MINUTES WORCESTER TOWNSHIP PLANNING COMMISSION WORCESTER TOWNSHIP COMMUNITY HALL 1031 VALLEY FORGE ROAD, WORCESTER, PA 19490 THURSDAY, DECEMBER 14, 2023 - 7:00 PM

1. CALL TO ORDER

The meeting was called to order at 7:31PM

2. ATTENDANCE

Jennifer Taylor was absent from the meeting. All other members were present.

3. APPROVAL OF MEETING MINUTES

• Motion to approve the November 9, 2023, Planning Commission Meeting Minutes

(No eligible quorum was present to pass the minutes)

4. CONDITIONAL USE APPLICATION: 2023-01

• The Variety Club seeks Conditional Use approval to erect playing field lights at 2950 Potshop Road.

Marc Jonas, Esq. presented on behalf of the applicant. He and Ms. Mary Beth Schmidt provided a brief history of the Variety Club, property, and summarized the proposal. The Variety Club's lighting expert, Bob Zoeller, provided a Powerpoint presentation to the Planning Commission regarding the 70-foot lights that would be erected at the Variety Club. Michael Bowker, P.E., also presented a topographical map to the Commission, and discussed the multiple phases of the project. It was confirmed the Conditional Use Application for athletic field lights was part of the first phase.

Chair Sheer asked if the applicant had any additions to the materials submitted since the December 15th review. Mr. Jonas replied they did not.

The Planning Commission discussed the presentation with the applicant. Chair Sheer asked about the time of day/s of the athletic field lights would be illuminated. Ms. Mary Beth Schmidt replied they would be extinguished by 9pm Monday through Friday, 10pm on Saturday, and would not be illuminated on Sundays.

The Commission members asked several questions regarding the lights' impact on neighboring properties. The Commission asked about rented use of the fields. Ms. Schmidt replied that the uses benefited many other youth organizations and non-for-profit endeavors that align with the Variety Club's mission to serve youth with disabilities. The applicant confirmed there would be no sound system as part of this project. Vice-Chair Greenawalt thanked the applicant and their team for the presentation. She also thanked the applicant for their work with disabled youth.

Lee Knoch motioned to recommend approval of the conditional use application. Michelle Greenawalt seconded the motion. The motion passed 3-1, with Mr. Andorn voting against the recommendation.

5. WORCESTER TOWNSHIP OPEN SPACE UTILIZATION AND ACQUISITION ANALYSIS

Scout Troop 133 was unable to attend the meeting. The Planning Commission members were updated by the Township manager regarding the progress of the Griffith property acquisition.

Mr. Jim Thompson and Dianne Cram presented on behalf of the Worcester Historical Society. His presentation focused upon the Old Dutchie Church recently sold to the Township by the Historical Society. Ideas proposed included:

- Possible connection to Heebner Park via Trail parallel to Heebner Road. The Commission discussed the need to engage with property owners in that area and discuss their interest or concerns.
- The "son of the Methacton Oak" tree growing at the Old Dutchie Church.
- Potential improvements to the Old Dutchie Church Building in partnership with the Township.

Chair Sheer asked Mr. Thompson about potential uses for the building. The use as a nature center was discussed, with access being the main point of concern given the limited parking and driveway access off Rt. 363.

The Commission thanked Mr. Thompson for his presentation.

The Commission discussed potential uses for several properties, including Griffith, 3335 Fisher Road, and the Old Dutchie Church. The Commission discussed the importance of historic preservation as an element of open space acquisition prioritization.

6. PLANNING COMMISSION AGENDA

The Township manager mentioned he would reschedule the Boy Scouts. The Commission requested the neighbors bordering 3335 Fisher Road, and Griffith be contacted concerning an opportunity to speak at the upcoming meeting.

7. PUBLIC COMMENT

There was no public comment.

8. ADJOURNMENT

The meeting was adjourned at 8:26 PM.

active applications (review period expiration)

- LD 2017-02 Palmer Village, LLC (*review period waived*)
- LD 2022-01 City View (review period waived)



4259 W. Swamp Road Suite 410 Doylestown, PA 18902

www.cksengineers.com 2153400600

> January 24, 2024 Ref: # 7550

Township of Worcester PO Box 767 Worcester PA 19490-0767

Attention: Sean Halbom, Township Manager

<u>Reference:</u> BT Worcester, LLC – City View Land Development Preliminary Plan Review – Third Review

Dear Mr. Halbom:

I am in receipt of a land development submission consisting of preliminary plans and supporting documentation for the City View Project prepared for BT Worcester, LLC. These plans consist of 34 sheets, have been prepared by T & M Engineers, dated January 27, 2022, revised November 17, 2023. These plans propose the development of 13.92 gross acres at the property on 2974 Germantown Pike in Worcester Township. This property is commonly known as the "Dubner Property". CKS previously reviewed the revised Preliminary Plan submission and set forth review comments in a letter dated November 22, 2023. In addition to the plan set, we have also reviewed a "Post Construction Stormwater Management and Erosion and Sediment Control Report" dated January 27, 2022, last revised November 17, 2023, prepared by T & M Associates for BT Investments, Inc.

The plans propose two (2) four-story apartment buildings. One building will contain 80 units while the other building will contain 64 units for a total of 144 apartment units. Also proposed are parking areas that include 375 parking spaces. Stormwater management consists of an above-ground and under-ground basins. The site will be served by public water and sewer.

CKS Engineers, Inc. has reviewed the revised preliminary plans and supporting documents in conjunction with this land development submission to determine compliance with Township Zoning and Township Subdivision and Land Development Code. Based on our review, we offer the following comments:

ZONING

1. Sheet 2 includes a table entitled "Zoning Data". The table indicates the maximum density allowed by ordinance is twelve dwelling units per acre. The proposed plans show a density of 11.76 dwelling units per acre. We note that since the time of the last plan submission, 46 units have been removed from the plans. This reduction of units reduces the overall density so that the previously required Transferable Development Rights (TDRs) are no longer required.

- 2. In the zoning table on Sheet 2, the minimum parking setback along Germantown Pike is required to be 75'. The proposed setback is 25'. Zoning relief was obtained by ZHB 2022-08 order dated June 16, 2022.
- 3. Approval from the Zoning Hearing Board has been obtained to allow the installation of storm sewer, riprap and grading within the Flood Plain Conservation District. (150-138.A(4)). This was by ZHB 2022-08, dated June 16, 2022.

SUBDIVISION AND LAND DEVELOPMENT

- 4. The list of utilities now include Lower Providence Township and the Lower Providence Township Authority. These are not included in this project. The list should be revised.
- 5. The plans should show the proposed height of the buildings. The Zoning Table on Sheet 2 shows that the height will meet the 45' height restriction, but a note on the plan indicating the specific height is requested.
- 6. Architectural Drawings of the building must be submitted to the Township.
- 7. The plans show a 25' setback to the parking area at the front along Germantown Pike. As stated previously, this does not meet the required 75' setback. Relief was obtained by ZHB 2022-08 order dated June 16, 2022.
- 8. The applicant will be required to prepare a Planning Module for this project for sanitary sewer service. This module will need to be submitted to the Pennsylvania Department of Environmental Projection (PADEP) for review and approval in order to revise the Township's current Act 537 Plan. The Township will need to review the planning module prior to submission and execution for PADEP.
- 9. The water supply design and all associated details should be review and approved by the Pennsylvania Water Company for this project.
- 10. The applicant should confirm with the Pennsylvania American Water Company the type of meter pits (if any) that will be required for this project. If meter pits are required, they should be shown on the plan in order to make sure they don't impact or conflict with other utilities.
- 11. Fire Marshall approval is required. Additionally, The Worcester Fire Marshall should review the plans to verify that he is satisfied with the number and location of fire hydrants shown on the plans.
- 12. The Applicant will be required to purchase sanitary sewer tapping fees from the Township. The Township will determine the adequate number of EDUs required for this project and convey that information to the applicant.
- 13. Approval from the Township's Traffic Consultant is required.

- 14. The Existing Feature plan, Sheet 3, indicates that a wooden fence separates the subject property from Parcel 43-00-02206-14-5 but the note on sheets 7 and 8 states chain link. This discrepancy must be addressed.
- 15. A trash enclosure detail is provided on Sheet 21 but the location of the enclosure could not be found on the plans.
- 16. A 12-foot high Emergency Gate detail is shown on the Sheet 21 but the plans do not indicate 12-foot high fence or gate. Please note that fencing can be no higher than 6-feet per Z.O. 150-182.
- 17. The sidewalk widths must be added to the plans.
- 18. There are numerous notes on the plan regarding the walls that will be required as part of the project. The note says "wall(by others)". The design of the walls should be submittred with the Final Plans submission for review.
- 19. The following approvals will be required in conjunction with this project:
 - a. Pennsylvania American Water Company
 - b. Pennsylvania Department of Environmental Protection (Planning Module & NPDES Permit)
 - c. Montgomery County Conversation District (Erosion and Sedimentation Control and Stormwater NPDES Permit)
 - d. PennDOT Park Avenue
 - e. Montgomery County Germantown Pike

STORMWATER MANAGEMENT AND GRADING

The following comments pertain to the grading, stormwater management/storm drainage and erosion and sedimentation control aspects of the current Preliminary Plan submission and are based upon the requirements of the Worcester Township's Stormwater Management Ordinance (SMO) and/or Subdivision and Land Development Ordinance:

- 20. The applicant is advised that a NPDES permit, along with an Erosion and Sedimentation Control Plan pertaining to the proposed site development, which is approved by the Montgomery County Conservation District, will be required prior to plan recording. (SMO 129-12)
- 21. A Stormwater Management Agreement will be required. The Agreement shall be reviewed and approved by the Township Solicitor prior to plan approval. (SMO 129-138)
- 22. Stormwater Infiltration testing has not been performed, which is required. The applicants response states infiltration testing was performed and is included in the Stormwater Narrative.

No infiltration testing is included in the report and must be included in future submission.

Additionally, information about the site contamination must be submitted to the Township including type of contamination, location, etc. Depending on the information provided, Phase I/Phase II Environmental Study maybe required. The Applicant's response indicates that information pertaining to the soil contamination will be provided under separate cover. This office has not received any additional information.

- 23. The matting for Swale S1 must be shown on Sheet 13.
- 24. Additional information must be provided regarding Sediment Basin A. We note that the Emergency Spillway Elevation on Sheets 13, and 27 do not match. No elevation or sizing information is provided in the skimmer details and no detail for the temporary riser is shown.
- 25. Calculations for the rip-rap sizing must be provided. We recommend that a minimum rip-rap size of R-4 be proposed.
- 26. No cut or fill shall be made steeper than 4 horizontal to 1 vertical (4:1). It appears the project proposes 3:1 slopes throughout the site. A waiver has been requested. (SMO 129-18.G(4)(5))
- 27. Grading must be 5 feet from property lines to allow for normal rounding of the contours. There are multiple areas that the limit of disturbance is closer than five feet to the property boundary. (129-18.G(6)).

A waiver has been requested. We note temporary grading easements may be required.

- 28. Chapter 105 permitting from PADEP will be required at a minimum for the pipe outfall near North Park Avenue and for the basin outfall pipe.
- 29. Roof drain locations must be indicated on the plan. (SMO 129-18(C)(20))

The applicant's response indicates that roof drains will be added during final plans.

- 30. A profile of storm sewer B 003 to MH-B1 must be added to the plans.
- 31. All portions of the basin bottom shall have a minimum slope of 2%. The proposed Basin B appears bottom is flat. The applicant's response states that a waiver will be requested. SMO 129-18.H(10)).
- 32. A stabilized access drive with an access easement has been shown for Basin B. The engineer's response that indicates Grass Pave Turf Reinforcement has been called out on the plans. This office cannot find this plan reference for the Basin Access Drive. (SMO 129-18-H(22).

- 33. A drainage and grading easement will be required for the improvements on TMP 67-064-058.
- 34. A maximum of 4:1 slopes are required for excavations. 3:1 slopes or steeper appear adjacent to the tot lot. The applicant's response states a waiver will be requested.
- 35. Copies of all environmental reports for the property should be provided to the Township. The applicant's response indicates these reports will be under separate cover.

The above represents all comments on this third review of the preliminary land development plans for the City View Project. The Applicant's Engineer should revise the plans to conform to these comments and resubmit for further review. It should be noted that the Township's Traffic Consultant, Bowman will have a review letter with comments on the traffic impacts of this development. All comments set forth in the Bowman letter should also be addressed. It is also recognized that PennDOT has also submitted a review letter on the traffic study for this project.

All comments set forth in all review letters should be addressed to the satisfaction of the Township and to other regulatory organizations. Please contact me if you have any questions or need any additional assistance on this preliminary plan submission.

Very truly yours, CKS ENGINEERS Township Engineers

John W. Evarts, P.E.

JWE/paf

Wendy McKenna, Esq., Township Solicitor
 Mary Ann Murphy, Worcester Township
 Dustin Schreiber, Worcester Township
 Casey Moore, P.E., Bowman
 EJ Mentry, Township Manager, Lower Providence Township
 Christopher W. Jensen, P.E., T & M Associates, Inc.
 BT Worcester, LLC (200 Dryden Rd, Ste 2000, Dresher PA 19025)
 File



December 19, 2023

Mr. Sean Halbom Township Manager Worcester Township 1721 Valley Forge Road P.O. Box 767 Worcester, PA 19490

Attention: Mr. Robert D'Hulster, Public Works Director

RE: **Traffic Review #5 – Highway Occupancy Permit Plans (PennDOT & County)** City View (formerly Fairview) Apartments (2974 W. Germantown Pike) – 180 proposed apartment units Worcester Township, Montgomery County, PA Project No. 310767-01-001 (formerly 821A37.11)

Dear Sean:

On behalf of the Township, McMahon, a Bowman company (herein will refer as Bowman) has completed our fifth (5th) traffic engineering review for the proposed residential development to be located at 2974 W. Germantown Pike (southeast quadrant of W. Germantown Pike and N. Park Avenue) in Worcester Township, Montgomery County, PA. According to the materials submitted to our office, the development is proposed to consist of 180 apartment units with one, full-movement driveway proposed along N. Park Avenue (S.R. 0363) and one, full-movement driveway proposed along W. Germantown Pike (County roadway).

The following documents were reviewed in preparation of our comments:

- <u>PennDOT Highway Occupancy Permit Plans BT Worcester, LLC,</u> prepared by T & M Associates, last revised November 17, 2023.
- <u>Response to PennDOT Comments Letter (dated June 9, 2023) 2974 Germantown Pike</u>, prepared by T & M Associates, dated November 21, 2023.
- PennDOT CS4401 Ramp A&B Park & West Germantown Pike Ramp Design and Inspection forms, dated November 2023.
- <u>Response to Township Comments Letter (dated September 8, 2023) 2974 Germantown Pike,</u> prepared by T & M Associates, dated November 21, 2023.
- <u>Montgomery County Highway Occupancy Permit Plans BT Worcester, LLC</u>, prepared by T & M Associates, last revised November 17, 2023.
- <u>Response to Montgomery County Comments Letter (dated August 23, 2023) 2974 Germantown</u> <u>Pike</u>, prepared by T & M Associates, dated November 21, 2023.
- <u>Septa Bus Stop Coordination Rt 91 Fairview Village</u> email chain between August 24, 2023 to August 29, 2023 between T&M Associates and Septa personnel

Based on our review of the documents listed above, Bowman offers the following comments for consideration by the Township and action by the applicant.



<u>General</u>

- 1. A response letter **must continue to be provided** with any resubmission detailing how each comment below has been addressed, and where each can be found in the resubmission materials (i.e., page number(s)) to assist in the re-review process. Additional comments may follow upon review of any resubmitted and more detailed plans as the land development process proceeds.
- 2. This review is specific to the PennDOT and Montgomery County Highway Occupancy Permit (HOP) Plans referenced above. The applicant **must still address our office's comments pertaining to the land development plans contained in our March 1, 2022 review letter.**
- 3. Since access to the site is proposed via W. Germantown Pike which is a County roadway and N. Park Avenue (S.R. 0363) which is a State roadway, the highway occupancy permit (HOP) plans are concurrently being reviewed by Montgomery County and PennDOT to obtain their comments and/or concurrence on the access and proposed roadway/intersection improvements proposed in the study. Plans and materials submitted to both agencies should be copied to the Township also for detailed review. All comments received from Montgomery County and PennDOT must also be addressed to their satisfaction for permitting, and the applicant and their project team must then coordinate and communicate responses closely with the Township, the Township Engineer (CKS), and our office.
- 4. According to the Township's Roadway Sufficiency Analysis, the proposed development is located in Transportation Service Area South, which has a corresponding impact fee of \$3,125 per "new" weekday afternoon peak hour trip and the applicant will be required to pay a Transportation Impact Fee in accordance with the Township's Transportation Impact Fee Ordinance. Based on information provided in the TIA, the proposed development is expected to generate 71 "new" trips during the weekday afternoon peak hour resulting in a **transportation impact fee of \$221,875**. The applicant should provide information on the existing use(s) of the site, and if those use(s) were active during the conduct of the Township Act 209 study, if the applicant seeks a possible transportation impact fee credit. We will then review for the appropriateness for applying to the existing use(s). Furthermore, as noted in the engineer's response letters, the applicant may be seeking credit to complete additional work along N. Park Avenue near the culvert area at the western end of the site.

Highway Occupancy Permit Plans (PennDOT and Montgomery County)

- 5. While it is understood that the applicant is coordinating with PennDOT regarding the existing culvert along N. Park Avenue (S.R. 0363), the sidewalk as shown on the plans cannot be constructed at this time. In addition, as discussed at the October 17th, 2023 meeting, additional information for the culvert widening, such as costs and status of discussions with the neighboring property owners regarding the extension of the proposed sidewalk should be provided.
- 6. A fence of some type acceptable to the Township is recommended to be added between the proposed sidewalk and the retaining wall along West Germantown Pike.
- 7. The applicant will need to have a stormwater management maintenance agreement with the Township that will run with the owner of the property in perpetuity for any parts of the system that PennDOT or the County require that the Township must be the applicant to obtain, and then



maintain as part of permitting process. The applicant should coordinate with the Township Solicitor's office on the maintenance agreement.

The applicant responded to this prior comment as "will comply", but the maintenance agreement must still be completed and executed with the Township Solicitor's office.

- 8. The cross-sections West Germantown Pike must be modified to include the tie-in slopes.
- 9. The design of the eastern radius and tangent curb transition to the existing edge of road at the Germantown Pike access must be modified from its current design and be acceptable to Montgomery County.
- It appears from the truck turns provided, there may be some conflict at the proposed island at the N. Park Avenue (SR 0363) access. It appears as though two different islands are shown on the plans. Please resolve these issues.
- 11. The applicant should provide correspondence from the Fire Marshall indicating their review of the submitted emergency vehicle turning movements.
- 12. The ramps located along West Germantown Pike, both at the intersection of West Germantown Pike and N. Park Avenue (SR 0363) and at the intersection of West Germantown Pike and Driveway A have not been reviewed by Bowman because they are located fully within the County Required Rightof-Way and are therefore the responsibility of the County to provide the review.
- 13. The northbound N. Park Avenue (S.R. 0363) left-turn lane approaching Germantown Pike could be extended to provide more stacking and reduce the size of the gore area between the back-to-back left turn lanes with the site access. PennDOT should make final determination.
- 14. A modified **traffic signal permit plan was not included** in the PennDOT or County submissions for Germantown Pike and N. Park Avenue (S.R. 0363). The applicant's engineer has indicated that would be provided in a future submission. The road improvements and pedestrian improvements on the plans will require signal permit plan modifications, as well as the optimization of signal timings recommended in the TIA. A TE-160 form must be submitted to the Township as well for approval.
- 15. The signal must be integrated into PennDOT's unified Command and Control software, with the PennDOT fiber optic cable that is present along Germantown Pike. If the fiber optic cable is impacted by the proposed work, PennDOT provides details for the designer and applicant to complete.



