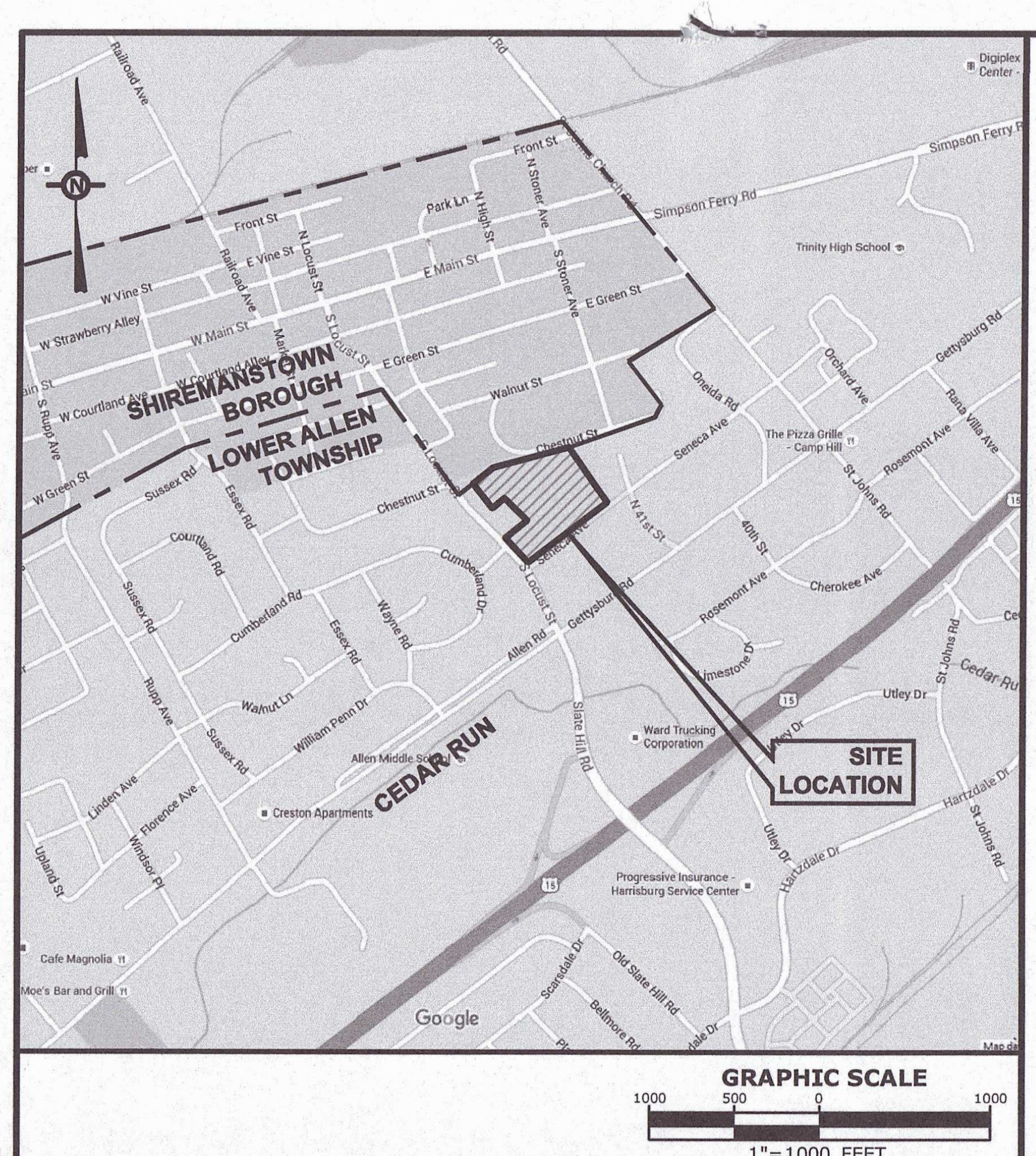
REVISED FINAL SUBDIVISION PLAN

145 SOUTH LOCUST STREET

FOR

WILLIAM R. GRACE

LOWER ALLEN TOWNSHIP, CUMBERLAND COUNTY, PENNSYLVANIA



LOCATION MAP

SCALE: 1"=1000 FEET

ACT 287 LIST OF UTILITIES

THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF ACT 287 OF 1974 AS AMENDED BY ACT 187 OF 1996 FOR NOTIFICATION OF UTILITIES BEFORE EXCAVATION IN CONTRACT AREA. THE UNDERGROUND UTILITIES LOCATION CALL NUMBER IS 1-800-242-1776.

PENNSYLVANIA AMERICAN WATER
852 WESLEY DRIVE
MECHANICSBURG, PA 17055
CONTACT: JERRY BONANNO

PPL ELECTRIC UTILITIES CORP.
642 S 20TH ST.
HARRISBURG, PA 17104-2222
CONTACT: JEANETTE ANDERSON
jlanderson@pplweb.com

VERIZON PENNSYLVANIA INC.
15 E. MONTGOMERY AVE.
PITTSBURGH, PA 15212
CONTACT: OFFICE PERSONNEL

COMCAST CABLE COMMUNICATIONS
4601 SMITH ST.
HARRISBURG, PA 17109
CONTACT: DAVE McCLUCKIE
mccluckie@cable.comcast.com

LOWER ALLEN TOWNSHIP AUTHORITY
120 LIMEKILN RD.
NEW CUMBERLAND, PA 17070
CONTACT: DAVID RAMSEY
david_ramsey@lower-allen.pa.us

LOWER ALLEN TOWNSHIP
2233 GETTYSBURG RD.
CAMP HILL, PA 17011
CONTACT: DANIEL J. FLINT
daniel_flint@lower-allen.pa.us

UGI UTILITIES INC.
1301 AIP DR.
MIDDLETOWN, PA 17057-5987
CONTACT: TOM WITT
twitt@ugi.com

WINDSTREAM COMMUNICATIONS
2 INDUSTRIAL RD.
BROWNSTOWN, PA 17508
CONTACT: 717-738-8360

LEVEL 3 COMMUNICATIONS LLC
1025 ELDORADO BLVD.
BROOMFIELD, CO 80021
CONTACT: LEVEL 3 OPERATOR
level3networkrelocations@level3.com

XO COMMUNICATIONS INC.
1220 BROADCASTING RD.
WYOMISSING, PA 19610
CONTACT: SCOTT DREILING
scott.j.dreiling@xo.com

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP-CALL BEFORE YOU DIG

PA ONE-CALL SERIAL NUMBER: 20111220231
DATE: 05/17/2011

CUMBERLAND COUNTY PLANNING DEPARTMENT

REVIEWED THIS 17 DAY OF November, 20 21,
BY THE CUMBERLAND COUNTY PLANNING DEPARTMENT.

Kirk Stoner (JC)
DIRECTOR OF PLANNING

BOARD OF COMMISSIONERS

APPROVED BY THE BOARD OF COMMISSIONERS, LOWER ALLEN TOWNSHIP, CUMBERLAND COUNTY, PA.

APPROVED THIS 22nd DAY OF November, 20 21.

CONDITIONS OF APPROVAL COMPLETED THIS 22nd DAY
OF March, 20 22.

PRESIDENT Dean W. Villone

SECRETARY

RECORD INFORMATION

RECORDED IN THE CUMBERLAND COUNTY COURTHOUSE
RECORDED THIS 23rd DAY OF March, 20 22.
INSTRUMENT NO. 202208441

LANDOWNER AND APPLICANT

WILLIAM R. & ELIZABETH A. GRACE
PO BOX 301
NEW CUMBERLAND, PA 17070

TELEPHONE: 717.579.1337

PLAN PREPARER

KUROWSKI AND WILSON, LLC
2201 NORTH FRONT STREET, SUITE 200
HARRISBURG, PA 17110

TELEPHONE: 717.635.2835
FAX: 717.635.2836

PROJECT MANAGER: J MARC KUROWSKI, PRESIDENT & CEO

CIVIL ENGINEER'S CERTIFICATION OF ACCURACY

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT AS REQUIRED BY THE LOWER ALLEN TOWNSHIP & CUMBERLAND COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, AND STORMWATER MANAGEMENT ORDINANCE.

2/3, 20 22

J. MARC KUROWSKI
ENGINEER
No. 052032-E

LAND SURVEYOR'S CERTIFICATION OF ACCURACY

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT AS REQUIRED BY THE LOWER ALLEN TOWNSHIP & CUMBERLAND COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

2/3, 20 22

DENNIS P. BURKHARD
LAND SURVEYOR
No.43332-R

Den. P. Burkhard

OWNER STATEMENT

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF CUMBERLAND

ON THIS THE 7th DAY OF February, 20 22,

BEFORE ME NAMED THE UNDERSIGNED OFFICER, PERSONALLY APPEARED

OWNER(S) William R. Grace

KNOWN TO ME (OR SATISFACTORY PROVEN) TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT, AND ACKNOWLEDGED THAT William R. Grace EXECUTED THE SAME FOR THE PURPOSE THEREIN CONTAINED.

Commonwealth of Pennsylvania - Notary Seal
CHERYL M SPIER - Notary Public
Dauphin County
My Commission Expires October 28, 2024
Commission Number 1300778

NOTARY PUBLIC SIGNATURE Cheryl M Spier

OWNER'S STORMWATER ACKNOWLEDGEMENT STATEMENT

I ACKNOWLEDGE THE STORMWATER MANAGEMENT FACILITIES AND BMP'S TO BE PERMANENT FIXTURES THAT CAN BE ALTERED AND REMOVED ONLY AFTER APPROVAL OF A REVISED PLAN BY THE MUNICIPALITY.

February 7, 20 22

SHEET INDEX

Sheet Number	Sheet Title
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	SUBDIVISION PLAN
4	SITE PLAN
5	GRADING PLAN
6	UTILITY PLAN
7	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
8	PROFILES
9	PROFILES
10	LANDSCAPE PLAN
11	COVER SHEET
12	EROSION AND SEDIMENATION CONTROL PLAN
13	E&S DETAILS
14	E&S DETAILS
15	E&S DETAILS
16	SITE DETAILS
17	SITE DETAILS
18	PCSM DETAILS
19	PCSM DETAILS

SITE DATA

TAX PARCEL ID:	13-23-0555-083
DEED BOOK / PAGE NUMBER:	280/048
TOTAL LOT AREA:	6.70 AC.
SEWAGE DISPOSAL:	PUBLIC--LOWER ALLEN TOWNSHIP AUTHORITY
WATER SUPPLY:	PUBLIC--PENNSYLVANIA AMERICAN WATER

ZONING DATA

ZONING DISTRICT:	(R-1) - SINGLE FAMILY ESTABLISHED RESIDENTIAL
PROPOSED ZONING:	(OSD) - OPEN SPACE DEVELOPMENT OVERLAY(PERMITTED USE BY RIGHT WITHIN R-1)
EXISTING USE:	VACANT LAND (PREVIOUSLY HORTICULTURAL RETAIL OUTLET)
PROPOSED USES:	SINGLE-FAMILY DETACHED (S-FD) (PERMITTED IN R-1 AND OSD) TOWNHOUSE DWELLINGS (THD) (PERMITTED IN OSD)

REGULATED MINIMUM TRACT AREA:	5 AC. (OSD)
EXISTING PROPERTY AREA:	6.70 AC.
REGULATED MAX. OVERALL DENSITY:	6 DWELLING UNITS (DU'S) PER ACRE (OSD) x 6.70 = 40 DU'S TOTAL ALLOWED
PROPOSED DENSITY:	3.88 DU'S PER ACRE 8 SINGLE-FAMILY DETACHED, FEE SIMPLE LOTS 18 ATTACHED TOWNHOUSE, FEE SIMPLE LOTS
REGULATED DWELLING TYPE RATIO:	MIN. 60% SINGLE-FAMILY DETACHED
PROPOSED DWELLING TYPE RATIO:	30% SINGLE-FAMILY DETACHED (VARIANCE GRANTED 12/15/16)
REGULATED MAX. IMPERV. COVERAGE:	40% (2.68 AC.) (OSD)
PROPOSED IMPERVIOUS COVERAGE:	116,740.8 SF (2.68 AC.) 40.0% TOTAL IMPERVIOUS COVERAGE
REGULATED MIN. OPEN SPACE (OSD):	25% (1.67 AC)
PROPOSED OPEN SPACE:	28% (1.87 AC)
REGULATED MIN. OFF-STREET PARKING:	2 SPACES (9' x 18' @ 90°) PER S-FD 2 SPACES (9' x 18' @ 90°) PER THD WITH 2 OR MORE BEDROOMS
PROPOSED OFF-STREET PARKING:	≥ REGULATED
REGULATED MIN. PARKING SETBACK:	10 FT FROM BUILDINGS 5 FT FROM PROPERTY BOUNDARY
REG. CUL-DE-SAC DRIVEWAY ENTRY:	25% (42.52 LF) MAX.
PRO. CUL-DE-SAC DRIVEWAY ENTRY:	17.6% (30.00 LF)
SEWAGE DISPOSAL:	PUBLIC SEWER EXTENSION
WATER SUPPLY:	PUBLIC WATER MAIN EXTENSION

LOT DIMENSIONS/REGULATIONS (OSD):

ITEM	REQUIRED	PROPOSED
MIN. LOT AREA:	6,000 SF (S-FD) 2,000 SF (THD)	> 6,000 SF ≥ 3,323.13 SF
MIN. LOT WIDTH:	40 FT (S-FD) 20 FT (THD)	51 FT ≥ 35 FT
FRONT YARD SETBACK :	5 FT MIN.; 25 FT MAX. (S-FD & THD)	WITHIN REQUIRED
REAR YARD SETBACK:	25 FT (S-FD & THD)	WITHIN REQUIRED
SIDE YARD SETBACK:	15 FT TOTAL; 5 FT MIN. (S-FD) 10 FT (THD)	WITHIN REQUIRED WITHIN REQUIRED
DECK/PORCH:	LESSER OF 10 FT OR 50% INTO SETBACK	WITHIN REQUIRED
BUILDING HEIGHT	35 FEET MAX.	<35 FEET

PURPOSE OF PLAN

THE PURPOSE OF THIS PLAN IS TO REVISE THE PREVIOUS FINAL PLAN FOR 145 SOUTH LOCUST STREET, RECORDED IN INSTRUMENT NUMBER 202123003. THE SPECIFIC CHANGES ARE VERY MINOR IN NATURE AND ARE BEING DONE TO MAINTAIN THE EXISTING INGRESS / EGRESS EASEMENT RECORDED IN DB2801 / PAGE 48 FOR THE BENEFIT OF THE PROPERTY OWNERS AT 137, 141 AND 143 LOCUST STREET.

LOT ACREAGE TABLE

Parcel Table		
Parcel #	Area	Width
1	4770 S.F. / 0.110 ACRES	45.00'
2	3710 S.F. / 0.085 ACRES	35.00'
3	3710 S.F. / 0.085 ACRES	35.00'
4	4770 S.F. / 0.110 ACRES	45.00'
5	4770 S.F. / 0.110 ACRES	45.00'
6	3710 S.F. / 0.085 ACRES	35.00'
7	3710 S.F. / 0.085 ACRES	35.00'
8	4770 S.F. / 0.110 ACRES	45.00'
9	4289 S.F. / 0.098 ACRES	45.00'
10	3334 S.F. / 0.077 ACRES	35.15'
11	4794 S.F. / 0.110 ACRES	34.36'
12	5193 S.F. / 0.119 ACRES	58.29'
13	3433 S.F. / 0.079 ACRES	35.77'
14	5082 S.F. / 0.117 ACRES	51.40'
15	4435 S.F. / 0.102 ACRES	45.00'

Parcel Table		
Parcel #	Area	Width
16	3535 S.F. / 0.081 ACRES	35.00'
17	3535 S.F. / 0.081 ACRES	35.00'
18	4325 S.F. / 0.099 ACRES	61.13'
19	6675 S.F. / 0.153 ACRES	53.46'
20	6191 S.F. / 0.142 ACRES	51.14'
21	6121 S.F. / 0.141 ACRES	51.00'
22	6118 S.F. / 0.140 ACRES	51.00'
23	6120 S.F. / 0.140 ACRES	51.00'
24	6120 S.F. / 0.140 ACRES	51.00'
25	6120 S.F. / 0.140 ACRES	51.00'
26	5652 S.F. / 0.130 ACRES	68.20'
27 [a]	81573 S.F. / 1.873 ACRES	---
28 [b]	13108 S.F. / 0.301 ACRES	---
29 [c]	7341 S.F. / 0.169 ACRES	---

a OPEN SPACE (HOA)
b DRAINAGE EASEMENT (HOA STORMWATER BASIN)
c FOR DEDICATION TO LOWER ALLEN TOWNSHIP

GENERAL NOTES

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION AND DEPTH OF ALL UTILITY LINES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. KUROWSKI AND WILSON, L.L.C. ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND UTILITIES AS DEPICTED HEREON. ANY REQUEST FOR ADDITIONAL UTILITY INFORMATION SHOULD BE DIRECTED TO THAT RESPECTIVE UTILITY COMPANY.
2. NO PORTIONS OF THE SITE LIE WITHIN THE 100 YEAR FLOODPLAIN AS DEFINED BY F.E.M.A. MAPPING.
3. WETLANDS ARE NOT PRESENT ON THE PROJECT SITE.
4. HYDRIC SOILS ARE NOT PRESENT ON THE PROJECT SITE.
5. THE OWNER OF 145 S. LOCUST STREET SHALL INSTALL SIDEWALK ALONG THE FRONTAGE OF 137 S. LOCUST STREET AT THE TIME 145 S. LOCUST STREET IS DEVELOPED. THIS IS A COVENANT RUNNING WITH THE LAND, WHICH SHALL BIND THE OWNERS, THEIR SUCCESSORS, HEIRS AND ASSIGNS.
6. TOPOGRAPHIC BASE DATA IS BASED ON NAVD 88.
7. ALL WORK SHALL BE IN ACCORDANCE WITH PENNDOT PUB. 408, SPECIFICATIONS AND PUB. 72, ROADWAY CONSTRUCTION STANDARDS, UNLESS OTHERWISE NOTED.
8. WORK ZONE TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH PENNDOT PUB. 213.
9. A RIGHT-OF-WAY PERMIT IS REQUIRED BEFORE STARTING ANY WORK WITHIN THE PUBLIC STREET RIGHT-OF-WAY.
10. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS. ALL PAVEMENT MARKINGS SHALL BE HOT THERMOPLASTIC.
11. ALL STORM DRAINAGE PIPE SHALL BE SMOOTH INTERIOR UNLESS OTHERWISE NOTED.
12. LOT OWNERS ARE REQUIRED TO MAINTAIN LOT GRADING AND SURFACE DRAINAGE PATTERNS AND CHARACTERISTICS IN ACCORDANCE WITH THE APPROVED PLAN.
13. STORM SEWER MANHOLE COVERS SHALL BE CAST WITH THE WORD "STORM" FOR IDENTIFICATION PURPOSES.
14. CONSTRUCTION OF ALL WORK WITHIN THE PUBLIC STREET RIGHT-OF-WAY AND WORK RELATED TO STORM DRAINAGE FACILITIES REQUIRES INSPECTION BY THE TOWNSHIP. PROVIDE A MINIMUM 48 HOURS NOTICE TO THE TOWNSHIP BEFORE STARTING WORK.
15. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE TOWNSHIP ENGINEER AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
16. SITE DISTURBANCE IS PERMITTED TO START ONLY IF AND WHEN SUFFICIENT TIME IS AVAILABLE TO STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PADEP REQUIREMENTS AND WITH THE APPROVED PLAN.
17. PA AMERICAN WATER SHALL BE CONTACTED TO REQUEST ADDITIONAL WATER SUPPLY AND CONNECTION TO PUBLIC WATER FOR ADDITIONAL BUILDING.
18. LOWER ALLEN TOWNSHIP AUTHORITY SHALL BE CONTACTED TO REQUEST ADDITIONAL CONNECTION AND ALLOWANCE FOR SEWAGE FLOWS TO PUBLIC SEWER.
19. THE HOMEOWNER'S ASSOCIATION (HOA) SHALL OWN AND MAINTAIN THE OPEN SPACE AREAS IDENTIFIED ON THE PLANS.
20. THE DEVELOPER INTENDS TO PAY A RECREATION FEE IN LIEU OF DEDICATING RECREATION LAND.
21. WALKING TRAILS ARE AVAILABLE FOR USE BY THE PUBLIC.
22. MEMBERSHIP IN THE HOA IS REQUIRED OF ALL PROPERTY OWNERS IN THE SUBDIVISION.
23. THE HOA WILL BE RESPONSIBLE FOR: MAINTENANCE OF TRAILS OUTSIDE OF THE STREET RIGHT-OF-WAY, AND FOR TRAILS AND SIDEWALKS THAT DO NOT FRONT ON PARCELS IN THIS SUBDIVISION; MAINTENANCE OF STREET TREES THAT ARE LOCATED IN AREAS OTHER THAN THE FRONTAGE OF PARCELS WITHIN THE DEVELOPMENT; MAINTENANCE OF STORMWATER FACILITIES THAT ARE LOCATED OUTSIDE THE STREET RIGHT-OF-WAY.
24. ACCESS TO LOT 1 IS PERMITTED FROM LOCUST ROAD ONLY, AND NOT FROM LOCUST STREET.
25. ROOF DRAINAGE MUST BE DIRECTED IN ACCORDAANCE WITH THE INLET DRAINAGE MAP LOCATED IN THE POST CONSTRUCTION STORMWATER MANAGEMENT REPORT.
26. COMPLIANCE WITH VISUAL OFFSET REQUIREMENTS OF SECTION 220-115.B(2) WILL BE REQUIRED WITH THE CONSTRUCTION PERMIT APPLICATION.
27. PLANNING MODULE EXEMPTION HAS BEEN APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR 22 LOTS. PLANNING MODULE EXEMPTION FOR ADDITIONAL 4 LOTS IN PROGRESS.
28. THE LOCUST STREET HOMES PRELIMINARY PLAN WAS APPROVED BY LOWER ALLEN TOWNSHIP BOARD OF COMMISSIONERS ON APRIL 23, 2012.
29. A HIGHWAY OCCUPANCY PERMIT IS REQUIRED PURSUANT TO SECTION 420 OF THE ACT OF JUNE 1, 1945 (P.L. 1242, NO. 428), KNOWN AS THE "STATE HIGHWAY LAW", BEFORE ACCESS TO A STATE HIGHWAY IS PERMITTED.
30. ALL PROPOSED STREETS TO BE DEDICATED TO LOWER ALLEN TOWNSHIP FOR PUBLIC USE.
31. NO DRIVEWAY SHALL BE LOCATED WITHIN 40 FEET OF THE RIGHT-OF-WAY LINE OF AN INTERSECTING STREET.

WAIVERS

AT A MEETING HELD ON MAY 9, 2016 THE LOWER ALLEN TOWNSHIP BOARD OF COMMISSIONERS APPROVED THE FOLLOWING WAIVERS/MODIFICATIONS OF THE REQUIREMENTS OF THE LOWER ALLEN TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE:

1. SECTION 192-57.B(2)(H)[2]:	MODIFICATION OF RIGHT-OF-WAY REQUIREMENT
2. SECTION 192-57.C(8):	PROVIDE FEE IN LIEU OF CURB CONSTRUCTION
3. SECTION 192-57.C(9):	MODIFICATION OF SIDEWALK REQUIREMENT
4. SECTION 192-57.C(13):	MODIFICATION OF PAVEMENT WIDTH REQUIREMENT

AT A MEETING HELD ON APRIL 23, 2012 THE LOWER ALLEN TOWNSHIP BOARD OF COMMISSIONERS APPROVED THE FOLLOWING WAIVERS/MODIFICATIONS OF THE REQUIREMENTS OF THE LOWER ALLEN TOWNSHIP STORMWATER MANAGEMENT AND SUBDIVISION AND LAND DEVELOPMENT ORDINANCES:

1. SECTION 184-13:	STORMWATER VOLUME CONTROL REQUIREMENTS
2. SECTION 192-57.B(2):	MODIFICATION TO THE RIGHT-OF-WAY AND PAVEMENT WIDTH REQUIREMENT ALONG LOCUST STREET AND SENECA AVENUE EXTENSION
3. SECTION 192-57.B(9):	SIDEWALKS ALONG STREET FRONTAGES
4. SECTION 192-57.C(5):	MAXIMUM 10% OF STREET LENGTH MAY BE CUL-DE-SAC STREETS
5. SECTION 192-59.A(3):	MINIMUM LOT DEPTH TO WIDTH RATIO OF 2 TO 1

THE ADDITIONAL BELOW LISTED WAIVER OF THE LOWER ALLEN TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE IS BEING REQUESTED:

1. SECTION 192-39.F:	REVIEW OF PLANS BY PLANNING COMMISSION

VARIANCES

IN A DECISION DATED DECEMBER 21, 2016 PERTAINING TO A HEARING ON DECEMBER 15, 2016 (DOCKET NO. 2016-05), THE LOWER ALLEN TOWNSHIP ZONING HEARING BOARD APPROVED THE FOLLOWING VARIANCES FROM THE LOWER ALLEN TOWNSHIP ZONING ORDINANCE:

1. SECTION 220-107.B(1)(B):	PERMITTING A SMALLER PERIMETER SETBACK FOR TOWNHOUSE USES THAT ABUT EXISTING RESIDENTIAL USES
2. SECTION 220-115.A:	ALLOWING 70% OF THE PROPOSED UNITS IN THE OPEN SPACE DEVELOPMENT TO BE TOWNHOUSE UNITS
3. SECTION 220-116.B:	PERMITTING ADDITIONAL GRADING IN COMMON OPEN SPACE BEYOND THE 50% AREA LIMIT

K&W
DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

CUMBERLAND COUNTY, PA

REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-A_ldCVR.dwg	

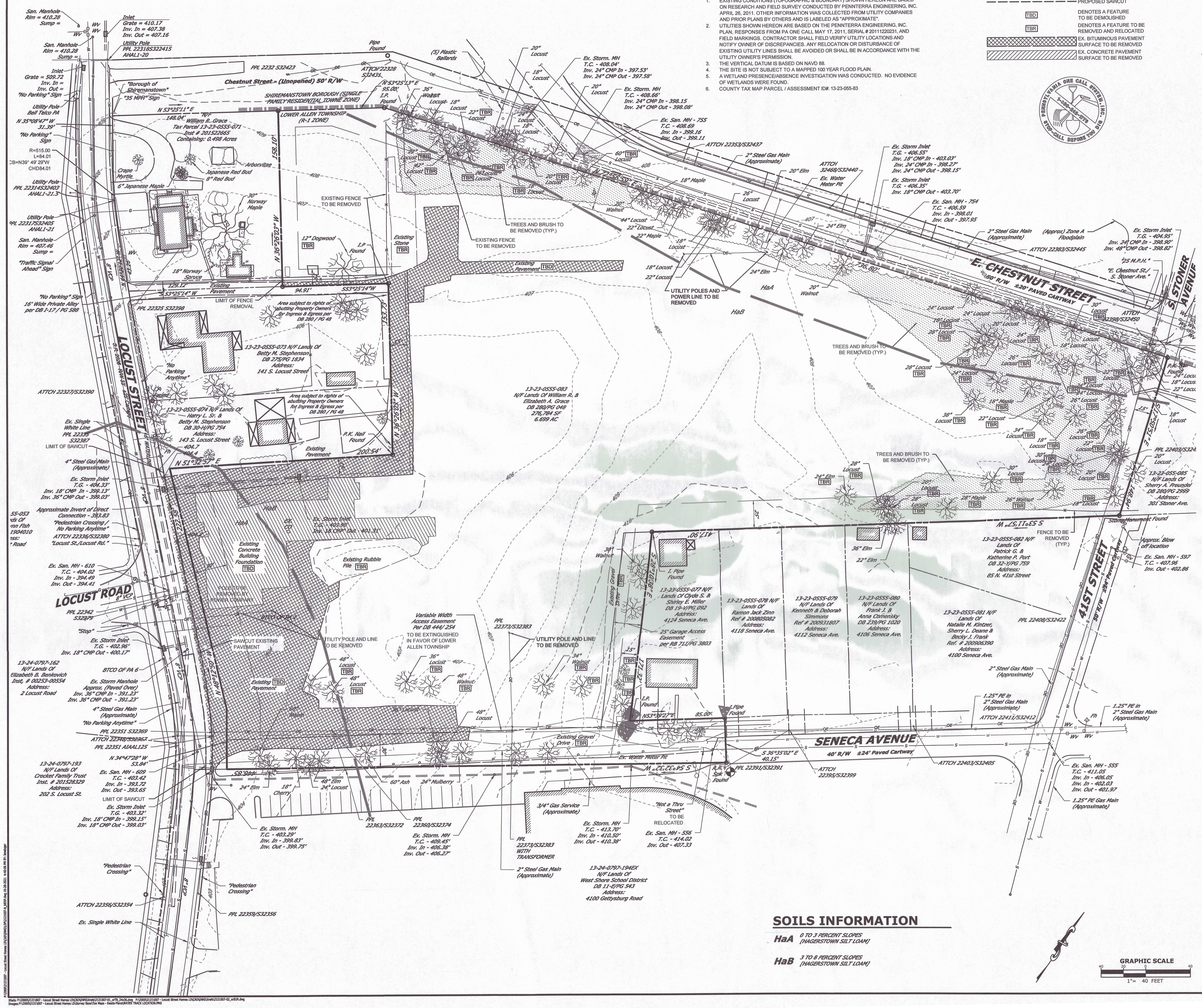
REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
COVER SHEET

SHEET:
1 OF 19

2121007-A_ldCVR.dwg 10-28-2021 4:39:12 PM BY: bmetzger


Chestnut Street - (Unopened) 50' R/W
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
LOCUST STREET
LOCUST ROAD
SENECA AVENUE
40' R/W ±24' Paved Cartway
41ST STREET
50' R/W ±24' Paved Cartway
S. STONER AVENUE
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE)
LOWER ALLEN TOWNSHIP (R-1 ZONE)
13-23-0555-083
N/F Lands Of William R. & Elizabeth A. Grace
DB 280/PG 049
276,784 SF
6.699 AC
N/F William R. Grace
Tax Parcel 13-23-0555-071
Inst # 201522665
Containing: 0.498 Acres
13-23-0555-073 N/F Lands Of Betty M. Stephenson
DB 275/PG 1834
Address: 141 S. Locust Street
13-23-0555-074 N/F Lands Of Harry L. Sr. & Betty M. Stephenson
DB 30-H/PG 754
Address: 143 S. Locust Street
13-23-0555-077 N/F Lands Of Clyde S. & Shirley E. Miller
DB 19-V/PG 092
Address: 4124 Seneca Ave.
13-23-0555-078 N/F Lands Of Ramon Jack Zinn
Ref # 200805082
Address: 4118 Seneca Ave.
13-23-0555-079 N/F Lands Of Kenneth & Deborah Simmons
Ref # 200931807
Address: 4112 Seneca Ave.
13-23-0555-080 N/F Lands Of Frank J. & Anna Comensky
DB 239/PG 1020
Address: 4106 Seneca Ave.
13-23-0555-081 N/F Lands Of Natalie M. Kintzer, Sherry L. Deane & Becky J. Frank
Ref. # 200906390
Address: 4100 Seneca Ave.
13-23-0555-082 N/F Lands Of Patrick G. & Katherine P. Port
DB 32-Y/PG 759
Address: 85 N. 41st Street
13-23-055-085 N/F Lands Of Sherry A. Freundel
DB 280/PG 2999
Address: 301 Stoner Ave.
13-24-0797-162 N/F Lands Of Elizabeth B. Benkovich
Inst. # 00253-00554
Address: 2 Locust Road
13-24-0797-193 N/F Lands Of Crocket Family Trust
Inst. # 201528329
Address: 202 S. Locust St.
13-24-0797-194EX N/F Lands Of West Shore School District
DB 11-E/PG 543
Address: 4100 Gettysburg Road
TREES AND BRUSH TO BE REMOVED (TYP.)
UTILITY POLES AND POWER LINE TO BE REMOVED
UTILITY POLE AND LINE TO BE REMOVED
EXISTING FENCE TO BE REMOVED
LIMIT OF FENCE REMOVAL
Existing Concrete Building Foundation
Existing Rubble Pile
Existing Pavement
Variable Width Access Easement Per DB 444/254 TO BE EXTINGUISHED IN FAVOR OF LOWER ALLEN TOWNSHIP
25' Garage Access Easement per RB 711/PG 3803
Area subject to rights of abutting Property Owners for Ingress & Egress per DB 280 / PG 48
SAWCUT EXISTING PAVEMENT
LIMIT OF SAWCUT
(Approx) Zone A Floodplain
2" Steel Gas Main (Approximate)
HaA
HaB
GRAPHIC SCALE
0
20
40
1" = 40 FEET

PLAN NOTES

1. EXISTING CONDITIONS (TOPOGRAPHIC & BOUNDARY) SHOWN HEREON ARE BASED ON RESEARCH AND FIELD SURVEY CONDUCTED BY PENNTERRA ENGINEERING, INC. APRIL 26, 2011. OTHER INFORMATION WAS COLLECTED FROM UTILITY COMPANIES AND PRIOR PLANS BY OTHERS AND IS LABELED AS "APPROXIMATE".
2. UTILITIES SHOWN HEREON ARE BASED ON THE PENNTERRA ENGINEERING, INC. PLAN, RESPONSES FROM PA ONE CALL MAY 17, 2011, SERIAL # 20111220231, AND FIELD MARKINGS. CONTRACTOR SHALL FIELD VERIFY UTILITY LOCATIONS AND NOTIFY OWNER OF DISCREPANCIES. ANY RELOCATION OR DISTURBANCE OF EXISTING UTILITY LINES SHALL BE AVOIDED OR SHALL BE IN ACCORDANCE WITH THE UTILITY OWNER'S PERMISSION.
3. THE VERTICAL DATUM IS BASED ON NAVD 88.
4. THE SITE IS NOT SUBJECT TO A MAPPED 100 YEAR FLOOD PLAIN.
5. A WETLAND PRESENCE/ABSENCE INVESTIGATION WAS CONDUCTED. NO EVIDENCE OF WETLANDS WERE FOUND.
6. COUNTY TAX MAP PARCEL / ASSESSMENT ID#: 13-23-055-83

LEGEND

DEMOLITION

	PROPOSED SAWCUT
TBD	DENOTES A FEATURE TO BE DEMOLISHED
TBR	DENOTES A FEATURE TO BE REMOVED AND RELOCATED
▨	EX. BITUMINOUS PAVEMENT SURFACE TO BE REMOVED
▨	EX. CONCRETE PAVEMENT SURFACE TO BE REMOVED

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP-CALL BEFORE YOU DIG

LEGEND

EXISTING FEATURES

	EDGE OF PAVED BITUMINOUS SURFACE
	EDGE OF GRAVEL OR CRUSHED STONE SURFACE
	EDGE OF ROADWAY SHOULDER
	CENTER LINE
	PROPERTY BOUNDARY LINE
○	IRON PIN OR PIPE
⊗	CONCRETE MONUMENT
Fp ○	FENCE POST
	ADJOINING PROPERTY BOUNDARY LINE
	EASEMENT LINE
	LEGAL RIGHT OF WAY LINE
	DEDICATED RIGHT OF WAY LINE
	MINIMUM BUILDING SETBACK LINE
	MUNICIPAL BOUNDARY LINE
	ZONING DISTRICT BOUNDARY LINE
	EDGE OF EXISTING SURFACE WATERCOURSE
420	INDEX CONTOUR LINE
421	INTERMEDIATE CONTOUR LINE
× 500.00	SPOT ELEVATION
	BENCHMARK LABEL
▨	BUILDING
	CONCRETE SURFACE
	CURB
OE	OVERHEAD ELECTRIC LINES
UE	UNDERGROUND ELECTRIC LINES
●	MANHOLE
	UTILITY POLE
	GUY WIRE
Ls	LIGHT STANDARD OR LAMPPOST
Bol	BOLLARD
Em	ELECTRIC METER
Eb	ELECTRIC BOX
Tb	TELEPHONE BOX
Ds	DOWNSPOUT
	DRAINAGE PIPE
	DRAINAGE INLET
	RIP-RAP
G	UNDERGROUND NATURAL GAS LINE
Gv	GAS VALVE
Gm	GAS METER
	TREELINE
	WALL
S	SANITARY SEWER GRAVITY LINE
Co	SANITARY SEWER CLEANOUT
W	WATER LINE
Wv	WATER VALVE
Fh	FIRE HYDRANT
Wm	WATER METER
×	FENCE
	GUIDERAIL
Mb	MAILBOX
	SIGN
	SOIL TYPE BOUNDARY LINE
	100 YEAR FLOODPLAIN BOUNDARY

DEMOLITION NOTES

1. THE PROJECT BENCHMARK IS A RAILROAD SPIKE LOCATED ON A OVERHEAD UTILITY POWER POLE ALONG SENECA AVENUE. ELEVATION = 414.11
2. CONTRACTOR SHALL VERIFY THE LOCATION OF MANHOLES, INLETS VALVES, ETC. CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AS DEEMED NECESSARY WITHIN THE LIMITS OF CONSTRUCTION TO DETERMINE THE EXACT LOCATION AND DEPTH AS REQUIRED. REPORT ANY DISCREPANCIES FROM THAT INDICATED ON THE PLAN TO K&W ENGINEERS. ALL EXISTING UTILITIES SHALL BE RETAINED UNLESS MARKED OTHERWISE, AND APPURTENANCES SHALL BE ADJUSTED TO FINAL GRADE. DAMAGE TO EXISTING CONDITIONS AND UTILITIES TO REMAIN SHALL BE REPAIRED AS REQUIRED TO THE OWNER'S SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.
3. ALL EXISTING UTILITIES NOT TO BE REMOVED OR ABANDONED ARE TO REMAIN OPERATIONAL AT ALL TIMES. APPROPRIATE EXISTING UTILITIES SHALL REMAIN IN SERVICE UNTIL REPLACEMENT/RELOCATED UTILITIES ARE OPERATIONAL.
4. CONTRACTOR SHALL REPAIR OR REPLACE ALL CURB, UTILITIES, SIDEWALKS, LANDSCAPING, ETC. WITHIN THE SITE DAMAGED DURING CONSTRUCTION THAT ARE NOT INDICATED TO BE REMOVED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND WORK REQUIRED TO ADJUST EXISTING AND PROPOSED UTILITIES AND APPURTENANCES TO FINISH GRADES WITHIN THE LIMITS OF WORK.
6. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES ON LOCATION AND REPLACEMENT OF ELECTRICAL, PHONE, GAS AND CABLE SERVICES.
7. ALL PAVING TO BE REMOVED SHALL BE SAWCUT TO PROVIDE A SHARP CLEAN EDGE. EXISTING PAVEMENT SHALL BE REMOVED AS REQUIRED FOR NEW CURB, WALKWAY OR UTILITY CONSTRUCTION. REFER TO DETAIL SHEET FOR SPECIFIC CURB TYPE OF INSTALLATION. CONTRACTOR SHALL THEN MILL AND / OR PATCH PAVING AND INSTALL SCRATCH COURSE AS REQUIRED TO MEET EXISTING OR PROPOSED GRADES. ALL NEW PAVING JOINTS SHALL BE SEALED WITH AC-20.
8. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
9. ASBESTOS OR HAZARDOUS MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
10. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL, AND OSHA REGULATIONS WHEN OPERATING DEMOLITION EQUIPMENT AROUND UTILITIES.
11. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH THE PENNDOT STANDARDS, AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL.

SOILS INFORMATION

HaA	0 TO 3 PERCENT SLOPES [HAGERSTOWN SILT LOAM]
HaB	3 TO 8 PERCENT SLOPES [HAGERSTOWN SILT LOAM]

K&W
DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE
CUMBERLAND COUNTY, PA
LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

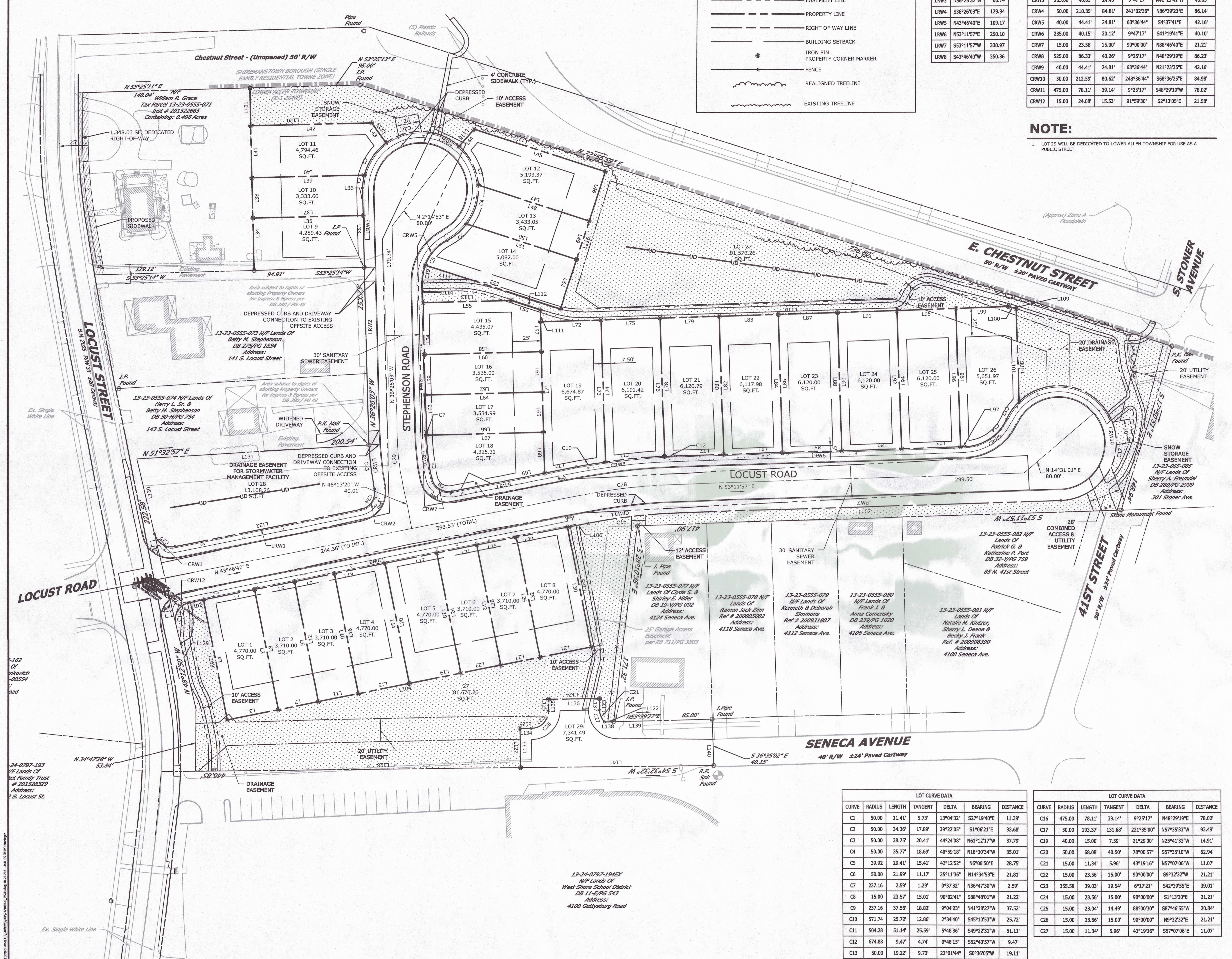
SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-B_ldEXF.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
EXISTING CONDITIONS PLAN

SHEET:
2 OF 19


Chestnut Street - (Unopened) 50' R/W
Pipe Found
(5) Plastic Bollards
N 53°25'13" E 95.00' I.P. Found
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE)
4' CONCRETE SIDEWALK (TYP.)
DEPRESSED CURB
10' ACCESS EASEMENT
SNOW STORAGE EASEMENT
N 53°25'11" E 148.04'
N/F William R. Grace Tax Parcel 13-23-0555-071 Inst # 201522665 Containing: 0.498 Acres
1,348.03 SF DEDICATED RIGHT-OF-WAY
25'
LOT 11 4,794.46 SQ.FT.
LOT 10 3,333.60 SQ.FT.
LOT 9 4,289.43 SQ.FT.
PROPOSED SIDEWALK
I.P. Found
LOT 12 5,193.37 SQ.FT.
LOT 13 3,433.05 SQ.FT.
LOT 14 5,082.00 SQ.FT.
N 2°14'53" E 80.00'
N 72°56'59" E
LOT 27 81,573.26 SQ.FT.
736.80'
(Approx) Zone A Floodplain
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
S. STONER AVENUE
129.12'
94.91'
S 53°25'14" W
S 53°25'14" W
Existing Pavement
Area subject to rights of abutting Property Owners for Ingress & Egress per DB 280 / PG 48
DEPRESSED CURB AND DRIVEWAY CONNECTION TO EXISTING OFFSITE ACCESS
13-23-0555-073 N/F Lands Of Betty M. Stephenson DB 27S/PG 1834 Address: 141 S. Locust Street
30' SANITARY SEWER EASEMENT
LOCUST STREET
S.R. 3020 R/W 33' (Varies)
I.P. Found
13-23-0555-074 N/F Lands Of Harry L. Sr. & Betty M. Stephenson DB 30-H/PG 754 Address: 143 S. Locust Street
WIDENED DRIVEWAY
P.K. Nail Found
Existing Pavement
200.54'
N 51°32'57" E
Ex. Single White Line
DRAINAGE EASEMENT FOR STORMWATER MANAGEMENT FACILITY
LOT 28 13,108.26 SQ.FT.
DEPRESSED CURB AND DRIVEWAY CONNECTION TO EXISTING OFFSITE ACCESS
N 46°13'20" W 40.01'
N 36°26'03" W
STEPHENSON ROAD
179.34'
153.71'
LOT 15 4,435.07 SQ.FT.
LOT 16 3,535.00 SQ.FT.
LOT 17 3,534.99 SQ.FT.
LOT 18 4,325.31 SQ.FT.
LOT 19 6,674.87 SQ.FT.
LOT 20 6,191.42 SQ.FT.
LOT 21 6,120.79 SQ.FT.
LOT 22 6,117.98 SQ.FT.
LOT 23 6,120.00 SQ.FT.
LOT 24 6,120.00 SQ.FT.
LOT 25 6,120.00 SQ.FT.
LOT 26 5,651.97 SQ.FT.
10' ACCESS EASEMENT
20' DRAINAGE EASEMENT
20' UTILITY EASEMENT
P.K. Nail Found
LOCUST ROAD
N 53°11'57" E
299.50'
N 14°31'01" E 80.00'
DRAINAGE EASEMENT
DEPRESSED CURB
SNOW STORAGE EASEMENT
13-23-055-085 N/F Lands Of Sherry A. Freundel DB 280/PG 2999 Address: 301 Stoner Ave.
Stone Monument Found
393.53' (TOTAL)
244.36' (TO INT.)
N 43°46'40" E
222.56'
S 53°11'57" W
28' COMBINED ACCESS & UTILITY EASEMENT
13-23-0555-082 N/F Lands Of Patrick G. & Katherine P. Port DB 32-Y/PG 759 Address: 85 N. 41st Street
41ST STREET
50' R/W ±24' Paved Cartway
LOCUST ROAD
12' ACCESS EASEMENT
I. Pipe Found
417.90'
13-23-0555-077 N/F Lands Of Clyde S. & Shirley E. Miller DB 19-V/PG 092 Address: 4124 Seneca Ave.
25' Garage Access Easement per RB 711/PG 3803
13-23-0555-078 N/F Lands Of Ramon Jack Zinn Ref # 200805082 Address: 4118 Seneca Ave.
30' SANITARY SEWER EASEMENT
13-23-0555-079 N/F Lands Of Kenneth & Deborah Simmons Ref # 200931807 Address: 4112 Seneca Ave.
13-23-0555-080 N/F Lands Of Frank J. & Anna Comensky DB 239/PG 1020 Address: 4106 Seneca Ave.
13-23-0555-081 N/F Lands Of Natalie M. Kintzer, Sherry L. Deane & Becky J. Frank Ref. # 200906390 Address: 4100 Seneca Ave.
LOT 1 4,770.00 SQ.FT.
LOT 2 3,710.00 SQ.FT.
LOT 3 3,710.00 SQ.FT.
LOT 4 4,770.00 SQ.FT.
LOT 5 4,770.00 SQ.FT.
LOT 6 3,710.00 SQ.FT.
LOT 7 3,710.00 SQ.FT.
LOT 8 4,770.00 SQ.FT.
10' ACCESS EASEMENT
10' ACCESS EASEMENT
LOT 27 81,573.26 SQ.FT.
LOT 29 7,341.49 SQ.FT.
I.P. Found
N53°39'27"E
85.00'
I.Pipe Found
171.37'
SENECA AVENUE
40' R/W ±24' Paved Cartway
S 36°35'02" E 40.15'
S 54°32'32" W
R.R. Spk Found
20' UTILITY EASEMENT
DRAINAGE EASEMENT
446.85'
N 34°47'28" W 53.84'
N 36°12'48" W
24-0797-193 N/F Lands Of ...et Family Trust # 201528329 Address: ...S. Locust St.
-162 Of ...nkovich ...-00554 ...oad
13-24-0797-194EX N/F Lands Of West Shore School District DB 11-E/PG 543 Address: 4100 Gettysburg Road
Ex. Single White Line

LEGEND

PROPOSED SITE FEATURES

- CURB
- EDGE OF BITUMINOUS PAVEMENT
- EASEMENT LINE
- PROPERTY LINE
- RIGHT OF WAY LINE
- BUILDING SETBACK
- ● IRON PIN PROPERTY CORNER MARKER
- FENCE
- REALIGNED TREELINE
- EXISTING TREELINE

R/W LOT LINE DATA		
LINE	BEARING	LENGTH
LRW1	N43°46'40"E	163.98
LRW2	N36°26'03"W	144.06
LRW3	N36°23'32"W	68.74
LRW4	S36°26'03"E	129.94
LRW5	N43°46'40"E	109.17
LRW6	N53°11'57"E	250.10
LRW7	S53°11'57"W	330.97
LRW8	S43°46'40"W	350.36

R/W CURVE DATA						
CURVE	RADIUS	LENGTH	TANGENT	DELTA	BEARING	DISTANCE
CRW1	15.00	23.04'	14.49'	88°00'30"	N87°46'55"E	20.84'
CRW2	15.00	23.56'	15.00'	90°00'00"	N1°13'20"W	21.21'
CRW3	285.00	48.69'	24.40'	9°47'17"	N41°19'41"W	48.63'
CRW4	50.00	210.35'	84.81'	241°02'36"	N86°39'23"E	86.14'
CRW5	40.00	44.41'	24.81'	63°36'44"	S4°37'41"E	42.16'
CRW6	235.00	40.15'	20.12'	9°47'17"	S41°19'41"E	40.10'
CRW7	15.00	23.56'	15.00'	90°00'00"	N88°46'40"E	21.21'
CRW8	525.00	86.33'	43.26'	9°25'17"	N48°29'19"E	86.23'
CRW9	40.00	44.41'	24.81'	63°36'44"	N21°23'35"E	42.16'
CRW10	50.00	212.59'	80.62'	243°36'44"	S68°36'25"E	84.98'
CRW11	475.00	78.11'	39.14'	9°25'17"	S48°29'19"W	78.02'
CRW12	15.00	24.08'	15.53'	91°59'30"	S2°13'05"E	21.58'

NOTE:

1. LOT 29 WILL BE DEDICATED TO LOWER ALLEN TOWNSHIP FOR USE AS A PUBLIC STREET.

Parcel Table		
Parcel #	Area	Width
1	4770 S.F. / 0.110 ACRES	45.00'
2	3710 S.F. / 0.085 ACRES	35.00'
3	3710 S.F. / 0.085 ACRES	35.00'
4	4770 S.F. / 0.110 ACRES	45.00'
5	4770 S.F. / 0.110 ACRES	45.00'
6	3710 S.F. / 0.085 ACRES	35.00'
7	3710 S.F. / 0.085 ACRES	35.00'
8	4770 S.F. / 0.110 ACRES	45.00'
9	4289 S.F. / 0.098 ACRES	45.00'
10	3334 S.F. / 0.077 ACRES	35.15'
11	4794 S.F. / 0.110 ACRES	34.36'
12	5193 S.F. / 0.119 ACRES	58.29'
13	3433 S.F. / 0.079 ACRES	35.77'
14	5082 S.F. / 0.117 ACRES	51.40'
15	4435 S.F. / 0.102 ACRES	45.00'

Parcel Table		
Parcel #	Area	Width
16	3535 S.F. / 0.081 ACRES	35.00'
17	3535 S.F. / 0.081 ACRES	35.00'
18	4325 S.F. / 0.099 ACRES	61.13'
19	6675 S.F. / 0.153 ACRES	53.46'
20	6191 S.F. / 0.142 ACRES	51.14'
21	6121 S.F. / 0.141 ACRES	51.00'
22	6118 S.F. / 0.140 ACRES	51.00'
23	6120 S.F. / 0.140 ACRES	51.00'
24	6120 S.F. / 0.140 ACRES	51.00'
25	6120 S.F. / 0.140 ACRES	51.00'
26	5652 S.F. / 0.130 ACRES	68.20'
27	81573 S.F. / 1.873 ACRES	---
28	13108 S.F. / 0.301 ACRES	---
29	7341 S.F. / 0.169 ACRES	---

5', 15p.

LOT LINE DATA		
LINE	BEARING	LENGTH
L1	N43°46'40"E	45.00
L2	S46°13'20"E	106.00
L3	S43°46'40"W	45.00
L4	N46°13'20"W	106.00
L5	N43°46'40"E	35.00
L6	S46°13'20"E	106.00
L7	S43°46'40"W	35.00
L8	N46°13'20"W	106.00
L9	N43°46'40"E	35.00
L10	S46°13'20"E	106.00
L11	S43°46'40"W	35.00
L12	N46°13'20"W	106.00
L13	N43°46'40"E	45.00
L14	S46°13'20"E	106.00
L15	S43°46'40"W	45.00
L16	N46°13'20"W	106.00
L17	N43°46'40"E	45.00
L18	S46°13'20"E	106.00
L19	S43°46'40"W	45.00
L20	N46°13'20"W	106.00

LOT LINE DATA		
LINE	BEARING	LENGTH
L21	N43°46'40"E	35.00
L22	S46°13'20"E	106.00
L23	S43°46'40"W	35.00
L24	N46°13'20"W	106.00
L25	N43°46'40"E	35.00
L26	S46°13'20"E	106.00
L27	S43°46'40"W	35.00
L28	N46°13'20"W	106.00
L29	N43°46'40"E	45.00
L30	S46°13'20"E	106.00
L31	S43°46'40"W	45.00
L32	N46°13'20"W	106.00
L33	S36°23'32"E	45.00
L34	N36°26'07"W	45.29
L35	N53°35'52"E	95.03
L36	S36°23'32"E	23.74
L37	S53°35'52"W	95.03
L38	N36°26'07"W	35.00
L39	N53°36'19"E	96.85
L40	S53°36'19"W	96.85

LOT LINE DATA		
LINE	BEARING	LENGTH
L41	N36°26'07"W	45.00
L42	N53°35'52"E	104.06
L43	S71°25'19"E	21.39
L44	N6°35'33"E	19.54
L45	N72°56'57"E	119.14
L46	S17°03'14"E	125.00
L47	S72°56'46"W	100.66
L48	N72°56'46"E	100.66
L49	S17°03'14"E	125.00
L50	S72°56'46"W	99.77
L51	N72°56'46"E	99.77
L52	S17°03'14"E	125.00
L53	S72°56'46"W	122.52
L54	N36°26'03"W	45.00
L55	N53°33'57"E	76.00
L56	N72°56'46"E	26.50
L57	S36°26'03"E	36.21
L58	S53°33'57"W	101.00
L59	N36°26'03"W	35.00
L60	N53°33'57"E	101.00

LOT LINE DATA		
LINE	BEARING	LENGTH
L61	S36°26'03"E	35.00
L62	S53°33'57"W	101.00
L63	N36°26'03"W	32.41
L64	N53°33'57"E	101.00
L65	S36°26'03"E	35.00
L66	S53°33'57"W	100.98
L67	N53°33'57"E	100.98
L68	S36°26'03"E	35.76
L69	S43°46'40"W	81.43
L70	S43°46'40"W	27.74
L71	N36°26'03"W	131.71
L72	N53°17'11"E	51.99
L73	S36°48'03"E	123.50
L74	N36°48'03"W	123.50
L75	N53°06'37"E	51.00
L76	S36°48'03"E	120.17
L77	S53°05'04"W	41.53
L78	N36°48'03"W	120.17
L79	N53°17'17"E	51.00
L80	S36°48'03"E	119.92

LOT LINE DATA		
LINE	BEARING	LENGTH
L81	S53°17'17"W	51.00
L82	N36°48'03"W	119.92
L83	N53°11'57"E	51.00
L84	S36°48'03"E	120.00
L85	S53°11'57"W	51.00
L86	N36°48'03"W	120.00
L87	N53°11'57"E	51.00
L88	S36°48'03"E	120.00
L89	S53°11'57"W	51.00
L90	N36°48'03"W	120.00
L91	N53°11'57"E	51.00
L92	S36°48'03"E	120.00
L93	S53°11'57"W	51.00
L94	N36°48'03"W	120.00
L95	N53°11'57"E	51.00
L96	S36°48'03"E	120.00
L97	S53°14'55"W	4.57
L98	N36°48'03"W	120.00
L99	N53°05'57"E	45.41
L100	N71°35'14"E	6.96

LOT LINE DATA		
LINE	BEARING	LENGTH
L101	S36°48'03"E	80.49
L102	N43°46'40"E	12.65
L103	S46°13'20"E	106.00
L104	N43°46'40"E	320.00
L105	N46°13'20"W	106.00
L106	N43°46'40"E	17.72
L107	N53°11'57"E	330.97
L108	N36°48'03"W	80.49
L109	S71°35'14"W	6.96
L110	S53°11'57"W	403.40
L111	N36°26'03"W	10.26
L112	S72°56'46"W	26.50
L113	S53°33'57"W	76.00
L114	N36°26'03"W	17.53
L115	N72°56'46"E	122.52
L116	N17°03'14"W	125.00
L117	S72°56'57"W	119.14
L118	S6°35'33"W	19.54
L119	N71°25'19"W	21.39
L120	S53°35'52"W	104.06

LOT LINE DATA		
LINE	BEARING	LENGTH
L121	N36°25'46"W	32.81
L122	S53°38'00"W	7.84
L123	N35°27'28"W	10.00
L124	S54°32'32"W	44.00
L125	S35°27'28"E	10.00
L126	S54°32'32"W	10.00
L127	S35°27'28"E	34.00
L128	S54°32'34"W	280.14
L129	N48°12'59"W	75.90
L130	N48°12'50"W	66.62
L131	N51°32'57"E	200.54
L132	S43°46'40"W	163.98
L133	N35°27'28"W	34.00
L134	N54°32'32"E	10.00
L135	N35°27'28"W	10.00
L136	N54°32'32"E	44.00
L137	S35°27'28"E	10.00
L138	N53°38'00"E	7.84
L139	N53°39'27"E	85.00
L140	S36°35'02"E	40.15

LOT LINE DATA		
LINE	BEARING	LENGTH
L141	S54°32'28"W	166.71

LOT CURVE DATA						
CURVE	RADIUS	LENGTH	TANGENT	DELTA	BEARING	DISTANCE
C1	50.00	11.41'	5.73'	13°04'32"	S27°19'40"E	11.39'
C2	50.00	34.36'	17.89'	39°22'05"	S1°06'21"E	33.68'
C3	50.00	38.75'	20.41'	44°24'08"	N61°12'17"W	37.79'
C4	50.00	35.77'	18.69'	40°59'18"	N18°30'34"W	35.01'
C5	39.92	29.41'	15.41'	42°12'52"	N6°06'50"E	28.75'
C6	50.00	21.99'	11.17'	25°11'36"	N14°34'53"E	21.81'
C7	237.16	2.59'	1.29'	0°37'32"	N36°47'30"W	2.59'
C8	15.00	23.57'	15.01'	90°02'41"	S88°48'01"W	21.22'
C9	237.16	37.56'	18.82'	9°04'23"	N41°38'27"W	37.52'
C10	571.74	25.72'	12.86'	2°34'40"	S45°10'53"W	25.72'
C11	504.28	51.14'	25.59'	5°48'36"	S49°22'31"W	51.11'
C12	674.88	9.47'	4.74'	0°48'15"	S52°40'57"W	9.47'
C13	50.00	19.22'	9.73'	22°01'44"	S0°36'05"W	19.11'
C14	40.00	44.41'	24.81'	63°36'44"	S21°23'35"W	42.16'
C15	15.00	24.08'	15.53'	91°59'30"	N2°13'05"W	21.58'

LOT CURVE DATA						
CURVE	RADIUS	LENGTH	TANGENT	DELTA	BEARING	DISTANCE
C16	475.00	78.11'	39.14'	9°25'17"	N48°29'19"E	78.02'
C17	50.00	193.37'	131.68'	221°35'00"	N57°35'33"W	93.49'
C19	40.00	15.00'	7.59'	21°29'00"	N25°41'33"W	14.91'
C20	50.00	68.08'	40.50'	78°00'57"	S57°35'10"W	62.94'
C21	15.00	11.34'	5.96'	43°19'16"	N57°07'06"W	11.07'
C22	15.00	23.56'	15.00'	90°00'00"	S9°32'32"W	21.21'
C23	355.58	39.03'	19.54'	6°17'21"	S42°39'55"E	39.01'
C24	15.00	23.56'	15.00'	90°00'00"	S1°13'20"E	21.21'
C25	15.00	23.04'	14.49'	88°00'30"	S87°46'55"W	20.84'
C26	15.00	23.56'	15.00'	90°00'00"	N9°32'32"E	21.21'
C27	15.00	11.34'	5.96'	43°19'16"	S57°07'06"E	11.07'

GRAPHIC SCALE

40 20 0 40

1" = 40 FEET

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www.kandwengineers.com

REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-D_ldSUB.dwg	

REVISIONS		
NO.	DATE	DESCRIPTION
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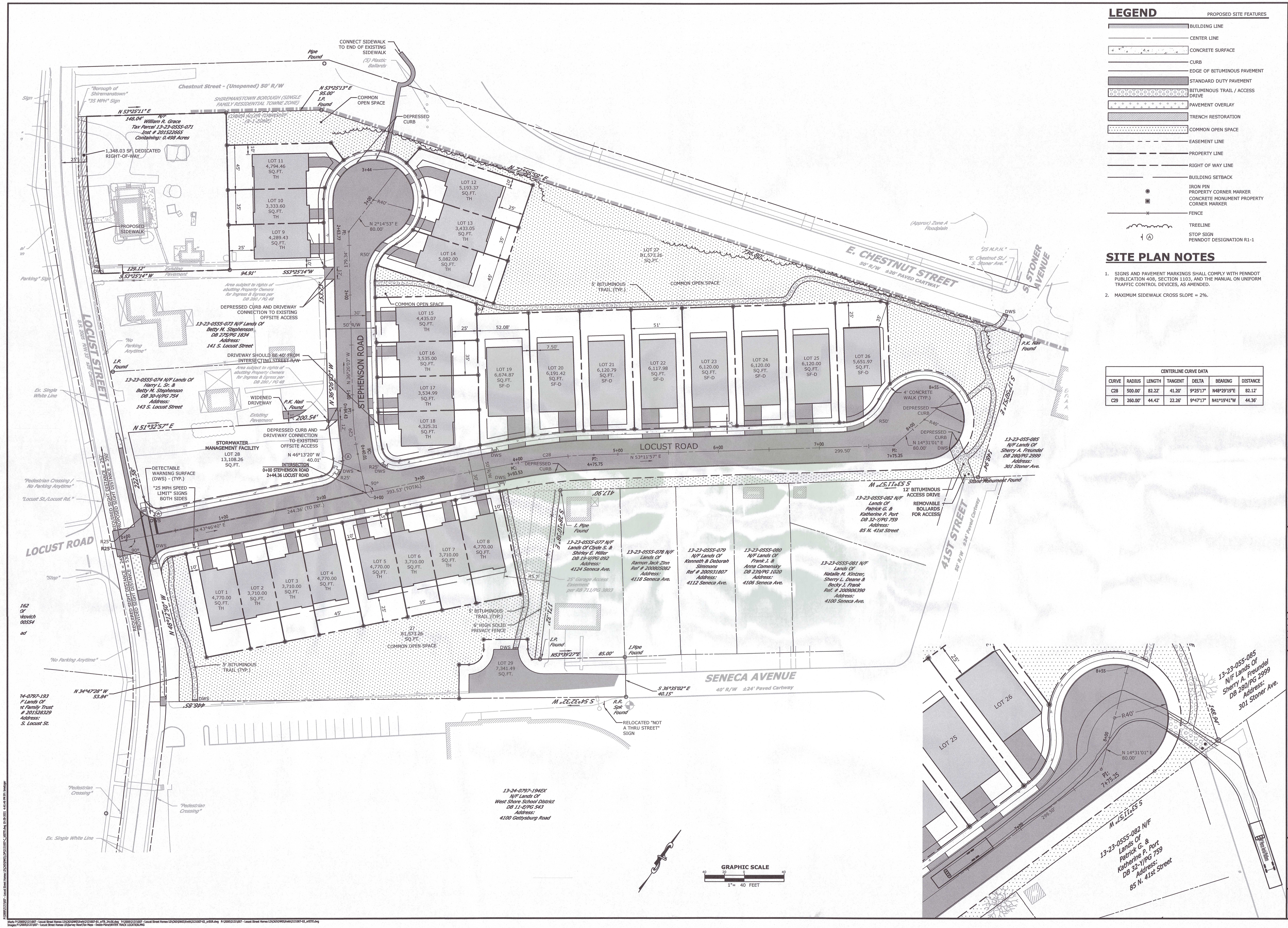
PLAN TYPE:
SUBDIVISION PLAN

SHEET:


Chestnut Street - (Unopened) 50' R/W
"Borough of Shiremanstown"
"35 MPH" Sign
Sign
Parking" Sign
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE)
LOWER ALLEN TOWNSHIP (R-1 ZONE)
Pipe Found
CONNECT SIDEWALK TO END OF EXISTING SIDEWALK
(5) Plastic Ballards
N 53°25'13" E 95.00' I.P. Found
COMMON OPEN SPACE
DEPRESSED CURB
N 53°25'11" E 148.04'
N/F William R. Grace
Tax Parcel 13-23-0555-071
Inst # 201522665
Containing: 0.498 Acres
1,348.03 SF. DEDICATED RIGHT-OF-WAY
25'
PROPOSED SIDEWALK
DWS
129.12'
S 53°25'14" W
Existing Pavement
94.91'
S53°25'14"W
LOT 11 4,794.46 SQ.FT. TH
LOT 10 3,333.60 SQ.FT. TH
LOT 9 4,289.43 SQ.FT. TH
LOT 12 5,193.37 SQ.FT. TH
LOT 13 3,433.05 SQ.FT. TH
LOT 14 5,082.00 SQ.FT. TH
3+44
3+00
R40'
N 2°14'53" E 80.00'
PI: 2+63.77
179.34'
R50'
N 72°56'59" E
LOT 27 81,573.26 SQ.FT.
736.80'
5' BITUMINOUS TRAIL (TYP.)
COMMON OPEN SPACE
(Approx) Zone A Floodplain
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
"25 M.P.H."
"E. Chestnut St./ S. Stoner Ave."
S. STONER AVENUE
P.K. Nail Found
S 17°50'51" E
Area subject to rights of abutting Property Owners for Ingress & Egress per DB 280 / PG 48
DEPRESSED CURB AND DRIVEWAY CONNECTION TO EXISTING OFFSITE ACCESS
153.73'
13-23-0555-073 N/F Lands Of Betty M. Stephenson DB 275/PG 1834 Address: 141 S. Locust Street
"No Parking Anytime"
DRIVEWAY SHOULD BE 40' FROM INTERSECTING STREET R/W
I.P. Found
13-23-0555-074 N/F Lands Of Harry L. Sr. & Betty M. Stephenson DB 30-H/PG 754 Address: 143 S. Locust Street
LOCUST STREET
S.R. 2025 R/W 33' ±25' Cartway
Ex. Single White Line
WIDENED DRIVEWAY
P.K. Nail Found
200.54'
N 36°26'03" W
STEPHENSON ROAD
50' R/W
30'
PI: 0+84.43
PC: 0+40.01
C29
N 51°32'57" E
STORMWATER MANAGEMENT FACILITY LOT 28 13,108.26 SQ.FT.
DEPRESSED CURB AND DRIVEWAY CONNECTION TO EXISTING OFFSITE ACCESS
N 46°13'20" W 40.01'
INTERSECTION 0+00 STEPHENSON ROAD 2+44.36 LOCUST ROAD
DETECTABLE WARNING SURFACE (DWS) - (TYP.)
"25 MPH SPEED LIMIT" SIGNS BOTH SIDES
222.58'
"Pedestrian Crossing / No Parking Anytime"
"Locust St./Locust Rd."
REQUIRED SIGHT DISTANCE = 252'
PROPOSED SIGHT DISTANCE = 350'
REQUIRED SIGHT DISTANCE = 245'
PROVIDED SIGHT DISTANCE = 530'
LOCUST ROAD
R25'
90°
0+00
1+00
2+00
3+00
N 43°46'40" E
244.36' (TO INT.)
393.53' (TOTAL)
LOT 15 4,435.07 SQ.FT. TH
LOT 16 3,535.00 SQ.FT. TH
LOT 17 3,534.99 SQ.FT. TH
LOT 18 4,325.31 SQ.FT. TH
52.08'
7.50'
51'
LOT 19 6,674.87 SQ.FT. SF-D
LOT 20 6,191.42 SQ.FT. SF-D
LOT 21 6,120.79 SQ.FT. SF-D
LOT 22 6,117.98 SQ.FT. SF-D
LOT 23 6,120.00 SQ.FT. SF-D
LOT 24 6,120.00 SQ.FT. SF-D
LOT 25 6,120.00 SQ.FT. SF-D
LOT 26 5,651.97 SQ.FT. SF-D
LOCUST ROAD
4+00
C28
PC: 3+93.53
DEPRESSED CURB
PT: 4+75.75
5+00
N 53°11'57" E
6+00
7+00
299.50'
PI: 7+75.25
8+00
8+55
4' CONCRETE WALK (TYP.)
DEPRESSED CURB
R40'
N 14°31'01" E 80.00'
148.94'
Stone Monument Found
13-23-055-085 N/F Lands Of Sherry A. Freundel DB 280/PG 2999 Address: 301 Stoner Ave.
S 53°11'57" W
12' BITUMINOUS ACCESS DRIVE
REMOVABLE BOLLARDS FOR ACCESS
13-23-0555-082 N/F Lands Of Patrick G. & Katherine P. Port DB 32-Y/PG 759 Address: 85 N. 41st Street
41ST STREET
50' R/W ±24' Paved Cartway
LOT 1 4,770.00 SQ.FT. TH
LOT 2 3,710.00 SQ.FT. TH
LOT 3 3,710.00 SQ.FT. TH
LOT 4 4,770.00 SQ.FT. TH
LOT 5 4,770.00 SQ.FT. TH
LOT 6 3,710.00 SQ.FT. TH
LOT 7 3,710.00 SQ.FT. TH
LOT 8 4,770.00 SQ.FT. TH
45.7'
27 81,573.26 SQ.FT. COMMON OPEN SPACE
6' HIGH SOLID PRIVACY FENCE
N 48°12'50" W
N 34°47'28" W 53.84'
446.85'
LOT 29 7,341.49 SQ.FT.
417.90'
S 28°10'38" E
171.32'
I. Pipe Found
13-23-0555-077 N/F Lands Of Clyde S. & Shirley E. Miller DB 19-V/PG 092 Address: 4124 Seneca Ave.
25' Garage Access Easement per RB 711/PG 3803
13-23-0555-078 N/F Lands Of Ramon Jack Zinn Ref # 200805082 Address: 4118 Seneca Ave.
13-23-0555-079 N/F Lands Of Kenneth & Deborah Simmons Ref # 200931807 Address: 4112 Seneca Ave.
13-23-0555-080 N/F Lands Of Frank J. & Anna Comensky DB 239/PG 1020 Address: 4106 Seneca Ave.
13-23-0555-081 N/F Lands Of Natalie M. Kintzer, Sherry L. Deane & Becky J. Frank Ref. # 200906390 Address: 4100 Seneca Ave.
I.P. Found
N53°39'27"E
85.00'
I.Pipe Found
SENECA AVENUE
40' R/W ±24' Paved Cartway
S 36°35'02" E 40.15'
S 54°32'32" W
R.R. Spk Found
RELOCATED "NOT A THRU STREET" SIGN
"Stop"
"No Parking Anytime"
"Pedestrian Crossing"
Ex. Single White Line
13-24-0797-194EX N/F Lands Of West Shore School District DB 11-E/PG 543 Address: 4100 Gettysburg Road
GRAPHIC SCALE
40 20 0 40
1"= 40 FEET
LOT 25
LOT 26

LEGEND

PROPOSED SITE FEATURES

- BUILDING LINE
- CENTER LINE
- CONCRETE SURFACE
- CURB
- EDGE OF BITUMINOUS PAVEMENT
- STANDARD DUTY PAVEMENT
- BITUMINOUS TRAIL / ACCESS DRIVE
- PAVEMENT OVERLAY
- TRENCH RESTORATION
- COMMON OPEN SPACE
- EASEMENT LINE
- PROPERTY LINE
- RIGHT OF WAY LINE
- BUILDING SETBACK
- ◉ IRON PIN PROPERTY CORNER MARKER
- ▣ CONCRETE MONUMENT PROPERTY CORNER MARKER
- FENCE
- TREELINE
- Ⓐ STOP SIGN PENNDOT DESIGNATION R1-1

SITE PLAN NOTES

1. SIGNS AND PAVEMENT MARKINGS SHALL COMPLY WITH PENNDOT PUBLICATION 408, SECTION 1103, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AS AMENDED.
2. MAXIMUM SIDEWALK CROSS SLOPE = 2%.

