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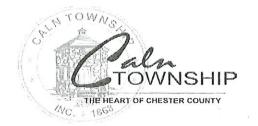
APR 1 1 2023

253 Municipal Dr, Thorndale, PA 19372 Phone: 610-384-0600 | Fax: 610-384-0617 www.calntownship.org

CODES DEPARTMENT CALN TOWNSHIP

SUBDIVISION / LAND DEVELOPMENT PLAN APPLICATION

PROJECT NAME (TO BE	COMPLETED BY TOWNSHIP): Kia SDLD
NAME OF APPLICANT: D	
DATE OF APPLICATION	: 4/11/23 SUBMISSION # 23-00297
LOCATION OF PROPERT	Y: 2751 Lincoln Highway, Coatesville, PA 19320
TAX PARCEL ID NUMBER	R: 39-4-94.1 ZONING DISTRICT: TV-1 & Lincoln Overlay
TYPE OF SU SKETCH PLA PRELIMINAN IN ADDITION IS REQUIRE	AN (8) FINAL PLAN (8) RY PLAN (8) OTHER N: (1) 11X17 PLAN AND A FLASH DRIVE CONTAINING ALL PLANS
MAILING ADDRESS: 25 PHONE NUMBER: 6	MS Realty LP c/o Jim Sipala 535 E. Lincoln Highway, Coatesville, PA 19320 10-384-7700 FAX NUMBER: ipala@jimsipalakia.com
OWNER OF RECORD: OMAILING ADDRESS: 25	pen Hand Realty LLC 535 E. Lincoln Highway, Coatesville, PA 19320
PHONE NUMBER: 6	10-384-7700 FAX NUMBER:ipala@jimsipalakia.com
WINTERTO / IDDITEOU.	ouis J. Colagreco, Jr., Esquire 17 Constitution Drive, Suite 201, Exton, PA 19341 10-458-4400 FAX NUMBER:
	u@rrhc.com
	owell Engineering - Christopher M. Daily, P.E.
PHONE NUMBER: 6	250 Wrights Lane, West Chester, PA 19380 10-918-9002 FAX NUMBER: daily@dlhowell.com



TOTAL LAND AREA (ACRES): 6.465

TOTAL LAND AREA BEING DEVELOPED:

RECEIVE 253 Municipal Dr, PO Box 72149, Thorndale, PA 19372 Phone: 610-384-0600 | Fax: 610-384-0617

RESIDENTIAL DENSITY: N/A

TOTAL PHASES:

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APR 1 1 2023

CODES DEPARTMENT CALN TOWNSHIP

PROPOSED LAND USE (X)		SPECIFIC TYPE OF USE, AS DEFINED BY CALN TOWNSHIP	TOTAL NUMBER OF LOTS / UNITS	TOTAL SQ. FOOTAGE OF NON-RESID. BUILDINGS
AGRICULTURAL		45 H	d d	
CONSERVATION				
RESIDENTIAL		=		
COMMERCIAL	×	Automobile Leasing	2	4,500 S.F.
INDUSTRIAL				
INSTITUTIONAL				
MUNICIPAL				
OTHER				

+/- 3 acres

TOTAL LENGTH OF NEW ROADS (LINEAR FEET):	N/A			
PROPOSED METHOD OF SEWAGE DISPOSAL:	Public			**
PROPOSED METHOD OF WATER SUPPLY:	Public			B
			4.4	- 10 m
			9 9	
EIGHT COMPLETE SETS OF PLANS, ONE ORIGINAL SUPPLEMENTAL DOCUMENTS OR REPORTS SHAL ACCORDANCE WITH THE PROCEDURES ADOPTED COMMISSIONERS. THE FOLLOWING INFORMATION	L BE SU BY THE	BMITTED T	O CALN TOWNSHIP IN	
TITLE OF SUBMISSION AND DESCRIPTION CONTEN	NTS	COPIES	REFERENCE NUMBER	DATE
Please see transmittal		- 1		



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APR 1 1 2023

CODES DEPARTMENT CALN TOWNSHIP 253 Municipal Dr, PO Box 72149, Thorndale, PA 19372 Phone: 610-384-0600 | Fax: 610-384-0617 www.calntownship.org

∣ _I Jim Sipala	(AUTHORIZED REPRESENTATIVE OF THE A	APPLICANT) HEREBY
	TION BY CALN TOWNSHIP. TO THE BEST OF	MY KNOWLEDGE,
	ED WITHIN THIS APPLICATION IS TRUE, CORF FOLLOWING SPECIFIC TERMS AND CONDITIO	
	CTED, APPOINTED AND/OR ASSIGNED STAF	
	EXTERIOR PREMISES OF THE PROPERTY, IN OR THE PURPOSES OF CONDUCTING SITE IN	S
	ION IS BEING CONSIDERED BY CALN TOWNS	
(2) I HEREBY AGREE TO PAY A REQUIRED FOR THE REVIE	ALL CONSULTANT, ADMINISTRATIVE AND/OF WOF THIS APPLICATION.	R APPLICATION FEES
	PLETE AND SUBMIT TO CALN TOWNSHIP, THI	E CHESTER COUNTY
REFERRAL FORM AND APP	LICABLE FEES WITH THIS APPLICATION.	
SIGNATURE OF APPLICANT OR AUTHO	ORIZED DATE OF APPLICATION	
REPRISEATATIVE		,
AMIN/Maurel	111 3-30-203	3
SIGNATURE OF WITNESS	DATE	\(\frac{1}{2}\)
FOR MUNICIPAL USE ONLY	AUTHORIZED STAFF MEMBER: _	Eragn
APPLICATION NAME: Kia SDI	APPLICA	ATION# <u>23-00297</u>
SUBMISSION DATE: 4/1/23	3SUBMISSION N	IUMBER:
CALN TWP. FEE: 150.00	CHECK NUMBER: 16853	DATE: 3/30/23
CHESTER COUNTY PC FEE: 1160.5	50 Paying directly OTHER APPLICATION	ON FEES: 825, 00 #16854
DATE APPLICATION WILL BE REVIEWS	ED BY TOWNSHIP PLANNING COMMISSION:	6 20 23
DATE APPLICATION WILL BE REVIEWS APPLICATION COMPLETENESS REVIE		6 20 23 DATE: 4/17/23

GENERAL NOTES

- 1. THE INTENT OF THIS PLAN IS TO REDEVELOP THE SITE FOR A 4,500 S.F. LEASING FACILITY WITH ASSOCIATED PARKING. REDEVELOPMENT ALSO INCLUDES IMPROVEMENTS ALONG LINCOLN HIGHWAY WITH SIDEWALK AND STREET AMENITIES. ALSO INCLUDES IS UNDERGROUND STORM WATER MANAGEMENT, LIGHTING AND LANDSCAPING.
- 2. RECORD OWNER/MAILING ADDRESS: OPEN HAND REALTY, LLC 2535 E. LINCOLN HIGHWAY COATESVILLE PA, 19320
- 3. SITE ADDRESS: 2751 LINCOLN HIGHWAY COATESVILLE PA, 19372
- 4. TAX PARCEL #: 39-4-94.1
- 5. SOURCE OF TITLE: RECORD BOOK 10904, PAGE 144
 (LOT #3, RECORD PLAN BOOK #4606)
- 6. LOT AREA: 6.465 ACRES (GROSS) 6.202 ACRES (NET OF LEGAL R/W)
- 7. BOUNDARY, TOPOGRAPHY AND PHYSICAL IMPROVEMENTS SHOWN ARE FROM FIELD SURVEY BY HOWELL KLINE SURVEYING, LLC. PERFORMED ON 11/03/2022.
- 8. CONTOURS PLOTTED FROM FIELD RUN TOPOGRAPHIC SURVEY BY HOWELL KLINE SURVEYING, L.L.C.. AND SUPPLEMENTED WITH G.I.S DATA. DATUM: NAVD 88 (COMPUTED USING GEOID12A) & NAD 83 (2011) (EPOCH:2010.0000) (AS DETERMINED BY GPS OBSERVATION), SITE BENCH = WESTERN DOOR SILL OF BLOCK BUILDING, ELEVATION= 322.43', CONTOUR INTERVAL: 2 FEET.
- UNDERGROUND UTILITIES SHOWN WERE PLOTTED FROM OBSERVABLE EVIDENCE AT THE TIME OF SURVEY AND INFORMATION FROM PLANS SUPPLIED BY UTILITY COMPANIES. NO GUARANTEE IS MADE THAT UNDERGROUND UTILITIES ARE ACCURATELY OR COMPLETELY SHOWN HEREON.
- 10. THE 50' WIDE RIGHT OF WAY OF E. LINCOLN HIGHWAY WAS TAKEN FROM REFERENCE PLAN #1.
- 11. A PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD HAZARD ZONE AE, A SPECIAL FLOOD HAZARD AREA WITH BASE FLOOD ELEVATION PER THE NATIONAL FLOOD INSURANCE RATE MAP FOR CHESTER COUNTY, PA. MAP NO. 42029C0195G, PANEL 195 OF 380, DATED SEPTEMBER 29, 2017. FLOOD PLAIN BOUNDARIES SHOWN HEREON WERE SCALED FROM THE ABOVE MENTIONED MAP.
- 12. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL PERFORM A PENNSYLVANIA ONE CALL IN ACCORDANCE WITH PA ACT
- 13. D.L. HOWELL & ASSOCIATES, INC. DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS OF THE EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS. NOR DOES D.L. HOWELL & ASSOCIATES, INC. GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF THE WORK.
- 14. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION IN ACCORDANCE WITH PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY PENNSYLVANIA ACT 187 OF 1996, "ONE CALL" SYSTEM. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE. SANITARY SEWER, WATER, ELECTRIC, GAS AND ALL OTHER UTILITY SERVICES CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CROSSINGS WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 15. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED THEREON, WITHOUT FIRST OBTAINING PRIOR WRITTEN AUTHORIZATION FOR SUCH DEVIATIONS FROM THE OWNER AND ENGINEER, IT SHALL BE RESPONSIBLE FOR THE PAYMENT OF ALL COSTS TO CORRECT ANY WORK DONE. ALL FINES OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING FROM IT SHALL INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ALL SUCH COSTS TO CORRECT ANY SUCH WORK AND FROM ALL SUCH FINES AND PENALTIES, COMPENSATIONS AND PUNITIVE DAMAGES AND COSTS OF ANY NATURE RESULTING THEREFROM.
- 16. THE PROPERTY WILL BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
- 17. ALL CURB RADII SHALL BE 5 FT UNLESS NOTED OTHERWISE.
- 18. ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF BUILDING UNLESS NOTED OTHERWISE. SCALED DIMENSIONS SHALL NOT BE USED WITHOUT FIRST CONTACTING THE ENGINEER OR ARCHITECT.
- 19. CHILD PROOF NON-CLOGGING TRASH RACKS ARE REQUIRED ON ALL PIPE OPENINGS OVER 12 INCHES.
- 20. ALL STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT PADOT RC STANDARDS.
- 21. CONSTRUCTION IS ANTICIPATED TO BEGIN SPRING OF 2024 AND END IN SUMMER OF 2024.

 22. PRIOR TO THE RELEASE OF ESCROW FUNDS, AS-BUILT PLANS ARE TO BE PREPARED AND SUBMITTED TO THE
- 23. A BLANKET EASEMENT IS GRANTED TO THE TOWNSHIP FOR THE EXPRESS PURPOSE OF ALLOWING TOWNSHIP OFFICIALS THE ABILITY TO INSPECT AND MAINTAIN THE STORMWATER MANAGEMENT FACILITIES IN THE EVENT THAT THE PROPERTY OWNER FAILS TO MAINTAIN THEM. THE TOWNSHIP SHALL NOTIFY THE PROPERTY OWNER IN ADVANCE OF ANY VISITS TO THE PROPERTY FOR INSPECTIONS AND MAINTENANCE PRIOR TO ARRIVING.
- 24. A FEE IN LIEU OF THE REQUIRED OPEN SPACE IS TO BE PROVIDED.
- 25. NO WETLANDS WERE LOCATED ON THE SUBJECT PROPERTY. SEE THE LETTER PREPARED BY ENVIRONMENTAL MANAGEMENT & CONSULTING, INC. ON JULY 1, 2023.

REFERENCE PLAN(S)

- 1. PLAN ENTITLED, "COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF HIGHWAYS, DRAWING FOR CONSTRUCTION AND CONDEMNATION OF RIGHT-OF-WAY. FOR ROUTE 142, SECTION 1, FROM STATION 1663+00 TO STATION 1875+78". DATE NOT LEGIBLE.
- PLAN ENTITLED, SUBDIVISION OF LAND FOR J.E.S., INC.", PREPARED BY BERGER & HAYES, INC. THORDALE, PA. DATED 06/17/1983, LAST REVISED 08/15/1983, RECORD PLAN BOOK #4606.
- 3. PLAN ENTITLED, "PLAN OF PROPERTY FOR BUZZOTO DEVELOPMENT CO". PREPARED BY BERGER & HAYES, INC. OF THORNDALE, PA. DATED 8/30/2005. NOT RECORDED.
- 4. PLAN ENTITLED, "PLAN OF ALTA/ACSM LAND TITLE SURVEY FOR DEL TOYOTA 2945 E. LINCOLN HIGHWAY2", PREPARED FOR JACK DEL VECCHIO, PREPARED BY HOWELL KLINE SURVEYING, LLC. DATED 12/01/2010, LAST REVISED 09/02/2011.

APPLICANT/EQUITABLE OWNER

DMS REALTY LP
C/O JIM SIPALA
2535 E. LINCOLN HIGHWAY
COATESVILLE, PA 19320

RECORD OWNER

OPEN HAND REALTY LLC 2535 E. LINCOLN HIGHWAY COATESVILLE, PA 19320

AGENCY PERMITS REQUIRED:

- 1. SEWAGE FACILITIES PLANNING MODULE EXEMPTION FROM THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP).

 STATUS: UNDER REVIEW
 - DATE: N/A
 PERMIT #: N/A
- 2. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE CHESTER COUNTY CONSERVATION DISTRICT AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 - STATUS: NOT YET SUBMITTED
 DATE: N/A
 PERMIT #: N/A
- HIGHWAY OCCUPANCY PERMIT FROM PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT).

 STATUS: NOT YET SUBMITTED
- DATE: N/A PERMIT #: N/A

UPI# 39-4-94.1

D.B. 10904 PAGE 144

WAIVER REQUESTS

PIPE SLOPE OF 1%.

. A WAIVER HAS BEEN REQUESTED FROM SECTION 135-305.A. OF THE

STORMWATER MANAGEMENT ORDINANCE WHICH REQUIRES THE

POST-CONSTRUCTION TOTAL RUNOFF VOLUME NOT TO EXCEED THE

PRE-DEVELOPMENT TOTAL RUNOFF VOLUME FOR ALL STORMS EQUAL

TO OR LESS THAN THE 2-YEAR, 24-HOUR DURATION PRECIPITATION

STORMWATER MANAGEMENT ORDINANCE WHICH REQUIRES STORMWATER

STORMWATER MANAGEMENT ORDINANCE WHICH REQUIRES A MINIMUM

2. A WAIVER HAS BEEN REQUESTED FROM SECTION 135-306 OF THE

3. A WAIVER HAS BEEN REQUESTED FROM SECTION 135-311.C. OF THE

PRELIMINARY LAND DEVELOPMENT PLAN FOR KIA AUTO LEASING

CALN TOWNSHIP, CHESTER COUNTY PENNSYLVANIA

	SHEET LIST	TABLE
SHEET NUMBER	DRAWING NUMBER	SHEET TITLE
01	C01.1	COVER SHEET
02	C01.2	LAND DEVELOPMENT PLAN
03	C02.1	EXISTING CONDITIONS PLAN
04	C03.1	GRADING & UTILITIES PLAN
05	C04.1	PCSM PLAN
06	C04.2	PCSM NOTES
07	C04.3	PCSM DETAILS
08	C04.4	PCSM DETAILS
09	C04.5	DRAINAGE AREA PLAN
10	C05.1	EROSION CONTROL PLAN
11	C05.2	EROSION CONTROL NOTES
12	C05.3	EROSION CONTROL DETAILS
13	C06.1	PROFILES
14	C07.1	CONSTRUCTION DETAILS
15	C07.2	CONSTRUCTION DETAILS
16	C08.1	TRUCK TURNING PLAN
17	C09.1	LANDSCAPE PLAN
18	C10.1	LIGHTING PLAN

DY PASS BY PASS BY

PA ONE CAL

ACT 287 SERIAL NUMBER: 20223430304
HOWELL KLINE SURVEYING, LLC.. DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY LINES, STRUCTURES, ETC. SHOWN ON THE PLANS, NOR DOES HOWELL KLINE SURVEYING, LLC. GUARANTEE THAT ALL SUBSURFACE UTILITY LINES, STRUCTURES, ETC. ARE SHOWN. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATIONS OF ALL SUBSURFACE UTILITY LINES, STRUCTURES, ETC. BEFORE THE START OF WORK, BY CALLING THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776.

CALL BEFORE YOU DIG!

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

Pennsylvania One Call System, Inc



UTILITIES NOTIFIED:

NE CALL NOTE

ONE CALL NOTE scale: **no scale**

COMPANY: CALN TOWNSHIP
ADDRESS: 253 MUNICIPAL DR
THORNDALE, PA. 19372
CONTACT: SCOT GILL
EMAIL: SGILL@CALNTOWNSHIP.ORG
COMPANY: COMCAST

ADDRESS: 1004 CORNERSTONE BLVD
DOWNINGTOWN, PA. 19335
CONTACT: TOM RUSSO
EMAIL: TOM_RUSSO@CABLE.COMCAST.COM

COMPANY: PECO AN EXELON COMPANY C/O USIC

ADDRESS: 450 S HENDERSON ROAD SUITE B

KING OF PRUSSIA, PA. 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

COMPANY: TRANSCONTINENTAL GAS/WILLIAMS GAS
ADDRESS: 99 FARBER RD
PRINCETON, NJ. 08540

CONTACT: JUSTIN ADAMS

EMAIL: JUSTIN.ADAMS@WILLIAMS.COM

COMPANY: PENNSYLVANIA AMERICAN WATER
ADDRESS: 100 CHESHIRE COURT STE 104
COATESVILLE, PA. 19320
CONTACT: GEORGE THOMAS
EMAIL: GEORGE.THOMAS@AMWATER.COM

COMPANY: VERIZON BUSINESS FORMERLY MCI ADDRESS: 7000 WESTON PKWY CARY, NC. 27513 CONTACT: VICTOR WOOD EMAIL: VICTOR.S.WOOD@VERIZON.COM

COMMONWEALTH OF PENNSYLVANIA COUNTY OF CHESTER

ON THIS THE _____ DAY OF ______ 20 ___ A.D. BEFORE ME,
THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA,
RESIDING IN __WEST_CHESTER ____ PERSONALLY APPEARED ______
____ WHO ACKNOWLEDGES _____SELF TO BE A
_______,
AND THAT AS SUCH TO DO SO, _____ EXECUTED THE FOREGOING PLAN BY
SIGNING THE NAME OF THE SAID _______ BY
______SELF AS _________, THAT THE SAID
________ IS THE OWNER OF THE PROPERTY SHOWN ON
AND THE SAID ________
DESIRES THE SAME TO BE RECORDED AS SUCH.

CALN TOWNSHIP BOARD OF COMMISSIONERS CERTIFICATION

MY COMMISSION EXPIRES: _____

APPROVED BY RESOLUTION OF THE BOARD OF COMMISSIONERS OF CALN TOWNSHIP THIS ______ DAY OF ______, 20 ____.

MEMBER

MEMBER

CALN TOWNSHIP ENGINEER CERTIFICATION

REVIEWED BY THE TOWNSHIP ENGINEER OF CALN TOWNSHIP, THIS ______ DAY OF _____, 20 ____.

TOWNSHIP ENGINEER

<u>CERTIFICATE OF CONFORMANCE - P.E.</u>

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THESE PLANS ARE IN CONFORMITY WITH ENGINEERING, ZONING, BUILDING, SANITATION AND OTHER APPLICABLE TOWNSHIP ORDINANCES AND REGULATIONS WITH THE EXCEPTION OF THE WAIVERS LISTED ON THE PLAN.

DENNY L. HOWELL, P.E.

LICENSE NO. 053098-E

OFFER OF DEDICATION

WE THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT WE HAVE LAID OFF, PLATTED AND SUBDIVIDED, AND HEREBY LAY OFF, PLAT AND SUBDIVIDE, SAID REAL ESTATE IN ACCORDANCE WITH THIS PLAT, AND THAT ALL LANDS LYING WITHIN THE ULTIMATE RIGHT-OF-WAY OF ROCK RAYMOND ROAD ARE HEREBY OFFERED FOR CONTINUING DEDICATION TO CALN TOWNSHIP.

CERTIFICATE OF ACCURACY - P.L.S.

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, ALL SURVEY BOUNDARY INFORMATION AND COMPUTATIONS SHOWN AND DESCRIBED HEREON ARE TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE CALN TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

THOMAS K. PHILLIPS, PLS

LICENSE NO. SU 55399-E

CERTIFICATE OF CHESTER COUNTY PLANNING COMMISSION

REVIEWED BY THE CHESTER COUNTY PLANNING COMMISSION THIS ______, 20 ____.

SECRETARY

PREPARED BY:



1250 Wrights Lane, West Chester, PA 19380

Phone: (610) 918-9002 Fax: (610) 918-9003

Local Knowhow. Engineered.

Civil Engineering | Land Planning | Environmental

4536

CAD FILE:
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PLOTTED:
12/18/23

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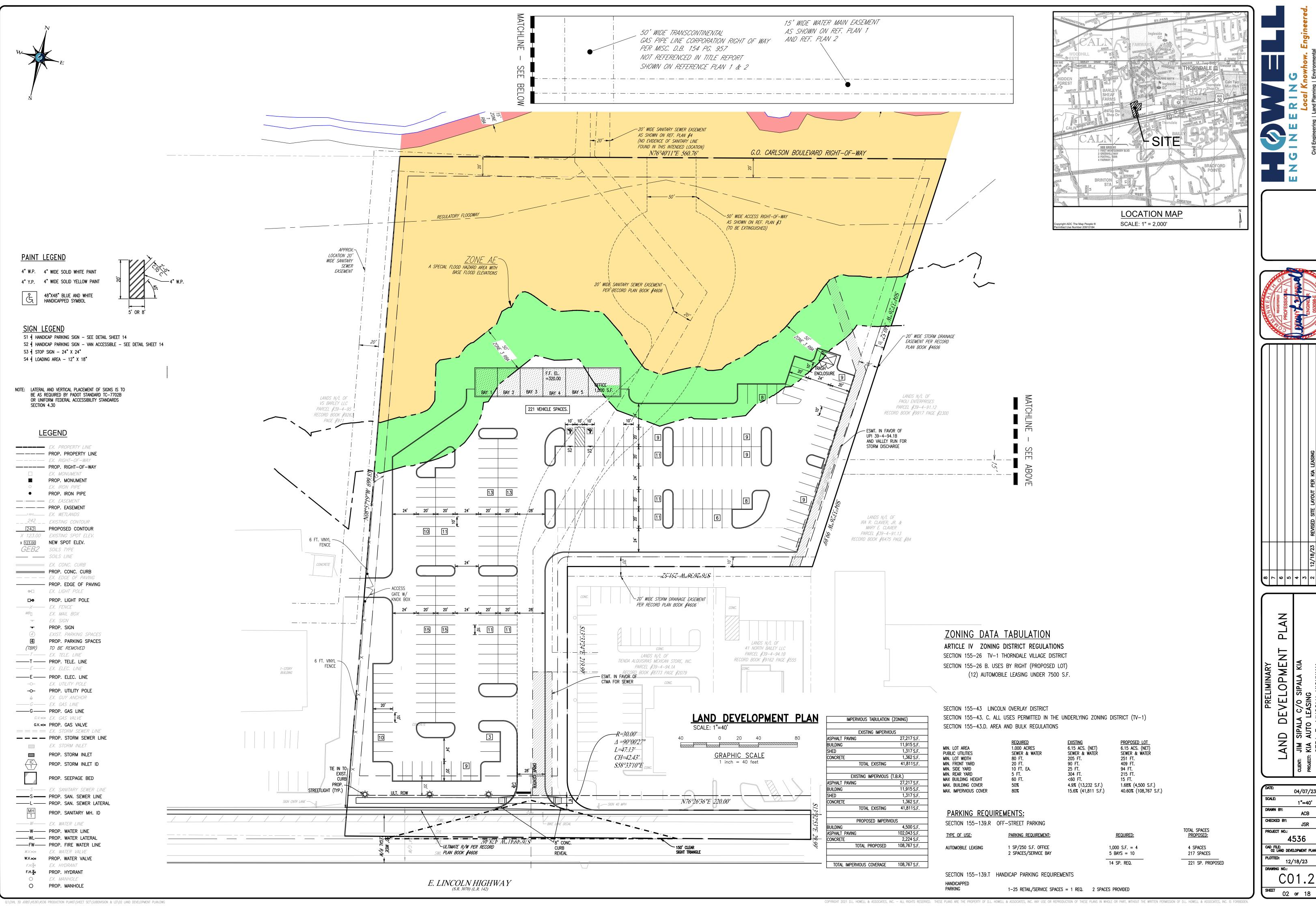
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04/07/23

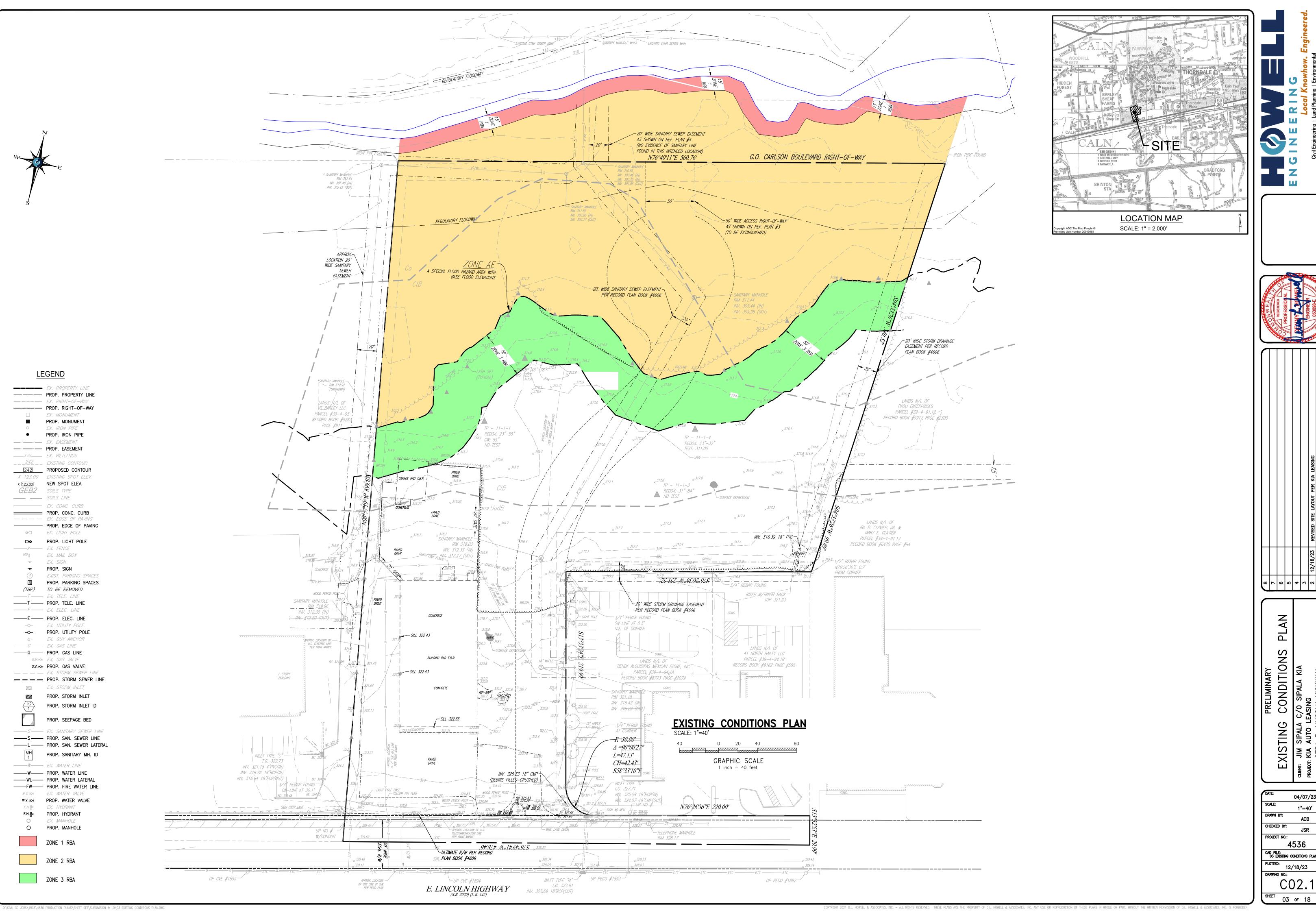
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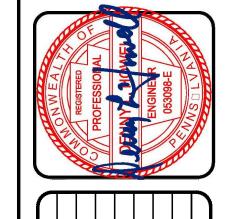
JSR



04/07/23 1"=40' ACB CHECKED BY: 4536 CAD FILE: 02 LAND DEVELOPMENT PLAN.dwg

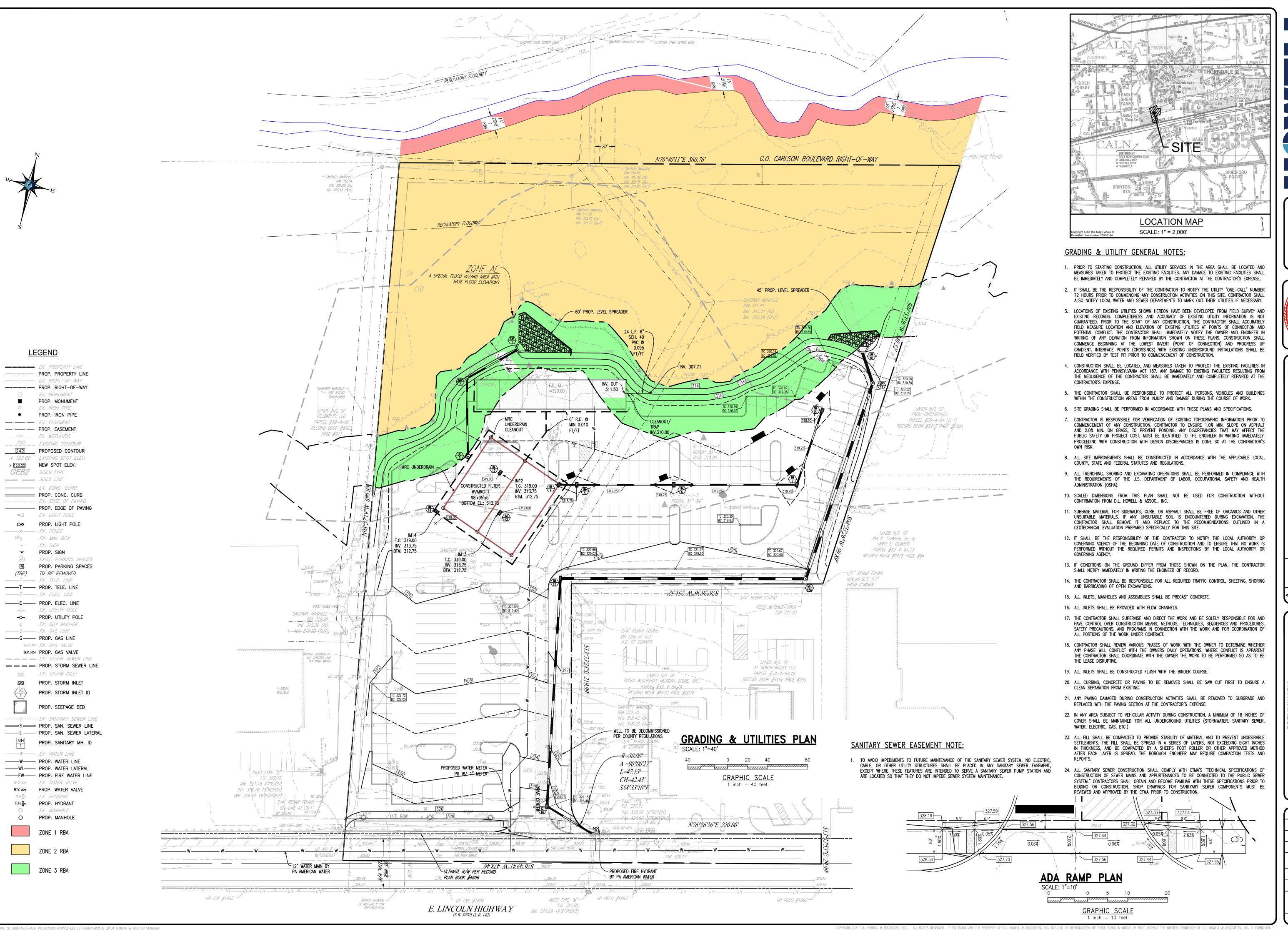
12/18/23

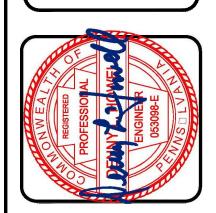




04/07/23 1"=40' 4536 CAD FILE: 03 Existing conditions plan.dwg

PLOTTED: 12/18/23



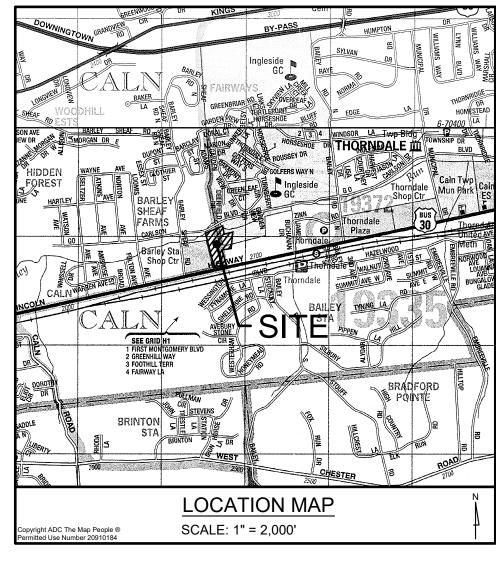


04/07/23 1"=40' ACB CHECKED BY: CAD FILE: 04 GRADING & UTILITIES PLAN.dwg

12/18/23

04 of 18





LANDOWNER ACKNOWLEDGEMENTS

1. THE LANDOWNER ACKNOWLEDGES THAT, PER THE PROVISIONS OF THE MUNICIPALITY'S STORMWATER MANAGEMENT ORDINANCE, IT IS UNLAWFUL TO MODIFY, REMOVE, FILL, LANDSCAPE, ALTER OR IMPAIR THE EFFECTIVENESS OF, OR PLACE ANY STRUCTURE, OTHER VEGETATION, YARD WASTE, BRUSH CUTTINGS, OR OTHER WASTE OR DEBRIS INTO ANY PERMANENT STORMWATER MANAGEMENT BMP OR CONVEYANCE DESCRIBED IN THIS O&M PLAN TO ALLOW THE BMP OR CONVEYANCE TO EXIST IN A CONDITION WHICH DOES NOT CONFORM TO THIS O&M PLAN, WITHOUT WRITTEN APPROVAL FROM THE MUNICIPALITY.