We trust that this review letter responds to your request. If you or the Township have any questions, or require clarification, please contact me or Michelle Eve, P.E.

Sincerely,

Casey A. Moore, P.E Executive Vice President

CAM/BMJ

cc: John Evarts, P.E., CKS Engineers (Township Engineer) Devin Ralph, Esq. (Township Solicitor)
E.J. Mentry, Lower Providence Township Manager Fran Hanney, PennDOT Paul Lutz, PennDOT Thomas Marucci, Septa Senior Director – Bus Operations Andy Parker, McCormick Taylor (PennDOT and Montgomery County Review Consultant) Susan M. Guisinger-Colon, P.E., LEED AP (Montgomery County consultant) Peter Clelland, BET Investments (Applicant) David Stewart, T&M Associates (Applicant's Site Civil Engineer) Chris Jensen, P.E., T & M Associates (Applicant's Site Civil Engineer) Matt Hammond, P.E., Traffic Planning and Design, Inc. (Applicant's Traffic Engineer)

Q:\PA-FTWA-MC\MCM\eng\WORCETO1\821A37 - Fairview Village Apartments\Correspondence\Out\2023-12-19 Review Letter #5_2974 Germantown Pike BET apartments (draft).docx



Date:	12/22/2023
Subject:	Highway Occupancy Permit Application No. 303898, Cycle No.2 - Returned For Revisions
То:	BT Worcester, LLC 200 Dryden Road 2000 Dresher, PA 19025
From:	PennDOT Engineering District 6-0 7000 Geerdes Boulevard King of Prussia, PA 19406

Dear Applicant,

PennDOT has reviewed your application for completeness, consistency and compliance with applicable Department Regulations. This review has identified issues that must be addressed in order for our review to continue.

The Department's review comments are attached.

Once the comments have been addressed, please resubmit the application and associated material for further review.

Upon resubmission, the applicant's engineer should put together a letter that describes how each comment has been addressed and where each can be found. This will help expedite the review. For guidance on HOP applications refer to 67 PA Code, Chapter 441, Chapter 459 and PennDOT Publication 282, "Highway Occupancy Permit Guidelines". Additional comments may follow upon review of the resubmitted application.

If you have any questions regarding this matter, you may contact the Department's representative, Drew E. Sirianni, PE of Pennoni at 215-254-7893 or DSirianni@Pennoni.com.



Response Comments Date: 12/22/2023 Application Number: 303898, Cycle No.2

Form Letter Notes

(1) * Upon resubmission, the applicant's engineer must prepare a letter that describes how each comment has been addressed and where each can be found in the plan set. Further, if the applicant's engineer has made any design changes independent of PennDOT reviewer comments, they must include a section in the response-to-comments letter that describes the additional design changes.

* Additional comments may follow upon review of the resubmitted application. If you have any questions pertaining to the technical aspects of this review, please contact the Department's representative, Drew E. Sirianni, PE of Pennoni at 215-254-7893 or DSirianni@Pennoni.com. Please reference the HOP Application number in all correspondence.

* For guidance on Highway Occupancy Permit applications refer to PA Code Title 67, Chapter 441, Chapter 459 and PennDOT Publication 282. This will help expedite the review.

General

- (1) As previously indicated, consistent with current Department Policy, applicants for Highway Occupancy Permits must apply for an EPS Business Partner ID (BPID). The EPS BPID is to be used in the establishment of a billing account for the invoicing of inspection costs. After an EPS BPID is obtained and activated by the applicant's system administrator, a user ID will then need to be created in order to ensure that the EPS BPID is integrated into EPS and searchable through the "looking glass" feature. Once this has been established, please provide the following information in the applicant contact information tab under "Applicant Team":
 - BPID

- Contact information (name/title/phone/email) for a general contact person (person that typically deals with the Highway Occupancy Permit application process)

- Contact information (name/title/phone/email) for a billing contact person (person that typically deals with the Highway Occupancy Permit invoicing process)

For information on obtaining an EPS BPID, you may visit:

https://www.epermitting.penndot.gov/EPS/home/manageBPRegistration.jsp (follow the instructions that are in the pink shaded row) or contact the ECMS Help Desk. Please be aware that having an ECMS BPID does not guarantee the establishment of an EPS BPID as they are not reciprocal to one

another.

Transportation Impact Study/Transportation Impact Assessment

(1) The access scheme has been revised between submissions and is now inconsistent with what is recommended in the approved TIA. The site access to Park Avenue (SR 0363) is identified as full movement in the TIA, but the left turn egress movement is now shown restricted on the HOP Plans. Submit a revised TIA that reflects analysis of the presently proposed access scheme.

Plan Presentation

- (1) At a minimum, a 2' pavement notch must be provided at the limit of the proposed widening for the full depth asphalt pavement. Revise the layout of the full depth pavement to meet this requirement and label the 2' (min.) pavement notch on the Construction Plan.
- (2) General Notes

a. Revise General Note 33 for consistency with the curb reveal that is proposed by the project (4").b. Provide a general note stating "Offer or Dedication to the Ultimate Right-of-Way line shall run on perpetuity in favor of the applicable government authority."

(3) Title Sheet Information

a. The length of the project indicated on the title sheet is 750 feet or 0.0002 miles, but these distances don't equate to each other. Additionally, the distance between the From STA and the To STA doesn't equate to either value. Verify and update the project length and From/To Stations accordingly.

b. The Limits of Work (From STA to STA) on the title sheet don't match to the Limits of Work shown on the subsequent plan sheets. Verify and update for consistency.

(4) Construction Details

a. As previously indicated, the applicant is required to remove all standard RC details from the plan set. As a point of further clarification, the standard details of curb and sidewalk that are still shown on sheet 23 and 25 need to be removed from the plan set.

b. Within the table of RC standards, revise the date of RC-28M to the latest revision, Sept. 1, 2023.c. Add RC-22M to the table of RC standards.

(5) The applicant must refer to the marked-up plans to assist in the clarification of comments. The marked-up plans can be found on the "attachments" screen in EPS.

Restoration and Location

(1) The proposed mill and overlay will require the replacement of existing rumble strips and raised

pavement markers along SR 0363. Revise the plans as necessary to reflect this.

(2) As previously indicated, full width milling and overlay is required within the construction limits because of the addition of a left-hand turn lane and the proposed shift of the alignment. As a further point of clarification, the mill and overlay work must also be shown on the SR 0363 typical section.

Access Configuration/Profile- Driveways/Local Roads

(1) The WB-40 truck turning templates included with this submission show the trucks encroaching upon the improper lanes on SR 0363. Revise the turning templates and/or access geometry to eliminate encroachment into improper lanes.

Typical Sections

- (1) Revise the base course as follows:
 - Change from PG 64-22 to PG 64S-22
 - Change ESAL range from 0-0.3 million to 10 to <30 million.

Curb

(1) Revise the proposed median and channelization island at the proposed access to be designed with type A or type B mountable curb median island.

Cross Sections

- Grades on most of the cross sections are set incorrectly. No grade breaks shall be provided within the through lane. Widening shall be completed to match the cross slope of the existing through lane. Revise the design accordingly.
- (2) As previously indicated, from STA 1+00 to STA 3+75, revise the initial 5' behind the curb to be graded up at 2%, then proceed beyond that point to make your tie in grade. Do not exceed 4:1 for any fill slope within the clear zone.
- (3) Show the proposed sidewalk work at STA 0+75 and STA 1+00 for consistency with the Construction Plan.
- (4) Label the proposed cross slopes of the widening on all cross sections. The information is missing at STA 1+00, 1+75, 2+00, 3+00, 3+25, 6+50, 7+00, and 9+25.

Maintenance And Protection Of Traffic

(1) See attached mark-up plan in EPS attachments. Submit response to comments

Right-Of-Way (Design Manual Part III, Chapter 3)

- (1) It appears that there is a private encroachment into the Legal Right-of-Way near STA 0+75 RT that will be affected by the proposed sidewalk work (private sign and landscape bed with masonry blocks). Prior to issuance of the Permit, the applicant must provide notice to the property owner of the encroachment and the intent to remove it for construction of this project. The notice must be sent via certified mail with return receipt. Items/materials must be carefully recovered from this area and returned to the property owner at an agreed to location. This will become a condition of the permit.
- (2) As previously indicated, this project appears to involve the formal conveyance of Right-of-Way (R/W) to the Pennsylvania Department of Transportation along SR 0363 due to the roadway widening that extends beyond the Legal Right-of-Way Line. The plans must reflect a "REQUIRED RIGHT-OF-WAY LINE TO BE DEEDED TO THE COMMONWEALTH" located at a distance of 5' off the proposed edge of pavement/shoulder at a consistent width parallel to the roadway centerline. The applicant may visit the HOP-Related Forms section of the ePermitting application to obtain the necessary PennDOT conveyance of Right-of-Way form, M-950D1 (Deed Fee Simple). The form must be completed by the applicant, accompanied by an 8.5" x 11" drawing of the area being conveyed, and returned to the District Permits Unit. The Permits Manager will sign the original form. The applicant is then responsible for recording the M-950D1 form and accompanying documents at the county courthouse and returning the form to the Permits Unit, prior to issuance of the Permit. As a point of clarification, the plans show a Required Right-of-Way line, but it still is not 5' off the proposed edge of pavement/shoulder. Revise the location of the Required Right-of-Way Line.
- (3) As previously indicated, a general note must be added to the plans that indicates the width and each source(s), including plan title and date, used in determining the Legal Right-of-Way for SR 0363. The source(s) must be obtained from the Pennsylvania Department of Transportation District 6-0 Plans Unit in King of Prussia, PA, and any other recorded plans from the County Courthouse. As a point of clarification, this note was added to the plans with this resubmission, but the width is missing from the note.
- (4) The PennDOT Required Right-of-Way must tie to the PennDOT Legal Right-of-Way near the intersection with Germantown Pike. Make the tie and label the tie point.

Signal Section (Publication 46, 148 And 149)

- (1) As previously indicated, the traffic signal design submission package was missing from this cycle submission. Please include it with the resubmission.
- (2) As previously indicated, integrate the traffic signal at Germantown Pike and Park Ave into the Department's Unified Command and Control Software.

ADA Compliance

(1) A railing is necessary along the back of the sidewalk near STA 0+75 to protect pedestrians from the drop off to the stream. The railing details must be added to the HOP plans and must be designed with break-away posts.

Drainage

- (1) As previously indicated, a drainage report must be provided with the resubmission. The report must analyze the hydraulic capacity and utilization of the existing and proposed stormwater conveyance system along Park Avenue (SR 0363). Also, the gutter spread calculations must be incorporated into this report. Also, include capacity calculations for the proposed swale from STA 5+00 to STA 7+50 to demonstrate that it will not overtop during the design storm. The report must be signed and sealed by a Professional Engineer registered in the Commonwealth. For additional guidance regarding the required roadway drainage report and calculations, refer to Publication 282 Appendix B1, Publication 13M Chapter 10, and Publication 584 Chapter 13. As a point of clarification, this resubmission included the site stormwater management report, but did not include the required roadway drainage report in accordance with the aforementioned Department publications.
- (2) The proposed stormwater structure locations are inconsistent between the plan view (sheet 8 and top of sheet 9) and the profile view (bottom of sheet 9). For example, Inlet C5 in the plan view is shown near STA 8+00, but in the profile view it is shown near STA 7+50. As another example, manhole C7 is shown in the plan view near STA 9+65, but in the profile view it is shown near STA 9+00. Revise the plan and/or profile so that the location of the stormwater structures is consistent.
- (3) The Station and Offset must be provided on the HOP Plans for each stormwater structure.
- (4) The type of proposed stormwater pipe is inconsistent between the plan view (sheet 8) and the profile view (sheet 9). Revise the plan and/or profile so the type of proposed pipe is consistent. HDPE is not accepted under pavement on a State Route.
- (5) In addition to the proposed end wall, a culvert extension will be required to build the proposed sidewalk near STA 0+75. Provide all required information on the plans (e.g. pipe size, type, invert, endwall type, elevations, etc). Be advised, this culvert must be extended outside the clear zone.
- (6) As previously indicated, the applicant is proposing to widen SR 0363 and install parallel subsurface stormwater facilities. If the drainage design cannot be revised to eliminate the proposed drainage impact, in accordance with scenario #3 or 4 of Publication 282 Section 2.2, the municipality must be the applicant on a separate permit application to address maintenance responsibilities. PennDOT is legally bound by Section 421 of the State Highway Law (36 P.S. § 670-421) to enforce this maintenance responsibility for stormwater facilities relating to HOP projects. The Department policy

is that a second HOP application, with the Municipality listed as the applicant, must be submitted stating unequivocally that this second application is only for the maintenance of the proposed stormwater facilities installed within the Right-of-Way. Condition Code 389 stating that "Drainage installed by this permit is the primary responsibility of the Local Government to continually maintain or replace" will be added to the permit.

Communication Design

- (1) Revise as per Traffic Operations comments and resubmit.
- (2) Change contact email from pmccourt@pa.gov to tyuhler@pa.gov Provide street names

Provide distance between old and new poles

Verify that the fiber line is shown attached to the new poles

Separate dimensions of roadway distances and new pole distances



January 30, 2024

Mr. Peter Clelland BT Worcester, LLC 200 Dryden Road, Suite 200 Dresher, PA 19025

Re: BT Worcester, LLC

Application for Highway Occupancy Permit (No. 22086) – 3rd Review Worcester Township, Montgomery County, PA

Dear Mr. Clelland:

On behalf of Montgomery County, McCormick Taylor has completed a review of the HOP materials submitted as part of anticipated Permit No. 22086. The plans and documents received by McCormick Taylor consisted of the following:

- Montgomery County Roads and Bridges Opening of Highway Agreement;
- Highway Occupancy Improvement Plans, BT Worcester, LLC prepared by T&M Associates, last revised November 17, 2023;
- Post Construction Stormwater Management Report prepared by T&M Associates, last revised November 17, 2023;
- Land Development plans for City View, prepared by T&M Associates;
- Copy of property deed;
- CS-4401 forms for proposed ADA ramps;

Project Overview

The project is located at 2974 Germantown Pike, on the southeast quadrant of the Park Avenue & Germantown Pike intersection. The project is the redevelopment of the existing site into a 180-unit apartment building.

Review Comments

The intent of this review is to provide an assessment of compliance with current Montgomery County Roads & Bridges Department's engineering-related requirements and practices associated with Highway Occupancy Permit Reviews.



General

- 1. An executed Opening of Highway agreement must be completed and provided with re-submission. Applicant signature is missing on the submitted form.
- 2. The County does not approve of the submitted radius design with tangent curb transition for the eastern side of the proposed Site Driveway A on Germantown Pike. Revise the design to have the curb radius align with the shoulder instead of having the tangent curb piece.
- 3. As previously noted, it is the responsibility of the applicant to notify the property owners of the proposed construction and the modifications along their property frontage and at their driveway within County Legal Right-of-Way along Germantown Pike. Copies of the written notification(s), including certified mail receipts, must be provided with the HOP application prior to issuance of a permit.
- 4. As previously noted, coordinate with PennDOT and Worcester Township to satisfactorily address all their review comments, in particular their last known review letters dated December 22, 2023 (PennDOT EPS 303898 Cycle 2) and December 19, 2023 (Worcester Township Traffic Review #5). If there is a more recent review letter from Worcester Township, please provide it to the County. Continue to copy the County on all correspondence with PennDOT and Worcester Township, including but not limited to responses to those review letters.
- 5. As previously noted, provide formal Signal Plans for review.
- 6. As discussed at the October 17, 2023 coordination meeting held at Worcester Township, the applicant must submit a revised Transportation Impact Assessment (TIA) for review. The revised TIA must reflect the restriction of lefts out from Site Driveway B onto Park Avenue (SR 0363) and the subsequent redistribution of traffic for that movement to instead exit the site via Site Driveway A onto Germantown Pike. Ensure all affected parts of the TIA are revised as needed, including but not limited to the narrative, tables, figures, analyses and appendices.



Plan Presentation

- 7. On Construction plan, the existing curb line, travel lanes and other existing features are not shown to the north of Germantown Pike baseline. Add all the necessary information to the plan.
- 8. Clearly note the Site Drive A radii for the ingress and egress curb returns.
- 9. As previously noted, call out the curb end taper on the plan and provide curb end detail on the plan.
- 10. Full depth pavement section for the County Road must clearly be noted on Drawing CD-2 and remove WMA from the pavement legend for County Roadway.
- 11. There appears to be text cut off on multiple plan sheets. Verify and revise the plans as needed.
- 12. Add adjacent property owner information to the plans. Driveway A is not fully situated within the property limits; the egress radius extends onto the adjacent property. As such, re-design the driveway or obtain the property owner's approval along with the associated documentation.
- 13. The roadway widening must be shown to extend at the existing cross slope, or a 2 percent minimum, whichever is greater. PennDOT Publication 13M, Chapter 1.5. Also, as previously noted the cross sections still appear to have low points at travel lane and shoulder grade break points. Revise the cross slopes to attain positive drainage and update the cross sections accordingly.
- 14. On cross sections, provide elevations at all grade break points for both existing and proposed grades. Also, all the tie-in grades and elevations must be noted on the cross sections.
- 15. For clarity and in order to ensure that the driveway intersection can safely accommodate the largest anticipated design vehicle, revise the scale of the truck turning templates drawing to a smaller scale. Also, include the missing right-in and left out turning templates.



Right-of-Way

16. As previously noted, this project involves the formal conveyance of ROW to the County along Germantown Pike due to the roadway widening that extends beyond the County ROW Line. The County Dedication form, legal description and an 8.5" x 11" exhibit depicting the area being offered for dedication must be **provided prior to the issuance of the permit**. This information will be forwarded to the County Solicitor for review and approval.

ADA

17. Below comments pertain to the ADA ramp designs at Site Driveway A:

Ramp A:

- a. The grades noted do not match the spot elevations.
- b. Spot elevations must be provided at all four corners of the detectable warning surface to ensure that the material will not be warped.
- c. Grades noted in front of the ramps do not match the elevations provided.
- d. Ramp length should not exceed 15 ft. per Pub 72M RC67M. Plans indicate 30 ft. Redesign the ramp as needed.
- e. There is a low point in front of the ramp. Revise the design to eliminate the low point and ponding issues that may arise.
- f. Provide updated CS-4401 form with resubmission for review.

Ramp B:

- g. Longitudinal slopes on both sides of DWS must be the same. Grades in the triangular area in front of the ramp do not match the elevations provided. Verify and redesign the ramp as needed.
- h. Provide updated CS-4401 form with resubmission for review.
- 18. The detectable warning surface embedding detail on Drawing ADA appears to be incomplete. Update the drawing.