CENTERLINE CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	DELTA	BEARING	DISTANCE
C28	500.00'	82.22'	41.20'	9°25'17"	N48°29'19"E	82.12'
C29	260.00'	44.42'	22.26'	9°47'17"	N41°19'41"W	44.36'

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CUMBERLAND COUNTY, PA
LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
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K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-C_ldSITE.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
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PLAN TYPE:
SITE PLAN

SHEET:
4 OF 19

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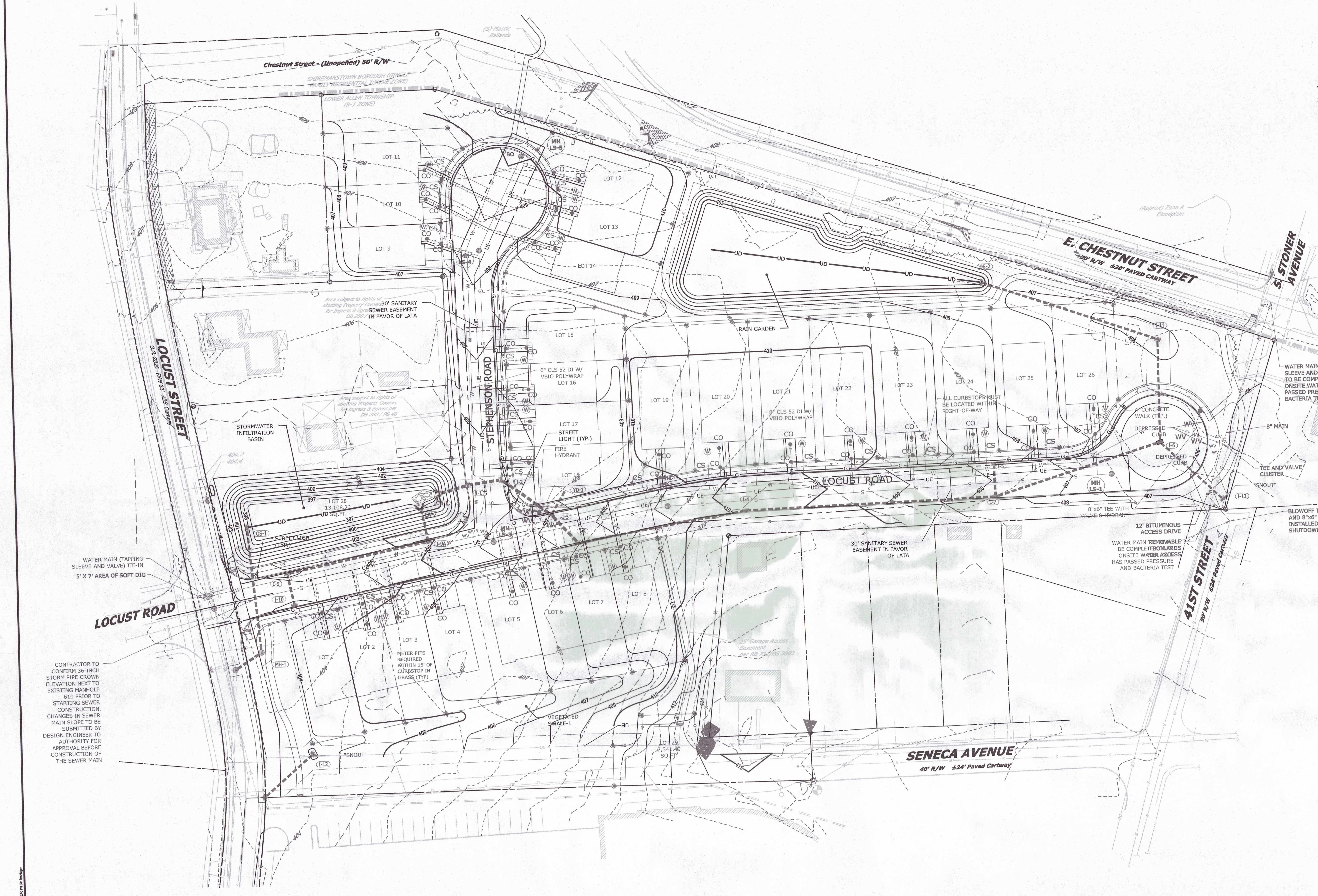
XRefs: P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-01_xrTB_24x36.dwg P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-02_xrSUR.dwg P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-03_xrSITE.dwg
Images: P:\2000\2121\007 - Locust Street Homes LD\Survey Base\Tax Maps - Deeds-Plans\WATER TRACK LOCATION.PNG


Chestnut Street - (Unopened) 50' R/W
(5) Plastic Ballards
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE)
LOWER ALLEN TOWNSHIP (R-1 ZONE)
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
MH LS-5
MH LS-4
BO
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
S. STONER AVENUE
(Approx) Zone A Floodplain
(Approximate) Zone A Floodplain
RAIN GARDEN
OS-2
I-11
30' SANITARY SEWER EASEMENT IN FAVOR OF LATA
Area subject to rights of abutting Property Owners for Ingress & Egress per DB 280 / PG 48
LOCUST STREET
S.R. 2025 R/W 33' ±25' Cartway
STEPHENSON ROAD
6" CLS 52 DI W/ VBIO POLYWRAP
8" CLS 52 DI W/ VBIO POLYWRAP
STREET LIGHT (TYP.)
FIRE HYDRANT
ALL CURBSTOPS MUST BE LOCATED WITHIN RIGHT-OF-WAY
WATER MAIN (TAPPING SLEEVE AND VALVE) TIE-IN TO BE COMPLETED ONCE ONSITE WATER MAIN HAS PASSED PRESSURE AND BACTERIA TEST
Encroachment of Driveway, Fence & Paved Parking Area Acknowledged & Permitted per Agreement in DB 654/291
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE) LOWER ALLEN TOWNSHIP (R-1 ZONE)
4' CONCRETE WALK (TYP.)
DEPRESSED CURB
DEPRESSED CURB
8" MAIN
I-6
TEE AND VALVE CLUSTER
"SNOUT"
I-13
MH LS-1
I-5
I-7
8"x6" TEE WITH VALVE & HYDRANT
BLOWOFF TO BE REMOVED AND 8"x6" REDUCER INSTALLED, TEMPORARY SHUTDOWN AND TIE-IN
12' BITUMINOUS ACCESS DRIVE
REMOVABLE BOLLARDS FOR ACCESS
WATER MAIN TIE-IN TO BE COMPLETED ONCE ONSITE WATER MAIN HAS PASSED PRESSURE AND BACTERIA TEST
41ST STREET
50' R/W ±24' Paved Cartway
LOCUST ROAD
LOCUST ROAD
STORMWATER INFILTRATION BASIN
LOT 28
13,108.26 SQ.FT.
OS-1
EW-1
EW-2
I-1
I-2
I-3
I-4
I-8
I-9
I-9A
I-10
I-12
YD-1
MH LS-3
MH LS-2
MH-1
WATER MAIN (TAPPING SLEEVE AND VALVE) TIE-IN
5' X 7' AREA OF SOFT DIG
CONTRACTOR TO CONFIRM 36-INCH STORM PIPE CROWN ELEVATION NEXT TO EXISTING MANHOLE 610 PRIOR TO STARTING SEWER CONSTRUCTION. CHANGES IN SEWER MAIN SLOPE TO BE SUBMITTED BY DESIGN ENGINEER TO AUTHORITY FOR APPROVAL BEFORE CONSTRUCTION OF THE SEWER MAIN
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
METER PITS REQUIRED WITHIN 15' OF CURBSTOP IN GRASS (TYP)
"SNOUT"
VEGETATED SWALE-1
25' Garage Access Easement per RB 711/PG 3803
LOT 29
7,341.49 SQ.FT.
SENECA AVENUE
40' R/W ±24' Paved Cartway
404.7
404.4
397
398
400
401
402
403
404
405
406
407
408
409
410
412
414
415
UD
UE
CO
CS
W
WV
G
S
OE

LEGEND

PROPOSED GRADING FEATURES

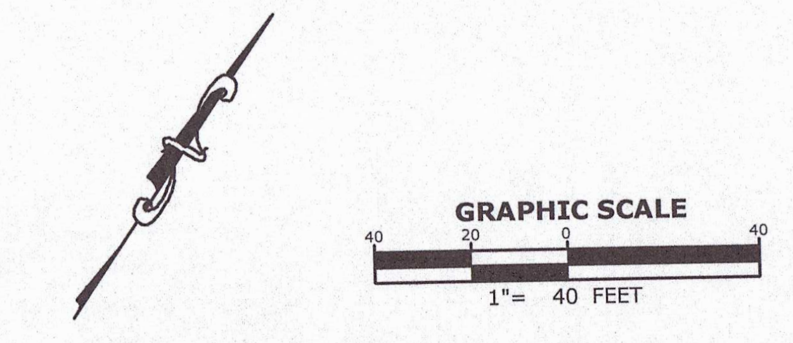
421	INTERMEDIATE CONTOUR LINES
420	INDEX CONTOUR LINES
422.53	SPOT ELEVATIONS
2.00%	SLOPE OR GRADE LABEL

SPOT LABEL ABBREVIATIONS:

TP	TOP OF PAVEMENT
TG	TOP OF GRATE
TW	TOP OF WALL
HP	HIGH POINT
BC	BOTTOM OF CURB

GRADING NOTES

1. POSITIVE DRAINAGE SHALL BE PROVIDED ACROSS THE ENTIRE PROJECT AREA AND DIRECTED TOWARDS EXISTING AND PROPOSED DRAINAGE FACILITIES.


GRAPHIC SCALE
40
0
20
40
1"= 40 FEET

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FOR
WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

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DRAWN BY:	GSD
CAD DRAWING: 2121007-E_ldGRADE.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
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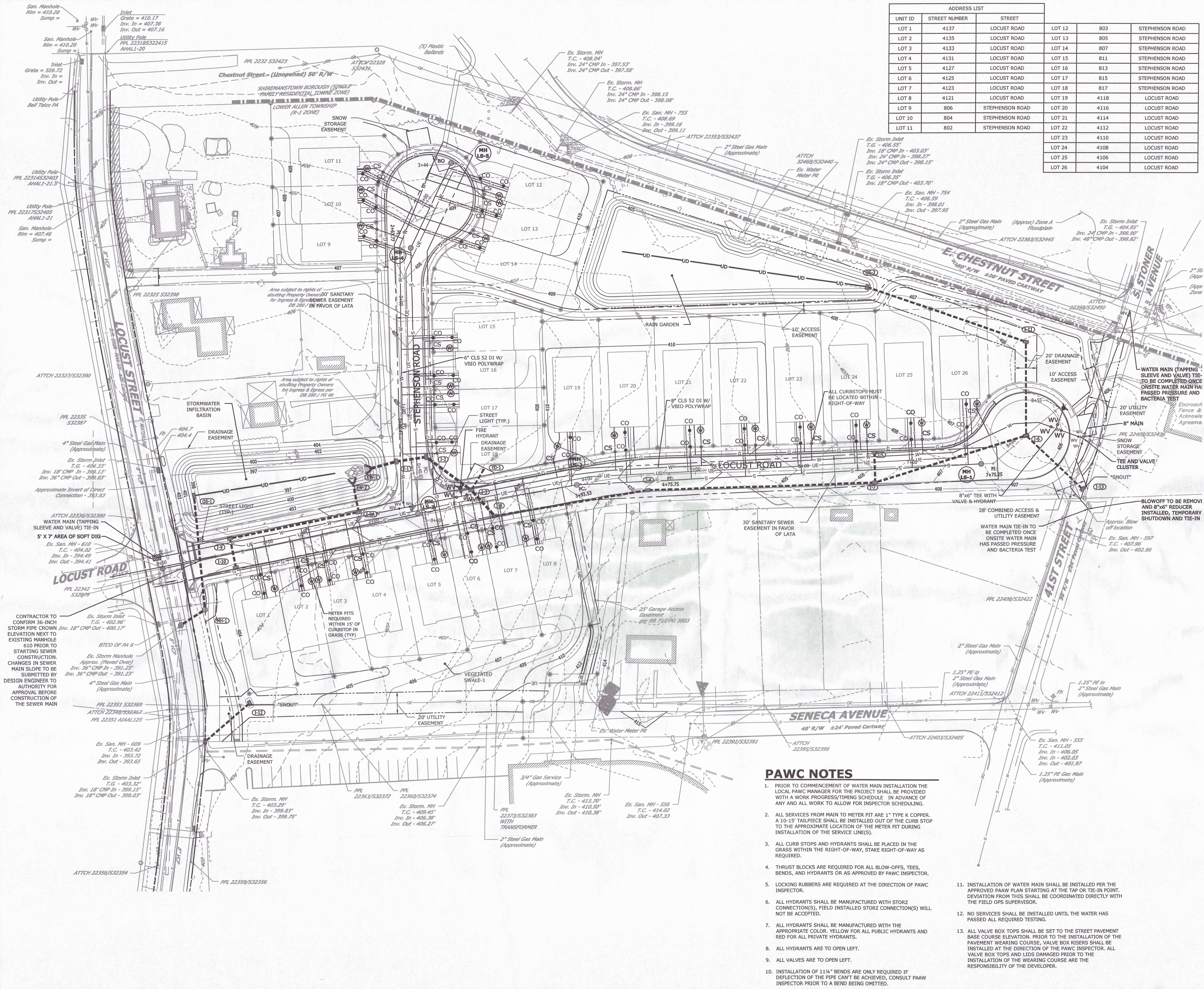
PLAN TYPE:
GRADING PLAN

SHEET:
5 OF 19


San. Manhole Rim = 410.28 Sump =
Inlet Grate = 410.17 Inv. In = 407.38 Inv. Out = 407.16
Utility Pole PPL 22318S322415 AHAL1-20
San. Manhole Rim = 410.28 Sump =
Inlet Grate = 509.72 Inv. In = Inv. Out =
Utility Pole Bell Telco PA
PPL 2232 S32423
ATTCH 22328 S32431
Chestnut Street - (Unopened) 50' R/W
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE)
LOWER ALLEN TOWNSHIP (R-1 ZONE)
SNOW STORAGE EASEMENT
(5) Plastic Ballards
Ex. Storm. MH T.C. - 408.04' Inv. 24" CMP In - 397.53' Inv. 24" CMP Out - 397.58'
Ex. Storm. MH T.C. - 408.66' Inv. 24" CMP In - 398.15 Inv. 24" CMP Out - 398.08'
Ex. San. MH - 755 T.C. - 408.69 Inv. In - 399.16 Inv. Out - 399.11
ATTCH 22353/S32437
2" Steel Gas Main (Approximate)
ATTCH 32468/S32440
Ex. Water Meter Pit
Ex. Storm Inlet T.G. - 406.55' Inv. 18' CMP In - 403.03' Inv. 24' CMP In - 398.27' Inv. 24" CMP Out - 398.15'
Ex. Storm Inlet T.G. - 406.35' Inv. 18" CMP Out - 403.70'
Ex. San. MH - 754 T.C. - 406.59 Inv. In - 398.01 Inv. Out - 397.95
2" Steel Gas Main (Approximate)
(Approx) Zone A Floodplain
ATTCH 22383/S32445
Ex. Storm Inlet T.G. - 404.95' Inv. 24' CMP In - 398.90' Inv. 48" CMP Out - 398.82'
Utility Pole PPL 22314S32403 AHAL1-21.5
Utility Pole PPL 22317S32405 AHAL1-21
San. Manhole Rim = 407.46 Sump =
LOT 11
LOT 10
LOT 9
LOT 12
LOT 13
LOT 14
MH LS-5
MH LS-4
BO
3+44
PI: 2+63.77
8" VCP
PPL 22325 S32398
Area subject to rights of abutting Property Owners for Ingress & Egress per DB 280 / PG 48
30' SANITARY SEWER EASEMENT IN FAVOR OF LATA
RAIN GARDEN
10' ACCESS EASEMENT
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
ATTCH 22398/S32450
S. STONER AVENUE
LOCUST STREET
S.R. 2028 R/W 33' ±25' Cartway
ATTCH 22327/S32390
STEPHENSON ROAD
LOT 15
6" CLS 52 DI W/ VBIO POLYWRAP
LOT 16
LOT 17
STREET LIGHT (TYP.)
FIRE HYDRANT
DRAINAGE EASEMENT
LOT 18
LOT 19
LOT 20
LOT 21
8" CLS 52 DI W/ VBIO POLYWRAP
LOT 22
LOT 23
LOT 24
ALL CURBSTOPS MUST BE LOCATED WITHIN RIGHT-OF-WAY
LOT 25
LOT 26
20' DRAINAGE EASEMENT
10' ACCESS EASEMENT
WATER MAIN (TAPPING SLEEVE AND VALVE) TIE-TO BE COMPLETED ONCE ONSITE WATER MAIN HAS PASSED PRESSURE AND BACTERIA TEST
Encroach Fence & Acknowle Agreeme
20' UTILITY EASEMENT
8" MAIN
PPL 22409/S32436
SNOW STORAGE EASEMENT
TEE AND VALVE CLUSTER
"SNOUT"
8+55
PI: 7+75.25
MH LS-1
8"x6" TEE WITH VALVE & HYDRANT
28' COMBINED ACCESS & UTILITY EASEMENT
WATER MAIN TIE-IN TO BE COMPLETED ONCE ONSITE WATER MAIN HAS PASSED PRESSURE AND BACTERIA TEST
BLOWOFF TO BE REMOVED AND 8"x6" REDUCER INSTALLED, TEMPORARY SHUTDOWN AND TIE-IN
Approx. Blow off location
Ex. San. MH - 597 T.C. - 407.96 Inv. Out - 402.86
41ST STREET
50' R/W ±24' Paved Cartway
PPL 22408/S32422
STORMWATER INFILTRATION BASIN
DRAINAGE EASEMENT
PPL 22335 S32387
4" Steel Gas Main (Approximate)
Ex. Storm Inlet T.G. - 404.33' Inv. 18' CMP In - 399.13' Inv. 36" CMP Out - 399.03'
Approximate Invert of Direct Connection - 393.83
ATTCH 22336/S32380
WATER MAIN (TAPPING SLEEVE AND VALVE) TIE-IN
5' X 7' AREA OF SOFT DIG
Ex. San. MH - 610 T.C. - 404.02 Inv. In - 394.49 Inv. Out - 394.41
LOCUST ROAD
PPL 22342 S32379
STREET LIGHT (TYP.)
OS-1
EW-1
EW-2
I-1
I-2
I-3
I-4
I-5
I-6
I-7
I-8
I-9
I-9A
I-10
I-11
I-12
I-13
OS-2
YD-1
MH-1
MH LS-2
MH LS-3
PC: 3+93.53
PT: 4+75.75
LOCUST ROAD
30' SANITARY SEWER EASEMENT IN FAVOR OF LATA
CONTRACTOR TO CONFIRM 36-INCH STORM PIPE CROWN ELEVATION NEXT TO EXISTING MANHOLE 610 PRIOR TO STARTING SEWER CONSTRUCTION. CHANGES IN SEWER MAIN SLOPE TO BE SUBMITTED BY DESIGN ENGINEER TO AUTHORITY FOR APPROVAL BEFORE CONSTRUCTION OF THE SEWER MAIN
Ex. Storm Inlet T.G. - 402.96' Inv. 18" CMP Out - 400.17'
BTCO OF PA 6
Ex. Storm Manhole Approx. (Paved Over) Inv. 36" CMP In - 391.23' Inv. 36" CMP Out - 391.23'
4" Steel Gas Main (Approximate)
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
METER PITS REQUIRED WITHIN 15' OF CURBSTOP IN GRASS (TYP)
25' Garage Access Easement per RB 71L/PG 3803
VEGETATED SWALE-1
"SNOUT"
20' UTILITY EASEMENT
PPL 22351 S32369
ATTCH 22348/S32367
PPL 22351 AIAAL125
DRAINAGE EASEMENT
Ex. San. MH - 609 T.C. - 403.42 Inv. In - 393.72 Inv. Out - 393.65
Ex. Storm Inlet T.G. - 403.32' Inv. 18' CMP In - 399.15' Inv. 18" CMP Out - 399.03'
Ex. Storm. MH T.C. - 403.29' Inv. In - 399.83' Inv. Out - 399.75'
PPL 22363/S32372
PPL 22360/S32374
Ex. Storm. MH T.C. - 409.45' Inv. In - 406.38' Inv. Out - 406.27'
3/4" Gas Service (Approximate)
PPL 22373/S32383 WITH TRANSFORMER
2" Steel Gas Main (Approximate)
Ex. Storm. MH T.C. - 413.70' Inv. In - 410.50' Inv. Out - 410.38'
Ex. San. MH - 556 T.C. - 414.02 Inv. Out - 407.33
Ex. Water Meter Pit
PPL 22391/S32391
SENECA AVENUE
40' R/W ±24' Paved Cartway
ATTCH 22395/S32399
ATTCH 22403/S32405
2" Steel Gas Main (Approximate)
1.25" PE in 2" Steel Gas Main (Approximate)
ATTCH 22411/S32412
1.25" PE in 2" Steel Gas Main (Approximate)
Ex. San. MH - 555 T.C. - 411.05 Inv. In - 406.05 Inv. In - 402.03 Inv. Out - 401.97
1.25" PE Gas Main (Approximate)
ATTCH 22356/S32354
PPL 22359/S32356

ADDRESS LIST					
UNIT ID	STREET NUMBER	STREET			
LOT 1	4137	LOCUST ROAD	LOT 12	803	STEPHENSON ROAD
LOT 2	4135	LOCUST ROAD	LOT 13	805	STEPHENSON ROAD
LOT 3	4133	LOCUST ROAD	LOT 14	807	STEPHENSON ROAD
LOT 4	4131	LOCUST ROAD	LOT 15	811	STEPHENSON ROAD
LOT 5	4127	LOCUST ROAD	LOT 16	813	STEPHENSON ROAD
LOT 6	4125	LOCUST ROAD	LOT 17	815	STEPHENSON ROAD
LOT 7	4123	LOCUST ROAD	LOT 18	817	STEPHENSON ROAD
LOT 8	4121	LOCUST ROAD	LOT 19	4118	LOCUST ROAD
LOT 9	806	STEPHENSON ROAD	LOT 20	4116	LOCUST ROAD
LOT 10	804	STEPHENSON ROAD	LOT 21	4114	LOCUST ROAD
LOT 11	802	STEPHENSON ROAD	LOT 22	4112	LOCUST ROAD
			LOT 23	4110	LOCUST ROAD
			LOT 24	4108	LOCUST ROAD
			LOT 25	4106	LOCUST ROAD
			LOT 26	4104	LOCUST ROAD

PAWC NOTES

1. PRIOR TO COMMENCEMENT OF WATER MAIN INSTALLATION THE LOCAL PAWC MANAGER FOR THE PROJECT SHALL BE PROVIDED WITH A WORK PROGRESS/TIMING SCHEDULE IN ADVANCE OF ANY AND ALL WORK TO ALLOW FOR INSPECTOR SCHEDULING.
2. ALL SERVICES FROM MAIN TO METER PIT ARE 1" TYPE K COPPER. A 10-15' TAILPIECE SHALL BE INSTALLED OUT OF THE CURB STOP TO THE APPROXIMATE LOCATION OF THE METER PIT DURING INSTALLATION OF THE SERVICE LINE(S).
3. ALL CURB STOPS AND HYDRANTS SHALL BE PLACED IN THE GRASS WITHIN THE RIGHT-OF-WAY, STAKE RIGHT-OF-WAY AS REQUIRED.
4. THRUST BLOCKS ARE REQUIRED FOR ALL BLOW-OFFS, TEES, BENDS, AND HYDRANTS OR AS APPROVED BY PAWC INSPECTOR.
5. LOCKING RUBBERS ARE REQUIRED AT THE DIRECTION OF PAWC INSPECTOR.
6. ALL HYDRANTS SHALL BE MANUFACTURED WITH STORZ CONNECTION(S), FIELD INSTALLED STORZ CONNECTION(S) WILL NOT BE ACCEPTED.
7. ALL HYDRANTS SHALL BE MANUFACTURED WITH THE APPROPRIATE COLOR. YELLOW FOR ALL PUBLIC HYDRANTS AND RED FOR ALL PRIVATE HYDRANTS.
8. ALL HYDRANTS ARE TO OPEN LEFT.
9. ALL VALVES ARE TO OPEN LEFT.
10. INSTALLATION OF 11¼" BENDS ARE ONLY REQUIRED IF DEFLECTION OF THE PIPE CAN'T BE ACHIEVED, CONSULT PAAW INSPECTOR PRIOR TO A BEND BEING OMITTED.
11. INSTALLATION OF WATER MAIN SHALL BE INSTALLED PER THE APPROVED PAAW PLAN STARTING AT THE TAP OR TIE-IN POINT. DEVIATION FROM THIS SHALL BE COORDINATED DIRECTLY WITH THE FIELD OPS SUPERVISOR.
12. NO SERVICES SHALL BE INSTALLED UNTIL THE WATER HAS PASSED ALL REQUIRED TESTING.
13. ALL VALVE BOX TOPS SHALL BE SET TO THE STREET PAVEMENT BASE COURSE ELEVATION. PRIOR TO THE INSTALLATION OF THE PAVEMENT WEARING COURSE, VALVE BOX RISERS SHALL BE INSTALLED AT THE DIRECTION OF THE PAWC INSPECTOR. ALL VALVE BOX TOPS AND LIDS DAMAGED PRIOR TO THE INSTALLATION OF THE WEARING COURSE ARE THE RESPONSIBILITY OF THE DEVELOPER.

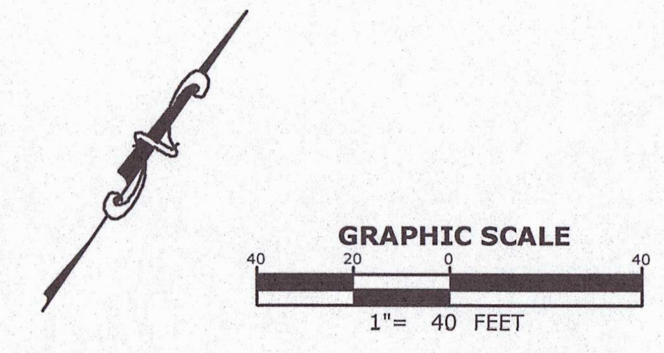
CONSTRUCTION NOTES:

1. CONTRACTOR SHALL VERIFY THE LOCATION OF MANHOLES, INLETS, VALVES, ETC. CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AS DEEMED NECESSARY WITHIN THE LIMITS OF CONSTRUCTION TO DETERMINE THE EXACT LOCATION AND DEPTH AS REQUIRED. REPORT ANY DISCREPANCIES FROM THAT INDICATED ON THE PLAN. ALL EXISTING UTILITIES SHALL BE RETAINED UNLESS MARKED OTHERWISE, AND APPURTENANCES SHALL BE ADJUSTED TO FINAL GRADE. DAMAGE TO EXISTING CONDITIONS AND UTILITIES TO REMAIN SHALL BE REPAIRED AS REQUIRED TO THE OWNERS SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.
2. ALL EXISTING UTILITIES NOT TO BE REMOVED OR ABANDONED ARE TO REMAIN OPERATIONAL AT ALL TIMES. APPROPRIATE EXISTING UTILITIES SHALL REMAIN ON SERVICE UNTIL REPLACEMENT/RELOCATED UTILITIES ARE OPERATIONAL.
3. ALL SANITARY SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL LOWER ALLEN TOWNSHIP MUNICIPAL AUTHORITY SPECIFICATIONS AND STANDARDS.
4. ALL PUBLIC WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL PENNSYLVANIA AMERICAN WATER SPECIFICATIONS AND STANDARDS.
5. CONTRACTOR SHALL REPAIR OR REPLACE ALL CURB, UTILITIES, SIDEWALKS, LANDSCAPING, ETC. WITHIN THE SIDE DAMAGED DURING CONSTRUCTION THAT ARE NOT INDICATED TO BE REMOVED.
6. CONTRACTOR SHALL COORDINATE WITH UTILITIES COMPANIES ON INSTALLATION, RELOCATION OR REPLACEMENT OF ELECTRICAL, PHONE, GAS AND CABLE SERVICES.
7. CONTRACTOR SHALL NOTIFY OWNER'S TESTING AGENCY PRIOR TO ANY PLACEMENT AND COMPACTION OF FILLS IN ANY BUILDING PAD AREAS. PADS SHALL BE PREPARED AND COMPACTED PER THE PROJECT SPECIFICATIONS AND CERTIFIED BY THE OWNERS TESTING AGENCY. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF FILLS NOT MEETING THE SPECIFICATIONS.
8. CONTRACTOR SHALL MAINTAIN ON SITE ONE SET OF CONTRACT DOCUMENTS TO BE UTILIZED FOR RECORD DOCUMENTS. FIELD RECORDS OF THE DEPTH AND LOCATIONS OF ALL UNDERGROUND SERVICE UTILITIES (PRIMARY AND SECONDARY ELECTRIC, GAS, PHONE AND CABLE T.V.) SHALL BE ADDED TO THE RECORD SET BY THE CONTRACTOR AS WELL AS ALL FIELD REVISIONS AND ADJUSTMENTS.
9. CONTRACTOR SHALL CONTACT PA ONE CALL SYSTEM @ 1-800-242-1776 AT LEAST THREE (3) DAYS PRIOR TO CONSTRUCTION ACTIVITIES.
10. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
11. ASBESTOS OR HAZARDOUS MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
12. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS WHEN OPERATING DEMOLITION EQUIPMENT AROUND UTILITIES.
13. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH THE PENNDOT STANDARDS, AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL.
14. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT LOCATION OF UTILITY ENTRANCES, BUILDING DIMENSIONS, ROOF LEADERS, EXIT DOORS, EXIT RAMPS AND PORCHES.
15. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF LOWER ALLEN TOWNSHIP, THE APPLICABLE SECTIONS OF THE PENNDOT STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.
16. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS FOR CONSTRUCTION AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
17. ALL AREAS NOT PAVED SHALL BE TOPSOILED, SEEDED, MULCHED OR LANDSCAPED UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE OWNER.
18. CONTRACTOR TO CONFIRM 36-INCH STORM PIPE CROWN ELEVATION NEXT TO EXISTING MANHOLE 610 PRIOR TO STARTING SEWER CONSTRUCTION. CHANGES IN SEWER MAIN SLOPE TO BE SUBMITTED BY DESIGN ENGINEER TO AUTHORITY FOR APPROVAL BEFORE CONSTRUCTION OF SEWER MAIN.
19. UTILITY SERVICE MAIN LAYOUT CONCEPTUAL FOR PLANNING PURPOSES. SERVICE MAIN AND LATERAL INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH APPROVED DESIGN AND CONSTRUCTION PLANS BY THE RESPECTIVE UTILITY SERVICE PROVIDER.

LEGEND

PROPOSED UTILITY FEATURES

●	SANITARY SEWER MANHOLE
MH 4	SANITARY SEWER STRUCTURE LABEL
—S—	SANITARY SEWER MAIN
● CO	SANITARY SEWER SERVICE LATERAL CLEANOUT
—s—s—s—s—s—s—s—	SANITARY SEWER SERVICE LATERAL
—FM—	SANITARY SEWER FORCE MAIN
●	DRAINAGE MANHOLE
▥	DRAINAGE INLET
■	YARD DRAINAGE INLET
⌓	ENDWALL
▬ ▬ ▬ ▬	DRAINAGE CULVERT OR PIPE
(I-45)	DRAINAGE STRUCTURE LABEL
▨	RIPRAP
∘CS	CURB STOP
Ⓦ	WATER METER
—W—	WATER LINE
—w—w—w—w—	WATER SERVICE LATERAL
◀	FIRE HYDRANT
-●	BLOWOFF HYDRANT
☼	STREET LIGHT
——	UNDERGROUND ELECTRIC
—UE—	UNDERGROUND ELECTRIC LATERAL
——	UNDERGROUND GAS
—G—	UNDERGROUND GAS LATERAL
—UD—UD—	4" PVC UNDERDRAIN PIPE



GRAPHIC SCALE

1" = 40 FEET

K&W

DESIGNING ENVIRONMENTS

2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

REVISED FINAL SUBDIVISION PLAN

145 SOUTH LOCUST STREET

FOR

WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-F_ldUTIL.dwg	

REVISIONS		
NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
UTILITY PLAN

SHEET:
6 OF 19

P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\LDP\2121007-F_ldUTIL.dwg 10-28-2021 4:43:34 PM BY: bmetzger

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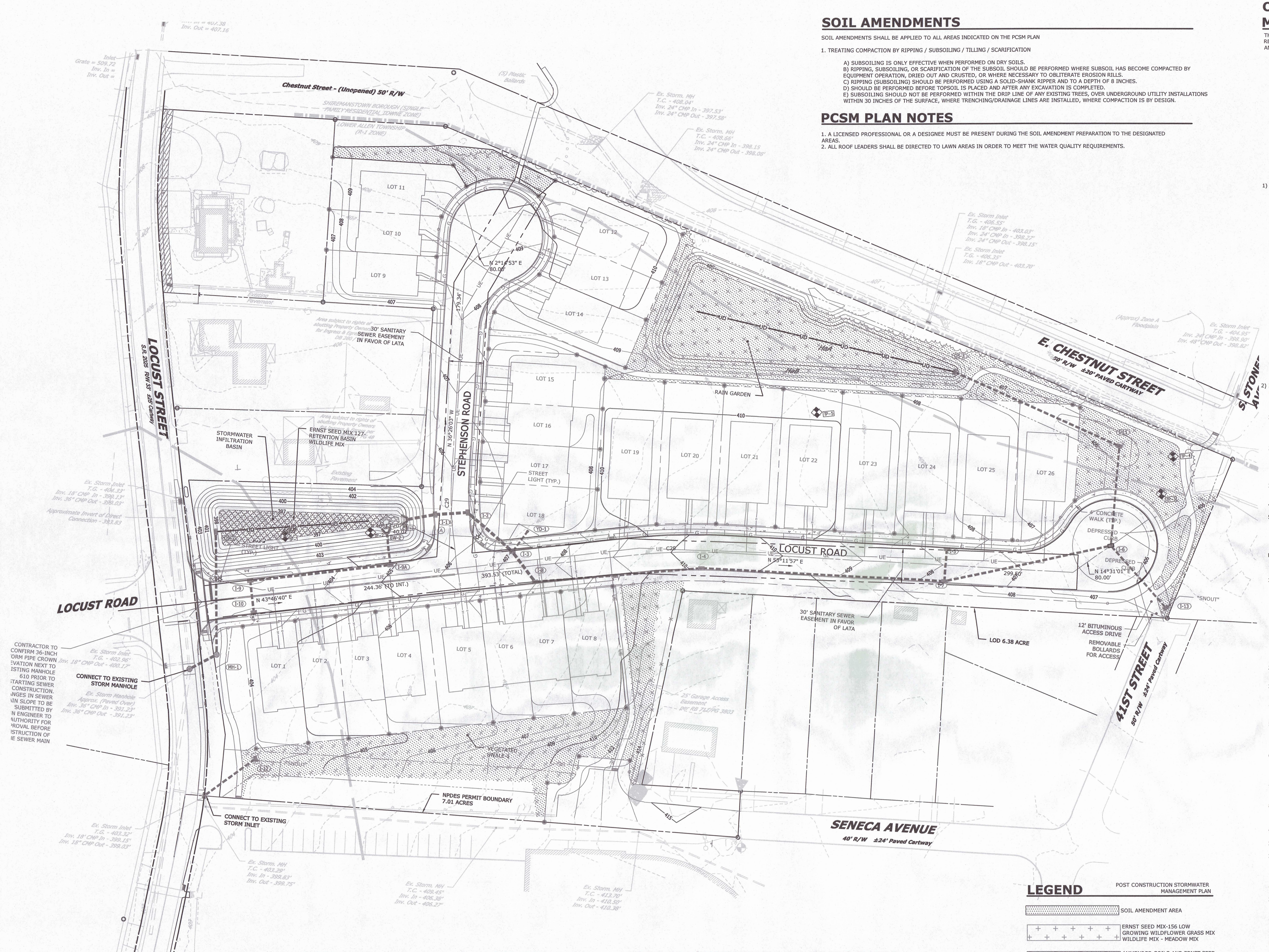
Images: P:\2000\2121\007 - Locust Street Homes LD\Survey Base\Tax Maps - Deeds-Plans\WATER TRACK LOCATION.PNG


Chestnut Street - (Unopened) 50' R/W
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE)
LOWER ALLEN TOWNSHIP (R-1 ZONE)
LOCUST STREET
S.R. 2026 R/W 33' ±25' Cartway
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
STEPHENSON ROAD
N 36°26'03" W
N 2°14'53" E 80.00'
30' SANITARY SEWER EASEMENT IN FAVOR OF LATA
STORMWATER INFILTRATION BASIN
ERNST SEED MIX 127 RETENTION BASIN WILDLIFE MIX
STREET LIGHT (TYP.)
RAIN GARDEN
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
S. STONER AVE
LOCUST ROAD
N 55°11'57" E
N 43°45'40" E
244.36' (TO INT.)
393.53' (TOTAL)
4' CONCRETE WALK (TYP.)
DEPRESSED CURB
N 14°31'01" E 80.00'
"SNOUT"
12' BITUMINOUS ACCESS DRIVE
REMOVABLE BOLLARDS FOR ACCESS
LOD 6.38 ACRE
41ST STREET
50' R/W ±24' Paved Cartway
30' SANITARY SEWER EASEMENT IN FAVOR OF LATA
CONTRACTOR TO CONFIRM 36-INCH STORM PIPE CROWN ELEVATION NEXT TO EXISTING MANHOLE 610 PRIOR TO STARTING SEWER CONSTRUCTION. CHANGES IN SEWER MAIN SLOPE TO BE SUBMITTED BY AN ENGINEER TO AUTHORITY FOR APPROVAL BEFORE CONSTRUCTION OF THE SEWER MAIN
CONNECT TO EXISTING STORM MANHOLE
CONNECT TO EXISTING STORM INLET
NPDES PERMIT BOUNDARY 7.01 ACRES
VEGETATED SWALE-1
SENECA AVENUE
40' R/W ±24' Paved Cartway
HaA
HaB
(Approx) Zone A Floodplain
(5) Plastic Bollards
Existing Pavement
Ex. Storm MH
Ex. Storm Inlet

SOIL AMENDMENTS

SOIL AMENDMENTS SHALL BE APPLIED TO ALL AREAS INDICATED ON THE PCSM PLAN

1. TREATING COMPACTION BY RIPPING / SUBSOILING / TILLING / SCARIFICATION

    A) SUBSOILING IS ONLY EFFECTIVE WHEN PERFORMED ON DRY SOILS.
    B) RIPPING, SUBSOILING, OR SCARIFICATION OF THE SUBSOIL SHOULD BE PERFORMED WHERE SUBSOIL HAS BECOME COMPACTED BY EQUIPMENT OPERATION, DRIED OUT AND CRUSTED, OR WHERE NECESSARY TO OBLITERATE EROSION RILLS.
    C) RIPPING (SUBSOILING) SHOULD BE PERFORMED USING A SOLID-SHANK RIPPER AND TO A DEPTH OF 8 INCHES.
    D) SHOULD BE PERFORMED BEFORE TOPSOIL IS PLACED AND AFTER ANY EXCAVATION IS COMPLETED.
    E) SUBSOILING SHOULD NOT BE PERFORMED WITHIN THE DRIP LINE OF ANY EXISTING TREES, OVER UNDERGROUND UTILITY INSTALLATIONS WITHIN 30 INCHES OF THE SURFACE, WHERE TRENCHING/DRAINAGE LINES ARE INSTALLED, WHERE COMPACTION IS BY DESIGN.

PCSM PLAN NOTES

1. A LICENSED PROFESSIONAL OR A DESIGNEE MUST BE PRESENT DURING THE SOIL AMENDMENT PREPARATION TO THE DESIGNATED AREAS.
2. ALL ROOF LEADERS SHALL BE DIRECTED TO LAWN AREAS IN ORDER TO MEET THE WATER QUALITY REQUIREMENTS.

BIORETENTION FACILITY / RAIN GARDEN NOTES

1. REMULCH VOID AREAS, TREAT DISEASED TREES AND SHRUBS, MOW TURF AREAS AS NEEDED.
2. WATER PLANTS DAILY FOR TWO WEEKS AT PROJECT COMPLETION.
3. INSPECT SOIL & REPAIR ERODED AREAS, REMOVE LITTER AND DEBRIS MONTHLY.
4. INSPECT FOR SEDIMENT BUILDUP, EROSION, VEGETATIVE CONDITIONS, REMOVE & REPLACE DEAD & DISEASED VEGETATION TWICE PER YEAR.
5. ADD MULCH, REPLACE TREE STAKES AND WIRES ONCE PER YEAR.
6. MOW VEGETATION TO A HEIGHT OF 4"-6" ABOVE GRADE ONCE A YEAR, PREFERABLY WHEN THE GROUND IS FROZEN ONCE PER YEAR.
7. WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.
8. DURING PERIODS OF EXTENDED DROUGHT, BIORETENTION AREAS MAY REQUIRE WATERING.
9. AN UNDERDRAIN IS PROVIDED AND OPERABLE VIA VALVE. PROVIDED VALVE SHOULD ONLY BE OPENED IN THE EVENT THE FACILITY IS NOT DEWATERING AS DESIGNED.

TEST PIT/INFILTRATION TESTS TABLE

TEST PIT	APPROXIMATE DEPTH OF INFILTRATION TEST BELOW EXISTING GRADE (FT.)	APPROXIMATE DEPTH OF LIMITING ZONE BELOW EXISTING GRADE (FT.)	INFILTRATION RATE (IN/HR)
1	N/A	7	-
2	4.5	8	0.1
3	3.5	6.5	5.7
4	4	7	3.3
5	3	6	0.1

LEGEND

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

▒	SOIL AMENDMENT AREA
+ + +	ERNST SEED MIX-156 LOW GROWING WILDFLOWER GRASS MIX WILDLIFE MIX - MEADOW MIX
▨	AMMENDED SOILS AND ERNST SEED MIX 127 WILDLIFE MIX

SOILS INFORMATION

HaA	*0 TO 3 PERCENT SLOPES [HAGERSTOWN SILT LOAM]*
HaB	*3 TO 8 PERCENT SLOPES [HAGERSTOWN SILT LOAM]*

OWNERSHIP, OPERATION AND MAINTENANCE PROGRAM

THE LOCUST STREET HOMES HOMEOWNERS ASSOCIATION SHALL BE RESPONSIBLE FOR IMPLEMENTING THIS STORMWATER MANAGEMENT OPERATION AND MAINTENANCE PLAN.

1. THE CONTRACTOR SHALL THOROUGHLY INSPECT EACH COMPONENT PRIOR TO ACCEPTANCE BY THE OWNER. ALL ACCUMULATED SOIL SHALL BE REMOVED FROM THE COMPONENT AND SPREAD ON-SITE.
2. ANY AREA DISTURBED DUE TO MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM SHALL BE STABILIZED IMMEDIATELY (SEED AND MULCH IN LAWN AREAS).
3. AREAS WHERE ACCELERATED EROSION IS OCCURRING MUST BE IMMEDIATELY STABILIZED. PERMANENT SEEDING AND MULCHING, EROSION MATTING AND/OR RIP-RAP SHOULD BE USED TO STABILIZE AREAS OF ACCELERATED EROSION.
4. NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE OR ALTER THE STORMWATER MANAGEMENT SYSTEM WHICH MAY HAVE BEEN INSTALLED OR ESTABLISHED ON A PROPERTY UNLESS LOWER ALLEN TOWNSHIP HAS ISSUED WRITTEN APPROVAL OF SUCH MODIFICATION, REMOVAL, FILLING, LANDSCAPING OR ALTERATION.
5. NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING OR VEGETATION WITHIN THE STORMWATER MANAGEMENT SYSTEM WHICH MAY LIMIT OR ALTER THE FUNCTIONING OF THE STORMWATER MANAGEMENT SYSTEM.

1) **INSPECTIONS**
STORMWATER FACILITIES AND PERMANENT BMPS MUST BE INSPECTED IN ACCORDANCE WITH THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (PCSM) AND THE EXECUTED STORMWATER FACILITIES AND BMP MAINTENANCE AND MONITORING AGREEMENT (M&M AGREEMENT). THE PROPERTY OWNER HAS TWO INSPECTION OPTIONS:

I. EMPLOYING A QUALIFIED REGISTERED PROFESSIONAL TO CONDUCT THE INSPECTIONS AND PREPARE REPORTS. THE ENTITY CONDUCTING THE INSPECTION SHALL BE REQUIRED TO SUBMIT A REPORT TO LOWER ALLEN TOWNSHIP ANNUALLY. REPORTS SHALL BE SUBMITTED BY FEBRUARY 1 FOR INSPECTIONS COMPLETED THE PREVIOUS YEAR. THE REPORT SHALL DOCUMENT THE CONDITION OF THE FACILITIES AND RECOMMEND NEEDED REPAIRS. RECOMMENDED REPAIRS AND OTHER CORRECTIVE ACTIONS SHALL BE IMPLEMENTED BY THE PROPERTY OWNER WITHIN THIRTY (30) DAYS OF THE REPORT DATE.

II. ENTERING INTO AN AGREEMENT WITH LOWER ALLEN TOWNSHIP FOR THE TOWNSHIP TO CONDUCT THE INSPECTIONS AND PREPARE REPORTS. THIS CAN BE INCLUDED IN THE M&M AGREEMENT. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR REIMBURSING THE TOWNSHIP FOR THE COSTS INVOLVED IN ACCORDANCE WITH THE M&M AGREEMENT.

ii. ENTERING INTO AN AGREEMENT WITH THE MUNICIPALITY FOR THE MUNICIPALITY TO CONDUCT THE INSPECTIONS AND PREPARE REPORTS. THIS CAN BE INCLUDED IN THE STORMWATER FACILITIES AND BEST MANAGEMENT PRACTICE (BMP) MAINTENANCE AND MONITORING AGREEMENT (M&M AGREEMENT). THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR REIMBURSING THE MUNICIPALITY FOR THE COSTS INVOLVED IN ACCORDANCE WITH THE M&M AGREEMENT.

2) INDIVIDUAL STORMWATER MANAGEMENT SYSTEM COMPONENTS AND THEIR OPERATION AND MAINTENANCE PLAN:

A. **WATER QUALITY HOOD**

1. INSPECTION: WATER QUALITY HOODS SHALL BE INSPECTED SEMI-ANNUALLY FOR THE FIRST FULL YEAR OF OPERATION, AND THEREAFTER ON A BI-YEARLY BASIS. A VISUAL INSPECTION OF THE WATER SURFACE SHALL BE MADE TO DETERMINE IF A SHEEN IS PRESENT INDICATING THE PRESENCE OF HYDROCARBONS.
2. CLEANOUT PARAMETER: ANY TRASH, DEBRIS AND MATERIAL ACCUMULATED BY THE WATER QUALITY HOODS SHALL BE REMOVED AND NOT FLUSHED DOWNSTREAM. HYDROCARBONS SHALL BE REMOVED FROM THE INLET BY USE OF A VACUUM TRUCK OR SIMILAR METHOD. THE CLEANOUT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. REGULAR MAINTENANCE TIMEFRAME: THE WATER QUALITY HOOD SHALL BE REPAIR OR REPLACED WITH TWO MONTHS OF THE INSPECTION IDENTIFYING THE CORRECTIVE ACTION.
4. REGULAR MAINTENANCE COST: THE COST FOR REPAIRS AND REPLACEMENT SHALL BE DETERMINED AT THE TIME OF THE CORRECTIVE ACTION TAKEN.
5. DISPOSAL OF REMOVED MATERIAL: THE TRASH, DEBRIS AND MATERIAL REMOVED FROM THE UNDERGROUND INFILTRATION BASIN SHALL BE TAKEN TO AN APPROPRIATE DISPOSAL AREA. HYDROCARBONS THAT ARE REMOVED FROM THE INLET SHALL BE TAKEN TO AN APPROPRIATE FACILITY THAT SPECIALIZES IN HANDLING HYDROCARBONS.

B. **STORMWATER INFILTRATION BASIN**

OPERATION AND MAINTENANCE:

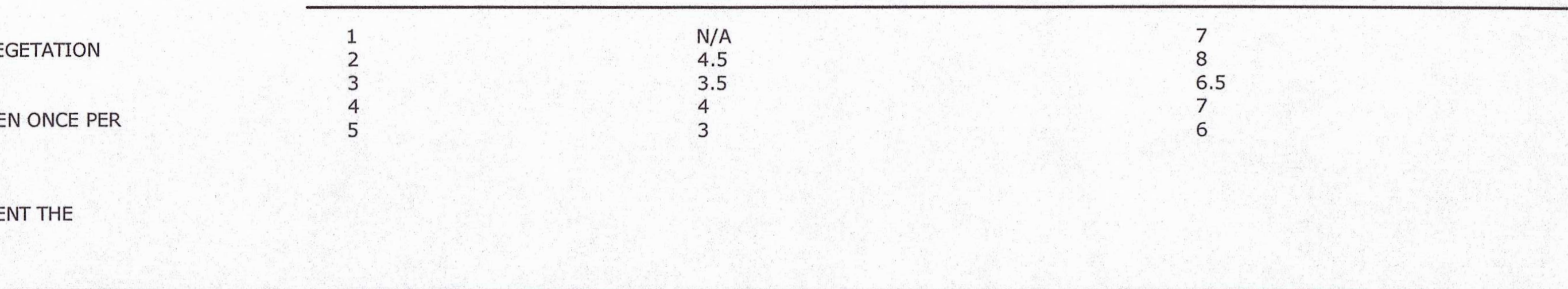
1. IMPLEMENT THE CONSTRUCTED INFILTRATION BASIN OPERATION AND MAINTENANCE PLAN AT LEAST FOUR TIMES EACH YEAR AND AFTER STORM EVENTS EXCEEDING 1 INCH OF RAINFALL. INSPECTION OF BASINS SHALL INCLUDE BUT NOT LIMITED TO:
    a. STRUCTURAL INTEGRITY AND OPERATION OF OUTLET STRUCTURES AND APPURTENANCES.
    b. STABILITY OF EMBANKMENTS AND OTHER SOIL AREAS.
    c. INTEGRITY AND CONDITION OF VEGETATION.
    d. COLLECTION STORAGE AND RELEASE OF STORMWATER IN ACCORDANCE WITH THE FACILITY DESIGN.
    e. SEDIMENT ACCUMULATION.
    f. SAFETY.
    g. UNDERDRAINS
    h. KNIFE GATE VALVE
2. REMOVE THE SEDIMENTS TO RESTORE ORIGINAL DETENTION BASIN STAGE-STORAGE VOLUMES. REMOVE SEDIMENT ONLY DURING DRY PERIODS. PROPERLY DISPOSE OF SEDIMENTS.
3. AT LEAST FOUR TIMES EACH YEAR, REMOVE TRASH AND OTHER DEBRIS FROM INFILTRATION BASIN AND INLET STRUCTURES AND AREAS DRAINING TO BASINS.
4. AT LEAST ONCE EACH YEAR, INSPECT INFILTRATION BASIN VEGETATION, FOR EROSION, FOR UNDESIRED, EXOTIC, OR INVASIVE SPECIES. IMMEDIATELY IMPLEMENT NEEDED ACTIONS.
5. MAINTAIN INFILTRATION BASIN PONDING AREA VEGETATION IN GOOD CONDITION (I.E. >95% UNIFORM PERENNIAL MEADOW VEGETATIVE COVERAGE). IMMEDIATELY STABILIZE BARE SPOTS OR ERODED AREAS. REPLACE UNDESIRED SPECIES WITH DESIRED SPECIES. PROHIBIT MOWING OF BASIN PONDING AREAS.
6. MAINTAIN INFILTRATION BASIN EMBANKMENT AREAS IN GOOD CONDITION, GRASS STABILIZATION (I.E. >95% UNIFORM PERENNIAL 3"-6" GRASS COVERAGE). IMMEDIATELY STABILIZE BARE SPOTS OR ERODED AREAS. RESTRICT MOWING TO DRY PERIODS GREATER THAN 72 HOURS AFTER STORM/RAINFALL EVENTS.
7. MAINTAIN INFILTRATION BASIN UNDERDRAIN, STONE TRENCH AND KNIFE GATE VALVE. IMMEDIATELY REPLACE STONE IN TRENCH IF STONE GET WASHED OUT.
8. INSPECT AMENDED SOILS FOR LOW SPOTS OR COMPACTION IF BASIN IS NOT DEWATERING AFTER 2 CONSECUTIVE 72 HOUR PERIODS AFTER A STORM EVENT. CONTACT OWNER & ENGINEER TO ASSESS SITUATION AND PROVIDE A SOLUTION.
9. RESTRICT VEHICULAR OR OTHER EQUIPMENT TRAFFIC ON INFILTRATION BASIN TO ONLY THAT NECESSARY FOR MOWING OR BMP REPAIRS.
10. PROHIBIT STORAGE OF HAZARDOUS MATERIAL WITHIN DETENTION BASINS OR ON AREAS THAT DRAIN TO BASINS.
11. UNDERDRAIN KNIFE VALVE WILL BE OPENED ONLY FOR REQUIRED MAINTENANCE, OR IF THE BASIN HAS NOT COMPLETELY DEWATERED WITHIN 72 HOURS. VALVE SHALL BE CLOSED AFTER BASIN IS DEWATERED.

C. **MEADOW RESTORATION AREA**

1. VISUALLY INSPECT THE MEADOW AREA TWICE A YEAR. IMMEDIATELY REPAIR ANY DEAD OR DYING VEGETATION WITH THE APPROVED SEED MIXTURE. REMOVE ANY INVASIVE SPECIES.
2. MOWING WITHIN THE DESIGNATED MEADOW RESTORATION AREA SHALL BE LIMITED TO TWICE A YEAR.
3. LIMIT THE USE OF HERBICIDES AND PESTICIDES.

D. **STREET SWEEPING**

1. STREET SWEEPING SHALL BE PERFORMED EVERY 3 MONTHS (MINIMUM 4 TIMES PER YEAR).
2. COORDINATE WITHIN THE DEVELOPMENT BEFORE THE STREET SWEEPING TAKES PLACE TO RESTRICT PARKING WITHIN THE ROADWAY.


GRAPHIC SCALE
40
20
0
40
1"= 40 FEET

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REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	**OCTOBER 28, 2021**
K&W PROJECT:	2121.007
DRAWN BY:	GSD

CAD DRAWING:
2121007-G_ldPCSM.dwg

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

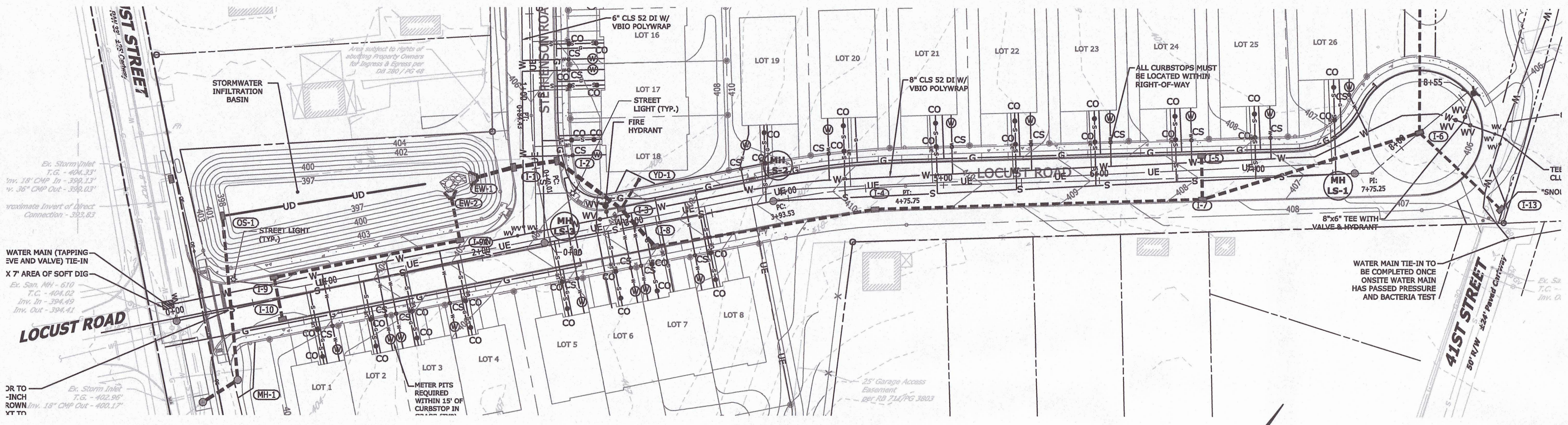
PLAN TYPE:
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

SHEET:
7 OF 19

XRefs: P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-01_xrTB_24x36.dwg P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-02_xrSUR.dwg P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-03_xrSITE.dwg P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-05_xrUTIL.dwg P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-04_xrGRADE.dwg P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-06_xrPCSM.dwg
Images: P:\2000\2121\007 - Locust Street Homes LD\Survey Base\Tax Maps - Deeds-Plans\WATER TRACK LOCATION.PNG

NOTE

ALL SANITARY SEWER AND STORM SEWER PIPE LENGTHS GIVEN BASED ON CENTER TO STRUCTURE TO CENTER OF STRUCTURE.



