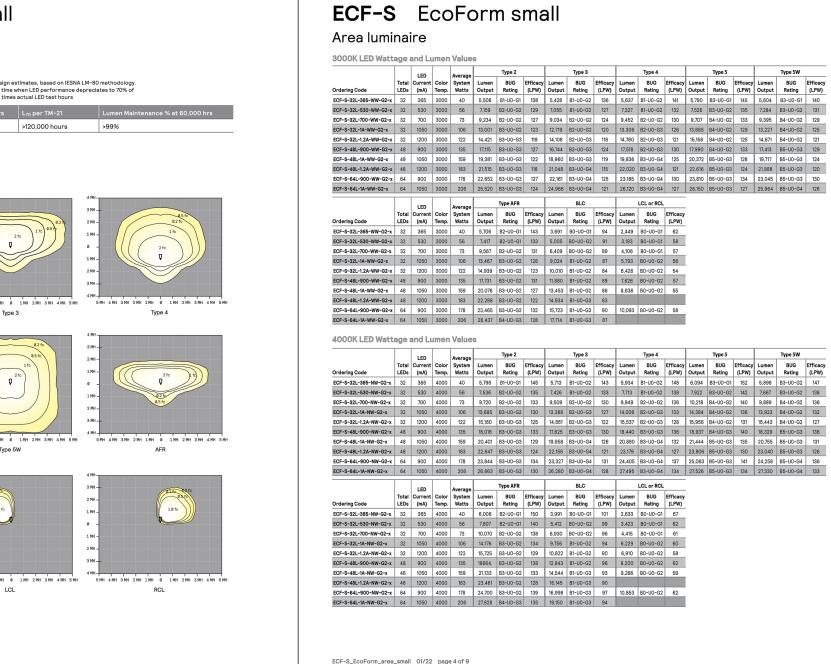
UL/cUL wet location listed to the UL 1598 standard, suitable for use in

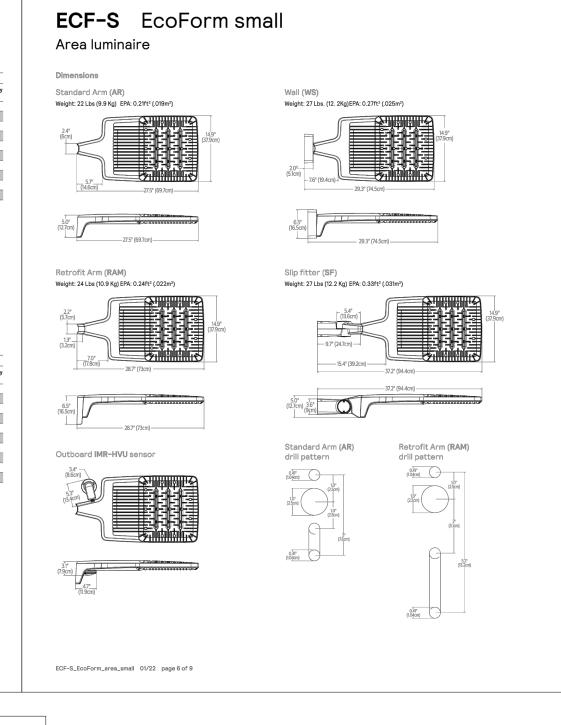
Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC textured polyester powdercoat finish. Standard colors include bronze (i black (BK), white (WH), dark gray (DGY), and medium gray (MGY). Consult factory for specs on optional or custom colors.

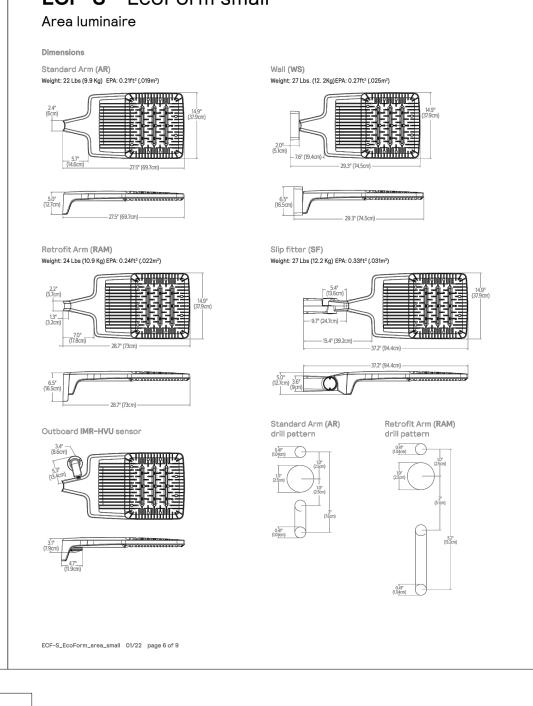
product right away. For more details visit: signify.com

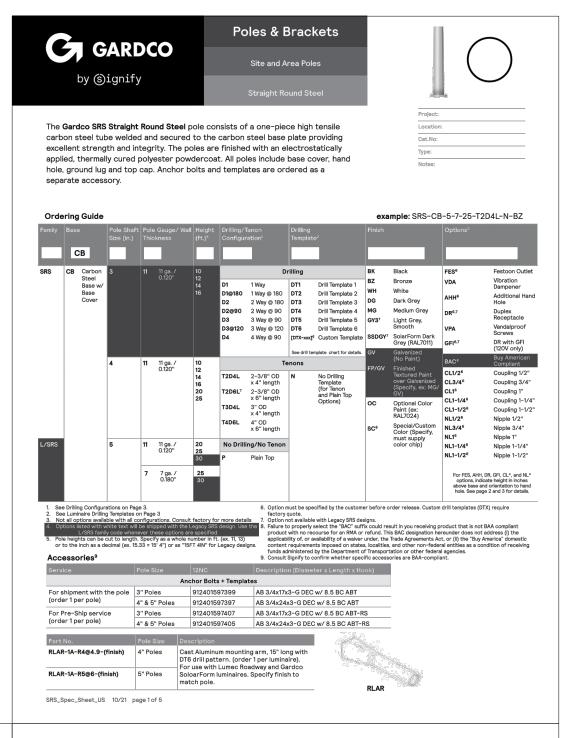
ambient temperatures from -40° to $40^\circ C$ (-40° to $104^\circ F).$ Most EcoForm configurations are qualified under Premium and Standard DesignLights

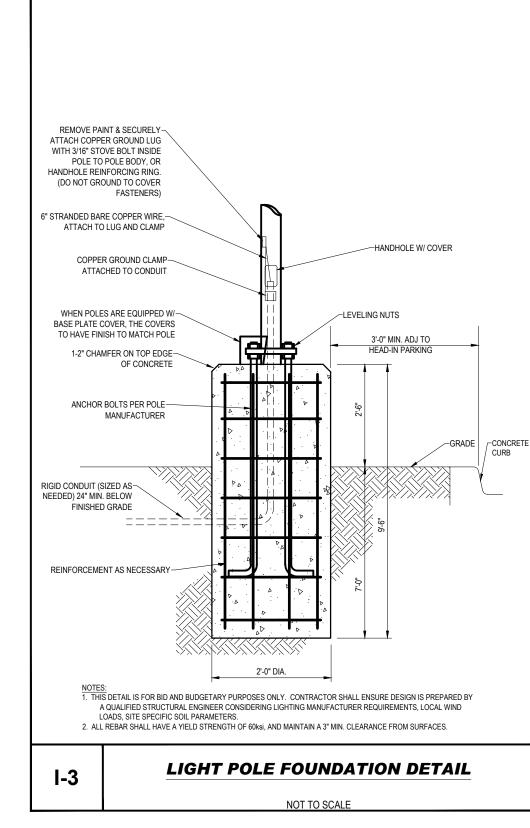
Consortium® categories. Consult DLC Qualified Products list to confirm your specific luminaire selection is approved. CCTs 3000K and warmer are Dark

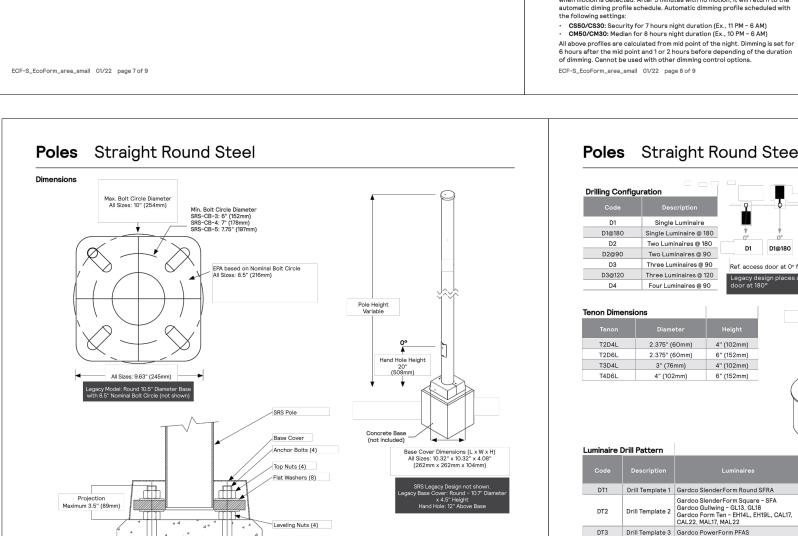












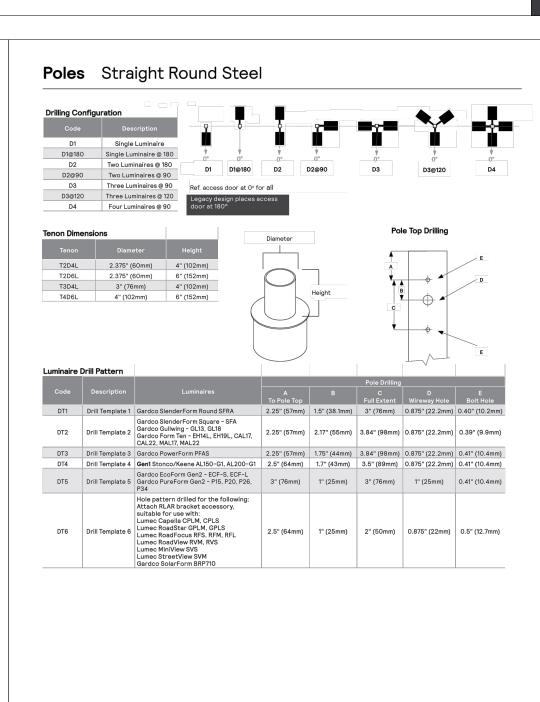
* Anchor Bolt Lock Washers are not normally required and are not included in standard anchor bolt sets. They are available upon request at additional cost

structure over time and may result in pole base failure, for which Gardco is not responsible.

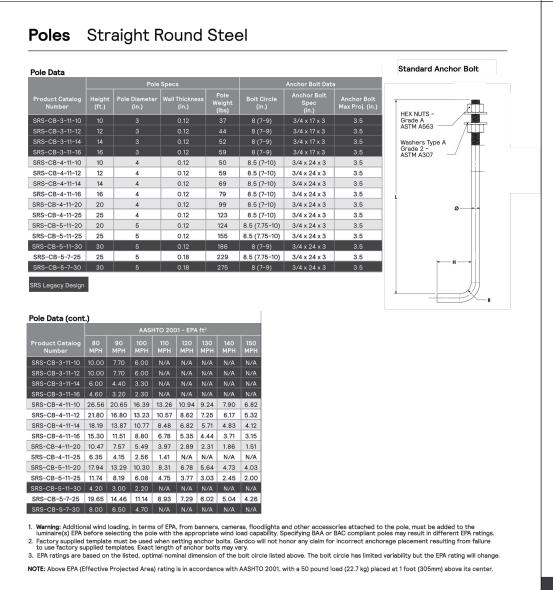
SRS_Spec_Sheet_US 10/21 page 2 of 5

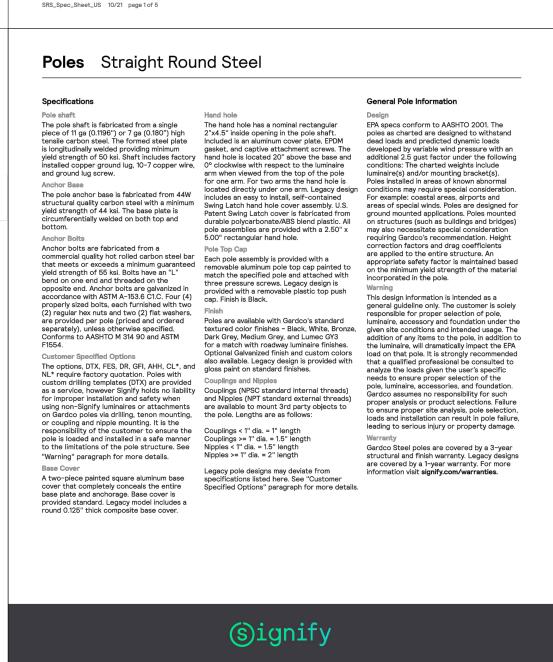
** Grouting should include a drainage slot or tube (by others) to permit water to drain from the base of the pole. Failure to provide drainage may weaken the pole base