- 19. Provide ADA ramp design plans and CS-4401 forms for the ramps located at the site corner of West Germantown Pike and N. Park Avenue (SR 0363) intersection for review.
- 20. The County is requiring all applicants to complete a curb ramp inspection form, Form CS-4401, for each proposed curb ramp location prior to the issuance of a permit. The form shall be completed to outline the designed condition(s) and will be required to be updated by the applicant to reflect the asbuilt condition prior to close-out of the permit. Submit the required form(s) as part of the next submission.

Drainage

- 21. Drainage information for inlet A18 appears to be cut off on Grading and Drainage plan. Update the plans as needed.
- 22. Drainage shown on HOP plans at Driveway A along Germantown Pike does not match with the Land Development plans and the site drainage report. For instance, drainage structure A18.1 is on the HOP plans and not in the drainage report. Verify and show consistent information on the plans and drainage report.
- 23. As previously noted, the designer must calculate the peak flow for the 10-year Frequency storm crossing the centerline of the driveway along the County Roadway. Gutter spread calculations provided in the report don't include the spread calculation for the driveway along Germantown Pike, therefore provide spread calculations for the driveway and also evaluate the spread at the roadway widening tie-in at approximate STA 5+76 RT along Germantown Pike. Spreads should equal half the travel lane or 8 ft. total flow width maximum.

Maintenance and Protection of Traffic

24. As previously noted, the following note should be added to the maintenance and protection of traffic information: "No traffic restrictions or lane closures are permitted between the hours of 6:00 AM to 9:00 AM and 3:00 PM to 6:00 PM, Monday through Friday and legal holidays." This will become a special condition on the permit.



Upon resubmission, the applicant's engineer must put together a response letter which addresses how each of the preceding comments has been addressed.

Additional comments may follow upon review of the resubmitted application. If you have any questions pertaining to the technical aspects of this review, or if you are uncertain about how to address any portion of the indicated comments, please feel free to contact me or Manasa Kondreddi at (610) 640-3500.

Sincerely,

Susanm. quisnger Colon

Susan M. Guisinger-Colón, P.E., LEED AP Senior Project Manager

SGC/mlk

cc: Tom O'Brien, Montgomery County Roads & Bridges Department Lisa Herbst, Montgomery County Roads & Bridges Department Paul Leonard, Interim Township Manager Matthew Hammond, PE, Traffic Planning and Design, Inc. File

November 21, 2023



YOUR GOALS. OUR MISSION

Casey A. Moore , P.E. Executive Vice President McMahon, a BOWMAN company 1515 Market Street, Suite 1360 Philadelphia, PA 19102

Re: Highway Occupancy Permit Worcester Township Review Project no. 310767-01-001 2974 Germantown Pike Worcester Township, Montgomery County, PA T&M File No. BETI00056

We are in receipt of the McMahon review letter dated September 8, 2023 regarding the above referenced project. We have reviewed the comments contained in the above referenced letter and offer the following in support of the current application. For your convenience and to expedite the review and approval process, the original comments are included, and T&M responses are provided in **bold font**.

<u>General</u>

1. A response letter **must continue to be provided** with any resubmission detailing how each comment below has been addressed, and where each can be found in the resubmission materials (i.e., page number(s)) to assist in the re-review process. Additional comments may follow upon review of any resubmitted and more detailed plans as the land development process proceeds.

T&M Response: A Response letter has been included with this submisison

 This review is specific to the revised transportation impact assessment (TIA) and PennDOT and Montgomery County Highway Occupancy Permit (HOP) Plans referenced above. The applicant must still address our office's comments pertaining to the land development plans contained in our March 1, 2022 review letter. Our office has not seen or reviewed the land development plans since that letter.

T&M Response: The land development with Response Letter has been resubmitted.

3. Since access to the site is proposed via W. Germantown Pike which is a County roadway and N. Park Avenue (S.R. 0363) which is a State roadway, the TIA (and any associated permit plans) are concurrently being reviewed by Montgomery County and PennDOT to obtain their comments and/or concurrence on the access and proposed roadway/intersection improvements proposed in the study. Plans and materials submitted to both agencies should be copied to the Township also for detailed review. All comments received from Montgomery County (10/17/2022 and anything more recent) and PennDOT (6/9/23 and anything more recent, including PennDOT redline mark-ups) must also be addressed to their satisfaction for permitting, and the applicant and their project team must then coordinate and communicate responses closely with the Township, the Township Engineer (CKS), and our office. *Note: A PennDOT submission was made earlier this year without concurrent submission to the Township and our office for review and coordinated efforts, as noted in our September 26, 2022 review letter. We remind the applicant and alert the County and PennDOT that the Township and our office request to be included in the access permitting and roadway/intersection improvements process, including all correspondence and meetings.*

T&M Response: the township has been provided with the latest set of county and PennDOT



HOP plans along with their respective review and response letters.

4. According to the Township's Roadway Sufficiency Analysis, the proposed development is located in Transportation Service Area South, which has a corresponding impact fee of \$3,125 per "new" weekday afternoon peak hour trip and the applicant will be required to pay a Transportation Impact Fee in accordance with the Township's Transportation Impact Fee Ordinance. Based on information provided in the TIA, the proposed development is expected to generate 71 "new" trips during the weekday afternoon peak hour resulting in a **transportation impact fee of \$221,875**. The applicant should provide information on the existing use(s) of the site, and if those use(s) were active during the conduct of the Township Act 209 study, if the applicant seeks a possible transportation impact fee credit. We will then review for the appropriateness for applying to the existing use(s).

T&M Response: Details for the requested credit are still under review and may be affected by the potential PennDOT improvements of the existing culvert at the western side of the site crossing N. Park Avenue. Our client will continue to communicate with the necessary entities to come to an agreement.

Transportation Impact Assessment (TIA)

5. The TIA indicates that the study area is currently serviced by mass transit via SEPTA Bus Route 91 (Graterford), which has a stop at the N. Park Avenue (S.R. 0363) and Germantown Pike intersection. We <u>continue to</u> recommend that the sidewalk and Germantown frontage design for this project both plan for (grade and note a location) and install a bus shelter (when appropriate) along the site frontage near the intersection, should SEPTA anticipate routine service in this area and the addition of this development. The applicant's traffic engineer should contact SEPTA to discuss this opportunity, and plan for the shelter accordingly.

The applicant's traffic engineer indicates in its response that it will comply with this comment to the extent feasible during the HOP process.

To the extent feasible to contact SEPTA and plan for a bus shelter is not something we feel is an attempt to address this prior comment. SEPTA should be contacted and if a bus route exists in this area now, and in the future, it should be installed by the applicant.

T&M Response: Correspondence with SEPTA has been included with this submission. Bus route 91 has been suspended and PennDOT has indicated that we should "to proceed with construction currently with no coordination."

6. The applicant should be aware that in order to alleviate the congestion currently experienced by vehicles along W. Germantown Pike in the vicinity of the site, long-term roadway improvements along the site frontage of W. Germantown Pike are necessary with any development of this property. Based on improvements identified in the West Germantown Pike Corridor Study completed for Montgomery County in the early 2000's, the curb line along the W. Germantown Pike site frontage must further be setback with development of this site to accommodate two eastbound through lanes and a <u>5-lane cross-section (plus bike lanes/pedestrian ways)</u>. The outside through lane closest to the site can be used as a right-turn deceleration lane into the W. Germantown Pike site access and converted into an additional eastbound through lane in the future. The April 3, 2023 response letter to the Township from TPD indicates "So noted" in the reply, indicative that the applicant will comply; however the plans are not designed as such and should be modified.



T&M Response: After our joint meeting with PennDOT, the county and the township, we have , as directed, added an additional gore striped lane and right turn lane that could be converted to a future through lane.

7. Based on the study findings and analyses, we <u>continue to</u> have concerns of the impact of the N. Park Avenue (S.R. 0363) queue on site access traffic operations during the weekday morning and weekday afternoon peak hours. The queue extends southerly from W. Germantown Pike to approximately 90 to 140 feet from the site access during both peak hours, limiting sight distance looking to the right for vehicles making a left-turn out of this access affecting the driver's ability to make a left-turn out of the site during these time periods with sufficient sight distance. A sight line profile must be provided to show that with the proposed access and roadway grades that sight distance will not be prohibited by a queue extending towards the access for the driver. Otherwise, we recommend that left-turn egress from the N. Park Avenue (S.R. 0363) site access be restricted during the weekday morning (7 AM – 9 AM) and weekday afternoon (4 PM – 6 PM) peak hours via signage. This recommendation should be coordinated with PennDOT to ensure they are agreeable to this restriction. Traffic destined south on N. Park Avenue (S.R. 0363) would need to exit onto Germantown Pike during those hours.

The applicant's traffic engineer (TPD) indicates in its response that it will comply with this comment to the extent feasible during future HOP process; however no sight line profile has been provided on the submitted Highway Occupancy Permit Plans prepared by T&M Associates.

T&M Response: The driveway has been shifted approximately 10 feet to avoid the interlocking alignment, and the this driveway exit is now a right only maneuver.

Highway Occupancy Permit Plans (PennDOT and Montgomery County)

8. Additional information regarding the type of curb on the proposed channelized medians on the N. Park Avenue (S.R. 0363) access must be provided on the plans. In addition, the channelizing egress median for the N. Park Avenue (S.R. 0363) access must be increased to a minimum of 100 square feet.

T&M Response: The island configuration has changes and is now a single island. It is also noted to be a 4" concrete mountable curb.

9. As indicated in Comment #7 above, a sight distance profile should be provided for vehicles exiting the proposed N. Park Avenue (S.R. 0363) access looking right through the queue and towards the vertical curve to make the left-turn exit, as well as to the left due to the embankment along the edge of road.

T&M Response: Sight distance profiles for left sight distance have been provided on sheet 4A . the right sight distance was not included because the driveway exit is now a right only maneuver.

10. Additional widening to provide a 5-lane cross-section plus shoulders for bike lane use should be provided along the Germantown Pike frontage. Dimensions must be provided on the submitted County HOP plans to ensure sufficient widening has been provided along West Germantown Pike, as referenced in Comment #6 above.

T&M Response: After our joint meeting with PennDOT, the county and the township, we have , as directed, added an additional gore striped lane and right turn lane that could be converted to a future



through lane. A ten foot concrete multi-use path is now shown adjacent to Germantown Pike.

11. The proposed sidewalk along N. Park Avenue (S.R. 0363) appears to end abruptly at the proposed headwall, and prior to the property line. The sidewalk should be extended past the headwall and end at the property line, or an explanation as to why this is not feasible should be provided.

T&M Response: We have conceptually shown the sidewalk connecting across the culvert to the adjacent property. We will continue to coordinate with PennDOT to determine how and when the culvert will be rebuilt to provide this access.

12. Drainage reports, including pipe capacity, inlet spread, and swale calculations, must be submitted for review for both the PennDOT and County drainage systems prior to the Township signing the M950AA for stormwater maintenance with the Department and/or County. Additionally, refer to PennDOT comments on modifications to the stormwater design, as our office also concurs with same to be addressed.

T&M Response: The PCSM/ESC Stormwater Report, last revised 11-17-2023, has been included with this submission.

13. The applicant will need to have a stormwater management maintenance agreement with the Township that will run with the owner of the property in perpetuity for any parts of the system that PennDOT or the County require that the Township must be the applicant to obtain, and then maintain as part of permitting process. The applicant should coordinate with the Township Solicitor's office on the maintenance agreement.

T&M Response: Will Comply.

14. Additional spot grades should be provided along the channelized islands for the proposed N. Park Avenue (S.R. 0363) access to ensure no ponding will occur.

T&M Response: Additional Spot elevations have been added to the grading plan.

15. The profile for the proposed access along West Germantown Pike does not appear to match the contours provided on the plans. In addition, the gutter line along West Germantown Pike should be maintained at the proposed curb line; the profile appears to create a gutter line within West Germantown Pike and does not match the proposed cross-sections.

T&M Response: The access has been updated in the submission s well as the driveway profile. The gutter line has been revised as well.

16. The cross-sections for N. Park Avenue (S.R. 0363) and West Germantown Pike should be updated to include the tie-in slopes.

T&M Response: The tie-in slopes have been included with the cross sections.

17. The proposed radii for the accesses and channelized medians must be provided on the plans.

T&M Response: The radii have ben added to the plans.

18. Truck turns, using the largest anticipated design vehicle, must be added to the plans.



T&M Response: A truck turning template has been provided for a WB-40 truck. A note was added to the plan to indicate that this is the largest vehicles that is intended to be allowed access to the site.

19. Widening along N. Park Avenue (S.R. 0363) for the northbound right-turn lane will require acquisition and conveyance of right-of-way to PennDOT. PennDOT comments with many details on this matter in their June 6, 2023 comment letter which must be addressed.

T&M Response: Will Comply.

20. A modified traffic signal permit plan was not included in the PennDOT or County submissions for Germantown Pike and N. Park Avenue (S.R. 0363), as the road improvements and pedestrian improvements on the plans will require signal permit plan modifications, as well as the optimization of signal timings recommended in the TIA, A TE-160 form must be submitted to the Township as well for approval.

T&M Response: The traffic signal submission package is still being developed and will be included with our next submission.

21. The signal must be integrated into PennDOT's unified Command and Control software, with the PennDOT fiber optic cable that is present along Germantown Pike. If the fiber optic cable is impacted by the proposed work, PennDOT provides details for the designer and applicant to complete.

T&M Response: Will Comply.

If you have any questions, clarification, or need additional information, please contact me.

Very truly yours, T&M Associates Consulting Engineers

Christopher W. Jensen, PE Operations Manager Vice President

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PRELIMINARY LAND DEVELOPMENT PLANS FOR CITY VIEW

WORCESTER TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA





ENGINEER'S STORMWATER CERTIFICATION:

I, ZACHARY H. RANSTEAD, ON THIS DATE _____, HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE STORMWATER MANAGEMENT SITE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE WORCESTER TOWNSHIP STORMWATER ORDINANCE, CHAPTER 206

_____ ZACHARY H. RANSTEAD LICENSE # PE063078

APPLICANT'S STORMWATER CERTIFICATION:

THE APPLICANT HEREBY ACKNOWLEDGES THAT ANY REVISION TO THE APPROVED STORMWATER MANAGEMENT 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 A DETERMINATION OF ADEQUACY PRIOR TO CONSTRUCTION OF THE REVISED FEATURES.

BY: _____ BT WORCESTER, LLC

COMMONWEALTH OF PENNSYLVANIA, COUNTY OF MONTGOMERY:

ON THIS THE _____ DAY OF _____, 20____, BEFORE ME, THE SUBSCRIBER, PERSONALLY APPEARED BT WORCESTER, LLC, AND THAT AS MUCH TO DO SO, HE/SHE EXECUTED THE FOREGOING PLAN BY SIGNING THE NAME OF SAID CORPORATION BY HIMSELF/HERSELF AS ______, THAT THE SAID CORPORATION IS THE OWNER OF THE DESIGNATED LAND, THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED AND ENDORSED THEREON AND THAT THE SAID CORPORATION DESIRES THAT THE FOREGOING PLAN MAY BE DULY RECORDED.

BY: _____ OWNER

BT WORCESTER, LLC

_____ NOTARY PUBLIC

MY COMMISSION EXPIRES ON THIS ____ DAY OF _____, 20 ____, 20 ____,



ZONING MAP SCALE: 1"=1,000'

CONTEXT MAP SCALE: 1"=4.00'

APPROVED APPROVED THIS

OWNER/APPLICANT:

BT WORCESTER, LLC 200 DRYDEN ROAD, SUITE 2000 DRESHER, PA 19025 (215) 938-7300 INFO@BETINVESTMENTS.COM

UTILITY USER LIST ACT NUMBER 287 OF 1974 AS AMENDED

COMCAST 440 WAYNE AVENUE PHILADELPHIA, PA. 19140 CONTACT: ROBERT HARVEY EMAIL: BOB_HARVEY@CABLE.COMCAST.COM

COMCAST APOLLO RD PLYMOUTH MEETING, PA. 19462 CONTACT: TOM DEMSEY PHONE: 215-285-8738

PENNSYLVANIA AMERICAN WATER 171 W JOHNSON HIGHWAY NORRISTOWN, PA 19401 CONTACT: NOEL GIESSLER EMAIL: NOEL.GIESSLER@AMWATER.COM PHONE: 610-292-3575

LOWER PROVIDENCE TOWNSHIP 100 PARKLANE DRIVE EAGLEVILLE, PA 19403 P: 610-539-8020 EXT. 3537 CONTACT: JOSEPH CHILLANO EMAIL: JCHILLANO@LOWERPROVIDENCE.ORG

PECO ENERGY C/O USIC LLC 450 S HENDERSON RD SUITE B KING OF PRUSSIA, PA. 19406 CONTACT: NIKKIA SIMPKINS EMAIL: NIKKIASIMPKINS@USICLLC.COM PHONE: 610-292-8057

VERIZON BUSINESS FORMERLY MCI 700 WESTON PKWY CARY, NC. 27513 CONTACT: VICTOR WOOD EMAIL: VICTOR.S.WOOD@VERIZON.COM

WORCESTER TOWNSHIP 1721 SOUTH VALLEY FORGE ROAD P.O. BOX 767 WORCESTER, PA 19490 CONTACT: ROBERT DHULSTER EMAIL: BDHULSTER@WORCESTERTWP.COM

LOWER PROVIDENCE TOWNSHIP SEWER AUTHORITY 3329 RIDGE PIKE EAGLEVILLE, PA 19403 P: 610-539-6161 CONTACT: ALAN M. RUBENDALL EMAIL: ARUBENDALL@LPTSA.ORG

VERIZON PENNSYLVANIA LLC 1050 VIRGINIA DR FORT WASHINGTON, PA. 19034 CONTACT: DARLINE LEPPERD JOHNSON PHONE: 215–591–6354

CERTIFICATE OF CONFORMANCE - P.E.

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.

CHRISTOPHER W. JENSEN, P.E. LICENSE NO. PE076464

REVIEWED

REVIEWED THIS _____ DAY OF_____, 20___, BY THE PLANNING COMMISSION OF WORCESTER TOWNSHIP, MONTGOMERY COUNTY PA,

TOWNSHIP ENGINEER:

MCPC No. _



SITE & ADJA	CENT ZONING DISTRICT			
DESIGNATION	ZONING CLASSIFICATION			
AGR	AGRICULTURAL			
R-175	RESIDENTIAL			
R-150	RESIDENTIAL			
R-100	RESIDENTIAL			
R-75	RESIDENTIAL			
R-50	RESIDENTIAL			
RO	RESIDENTIAL OFFICE			
R-AG-175	RESIDENTIAL AGRICULTURAL			
R-AG-200	RESIDENTIAL AGRICULTURAL			
С	COMMERCIAL			
LI	LIMITED INDUSTRIAL			
LPD	LAND PRESERVATION DISTRICT			
SC	SHOPPING CENTER			
МН	MOBILE HOME DEVELOPMENT			
	MULTI-RESIDENTIAL USE OVERLAY DISTRICT			
AQRC	AGE QUALIFIED RESIDENTIAL COMMUNITY			

_ 20____, BY THE BOARD OF SUPERVISORS OF



DAY OF WORCESTER TOWNSHIP, MONTGOMERY COUNTY, PA

> ATTEST: SIGNATURE, CHAIRMAN

> > DATE SIGNED

SIGNATURE, SECRETARY

DATE SIGNED

(TOWNSHIP NOTARY SEAL)

ATTEST: SIGNATURE

DATE SIGNED

REVIEWED BY THE TOWNSHIP ENGINEER OF WORCESTER TOWNSHIP, MONTGOMERY COUNTY, PA

MONTGOMERY COUNTY PLANNING COMMISSION APPROVAL

DATE:

RECORDED IN THE MONTGOMERY COUNTY COURTHOUSE THIS _____ DAY OF _____ OF 20_____ IN PLAN BOOK _____, PAGE _____.