41ST STREET
STORMWATER INFILTRATION BASIN
STREET LIGHT (TYP.)
WATER MAIN (TAPPING SLEEVE AND VALVE) TIE-IN
LOCUST ROAD
METER PITS REQUIRED WITHIN 15' OF CURBSTOP
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
6" CLS 52 DI W/ VBIO POLYWRAP
STREET LIGHT (TYP.)
FIRE HYDRANT
8" CLS 52 DI W/ VBIO POLYWRAP
ALL CURBSTOPS MUST BE LOCATED WITHIN RIGHT-OF-WAY
8"x6" TEE WITH VALVE & HYDRANT
WATER MAIN TIE-IN TO BE COMPLETED ONCE ONSITE WATER MAIN HAS PASSED PRESSURE AND BACTERIA TEST
MH LS-1
MH LS-2
MH LS-3
MH-1
I-1
I-2
I-3
I-4
I-5
I-6
I-7
I-8
I-9
I-10
I-13
EW-1
EW-2
YD-1
OS-1
STEPHENSON ROAD
CO
CS
UE
UD
W
WV
G
S

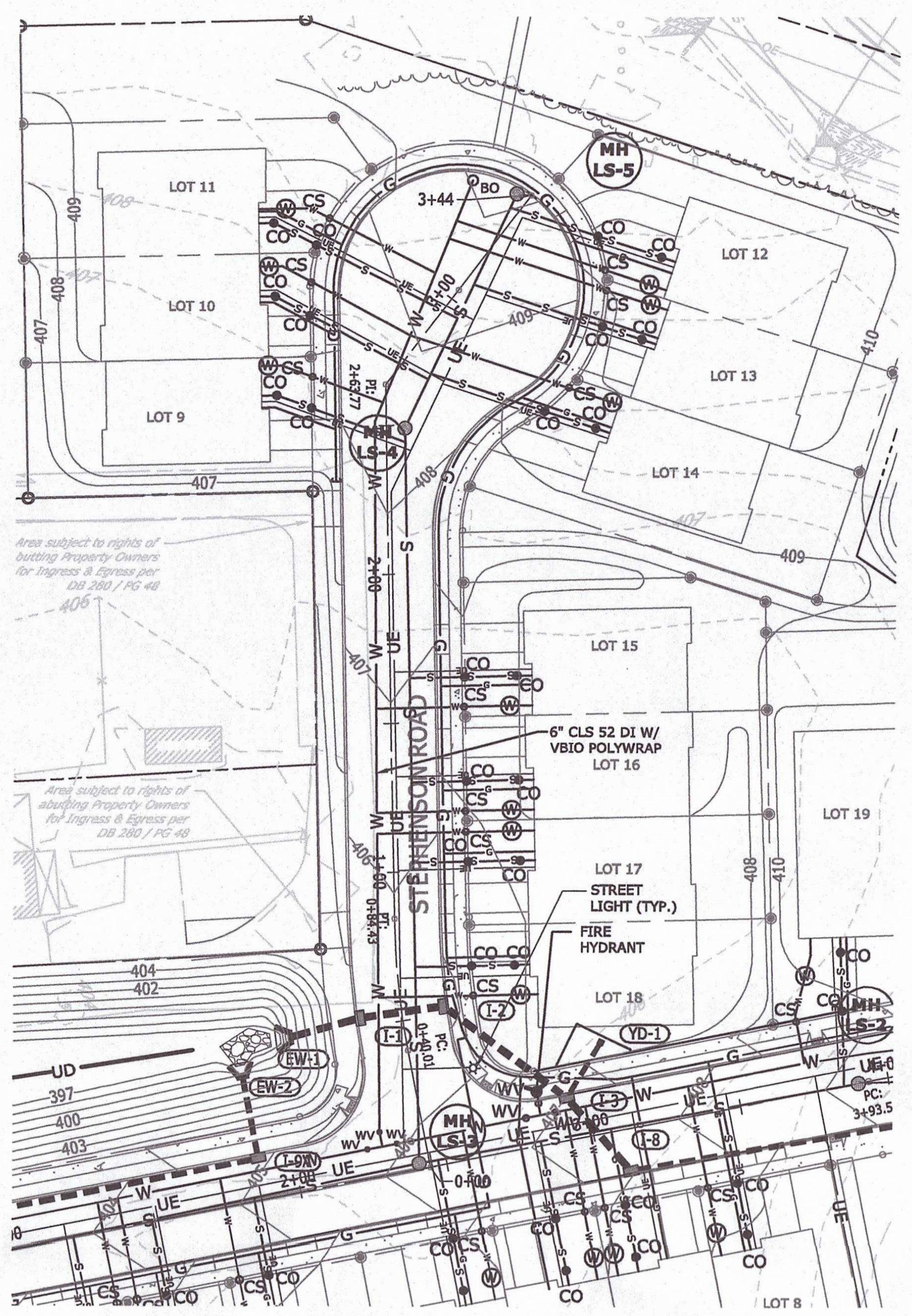
LOCUST ROAD PLAN VIEW

SCALE: 1"=50'

GRAPHIC SCALE

50 25 0 50

1" = 50 FEET
HORIZONTAL



MH LS-5
MH LS-4
MH LS-3
MH LS-2
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
6" CLS 52 DI W/ VBIO POLYWRAP
STREET LIGHT (TYP.)
FIRE HYDRANT
STEPHENSON ROAD
LOCUST ROAD
EW-1
EW-2
YD-1
I-1
I-2
I-3
I-8
3+44
CO
CS
W
WV
UD

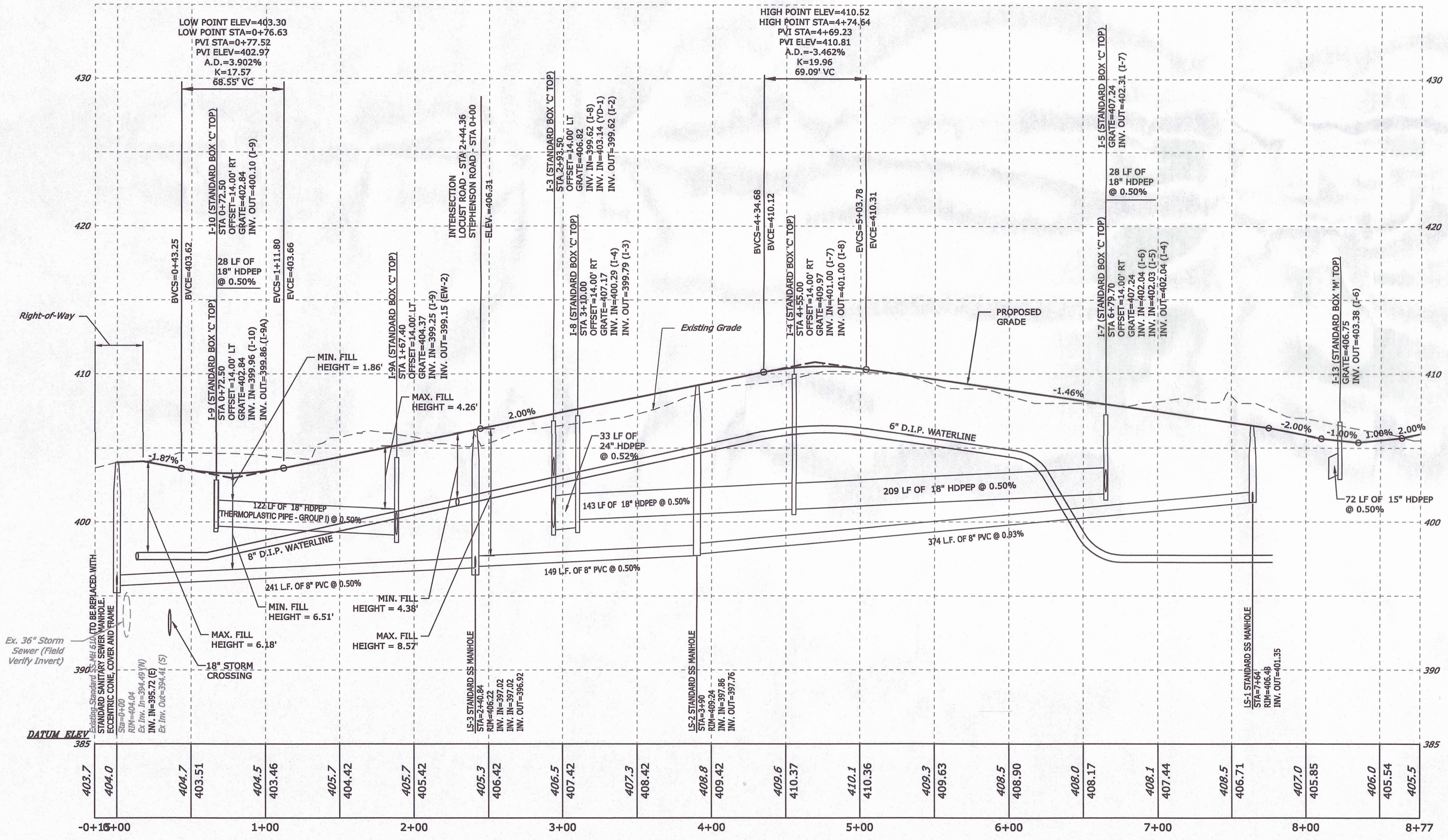
GRAPHIC SCALE

50 25 0 50

1" = 50 FEET
HORIZONTAL

STEPHENSON ROAD PLAN VIEW

SCALE: 1"=50'



LOW POINT ELEV=403.30
LOW POINT STA=0+76.63
PVI STA=0+77.52
PVI ELEV=402.97
A.D.=3.902%
K=17.57
68.55' VC
HIGH POINT ELEV=410.52
HIGH POINT STA=4+74.64
PVI STA=4+69.23
PVI ELEV=410.81
A.D.=-3.462%
K=19.96
69.09' VC
430
420
410
400
390
385
Right-of-Way
BVCS=0+43.25
BVCE=403.62
I-10 (STANDARD BOX 'C' TOP)
STA 0+72.50
OFFSET=14.00' RT
GRATE=402.84
INV. OUT=400.10 (I-9)
28 LF OF 18" HDPEP @ 0.50%
EVCS=1+11.80
EVCE=403.66
I-9 (STANDARD BOX 'C' TOP)
STA 0+72.50
OFFSET=14.00' LT
GRATE=402.84
INV. IN=399.96 (I-10)
INV. OUT=399.86 (I-9A)
MIN. FILL HEIGHT = 1.86'
I-9A (STANDARD BOX 'C' TOP)
STA 1+67.40
OFFSET=14.00' LT
GRATE=404.37
INV. IN=399.25 (I-9)
INV. OUT=399.15 (EW-2)
MAX. FILL HEIGHT = 4.26'
INTERSECTION
LOCUST ROAD - STA 2+44.36
STEPHENSON ROAD - STA 0+00
ELEV.=406.31
I-3 (STANDARD BOX 'C' TOP)
STA 2+93.50
OFFSET=14.00' LT
GRATE=406.82
INV. IN=399.62 (I-8)
INV. IN=403.14 (YD-1)
INV. OUT=399.62 (I-2)
I-8 (STANDARD BOX 'C' TOP)
STA 3+10.00
OFFSET=14.00' RT
GRATE=407.17
INV. IN=400.29 (I-4)
INV. OUT=399.79 (I-3)
Existing Grade
BVCS=4+34.68
BVCE=410.12
I-4 (STANDARD BOX 'C' TOP)
STA 4+55.00
OFFSET=14.00' RT
GRATE=409.97
INV. IN=401.00 (I-7)
INV. OUT=401.00 (I-8)
EVCS=5+03.78
EVCE=410.31
PROPOSED GRADE
I-5 (STANDARD BOX 'C' TOP)
GRATE=407.24
INV. OUT=402.31 (I-7)
28 LF OF 18" HDPEP @ 0.50%
I-7 (STANDARD BOX 'C' TOP)
STA 6+79.70
OFFSET=14.00' RT
GRATE=407.24
INV. IN=402.04 (I-6)
INV. IN=402.03 (I-5)
INV. OUT=402.04 (I-4)
I-13 (STANDARD BOX 'M' TOP)
GRATE=406.75
INV. OUT=403.38 (I-6)
-1.87%
2.00%
-1.46%
-2.00%
-1.00%
1.00%
2.00%
33 LF OF 24" HDPEP @ 0.52%
122 LF OF 18" HDPEP (THERMOPLASTIC PIPE - GROUP I) @ 0.50%
143 LF OF 18" HDPEP @ 0.50%
6" D.I.P. WATERLINE
209 LF OF 18" HDPEP @ 0.50%
72 LF OF 15" HDPEP @ 0.50%
8" D.I.P. WATERLINE
241 L.F. OF 8" PVC @ 0.50%
149 L.F. OF 8" PVC @ 0.50%
374 L.F. OF 8" PVC @ 0.93%
MIN. FILL HEIGHT = 6.51'
MAX. FILL HEIGHT = 6.18'
MIN. FILL HEIGHT = 4.38'
MAX. FILL HEIGHT = 8.57'
18" STORM CROSSING
Ex. 36" Storm Sewer (Field Verify Invert)
Existing Standard SS MH 610 (TO BE REPLACED WITH STANDARD SANITARY SEWER MANHOLE, ECCENTRIC CONE, COVER AND FRAME
Sta=0+00
RIM=404.04
Ex Inv. In=394.49 (N)
INV. IN=395.72 (E)
Ex Inv. Out=394.41 (S)
LS-3 STANDARD SS MANHOLE
STA=2+40.84
RIM=406.22
INV. IN=397.02
INV. IN=397.02
INV. OUT=396.92
LS-2 STANDARD SS MANHOLE
STA=3+90
RIM=409.24
INV. IN=397.86
INV. OUT=397.76
LS-1 STANDARD SS MANHOLE
STA=7+64
RIM=406.48
INV. OUT=401.35
DATUM ELEV
403.7
404.0
404.7
403.51
404.5
403.46
405.7
404.42
405.7
405.42
405.3
406.42
406.5
407.42
407.3
408.42
408.8
409.42
409.6
410.37
410.1
410.36
409.3
409.63
408.5
408.90
408.0
408.17
408.1
407.44
408.5
406.71
407.0
405.85
406.0
405.54
405.5
-0+15
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
8+77

LOCUST ROAD

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'

GRAPHIC SCALE

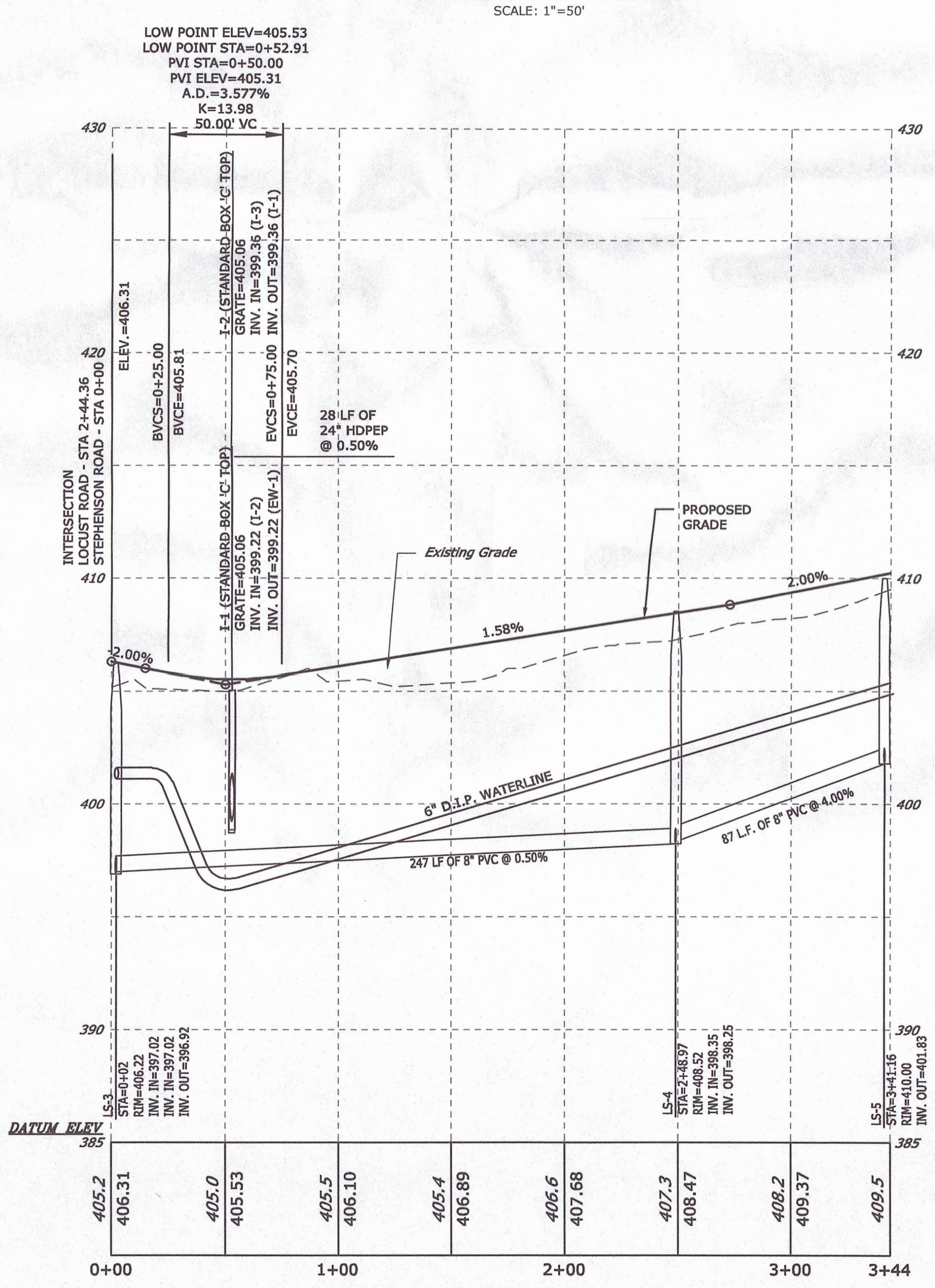
50 25 0 50

1" = 50 FEET
HORIZONTAL

GRAPHIC SCALE

5 2.5 0 5

1" = 5 FEET
VERTICAL



LOW POINT ELEV=405.53
LOW POINT STA=0+52.91
PVI STA=0+50.00
PVI ELEV=405.31
A.D.=3.577%
K=13.98
50.00' VC
430
420
410
400
390
385
INTERSECTION
LOCUST ROAD - STA 2+44.36
STEPHENSON ROAD - STA 0+00
ELEV.=406.31
BVCS=0+25.00
BVCE=405.81
I-2 (STANDARD BOX 'C' TOP)
GRATE=405.06
INV. IN=399.36 (I-3)
INV. OUT=399.36 (I-1)
I-1 (STANDARD BOX 'C' TOP)
GRATE=405.06
INV. IN=399.22 (I-2)
INV. OUT=399.22 (EW-1)
EVCS=0+75.00
EVCE=405.70
28 LF OF 24" HDPEP @ 0.50%
PROPOSED GRADE
Existing Grade
2.00%
1.58%
2.00%
6" D.I.P. WATERLINE
247 LF OF 8" PVC @ 0.50%
87 L.F. OF 8" PVC @ 4.00%
LS-3
STA=0+02
RIM=406.22
INV. IN=397.02
INV. IN=397.02
INV. OUT=396.92
LS-4
STA=2+48.97
RIM=408.52
INV. IN=398.35
INV. OUT=398.25
LS-5
STA=3+41.16
RIM=410.00
INV. OUT=401.83
DATUM ELEV
405.2
406.31
405.0
405.53
405.5
406.10
405.4
406.89
406.6
407.68
407.3
408.47
408.2
409.37
409.5
0+00
1+00
2+00
3+00
3+44

STEPHENSON ROAD

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'

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145 SOUTH LOCUST STREET
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WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-H_ldPROF.dwg	

REVISIONS

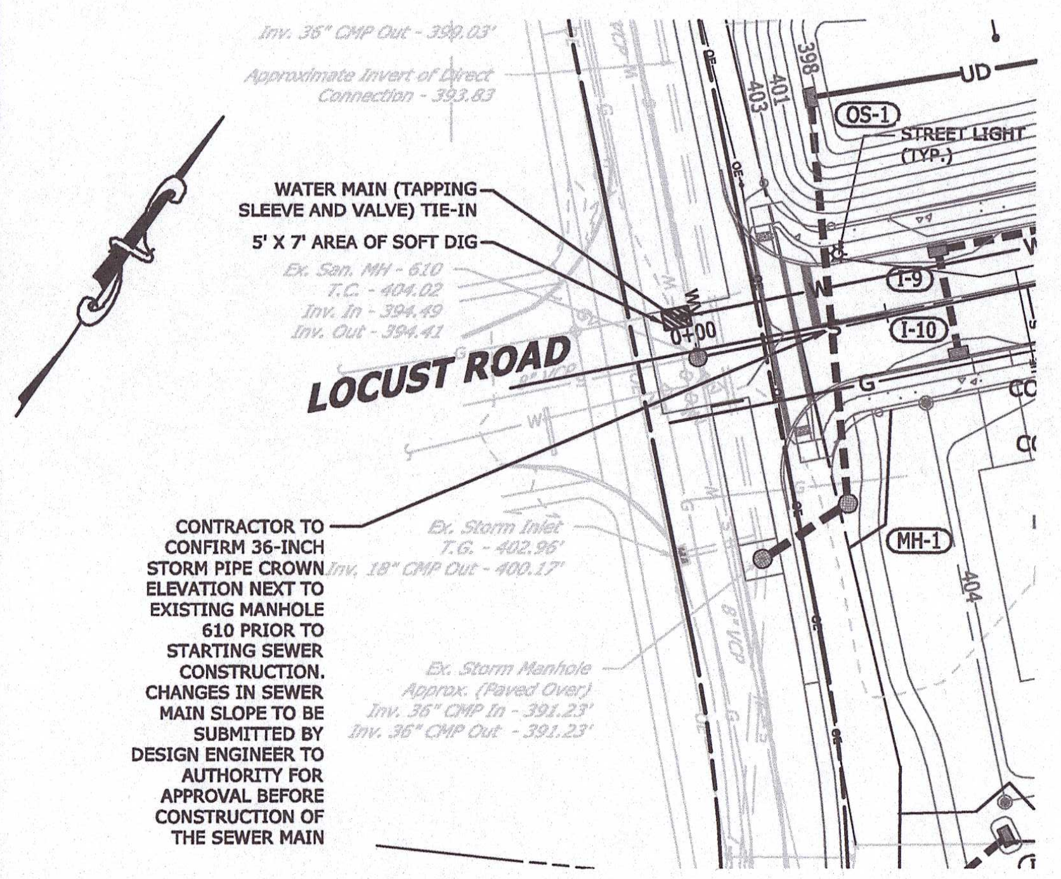
NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
PROFILES

SHEET:
8 OF 19

NOTE

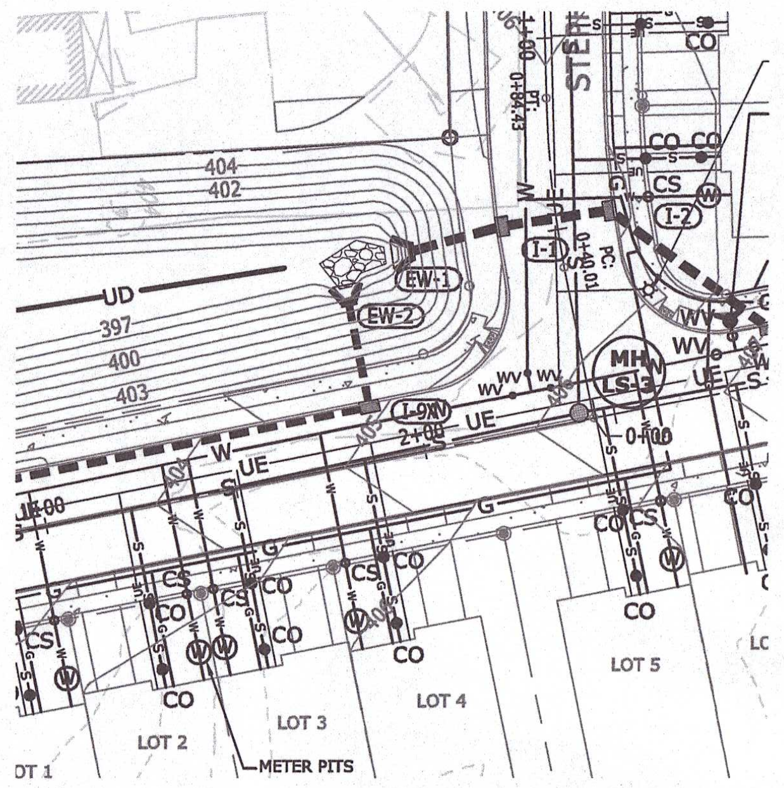
ALL SANITARY SEWER AND STORM SEWER PIPE LENGTHS GIVEN BASED ON CENTER TO STRUCTURE TO CENTER OF STRUCTURE.


Inv. 36" CMP Out - 399.03'
Approximate Invert of Direct Connection - 393.83
OS-1
STREET LIGHT (TYP.)
WATER MAIN (TAPPING SLEEVE AND VALVE) TIE-IN
5' X 7' AREA OF SOFT DIG
Ex. San. MH - 610
T.C. - 404.02
Inv. In - 394.49
Inv. Out - 394.41
I-9
I-10
0+00
LOCUST ROAD
MH-1
CONTRACTOR TO CONFIRM 36-INCH STORM PIPE CROWN ELEVATION NEXT TO EXISTING MANHOLE 610 PRIOR TO STARTING SEWER CONSTRUCTION. CHANGES IN SEWER MAIN SLOPE TO BE SUBMITTED BY DESIGN ENGINEER TO AUTHORITY FOR APPROVAL BEFORE CONSTRUCTION OF THE SEWER MAIN
Ex. Storm Inlet
T.G. - 402.96'
Inv. 18" CMP Out - 400.17'
Ex. Storm Manhole
Approx. (Paved Over)
Inv. 36" CMP In - 391.23'
Inv. 36" CMP Out - 391.23'
UD

OS-1 TO EX. STORM MANHOLE PLAN VIEW

SCALE: 1"=50'

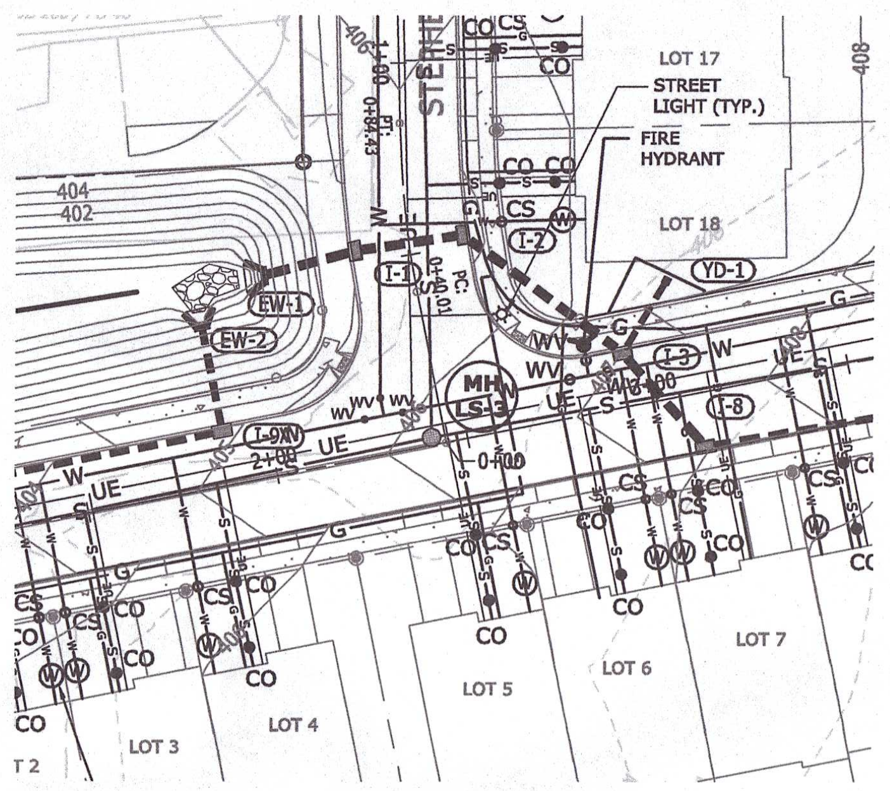
GRAPHIC SCALE
50 25 0 50
1"= 50 FEET
HORIZONTAL


404
402
UD
397
400
403
EW-1
EW-2
I-9A
2+00
I-1
I-2
MH LS-3
0+00
UE
CS
CO
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
METER PITS

I-9A TO FES-2 PLAN VIEW

SCALE: 1"=50'

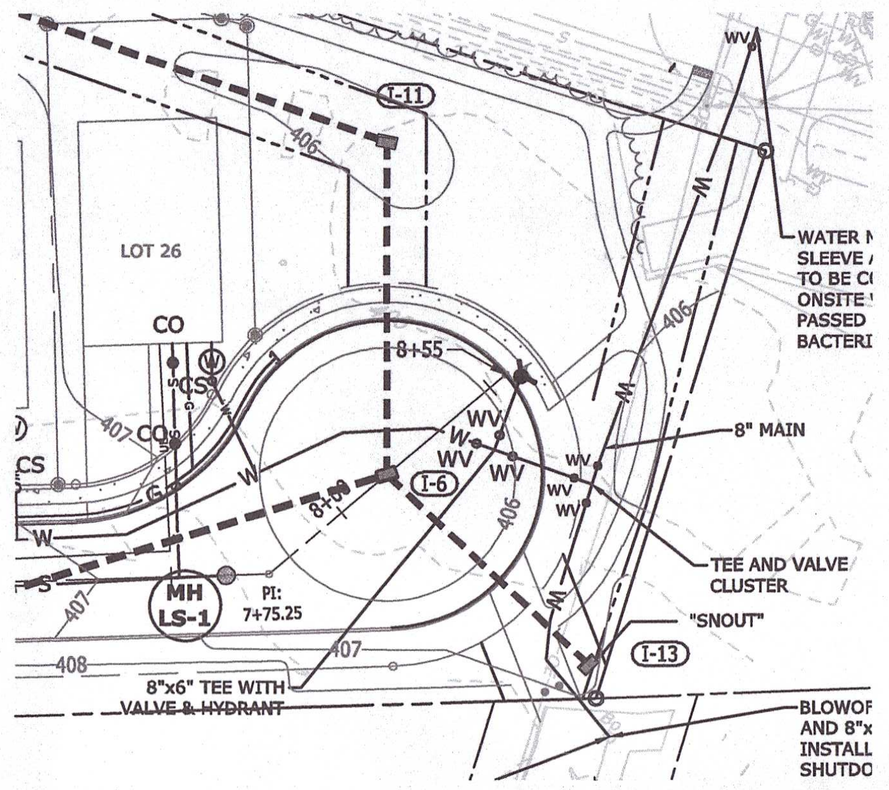
GRAPHIC SCALE
50 25 0 50
1"= 50 FEET
HORIZONTAL


LOT 17
STREET LIGHT (TYP.)
FIRE HYDRANT
LOT 18
YD-1
I-1
I-2
I-3
I-8
EW-1
EW-2
I-9A
MH LS-3
0+00
2+00
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7

YD-1 TO FES-1 PLAN VIEW

SCALE: 1"=50'

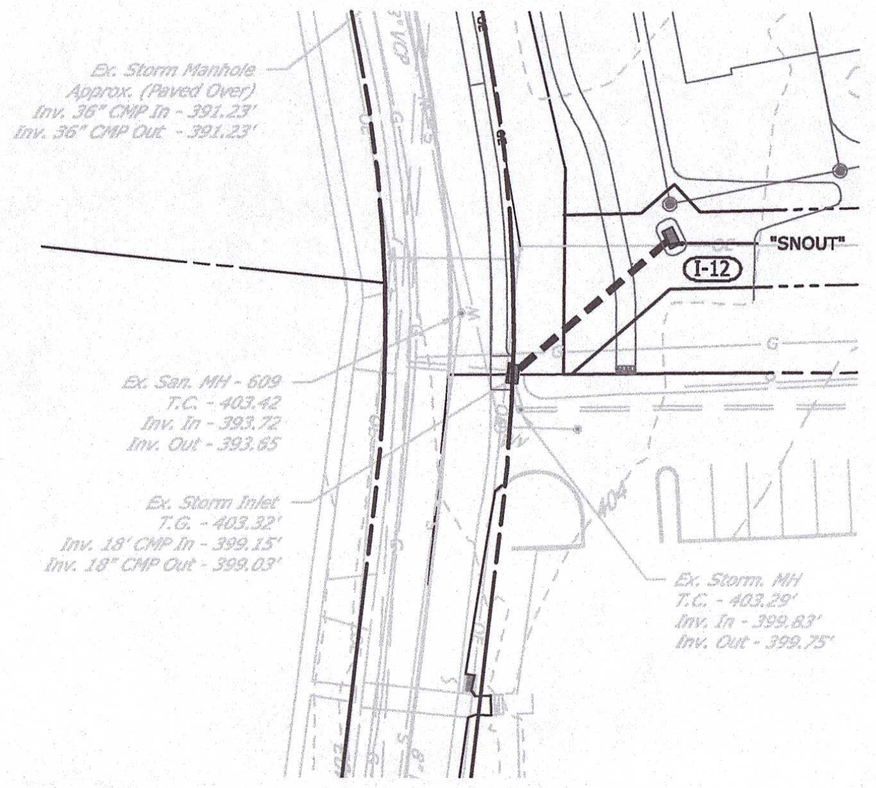
GRAPHIC SCALE
50 25 0 50
1"= 50 FEET
HORIZONTAL


I-11
LOT 26
CO
CS
8+55
I-6
8+00
MH LS-1
PI: 7+75.25
8"x6" TEE WITH VALVE & HYDRANT
WATER M SLEEVE TO BE C ONSITE PASSED BACTERI
8" MAIN
TEE AND VALVE CLUSTER
"SNOUT"
I-13
BLOWOF AND 8"x INSTALL SHUTDO
406
407
408

I-11 TO I-13 PLAN VIEW

SCALE: 1"=50'

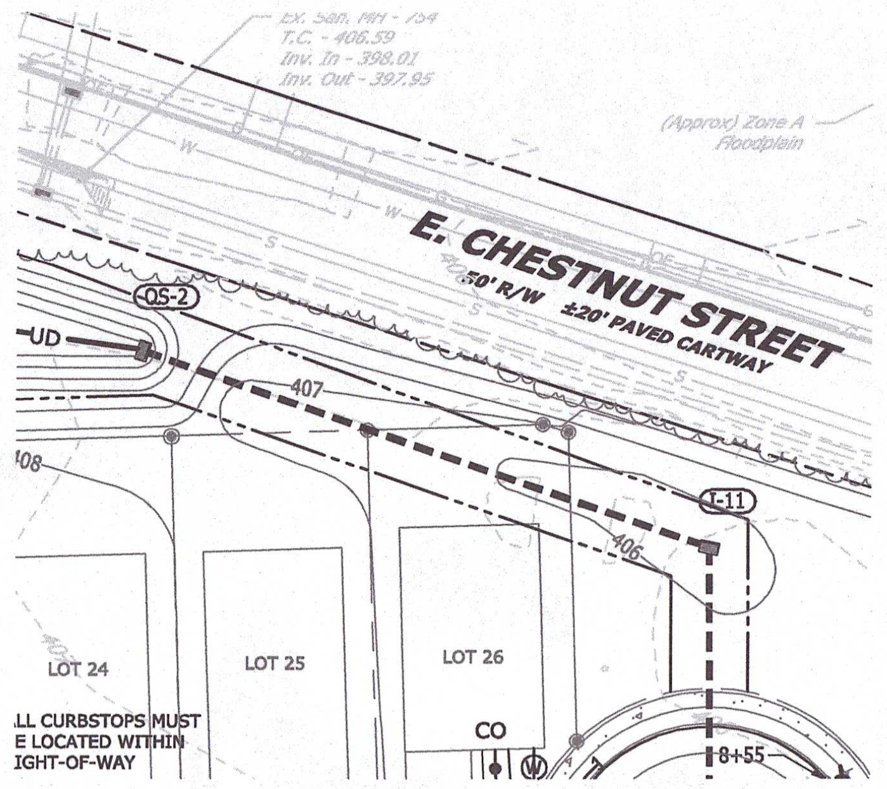
GRAPHIC SCALE
50 25 0 50
1"= 50 FEET
HORIZONTAL


Ex. Storm Manhole
Approx. (Paved Over)
Inv. 36" CMP In - 391.23'
Inv. 36" CMP Out - 391.23'
"SNOUT"
I-12
Ex. San. MH - 609
T.C. - 403.42
Inv. In - 393.72
Inv. Out - 393.65
Ex. Storm Inlet
T.G. - 403.32'
Inv. 18' CMP In - 399.15'
Inv. 18" CMP Out - 399.03'
Ex. Storm MH
T.C. - 403.29'
Inv. In - 399.83'
Inv. Out - 399.75'

I-12 TO EX. INLET PLAN VIEW

SCALE: 1"=50'

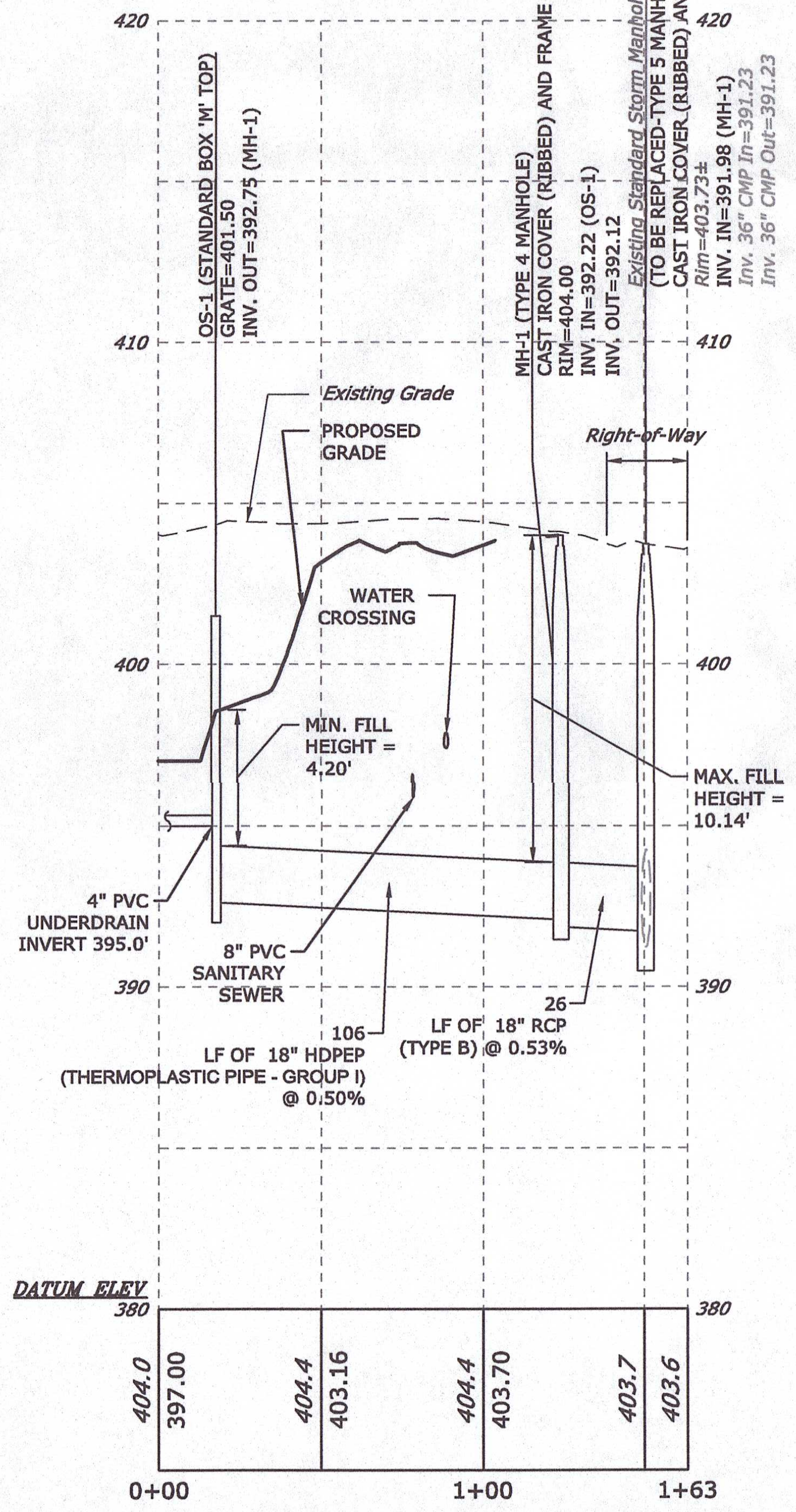
GRAPHIC SCALE
50 25 0 50
1"= 50 FEET
HORIZONTAL


Ex. San. MH - 754
T.C. - 406.59
Inv. In - 398.01
Inv. Out - 397.95
(Approx) Zone A Floodplain
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
OS-2
UD
407
406
408
I-11
LOT 24
LOT 25
LOT 26
CO
8+55
ALL CURBSTOPS MUST BE LOCATED WITHIN RIGHT-OF-WAY

OS-2 TO I-11 PLAN VIEW

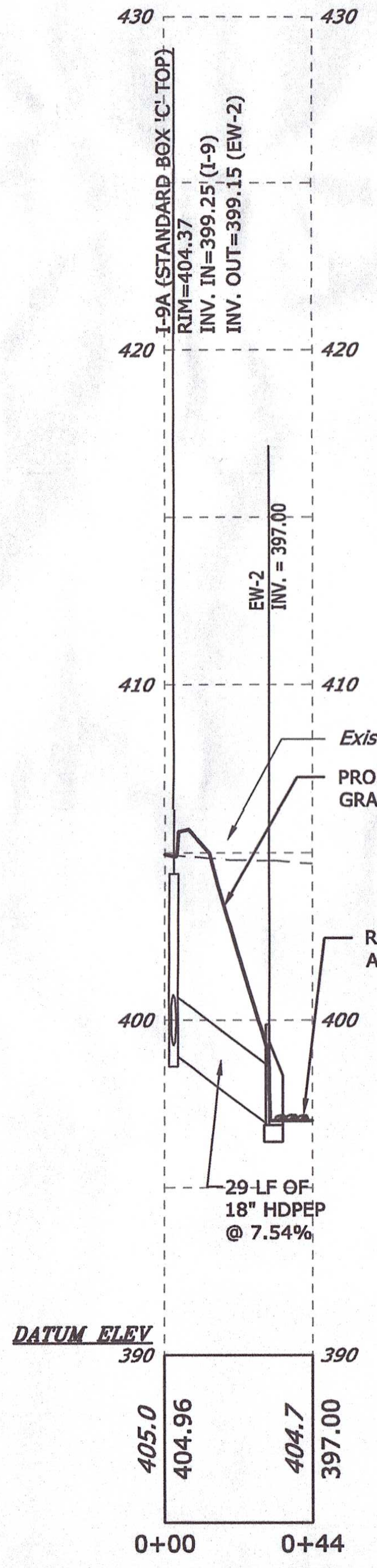
SCALE: 1"=50'

GRAPHIC SCALE
50 25 0 50
1"= 50 FEET
HORIZONTAL


OS-1 (STANDARD BOX 'M' TOP)
GRATE=401.50
INV. OUT=392.75 (MH-1)
MH-1 (TYPE 4 MANHOLE)
CAST IRON COVER (RIBBED) AND FRAME
RIM=404.00
INV. IN=392.22 (OS-1)
INV. OUT=392.12
Existing Standard Storm Manhole
(TO BE REPLACED-TYPE 5 MANHOLE
CAST IRON COVER (RIBBED) AND FRAME
Rim=403.73±
INV. IN=391.98 (MH-1)
Inv. 36" CMP In=391.23
Inv. 36" CMP Out=391.23
Existing Grade
PROPOSED GRADE
Right-of-Way
WATER CROSSING
MIN. FILL HEIGHT = 4.20'
MAX. FILL HEIGHT = 10.14'
4" PVC UNDERDRAIN INVERT 395.0'
8" PVC SANITARY SEWER
106 LF OF 18" HDPEP (THERMOPLASTIC PIPE - GROUP I) @ 0.50%
26 LF OF 18" RCP (TYPE B) @ 0.53%
420
410
400
390
DATUM ELEV 380
404.0
397.00
404.4
403.16
404.4
403.70
403.7
403.6
0+00
1+00
1+63

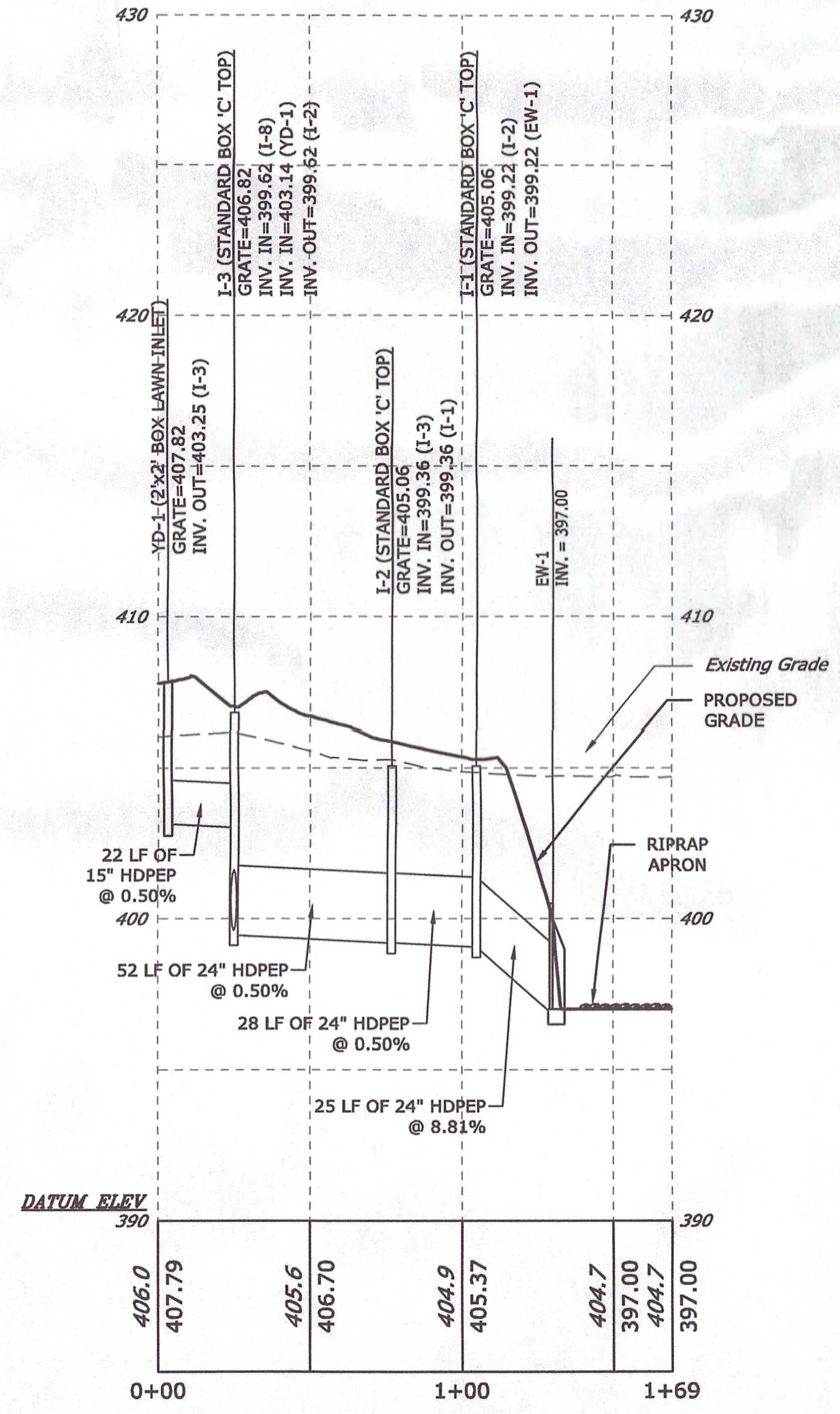
OS-1 TO EX. STORM MANHOLE

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'


I-9A (STANDARD BOX 'C' TOP)
RIM=404.37
INV. IN=399.25 (I-9)
INV. OUT=399.15 (EW-2)
EW-2
INV. = 397.00
Existing Grade
PROPOSED GRADE
RIPRAP APRON
29 LF OF 18" HDPEP @ 7.54%
430
420
410
400
DATUM ELEV 390
405.0
404.96
404.7
397.00
0+00
0+44

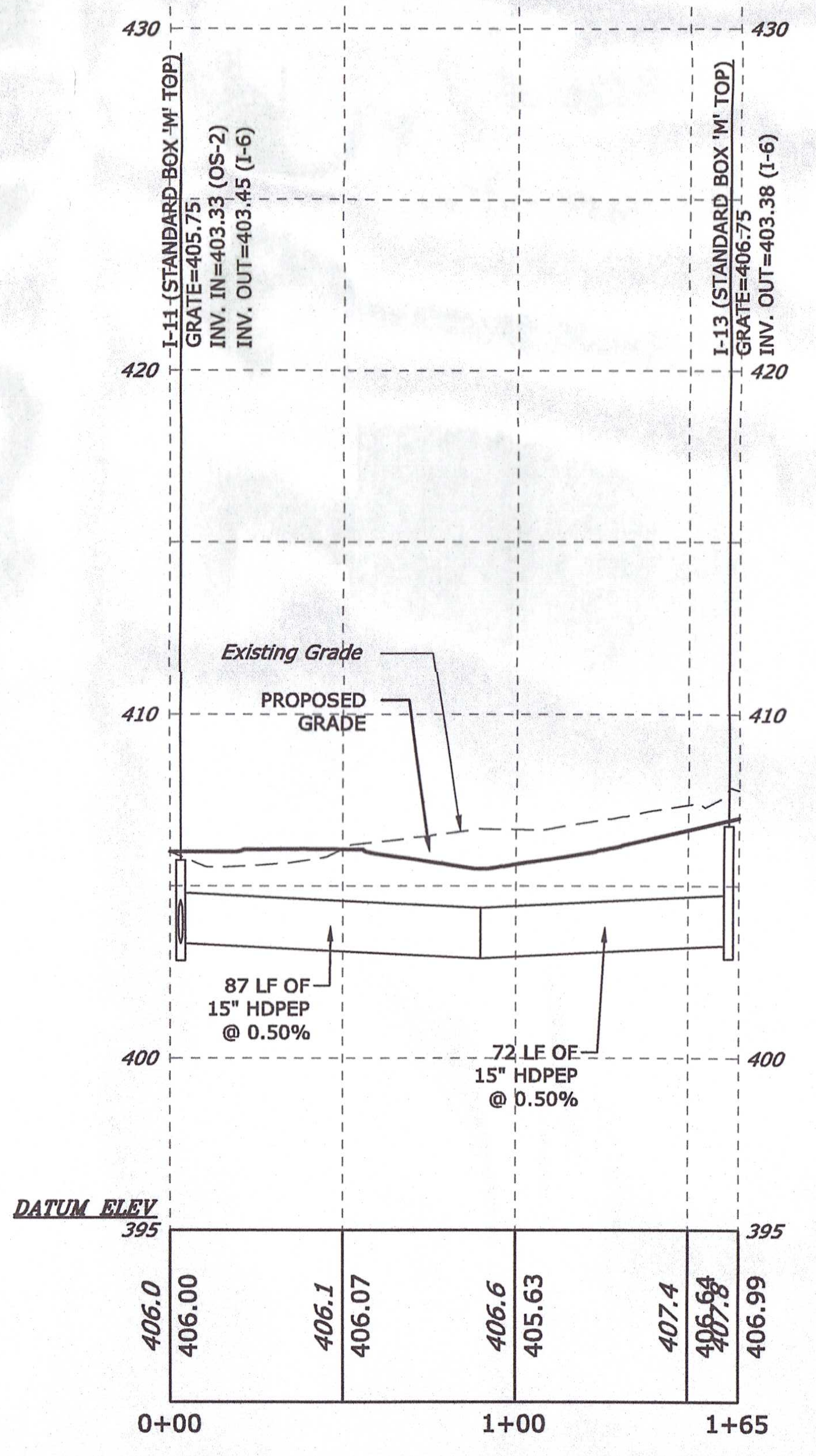
I-9A TO EW-2

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'


YD-1 (2'x2' BOX LAWN INLET)
GRATE=407.82
INV. OUT=403.25 (I-3)
I-3 (STANDARD BOX 'C' TOP)
GRATE=406.82
INV. IN=399.62 (I-8)
INV. IN=403.14 (YD-1)
INV. OUT=399.62 (I-2)
I-2 (STANDARD BOX 'C' TOP)
GRATE=405.06
INV. IN=399.36 (I-3)
INV. OUT=399.36 (I-1)
I-1 (STANDARD BOX 'C' TOP)
GRATE=405.06
INV. IN=399.22 (I-2)
INV. OUT=399.22 (EW-1)
EW-1
INV. = 397.00
Existing Grade
PROPOSED GRADE
RIPRAP APRON
22 LF OF 15" HDPEP @ 0.50%
52 LF OF 24" HDPEP @ 0.50%
28 LF OF 24" HDPEP @ 0.50%
25 LF OF 24" HDPEP @ 8.81%
430
420
410
400
DATUM ELEV 390
406.0
407.79
405.6
406.70
404.9
405.37
404.7
397.00
404.7
397.00
0+00
1+00
1+69

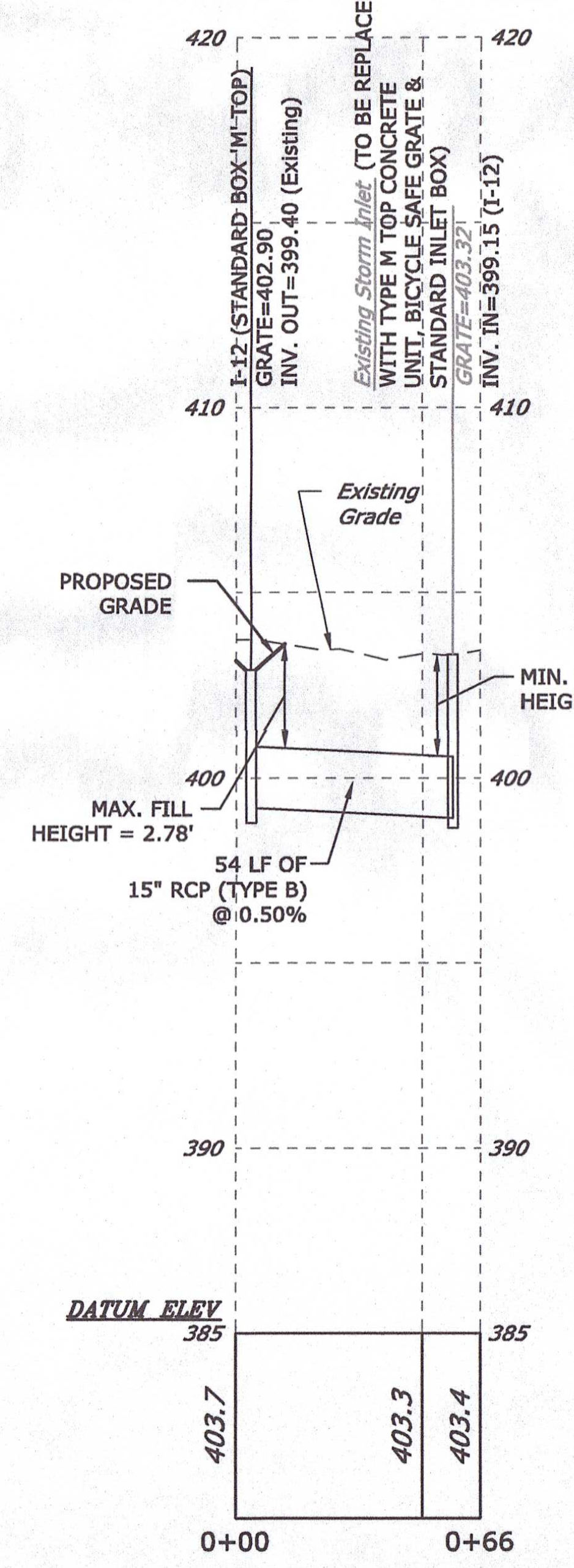
YD-1 TO EW-1

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'


I-11 (STANDARD BOX 'M' TOP)
GRATE=405.75
INV. IN=403.33 (OS-2)
INV. OUT=403.45 (I-6)
I-13 (STANDARD BOX 'M' TOP)
GRATE=406.75
INV. OUT=403.38 (I-6)
Existing Grade
PROPOSED GRADE
87 LF OF 15" HDPEP @ 0.50%
72 LF OF 15" HDPEP @ 0.50%
430
420
410
400
DATUM ELEV 395
406.0
406.00
406.1
406.07
406.6
405.63
407.4
406.64
407.8
406.99
0+00
1+00
1+65

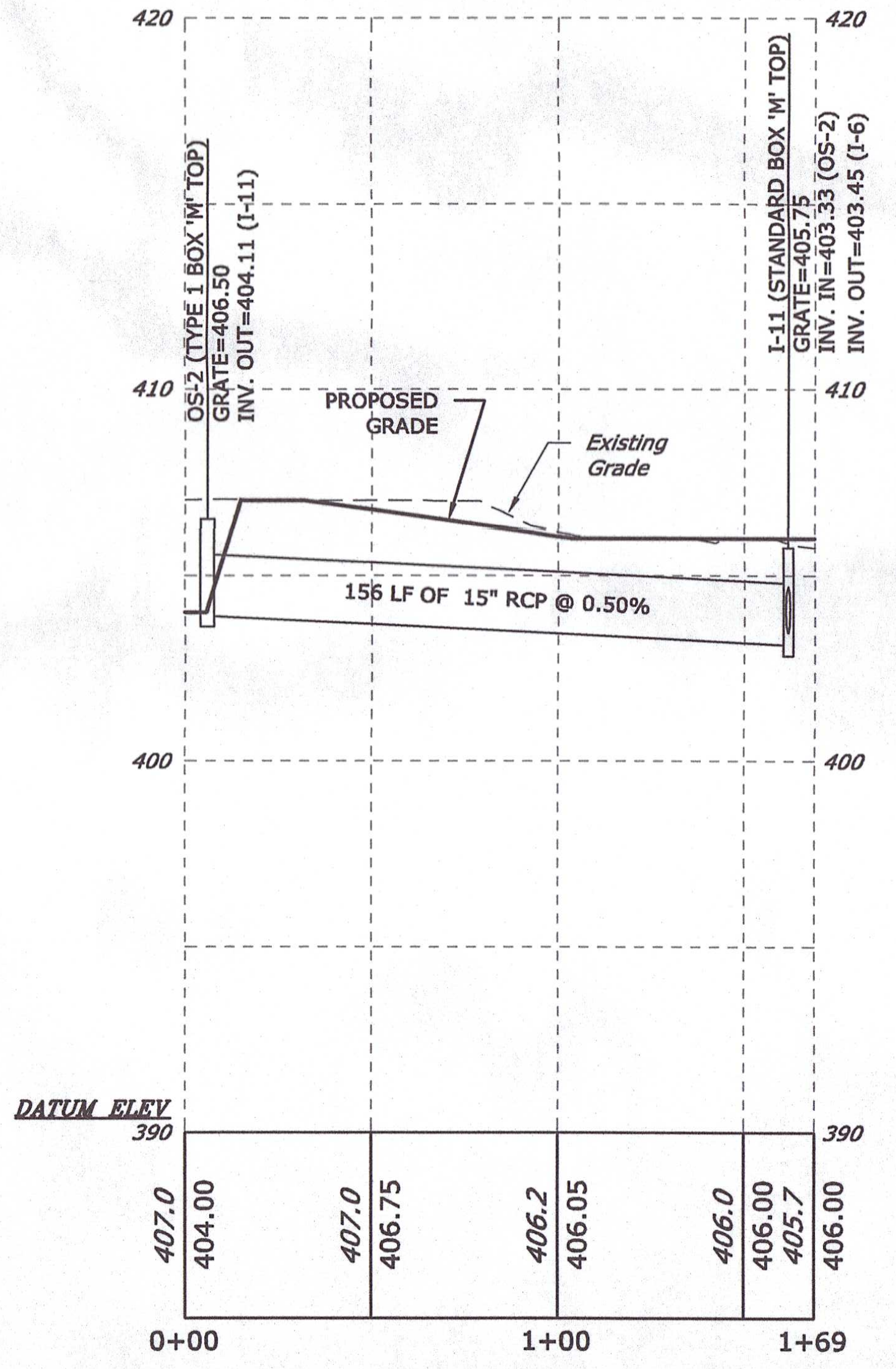
I-11 TO I-13

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'


I-12 (STANDARD BOX 'M' TOP)
GRATE=402.90
INV. OUT=399.40 (Existing)
Existing Storm Inlet (TO BE REPLACED WITH TYPE M TOP CONCRETE UNIT, BICYCLE SAFE GRATE & STANDARD INLET BOX)
GRATE=403.32
INV. IN=399.15 (I-12)
Existing Grade
PROPOSED GRADE
MIN. FILL HEIGHT = 2.72'
MAX. FILL HEIGHT = 2.78'
54 LF OF 15" RCP (TYPE B) @ 0.50%
420
410
400
390
DATUM ELEV 385
403.7
403.3
403.4
0+00
0+66

I-12 TO EX INLET

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'


OS-2 (TYPE 1 BOX 'M' TOP)
GRATE=406.50
INV. OUT=404.11 (I-11)
I-11 (STANDARD BOX 'M' TOP)
GRATE=405.75
INV. IN=403.33 (OS-2)
INV. OUT=403.45 (I-6)
PROPOSED GRADE
Existing Grade
156 LF OF 15" RCP @ 0.50%
420
410
400
DATUM ELEV 390
407.0
404.00
407.0
406.75
406.2
406.05
406.0
406.00
405.7
406.00
0+00
1+00
1+69

STORM SEWER: OS-2 TO I-11

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"= 5'

GRAPHIC SCALE
50 25 0 50
1"= 50 FEET
HORIZONTAL

GRAPHIC SCALE
5 2.5 0 5
1"= 5 FEET
VERTICAL

THIS PLAN IS NOT FOR BIDDING OR CONSTRUCTION PURPOSES.

K&W
DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

REVISED FINAL SUBDIVISION PLAN

145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-H_ldPROF.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

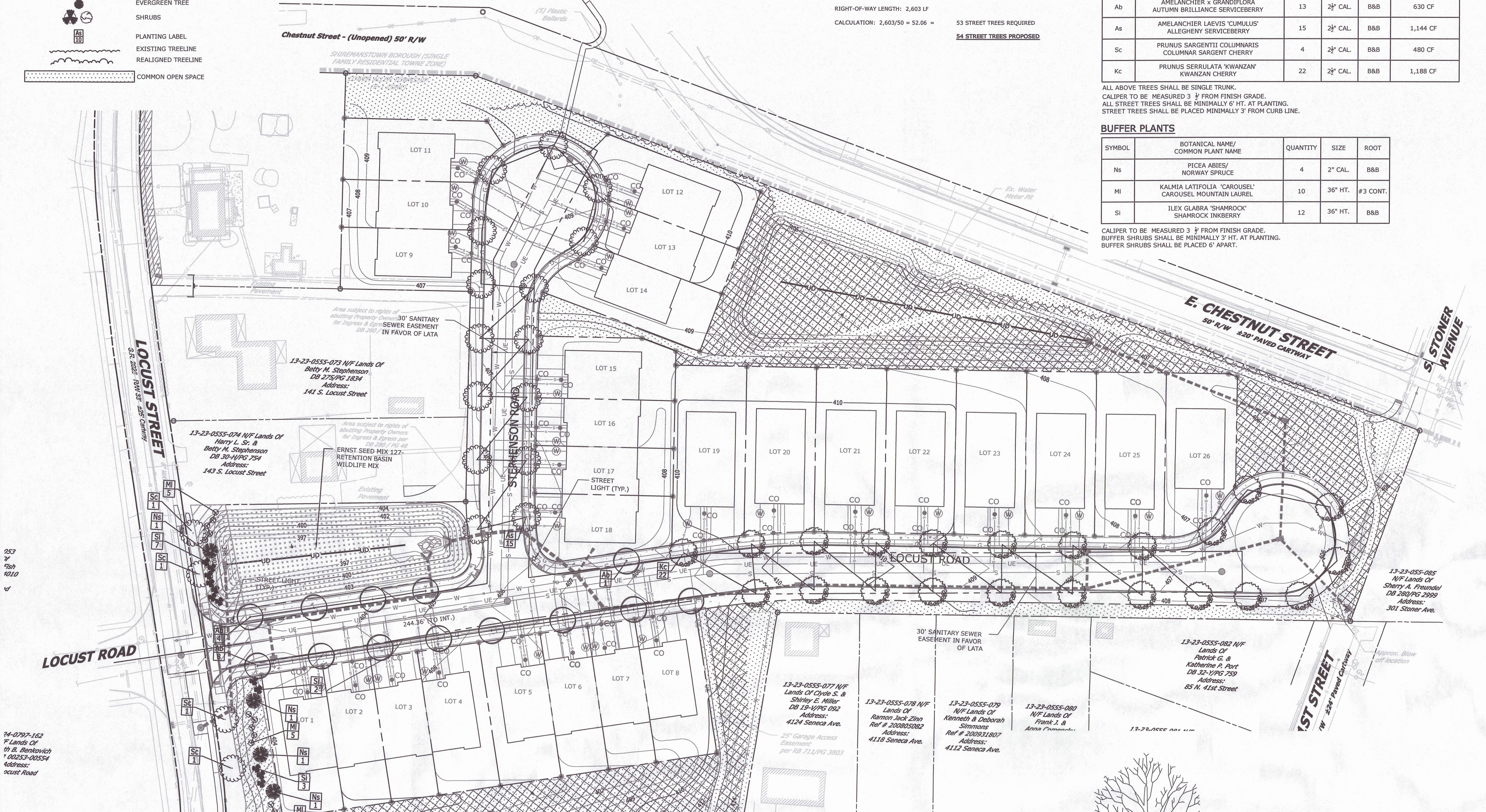
PLAN TYPE:
PROFILES

SHEET:
9 OF 19

LEGEND

LANDSCAPE PLAN FEATURES

▨	MEADOW RESTORATION AREA ERNST SEED MIX 156-LOW GROWING WILDFLOWER/GRASS MIX
○	DECIDUOUS TREES
●	EVERGREEN TREE
✿	SHRUBS
As 10	PLANTING LABEL
︵	EXISTING TREELINE
︵	REALIGNED TREELINE
⋯	COMMON OPEN SPACE


Chestnut Street - (Unopened) 50' R/W
SHIREMANSTOWN BOROUGH (SINGLE FAMILY RESIDENTIAL TOWNE ZONE)
LOWER ALLEN TOWNSHIP (R-1 ZONE)
LOT 11
LOT 10
LOT 9
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
STEPHENSON ROAD
LOCUST ROAD
LOCUST STREET
S.R. 2026 R/W 33' ±25' Cartway
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
S. STONER AVENUE
41ST STREET
±24' Paved Cartway
SENE
40' R/
Existing Pavement
Area subject to rights of abutting Property Owners for Ingress & Egress per DB 280 / PG 48
30' SANITARY SEWER EASEMENT IN FAVOR OF LATA
ERNST SEED MIX 127-RETENTION BASIN WILDLIFE MIX
STREET LIGHT (TYP.)
244.36' (TO INT.)
13-23-0555-073 N/F Lands Of Betty M. Stephenson DB 275/PG 1834 Address: 141 S. Locust Street
13-23-0555-074 N/F Lands Of Harry L. Sr. & Betty M. Stephenson DB 30-H/PG 754 Address: 143 S. Locust Street
13-23-0555-077 N/F Lands Of Clyde S. & Shirley E. Miller DB 19-V/PG 092 Address: 4124 Seneca Ave.
13-23-0555-078 N/F Lands Of Ramon Jack Zinn Ref # 200805082 Address: 4118 Seneca Ave.
13-23-0555-079 N/F Lands Of Kenneth & Deborah Simmons Ref # 200931807 Address: 4112 Seneca Ave.
13-23-0555-080 N/F Lands Of Frank J. & Anna Comensky
13-23-0555-082 N/F Lands Of Patrick G. & Katherine P. Port DB 32-Y/PG 759 Address: 85 N. 41st Street
13-23-055-085 N/F Lands Of Sherry A. Freundel DB 280/PG 2999 Address: 301 Stoner Ave.
13-24-0797-162 N/F Lands Of B. Benkovich 00253-00554 Address: Locust Road
13-24-0797-193 N/F Lands Of Crocket Family Trust Inst. # 201528329 Address: 202 S. Locust St.
25' Garage Access Easement per RB 711/PG 3803
Ex. Water Meter Pit
Approx. Blow off location
(5) Plastic Bollards
Ml 5
Sc 1
Ns 1
Si 7
Sc 1
Ab 4
Ab 8
Si 2
Sc 1
Ns 1
Mi 5
Sc 1
Ns 1
Si 3
Ns 1
Ml 3
As 15
Ab 1
Kc 22
CO
W
UE
UD
407
408
409
410

REQUIREMENTS

STREET TREES

ALONG STREETS AND ACCESS DRIVES WHERE STREET TREES ARE REQUIRED, AN AVERAGE OF ONE STREET TREE SHALL BE REQUIRED FOR EVERY 50 FEET OF DISTANCE ALONG THE STREET RIGHT-OF-WAY LINE ON EACH AFFECTED SIDE OF THE STREET.

RIGHT-OF-WAY LENGTH: 2,603 LF

CALCULATION: 2,603/50 = 52.06 = 53 STREET TREES REQUIRED

54 STREET TREES PROPOSED

PLANT SCHEDULE

STREET TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	STRUCTURAL SOIL VOLUME PER TREE
Ab	AMELANCHIER x GRANDIFLORA AUTUMN BRILLIANCE SERVICEBERRY	13	2½" CAL.	B&B	630 CF
As	AMELANCHIER LAEVIS 'CUMULUS' ALLEGHENY SERVICEBERRY	15	2½" CAL.	B&B	1,144 CF
Sc	PRUNUS SARGENTII COLUMNARIS COLUMNAR SARGENT CHERRY	4	2½" CAL.	B&B	480 CF
Kc	PRUNUS SERRULATA 'KWANZAN' KWANZAN CHERRY	22	2½" CAL.	B&B	1,188 CF

ALL ABOVE TREES SHALL BE SINGLE TRUNK.
CALIPER TO BE MEASURED 3 ½' FROM FINISH GRADE.
ALL STREET TREES SHALL BE MINIMALLY 6' HT. AT PLANTING.
STREET TREES SHALL BE PLACED MINIMALLY 3' FROM CURB LINE.