- 2. NO BMP OR MAN-MADE CONVEYANCE MAY BE USED BY THE OWNER OR OTHERS FOR ANY PURPOSE OTHER THAN ITS INTENDED STORMWATER CONTROL FUNCTION, OR, IF APPROVED BY THE TOWNSHIP ENGINEER, A STATEMENT OF SPECIFIC ALLOWABLE USES OF THE BMP (i.e., RECREATIONAL BENEFITS THAT MAY BE ASSOCIATED WITH CERTAIN BMPs OWNED BY A HOMEOWNERS' ASSOCIATION, OR ALLOWABLE USES BY AN INDIVIDUAL RESIDENTIAL LANDOWNER).
- 3. IF ANY DEFICIENCIES ARE IDENTIFIED BY THE LANDOWNER DURING BMP INSPECTIONS, THEY SHALL PRESENT HOW THE BMP WILL BE REPAIRED TO THE TOWNSHIP WITHIN 30 DAYS.
- NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE, ALTER, OR IMPAIR THE EFFECTIVENESS OF ANY STORMWATER BMPS, CONVEYANCES, FACILITIES, AREAS OR STRUCTURES UNLESS THE ACTIVITY IS PART OF AN APPROVED MAINTENANCE PROGRAM, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.
- 5. NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING, ADDITIONAL VEGETATION, YARD WASTE, BRUSH CUTTINGS, OR OTHER WASTE OR DEBRIS INTO A BMP OR CONVEYANCE, OR WITHIN A STORMWATER EASEMENT, THAT WOULD LIMIT OR ALTER THE FUNCTIONING OF THE STORMWATER BMP OR CONVEYANCE, WITHOUT THE WRITTEN APPROVAL OF THE MUNICIPALITY.

GEOTECHNICAL RECCOMENDATIONS & NOTES:

- 1. EROSION AND SEDIMENT CONTROL DEVICES SHOULD BE LOCATED OUTSIDE OF PROPOSED CONSTRUCTION AREA TO THE EXTENT POSSIBLE AND ESTABLISHED IN A MANNER THAT DOES NOT INCREASE PONDING WITHIN THE CONSTRUCTION AREA. 2. EARTHWORK OPERATIONS SHOULD BE GRADED AWAY FROM THE BUILDING AREA. UPON COMPLETION OF DAILY EARTHWORK OPERATIONS, THE GROUND SURFACE SHOULD BE SEALED BY THOROUGH ROLLING OR COVERED IN ITS ENTIRETY WITH AN IMPERMEABLE MEMBRANE OR TARP TO REDUCE INFILTRATION OF
- PRECIPITATION AND FACILITATE RUNOFF. 3. DURING CONSTRUCTION, CARE SHOULD BE TAKEN TO PRECLUDE PONDING FROM SEEPS, SURFACE WATER
- RUN-ON, AND PRECIPITATION WITHIN AND/OR ADJACENT TO EXCAVATIONS AND BUILDING FOUNDATIONS. 4. VISUAL OBSERVATIONS DURING ALL EARTHWORK OPERATIONS SHOUDL BE CARRIED OUT IN ORDER TO

DETECT ANY PREVIOUSLY UNEXPOSED OR NEWLY FORMED SINKHOLES AND INFORM THE PROJECT

- GEOTECHNICAL ENGINEER IN A TIMELY MANNER TO DETERMINE THE APPROPRIATE REMEDIAL ACTIONS. ROOF DRAINS, DOWNSPOUTS, AND AREA DRAINS SHOULD BE PIPED AWAY FROM THE BUILDING TO LIMIT THE UNCONTROLLED INFILTRATION OF WATER TO THE SUBSURFACE. IF FEASIBLE, USE DIRECT CONNECTIONS TO THE PUBLIC STORM SEWER.
- ALL STORMWATER CAPTURE AND CONVEYANCE FACILITIES (E.G. INLETS, JUNCTION BOXES, PIPING) SHOULD BE OF SUCH TYPE AND DESIGN TO BE FREE OF LEAKS WHEN PROPERLY CONSTRUCTED/INSTALLED AND CAPABLE OF TOLERATING SOME DIFFERENTIAL SETTLEMENT WHILE REMAINING WATERTIGHT. LEAKING STORMWATER FACILITIES PROMOTE SUBSURFACE SEEPAGE AND CAN INSTIGATE SINKHOLE DEVELOPMENT IN THE FORM OF SUPERFICIAL DROPOUTS WITH LITTLE OR NO WARNING. IT COULD BE BENEFICIAL TO USE HIGH-SWELLING, SODIUM BENTONITE CLAY AROUND ALL PIPE JOINTS AND PENETRATIONS TO REDUCE THE POTENTIAL FOR LONG—TERM LEAKING.
- 7. BURIED PIPING SHOULD NOT BE BEDDED OR BACKFILLED WITH OPEN-GRADED GRAVEL, WHICH COULD CREATE A CONDUIT FOR CONVEYING WATER, CONCENTRATING FLOW, AND/OR INCREASING INFILTRATION OF

CERTIFICATE OF ACKNOWLEDGEMENT

, ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED SWM SITE PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE MUNICIPALITY, AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO, AND APPROVED BY, THE CONSERVATION DISTRICT OR MUNICIPALITY (AS APPLICABLE) FOR DETERMINATION OF ADEQUACY PRIOR TO CONSTRUCTION OF THE REVISED FEATURES.

ACKNOWLEDGMENT OF RESPONSIBILITY

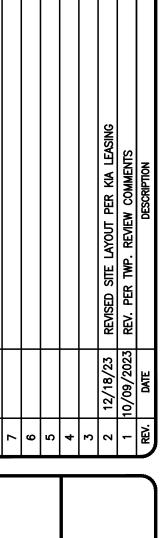
, 2023 A.D. BEFORE ME, THE SUBSCRIBER, PERSONALLY APPEARED, KNOWN TO ME OR SATISFACTORILY PROVEN TO BE THE PERSON(S) OR ORGANIZATION WHO, DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT THEY ARE THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT THEY ACKNOWLEDGE THAT STORMWATER BMP'S ARE PERMANENT FEATURES THAT CAN BE ALTERED AND REMOVED ONLY AFTER APPROVAL BY THE DEP, THE CONSERVATION DISTRICT AND THE MUNICIPALITY.

SIGNATURE	
PRINT	
	NOTARY PUBLIC COUNTY:
	MY COMMISSION EXPIRES:

<u>CERTIFICATE OF CONFORMANCE - P.E.</u>

___, HEREBY CERTIFY, TO THE BEST OF MY KNOWLEDGE, THAT THE SWM SITE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE CALN TOWNSHIP STORMWATER MANAGEMENT ORDINANCE, ADOPTED ON DECEMBER 19, 2013.





DATE:	04/07/23
SCALE:	1"=40'
DRAWN BY:	ACB
CHECKED BY:	JSR
PROJECT NO.:	
4	536
CAD FILE: 05 PCS	M PLAN.dwg
PLOTTED: 12/	18/23
DOMESTIC NO.	

05 of 18

Q:\CIVIL 3D JOBS\4536\4536 PRODUCTION PLANS\SHEET SET\SUBDIVISION & LD\05 PCSM PLAN.DWG

PNDI RESULTS:

PA GAME COMMISSION: NO KNOWN IMPACT PA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES: NO KNOWN IMPACT PA FISH AND BOAT COMMISSION: NO KNOWN IMPACT U.S. FISH AND WILDLIFE SERVICE

BMP PROTECTION NOTE: - 102.8(f)(7)

SITE CONTRACTOR SHALL PROVIDE PROTECTION FOR STORMWATER BMPS UNTIL DRAINAGE AREA IS COMPLETELY

PROJECT WASTE NOTE: - 102.8(f)(11)

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

PCSM PLANNING DESIGN NOTE: - 102.8(b)

THE STORMWATER MANAGEMENT SYSTEMS HAVE BEEN DESIGNED TO MAXIMIZE STORMWATER BEST MANAGEMENT PRACTICE (BMP) TECHNOLOGIES AND MINIMIZE POINT SOURCE DISCHARGES. THIS PLAN WILL FURTHER ACT TO PERFORM/PROVIDE THE FOLLOWING:

- PRESERVE THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL
- AND CHEMICAL QUALITIES OF THE RECEIVING STREAM PREVENT AN INCREASE IN THE RATE OF STORMWATER RUNOFF
- MANAGE ANY INCREASE IN STORMWATER RUNOFF VOLUME MINIMIZE IMPERVIOUS AREAS
- MAXIMIZE THE PROTECTION OF EXISTING DRAINAGE FEATURES AND EXISTING VEGETATION MINIMIZE LAND CLEARING AND GRADING
- MINIMIZE SOIL COMPACTION STORMWATER RUNOFF

• UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN

THERMAL IMPACTS NOTE: - 102.8(f)(13)

COOLING WILL OCCUR IN THE PROPOSED MRC BED 1 AND 2 WHERE A SLOW RELEASE IS PROPOSED. THE MANAGED RELEASE OF STORMWATER WILL PREVENT ANY DETRIMENTAL THERMAL IMPACTS FROM OCCURRING.

RECEIVING SURFACE WATERS - 102.4(b)(5)(v)

*THE PENNSYLVANIA TITLE 25, CHAPTER 93 CLASSIFICATION FOR THE RECEIVING WATERS OF THE COMMONWEALTH

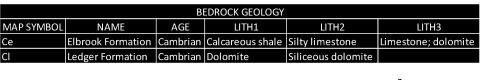
VALLEY RUN IN THE EAST BRANCH BRANDYWINE CREEK WATERSHED: A COLD WATER FISHES (CWF) AND MIGRATORY FISHES (MF) WATER COURSE

- URBAN RUNOFF/STORM SEWERS FLOW REGIME MODIFICATION
- PATHOGENS (UNKNOWN SOURCE)
- ALGAE; BIOCHEMICAL OXYGEN DEMAND (BOD); CHLOROPHYLL—A; DISSOLVED OXYGEN; EUTROPHICATION; NUTRIENTS; ORGANIC ENRICHMENT; PHOSPHORUS; SILTATION; TOTAL SUSPENDED

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

ANY OFF-SITE WASTE AND BORROW AREA MUST HAVE AN E&S PLAN REVIEWED AND APPROVED BY THE CCCD PRIOR TO BEING ACTIVATED.

GEOLOGIC FORMATION NOTE - 102.4(B)(5)(xii)



LOCATION OF GEOLOGIC FORMATIONS TAKEN FROM PENNSYLVANIA DEP eMgdpa. "BEDROCK GEOLOGY" DEVELOPED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, GEOSPATIAL DATA CENTER, DATED: DECEMBER 2004.

SOIL TYPE(S)

UudB - URBAN LAND-UDORTHENTS, LIMESTONE COMPLEX, 0 TO 8 PERCENT SLOPES

CtB - CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES

Co - CODORUS SILT LOAM

SOIL USE LIMITATIONS AND RESOLUTIONS

ACID SOIL TYPES: pHs LOWER THAN 5.5

SOIL TESTS SHOULD BE TAKEN TO DETERMINE THE ACTUAL SOIL PH REACTION. A PH OF 5.5 SHOULD BE ACHIEVED. TO RESOLVE THIS LIMITATION THE SOIL OH SHOULD BE ADJUSTED BY APPLYING LIME RATES IN ACCORDANCE WITH THE PENN STATE AGRONOMY GUIDE AND THE RECOMMENDATIONS FROM A REPUTABLE LABORATORY. <u>WET SOIL TYPES</u>

TO RESOLVE THIS LIMITATION VEGETATIVE SPECIES THAT ARE TOLERANT TO WET CONDITIONS SHOULD BE SELECTED FOR LANDSCAPING.

<u>POOR TOPSOIL</u>

SOIL SHOULD BE IMPORTED FROM OTHER AREAS ON SITE. THE CHESTER COUNTY CONSERVATION DISTRICT MUST APPROVE ANY DEVIATION FROM THE E&SC SEQUENCE.

WET SOIL TYPES / HIGH WATER TABLE DURING EXCAVATION ACTIVITIES

WATER TO BE PUMPED TO A DEWATERING STRUCTURE, SEE DETAIL

POOR SUITABILITY FOR WINTER GRADING / FROST ACTION

ADEQUATE COMPACTION OF SOIL IS REQUIRED FOR THE EMBANKMENTS, PIPE BACKFILL, ROAD CONSTRUCTION AND THE BUILDING PADS. IF ADEQUATE COMPACTION CANNOT BE ACHIEVED DUE TO FROST ACTION OR WET SOIL TYPE EITHER SOIL SHOULD BE IMPORTED FROM OTHER AREAS ON SITE OR CONSTRUCTION OF THESE FACILITIES SHOULD NOT BE WORKED ON DURING PERIODS PRONE TO FROST. THE CHESTER COUNTY CONSERVATION DISTRICT MUST

APPROVE ANY DEVIATION FROM THE E&SC SEQUENCE. PERMEABLE SOIL FOR EMBANKMENT CONSTRUCTION

SOIL SHOULD BE IMPORTED FROM OTHER AREAS ON SITE. THE CHESTER COUNTY CONSERVATION DISTRICT MUST APPROVE ANY DEVIATION FROM THE E&SC SEQUENCE.

POORLY SUITED AS SOURCES OF TOPSOIL

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

TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10. LIMIT VEGETATIVE STABILIZATION OF CHANNELS. RESOLUTIONS: TEMPORARY CHANNEL LINING. PROVIDING PERMANENT CHANNEL LINING DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTION VEGETATIVE WITH GREATER RETARDANCE, SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATION OF THESE AND OTHER

SOILS SUSCEPTIBLE TO SINKHOLE FORMATION

LOCATING FACILITIES. SUCH AS SEDIMENT BASINS OR TRAPS OR STORMATER DETENTION OR RETENTION BAINS. ON OTHER SOIL TYPES. LINING RESERVOIR AREAS WITH IMPERMEABLE LININGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.

STORMWATER MANAGEMENT NOTES:

~ INLETS AND PIPING

NO PROPERTY OWNER SHALL OBSTRUCT OR ALTER THE FLOW, LOCATION OR CARRYING CAPACITY OF A STREAM, CHANNEL OR DRAINAGE SWALE TO THE DETRIMENT OF ANY OTHER PROPERTY OWNER, WHETHER

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE OPERATIONS AND MAINTENANCE OF ALL STORMWATER FACILITIES INCLUDING: ~ CONSTRUCTED FILTER WITH MRC 1

STORMWATER FACILITIES LISTED ABOVE ARE IDENTIFIED ON THE STORMWATER PLAN CONTAINED ON

- A BLANKET EASEMENT WILL BE PROVIDED OVER THE ENTIRE SITE AND EACH LOT TO ALLOW THE TOWNSHIP ACCESS TO ANY STORMWATER MANAGEMENT AREA SHOULD THE PROPERTY OWNER FAIL TO MAINTAIN SAID AREAS PROPERLY.
- 2. THE APPLICANT SHALL BE RESPONSIBLE FOR COMPLETING AN AS-BUILT SURVEY OF ALL STORMWATER BMP'S INCLUDED IN THE APPROVED PROJECT PLAN.
- THE TOWNSHIP ENGINEER SHALL RECEIVE COPIES OF THE AS-BUILT PLANS IN DIGITAL CAD FORMAT (OR SIMILAR DIGITAL DATA).
- THE OWNERS OF THE STORMWATER FACILITIES SHALL PREPARE AND SUBMIT A REPORT TO THE TOWNSHIP ENGINEER DESCRIBING ALL MAINTENANCE ACTIVITIES AND INSPECTIONS ANNUALLY.
- A COPY OF THE STORMWATER FACILITY OPERATIONS AND MAINTENANCE PLAN SHALL BE SUBMITTED TO
- SEDIMENT REMOVAL SHALL OCCUR WHEN THE BED IS THOROUGHLY DRY. DISPOSAL OF DEBRIS, TRASH, SEDIMENT, AND OTHER WASTE MATERIAL SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL. STATE AND LOCAL REGULATIONS.
- DURING SITE CONSTRUCTION, ALL INFILTRATION BMP'S SHALL BE PROTECTED FROM SEDIMENTATION USING APPROPRIATE PROTECTION IN CONFORMANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (PADEP) CHAPTER 102 REGULATIONS, AS AMENDED, AND THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL, AS AMENDED. PROTECTION SHALL REMAIN UNTIL THE CONTRIBUTORY DRAINAGE AREA HAS ACHIEVED FULL STABILIZATION.
- 8. SUMP PUMPS SHALL NOT BE CONNECTED TO THE BMPS UNLESS ADDITIONAL CAPACITY IS PROVIDED IN

GENERAL PCSM NOTES:

AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE

THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OR REPLACEMENT OF PCSM BMPS UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS.

- IF THE CONTRACTOR ENCOUNTERS HIGH WATER TABLE, SHALLOW BEDROCK, OR SOIL INSTABILITY DURING SITE CONSTRUCTION, THE DESIGN ENGINEER OR THE ON-SITE GEOTECHNICAL ENGINEER MUST BE CONTACTED
- IF GROUNDWATER OR BEDROCK IS ENCOUNTERED DURING THE INSTALLATION OF THE INFILTRATION BMP'S STOP WORK AND CONTACT THE MUNICIPALITY AND DESIGN ENGINEER FOR AN ALTERNATE STORMWATER BMP LOCATION OR NEW DESIGN.
- THE EROSION AND SEDIMENTATION CONTROL PLAN HAS BEEN DESIGNED IN AN EFFORT TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE, WHILE PROTECTING THE EXISTING DRAINAGE FEATURES AND VEGETATION. THE E&S PLAN AND CONSTRUCTION SEQUENCE HAS BEEN DEVELOPED AS TO MINIMIZE SOIL COMPACTION, LAND CLEARING, AND IMPERVIOUS AREAS.
- THE DESIGN WILL PRESERVE THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL AND CHEMICAL QUALITIES OF EAST BRANCH.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
- 7. IF ANY UNFAVORABLE CONDITIONS ARE ENCOUNTERED DURING THE INSTALLATION OF THE BMPS (I.E. GROUNDWATER AND/OR BEDROCK, ETC.)., THE OWNER/ENGINEER SHOULD BE NOTIFIED AND THE PROPOSED SYSTEM SHOULD BE RELOCATED TO A MORE SUITABLE LOCATION ON THE PROPERTY.

BMP IMPLEMENTATION/INSTALLATION/CRITICAL STAGE OVERSIGHT AND AS-BUILT PLAN REQUIREMENTS:

<u>OVERSIGHT</u>

THE APPLICANT/PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BEST MANAGEMENT PRACTICES (BMPs). ADDITIONAL SOIL TESTING MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION BMPs TO ENSURE PROPER LOCATION AND FUNCTION. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPs, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

INSTALLATION OF CONSTRUCTED FILTER W/MRC 1

INSTALLATION OF WATER QUALITY INLETS

BMP SEQUENCE OF CONSTRUCTION INSTALL CONSTRUCTED FILTER W/MRC 1 2. INSTALL WATER QUALITY INLETS.

AS-BUILT PLANS

REGARDLESS OF OWNERSHIP, THE APPLICANT/PERMITTEE SHALL SUBMIT TO THE TOWNSHIP AN ACTUAL AS—BUILT PLAN FOR THE STORMWATER MANAGEMENT FACILITIES REQUIRED PER THE APPROVED STORMWATER MANAGEMENT PLAN. THE AS-BUILT PLAN SHALL SHOW ALL FINAL DESIGN SPECIFICATIONS FOR ALL PERMANENT STORMWATER MANAGEMENT FACILITIES AND SHALL BE BASED ON AN ACTUAL FIELD SURVEY PERFORMED BY THE SURVEYOR OF RECORD. THE SURVEYOR SHALL CERTIFY AS TO THE ACCURACY OF THE AS-BUILT DATA. IN ADDITION TO THE SURVEYOR'S CERTIFICATION, THE AS-BUILT PLAN SHALL CONTAIN A STATEMENT SIGNED AND SEALED BY THE ENGINEER OF RECORD INDICATING THAT THE BMPs WERE INSTALLED PER THE APPROVED STORMWATER

THE AS-BUILT PLAN FOR THE STORMWATER MANAGEMENT FACILITIES SHALL BE SUBMITTED TO THE TOWNSHIP WITHIN SIX MONTHS OF THE COMPLETION OF THE PROJECT FOR REVIEW AND FINAL INSPECTION BY THE

AS-BUILT PLANS FOR THE STORMWATER BMPS SHALL BE SUBMITTED TO THE CONSERVATION DISTRICT WITHIN SIX MONTHS FOLLOWING THE COMPLETION OF THE PROJECT TO ALLOW FOR NOTICE OF TERMINATION (NOT)

NOTICE OF TERMINATION & FINANCIAL SECURITY

A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING THE APPROVAL OF THE FINAL AS-BUILT PLANS (SEE POST CONSTRUCTION STORMWATER FACILITIES OPERATIONS AND MAINTENANCE PROCEDURES

ANY PERFORMANCE AND/OR FINANCIAL SECURITIES ESTABLISHED FOR THE PROJECT SHALL INCLUDE REQUIREMENTS FOR SUBMITTAL OF 'AS-BUILT' PLANS AND ENGINEERING CONSTRUCTION OVERSIGHT.

<u>PCSM REPORTING AND RECORDKEEPING</u> — THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT. THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL

CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS: DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA.C.S.A. § 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER § 102.22(A)(2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMPS IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH §§ 102.4 AND 102.8 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS: AND PCSM REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF ERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

- THE NOTICE OF TERMINATION (NOT) MUST INCLUDE:
- (1) THE FACILITY NAME, ADDRESS AND LOCATION.) THE OPERATOR NAME AND ADDRESS.
-) THE PERMIT NUMBER. 4) THE REASON FOR PERMIT TERMINATION.
- 5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS IN ACCORDANCE WITH § 102.8(M) AND PROOF OF

PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION.

PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPS ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

'he permittee or co-permittee shall be responsible for long-term operation and maintenance (PCSM BMPS UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS.

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPS AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER § 102.7(B)(5) (RELATING TO PERMIT TERMINATION).

THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPS OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS LOCATED ON THE PROPERTY.

VEHICLES SHOULD NOT BE PARKED OR DRIVEN OVER THE ABOVE-GROUND MRC BASIN.

BMP GENERAL NOTE:

THE FOLLOWING INFORMATION:

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION SHALL BE ENTERED INTO THE LOG. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT. REPAIR. REPLACEMENT. REGRADING. REMULCHING. RESEEDING. AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF FROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED. REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENTATION POLLUTION, THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE

- A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.
- B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.
- C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE

LONG TERM OPERATION AND MAINTENANCE SCHEDULE:

POST CONSTRUCTION STORMWATER FACILITIES OPERATION

AND MAINTENANCE PROCEDURES:

WITHIN THREE (3) MONTHS OF THE APPLICATION FOR NOTICE OF TERMINATION OF THE NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE PROPERTY OWNER SHALL ASSUME RESPONSIBILITY FOR STORMWATER RELATED DISCHARGES FROM THE SITE. SUBSEQUENTLY ALL INSPECTIONS AND ANY MAINTENANCE REQUIRED FOR THE CONTINUED OPERATION OF POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. INSPECTIONS SHALL BE COMPLETED FOR EACH INSPECTION PERIOD INDICATED AND FILED PROMPTLY WITH THE TOWNSHIP MS4 ADMINISTRATOR. ALL INSPECTIONS SHALL BE IN ACCORDANCE WITH THE OPERATIONS AND MAINTENANCE

THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF A BMP OR CONVEYANCE SHALL MAKE RECORDS OF THE INSTALLATION AND OF ALL MAINTENANCE AND REPAIRS, AND SHALL RETAIN THE RECORDS IN PERPETUITY. THESE RECORDS SHALL BE SUBMITTED TO THE MUNICIPALITY, AS THEY ARE PREPARED AND RECEIVED BY THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE BMP OR CONVEYANCE.

THE OWNER OF EACH BMP AND CONVEYANCE SHALL KEEP ON FILE WITH THE MUNICIPALITY THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR MAINTENANCE ACTIVITIES AND IMPLEMENTATION OF THE O&M PLAN. IN THE EVENT OF A CHANGE, NEW INFORMATION SHALL BE SUBMITTED BY THE BMP OR CONVEYANCE OWNER TO THE MUNICIPALITY WITHIN 30 WORKING DAYS OF THE CHANGE.

THE OPERATION AND MAINTENANCE REQUIREMENTS FOR THE POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S FOR THIS PROJECT INCLUDE THE FOLLOWING:

INSPECTION: THE CONSTRUCTED FILTER WITH MRC 1 SHALL BE INSPECTED AT LEAST TWO TIMES PER YEAR AFTER RUNOFF EVENTS GREATER THAN 0.8 INCH. INSPECTION ITEMS SHALL INCLUDE THE CONDITION OF THE INSPECTION PORTS, OUTLET STRUCTURE, AND ANY VISIBLE CONNECTIONS FOR SEDIMENT ACCUMULATION OR STANDING WATER IN THE INSPECTION PORTS OR OUTLIFT STRUCTURE, SIGNS OF WATER CONTAMINATION OR SPILLS, AND ANY SETTLING OR BREAKOUTS ALONG THE LENGTH OF THE SYSTEM. INSPECT ROOF LEADERS AND OVERFLOW PIPES FOR BLOCKAGE. THE OUTLET STRUCTURE SHALL ALSO BE INSPECTED FOR SIGNS OF LEAKAGE FROM THE ORIFICE AND OR OTHER PARTS OF THE SYSTEM WHICH WOULD ALLOW RUNOFF TO BYPASS THE SYSTEM AND EXIT THE OVERFLOW PIPING. ACCUMULATED RUNOFF WITHIN THE STORAGE SYSTEM FROM ALL STORM EVENTS SHALL BE DISSIPATED TO BELOW THE 0.93" ORIFICE WITHIN 7 DAYS. AT LEAST TWO TIMES PER YEAR, OR MORE IF HISTORICAL MAINTENANCE INDICATE IT IS NECESSARY, INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION, SIGNS OF WATER CONTAMINATION/SPRILLS, AND INSTABILITY. LEAFE LITTER NEEDS TO BE REMOVED ANNUALLY.

MAINTENANCE: REMOVE ANY ACCUMULATED SEDIMENT AND DEBRIS FROM THE INSPECTION PORTS. IF SEDIMENT IS OBSERVED IN THE MANIFOLD PIPE, FLUSH THE SYSTEM WITH A HIGH POWERED JET, MAKING SURE TO CATCH AND DISPOSE OF THE DISPLACED MATERIAL BY AN APPROVED METHOD SUCH AS A VACUUM TRUCK. UNCLOG ROOF CONNECTIONS AND OVERFLOW PIPES AS NECESSARY AND REPAIR ANY DISCONNECTED ROOF LEADERS. IF SIGNIFICANT SETTLEMENT HAS OCCURRED, THE COLLECTED RUNOFF DOES NOT DEWATER TO THE 0.93" ORIFICE AFTER 7 DAYS, THE COLLECTED RUNOFF DEWATERS TO BELOW THE 0.93" ORIFICE, OR THERE ARE BREAKOUTS, CONSULT THE TOWNSHIP AND THE ENGINEER OF RECORD FOR APPROPRIATE RENOVATION MEASURES. IF THE MRC BMP WILL MANAGE FLOWS IN EXCESS OF THE 2-YEAR/24 HR STORM EVENT, THE SYSTEM SHALL BE INSPECTED AND MAINTAINED QUARTERLY T ENSURE PROPER FUNCTION.

INSPECTION: INLETS SHALL BE INSPECTED AND CLEANED ANNUALLY OR MORE OFTEN IF HISTORICAL MAINTENANCE RECORDS SUGGEST A MORE FREQUENT CLEANING. WHEN INLETS ARE INSPECTED, THE VEGETATION IN THE CONTRIBUTING DRAINAGE AREAS SHALL ALSO BE INSPECTED. CHECK FOR SEDIMENT DEPOSITION IN THE SUMP. THE ACCUMULATION OF SEDIMENT CAN BE DETERMINED BY PROBING WITH A MEASURING STICK. IF APPLICABLE, FOR WATER QUALITY INLETS (THOSE WITH A HOOD DEVICE INSTALLED), CHECK FOR PROPER STRUCTURE ALIGNMENT AND ATTACHMENT, AND BLOCKAGE OF THE ANTI-SIPHON TUBE.