PROCESSED AND REVIEWED. A REPORT HAS BEEN PREPARED BY THE MONTGOMERY COUNTY PLANNING COMMISSION IN ACCORDANCE WITH THE MUNICIPALITIES PLANNING CODE. CERTIFIED THIS DATE:

FOR THE DIRECTOR MONTGOMERY COUNTY PLANNING COMMISSION



BETI00056

GENERAL NOTES

- 1. A HIGHWAY OCCUPANCY PERMIT IS REQUIRED FOR THIS PROJECT BEFORE ACCESS IS GRANTED TO THE STATE ROAD (SR0363).
- 2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS, SPECIFICATIONS. AND REFERENCED DOCUMENTS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION, SHOULD THE CONTRACTOR FIND A CONFLICT OR DISCREPANCY WITH THE DRAWINGS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS ALL APPLICABLE CODE REQUIREMENTS.
- ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVEGROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL AND VERTICAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF THE PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974. AS AMENDED BY ACT 181 OF 2006. CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. PA LAW REQUIRES THREE WORKING DAYS NOTICE FOR CONSTRUCTION PHASE. CALL THE PA ONE CALL SYSTEM AT 1-800-242-1776. SERIAL NO. 20213502294 WAS PLACED FOR SURVEY PURPOSES
- PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
- 5. ALL PROPOSED IMPROVEMENTS SHALL COMPLY WITH "THE AMERICAN DISABILITIES ACT", "ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES", AND "THE PENNSYLVANIA UNIVERSAL ACCESSIBILITY ACT".
- THIS PLAN SHALL NOT BE USED FOR BUILDING STAKEOUT PURPOSES. PROPOSED BUILDING LOCATION AS DEPICTED IS WITHIN ACCEPTABLE TOLERANCES FOR SITE WORK ONLY. PLEASE REFER TO ARCHITECTURAL/STRUCTURAL PLANS FOR EXACT BUILDING PLACEMENT.
- THE BUILDING FOOTPRINTS DEPICTED HEREON HAVE BEEN TRANSPOSED FROM ARCHITECTURAL PLANS. FINAL BUILDING DIMENSIONS MAY VARY SLIGHTLY FROM THOSE DEPICTED HEREON BUT SHALL ULTIMATELY CONFORM TO ALL APPLICABLE ZONING SETBACKS, IMPERVIOUS SURFACE COVERAGE RATIOS. ETC. CONTRACTOR SHALL NOTIFY PROJECT ENGINEER IF FINAL BUILDING FOOTPRINTS SUBSTANTIALLY VARY FROM THE FOOTPRINTS HEREON.
- CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH PENNDOT "PUBLICATION 408", LATEST EDITION, MUNICIPAL STANDARDS AND SPECIFICATIONS, AND UTILITY AUTHORITY/CO. STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE RESTRICTIVE.
- SIGNED/SEALED STRUCTURAL DESIGN CALCULATIONS AND CONSTRUCTION DETAILS OF PROPOSED RETAINING WALL(S) SHALL BE SUBMITTED BY THE CONTRACTOR TO THE PROJECT ENGINEER AND MUNICIPALITY FOR APPROVAL PRIOR TO CONSTRUCTION.
- 10. CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS AND COMPLETE ALL WORK INDICATED OR IMPLIED ON THE PROJECT PLANS AND/OR SPECIFICATIONS THAT ARE NOT EXISTING ON THE PROJECT SITE AND THAT ARE NOT SPECIFICALLY NOTED AS 'FUTURE' OR 'NOT IN CONTRACT (NIC)', 'BY OTHERS', 'BY OTHER CONTRACTORS', 'BY EC'. 'BY PC'. 'BY MC'.
- 11. THE CONTRACTOR SHALL BE FAMILIAR WITH AND RESPONSIBLE FOR ANY/ALL CERTIFICATIONS, INSPECTIONS, ETC. REQUIRED BY ALL GOVERNING JURISDICTIONAL AGENCIES DURING AND AFTER CONSTRUCTION FOR SIGN-OFF AND CERTIFICATE OF OCCUPANCY ISSUANCE INCLUDING BUT NOT LIMITED TO PROCUREMENT OF SERVICES SCHEDULING OF FIELD OBSERVATIONS AND COORDINATION WITH REPRESENTATIVES OF THE APPROPRIATE PARTIES. CONTRACTOR IS RESPONSIBLE TO COORDINATE CERTIFICATIONS, SIGN-OFFS, ETC. NECESSARY FOR JOB CLOSEOUT AND ISSUANCE OF CERTIFICATE OF OCCUPANCY.
- 12. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY SUCH DISCREPANCY BETWEEN GEOTECHNICAL REPORT AND PLANS. ETC.
- 13. THE PROPERTY SURVEY AS CERTIFIED SHALL BE CONSIDERED A PART OF THESE PLANS.
- 14. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO OUR OFFICE AT THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ENGINEER IN WRITING IF ACTUAL SITE CONDITIONS DIFFER FROM THAT SHOWN ON THE PLAN, OR IF THE PROPOSED WORK WOULD BE INHIBITED BY ANY OTHER EXISTING SITE FEATURES.
- 15. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK DUE TO DISCREPANCIES OR CONFLICTS ON THE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN PRIOR TO THE START OF WORK AND MATERIALS PROCUREMENT.
- 16. ADA RAMPS ARE SHOWN WITH RAMP TYPE.
- 17. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/MEPF PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELÉVATIONS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY SERVICE LOCATIONS AND SITE ELECTRICAL
- 18. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, COUNTY, STATE AND FEDERAL LAWS AND APPLICABLE CODES, CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNSUITABLE MATERIAL IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND LAWS.
- 19. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS. AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
- 20. THE CONTRACTOR IS TO EXERCISE CARE WHEN PERFORMING WORK ACTIVITIES ADJACENT TO PAVEMENT. STRUCTURES AND FACILITIES THAT ARE TO REMAIN CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT TO REMAIN, AND PROVIDE A SAFE WORK AREA.
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE ALL SIGNAL INTERCONNECTION CABLE, CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION.
- 22. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO EXISTING ITEMS DURING CONSTRUCTION SUCH AS BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, SIDEWALK, ETC. REPAIR SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO PROVIDE DOCUMENTATION OF THE CONDITION OF EXISTING ITEMS TO THE OWNER'S DESIGNATED REPRESENTATIVE PRIOR TO CONSTRUCTION START.
- 23. CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS INDICATED IN SPECIFICATIONS AND REFERENCE DOCUMENTS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.
- 24. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS/MEANS FOR COMPLETION OF THE WORK DEPICTED ON THESE PLANS NOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM THE SAME. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND NOTIFICATION OF OWNER AND ENGINEER OF RECORD IN WRITING WHEN A CONFLICT IS IDENTIFIED.
- 25. NEITHER THE PROFESSIONAL ACTIVITIES OF T&M ASSOCIATES NOR THE PRESENCE OF T&M ASSOCIATES OR ITS EMPLOYEES AND SUB-CONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS. METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. T&M ASSOCIATES AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE CONTROL OVER THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HEREIN IS NOT RESPONSIBLE FOR JOB SITE SAFETY NOR HAS HE BEEN RETAINED FOR SUCH PURPOSES. T&M ASSOCIATES SHALL BE INDEMNIFIED BY THE CONTRACTOR AND SHALL BE MADE AN ADDITIONAL INSURED UNDER THE CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE.
- 26. T&M ASSOCIATES SHALL REVIEW AND COMMENT OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT. BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION SHOWN IN THE CONSTRUCTION MEANS OR METHODS. COORDINATION OF THE WORK WITH OTHER TRADES AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. T&M ASSOCIATES' REVIEW SHALL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT T&M ASSOCIATES HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. T&M ASSOCIATES SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE ATTENTION OF T&M IN WRITING BY THE CONTRACTOR. T&M ASSOCIATES SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OR CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

- 27. THIS SHEET IS PART OF A LAND DEVELOPMENT PLAN SET ON RECORD AT THE MUNICIPALITY OF JURISDICTION.
- 28. ALL CURB RADII SHALL BE MIN. 5' UNLESS OTHERWISE NOTED OR DIMENSIONED.
- 29. AN AS-BUILT PLAN SHALL BE PREPARED FOR THE PROJECT INDICATING ACTUAL LOCATIONS, DIMENSIONS, AND ELEVATIONS OF ALL COMPLETED IMPROVEMENTS. THE PLAN SHALL BE PREPARED BY A PROFESSIONAL SURVEYOR REGISTERED IN THE STATE OF PENNSYLVANIA AND CERTIFIED BY THE ENGINEER WHO PREPARED THE FINAL PLAN. THE AS-BUILT PLAN SHALL BE FILED WITH THE TOWNSHIP NO LATER THAN NINETY (90) DAYS AFTER THE DATE OF SUBSTANTIAL COMPLETION OF THE DEVELOPMENT.
- 30. THE OWNER/EQUITABLE OWNER OF THE PROPERTIES WILL BE RESPONSIBLE FOR THE ONGOING INSPECTIONS, OPERATION, REPAIR, AND MAINTENANCE OF THE STORMWATER MANAGEMENT BMP'S AND CONVEYANCE SYSTEMS AFTER COMPLETION OF CONSTRUCTION.
- 31. A BLANKET STORMWATER MANAGEMENT EASEMENT OVER THE ENTIRE SITE IS PROPOSED TO BE GRANTED TO THE TOWNSHIP TO ALLOW LEGAL ACCESS AND MAINTENANCE VEHICLE ACCESS FOR MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES SHOULD THE NEED ARISE.
- 32. ALL PROPOSED PEDESTRIAN FACILITIES WITHIN THE SITE AND WITHIN THE PUBLIC RIGHT-OF-WAY (INCLUDING CURB RAMPS AND PEDESTRIAN ACCESS ROUTES) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE U.S. ACCESS BOARD, PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG) OF THE ACCESSIBILITY GUIDELINES OF BUILDINGS AND FACILITIES (ADAAG), PENNDOT DESIGN MANUAL PART 2 CHAPTER 6. AND PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION (PUBLICATION 72M, RC-67M). UNLESS SPECIFIED OTHERWISE THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO INSTALLATION.
- 33. WORK ON SITE IS ALLOWED FROM 7AM TO 7PM, MONDAY THROUGH SATURDAY. NO WORK IS ALLOWED ON SUNDAY. WORK HOURS WILL BE STRICTLY ENFORCED BY THE TOWNSHIP.
- 34. FIRE SPRINKLER SYSTEMS ARE PROPOSED TO BE INSTALLED WITHIN THE MULTI-FAMILY BUILDINGS

GENERAL DEMOLITION NOTES

REVIEW.

- 1. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS IDENTIFIED BY THE CONTRACTOR SHALL BE REPORTED TO THE ENGINEER IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF ACTIVITY
- THE FIRM OR ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE OSHA REQUIREMENTS AND OTHER FEDERAL, STATE, AND LOCAL REGULATIONS, TO ENSURE THE PUBLIC AND CONTRACTOR SAFETY
- 3. PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR/TO: A. ENSURE COPIES OF ALL PERMITS AND APPROVALS ARE ON SITE FOR
 - B. THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO SITE DISTURBANCE.
 - C. ALL EXISTING UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS. WATER, FLECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE, SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
 - D. PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING DEMOLITION ACTIVITIES.
 - E. FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AND RELOCATION AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
 - COORDINATE WITH UTILITY COMPANIES AND TOWNSHIP REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT OF THE AFFECTED PARTIES.
 - G. ANY AND ALL CONTAMINANTS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. DOCUMENTATION OF ANY AND ALL ENVIRONMENTAL WORK INCLUDING HAZARDOUS MATERIAL, SOILS, ASBESTOS, OR OTHER WORK REFERENCED OR IMPLIED HEREIN IS SOLELY THE RESPONSIBILITY OF THE OWNER'S ENVIRONMENTAL CONSULTANT.
- 4. THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES AND ANY OTHER IMPROVEMENTS TO REMAIN ON OR OFF SITE.
- 5. IN ABSENCE OF WRITTEN SPECIFICATION, THE CONTRACTOR SHALL PERFORM EARTH MOVING ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS. FOOTINGS. AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE IN ACCORDANCE WITH DIRECTION BY OWNER'S GEOTECHNICAL ENGINEER.
- EXPLOSIVES SHALL NOT BE USED WITHOUT PRIOR WRITTEN CONSENT OF THE OWNER. ALL THE REQUIRED PERMITS AND EXPLOSIVE CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS SHALL BE IN PLACE PRIOR TO STARTING AN EXPLOSIVE PROGRAM. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES.
- 7. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH: THE "MANUAL ON UNIFORM TRAFFIC CONTROL." AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHT-OF-WAYS.
- 8. CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY.
- 9. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINES, WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.
- 10. USE DUST CONTROL MEASURES TO LIMIT THE AMOUNT OF AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR TO WITHIN FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.
- 11. CONTRACTOR IS RESPONSIBLE TO SAFEGUARD SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.
- 12. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.
- 13. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.
- 14. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES. CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNSUITABLE MATERIAL IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND LAWS.
- 15. THE CONTRACTOR SHALL COORDINATE SERVICE SHUTOFF AND DISCONNECT/REMOVAL PROCEDURES WITH EACH RESPECTIVE UTILITY COMPANY FOR THE EXISTING UTILITIES SHOWN TO BE REMOVED. 16. THE DEMOLITION PLAN IS NOT INTENDED TO SHOW EROSION CONTROL MEASURES.
- FOR SUCH GUIDELINES AND DETAILS, SEE THE EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
- 17. ALL EXISTING FEATURES WITHIN THE LIMIT OF DISTURBANCE (AS DEFINED ON THE PLAN SET) ARE TO BE REMOVED (UNLESS OTHERWISE NOTED) AT NO ADDITIONAL COST TO THE OWNER WHETHER OR NOT EXPLICITLY DEPICTED ON THIS PLAN. FEATURES TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO ALL TREES, VEGETATION, STRUCTURES, ABANDONED UTILITIES, AND ABANDONED IRRIGATION PIPE AND SYSTEM COMPONENTS. CONTRACTOR SHALL ABANDON ANY WELLS PRESENT WITHIN THE LIMIT OF DISTURBANCE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.

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GRADING NOTES

- 1. VERTICAL DATUM IS NAVD 1988 AND ESTABLISHED BY OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK. 2. THE MINIMUM SLOPE IN GRASSED AREAS SHALL NOT BE LESS THAN 2% AND THE
- MINIMUM IN PAVED AREAS SHOULD NOT BE LESS THAN 1%. 3. RUNOFF FROM IMPERVIOUS AREAS SHALL NOT BE DIRECTED INTO THE SANITARY SEWER OR ONTO ADJACENT PROPERTIES.
- 4. WALLS IN EXCESS OF 30" IN HEIGHT REQUIRE A SAFETY FENCE A MINIMUM OF 42" IN HEIGHT. REFER TO DETAIL SHEETS.
- 5. PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.
- 6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE / RECORD PLAN WILL SUPERSEDE IN ALL CASES. THE ENGINEER OF RECORD MUST BE IMMEDIATELY NOTIFIED IN WRITING OF ANY CONFLICTS.
- 7. THE CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS (INCLUDING DEP, ETC.) FOR ALL OFF-SITE HAUL AND/OR BORROW SITES. CONTRACTOR SHALL SUPPLY A COPY OF APPROVALS TO DESIGN ENGINEER AND OWNER PRIOR TO INITIATING WORK.
- 8. EXISTING INLETS AND STORM SEWER INDICATED AS FILLED W/DEBRIS SHALL BE CLEANED AND FLUSHED. NEW INLETS AND PIPES SHALL BE CHECKED FOR SILT/DEBRIS AFTER CONSTRUCTION AND FLUSHED/CLEANED IF NECESSARY.
- 9. DEPTH OF EXISTING UTILITIES IN PORTIONS OF THE SITE ARE UNKNOWN. WHERE EXISITING UTILITIES ARE TO REMAIN AND ARE FOUND TO HAVE INADEQUATE GROUND COVER AFTER FINAL PROPOSED GRADES HAVE BEEN ESTABLISHED, THE DESIGN ENGINEER SHALL BE CONTACTED IMMEDIALTELY AND PRIOR TO FURTHER CONSTRUCTION ACTIVITIES IN THE AREA OF SAID CONFLICT.
- 10. ALL DESIGNERS AND CONTRACTORS UTILIZING THIS PLAN AND THE INFORMATION CONTAINED THEREON ARE CAUTIONED TO COMPLY WITH THE REQUIREMENTS OF PENNSYLVANIA ACT 287. LOCATION OF EXISTING AND PROPOSED UNDERGROUND UTILITIES AND FACILITIES SHOWN ON THE DRAWINGS HAVE BEEN DEVELOPED FROM INFORMATION MADE AVAILABLE. COMPLETENESS AND ACCURACY OF LOCATION AND DEPTH OF UTILITIES AND FACILITIES CANNOT BE GUARANTEED. THE CONTRACTOR IS TO VERIFY THE DEPTH AND LOCATION OF ALL UTILITIES AND FACILITIES BEFORE THE START OF WORK. UTILIZE HAND EXCAVATION AS REQUIRED. WORK IS ALSO TO BE DONE IN ACCORDANCE WITH THE STANDARDS OF THE UTILITY COMPANIES WHOSE FACILITIES ARE IN THE PROXIMITY OF THE WORK. OTHER UTILITIES MAY BE REQUIREMENTS OF PENNSYLVANIA ACT 38 (1991). THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776, AT LEAST 3 DAYS PRIOR TO EXCAVATION.
- 11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE FEDERAL. STATE AND LOCAL CODES. AND ALL REGULATIONS APPURTENANT TO THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. ALL WORK SHALL BE DONE IN ACCORDANCE WITH PROJECT SPECIFICATIONS INCLUDING CURRENT APPLICABLE STANDARDS AND REQUIREMENTS. WHERE ANY STANDARDS SEEM IN CONFLICT WITH THESE DRAWINGS, NOTIFY THE DESIGN ENGINEER AND CONSTRUCTION MANAGER FOR DIRECTION PRIOR TO PROCEEDING WITH WORK.
- 12. CONTRACTORS SHALL HAVE ALL REQUIRED SUBMITTAL APPROVALS PRIOR TO BEGINNING WORK OR ORDERING MATERIALS.
- 13. CONTRACTORS SHALL VERIFY ALL DIMENSIONS, INVERTS. ELEVATIONS, AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH THE WORK OR PROCUREMENT OF MATERIALS. VARIATIONS BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED PRIOR TO PROCEEDING WITH THE WORK
- 14. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY, PROCEDURES, MEANS AND METHODS, SEQUENCING, AND COORDINATION.
- 15. ALL WORK SHALL BE PERFORMED BY QUALIFIED, EXPERIENCED PERSONNEL.
- 16. CONTRACTOR SHALL NOTIFY THE OWNER OF PREEXISTING CONDITIONS OF DETERIORATION IN AREAS OF WORK THAT ARE UNCOVERED OR EXPOSED DURING THE WORK.
- 17. FIELD CHANGES REQUIRE PRIOR DESIGN ENGINEERING REVIEW AND WRITTEN CONFIRMATION.
- 18. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR TO ANY SIDEWALKS, LAWN, TREES, PAVING, AND OTHER IMPROVEMENTS DISTURBED OR DAMAGED BY DEMOLITION ACTIVITIES PROPOSED HEREIN.
- 19. CONTRACTOR SHALL PROVIDE PROPER TEMPORARY BRACING AND SHORING OF ALL CONSTRUCTION TO REMAIN OR DEMOLITION WORK IN PROGRESS.
- 20. CONTRACTOR SHALL PROVIDE LAYOUT, LINE AND GRADE UNLESS OTHERWISE NOTED.
- 21. CONTRACTOR SHALL NOTIFY THE OWNER OF ANY DISCREPANCIES WITHIN THE DRAWINGS, SPECIFICATIONS, CODES OR STANDARDS FOR CORRECTIVE ACTION PRIOR TO START OF WORK.
- 22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF VEHICULAR AND PEDESTRIAN TRAFFIC. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH LOCAL, PENNDOT & OSHA REGULATIONS.
- 23. CONTRACTOR SHALL PROVIDE PROTECTION FOR EXISTING UTILITIES UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY UTILITY LINE INTERRUPTION AT NO ADDITIONAL CONTRACT COST. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION AND SUPPORT FOR ALL UTILITIES EXPOSED DURING THE WORK TO INSURE AGAINST DAMAGE AT NO ADDITIONAL COST
- 24. CONTRACTOR SHALL PROVIDE TEMPORARY DEWATERING OF EXCAVATIONS THROUGHOUT THE DURATION OF CONTRACT AT NO ADDITIONAL COST.
- 25. EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE DATA. DUE TO THE POTENTIAL LACK OF COMPLETE OR ACCURATE DATA REGARDING EXISTING ONSITE AND OFFSITE UTILITIES, THE CONTRACTOR SHALL ASSESS AVAILABLE DATA, SHALL REQUEST UTILITY COMPANY MARKOUTS, SHALL COORDINATE WITH AFFECTED UTILITY COMPANIES, AND SHALL DIG TEST PITS AT ALL PROPOSED UTILITY CROSSING LOCATIONS SO THAT FLEVATIONS CAN BE TAKEN TO ASSESS POTENTIAL CONFLICTING PIPES/UTILITIES PRIOR TO ANY PROPOSED UTILITY CONSTRUCTION. IF UNEXPECTED UTILITY LOCATIONS OR ELEVATIONS OR PIPE CONFLICTS ARE ENCOUNTERED DURING CONSTRUCTION, OR IF TEST PITS REVEAL POTENTIAL CONFLICT, DESIGN ENGINEER SHALL BE NOTIFIED SO THAT ELEVATIONS AND LOCATIONS (WHERE NECESSARY) OF AFFECTED UTILITIES CAN BE OBTAINED TO FACILITATE NECESSARY DESIGN ADJUSTMENTS.
- 26. REMOVAL OF EXISTING UTILITIES SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES.
- 27. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.
- 28. ALL SIDEWALKS, CROSSWALK, TRAILS, ENTRANCES, AND RAMPS TO BE BUILT IN ACCORDANCE WITH ADA STANDARDS. MAXIMUM LONGITUDINAL SLOPE TO BE 5%. MAXIMUM CROSS SLOPE TO BE 2%. IT IS RECOMMENDED TO CONSTRUCT CROSS SLOPES AT 1.5% AND LONGITUDINAL SLOPES AT 4.9% TO ALLOW FOR CONSTRUCTION TOLERANCE.
- 29. REFER TO ADA CURB RAMP CONSTRUCTION DETAILS AND ADA ACCESSIBILITY PLAN FOR ADDITIONAL INFORMATION SPECIFIC TO CURB RAMP AND ACCESSIBLE ROUTE GRADING.