BUFFER PLANTS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT
Ns	PICEA ABIES/ NORWAY SPRUCE	4	2" CAL.	B&B
Ml	KALMIA LATIFOLIA 'CAROUSEL' CAROUSEL MOUNTAIN LAUREL	10	36" HT.	#3 CONT.
Si	ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY	12	36" HT.	B&B

CALIPER TO BE MEASURED 3 ½' FROM FINISH GRADE.
BUFFER SHRUBS SHALL BE MINIMALLY 3' HT. AT PLANTING.
BUFFER SHRUBS SHALL BE PLACED 6' APART.

⋯ COMMON OPEN SPACE

LANDSCAPE NOTES

SITE PREPARATION

1. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES, AND LAWNS AND EXISTING EXTERIOR PLANTS FROM DAMAGE CAUSED BY PLANTING OPERATIONS, CONTACT PA ONE-CALL 811 A MINIMUM OF THREE WORKING DAYS PRIOR TO COMMENCEMENT OF WORK.
2. PROVIDE EROSION CONTROL MEASURE TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUN-OFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS.
3. ALL TREE AND SHRUB REMOVAL AS SHOWN ON THE DEMOLITION PLAN SHALL HAVE ALL STUMPS AND ROOTS REMOVED BY MEANS OF STUMP GRINDING AND/OR BACKHOE. ALL BIODEGRADABLE PLANT MATERIAL FROM THE REMOVAL PROCESS SHALL BE COLLECTED AND REMOVED FROM THE SITE FOR RECYCLING OR PROPER DISPOSAL. BURNING ON-SITE IS PROHIBITED.
4. EXISTING TREES IDENTIFIED ON THE PLAN TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION USING TEMPORARY FENCING LOCATED AT THE DRIPLINE OF THE CANOPY.

PLANT BED ESTABLISHMENT

1. CONTRACTOR SHALL CONFIRM EXISTING TOPSOIL DEPTH AND SHALL FURNISH SOIL ANALYSIS BY QUALIFIED LAB STATING PERCENTAGES OF ORGANIC MATTER, GRADUATION OF SAND, SILT AND CLAY CONTENT, DELETERIOUS MATERIAL, PH AND MINERAL AND PLANT-NUTRIENT CONTENT OF TOPSOIL. CONTRACTOR TO PROVIDE DATA AT A MINIMUM OF 5 DIFFERENT PLANTING AREAS. CONTRACTOR TO SUBMIT (TO LANDSCAPE ARCHITECT FOR APPROVAL) EXISTING TOPSOIL DEPTH AND RECOMMENDED QUANTITIES OF NITROGEN, PHOSPHORUS AND POTASH INGREDIENTS TO BE ADDED TO PRODUCE A SATISFACTORY TOPSOIL .
2. TOPSOIL SHALL HAVE ACIDITY RANGE OF PH 5.0 TO PH 7.0 AND AN ORGANIC CONTENT OF AT LEAST 34%. MINIMUM TOPSOIL DEPTH IN PLANTING BEDS SHALL BE 12" BUT 18" IS RECOMMENDED. ADDITIONAL TOPSOIL SHALL BE ADDED WHEN POSSIBLE.
3. APPLY APPROVED SOIL AMENDMENTS AND FERTILIZER ON SURFACE AND THOROUGHLY BLEND PLANTING SOIL MIX FOR PLANTING BACKFILL.
4. LAY OUT INDIVIDUAL TREE AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE EXTERIOR PLANTINGS. STAKE LOCATIONS, OUTLINE AREAS, ADJUST LOCATIONS WHEN REQUESTED, AND OBTAIN LANDSCAPE ARCHITECTS ACCEPTANCE OF LAYOUT BEFORE PLANTING. MAKE MINOR ADJUSTMENTS AS REQUIRED.

SOD (IF USED)

1. SOD SHALL CONTAIN AT LEAST 85 PERCENT PERMANENT GRASS SUITABLE TO THE CLIMATE IN WHICH IT IS TO BE PLACED; NOT MORE THAN 25 PERCENT NURSING GRASS; NOT MORE THAN 10 PERCENT WEED AND UNDESIRABLE GRASSES, AND SHALL BE OF GOOD TEXTURE, FREE FORM OBNOXIOUS ROOTS, STONES AND FOREIGN MATERIALS. THE SOD SHALL BE UNIFORMLY CUT, ONE AND ONE HALF INCHES THICK WITH CLEAN-CUT EDGES. CONTRACTOR TO SUBMIT SOURCE AND SEED CONTENT TO LANDSCAPE ARCHITECT FOR APPROVAL.

SOD ESTABLISHMENT

1. REMOVE STONES, ROOTS OR OTHER UNDESIRABLE FOREIGN MATERIAL FROM GRADE AND DISC, DRAG, HARROW OR HAND RAKE TO SUFFICIENT DEPTH TO LOOSEN SOIL. THE SURFACE ON WHICH SOD IS LAID SHOULD BE SMOOTH, FIRM AND FREE OF DEPRESSIONS.
2. ALL SOD IS TO BE LAID ON TOPSOILED AREAS. THE JOINTS SHALL BE CLOSELY LAID. TOPSOIL SHALL BE FINELY GRADED TO A TRUE AND EVEN SURFACE AT THE REQUIRED FINISHED GRADE. SOD SHALL BE CUT AND LAID ON THE SITE THE SAME DAY.

PLANT MATERIAL

1. FURNISH NURSERY-GROWN TREES AND SHRUBS COMPLYING WITH ANSI Z60.1, WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING, PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK-FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALE, INJURIES, ABRASIONS, AND DISFIGUREMENT.
2. PROVIDE TREES AND SHRUBS OR SIZES AND GRADES COMPLYING WITH ANSI Z60.1 FOR THE TYPE OF TREES AND SHRUBS REQUIRED. TREES AND SHRUBS OF A LARGER SIZE MAY BE USED IF ACCEPTABLE TO THE LANDSCAPE ARCHITECT, WITH A PROPORTIONATE INCREASE IN SIZE OF ROOT MASS OR ROOT BALLS.
3. IF FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF TREES OR SHRUBS IS SHOWN, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD, AND NUMBER LABEL TO ASSURE SYMMETRY IN PLANTING.

CLEANUP AND PROTECTION

1. DURING EXTERIOR PLANTING, KEEP ADJACENT PAVINGS AND CONSTRUCTION CLEAN AND WORK AREA IN AN ORDERLY CONDITION.
2. PROTECT EXTERIOR PLANTS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES, AND OTHERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR, OR REPLACE DAMAGED EXTERIOR PLANTING.

DISPOSAL

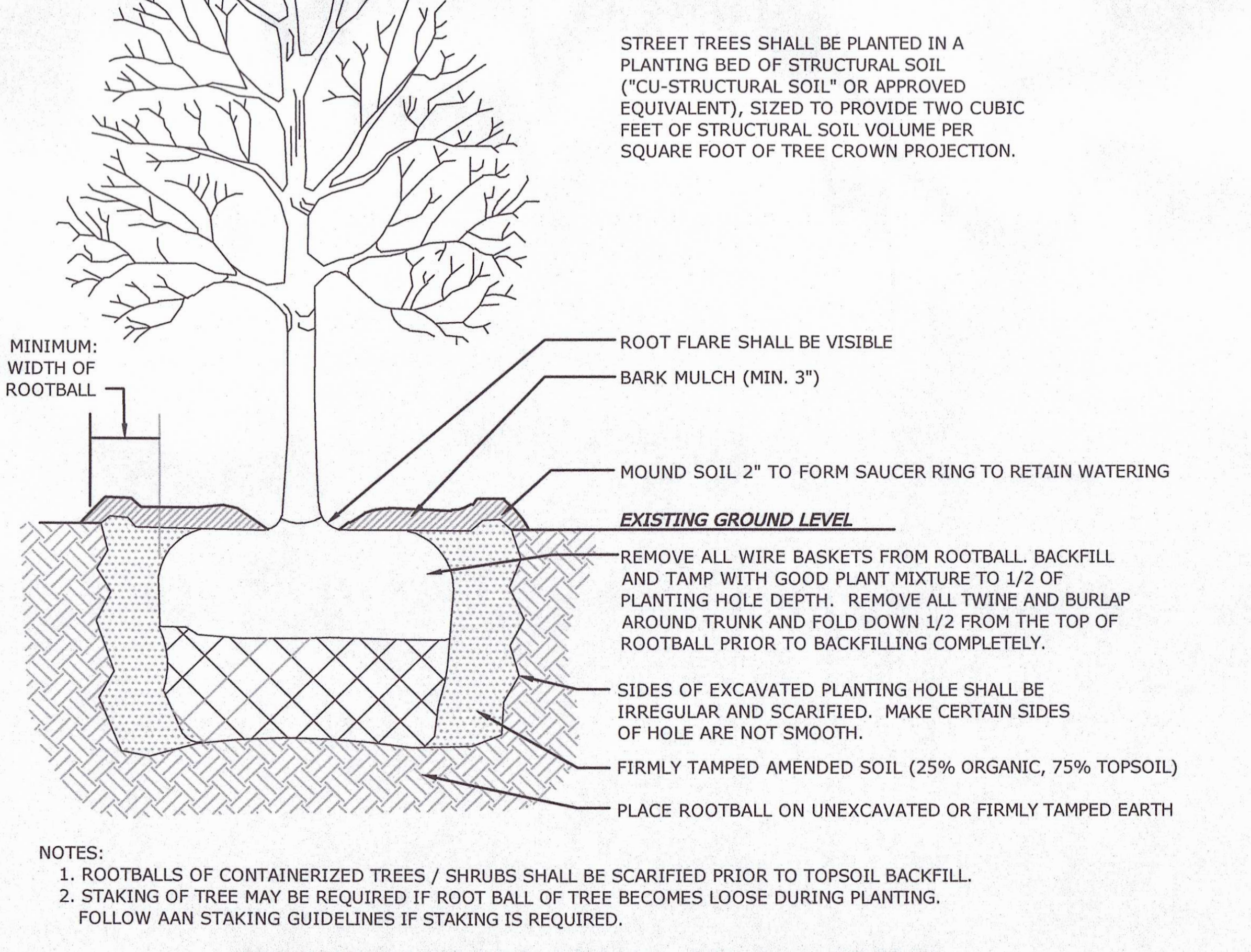
1. REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING EXCESS SUBSOIL, UNSUITABLE SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF THE PROJECT SITE.

WARRANTY

1. WARRANT THE FOLLOWING EXTERIOR PLANTS FOR THE WARRANTY PERIOD INDICATED IN THE SPECIFICATIONS, AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. WARRANTY PERIODS FOR ALL PLANT MATERIAL AND SOD: ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
2. REMOVE DEAD EXTERIOR PLANTS IMMEDIATELY. REPLACE IMMEDIATELY UNLESS REQUIRED TO PLANT IN THE SUCCEEDING PLANTING SEASON.
3. REPLACE EXTERIOR PLANTS THAT ARE MORE THAN 25 PERCENT DEAD OR IN AN UNHEALTHY CONDITION AT END OF WARRANTY PERIOD.
4. A LIMIT OF ONE REPLACEMENT OF EACH EXTERIOR PLANT WILL BE REQUIRED, EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH REQUIREMENTS.

MISC. PLANTING NOTES

1. ALL PLANTING MATERIAL TO BE INSTALLED AS PER SIZE INDICATED ON PLANT SCHEDULE.
2. ANY SUBSTITUTIONS THAT MAY BE REQUIRED SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND TOWNSHIP PRIOR TO ORDERING MATERIAL.
3. ALL PLANTINGS AND PLANTING PROCEDURES SHALL CONFORM TO GOOD NURSERY AND LANDSCAPE PRACTICE AND THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMAN.
4. PRIOR TO COMMENCEMENT OF WORK ALL UTILITIES BOTH ABOVE AND BELOW GROUND SHALL BE LOCATED THROUGH THE PA 1CALL SYSTEM AND/OR THE GENERAL CONTRACTOR ON SITE. IF ANY CONFLICTS DO OCCUR THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR RELOCATION.
5. CONTRACTOR TO VERIFY ALL PLANT COUNTS AND LOCATIONS PRIOR TO ORDERING MATERIAL. K&W AND THE OWNER ACCEPT NO RESPONSIBILITY FOR TYPOGRAPHICAL ERRORS AND MISCOUNTS.
6. ALL PLANTINGS SHALL HAVE WATER RETAINING CRYSTALS SUCH AS TERRASORB, OR APPROVED EQUAL, INCORPORATED INTO PLANTING SOIL AS RECOMMENDED BY MANUFACTURER.
7. ANY PLANT NOT INCLUDED IN A PLANTING BED SHALL HAVE A MULCHED CIRCLE. THE SIZE OF THE MULCHED CIRCLE SHALL BE DETERMINED ACCORDING TO THE OVERALL PLANT SIZE OR CALIPER. CONSULT THE LANDSCAPE ARCHITECT FOR CLARIFICATION IF REQUIRED.
8. EACH PLANT SHALL BE PLANTED SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. DO NOT, AT ANY TIME, COVER THE ROOTBALL WITH TOPSOIL BACKFILL OR MULCH.
9. THE TOPSOIL BACKFILL SHALL BE FIRMLY TAMPED, COMPARABLE TO FOOT PRESSURE, IN 3" LIFTS TO STABILIZE THE ROOT BALL AND TO PREVENT AIR POCKETS.
10. WATER ALL PLANTINGS INDIVIDUALLY WITH AN OPEN ENDED GARDEN HOSE SUBSEQUENT TO INSTALLATION. DO NOT USE MECHANICAL SPRINKLERS TO WATER PLANTINGS.
11. MULCH FOR PLANTING BEDS SHALL BE DOUBLE-SHREDDED HARDWOOD BARK MULCH, 3" LAYER.


STREET TREES SHALL BE PLANTED IN A PLANTING BED OF STRUCTURAL SOIL ("CU-STRUCTURAL SOIL" OR APPROVED EQUIVALENT), SIZED TO PROVIDE TWO CUBIC FEET OF STRUCTURAL SOIL VOLUME PER SQUARE FOOT OF TREE CROWN PROJECTION.
MINIMUM: 1/2 WIDTH OF ROOTBALL
ROOT FLARE SHALL BE VISIBLE
BARK MULCH (MIN. 3")
MOUND SOIL 2" TO FORM SAUCER RING TO RETAIN WATERING
EXISTING GROUND LEVEL
REMOVE ALL WIRE BASKETS FROM ROOTBALL. BACKFILL AND TAMP WITH GOOD PLANT MIXTURE TO 1/2 OF PLANTING HOLE DEPTH. REMOVE ALL TWINE AND BURLAP AROUND TRUNK AND FOLD DOWN 1/2 FROM THE TOP OF ROOTBALL PRIOR TO BACKFILLING COMPLETELY.
SIDES OF EXCAVATED PLANTING HOLE SHALL BE IRREGULAR AND SCARIFIED. MAKE CERTAIN SIDES OF HOLE ARE NOT SMOOTH.
FIRMLY TAMPED AMENDED SOIL (25% ORGANIC, 75% TOPSOIL)
PLACE ROOTBALL ON UNEXCAVATED OR FIRMLY TAMPED EARTH

NOTES:
1. ROOTBALLS OF CONTAINERIZED TREES / SHRUBS SHALL BE SCARIFIED PRIOR TO TOPSOIL BACKFILL.
2. STAKING OF TREE MAY BE REQUIRED IF ROOT BALL OF TREE BECOMES LOOSE DURING PLANTING. FOLLOW AAN STAKING GUIDELINES IF STAKING IS REQUIRED.

DECIDUOUS TREE PLANTING

NOT TO SCALE

STRUCTURAL SOIL

STRUCTURAL SOIL FOR STREET TREE PLANTING SHALL BE "CU-STRUCTURAL SOIL," CONSISTING OF CRUSHED STONE, CLAY LOAM, AND HYDROGEL, AND SHALL BE PLACED PER TOWNSHIP ORDINANCE.

THE THREE COMPONENTS OF THE STRUCTURAL SOIL ARE MIXED IN THE FOLLOWING PROPORTIONS BY WEIGHT, CRUSHED STONE: 100; CLAY LOAM: 20; HYDROGEL: 0.03. TOTAL MOISTURE AT MIXING SHOULD BE 10% (AASHTO T-99 OPTIMUM MOISTURE).

CRUSHED STONE (GRANITE OR LIMESTONE) SHOULD BE NARROWLY GRADED FROM 3/4 -1 1/2 INCH, HIGHLY ANGULAR WITH NO FINES. THE CLAY LOAM SHOULD CONFORM TO THE USDA SOIL CLASSIFICATION SYSTEM (GRAVEL <5%, SAND 25-30%, SILT 20-40%, CLAY 20-40%). ORGANIC MATTER SHOULD RANGE BETWEEN 2% AND 5%. THE HYDROGEL, GELSCAPE®, IS A NON-TOXIC, NON-PHYTOTOXIC TACKIFIER.

13-24-0797-194EX
N/F Lands Of
West Shore School District
DB 11-E/PG 543
Address:
4100 Gettysburg Road

GRAPHIC SCALE
30 15 0 30
1"= 30 FEET

P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\LDP\2121007-I_ldLS.dwg 10-28-2021 4:47:44 PM BY: bmetzger

K&W
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2201 North Front Street, Suite 200
Harrisburg, PA 17110
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REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

CUMBERLAND COUNTY, PA
LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-I_ldLS.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
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PLAN TYPE:
LANDSCAPE PLAN

SHEET:

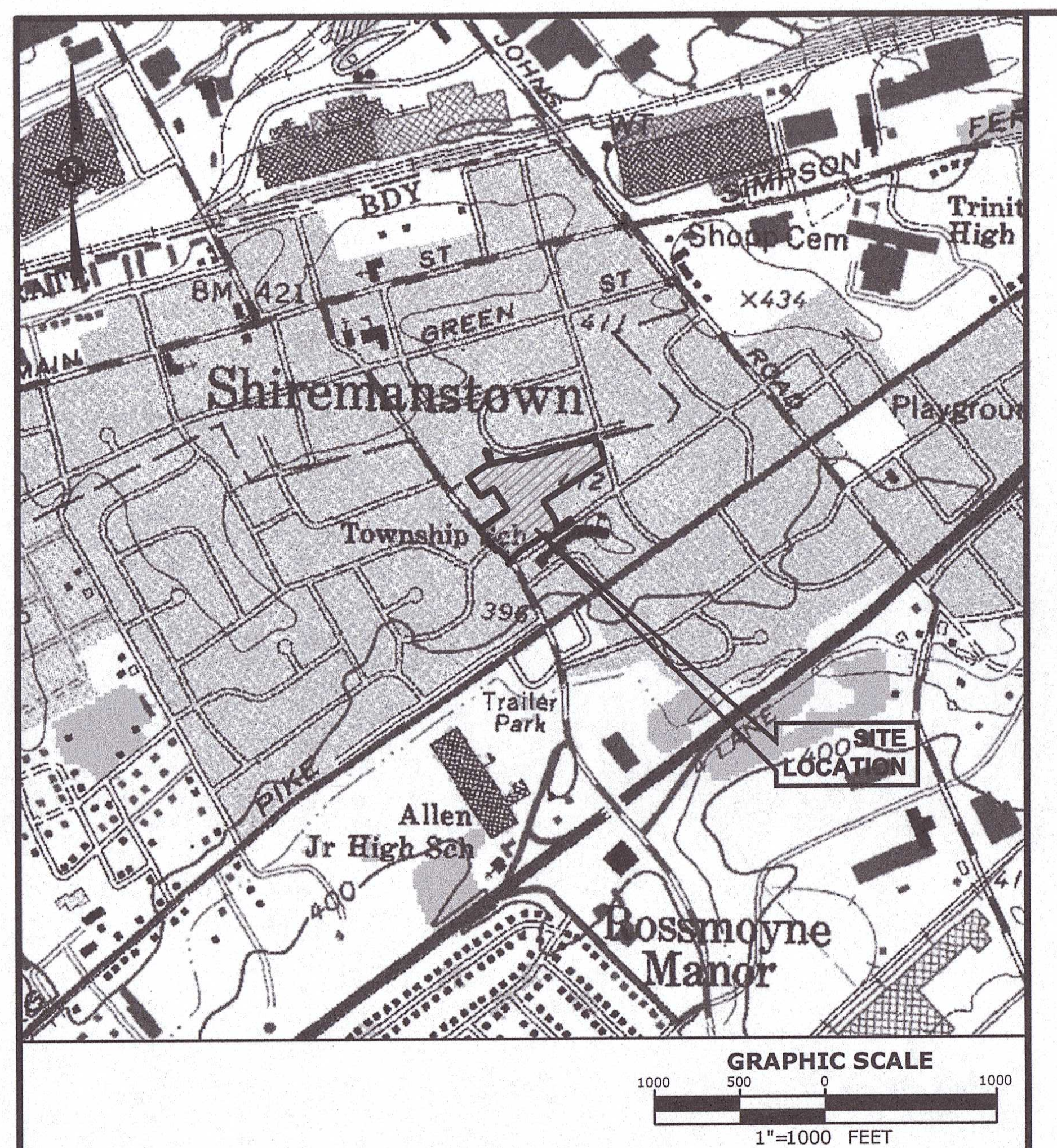
EROSION AND SEDIMENTATION CONTROL PLAN

145 SOUTH LOCUST STREET

FOR

WILLIAM R. GRACE

LOWER ALLEN TOWNSHIP, CUMBERLAND COUNTY, PENNSYLVANIA



LOCATION MAP

SCALE: 1"=1000 FEET

UTILITY INFORMATION

THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF ACT 287 OF 1974 AS AMENDED BY ACT 187 OF 1996 FOR NOTIFICATION OF UTILITIES BEFORE EXCAVATION IN CONTRACT AREA. THE UNDERGROUND UTILITIES LOCATION CALL NUMBER IS 1-800-242-1776.

PENNSYLVANIA AMERICAN WATER
852 WESLEY DRIVE
MECHANICSBURG, PA 17055
CONTACT: JERRY BONANNO

PPL ELECTRIC UTILITIES CORP.
642 S 20TH ST.
HARRISBURG, PA 17104-2222
CONTACT: JEANETTE ANDERSON
jlanderson@pplweb.com

VERIZON PENNSYLVANIA INC.
15 E. MONTGOMERY AVE.
PITTSBURGH, PA 15212
CONTACT: OFFICE PERSONNEL

COMCAST CABLE COMMUNICATIONS
4601 SMITH ST.
HARRISBURG, PA 17109
CONTACT: DAVE McCLUCKIE
mccluckie@cable.comcast.com

LOWER ALLEN TOWNSHIP AUTHORITY
120 LIMEKILN RD.
NEW CUMBERLAND, PA 17070
CONTACT: DAVID RAMSEY
david_ramsey@lower-allen.pa.us

LOWER ALLEN TOWNSHIP
2233 GETTYSBURG RD.
CAMP HILL, PA 17011
CONTACT: DANIEL J. FLINT
daniel_flint@lower-allen.pa.us

UGI UTILITIES INC.
1301 AIP DR.
MIDDLETOWN, PA 17057-5987
CONTACT: TOM WITT
twitt@ugi.com

WINDSTREAM COMMUNICATIONS
2 INDUSTRIAL RD.
BROWNSTOWN, PA 17508
CONTACT: 717-738-8360

LEVEL 3 COMMUNICATIONS LLC
1025 ELDORADO BLVD.
BROOMFIELD, CO 80021
CONTACT: LEVEL 3 OPERATOR
level3networkrelocations@level3.com

XO COMMUNICATIONS INC.
1220 BROADCASTING RD.
WYOMISSING, PA 19610
CONTACT: SCOTT DREILING
scott.j.dreiling@xo.com

PA ONE-CALL SERIAL NUMBER: 20111220231
PA ONE-CALL SERIAL NUMBER DATE: 05/17/2011

ENVIRONMENTAL DUE DILIGENCE & CLEAN FILL

THE SITE CONTRACTOR (OPERATOR) WILL BE RESPONSIBLE FOR PERFOMRING ENVIRONMENTAL DUE DILIGENCE AND FOR USED ON SITE.

ENVIRONMENTAL DUE DILIGENCE: MUST BE PERFORMED TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS INVESTIGATIVE TECHNIQUES INCLUDING, BUT NOT LIMITED TO VISUAL PROPERTY INSPECTION, ELECTRONIC DATABASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS, OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THE FILL MAY HAVE BEEN SUBJECT 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 PADEP'S POLICY "MANAGEMENT OF CLEAN FILL".

CLEAN FILL: 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.)

ANY PERSON PLACING CLEAN FILL WHICH HAS BEEN AFFECTED BY A RELEASE OF A REGULATED SUBSTANCE ON A PROPERTY MUST CERTIFY THE ORIGIN OF THE FILL MATERIAL AND RESULTS OF ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL ON FORM FP-001. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL.

SITE SPECIFIC E&S PLAN NOTES

1. RUNOFF FROM THE SITE IS TRIBUTARY TO CEDAR RUN, WHICH IS LOCATED APPROXIMATELY 850 FEET SOUTH OF THE SITE. CEDAR RUN IS CLASSIFIED BY 25 PA CODE CHAPTER 93 AS A COLD WATER FISHERY (CWF).

2. THE SITE IS LOCATED IN A CARBONATE GEOLOGY, PRONE TO SINKHOLES. NO OTHER GEOLOGIC OR SOIL CONDITIONS EXIST WHICH ARE ANTICIPATED TO POSE AN INCREASED POTENTIAL FOR POLLUTION. SHOULD GEOLOGIC OR SOIL CONDITIONS WITH THE POTENTIAL TO CAUSE POLLUTION BE DISCOVERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE SITE ENGINEER. SINKHOLES SHOULD BE GENERALLY REPAIRED ACCORDING TO THE SINKHOLE REPAIR DETAIL IN THIS PLAN.

3. PUMPING OF SEDIMENT-LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP SUCH AS A SEDIMENT TRAP, SEDIMENT BASIN, OR PUMPED WATER FILTER BAG PLACED FOR DISCHARGE OVER A STABILIZED WELL-VEGETATED AREA.

4. SEDIMENT REMOVED FROM BMPS MAY BE ADDED TO SOIL STOCKPILES OR RETURNED UPLAND AND PLACED IN DISTURBED AREAS. SEDIMENT REMOVED FROM PERIMETER CONTROL BMPS AT THE FINAL STAGES OF PROJECT COMPLETION MAY BE SPREAD IN UPSLOPE VEGETATED AREAS WHERE APPROPRIATE AND STABILIZED WITH PERMANENT SEEDING MEASURES.

5. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A PPC WRITTEN PLAN IN ACCORDANCE WITH DEPARTMENT REGULATIONS AT 25 PA. CODE SECTION 91.33 AND 91.34. THE PPC PLAN SHALL IDENTIFY AREAS WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WASTE MANAGEMENT AREAS, RAW MATERIAL STORAGE AREAS, TEMPORARY AND PERMANENT SPOILS STORAGE AREAS, MAINTENANCE AREAS, AND ANY OTHER AREAS THAT MAY HAVE THE POTENTIAL TO CAUSE NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT DUE TO THE STORAGE, HANDLING, OR DISPOSAL OF ANY TOXIC OR HAZARDOUS SUBSTANCES SUCH AS OIL, GASOLINE, PESTICIDES, HERBICIDES, SOLVENTS, ETC. THE CONTRACTOR SHALL BE PREPARED TO FURNISH THE PPC PLAN TO THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT AT THE PRE-CONSTRUCTION MEETING, AND SHALL MAINTAIN THE PPC PLAN ON SITE THROUGHOUT CONSTRUCTION.

CONSTRUCTION SEQUENCE

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED, EXCEPT FOR WORK ELSEWHERE ON THE SITE THAT CAN BE ONGOING CONCURRENTLY. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

SCHEDULE SHALL INCLUDE REGULAR INSPECTION AND MAINTENANCE REQUIREMENTS INCLUDING A LICENSED PROFESSIONAL, OR THEIR DESIGNEE, TO BE PRESENT AT THE SITE TO OBSERVE CONSTRUCTION AT **CRITICAL STAGES** AS INDICATED HEREIN. CONTRACTOR SHALL NOTIFY LICENSED PROFESSIONAL FORTY-EIGHT (48) HOURS PRIOR TO CONSTRUCTION OF CRITICAL STAGES.

1. AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND A REPRESENTATIVE OF THE CUMBERLAND COUNTY CONSERVATION DISTRICT (CCCD) TO AN ON-SITE PRE-CONSTRUCTION MEETING.
2. AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
3. CONTRACTOR SHALL CLEARLY MARK THE LIMITS OF DISTURBANCE AND NPDES PERMIT BOUNDARY, AS NEEDED, AS SHOWN ON THE PLAN. ORANGE CONSTRUCTION FENCE OR WOODEN STAKES WITH FLAG TAPE ARE ADEQUATE FOR FIELD MARKING. ADDITIONALLY, CONTRACTOR SHALL CLEARLY MARK LOCATIONS OF TOPSOIL STOCKPILES AND ALL WATERS OF THE COMMONWEALTH.
4. INSTALL TEMPORARY PROTECTION ON ANY EXISTING INLETS WITHIN THE LIMITS OF DISTURBANCE THAT ARE TO REMAIN. INSTALL ROCK CONSTRUCTION ENTRANCE ALONG LOCUST STREET AS SHOWN ON THE PLANS. IF A DIFFERENT ENTRANCE TO THE PROJECT SITE WILL BE UTILIZED IN ADDITION TO WHAT IS IDENTIFIED ON THE PLAN, THE CONTRACTOR SHALL INSTALL A ROCK CONSTRUCTION ENTRANCE. ALL VEHICLES ENTERING AND LEAVING THE PROJECT SITE MUST DO SO VIA THE STABILIZED ROCK CONSTRUCTION ENTRANCES. ANY MUD OR SEDIMENT TRACKED ONTO PAVED ROADWAYS SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF EACH WORKING DAY. WASHING OF THE ROADWAY WITH WATER IS NOT PERMITTED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL TRAFFIC CONTROL DEVICES ASSOCIATED WITH SITE ACCESS THROUGHOUT THE TERM OF THE CONSTRUCTION ACTIVITIES. A STOCKPILE OF STONE SHALL BE KEPT ON-SITE TO MAINTAIN THE REQUIRED ROCK CONSTRUCTION ENTRANCE THICKNESS.
5. INSTALL ALL PERIMETER CONTROLS (I.E. COMPOST FILTER SOCK) AS SHOWN ON THE PLANS. INSTALL FILTER SOCK DOWNSTREAM OF ANY AREA WITH A POTENTIAL FOR STORMWATER RUNOFF. MAINTAIN POSITIVE DRAINAGE TO THE FILTER SOCK DURING CONSTRUCTION.
6. BEGIN DEMOLITION OF ONSITE INFRASTRUCTURE AS NECESSARY. CLEAR AND GRUB REMAINING AREAS OF THE PROJECT SITE. STRIP TOPSOIL AND STOCKPILE IN THE DESIGNATED AREA(S). STOCKPILE HEIGHTS MUST NOT EXCEED THIRTY-FIVE FEET (35'). STOCKPILE SLOPES MUST BE 2H:1V OR FLATTER. SEED THE STOCKPILE WITH A TEMPORARY COVER AND MULCH. ANY EXCAVATED SOIL MATERIAL REMOVED FROM THE SITE SHALL ONLY BE PLACED IN AN AREA THAT HAS AN APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
7. **CRITICAL STAGE: GRADE IN VEGETATED SWALE #1 WITH EROSION PROTECTION MATTING PER DETAIL. INSPECT FOR SEDIMENT BUILD UP AND REMOVE SEDIMENT REGULARLY.**
8. **CRITICAL STAGE: CONSTRUCT THE SEDIMENT TRAP PER DESIGN SPECIFICATION WITH DISCHARGE PIPES OS-2 TO EW-1. INSTALL ROCK FILTER AND CLEAN OUT STAKE. PROTECT OUTLET STRUCTURE WITH TEMPORARY PLATES OVER ORIFICES. BEGIN CONSTRUCTION OF THE SEDIMENT BASIN. PERMANENT OUTLET STRUCTURE, OS-1, SHALL BE INSTALLED WITH ROCK FILTER BERM ALONG WITH STORM SEWER FROM OS-1 TO THE EXISTING MANHOLE LOCATED WITHIN LOCUST STREET AND CONCURRENT WITH INSTALLATION OF STORM SEWER FROM I-12 TO THE EXISTING INLET LOCATED ALONG LOCUST STREET. INSTALL INLET PROTECTION IN NEW INLET(S). A TEMPORARY ACCESS MAY BE NEEDED DURING THE INSTALLATION OF THE STORM SEWER FROM OS-1 TO EXISTING MANHOLE. ENSURE ACCESS, IF PROVIDED, IS VIA A STABILIZED CONSTRUCTION ENTRANCE. ONCE THIS PORTION OF STORM SEWER IS INSTALLED, THE CONSTRUCTION ENTRANCE WITHIN LOCUST ROAD SHALL BE UTILIZED AND THE TEMPORARY ACCESS REMOVED AND STABILIZED. INSTALL TEMPORARY RISER EXTENSION WITH TRASH RACK ON PERMANENT OUTLET STRUCTURE, OS-1. PLACE TEMPORARY PLATES OR BOARDS OVER ORIFICE OPENINGS ON OUTLET STRUCTURE, OS-1.**
9. INSTALL ALL UNDERGROUND UTILITIES. PLACE INLET PROTECTION ON ALL INLETS AS SHOWN ON THE PLAN. PLACE OUTLET PROTECTION AT ALL PIPE ENDWALLS/END SECTIONS AS SHOWN ON THE PLAN. *DO NOT INSTALL WATER QUALITY SNOUTS IN INLETS I-12 AND I-13 UNTIL THE SITE IS STABILIZED. LIMIT THE DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT THAT CAN BE INSTALLED AND BACKFILLED IN THE SAME DAY.
10. INSTALL CURBING AS INDICATED ON THE PLAN ONCE ALL THE UNDERGROUND UTILITIES HAVE BEEN INSTALLED.
11. APPLY STONE SUBBASE TO THE PROPOSED STREETS.
12. BEGIN BUILDING CONSTRUCTION. ON-LOT EROSION AND SEDIMENTATION CONTROLS SHALL BE USED AND MAINTAINED UNTIL THE STABILIZATION OF THE LOT.
13. INSTALL PAVEMENT IN THE PROPOSED AREAS TO BE PAVED. IMMEDIATELY STABILIZE DISTURBED AREAS WITH SEEDING AND MULCHING.
14. PERFORM FINAL FINE GRADING OPERATIONS IN LAWN AREAS OR WHERE OTHERWISE REQUIRED.
15. APPLY TOPSOIL TO ALL REMAINING DISTURBED ARES THAT WILL REQUIRE VEGETATIVE COVER. PLACE A MINIMUM OF SIX INCHES (6") OF TOPSOIL ON ALL DISTURBED AREAS. TOPSOIL MAY NEED TO BE IMPORTED. PERMANENTLY STABILIZE ALL REMAINING AREAS WITH THE PERMANENT SEEDING AND MULCHING. SEED THE DESIGNATED MEADOW AREAS WITH THE SEED MIXTURE NOTED ON THE APPROVED POST CONSTRUCTION STORMWATER MANAGEMENT PLAN. INSTALL LANDSCAPING AS SHOWN ON THE PLAN.
16. THE OWNER AND/OR OPERATORS SHALL CONTACT THE CUMBERLAND COUNTY CONSERVATION DISTRICT A MINIMUM OF THREE (3) DAYS PRIOR TO COMPLETION OF EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS FOR AN INSPECTION PRIOR TO THE REMOVAL/CONVERSION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL BMP'S.
17. **CRITICAL STAGE: CONVERT SEDIMENT TRAP UPSTREAM TO DOWNSTREAM TO FINAL RAIN GARDEN SPECIFICATIONS. REMOVE EXCESS SEDIMENT FROM THE BOTTOM OF THE TRAP. TO ENSURE THAT THE RAIN GARDEN BOTTOM IS NOT COMPACTED, OVEREXCAVATE TO DEPTH OF AMENDED SOILS, SCARIFY BASIN BOTTOM TO PROMOTE INFILTRATION. PERFORM INFILTRATION TESTING BY A 3RD PARTY TESTING AGENCY QUAILFIED TO PERFORM SUCH WORK. RESULTS MUST BE PROVIDED TO K&W WITHIN TWO (2) DAYS OF TESTING. THE RAIN GARDEN MUST INFILTRATE AT LEAST 0.1 INCHES PER HOUR. IF TESTING REVEALS INADEQUATE INFILTRATION, USE EQUIPMENT NECESSARY TO DECOMPACT 8"-12" UNTIL APPROPRIATE INFILTRATION IS ACHIEVED AND VERIFIED BY A 3RD PARTY TESTING AGENCY QUALIFIED TO PERFORM SUCH WORK. RESULTS MUST BE PROVIDED TO K&W WITHIN TWO (2) DAYS OF TESTING. APPLY AMENDED SOILS TO BRING TO GRADE. INSTALL UNDERDRAIN KNIFE GATE VALVE, CLEANOUT AND STONE TRENCH IN RAIN GARDEN BOTTOM. INSTALL OUTLET STRUCTURE, OS-2, AND INSTALL PERMANENT TRASH RACKS AS NOTED ON THE APPROVED POST CONSTRUCTION STORMWATER MANAGEMENT PLANS. SEED RAIN GARDEN BOTTOM WITH SEED MIXTURE AS NOTED ON THE APPROVED PLAN. REMOVE ANY REMAINING TEMPORARY EROSION AND SEDIMENTATION CONTROL BMP'S FROM THE RAIN GARDEN.**
18. **CRITICAL STAGE: CONVERT THE TEMPORARY SEDIMENT BASIN TO THE PERMANENT STORMWATER INFILTRATION FACILITY. REMOVE EXCESS SEDIMENT FROM THE BOTTOM OF THE BASIN. TO ENSURE THAT THE INFILTRATION BASIN BOTTOM IS NOT COMPACTED, OVEREXCAVATE TO DEPTH OF AMENDED SOILS, SCARIFY BASIN BOTTOM TO PROMOTE INFILTRATION. PERFORM INFILTRATION TESTING BY A 3RD PARTY TESTING AGENCY QUAILFIED TO PERFORM SUCH WORK. RESULTS MUST BE PROVIDED TO K&W WITHIN TWO (2) DAYS OF TESTING. THE INFILTRATION BASIN MUST INFILTRATE AT LEAST 1.15 INCHES PER HOUR. IF TESTING REVEALS INADEQUATE INFILTRATION, USE EQUIPMENT NECESSARY TO DECOMPACT 8"-12" UNTIL APPROPRIATE INFILTRATION IS ACHIEVED AND VERIFIED BY A 3RD PARTY TESTING AGENCY QUALIFIED TO PERFORM SUCH WORK. RESULTS MUST BE PROVIDED TO K&W WITHIN TWO (2) DAYS OF TESTING. REMOVE TEMPORARY RISER EXTENSION WITH TRASH RACK FROM OUTLET STRUCTURE, REMOVE CLEANOUT OS-1. APPLY AMENDED SOILS TO BRING TO GRADE. INSTALL UNDERDRAIN KNIFE GATE VALVE, AND STONE TRENCH IN BASIN BOTTOM. REMOVE TEMPORARY PLATES/BOARDS FROM ORIFICE OPENINGS ON OUTLET STRUCTURE, OS-1, AND INSTALL PERMANENT TRASH RACKS AS NOTED ON THE APPROVED POST CONSTRUCTION STORMWATER MANAGEMENT PLANS. SEED BASIN BOTTOM WITH SEED MIXTURE AS NOTED ON THE APPROVED PLAN. REMOVE ANY REMAINING TEMPORARY EROSION AND SEDIMENTATION CONTROL BMP'S FROM THE BASIN. INSTALL WATER QUALITY SNOUTS IN INLETS I-12 AND I-13**
19. UPON PERMANENT STABILIZATION OF ALL AREAS, CONVERSION OF THE TEMPORARY SEDIMENT BASIN TO THE PERMANENT STORMWATER INFILTRATION FACILITY CAN COMMENCE. PRIOR TO CONVERSION, FLUSH STORM SEWERS TO REMOVE ANY SEDIMENT WITHIN THE LINES.
20. **CRITICAL STAGE: REMOVE ALL SEDIMENT APPLY AMENDED SOILS PER DETAIL AND SEED AND STABILIZE VEGETATED SWALE #1.**

CONSTRUCTION SEQUENCE (CONT'D)

1. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES, REMOVAL OF ALL TEMPORARY BMP'S, INSTALLATION OF ALL PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S, AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATORS SHALL CONTACT THE CUMBERLAND COUNTY CONSERVATION DISTRICT FOR A FINAL INSPECTION.

* STABILIZATION - PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

** IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS THAT ARE NOT AT FINISHED GRADE AND WILL BE REDISTURBED WITHIN ONE (1) YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS THAT ARE AT FINISHED GRADE, OR WHICH WILL NOT BE REDISTURBED WITHIN ONE (1) YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

RECOMMENDED STAGING OF EARTH MOVING ACTIVITIES

NOTE: EACH CONSTRUCTION STAGE MUST BE COMPLETED PRIOR TO PROCEEDING TO THE NEXT STAGE. EACH STAGE SHALL BE COMPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING, GRUBBING, AND STRIPPING OF TOPSOIL SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

BEFORE IMPLEMENTING ANY REVISIONS TO THE 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 PLAN PREPARER/ENGINEER.

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

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

A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.

INSTALL EROSION AND SEDIMENT CONTROLS PER THE CONSTRUCTION DETAILS AND LOCATIONS PROVIDED ON THE PLAN.

ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG OR EQUIVALENT SEDIMENT REMOVAL FACILITY, OVER UNDISTURBED VEGETATED AREA.

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE PROVIDED ON THE PLAN DRAWINGS. 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.

ADDITIONAL E&S PLAN NOTES

1. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
2. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.
3. UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.
4. CHANNELS HAVING RIPRAP, RENO MATTRESS, OR GABION LININGS MUST BE SUFFICIENTLY OVER-EXCAVATED SO THAT THE DESIGN DIMENSIONS WILL BE PROVIDED **AFTER** PLACEMENT OF THE PROTECTIVE LINING.
5. SEDIMENT BASINS AND/OR TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS.
6. SEDIMENT BASINS SHALL BE PROTECTED FROM UNAUTHORIZED ACTS BY THIRD PARTIES.
7. ANY DAMAGE THAT OCCURS IN WHOLE OR IN PART AS A RESULT OF BASIN OR TRAP DISCHARGE SHALL BE IMMEDIATELY REPAIRED BY THE PERMITTEE IN A PERMANENT MANNER SATISFACTORY TO THE MUNICIPALITY, LOCAL CONSERVATION DISTRICT, AND THE OWNER OF THE DAMAGED PROPERTY.
8. UPON REQUEST, THE APPLICANT OR HIS CONTRACTOR SHALL PROVIDE AN AS-BUILT (RECORD DRAWING) FOR ANY SEDIMENT BASIN OR TRAP TO THE MUNICIPAL INSPECTOR, LOCAL CONSERVATION DISTRICT, OR THE DEPARTMENT.
9. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER; ON ALL AREAS WITHIN 50 FEET OF A SURFACE WATER OR WETLAND; ON ALL AREAS OF CONCENTRATED FLOW; AND ON ALL OTHER DISTURBED AREAS AS MAY BE SPECIFIED ON THE PLAN AND/OR DETAIL SHEETS.
10. FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN MAXIMUM 6" LAYERED LIFTS TO 90% MAXIMUM DRY DENSITY.
11. THE CONTRACTOR SHALL MINIMIZE THE EXTENT AND DURATION OF DISTURBED AREAS AND EXPOSED SOILS TO THE EXTENT POSSIBLE.
12. WITH THE EXCEPTION OF CONSTRUCTED FILLS AND EMBANKMENTS, THE CONTRACTOR SHALL MINIMIZE GENERAL COMPACTION OF SITE SOILS TO THE EXTENT POSSIBLE.

ADDITIONAL E&S PLAN NOTES

13. THE CONTRACTOR SHALL EXERCISE EXTREME CARE SO AS TO AVOID SOIL COMPACTION IN AREAS OF POST-CONSTRUCTION STORMWATER BMPS. THESE AREA SHALL BE FIELD MARKED PRIOR TO CONSTRUCTION TO AVOID BEING TRAVERSED OR COMPACTED BY HEAVY EQUIPMENT.

E&S PLAN NOTES

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST 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 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. STOCKPILES SHALL BE TEMPORARILY STABILIZED TEMPORARY OR PERMANENT SEEDING SPECIFICATIONS AS PER PLAN.
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 THE 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 IMPLEMENTED PRIOR TO BEING ACTIVATED.
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 OWNER 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 PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
14. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY BETWEEN LOTS AND PUBLIC ROADWAYS. ALL VEHICLES AND EQUIPMENT SHALL MOVE BETWEEN LOTS AND PUBLIC ROADWAYS AT APPROVED LOCATIONS AS SHOWN ON THE PLAN DRAWINGS AND AS SIGNIFIED THROUGH THE PLACEMENT OF A ROCK CONSTRUCTION ENTRANCE, OR OTHER STABILIZED ENTRANCE AS MAY BE SPECIFIED IN THE PLAN
15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
16. 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 ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION. THE CONTRACTOR SHALL PERFORM INSPECTIONS AND MAINTENANCE IN ACCORDANCE WITH THE INSPECTION AND MAINTENANCE SCHEDULE AND SHALL MAINTAIN WRITTEN DOCUMENTATION OF ALL INSPECTIONS, REPAIR AND REPLACEMENT OF E&S BMPS.
17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
19. 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.

E&S PLAN NOTES (CONT'D)

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 OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
22. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
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 ACCORDING TO THE STANDARDS OF THIS PLAN.
26. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
27. 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.
28. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

MULCH SPECIFICATIONS

ON ALL DISTURBED AREAS WHICH DO NOT HAVE AN EROSION CONTROL BLANKET SPECIFIED FOR INSTALLATION, STRAW MULCH SHALL BE APPLIED AT THE RATE OF 3.0 TONS PER ACRE IMMEDIATELY AFTER SEEDING THE SURFACE. ON STEEP SLOPES OF 3:1 OR GREATER, MULCH SHALL BE ANCHORED THROUGH THE USE OF JUTE NETTING OR MIXING WITH ASPHALT AT THE RATE OF 100 GALLONS PER 3 TONS OF STRAW MULCH.

SOIL AMENDMENTS SPECIFICATIONS:

APPLY THE FOLLOWING SOIL SUPPLEMENTS PRIOR TO TEMPORARY AND PERMANENT SEEDING:

A) PULVERIZED AGRICULTURAL LIMESTONE CONFORMING TO PENN D.O.T. FORM 408, SECTION 804, APPLIED AT A RATE OF 800 POUNDS PER 1,000 SQUARE YARDS.

B) 10-20-20 ANALYSIS COMMERCIAL FERTILIZER CONFORMING TO PENN D.O.T. FORM 408, SECTION 804, APPLIED AT A RATE OF 140 POUNDS PER 1,000 SQUARE YARDS.

C) 38-0-0 UREAFORM SLOW-RELEASE NITROGEN FERTILIZER CONFORMING TO PENN D.O.T. FORM 408, SECTION 804, APPLIED AT A RATE OF 50 POUNDS PER 1,000 SQUARE YARDS.

SEED MIXTURES

TEMPORARY SEED MIXTURE

TEMPORARY SEEDING SHALL CONSIST OF ANNUAL RYEGRASS (100 PERCENT BY WEIGHT), OR EQUIVALENT, AND SHALL BE PLACED AT THE RATE OF 10 POUNDS PER 1000 SQUARE YARDS. TEMPORARY SEEDING SHALL BE APPLIED TO THOSE AREAS THAT ARE A POTENTIAL EROSION PROBLEM DURING CONSTRUCTION AND TO THOSE AREAS EXPOSED FOR LONGER THAN 20 CALENDAR DAYS. IF CONDITIONS DO NOT PERMIT TEMPORARY SEEDING, MULCHING SHALL BE EMPLOYED. ADDITIONALLY, NITROGEN FERTILIZER (50-50-50) @ ONE (1) TON PER ACRE, AGRICULTURAL LIME @ ONE (1) TON PER ACRE, AND STRAW MULCH @ THREE (3) TONS PER ACRE. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

PERMANENT SEED MIXTURE

THE FOLLOWING SEEDING MIXTURE, APPLIED AT THE RATE OF 21.0 POUNDS PER 1,000 SQUARE YARDS:

A) PERENNIAL RYEGRASS MIXTURE (LOLIUM PERENNE). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL RYEGRASS COMPONENT. 20% OF THE TOTAL SEED MIXTURE BY WEIGHT; PURITY: 98%; GERMINATION: 90%; MAXIMUM PERCENTAGE OF WEED SEED: 0.15%.

B) CREEPING RED FESCUE OR CHEWINGS FESCUE. PERCENTAGE OF TOTAL SEED MIXTURE BY WEIGHT: 30%; PURITY: 98%; GERMINATION: 85%; MAXIMUM PERCENTAGE OF WEED SEED: 0.15%.

C) KENTUCKY BLUEGRASS MIXTURE (POA PRATENSIS). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 25% OF THE TOTAL KENTUCKY BLUEGRASS COMPONENT. PERCENTAGE OF TOTAL SEED MIXTURE BY WEIGHT: 50%; PURITY: 98%; GERMINATION: 80%; MAXIMUM PERCENTAGE OF WEED SEED: 0.20%.

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REVISED FINAL SUBDIVISION PLAN

145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD

CAD DRAWING:
2121007-J_ldES_CVR.dwg

REVISIONS

NO.	DATE	DESCRIPTION
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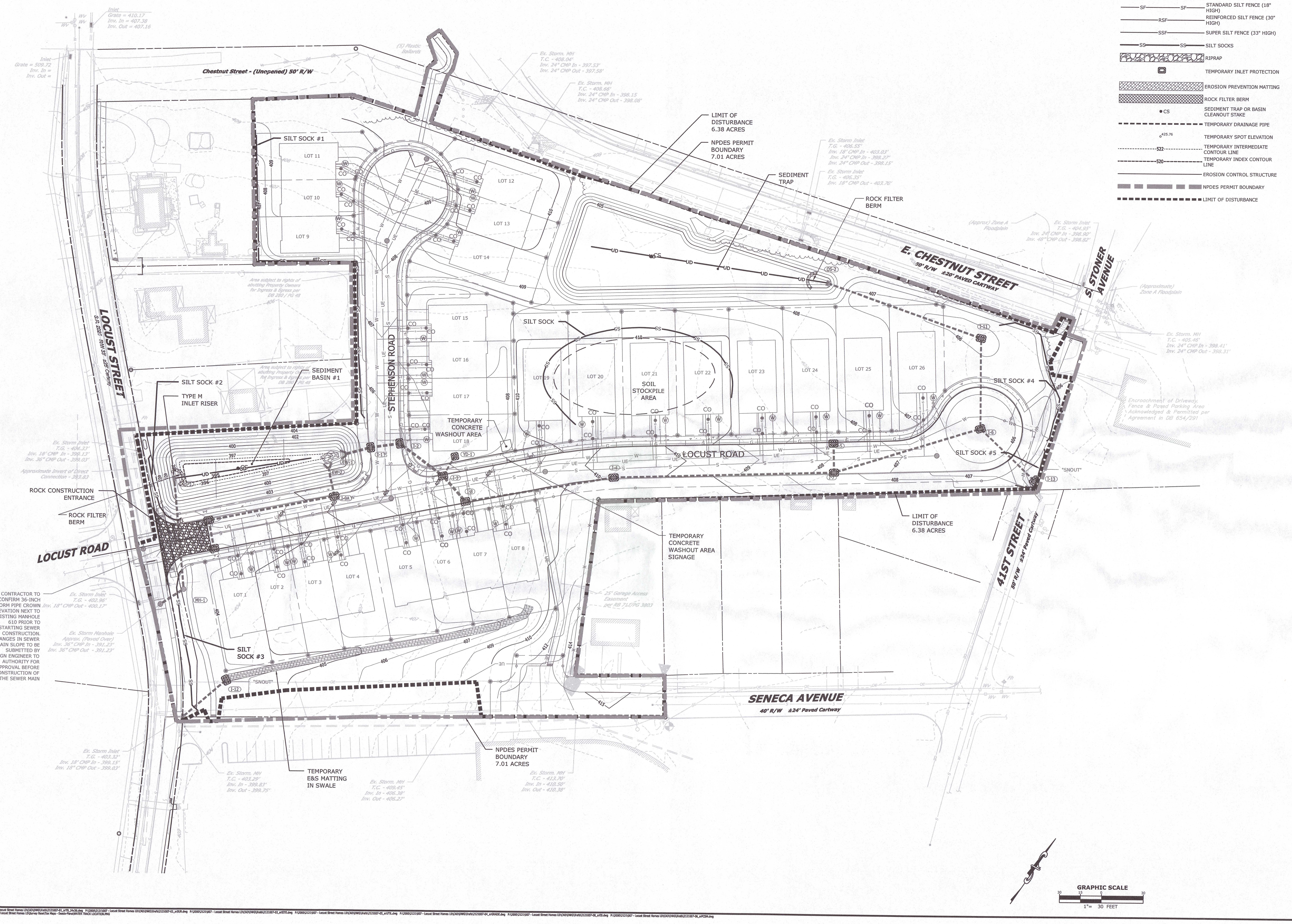
PLAN TYPE:
COVER SHEET

SHEET:
11 OF 19


Chestnut Street - (Unopened) 50' R/W
(5) Plastic Bollards
LIMIT OF DISTURBANCE 6.38 ACRES
NPDES PERMIT BOUNDARY 7.01 ACRES
SEDIMENT TRAP
ROCK FILTER BERM
E. CHESTNUT STREET
50' R/W ±20' PAVED CARTWAY
S. STONER AVENUE
(Approx) Zone A Floodplain
(Approximate) Zone A Floodplain
Encroachment of Driveway, Fence & Paved Parking Area Acknowledged & Permitted per Agreement in DB 654/291
SILT SOCK #1
SILT SOCK
SOIL STOCKPILE AREA
SILT SOCK #4
SILT SOCK #5
"SNOUT"
STEPHENSON ROAD
LOCUST ROAD
LOCUST STREET
S.R. 2025 R/W 33' ±25' Cartway
SILT SOCK #2
TYPE M INLET RISER
SEDIMENT BASIN #1
TEMPORARY CONCRETE WASHOUT AREA
ROCK CONSTRUCTION ENTRANCE
ROCK FILTER BERM
TEMPORARY CONCRETE WASHOUT AREA SIGNAGE
LIMIT OF DISTURBANCE 6.38 ACRES
41ST STREET
50' R/W ±24' Paved Cartway
SILT SOCK #3
"SNOUT"
SENECA AVENUE
40' R/W ±24' Paved Cartway
NPDES PERMIT BOUNDARY 7.01 ACRES
TEMPORARY E&S MATTING IN SWALE
25' Garage Access Easement per RB 71/PG 3803
Area subject to rights of abutting Property Owners for Ingress & Egress per DB 280 / PG 48
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
Ex. Storm Inlet T.G. - 406.55' Inv. 18' CMP In - 403.03' Inv. 24' CMP In - 398.27' Inv. 24" CMP Out - 398.15'
Ex. Storm Inlet T.G. - 406.35' Inv. 18" CMP Out - 403.70'
Ex. Storm Inlet T.G. - 404.95' Inv. 24" CMP In - 398.90' Inv. 48" CMP Out - 398.82'
Ex. Storm. MH T.C. - 405.46' Inv. 24" CMP In - 398.41' Inv. 24" CMP Out - 398.31'
Ex. Storm. MH T.C. - 408.04' Inv. 24" CMP In - 397.53' Inv. 24" CMP Out - 397.58'
Ex. Storm. MH T.C. - 408.66' Inv. 24" CMP In - 398.15 Inv. 24" CMP Out - 398.06'
Inlet Grate = 410.17 Inv. In = 407.38 Inv. Out = 407.16
Inlet Grate = 509.72 Inv. In = Inv. Out =
Ex. Storm Inlet T.G. - 404.33' Inv. 18' CMP In - 399.13' Inv. 36" CMP Out - 399.03'
Approximate Invert of Direct Connection - 393.83
Ex. Storm Inlet T.G. - 402.96' Inv. 18" CMP Out - 400.17'
Ex. Storm Manhole Approx. (Paved Over) Inv. 36" CMP In - 391.23' Inv. 36" CMP Out - 391.23'
Ex. Storm Inlet T.G. - 403.32' Inv. 18" CMP In - 399.15' Inv. 18" CMP Out - 399.03'
Ex. Storm. MH T.C. - 403.29' Inv. In - 399.83' Inv. Out - 399.75'
Ex. Storm. MH T.C. - 409.45' Inv. In - 406.38' Inv. Out - 406.27'
Ex. Storm. MH T.C. - 413.70' Inv. In - 410.50' Inv. Out - 410.38'
OS-1
OS-2
MH-1
I-1
I-2
I-3
I-4
I-5
I-6
I-8
I-11
I-12
I-13
YD-1
GRAPHIC SCALE
30 15 0 30
1" = 30 FEET

CONTRACTOR TO CONFIRM 36-INCH STORM PIPE CROWN ELEVATION NEXT TO EXISTING MANHOLE 610 PRIOR TO STARTING SEWER CONSTRUCTION. CHANGES IN SEWER MAIN SLOPE TO BE SUBMITTED BY DESIGN ENGINEER TO AUTHORITY FOR APPROVAL BEFORE CONSTRUCTION OF THE SEWER MAIN

LEGEND

PROPOSED E&S CONTROL PLAN FEATURES

▨	STABILIZED ROCK CONSTRUCTION ENTRANCE
┌ ─ ─ ┐	SOIL MATERIAL STOCKPILE
—SF—SF—	STANDARD SILT FENCE (18" HIGH)
—RSF—	REINFORCED SILT FENCE (30" HIGH)
—SSF—	SUPER SILT FENCE (33" HIGH)
—SS—SS—	SILT SOCKS
▨	RIPRAP
▣	TEMPORARY INLET PROTECTION
▨	EROSION PREVENTION MATTING
▨	ROCK FILTER BERM
● CS	SEDIMENT TRAP OR BASIN CLEANOUT STAKE
- - - -	TEMPORARY DRAINAGE PIPE
○425.76	TEMPORARY SPOT ELEVATION
------522------	TEMPORARY INTERMEDIATE CONTOUR LINE
------520------	TEMPORARY INDEX CONTOUR LINE
———	EROSION CONTROL STRUCTURE
▬ ▬ ▬	NPDES PERMIT BOUNDARY
■■■■	LIMIT OF DISTURBANCE

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LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
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REVISIONS

NO.	DATE	DESCRIPTION
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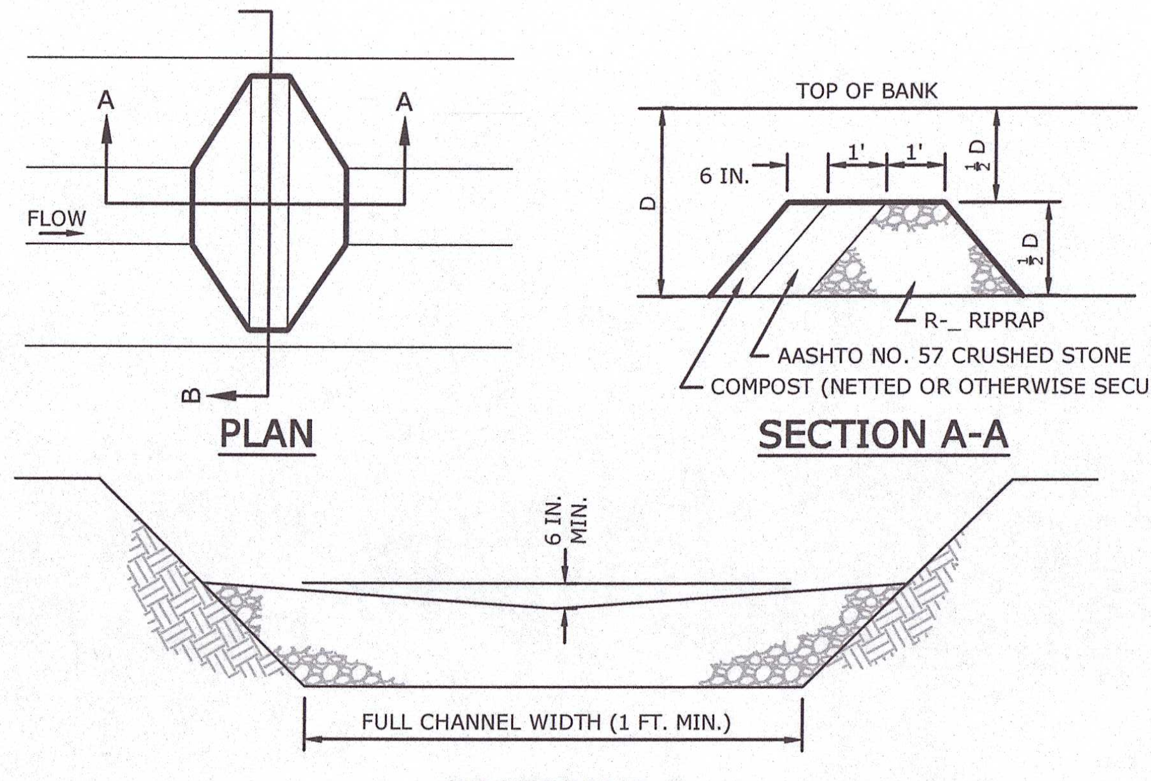
PLAN TYPE:
EROSION AND SEDIMENATION CONTROL PLAN

SHEET:
12 OF 19


A
A
FLOW
B
PLAN
TOP OF BANK
6 IN.
1'
1'
½ D
D
½ D
R-_ RIPRAP
AASHTO NO. 57 CRUSHED STONE
COMPOST (NETTED OR OTHERWISE SECURED)
SECTION A-A
6 IN. MIN.
FULL CHANNEL WIDTH (1 FT. MIN.)
SECTION B-B

FOR D ≥ 3 FT. - USE R-4
FOR D ≥ 2 FT. TO D < 3 FT. - USE R-3
NOT APPLICABLE FOR D < 2 FT.

NOTES:

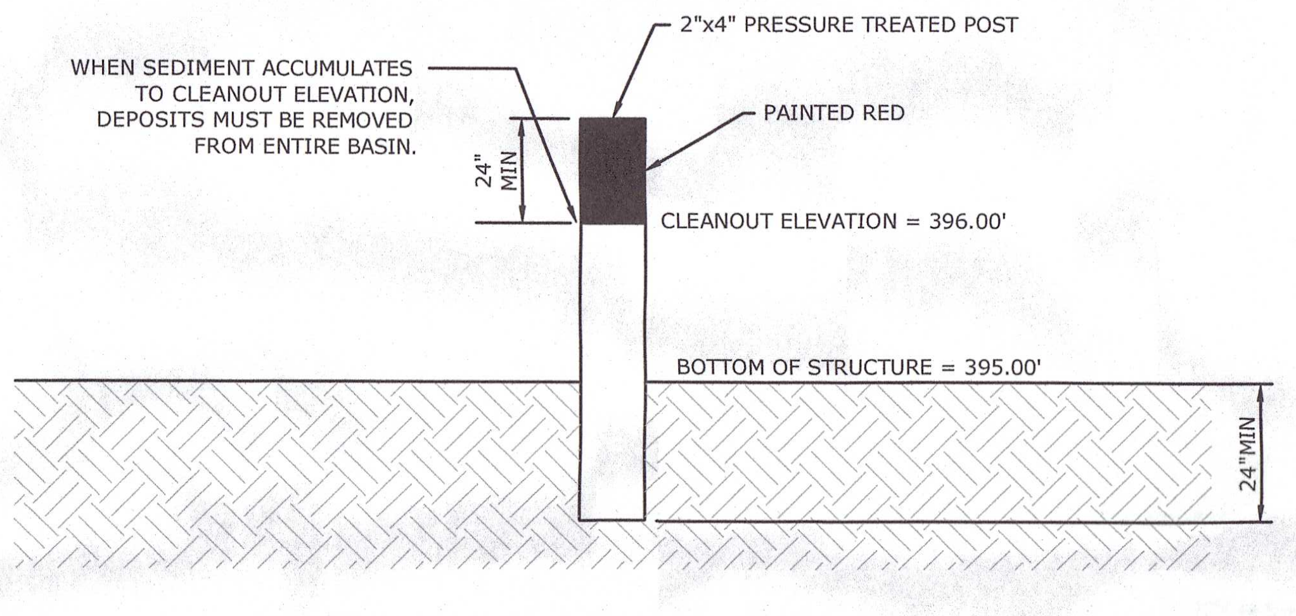
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS.

IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

STANDARD CONSTRUCTION DETAIL #4-14
ROCK FILTER

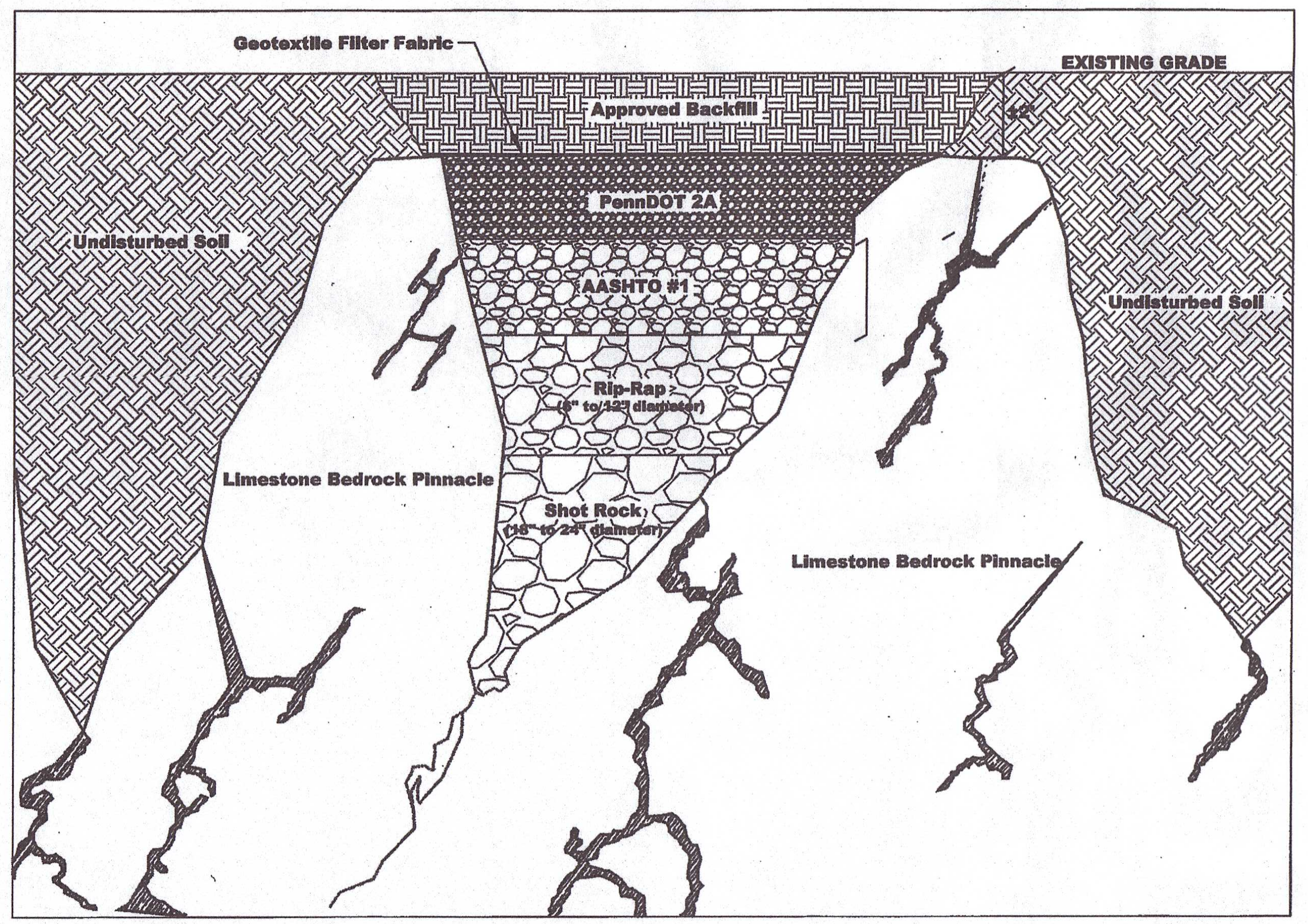
NOT TO SCALE


2"x4" PRESSURE TREATED POST
WHEN SEDIMENT ACCUMULATES TO CLEANOUT ELEVATION, DEPOSITS MUST BE REMOVED FROM ENTIRE BASIN.
PAINTED RED
24" MIN
CLEANOUT ELEVATION = 396.00'
BOTTOM OF STRUCTURE = 395.00'
24"MIN

CLEANOUT MARKER SHALL BE PLACED HALF WAY BETWEEN POINTS OF CONCENTRATED INFLOW AND THE STRUCTURE OUTLET. WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION, IT MUST BE REMOVED TO RESTORE THE STRUCTURE TO ITS DESIGN CAPACITY.