MAINTENANCE: SEDIMENT SHALL BE REMOVED FROM THE SUMP WHEN IT HAS REACHED 6 INCHES IN DEPTH OR YEARLY WHICHEVER COMES FIRST. LEAF LITTER SHALL BE REMOVED ANNUALLY. VACUUM TRUCKS ARE THE RECOMMENDED REMOVAL METHOD. CLEAR THE DRAIN HOLES IN THE BOTTOM OF THE INLET. REMOVED SEDIMENT SHALL BE DISPOSED OF IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS. IN WATER QUALITY INLETS, IF APPLICABLE, CLEAR THE ANTI-SIPHON TUBE AS NECESSARY AND RE-ATTACH OR RE-ALIGN THE HOOD UNIT IF IT HAS SHIFTED. OPERATION AND MAINTENANCE SHALL BE PER MANUFACTURES SPECIFICATIONS. IF ANY BARE SPOTS AND/OR EROSION ARE IDENTIFIED IN THE CONTRIBUTING DRAINAGE AREAS, THEY SHALL BE REVEGETATED

SNOUT WATER QUALITY INLETS

INSPECTION: THE PROPERTY OWNER SHALL AT ALL TIMES PROPERLY OPERATE AND MAINTAIN THE WATER QUALITY STRUCTURES PER MANUFACTURERS SPECIFICATIONS. INSPECTIONS OF THE WATER QUALITY UNITS SHALL BE PERFORMED QUARTERLY FOR THE FIRST YEAR OF OPERATION AND ANNUALLY THEREAFTER. A SLUDGE JUDGE OR OTHER SLUDGE MEASURING TOOL SHALL BE UTILIZED TO MEASURE THE DEPTH OF SEDIMENT IN THE INLET BOTTOM DURING EACH

- INSPECTION. THE INSPECTION REPORT SHALL INCLUDE THE FOLLOWING INFORMATION FOR EACH INSPECTION EVENT: A. THE DATE AND TIME OF INSPECTION: B. THE NAME OF THE INDIVIDUAL(S) WHO PERFORMED THE INSPECTION;
- C. THE TOTAL DEPTH OF SEDIMENT IN THE STRUCTURE; D. THE TOTAL DEPTH OF OIL AND GREASE IN THE STRUCTURE:

E. TRANSPORT AND DISPOSAL RECORDS OF REMOVED PRODUCT(S).

MAINTENANCE: PER MANUFACTURER RECOMMENDATION, THE STRUCTURE SHALL BE CLEANED WHEN THE SUMP IS HALF FULL. REFER TO THE PROFILE SHEETS FOR SUMP DEPTHS. MAINTENANCE IS BEST DONE WITH A VACUUM TRUCK. iransport and disposal of sediment and oil shall be done in accordance with applicable state and FEDERAL REGULATIONS. TO MAINTAIN THE SNOUT HOODS THEMSELVES, AN ANNUAL INSPECTION OF THE ANTI-SIPHON VENT AND ACCESS HATCH ARE RECOMMENDED. A SIMPLE FLUSHING OF THE VENT. OR A GENTLE RODDING WITH A FLEXIBLE WIRE ARE ALL THAT'S TYPICALLY NEEDED TO MAINTAIN THE ANTI-SIPHON PROPERTIES. OPENING AND CLOSING THE ACCESS HATCH ONCE A YEAR ENSURES A LIFETIME OF TROUBLE-FREE SERVICE. THE OWNER SHALL PERMIT MUNICIPALITY OFFICIALS AND/OR THEIR AGENTS TO ENTER THE PROPERTY TO INSPECT THE STORMWATER WATER QUALITY STRUCTURE AND TO SAMPLE ANY DISCHARGE OF STORMWATER.

HEADWALLS & ENDWALLS

INSPECTION: HEADWALL & ENDWALL/ENDSECTIONS SHALL BE INSPECTED QUARTERLY AND AFTER MAJOR RAINFALL EVENTS FOR THE FIRST TWO (2) YEARS AND THEN TWICE YEARLY AFTER THAT. INSPECT THE CONDITION OF THE STRUCTURE IN TERMS OF CRACKING OR SPALLING. SHIFTING OR SETTLEMENT, FROSION OR DEPOSITION, AS WELL AS THE FOR BLOCKAGE AT INLETS AND THE CONDITION OF ROCK APRONS AT OUTFALLS. NOTE LOCATION, SIZE AND TYPE OF STRUCTURE AS WELL AS ID NUMBER. CHECK FOR DRY WEATHER FLOWS, AND NOTE ANY UNUSUAL COLOR OR ODOR.

MAINTENANCE: REMOVE SEDIMENT, VEGETATION AND DEBRIS AT THE INFLOW AND OUTFLOW POINTS AS NECESSARY TO INSURE THAT PIPES STAY FREE AND CLEAR OF OBSTRUCTIONS. REPAIR OR REPLACE STRUCTURE AS NECESSARY USING GROUT OR GASKETED BANDS AND PROPER BEDDING MATERIAL OR GEOTEXTILE. REPAIR ERODED AREAS WITH PROPERLY SIZED STONE AND GEOTEXTILE. CONTACT THE MUNICIPALITY'S NPDES ADMINISTRATOR IMMEDIATELY IF DRY WEATHER

WATER QUALITY FILTERS

FLOWS ARE OBSERVED.

FREQUENCY OF INSPECTIONS:

INSPECTION SHOULD OCCUR FOLLOWING ANY RAIN EVENT >1/3".

POST CONSTRUCTION INSPECTIONS SHOULD OCCUR 4 TIMES PER YEAR. IN SNOWFALL AFFECTED REGIONS ADDITIONAL INSPECTIONS SHOULD TAKE PLACE BEFORE AND AFTER SNOWFALL SEASON. INDUSTRIAL APPLICATION SITE INSPECTIONS (LOADING RAMPS, WASH RACKS, MAINTENANCE FACILITIES)

SHOULD OCCUR ON A REGULARLY SCHEDULED BASIS NO LESS THAN 3 TIMES/YEAR.

- MAINTENANCE GUIDELINES: REMOVE THE GRATE.
- REMOVE THE SKIMMER TRAY.
- CUT ZIP TIES, REMOVE STORMBOOM™ AND DISPOSE. REMOVE AND DISPOSE OF DEBRIS IN SKIMMER TRAY.
- ATTACH NEW STORMBOOM™ TO SKIMMER TRAY WITH ZIP TIES. REMOVE FILTRATION BOX, DISPOSE OF DEBRIS AND BRUSH SCREENS. REPLACE FILTRATION BOX INTO INLET, REPLACE SKIMMER TRAY INTOFILTRATION BOX AND REPLACE

VACUUM SERVICING REMOVE THE GRATE. REMOVE THE SKIMMER TRAY.

- CUT ZIP TIES, REMOVE STORMBOOM™ AND DISPOSE.•REMOVE AND DISPOSE OF DEBRIS IN SKIMMER
- ATTACH NEW STORMBOOM™ TO SKIMMER TRAY WITH ZIP TIES. REACH INTO FILTRATION BOX WITH VACUUM AND SUCTION OUT DEBRISAND CLEAN SCREENS WITH SPRAY WAND OR BRUSH.

REPLACE FILTRATION BOX INTO INLET, REPLACE SKIMMER TRAY INTOFILTRATION BOX AND REPLACE

STORMWATER NOTE:

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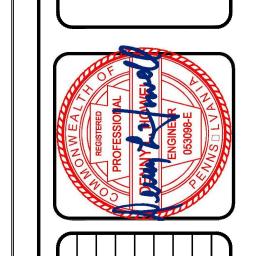
REFERENCE THE POST CONSTRUCTION STORMWATER MANAGEMENT REPORT PREPARED FOR KIA AUT LEASING. AS PREPARED BY HOWELL ENGINEERING. DATED 04/07/2023. LAST REVISED 1/04/2024 FOR STORMWATER MANAGEMENT CALCULATIONS ASSOCIATED WITH THIS PROJECT. PLEASE NOTE THA THE STORMWATER HAS BEEN DESIGNED FOR A TOTAL IMPERVIOUS COVERAGE DEPICTED ON THIS PLAN SET. ANY FUTURE IMPERVIOUS ABOVE AND BEYOND WHAT IS PROPOSED PER THIS PLAN MUST HAVE SEPARATE STORMWATER MANAGEMENT DESIGNED AT THAT TIME, IF WARRANTED BY THE TOWNSHIP'S STORMWATER MANAGEMENT ORDINANCE.

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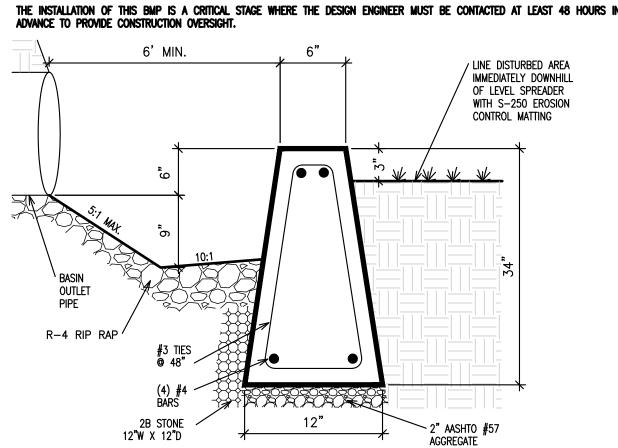
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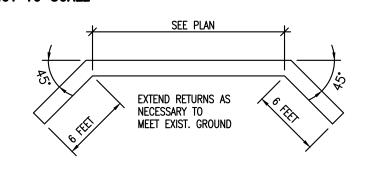
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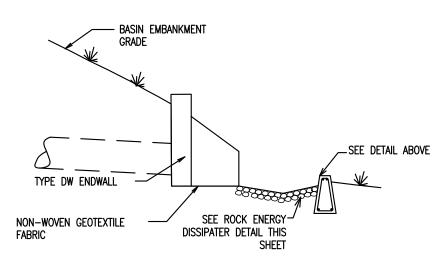
BMP 6.8.1: LEVEL SPREADER



SECT. TYPICAL LEVEL SPREADER NOT TO SCALE



PLAN VIEW OF CONC. LEVEL SPREADER NOT TO SCALE



TYPICAL LEVEL SPREADER WITH PLUNGE POOL DETAIL NOT TO SCALE

CONSTRUCTION SEQUENCE

- INSTALL CONCRETE CURB. LEVEL SPREADER TOP TO BE SET AT 0.5' ABOVE OUTLET ELEVATION. PROVIDE EXPANSION JOINTS AT 40' MAX. SPACING WITH 3/4" PRE-MOLDED JOINT FILLER. DISCONTINUE
- REINFORCEMENT AT EXPANSION JOINTS. 3. LINE LEVEL SPREADER WITH NORTH AMERICAN GREEN S-150 EROSION CONTROL MATTING OR EQUAL DURING CONSTRUCTION. AFTER CONSTRUCTION SWALE SHALL BE CLEANED OF SEDIMENT, EROSION CONTROL MATTING SHALL BE REMOVED AND 6" OF R-4 STONE SHALL BE PLACED.

<u>SPECIFICATIONS</u>

- STONE SHALL BE 2-INCH TO 1-INCH UNIFORMLY GRADED COARSE AGGREGATE, WITH A WASH LOSS OF NO MORE THAN 0.5%. AASHTO SIZE NUMBER 57 PER AASHTO SPECIFICATIONS, PART 1, 19TH EDITION, 1998, OR LATER AND SHALL HAVE VOIDS 35% AS MEASURED BY ASTM-C29.
- 2. <u>Non-woven geotextile</u> shall consist of needled non-woven polypropylene fibers and meet the following properties:

120 LBS

225 PSI

95 GAL/MIN/FT²

a. GRAB TENSILE STRENGTH (ASTM-D4632)

ALLOWED FOR LONGER THAN 72 HOURS.)

IF DAMAGE GREATER THAN 50% IS OBSERVED.

- b. MULLEN BURST STRENGTH (ASTM-D3786)
- c. FLOW RATE (ASTM-D4491) d. UV RESISTANCE AFTER 500 HRS (ASTM-D4355)
- e. HEAT-SET OR HEAT-CALENDARED FABRICS NOT PERMITTED ACCEPTABLE TYPES INCLUDE MIRAFI 140N, AMOCO 4547, AND GEOTEX 451.

<u>MAINTENANCE</u>

COMPARED WITH OTHER BMPS, LEVEL SPREADERS REQUIRE ONLY MINIMAL MAINTENANCE EFFORTS, MANY OF WHICH MAY OVERLAP WITH STANDARD LANDSCAPING DEMANDS. THE FOLLOWING RECOMMENDATIONS REPRESENT THE MINIMUM MAINTENANCE EFFORT FOR LEVEL SPREADERS:

MAINTENANCE ACTIVITIES SHALL BE DONE ANNUALLY FOR THE FIRST FIVE (5) YEARS, THEN ONCE EVERY THREE (3) YEARS THEREAFTER AND AFTER MAJOR STORM EVENTS (2"+).:

- 1. CATCH BASINS AND INLETS DRAINING TO A LEVEL SPREADER SHALL BE INSPECTED AND CLEANED ON AN ANNUAL BASIS.
- 2. THE RECEIVING LAND AREA SHALL BE IMMEDIATELY RESTORED TO DESIGN CONDITIONS AFTER ANY DISTURBANCE. VEGETATED AREAS SHALL BE SEEDED AND BLANKETED.
- 3. IT IS CRITICAL THAT EVEN SHEET FLOW CONDITIONS ARE SUSTAINED THROUGHOUT THE LIFE OF THE LEVEL SPREADER, AS THEIR EFFECTIVENESS CAN DETERIORATE DUE TO LACK OF MAINTENANCE, INADEQUATE DESIGN/LOCATION AND POOR VEGETATIVE COVER. <u>INSPECTION</u> — THE AREA BELOW A LEVEL SPREADER SHALL BE INSPECTED FOR CLOGGING, DENSITY OF VEGETATION, DAMAGE BY FOOT OR VEHICULAR TRAFFIC, EXCESSIVE ACCUMULATIONS, AND CHANNELIZATION.

INSPECTIONS SHALL BE MADE ON A QUARTERLY BASIS FOR THE FIRST TWO YEARS FOLLOWING

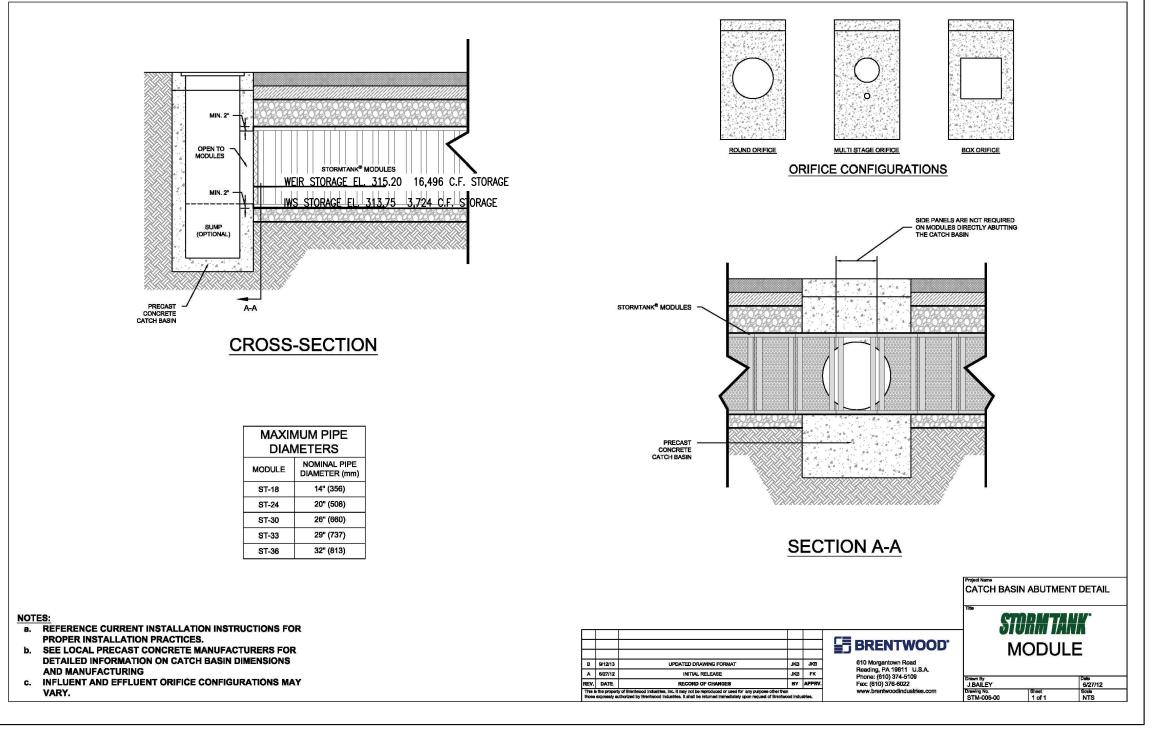
INSTALLATION, AND THEN ON A SEMIANNUAL BASIS THEREAFTER. INSPECTIONS SHALL ALSO BE MADE

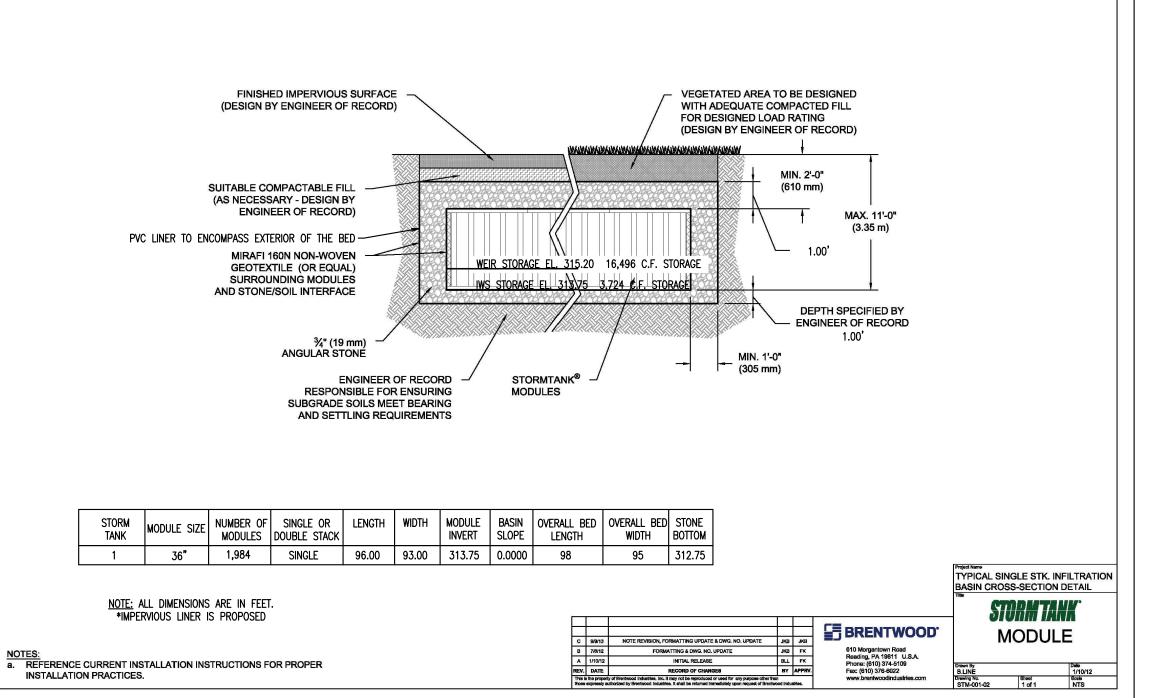
AFTER EVERY STORM EVENT GREATER THAN 2-INCH. <u>REMOVAL</u> - SEDIMENT AND DEBRIS SHALL BE ROUTINELY REMOVED (BUT NEVER LESS THAN SEMIANNUALLY), OR UPON OBSERVATION, WHEN BUILDUP OCCURS. REGRADING AND RESEEDING MAY BE NECESSARY IN THE AREAS BELOW THE LEVEL SPREADER. REGRADING MAY ALSO BE REQUIRED WHEN POOLS OF STANDING WATER ARE OBSERVED ALONG THE SLOPE. (IN NO CASE SHALL STANDING WATER BE

<u>VEGETATION</u> - MAINTAINING A VIGOROUS VEGETATIVE COVER ON THE AREAS BELOW A LEVEL SPREADER IS CRITICAL FOR MAXIMIZING POLLUTANT REMOVAL EFFICIENCY AND EROSION PREVENTION. IF VEGETATIVE COVER IS NOT FULLY ESTABLISHED WITHIN THE DESIGNATED TIME, IT MAY NEED TO BE REPLACED WITH AN ALTERNATIVE SPECIES. (IT IS STANDARD PRACTICE TO CONTRACTUALLY REQUIRE THE CONTRACTOR TO REPLACE DEAD VEGETATION.) UNWANTED OR INVASIVE GROWTH SHALL BE REMOVED ON AN ANNUAL BASIS. BIWEEKLY INSPECTIONS ARE RECOMMENDED FOR AT LEAST THE FIRST GROWING SEASON, OR UNTIL THE VEGETATION IS PERMANENTLY ESTABLISHED. ONCE THE VEGETATION IS ESTABLISHED, INSPECTIONS OF HEALTH, DIVERSITY, AND DENSITY SHALL BE PERFORMED AT LEAST TWICE PER YEAR, DURING BOTH THE GROWING AND NON-GROWING SEASON. VEGETATIVE COVER SHALL BE SUSTAINED AT 85% AND REPLACED

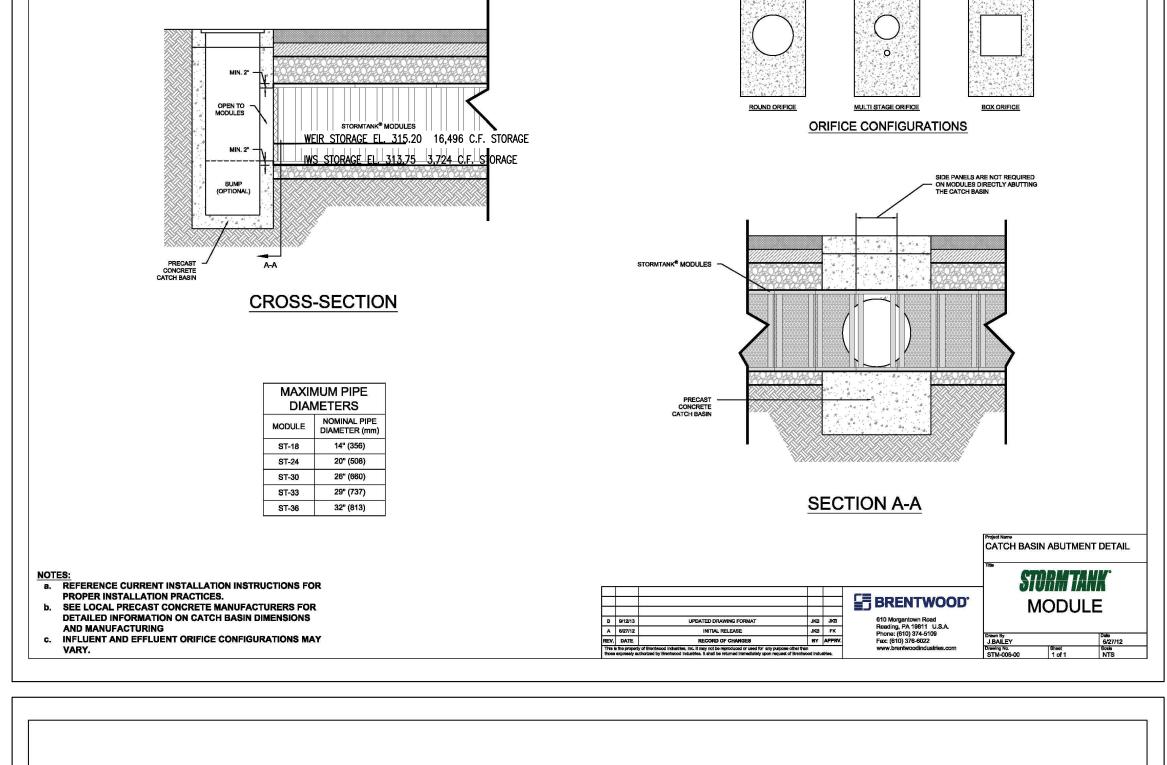
CONSTRUCTED FILTER W/ MRC

THE INSTALLATION OF THIS BMP IS A CRITICAL STAGE WHERE A LICENSED PROFESSIONAL MUST BE CONTACTED AT LEAST 48 HOURS IN ADVANCE TO PROVIDE CONSTRUCTION OVERSIGHT.





NOTE: STORMTANK MODULES MUST BE INSTALLED BY A CERTIFIED INSTALLER



CONSTRUCTION SEQUENCE INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING

- CONSTRUCTION. EXCAVATE CONSTRUCTED FILTER BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE. PRIOR TO PLACEMENT OF AGGREGATE, THE SOIL SURFACE AT THE BOTTOM OF THE CONSTRUCTED FILTER SHALL BE SCARIFIED. 3. PLACE GEOTEXTILE AND PVC LINER ALONG BOTTOM AND SIDE OF THE EXCAVATED CONSTRUCTED
- FILTER PROVIDING THE NECESSARY OVERLAPS OF FABRIC. 4. PLACE STONE ON TOP OF THE FABRIC TO THE DEPTH SPECIFIED IN THE DETAIL. . INSTALL PIPES. BACKFILL WITH STONE TO THE TOP OF CONSTRUCTED FILTER ELEVATION.
- WRAP CONSTRUCTED FILTER AND PLACE PVC LINER SANDWICHED BETWEEN GEOTEXTILE FABRIC ON TOP OF STONE PROVIDING MINIMUM 1 FOOT OVERLAP. 7. BACKFILL OVER TOP OF THE CONSTRUCTED FILTER WITH SOIL.

OPERATION AND MAINTENANCE:

- CONSTRUCTED FILTER FILTER FABRIC AND STONE SHALL BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL/ SEDIMENT HAS ENTERED THE CONSTRUCTED FILTER, APPROPRIATE MEASURES (I.E. CLEANING THE SOIL/SEDIMENT FROM THE FABRIC, STONE, CONSTRUCTED FILTER ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHALL BE ADDRESSED.
- INFLOW AND OUTFLOW POINTS INTO THE THE SYSTEMS SHALL BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES OR DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS. ALL DOWNSPOUTS AND OVERFLOW PIPES SHALL BE KEPT IN GOOD WORKING
- 3. IF GROUNDWATER OR BEDROCK IS ENCOUNTERED DURING THE INSTALLATION OF THE CONSTRUCTED FILTER, STOP WORK AND CONTACT THE TOWNSHIP AND DESIGN ENGINEER FOR AN ALTERNATE LOCATION OR NEW DESIGN.
- 4. COMPACTION IS TO BE MINIMIZED.
- 5. CATCH BASINS AND INLETS (UPGRADIENT OF CONSTRUCTED FITLER) SHALL BE INSPECTED AND CLEANED AT LEAST TWICE PER YEAR AND AFTER MAJOR RUNOFF EVENTS.
- 6. INSPECT THE CONSTRUCTED FILTER AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF
- 7. ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, AND SIGNS OF WATER CONTAMINATION/SPILLS
- 8. REMOVE ACCUMULATED SEDIMENT FROM CONSTRUCTED FILTER AS REQUIRED. PROPERLY DISPOSE OF SEDIMENT.
- 9. THE FACILITY IS CONSIDERED TO BE AT FAILURE WHEN THE FOLLOWING OCCURS: 9.1. THE WATER LEVEL IS ABOVE THE 0.93" ORIFICE INVERT (313.75) IN 7 DAYS OR LESS AFTER A 24-HOUR STORM EVENT. THIS LIKELY MEANS THAT AN ORIFICE IS CLOGGED. THE WATER LEVEL IS BELOW THE 0.93" ORIFICE WHICH MAY INDICATE A LEAK IN THE LINER. A PROFESSIONAL CONSULTANT SHOULD BE NOTIFIED FOR APPROPRIATE ACTION. LEVELS SLIGHTLY BELOW THE ORIFICE (+/- AN INCH) MAY BE CAUSED BY EVAPORATION AND THUS LOCAL WEATHER CONDITIONS SHOULD BE CONSIDERED. FURTHER MONITORING

SPECIFICATIONS

SHALL BE CONDUCTED.

SHALL BE UNIFORMLY GRADED COARSE AGGREGATE, AASHTO SIZE NUMBER 57 PER AASHTO SPECIFICATIONS, PART I, 19TH ED., 1998, OR LATER AND SHALL HAVE VOIDS 40% AS MEASURED BY ASTM-C29.

* PVC LINER SHALL BE 30 MIL PVC SANDWICHED BETWEEN (2) 12 OZ. GEOTEXTILE

MAY BE AMENDED WITH COMPOST (IF APPLICABLE)

• SHALL BE CONTINUOUSLY PERFORATED, SMOOTH INTERIOR, WITH A MINIMUM INSIDE DIAMETER OF HIGH-DENSITY POLYETHYLENE (HDPE) PIPE SHALL MEET AASHTO M252, TYPE S OR AASHTO M294,

STORM DRAIN INLETS AND STRUCTURES:

a. CONCRETE CONSTRUCTION: CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION

- 1001, PENNDOT SPECIFICATIONS, 1990 OR LATEST EDITION. b. PRECAST CONCRETE INLETS AND MANHOLES: PRECAST CONCRETE INLETS MAY BE SUBSTITUTED FOR CAST-IN-PLACE STRUCTURES AND SHALL BE CONSTRUCTED AS SPECIFIED FOR CAST-IN-PLACE. PRECAST STRUCTURES MAY BE USED IN ONLY THOSE AREAS WHERE THERE IS NO CONFLICT WITH EXISTING UNDERGROUND STRUCTURES THAT MAY NECESSITATE REVISION OF INVERTS. TYPE M STANDARD PENNDOT INLET BOXES WILL BE MODIFIED TO PROVIDE MINIMUM 12 INCH SUMP STORAGE AND BOTTOM LEACHING BASINS, OPEN TO GRAVEL SUMPS IN
- SUB-GRADE, WHEN SITUATED IN THE RECHARGE BED. c. ALL PVC CATCH BASINS/CLEANOUTS/INLINE DRAINS SHALL HAVE H-10 OR H-20 RATED GRATES, DEPENDING ON THEIR PLACEMENT (H-20 IF VEHICULAR LOADING).
- d. Steel reinforcing bars over the top of the outlet structure shall conform to ASTM A615, GRADES 60 AND 40. e. PERMANENT TURF REINFORCEMENT MATTING SHALL BE INSTALLED ACCORDING TO MANUFACTURERS' SPECIFICATIONS. (IF APPLICABLE)
- ALTERNATIVE STORAGE MEDIA (IF APPLICABLE): FOLLOW MANUFACTURER'S SPECIFICATIONS

VEGETATION (IF APPLICABLE): PLANT WITH NATIVE SPECIES

CONSTRUCTED FILTER LINER NOTES

- 1. CONSTRUCTED FILTER LINER SHALL BE 30 MIL PVC SANDWICHED BETWEEN 12oz. GEOTEXTILE PLACED ON TOP AND BOTTOM.
- . PVC LINER TO BE PLACED AND SEAMED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS & IN ACCORDANCE WITH ASTM D3083 & 0413 AND ALL OTHER ASTM SPECS. AS LISTED ON THE PVC SPECIFICATION CHART. BASIN LINERS SHALL BE INSTALLED BY A CERTIFIED INSTALLER
- AND SUPERVISED BY THE MANUFACTURERS' REPRESENTATIVE AND SEAMED AND CERTIFIED BY THE SAME. THIS IS VERY IMPORTANT GIVEN THAT THE MRCH BED WILL HAVE A PERMANENT POOL OF WATER AT ALL TIMES.
- THE LINER MUST EXTEND UP TO THE TOP OF THE CONSTRUCTED FILTER AND SEAMED TOGETHER. SHOP DRAWINGS; CATALOG/CUT SHEETS OF THE LINER ARE TO BE PROVIDED FOR MUNICIPAL REVIEW PRIOR TO INSTALLATION.
- CONTRACTOR SHALL ENSURE SUBGRADE IS SMOOTH AND FREE OF SHARP OBJECTS PRIOR TO THE PLACEMENT OF THE LINER.