PLACEMENT OF FILL NOTES:

- 1. BACKFILLING, TO THE SUBGRADE ELEVATION, SHALL BE DONE IN LAYERS OF SIX (6) TO EIGHT (8) INCHES AND EACH LAYER SHALL BE THOROUGHLY TAMPED BY AN APPROVED MECHANICAL TAMPER TO A MINIMUM DENSITY OF 95% AT OPTIMUM MOISTURE AS DETERMINED BY ASTM D-698 OR AASHTO T-99 WITH SUITABLE BACKFILL MATERIAL. BACKFILLING OR TAMPING WITH TRENCHING MACHINES IS PROHIBITED.
- 2. THE FILL MATERIAL SHALL CONTAIN THE PROPER MOISTURE CONTENT TO OBTAIN THE REQUIRED COMPACTION. WETTING OR DRYING OF THE MATERIAL OR ANY OTHER MANIPUALTION SHALL BE REQURIED TO SECURE UNIFORM MOSITURE CONTENT THROUGHOUT THE LAYER. IF THE MATERIAL IS TOO WET TO PERMIT PROPER COMPACTION, ALL WORK ON PORTIONS THUS AFFECTED SHALL BE DELAYED UNTIL THE WET MATERIAL HAS EITHER DRIED TO THE MOISTURE CONTENT OR HAS BEEN REMOVED. A LAYER OF FILL SHALL NOT BE ADDED UNTIL THE PREVIOUS LAYER HAS ATTAINED THE REQUIRED PERCENT COMPACTION.
- 3. SUITABLE BACKFILL MATERIAL IS MATERIAL CONTAINING NO DEBRIS, ORGANIC MATTER, FROZEN MATERIAL OR LARGE ROCKS OR STONES WITH A DIAMETER OF GREATER THAN ONE-HALF THE THICKNESS OF THE COMPACTED LAYERS BEING PLACED. IN ADDITION, BACKFILL MATERIAL SHALL NOT CONTAIN VEGETATION, MASSES OF ROOTS, INDIVIDUAL ROOTS, CINDERS, ASHES, REFUSE, BOULDERS, AND ANY OTHER MATERIAL WHICH IN THE OPINION OF THE ENGINEER, IS UNSUITABLE

EXISTING DATA SOURCE NOTES:

- 1. TOPOGRAPHIC FEATURES SHOWN FROM ACTUAL FIELD SURVEY BY ASH ASSOC JUNE AND JULY OF 2021 AND IS LIMITED TO SHOWING FEATURES OF INTER CONTOUR LINES IN AREAS OF DEBRIS PILES AND OTHER STOCKPILES (WOOL ETC.) MAY NOT BE ACCURATE AS ACTUAL GROUND COULD NOT BE LOCATED PILES THAT EXIST ARE SHOWN.
- VERTICAL DATUM IS NAVD 1988 AND ESTABLISHED BY GPS OBSERVATIONS R THE NGS CORS NETWORK. SITE BENCHMARK IS A MAGNETIC NAIL SET AS BENCHMARK FLEVATION=460 10'
- HORIZONTAL DATUM IS NAD 83, STATE PLANE COORDINATES OF PENNSYLVAN ESTABLISHED GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK
- 4. THE RESULTS OF THE SURVEY DIFFER SIGNIFICANTLY FROM THE RECORD INFO CONTAIN IN INSTRUMENT No. 1993068585 (DEED BOOK 5101 PAGE 0796) COMMITMENT FOR TITLE INSURANCE, COMMITMENT NO.: PAFA21-3007 GD, 1 THESE DOCUMENTS ARE REFLECTED ON THE PLAN AS FOLLOWS: (1) S 43° 10' W 69 PERCHES (1,138,50')
- (COURSE No.) BEARING DISTANCE (CONVERSION OF PERCHES TO FEET) (SIG 5. THIS PLAN WAS MADE AS PER INSTRUCTIONS OF APPLICANT AND WITHOUT A TITLE REPORT. OTHER RIGHTS TO PROPERTY MAY EXIST.
- 6. THIS PLAN DOES NOT SHOW ENVIRONMENTAL HAZARDS, OR ARCHEOLOGICAL
- 7. ENTIRE SITE IS LOCATED IN FLOOD ZONE "X" AREAS DETERMINED TO BE OU ANNUAL CHANCE FLOODPLAIN. PER FEMA FLOOD INSURANCE RATE MAP MONTGOMERY COUNTY, PANEL 245 OF 451, MAP # 42091C0245G, REVISED
- 8. ULTIMATE RIGHT OF WAY LINES FOR W GERMANTOWN PIKE AND NORTH PAR SHOWN FOR SETBACK PURPOSES ONLY.

STORM SEWER NOTES

- ROOF LEADERS SHALL BE CONNECTED DIRECTLY TO THE PROPO MANAGEMENT SYSTEM OR DIRECTED VIA SURFACE GRADES TO IN MANAGEMENT SYSTEMS. LEAF TRAPS, GUTTER GUARDS, AND/OR BE PROVIDED TO PREVENT CLOGGING BY UNWANTED DEBRIS.
- ALL STORM CONVEYANCE PIPE SHALL BE SMOOTH LINED DOUBL DENSITY POLYETHYLENE PIPE (HDPE), UNLESS OTHERWISE SPECI LEADERS SHALL BE SCHEDULE 40 PVC.
- ALL DETENTION AND RETENTION BASIN EMBANKMENTS SHALL BE INCH MAXIMUM LIFTS TO A MINIMUM 95% DRY DENSITY. PRIOR TO THE NEXT LIFT, COMPACTION SHALL BE CHECKED BY THE M ENGINEER OR AN APPROVED GEOTECHNICAL ENGINEER WHO SHA MUNICIPAL ENGINEER WITH A WRITTEN REPORT. COMPACTION T PERFORMED USING THE MODIFIED PROCTOR METHOD IN ACCORDA D-1577-07. COMPACTION TESTS SHALL BE RUN ON THE LEAD EDGE AS WELL AS THE TOP OF THE BERM.
- 4. ANTI-SEEP COLLARS SHALL BE INSTALLED AROUND THE PIPE B NORMAL SATURATION ZONE OF THE DETENTION BASIN BERMS. COLLARS AND THEIR CONNECTIONS TO THE PIPE BARRELS SHAL THE ANTI-SEEP COLLARS SHALL EXTEND A MINIMUM OF TWO F OUTSIDE OF THE PRINCIPAL PIPE BARREL. THE MAXIMUM SPAC COLLARS SHALL BE FOURTEEN (14) TIMES THE MINIMUM PROJE COLLAR MEASURED PERPENDICULAR TO THE PIPE. A MINIMUM ANTI-SEEP COLLARS SHALL BE INSTALLED ON EACH OUTLET PIF
- 5. IF A CONFLICT ARISES DURING THE INSTALLATION OF ANY PART SEWER SYSTEM THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY
- 6. LANDSCAPING, FENCES AND STRUCTURES SHALL BE PLACED A FEET AWAY FROM STORM SEWERS OUTSIDE OF THE RIGHT OF W
- REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES 8. ALL STORM SEWER INLETS MUST BE IDENTIFIED WITH A STORM STORM DRAIN MARKERS SHALL BE STAINLESS STEEL AFFIXED TO WITH ADHESIVE, RIVETS, OR BOLTS. (MARKER MAY BE BOLTED OFF-ROAD LOCATIONS). MARKER SHALL HAVE A MINIMUM DIAME INCLUDE "NO DUMPING-DRAINS TO WATERWAY" AND A FISH SYM DESIGNS/SIZES MAY BE USED IF APPROVED BY THE TOWNSHIP.

RECORD NOTES_

- 1. PLAN SHEETS IN THIS SET, WHICH ARE NOT BEING RECORDED, WHICH ARE WORCESTER TOWNSHIP SHALL BE CONSIDERED PART OF THE FINAL RECOR RECORDED WITH SAME.
- 2. A BLANKET FASEMENT IS HEREBY PROPOSED ACROSS THE ENTIRE SITE F MANAGEMENT INSPECTIONS AND MAINTENANCE. WORCESTER TOWNSHIP IS TO THIS BLANKET EASEMENT.

PLAN SCALE NOTE THE PLAN RECORDED WITH THE MONTGOMERY COUNTY RECORDER OF DEEDS IS NOT TO SCALE. AN ACCURATE, TO SCALE, COPY OF THE RECORDED PLANS IS ON FILE WORCESTER TOWNSHIP.

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ZONING APPROVAL

- THE ZONING HEARING BOARD OF WORCESTER TOWNSHIP ISSUED AN (APPROVED THE FOLLOWING ZONING RELIEF:
- 1. A VARIANCE FROM SECTION 150-138A(4)(b) TO ALLOW INSTAL FLOODPLAIN CONSERVATION DISTRICT. 2. A VARIANCE FROM SECTION 150-138B(11) TO ALLOW INSTALL
- FLOODPLAIN CONSERVATION DISTRICT. 3. A VARIANCE FROM SECTION 150-88(D) TO ALLOW A REDUCTION
- 25-FOOT SETBACK ALONG NORTH PARK AVENUE.
- THE DECISION OR ORDER ISSUED BY THE ZONING HEARING BOARD
- 1. THE APPLICANT SHALL CONSTRUCT THE MULTI-FAMILY DEVELOPME 2. THE APPLICANT SHALL COMPLY WITH ALL REQUIREMENTS OF TH
- WAIVED BY THE BOARD OF SUPERVISORS. 3. THE APPLICANT SHALL INSTALL TREES AND LANDSCAPING ALON TOWNSHIP PLANNING COMMISSION, AND THE BOARD OF SUPERVISO
- 4. THE APPLICANT SHALL APPLY FOR AND OBTAIN ALL APPLICABLE A TIMELY MANNER.
- 5. ALL USE AND DEVELOPMENT PERMITTED BY THIS DECISIONS SHAL WITH ANY SPECIFIC CONDITIONS IMPOSED BY THIS BOARD, IN WHI 6. EXCEPT AS PERMITTED BY PRIOR DECISIONS OF THIS BOARD, INCLUDING, BUT NOT LIMITED TO, ALL OTHER PROVISIONS OF ART
- ALL STORM WATER MANAGEMENT FENCING, SETBACK, PARKING, WORCESTER TOWNSHIP.

		STANDAR	RD LEGEND			NA DIE	CALL SYS
CIATES DURING REST ONLY. D, ASPHALT, D. NOT ALL FILL	EXISTING (Show Size and Type)		PROPOSED (Show Size and Type)	CABLE TELEVISION	ATTENTIO	NALL CONTRACTORS	ETGE BUILT
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IN WRITING.	2. EXISTING PROPERTY I TAX MAP F	DENTIFICATION: ARCEL REFERENCE - TM	IP 67-04-56 APN: 67-00-0160	5-001		PROFES	
VAY OF STREETS.	RECORDED TRACT LOC 2974 NORRI	DEED DATA REFERENCE ATION: GERMANTOWN PIKE STOWN, PA 19403	- CHESTER COUNTY, DEED BOOK	101, PAGE 0796			R W. JENSEN
DRAIN MARKER. D THE INLET HOOD TO THE GRATE IN TER OF 3	WORCI 3. DEVELOPABLE AREA GROSS TRA PUBLIC RIG ULTIMATE F UTILITY EA: FLOOPPLAIN WETLANDS	ESTER TOWNSHIP, MONTG SUMMARY: CT AREA= HT OF WAY = NGHT OF WAY = SEMENTS = I = =	OMERY COUNTY, PENNSYLVANIA 13.92 ACRES 0.85 ACRES 0.83 ACRES 0.000 ACRES 0.000 ACRES 0.000 ACRES			NO. PE	76464 L V A 4/3/2023 NAL ENGINEER
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OR STORMWATER DEEMED A PARTY	PROP	NG – PUBLIC WATER SEF DSED – PUBLIC WATER S	RVICE PROVIDED BY PA AMERICAN ERVICE PROVIDED BY PA AMERICAN	WATER CO NORRISTOWN DIST WATER CO NORRISTOWN DIST			
	ZONIN	<u>G DATA</u>				Σ	
DISTRICT CLASSIFICATION: COMMERCIAL OTOR VEHICLE SALES, MOTOR VEHICLE	(C) / MULTI RESIDENTIA REPAIR, RESTAURANT, R	L USE OVERLAY DISTR	ICT (MR) YARD			6-00 IP,	
Multi-Family Residential						160 WNSH	S
<u>NTS:</u> ZONIN	NG (BY DISTRICT:)	COMMERCIAL (C)	MULTI RESIDENTIAL (MR)		LLC)0-0 Terto Thoff	OTE
		<u>REQUIRED</u> 25,000 S.F.	REQUIRED 5.0 ACRES	PROPOSED 13.94 ACRES	TER,	67-C	Z
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D SETBACK YARD SETBACK		50 FEET 75 FEFT	75 FEET	140 FEET		VIE MERY	Ш
HEIGHT / STORIES	30	FEET / 2 STORIES	45 FEET / 4 STORIES *	45 FEET / 4 STORIES			
RY STRUCTURE HEIGHT / STORIES		N.A.	15 FEET / 1.5 STORIES *	N.A.		U ≥	
GHI		N.A.	N.A. 12 D.U./ACRE	< 20 FEET 11.76 D.U. / ACRE			
TO BUILDING SEPARATE SETBACK (FRONT/REAR) N. PARK AVE	NUE	N.A. 20 FEET	30 FEET *** 75 FEET (25 FEET **)	75 FEET 25 FEET **			
SETBACK (FRONT/REAR) GERMANTOWN SETBACK (SIDE)	PIKE	20 FEET 5 FEET	75 FEET (20 FEET **) 75 FEET	20 FEET ** 75 FEET			
ET PARKING		N.A.	2 SPACES / UNIT *	2.61 SPACES/ UNIT			
021-285 AMENDMENT TO MR-MULTI-F APPROVAL RECEIVED ON JUNE 16, 20	RESIDENTIAL DISTRICT COL 022. (SEE BELOW)	DE					
2021–285 SUCH MINIMUM DISTANCE SUBSTANTIALLY PARALLEL TO THE FRO	CAN BE INCREASED TO N ONT OR REAR OF A SIMIL	OT LESS THAN 75 FE ARLY USED BUILDING	ET IF DETERMINED THAT THE F	RONT OR REAR OF ANY		AND	
ORDER REGARDING APPLICATION	ZHB 2022-08 ON J	UNE 16, 2022. TH	E ZONING HEARING BOARE)		YOUR GOALS	S. OUR MISSION.
LLATION OF OUTFALL STRUCTU	RES WITH ASSOCIATE	D DISCHARGE PIF	ING AND SIDEWALK WITH	IN THE		PHILADELPHI TEL 215-2	A, PA 19103 282-7850
LATION OF OUTFALL STRUCTUR	RES WITH ASSOCIATE	DISCHARGE PIPI	NG, AND SIDEWALK WITH	N THE		OFFICES	
IN OF THE 75-FOOT PARKING	SETBACK TO A 20-	-FOOT SETBACK AI	LONG GERMANTOWN PIKE	and A	(MASS	CALIFORNIA, INDI SACHUSETTS, MIC	IANA, KENTUCKY, CHIGAN, NEW JERSEY,
IS SUBJECT TO THE FOLLOWING ENT AS SHOWN ON THE PLANS	GONDITIONS.	A-5 THROUGH A-	-8				
HE WORCESTER TOWNSHIP SUBE	DIVISION AND LAND I	DEVELOPMENT ORDI	NANCE, EXCEPT TO THE THE TOWNSHIP ENGINEE	EXTENT R, THE		IED BY CGG/JPK/ROP ED BY	
ORS. TOWNSHIP, COUNTY AND STATE	PERMITS AND APPRC	VALS RELATIVE TO	THE CONSTRUCTION AND	USE IN	DRAWN	DS N BY	
ALL CONFORM TO THE EXHIBITS ICH CASE THESE SPECIFIC CONE THE LISE OF SUBJECT BRODED	AND TESTIMONY PRE DITIONS SHALL TAKE I	SENTED BY THE A PRECEDENCE.	PPLICANT, UNLESS INCON	SISTENT	DATE	rg/SR/ROP 1/27/22	^
ICLE XX OF THE ZONING ORDIN LIGHTING, SIGN AND NOISE REG	ANCE GOVERNING THE	FLOODPLAIN CON OTHER CODES, RE	SERVATION DISTRICT, AS W GULATIONS AND ORDINANC	ELL AS DES OF	SCALE SEE PL	LAN SCALE NOTE	2
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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Во	Bowmansville-Knauers silt loams	1.1	3.7%
PIB	Penn-Lansdale complex, 3 to 8 percent slopes	8.7	29.2%
PIC	Penn-Lansdale complex, 8 to 15 percent slopes	7.0	23.5%
UryB	Urban land-Readington complex, 0 to 8 percent slopes	8.7	29.2%
UusD	Urban land-Udorthents, shale and sandstone complex, 8 to 25 percent slopes	4.3	14.3%
Totals for Area of Interest		29.9	100.0%