CLEANOUT MARKER DETAIL SEDIMENT BASIN

NOT TO SCALE


Geotextile Filter Fabric
EXISTING GRADE
Approved Backfill
±2'
PennDOT 2A
Undisturbed Soil
AASHTO #1
Undisturbed Soil
Rip-Rap (6" to 12" diameter)
Limestone Bedrock Pinnacle
Shot Rock (18" to 24" diameter)
Limestone Bedrock Pinnacle

NOTES:

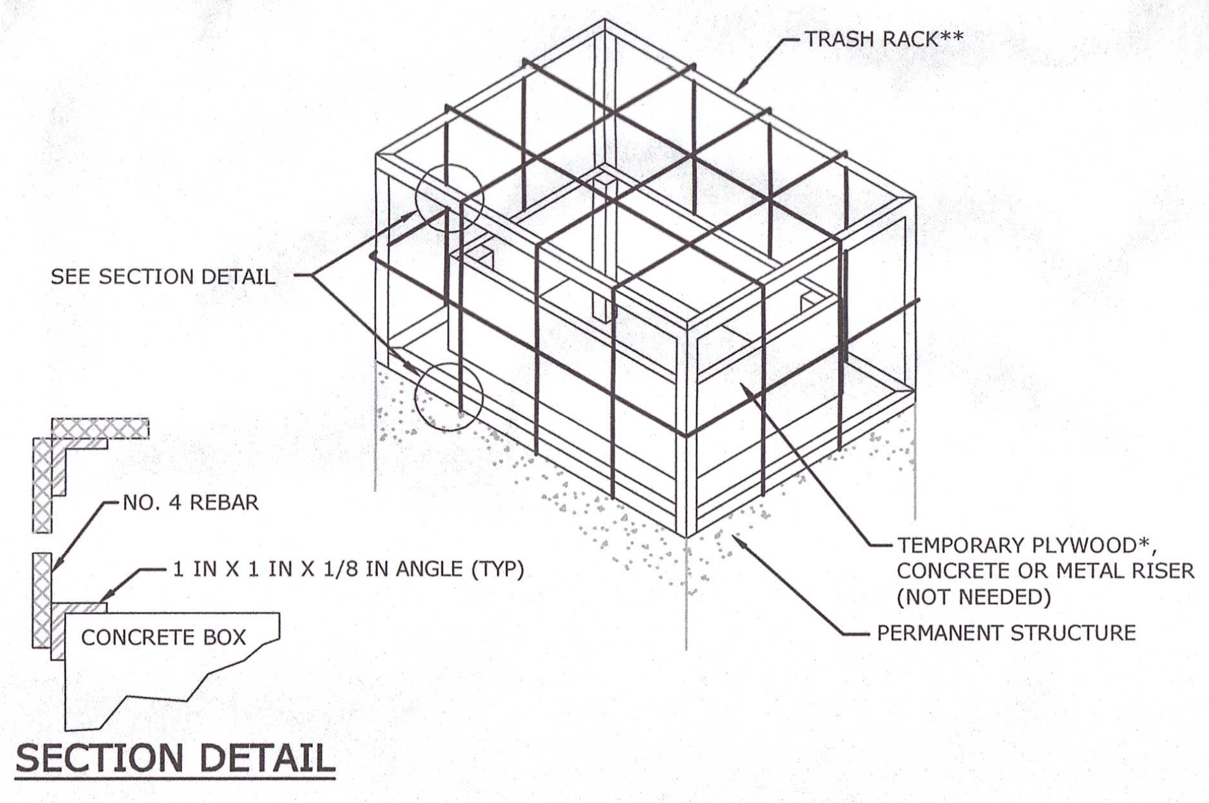
1. THE REPAIRS OUTLINED BELOW ARE GENERAL GUIDELINES AND EACH SINKHOLE OCCURRENCE SHOULD BE THOROUGHLY REVIEWED BY THE GEOTECHNICAL ENGINEER OF RECORD FOR AN APPROPRIATE REMEDIATION PLAN:

   STRUCTURAL AREAS (AREAS WITHIN THE BUILDING FOOTPRINT OR BENEATH PAVEMENT)
   - ANY AND ALL LOOSE AND/OR SATURATED SOILS WITHIN THE SINKHOLE SHOULD BE EXCAVATED AND CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
   - UPON REMOVAL OF THE UNSTABLE SOILS, THE EXCAVATION SHOULD BE BACKFILLED USING HIGH MOBILITY, LOW STRENGTH FLOWABLE FILL (500 PSI) TO FINAL SUBGRADE ELEVATION.

   NON-STRUCTURAL AREAS (NON-BUILDING/LANDSCAPED AREAS)
   - ANY AND ALL LOOSE AND/OR SATURATED SOILS SHOULD BE EXCAVATED FROM THE SINKHOLE. EXCAVATION SHOULD CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
   - THE EXCAVATION SHOULD BE BACKFILLED WITH AGGREGATE OF DECREASING SIZE AS DEPICTED ON THE *INVERTED FILTER DETAIL*

SINKHOLE REPAIR DETAIL

NOT TO SCALE


TRASH RACK**
SEE SECTION DETAIL
NO. 4 REBAR
1 IN X 1 IN X 1/8 IN ANGLE (TYP)
CONCRETE BOX
TEMPORARY PLYWOOD*, CONCRETE OR METAL RISER (NOT NEEDED)
PERMANENT STRUCTURE
SECTION DETAIL

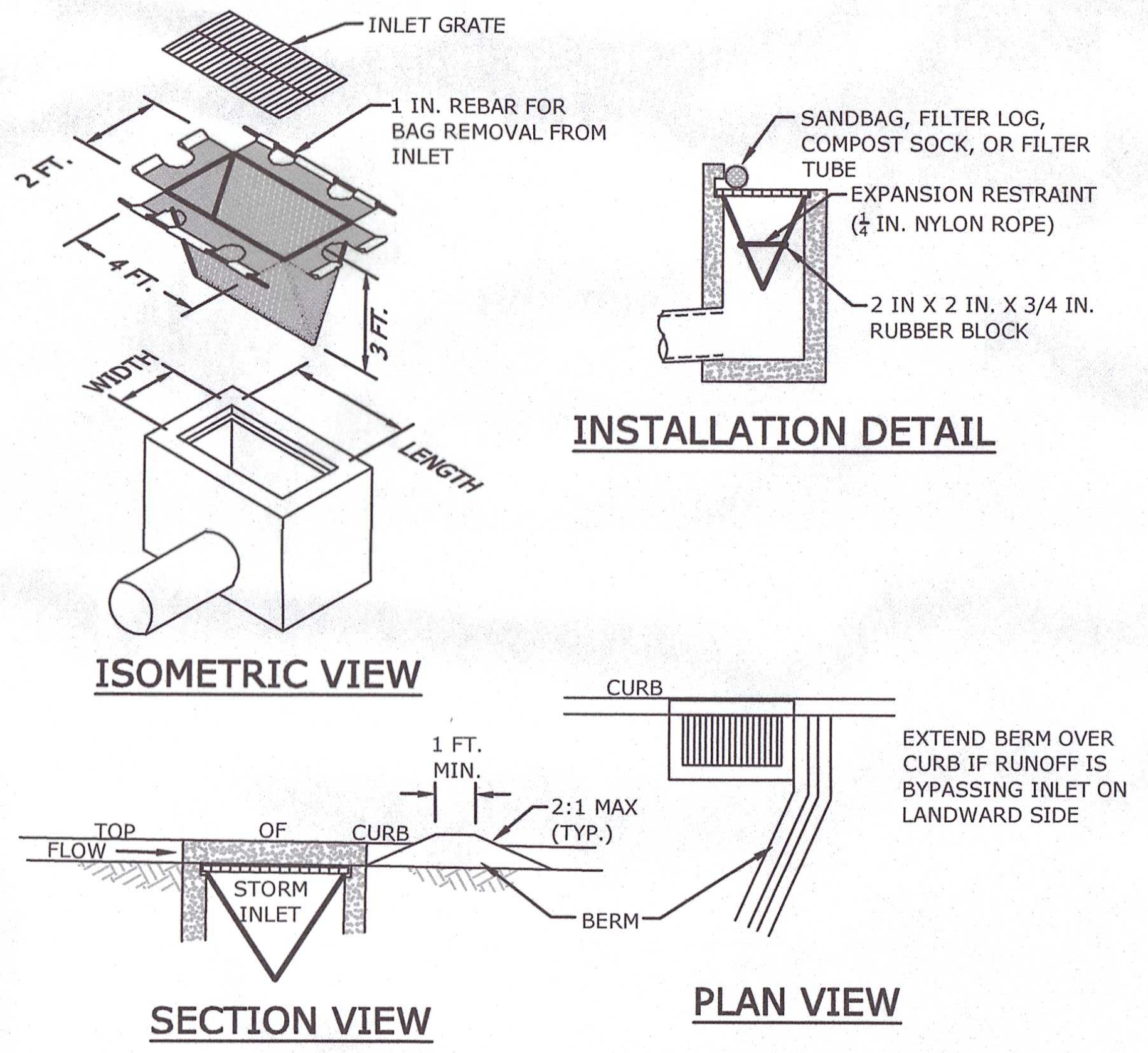
* 3/4 IN. PRESSURE TREATED PLYWOOD BOX WITH 2 IN. X 2 IN. PRESSURE TREATED CORNER SUPPORTS, SET INTO 1-1/2 IN. GRATE OFFSETS, CAULK ALL SEAMS TO FORM WATERTIGHT SEALS.
** TRASH RACK COMPOSED OF 1 IN. X 1 IN. X 1/8 IN. L (TYP.) AND #4 BARS (TYP.) WELDED TO THE ANGLES AND AT EACH INTERSECTION OF THE BARS; #4 BARS SPACED AT HALF THE DIAMETER OF THE BARREL MAX.

NOTES:

1. *BOX IS NOT NEEDED.
2. *TOP OF TEMPORARY RISER EXTENSION IS NOT NEEDED.
3. ALL JOINTS SHALL BE WATER TIGHT.
4. CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

STANDARD CONSTRUCTION DETAIL #7-10
TEMPORARY RISER EXTENSION AND TRASH RACK FOR PERMANENT STRUCTURE

NOT TO SCALE


INLET GRATE
1 IN. REBAR FOR BAG REMOVAL FROM INLET
2 FT.
4 FT.
3 FT.
WIDTH
LENGTH
ISOMETRIC VIEW
SANDBAG, FILTER LOG, COMPOST SOCK, OR FILTER TUBE
EXPANSION RESTRAINT (¼ IN. NYLON ROPE)
2 IN X 2 IN. X 3/4 IN. RUBBER BLOCK
INSTALLATION DETAIL
CURB
EXTEND BERM OVER CURB IF RUNOFF IS BYPASSING INLET ON LANDWARD SIDE
1 FT. MIN.
2:1 MAX (TYP.)
TOP OF CURB
FLOW
STORM INLET
BERM
SECTION VIEW
PLAN VIEW

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

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 COAT.
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 PASSING A NO. 40 SIEVE.

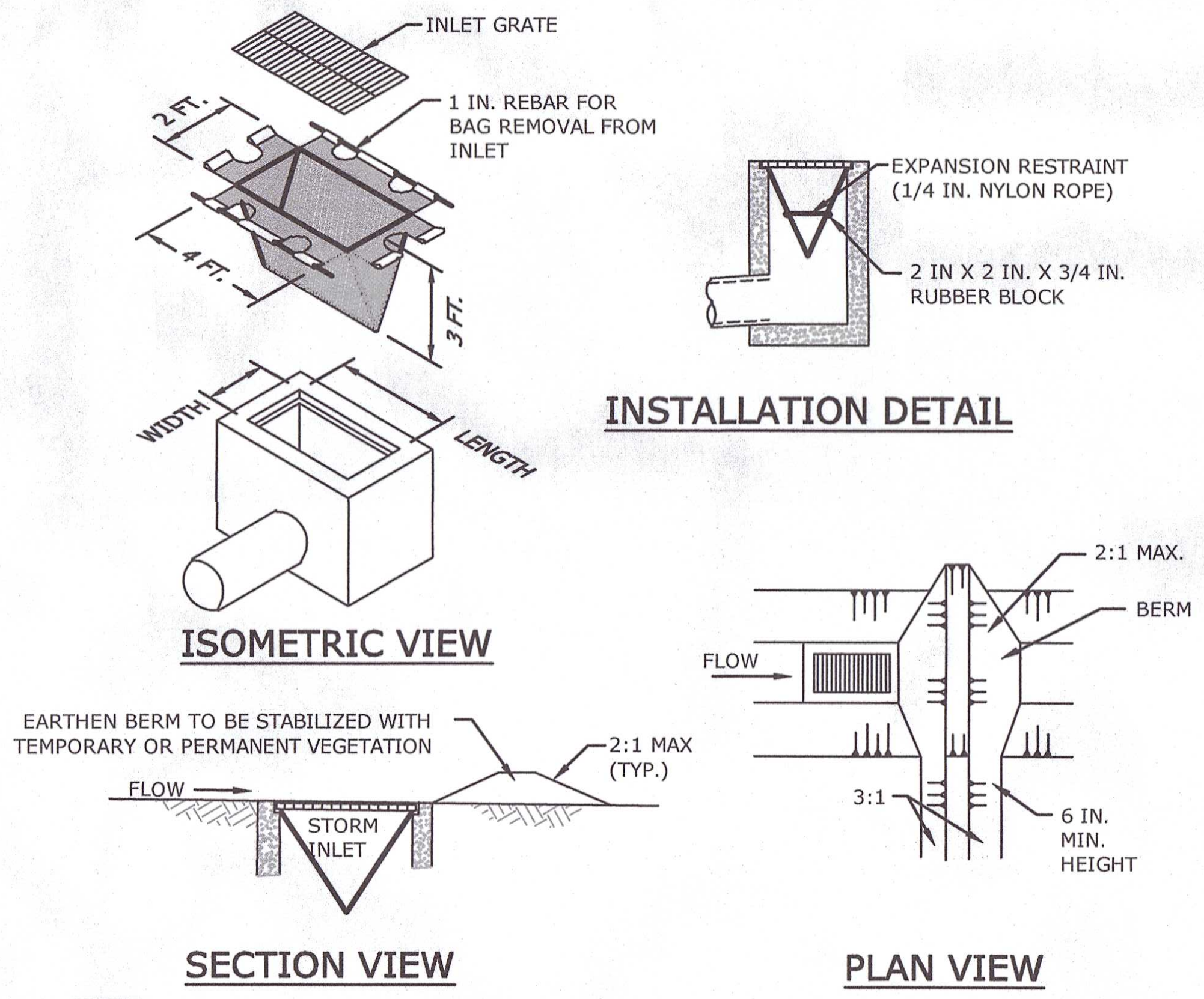
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED 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.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

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

NOT TO SCALE


INLET GRATE
1 IN. REBAR FOR BAG REMOVAL FROM INLET
2 FT.
4 FT.
3 FT.
WIDTH
LENGTH
ISOMETRIC VIEW
EXPANSION RESTRAINT (1/4 IN. NYLON ROPE)
2 IN X 2 IN. X 3/4 IN. RUBBER BLOCK
INSTALLATION DETAIL
EARTHEN BERM TO BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATION
2:1 MAX (TYP.)
FLOW
STORM INLET
SECTION VIEW
2:1 MAX.
BERM
FLOW
3:1
6 IN. MIN. HEIGHT
PLAN VIEW

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

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

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED 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 REMAIN PERMANENTLY.

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 PASSING A NO. 40 SIEVE.

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.

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

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

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

NOT TO SCALE

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CUMBERLAND COUNTY, PA

REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
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LOWER ALLEN TOWNSHIP

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NO.	DATE	DESCRIPTION
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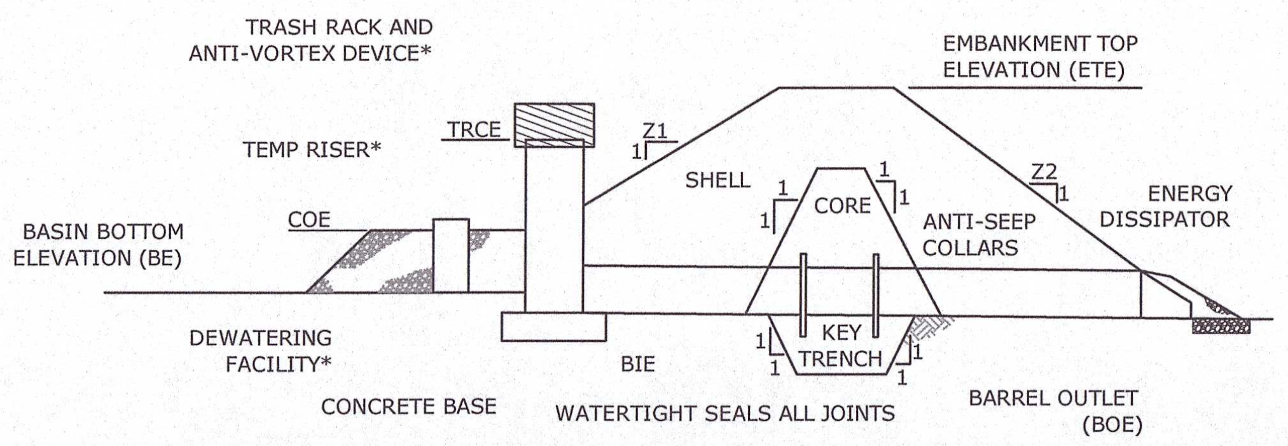
PLAN TYPE:
E&S DETAILS

SHEET:
13 OF 19



* ALSO REFER TO SEDIMENT BASIN TEMPORARY RISER, EMERGENCY SPILLWAY, ENERGY DISSIPATER, TRASH RACK AND ANTI-VORTEX DEVICE, AND SEDIMENT STORAGE DEWATERING FACILITY DETAILS.

BASIN NO.	Z1 (FT)	Z2 (FT)	TEMPORARY RISER			BARREL				
			DIA TRd (IN)	CREST ELEV TRCE (FT)	MAT'L	DIA Bd (IN)	INLET ELEV BIE (FT)	MAT'L	LENGTH (FT)	OUTLET ELEV BOE (FT)
1	3	3	42	401.50	CMP	18	392.75	RCP	106	392.22

	EMBANKMENT					
BASIN NO.	TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)	KEY TRENCH DEPTH (FT)	KEY TRENCH WIDTH (FT)	CLEANOUT ELEV COE (FT)	BOTTOM ELEV BE (FT)
1	404	8	2	4	405	404

NOTES:

SEDIMENT BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE E&S PLAN DRAWINGS.

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS. UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

ACCESS SHALL BE PROVIDED FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES.

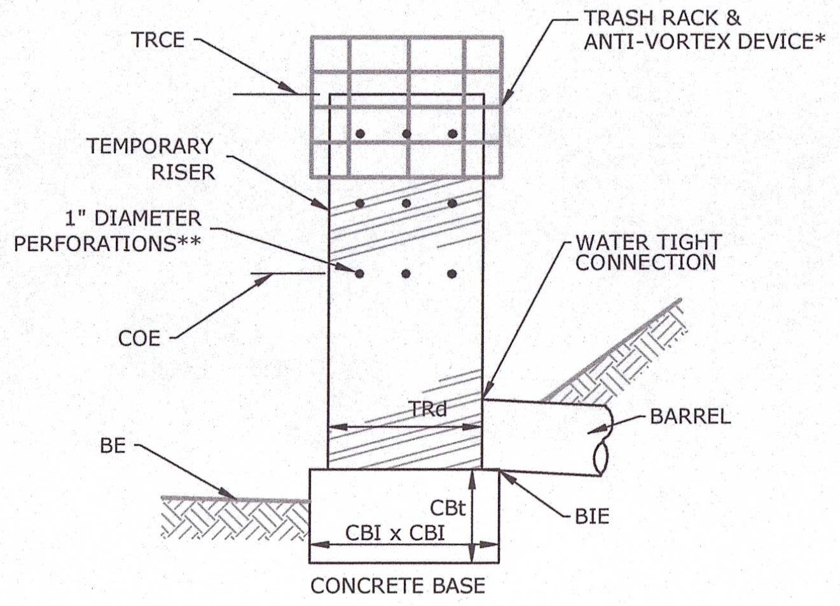
A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH BASIN. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE BASIN IN THE MANNER DESCRIBED IN THE E&S PLAN.

INSPECT ALL SEDIMENT BASINS ON AT LEAST A WEEKLY BASIS **AND** AFTER EACH RUNOFF EVENT. CHECK BASIN EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY. DISPLACED RIPRAP WITHIN THE OUTLET ENERGY DISSIPATER SHALL BE REPLACED IMMEDIATELY. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED INSIDE THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE DEVICE SHOWN IN STANDARD CONSTRUCTION DETAIL #7-16 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. ROCK FILTERS SHALL BE ADDED AS NECESSARY.

STANDARD CONSTRUCTION DETAIL #7-6

SEDIMENT BASIN EMBANKMENT AND SPILLWAY DETAILS PERFORATED RISER

NOT TO SCALE



* SEE STANDARD CONSTRUCTION DETAIL #7-5, TRASH RACK AND ANTI-VORTEX DEVICE
** LOWEST ROW OF HOLES AT SEDIMENT CLEAN-OUT ELEVATION

BASIN NO.	TEMPORARY RISER			PERFORATIONS				CONCRETE BASE		BARREL
	DIA TRd (IN)	CREST ELEV TRCE (FT)	MAT'L	LOWEST ROW OF HOLES ELEV (FT)	NO. ROWS**	NO. HOLES PER ROW	VERT. SPACING OF ROWS (FT)	LENGTH AND WIDTH CBI (IN)	THICKNESS CBt (IN)	INLET ELEV BIE (FT)
1	42	401.50	CMP	396.50	1	6	N/A	84	6	392.22

NOTES:

A MINIMUM OF 2-#8 REBAR SHALL BE PLACED AT RIGHT ANGLES AND PROJECTING THROUGH SIDES OF RISER TO ANCHOR IT TO CONCRETE BASE. REBAR SHALL PROJECT A MINIMUM OF 1/4 RISER DIAMETER BEYOND OUTSIDE OF RISER.

CONCRETE BASE SHALL BE POURED IN SUCH A MANNER SO AS TO INSURE THAT CONCRETE FILLS BOTTOM OF RISER TO INVERT OF THE OUTLET PIPE TO PREVENT RISER FROM BREAKING AWAY FROM THE BASE. MINIMUM BASE WIDTH EQUALS 2 TIMES RISER DIAMETER.

EMBEDDED SECTION OF ALUMINUM OR ALUMINIZED PIPE SHALL BE PAINTED WITH ZINC CHROMATE OR EQUIVALENT.

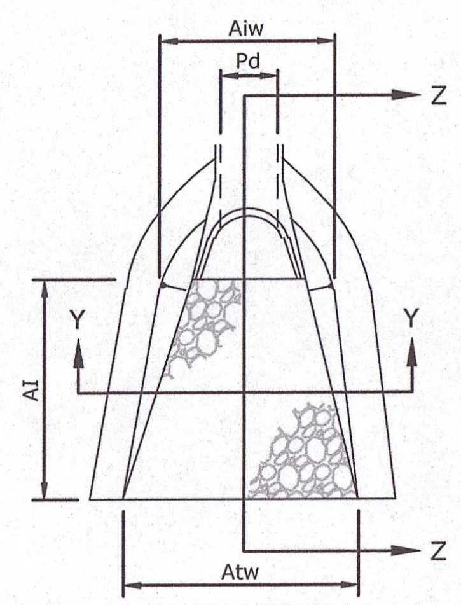
CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

TO PROMOTE A TIGHT SEAL OF THE TEMPORARY STUB CONNECTION WITH THE PERMANENT RISER STRUCTURE, A FLANGE PLATE SHALL BE WELDED TO THE END OF THE STUB BARREL AND BOLTED AND CAULKED TO THE PERMANENT OUTLET STRUCTURE.

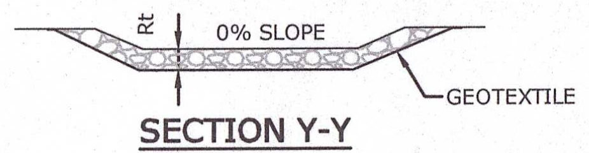
STANDARD CONSTRUCTION DETAIL #7-7

SEDIMENT BASIN TEMPORARY RISER

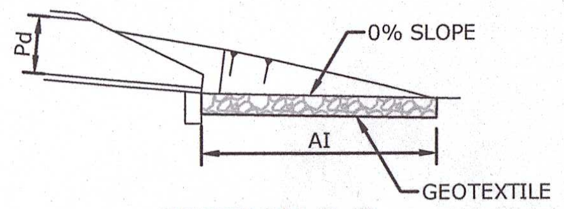
NOT TO SCALE



PLAN VIEW



SECTION Y-Y



SECTION Z-Z

OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP		APRON		
		SIZE R-_	THICK. Rt (IN)	LENGTH Al (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
EW-1	24	5	27	10.0	6.00	10.00
EW-2	18	5	27	9.0	4.50	8.10

NOTES:

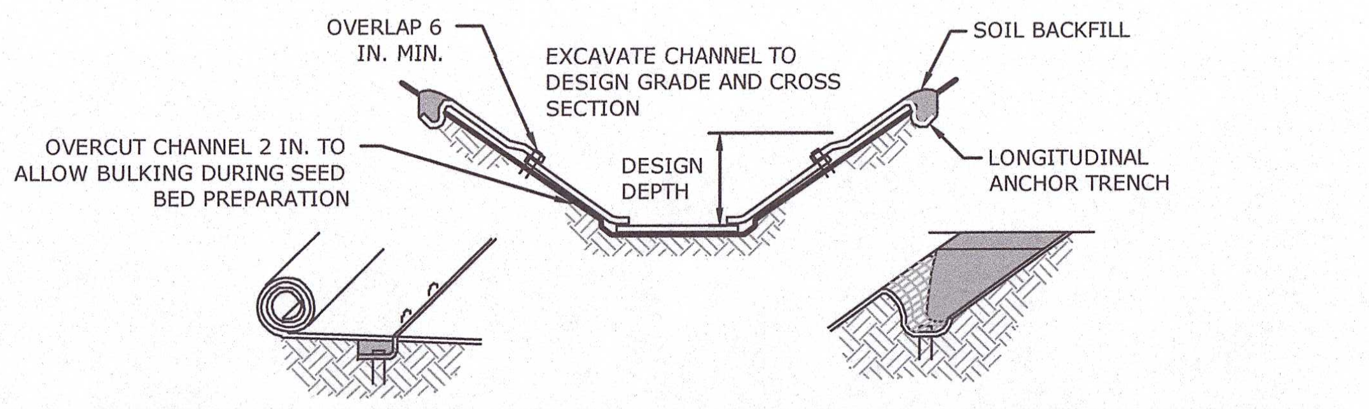
ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1

RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

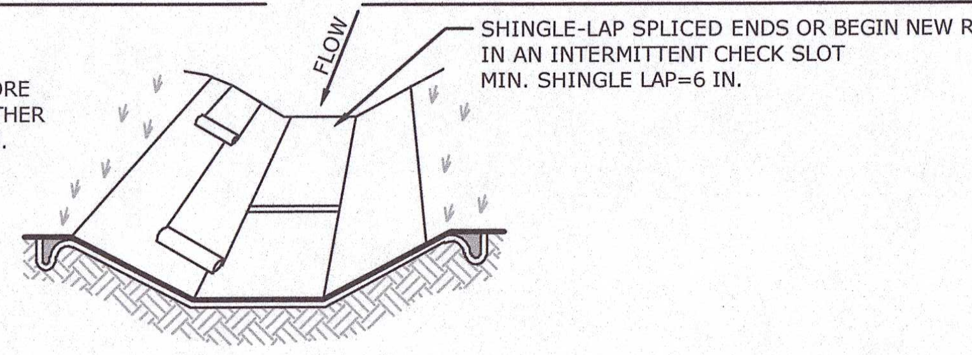
NOT TO SCALE


OVERLAP 6 IN. MIN.
EXCAVATE CHANNEL TO DESIGN GRADE AND CROSS SECTION
SOIL BACKFILL
OVERCUT CHANNEL 2 IN. TO ALLOW BULKING DURING SEED BED PREPARATION
DESIGN DEPTH
LONGITUDINAL ANCHOR TRENCH

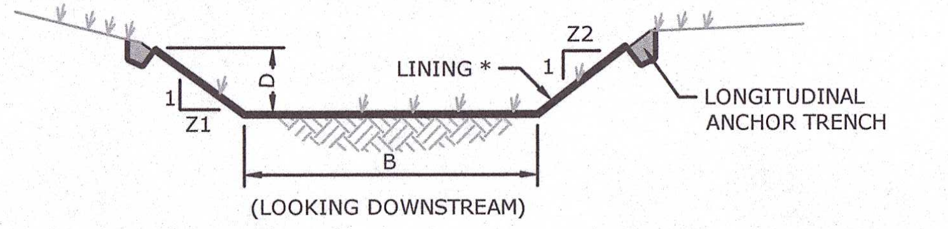
INTERMITTENT CHECK SLOT

LONGITUDINAL ANCHOR TRENCH

PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS, OR OTHER TEMPORARY CHANNEL LINER SYSTEM.


FLOW
SHINGLE-LAP SPLICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT MIN. SHINGLE LAP=6 IN.

ISOMETRIC VIEW



CHANNEL CROSS-SECTION

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

SWALE DESIGNATION	B (FT)	D (FT)	Z1	Z2	PERMANENT VEGETATION	TEMPORARY CHANNEL LINING
VEGETATED SWALE 1	14	1	9.5	9.5	VEGETATIVE CLASS "C"	JUTE

NOTES:

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.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

STANDARD CONSTRUCTION DETAIL #6-1

VEGETATED CHANNEL

NOT TO SCALE

TRAP NO.	Z1 (FT)	Z2 (FT)	H (FT)	h (FT)	EMBANKMENT TOP ELEV. ETE (FT)	CLEAN OUT ELEV. COE (FT)	BOTTOM ELEV. BE (FT)	SPILLWAY WIDTH SW (FT)
1	3	3	4.00	3	408	405	404	0

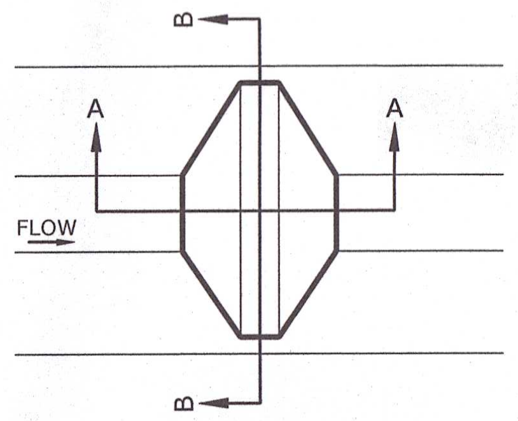
NOTES:

1. EMBANKMENT OUTLET SHALL BE COMPOSED ENTIRELY OF ROCK ABOVE CLEAN OUT ELEVATION; MAIN BODY R-3 OR LARGER -- R-4 TO BE USED FOR DRAINAGE AREAS GREATER THAN 3.0 ACRES, INSIDE FACE AASHTO #57 STONE OR SMALLER. A 6" THICK LAYER OF COMPOST, COMPOST SOCK, OR CLEAN SAND SHALL BE INSTALLED ON TOP OF THE AASHTO #%& STONE AND SECURELY ANCHORED IN HQ WATERSHEDS. 24" DIAMETER COMPOST SOCK(S) SHALL BE USED IN PLACE OF FILTER FABRIC AND AASHTO #57 STONE IN EV WATERSHEDS.
2. FILL MATERAIL FOR THE EMBBANKMENTS SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 9". THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 6".
3. UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS.
4. ALL SEDIMENT TRAPS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT.
5. ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES SHALL BE PROVIDED.
6. A CLEANOUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS.
7. CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY RESTORED TO THE DESIGN SPECIFICATIONS.
8. DISPLACED RIPRAP WITHIN THE SPILLWAY OR OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.
9. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS INSIDE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. DEWATER SEDIMENT TO AID REMOVAL.

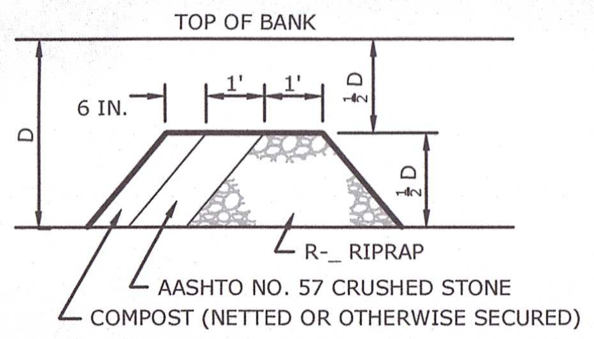
STANDARD CONSTRUCTION DETAIL #8-1

EMBANKMENT SEDIMENT TRAP

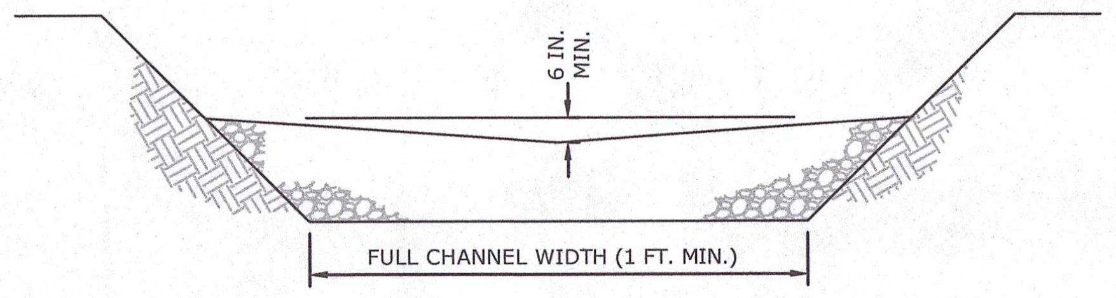
NOT TO SCALE



PLAN


TOP OF BANK
6 IN.
1'
1'
½D
D
½D
R-_ RIPRAP
AASHTO NO. 57 CRUSHED STONE
COMPOST (NETTED OR OTHERWISE SECURED)

SECTION A-A



SECTION B-B

NOTES:

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS.

IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

STANDARD CONSTRUCTION DETAIL #4-14

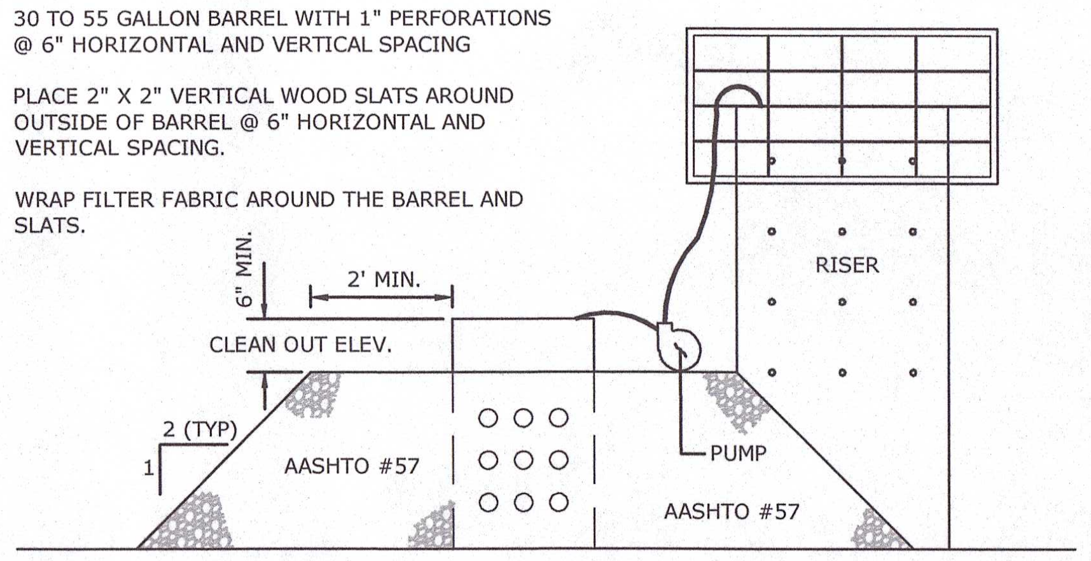
ROCK FILTER

NOT TO SCALE

30 TO 55 GALLON BARREL WITH 1" PERFORATIONS @ 6" HORIZONTAL AND VERTICAL SPACING

PLACE 2" X 2" VERTICAL WOOD SLATS AROUND OUTSIDE OF BARREL @ 6" HORIZONTAL AND VERTICAL SPACING.

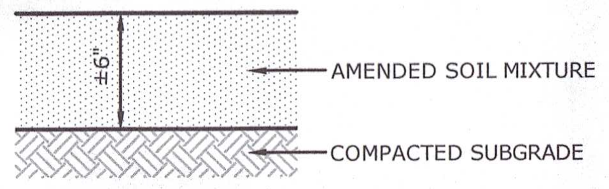
WRAP FILTER FABRIC AROUND THE BARREL AND SLATS.



STANDARD CONSTRUCTION DETAIL #10

SEDIMENT BASIN SEDIMENT STORAGE DEWATERING FACILITY

NOT TO SCALE



NOTES:
SOILS AMENDMENTS SHALL BE COMPLETED BY TREATING COMPACTION PER THE SOILS RESTORATION METHOD OR THE SUBSOILING METHOD AS DIRECTED WITHIN THE PENNSYLVANIA BMP MANUAL SECTION 6.7.3:

SOIL RESOLUTION METHOD:
- SOIL AMENDMENT MEDIA USUALLY CONSISTS OF COMPOST, BUT CAN INCLUDE MULCH, MANURES, SAND, AND MANUFACTURED MICROBIAL SOLUTIONS.
- COMPOST SHOULD BE ADDED AT A RATE OF 2:1 (SOIL:COMPOST). IF A PROPRIETARY PRODUCT IS USED, THE MANUFACTURE'S INSTRUCTIONS SHOULD BE FOLLOWED IN TERMS OF MIXING AND APPLICATION RATE.
- SOILS RESTORATION SHOULD NOT BE USED ON SLOPES GREATER THAN 30%. IN THESE AREAS DEEP ROOTED VEGETATION CAN BE USED TO INCREASE STABILITY.
- SOILS RESTORATION SHOULD NOT TAKE PLACE WITHIN THE DRIP LINE OF A TREE TO AVOID DAMAGING THE ROOT SYSTEM.
- ON SITE SOILS WITH ORGANIC CONTENT OF AT LEAST 5 PERCENT CAN BE PROPERLY STOCKPILED (TO MAINTAIN ORGANIC CONTENT) AND REUSED.
- PROCEDURE: ROTOTILL, OR RIP THE SUBGRADE, REMOVE ROCKS, DISTRIBUTE THE COMPOST, SPREAD THE NUTRIENTS, ROTOTILL AGAIN.
- ADD 6 INCHES COMPOST/ AMENDMENT AND TILL UP TO 8 INCHES FOR MINOR COMPACTION.

SUBSOILING METHOD:
- SUBSOILING IS ONLY EFFECTIVE WHEN PERFORMED ON DRY SOILS.
- RIPPING, SUBSOILING, OR SCARIFICATION OF THE SUBSOIL SHOULD BE PERFORMED WHERE SUBSOIL HAS BECOME COMPACTED BY EQUIPMENT OPERATION, DRIED OUT AND CRUSTED, OR WHERE NECESSARY TO OBLITERATE EROSION RILLS.
- RIPPING (SUBSOILING) SHOULD BE PERFORMED USING A SOLID SHANK RIPPER AND TO A DEPTH OF 20 INCHES, (8 INCHES FOR MINOR COMPACTION).

FOR BOTH METHODS THE FOLLOWING FINAL STEPS MUST BE COMPLETED:
- MIX COMPOST AND TOPSOIL TO CREATE A UNIFORM, COHESIVE SOIL MIXTURE. SOIL MIXTURE SHALL CONSIST OF 2 PARTS TOPSOIL / 1 PART COMPOST BY VOLUME.
- SPREAD 6 INCHES OF AMENDED SOIL MIXTURE WITHIN THE FACILITY TO BRING THE AREA UP TO FINAL GRADE.
- SEED AREA WITH PERMANENT SEED MIXTURE IN ACCORDANCE WITH THE SPECIFICATIONS INCLUDED ON THE PLAN.
- PROVIDE STRAW MULCH AND WATER TO PROMOTE VEGETATIVE GROWTH.
- DO NOT INSTALL SOIL AMENDMENTS OR SEED DURING NON-GERMINATION PERIODS.

SOIL AMENDMENT AND RESTORATION DETAIL

NOT TO SCALE

K&W
DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

CUMBERLAND COUNTY, PA

REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

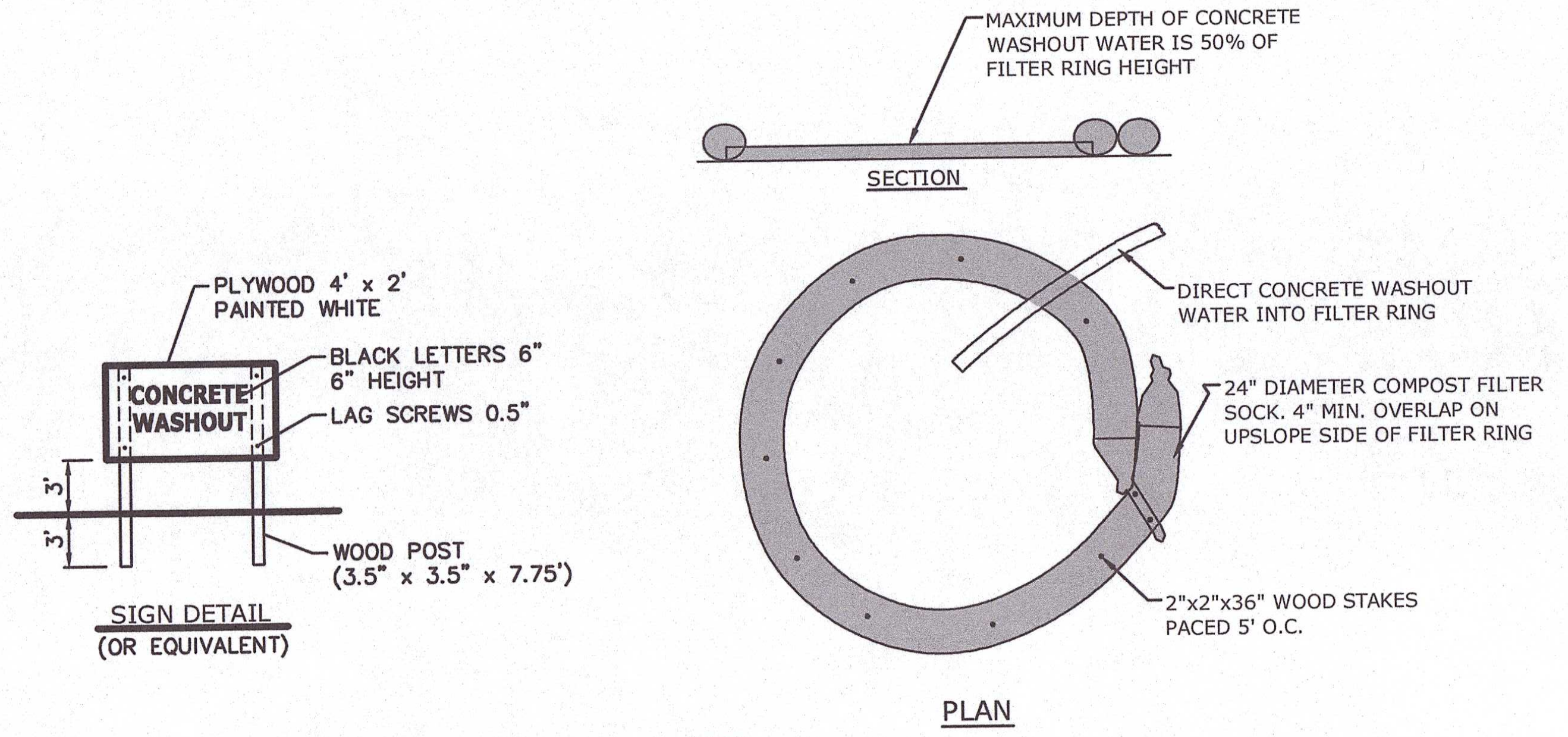
SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-K_ldDETL.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
E&S DETAILS

SHEET:
14 OF 19

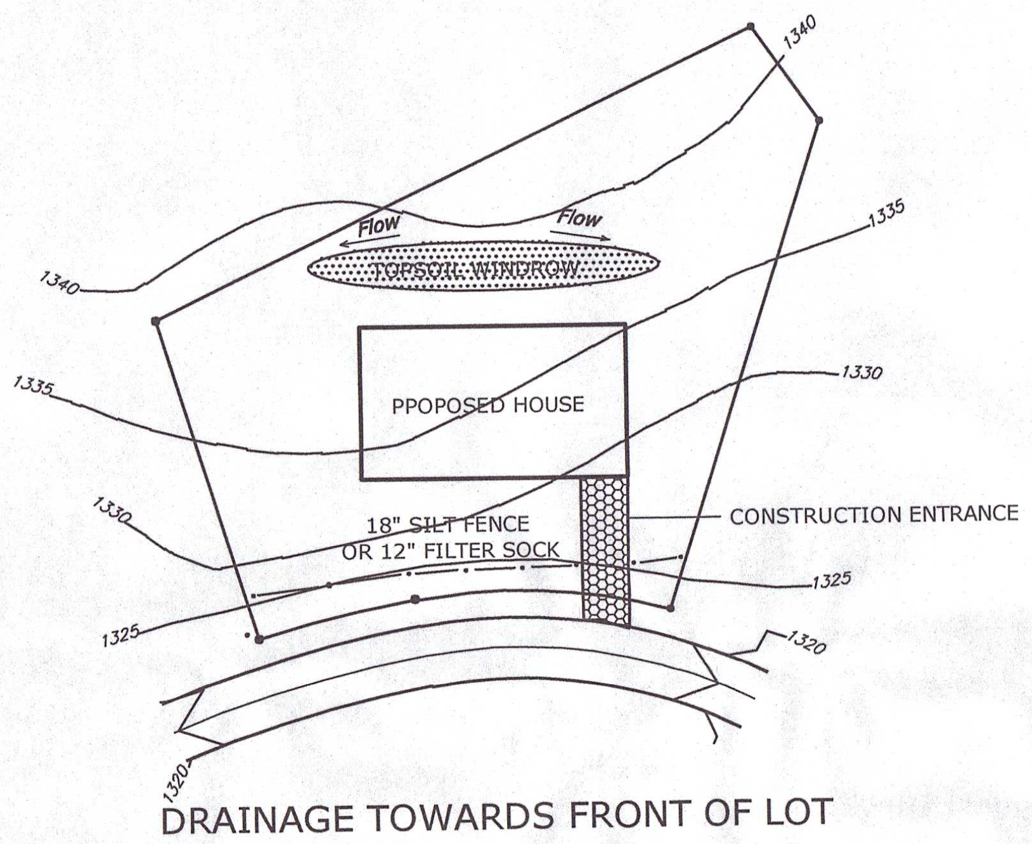

MAXIMUM DEPTH OF CONCRETE WASHOUT WATER IS 50% OF FILTER RING HEIGHT
SECTION
PLYWOOD 4' x 2' PAINTED WHITE
CONCRETE WASHOUT
BLACK LETTERS 6" 6" HEIGHT
LAG SCREWS 0.5"
3'
3'
WOOD POST (3.5" x 3.5" x 7.75')
SIGN DETAIL
(OR EQUIVALENT)
DIRECT CONCRETE WASHOUT WATER INTO FILTER RING
24" DIAMETER COMPOST FILTER SOCK. 4" MIN. OVERLAP ON UPSLOPE SIDE OF FILTER RING
2"x2"x36" WOOD STAKES PACED 5' O.C.
PLAN

NOTES:

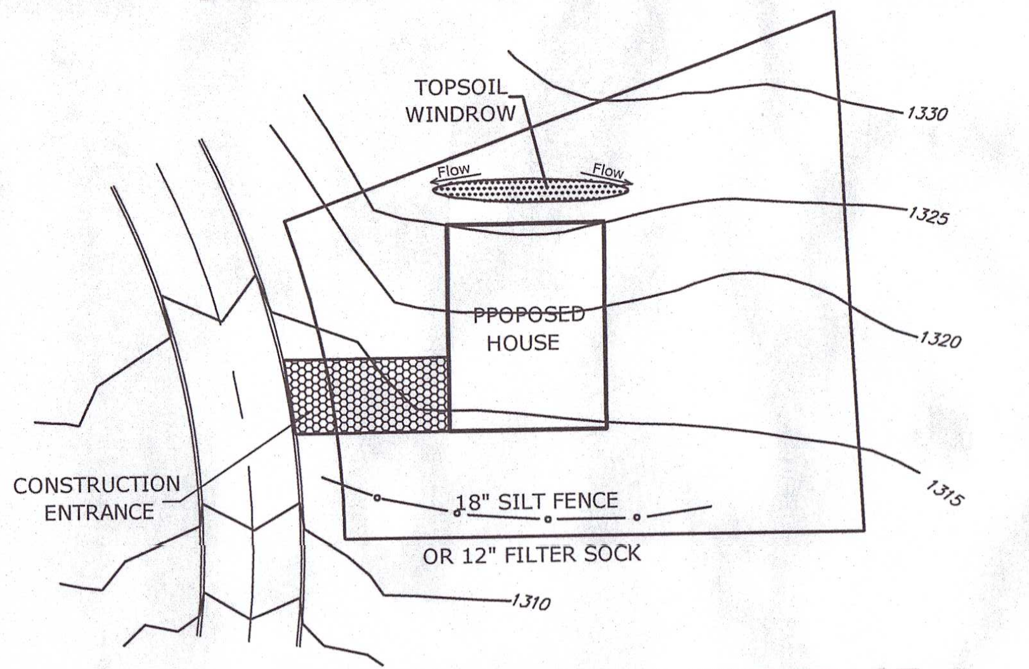
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. 18" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

FIGURE 3.18
TYPICAL COMPOST SOCK WASHOUT INSTALLATION

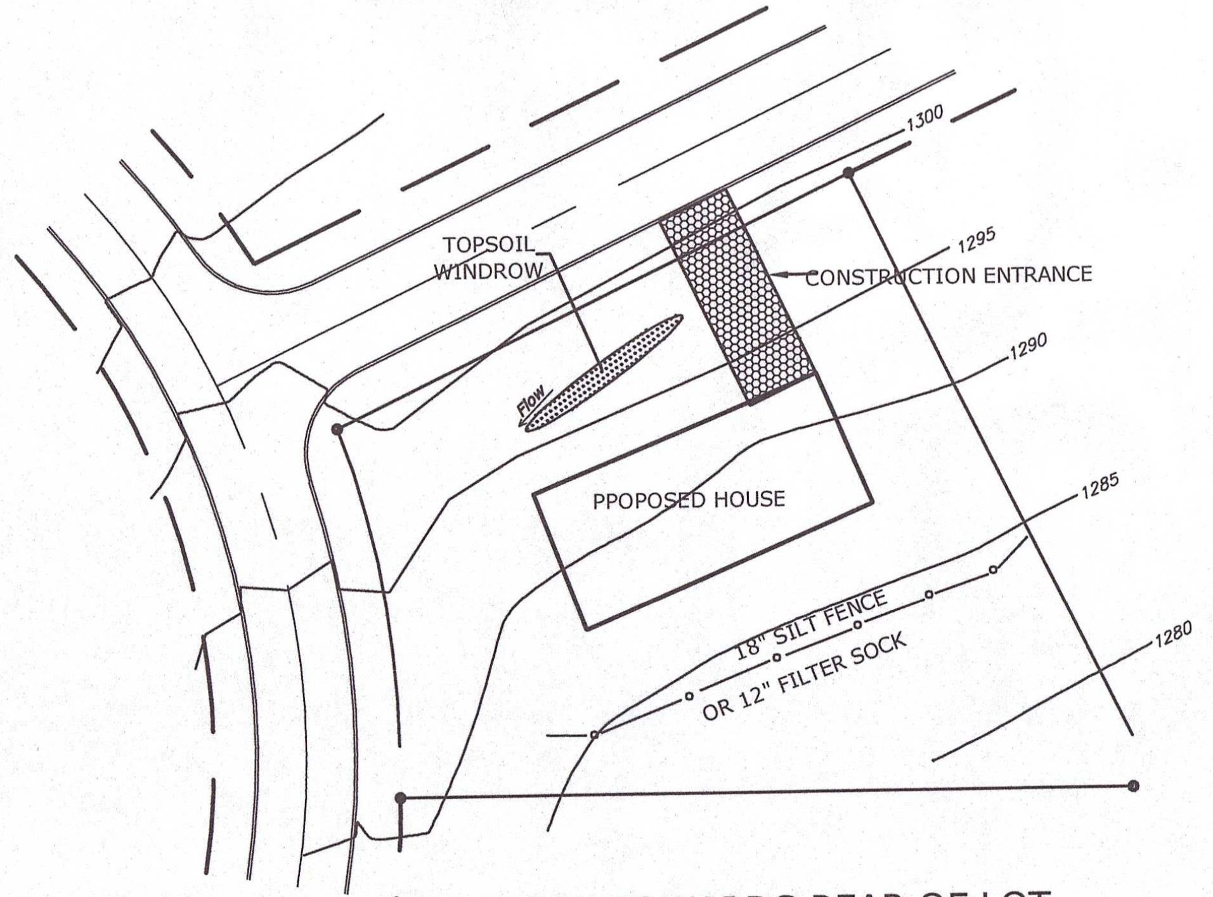
NOT TO SCALE


1340
Flow
Flow
TOPSOIL WINDROW
1340
1335
1335
PPOPOSED HOUSE
1330
1330
18" SILT FENCE OR 12" FILTER SOCK
CONSTRUCTION ENTRANCE
1325
1325
1320
1320

DRAINAGE TOWARDS FRONT OF LOT


TOPSOIL WINDROW
Flow
Flow
1330
1325
PPOPOSED HOUSE
1320
1315
CONSTRUCTION ENTRANCE
18" SILT FENCE
OR 12" FILTER SOCK
1310

DRAINAGE TOWARDS SIDE OF LOT


1300
TOPSOIL WINDROW
1295
CONSTRUCTION ENTRANCE
1290
Flow
PPOPOSED HOUSE
1285
18" SILT FENCE OR 12" FILTER SOCK
1280

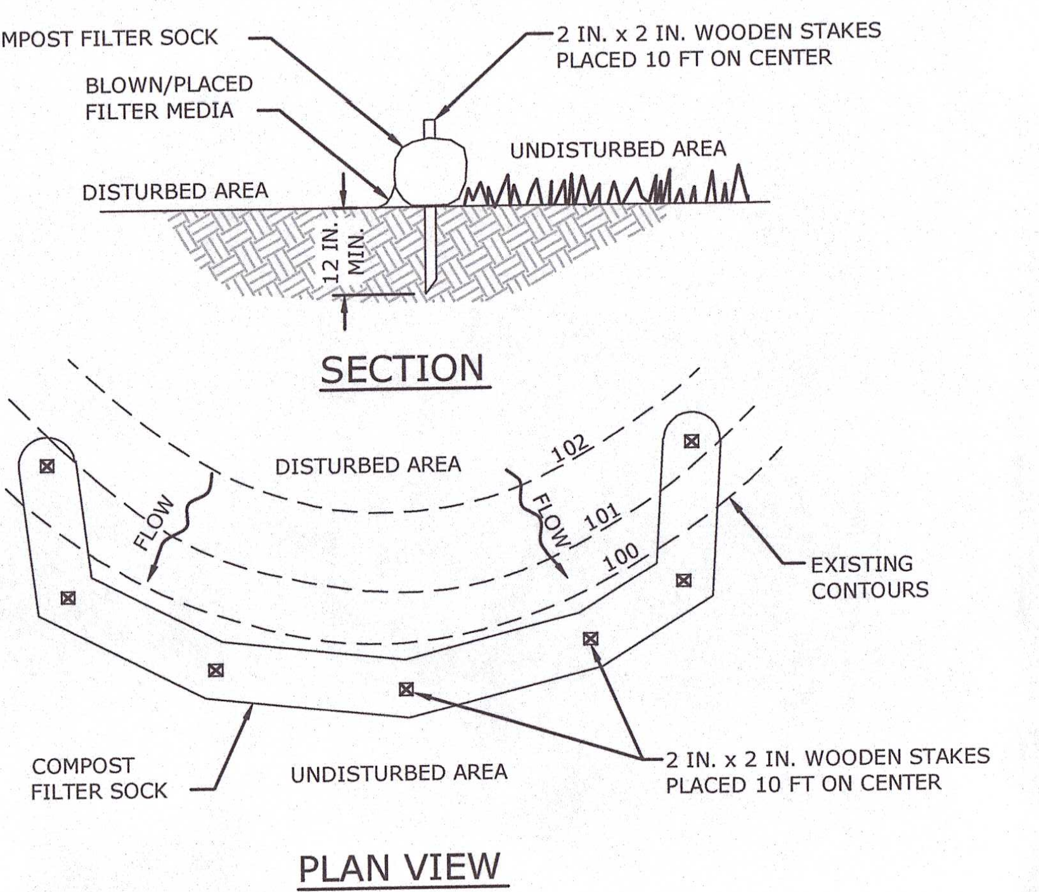
DRAINAGE TOWARDS REAR OF LOT

NOTES:

1. ANY MUD OR SEDIMENT TRACKED ONTO PUBLIC ROADWAYS SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF EACH WORKING DAY. WASHING OF THE ROADWAY WITH WATER IS NOT PERMITTED.

TYPICAL ON-LOT EROSION CONTROL

NOT TO SCALE


COMPOST FILTER SOCK
2 IN. x 2 IN. WOODEN STAKES PLACED 10 FT ON CENTER
BLOWN/PLACED FILTER MEDIA
UNDISTURBED AREA
DISTURBED AREA
12 IN. MIN.
SECTION
DISTURBED AREA
102
FLOW
FLOW
101
100
EXISTING CONTOURS
COMPOST FILTER SOCK
UNDISTURBED AREA
2 IN. x 2 IN. WOODEN STAKES PLACED 10 FT ON CENTER

PLAN VIEW

SOCK NO,	DA. IN.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
1	12	WESTERN PROPERTY BORDER NEAR CUL-DE-SAC	22	11.0
2	12	SOUTH SIDE OF BASIN FACILITY	1	1.0
3	12	SOUTH OF LOCUST ROAD ALONG LOCUST ST.	2	330.0
4	12	INT. OF E CHESTNUT ST AND S STONER AVE.	1	36.0
5	12	PERIMETER AT 41st ST	1	60.0

TABLE 4.2
COMPOST STANDARDS

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 DS/M (MMHOS/CM) MAXIMUM

NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER 'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

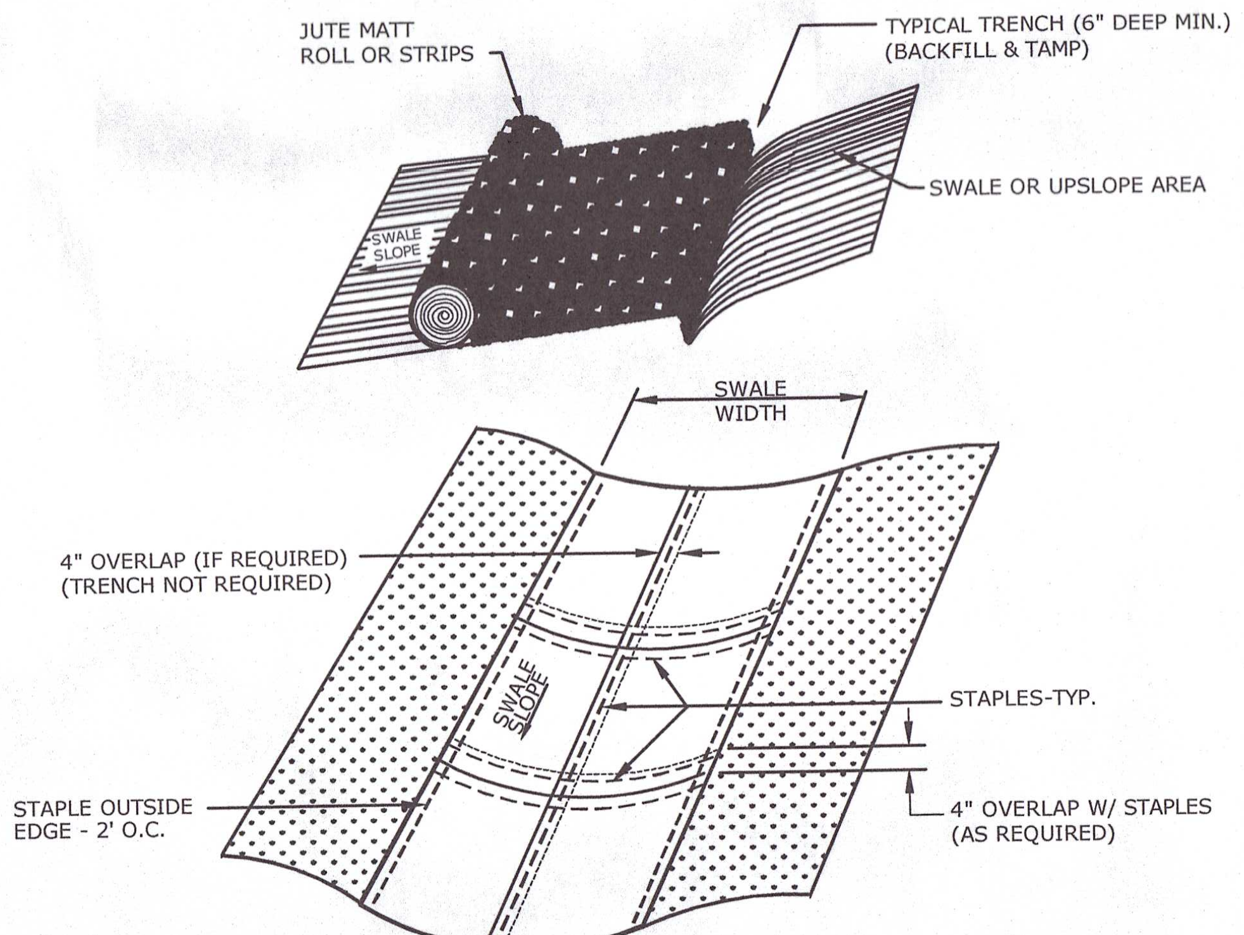
BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER 'S RECOMMENDATIONS.