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

4" DOWNSPOUT

∠ ADAPTER

SPLASH BLOCK -

FINISHED -

GRADE

NOT TO SCALE

— FACE OF DWELLING

~6"x6"x4" PVC WYE

CONNECTION

∕ 6" PVC LEADER

-6" PVC 90° ELBOW

- SCHEDULED 40

1. PVC MAY BE SUBSTITUTED WITH AN APPROVED EQUAL MATERIAL

2. LEAF GUARDS TO BE INSTALLED ON ALL GUTTER DOWNSPOUTS

DOWNSPOUT CONNECTION DETAIL

PLAN VIEW

v 0% SLOPE

0% SLOPE

SECTION Y-Y

SECTION Z-Z

THICK.

(IN)

EW-1 18 R-5 27 12 4.5 16.5

| EW-10 | 30 | R-5 | 27 | 15 | 7.5 | 22.5

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL

SIZE

R-_

LENGTH

(FT)

6" PVC (LENGTH VARIES) 2.0% MIN SLOPE

— GEOTEXTILE

INITIAL | TERMINAL

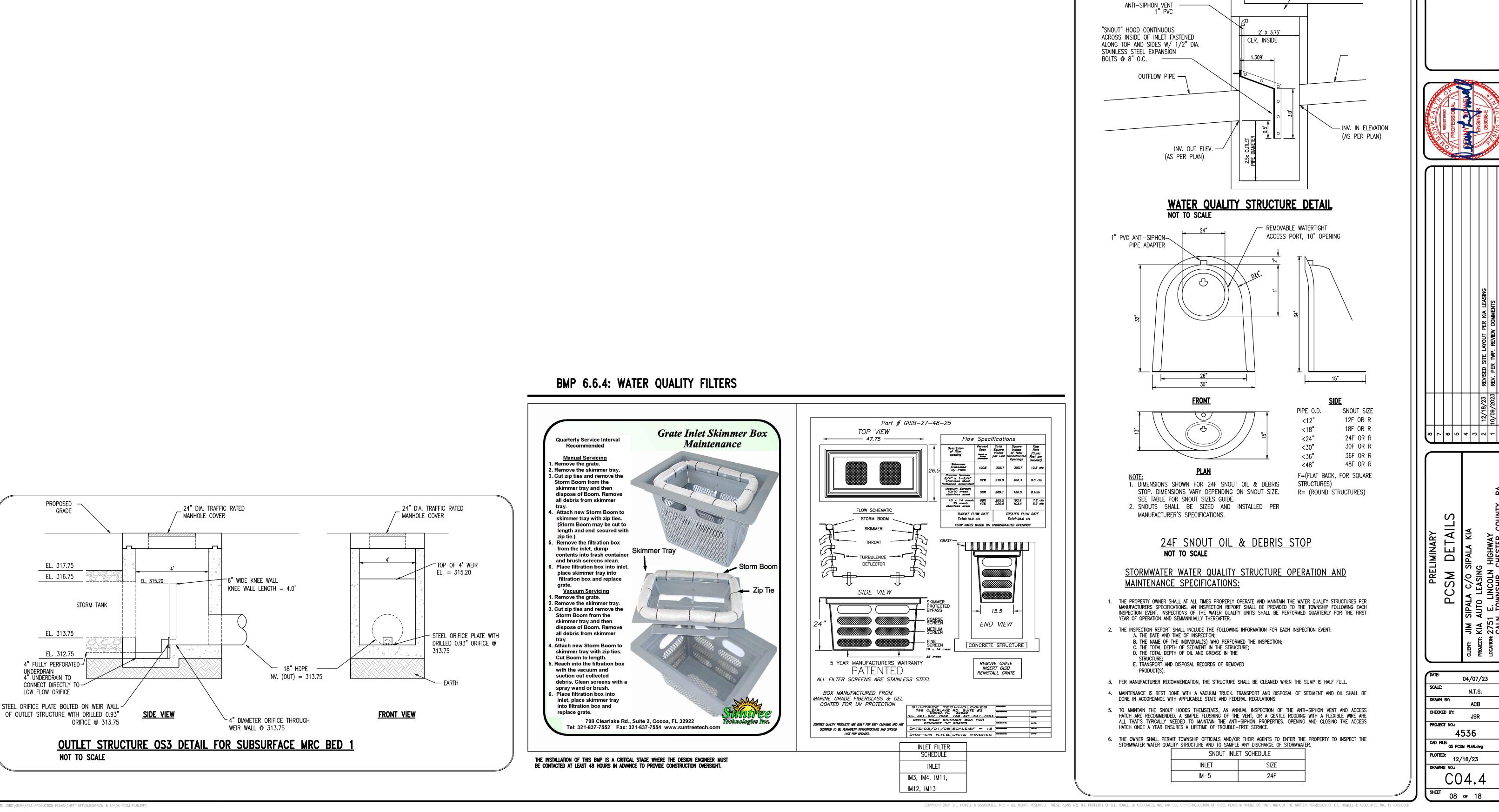
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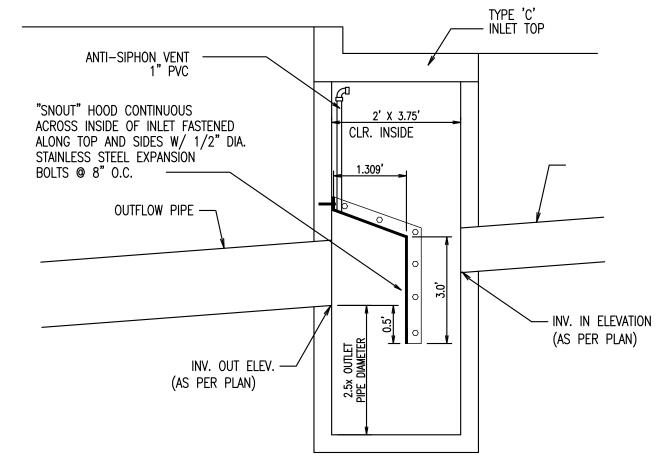
OUTLET

NOTES:



BMP 6.6.4: WATER QUALITY FILTERS

THE INSTALLATION OF THIS BMP IS A CRITICAL STAGE WHERE THE DESIGN ENGINEER MUST BE CONTACTED AT LEAST 48 HOURS IN ADVANCE TO PROVIDE CONSTRUCTION OVERSIGHT.

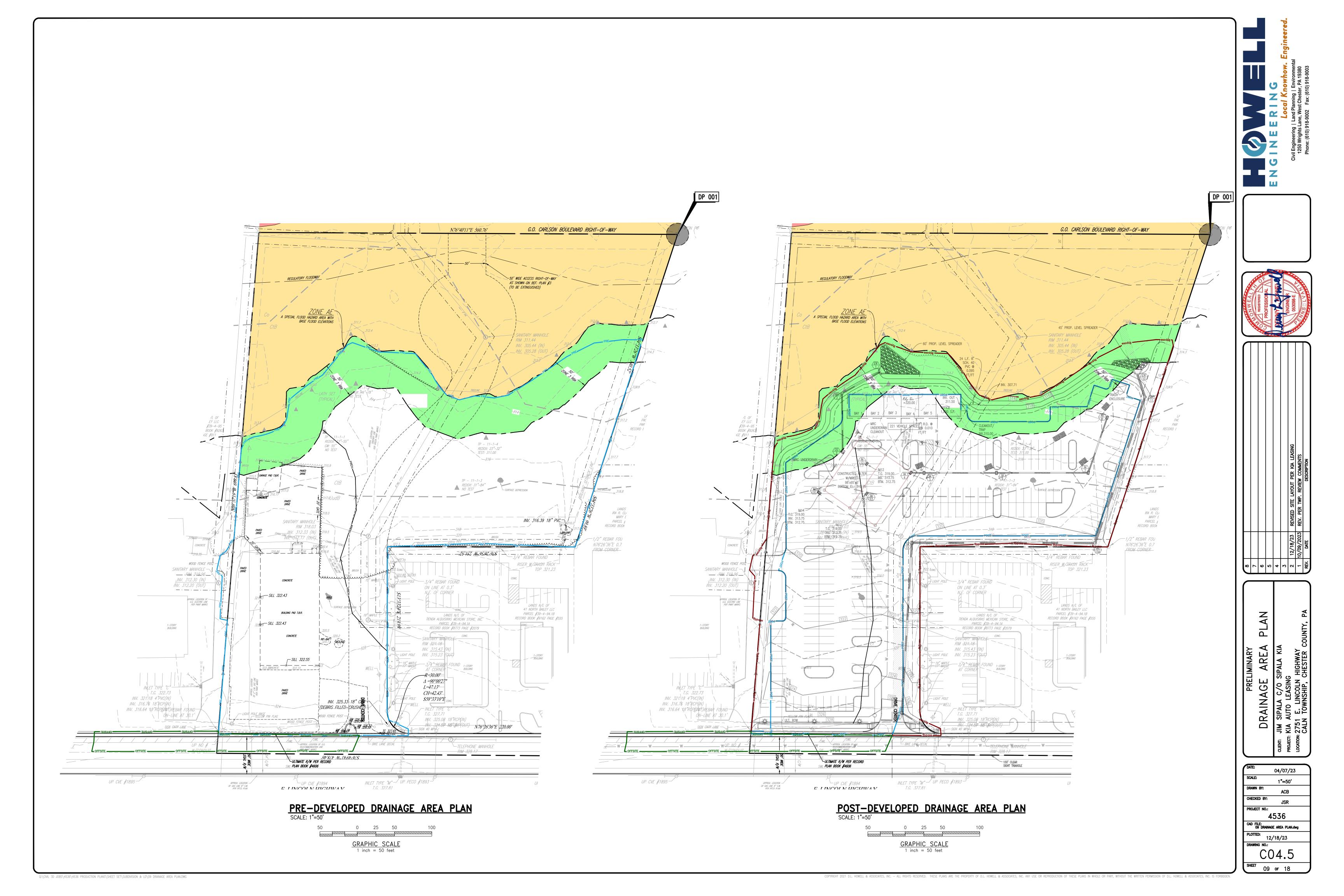


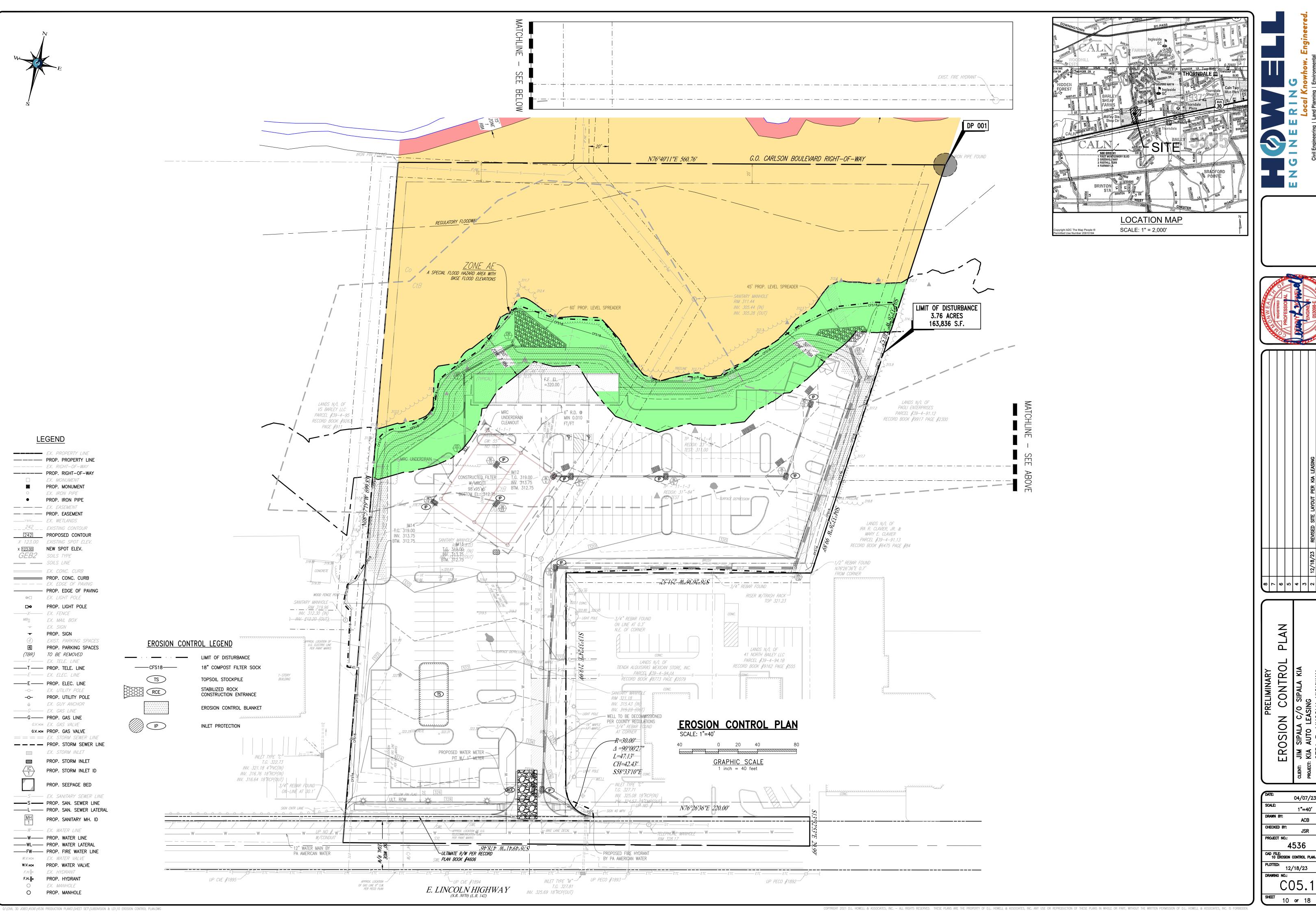
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04/07/23 1"=40' 4536 CAD FILE: 10 EROSION CONTROL PLAN.dwg

THE PURPOSE OF THIS NARRATIVE AND THE EROSION CONTROL ASPECTS OF THE PLANS ARE TO PREVENT THE ACCELERATED EROSION OF EXPOSED SITE SOILS DURING CONSTRUCTION AND TO RETAIN ON SITE ALL SEDIMENT PRODUCED BY CONSTRUCTION ACTIVITIES. THIS WILL BE ACCOMPLISHED BY STRICT ADHERENCE TO THE FOLLOWING NOTES, SEQUENCE OF CONSTRUCTION, AND EROSION AND SEDIMENT CONTROL DETAILS SHOWN ON THE PLAN. THIS PLAN WILL FURTHER ACT TO PROVIDE THE FOLLOWING:

- MINIMIZE EXTENT AND DURATION OF EARTH DISTURBANCE MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION
- MINIMIZE SOIL COMPACTION UTILIZE OTHER MEASURES OR CONTROLS THAT PREVENT OR MINIMIZE GENERATION OF INCREASED STORMWATER RUNOFF

THERMAL IMPACTS NOTE: – 102.4(b)(5)(xiii)

THERMAL IMPACTS ARE BEING MITIGATED DURING CONSTRUCTION PHASE BY ROUTING CONSTRUCTION RUNOFF THROUGH PERIMETER EROSION CONTROL MEASURES, IE. COMPOST FILTER SOCK BEFORE ENTERING SURFACE WATERS.

GEOLOGIC FORMATION NOTE - 102.4(B)(5)(xii)

		В	EDROCK GEOLOGY		
MAP SYMBOL	NAME	AGE	LITH1	LITH2	LITH3
Ce	Elbrook Formation	Cambrian	Calcareous shale	Silty limestone	Limestone; dolomite
Cl	Ledger Formation	Cambrian	Dolomite	Siliceous dolomite	

LOCATION OF GEOLOGIC FORMATIONS TAKEN FROM PENNSYLVANIA DEP eMapPA, "BEDROCK GEOLOGY" DEVELOPED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, GEOSPATIAL DATA CENTER, DATED: DECEMBER 2004.

RECEIVING SURFACE WATERS - 102.4(b)(5)(v)

*THE PENNSYLVANIA TITLE 25, CHAPTER 93 CLASSIFICATION FOR THE RECEIVING WATERS OF THE **COMMONWEALTH**

VALLEY RUN IN THE EAST BRANCH BRANDYWINE CREEK WATERSHED: A COLD WATER FISHES (CWF) AND MIGRATORY FISHES (MF) WATER COURSE

PROJECT WASTE NOTE: – 102.4(b)(5)(xi)

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

ANY OFF-SITE WASTE AND BORROW AREA MUST HAVE AN E&S PLAN REVIEWED AND APPROVED BY THE CONSERVATION DISTRICT PRIOR TO BEING ACTIVATED

MAINTENANCE - 102.4(b)(5)(x)

MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL DEVICES WILL CONSIST OF WEEKLY INSPECTIONS OF EACH DEVICE 1 DETERMINE HOW WELL THE SLOPE STABILIZATION MEASURES USED ARE WORKING. ALL FACILITIES WILL BE INSPECTED AFTER EVERY STORM TO DETERMINE THEIR DURABILITY TO WITHSTAND DRIVING RAIN AND EROSION. ALL LOCAL REGULATIONS SHALL BE COMPLIED WITH. ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT SHALL BE REPAIRED BEFORE THE END OF EACH

A WRITTEN REPORT DOCUMENTING ALL INSPECTIONS AND REPAIRS MUST BE KEPT ONSITE AT ALL TIMES. INSPECTIONS SHALL BE LOGGED ONTO DEP FORM 3150-FM-BWEW0083 DATED 2/2012 AND KEPT ON SITE AT ALL TIMES.

THE FOLLOWING MAINTENANCE PROCEDURES SHALL APPLY:

- ANY SEEDED OR SODDED AREAS THAT HAVE BECOME STRIPPED OF VEGETATION SHALL BE REESTABLISHED WITH APPROPRIATE STABILIZATION MATERIALS. THIS PROCEDURE SHALL BE REPEATED AFTER EVERY SIZABLE STORM (2"+) UNTIL NO MORE SIGNS
- 2. AT WEEKLY INSPECTIONS AND AFTER EACH RAIN EVENT NECESSARY CLEANING WILL BE PERFORMED.
- ANY FILTER FABRIC FENCE, WHICH HAS BEEN UNDERMINED OR OVER TOPPED, MUST BE IMMEDIATELY REPLACED WITH A ROCK
- 4. ANY SEDIMENT REMOVED FROM BMPS DURING CONSTRUCTION WILL BE RETURNED TO UPLAND AREAS ON SITE AND INCORPORATED INTO THE SITE GRADING.

RECYCLING OR DISPOSAL OF MATERIALS

SOCK AND A SEDIMENT TRAP.

-102.4(b)(5)(xi)ANY OFF-SITE WASTE AND BORROW AREA MUST HAVE AN E&S PLAN REVIEWED AND APPROVED BY THE CCCD PRIOR TO BEING ACTIVATED.

SWM DURING EARTH DISTURBANCE ACTIVITIES

-102.4(b)(5)(xiv)THE PROPOSED RUNOFF GENERATED DURING CONSTRUCTION WILL BE MANAGED USING ABACT BMPS THAT INCLUDE COMPOST FILTER

CONSTRUCTION SEQUENCE NOTES:

- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENTATION CONTROL PLAN PREPARER, AND A REPRESENTATIVE OF THE CHESTER COUNTY CONSERVATION DISTRICT TO AN ON-SITE
- 3. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT
- BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL WASTES AT THE SITE. 4. A WEEKLY INSPECTION LOG SHALL BE FORWARDED TO THE MUNICIPALITY'S ADMINISTRATIVE OFFICE
- 5. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. HYDROSEED IS NOT CONSIDERED
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- 7. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST BE STABILIZED IMMEDIATELY.
- 8. IN NO CASE SHOULD AN AREA EXCEEDING 15,000 S.F., WHICH IS TO BE STABILIZED BY VEGETATION, REACH FINAL GRADE WITHOUT BEING SEEDED AND MULCHED.

UudB - URBAN LAND-UDORTHENTS, LIMESTONE COMPLEX, 0 TO 8 PERCENT SLOPES

- CtB CONESTOGA SILT LOAM, 3 TO 8 PERCENT SLOPES
- Co CODORUS SILT LOAM

SOIL USE LIMITATIONS AND RESOLUTIONS

SOIL TESTS SHOULD BE TAKEN TO DETERMINE THE ACTUAL SOIL pH REACTION. A pH OF 5.5 SHOULD BE ACHIEVED. TO RESOLVE THIS LIMITATION THE SOIL PH SHOULD BE ADJUSTED BY APPLYING LIME RATES IN ACCORDANCE WITH THE PENN STATE AGRONOMY GUIDE AND THE RECOMMENDATIONS FROM A REPUTABLE LABORATORY.

TO RESOLVE THIS LIMITATION VEGETATIVE SPECIES THAT ARE TOLERANT TO WET CONDITIONS SHOULD BE SELECTED FOR LANDSCAPING.

SOIL SHOULD BE IMPORTED FROM OTHER AREAS ON SITE. THE CHESTER COUNTY CONSERVATION DISTRICT MUST APPROVE ANY DEVIATION FROM THE E&SC SEQUENCE.

WET SOIL TYPES / HIGH WATER TABLE DURING EXCAVATION ACTIVITIES

WATER TO BE PUMPED TO A DEWATERING STRUCTURE, SEE DETAIL POOR SUITABILITY FOR WINTER GRADING / FROST ACTION

PERMEABLE SOIL FOR EMBANKMENT CONSTRUCTION

ADEQUATE COMPACTION OF SOIL IS REQUIRED FOR THE EMBANKMENTS, PIPE BACKFILL, ROAD CONSTRUCTION AND THE BUILDING PADS. IF ADEQUATE COMPACTION CANNOT BE ACHIEVED DUE TO FROST ACTION OR WET SOIL TYPE, EITHER SOIL SHOULD BE IMPORTED FROM OTHER AREAS ON SITE OR CONSTRUCTION OF THESE FACILITIES SHOULD NOT BE WORKED ON DURING PERIODS PRONE TO FROST. THE CHESTER COUNTY CONSERVATION DISTRICT MUST APPROVE ANY DEVIATION FROM THE E&SC SEQUENCE.

SOIL SHOULD BE IMPORTED FROM OTHER AREAS ON SITE. THE CHESTER COUNTY CONSERVATION DISTRICT MUST APPROVE ANY DEVIATION FROM THE E&SC SEQUENCE.

POORLY SUITED AS SOURCES OF TOPSOIL

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

TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10, LIMIT VEGETATIVE STABILIZATION OF CHANNELS. RESOLUTIONS: TEMPORARY CHANNEL LINING, PROVIDING PERMANENT CHANNEL LINING, DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTION VEGETATIVE WITH GREATER RETARDANCE, SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATION OF THESE AND OTHER METHODS.

SOILS SUSCEPTIBLE TO SINKHOLE FORMATION

LOCATING FACILITIES, SUCH AS SEDIMENT BASINS OR TRAPS OR STORMATER DETENTION OR RETENTION BAINS, ON OTHER SOIL TYPES. LINING RESERVOIR AREAS WITH IMPERMEABLE LININGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.

BMP GENERAL NOTE:

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, REMULCHING RESEEDING, AND RENETTING MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED. REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENTATION POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:

- A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE
- NON-COMPLIANCE THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

TABLE 11.1 Cubic Yards of Topsoil Required for Application to Various Depths

Depth (in)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

Adapted from VA DSWC

PERMANENT SEEDING SPECIFICATIONS

- * LIMESTONE RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90% CARBONATES. USE 800 LBS. PER 1,000 S.Y.
- * COMMERCIAL FERTILIZER (10-20-20) OR SLOW-RELEASE NITROGEN FERTILIZER (38-0-0) USE 140 LBS. PER 1,000 S.Y. MIXED INTO THE SEEDBED PRIOR TO SEEDING.
- * MULCH CLEAN OAT OR STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR

ROOTS OF PROHIBITED OR NOXIOUS WEEDS. APPLY AT A RATE OF 3.0 TONS PER ACRE. THE

MULCH SHOULD BE STABILIZED UNTIL THE VEGETATIVE COVER IS ESTABLISHED. SPREAD MULCH

UNIFORMLY IN A LOOSE LAYER 1/2" TO 1" DEEP. MULCH ANCHORING (MULCH NETTING, PEG AND

TWINE, LIQUID MULCH BINDER) SHALL BE ACCOMPLISHED IMMEDIATELY AFTER MULCH PLACEMENT

* SEED MIXTURE — SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS.

DEDMANENT SEEDING SPECIFICATIONS

TO MINIMIZE LOSS BY WIND OR WATER.

(PLS = PURE LIVE SEED	PERCENTAGE) MIN. GERMIN	ation %'s
30 PLS (LBS/ACRE)	12 OZ. PER 1,000 S.F.	75%
20 PLS (LBS/ACRE)	8 OZ. PER 1,000 S.F.	85%
3 PLS (LBS/ACRE)	2 OZ. PER 1,000 S.F.	80%
40 PLS (LBS/ACRE)	16 OZ. PER 1,000 S.F.	85%
20 PLS (LBS/ACRE)	8 OZ. PER 1,000 S.F.	85%
3 PLS (LBS/ACRE)	2 OZ. PER 1,000 S.F.	80%
25 PLS (LBS/ACRE)	10 OZ. PER 1,000 S.F.	65%
25 PLS (LBS/ACRE)	10 OZ. PER 1,000 S.F.	85%
	30 PLS (LBS/ACRE) 20 PLS (LBS/ACRE) 3 PLS (LBS/ACRE) 40 PLS (LBS/ACRE) 20 PLS (LBS/ACRE) 3 PLS (LBS/ACRE)	20 PLS (LBS/ACRE) 8 0Z. PER 1,000 S.F. 3 PLS (LBS/ACRE) 2 0Z. PER 1,000 S.F. 40 PLS (LBS/ACRE) 16 0Z. PER 1,000 S.F. 20 PLS (LBS/ACRE) 8 0Z. PER 1,000 S.F. 3 PLS (LBS/ACRE) 2 0Z. PER 1,000 S.F. 25 PLS (LBS/ACRE) 10 0Z. PER 1,000 S.F.

PERMANENT SEEDING SHALL ONLY OCCUR DURING THE DATES LISTED ABOVE. IF AREAS ARE PREPARED FOR SEEDING AT OTHER TIMES, THEN THE PREPARED SEEDBED SHALL BE HEAVILY MULCHED WITH CLEAN UNROTTED SMALL GRAIN STRAW OR SALT HAY AT A RATE OF 3 TONS PER ACRES. THE MULCH SHALL REMAIN IN PLACE UNTIL SEEDING DATES ARE APPROPRIATE. THE MULCH SHALL BE REMOVED; THE AREA SHALL BE DRESSED, SEEDED AND REMULCHED AS DESCRIBED ABOVE.

ALL DISTURBED AREAS REQUIRING FINAL STABILIZATION MUST BE ADDRESSED IMMEDIATELY.

WITH UNROTTED SMALL GRAIN STRAW AT A RATE OF 3 TONS PER ACRE.

MAINTENANCE

MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL DEVICES WILL CONSIST OF WEEKLY INSPECTIONS OF EACH DEVICE TO DETERMINE HOW WELL THE SLOPE STABILIZATION MEASURES USED ARE WORKING. ALL FACILITIES WILL BE INSPECTED AFTER EVERY STORM TO DETERMINE THEIR DURABILITY TO WITHSTAND DRIVING RAIN AND EROSION. ALL LOCAL REGULATIONS SHALL BE COMPLIED WITH. ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT SHALL BE REPAIRED BEFORE THE END OF EACH

THE FOLLOWING MAINTENANCE PROCEDURES SHALL APPLY:

- 1. ANY SEEDED OR SODDED AREAS THAT HAVE BECOME STRIPPED OF VEGETATION SHALL BE REESTABLISHED WITH APPROPRIATE STABILIZATION MATERIALS. THIS PROCEDURE SHALL BE REPEATED AFTER EVERY SIZABLE STORM (2"+) UNTIL NO MORE SIGNS OF EROSION ARE EVIDENT.
- 2. AT WEEKLY INSPECTIONS AND AFTER EACH RAIN EVENT NECESSARY CLEANING WILL BE PERFORMED. INSPECTIONS MUST BE LOGGED ONTO DEP FORM 3150-FM-BWE0083 DATED 02/2012 AND KEPT ON
- 3. ANY FILTER FABRIC FENCE, WHICH HAS BEEN UNDERMINED OR OVER TOPPED, MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET.
- 4. ANY SEDIMENT REMOVED FROM BMPS DURING CONSTRUCTION WILL BE RETURNED TO UPLAND AREAS ON SITE AND INCORPORATED INTO THE SITE GRADING.

SEEDING, MULCHING AND SODDING

ALL SEEDING, MULCHING AND SODDING SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE CHESTER COUNTY CONSERVATION DISTRICT. ALL SLOPES STEEPER THAN 5H:1V SHALL BE STABILIZED WITH EITHER SOD OR PERMANENT SEEDING AND MULCH AND ANCHORED IN PLACE WITH JUTE NETTING. NO SLOPES SHALL BE STEEPER THAN 2H:1V. TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH THE PENN STATE AGRONOMY GUIDE OR AS RECOMMENDED BELDS DURING NON-GERMINATING PERIODS APPLY MULCH AT THE RATES RECOMMENDED BELOW. IF THE SITE IS TO REMAIN INACTIVE FOR OVER 6 MONTHS OR AT THE COMPLETION OF FINAL GRADING APPLY PERMANENT SEED AND MULCH AS RECOMMENDED BELOW.

SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT/DOWN GRADIENT PROPERTIES AS A RESULT OF INCREASED SEDIMENT DISPLACEMENT. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND/OR OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

TEMPORARY SEEDING SPECIFICATIONS

WHERE IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA IMMEDIATELY AFTER THE FINAL EARTH MOVING HAS BEEN COMPLETED, TEMPORARY SEEDING SHALL BE DONE IN ACCORDANCE TO THE CHESTER COUNTY CONSERVATION DISTRICT, THE E&S MANUAL AND/OR THE PENN STATE AGRONOMY

AREAS TO BE STABILIZED MUST BE SEEDED/PLANTED IN SUFFICIENT TIME TO GERMINATE. AT LEAST 4 TO 6 WEEKS OF GROWTH PRIOR TO HARD FROSTS AFTER SEEDING IS COMPLETE. MULICH THE SEEDED AREAS. WITH LINROTTED SMALL GRAIN STRAW AT A RATE OF 3 TONS PER ACRE STRAW AND HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR-DRAWN CRIMP-DISC SHALL BE USED TO ANCHOR THE STRAW OR HAY INTO THE SOIL

SITE PREPARATION: APPLY AGRICULTURAL GRADE LIMESTONE AT A RATE OF 800 LBS. PER 1000 S.Y. PLUS 10-20-20 FERTILIZER AT A RATE OF 140 LBS. PER 1,000 S.Y. AND WORK IN WHERE POSSIBLE. SECURE A SOIL TEST BEFORE MAKING A PERMANENT SEEDING. AFTER SEEDING, MULCH WITH STRAW AT A RATE OF 3.0 TONS PER ACRE

TEMPORARY SEED MIXTURE: APPLY ANNUAL RYE GRASS AT 40 LBS. PER ACRE (EQUIVALENT TO 1 LBS. PER 1000 S.F.)

TOPSOIL APPLICATION SPECIFICATIONS

GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE.

TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 TO 8 INCHES MINIMUM (SEE TABLE 11.1) -2 INCHES ON FILL OUTSLOPES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM PLAN.

TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHEREVER POSSIBLE PRIOR TO SEEDING.

UTILITY LINE TRENCH EXCAVATION NOTES:

- LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIME THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
- WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
- 3. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
- WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL
- 6. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE Graded to final contours and immediately stabilized

EROSION AND SEDIMENTATION CONTROL NARRATIVE

THE PURPOSE OF THIS NARRATIVE AND THE EROSION CONTROL ASPECTS OF THE PLANS ARE TO PREVENT THE ACCELERATED EROSION OF EXPOSED SITE SOILS DURING CONSTRUCTION AND TO RETAIN ON SITE ALL SEDIMENT PRODUCED BY CONSTRUCTION ACTIVITIES. THIS WILL BE ACCOMPLISHED BY STRICT ADHERENCE TO THE FOLLOWING NOTES. SEQUENCE OF CONSTRUCTION, AND EROSION AND SEDIMENT CONTROL DETAILS SHOWN ON THE PLAN. THE EROSION CONTROLS PROVIDED WILL MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE, SOIL COMPACTION, AND MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION. THE DESIGN FURTHER UTILIZES OTHER MEASURES AND CONTROLS THAT PREVENT OR MINIMIZE GENERATION OF INCREASED STORMWATER RUNOFF.

EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ADDITIONALLY, THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED. AND HAS BEEN APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT AND/OR LOCAL MUNICIPALITY IN COMPLIANCE WITH CHAPTER 102 RULES & REGULATIONS, AND IS BEING IMPLEMÉNTED AND MAINTAINED FOR ALL OFF SITE SOIL AND/OR ROCK SPOIL AND/OR BORROM AREAS.
- IF ANY SIGNIFICANT CHANGES ARE TO BE MADE TO THE LIMITS OF DISTURBANCE OR TO THE EROSION AND SEDIMENTATION CONTROL PLAN, THE CONTRACTOR OR LAND OWNER MUST CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT AT 610-925-4920 FOR ADEQUACY OF THESE CHANGES.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTES IN accordance with the department's solid waste management regulations at 25 pa. code 260.1 et seq., 71.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY
- SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR MUST TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND OR SEDIMENT DISPLACEMENT. STOCKPILES OF WOOD CHIPS, HAY BALES, CRUSHED STONE AND OTHER MULCHES SHOULD BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.
- SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR OF STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES MUST BE IMMEDIATELY IMPLEMENTED BY THE CONTRACTOR TO ELIMINATE SUCH PROBLEMS.
- THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISION OF APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL RESOURCES, SUB-PART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL,
- THE CONTRACTOR MUST DEVELOP AND HAVE APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT, A SEPARATE EROSION AND SEDIMENTATION CONTROL PLAN FOR EACH SPOIL, BORROW OR OTHER WORK AREA NOT
- DETAILED IN THE APPROVED PLAN, WHETHER LOCATED WITHIN OR OUTSIDE THE CONSTRUCTION LIMITS. 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 AREAS.
- LIMITS OF DISTURBANCE MUST BE CLEARLY MARKED IN THE FIELD PRIOR TO ANY DISTURBANCE. ANY CHANGE OF ENCROACHMENT ONTO THESE AREAS WITHOUT CONSERVATION DISTRICT REVIEW AND APPROVAL MAY REQUIRE THE CONTRACTOR TO CEASE DISTURBANCE AND OBTAIN AN EARTH DISTURBANCE PERMIT.
- 10. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT
- REMULCHING. RESEEDING. AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE
- VHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION: A. THE LOCATION & SEVERITY OF THE BMP'S FAILURE & ANY POLLUTION EVENTS.

 B. ALL STEPS TAKEN TO REDUCE, ELIMINATE & PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.

 C. THE TIME FRAME TO CORRECT THE NONCOMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL

NLL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING

- UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. ALL AREAS REQUIRING INTERIM OR FINAL STABILIZATION MUST BE ADDRESSED WITH IMMEDIATE STABILIZATION OF DISTURBANCE. AREAS UTILIZING VEGETATIVE STABILIZATION MUST BE SEEDED / PLANTED AND MULCHED IN SUFFICIENT TIME TO GERMINATE BY OCTOBER 15 OF EACH YEAR. SEEDING WILL BE ACCOMPLISHED THROUGH THE USE OF CONVENTIONAL SEEDING AND MULCHING AT A RATE OF 3.0 TONS PER ACRE AS RECOMMENDED IN THE
- AFTER FINAL STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
- 13. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 ABOVE GROUND HEIGHTS OF COMPOST FILTER SOCKS AND WHEN THEY REACH THE CLEAN-OUT ELEVATION IN THE SEDIMENT BASIN.
- 14. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION, AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITH THIS PLAN.
- 15. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ. 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT BURY, DUMP, OR DISCHARGE ANY BUILDING
- 16. EROSION AND SEDIMENTATION CONTROL INSPECTIONS SHALL BE PERFORMED ON A WEEKLY BASIS AND AFTER EVERY
- 17. ALL SLOPES STEEPER THAN 3:1 MUST UTILIZE EROSION CONTROL BLANKET (CURLEX BLANKET OR APPROVED
- 18. IF UNSUITABLE MATERIAL IS ENCOUNTERED DURING CONSTRUCTION, A GEOTECHNICAL ENGINEER SHOULD BE ONSITE FOR RESOLUTIONS TO THE UNSUITABLE SOIL.
- 19. TEMPORARY TOPSOIL STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET, AND SLOPES MUST BE 2:1 OR FLATTER. 20. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E & S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST
- MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. 21. ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A
- SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS. 22. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- 23. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 709 PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE FROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SUDING ANI OTHER MOVEMENTS, IMMEDIATELY AFTER FARTH DISTURBANCE ACTIVITIES CEASE. THE OPERATOR SHALL STABILIZE AN areas disturbed by the activities. During non—germinating periods, mulch must be applied at thi SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE RE—DISTURBED WITHIN 1
- YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS. 24. SEDIMENT TRAPS MUST BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.
- 25. IF THE CONTRACTOR ENCOUNTERS HIGH WATER TABLE, SHALLOW BEDROCK, OR SOIL INSTABILITY DURING SITE CONSTRUCTION, THE DESIGN ENGINEER OR THE ON—SITE GEOTECHNICAL ENGINEER MUST BE CONTACTED IMMEDIATELY
- 26. IF THE SITE CONSTRUCTION YIELDS A NET CUT RESULTING IN EXCESS SOIL BEING REMOVED FROM THE SITE THE SOIL MUST BE TRANSFERRED TO A SITE WITH A VALID NPDES PERMIT.
- 27. AS-BUILT PLANS OF THE STORMWATER BMPS SHALL BE PROVIDED WITHIN SIX MONTHS FOLLOWING THE COMPLETION OF EACH PHASE. THE AS-BUILT PLANS SHALL BE SIGNED AND SEALED BY A PA REGISTERED PROFESSIONAL
- Perform a final inspection to ensure site stabilization and verify adequate installation and function 29. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO USE CLEAN FILL AND TO PERFORM ENVIRONMENTAL DUE DILIGENCE, AS REQUIRED BY THE DISTRICT, TO DETERMINE THAT ALL FILL IMPORTED TO THE SITE MEETS THE DEP'S DEFINITION OF CLEAN FILL. SEE DEFINITIONS OF CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE THIS SHEET.

28. A NOTICE OF TERMINATION (N.O.T.) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL

AS-BUILT PLANS. PRIOR TO ACCEPTING THE N.O.T., THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL

30. AN EROSION CONTROL BLANKET WILL BE INSTALLED ON ALL DISTURBED SLOPES STEEPER THAN 3:1, ALL AREAS OF CONCENTRATED FLOWS, AND DISTURBED AREAS WITHIN 50' OF WATERS OF THE COMMONWEALTH.

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL

- THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE). 32. ANY PLACEMENT OF CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE
- MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE
- 33. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORKDAY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEPT INTO ANY ROAD SIDE DITCH, STORM SEWER OR SURFACE WATER.
- 34. 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 INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP. REVIEW OF PROPERTY USE HISTORY. SANBORN MAPS. ENVIRONMENTAL QUESTIONNAIRES. RANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS <u>NO</u> A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF $\overline{ ext{TL}}$ PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF A REGULATE SUBSTANCE, IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, I MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF CLEAN FILL".
- 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, I.E. YARDS.

35. AREAS WHICH ARE TO BE TOP-SOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES (6 TO 12

CONSTRUCTION SEQUENCE

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. EROSION AND SEDIMENTATION CONTROL MEASURES AND EARTH MOVING ACTIVITIES WILL BE STAGED AS FOLLOWS:

- AN ON-SITE PRE-CONSTRUCTION MEETING IS REQUIRED TO OCCUR NO LESS THAN 7 DAYS PRIOR TO ANY EARTH DISTURBANCE UNLESS NOTIFIED OTHERWISE BY SERO DEP OR THE CHESTER COUNTY CONSERVATION DISTRICT. PERMITTEES, CO-PERMITTEES, OPERATORS, ALL APPROPRIATE MUNICIPAL OFFICIALS, REPRESENTATIVES FROM THE CHESTER COUNTY CONSERVATION DISTRICT AND THE SERO DEP, AND LICENSED PROFESSIONALS OR DESIGNEES RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITY INCLUDING IMPLEMENTATION OF E&S AND PCSM PLANS AND CRITICAL STAGES OF IMPLEMENTATION OF THE
- 72 HOURS PRIOR TO ANY SOIL DISTURBANCE, CONTRACTOR SHALL CONTACT THE CHESTER COUNTY SOIL CONSERVATION DISTRICT AT WILLOWDALE TOWN CENTER, 674 UNIONVILLE ROAD, SUITE 200, KENNETT SQUARE, PA 19348, (610) 925-4920.
- 3. STAKE LIMITS OF DISTURBANCE IN THE FIELD PRIOR TO ANY EARTH DISTURBANCE.
- INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE AS SHOWN AND DETAILED ON THE PLANS. THE ENTRANCE WILL BE CONSTRUCTED AND MAINTAINED AS DESCRIBED ON THE E&S CONTROL PLAN
- INSTALL THE COMPOST FILTER SOCK AS SHOWN ON THE PLANS AND AS DIRECTED BY THE CONSERVATION DISTRICT. MAINTAIN TEMPORARY CONTROL MEASURES UNTIL PERMANENT COVER IS ESTABLISHED. THE CONTRACTOR WILL INSTALL THE SYSTEMS IN CONFORMANCE WITH THE DETAILS AND MANUFACTURER'S
- ONCE THE COMPOST FILTER SOCK IS INSTALLED AND FUNCTIONING, CLEAR AND GRUB THE REMAINDER OF THE SITE AS REQUIRED FOR GRADING AND CONSTRUCTION ACTIVITIES.
- DEMOLISH EXISTING BUILDING.
- 8. SAWCUT THE EXISTING DRIVEWAY AND REMOVE PORTION IN THE LOCATION SHOWN ON THE PLAN. 9. BEGIN ROUGH GRADING ACTIVITIES FOR THE PROPOSED ACCESS AND PARKING AREAS.
- 10. CONSTRUCT CONSTRUCTED FILTER WITH MRC 1. THIS IS A CRITICAL STAGE WHERE A LICENSED PROFESSIONAL MUST BE CONTACTED AT LEAST 48 HOURS IN ADVANCE TO PROVIDE CONSTRUCTION
- INSTALL STORM SEWER STRUCTURES AND PIPING. INLET PROTECTION SHALL BE INSTALLED WITHIN ALL INLETS. THE INLETS MUST REMAIN PROTECTED UNTIL THE DRAINAGE AREAS CONTRIBUTORY TO THEM ARE FULLY STABILIZED TO ENSURE SEDIMENT DOES NOT ENTER THE SYSTEM.
- 12. INSTALL UTILITIES THAT INCLUDE BUT ARE NOT LIMITED TO WATER AND SEWER.
- BEGIN CONSTRUCTION OF THE PROPOSED CONCRETE CURB. 14. PLACE THE STONE BASE COURSE AND BINDER COURSE IN THE PARKING AND ACCESS AREAS FOR
- 15. STRIP TOPSOIL FOR THE PROPOSED BUILDINGS. STOCKPILE TOPSOIL IN LOCATION SHOWN ON PLANS.
- 16. CONSTRUCT BUILDING.
- 17. INSTALL ROOF DRAINS AND CONNECT THEM TO THE CORRESPONDING INLETS/MANHOLES. AFTER DRAINAGE AREAS TO STORMWATER BMP'S ARE 70% STABILIZED, REMOVE INLET PROTECTION AND
- SEALS FROM BMP'S AND INSTALL WATER QUALITY SNOUTS IN PROPOSED INLETS. THIS IS A CRITICAL STAGE WHERE A LICENSED PROFESSIONAL MUST BE CONTACTED AT LEAST 48 HOURS IN ADVANCE TO PROVIDE CONSTRUCTION OVERSIGHT. 19. COMPLETE INSTALLATION OF LIGHTING.
- PAVE ACCESS AND PARKING AREAS WITH WEARING COURSE
- 21. INSTALL PLANTINGS PER THE LANDSCAPE PLAN.
- 22. UPON COMPLETION OF CONSTRUCTION ACTIVITIES, ALL DISTURBED AREAS WILL BE STABILIZED. ONCE ALL DISTURBED AREAS HAVE BEEN STABILIZED AND THERE ARE NO FUTURE SIGNS OF EROSION EVIDENT AND UPON FINAL APPROVAL BY THE CHESTER COUNTY SOIL CONSERVATION DISTRICT, REMOVE ALL TEMPORARY
- THE DESIGN ENGINEER SHALL INSPECT ALL PCSM BMPS TO ENSURE THAT THEY HAVE NOT BEEN IMPACTED BY CONSTRUCTION ACTIVITIES. THIS IS A CRITICAL STAGE WHERE A LICENSED PROFESSIONAL MUST BE CONTACTED AT LEAST 48 HOURS IN ADVANCE.
- NOTICE OF TERMINATION & FINANCIAL SECURITY A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING THE APPROVAL OF THE FINAL AS-BUILT PLANS (SEE POST CONSTRUCTION STORMWATER FACILITIES OPERATIONS AND MAINTENANCE PROCEDURES - THIS PLAN) ANY PERFORMANCE AND/OR FINANCIAL SECURITIES ESTABLISHED FOR THE PROJECT SHALL INCLUDE REQUIREMENTS FOR SUBMITTAL OF 'AS-BUILT' PLANS AND

CONSTRUCTION SEQUENCE NOTES:

APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENTATION CONTROL PLAN PREPARER, AND A REPRESENTATIVE OF THE CHESTER

COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.

- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIAL AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL WASTES AT THE SITE.
- 4. A WEEKLY INSPECTION LOG SHALL BE FORWARDED TO THE MUNICIPALITY'S ADMINISTRATIVE OFFICE DURING CONSTRUCTION. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE
- EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE, THEY MUST

IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED

PROFESSIONAL LANDSCAPE PROCEDURES.

ASSESSMENTS OR AUDITS.

BE STABILIZED IMMEDIATELY.

- TREE PROTECTION NOTES: WHERE EXISTING TREES ARE TO REMAIN, NO CHANGE IN EXISTING GRADE SHALL BE PERMITTED WITHIN THE DRIP LINE OF THE TREES. APPROPRIATE FENCING FOUR FEET IN HEIGHT SHALL BE PLACED AT THE DRIP LINE OF TREES TO REMAIN, WHEREVER ADJACENT TO PROPOSED CONSTRUCTION. SUCH FENCING SHALL BE MAINTAINED IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITY. ROOTS SHALL NOT BE CUT WITHIN THE DRIP LINE OF ANY TREES T
- TREES WITHIN 25 FEET OF A BUILDING, OR BORDERING ENTRANCES OR EXITS TO BUILDING SITES, SHALL BE PROTECTED BY A TEMPORARY BARRIER TO BE MAINTAINED IN PLACE THROUGHOUT THE
- DURATION OF CONSTRUCTION ACTIVITY. NO BOARDS OR OTHER MATERIAL SHALL BE NAILED OR OTHERWISE ATTACHED TO TREES DURING

TREE TRUNKS, LIMBS, AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED

FROM FURTHER DAMAGE BY BEING TREATED IMMEDIATELY IN ACCORDANCE WITH ACCEPTED

- CONSTRUCTION MATERIALS, EQUIPMENT, SOIL AND/OR DEBRIS SHALL NOT BE STORED NOR DISPOSED OF WITHIN THE DRIP LINES OF TREES TO REMAIN, EXCEPT FOR MULCHED VEGETATIVE MATTER USED TO PREVENT SOIL COMPACTION.
- **DEFINITIONS** (PER THE DEPARTMENT OF ENVIRONMENTAL PROTECTION): <u>CLEAN FILL</u> - UNCONTAMINATED, NONWATER-SOLUBLE, NONDECOMPOSABLE INERT SOLID

MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT,

THAT IS SEPARATE FROM OTHER WASTE AND RECOGNIZABLE AS SUCH. (25 PA. CODE §§

AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES

271.101 AND 287.101) THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON

THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED

 $\underline{\textit{ENVIRONMENTAL DUE DILIGENCE}} - \text{INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED}$ TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF OWNERSHIP AND USE HISTORY OF PROPERTY. SANBORN MAPS. ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL

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10 EROSION CONTROL PLAN.dwg 12/18/23

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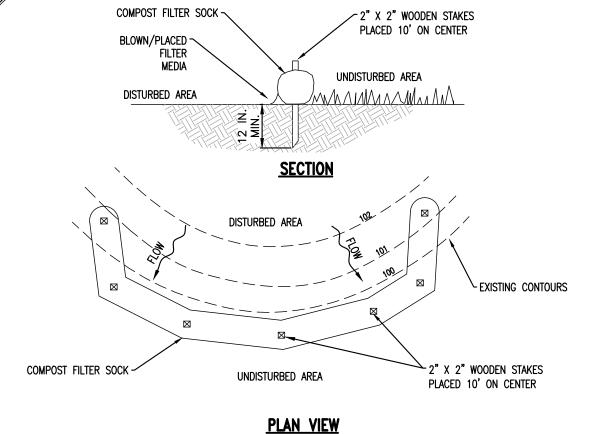
CONTACT: JAMES WEAVER WEAVER'S MULCH STRASBURG ROAD, COATESVILLE, PA 19320

WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES, OR SURFACE WATERS.

PHONE: 610-383-6818

- WASHOUT FACILITIES SHOULD BE IN A CONVENIENT LOCATION FOR THE TRUCKS, PREFERABLY NEAR THE PLACE WHERE THE CONCRETE IS BEING POURED, BUT FAR ENOUGH FROM OTHER VEHICULAR TRAFFIC TO MINIMIZE THE POTENTIAL FOR ACCIDENTAL DAMAGE OR SPILLS. WHEREVER POSSIBLE, THEY SHOULD BE LOCATED ON SLOPES NOT EXCEEDING A 2% GRADE.
- COMPOST SOCKS SHOULD BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPSLOPE CORNER. CARE MUST BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS. WHERE NECESSARY, SOCKS MAY BE STACKED AND STAKED SO AS TO FORM A TRIANGULAR CROSS-SECTION.
- PROPER SIGNAGE SHOULD BE PROVIDED TO DRIVERS SO THAT THEY ARE AWARE OF THE PRESENCE OF WASHOUT FACILITIES.

COMPOST SOCK WASHOUT DETAIL NOT TO SCALE



OUTLET CROSS-SECTION

OPTIONAL 6 IN. COMPOST LAYER

-OPTIONAL 6 IN. SUMP

FIRMLY ANCHORED

⊢AASHTO NO. 57

STRAW BALES OR FILTER FABRIC -WOOD POSTS--AASHTO NO. 57 FILTER=5/6 HEIGHT OF STRAW BALES OR

UP-SLOPE FACE

FILTER FABRIC FENCE

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

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

STANDARD CONSTRUCTION DETAIL #4-6

ROCK FILTER OUTLET NOT TO SCALE

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

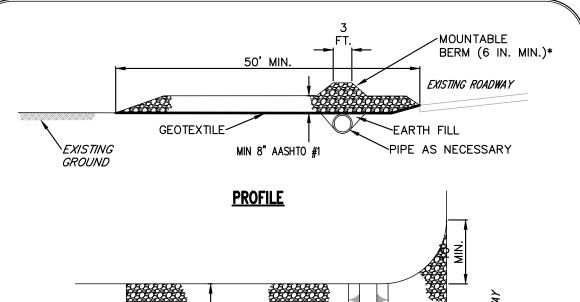
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

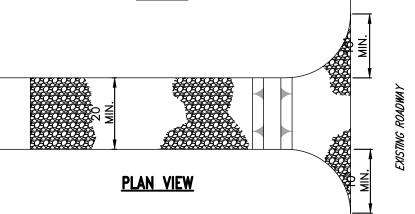
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL

> STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK

SOIL STOCKPILE 18" SILT FENCE (TYP.) GENERAL NOTES:

1. SEE SILT FENCE DETAIL FOR INSTALLATION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS. STOCKPILE HEIGHT MUST NOT EXCEED 35-FEET. STOCKPILE SLOPE MUST BE 2:1 OR FLATTER. 4. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 15 DAYS, IT SHALL BE STABILIZED WITH UNROTTED SMALL GRAIN STRAW OR SALT HAY AT A RATE OF 3 TONS PER ACRE.



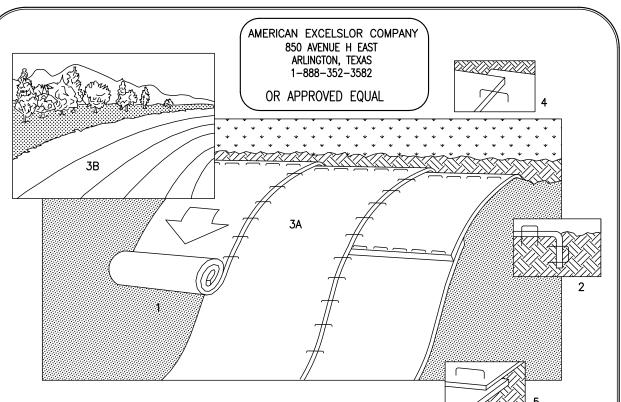


* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

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.

STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE NOT TO SCALE

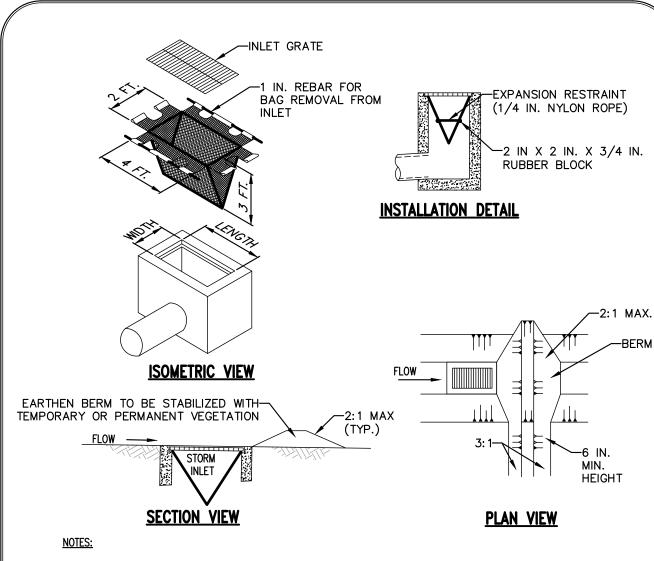


NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

- . PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH.
- BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
- 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
- 5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

NOTE: 0.98 (MIN) CURLEX I BLANKET TO BE USED FOR SLOPE APPLICATIONS

EROSION CONTROL BLANKET SLOPE INSTALLATION NOT TO SCALE



MAXIMUM DRAINAGE AREA = 1/2 ACRE.

GRATE-

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

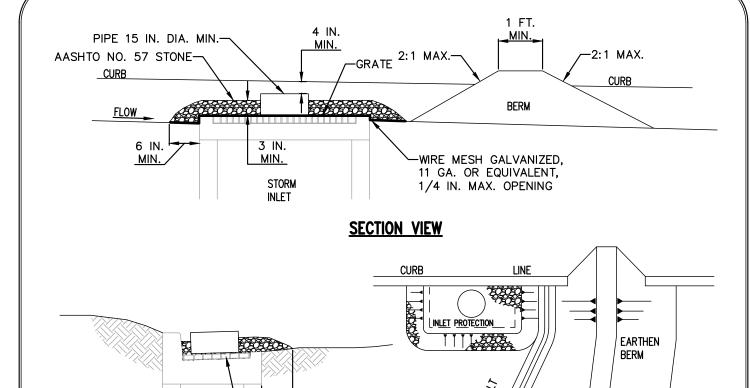
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

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.

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



STORM SECTION VIEW **PLAN VIEW** INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

2:1 MAX.

MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT. STONE INLET PROTECTION AND BERM FOR A TYPE C INLET CAN BE USED IN ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN OVERFLOW PIPE AND 4 IN. HEAD. A PERFORATED PLATE WELDED TO A METAL RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 2-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA.

ROLLED EARTHEN BERM SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. A 6 IN. MINIMUM HEIGHT ASPHALT BERM SHALL BE

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 IN. THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

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

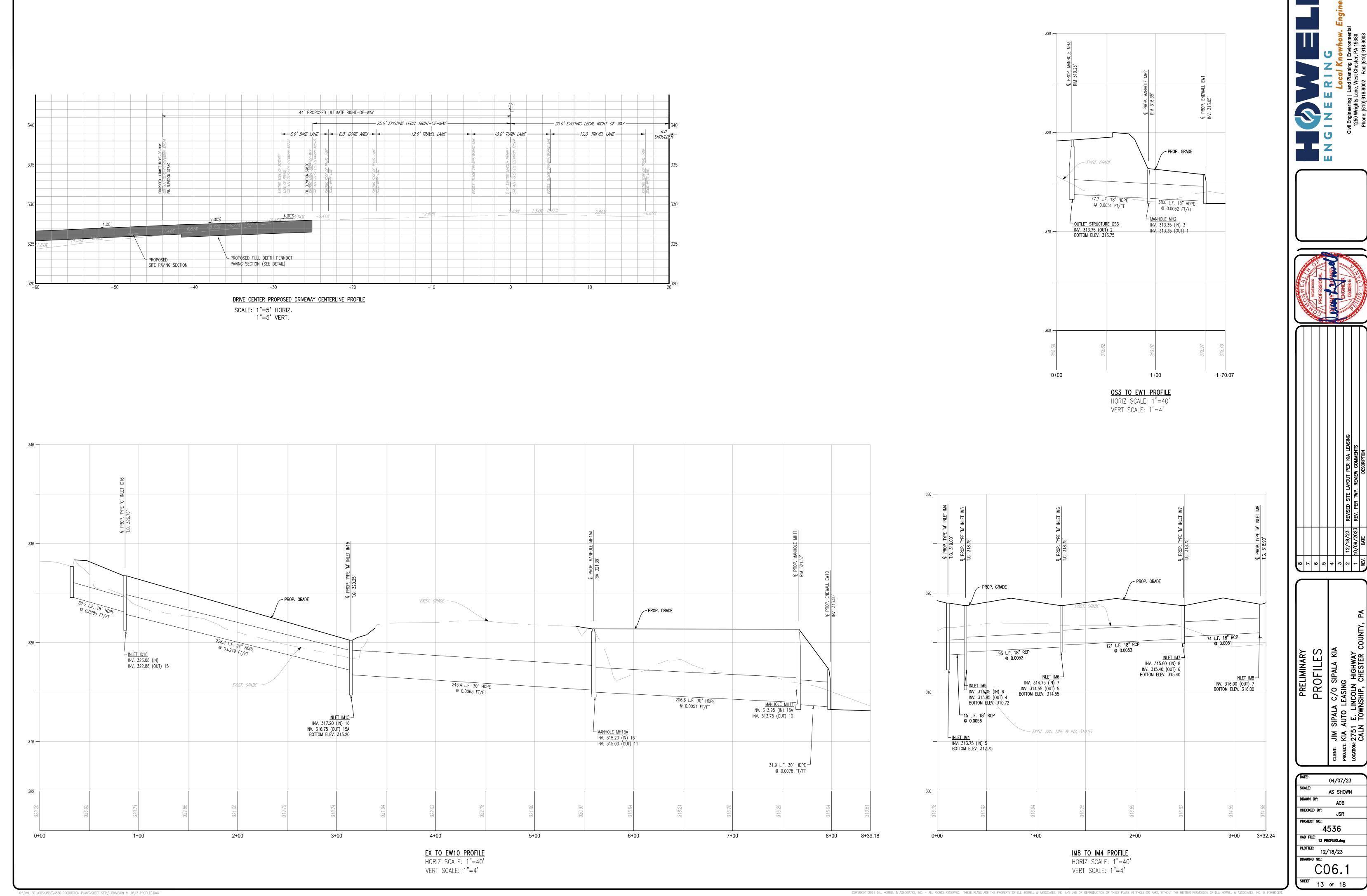
STANDARD CONSTRUCTION DETAIL #4-19
STONE INLET PROTECTION AND BERM - TYPE C INLET NOT TO SCALE

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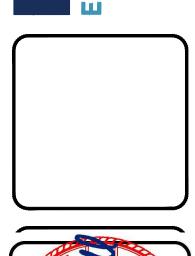
04/07/23 N.T.S. ACB CHECKED BY: JSR 4536 10 EROSION CONTROL PLAN.dwg

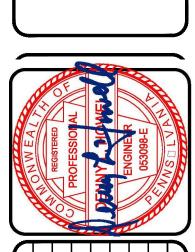
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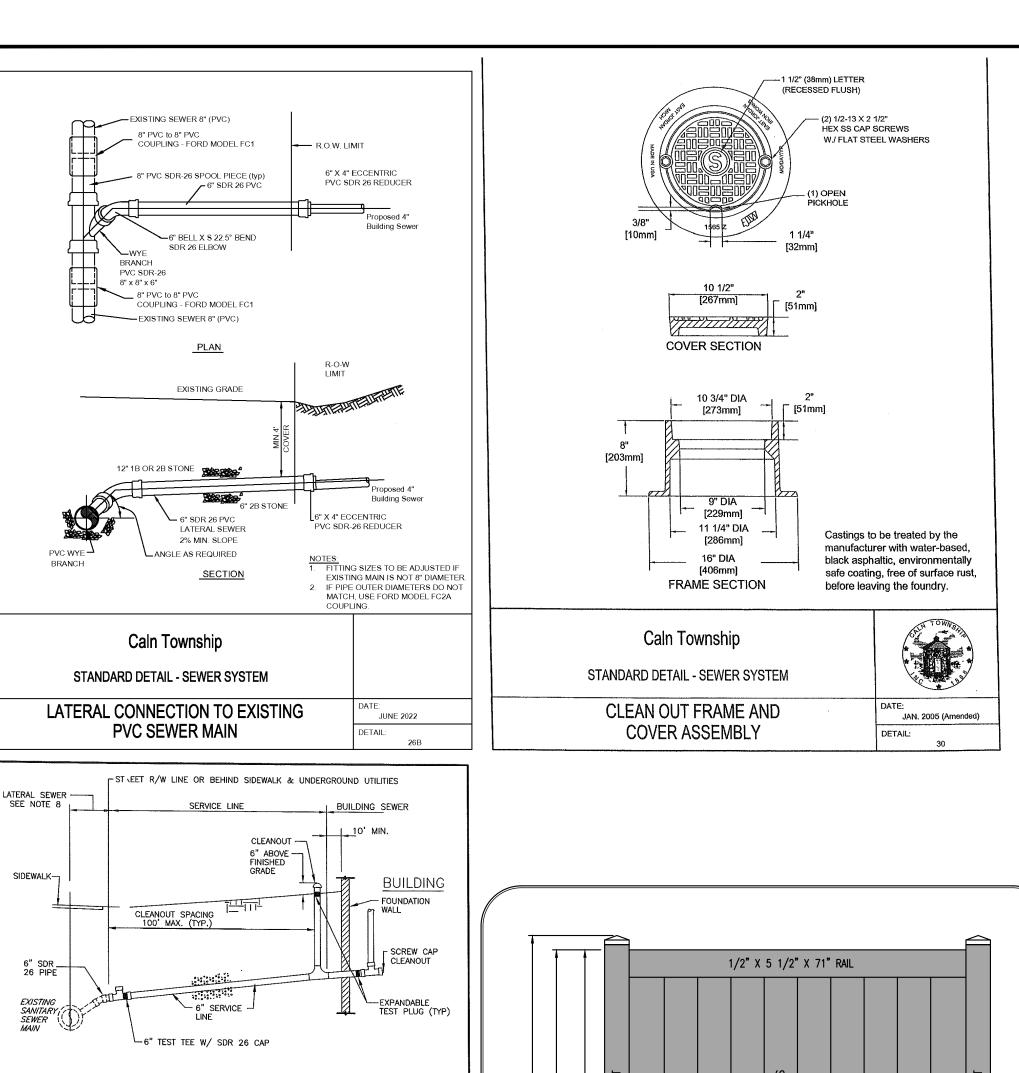


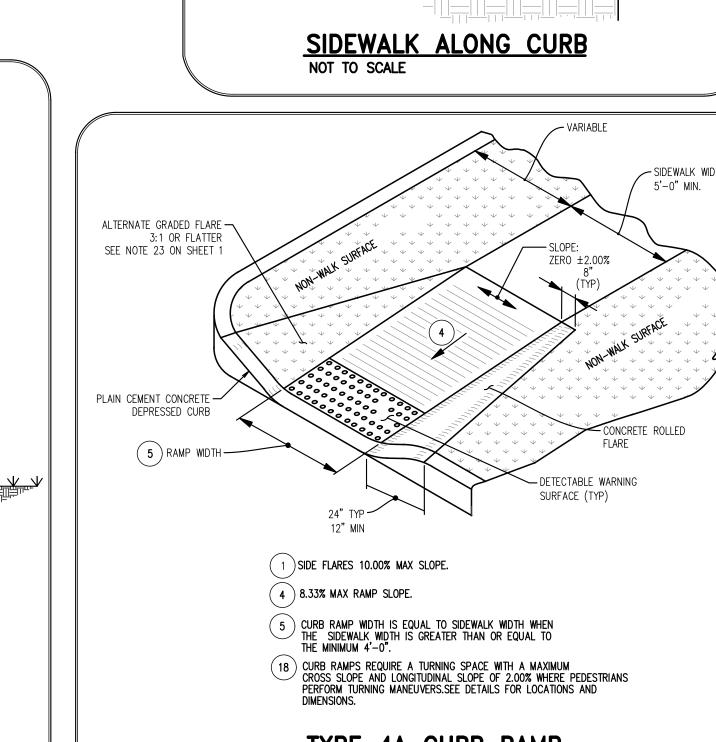


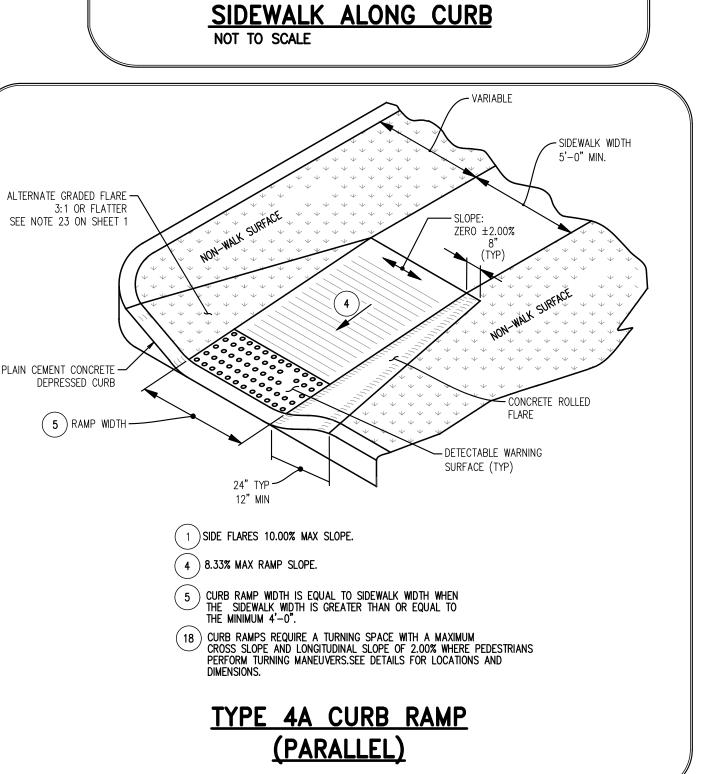


04/07/23 AS SHOWN ACB JSR

CAD FILE: 13 PROFILES.dwg 12/18/23







>4" WHITE

LINES (TYP.)