	TABLE E.1												
LIMITATIONS OF PE	INNS	rlvan	A SO	ILS F	PERTA	INING	to e	EARTH	MOVI	NG PF	ROJEC	TS	
SOIL NAME	CUTBANKS CAVE	CORROSIVE TO CONCRETE/STEEL	ркоиснту	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	HYDRIC/ HYDRIC INCLUSIONS	LOW STRENGTH / LANDSLIDE PRONE	SLOW PERCOLATION	ONIdid	POOR SOURCE OF TOPSOIL	FROST ACTION	Shrink – Swell
BOWMANSVILLE-KNAUERS SILT LOAMS (Bo)													
BOMANSVILLE	х	c/s			x	X	х	x	х	х	x	х	
KNAUERS	х	c/s	х		x	X	х	x	х		x	х	
PENN-LANSDALE COMPLEX, 3% TO 8% SLOPES (PIB), 8% TO 15% SLOPES (PIC)													
PENN	х	С	х				х	x		х	x	х	
LANSDALE	х	С	х					X	х		X	х	
URBAN LAND-READINGTON COMPLEX, 0 TO 8 PERCENT SLOPES (UryB)	x	c/s		x		×	x	x	x	x	x	х	
URBAN LAND-UDORTHENTS, SHALE AND SANDSTONE COMPLEX, 8 TO 25 PERCENT SLOPES (UusD)	x	C/S	x	x				x	x		x	x	

BETI00056





SpeciesCaliper SizeTo Be Removed1red cedar6To be Removed2unidentified6To be Removed3ash7To be Removed4ash7To be Removed5ash7To be Removed6ash7To be Removed8ash7To be Removed9ash7To be Removed10ash7To be Removed11ash7To be Removed12elm7To be Removed13elm7To be Removed14norway maple7To be Removed15norway maple7To be Removed16norway maple7To be Removed17norway maple7To be Removed18norway maple7To be Removed19aspen7.2To be Removed20norway maple7.5To be Removed21elm7.5To be Removed22norway maple7.5To be Removed23ash8To be Removed24ash8To be Removed25ash8To be Removed26ash8To be Removed27ash8To be Removed28ash8To be Removed29ash8To be Removed20ash8To be Removed21elm7.5		- 1		
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34slippery elm8To be Removed35ash8To be Removed36ash8To be Removed37ash8.5To be Removed	33	elm	8	To be Removed
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36 ash8 To be Removed37 ash8.5 To be Removed	35	ash	8	To be Removed
37 ash 8.5 To be Removed	36	ash	8	To be Removed
	37	ash	8.5	To be Removed
38 norway maple 8.5 To be Removed	38	norway maple	8.5	To be Removed
39 norway maple 8.5 To be Removed	39	norway maple	8.5	To be Removed
40 elm 9 To be Removed	40	elm	9	To be Removed

11	elm	9	To be Removed
12	locust	9	To be Removed
13	mulberry	9	To be Removed
14	Norway maple	9	To be Removed
15	elm	9	To be Removed
16	ash	9	To be Removed
17	ash	9	To be Removed
18	Norway maple	9	To be Removed
19	ash	9.5	To be Removed
50	elm	9.5	To be Removed
51	ash	10	To be Removed
52	ash	10	To be Removed
53	ash	10	To be Removed
54	ash	10	To be Removed
55	norway maple	10	To be Removed
56	elm	10	To be Removed
57	ash	10	To be Removed
58	norway maple	10	To be Removed
59	elm	10	To be Removed
50	ash	11	To be Removed
51	ash	11	To be Removed
52	ash	11	To be Removed
53	ash	11	To be Removed
54	norway maple	11	To be Removed
65	ash	11	To be Removed
66	ash	11	To be Removed
57	norway maple	11	To be Removed
58	mulberry	11.5	To be Removed
59	norway maple	11.5	To be Removed
70	ash	12	To be Removed
71	ash	12	To be Removed
72	ash	12	To be Removed
73	elm	12	To be Removed
74	elm	12	To be Removed
75	norway maple	12	To be Removed
76	norway maple	12	To be Removed
77	norway maple	12	To be Removed
78	norway maple	12	To be Removed
79	ash	12	To be Removed
30	ash	12	To be Removed

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81	ash	13	To be Removed
82	ash	13	To be Removed
83	elm	13	To be Removed
84	elm	13	To be Removed
85	green ash	13	To be Removed
86	red maple	13	To be Removed
87	ash	14	To be Removed
88	black cherry	14	To be Removed
89	black cherry	14	To be Removed
90	elm	14	To be Removed
91	norway maple	14.5	To be Removed
92	ash	15	To be Removed
93	ash	15	To be Removed
94	elm	15	To be Removed
95	tree of heaven	15	To be Removed
96	norway maple	15	To be Removed
97	ash	16	To be Removed
98	cherry	16	To be Removed
99	norway maple	16	To be Removed
100	slippery elm	16	To be Removed
101	norway maple	16.5	To be Removed
102	ash	17	To be Removed
103	norway maple	17	To be Removed
104	slippery elm	17	To be Removed
105	slippery elm	17	To be Removed
106	norway maple	18	To be Removed
107	norway maple	18	To be Removed
108	elm	19	To be Removed
109	ash	20	To be Removed
110	ash	20	To be Removed
111	ash	20	To be Removed
112	magnolia	20	To be Removed
113	magnolia	20	To be Removed
114	ash	21	To be Removed
115	ash	22	To be Removed
116	black cherry	22	To be Removed
117	magnolia	22	To be Removed
118	maple	23	To be Removed
119	ash	24	To be Removed
120	norway maple	24	To be Removed

21	elm	25	To be Removed
22	elm	25	To be Removed
23	elm	25	To be Removed
24	ash	26	To be Removed
25	black cherry	26	To be Removed
26	ash	27	To be Removed
27	elm	27	To be Removed
28	black cherry	28	To be Removed
29	elm	28	To be Removed
30	elm	29	To be Removed
31	magnolia	29	To be Removed
32	elm	30	To be Removed
33	bur oak	35	To be Removed
34	unidentified	10"	To be Removed
35	unidentified	10"/11"	To be Removed
36	Ash	20" / 10"	To be Removed
37	unidentified	21"	To be Removed
38	black cherry	26''	To be Removed
39	unidentified	33"	To be Removed
40	unidentified	7"	To be Removed
41	unidentified	8"	To be Removed
42	unidentified	clump	To be Removed
43	unidentified	clump	To be Removed
44	unidentified	clump	To be Removed
45	norway maple	6	
46	norway maple	6.5	
47	ash	7	
48	ash	7	
49	norway maple	7	
50	Slippery Elm	7	
51	Slippery Elm	7	
52	Slippery Elm	7	
53	ash	8	
54	ash	8	
55	Norway maple	8	
56	Norway maple	8	
57	norway maple	8	
58	norway maple	8	
59	Slippery Elm	8	
60	ash	8.8	

162 Ash 9 163 ash 9 164 ash 9 165 ash 9 166 Black cherry 9 167 Black cherry 9 168 elm 9 169 elm 9 170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 178 black cherry 10 179 elm 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11	161	ash	9	
163ash9164ash9165ash9166Black cherry9167Black cherry9168elm9169elm9170Norway maple9171norway maple9172norway maple9173Slippery Elm9174ash10175Norway maple10176ash10177ash10178black cherry10179elm10180mulberry10181Norway maple10182sweet birch10183ash11184ash11185ash11186ash11187Ash11188ash11189black cherry11190black cherry11191norway maple11192norway maple11193norway maple11194norway maple11195poplar11196ash12197elm12198Norway maple11199nolar11191intra-11192intra-11193norway maple11194norway maple11195intra-11196<	162	Ash	9	
164 ash 9 165 ash 9 166 Black cherry 9 167 Black cherry 9 168 elm 9 169 elm 9 170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 179 elm 10 179 elm 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11 186 ash 11 187 Ash 11	163	ash	9	
165 ash 9 166 Black cherry 9 167 Black cherry 9 168 elm 9 169 elm 9 170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 179 elm 10 179 elm 10 179 elm 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11 186 ash 11 187 Ash 11	164	ash	9	
166 Black cherry 9 167 Black cherry 9 168 elm 9 169 elm 9 170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 179 elm 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11 186 ash 11 187 Ash 11 188 ash 11 189 black cherry 11 190 black cherry <t< td=""><td>165</td><td>ash</td><td>9</td><td></td></t<>	165	ash	9	
167 Black cherry 9 168 elm 9 169 elm 9 170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 179 elm 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11 186 ash 11 187 Ash 11 188 ash 11 189 black cherry 11 190 black cherry 11 191 norway maple <	166	Black cherry	9	
168 elm 9 169 elm 9 170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 178 black cherry 10 179 elm 10 178 black cherry 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11 186 ash 11 187 Ash 11 188 ash 11 189 black cherry 11 190 black cherry 11 191 norway maple <td>167</td> <td>Black cherry</td> <td>9</td> <td></td>	167	Black cherry	9	
169 elm 9 170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 179 elm 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 10.5 184 ash 11 185 ash 11 186 ash 11 187 Ash 11 188 ash 11 189 black cherry 11 190 black cherry 11 191 norway maple 11 192 norway maple 11 193 norway maple	168	elm	9	
170 Norway maple 9 171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 178 black cherry 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11 186 ash 11 187 Ash 11 188 ash 11 189 black cherry 11 190 black cherry 11 191 norway maple 11 192 norway maple 11 193 norway maple 11 194	169	elm	9	
171 norway maple 9 172 norway maple 9 173 Slippery Elm 9 174 ash 10 175 Norway maple 10 176 ash 10 177 ash 10 178 black cherry 10 179 elm 10 178 black cherry 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 11 184 ash 11 185 ash 11 186 ash 11 187 Ash 11 188 ash 11 189 black cherry 11 190 black cherry 11 191 norway maple 11 192 norway maple 11 193 norway maple 11 194 norway maple 11 195	170	Norway maple	9	
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177 ash 10 178 black cherry 10 179 elm 10 180 mulberry 10 181 Norway maple 10 182 sweet birch 10 183 ash 10.5 184 ash 11 185 ash 11 186 ash 11 187 Ash 11 188 ash 11 189 black cherry 11 189 black cherry 11 190 black cherry 11 191 norway maple 11 192 norway maple 11 193 norway maple 11 194 norway maple 11 195 poplar 11 196 ash 12 197 elm 12 198 Norway maple 12	176	ash	10	
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197 elm 12 198 Norway maple 12	196	ash	12	
198 Norway maple 12	197	elm	12	
	198	Norway maple	12	
199 ash 12	199	ash	12	
200 elm 12	200	elm	12	

201	Norway maple	12	
202	birch	13	
203	ash	13	
204	slippery elm	13	
205	sweet birch	13	
206	poplar	14	
207	ash	14	
208	elm	14	
209	poplar	14	
210	Norway maple	15	
211	black cherry	15	
212	elm	16	
213	ash	16	
214	slippery elm	17	
215	black cherry	20	
216	unidentified	21	
217	ash	21	
218	maple	23	
219	mulberry	24	
220	ash	26	
221	mulberry	26	
222	black cherry	28	
223	pin oak	29	
224	elm	31	
225	bur oak	35	
226	lowoot gum		







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andscaping		
x - ERNMX-180		
Common Name	Price/lb	
Little Bluestem, 'Itasca', MN Ecotype	11.66	
Virginia Wildrye, PA Ecotype	6.19	
Fox Sedge, PA Ecotype	26.40	
River Oats, WV Ecotype	88.00	
Purple Coneflower	39.60	
Partridge Pea, PA Ecotype	6.60	
Lanceleaf Coreopsis	26.40	
Deertongue, Tioga	18.90	
Redtop Panicgrass, PA Ecotype	52.80	
Blackeyed Susan, Coastal Plain NC Ecotype	22.00	
Blue Vervain, PA Ecotype	35.20	
Oxeye Sunflower, PA Ecotype	30.80	
Swamp Milkweed, PA Ecotype	176.00	
Blunt Broom Sedge, PA Ecotype	79.20	
Wild Senna, VA & WV Ecotype	26.40	
New England Aster, PA Ecotype	396.00	
Zigzag Aster, PA Ecotype	396.00	
Blue False Indigo, Southern WV Ecotype	88.00	
Narrowleaf Mountainmint	154.00	
Golden Alexanders	264.00	
Wild Bergamot, Fort Indiantown Gap-PA Ecotype	105.60	
Mistflower, VA Ecotype	281.60	
Boneset, PA Ecotype	330.00	
Common Sneezeweed, PA Ecotype	198.00	
Path Rush, PA Ecotype	72.60	
Soft Rush	44.00	
Gray Goldenrod, PA Ecotype	396.00	
Wrinkleleaf Goldenrod, PA Ecotype	462.00	
Mix Dries /lls Dulk	¢25.15	

REPLACEMENT 1 AA2	TREES	<u>91</u> 7	<u>Y</u> BOTANICAL ACER RUBRI	<u>NAME</u> IM 'AUTUMN BLAZE'	<u>COMM</u> AUTUM	<u>on name</u> N Blaze Red M	1APLE	<u>R001</u> B 4 B	<u>CALIPER</u> 3 1/2"-4"	HEIGHT	<u>Remarks</u> Full canopy; 7' Branching HT.	
BR		Ш	BETULA NIGF	ZA	RIVER	BIRCH		8 4 B	3 1/2"-4"			
60		Ш	CELTIS OCC	IDENTALIS	COMM	ON HACKBERRY	•	8 4 B	4"CAL			
cv		٩	CHIONANTHU	s virginicus	WHITE	FRINGETREE		8 4 B	1.5"-2" CAL.			1
LS		٩	LIQUIDAMBA	R STYRACIFLUA	SWEET	GUM		8 4 B	4"CAL			
QP2		15	QUERCUS PH	ELL <i>O</i> S	WILLO	MOAK		8 4 B	4.5"CAL			
91		6	SYRINGA RE	TICULATA 'IVORY SILK'	IVORY	SILK JAPANES	e tree lilac	8 4 B	1.5"-2" CAL.		TREE FORM ONLY, FULL CANOPY	
UL		14	ULMUS AMER	ICANA 'LIBERTY'	LIBER	TY AMERICAN E	LM	8 4 B	4.5"CAL			
Z9		ю	ZELKOVA SI	RRATA	SANL	EAF ZELKOVA		8 # B	3 1/2"-4"		FULL CANOPY; 7' BRANCHING HT.	
BASIN PLA	anting s	SCHEDUL	.E									
DECIDUOUS TREE	ES QTY	BOTANICAL	NAME COMM	ON NAME ROOT CALI	'ER	REMARKS						2
QB	דו	QUERCUS B	COLOR SMAME	PWHITE OAK B & B 3.5"C	AL							
SCREENING Evergreen tre Pi	G BUFFE	R SCHEI BOTANIC PICEA AN		<u>Common Name</u> Normay Spr uce	<u>R001</u> B # B	HEIGHT ô' Min	Remarks Single Central Symm. Branchin Ground	LEADER, S TO	_			3
shrubs RM	<u>QTY</u> 37	RHODODI	<u>AL NAME</u> ENDRON MAXIMUM	COMMON NAME ROSEBAY RHODODENDRON	CONT.	<u>HEIGHT</u> 4'-5'	<u>REMARKS</u>					5
<u>evergreen shr</u> Is	19 <u>186 GTY</u> 20	BOTANIC ILEX GLA	<u>al name</u> Bra 'Shamrock'	<u>Common Name</u> Inkberry	<u>cont</u> cont.	<u>Height</u> 36" Min	<u>Remarks</u> Full, Heavy, Syn Branched to G	1M. Round				4
												6
												6
												5
												5
												5

Symbol	Qty	Arrangement	Fixture Type	Description	Manufa
$- \bigcirc$	31	Single	P4	20 INCH DIAMETER ARM MOUNTED AREA LIGHT, TYPE 4 DISTRIBUTION, MOUNTED 12FT	KIM LIC
				ABOVE FINISHED GRADE	
$\Theta - \Theta$	7	Back-Back	P4-2@180	20 INCH DIAMETER ARM MOUNTED AREA LIGHT, TYPE 4 DISTRIBUTION, (2) BACK-TO-BACK	KIM LIC
				FIXTURES MOUNTED 12FT ABOVE FINISHED GRADE	
-0	40	Single	P4-BC	20 INCH DIAMETER ARM MOUNTED AREA LIGHT, TYPE 4 DISTRIBUTION WITH INTERNAL	KIM LIC
				BACKLIGHT CONTROL, MOUNTED 12FT ABOVE FINISHED GRADE	
— Э	7	Single	P5	20 INCH DIAMETER ARM MOUNTED AREA LIGHT, TYPE 5 WIDE DISTRIBUTION, MOUNTED 12FT	KIM LIC
				ABOVE FINISHED GRADE	
<u>с—о</u>	14	Back-Back	P5-2@180	20 INCH DIAMETER ARM MOUNTED AREA LIGHT, TYPE 5 WIDE DISTRIBUTION, (2) BACK-TO-	KIM LIC
				BACK FIXTURES MOUNTED 12FT ABOVE FINISHED GRADE	

turer	Luminaire Catalog Number	Pole Catalog Number	ССТ	LLF	Total Watts	Delivered Lumens	Mounting Height
HTING	UR20-24L-25-3K7-4-UNV-A34-	RSA-(HEIGHT)-40-A-1-K2-	3000K	0.900	25	3118	12
	(FINISH)	(FINISH)-VM2					
HTING	(2) UR20-24L-25-3K7-4-UNV-A34-	RSA-(HEIGHT)-40-A-1-K2-	3000K	0.900	50	6236	12
	(FINISH)	(FINISH)-VM2					
HTING	UR20-24L-65-3K7-4-UNV-A34-	RSA-(HEIGHT)-40-A-1-K2-	3000K	0.900	65	5133	12
	(FINISH)-BC	(FINISH)-VM2					
HTING	UR20-24L-25-3K7-5W-UNV-A34-	RSA-(HEIGHT)-40-A-1-K2-	3000K	0.900	25	3059	12
	(FINISH)	(FINISH)-VM2					
HTING	(2) UR20-24L-25-3K7-5W-UNV-	RSA-(HEIGHT)-40-A-2-K2-	3000K	0.900	50	6118	12
	A34-(FINISH)	(FINISH)-VM2					

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SAND AND GRAVEL 2

TON/SQ.FT.