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.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

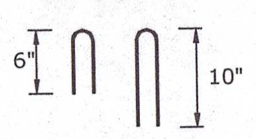
NOT TO SCALE


JUTE MATT ROLL OR STRIPS
TYPICAL TRENCH (6" DEEP MIN.) (BACKFILL & TAMP)
SWALE OR UPSLOPE AREA
SWALE SLOPE
SWALE WIDTH
4" OVERLAP (IF REQUIRED) (TRENCH NOT REQUIRED)
SWALE SLOPE
STAPLES-TYP.
STAPLE OUTSIDE EDGE - 2' O.C.
4" OVERLAP W/ STAPLES (AS REQUIRED)

INSTALLATION NOTES:

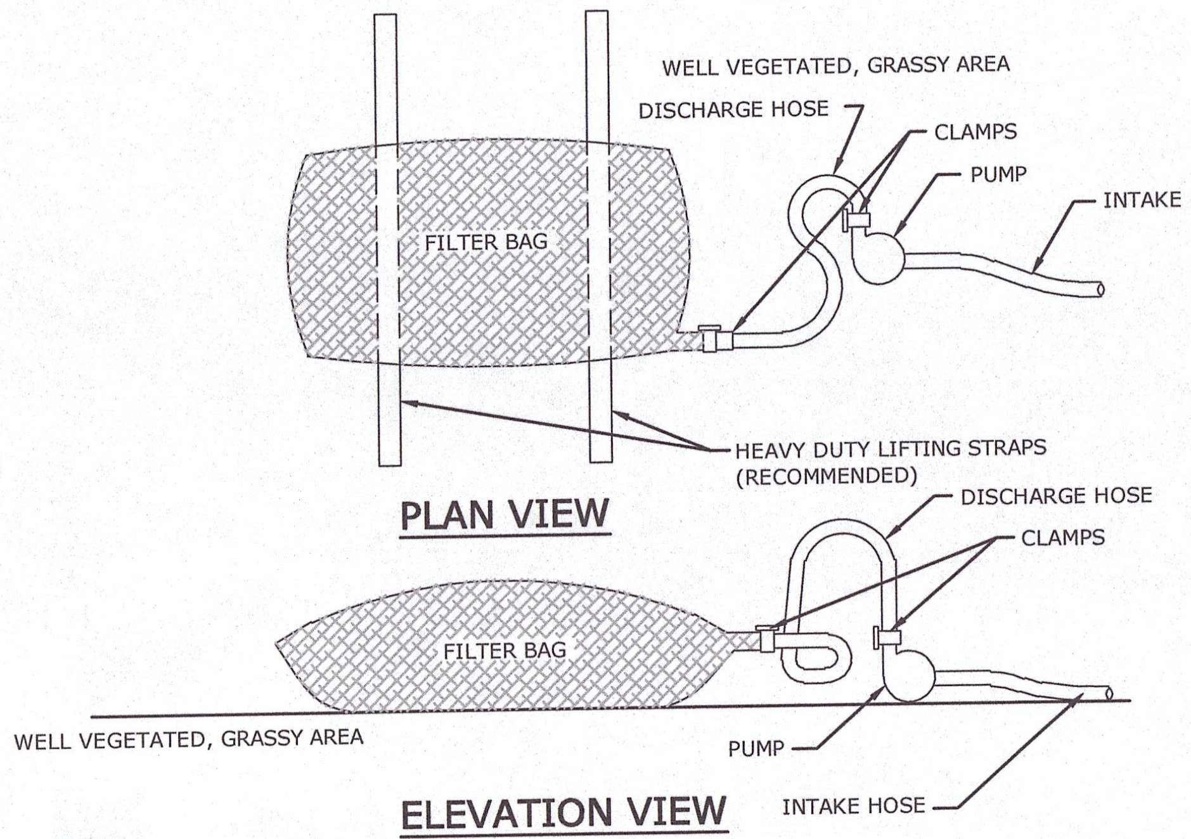
1. PRIOR TO JUTE AND OR STRAW WITH NET MATTING INSTALLATION, SWALE STABILIZATION SHALL BE AS FOLLOWS:
   - A. SPREAD TOPSOIL
   - B. SEED SWALE WITH PERMANENT MIXTURE
   - C. BEGIN APPROPRIATE SWALE MATTING INSTALLATION AS FOLLOWS BELOW
2. BURY TOP END OF THE JUTE STRIPS IN A TRENCH 6" DEEP (MIN.)
3. TAMP TRENCH FULL OF SOIL. SECURE WITH ROW OF STAPLES 6" SPACING -- 4" AWAY FROM TRENCH
4. OVERLAP AND BURY UPPER END OF LOWER STRIP. OVERLAP END OF TOP STRIP 4" AND STAPLE.
5. INSTALL DOUBLE ROW OF STAPLES AT EACH STRIP END (4" ABOVE AND BELOW TRENCH.
6. OVERLAP JUTE STRIPS AND STAPLE 18" O.C. ALONG OVERLAP IF MULTIPLE STRIPS ARE REQUIRED ALONG WIDTH OF SWALE

STAPLE SIZES


6"
10"
1-1/2"
(TYP. FOR 6" & 10")

JUTE OR STRAW WITH NET MATTING INSTALLATION

NOT TO SCALE


WELL VEGETATED, GRASSY AREA
DISCHARGE HOSE
CLAMPS
PUMP
INTAKE HOSE
FILTER BAG
HEAVY DUTY LIFTING STRAPS (RECOMMENDED)
PLAN VIEW
DISCHARGE HOSE
CLAMPS
FILTER BAG
WELL VEGETATED, GRASSY AREA
PUMP
INTAKE HOSE

ELEVATION VIEW

NOTES:

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

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

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

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

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

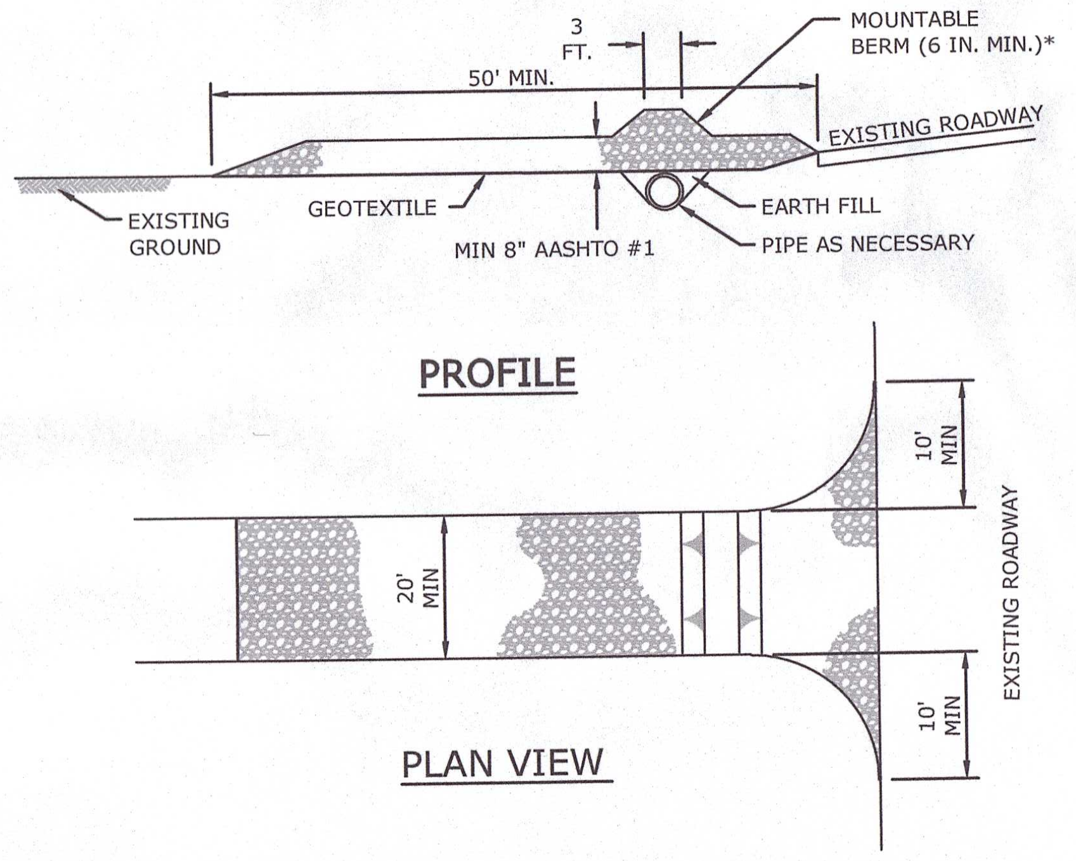
THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

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

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG

NOT TO SCALE


3 FT.
MOUNTABLE BERM (6 IN. MIN.)*
50' MIN.
EXISTING ROADWAY
EXISTING GROUND
GEOTEXTILE
MIN 8" AASHTO #1
EARTH FILL
PIPE AS NECESSARY
PROFILE
10' MIN
20' MIN
EXISTING ROADWAY
10' MIN
PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

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

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

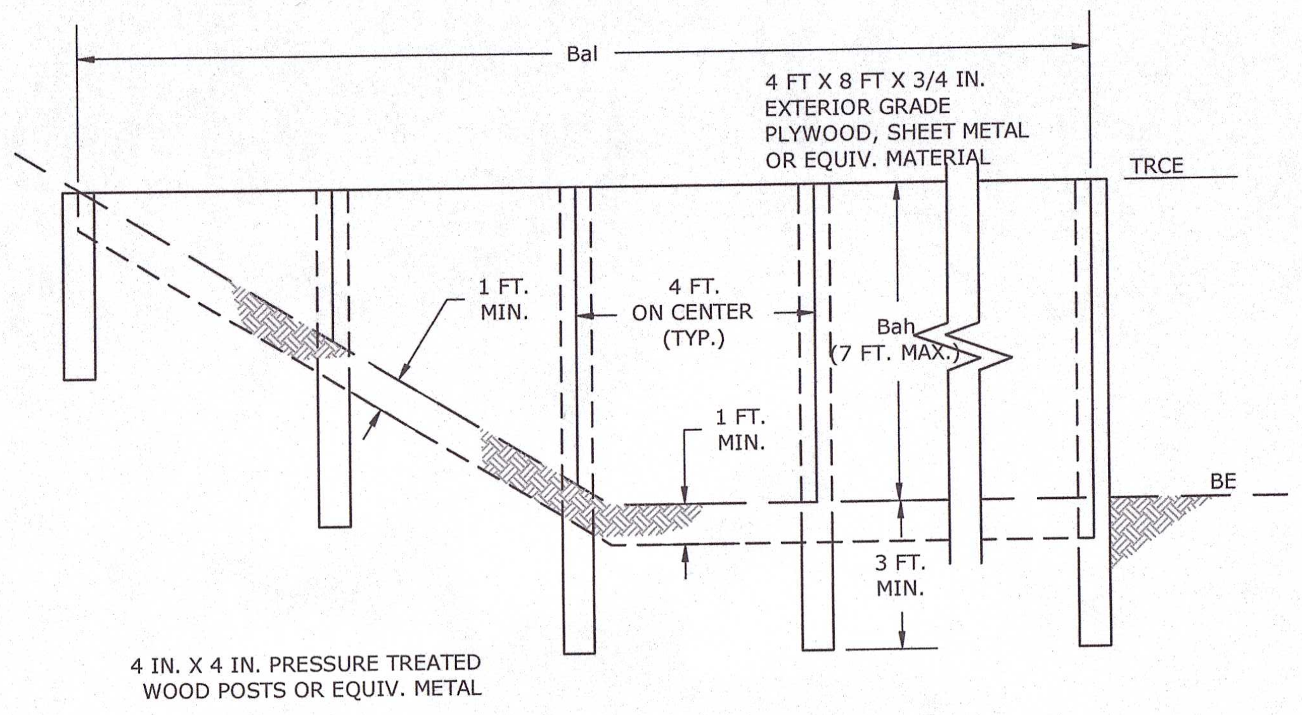
MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

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.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE


Bal
4 FT X 8 FT X 3/4 IN. EXTERIOR GRADE PLYWOOD, SHEET METAL OR EQUIV. MATERIAL
TRCE
1 FT. MIN.
4 FT. ON CENTER (TYP.)
Bah (7 FT. MAX.)
1 FT. MIN.
BE
3 FT. MIN.
4 IN. X 4 IN. PRESSURE TREATED WOOD POSTS OR EQUIV. METAL

BASIN OR TRAP NO.	BAFFLE		TEMPORARY RISER	BOTTOM
	LENGTH Bal (FT)	HEIGHT Bah (FT)	CREST ELEV. TRCE (FT)	BOTTOM ELEV BE (FT)
1	40	6.50	401.50	395.00
1	30	6.50	401.50	395.00
1				
1				

NOTES:

SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.

AN ACCEPTABLE ALTERNATIVE IS TO INSTALL A SUPER SILT FENCE AT THE BAFFLE LOCATION

IN POOLS WITH DEPTHS EXCEEDING 7', THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRCE ELEVATION.

BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS.

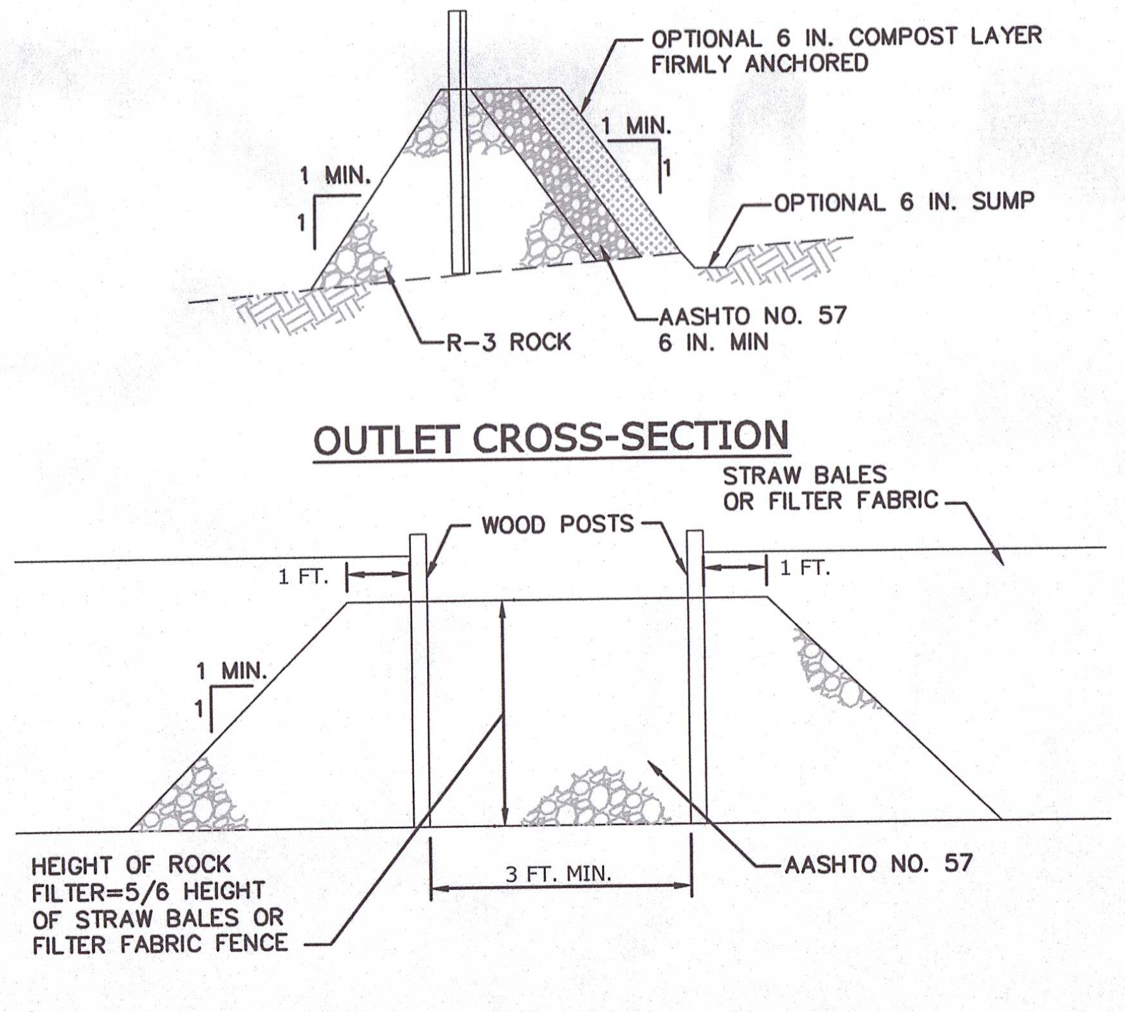
SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.

DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION.

BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

STANDARD CONSTRUCTION DETAIL #7-14
BAFFLE

NOT TO SCALE


OPTIONAL 6 IN. COMPOST LAYER FIRMLY ANCHORED
1 MIN.
1
1 MIN.
1
OPTIONAL 6 IN. SUMP
R-3 ROCK
AASHTO NO. 57 6 IN. MIN
OUTLET CROSS-SECTION
STRAW BALES OR FILTER FABRIC
WOOD POSTS
1 FT.
1 FT.
1 MIN.
1
HEIGHT OF ROCK FILTER=5/6 HEIGHT OF STRAW BALES OR FILTER FABRIC FENCE
3 FT. MIN.
AASHTO NO. 57

UP-SLOPE FACE

NOTES:

A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED

STANDARD CONSTRUCTION DETAIL #4-6
ROCK FILTER OUTLET

NOT TO SCALE

K&W
DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

CUMBERLAND COUNTY, PA

REVISED FINAL SUBDIVISION PLAN

145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD

CAD DRAWING:
2121007-K_ldDETL.dwg

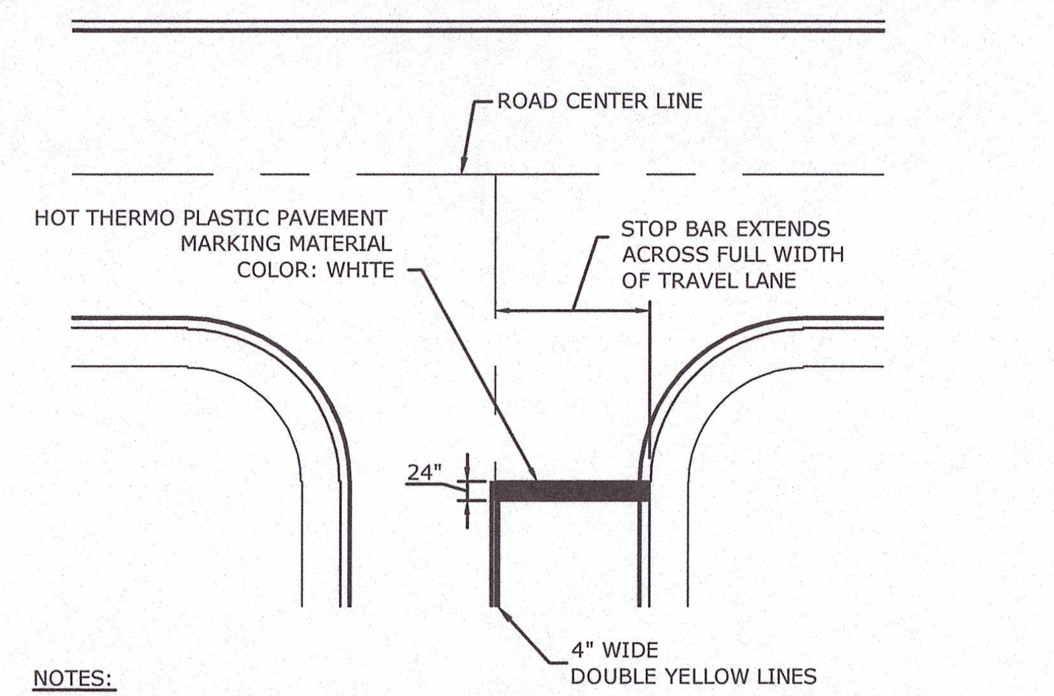
REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
E&S DETAILS

SHEET:
15 OF 19

XRefs: P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-01_xrTB_24x36.dwg
Images: P:\2000\2049\028 - Woodbridge Phase I\CAD\z2049013\dwg\Images\Details\INVERTED FILTER DETAIL.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh cover detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh frame detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh x-sec detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\sewerconnection detail.tif

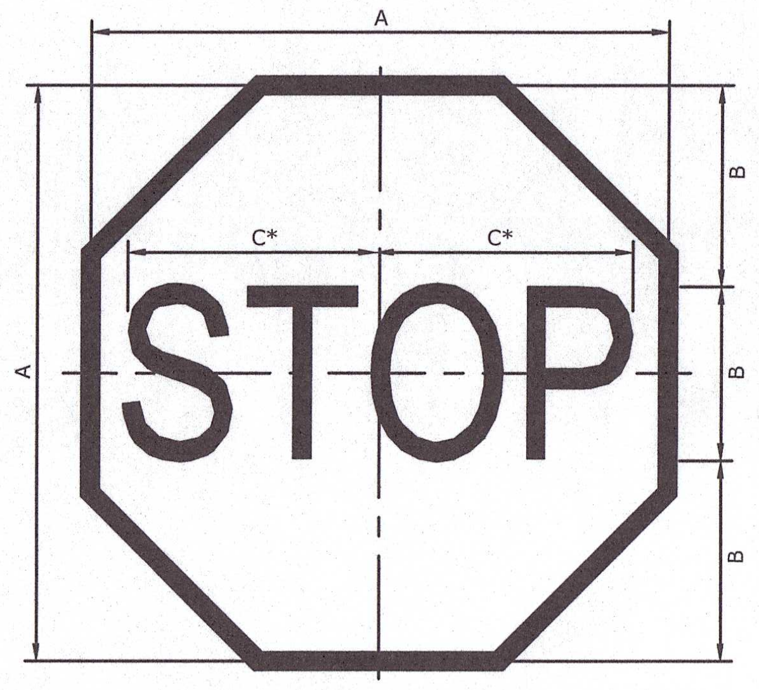

ROAD CENTER LINE
HOT THERMO PLASTIC PAVEMENT MARKING MATERIAL COLOR: WHITE
STOP BAR EXTENDS ACROSS FULL WIDTH OF TRAVEL LANE
24"
4" WIDE DOUBLE YELLOW LINES

NOTES:

1. MATERIALS AND WORK SHALL COMPLY WITH PENNDOT PUBLICATION 408 SPECIFICATIONS AND PENNDOT BULLETIN 15 CONSTRUCTION MATERIALS.
2. THE CONTRACTOR SHALL INSTALL THE COLD PLASTIC PAVEMENT MARKING MATERIAL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

TYPICAL STOP BAR DETAIL

NOT TO SCALE


A
C*
C*
STOP
A
B
B
B

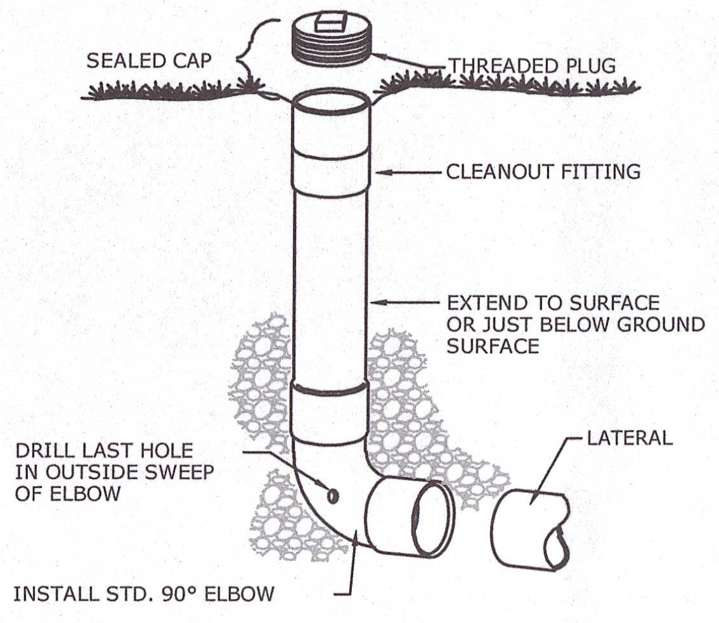
COLOR: LEGEND AND BORDER — WHITE (REFLECTORIZED)
BACKGROUND — RED (REFLECTORIZED)

SIGN SIZE	DIMENSIONS			SERIES	BOR-DER	BLANK STD
	A	B	C	LINE		
24 X 24	24	8	10	C	3/8	B1-24
30 X 30	30	10	12.5	C	3/4	B1-30
36 X 36	36	12	15	C	7/8	B1-36
48 X 48	48	16	20	C	1-3/8	B1-48

* REDUCE SPACING 40%

PENNDOT R1-1 STOP SIGN

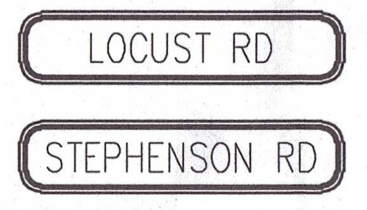
NOT TO SCALE


SEALED CAP
THREADED PLUG
CLEANOUT FITTING
EXTEND TO SURFACE OR JUST BELOW GROUND SURFACE
LATERAL
DRILL LAST HOLE IN OUTSIDE SWEEP OF ELBOW
INSTALL STD. 90° ELBOW

NOTE:
ALL PVC PIPING FOR LATERALS 1-1/2" DIA.
LATERAL CLEANOUT REQUIRED AT TERMINAL END OF EACH LATERAL LINE IN DISTRIBUTION CENTER.

INSTALLATION OF LATERAL CLEANOUTS

NOT TO SCALE

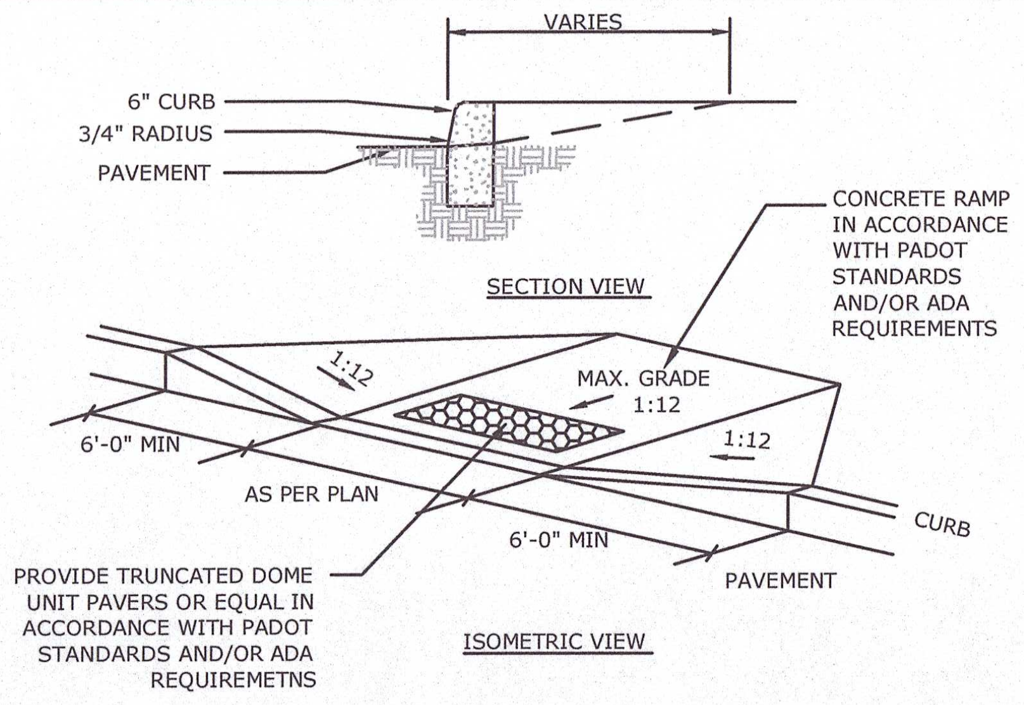

LOCUST RD
STEPHENSON RD

NOTES:

1. SIZE: 36 INCHES MAXIMUM WIDTH BY EIGHT INCHES MAXIMUM DEPTH.
2. LETTERING: SIX INCHES; CLEARVIEW FONT, UPPER AND LOWER CASE
3. SIGN MATERIAL: TYPE III HIGH INTENSITY AND/OR TYPE IV STIMSONITE HIGH PERFORMANCE REFLECTIVE SHEETING AND LETTERS ON ALUMINUM BLANK AS APPROVED BY PENNDOT AND LISTED IN PUBLICATION 35.
4. COLOR: WHITE LEGEND ON GREEN BACKGROUND.

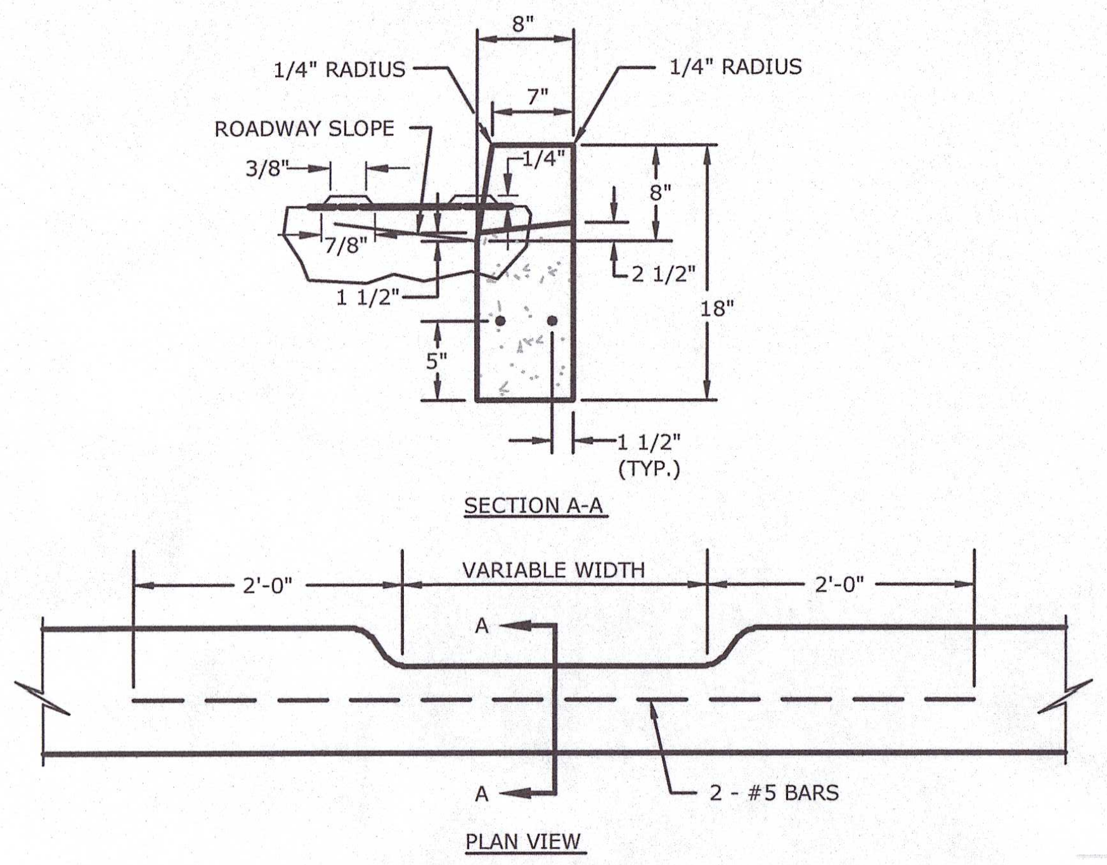
STREET NAME SIGNS

NOT TO SCALE


VARIES
6" CURB
3/4" RADIUS
PAVEMENT
SECTION VIEW
CONCRETE RAMP IN ACCORDANCE WITH PADOT STANDARDS AND/OR ADA REQUIREMENTS
1:12
MAX. GRADE 1:12
1:12
6'-0" MIN
AS PER PLAN
6'-0" MIN
CURB
PAVEMENT
PROVIDE TRUNCATED DOME UNIT PAVERS OR EQUAL IN ACCORDANCE WITH PADOT STANDARDS AND/OR ADA REQUIREMETNS
ISOMETRIC VIEW

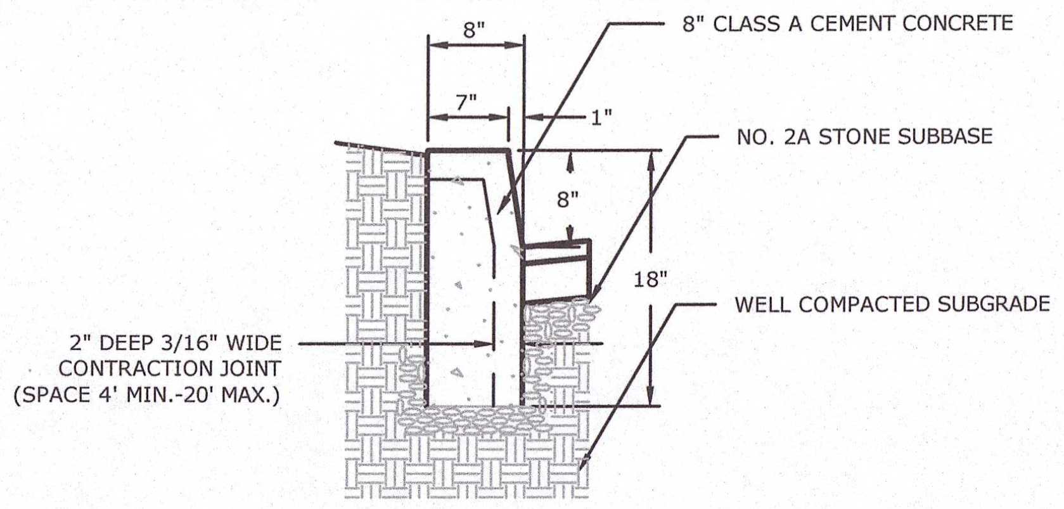
HANDICAP RAMP

NOT TO SCALE


8"
1/4" RADIUS
7"
1/4" RADIUS
ROADWAY SLOPE
3/8"
1/4"
8"
7/8"
2 1/2"
1 1/2"
18"
5"
1 1/2" (TYP.)
SECTION A-A
2'-0"
VARIABLE WIDTH
2'-0"
A
A
2 - #5 BARS
PLAN VIEW

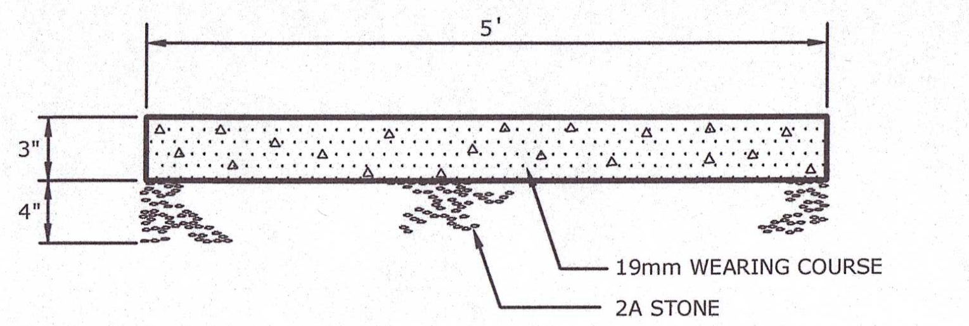
DEPRESSED CURB FOR DRIVES

NOT TO SCALE


8"
7"
1"
8" CLASS A CEMENT CONCRETE
NO. 2A STONE SUBBASE
8"
18"
WELL COMPACTED SUBGRADE
2" DEEP 3/16" WIDE CONTRACTION JOINT (SPACE 4' MIN.-20' MAX.)

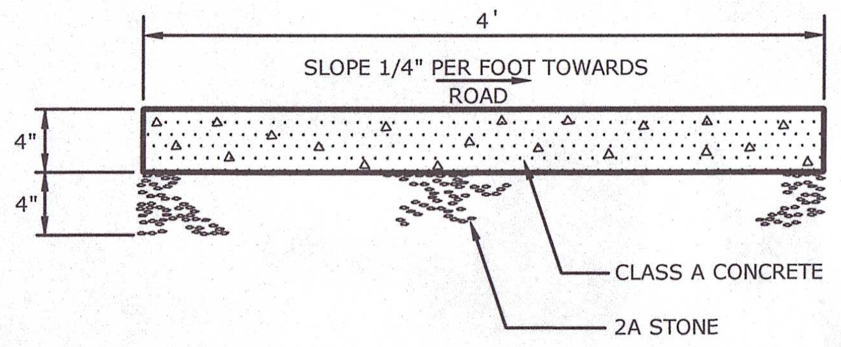
8" CONCRETE CURB

NOT TO SCALE


5'
3"
4"
19mm WEARING COURSE
2A STONE

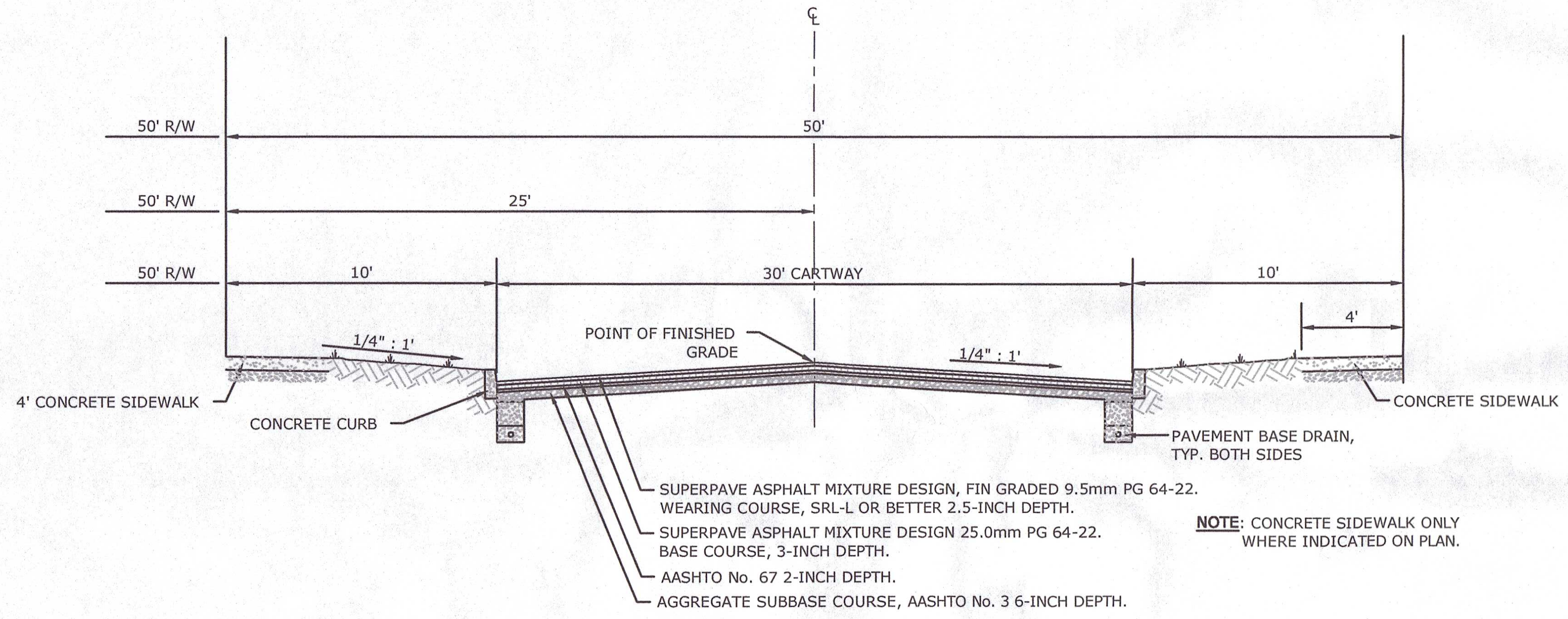
5' BITUMINOUS TRAIL

NOT TO SCALE


4'
SLOPE 1/4" PER FOOT TOWARDS ROAD
4"
4"
CLASS A CONCRETE
2A STONE

4' CONCRETE SIDEWALK

NOT TO SCALE

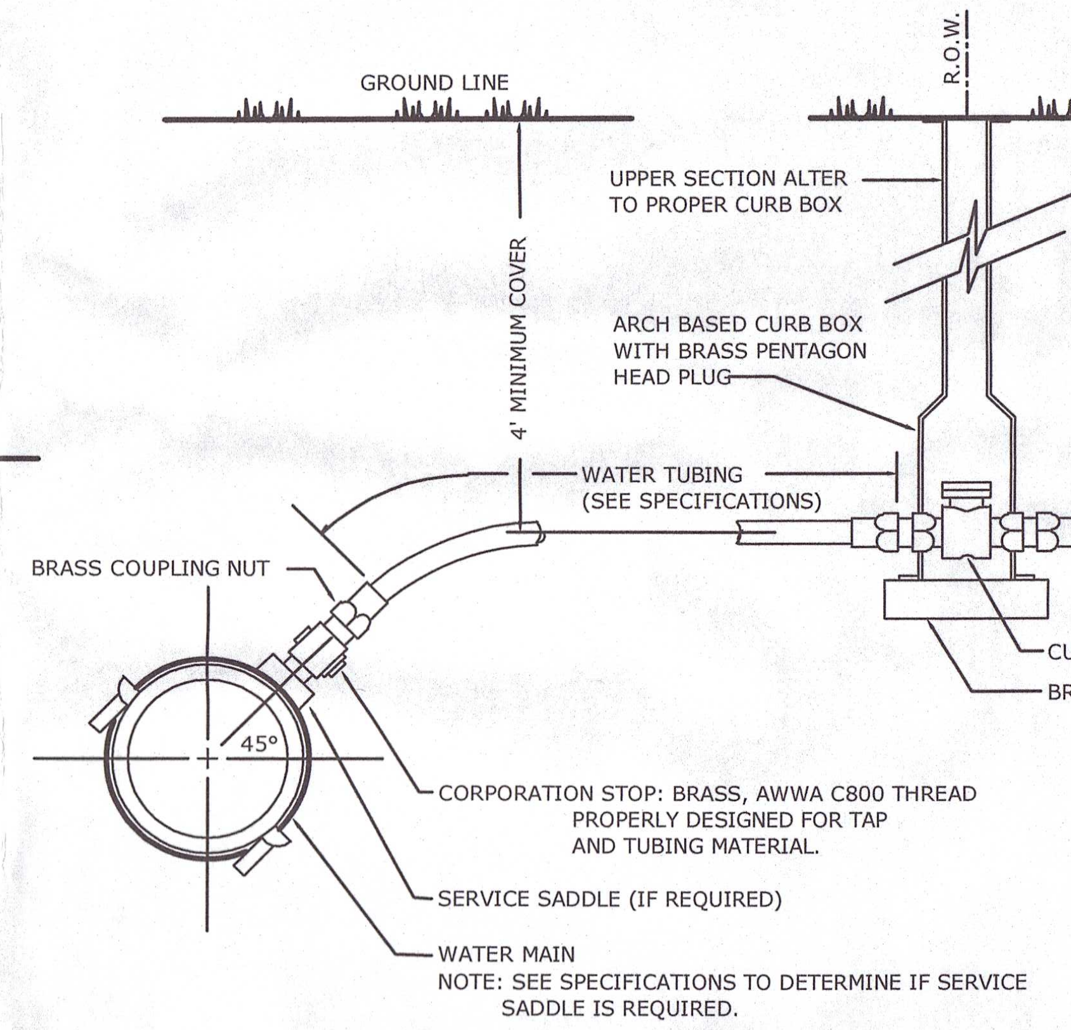

℄
50' R/W
50'
50' R/W
25'
50' R/W
10'
30' CARTWAY
10'
4'
1/4" : 1'
POINT OF FINISHED GRADE
1/4" : 1'
4' CONCRETE SIDEWALK
CONCRETE CURB
CONCRETE SIDEWALK
PAVEMENT BASE DRAIN, TYP. BOTH SIDES
SUPERPAVE ASPHALT MIXTURE DESIGN, FIN GRADED 9.5mm PG 64-22. WEARING COURSE, SRL-L OR BETTER 2.5-INCH DEPTH.
SUPERPAVE ASPHALT MIXTURE DESIGN 25.0mm PG 64-22. BASE COURSE, 3-INCH DEPTH.
AASHTO No. 67 2-INCH DEPTH.
AGGREGATE SUBBASE COURSE, AASHTO No. 3 6-INCH DEPTH.

NOTE: CONCRETE SIDEWALK ONLY WHERE INDICATED ON PLAN.

1. WEARING COURSE PLACED IN TWO LIFTS. 1-INCH DEPTH FIRST LIFT. 1.5-INCH DEPTH FINAL LIFT.
2. FIRST WEARING COURSE LIFT MUST BE PLACED WITH 30 DAYS OF PLACING BASE COURSE.
3. SECOND WEARING COURSE LIFT MUST NOT BE PLACED PRIOR TO OCCUPANCY OF 90% OF UNITS USING THE STREET FOR ACCESS.
4. SUPERPAVE MIX DESIGN BASED ON ESALs MUST BE APPROVED BY THE MUNICIPALITY PRIOR TO CONSTRUCTION.
5. DEPTH OF BASE COURSE AND AGGREGATE SUBBASE ARE SHOWN AS THE MINIMUM FOR RESIDENTIAL CUL-DE-SAC AND LOCAL ACCESS STREETS WITH ADT LESS THEN 400. ACTUAL DEPTHS FOR OTHER STREETS MUST BE DETERMINED BY A PAVEMENT DESIGN APPROVED BY THE MUNICIPALITY.
6. 8-INCH STANDARD REVEAL. 10 INCH SUMP CONDITION AT INLETS.

TYPICAL STREET CROSS SECTION (50' ROW)

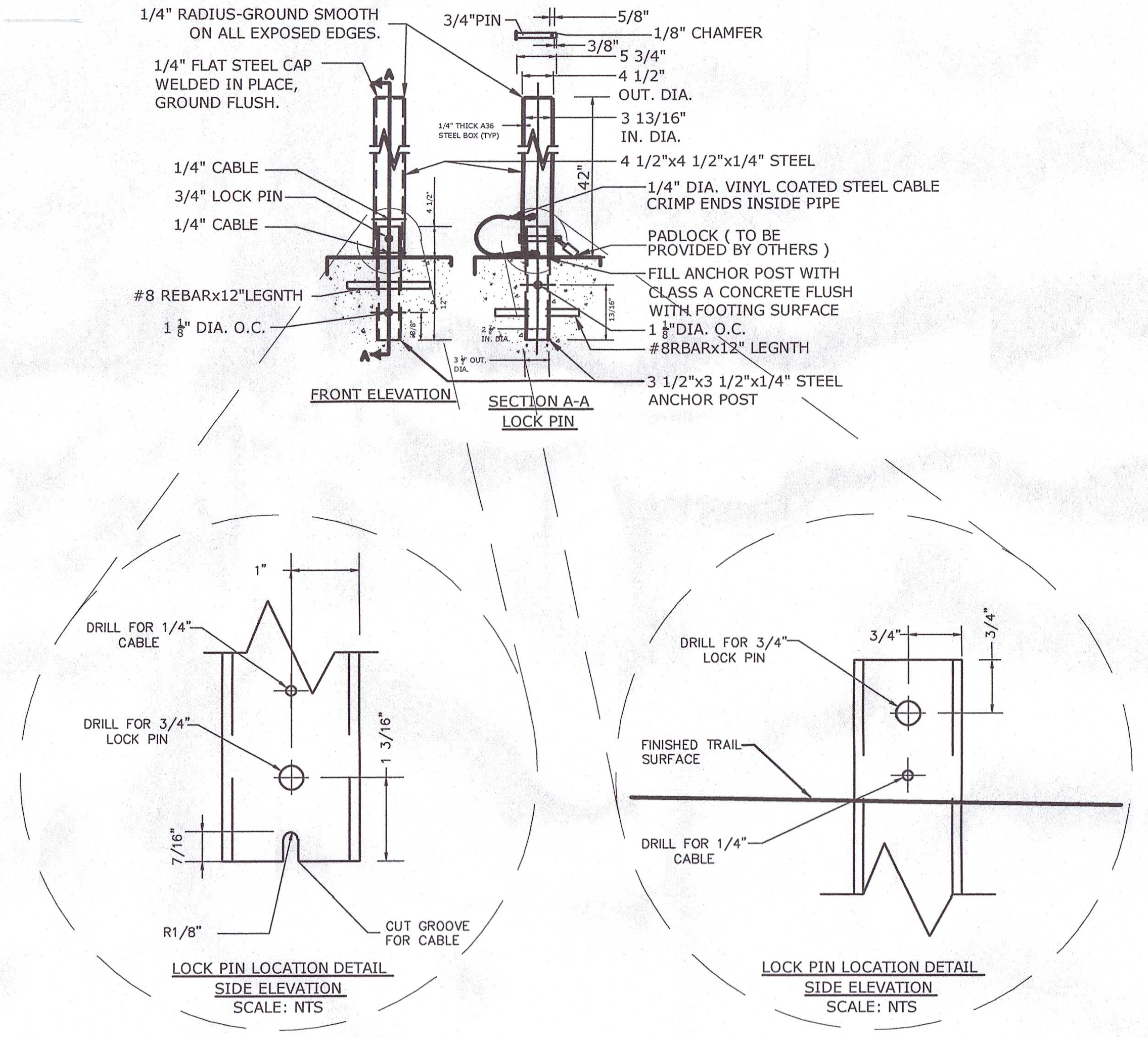
NOT TO SCALE


GROUND LINE
R.O.W.
UPPER SECTION ALTER TO PROPER CURB BOX
4' MINIMUM COVER
ARCH BASED CURB BOX WITH BRASS PENTAGON HEAD PLUG
WATER TUBING (SEE SPECIFICATIONS)
BRASS COUPLING NUT
CURB STOP
BRICK SUPPORT
45°
CORPORATION STOP: BRASS, AWWA C800 THREAD PROPERLY DESIGNED FOR TAP AND TUBING MATERIAL.
SERVICE SADDLE (IF REQUIRED)
WATER MAIN

NOTE: SEE SPECIFICATIONS TO DETERMINE IF SERVICE SADDLE IS REQUIRED.

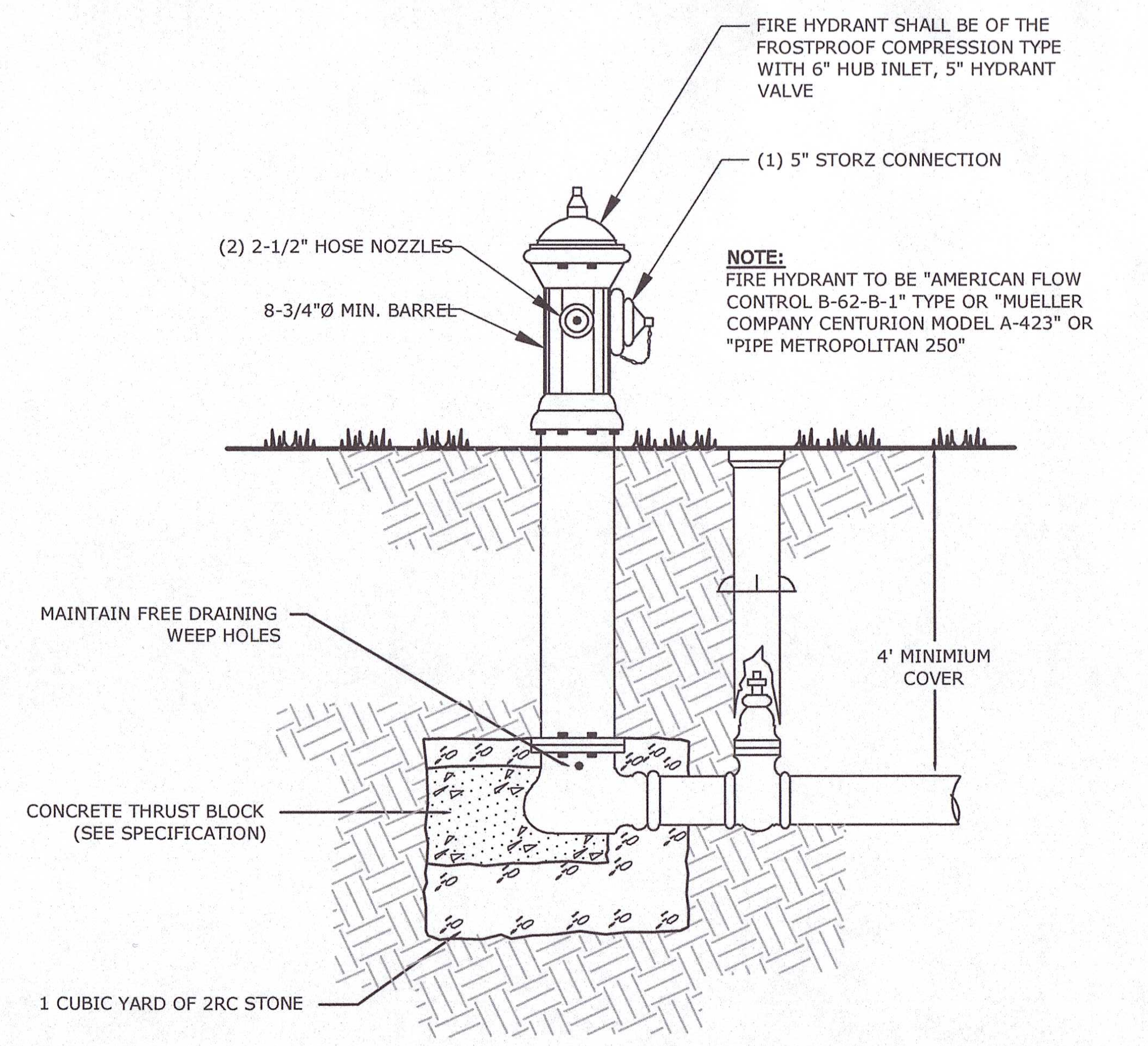
WATER SERVICE LATERAL

NOT TO SCALE


1/4" RADIUS-GROUND SMOOTH ON ALL EXPOSED EDGES.
1/4" FLAT STEEL CAP WELDED IN PLACE, GROUND FLUSH.
1/4" THICK A36 STEEL BOX (TYP)
1/4" CABLE
3/4" LOCK PIN
1/4" CABLE
#8 REBARx12"LEGNTH
1 1/8" DIA. O.C.
FRONT ELEVATION
3/4"PIN
5/8"
1/8" CHAMFER
3/8"
5 3/4"
4 1/2" OUT. DIA.
3 13/16" IN. DIA.
4 1/2"x4 1/2"x1/4" STEEL
42"
1/4" DIA. VINYL COATED STEEL CABLE CRIMP ENDS INSIDE PIPE
PADLOCK (TO BE PROVIDED BY OTHERS)
FILL ANCHOR POST WITH CLASS A CONCRETE FLUSH WITH FOOTING SURFACE
1 1/8"DIA. O.C.
#8RBARx12" LEGNTH
3 1/2"x3 1/2"x1/4" STEEL ANCHOR POST
SECTION A-A LOCK PIN
1"
DRILL FOR 1/4" CABLE
DRILL FOR 3/4" LOCK PIN
1 3/16"
7/16"
R1/8"
CUT GROOVE FOR CABLE
LOCK PIN LOCATION DETAIL SIDE ELEVATION SCALE: NTS
DRILL FOR 3/4" LOCK PIN
3/4"
3/4"
FINISHED TRAIL SURFACE
DRILL FOR 1/4" CABLE
LOCK PIN LOCATION DETAIL SIDE ELEVATION SCALE: NTS

REMOVABLE BOLLARD DETAILS

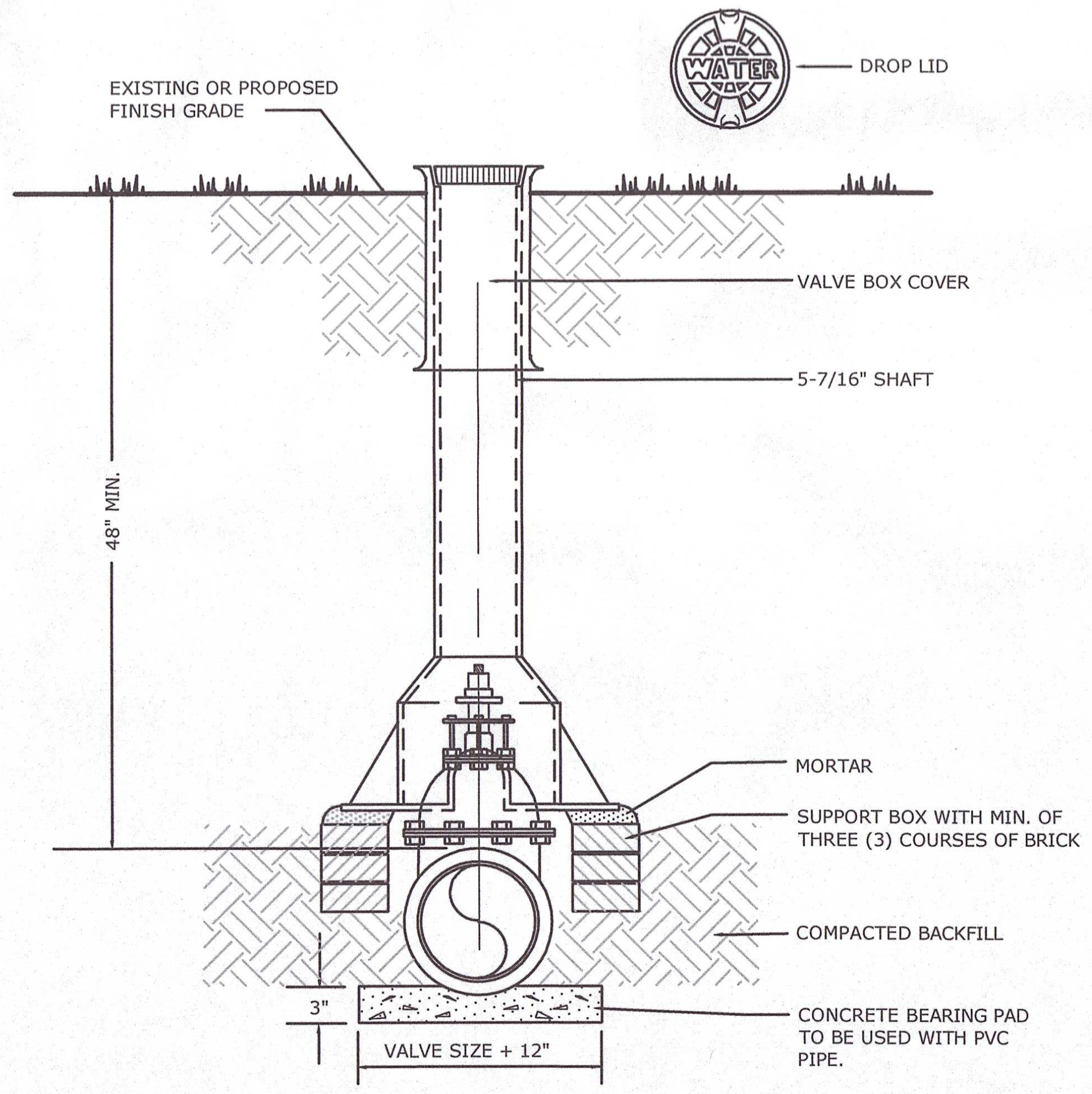
SCALE: NTS


FIRE HYDRANT SHALL BE OF THE FROSTPROOF COMPRESSION TYPE WITH 6" HUB INLET, 5" HYDRANT VALVE
(1) 5" STORZ CONNECTION
(2) 2-1/2" HOSE NOZZLES
8-3/4"Ø MIN. BARREL
MAINTAIN FREE DRAINING WEEP HOLES
4' MINIMIUM COVER
CONCRETE THRUST BLOCK (SEE SPECIFICATION)
1 CUBIC YARD OF 2RC STONE

NOTE:
FIRE HYDRANT TO BE "AMERICAN FLOW CONTROL B-62-B-1" TYPE OR "MUELLER COMPANY CENTURION MODEL A-423" OR "PIPE METROPOLITAN 250"

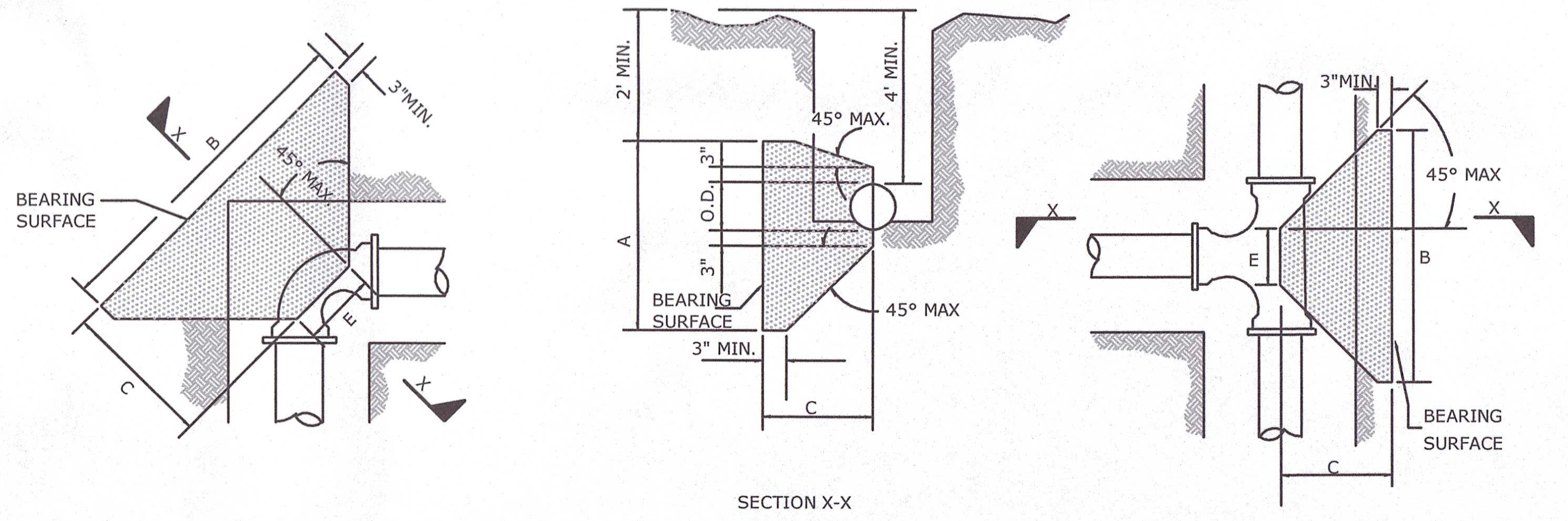
TYPICAL FIRE HYDRANT

NOT TO SCALE


WATER
DROP LID
EXISTING OR PROPOSED FINISH GRADE
VALVE BOX COVER
5-7/16" SHAFT
48" MIN.
MORTAR
SUPPORT BOX WITH MIN. OF THREE (3) COURSES OF BRICK
COMPACTED BACKFILL
3"
VALVE SIZE + 12"
CONCRETE BEARING PAD TO BE USED WITH PVC PIPE.

TYPICAL VALVE BOX INSTALLATION

NOT TO SCALE

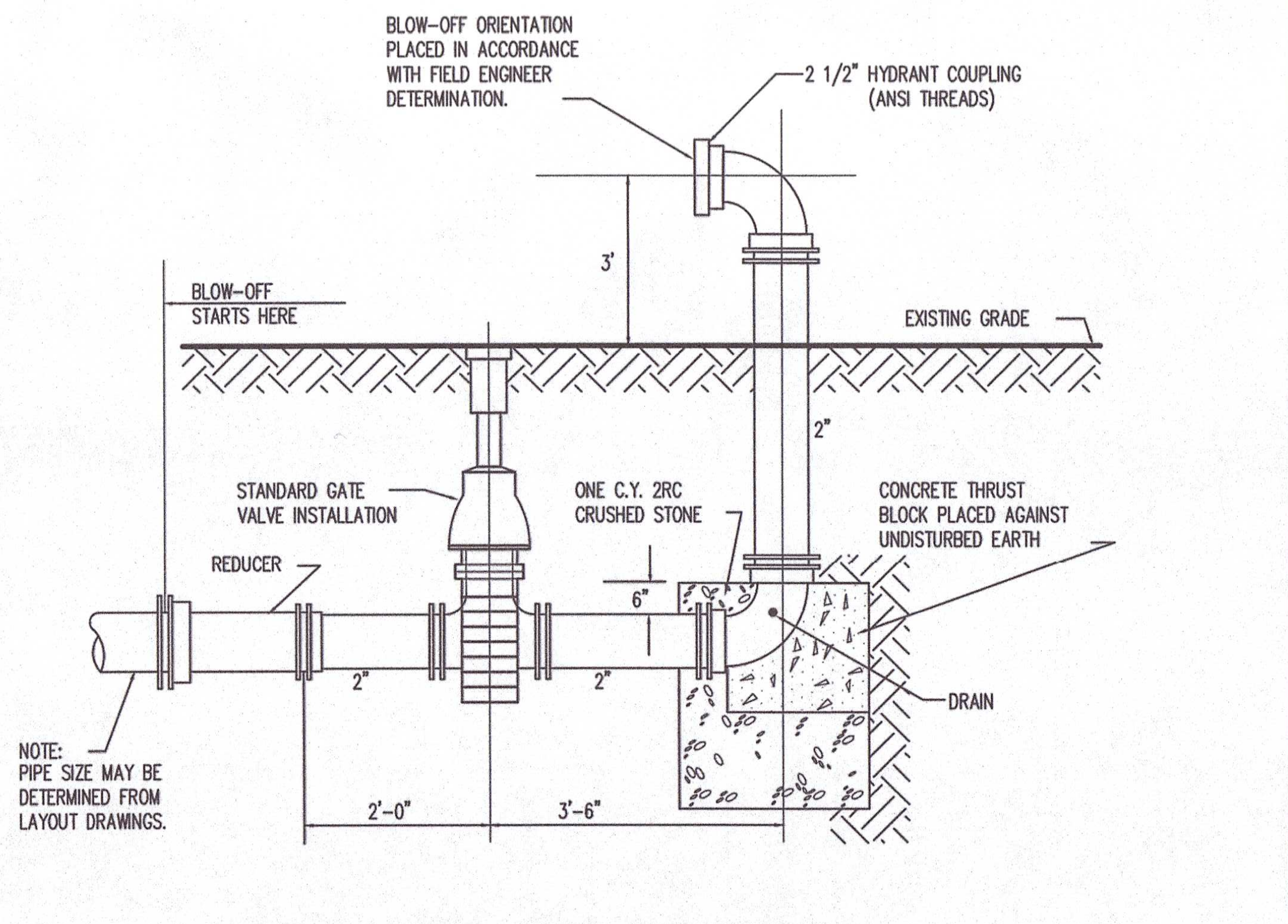

BEARING SURFACE
X
B
3"MIN.
45° MAX
E
C
X
2' MIN.
4' MIN.
45° MAX.
3"
O.D.
3"
A
BEARING SURFACE
45° MAX
3" MIN.
C
SECTION X-X
3"MIN.
45° MAX
X
X
E
B
C
BEARING SURFACE

PIPE SIZE	TEST PRESSURE	TEE OR DEAD END		90° BEND		45° BEND		22 1/2° & 11 1/2° BENDS	
		A	B	A	B	A	B	A	B
8"	200 PSI	2' 0"	3' 10"	2' 6"	4' 4"	1' 9"	3' 4"	1' 3"	2' 5"

NOTES:
1. DATA ON THIS TABLE ASSUMES SOIL BEARING CAPACITY OF 2,000 LBS/SQ.FT. (SAND & GRAVEL WITH CLAY). IF FIELD CONDITIONS OTHER THAN ASSUMED ARE ENCOUNTERED, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
2. BEARING SURFACE SHALL BE PLACED AGAINST UNDISTURBED SOIL. WERE THIS IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
3. DIMENSION "E" SHALL BE AS LARGE AS POSSIBLE WITHOUT LIMITING JOINT FLEXIBILITY.

BEARING THRUST BLOCKS

NOT TO SCALE


BLOW-OFF ORIENTATION PLACED IN ACCORDANCE WITH FIELD ENGINEER DETERMINATION.
2 1/2" HYDRANT COUPLING (ANSI THREADS)
3'
BLOW-OFF STARTS HERE
EXISTING GRADE
2"
STANDARD GATE VALVE INSTALLATION
ONE C.Y. 2RC CRUSHED STONE
CONCRETE THRUST BLOCK PLACED AGAINST UNDISTURBED EARTH
REDUCER
6"
2"
2"
DRAIN
2'-0"
3'-6"

NOTE:
PIPE SIZE MAY BE DETERMINED FROM LAYOUT DRAWINGS.