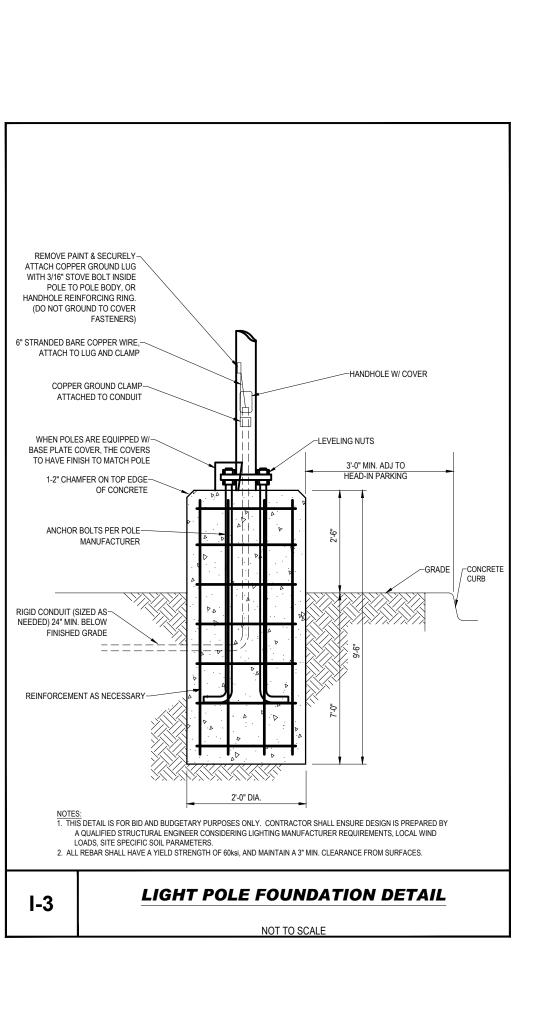
NOTE: Factory supplied template must be used when setting anchor bolts. Gardco will not honor any claim for incorrect anchorage placement from failure to



SRS_Spec_Sheet_US 10/21 page 3 of 5









REVISIONS

PER NPDES

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DEVELOPMENT

PLANS

BETHLEHEM SHARED

SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

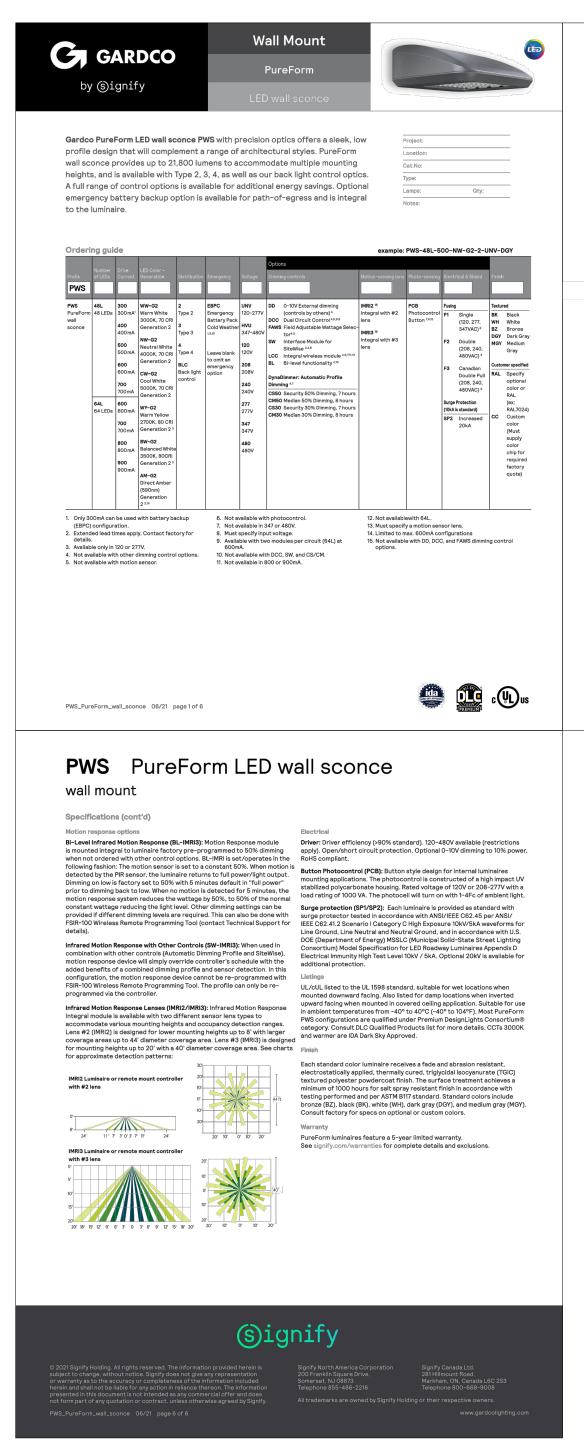
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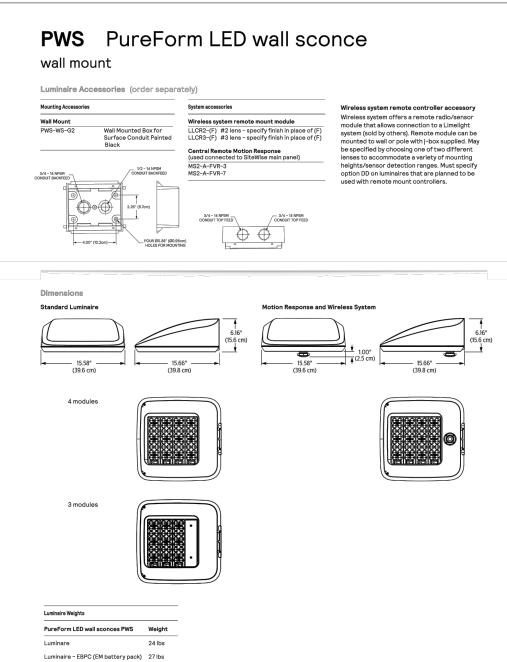
PY212051-LLGT-2

REV DATE COMMENT

1 04/22/2022 SUBMISSION

2 07/11/2022 REV PER CITY COMMENTS





PWS_PureForm_wall_sconce 06/21 page 2 of 6

PWS PureForm LED wall sconce wall mount LED Wattage and Lumen Values - 4000K Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout. NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

Ordering Code | LED | LED | Current (mA) | Temp. | Watts | Culor (LPW) | Current (mA) | Temp. | Current (mA) | Tem
 PWS-48L-400-WW-G2-x
 48
 400
 3000
 61
 7469
 82-U0-G2
 122
 7357
 81-U0-G2
 120
 7455
 81-U0-G2
 122
 80-U0-G2
 93

 PWS-48L-500-WW-G2-x
 48
 500
 3000
 76
 9072
 82-U0-G2
 120
 8935
 82-U0-G2
 118
 9056
 82-U0-G2
 119
 80-U0-G2
 92

 PWS-48L-600-WW-G2-x
 48
 600
 3000
 91
 10657
 82-U0-G2
 117
 10496
 B2-U0-G2
 115
 10637
 B2-U0-G2
 117
 B1-U0-G2
 90

 PWS-48L-700-WW-G2-x
 48
 700
 3000
 105
 12339
 B3-U0-G2
 118
 12154
 B2-U0-G2
 116
 12317
 B2-U0-G2
 117
 B1-U0-G2
 90
 PWS-64L-700-WW-G2-x 64 700 3000 137 16076 B3-U0-G3 117 15834 B2-U0-G3 115 16046 B2-U0-G3 117 B1-U0-G2 90
 PWS-64L-800-WW-G2-x
 64
 800
 3000
 158
 17922
 83-U0-G3
 113
 17653
 B3-U0-G3
 112
 17889
 B3-U0-G3
 110
 B1-U0-G3
 87

 PWS-64L-900-WW-G2-x
 64
 900
 3000
 179
 19692
 B3-U0-G3
 110
 19396
 B3-U0-G3
 108
 19656
 B3-U0-G3
 108
 B1-U0-G3
 84
 Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.

| LED | LED | Color (mA) | Temp. | Watts | Color (LPW) | Color (mA) | Temp. | Watts | Color (LPW) | Color (MA) | Color (M
 PWS-48L-400-NW-G2-x
 48
 400
 4000
 61
 8299
 82-U0-G2
 135
 8170
 B1-U0-G2
 133
 8290
 B1-U0-G2
 135
 B0-U0-G2
 104

 PWS-48L-500-NW-G2-x
 48
 500
 4000
 76
 1008
 82-U0-G2
 133
 929
 B2-U0-G2
 131
 10072
 B2-U0-G2
 133
 B0-U0-G2
 102
 PWS-48L-700-NW-G2-x 48 700 4000 105 13710 B3-U0-G2 131 13505 B2-U0-G2 129 13702 B2-U0-G3 130 B1-U0-G2 100
 PWS-64L-600-NW-G2-x
 64
 600
 4000
 118
 15841
 83-U0-G3
 15603
 82-U0-G3
 133
 15814
 82-U0-G3
 135
 81-U0-G2
 103

 PWS-64L-700-NW-G2-x
 64
 700
 4000
 137
 17862
 83-U0-G3
 130
 17594
 83-U0-G3
 128
 17830
 83-U0-G3
 130
 81-U0-G2
 100

 PWS-64L-800-NW-G2-x
 64
 800
 4000
 158
 19913
 83-U0-G3
 126
 19614
 83-U0-G3
 124
 19878
 83-U0-G4
 126
 81-U0-G3
 97

 PWS-64L-900-NW-G2-x
 64
 900
 4000
 179
 21880
 83-U0-G3
 122
 21551
 83-U0-G4
 120
 21839
 83-U0-G4
 122
 81-U0-G3
 94

| Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Color | Colo PWS-48L-500-CW-G2-x 48 500 5000 76 10080 B2-U0-G2 133 9928 B2-U0-G2 131 10062 B2-U0-G2 133 B1-U0-G2 102
 PWS-48L-600-CW-G2-x
 48
 600
 5000
 91
 11841
 83-U0-G2
 130
 11662
 B2-U0-G2
 128
 11819
 B2-U0-G2
 130
 B1-U0-G2
 100

 PWS-48L-700-CW-G2-x
 48
 700
 5000
 105
 13710
 83-U0-G2
 131
 13504
 B2-U0-G2
 129
 13685
 B2-U0-G3
 130
 B1-U0-G2
 100

 PWS-64L-600-CW-G2-x
 64
 600
 5000
 118
 15841
 83-U0-G3
 15603
 82-U0-G3
 133
 15812
 82-U0-G3
 135
 81-U0-G2
 103

 PWS-64L-700-CW-G2-x
 64
 700
 5000
 137
 17862
 83-U0-G3
 1350
 17593
 83-U0-G3
 128
 17829
 83-U0-G3
 130
 81-U0-G3
 100
 PWS-64L-800-CW-G2-x | 64 | 800 | 5000 | 158 | 19913 | B3-U0-G3 | 126 | 19614 | B3-U0-G3 | 124 | 19877 | B3-U0-G4 | 126 | B1-U0-G3 | PWS-64L-900-CW-G2-x 64 900 5000 179 21880 B3-U0-G3 122 21551 B3-U0-G4 120 21840 B3-U0-G4 122 B1-U0-G3 94 Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown. Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.

NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown

PWS_PureForm_wall_sconce 06/21 page 3 of 6

PWS PureForm LED wall sconce

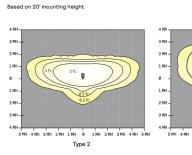
wall mount

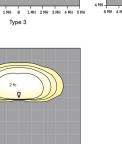
LED Wattage and Lumen Values (Emergency Mode) | Color Temp. | For emergency EBPC option, publish values are based on initial lumens.

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. Lyp is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours

up to 900 mA >100,000 hours >54,000 hours >96%





PWS_PureForm_wall_sconce 06/21 page 4 of 6

PWS PureForm LED wall sconce wall mount

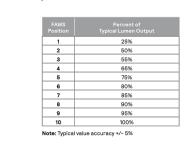
Light engine
Light engine comprises of a module of 16-LED aluminum metal clad board
fully sealed with optics offered in multiples of 3 and 4 modules or 48 and
64 LEDs. Module is RoHS compliant. Direct Amber LED is narrow spectrum
with dominant wavelength at 596 nm (peak wavelength at 601 nm). Contact
factory for details, LED light engine is rated IP66 in accordance to Section 9
of IEC 60598-1.

Optical systems
Type 2, 3, and 4 distributions available. Performance tested per LM-79 and

Do-10V dimming (DD): Access to 0-10V dimming leads supplied through back of luminaire (for secondary dimming controls by others). Cannot be used with other control options.

pack is used with 48L configuration in 300mA wired in parallel, operating in emergency mode to meet various redundancy requirements. Secondary dimensing controls by others). Cannot be used with other control options. Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability Only.

lumen output desired. Cannot be used with other control options or



SiteWise (SW): SiteWise system includes a controller fully integrated in Main body housing and door frame made of low copper die cast aluminum alloy for a high resistance to corrosion. Door hinges secured by aircraft cable to allow access to driver or other electronic components for servicing. The door frame acts as the main heat transfer component and it is optimized to allowing the main housing to have no fins, giving the freedom to have a clean minimalist aesthetic design while allowing it to house emergency battery backup equipment and various other options. Luminaire housing rated to IP65, tested in accordance to Section 9 of IEC 60598-1.

Light engine

StteWise system includes a controller fully integrated in the unimaire then ables the luminaire to anomulaciate with a dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central dimming signal transmitter cabinet located on site using patented central d

Type 2, 3, and 4 distributions available. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

• CS50/CS30: Security for 7 hours night duration (Ex., 11 PM - 6 AM)
• CM50/CM30: Median for 8 hours night duration (Ex., 10 PM - 6 AM) Mounting Scompleted through integral back plate that features a separate

Mounting Scompleted through integral back plate that features a separate

Mounting Scompleted through integral back plate that features a separate recessed feature for hook and lock quick mount plate that secures with two set screws from bottom of luminaire. Luminaire ships fully assembled, ready to install.

| Emergency Battery Backup Cold Pack (EBPC): Emergency battery pack is cold weather rated down to -20C (-4F) and integral to the luminaire, allowing ready to install.

to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in up to wireless with the lumen output selected. Use chart below to estimate reduction in to be connected to a Limelight system (sold by others). The system allows you to wirelessly manage the entire site, independent lighting groups or individual luminaires while on-site or remotely. Based on a high-density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless controls can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution. Equipped with motion response with #2 lens (LLC-IMRI2) for 8' to 15' mounting height" or #3 lens (LLC-IMRI3) for 8-25' mounting heights. Also available with remote pod

LLC-IMRI2 Luminaire of remote mount controller 120 with #2 lens

0 20 20 11 7 3 0 3 7 m 24 20 10 0 0 30 20 LLC-IMRI3 Luminaire or remote mount controller

PWS_PureForm_wall_sconce 06/21 page 5 of 6

2 07/11/2022 REV PER CITY COMMENTS

REVISIONS

REV DATE COMMENT 1 04/22/2022 PER NPDES SUBMISSION

accessory where pod is mounted separate from luminaire to pole or wall.