CLAY 4

SOFT ROCK 5

ROCK 15

PIPE SIZE TYPE OF

CLAY 4

NOTES:

1. D.E. DENOTES DEAD END.

TON/SQ.FT

STANDARD GATE VALVE AND VALVE BOX NOT TO SCALE

BEARING SURFACE REQUIRED - SQ.FT. HORIZONTAL THRUST BLOCKING & VERTICAL THRUST DOWNWARD 125 P.S.I.

WORKING PRESSURE

 SOFT CLAY 1 TON/SQ.FT.
 2.6
 4.6
 8.2
 4.8
 5.0
 9.6
 17.5
 10.7
 11.2
 21.7
 39.7
 28.2
 19.6
 36.3
 67.3
 48.0

 CLAY 4 TON/SQ.FT.
 1.0
 1.2
 2.1
 1.3
 1.3
 2.4
 4.4
 2.7
 2.8
 5.4
 10.0
 7.2
 4.9
 9.1
 16.8
 12.0

 SOFT ROCK 5
 1.0
 1.0
 1.6
 1.0
 1.9
 3.5
 2.2
 1.6
 4.4
 8.0
 5.7
 3.9
 7.3
 13.5
 9.6

 DOV/SQ.FT.
 1.0
 1.0
 1.0
 1.9
 3.5
 2.2
 1.6
 4.4
 8.0
 5.7
 3.9
 7.3
 13.5
 9.6

 TYPE OF BEARING MATERIAL AND

 DEGREE OF BEND OR DEFLECTION

 ALLOWABLE LOADS
 22.5° 45° 90° D.E.
 22.5° 45° 90° D.E.
 22.5° 45° 90° D.E.

 SAND 0.75 TON/SQ.FT.
 40.3
 76.5
 107.5
 197.5
 140.0
 74.3
 144.7
 266.
 188.7
 83.2
 182.3
 336.
 238.0

 SOFT CLAY 1
 30.2
 57.4
 104.3
 74.3
 144.7
 266.
 188.7
 83.2
 182.3
 336.
 238.0
 200.
 141.6
 70.0
 136.7
 252.
 178.0
 70.0
 136.7
 252.
 178.0
 70.0
 136.7
 252.
 178.0

 SOFT CLAY 1
 30.2
 57.4
 104.3
 74.3
 144.0
 200.
 141.6
 70.0
 <th colspan

 SUF1
 CLAY
 1
 30.2
 57.4
 104.3
 74.3
 41.6
 80.6
 148.0
 105.0
 55.7
 108.5
 200.
 141.6
 70.0
 136.7
 252.
 178.0

 SAND AND GRAVEL 2
 15.1
 28.7
 52.1
 37.2
 20.8
 40.3
 74.0
 52.5
 27.9
 54.3
 100.0
 70.8
 35.0
 68.3
 126.1
 89.2

 CLAT 4 TON/SQ.FT.
 7.6
 14.6
 26
 18.6
 10.4
 20.2
 37.0
 26.3
 14.0
 27.0
 50.0
 35.3
 17.5
 34.2
 63.0
 44.6

 SOFT ROCK 5 TON/SQ.FT.
 6.0
 11.5
 20.9
 14.9
 8.3
 16.1
 29.6
 21.0
 11.2
 21.7
 40.0
 28.3
 14.0
 27.3
 50.4
 35.7

 ROCK 15 TON/SQ.FT.
 2.0
 3.8
 7.0
 5.0
 1.4
 2.8
 5.4
 7.0
 3.7
 7.2
 13.3
 9.4
 4.7
 9.1
 16.8
 12.0

WATER-THRUST BLOCKING TABLE

NOT TO SCALE

 1.3
 2.3
 4.1
 2.4
 2.5
 4.8
 8.8
 5.3
 5.6
 10.8
 20.0
 14.1
 9.8
 13.1
 33.6
 24.0

 1.0
 0.4
 1.0
 1.2
 0.8
 1.0
 1.4
 2.6
 1.9
 1.3
 2.4
 4.5
 3.2

 30"
 36"
 42"
 48"

 PIPE SIZE
 6" & 8"

 TYPE OF BEARING MATERIAL AND ALLOWABLE LOADS
 6.0
 11.0
 6.4
 6.7
 12.8
 23.4
 14.2
 14.8
 28.8
 52.9
 34.4
 26.1
 48.3
 89.7
 64.0

BACKFILL (TRENCH) NOT TO SCALE

- MONICIPALITY AUTHORITY HAVING JORISDICTION.
 NO SLAG MATERIAL PERMITTED.
 IF WATER IS ENCOUNTERED IN THE EXCAVATION TRENCH, AASHTO #57 AGGREGATE MUST BE USED.
 ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH PENNDOT SPECIFICATIONS, PUBLICATION 408 AND 67 PA CODE SECTION 459.
 UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO COLLECT IN EXCAVATED TRENCHES. ANY WATER IN THE TRENCHES SHALL BE REMOVED THROUGH A PUMPED WATER FILTER BAG.
- TRENCH COMPACTION TO BE TESTED, AT THE DEVELOPER'S EXPENSE, IN ACCORDANCE WITH PENNDOT PUB 408, LATEST REVISION, AS REQUIRED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION.
 CLEAN FILL MUST BE APPROVED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION PRIOR TO PLACEMENT IN THE TRENUM STREEMENT. HE TRENCH. AREAS AROUND MANHOLES, INLETS, AND OTHER APPURTENANCES SHALL BE HAND COMPACTED AS DIRECTED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION.
- NOTES:

THRUST BLOCK (SEE DETAIL)

THRUST BLOCK (SEE DETAIL)

IDISTURBED EARTH

TAPPING SLEEVE AND VALVE

NOTES: I. ALL PIPE AND FITTINGS SHALL BE RESTRAINED PER AUTHORITY SPECIFICATIONS AND BY DIRECTION OF THE ENGINEER. 2. THE USE OF CONCRETE THRUST BLOCK SHALL BE PER THE DIRECTION OF THE AUTHORITY AND ENGINEER.

- BEND

FOR PIPES 8

TO 12" USE

4-#6 BARS

WIDTH

NOT TO SCALE

A

A

FOR 6" PIPES USE 2-#6 BARS OVER FITTING ONLY

←4" CL. MIN

LENGTH

DEPTH -

PIPE SIZES 6" & 8"

18" & 20" 24"

 10" & 12"
 3.5'

 14" & 16"
 4'

NOTES:

6.5'

ALL CONC. SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT THE END OF 28 DAYS.
 ALL REINFORCING STEEL SHALL BE DEFORMED BARS. (ASTM GRADE 60)
 ALL FITTINGS AND JOINTS SHALL BE COVERED WITH POLYETHELENE FILM BEFORE PLACING CONC.
 PAINT ALL EXPOSED STEEL WITH TWO COATS OF VALDURA PAINT OR APPROVED EQUAL.
 REINFORCING BARS SHALL BE U-SHAPE AROUND THE PIPE.

THRUST BLOCKING TABLE-VERTICAL-UPWARD

. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. . ALL REINFORCING STEEL SHALL BE DEFORMED BARS (ASTM GRADE 60). . ALL FITTINGS AND JOINTS SHALL BE COVERED WITH POLYETHYLENE FILM BEFORE PLACING OF

ALL FITTINGS AND JUINTS SHALL BE COVERED WITH POLITETHTLENE FILM BEFORE PLACING CONCRETE.
 PAINT ALL EXPOSED STEEL WITH TWO COATS OF BITUMASTIC PAINT OR EPOXY COATING.
 FOR THE REQUIRED BEARING SURFACE SEE STANDARD THRUST BLOCKING DETAIL.
 BEARING SURFACE MUST BE UNDISTURBED EARTH.

WATER-HORIZONTAL THRUST BLOCKING NOT TO SCALE

HYDRANT TO HAVE - BREAK SECTION OR REMOVABLE BARREL FINISH GRADE

2 CUBIC YARDS (MIN) OF COMPACTED AASHTO #57 STONE WRAPPED IN PENNDOT CLASS C GEOTEXTILE

CONCRETE REACTION BACKING TO REMAIN CLEAR OF DRAIN PORT. PROVIDE PROTECTIVE PLASTIC COVERING FOR PIPE JOINTS (SEE THRUSTING BLOCKING DETAIL) _ CONCRETE BLOCK TO SUPPORT

PROVIDE ROD CONNECTION (SEPARATE RODS REQUIRED BETWEEN TEE AND VALVE

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POLYPROPYLENE MANHOLE STEP

NOT TO SCALE

1. STEPS TO BE FABRICATED FROM COPOLYMER POLYPROPYLENE PLASTIC. 2. STEP SPACING SHALL BE 1 FOOT CENTER TO CENTER

1. FRAME AND COVER SHALL BE NEENAH FOUNDRY COMPANY MODEL R-1976 OR APPROVED EQUAL

NOT TO SCALE

(H20 RATING)

PIPE DIA. + 4"

WATERTIGHT

SCREW PLUG

CLEAN-OUT -

NOTES:

CONTACT PIPE)

ADAPTER

GLUE JOINT 6"

HEAVY DUTY FRAME AND COVER

ASPHALT PAVEMENT

CONCRETE OR LAWN

6" MIN.

PENNDOT 2A COARSE

AGGREGATE COMPACTED AROUND AND BELOW

PROTECTION SLEEVE

3/4" DIAMETER GALVANIZED OR

STAINLESS STEEL BOLTS WITH NUT

AND WASHER 3"

LENGTH (TYP. 4 TIMES)

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CHECKERED BLOCK DETAIL

*Custom sizes and bag depths available. Typical depth is 22" (550 mm).

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- MILLION DESIGN ESALS, 25 MM MIXTURE, 4 1/2" DEPTH
- © SUBBASE (PENNDOT. 2A) 6" DEPTH

- ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY: BEST MANAGEMENT PRODUCTS, INC. OR PRE-APPROVED EQUAL. 53 MT. ARCHER RD.

- TO STRUCTURE CONFIGURATION. 8. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF

- 11. CONTRACTOR SHALL SEQUENCE INSTALLATION OF SNOUTS WITH STORM STRUCTURES AND REQUIRED AS-BUILT SURVEYS ACCORDINGLY.
- 12. CONCRETE (TO SHAPE BOTTOM) SHALL NOT BE PROVIDED IN SUMPS OF STRUCTURES WITH SNOUTS

1. STEPS FOR ALL MANHOLES AND INLETS SHALL BE COPOLYMER POLYPROPYLENE PLASTIC MODEL NO. PS-4-B AS MANUFACTURED BY M.A.

SKEW 4

A_{D-₩} (IN.)

NOTES:

EMBEDMENT)

N.T.S.

INDUSTRIES INC. OR EQUAL.

LATEST O.S.H.A. STANDARDS (3" MINIMUM

2. THE PORTION TO BE EMBEDDED IN THE CONCRETE SHALL BE IN ACCORDANCE WITH THE

3. ALL MANHOLE STEPS TO MEET OR EXCEED ASTM AND O.S.H.A. STANDARDS.

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

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

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

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS. STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

SOCK NO.	DIAMETER (in.)	LOCATION	SLOPE (%)	SLOPE LENGTH ABOVE BARRIER (ft.)
1	12	SEE ESC PLANS	33.0	15
2	12	SEE ESC PLANS	33.0	19
3	12	SEE ESC PLANS	33.0	30
4	12	SEE ESC PLANS	33.0	26
5	12	SEE ESC PLANS	33.0	21
6	12	SEE ESC PLANS	33.0	26
7	12	SEE ESC PLANS	33.0	34
8	12	SEE ESC PLANS	33.0	38
9	12	SEE ESC PLANS	33.0	33
10	18	SEE ESC PLANS	33.0	50
11	18	SEE ESC PLANS	33.0	60
12	18	SEE ESC PLANS	33.0	54
13	18	SEE ESC PLANS	33.0	63
14	18	SEE ESC PLANS	33.0	55
15	12	SEE ESC PLANS	33.0	15
16	12	SEE ESC PLANS	33.0	15
17	12	SEE ESC PLANS	33.0	17
18	18	SEE ESC PLANS	33.0	50
19	18	SEE ESC PLANS	33.0	50
20	18	SEE ESC PLANS	33.0	41
21	18	SEE ESC PLANS	33.0	41
22	12	SEE ESC PLANS	33.0	35
23	24	SEE ESC PLANS	33.0	83
24	12	SEE ESC PLANS	33.0	30
25	12	SEE ESC PLANS	33.0	35

AREA IS NOT AVAILABLE.

NOTES:

12" COMPOST -

FILTER SOCK

12" COMPOST

FILTER SOCK

NOTES:

(TYP.)

FILTER SOCK-

MANUAL. COMPOST CONTROL MANUAL.

. INSTALL SILT FENCE DOWNSLOPE OF AREA OF STOCKPILE. 2. PLACE STOCKPILE IN AREAS SHOWN ON EROSION CONTROL PLAN WITHOUT BLOCKING NATURAL DRAINAGE PATTERNS FOLLOW DIMENSIONS SHOWN ABOVE. HEIGHT SHOULD NOT EXCEED 35 FT. SIDE SLOPES SHOULD NOT BE STEEPER SEED IMMEDIATELY WITH PENNDOT SEEDING FORMULA "C" IF MATERIAL IS NOT TO BE USED WITHIN 20 DAYS.
 FOLLOW "SEEDING, FERTILIZATION SCHEDULE & SPECIFICATIONS."
 LOCATION(S) AND SIZE(S) OF SOIL STOCKPILES ARE APPROXIMATE AND SHALL BE ADJUSTED PER FIELD AND CONSTRUCTION SEQUENCE CONDITIONS. CONTRACTOR SHALL VERIFY REQUIRED SIZE(S). REQUIREMENTS FROM THE STANDARDS DETAIL MUST BE FOLLOWED FOR STOCKPILES.

> TOPSOIL STOCKPILE AND MAINTENANCE NOT TO SCALE

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS. DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR INSTALLATIONS IN SPECIAL PROTECTION OR IMPAIRED WATERSHEDS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV AND IMPAIRED WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY

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

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED. MODIFIED CONSTRUCTION DETAIL #3-16 ABACT PUMPED WATER FILTER BAG FOR HQ, EV AND IMPAIRED WATERSHEDS

NOT TO SCALE NOTE: MODIFICATION TO STANDARD DETAIL /TALICIZED.

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

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

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK

NOT TO SCALE

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 NOT TO SCALE

NOTES: MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS. ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

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

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS. <u>STANDARD CONSTRUCTION DETAIL #4-15</u> FILTER BAG INLET PROTECTION - TYPE C INLET NOT TO SCALE

EMBANKMENT.

BE REPLACED IMMEDIATELY.

BE ADDËD AS NECESSARY.

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. VACUUM STREET SWEEPING OF ON-SITE PAVED AREAS FROM ROCK CONSTRUCTION ENTRANCE TO ROADWAY SHALL BE PERFORMED SUCH THAT NO SEDIMENT IS DEPOSITED ON ROADWAYS. VACUUMING TO BE PERFORMED AT A MINIMUM AT THE END OF EACH WORK DAY OR MORE FREQUENTLY AS NECESSARY. IF ROADWAY DEPOSITED ON SITE OR DISPOSED OF PROPERLY. ALL VACUUM COLLECTION SHALL BE DEPOSITED ON SITE OR DISPOSED OF PROPERLY. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

MODIFIED CONSTRUCTION DETAIL #3-1 ABACT ROCK CONSTRUCTION ENTRANCE / STREET SWEEPING NOT TO SCALE

NOTE: MODIFICATION TO STANDARD DETAIL ITALICIZED.

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MORE TH ALL BE M. REMOVED	IAN ON AINTAI

GENERAL EROSION & SEDIMENT CONTROL PROCEDURES 1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN PREPARED BY T&M ASSOCIATES. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND ADDROVIM AT ITS DISOPERATION

2. AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS INCLUDING TOWNSHIP ENGINEER, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, THE POSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGNT OF CONTROL STATES OF UNDERNEATION OF THE POSM PLAN AND A REPRESENTATIVE OF THE MONTGOMERY COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.

APPROVAL AT ITS DISCRETION.

3. AT LEAST THREE (3) DAYS PRIOR TO THE START OF ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND LITUTES FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES. 4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCI WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL

CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.

6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS UNLESS REQUIRED TO MINIMIZE DISTURBANCE.

STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN IN THE AMOUNTS NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. TOPSOIL SHOULD CONTAIN ABOUT 45%. MINERAL MATERIAL, 50% PORE SPACE, AND 5% ORGANIC MATERIAL. TABLE 11.1 VARIOUS DEPTHS. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 EET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING

TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE

E POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OI THE DEPARTMENT. 10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND RECYCLED OR DISPOSED IN ACCORDANCE WITH

SITE BY THE CONTRACTOR AND RECYCLED OR DISPOSED 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. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE.

11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED. 12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CERTIFIED CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN

13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG

14. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM THE CONSTRUCTION SITE ONTO ANY PUBLIC ROAD. VEHICLES AND EQUIPMENT MAY ENTER AND EXIT THE CONSTRUCTION SITE ONLY VIA A

DISCHARGING OVER NON-DISTURBED AREAS

STABILIZED ROCK CONSTRUCTION ENTRANCE.

OR PLACED IN TOPSOIL STOCKPILES.

15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A OF ALL EROSION AND SEDIMENI BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. THE CONTRACTOR WILL MAINTAIN AND MAKE AVAILABLE TO MONTGOMERY COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE EAS BMPS FAIL TO PERFORM AS EXPECTED, DEPLACEMENT RUNDE OR MODIFICATIONS OF THOSE WITH DE REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE

16. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.

SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL B RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND AS NEEDED THROUGHOUT THE WORKDAY OR AS DIRECTED BY CONSERVATION DISTRICT OR MUNICIPALITY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN A MANNER DESCRIBED ON PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED,

19. UPON FINAL GRADING, AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE /EGETATED SHALL HAVE A MINIMUM FOUR (4) INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 4 INCHES OF TOPSOIL

20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. 21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.

22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

E INCORPORATED INTO FILLS. 23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES. 24. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

25. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALI BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT AND UPON RECEIPT OF CLEAN TEST SAMPLES THE OPERATOR SHALL STABILIZE THOSE AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH OR OTHER PROTECTIVE BLANKETING SHALL BE APPLIED AT THE RECOMMENDED RATES AND METHODS. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR SHALL BE SEEDED AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS, WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE RE-DISTURBED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

27. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS. 28. EROSION AND SEDIMENT CONTROLS (BMP'S) MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS. EROSION AND SEDIMEN BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE

DEPARTMENT

DURING GERMINATING SEASON.

29. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS. TEMPORARY CONTROLS MAY BE REMOVED ONLY UPON APPROVAL OF THE MONTGOMERY

30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE CONTROLS SHALL BE STABILIZED IMMEDIATELY, IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVALS/CONVERSIONS ARE TO BE DONE ONLY

31. FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTIONS TO RESOLVE FAILURES OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OF CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW OF PENNSYLVANIA. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO 25,000 in Misdemeanor CRIMINAL PENALTIES FOR EACH VIOLATION.