<u>PERPENDICULAR</u>

TYPICAL PARKING SPACE DIMENSIONS

-4" CONC. SLAB W/ EXP. JT. @ 20'-0" O.C. &

CONTROL JT. @ 4'-0" O.C. TYP. CONCRETE TO

BE CLASS AA 4,000 PSI 28-DAY STRENGTH AIR

SEE PAVING SECTION

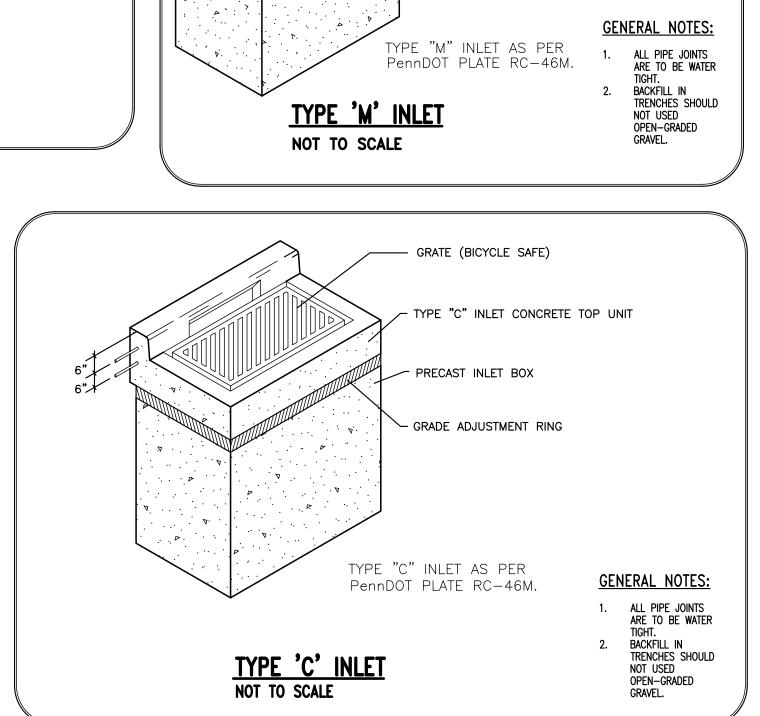
— 1/2" EXPANSION JOINT

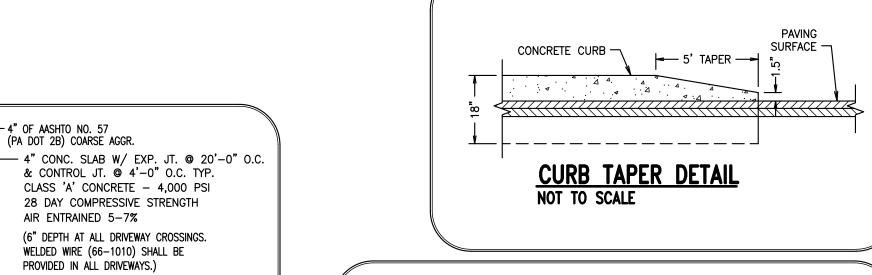
CONC. CURB

—— 4" OF AASHTO NO. 57 (PA DOT 2B) COARSE AGGR.

NOT TO SCALE

SLOPE 1/4" PER FT.





- 4" OF AASHTO NO. 57

GENERAL NOTES:

ALL PIPE JOINTS

BACKFILL IN

NOT USED

AASHTO #57 STONE

HAND TAMPED IN 6"

OPEN-GRADED

ARE TO BE WATER

TRENCHES SHOULD

WHERE A SIDEWALK ABUTS THE CURB AND A BUILDING, WALL OR OTHER PERMANENT STRUCTURE, A PREMOLDED

A ROOT BARRIER SUCH AS DEEPROOT TREE ROOT BARRIER SHALL BE PROVIDED IN ALL AREAS WITHIN THE

TYPICAL SIDEWALK DETAIL

EXPANSION JOINT 1/4 INCH IN THICKNESS SHALL BE PLACED BETWEEN THE CURB AND THE SIDEWALK FOR THE FULL

DEVELOPEMTN WHERE SHADE TREES ARE LOCATED WITHIN 10' OF SIDEWALKS. THE ROOT BARRIER SHALL BE INSTALLED

BETWEEN THE TREE AND THE SIDEWALK AND SHALL BE AT LEAST 12' IN LENGTH CENTERED ON THE TREE TRUNK. THE

APPROVED BACKFILL

(OFF ROAD AREAS)

(PAVED AREAS)

PLACED IN 8" MAX. LIFTS

COMPACTED TO 90% OF. MAX. DENSITY

COMPACTED TO 95% OF MAX. DENSITY

GREEN METALLIC WARNING TAPE - SEWER

YELLOW METALLIC WARNING TAPE - GAS

BLUE METALLIC WARNING TAPE - WATER (PLACED A MIN. 18" ABOVE PIPE)

MIN.

(PLACED A MIN. 18" ABOVE PIPE)

(PLACED A MIN. 18" ABOVE PIPE)

TYPICAL TRENCH DETAIL

GRATE (BICYCLE SAFE)

PRECAST INLET BOX

GRADE ADJUSTMENT RING

TYPE "M" INLET CONCRETE TOP UNIT

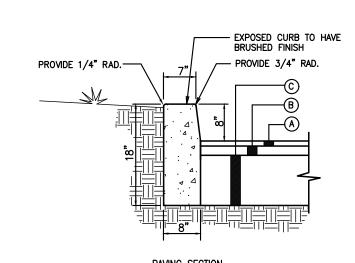
NOT TO SCALE

MAX. SLOPE 2%

LENGTH OF SUCH PERMANENT STRUCTURE.

BARRIER SHALL BE INSTALLED AT THE SAME TIME AS THE SIDEWALK.

NOT TO SCALE



PAVING SECTION A. 1.5" 12.5 MM SUPERPAVE WEARING COURSE B. 3" 25 MM SUPERPAVE BINDER COURSE C. 6" PADOT 2A BASE COURSE

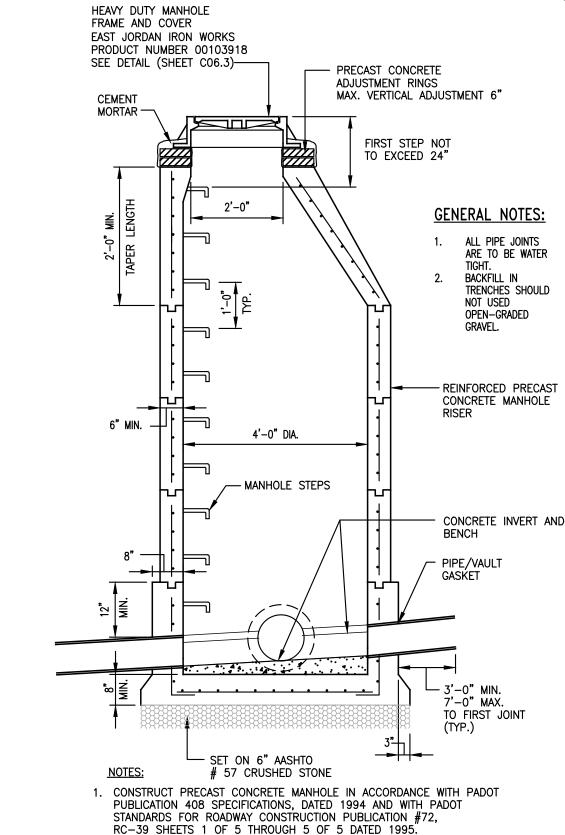
ALL MATERIALS & WORK TO CONFORM TO PENNDOT FORM 408 SPECIFICATIONS. LATEST

2. CONCRETE TO HAVE 4,000 P.S.I. AT 28 DAYS.

CURBING SHALL BE CONSTRUCTED IN 10 FT LENGTHS. A PREMOLDED EXPANSION MATERIAL WITH A MINIMUM THICKNESS OF 1/4 INCH SHALL BE PLACED BETWEEN SECTIONS OF CURVED CURB AND AT A MAXIMUM OF EVERY 120 FEET. INTERMEDIATE JOINTS BETWEEN 10 FOOT SECTIONS SHALL BE FORMED OF TWO LAYERS OF SINGLE PLY BITUMINOUS

EXCAVATIONS SHALL BE MADE TO THE REQUIRED DEPTH AND THE MATERIAL UPON WHICH THE CURB IS TO BE CONSTRUCTED SHALL BE COMPACTED TO A FIRM EVEN SURFACE. WHERE SUBGRADE IS SOFT AND SPONGY, A LAYER OF CRUSHED STONE NOT LESS THAT 4" THICK SHALL BE PLACED UNDER THE CURB.

8" CURBING & PAVING SECTION NOT TO SCALE



2. CONCRETE FOR PRECAST CONSTRUCTION SHALL BE 4,000 PSI MIN.

5. SEE THIS SHEET FOR DETAIL OF MANHOLE FRAME AND COVER.

7. ADJUST TO GRADE WITH PRE-FORMED RUBBER OR CONCRETE GRADE RINGS

ALIGNMENT. THE STEPS SHALL NOT BE STAGGERED.

4. TOP OF BENCH TO MATCH CROWN OF PIPE.

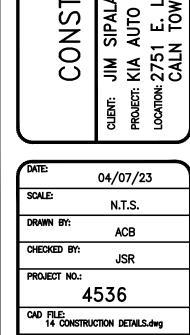
(MAX. VERTICAL ADJUST. 6")

NOT TO SCALE

3. MANHOLE STEPS SHALL BE SPACED AS SHOWN IN A SINGLE VERTICAL

6. ALL STORM MANHOLES AND INLETS SHALL HAVE SMOOTH FLOW-LINES GROUTED TO A HEIGHT OF 3/4 THE DIAMETER OF THE PIPE AND USING 3,500 PSI CONCRETE.

PRECAST CONCRETE STORM MANHOLE

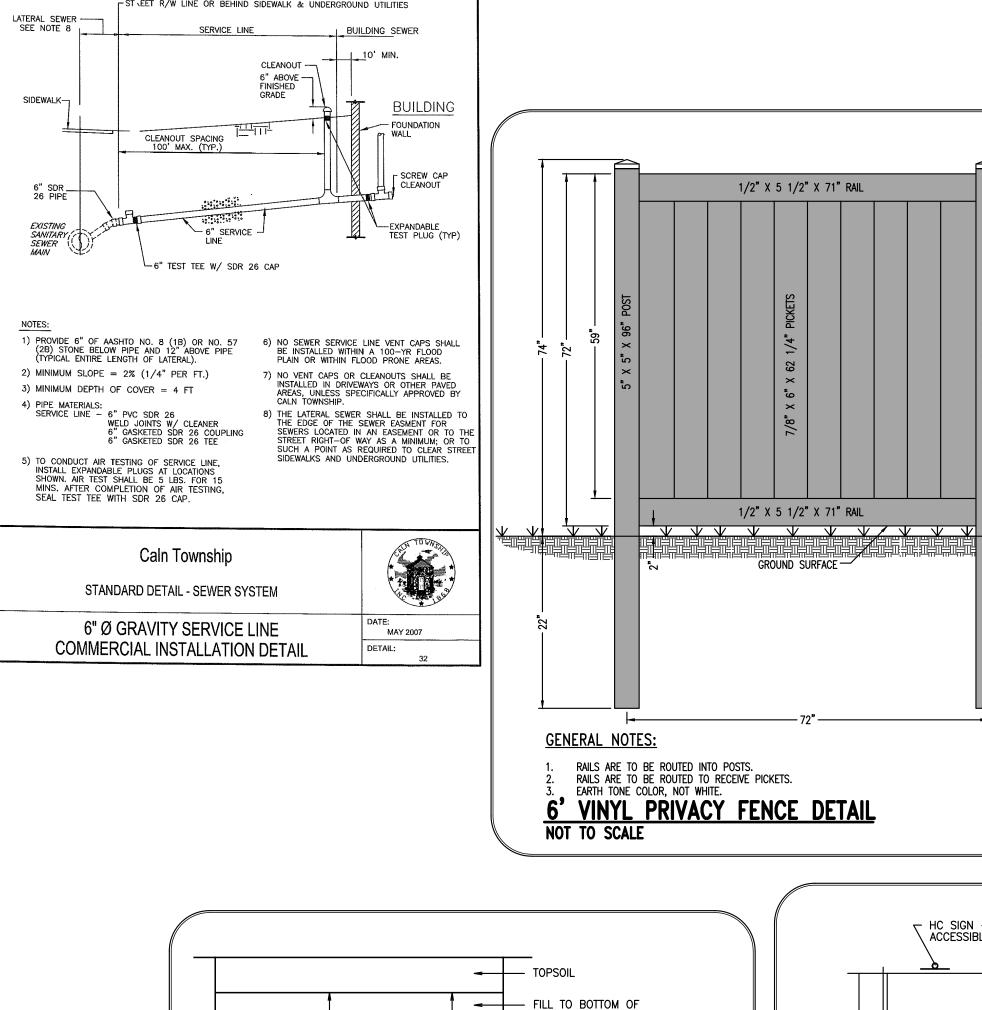


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RUCTION

8 7 9 8 4 5 6 7



TOPSOIL

APPROVED STRUCTURAL BACKFILL

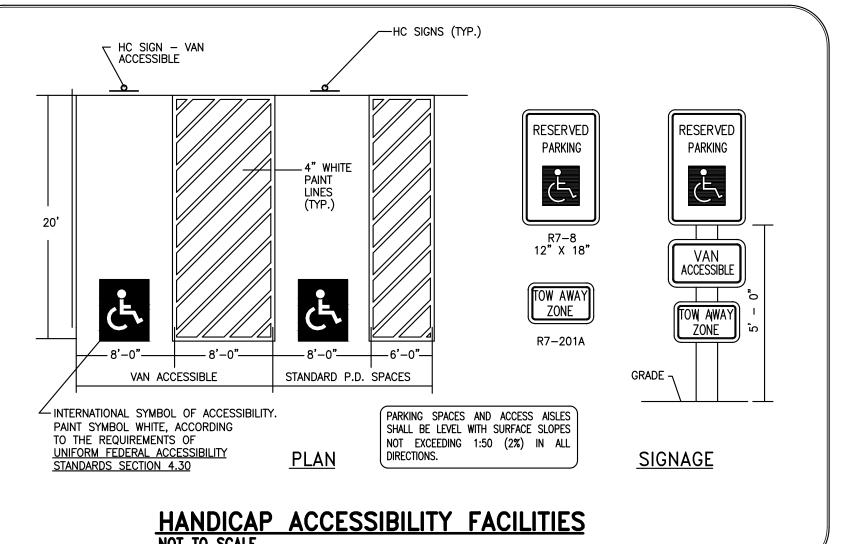
COMPACTED TO 90% OF. MAX. DENSITY

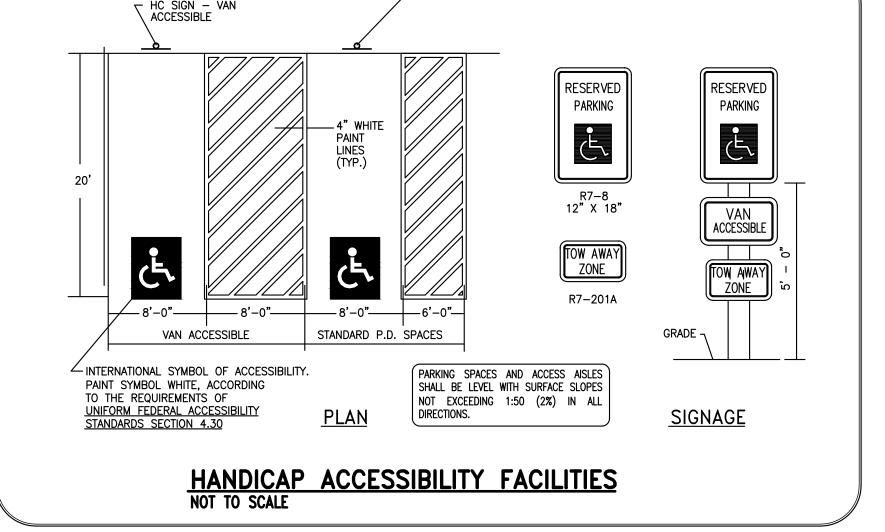
COMPACTED TO 95% OF MAX. DENSITY

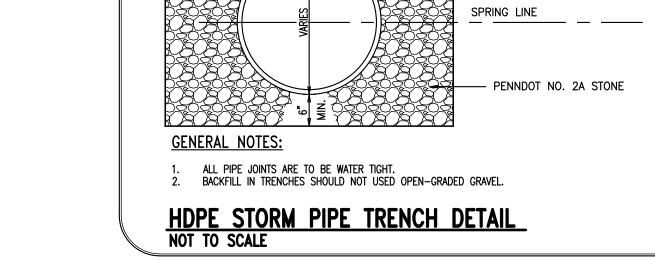
PLACED IN 8" MAX. LIFTS

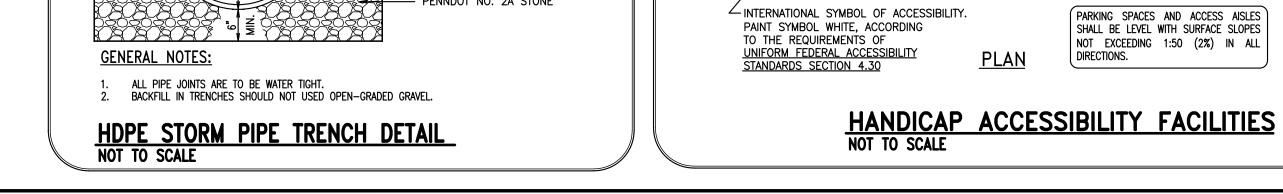
(OFF ROAD AREAS)

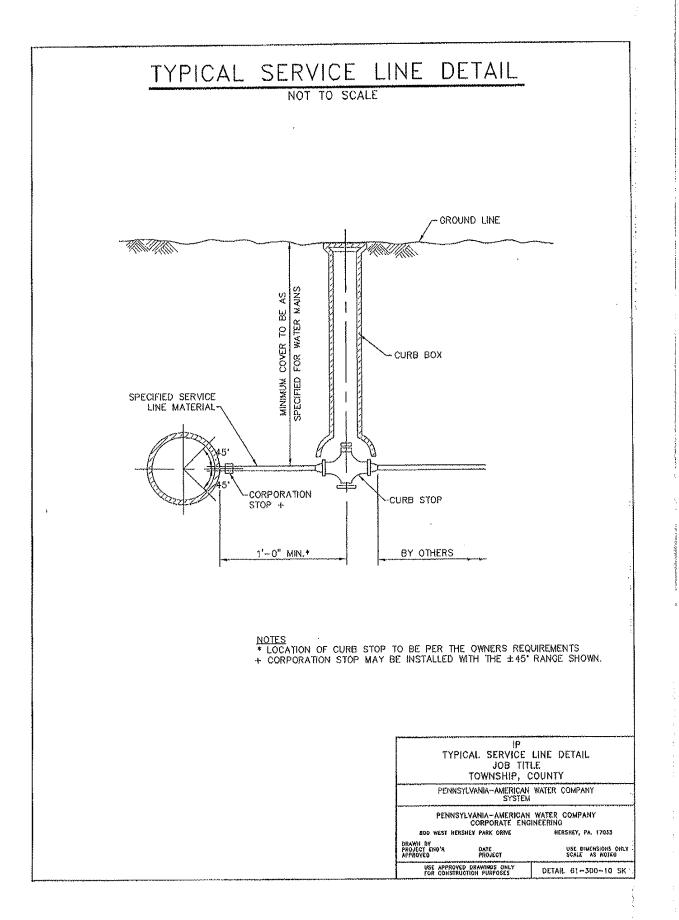
(PAVED AREAS)