Call before you dig. YOU MUST CALL 811 BEFORE ANY EXCAVATION 1-800-242-1776

Know what's **below.**

NOT APPROVED FOR CONSTRUCTION

20212392542 & 20212392479

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY

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CHECKED BY: CAD I.D.: PY212051-LLGT-2A PROJECT: PRELIMINARY

> FINAL LAND **DEVELOPMENT PLANS**

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM **NORTHAMPTON COUNTY** PENNSYLVANIA

BOHLER

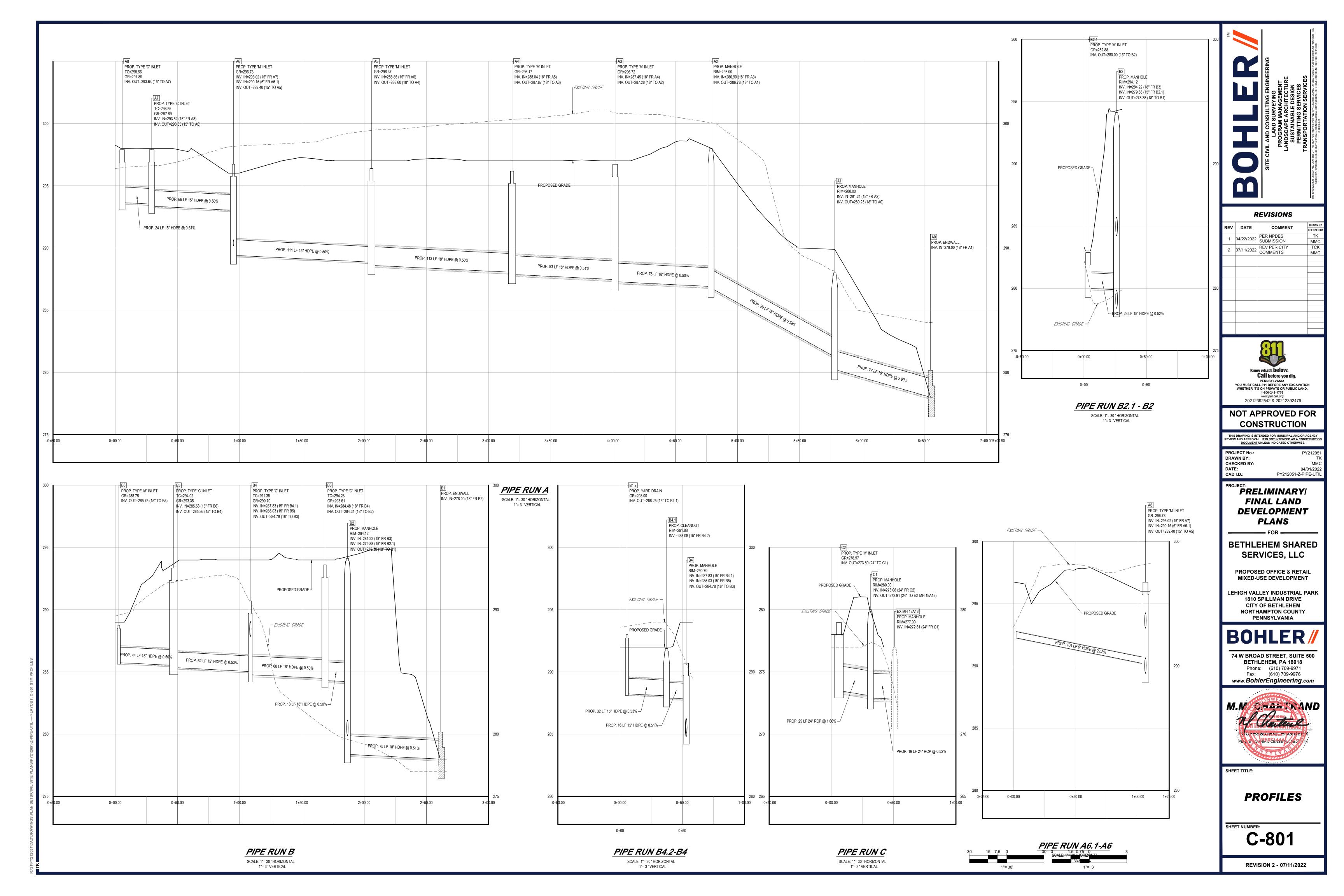
74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976 www.BohlerEngineering.com

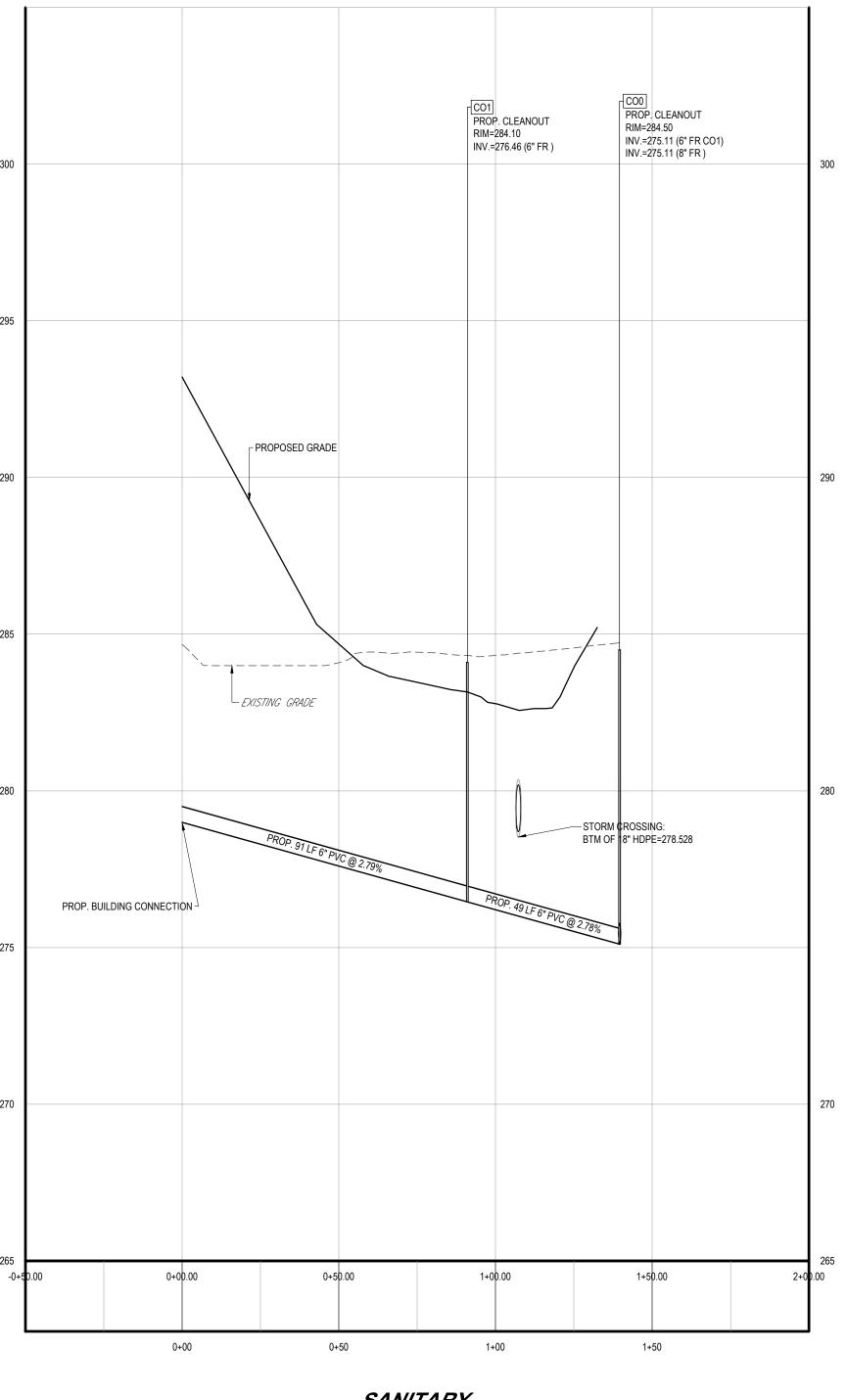
D.T. NORTH REGISTERED LANDSCAPE ARCHITECT PENNSYLVANIA EIGENSE No LA002729

SHEET TITLE:

LIGHTING DETAILS

C-705





SANITARY SCALE: 1"= 30 ' HORIZONTAL 1"= 3 ' VERTICAL



REVISIONS				
REV	DATE	COMMENT	DRAWN BY CHECKED BY	
1	04/22/2022	PER NPDES SUBMISSION	TK MMC	
2	07/11/2022	REV PER CITY COMMENTS	TCK MMC	



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PROJECT No.: DRAWN BY: CHECKED BY:

DATE: CAD I.D.: 04/01/2022 PY212051-Z-PIPE-UTIL PROJECT:
PRELIMINARY

FINAL LAND **DEVELOPMENT PLANS**

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK 1810 SPILLMAN DRIVE CITY OF BETHLEHEM NORTHAMPTON COUNTY PENNSYLVANIA