2" BLOW-OFF DETAIL

NOT TO SCALE

K&W
DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

CUMBERLAND COUNTY, PA

REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING:	2121007-K_ldDETL.dwg

REVISIONS

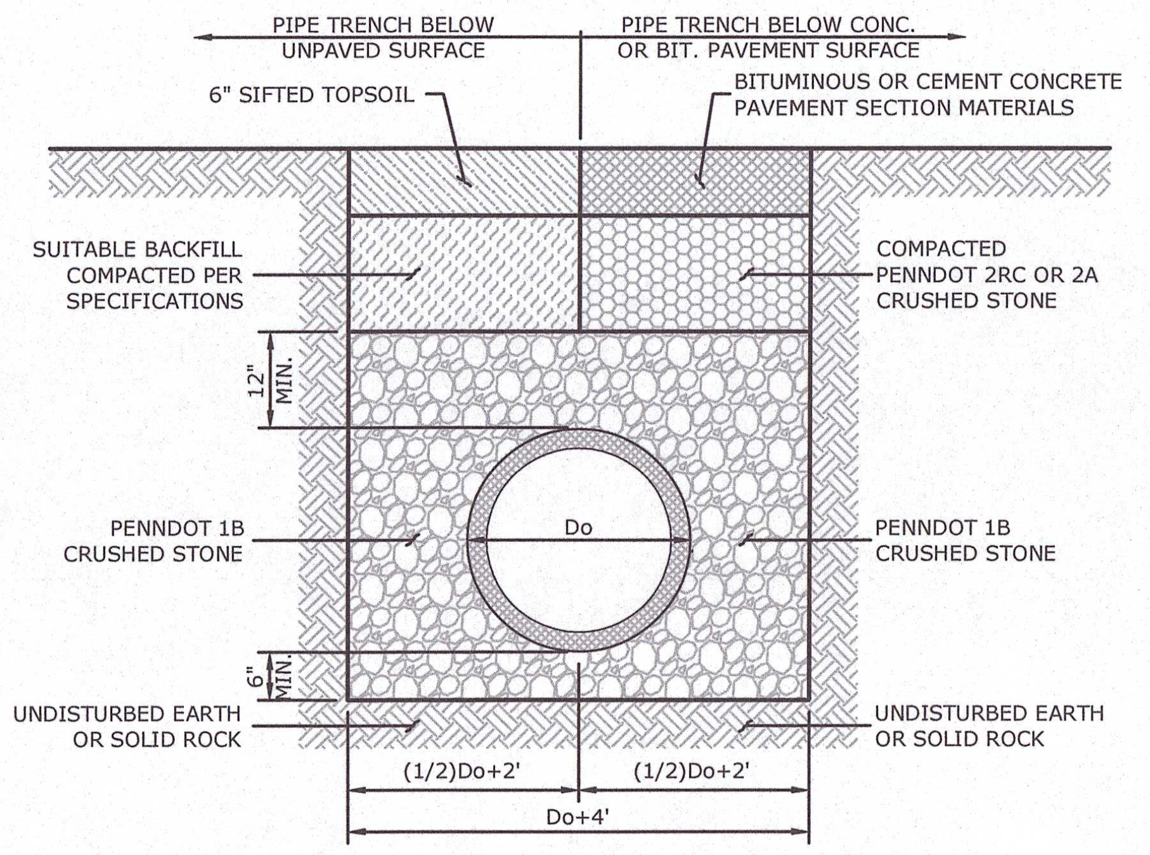
NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
SITE DETAILS

SHEET:
16 OF 19

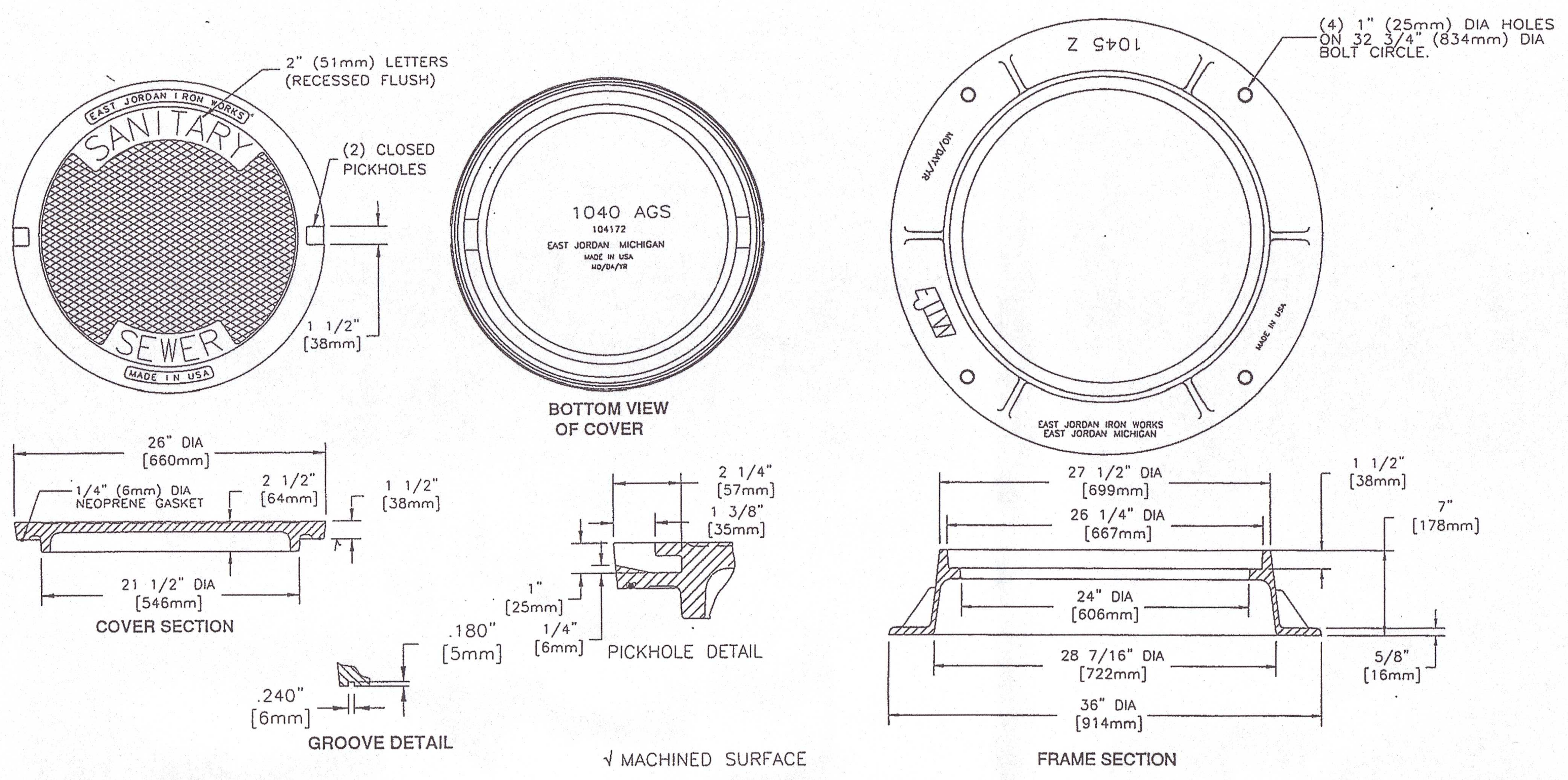
P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\LDP\2121007-K_ldDETL.dwg 10-28-2021 4:49:49 PM BY: bmetzger

XRefs: P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-01_xrTB_24x36.dwg
Images: P:\2000\2049\028 - Woodbridge Phase I\CAD\z2049013\dwg\Images\Details\INVERTED FILTER DETAIL.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh cover detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh frame detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh x-sec detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\sewerconnection detail.tif


PIPE TRENCH BELOW UNPAVED SURFACE
PIPE TRENCH BELOW CONC. OR BIT. PAVEMENT SURFACE
6" SIFTED TOPSOIL
BITUMINOUS OR CEMENT CONCRETE PAVEMENT SECTION MATERIALS
SUITABLE BACKFILL COMPACTED PER SPECIFICATIONS
COMPACTED PENNDOT 2RC OR 2A CRUSHED STONE
12" MIN.
PENNDOT 1B CRUSHED STONE
Do
PENNDOT 1B CRUSHED STONE
6" MIN.
UNDISTURBED EARTH OR SOLID ROCK
UNDISTURBED EARTH OR SOLID ROCK
(1/2)Do+2'
(1/2)Do+2'
Do+4'

SANITARY SEWER PIPE TRENCH SECTION

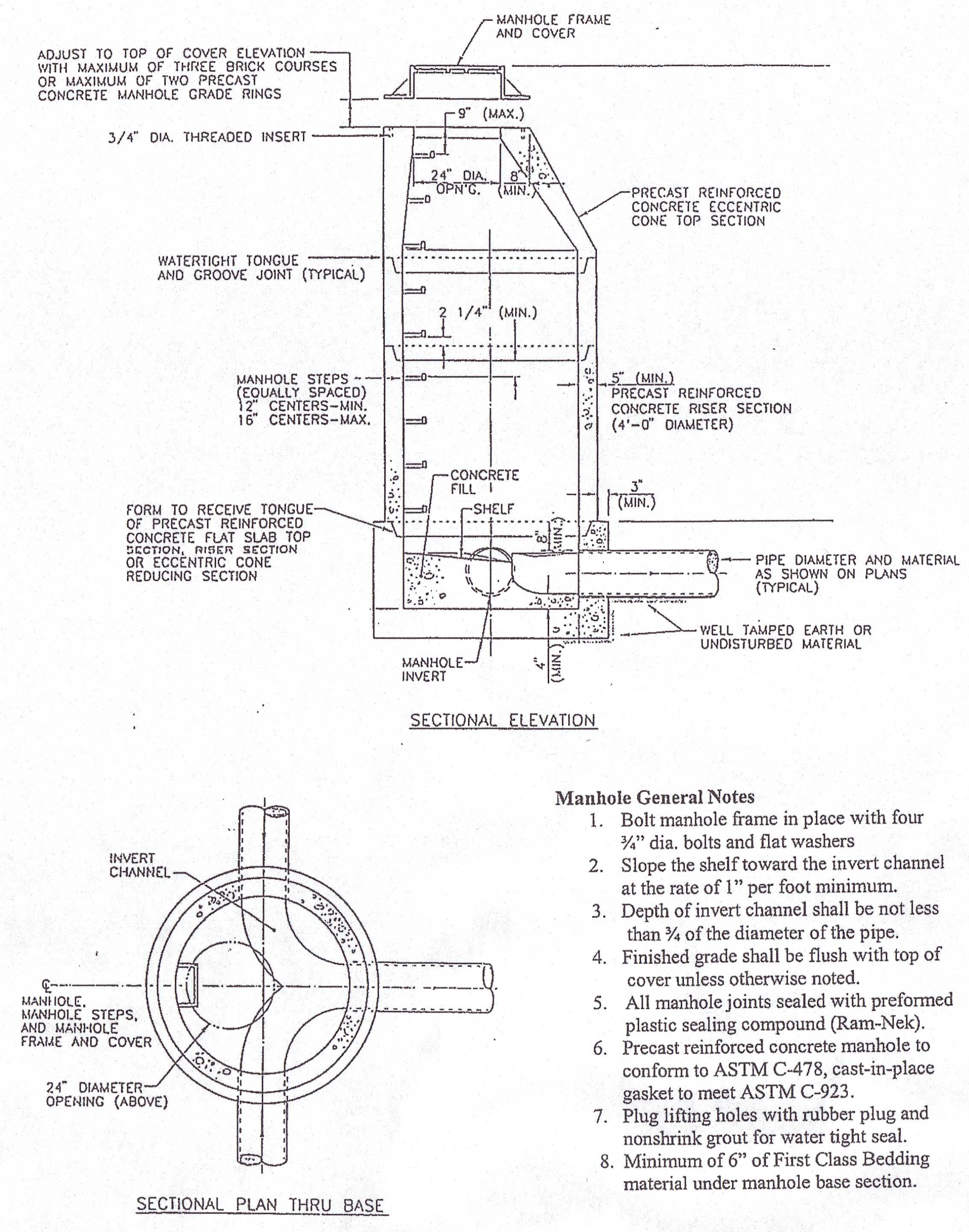
NOT TO SCALE


2" (51mm) LETTERS (RECESSED FLUSH)
EAST JORDAN IRON WORKS
SANITARY
SEWER
MADE IN USA
(2) CLOSED PICKHOLES
1 1/2" [38mm]
1040 AGS
104172
EAST JORDAN MICHIGAN
MADE IN USA
MO/DA/YR
BOTTOM VIEW OF COVER
1045 Z
(4) 1" (25mm) DIA HOLES ON 32 3/4" (834mm) DIA BOLT CIRCLE.
MO/DAY/YR
EJIW
MADE IN USA
EAST JORDAN IRON WORKS
EAST JORDAN MICHIGAN
26" DIA [660mm]
1/4" (6mm) DIA NEOPRENE GASKET
2 1/2" [64mm]
1 1/2" [38mm]
21 1/2" DIA [546mm]
COVER SECTION
2 1/4" [57mm]
1 3/8" [35mm]
1" [25mm]
1/4" [6mm]
.180" [5mm]
PICKHOLE DETAIL
.240" [6mm]
GROOVE DETAIL
√ MACHINED SURFACE
27 1/2" DIA [699mm]
26 1/4" DIA [667mm]
1 1/2" [38mm]
7" [178mm]
24" DIA [606mm]
28 7/16" DIA [722mm]
5/8" [16mm]
36" DIA [914mm]
FRAME SECTION

MANHOLE FRAME AND COVER INSTALLATION

NOT TO SCALE

Manhole Detail

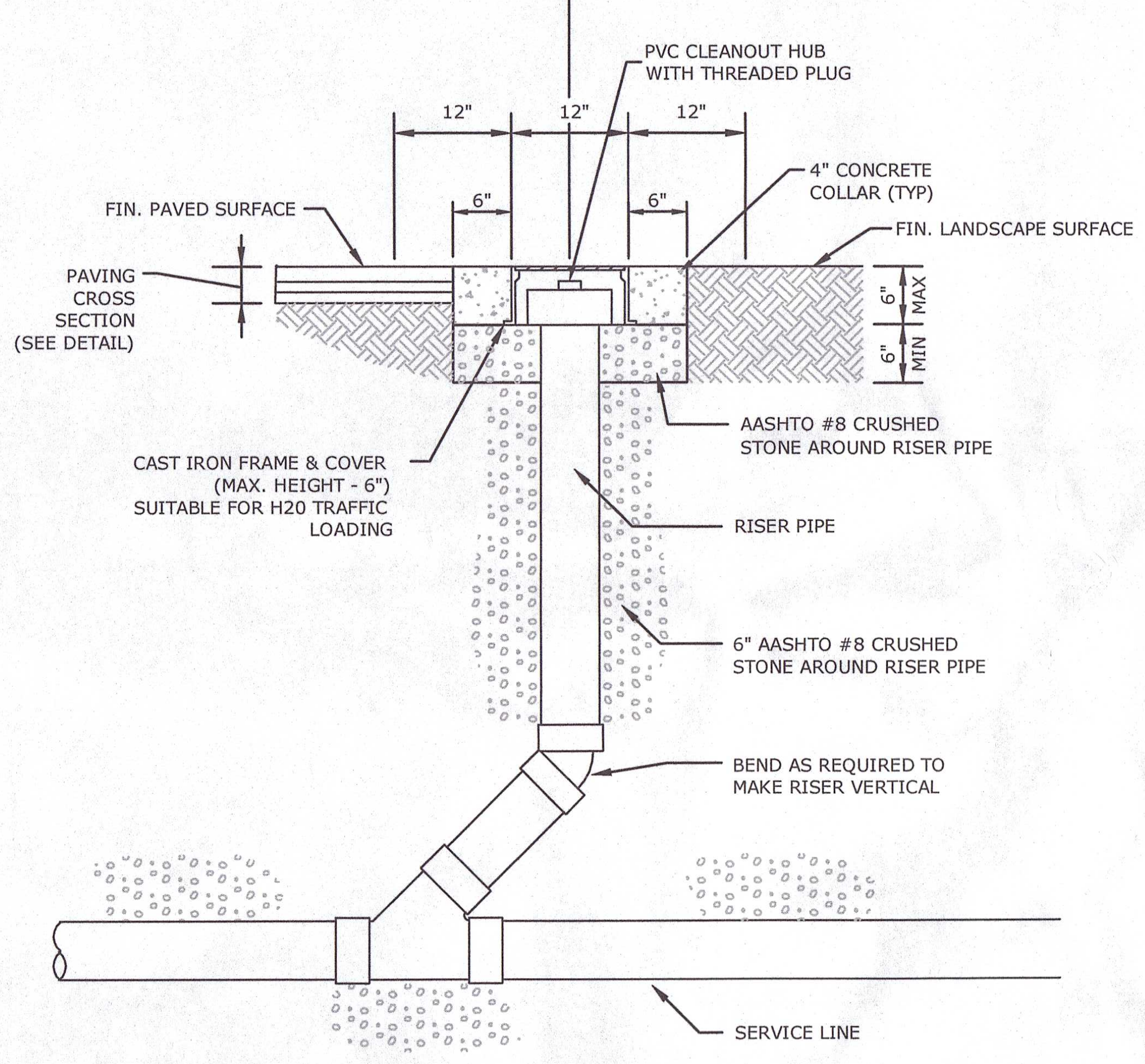

MANHOLE FRAME AND COVER
ADJUST TO TOP OF COVER ELEVATION WITH MAXIMUM OF THREE BRICK COURSES OR MAXIMUM OF TWO PRECAST CONCRETE MANHOLE GRADE RINGS
9" (MAX.)
3/4" DIA. THREADED INSERT
24" DIA. OPN'G.
8" (MIN.)
PRECAST REINFORCED CONCRETE ECCENTRIC CONE TOP SECTION
WATERTIGHT TONGUE AND GROOVE JOINT (TYPICAL)
2 1/4" (MIN.)
MANHOLE STEPS - (EQUALLY SPACED) 12" CENTERS-MIN. 16" CENTERS-MAX.
5" (MIN.)
PRECAST REINFORCED CONCRETE RISER SECTION (4'-0" DIAMETER)
CONCRETE FILL
SHELF
3" (MIN.)
8" (MIN.)
FORM TO RECEIVE TONGUE OF PRECAST REINFORCED CONCRETE FLAT SLAB TOP SECTION, RISER SECTION OR ECCENTRIC CONE REDUCING SECTION
PIPE DIAMETER AND MATERIAL AS SHOWN ON PLANS (TYPICAL)
WELL TAMPED EARTH OR UNDISTURBED MATERIAL
MANHOLE INVERT
4" (MIN.)
SECTIONAL ELEVATION
INVERT CHANNEL
℄ MANHOLE, MANHOLE STEPS, AND MANHOLE FRAME AND COVER
24" DIAMETER OPENING (ABOVE)
SECTIONAL PLAN THRU BASE

Manhole General Notes

1. Bolt manhole frame in place with four ¾” dia. bolts and flat washers
2. Slope the shelf toward the invert channel at the rate of 1” per foot minimum.
3. Depth of invert channel shall be not less than ¾ of the diameter of the pipe.
4. Finished grade shall be flush with top of cover unless otherwise noted.
5. All manhole joints sealed with preformed plastic sealing compound (Ram-Nek).
6. Precast reinforced concrete manhole to conform to ASTM C-478, cast-in-place gasket to meet ASTM C-923.
7. Plug lifting holes with rubber plug and nonshrink grout for water tight seal.
8. Minimum of 6” of First Class Bedding material under manhole base section.

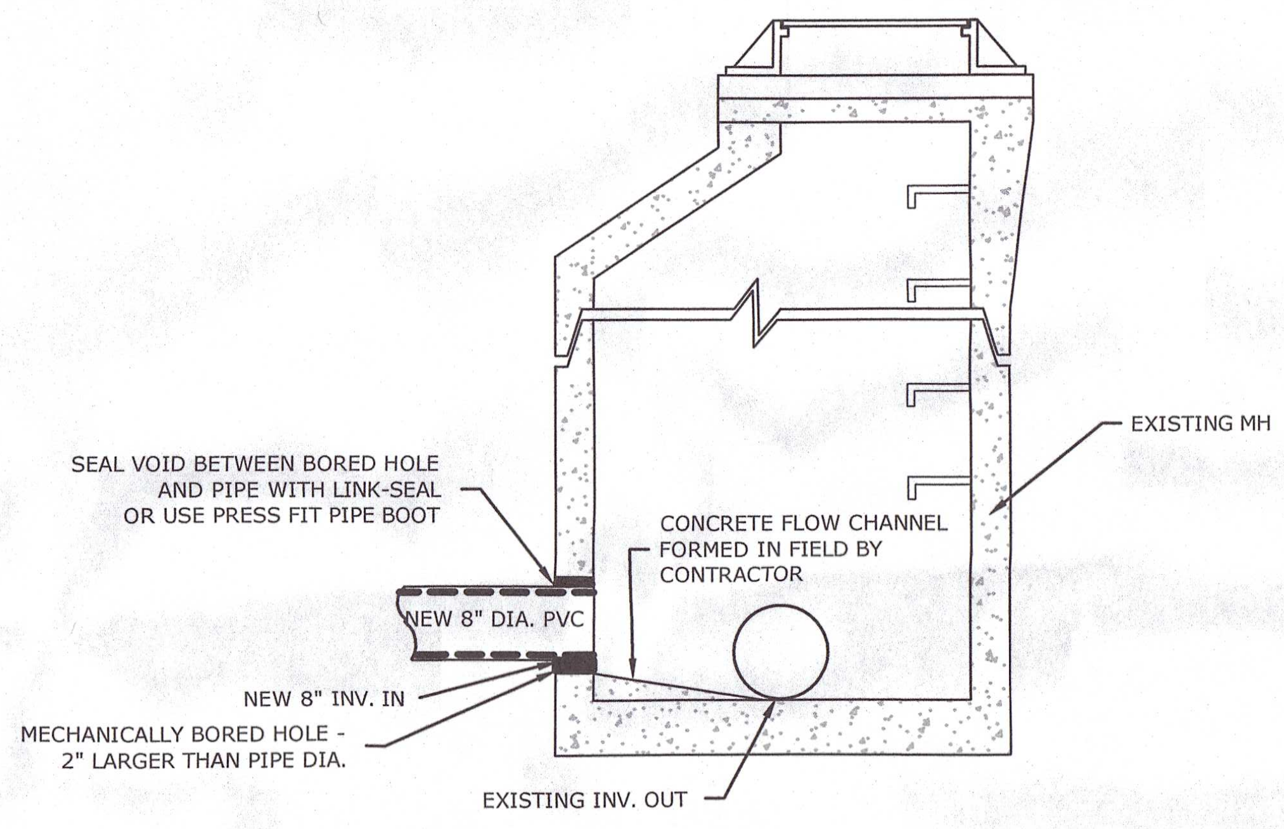
PRE-CAST CONCRETE MANHOLE INSTALLATION

NOT TO SCALE


PAVED CONDITION
LAWN CONDITION
PVC CLEANOUT HUB WITH THREADED PLUG
12"
12"
12"
6"
6"
4" CONCRETE COLLAR (TYP)
FIN. PAVED SURFACE
FIN. LANDSCAPE SURFACE
PAVING CROSS SECTION (SEE DETAIL)
6" MAX
6" MIN
AASHTO #8 CRUSHED STONE AROUND RISER PIPE
CAST IRON FRAME & COVER (MAX. HEIGHT - 6") SUITABLE FOR H20 TRAFFIC LOADING
RISER PIPE
6" AASHTO #8 CRUSHED STONE AROUND RISER PIPE
BEND AS REQUIRED TO MAKE RISER VERTICAL
SERVICE LINE

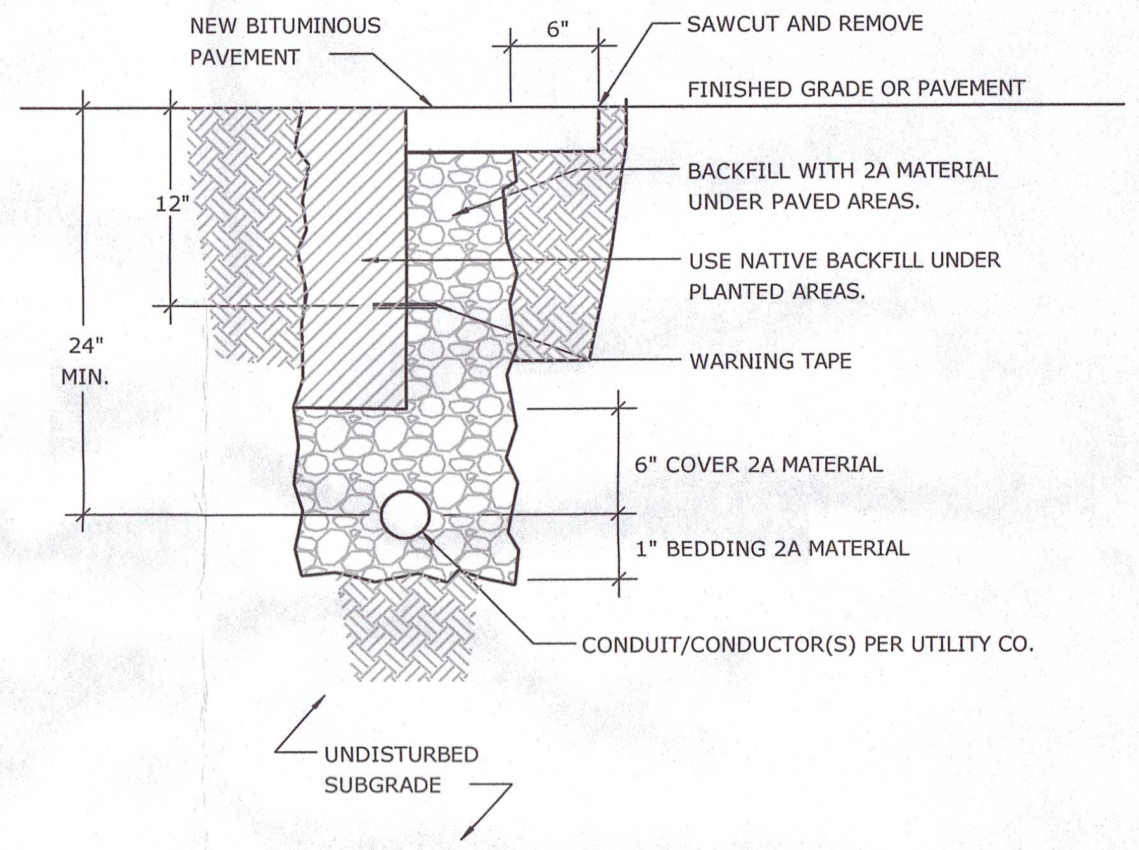
SEWER CLEANOUT

NOT TO SCALE


EXISTING MH
SEAL VOID BETWEEN BORED HOLE AND PIPE WITH LINK-SEAL OR USE PRESS FIT PIPE BOOT
CONCRETE FLOW CHANNEL FORMED IN FIELD BY CONTRACTOR
NEW 8" DIA. PVC
NEW 8" INV. IN
MECHANICALLY BORED HOLE - 2" LARGER THAN PIPE DIA.
EXISTING INV. OUT

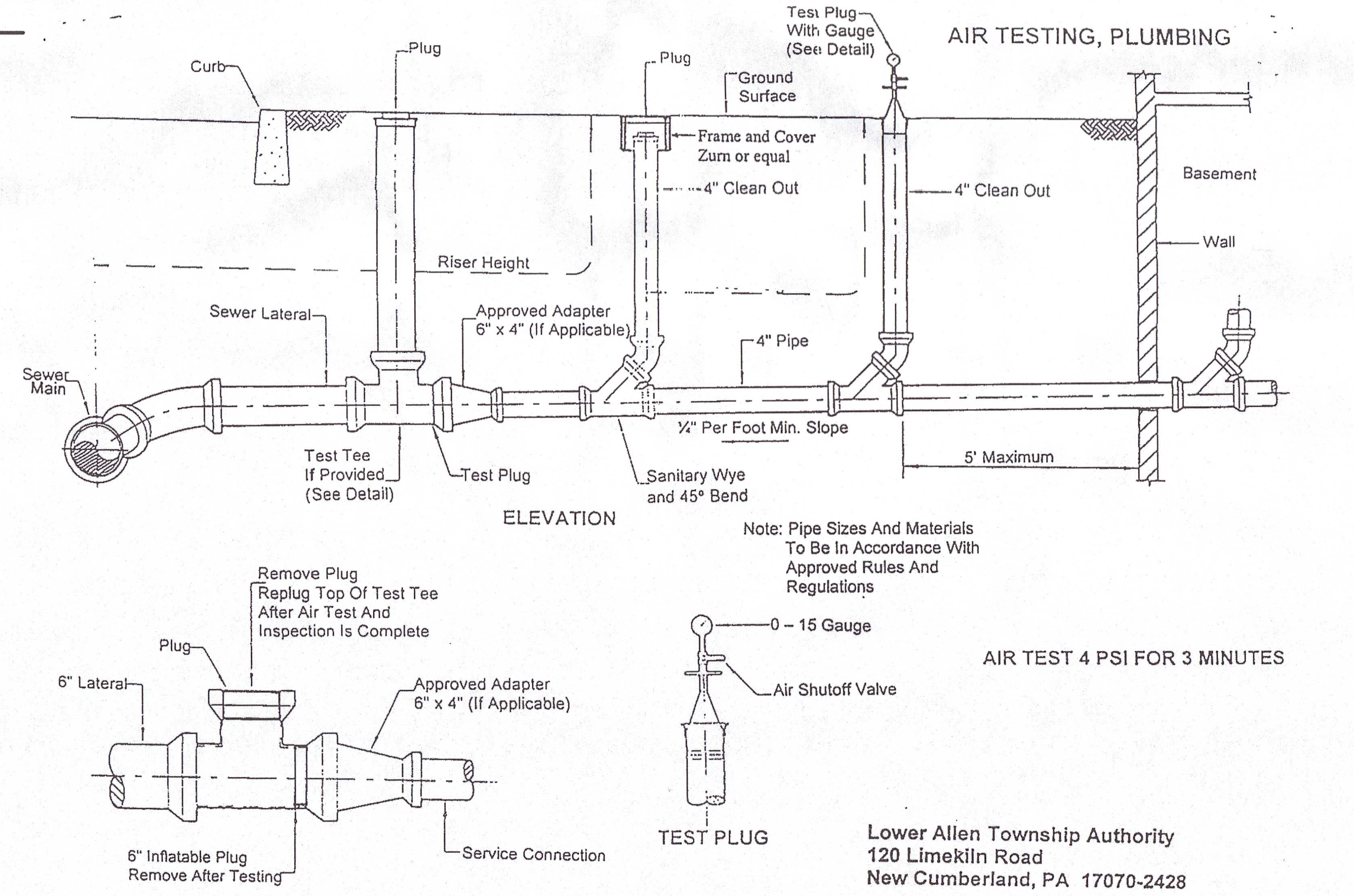
SEWER BORING CONNECTION TO EXISTING MANHOLE

NOT TO SCALE


NEW BITUMINOUS PAVEMENT
6"
SAWCUT AND REMOVE
FINISHED GRADE OR PAVEMENT
12"
BACKFILL WITH 2A MATERIAL UNDER PAVED AREAS.
USE NATIVE BACKFILL UNDER PLANTED AREAS.
24" MIN.
WARNING TAPE
6" COVER 2A MATERIAL
1" BEDDING 2A MATERIAL
CONDUIT/CONDUCTOR(S) PER UTILITY CO.
UNDISTURBED SUBGRADE

UTILITY TRENCH DETAIL

NOT TO SCALE


AIR TESTING, PLUMBING
Curb
Plug
Plug
Test Plug With Gauge (See Detail)
Ground Surface
Frame and Cover Zurn or equal
4" Clean Out
4" Clean Out
Basement
Wall
Riser Height
Sewer Lateral
Approved Adapter 6" x 4" (If Applicable)
4" Pipe
Sewer Main
¼" Per Foot Min. Slope
5' Maximum
Test Tee If Provided (See Detail)
Test Plug
Sanitary Wye and 45° Bend
ELEVATION
Remove Plug Replug Top Of Test Tee After Air Test And Inspection Is Complete
Plug
6" Lateral
Approved Adapter 6" x 4" (If Applicable)
6" Inflatable Plug Remove After Testing
Service Connection
TEST TEE
0 – 15 Gauge
Air Shutoff Valve
TEST PLUG

Note: Pipe Sizes And Materials To Be In Accordance With Approved Rules And Regulations

AIR TEST 4 PSI FOR 3 MINUTES

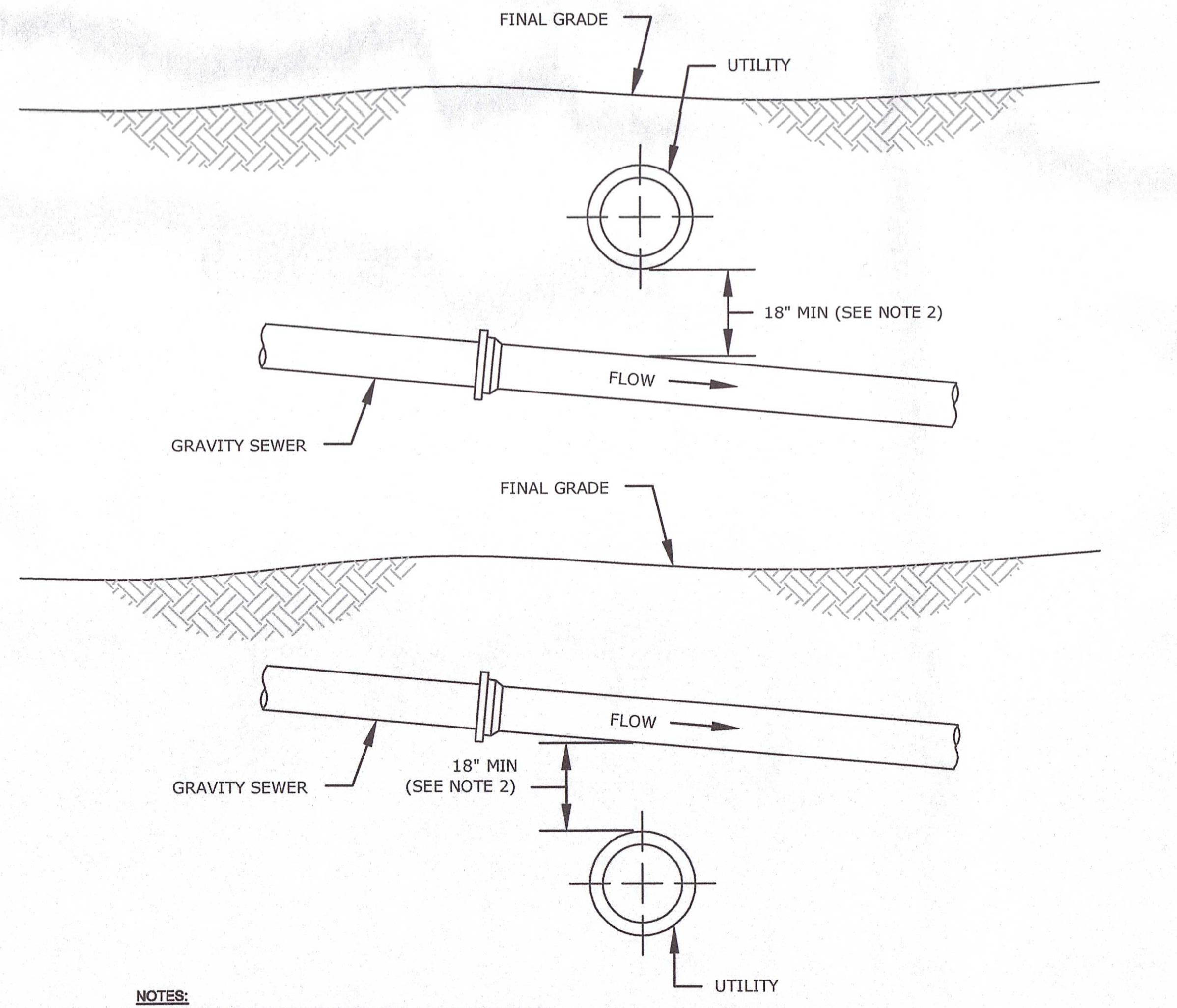
Lower Allen Township Authority
120 Limekiln Road
New Cumberland, PA 17070-2428

Phone: (717) 774-0610 Fax: (717) 774-2291

REV 2/2002

BUILDING SANITARY SEWER CONNECTION DETAIL

NOT TO SCALE

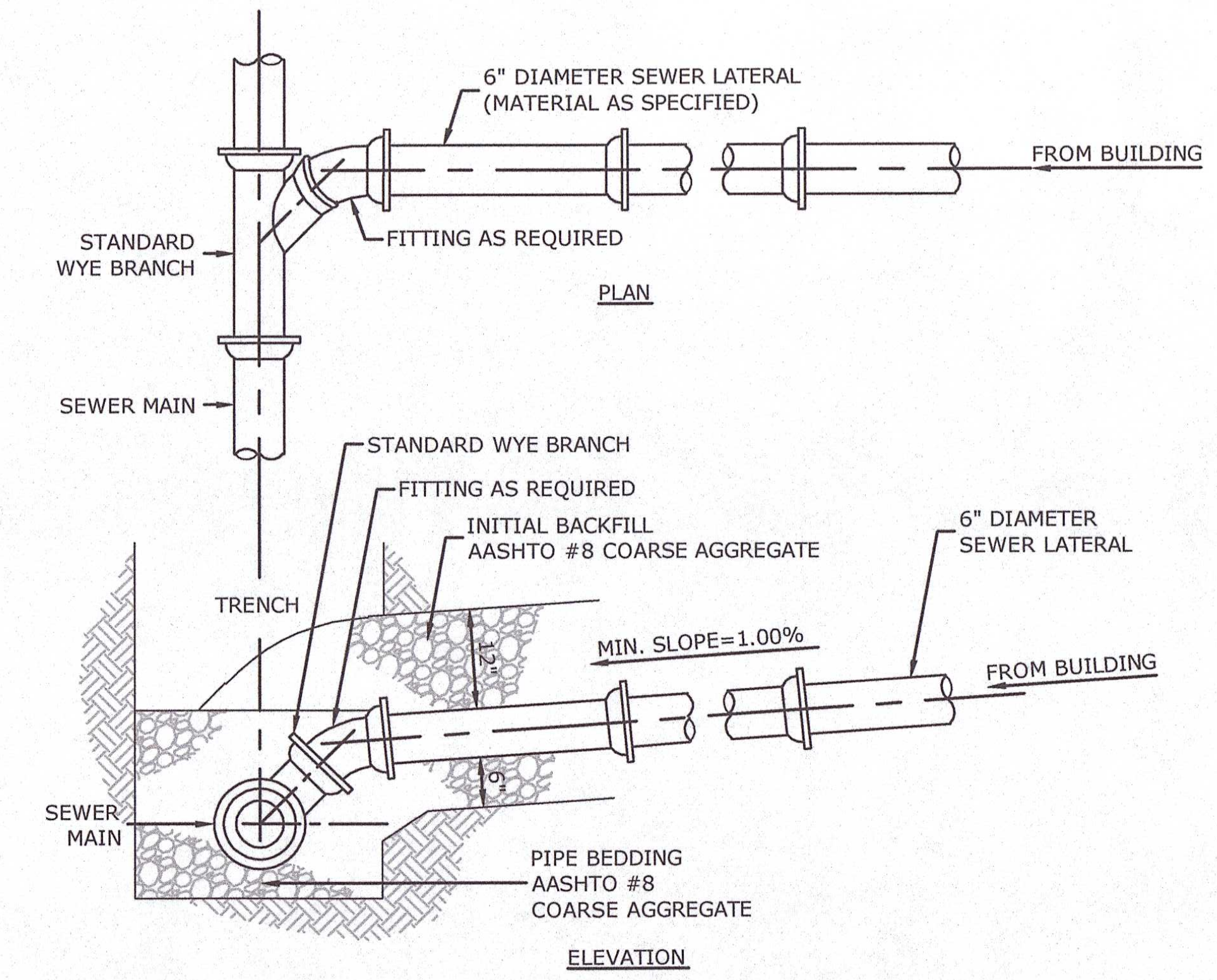

FINAL GRADE
UTILITY
18" MIN (SEE NOTE 2)
FLOW
GRAVITY SEWER
FINAL GRADE
FLOW
GRAVITY SEWER
18" MIN (SEE NOTE 2)
UTILITY

NOTES:

1. MAINTAIN SLOPE OF PROOPSED SEWER AT ALL CROSSINGS.
2. VERTICAL SEPARATION - WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST EIGHTEEN INCHES (18") BELOW THE BOTTOM OF THE WATER MAIN AND IN ACCORDANCE WITH PADEP DOMESTIC WASTEWATER FACILITIES GUIDANCE. WHERE LESS THAN AN EIGHTEEN-INCH (18") VERTICAL SEPARATION EXISTS BETWEEN THE WATER AND SEWER LINE, THE SEWER LINE MAY BE CONCRETE-ENCASED TEN FEET (10') ON EITHER SIDE OF THE WATER MAIN. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

GRAVITY SEWER CROSSING UTILITIES DETAIL

NOT TO SCALE


6" DIAMETER SEWER LATERAL (MATERIAL AS SPECIFIED)
FROM BUILDING
STANDARD WYE BRANCH
FITTING AS REQUIRED
PLAN
SEWER MAIN
STANDARD WYE BRANCH
FITTING AS REQUIRED
INITIAL BACKFILL AASHTO #8 COARSE AGGREGATE
6" DIAMETER SEWER LATERAL
TRENCH
12"
MIN. SLOPE=1.00%
FROM BUILDING
6"
SEWER MAIN
PIPE BEDDING AASHTO #8 COARSE AGGREGATE
ELEVATION

STANDARD SANITARY LATERAL

NOT TO SCALE

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CUMBERLAND COUNTY, PA

REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-K_ldDETL.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
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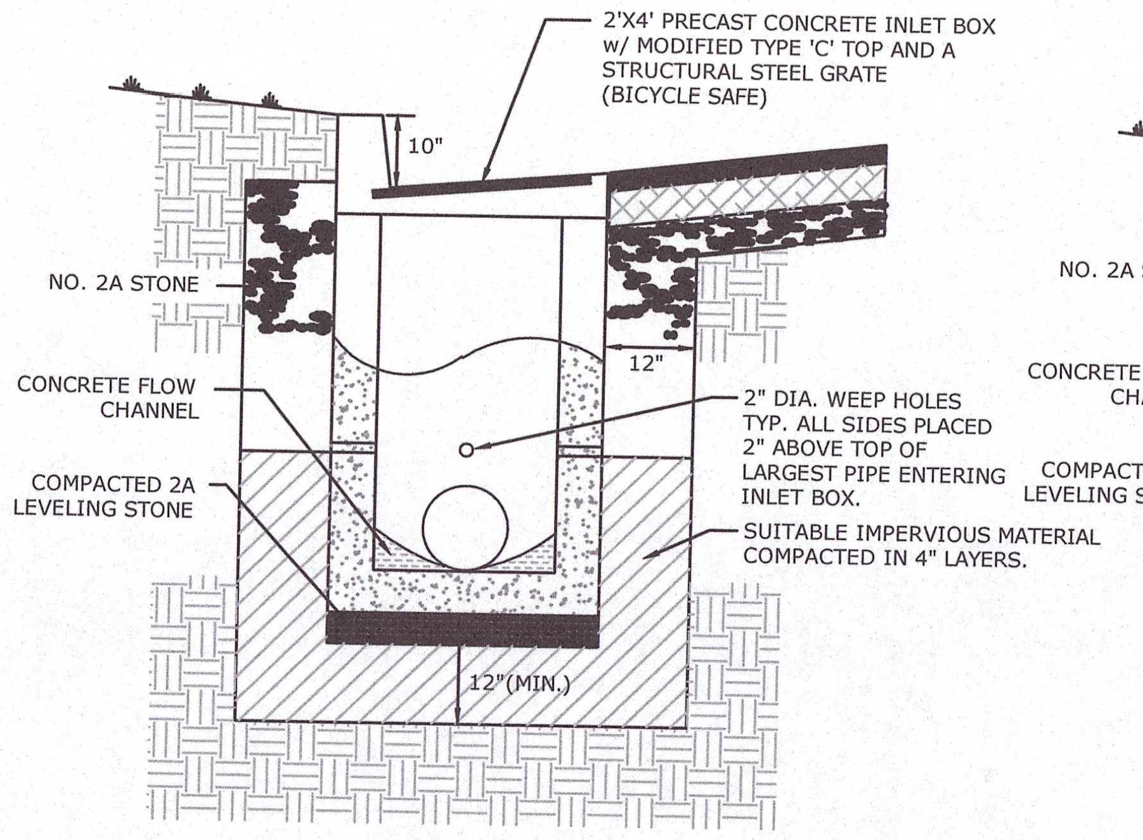
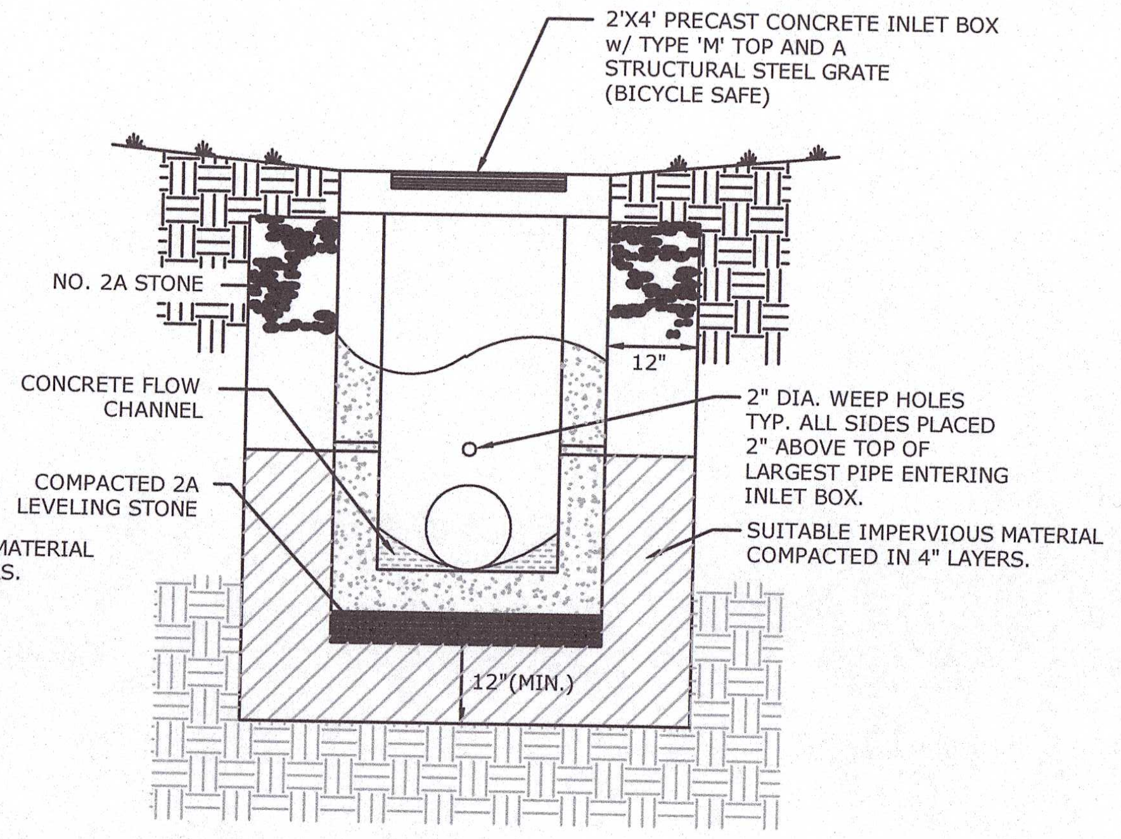
PLAN TYPE:
SITE DETAILS

SHEET:
17 OF 19


2'X4' PRECAST CONCRETE INLET BOX w/ MODIFIED TYPE 'C' TOP AND A STRUCTURAL STEEL GRATE (BICYCLE SAFE)
10"
NO. 2A STONE
12"
CONCRETE FLOW CHANNEL
2" DIA. WEEP HOLES TYP. ALL SIDES PLACED 2" ABOVE TOP OF LARGEST PIPE ENTERING INLET BOX.
COMPACTED 2A LEVELING STONE
SUITABLE IMPERVIOUS MATERIAL COMPACTED IN 4" LAYERS.
12"(MIN.)

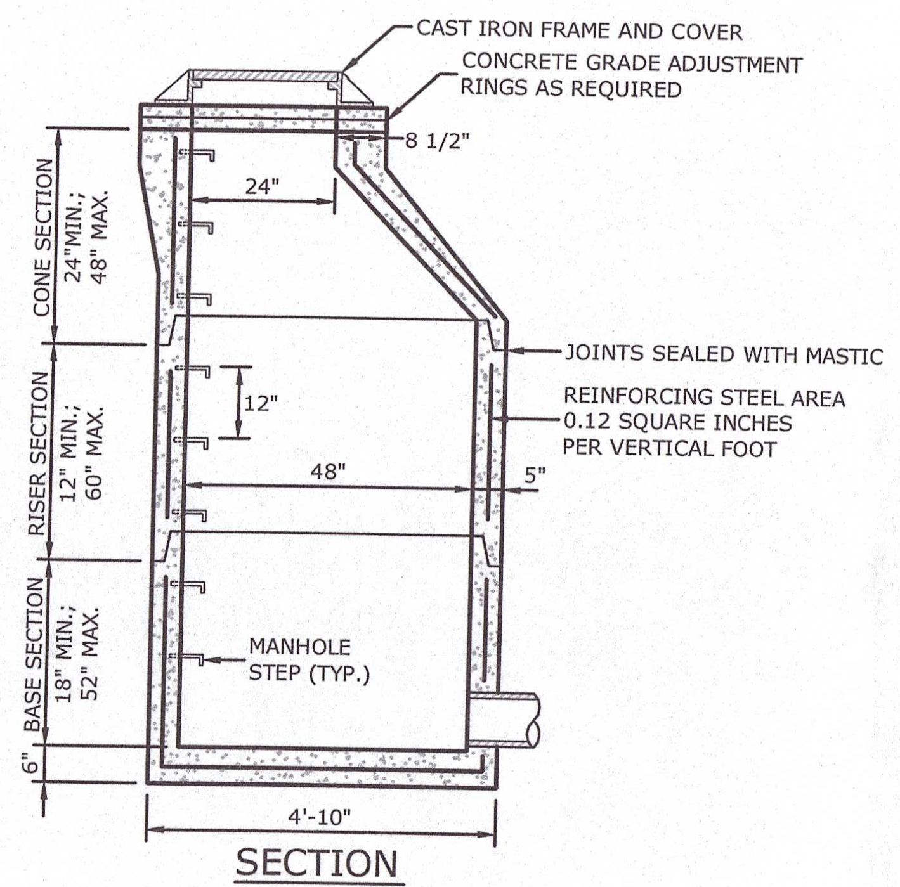
MODIFIED TYPE 'C' PRECAST CONCRETE INLET

NOT TO SCALE


2'X4' PRECAST CONCRETE INLET BOX w/ TYPE 'M' TOP AND A STRUCTURAL STEEL GRATE (BICYCLE SAFE)
NO. 2A STONE
12"
CONCRETE FLOW CHANNEL
2" DIA. WEEP HOLES TYP. ALL SIDES PLACED 2" ABOVE TOP OF LARGEST PIPE ENTERING INLET BOX.
COMPACTED 2A LEVELING STONE
SUITABLE IMPERVIOUS MATERIAL COMPACTED IN 4" LAYERS.
12"(MIN.)

TYPE 'M' PRECAST CONCRETE INLET

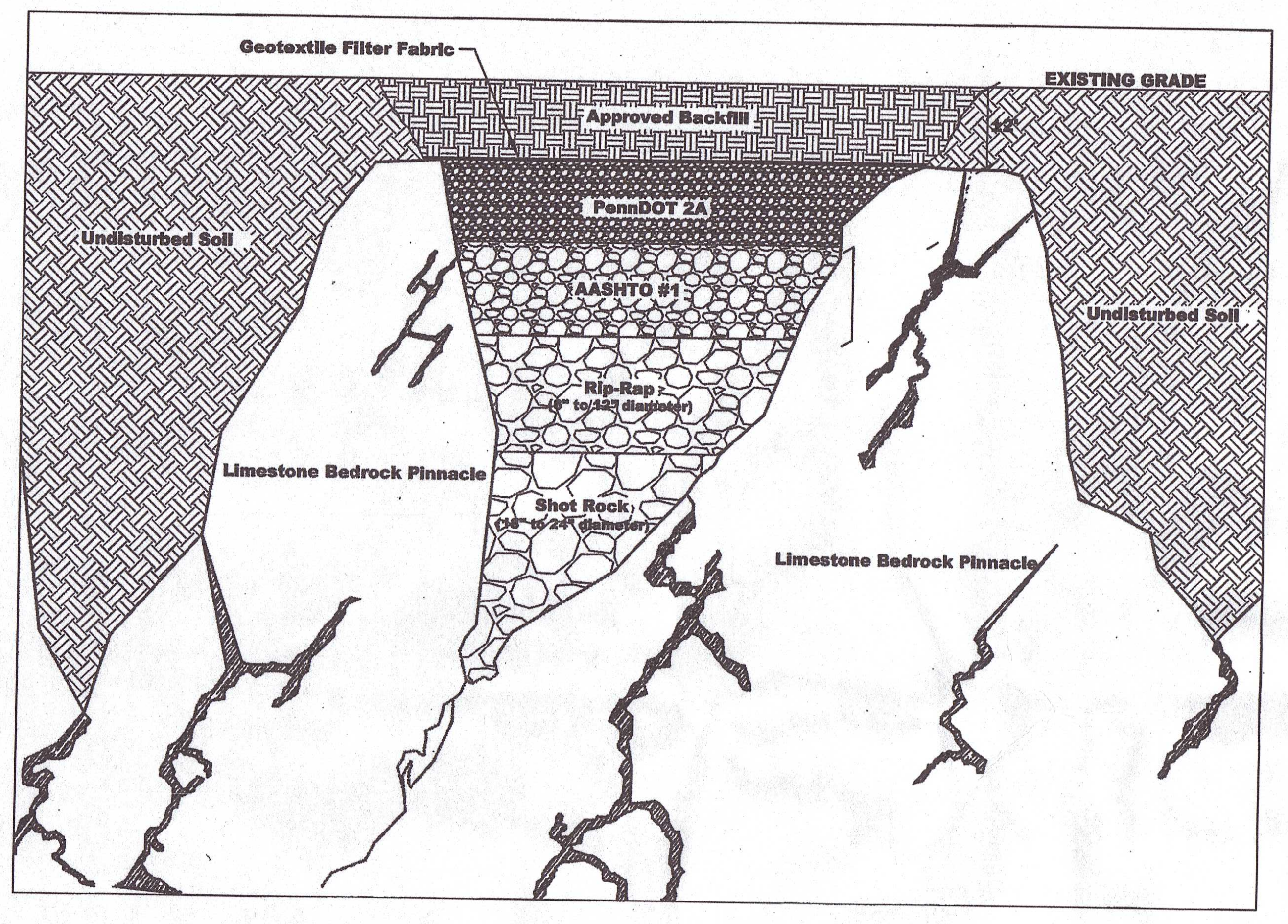
NOT TO SCALE


CAST IRON FRAME AND COVER
CONCRETE GRADE ADJUSTMENT RINGS AS REQUIRED
8 1/2"
24"
CONE SECTION 24"MIN.; 48" MAX.
JOINTS SEALED WITH MASTIC
REINFORCING STEEL AREA 0.12 SQUARE INCHES PER VERTICAL FOOT
12"
RISER SECTION 12" MIN.; 60" MAX.
48"
5"
BASE SECTION 18" MIN.; 52" MAX.
MANHOLE STEP (TYP.)
6"
4'-10"

SECTION

4' DIAMETER PRECAST CONCRETE MANHOLE

NOT TO SCALE


Geotextile Filter Fabric
EXISTING GRADE
Approved Backfill
12"
PennDOT 2A
Undisturbed Soil
AASHTO #1
Undisturbed Soil
Rip-Rap (6" to 12" diameter)
Limestone Bedrock Pinnacle
Shot Rock (18" to 24" diameter)
Limestone Bedrock Pinnacle

NOTES:

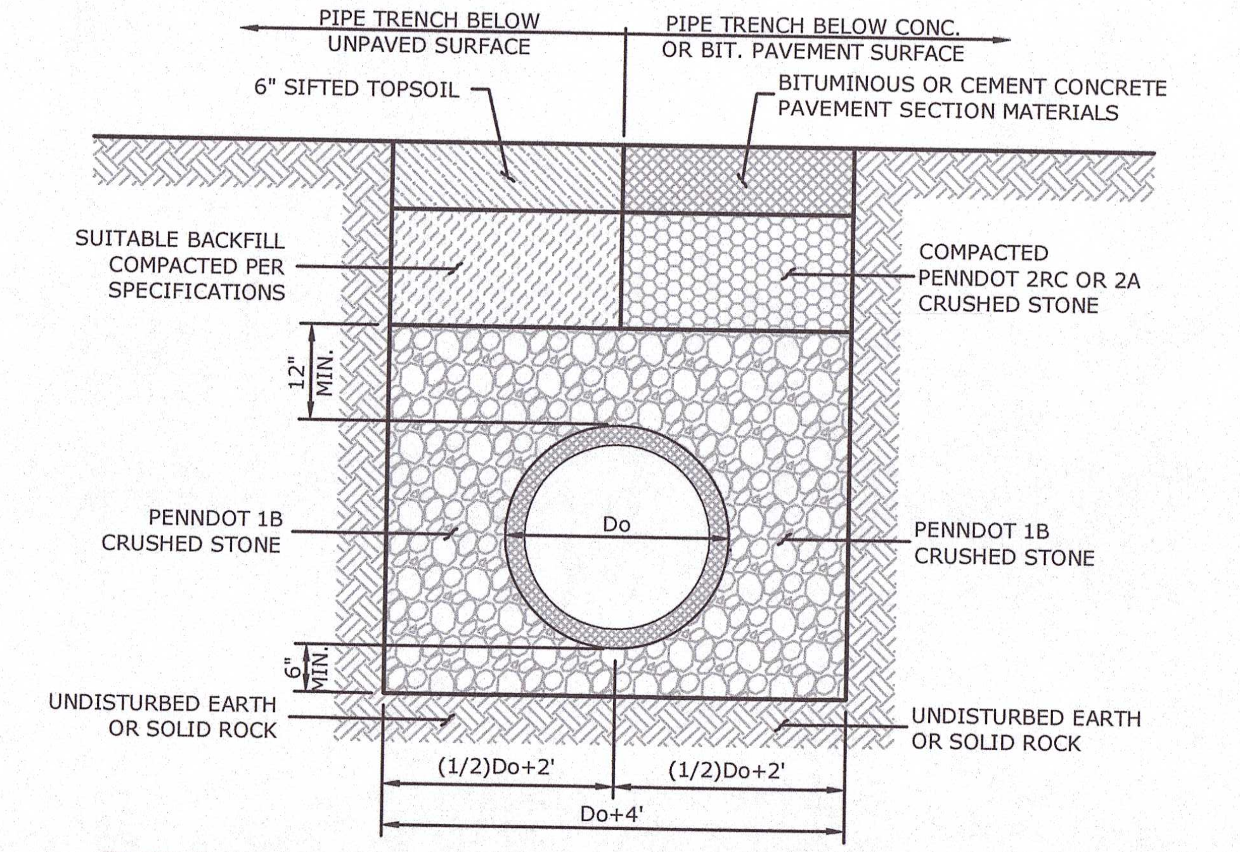
1. THE REPAIRS OUTLINED BELOW ARE GENERAL GUIDELINES AND EACH SINKHOLE OCCURRENCE SHOULD BE THOROUGHLY REVIEWED BY THE GEOTECHNICAL ENGINEER OF RECORD FOR AN APPROPRIATE REMEDIATION PLAN:

   STRUCTURAL AREAS (AREAS WITHIN THE BUILDING FOOTPRINT OR BENEATH PAVEMENT)
   - ANY AND ALL LOOSE AND/OR SATURATED SOILS WITHIN THE SINKHOLE SHOULD BE EXCAVATED AND CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
   - UPON REMOVAL OF THE UNSTABLE SOILS, THE EXCAVATION SHOULD BE BACKFILLED USING HIGH MOBILITY, LOW STRENGTH FLOWABLE FILL (500 PSI) TO FINAL SUBGRADE ELEVATION.

   NON-STRUCTURAL AREAS (NON-BUILDING/LANDSCAPED AREAS)
   - ANY AND ALL LOOSE AND/OR SATURATED SOILS SHOULD BE EXCAVATED FROM THE SINKHOLE. EXCAVATION SHOULD CONTINUE UNTIL STABLE SOILS, A "THROAT" IS IDENTIFIED, OR UNTIL THE EXTENT OF THE EXCAVATION EQUIPMENT IS REACHED.
   - THE EXCAVATION SHOULD BE BACKFILLED WITH AGGREGATE OF DECREASING SIZE AS DEPICTED ON THE *INVERTED FILTER DETAIL*

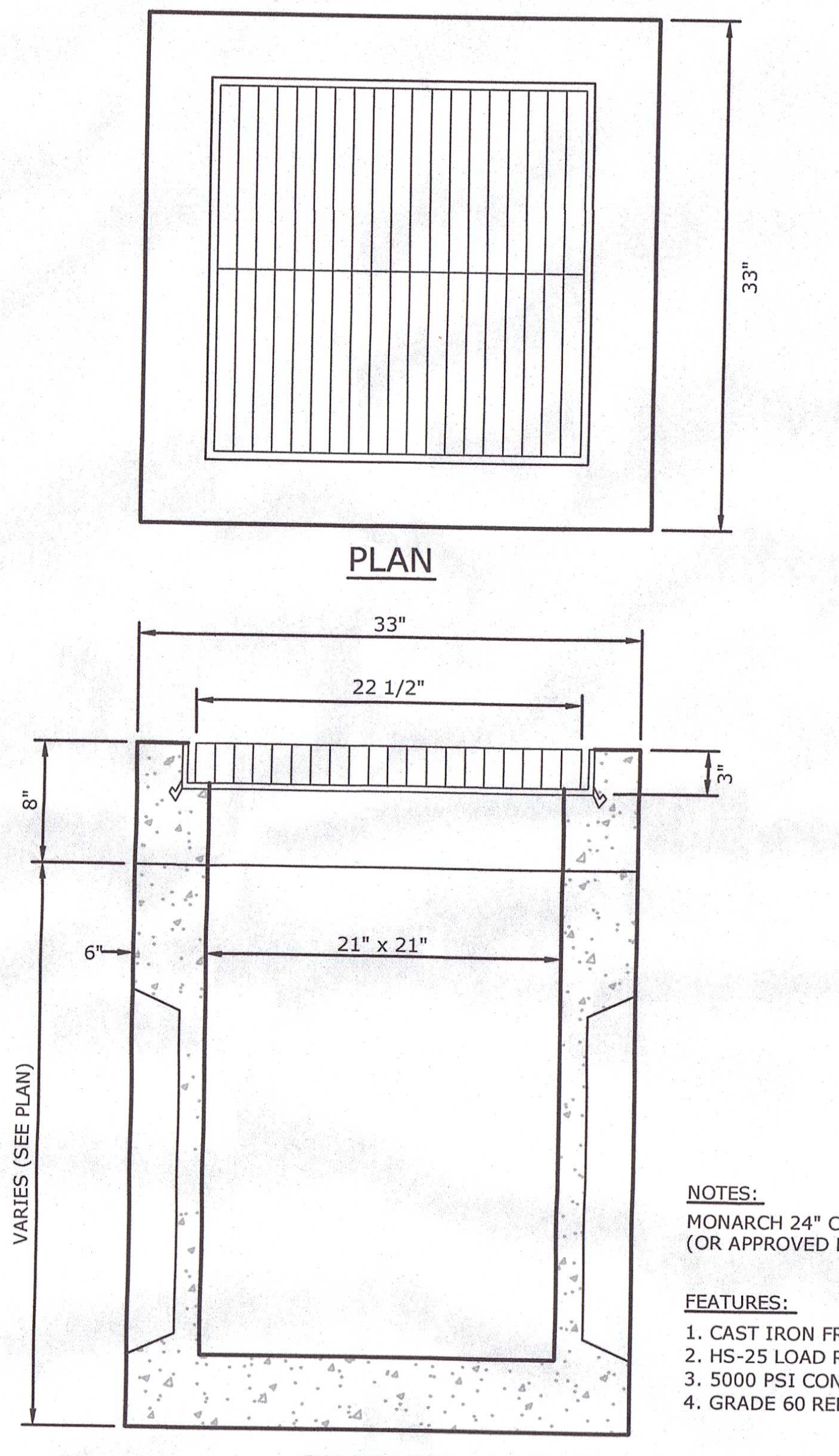
SINKHOLE REPAIR DETAIL

NOT TO SCALE


PIPE TRENCH BELOW UNPAVED SURFACE
PIPE TRENCH BELOW CONC. OR BIT. PAVEMENT SURFACE
6" SIFTED TOPSOIL
BITUMINOUS OR CEMENT CONCRETE PAVEMENT SECTION MATERIALS
SUITABLE BACKFILL COMPACTED PER SPECIFICATIONS
COMPACTED PENNDOT 2RC OR 2A CRUSHED STONE
12" MIN.
PENNDOT 1B CRUSHED STONE
Do
PENNDOT 1B CRUSHED STONE
6" MIN.
UNDISTURBED EARTH OR SOLID ROCK
UNDISTURBED EARTH OR SOLID ROCK
(1/2)Do+2'
(1/2)Do+2'
Do+4'

DRAINAGE PIPE TRENCH SECTION

NOT TO SCALE


33"
PLAN
33"
22 1/2"
3"
8"
6"
21" x 21"
VARIES (SEE PLAN)

NOTES:

MONARCH 24" CATCH BASIN (OR APPROVED EQUAL)

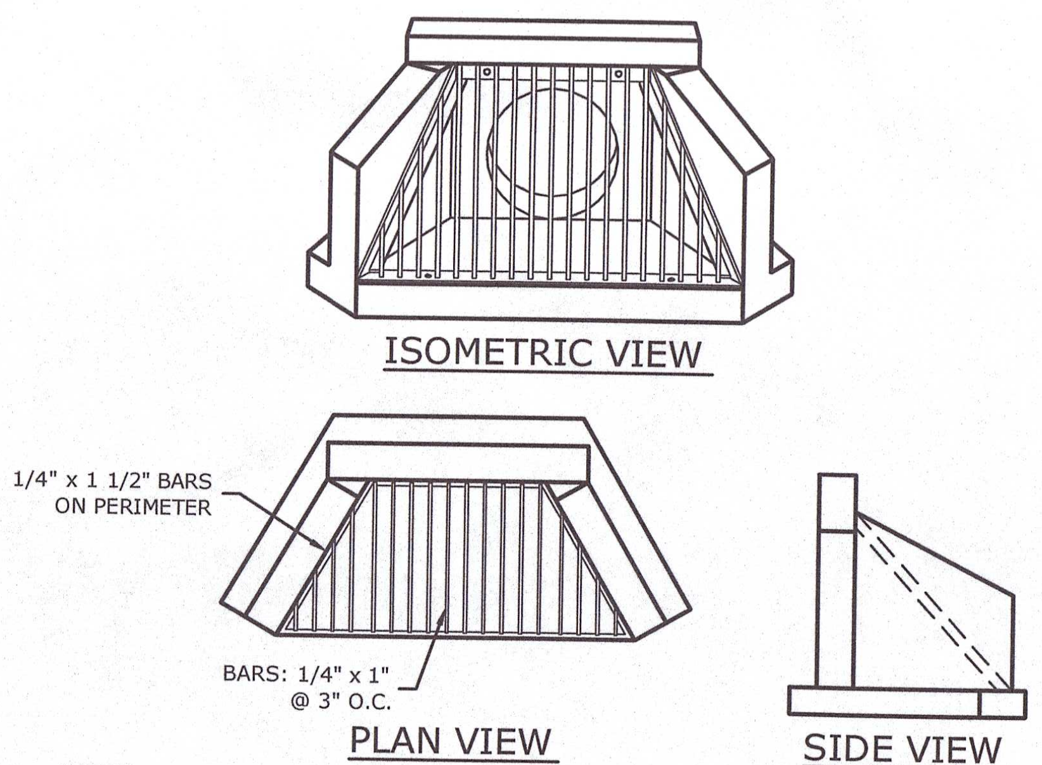
FEATURES:

1. CAST IRON FRAME & GRATE
2. HS-25 LOAD RATING
3. 5000 PSI CONCRETE
4. GRADE 60 REBAR

SECTION

24"x24" YARD INLET

NOT TO SCALE

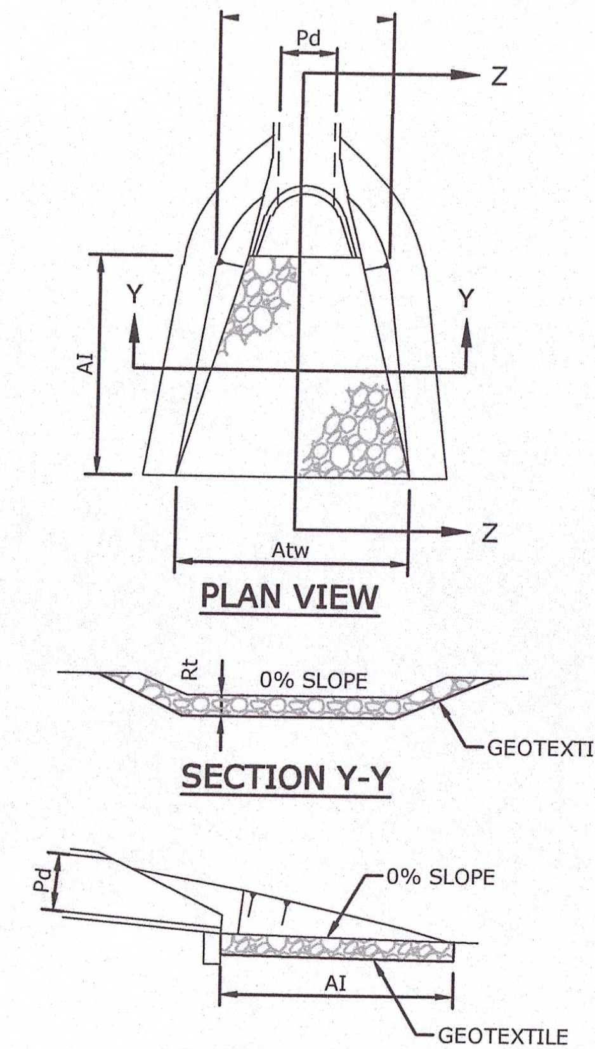

ISOMETRIC VIEW
1/4" x 1 1/2" BARS ON PERIMETER
BARS: 1/4" x 1" @ 3" O.C.
PLAN VIEW
SIDE VIEW

NOTES:

1. TRASH RACK MATERIAL TO BE HOT DIPPED GALVANIZED STEEL.
2. ATTACH TRASH RACK TO HEADWALL WITH 3/8" DIA. S.S. ANCHOR BOLTS.
3. HINGED VERSION AVAILABLE.