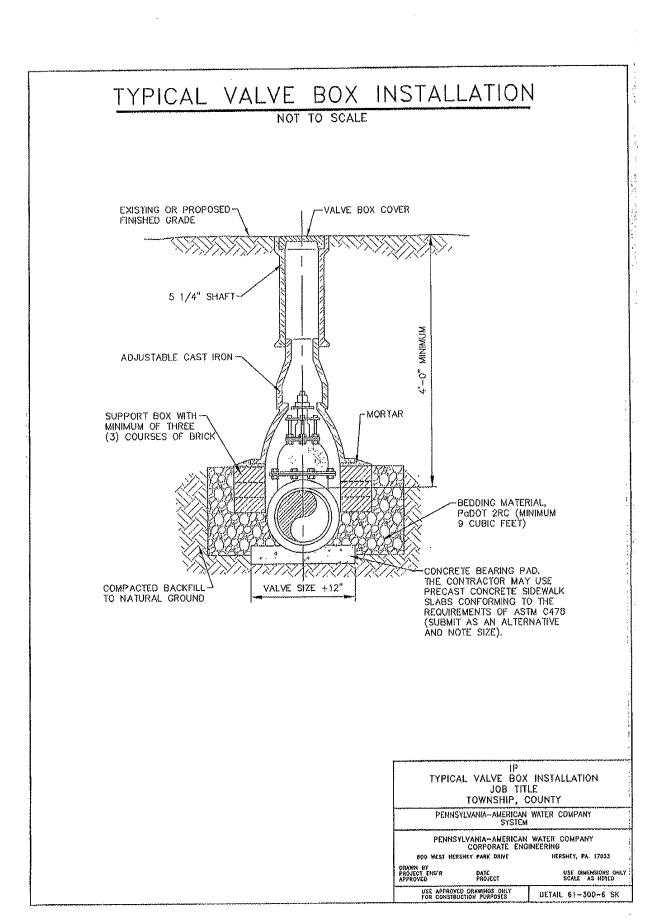


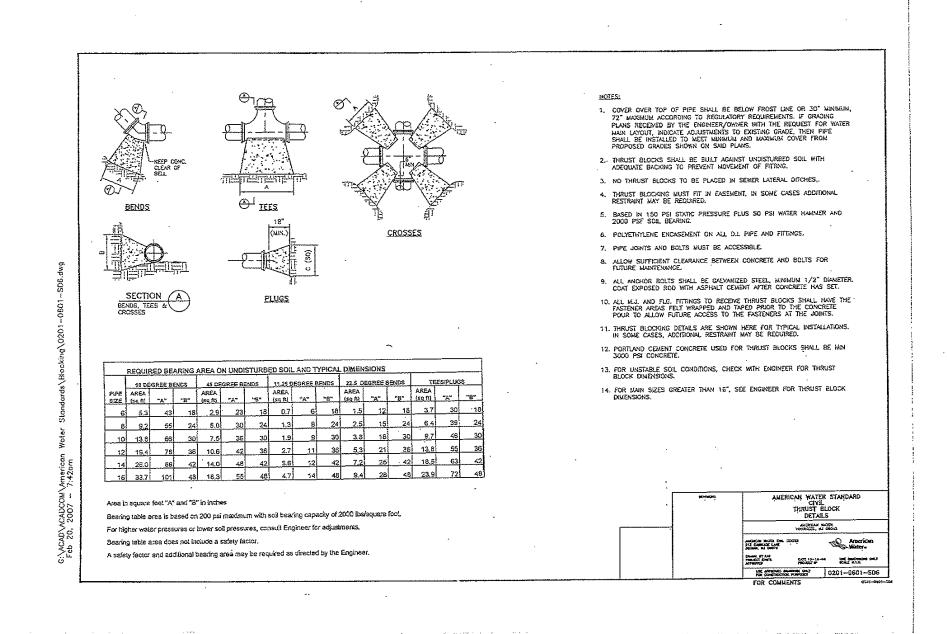


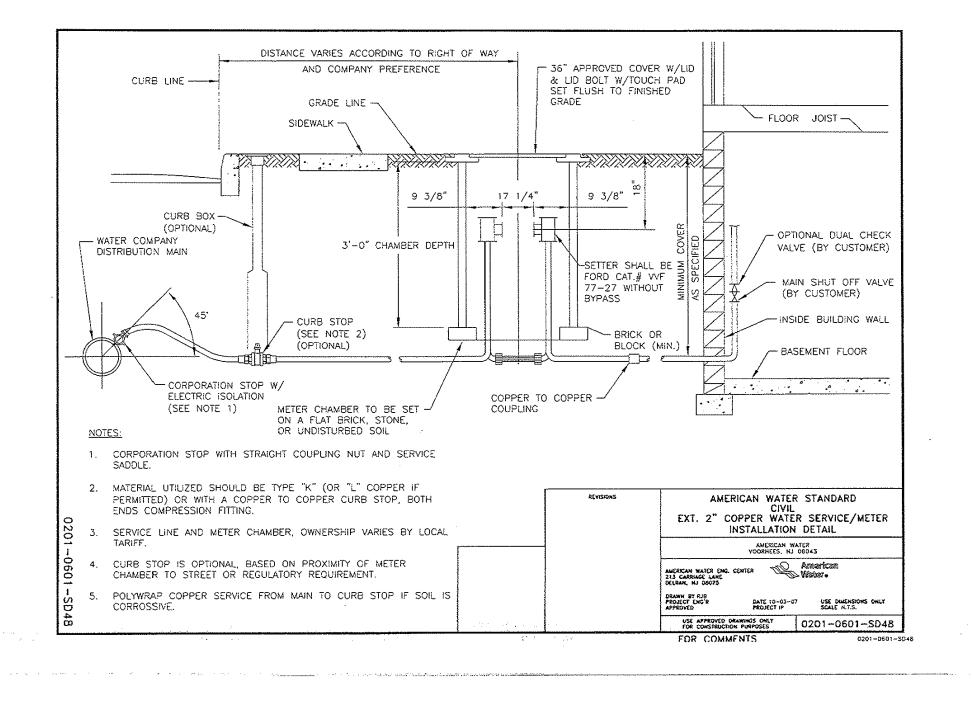


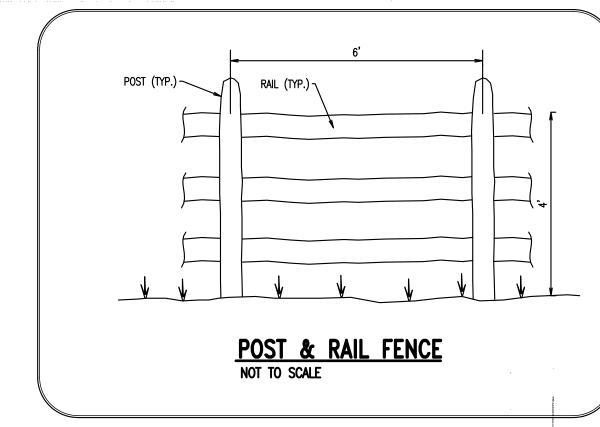


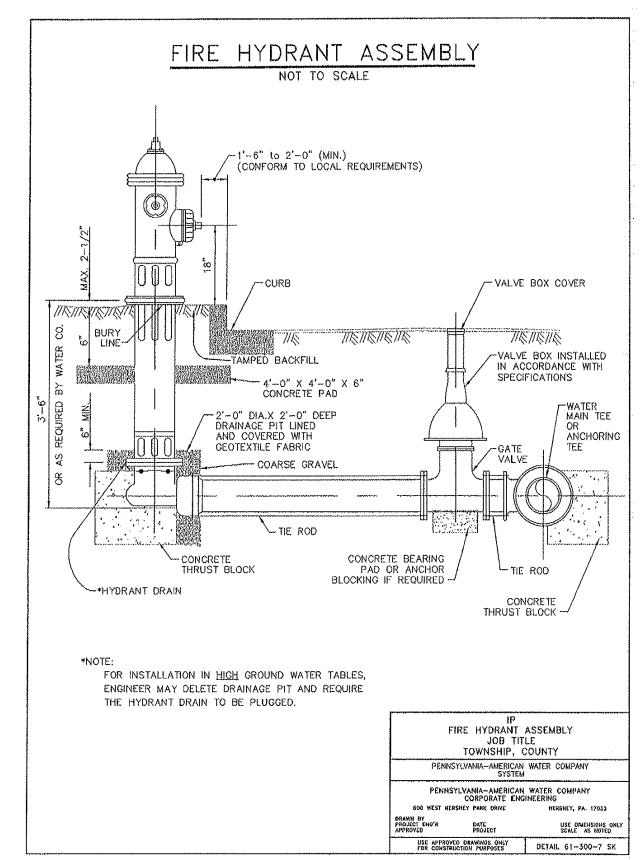


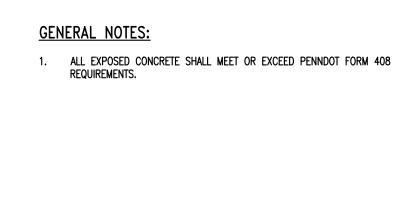


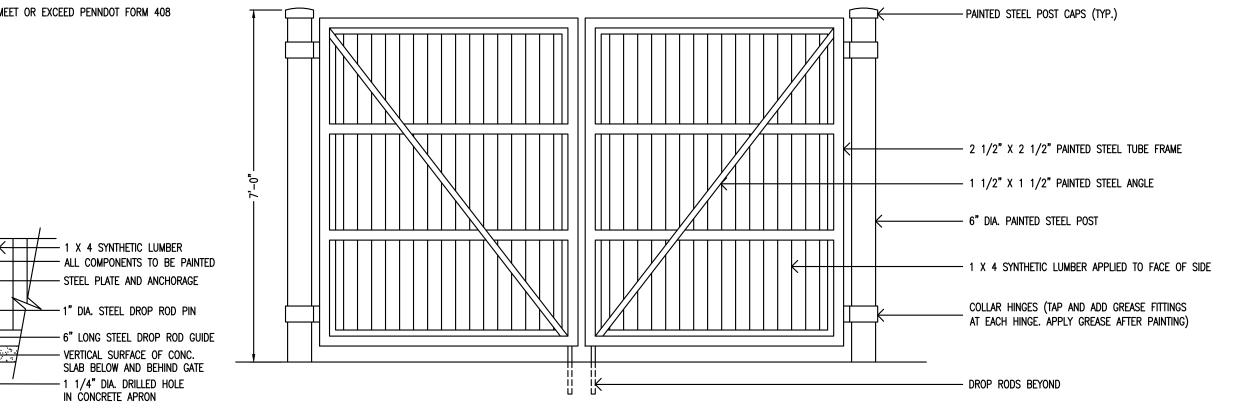




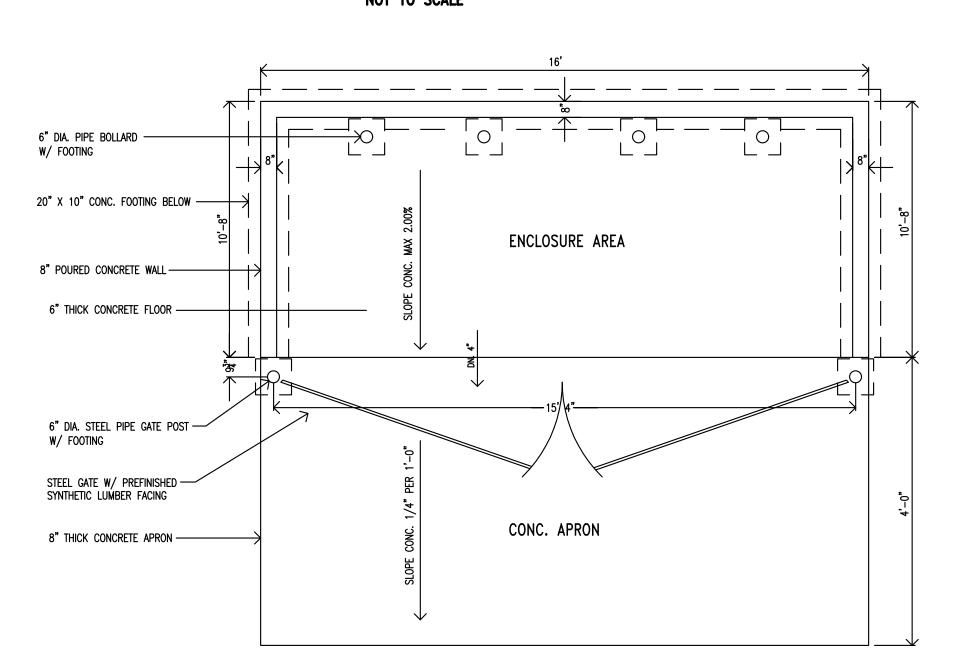




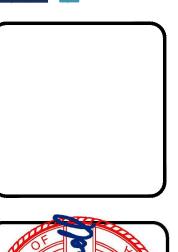


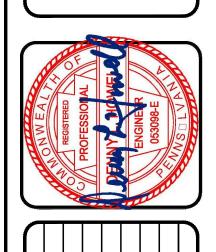


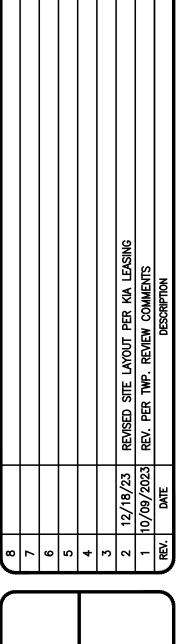
DUMPSTER ENCLOSURE GATE DETAIL NOT TO SCALE











CONSTRUCTION DETAILS
JIM SIPALA C/O SIPALA KIA
RIA AUTO LEASING
N: 2751 E. LINCOLN HIGHWAY

DATE: 04/07/23

SCALE: N.T.S.

DRAWN BY: ACB

CHECKED BY: JSR

PROJECT NO.:

4536

CAD FILE: 14 CONSTRUCTION DETAILS.dwg

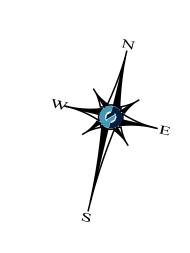
PLOTTED: 12/18/23

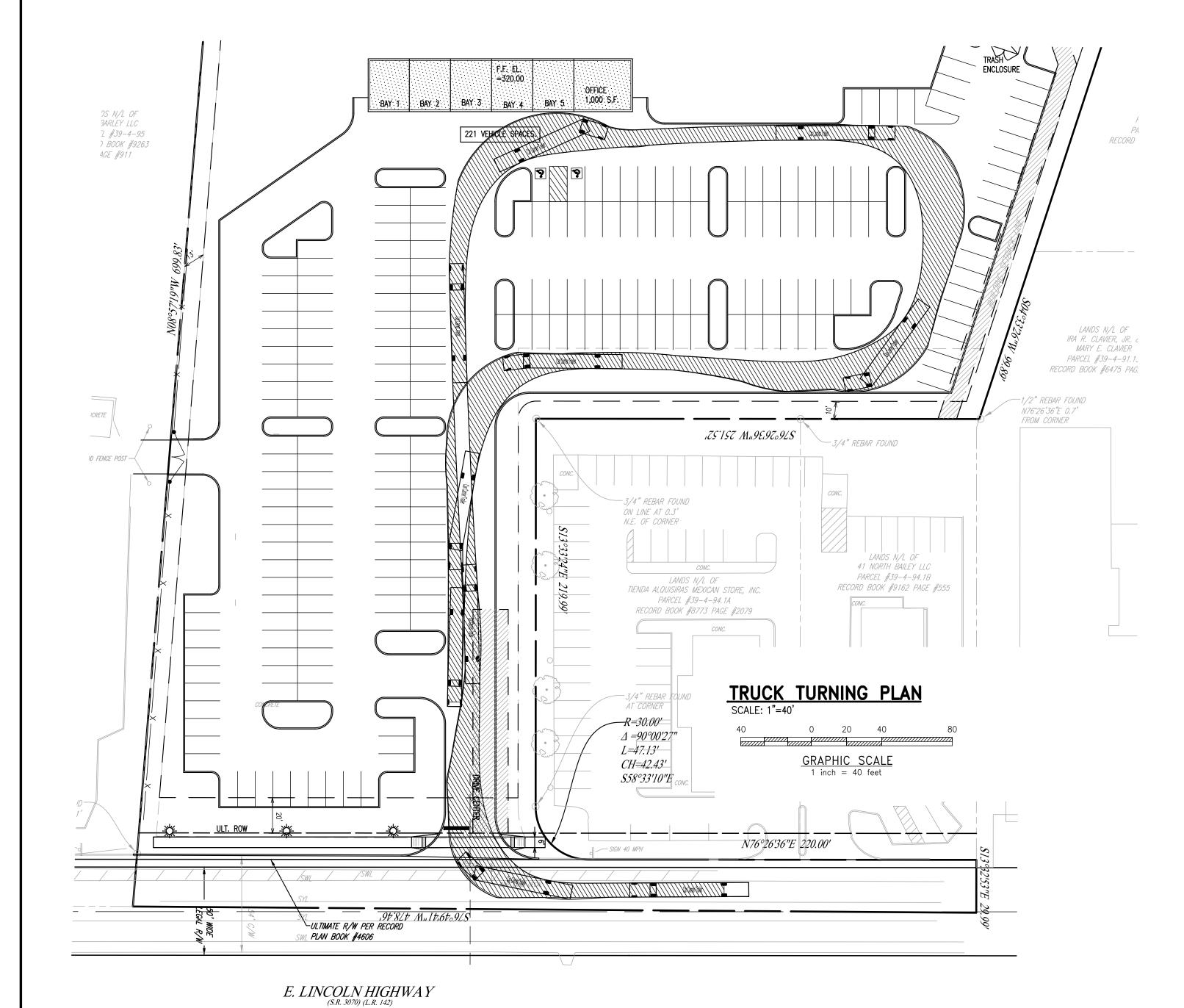
CONSTRUCTION DETAILS.dwg

D: 12/18/23

IG NO.:

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F.F. EL. =320.00 OFFICE 1,000 S.F. OS N/L OF BARLEY LLC PA RECORD 221 VEHICLE SPACES 7L #39-4-95 7 BOOK #9263 4GE #911 LANDS N/L OF IRA R. CLAVIER, JR. c MARY E. CLAVIER PARCEL #39-4-91.1. RECORD BOOK #6475 PAG N76°26'36"E 0.7' FROM CORNER 125.125 W"3E'32°372 10 FENCE POST — ON LINE AT 0.3' N.E. OF CORNER LANDS N/L OF TIENDA ALQUISIRAS MEXICAN STORE, INC. RECORD BOOK #9162 PAGE #555 PARCEL #39-4-94.1A RECORD BOOK #8773 PAGE #2079 TRUCK TURNING PLAN
SCALE: 1"=40" 0 20 40 L=47.13' $\frac{\mathsf{GRAPHIC} \quad \mathsf{SCALE}}{\mathsf{1} \quad \mathsf{inch} = \mathsf{40} \quad \mathsf{feet}}$ CH=42.43' S58°33'10"E N76°26'36"E 220.00'

E. LINCOLN HIGHWA Y

TRUCK TURNING PLAN SCALE: 1"=40'

40 0 20 40 80

GRAPHIC SCALE

1 inch = 40 feet

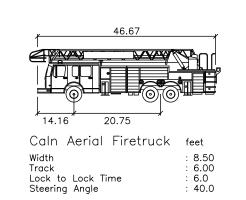


TRUCK TURNING PLAN SCALE: 1"=40'

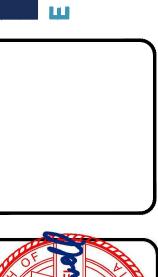
40 0 20 40 80

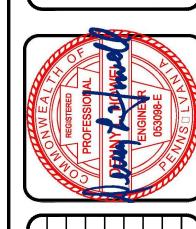
GRAPHIC SCALE

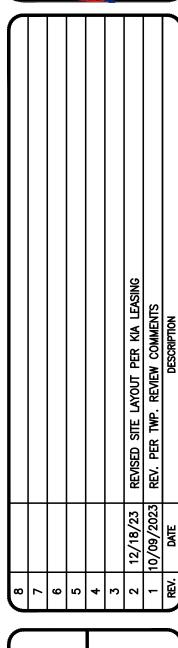
1 inch = 40 feet











TRUCK TURNING PLAN
JIM SIPALA C/O SIPALA KIA
KIA AUTO LEASING

DATE: 04/07/23

SCALE: 1"=40'

DRAWN BY: ACB

CHECKED BY: JSR

PROJECT NO.: 4536

A536

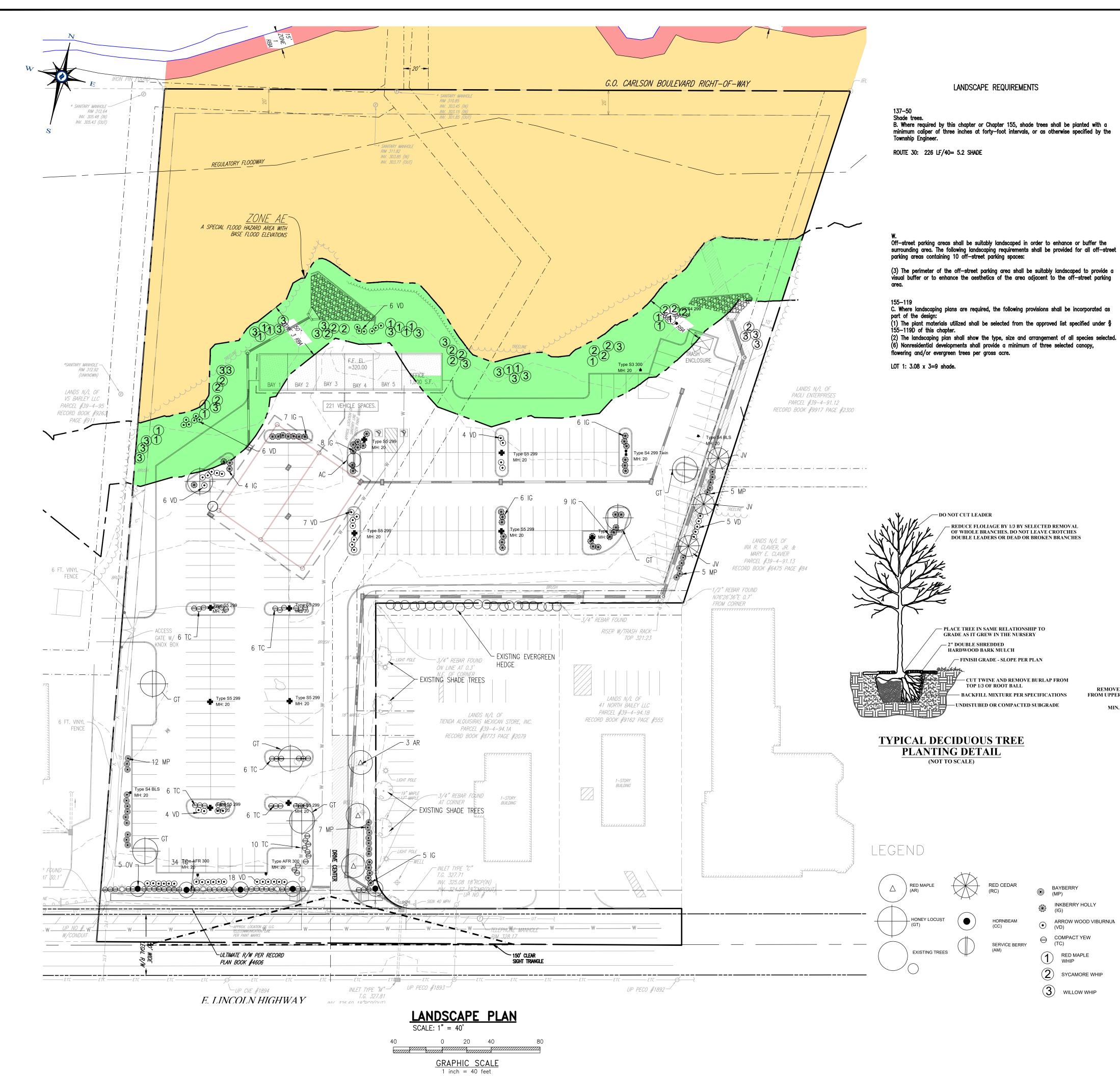
CAD FILE:
14 CONSTRUCTION DETAILS.dwg

PLOTTED:
12/18/23

DRAWING NO.:

SHEET 16 OF 18

Q:\CIVIL 3D JOBS\4536\4536 PRODUCTION PLANS\SHEET SET\SUBDIVISION & LD\14 CONSTRUCTION DETAILS.DWG



GENERAL SPECIFICATIONS

A. NOTES & PLANTING INSTRUCTIONS

- 1. THE EXECUTION OF THIS PLAN INCLUDES THE FURNISHING OF PLANT MATERIALS AS SPECIFIED, ACCURATE LAYOUT, SUFFICIENT TOPSOIL NUTRIENT ADDITIVES, PEAT MOSS, PLANTING, PRUNING, STAKING, WATERING, LABOR, CLEAN-UP AND ALL OTHER NECESSARY SERVICES TO EXECUTE THE PLANTINGS PROPERLY AND IN FULL ACCORDANCE WITH THESE SPECIFICATIONS AND DETAILS.
- 2. ALL PLANT MATERIALS ARE TO BE NURSERY GROWN, OF EXCELLENT LANDSCAPE QUALITY AND FREE FROM INSECTS AND DISEASES. FURTHERMORE, PLANTS SHALL HAVE BEEN GROWN FOR AT LEAST TWO YEARS IN THE SAME HARDINESS ZONE AS THE SITE.
- INSTALLATION TO BE IN ACCORDANCE WITH AMERICAN ASSOCIATION OF NURSERYMAN
- 4. PLANT SIZES SHALL BE A FAIR AVERAGE BETWEEN THE SIZE RANGE INDICATED. CALIPER SHALL BE MEASURED AT 4.5' ABOVE GROUND.
- TREES IN PAVED AREAS SHALL BE UNIFORM IN SHAPE, SIZE, AND CHARACTER. LOWEST BRANCHES SHALL BE AT LEAST 7' FROM GROUND.
- 6. IF TREES CANNOT BE LOCATED WHERE SHOWN DUE TO UTILITIES OR OTHER OBSTRUCTIONS, EXISTING OR PROPOSED, TREES SHALL BE RELOCATED IN THE FIELD AS APPROVED BY THE OWNER'S REPRESENTATIVE.
- 7. NO SUBSTITUTIONS ARE ACCEPTABLE UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE AND THE MUNICIPALITY.
- 8. LANDSCAPE CONTRACTOR TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF 18 MONTHS FROM THE DAY OF FINAL INSPECTION OF THE LANDSCAPE INSTALLATION BY THE MUNICIPALITY.
- 9. BACKFILL MIXTURE SHALL BE A MIXTURE BY VOLUME OF 3/4 TOPSOIL (TO BE PROVIDED ON SITE) AND 1/4 PEAT MOSS.
- 10. ALL SHRUBS AND GROUND COVER SHALL BE PLACED IN CONTINUOUS BEDS AS DELINEATED ON THE PLANS.
- 11. MULCH TO BE SHREDDED OAK BARK OR APPROVED EQUAL AND SPREAD TO A MINIMUM DEPTH OF 2 INCHES. 12. A PRE-EMERGENT HERBICIDE SUCH AS "TREPLAN" SHALL BE APPLIED TO ALL PLANTING
- BEDS ACCORDING TO MANUFACTURER'S RECOMMENDATION (PRIOR TO PLACEMENT OF MULCH). A SECOND APPLICATION OF PRE-EMERGENT HERBICIDE SHALL BE INCLUDED AS A PART OF THIS WORK.

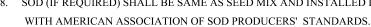
13. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE TO SELECT ALL PLANT

MATERIAL AT THE NURSERY AND APPROVE STAKING OF ALL PLANT MATERIAL LOCATIONS AT THE SITE BEFORE DELIVERY. 14. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR WATERING IN SUFFICIENTLY AT TIME

OF PLANTING AND UNTIL JOB IS COMPLETED AND TURNED OVER TO OWNER.

SEEDING SPECIFICATIONS:

- 1. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED. 2. SEEDING SHALL COMMENCE BETWEEN AUGUST 15 AND SEPTEMBER 30, OR BETWEEN MARCH 15 AND APRIL 30, AS WEATHER PERMITS AND/OR AS APPROVED BY THE
- OWNER'S REPRESENTATIVE. 3. TOPSOIL USED FOR SEEDING IS STOCKPILED ON SITE. TOPSOIL SHALL BE SPREAD TO A DEPTH OF 6" AND FIND GRADED, REMOVING ALL DEBRIS AND STONES LARGER THAN 1".
- REMOVE FROM THE SITE ALL DEBRIS AND STONES. 4. INCORPORATE BY DISCING INTO THE TOP 2" OF THE TOPSOIL THE FOLLOWING: A) AGRICULTURAL LIMESTONE AT 50 LBS./1000 S.F.
- B) FERTILIZER (5-10-5) AT 30 LBS./1000 S.F. 5. SEEDING MIX: APPLY GRASS SEED COMPOSED OF THE FOLLOWING VARIETIES WHICH SHALL BE MIXED IN THE PROPORTIONS AND SHALL TEST THE MINIMUM PERCENTAGES OF PURITY AND GERMINATION SPECIFIED.
- MIXTURE A: (SEED RATE @ 4-1/2 LBS./1,000 S.F. OR 200 LB./ACRE PROP. MIN. % MIN. % MAX % GERMINATION PURE SEED WEED SEED BY WT. COMMON NAME HYBRID KY BLUEGRASS
- HYBRID TURF TYPE TALL FESCUE HYBRID PERENNIAL RYE 6. FIRM SEED BED WITH ROLLER AND MULCH WITH SALT HAY AND ASPHALTIC TACK COAT OR HYDRO MULCH AT THE RATE OF 1,500 LBS. PER ACRE. 7. ALL LAWN WORK INCLUDING THE REPAIR OF WASHOUTS, GULLIES, ETC., SHALL BE
- GUARANTEED FOR ONE CALENDAR YEAR FROM THE DATE OF COMPLETION OF 8. SOD (IF REQUIRED) SHALL BE SAME AS SEED MIX AND INSTALLED IN ACCORDANCE





TYPICAL EVERGEEN

TREE PLANTING DETAIL

(NOT TO SCALE)

(3)EVERGREENS

5' HT. VINYL FENCE EXISTING EVERGREEN HEDGE

(73)SHRUBS

REMOVE BURLAP FROM **UPPER 1/3 OF BALL**

- SOIL-PEAT MIXTURE • 2 PARTS EXIST. SOIL • 1 PART TOPSOIL • 1 PART PEAT

TYPICAL SHRUB PLANTING DETAIL (NOT TO SCALE)

REMARKS

Matched Specimens

Full branched

SINGLE STEM

MULTI- STEM

B&B

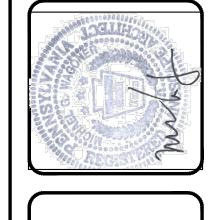
B&B

В&В

	PLANT LIST				
KEY	BOTANICAL NAME	COMMON NAME	QTY.	CAL.	ROOT
SHADE TR	<u>EE</u>				
AR	Acer rubrum'October Glory'	OCTOBER GLORY RED MAPLE	3	3 " MIN.	B&B
GT	Gledista triacanthos inermis	THORNLESS HONEYLOCUT	8	3 " MIN.	B&B
EVERGREE	EN TREE				
JV	Juniperus virginia	EASTERN RED CEDAR	3	6' min.	B&B
FLOWERIN	IG TREE				
OV	Ostrya virginiana	AMERICAN HOPHORNBEAM	5	10' min.	B&B
AC	Amelanchier canadensis	SERVICEBERRY	1	10' min.	B&B

SHRUBS				
MP	Myrica pennsylvanica	NORTHERN BAYBERRY	29	36" min.
VD	Viburnum dentatum	ARROW WOOD VIBURNUM	55	36" min.
IG	Ilex glabra	INKBERRY HOLLY	45	36" min.
TC	Taxus cuspitata 'nana'	DWARF JAPANESE YEW	74	36" min.
-				

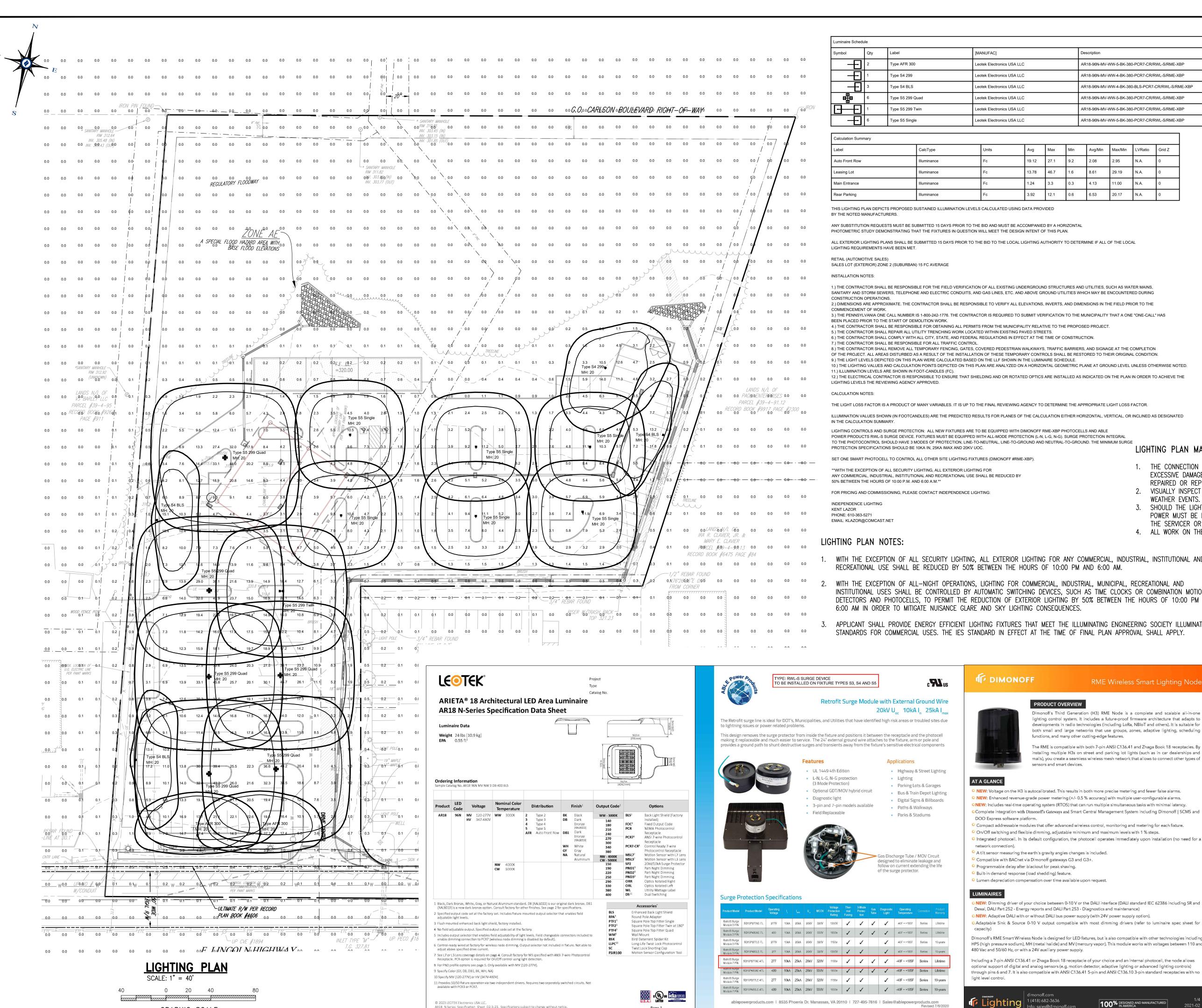
TC	Taxus cuspitata 'nana'	DWARF JAPANESE YEW	74	36" min.	B&B				
Restoration Whips									
1	Acer rubrum	RED MAPLE	17	1/2 " MIN.	CONT.				
2	Platanus occidentialist	SYCAMORE	16	1/2 " MIN.	CONT.				
3	Salix nigra	BLACK WILLOW	22	1/2 " MIN.	CONT.				



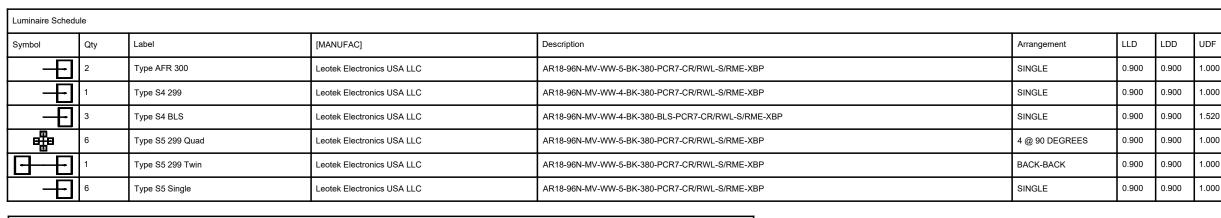
04/07/23 1"=40' CHECKED BY: JSR CAD FILE: 17 LANDSCAPE PLAN.dwg

> 12/18/23 17 of 18

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AR18 N Series Specification Sheet 02-3-23. Specifications subject to change without notice.



alculation Summary													
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	LVRatio	Grid Z				
Auto Front Row	Illuminance	Fc	19.12	27.1	9.2	2.08	2.95	N.A.	0				
Leasing Lot	Illuminance	Fc	13.78	46.7	1.6	8.61	29.19	N.A.	0				
Main Entrance	Illuminance	Fc	1.24	3.3	0.3	4.13	11.00	N.A.	0				
Rear Parking	Illuminance	Fc	3.92	12.1	0.6	6.53	20.17	N.A.	0				

THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED

ANY SUBSTITUTION REQUESTS MUST BE SUBMITTED 15 DAYS PRIOR TO THE BID AND MUST BE ACCOMPANIED BY A HORIZONTAL

PHOTOMETRIC STUDY DEMONSTRATING THAT THE FIXTURES IN QUESTION WILL MEET THE DESIGN INTENT OF THIS PLAN.

ALL EXTERIOR LIGHTING PLANS SHALL BE SUBMITTED 15 DAYS PRIOR TO THE BID TO THE LOCAL LIGHTING AUTHORITY TO DETERMINE IF ALL OF THE LOCAL

1.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD VERIFICATION OF ALL EXISTING UNDERGROUND STRUCTURES AND UTILITIES, SUCH AS WATER MAINS, SANITARY AND STORM SEWERS, TELEPHONE AND ELECTRIC CONDUITS, AND GAS LINES, ETC. AND ABOVE GROUND UTILITIES WHICH MAY BE ENCOUNTERED DURING

2.) DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL ELEVATIONS, INVERTS, AND DIMENSIONS IN THE FIELD PRIOR TO THE

5.) THE CONTRACTOR SHALL REPAIR ALL UTILITY TRENCHING WORK LOCATED WITHIN EXISTING PAVED STREETS.

6.) THE CONTRACTOR SHALL COMPLY WITH ALL CITY, STATE, AND FEDERAL REGULATIONS IN EFFECT AT THE TIME OF CONSTRUCTION.