74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018

Phone: (610) 709-9971

Fax: (610) 709-9976

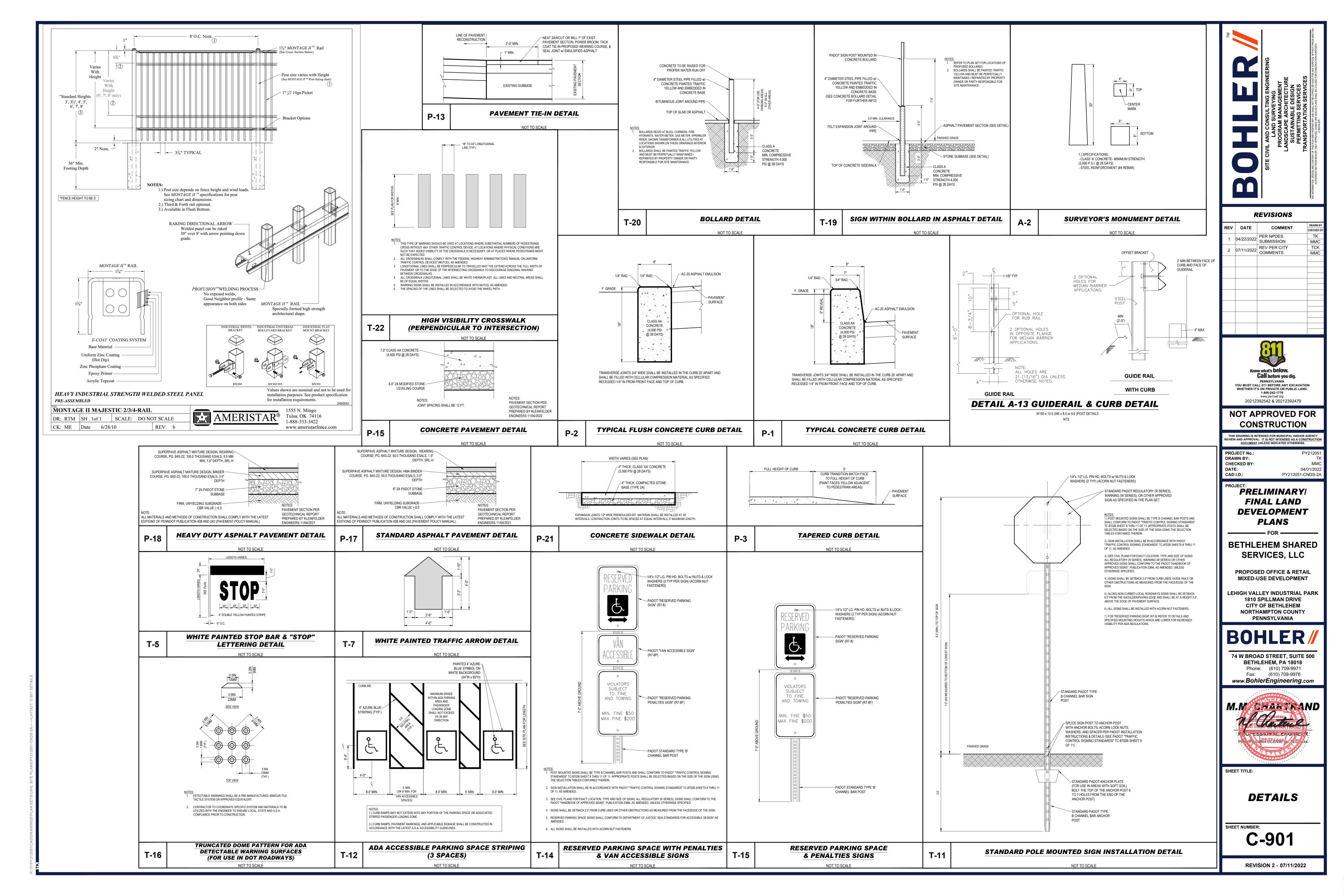
www.BohlerEngineering.com

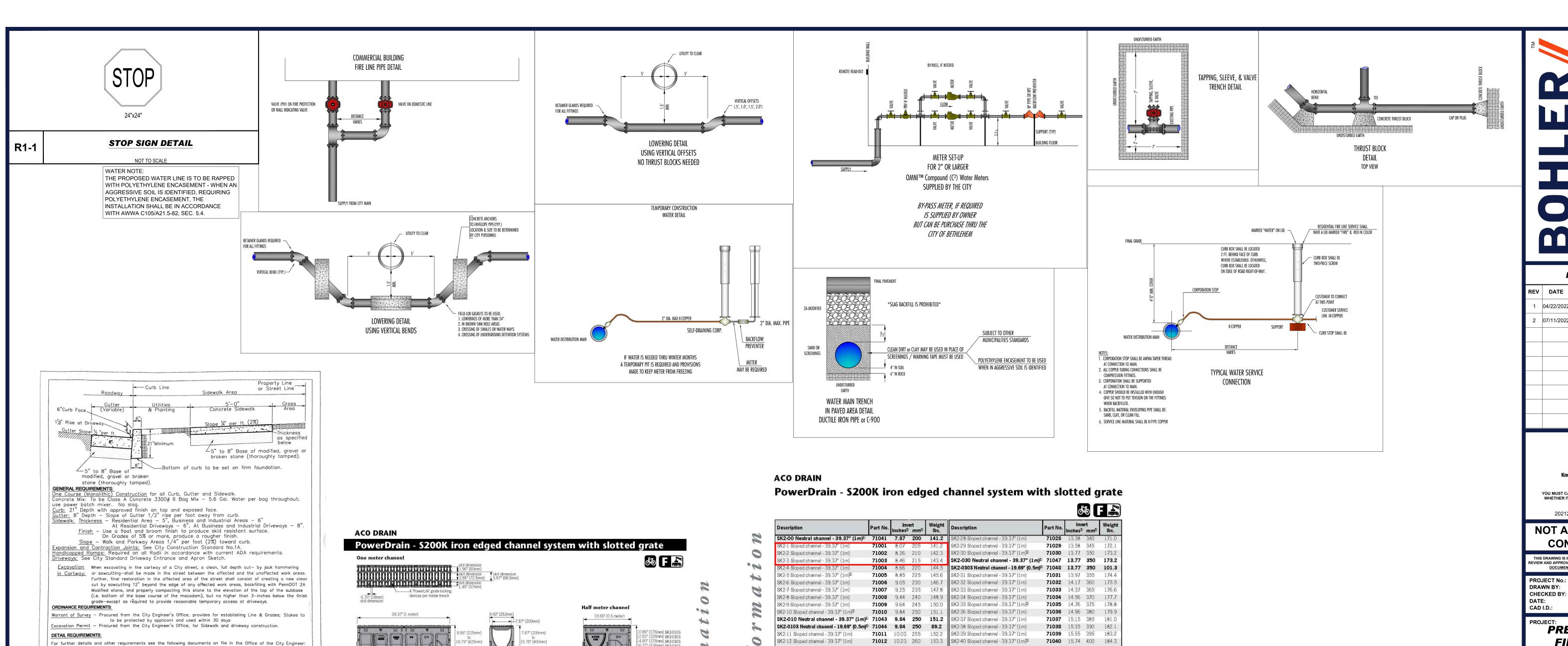
M.M. STAR SAND

SHEET TITLE:

PROFILES

C-802





CITY OF BETHLEHEM CURB AND SIDEWALK DETAIL (ONLY FOR USE IN PUBLIC ROW)

CITY OF BETHLEHEM, PA

BUREAU OF ENGINEERING

CONSTRUCTION

STANDARD NO.1

for CONCRETE CURB. GUTTER

and SIDEWALK

FEBRUARY 7, 2001 REV. JUNE 4, 2013

hnelet 6/5/13

"Standard Specifications for the Construction

Codified Ordinances of the City of Bethlehem,

of Concrete Curb, Gutter and Sidewalk"

+ Whenever a curb, gutter and/or sidewalk is located in

+ Changes to dimensional requirements may be considered

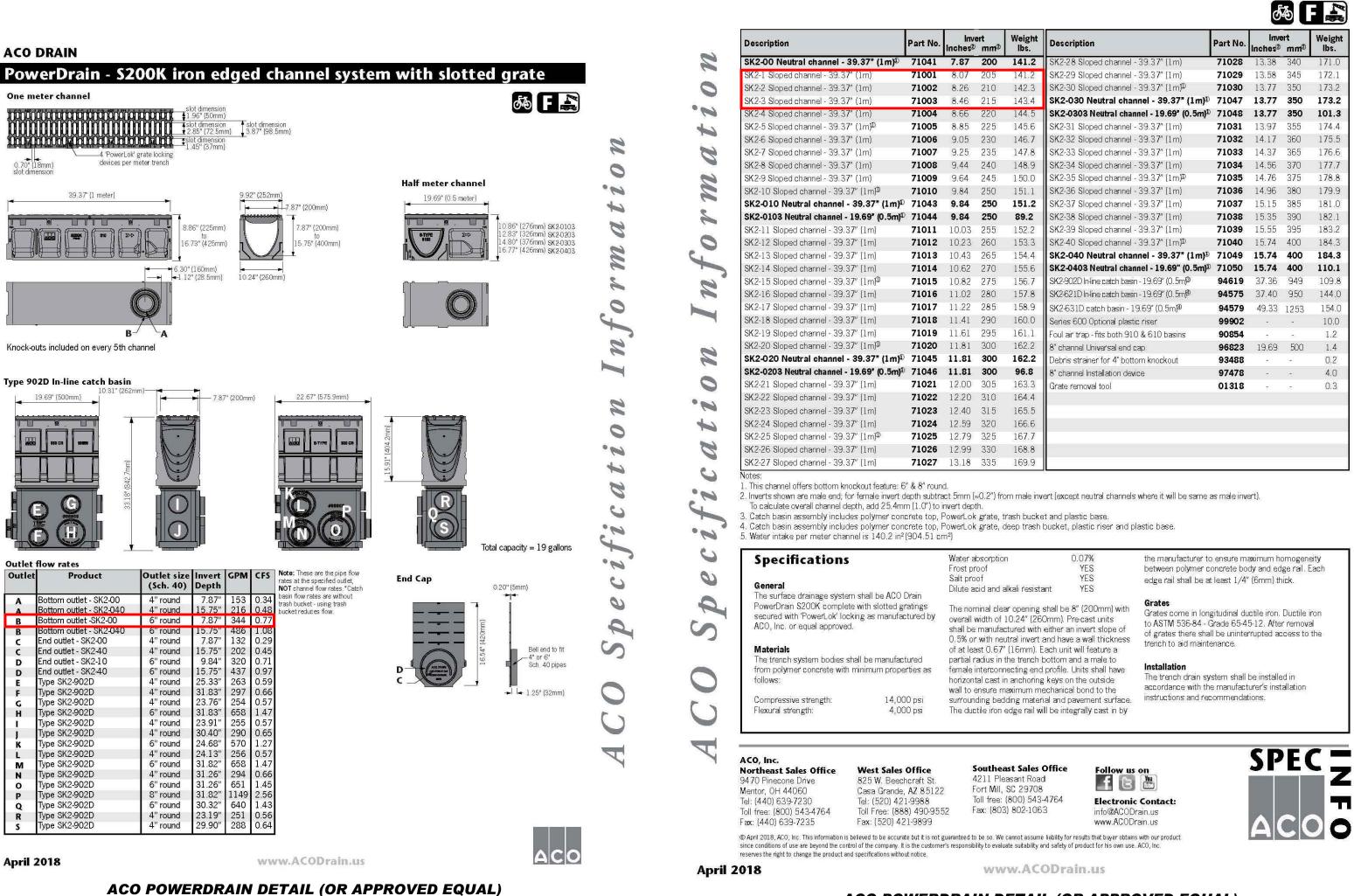
in cases where obstructions or encroachments exist.

Any exceptions must be approved by the City Engineer

Current ADA requirements must be met in all cases.

a Historic District, special requirements may apply.

Articles 903 and 909.



ACO POWERDRAIN DETAIL (OR APPROVED EQUAL)

REVISIONS REV DATE COMMENT 04/22/2022 SUBMISSION 2 07/11/2022 REV PER CITY COMMENTS

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Call before you dig

CONSTRUCTION

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CAD I.D.: PY212051-CNDS-2 PRELIMINARY/ FINAL LAND

DEVELOPMENT PLANS

_____ FOR ____ **BETHLEHEM SHARED**

SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM **NORTHAMPTON COUNTY** PENNSYLVANIA

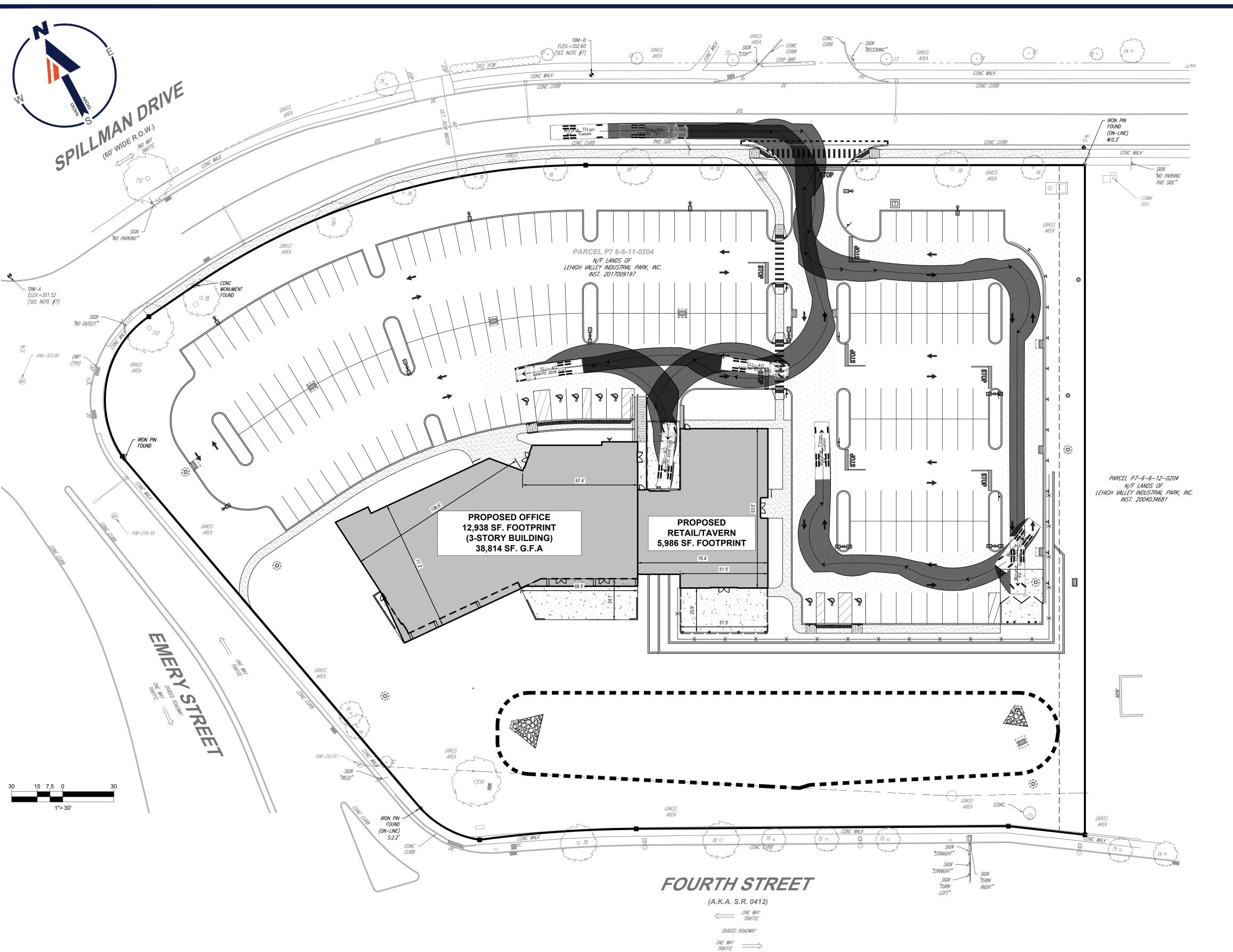
74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976 www.BohlerEngineering.com

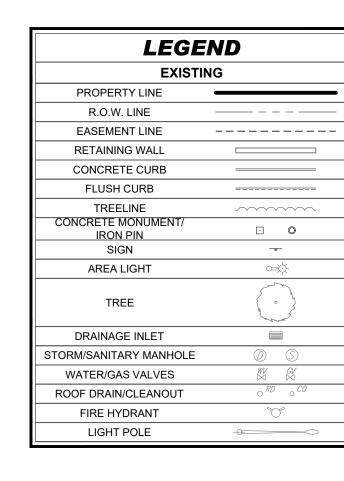
M.M. SAARRAND

SHEET TITLE:

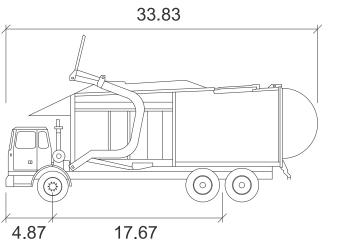
DETAILS

C-902



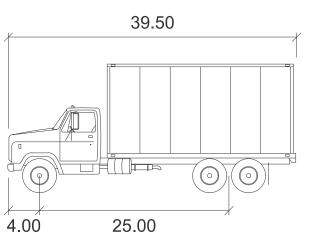


LEGEN	VD	
PROPOSED		
SETBACK LINE		
BUILDING		
RETAINING WALL		
SAWCUT		
CONCRETE CURB		
FLUSH CURB		
FENCE		
GUIDE RAIL	 _	
ACCESSIBLE SYMBOL	&	
HEAVY DUTY PAVEMENT		
CONCRETE	P	
SIDEWALK		
RAMP		
CONCRETE MONUMENT		
SIGN		
BOLLARD		
PARKING COUNT	(10)	
AREA LIGHT		
DRAINAGE INLET		
MANHOLE	(Ö)	
ENDWALL		
RIPRAP		
CLEANOLIT	^CO	