TYPE 'DW' ENDWALL WITH TRASHRACK

NOT TO SCALE


Pd
Z
Y
Y
Al
Z
Atw
PLAN VIEW
Rt
0% SLOPE
GEOTEXTILE
SECTION Y-Y
Pd
0% SLOPE
Al
GEOTEXTILE
SECTION Z-Z

OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP SIZE R-_	RIPRAP THICK. Rt (IN)	APRON LENGTH Al (FT)	APRON INITIAL WIDTH Aiw (FT)	APRON TERMINAL WIDTH Atw (FT)
EW-1	24	5	27	10.0	6.00	10.00
EW-2	18	5	27	9.0	4.50	8.10

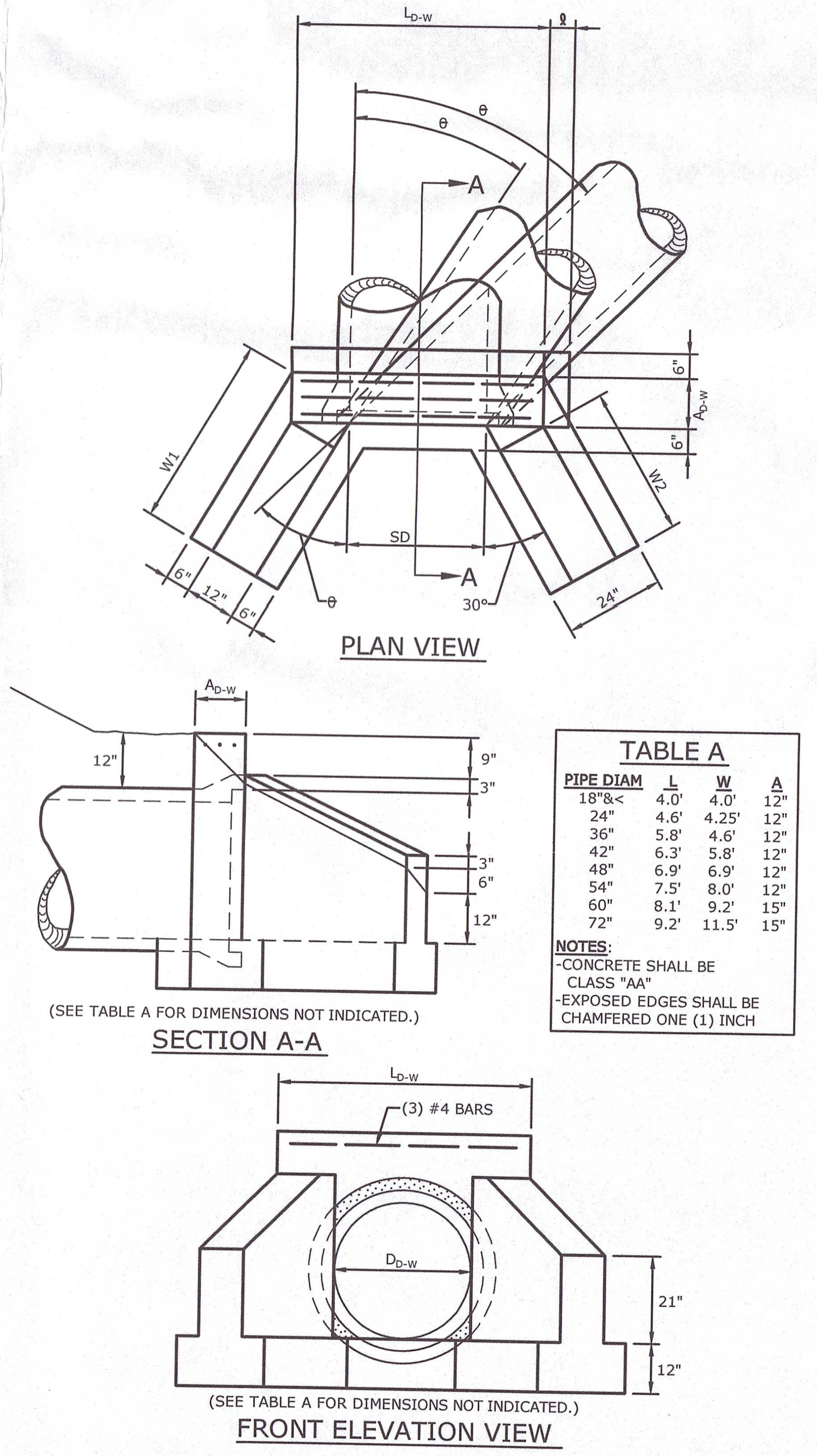
NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

NOT TO SCALE


LD-W
ℓ
θ
θ
A
6"
AD-W
6"
W1
W2
SD
A
6"
12"
6"
θ
30°
24"
PLAN VIEW
AD-W
12"
9"
3"
3"
6"
12"
SECTION A-A
LD-W
(3) #4 BARS
DD-W
21"
12"
FRONT ELEVATION VIEW

(SEE TABLE A FOR DIMENSIONS NOT INDICATED.)

SECTION A-A

TABLE A

PIPE DIAM	L	W	A
18"&<	4.0'	4.0'	12"
24"	4.6'	4.25'	12"
36"	5.8'	4.6'	12"
42"	6.3'	5.8'	12"
48"	6.9'	6.9'	12"
54"	7.5'	8.0'	12"
60"	8.1'	9.2'	15"
72"	9.2'	11.5'	15"

NOTES:
- -CONCRETE SHALL BE CLASS "AA"
- -EXPOSED EDGES SHALL BE CHAMFERED ONE (1) INCH

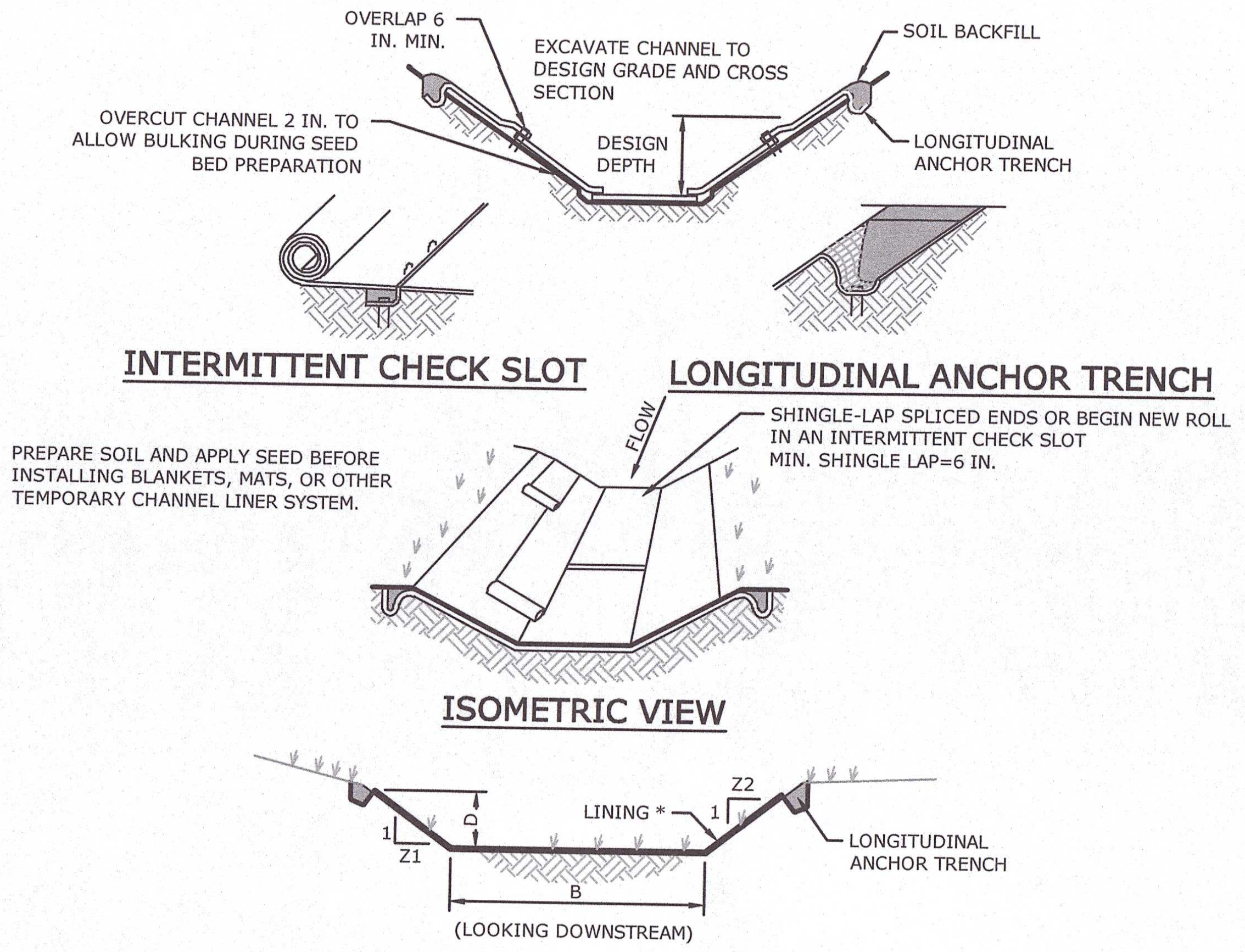
(SEE TABLE A FOR DIMENSIONS NOT INDICATED.)

FRONT ELEVATION VIEW

NOTE: ALL ENDWALLS AND HEADWALLS SHALL HAVE A TRASH SCREEN (SEE DETAIL)

TYPE 'DW' ENDWALL

NOT TO SCALE


OVERLAP 6 IN. MIN.
EXCAVATE CHANNEL TO DESIGN GRADE AND CROSS SECTION
SOIL BACKFILL
OVERCUT CHANNEL 2 IN. TO ALLOW BULKING DURING SEED BED PREPARATION
DESIGN DEPTH
LONGITUDINAL ANCHOR TRENCH
INTERMITTENT CHECK SLOT
LONGITUDINAL ANCHOR TRENCH
FLOW
SHINGLE-LAP SPLICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT MIN. SHINGLE LAP=6 IN.
PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS, OR OTHER TEMPORARY CHANNEL LINER SYSTEM.
ISOMETRIC VIEW
D
1
Z1
LINING *
1
Z2
LONGITUDINAL ANCHOR TRENCH
B
(LOOKING DOWNSTREAM)

CHANNEL CROSS-SECTION

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

SWALE DESIGNATION	B (FT)	D (FT)	Z1	Z2	PERMANENT VEGETATION	TEMPORARY CHANNEL LINING
VEGETATED SWALE 1	14	1	9.5	9.5	VEGETATIVE CLASS "C"	JUTE

NOTES:

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

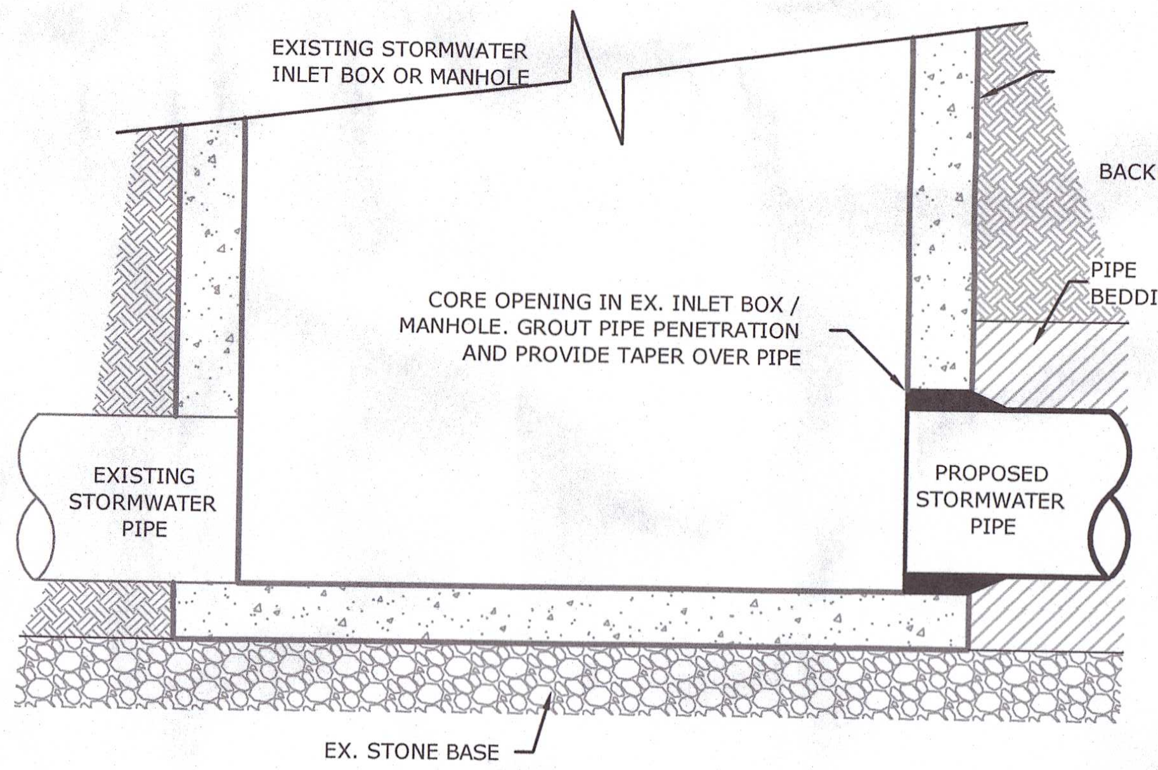
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL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

TO BE CONSTRUCTED WITH MATERIALS AND TECHNIQUES IN ACCORDANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL EFFECTIVE DATE MARCH 31, 2012 AS AMENDED.

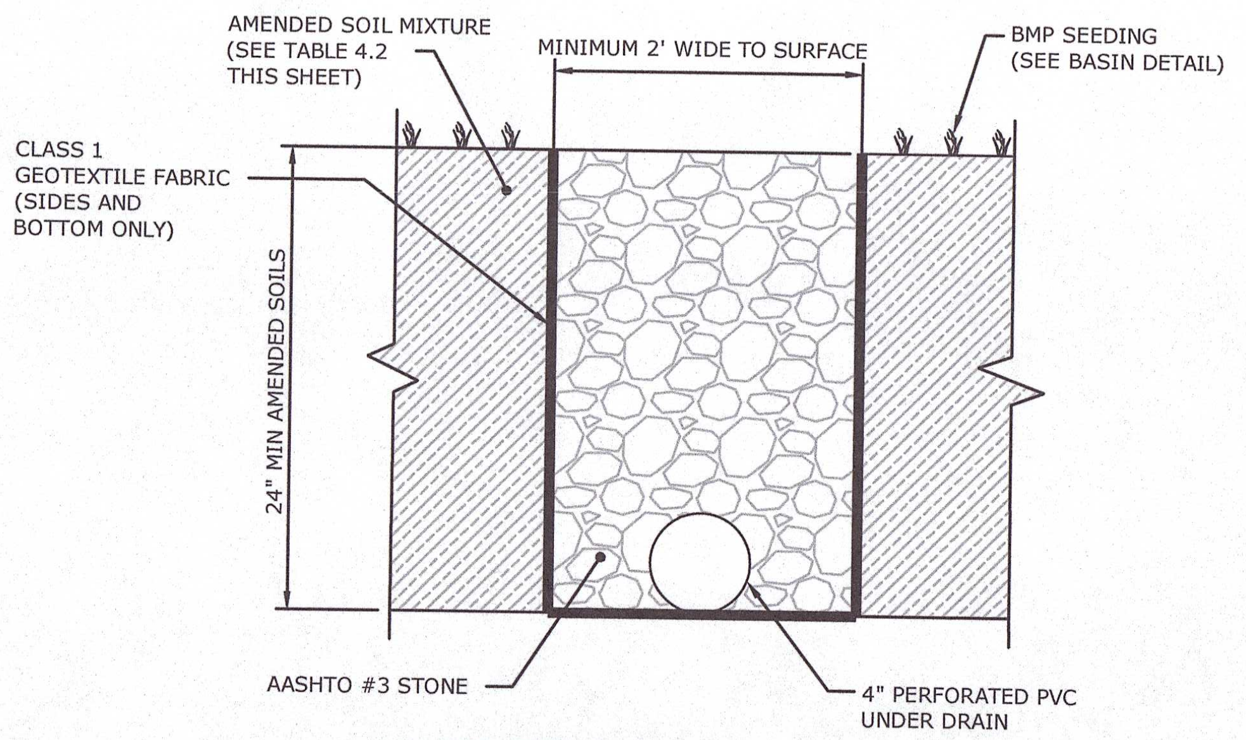
STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

NOT TO SCALE


EXISTING STORMWATER INLET BOX OR MANHOLE
BACKFILL
PIPE BEDDING
CORE OPENING IN EX. INLET BOX / MANHOLE. GROUT PIPE PENETRATION AND PROVIDE TAPER OVER PIPE
EXISTING STORMWATER PIPE
PROPOSED STORMWATER PIPE
EX. STONE BASE

CONNECTION TO EXISTING STORM DRAINAGE STRUCTURE

NOT TO SCALE


AMENDED SOIL MIXTURE (SEE TABLE 4.2 THIS SHEET)
MINIMUM 2' WIDE TO SURFACE
BMP SEEDING (SEE BASIN DETAIL)
CLASS 1 GEOTEXTILE FABRIC (SIDES AND BOTTOM ONLY)
24" MIN AMENDED SOILS
AASHTO #3 STONE
4" PERFORATED PVC UNDER DRAIN

UNDERDRAIN DETAIL

NOT TO SCALE

K&W
DESIGNING ENVIRONMENTS
2201 North Front Street, Suite 200
Harrisburg, PA 17110
P: 717.635.2835
www.kandwengineers.com

REVISED FINAL SUBDIVISION PLAN

145 SOUTH LOCUST STREET

FOR

WILLIAM R. GRACE

CUMBERLAND COUNTY, PA

LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-K_ldDETL.dwg	

REVISIONS

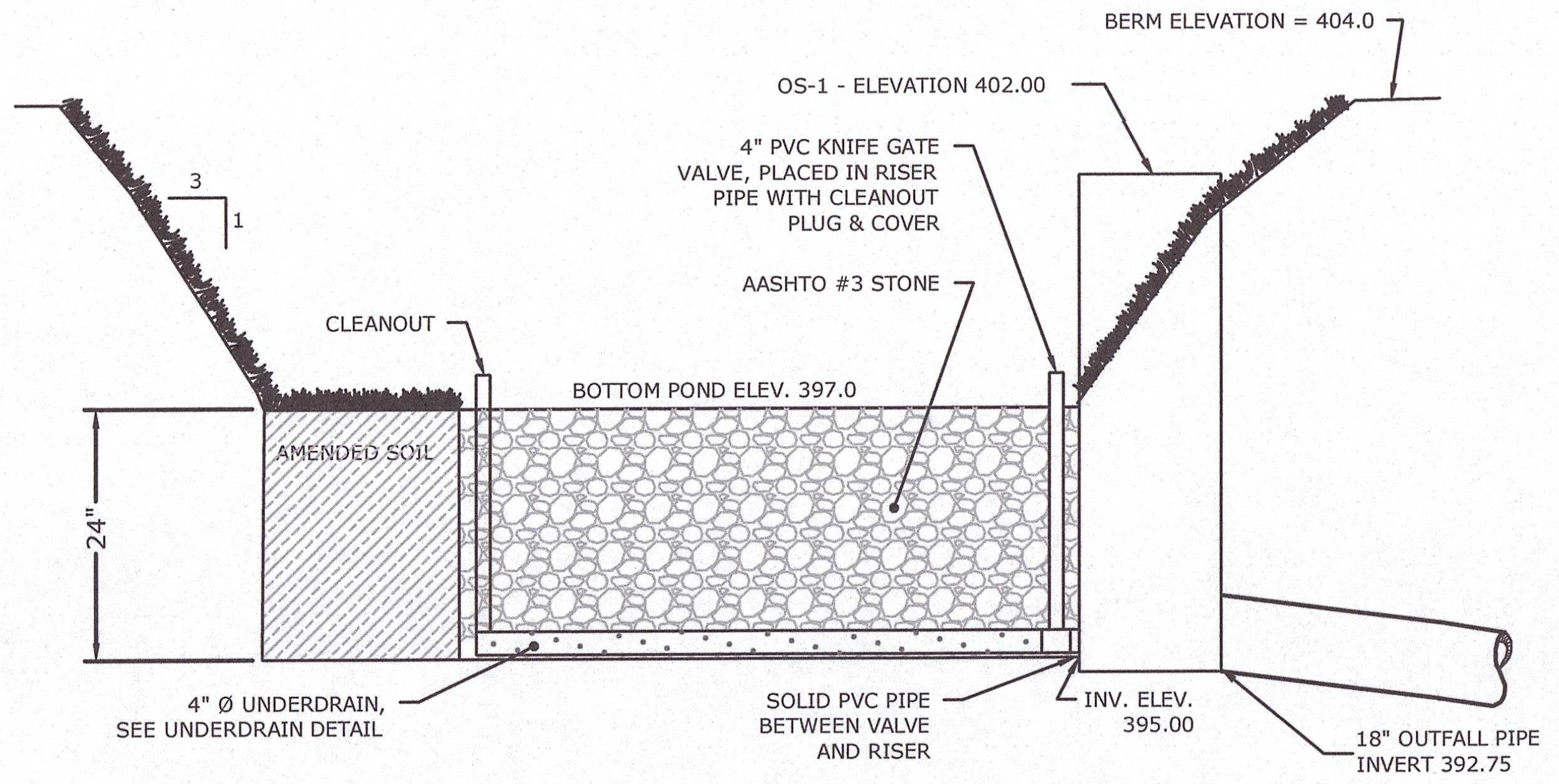
NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
PCSM DETAILS

SHEET:
18 OF 19

P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\LDP\2121007-K_ldDETL.dwg 10-28-2021 4:49:52 PM BY: bmetzger

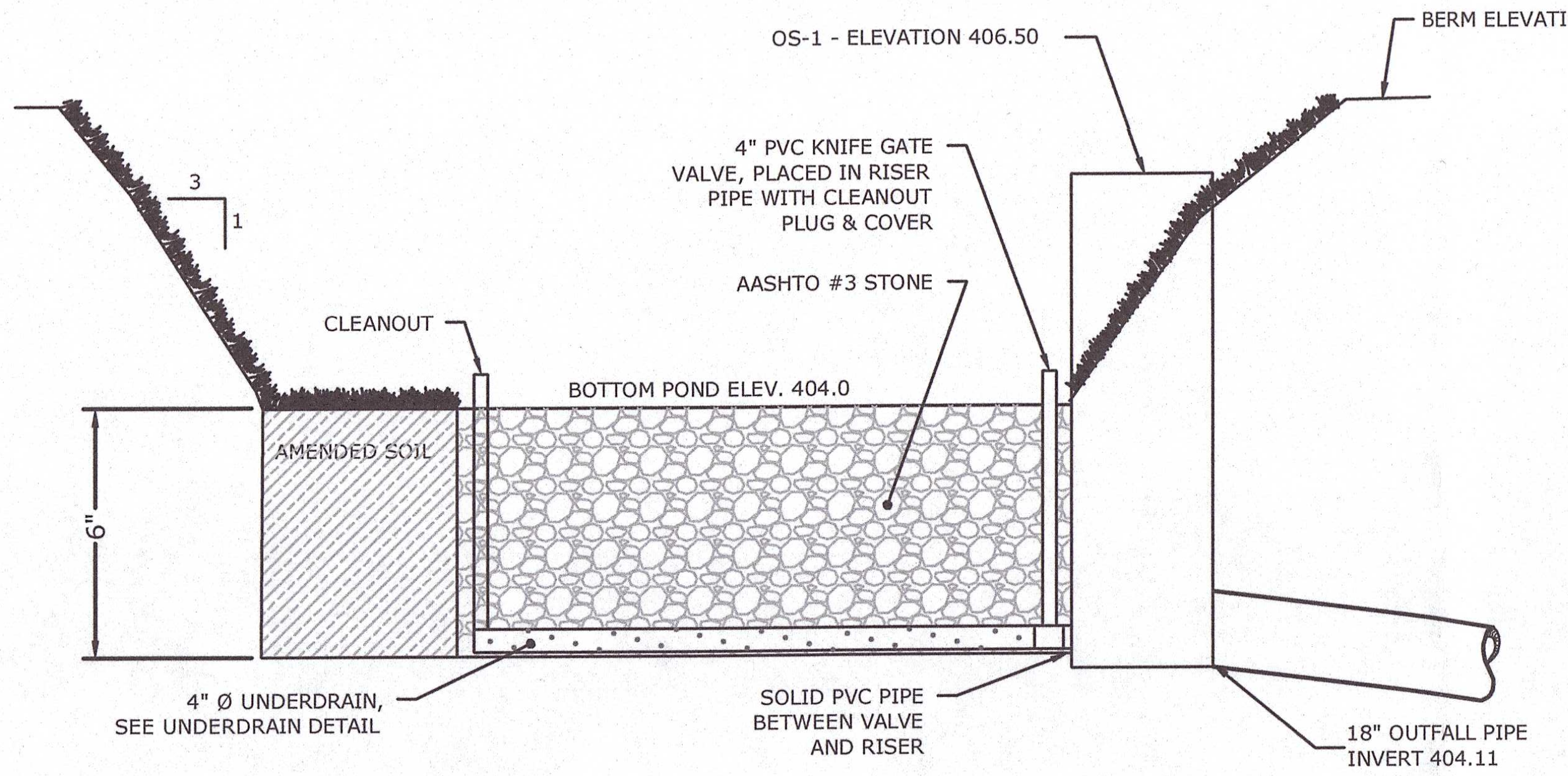
XRefs: P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Xrefs\2121007-01_xrTB_24x36.dwg
Images: P:\2000\2049\028 - Woodbridge Phase I\CAD\z2049013\dwg\Images\Details\INVERTED FILTER DETAIL.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh cover detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh frame detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\mh x-sec detail.tif P:\2000\2121\007 - Locust Street Homes LD\CAD\DWG\Images\sewerconnection detail.tif


BERM ELEVATION = 404.0
OS-1 - ELEVATION 402.00
4" PVC KNIFE GATE VALVE, PLACED IN RISER PIPE WITH CLEANOUT PLUG & COVER
AASHTO #3 STONE
3
1
CLEANOUT
BOTTOM POND ELEV. 397.0
AMENDED SOIL
24"
4" Ø UNDERDRAIN, SEE UNDERDRAIN DETAIL
SOLID PVC PIPE BETWEEN VALVE AND RISER
INV. ELEV. 395.00
18" OUTFALL PIPE INVERT 392.75

NOTES:
1. CONTRACTOR SHALL EXCAVATE SEDIMENT FROM SEDIMENT BASIN PRIOR TO CONVERSION TO INFILTRATION BASIN.
2. EXISTING SUBGRADE WITHIN INFILTRATION BASIN AREA SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
3. SOILS AMENDMENTS SHALL BE COMPLETED BY TREATING COMPACTION PER THE SOILS RESTORATION METHOD AS DIRECTED WITHIN THE PENNSYLVANIA BMP MANUAL SECTION 6.7.3:
4. SPREAD 24 INCHES OF AMENDED SOIL MIXTURE WITHIN THE FACILITY TO BRING THE AREA UP TO FINAL GRADE. AMENDED SOIL SPECIFICATION: 60% SCREENED TOPSOIL (LOAM), CAPABLE OF SUPPORTING HEALTHY VEGETATIVE COVER, SHALL BE AMENDED WITH 5% ORGANIC MATERIAL (COMPOST) AND 35%, CLEAN SAND. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.
5. INSTALL BASIN SEEDING (ERNST 126 SEED MIX OR APPROVED EQUAL) IN ACCORDANCE WITH THE MANUFACTURERS AND PROJECT SPECIFICATIONS.
6. PROVIDE NATURAL JUTE NETTING AND WATER TO PROMOTE VEGETATIVE GROWTH.
7. DO NOT INSTALL SOIL AMENDMENTS OR SEEDING DURING NON-GERMINATION PERIODS.
8. UNDERDRAIN VALVE WILL BE OPENED ONLY FOR REQUIRED MAINTENANCE AND IF THE BASIN HAS NOT COMPLETELY DEWATERED WITHIN 72 HOURS. VALVE SHALL BE CLOSED IMMEDIATELY UPON DEWATERING.
9. ANY EVIDENCE OF SINKHOLE FORMATION SHOULD BE REPAIRED IMMEDIATELY.

INFILTRATION BASIN SECTION (BASIN 1)

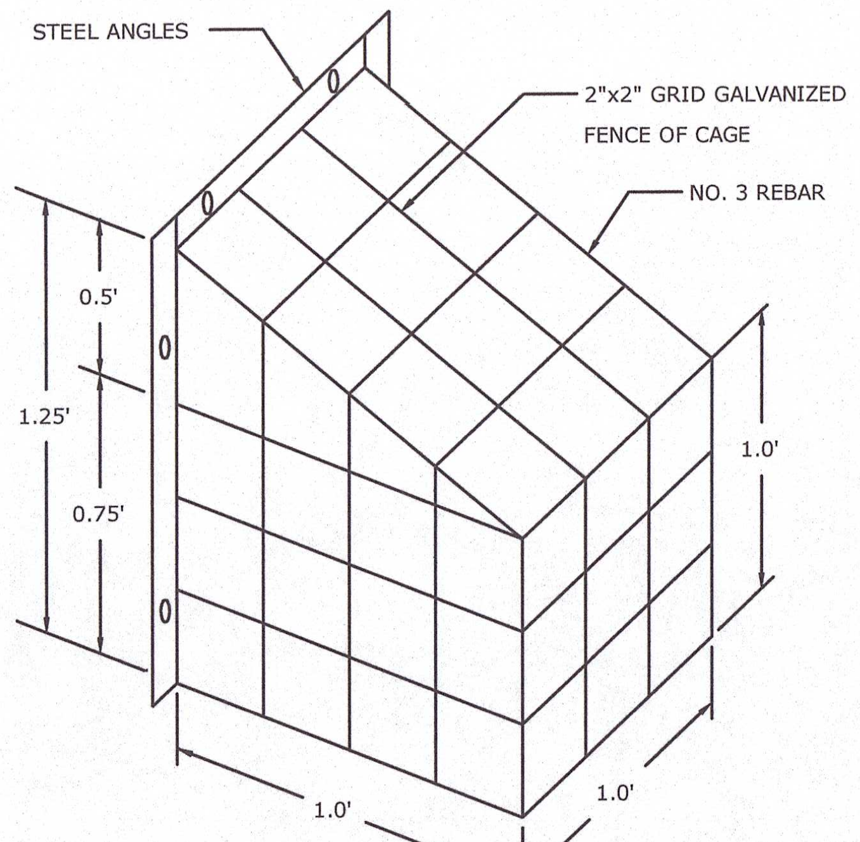
NOT TO SCALE


BERM ELEVATION = 407.0
OS-1 - ELEVATION 406.50
4" PVC KNIFE GATE VALVE, PLACED IN RISER PIPE WITH CLEANOUT PLUG & COVER
AASHTO #3 STONE
3
1
CLEANOUT
BOTTOM POND ELEV. 404.0
AMENDED SOIL
6"
4" Ø UNDERDRAIN, SEE UNDERDRAIN DETAIL
SOLID PVC PIPE BETWEEN VALVE AND RISER
18" OUTFALL PIPE INVERT 404.11

NOTES:
1. CONTRACTOR SHALL EXCAVATE SEDIMENT FROM SEDIMENT BASIN PRIOR TO CONVERSION TO INFILTRATION BASIN.
2. EXISTING SUBGRADE WITHIN INFILTRATION BASIN AREA SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
3. SOILS AMENDMENTS SHALL BE COMPLETED BY TREATING COMPACTION PER THE SOILS RESTORATION METHOD AS DIRECTED WITHIN THE PENNSYLVANIA BMP MANUAL SECTION 6.7.3:
4. SPREAD 24 INCHES OF AMENDED SOIL MIXTURE WITHIN THE FACILITY TO BRING THE AREA UP TO FINAL GRADE. AMENDED SOIL SPECIFICATION: 60% SCREENED TOPSOIL (LOAM), CAPABLE OF SUPPORTING HEALTHY VEGETATIVE COVER, SHALL BE AMENDED WITH 5% ORGANIC MATERIAL (COMPOST) AND 35%, CLEAN SAND. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.
5. INSTALL BASIN SEEDING (ERNST 126 SEED MIX OR APPROVED EQUAL) IN ACCORDANCE WITH THE MANUFACTURERS AND PROJECT SPECIFICATIONS.
6. PROVIDE NATURAL JUTE NETTING AND WATER TO PROMOTE VEGETATIVE GROWTH.
7. DO NOT INSTALL SOIL AMENDMENTS OR SEEDING DURING NON-GERMINATION PERIODS.
8. UNDERDRAIN VALVE WILL BE OPENED ONLY FOR REQUIRED MAINTENANCE AND IF THE BASIN HAS NOT COMPLETELY DEWATERED WITHIN 72 HOURS. VALVE SHALL BE CLOSED IMMEDIATELY UPON DEWATERING.
9. ANY EVIDENCE OF SINKHOLE FORMATION SHOULD BE REPAIRED IMMEDIATELY.

RAIN GARDEN SECTION

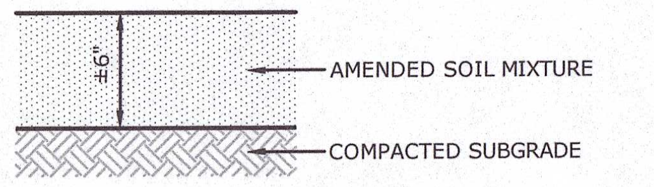
NOT TO SCALE


STEEL ANGLES
2"x2" GRID GALVANIZED
FENCE OF CAGE
NO. 3 REBAR
0.5'
1.25'
0.75'
1.0'
1.0'
1.0'

NOTE: PROVIDE CORROSION PROTECTION ON ALL METAL SURFACES

TRASH RACK

NOT TO SCALE


±6"
AMENDED SOIL MIXTURE
COMPACTED SUBGRADE

NOTES:
SOILS AMENDMENTS SHALL BE COMPLETED BY TREATING COMPACTION PER THE SOILS RESTORATION METHOD OR THE SUBSOILING METHOD AS DIRECTED WITHIN THE PENNSYLVANIA BMP MANUAL SECTION 6.7.3:

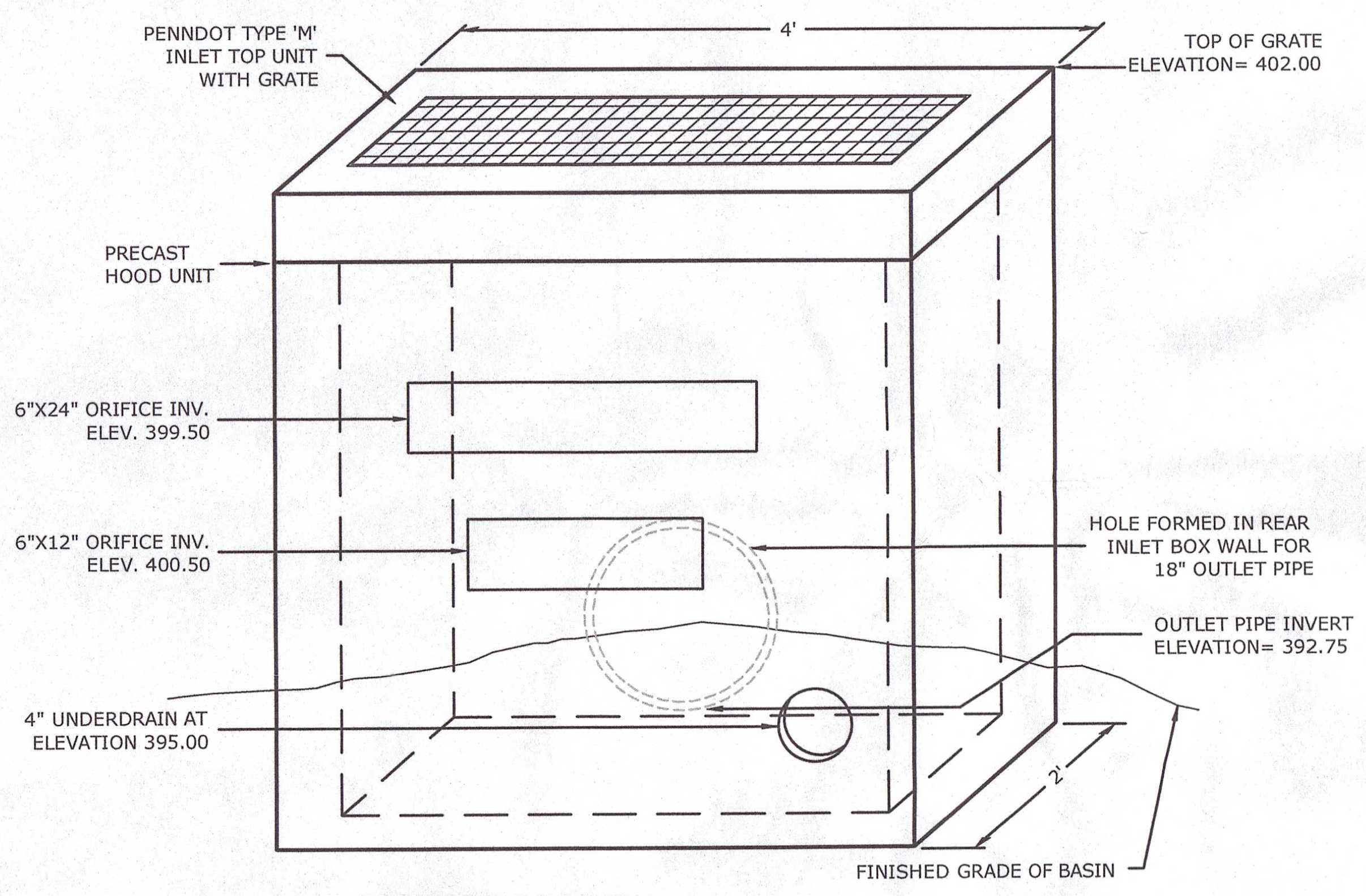
SOIL RESOLUTION METHOD:
- SOIL AMENDMENT MEDIA USUALLY CONSISTS OF COMPOST, BUT CAN INCLUDE MULCH, MANURES, SAND, AND MANUFACTURED MICROBIAL SOLUTIONS.
- COMPOST SHOULD BE ADDED AT A RATE OF 2:1 (SOIL:COMPOST). IF A PROPRIETARY PRODUCT IS USED, THE MANUFACTURE'S INSTRUCTIONS SHOULD BE FOLLOWED IN TERMS OF MIXING AND APPLICATION RATE.
- SOILS RESTORATION SHOULD NOT BE USED ON SLOPES GREATER THAN 30%. IN THESE AREAS DEEP ROOTED VEGETATION CAN BE USED TO INCREASE STABILITY.
- SOILS RESTORATION SHOULD NOT TAKE PLACE WITHIN THE DRIP LINE OF A TREE TO AVOID DAMAGING THE ROOT SYSTEM.
- ON SITE SOILS WITH ORGANIC CONTENT OF AT LEAST 5 PERCENT CAN BE PROPERLY STOCKPILED (TO MAINTAIN ORGANIC CONTENT) AND REUSED.
- PROCEDURE: ROTOTILL, OR RIP THE SUBGRADE, REMOVE ROCKS, DISTRIBUTE THE COMPOST, SPREAD THE NUTRIENTS, ROTOTILL AGAIN.
- ADD 6 INCHES COMPOST/ AMENDMENT AND TILL UP TO 8 INCHES FOR MINOR COMPACTION.

SUBSOILING METHOD:
- SUBSOILING IS ONLY EFFECTIVE WHEN PERFORMED ON DRY SOILS.
- RIPPING, SUBSOILING, OR SCARIFICATION OF THE SUBSOIL SHOULD BE PERFORMED WHERE SUBSOIL HAS BECOME COMPACTED BY EQUIPMENT OPERATION, DRIED OUT AND CRUSTED, OR WHERE NECESSARY TO OBLITERATE EROSION RILLS.
- RIPPING (SUBSOILING) SHOULD BE PERFORMED USING A SOLID SHANK RIPPER AND TO A DEPTH OF 20 INCHES, (8 INCHES FOR MINOR COMPACTION).

FOR BOTH METHODS THE FOLLOWING FINAL STEPS MUST BE COMPLETED:
- MIX COMPOST AND TOPSOIL TO CREATE A UNIFORM, COHESIVE SOIL MIXTURE. SOIL MIXTURE SHALL CONSIST OF 2 PARTS TOPSOIL / 1 PART COMPOST BY VOLUME.
- SPREAD 6 INCHES OF AMENDED SOIL MIXTURE WITHIN THE FACILITY TO BRING THE AREA UP TO FINAL GRADE.
- SEED AREA WITH PERMANENT SEED MIXTURE IN ACCORDANCE WITH THE SPECIFICATIONS INCLUDED ON THE PLAN.
- PROVIDE STRAW MULCH AND WATER TO PROMOTE VEGETATIVE GROWTH.
- DO NOT INSTALL SOIL AMENDMENTS OR SEED DURING NON-GERMINATION PERIODS.

SOIL AMENDMENT AND RESTORATION DETAIL

NOT TO SCALE

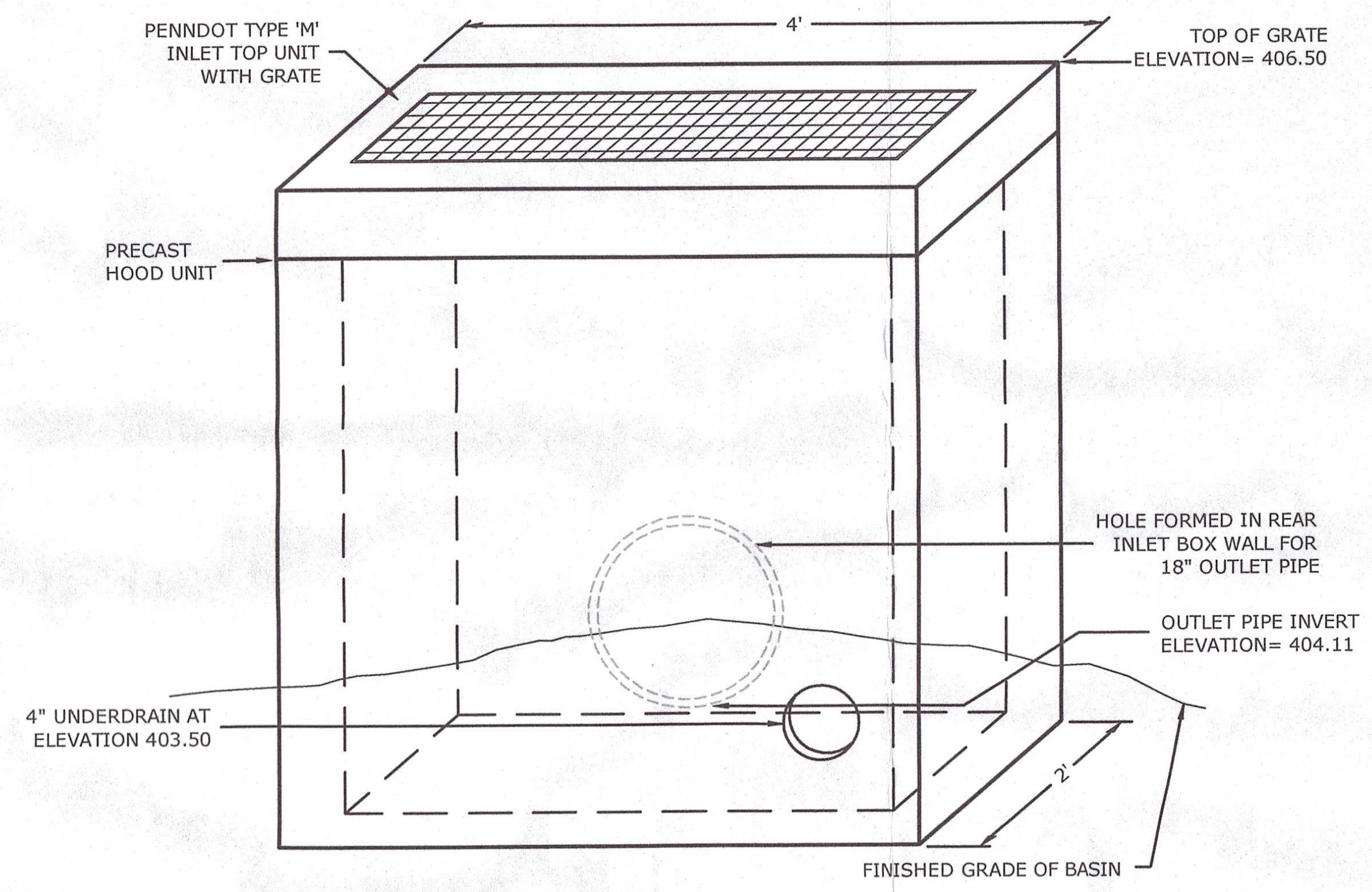

PENNDOT TYPE 'M' INLET TOP UNIT WITH GRATE
4'
TOP OF GRATE ELEVATION= 402.00
PRECAST HOOD UNIT
6"X24" ORIFICE INV. ELEV. 399.50
6"X12" ORIFICE INV. ELEV. 400.50
HOLE FORMED IN REAR INLET BOX WALL FOR 18" OUTLET PIPE
OUTLET PIPE INVERT ELEVATION= 392.75
4" UNDERDRAIN AT ELEVATION 395.00
2'
FINISHED GRADE OF BASIN

ISOMETRIC VIEW

NOTES:
1. THE PROPOSED OUTLET STRUCTURE SHALL BE IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 605 AND STANDARDS FOR ROADWAY CONSTRUCTION, RC-34.
2. ALL JOINTS SHALL BE GROUTED INSIDE AND OUTSIDE.

STORMWATER INFILTRATION BASIN PERMANENT OUTLET STRUCTURE 1 (OS-1)

NOT TO SCALE


PENNDOT TYPE 'M' INLET TOP UNIT WITH GRATE
4'
TOP OF GRATE ELEVATION= 406.50
PRECAST HOOD UNIT
HOLE FORMED IN REAR INLET BOX WALL FOR 18" OUTLET PIPE
OUTLET PIPE INVERT ELEVATION= 404.11
4" UNDERDRAIN AT ELEVATION 403.50
2'
FINISHED GRADE OF BASIN

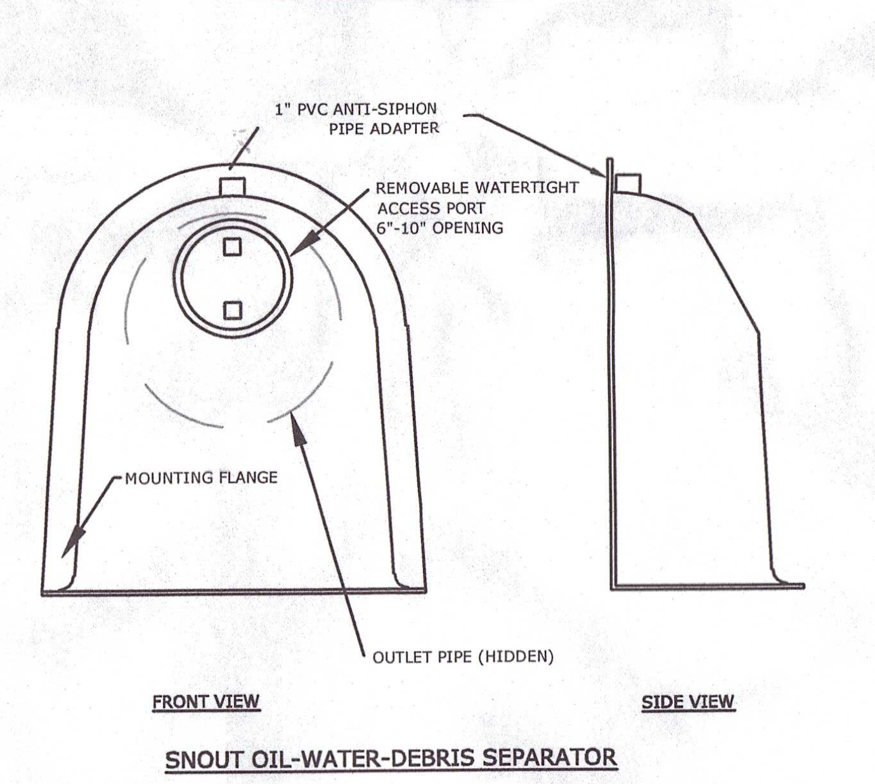
ISOMETRIC VIEW

NOTES:
1. THE PROPOSED OUTLET STRUCTURE SHALL BE IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 605 AND STANDARDS FOR ROADWAY CONSTRUCTION, RC-34.
2. ALL JOINTS SHALL BE GROUTED INSIDE AND OUTSIDE.

RAIN GARDEN PERMANENT OUTLET STRUCTURE 2 (OS-2)

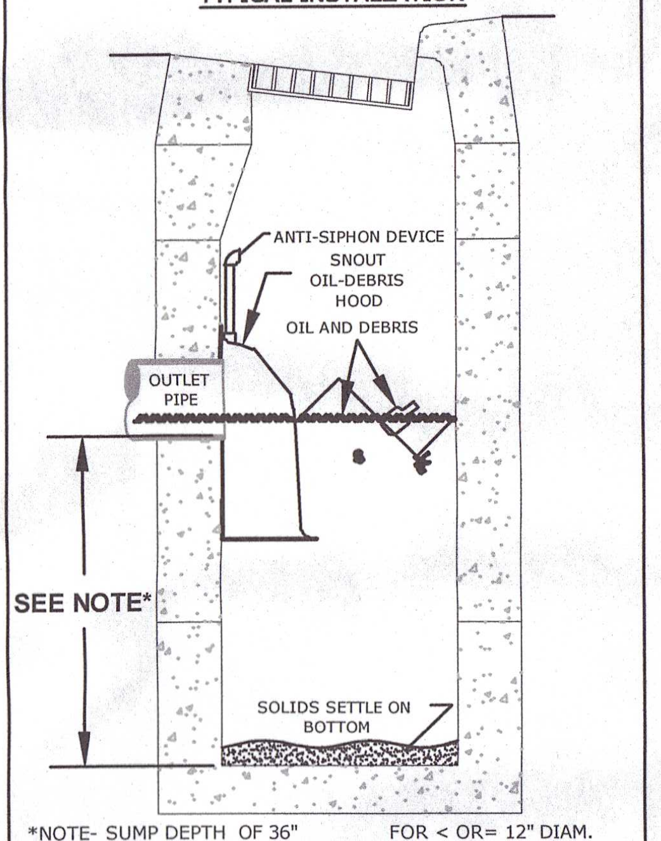
NOT TO SCALE

CONFIGURATION DETAIL


1" PVC ANTI-SIPHON PIPE ADAPTER
REMOVABLE WATERTIGHT ACCESS PORT 6"-10" OPENING
MOUNTING FLANGE
OUTLET PIPE (HIDDEN)
FRONT VIEW
SIDE VIEW

SNOUT OIL-WATER-DEBRIS SEPARATOR

TYPICAL INSTALLATION

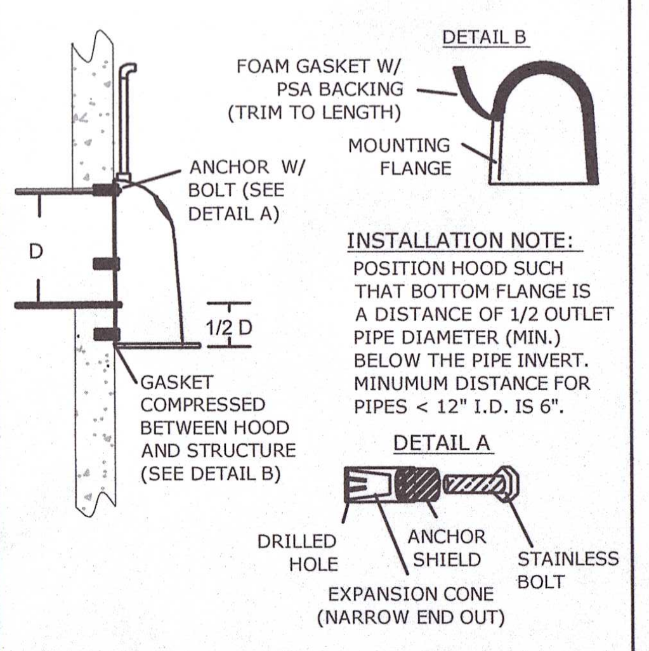

ANTI-SIPHON DEVICE
SNOUT OIL-DEBRIS HOOD
OIL AND DEBRIS
OUTLET PIPE
SEE NOTE*
SOLIDS SETTLE ON BOTTOM

*NOTE- SUMP DEPTH OF 36" FOR < OR= 12" DIAM. OUTLET. FOR OUTLETS >OR= 15", DEPTH = 2.5-3X DIAM.

NOTES:
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE
AS MANUFACTURED BY:
BEST MANAGEMENT PRODUCTS, INC.
53 MT. ARCHER RD.
LYME, CT 06371
(860) 434-0277, (860) 434-3195 FAX
TOLL FREE: (800) 504-8008 OR (888) 434-0277
WEB SITE: www.bmpinc.com
OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN. (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8' STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
INSTALLATION KIT SHALL INCLUDE:
A. INSTALLATION INSTRUCTIONS
B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
D. 3/8" STAINLESS STEEL BOLTS
E. ANCHOR SHIELDS

US Patent # 6126817

INSTALLATION DETAIL


DETAIL B
FOAM GASKET W/ PSA BACKING (TRIM TO LENGTH)
MOUNTING FLANGE
ANCHOR W/ BOLT (SEE DETAIL A)
D
1/2 D
GASKET COMPRESSED BETWEEN HOOD AND STRUCTURE (SEE DETAIL B)
DETAIL A
DRILLED HOLE
ANCHOR SHIELD
STAINLESS BOLT
EXPANSION CONE (NARROW END OUT)

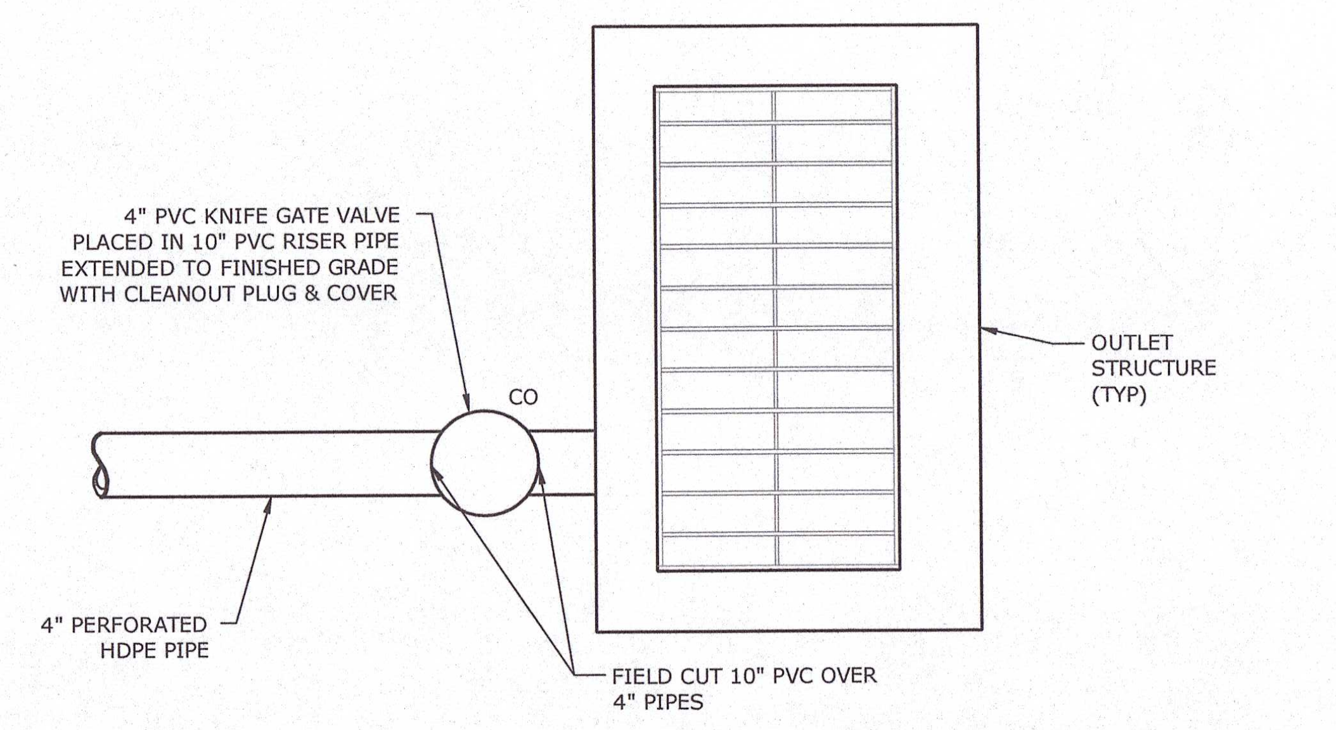
INSTALLATION NOTE:
POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2 OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINUMUM DISTANCE FOR PIPES < 12" I.D. IS 6".

HOOD SPECIFICATION FOR
CATCH BASINS AND
WATER QUALITY STRUCTURES

DESCRIPTION	DATE	SCALE
OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	09/08/00	NONE
	DRAWING NUMBER SP-SN	

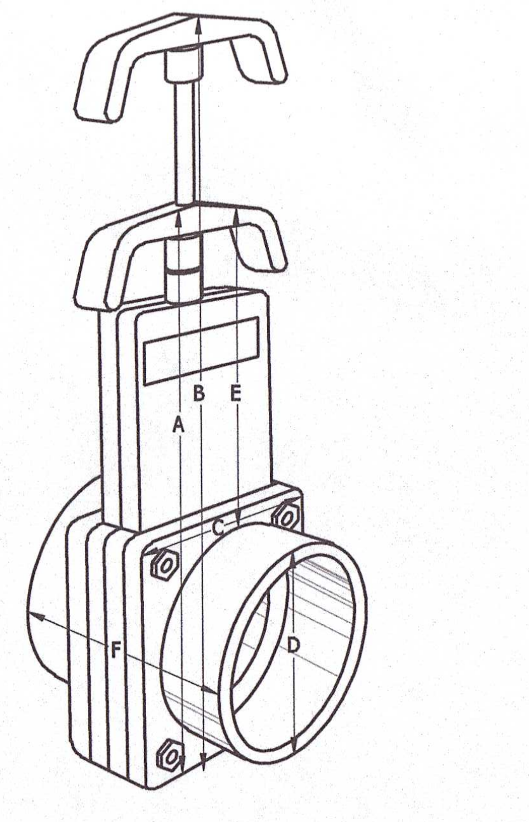
SNOUT OIL-WATER-DEBRIS SEPARATOR (INLETS 12 & 13)

NOT TO SCALE


4" PVC KNIFE GATE VALVE PLACED IN 10" PVC RISER PIPE EXTENDED TO FINISHED GRADE WITH CLEANOUT PLUG & COVER
CO
OUTLET STRUCTURE (TYP)
4" PERFORATED HDPE PIPE
FIELD CUT 10" PVC OVER 4" PIPES

KNIFE GATE VALVE CONNECTION

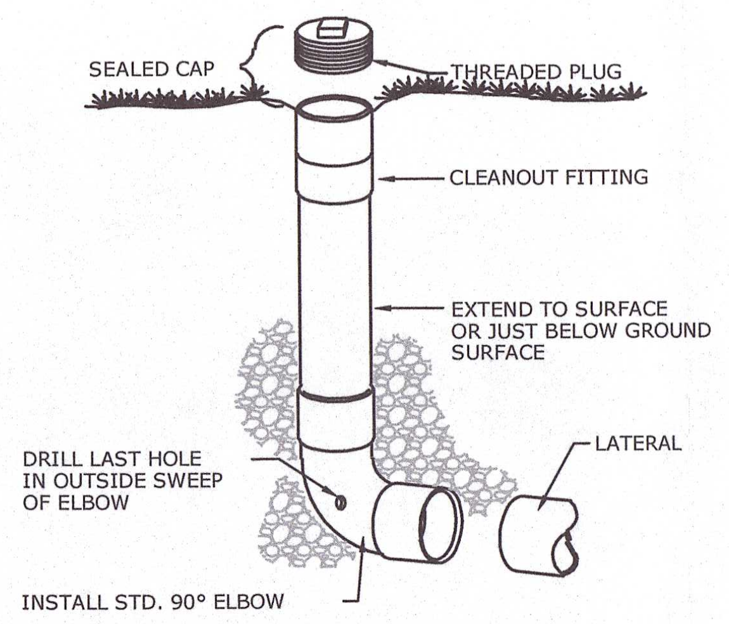
NOT TO SCALE



SIZE	A	B	C	D	E	F
4" PVC	13 1/4"	18"	6 5/8"	5"	7 7/16"	5 3/16"

KNIFE GATE VALVE

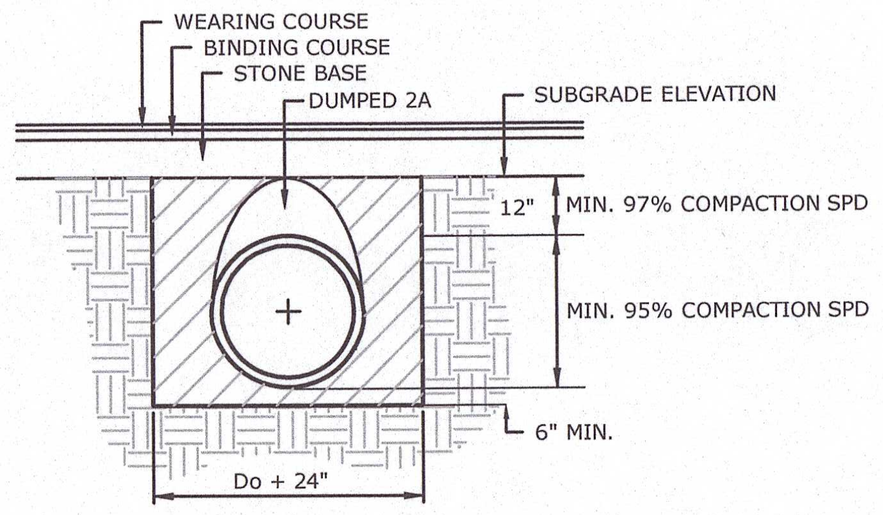
NOT TO SCALE


SEALED CAP
THREADED PLUG
CLEANOUT FITTING
EXTEND TO SURFACE OR JUST BELOW GROUND SURFACE
LATERAL
DRILL LAST HOLE IN OUTSIDE SWEEP OF ELBOW
INSTALL STD. 90° ELBOW

NOTE:
ALL PVC PIPING FOR LATERALS 1-1/2" DIA.
LATERAL CLEANOUT REQUIRED AT TERMINAL END OF EACH LATERAL LINE IN DISTRIBUTION CENTER.

UNDERDRAIN CLEANOUT

NOT TO SCALE


WEARING COURSE
BINDING COURSE
STONE BASE
DUMPED 2A
SUBGRADE ELEVATION
12"
MIN. 97% COMPACTION SPD
MIN. 95% COMPACTION SPD
6" MIN.
Do + 24"

NOTE: THERMOPLASTIC PIPE
PLACE 2A COARSE AGGREGATE MATERIAL (IN LIFTS 4" THICK) ADJACENT TO THE LOWER HAUNCHES TO A HEIGHT OF 12" ABOVE TOP OF PIPE. COMPACT TO 95% SPD. TEST THE SIDE BACKFILL MATERIAL AND CONTINUE EMBANKMENT IN ACCORDANCE WITH SECTION 601.

HDPEP INSTALLATION

NOT TO SCALE

K&W
DESIGNING ENVIRONMENTS
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REVISED FINAL SUBDIVISION PLAN
145 SOUTH LOCUST STREET
FOR
WILLIAM R. GRACE
CUMBERLAND COUNTY, PA
LOWER ALLEN TOWNSHIP

PROFESSIONAL SEAL

SCALE:	AS SHOWN
DATE:	OCTOBER 28, 2021
K&W PROJECT:	2121.007
DRAWN BY:	GSD
CAD DRAWING: 2121007-K_ldDETL.dwg	

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

PLAN TYPE:
PCSM DETAILS

SHEET:
19 OF 19