8.) THE CONTRACTOR SHALL REMOVE ALL TEMPORARY FENCING, GATES, COVERED PEDESTRIAN WALKWAYS, TRAFFIC BARRIERS, AND SIGNAGE AT THE COMPLETION OF THE PROJECT. ALL AREAS DISTURBED AS A RESULT OF THE INSTALLATION OF THESE TEMPORARY CONTROLS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.

10.) THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT GROUND LEVEL UNLESS OTHERWISE NOTED. 12.) THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO ENSURE THAT SHIELDING AND OR ROTATED OPTICS ARE INSTALLED AS INDICATED ON THE PLAN IN ORDER TO ACHIEVE THE

ILLUMINATION VALUES SHOWN (IN FOOTCANDLES) ARE THE PREDICTED RESULTS FOR PLANES OF THE CALCULATION EITHER HORIZONTAL, VERTICAL, OR INCLINED AS DESIGNATED

LIGHTING CONTROLS AND SURGE PROTECTION: ALL NEW FIXTURES ARE TO BE EQUIPPED WITH DIMONOFF RME-XBP PHOTOCELLS AND ABLE

POWER PRODUCTS RWL-S SURGE DEVICE. FIXTURES MUST BE EQUIPPED WITH ALL-MODE PROTECTION (L-N, L-G, N-G). SURGE PROTECTION INTEGRAL TO THE PHOTOCONTROL SHOULD HAVE 3 MODES OF PROTECTION, LINE-TO-NEUTRAL, LINE-TO-GROUND AND NEUTRAL-TO-GROUND. THE MINIMUM SURGE

LIGHTING PLAN MAINTENANCE:

1. THE CONNECTION BETWEEN THE POLE AND BASE SHOULD BE INSPECTED YEARLY. ANY EXCESSIVE DAMAGE OR CORROSION TO THE MOUNTING HARDWARE OR POLE SHOULD BE REPAIRED OR REPLACED WHEN FOUND.

LIGHT POLE & BASE DETAIL

— LIGHT FIXTURE

SQUARE ALUM. POLE (SEE LIGHTING SCHEDULE &

SPECIFICATIONS)

- ANCHOR BOLTS PER MANUFACTURER SPECS.

- FINISHED GRADE

- RIGID METAL CONDUIT WITHIN 5 FT. OF

STUB-UP INTO BASE

BASE & FOR

- REINFORCED CONC. BASE

6 #5 REBAR @ 24"(*)

4 #5 REBAR @ 18"(*)

(*) CONFIRM W/ POLE

HÉIGHT & NUMBER OF

(3000 PSI @ 28 DAYS) W/

- BASE COVER

- VISUALLY INSPECT THE LIGHT FIXTURES FOR ANY SIGNS OF DAMAGE AFTER ANY EXTREMI
- SHOULD THE LIGHT FIXTURES NEED TO BE ADJUSTED OR REMOVED FOR ANY REASON, THE POWER MUST BE DISCONNECTED PRIOR TO ANY WORK TO PREVENT ELECTROCUTION OF THE SERVICER OR DAMAGE TO THE FIXTURE.
- 4. ALL WORK ON THE LIGHTS ARE TO BE DONE BY A QUALIFIED INDIVIDUAL.

45° CHAMFER (TYP) —

- WITH THE EXCEPTION OF ALL SECURITY LIGHTING, ALL EXTERIOR LIGHTING FOR ANY COMMERCIAL, INDUSTRIAL, INSTITUTIONAL AND RECREATIONAL USE SHALL BE REDUCED BY 50% BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM.
- WITH THE EXCEPTION OF ALL-NIGHT OPERATIONS, LIGHTING FOR COMMERCIAL, INDUSTRIAL, MUNICIPAL, RECREATIONAL AND INSTITUTIONAL USES SHALL BE CONTROLLED BY AUTOMATIC SWITCHING DEVICES, SUCH AS TIME CLOCKS OR COMBINATION MOTION DETECTORS AND PHOTOCELLS, TO PERMIT THE REDUCTION OF EXTERIOR LIGHTING BY 50% BETWEEN THE HOURS OF 10:00 PM AND
- APPLICANT SHALL PROVIDE ENERGY EFFICIENT LIGHTING FIXTURES THAT MEET THE ILLUMINATING ENGINEERING SOCIETY ILLUMINATION STANDARDS FOR COMMERCIAL USES. THE IES STANDARD IN EFFECT AT THE TIME OF FINAL PLAN APPROVAL SHALL APPLY.

PRODUCT OVERVIEW

Dimonoff's Third Generation (H3) RME Node is a complete and scalable all-in-one lighting control system. It includes a future-proof firmware architecture that adapts to developments in radio technologies (including LoRa, NBIoT and others). It is suitable for both small and large networks that use groups, zones, adaptive lighting, scheduling functions, and many other cutting-edge features.

The RME is compatible with both 7-pin ANSI C136.41 and Zhaga Book 18 receptacles. By installing multiple H3s on street and parking lot lights (such as in car dealerships and malls), you create a seamless wireless mesh network that allows to connect other types of sensors and smart devices.

- NEW: Voltage on the H3 is autocalibrated. This results in both more precise metering and fewer false alarms. NEW: Enhanced revenue-grade power metering (+/- 0.5 % accuracy) with multiple user-configurable alarms.
- ONEW: Includes real-time operating system (RTOS) that can run multiple simultaneous tasks with minimal latency. Complete integration with Dimonoff's Gateways and Smart Central Management System including Dimonoff | SCMS and
- Compact addressable modules that offer advanced wireless control, monitoring and metering for each fixture.
- On/Off switching and flexible dimming, adjustable minimum and maximum levels with 1 % steps.
- Ontegrated photocell. In its default configuration, the photocell operates immediately upon installation (no need for a
- A tilt sensor measuring the earth's gravity angles changes is included.
- Duilt-in demand response (load shedding) feature.
- Lumen depreciation compensation over time available upon request.

o NEW: Dimming driver of your choice between 0-10 V or the DALI interface (DALI standard IEC 62386 including SR and Dexal, DALI Part 252 - Energy reports and DALI Part 253 - Diagnostics and maintenance) NEW: Adaptive DALI with or without DALI bus power supply (with 24V power supply option).

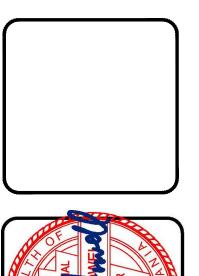
OAdaptable Sink & Source 0-10 V output compatible with most dimming drivers (refer to luminaire spec sheet for

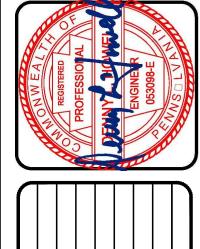
Dimonoff's RME Smart Wireless Node is designed for LED fixtures, but is also compatible with other technologies including HPS (high pressure sodium), MH (metal halide) and MV (mercury vapor). This module works with voltages between 110 and

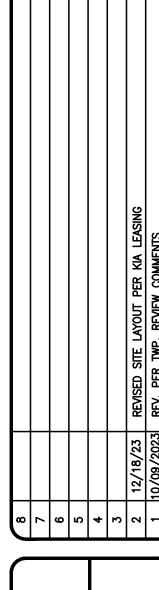
ncluding a 7-pin ANSI C136.41 or Zhaga Book 18 receptacle of your choice and an internal photocell, the node allows optional support of digital and analog sensors (e.g. motion detector, adaptive lighting or advanced lighting controls)

1 (418) 682-3636

100% DESIGNED AND MANUFACTURED IN AMERICA







PLAN LIGHTING

> 04/07/23 1"=40' ACB

CHECKED BY JSR 4536 CAD FILE: 17 LANDSCAPE PLAN.dwg 12/18/23

18 of 18

GRAPHIC SCALE 1 inch = 40 feet



ARRO Consulting, Inc. 1450 East Boot Road, Ste 100B West Chester, PA 19380 P: (484) 999-6150

VIA ELECTRONIC MAIL

January 18, 2024

Raymond Stackhouse, BCO Caln Township 253 Municipal Drive P.O. Box 72149 Thorndale, PA 19372

RE: Kia - 2751 Lincoln Highway

Preliminary Land Development Review 3

Caln Township ARRO No.: 11243.51

Dear Raymond:

As requested, we have completed a review of the Land Development Application submitted for the proposed Kia Dealership. A portion of the property includes a building foundation and pavement associated with a recently demolished building. The remaining portion is undeveloped and consists of meadow/grass vegetation and woodlands along with a studied FEMA floodplain.

The Plan proposes a 4,500 S.F. automobile leasing building and associated improvements to the undeveloped portion of the property.

I. SUBMISSION

The following information was received by ARRO:

- Preliminary Land Development Plan of Kia Auto Leasing, consisting of eighteen (18) sheets, dated April 7, 2023, last revised December 18, 2023, and prepared by Howell Engineering. (Plan)
- Post Construction Stormwater Management Report, cover sheet dated January 4, 2024, and prepared by Howell Engineering. (Report)
- Land Development Review Response letter dated January 4, 2024, and prepared by Howell Engineering.
- Sanitary Sewer Plan Review Response letter dated January 4, 2024, and prepared by Howell Engineering.
- Traffic Review Response letter dated January 4, 2024, and prepared by Howell Engineering.
- Environmental Impact Study Report dated October 9, 2023, last revised January 4, 2024, and prepared by Howell Engineering.

Corporate Headquarters - 108 West Airport Road, Lititz, PA 17543 P: (717) 569-7021 | www.arroconsulting.com

• PennDOT transportation impact study determination and scoping meeting application, dated September 6, 2022.

II. APPLICABLE ORDINANCES

The plans and reports have been reviewed for compliance with Caln Township Code:

- Chapter 74 Driveway Ordinance
- Chapter 88 Grading, Erosion and Sediment Control
- Chapter 135 Stormwater Management Ordinance
- Chapter 137 Subdivision and Land Development Ordinance
- Chapter 155 Zoning Ordinance

III. RELIEF REQUESTED

The Applicant is seeking relief from the following sections of the Caln Township Ordinances.

1. §135-305.A: The Post-construction total runoff volume shall not exceed the Predevelopment total runoff volume for all storms equal to or less than the two (2) - year, twenty-four (24) - hour duration precipitation (design storm). The water quality and runoff volume to be managed shall consist of any runoff volume generated by the proposed Regulated Activity over and above the Predevelopment total runoff volume and shall be captured and permanently retained or infiltrated on the Site. Permanent retention options may include, but are not limited to, reuse, evaporation, transpiration, and infiltration.

The Applicant has proposed a lined underground Managed Release Concept (MRC) stormwater facility to manage the proposed stormwater volume increase as an alternative to the required volume reduction. The previously provided waiver request letter is inconsistent with the Plan as to the type of stormwater facility which is proposed. The letter shall be revised accordingly. ARRO offers no objection to this waiver request provided that the related comments below are addressed.

2. §135-306: Infiltration Requirements

Providing for infiltration consistent with the natural hydrologic regime is required to compensate for the reduction in the recharge that occurs when the ground surface is disturbed, or Impervious Surface is created or expanded.

The Applicant has proposed a lined underground Managed Release Concept stormwater facility to manage the proposed stormwater volume increase as an alternative to the required infiltration. The previously provided waiver request letter

shall be revised to refer to §135-306 and to correct the type of stormwater facility which is proposed. The previously provided Geotechnical Report recommends against infiltration due to subsurface geology and karst conditions. ARRO offers no objection to this waiver provided related comments below are addressed.

3. §135-311.C: Minimum grade, size, and cover. All storm drainpipes shall be designated to maintain a minimum grade of 1% unless otherwise approved by the Board of Commissioners. All storm pipes, other than those used for roof drains and street subbase underdrains, shall have a minimum inside diameter of 18 inches. All storm sewers shall have a minimum cover of 18 inches from the top of pipe to finished grade. The specifications for the pipe materials shall be determined by the Township Engineer based upon a schedule of acceptable pipe materials which shall be adopted by the Board of Commissioners by resolution, which may be amended from time to time. All pipe backfill details must be approved by the Township Engineer.

The Applicant has requested the use of stormwater pipes at a slope of less than 1%. The pipes have been designed to convey runoff from the 100-year design storm. ARRO offers no objection to this waiver.

IV. REVIEW COMMENTS

We offer the following comments for your consideration.

A. Chapter 135 - Stormwater Management

1. §135-302: Permit requirements by other governmental entities.

Chester County Conservation District approval must be provided prior to final Plan approval.

§135-402: The SWM Site Plan shall consist of a general description of the project including items described in Section 304, calculations, maps, and plans. A note on the maps shall refer to the associated computations and Erosion and Sediment Control Plan by title and date. The cover sheet of the computations and Erosion and Sediment Control Plan shall refer to the associated maps by title and date.

The reference to the Plan on the Report cover is inconsistent with the latest revision date on the Plan. The cross-reference notes on both Plan and Report shall be updated with the final revision date prior to final approval.

2. §135-402.A(2): A listing of all regulatory approvals required for the proposed project and the status of the review and approval process for each. Final approval or adequacy letters must be submitted to the municipality prior to (or as a condition of) the municipality's issuing final approval of the SWM site plan.

Final approval/adequacy letters shall be provided for all required regulatory approvals including, but not limited to, the PADEP sewer planning, Chester County Conservation District & PADEP NPDES permit, and PennDOT highway occupancy permit.

3. §135-702: The following information shall be included in the O&M plan and written in a manner consistent with the knowledge and understanding of the person who will be responsible for the maintenance activities...

The Long term operation and maintenance schedule on sheet 6 includes a statement that "If the MRC BMP will manage flows in excess of the 2-year/24 hr. storm event, the system shall be inspected and maintained quarterly to ensure proper function." This statement is not "consistent with the knowledge and understanding of the person who will be responsible for the maintenance activities" as required by the ordinance. The owner should not be expected to determine if the BMP will manage flows in excess of the 2-year storm. The required frequency of inspections should be determined by the responsible professional engineer and clearly stated for the owner. The inspection frequency in the "inspection" section is inconsistent with the above-referenced statement.

4. §135-702(3): A description of actions necessary to operate, inspect, and maintain each BMP or conveyance, including but not limited to...

Long term operation and maintenance schedule for inlet water quality filters is not clear as to the required frequency of inspections. The notes shall provide guidance as to what is required to be inspected and how to determine when maintenance or vacuuming is required.

5. §135-703: Operation and Maintenance Agreements

A stormwater management Operation and Maintenance Agreement for the BMP must be completed, executed, and submitted to the Township prior to the execution and recording of the Final Plans.

6. §135-704: Easements and Deed Restrictions

The drainage easement(s) for stormwater conveyance(s) from adjacent lot(s) across the subject parcel to the discharge into the stream easement must be twenty (20) feet wide as per §135-704A(2).

7. §135-802: Prohibited connections

The Plan shall include a note that no wash water or other non-stormwater may be discharged to a storm sewer system.

B. Managed Release Concept (MRC) Design Standards Comments

The following comments shall be addressed to demonstrate compliance with PADEP standards for MRC stormwater management facilities.

- 8. The equivalent impervious area draining to the MRC is inconsistent in item 2 on page 5 of the Report (1.26 ac vs 2.08 ac) and the numbers in the narrative are inconsistent with the MRC worksheet on page 99 of the Report. (2.02 ac).
- 9. The MRC ponding depths (Report page 100) should be measured from the bottom BMP elevations. The 2-yr storm ponding elevation is 315.58 ft (Report page 39) and the bottom of the BMP is 312.75 ft. The 100-yr storm ponding elevation is 317.58 ft (Report page 79). The ponding depths exceed PADEP maximums when measured from the bottom of the BMP.
- 10. The MRC media depth on page 100 of the Report is inconsistent with the Plan.
- 11. The MRC separation distance (> 2 ft on Report page 100) is inconsistent with shallow groundwater as the explanation for impermeable liner (on Report page 99).

C. Chapter 137 – Subdivision and Land Development

12. §137-29.A: Utility easements shall be a minimum of 20 feet wide, except in the case where the utility easement is situated between two buildings in which case the width shall be a minimum of 30 feet wide. The utility easement shall to the fullest extent possible be centered on or be adjacent to rear or side lot lines. Local utility companies shall be consulted by the developer when locating easements.

The Plan shows an existing gas line across the property connecting to the building on the adjacent parcel. The Plan shall show an easement for the existing gas line. The Applicant shall coordinate with the local utility company and/or adjoining property owner, as necessary.

13. §137-29.B: Where a subdivision or land development is traversed by a watercourse, drainageway channel or stream, there shall be provided a drainage easement conforming substantially to the line of such watercourse, drainageway, channel or stream and of such width as will be adequate to preserve the unimpeded flow of natural drainage, or for the purpose of widening, deepening, relocating, improving or protecting such drainage facilities or for the purpose of installing a stormwater sewer.[1]

A drainage easement shall be provided for the Valley Run drainageway across the property. The drainage easement shall include the regulatory floodway as a minimum. It is acceptable to add a note that a drainage easement as required by §137-29B is provided to the zone 2 riparian buffer line.

14. §137-31: Public facilities and open space

The Applicant has requested to pay fee in lieu of the required open space. ARRO offers no objection and defers to the Board of Commissioners regarding the Applicant's request.

D. Chapter 155 - Zoning

- 15. §155-38.G: Unless otherwise exempted from the carbonate geological requirements of this Code, all persons or applicants seeking building, construction, subdivision and/or land development approval shall submit an environmental impact assessment (EIA) report to Caln Township for review and consideration.
 - (1) Unless otherwise directed by Caln Township, the format and contents of the EIA report should be as follows:
 - (a) Statement of purpose: This section shall indicate the design standards specified by this section of the Code have been addressed and whether the applicant is attempting to demonstrate compliance or justify noncompliance with those design standards.
 - (d) Proposed mitigation measures: This section shall describe all measures proposed by the applicant to control potential and adverse environmental impacts which may occur as a result of the proposed

- action and as identified by the Caln Township Engineer in his report on the application.
- (e) List of professional and qualifications: The names, addresses, telephone numbers, resumes and qualifications of the persons directly responsible for preparing the EIA report shall be provided.
- a. The EIA report shall address the specific requirements of §155-38.G.(1) (a), (d) and (e).
- b. The EIA Report narrative (on page 2) is inconsistent with the Plan and the soils report (Appendix E) as to the soil types present on the property.
- c. The EIA Report narrative is inconsistent with the Plan as to stormwater management proposed on the site. The report should mention the proposed subsurface stormwater management BMP.
- d. EIA report should describe expected auto detailing/preparation activities and management of potential adverse effects including, but not limited to, cleaning products, paint, oils, grease, wash water, dust/filtration, etc.
- e. The EIA Report narrative (on page 5) is inconsistent with the Plan as to the number of lots proposed.
- f. The site plan attached to the EIA Report (Appendix D) is inconsistent with the latest land development plan.
- g. The EIA Report narrative appears incomplete and ends mid-sentence (on page 5).
- 16. §155-38H: No structure, land area or water body shall be used or developed, and no structure shall be located, extended, converted or structurally altered within the Carbonate Geology Overlay District unless it conforms with the following standards and regulations:
 - §155-38.H(6): No stormwater management basin or other associated facilities shall be placed in or over the following features: sinkholes, closed depression, fracture traces, lineament, ghost lake, springs or disappearing streams (places where surface drainage enters the ground). Where necessitated by proximity to such features, basins may be required to be lined or otherwise constructed to preclude the opening of sinkholes and depressions arising as a consequence of water infiltration into carbonate formations.
 - §155-38.H(7): Buildings and structures proposed to be constructed within the influence of a sinkhole, closed depression, lineament, fracture trace, spring, ghost lake or disappearing stream shall be designed so as to provide adequate control and dispersal of water in order to reduce the hazard of building damage due to collapse or subsidence. All measures proposed to be used by the applicant to control adverse impacts shall be subject to the approval of the Caln Township Engineer.

§155-38.H(8): All underground sewer and water utilities, roadbeds, curbs, sidewalks and culverts proposed to be constructed and installed in areas evidencing carbonate formations shall be adequately protected from collapse, leakage and other hazards that contribute to or arise from collapse or subsidence, as required by the Caln Township Engineer or other qualified consultant.

PaGEODE shows mapped surface depression(s) on the property. Some of the recommendations of the previously provided Geotechnical Investigation and Carbonate Rock Karst Site Assessment have been noted on the Plan. The Geotechnical Report also recommends that a geotechnical engineer be present during earthwork to recognize areas of concern. The Geotechnical Report also recommends further investigation of the potential sinkhole on the site. These recommendations shall be noted on the Plan. The proposed sinkhole investigation and potential remediation shall be described on the Plan.

17. §155-73: Automobile sales and automobile service stations

The Applicant shall explain how the project conforms with §155-73. The Applicant shall provide a detailed explanation of the specific activities proposed for this parcel and how the use will not constitute automobile sales or service as defined in §155-12:

- AUTOMOBILE LEASING: Any building or land area devoted to leasing of vehicles. Such use shall not permit the retail sale of vehicles.
- AUTOMOBILE SALES: Any building or land area devoted to the sale of new or used vehicles, including customary service and repair facilities within an enclosed building.
- AUTOMOBILE SERVICE STATION: Any building or land area devoted to the repair, servicing, restoration, reconstruction and maintenance of vehicles, including the retail sale of gasoline, motor oil, car washes, batteries and other similar vehicular accessories.

The Plan shall include notes to specify exactly what the proposed use will include and what auto sales/service activities will not be permitted on the property consistent with the ordinance.

18. §155-119C(7) All selected trees shall be planted a minimum of 10 feet outside of the legal right-of-way of all existing and proposed streets.

All trees shall be planted a minimum of 10 feet outside the proposed legal right of way.

- 19. §155-119.D: The following is an approved list of selected trees, hedges and/or shrubs, which may be utilized to meet the standards and specifications for buffer yards and landscaping.
 - Ostrya Virginiana, American Hophornbeam shall be identified as a canopy tree, not a flowering tree, and shall be minimum 3-inch caliper (not 10' height).
- 20. §155-124.C(2): The lighting plan shall include a schematic layout of all proposed exterior fixture locations, ISO footcandle data and a plat demonstrating intensities and uniformities within the limitations established within this section of the Code, as well as the manufacturer's description of the equipment (catalog cuts), glare control devices, lamps, mounting heights and means, proposed hours of operation of the lighting and maintenance schedule. Illumination intensities shall be plotted on a ten-foot-by-ten-foot grid.

The Plan shall include the mounting heights the detail refers to the schedule, but the schedule does not list the mounting heights.

Detail(s), description(s), and installation information for the proposed streetlights shall be included on the lighting plan. The intensities shown on the Plan shall include the proposed streetlights.

21. §155-124.D(4): In no case shall illumination exceed 0.5 footcandle measured at the property lines, except at driveway entrances, provided the illumination at the cartway center line of the contiguous street shall not exceed 1.0 footcandle, unless a more stringent standard is ordered by the Board under the circumstances of each application.

The lighting plan shows intensities exceeding 0.5 footcandle beyond the property line along the eastern side of the lot.

E. Department of Building and Life Safety Comments

22. Provide water modeling and fire flow information and data for consistency with requirements of Section 137- 47 A, B, C, D, and G, Appendix B Section B105.1 and Table B105.1 and Section 507 of the 2018 International Fire Code.

F. General Comments

- 23. All signature blocks within the Plan shall be signed, dated, sealed, and notarized as appropriate prior to recording.
- 24. All legal instruments, as determined necessary and appropriate by the Township Solicitor, should be submitted for review and approval by the Township Solicitor prior to recording. For each legal instrument requiring a legal description (and accompanying plat, if determined necessary by the Township Solicitor), such legal description (and accompanying plat, if appropriate) should be provided to the Township Engineer for review and approval prior to recording.
- 25. The Plan shows disturbance extending onto the adjacent properties. The Applicant shall provide a copy of agreement(s) with the adjoining landowner authorizing such work.
- 26. The MRC ponding times listed on page 126 of the Report show an inverse relationship between ponding time and rainfall. Ponding time should be longer for larger storms. An explanation must be provided.
- 27. There are several black boxes on the Plan which appear to be contour elevation labels (including but not necessarily limited to sheet C03.1 in the Northeast area of the site).
- 28. The typical trench detail is inconsistent as to the proposed backfill. The detail shows AASHTO #57 stone as backfill which is inconsistent with general note 2 on the same detail.
- 29. The proposed number of thornless honey locust trees appears to be inconsistent between the plan and plant list (on sheet 17).
- 30. The proposed number of arrow wood viburnum shrubs appears to be inconsistent between the plan and plant list (on sheet 17).
- 31. The receiving water (Schuylkill River), as identified in item 12 on page 4 of the Report narrative, is inconsistent with the site location.
- 32. The PADEP worksheet rate control page (Report page 115) is almost completely blank.

- 33. The inlet filter schedule on sheet 8 (C04.4) is inconsistent with the PCSM Plan (sheet 5, C04.1) as to where inlet filters will be required.
- 34. The proposed level spreaders shall be aligned with the existing contour lines.

V. ADDITIONAL REVIEWS

The comments contained in the following review letters must be addressed prior to final plan approval:

- Pennoni review letter, dated June 14, 2023.
- Gilmore & Associates, Inc, dated January 9, 2024.

This letter should not be considered as our all-inclusive comments; future reviews may provide additional comments as additional information is provided by the applicant.

Please do not hesitate to contact me via email at lowell.leaman@arroconsulting.com or by phone at our West Chester office with any questions.

Sincerely,

Lowell B. Leaman, P.E.

ARRO Consulting, Inc. - Township Engineer

LBL:law

c: Kristin S. Camp – Township Solicitor

Elizabeth Nagy – Planning Commission Secretary

Michael W. Schneider – Township Traffic Engineer

DMS Realty LP c/o Jim Sipala (Applicant) – jsipala@jimsipalakia.com

Open Hand Realty, LLC (Owner of Record) – jsipala@jimsipalakia.com

Louis J. Colagreco Jr., Esquire (Project Attorney) – lou@rrhc.com

DL Howell & Associates, Inc. (Project Engineer) – jrussella@knowhowell.com

Karl Schmit - ARRO

January 9, 2024

Scot Gill, Director of Wastewater Operations Caln Township 253 Municipal Drive Thorndale, PA 19372

Reference: Preliminary Land Development Plan

Sipala Kia Auto Leasing (2751 Lincoln Highway)

Sanitary Sewer Plan Review (3)

File No. 23-04040

Dear Scot:

In accordance with the Township's request, we have completed our review for the above-referenced project, relative to sanitary sewer service. The reviewed items consist of the following:

■ Eighteen (18) sheet Preliminary Land Development Plan set dated 04/7/2023, last revised 12/18/23, prepared by D.L. Howell & Associates, Inc.

We offer the following review comments for your consideration:

1. The applicant has indicated that "a copy of the finished inspection of the existing sewer system shall be provided when received". The various items listed in this comment have not yet been resolved, so the remainder of this comment has been duplicated from our previous review letter. The existing sanitary sewer in the project area is a privately owned and operated system which we believe serves parcels 39-4-94.1, 39-4-94.1A, 39-4-94.1B, and 39-4-95. It is our understanding from previous projects that, since the system serves multiple properties, in order for this project to be approved by PADEP the sewer system must be publicly owned and operated. The applicant shall contact PADEP to obtain a written determination as to whether the existing sewer system serving multiple properties may remain privately owned and operated or if it must be operated by the Caln Township Municipal Authority, and provide that determination to CTMA. Even if the system were to remain privately owned, additional wastewater flows are proposed and at minimum the sewer line would need to be inspected by CCTV from the proposed lateral tap to the downstream end of the private sewer system to verify that it is in adequate condition to receive additional flows. If any issues are identified that would be exacerbated by additional flows, they will need to be corrected prior to receiving the additional flows. A copy of any agreements between the owners of the privately owned sewer system shall be submitted for review by the Authority Solicitor so that it can be verified that the applicant has the right to connect to the privately owned sewer system.

If PADEP determines that the system must be publicly owned and operated, then the following comments shall apply:

- a. The existing system from CTMA MH67 to the upstream end of the existing privately owned system shall be inspected via CCTV. The videos shall be submitted to CTMA for review.
- b. Any issues identified through review of the videos (or any other means) shall be corrected by the developer prior to CTMA taking acceptance of the existing system.

184 W. Main Street, Suite 300 | Trappe, PA 19426 | Phone: 610-489-4949

- c. The developer is responsible for obtaining any agreements that are needed from adjacent property owners that are served by the existing privately owned sewer system in order for the existing system to be offered for dedication to CTMA. Any such agreements shall be coordinated by the applicant's attorney with the Authority Solicitor.
- d. Trees, shrubs, and brush shall be cleared from the existing sewer easement where it passes through the wooded area in the northern portion of the site.
- 2. Sheets 3-4 The existing publicly owned sanitary sewer system should be updated so that it matches the actual existing system layout (refer to the attached exhibit). Per a dye test conducted by CTMA, it is the Authority's understanding that the sewer system from the Kia site connects to CTMA manhole 67.
- 3. Sheets 2 and 4 The easement in favor of CTMA that was added from the Lincoln Highway right-of-way, along the site driveway, to connect the existing sewer pipe easement, should be labeled as "access and sanitary sewer easement in favor of CTMA".

Sewage Planning

Revised sewage planning documents were not submitted with the revised plans; therefore, the sewage planning comments below are duplicated from our previous review letter:

- 4. PADEP Act 537 sewage planning approval or exemption therefrom is required. The first step is to submit water use data and wastewater flow projections to the Authority Engineer for review. After the flow projections are acceptable to the Authority Engineer, the applicant must execute a sewer capacity reservation agreement with CTMA. Then, after that agreement is signed and prior to the exemption request form being signed by CTMA, the applicant shall obtain capacity approvals from both the Downingtown Area Regional Authority (DARA) and Pennsylvania American Water Company (PAWC). After those capacity certifications are provided to the Authority, the sewage planning exemption request can be signed by the Authority. The applicant is responsible for subsequently submitting the exemption request to PADEP. When PADEP planning approval or exemption therefrom is obtained, a note to that effect should be added to the plan (including the PADEP code / tracking number).
- 5. The submitted planning module exemption request package should be revised as follows:
 - a. On the mailer form and in the narrative, round all flows up to be equivalent to an integer number of EDUs, since the capacity reservation and purchase agreement will be based on an integer number of EDUs.
 - b. In Items #1 and #9 of the narrative, describe the existing sewer system as privately owned and operated but to be offered for dedication to CTMA.
 - c. In the Collection System section under Item #3, please note that MH68 is part of the Caln Interceptor and the text should be revised accordingly.
 - d. The narrative should describe in detail how the proposed building will be used, including whether any washing of cars will occur at the new building, and whether any customers will be visiting this building. Justify the number of employees.
- 6. A minimum of two years of water use data for a similar facility should be provided.

Other Necessary Approvals

7. Other necessary approvals:

- a. The applicant shall be responsible for preparing the necessary easement agreements, exhibits, and legal descriptions, which shall be provided for review by the Authority Solicitor prior to final plan approval.
- b. The applicant will need to enter into a sewer capacity reservation agreement and purchase CTMA sewer capacity for the project. The applicant will also need to enter into an improvements agreement for the sewers that are to be offered for dedication to CTMA.
- c. The developer will need to enter into a Financial Security Agreement for the proposed sewers. A construction cost estimate signed and sealed by a licensed professional engineer shall be submitted for review in advance of or concurrent with any requests for establishment of financial security.

The above comments are made with the understanding that all existing features and topography are accurately represented on the plans and that all designs, calculations, and surveys are accurate and have been prepared in accordance with current laws, regulations, and accepted Professional Land Surveying and Engineering practices.

Should you have any questions or need further information, please feel free to contact me at 610-489-4949 or rbickhart@gilmore-assoc.com.

Very truly yours,

Ross A. Bickhart, P.E. Senior Project Manager

Gilmore & Associates, Inc.

Ron 9. Bisht

Enclosures

cc: Caln Township / Consultants Group (via email)

D.L. Howell & Associates, Inc., Applicant's Engineer (via email)

Sipala Kia, Developer (via email)