Trash Truck

	feet
Vidth	: 8.50
Гrack	: 8.00
ock to Lock Time	: 6.0
Steering Angle	: 45.0



SU-40

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



REVISIONS

REV DATE COMMENT

			CHECK
1	04/22/2022	PER NPDES	Tł
'	04/22/2022	SUBMISSION	MM
2	07/11/2022	REV PER CITY	TC
	0771172022	COMMENTS	MM



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PROJECT No.: DRAWN BY: CHECKED BY: DATE: CAD I.D.: 04/01/2022 PY212051-LDVP-2A

PROJECT:
PRELIMINARY FINAL LAND **DEVELOPMENT PLANS**

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL

MIXED-USE DEVELOPMENT LEHIGH VALLEY INDUSTRIAL PARK 1810 SPILLMAN DRIVE CITY OF BETHLEHEM

PENNSYLVANIA

NORTHAMPTON COUNTY

74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018

Phone: (610) 709-9971

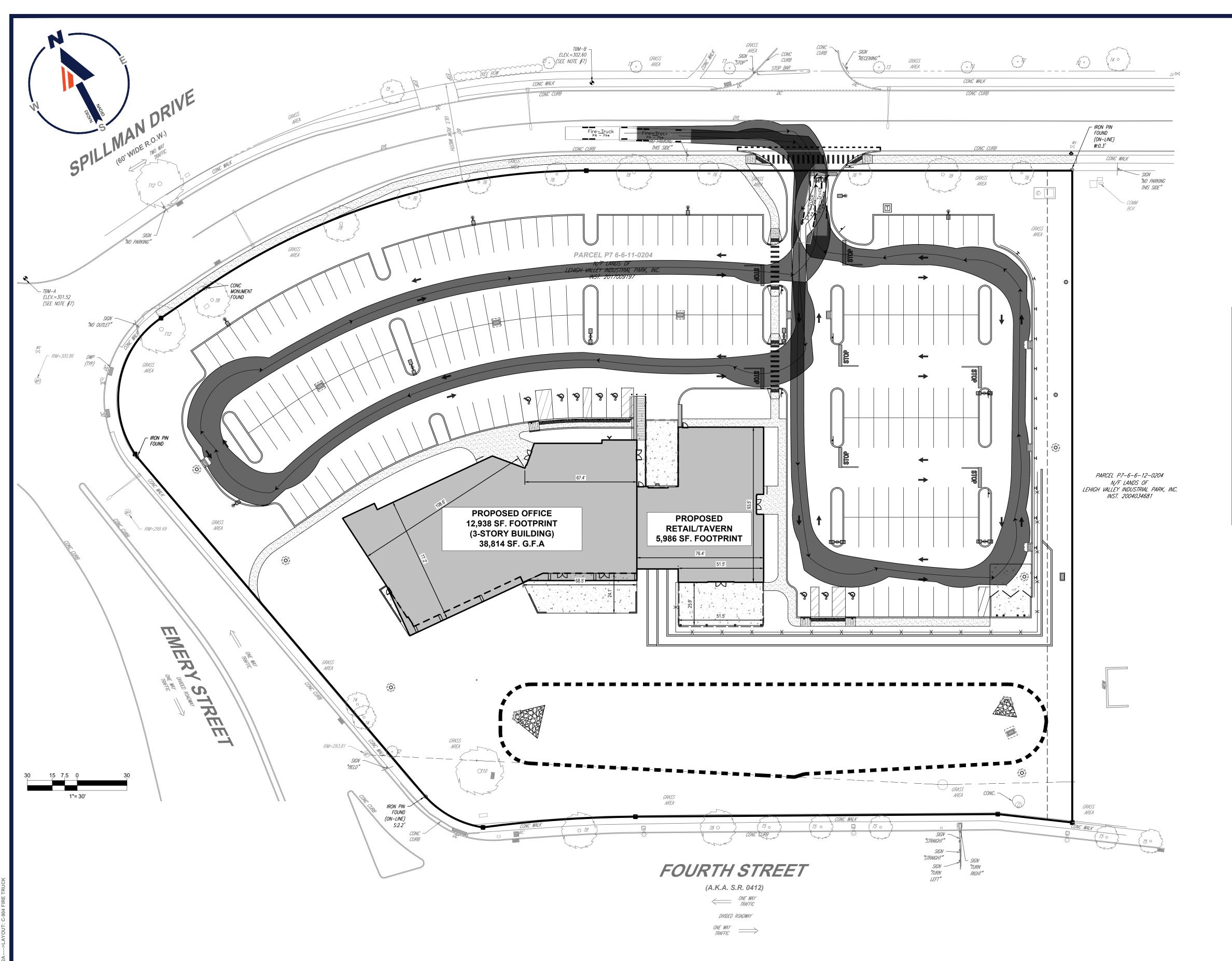
Fax: (610) 709-9976

www.BohlerEngineering.com

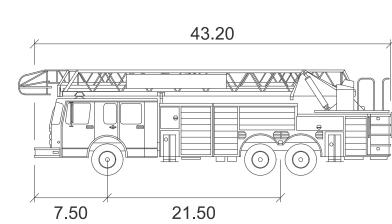


TRUCK TURN PLAN

C-903







Fire-Truck

	feet
/idth	: 7.83
ack	: 7.83
ock to Lock Time	: 6.0
teering Angle	: 40.0



REVISIONS REV DATE COMMENT

1	04/22/2022	PER NPDES SUBMISSION	TK MM(
2	07/11/2022	REV PER CITY COMMENTS	TCI MM(

LEGEND

PROPOSED

----X

RIPRAP



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PROJECT No.:

PY212051

DRAWN BY:

CHECKED BY:

MMC

DATE:

04/01/2022

CAD I.D.:

PY212051-LDVP-2A

PRELIMINARYI
FINAL LAND
DEVELOPMENT
PLANS

BETHLEHEM SHARED

SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK 1810 SPILLMAN DRIVE CITY OF BETHLEHEM NORTHAMPTON COUNTY

BOHLER//

PENNSYLVANIA

74 W BROAD STREET, SUITE 500
BETHLEHEM, PA 18018
Phone: (610) 709-9971
Fax: (610) 709-9976

www.BohlerEngineering.com

www.BohlerEngineering.com

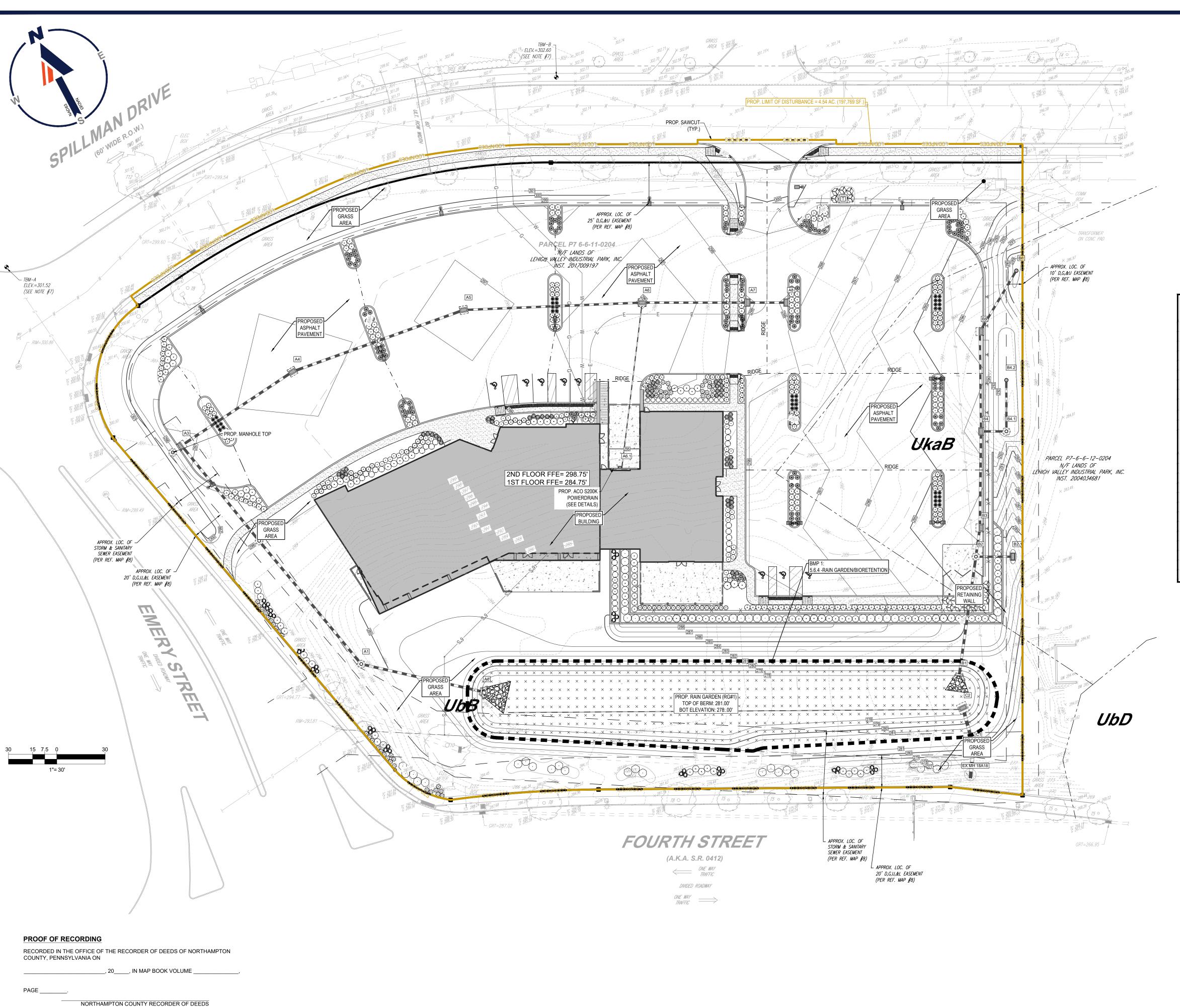


SHEET TITLE:

FIRE TRUCK TURN PLAN

HEET NUMBER

C-904



CHAPTER 93 RECEIVING WATERSHED AND STREAM CLASSIFICATION: SAUCON CREEK, HQ-CWF, MF



SOIL MAP

SCALE: 1" = 500'

PSB PSB _____

□→ □

LEGEN	VD	LEGEN
EXISTIN	G	PROPOSE
PROPERTY LINE		BUILDING
R.O.W. LINE		RETAINING WALL
EASEMENT LINE		PROJECT SITE BOUNDARY
RETAINING WALL		SAWCUT
CONCRETE CURB		CONCRETE CURB
FLUSH CURB		FLUSH CURB
SOIL BOUNDARY & TYPE	—— – – ШкаВ	
TREELINE		FENCE
CONCRETE MONUMENT/ IRON PIN	· •	GUIDE RAIL
SIGN	-	ACCESSIBLE SYMBOL
AREA LIGHT	o≡¢-	CONCRETE
TREE		SIDEWALK
DRAINAGE INLET		RAMP
STORM/SANITARY MANHOLE	(D) (S)	CONCRETE MONUMENT
WATER/GAS VALVES	WV GV	SIGN
ROOF DRAIN/CLEANOUT	o RD o CO	BOLLARD
FIRE HYDRANT		AREA LIGHT
LIGHT POLE		DRAINAGE INLET
CONTOUR	123	MANHOLE
ELECTRIC LINE	—— <i>E</i> ———	ENDWALL
TELEPHONE LINE		RIPRAP
GAS LINE		CLEANOUT
WATER LINE	W	ELECTRIC LINE
SANITARY SEWER	S	ELECTRIC LINE
STORM PIPE	= = = =	GAS LINE
		WATER LINE
		SANITARY SEWER
		STORM PIPE

PCSM - GENERAL BMP NOTES

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

2. BOHLER ENGINEERING 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 BMP BOTTOMS.

4. REFER TO THE BMP CONSTRUCTION DETAILS FOR THE CONSTRUCTION OF ALL PROPOSED STORMWATER MANAGEMENT BMPs.

5. REFER TO THE PCSWM PLAN AND DETAILS FOR SPECIFIC BMP CONSTRUCTION GUIDELINES.

6. 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 SURVEYOR.

7. 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.

AS-BUILT NOTES

ORDINANCE.

ACCURATE AS-BUILT PLANS SHALL BE KEPT UP TO DATE DURING THE CONSTRUCTION PROCESS. AT THE COMPLETION OF THE PROJECT RECORD DRAWINGS SHALL BE DEVELOPED FROM THE AS-BUILT PLANS AND SUBMITTED TO THE CITY ENGINEER'S OFFICE. ALL FINAL DRAWINGS SHALL SHOW NORTH AMERICAN DATUM (NAD) 1983 STATE PLANE COORDINATES IN FEET (PENNSYLVANIA SOUTH, PIPS ZONE 3 702) AND THE DIGITAL FILE SHALL BE IN STATE PLANE FEET COORDINATES AS APPLICABLE. THE HARD COPY OF THE RECORD DRAWINGS SHALL BE IN THE FORM OF A MYLAR COPY. THE ENGINEER OF RECORD SHALL CERTIFY (I.E. P.E. STAMPED AND SIGNED) THAT THE RECORD DRAWINGS COMPLY SUBSTANTIALLY WITH THE APPROVED PLAN AND THAT THEY CONFORM TO INDUSTRY STANDARDS. ALL DIGITAL FILES SHALL RESIDE ON PC COMPATIBLE CD ROM CONTAINING THE DIGITAL REPRESENTATION OF THE FINAL PLAN AS PRESENTED ON THE TWENTY-FOUR (24) INCH BY THIRTY-SIX (36) INCH SHEETS. THE DIGITAL MAP SHALL BE AUTOCAD COMPATIBLE. ALL LAYERS INCLUDED IN THE DIGITAL MAPS SHALL BE THE STANDARDIZED LAYERS PREPARED AND UTILIZED BY THE CITY OF BETHLEHEM TO ENSURE COMPATIBILITY WITH THE CITY'S EXISTING CAD STANDARDS AND AS DESCRIBED IN APPENDIX A OF THE CITY'S SUBDIVISION AND LAND DEVELOPMENT

REVISIONS

REV	DATE	COMMENT	DRAWN BY
ILEV	DAIL	COMMENT	CHECKED E
1	04/22/2022	PER NPDES	TK
'	04/22/2022	SUBMISSION	MMC
2	07/11/2022	REV PER CITY	TCK
	01/11/2022	COMMENTS	MMC



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NOT APPROVED FOR CONSTRUCTION

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY EVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE. PROJECT No.:

DRAWN BY: **CHECKED BY:** CAD I.D.: PY212051-LDVP-2

> PRELIMINARY/ FINAL LAND DEVELOPMENT PLANS

BETHLEHEM SHARED

SERVICES, LLC

PROPOSED OFFICE & RETAIL

MIXED-USE DEVELOPMENT

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POST CONSTRUCTION STORMWATER MANAGEMENT

DETAILS

1. THE SUBJECT SITE DRAINS TO SAUCON CREEK, WHICH HAS A HQ-CWF (HIGH QUALITY -COLD WATER FISHES) & MF (MIGRATORY FISHES) CHAPTER 93 CLASSIFICATION.

2. THE DEVELOPMENT IS IN NEITHER AN HQ NOR AN EV WATERSHED AND THEREFORE, NO BOUNDARIES ARE SHOWN.

3. THERE ARE NO WETLANDS LOCATED ON THE PROJECT SITE.

GENERAL PCSM PLANNING AND DESIGN

§102.8(b)

THE FOLLOWING MEASURES WERE TAKEN TO PRESERVE THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM

• DIRECT RUNOFF FROM IMPERVIOUS SURFACES TO BMPS • THE USE OF NATIVE SPECIES REQUIRES LESS FERTILIZATION AND CHEMICAL

THE FOLLOWING MEASURES WERE TAKEN TO PREVENT AN INCREASE IN THE RATE OF

STORMWATER RUNOFF: • MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL

THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE ANY INCREASE IN STORMWATER

RUNOFF VOLUME PROVIDE RAINGARDEN TO HELP REDUCE RUNOFF VOLUME

• MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL MEASURES WERE TAKEN TO MINIMIZE IMPERVIOUS AREAS

APPLICATION THAN NONNATIVE SPECIES.

THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING

DRAINAGE FEATURES AND VEGETATION: ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCES

THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE LAND CLEARING AND GRADING: GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS

THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:

• ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCES

• USE OF TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING **OPERATIONS**

GRADE SITE TO MINIMIZE EXTENT OF CUTS/FILLS

THE FOLLOWING MEASURES WERE TAKEN TO UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN STORMWATER RUNOFF:

 DIRECT RUNOFF TO RAINGARDEN TO HELP REDUCE RUNOFF VOLUME RE-VEGETATE DISTURBED AREAS TO HELP REDUCE RUNOFF VOI UME

MINIMIZE IMPERVIOUS AREAS WHERE PRACTICAL

RECYCLING OR DISPOSAL OF MATERIALS §102.4(b)(5)(xi)

THE FOLLOWING IS A LIST THAT INCLUDES, BUT THAT IS NOT LIMITED TO, THE POTENTIAL CONSTRUCTION WASTES THAT MAY EXIST ON-SITE

- CONCRETE CURB AND SIDEWALK - BUILDING/DEMOLITION MATERIAL

- E&S BMP - COMPOST FILTER SOCKS - E&S BMP - EROSION CONTROL MATTING

E&S BMP - FILTER BAG INLET PROTECTION E&S BMP - STONE & CONCRETE BLOCK INLET PROTECTION E&S BMP - REGULATED FILL MATERIALS

ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 Pa. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE. BELOW IS A LIST OF METHODS FOR THE PROPER RECYCLING/DISPOSAL OF VARIOUS MATERIALS:

1.) DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PURPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS WILL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE LOCAL CONSERVATION DISTRICT. AFTER CONSTRUCTION. THE SITE WILL BE STABILIZED. WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.

2.) SOLID WASTE DISPOSAL - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES. MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS WILL BE EMPTIED AS NECESSARY BY A CONTRACT TRASH DISPOSAL SERVICE AND HAULED AWAY

.) SANITARY FACILITIES - ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH CONSTRUCTION SCHEDULE. STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A LICENSED COMMERCIAL OPERATOR

4.) WATER SOURCE - NON-STORMWATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER JSED FOR CONSTRUCTION WHICH DISCHARGES FROM THE SITE MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE STATE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION

THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE 5.) CONCRETE WASTE FROM CONCRETE READY-MIX TRUCKS - DISCHARGE OF EXCESS OR WASTE CONCRETE

AND/OR WASH WATER FROM CONCRETE TRUCKS WILL BE ALLOWED ON THE CONSTRUCTION SITE, BUT ONLY IN SPECIFICALLY DESIGNATED DIKED AREAS PREPARED TO PREVENT CONTACT BETWEEN THE CONCRETE AND/OR WASH WATER AND STORMWATER THAT WILL BE DISCHARGED FROM THE SITE.

LIST OF CRITICAL STAGES

§102.8(f)(7)

RECEIVING STREAM

- THE CONTRACTOR SHALL NOTIFY THE PROFESSIONAL RESPONSIBLE FOR THE PROPER IMPLEMENTATION OF THE STORMWATER BMP'S PRIOR TO COMMENCING CONSTRUCTION OF THE FOLLOWING CRITICAL STAGES:
- INSTALLATION OF RAIN GARDEN (RG#1). INCLUDING PREPARATION OF SUBGRADE AND INSTALLATION OF OUTLET CONTROL STRUCTURE (C2). • INSTALLATION OF RG#1 PLANTING SOIL AND PLANTINGS
- POTENTIAL THERMAL IMPACTS TO SURFACE WATERS

§102.4(b)(5)(xiii)

CONVEYED TO A RECEIVING STREAM WITHOUT ADEQUATE ATTENUATION OR COOLING. THE SHADING POTENTIAL FOR THE DEVELOPMENT OF SINKHOLES. EFFECTS OF THE PROPOSED AND EXISTING LANDSCAPING IN SERIES WITH THE PROPOSED DOWNSTREAM WATERSHED. ADDITIONAL THERMAL WATER QUALITY BENEFITS ARE ACHIEVED

THROUGH THE IMPLEMENTATION OF TWO (2) ABOVEGROUND DETENTION BASINS, ONE (1) THE BMPS. ALL OF THOSE MEASURES WILL HELP TO CONTROL RUNOFF VOLUME AND RATE AND THEREBY PROVIDE ADDITIONAL COOLING TIME, THEREBY MINIMIZING THERMAL IMPACTS TO THE

GEOLOGIC FORMATIONS OR SOIL CONDITIONS

THERE ARE NO GEOLOGIC FORMATIONS OR SOIL CONDITIONS THAT COULD CAUSE CONTAMINANT POLLUTION DURING EARTH DISTURBANCE ACTIVITIES.

BELOW ARE INSTRUCTIONS FOR THE PROPER HANDLING AND/OR DISPOSAL OF ALL MATERIALS THAT COULD CAUSE POLLUTION:

1. ANY HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIAL THAT IS BROUGHT ONTO THE CONSTRUCTION SITE SHALL BE HANDLED PROPERLY TO REDUCE THE POTENTIAL FOR STORMWATER POLLUTION. ALL MATERIALS USED ON THIS CONSTRUCTION SITE SHALL BE PROPERLY STORED, HANDLED DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS. AND, AT A MINIMUM, ACCORDING TO 29 CFR 1926.152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.

2. MATERIAL SAFETY DATA SHEETS (MSDS) INFORMATION SHALL BE KEPT ON SITE FOR ANY AND ALL APPLICABLE MATERIALS. HOWEVER, MSDS MAY ALSO BE ACCESSED VIA TELEPHONE OR OTHER

3. IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE GC TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES. AS REQUIRED UNDER THE PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.

4. ALL HAZARDOUS MATERIALS, INCLUDING CONTAMINATED SOIL AND LIQUID CONCRETE WASTE, SHALI BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER SPECIFIED BY FEDERAL, STATE AND LOCAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS.

5. THE GC SHALL PREPARE A WRITTEN RECORD OF ANY SPILL AND ASSOCIATED CLEAN-UP ACTIVITIES OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF 1 GALLON OR REPORTABLE QUANTITIES, WHICHEVER IS LESS, ON THE DAY OF THE SPILL. THE GC SHALL PROVIDE NOTICE TO OWNER, VIA THE ONLINE CRITICAL INCIDENT REPORT, IMMEDIATELY UPON IDENTIFICATION OF ANY SPILL. SPILL REPORT FORMS ARE AVAILABLE IN THE ONLINE SWPPP REPORTING SYSTEM PROVIDED BY THE OWNER. COPIES OF SPILL CRITICAL INCIDENT REPORTS SHALL BE PRINTED AND MAINTAINED IN THE

6. ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802) AND THE NORTHAMPTON COUNTY CONSERVATION DISTRICT (610-829-6276).

7. AS PER THE PA GENERAL PERMIT. ANY TIME THE PERMITTEE OR CO-PERMITTEE BECOMES AWARE OF ANY INCIDENT CAUSING OR THREATENING POLLUTION AS DESCRIBED IN 25. PA CODE SECTION 91.33. AS REQUIRED BY 25. PA CODE SECTION 92A.41(B), THE PERMITTEE AND CO-PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY SUBMISSION OF A WRITTEN REPORT WITHIN FIVE (5) DAYS OF THE INITIAL CONTACT

8. TO MINIMIZE THE POTENTIAL FOR A SPILL OF PETROLEUM PRODUCT OR HAZARDOUS MATERIALS TO COME IN CONTACT WITH STORMWATER, THE FOLLOWING STEPS SHALL BE IMPLEMENTED:

(1) ALL MATERIALS WITH HAZARDOUS PROPERTIES, SUCH AS PESTICIDES, PETROLEUM PRODUCTS, FÉRTILIZERS, SOAPS, DETERGENTS, CONSTRUCTION CHEMICALS, ACIDS, BASES, PAINTS, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CONCRETE, CURING COMPOUNDS AND ADDITIVES, ETC., SHALL BE STORED IN A SECURE LOCATION, UNDER COVER AND IN APPROPRIATE, TIGHTLY SEALED CONTAINERS WHEN NOT IN USE.

(2) THE MINIMUM PRACTICAL QUANTITY OF ALL SUCH MATERIALS SHALL BE KEPT ON THE JOB SITE AND SCHEDULED FOR DELIVERY AS CLOSE TO TIME OF USE AS PRACTICAL.

(3) A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND ITS LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGE AND SHOWN ON SITE MAPS.

a. THE SPILL CONTROL AND CONTAINMENT KIT SUPPLIES SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.

b. CONTENTS SHALL BE INSPECTED DAILY DURING THE DAILY STORMWATER INSPECTION.

(4) ALL PRODUCTS SHALL BE STORED IN AND USED FROM THE ORIGINAL CONTAINER WITH THE ORIGINAL PRODUCT LABEL. CONTAINERS MUST BE STORED IN A MANNER TO PROTECT THEM FROM THE ELEMENTS AND INCIDENTAL DAMAGE.

(5) ALL PRODUCTS SHALL BE USED IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT

(6) THE DISPOSAL OF EXCESS OR USED PRODUCTS SHALL BE IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL AND REGULATIONS.

PCSM - GENERAL BMP NOTES

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

2. BOHLER ENGINEERING SHALL BE NOTIFIED OF PRE-CONSTRUCTION MEETING DATE AND BMP 3. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO LIMIT THE COMPACTION IN THE

PROPOSED BMP BOTTOMS 4. REFER TO THE BMP CONSTRUCTION DETAILS FOR THE CONSTRUCTION OF ALL PROPOSED

STORMWATER MANAGEMENT BMPs.

5. REFER TO THE PCSWM PLAN AND DETAILS FOR SPECIFIC BMP CONSTRUCTION GUIDELINES.

6. 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 SURVEYOR.

7. 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.

PREVENTIVE MEASURES AGAINST INDUCING SINKHOLES

(GEOLOGIC FORMATIONS RESOLUTION)

THE FOLLOWING GENERAL CONSTRUCTION CONSIDERATIONS ARE PROVIDED TO MINIMIZE THE POTENTIAL FOR DEVELOPMENT OF

SINKHOLES AT THE SITE BOTH DURING AND FOLLOWING CONSTRUCTION.

 SURFACE WATER SHOULD NOT BE ALLOWED TO COLLECT OR POOL IN LOW LYING AREAS OF THE SITE AND SHOULD BE DIRECTED TO A POTENTIAL FOR THERMAL IMPACTS EXISTS IN INSTANCES WHERE SURFACE RUNOFF IS DIRECTLY

APPROPRIATE STORMWATER CHANNELS. EXPEDITIOUS BACKFILLING OR GRADING OF LOW-LYING AREAS WILL ALSO HELP MINIMIZE THE

UNDERGROUND STORMWATER CONVEYANCE SYSTEMS WILL PROVIDE THERMAL WATER QUALITY

THE BASES OF FOUNDATION EXCAVATIONS SHOULD BE REVIEWED FOR UNUSUALLY SOFT OR WET SOIL CONDITIONS. ANY UNSTABLE BENEFITS BY ALLOWING THE STORMWATER TO DECREASE IN TEMPERATURE PRIOR TO ENTERING THEAREAS ENCOUNTERED SHOULD BE FURTHER EXCAVATED AND REVIEWED BY KLEINFELDER TO DETERMINE THE EXTENT OF ANY SOLUTION ACTIVITY SO THAT REMEDIAL MEASURES CAN BE DESIGNED AND IMPLEMENTED.

UNDERGROUND DETENTION BASIN, AND SUBSTANTIAL AMOUNTS OF VEGETATION AROUND EACH OF THE EXTENT OF EXCAVATIONS SHOULD BE KEPT TO A MINIMUM AND THE INFLUX OF SURFACE WATER INTO EXCAVATIONS SHOULD BE MINIMIZED.

> POSITIVE DRAINAGE AWAY FROM THE PROPOSED STRUCTURES SHOULD ALWAYS BE MAINTAINED. ROOF DRAINS SHOULD ALSO BE DIRECTED AWAY FROM THE STRUCTURES AND INTO DESIGNATED, STORM SEWER CONNECTIONS.

STORM SEWER CONVEYANCE LINES SHOULD BE CONSTRUCTED WITH WATERTIGHT JOINTS.

UNPAVED AREAS, SWALES, AND/OR SURFACE/SUBSURFACE STORMWATER MANAGEMENT FACILITIES SHOULD BE AVOIDED IMMEDIATELY ADJACENT TO FOUNDATION AREAS.

EXTERIOR BACKFILL AROUND FOUNDATIONS SHOULD CONSIST OF FINE-GRAINED, ON-SITE SOILS, (I.E. CLAY) TO LIMIT STORMWATER

CONSIDERATIONS OF KARST GEOLOGY PER GEOTECHNICAL ENGINEERING REPORT PREPARED BY KLEINFELDER, DATED NOVEMBER 4, 2021

BMP NO.	DESCRIPTION	SCHEDULE	INSPECTION TASK	MAINTENANCE	FAILURE INDICATORS
STORM DRAINAGE SYSTEM	INLETS, MANHOLES, AND STORMWATER PIPING.	EVERY 3 MONTHS	INSPECT INLETS, MANHOLES, AND STORMWATER PIPING	CLEAR SEDIMENT AND DEBRIS FROM ALL ON-SITE INLETS, MANHOLES, AND STORMWATER PIPING.	EXCESSIVE PONDING AROUND THE INLET GRATES COULD INDICATE THAT THERE MAY BE SEDIMENT/DEBRIS BUILDUP.
SWALES	DRAINAGE CHANNELS THAT CONVEY STORMWATER OVER LAND.	ANNUALLY OR AFTER EACH STORM >3"	INSPECT FOR EROSION AND/OR SEDIMENT ACCUMULATION	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.	CHANNEL EROSION OR VEGETATION FAILS TO ESTABLISH OR DIES OFF.
BMP 6.4.5 RAINGARDEN/ BIORETENTION	A RAINGARDEN (ALSO CALLED BIORETENTION) IS AN EXCAVATED SHALLOW SURFACE DEPRESSION PLANTED WITH SPECIALLY SELECTED NATIVE VEGETATION TO TREAT AND CAPTURE RUNOFF.	4 TIMES PER YEAR ANNUALLY	INSPECT FOR LITTER AND SEDIMENT ACCUMULATION INSPECT VEGETATIVE COVER CONDITION EVALUATE PLANT GROWTH REMOVE DETRITUS, CUT BACK DORMANT PERENNIAL PLANTS INSPECT FOR INVASIVE PLANT SPECIES INSPECT MULCH LEVEL AND REPLENISH AS NECESSARY	NEEDED MAINTENANCE SHOULD BE CONDUCTED IMMEDIATELY AFTER EACH INSPECTION. THE LITTER AND SEDIMENT SHALL BE REMOVED TO RESTORE DESIGN CAPACITIES AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.	FAILURE INDICATORS INCLUDE IF THE RAINGARDEN DOES NOT DEWATER WITHIN 72 HOURS OR IF AN ABUNDANCE OF WETLAND PLANTS ARE FOUND WITHIN THE RAINGARDEN. UPON OBSERVING A FAILURE INDICATOR A QUALIFIED INDIVIDUAL SUCH AS AN ENGINEER OR SOIL SCIENTIST/ENGINEER SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF FAILURE. UPON FURTHER INVESTIGATION PERFORMED BY THE QUALIFIED INDIVIDUAL A REMEDIATION PLAN SHALL BE IMPLEMENTED TO RESTORE THE RAINGARDEN TO ITS ORIGINAL DESIGN CAPACITIES, THIS INCLUDES PERFORMING ADDITIONAL INFILTRATION TESTING TO DETERMINE WHETHER THE FACILITY HAS BEEN BROUGHT BACK TO ITS ORIGINAL DESIGN CAPACITIES.

SOIL SUITABILITY AND CHARACTERISTICS

MAP UNIT SYMBOL	SOIL	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	BRIEF DESCRIPTION OF SOIL	DEPTH FROM SURFACE OF TYPICAL PROFILE	PERMEABILITY	SHRINK SWELL POTENTIAL	HYDROLOG IC GROUP	SUSECEPTABILITY TO FROST HEAVING	FOR USE AS ROAD FILL	FOR USE AS TOPSOIL	FOR USE AS SAND, GRAVEL AND STONE	HYDRIC
UbB	UDORTHENTS, LIMESTONE, 0 TO 8 PERCENT SLOPES	60 INCHES	40-99 IN	THIS COMPONENT IS ON HILLS, UPLANDS. THE PARENT MATERIAL CONSISTS OF GRADED AREAS OF ARGILLACEOUS LIMESTONE. DEPTH TO A ROOT RESTRICTIVE LAYER, BEDROCK, LITHIC, IS 40 TO 99 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY LOW. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS HIGH. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. A SEASONAL ZONE OF WATER SATURATION IS AT 60 INCHES DURING JANUARY, FEBRUARY, MARCH, NOVEMBER, DECMEBER. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.	0 T0 6 INCHES: SILTY CLAY LOAM 6 TO 60 INCHES: CLAY	WELL DRAINED	MODERATE	С	MODERATE	POOR	POOR	POOR	NO
UkaB	URBAN LAND, 0 TO 8 PERCENT SLOPES	-	-	URBAN LAND IS A MISCELLANEOUS AREA.	-	-	-	-	-	NOT RATED	NOT RATED	NOT RATED	NO

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED

CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO THIS PROJECT.

CHI ORINE ZINC COPPER AND MOLYBDENLIM LIMIT VEGETATION STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC SOIL FERTILITY

4. ERODIBLE SOIL TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10. LIMIT VEGETATIVE STABILIZATION OF CHANNELS.

INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.

1. SOIL TYPES POORLY SUITED AS SOURCES OF TOPSOIL RESTRICT OR PLACE CONDITIONS ON PLANNING VEGETATIVE STABILIZATION. ACIDIC, LOW FERTILITY, EXCESSIVE DRYNESS AND EXCESSIVE WETNESS LIMIT

2. ACIDIC SOIL TYPES EXHIBITING PH REACTION VALUES LOWER THAN ABOUT 5.5, LIMIT VEGETATIVE STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC PH REACTION.

RESOLUTIONS: IDENTIFYING AND RESOLVING CHARACTERISTICS, THAT RENDER THE SOIL TYPES POORLY, SUITED AS TOPSOIL.

RESOLUTIONS: APPLYING LIME CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTING VEGETATIVE SPECIES TOLERANT TO ACIDIC SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE 3. LOW FERTILITY SOIL TYPES LACKING IN SUFFICIENT AMOUNTS OF ESSENTIAL PLANT NUTRIENTS SUCH AS: NITRPGEN, PHOSPHOROUS, POTASSIUM, SULFER, MAGNESIUM, CALCIUM, IRON, MANGANESE, BORON

RESOLUTIONS: INCORPORATING SOIL NUTRIENTS CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTIVE VEGETATIVE SPECIES TOLERANT TO LOW FERTILITY SOIL CONDITIONS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN

RESOLUTIONS: TEMPORARY CHANNEL LINING, PROVIDING PERMANENT CHANNEL LINING, DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTING VEGETATIVE WITH GREATER RETARDANCE SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATION OF THESE AND/OR METHODS. VEGETATIVE RETARDANCE INFORMATION IS PROVIDED IN TABLES 6 AND 7 OF THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL PUBLISHED BY PADEP.

5. WET SOIL TYPES HAVE EXCESSIVE ROOT ZONE AND SOIL MOISTURES. SOME SOIL SURVEYS INDICATE WETNESS, HIGH WATER TABLE AND FLOODING. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE. RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO WET CONDITIONS, TILING VEGETATIVE AREAS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE

INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY THE PENN STATE. 6. DRY SOIL TYPES LACK SUFFICIENT ROOT ZONE SOIL MOISTURES. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE. RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO DRY CONDITIONS, IRRIGATING VEGETATED AREAS AND IMPLEMENTING COMBINATION OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE

7. SOIL TYPES SUSCEPTIBLE TO SINKHOLE AND SOLUTION CHANNEL/CHAMBER FORMATION POSE LIMITATIONS ON LOCATING RESERVOIR AREAS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS, AND STORMWATER DETENTION BASINS RESOLUTIONS: LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LINING RESERVOIR AREAS WITH IMPERMEABLE LINNINGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING

COMBINATIONS OF THESE AND/OR OTHER METHODS. 8. SOIL TYPES THAT EXHIBIT INSTABILITY IN POND EMBANKMENTS OR SUSCEPTIBILITY TO PIPING AND SEEPING POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS.

RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LIMITING EMBANKMENT SLOPE STEEPNESS AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.

9. SOIL THAT ARE DIFFICULT TO COMPACT, UNSUITABLE FOR WINTER GRADING, OR SUSCEPTIBLE TO FROST ACTION POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS. RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND

IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS 10. SUSCEPTIBILITY FOR THE DEVELOPMENT OF SINKHOLE WITHIN IDENTIFIED SOILS.

RESOLUTIONS: IN THE EVENT THAT PRESENCE OF A SINKHOLE IS DETECTED DURING THE COURSE OF WORK, CORRECTIVE MEASURES SHALL BE PERFORMED UNDER THE OBSERVATION AND GUIDANCE OF THE OWNER'S GEOTECHNICAL CONSULTANT. EXCAVATE THE LOOSE, WET SOILS SURROUNDING THE SINKHOLE TO EXPOSE THE SINKHOLE "THROAT" (THE OPENING IN THE ROCK) AND THE ADJACENT STABLE SOILS/ROCK WHERE POSSIBLE, THE EXCAVATION SHALL EXTEND A MINIMUM OF TWO FEET (2') BEYOND THE STABLE SOILS OR TO THE ROCK SURFACE, WHICHEVER IS ENCOUNTERED FIRST. FILL THE EXPOSED SINKHOLE "THROAT" WITH LEAN CONCRETE TO BLOCK THE MIGRATION OF THE UPPER LAYERS OF SOIL THROUGH THE ROCK OPENING AFTER CONCRETE HAS CURED OVERNIGHT BACKFILL THE REMAINDER OF THE EXCAVATION WITH CLAYEY SOILS TO PROVIDE A LOW PERMEABILITY BARRIER. THE CLAYEY SOILS SHALL BE PLACED IN 8" LIFTS AND

EACH LIFT COMPACTED BY REPEATED PASSES OF THE COMPACTION EQUIPMENT UNTIL STABLE. CARE SHALL BE TAKEN TO ASSURE THAT THE SOIL AT THE EDGES OF THE EXCAVATION ARE WELL COMPACTED.

LONG-TERM OPERATION AND MAINTENANCE SCHEDULE

- 1. UNTIL THE SITE IS STABILIZED AND DURING THE CONSTRUCTION ACTIVITIES, ALL BMPs MUST BE MAINTAINED PROPERLY BY CONTRACTOR. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL BMPs AS SPECIFIED. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK. INCLUDING CLEAN-OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING AND RE-NETTING 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.
- 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. 3. SHOULD ON-SITE EROSION OCCUR FROM THE LANDSCAPED AREAS, THE SOURCE OF EROSION SHALL BE IMMEDIATELY STABILIZED AND THE

2. ALL SITE INSPECTIONS MUST BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE INDICATING THE COMPLIANCE ACTIONS

- INLETS AND STORMWATER PIPING SHALL BE CHECKED FOR ACCUMULATION AND CLEARED IF ACCUMULATION OF SEDIMENT EXISTS. 4. HEAVY CONSTRUCTION VEHICLES SHALL NOT BE PARKED ON OR DRIVEN OVER BMP FACILITIES AND CARE SHOULD BE TAKEN TO AVOID
- EXCESSIVE COMPACTION BY EQUIPMENT, INCLUDING MOWERS. 5. INSPECT INFILTRATION FACILITIES AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SIGNS OF
- 6. REMOVE ACCUMULATED SEDIMENT FROM THE FACILITIES AS REQUIRED. RESTORE ORIGINAL CROSS-SECTION IF NECESSARY. PROPERLY DISPOSE OF SEDIMENT AS SPECIFIED. FOR ABOVE-GROUND INFILTRATION FACILITIES, REMOVE AND REPLACE SAND/STONE LAYER AS NECESSARY IF FACILITY DEWATERING TIME EXCEEDS 72 HOURS

BETHLEHEM SHARED SERVICES IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT BMPs AS

WILDLIFE SEED MIX SPECIFICATIONS /EDNIMV 127\.

ERNST SEED CO. RETENTION BASIN

<u>(El</u>	RNMX-127):	
PANICUM CLANDESTINUM 'TIOGA'	DEERTONGUE, TIOGA	30
CAREX VULPINOIDEA (PA ECOTYPE)	FOX SEDGE	29.5
ELYMUS VIRGINICUS (PA ECOTYPE)	VIRGINIA WILD RYE	20
CAREX LURIDA (PA ECOTYPE)	LURID SEDGE	7
CAREX SCOPARIA (PA ECOTYPE)	BLUNT BROOM SEDGE	7
VERBENA HASTATA (PA ECOTYPE)	BLUE VERVAIN	3
JUNCUS EFFUSUS	SOFT RUSH	1.5
AGROSTIS PERENNANS (NY ECOTYPE)	AUTUMN BENTGRASS, ALBANY PINE BUSH	0.5
ASCLEPIAS INCARNATA (PA ECOTYPE)	SWAMP MILKWEED	0.5
SCIRPUS CYPERINUS (PA ECOTYPE)	WOOL GRASS	0.3
HELENIUM AUTUMNALE (PA ECOTYPE)	COMMON SNEEZEWEED	0.2
ASTER NOVAE-ANGLIAE (PA ECOTYPE)	NEW ENGLAND ASTER	0.1
ASTER PUNICEUS (PA ECOTYPE)	PURPLESTEM ASTER ASTER	0.1
ASTER UMBELLATA (PA ECOTYPE)	FLAT TOPPED WHITE ASTER	0.1
EUPATORIUM PERFOLIATUM (PA ECOTY	(PE) BONESET	0.1
LOBELIA SIPHILITICA (PA ECOTYPE)	GREAT BLUE LOBELIA	0.1
SEEDING RATE: 20 LBS PER ACRE OF TO	HE ERNST MIX	
NURSE CROP: THE ERNST SEED MIX MI	JST BE ACCOMPANIED BY ONE OF THE FOLLOWI	NG

TEMPORARY SEED SPECIFICATIONS APPROPRIATE FOR THE TIME OF YEAR: ANNUAL RYE (10 LBS PER ACRE) OR WINTER RYE (56 LBS PER ACRE

1.) THE FORMULATION NOTED ABOVE IS REPRESENTATIVE OF THE ERNST SEED SPECIFICATION HE MOST CURRENT FORMULATION AS SPECIFIED BY THE ERNST COMPANY AT THE TIME OF PLANTING SHALL BE USED. 2.) SEED SHOULD BE APPLIED USING DRILL SEEDING OR BROADCAST SEEDING METHODS ONLY.

THE CONTRACTOR MUST ENSURE DIRECT SEED-TO-SOIL CONTACT. HYDROSEEDING IS NOT PERMITTED WITH THIS SEED MIX; IT WILL PROHIBIT GERMINATION. 3.) THE ENTIRE FACILITY SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN SC150 STRAW & COCONUT BLANKET (OR APPROVED EQUAL). THE BLANKET SHOULD BE INSTALLED ON TOP OF THE SEED IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATION 4.) THE SEED MIX WILL NEED DAILY SUPPLEMENTAL WATERING UNTIL IT HAS GERMINATED AND 5.) THE SEEDING AREA SHALL BE MOWED ONCE AFTER THE FIRST GROWING SEASON, EARLY IN

THE SPRING, AND THEN SHALL BE MOWED NO MORE THAN ONCE EVERY THREE YEARS

THEREAFTER EARLY IN SPRING ONLY

BLANKET EDGES INSTALL BEGINNING OF ROL STAPLED AND IN 6 IN. x 6 IN. ANCHOR **OVERLAPPED** TRENCH, STAPLE, BACKFILL (4 IN. MIN.) AND COMPACT SOIL STARTING AT TOP OF SLOPE, ROLL BLANKETS IN DIRECTION OF WATER FLOW PREPARE SEED BED (INCLUDING APPLICATION OF LIME FERTILIZER AND SEED) PRIOR TO BLANKET INSTALLATION THE BLANKET SHOULD OVERLAP BLANKET ENDS 6 IN. MIN.-REFER TO MANUF. RECOMMENDED NOT BE STRETCHED; WITH THE UPSLOPE BLANKED STAPLING PATTERN FOR IT MUST MAINTAIN OVERLYING THE DOWNSLOPE BLANKET STEEPNESS AND LENGTH OF GOOD SOIL CONTACT (SHINGLE STYLE). STAPLE SECURELY. SLOPE BEING BLANKETED

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

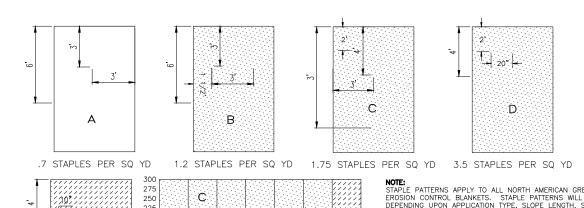
SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

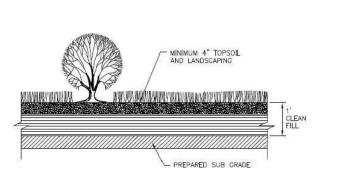
BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4

> STANDARD CONSTRUCTION DETAIL #11-1 **EROSION CONTROL BLANKET INSTALLATION**



3.8 STAPLES PER SQ YD

EROSION CONTROL BLANKET STAPLE PATTERN GUIDE



LANDSCAPING FILL CAP DETAIL

LANDSCAPING DETAIL

PROOF OF RECORDING

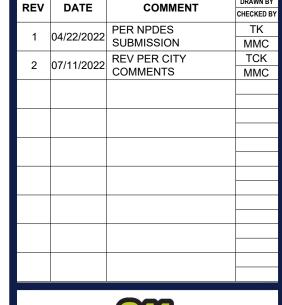
COUNTY, PENNSYLVANIA ON

RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF NORTHAMPTON

NORTHAMPTON COUNTY RECORDER OF DEEDS

20_____, IN MAP BOOK VOLUME

REVISIONS





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20212392542 & 20212392479

PROJECT No.: DRAWN BY: **CHECKED BY:** CAD I.D.: PY212051-CNDS-2/

PRELIMINARY/ FINAL LAND **DEVELOPMENT**

BETHLEHEM SHARED SERVICES, LLC

PLANS

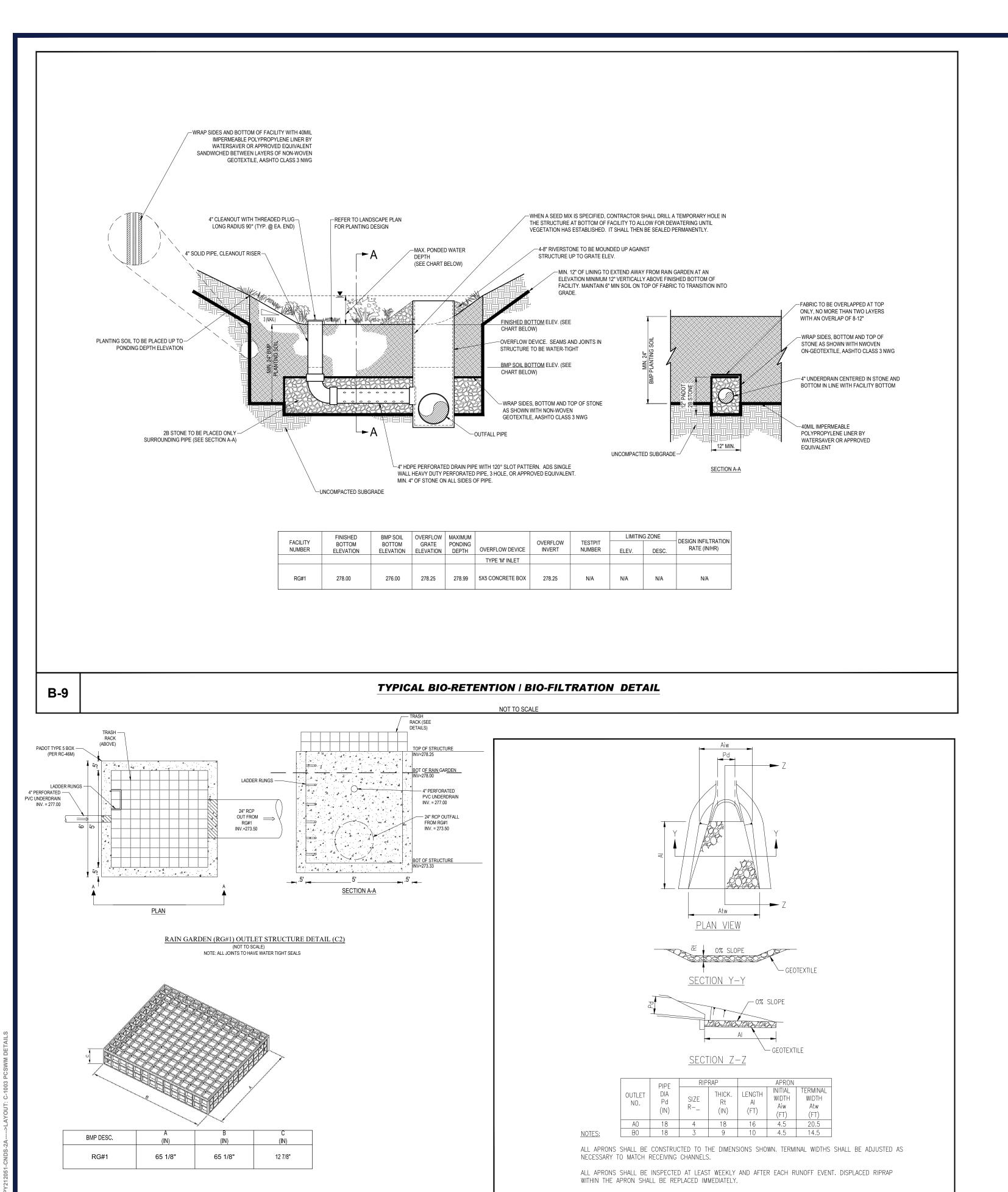
PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM **NORTHAMPTON COUNTY** PENNSYLVANIA

74 W BROAD STREET, SUITE 500 BETHLEHEM, PA 18018 Phone: (610) 709-9971 Fax: (610) 709-9976 www.BohlerEngineering.com



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



CONTECH STORM RAX FLAT

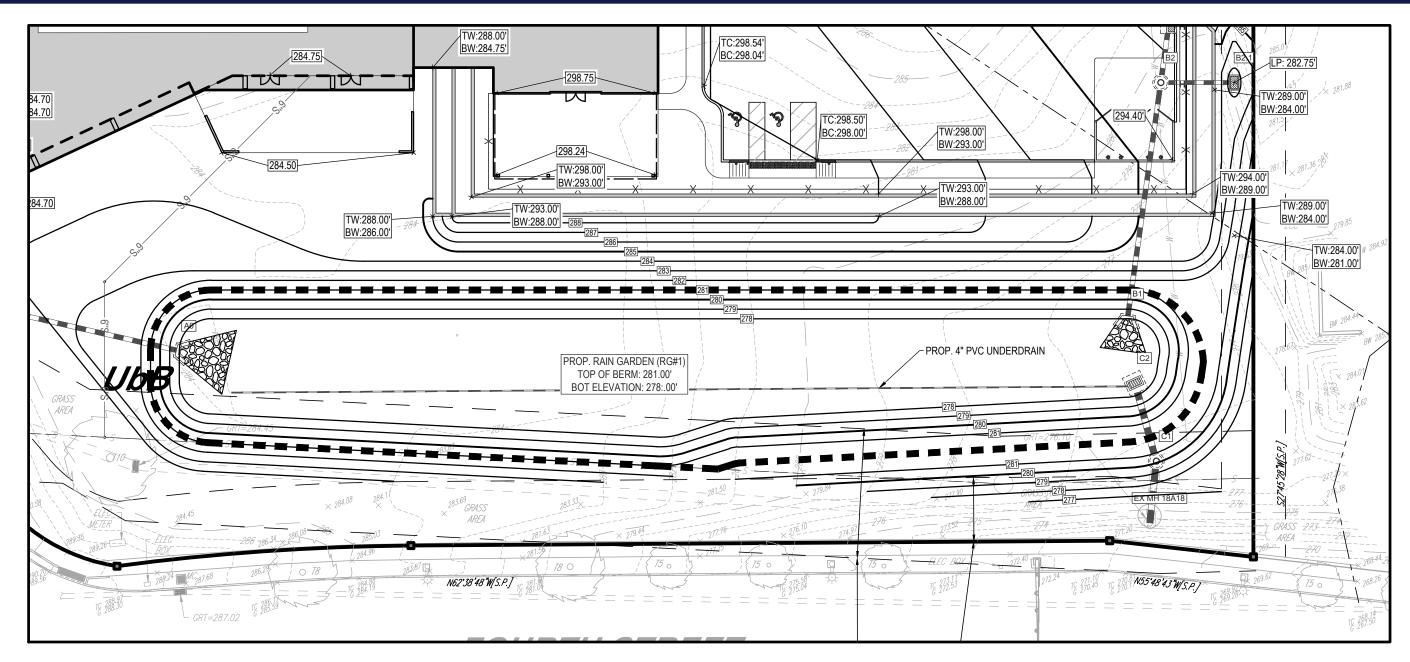
(OR APPROVED EQUIVALENT)

(x) ROOF STRUCTURE DETAIL

SCALE: N.T.S.

STANDARD CONSTRUCTION DETAIL #9-1 RIPRAP APRON

AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL



RAIN GARDEN (RG#1) ENLARGEMENT



REVISIONS

REV	DATE	COMMENT	DRAWN BY CHECKED BY				
1	04/22/2022	PER NPDES SUBMISSION	TK MMC				
2	07/11/2022	REV PER CITY COMMENTS	TCK MMC				
		<u> </u>					

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PROJECT No.: DRAWN BY: CHECKED BY: DATE: CAD I.D.: PY212051-CNDS-2A

> PRELIMINARY FINAL LAND **DEVELOPMENT**

PLANS

BETHLEHEM SHARED SERVICES, LLC

PROPOSED OFFICE & RETAIL MIXED-USE DEVELOPMENT

LEHIGH VALLEY INDUSTRIAL PARK **1810 SPILLMAN DRIVE** CITY OF BETHLEHEM NORTHAMPTON COUNTY

PENNSYLVANIA

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M.M. SARIKAND

SHEET TITLE: **POST**

CONSTRUCTION STORMWATER **MANAGEMENT DETAILS**

C-1003

REVISION 2 - 07/11/2022

PROOF OF RECORDING

COUNTY, PENNSYLVANIA ON 20____, IN MAP BOOK VOLUME _

RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF NORTHAMPTON

NORTHAMPTON COUNTY RECORDER OF DEEDS