32. IN THE EVENT OF SINKHOLE DISCOVERY OR OCCURRENCE, A PROFESSIONAL GEOLOGIST OR ENGINEER SHALL BE CONTACTED CONCERNING MITIGATION. ADDITIONALY, THE MONTGOMERY COUNTY CONSERVATION DISTRICT SHALL BE IMMEDIATELY MADE AWARE OF THE SINKHOLE DISCOVERY. THE CONTRACTOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. 34. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III,

WATER RESOURCES, CHAPTER 102, EROSION CONTROL. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

36. THE OPERATOR / PERMITTEE SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS (BMPS) AND RELATED ITEMS INCLUDED WITHIN THIS PLAN AND

37. EROSION AND SEDIMENT BMP CONTROLS MUST BE CONSISTENT WITH STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION "EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL" DATED MARCH 2012. 38. ALL EROSION AND SEDIMENTATION CONTROL FACILITIES SHALL BE MAINTAINED IN THE APPROVED DESIGN CONDITION THROUGHOUT THE

CONSTRUCTION PERIOD OR UNTIL THE DESIGN AREA IS STABILIZED. 39. 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 OPERATOR TO ELIMINATE ALL SUCH PROBLEMS.

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

41. THE CONTRACTOR SHALL NOTIFY THE MONTGOMERY COUNTY CONSERVATION DISTRICT PRIOR TO ANY CESSATION IN EARTHMOVING ACTIVITIES OF MORE THAN TWENTY (20) DAYS. 42. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT

CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE APPLICABLE COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR

43. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER. 44. HAY OR STRAW MULCH MUST BE APPLIED TO ALL SEEDED AREAS AT 3.0 TONS PER ACRE (SEE TABLE 11.6 ON THIS SHEET). 45. CLEAN FILL AND TOPSOIL STOCKPILE HEIGHTS MUST NOT EXCEED 35

FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER. 6. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVEN 47. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER, WITHIN 50 FEET OF A SURFACE WATER, AND ON ALL

OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL 48. ALL VEGETATED AREAS IN UNDISTURBED SECTIONS WILL REMAIN FOR EROSION PROTECTION. CONTRACTORS AND EQUIPMENT WILL BE RESTRAINED FROM VENTURING INTO ALL AREAS NOT BEING GRADED. DISTURBED AREAS WILL REMAIN EXPOSED FOR THE SHORTEST TIME POSSIBLE.

49. DUST WILL BE KEPT WITHIN TOLERABLE LIMITS BY EITHER THE USE OF SPRAYED WATER.

50. 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 HAS BEEN ACHIEVED ACROSS THE UPSLOPE AREAS.

51. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, WITH THE EXCEPTION OF REMEDIATION AREAS WITH PENDING TEST SAMPLE RESULTS, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. (PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES). HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE. MONITORING, INSPECTION, AND REPORTING REQUIREMENTS

VISUAL INSPECTIONS 1) THE PERMITTEE AND CO-PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION ND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOTICE OF ERMINATION (NOT) BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT E&S BMPS AND PCSM BMPS ARE PROPERLY

CONSTRUCTED AND MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE LOGGED ONTO DEP FORM 3150-FM-BWEW0083 DATED 2/2012 AND KEPT ON SITE AT ALL TIMES. NONCOMPLIANCE REPORTING WHERE E&S, PCSM OR PPC BMPS ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE

AND CO-PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMEN OLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF E INITIAL CONTACT. NONCOMPLIANCE REPORTS SHALL INCLUDE THE) ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION; THE PERIOD OF NONCOMPLIANCE, INCLUDING THE EXACT DATES AND

IMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENCE F THE NONCOMPLIANCE: AND THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

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

RECYCLING OR DISPOSAL METHODS

- 1. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH ANY AND ALL APPLICABLE MUNICIPAL OR OTHER GOVERNMENT AGENCY CURRENT REGULATIONS INCLUDING BUT NOT LIMITED TO: 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
- EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN ON THE PROPERTY, DEMOLISHED OR EXCAVATED MATERIALS SHALL BE REMOVED FROM THE SITE. MATERIALS SLATED FOR REMOVAL FROM THE SITE SHALL BE DEDEEDED TO ADDREDDATES WITH ANY MUCH ADDREDATES IN ADDREDDATES. OSED OF IN ACCORDANCE WITH ANY AND ALL APPLICABLE MUNICIPAL OR OTHER GOVERNMENTAL AGENCY CURRENT REGULATIONS.
- 3. DEBRIS SHALL NOT BE PERMITTED TO ACCUMULATE ON THE JOB-SITE DUST AND DIRT SHALL BE HELD TO A MINIMUM DURING DEMOLITION, BY WETTING DOWN, AS REQUIRED. ON SITE BURNING OF MATERIALS WILL NOT BE PERMITTED. AT THE COMPLETION OF WORK, THE ENTIRE AREA VVOLVED SHALL BE CLEAN AND LEFT IN A NEAT CONDITION, FREE OF RUBBISH AND DEBRIS.
- 4. RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THIS PROJECT SITE SHALL BE UNDERTAKEN IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND PROJECTION RULES AND PROTECTION RUL REGULATIONS

SEDIMENT REMOVED FROM CONTROL FACILITIES AS A PART OF REGULAR MAINTENANCE SHALL BE DISPOSED OF UPSLOPE OF CONTROL FACILITIES IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TORSON STOCKPUES PLACED IN TOPSOIL STOCKPILES. 6. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.

		Application Rate (M		
Mulch Type	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	Notes
Straw	3 tons	140 lb.	1,240 lb.	Either wheat or oat straw, free of weeds, not chopped or finely broken
Нау	3 tons	140 lb.	1,240 lb.	Timothy, mixed clover and timothy or other native forage grasses
Wood Chips	4 - 6 tons	185 - 275 lb.	1,650 - 2,500 lb.	May prevent germination of grasses and legumes
Hydromulch	1 ton	47 lb.	415	See limitations above

redded paper hydromulch should not be used on slopes steeper than 5%. Wood fiber hydromul be applied on steeper slopes provided a tackifier is used. The application rate for any hydromulc should be 2,000 lb/acre at a minimum.

MAINTENANCE OF EROSION CONTROL FACILITIES

THE OPERATOR SHALL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITHIN THE PLAN HEREWITH. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT HIS OPERATIONS TO MINIMIZE EROSION OF SOILS AND TO PREVENT SILTING AND MUDDYING OF STREAMS, RIVERS AND DRAINAGE SYSTEMS EROSION AND SEDIMENTATION POLLUTION CONTROL SPECIALISTS' CONTACTS: MONTGOMERY COUNTY CONSERVATION DISTRICT: (610) 925-4920 PADEP SOUTHEAST REGIONAL OFFICE (484) 250-5900

3. ALL EROSION AND SEDIMENTATION POLLUTION CONTROL MEASURES MUST REMAIN IN PLACE UNTIL THE SITE IS STABILIZED, REGARDLESS IF CONSTRUCTION IS TAKING PLACE OR NOT.

4. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT POLLUTION 4. UNTIL THE STE IS STABILIZED, ALL EROSION AND SEDIMENT POLLUTION CONTROLS (BMPS) MUST BE PROPERLY MAINTAINED. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. A WRITTEN REPORT OF EACH INSPECTION SHALL BE LOGGED ONTO DEP FORM 3150-FM-BWEW0083 DATED 2/2012 AND KEPT ON SITE AT ALL TIMES. ALL PREVENTATIVE AND REMEDIAI MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT CONTROLS OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

5. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES. SEEDED AREAS THAT WASH OUT MUST BE FILLED AND GRADED AS

AROUND WATER COURSES, IN SWALES, AND AREAS OF CONCENTRATED FLOWS, AND ON SLOPES.

7. IN THE EVENT OWNERS OF THE PROPERTY OR THE OPERATOR FAILS TO PROPERLY MAINTAIN THE CONTROL FACILITIES, THE TOWNSHIP SHALL HAVE THE RIGHT TO ENTER SAID AREA AND PERFORM THE REQUIRED MAINTENANCE AFTER PROPER NOTIFICATION OF THE OWNERS. IN THE EVENT THAT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION 8. IN THE EVENT THAT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE MONTGOMERY COUNTY CONSERVATION DISTRICT, THE MUNICIPALITY OR THE DESIGN ENGINEER OR THEIR AGENTS DEEM THAT ADDITIONAL CONTROLS, MEASURES OR PROCEDURES BEYOND THOSE SHOWN OR DESCRIBED ARE NECESSARY TO CONTROL OR CORRECT CONDITIONS WHICH WERE UNFORESEEN DURING THE DESIGN STAGE, THE CONTRACTOR SHALL BE RESPONSIBLE TO IMPLEMENT ADDITIONAL CONTROLS, MEASURES OR PROCEDURES AS IS DEEMED REASONABLY NECESSARY AND WARRANTED REASONABLY NECESSARY AND WARRANTED.

NO SEDIMENT, STONES OR DEBRIS SHALL BE TRACKED ON 1 SURROUNDING ROADS. ANY SEDIMENT THAT IS TRACKED ONTO THE SURROUNDING ROADS MUST BE CLEANED OFF BEFORE THE END OF THE DAY UTILIZING MECHANICAL METHODS OR VIA HAND SWEEPING TO THE SATISFACTION OF THE MONTGOMERY COUNTY CONSERVATION DISTRICT AND TOWNSHIP ENGINEER.

MUST BE REPLACED IMMEDIATELY WITH ROCK FILTER OUTLETS. ANY SOIL BORROW OR SPOIL SITES, ON OR OFFSITE SHALL HAVE AN APPROVED AND IMPLEMENTED EROSION CONTROL PLAN BY THE MONTGOMERY COUNTY CONSERVATION DISTRICT. TRANSPORTATION OF ANY EXCESS MATERIALS SHALL BE SUCH THAT SPILLAGE, TRACKING OFF SITE AND OTHER DISTURBANCES ARE KEPT TO A MINIMUM.

12. THE CONTRACTOR SHALL PERIODICALLY AND ESPECIALLY AFTER HEAVY RAINFALL, INSPECT ALL CONTROL FACILITIES FOR PROPER FUNCTION. FACILITIES SHALL BE REPAIRED IF DAMAGES OR MALFUNCTIONING OR REPLACED AS NECESSARY. MAINTENANCE OF ALL CONTROL FACILITIES SHALL CONTINUE UNTIL THE ENTIRE AREA TRIBUTARY TO THE FACILITY IS STABILIZED.

13. THE MONTGOMERY COUNTY CONSERVATION DISTRICT MUST BE CONTACTED PRIOR TO REMOVAL OF ANY EROSION AND SEDIMENTATION CONTROL DEVICE SUCH AS FILTER FABRIC FENCES, ROCK FILTERS, INLET PROTECTION, TEMPORARY CHANNELS, ETC. TEMPORARY CONTROLS MAY BE REMOVED ONLY AFTER A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION HAS DEEN ACHIEVED ACCROSE THE UPSI OPE APEAS HAS BEEN ACHIEVED ACROSS THE UPSLOPE AREAS.

RESPONSIBILITIES FOR FILL MATERIALS

AT WWW.DEPWEB.STATE.PA.US.

- ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS
- 3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN PADEP'S POLICY "MANAGEMENT OF FILL"
- 4. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE PADEP FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY DESCRIPTION OF CHURCH OF COMPLETE AND DE CONDUCT. RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT WWW.DEPWEB.STATE.PA.US
- 5. ENVIRONMENTAL DUE DILIGENCE: 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, OR AUDITS
- SPILL OR RELEASE OF A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF PADEP'S DOLLON, "MANUSCHENT OF EUL" POLICY "MANAGEMENT OF FILL"
- 7. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE MUNICIPAL OR RESIDUAL WASTE REGULATIONS IN 25 PA CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.
- SATURATION.

9. REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES.

Map Unit Symbol	Map Unit Name	
	Bowmansville-Knauers silt loams	
3	Penn-Lansdale complex, 3 to 8 percent slopes	
;	Penn-Lansdale complex, 8 to 15 percent slopes	
ſΒ	Urban land-Readington complex, 0 to 8 percent slopes	
sD	Urban land-Udorthents, shale and sandstone complex, 8 to 25 percent slopes	
als for Area of Interest	-	

Depth (in)	Per 1,000
1	1
2	3
3	
4	1
5	1
6	1
7	2
8	2

	Perma	anent Seeding App	lication Rate	
Soil Amendment	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	Notes
Agricultural lime	6 tons	240 lb.	2,480 lb.	Or as per soil test; may not be required in agricultural field
10-10-20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test; may not be required in agricultural field
	Temp	orary Seeding App	lication Rate	
Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpile
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpile

PROJ FILE FILE LAST LAST

NECESSARY, AND THEN RESEEDED, AN ANCHORING METHOD SHOULD THEN BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT

MY FILTER FABRIC FENCE, WHICH HAS BEEN UNDERMINED OR TOPPED,

. THE OPERATOR MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT ANY NECESSARY FILL MATERIAL ASSOCIATED WITH THIS PROJECT QUALIFIES AS CLEAN FILL. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH PADEP'S POLICY "MANAGEMENT OF FILL", DOCUMENT NUMBER 258-2182-773. A COPY OF THIS POLICY IS AVAILABLE ONLINE AT WAND DEDWERD STATE PAIL IS

 CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSED, 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 THE 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

TRANSACTION SCREEN, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS 6. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A

ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SUPPING, EROSION OR EXCESS

CONSTRUCTION SEQUENCE

GENERAL SEQUENCE NOTES:

AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE CONSERVATION DISTRICT TO AN ON-SITE MEETING, ALSO, AT LEAST 3 WORKING DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INVOLVED TO AN ON-SITE MEETING, ALSO, AT LEAST 100 0000 CONTROL PROPERTY. HALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.

EROSION AND SEDIMENT BMPS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPS. 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. CRITICAL STAGE ITEMS THAT REQUIRE INSPECTION BY THE ENGINEER ARE SPECIFIED

NOTE: NO ACTIVITIES SHALL DISTURB IDENTIFIED WATERS OF THE U.S. WITHOUT PRIOR APPROVAL OF PADEP. DISTURBANCES SHALL BE IN STRICT ACCORDANCE WITH IDENTIFIED PLAN AREAS WHICH ARE MINIMIZED FOR PROPOSED IMPROVEMENTS.

SITE CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE, INSTALL PERIMETER COMPOST SOCK AND TREE PROTECTION CRITICAL STAGE - INSPECT CONSTRUCTION ENTRANCE AND COMPOST SOCK

2. INSTALL STORM SEWER B OUT TO OCS 2 (NOT INCLUDING OCS 2 STRUCTURE) AND B1 TO B3 FROM BOTTOM TO TOP. STABILIZE EACH DAY WITH EITHER TOPSOIL SEEDING AND MULCH. INSTALL INLET PROTECTIONS. CRITICAL STAGE - ENSURE CONSTRUCTED INLETS ARE PROPERLY INSTALLED, STABILIZED AND PROTECTED

3. GRADE SEDIMENT BASIN A AND INSTALL TEMPORARY RISER, SKIMMER DEVICES, AND ALL OTHER BASIN RELATED CONTROL STRUCTURES AS INDICATED IN THE ENS PLAN. INSTALL COMPOST FILTER SOCK BERM AS SHOWN ON THE PLAN.

CRITICAL STAGE - SEDIMENT BASIN A AND CONTROL STRUCTURES TO BE INSPECTED PRIOR TO

4. MASS GRADING OF SITE MAY BEGIN. REMOVE EXISTING SITE FEATURES AND DISPOSE PROPERLY. STORE EXCESS FILL IN ESTABLISHED STOCKPILE AREA. INSTALL STORM SEWER AND UTILITIES, INCLUDING WALLS. ENSURE ONSITE RUNOFF IS DIRECTED TO SEDIMENT BASIN A AT ALL TIMES. DO INCLUDING WILLS, ENGINE ON THE NOTO THE SEDIMENT BASIN UNTIL THE CONTRIBUTING DRAINAGE AREA NOT INSTALL CURBING UPSLOPE OF THE SEDIMENT BASIN UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED AND THE STORM INLETS NO LONGER NEED TO BE SEALED. INSTALL NEW PAVEMENT AND SIDEWALKS TO BINDER COURSE. STABILIZE SLOPES WITH EROSION CONTROL BLANKETS WHERE

CRITICAL STAGE - INSPECTION OF SITE STABILIZATION AND CONVERSION OF SEDIMENT BASIN 5. WHEN TRIBUTARY DRAINAGE AREAS ARE 70% STABILIZED, CONVERT SEDIMENT BASIN TO PERMANENT BASIN. MUST BE APPROVED BY CONSERVATION DISTRICT AND ENGINEER. DESILT AND STABILIZE. REMOVE SKIMMER AND ESTABLISH FINAL OUTLET STRUCTURE. EXCAVATE TO INSTALL UNDERGROUND HDPE CRATE STORMWATER FACILITY. FACILITY MUST BE PROTECTED FROM SILTATION AT ALL TIMES. INSTALL CRATES PER MANUFACTURER RECOMMENDATIONS. INSTALL OCS 1 AND OCS 2. COMPLETE FINAL GRADING OF SLOPE BETWEEN UNDERGROUND DETENTION AND MRC BASIN. STABILIZE SLOPE WITH SOD. AND COMPLETE ANY FINAL LANDSCADING. INSTALL MEC BASIN. TABILIZE SLOPE WITH SOD, AND COMPLETE ANY FINAL LANDSCAPING. INSTALL MRC BASIN MEDIA AND PLANTINGS WHERE INDICATED.

CRITICAL STAGE - DESIGN ENGINEER SITE INSPECTION TO VERIFY FUNCTION OF MRC BASIN 1 AND UNDERGROUND DETENTION FACILITY AND 90% STABILIZATION. NO CONTROLS MAY BE REMOVED WITHOUT MCCD APPROVAL. 6. ONLY WHEN SITE IS 90% UNIFORMLY STABILIZED, REMOVE PERIMETER CONTROLS. COMPOST FROM SOCKS MAY BE RE-SPREAD ON SITE OR DISPOSED OF PROPERLY.

7. FILE NOTICE OF TERMINATION FORM.

NOTES: SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION. AN ACCEPTABLE ALTERNATIVE IS TO INSTALL A SUPER SILT FENCE AT THE BAFFLE LOCATION IN POOLS WITH DEPTHS EXCEEDING 7', THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRCE ELEVATION. BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS. SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.

DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION. BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS. STANDARD CONSTRUCTION DETAIL #7-14 BAFFLE

eeding Rate - Pure Live Seed

TABLE 11.4

Recommended Seed Mixtures

Species

Annual ryegrass (spring or fall), or

Winter wheat (fall), or

Birdsfoot trefoil, plus

Tall fescue Birdsfoot trefoil, plus

Reed canarygrass Crownvetch, plus Tall fescue, or

Perennial ryegrass Crownyetch, plus

Annual ryegrass Birdsfoot trefoil, plus

Crownvetch, plus

Tall fescue, plus

product of the percentage of pure seer to secure the actual planting rate for se

earass, plus Birdsfoot trefoil
State "Erosion Control and Conservation Plantings on Noncr

Tall fescue Flatpea, plus Tall fescue, o

Winter rye (fall) Tall fescue, or

Fine fescue, c Kentucky blue Redtop⁴, or

Mixture

2³

3

4

5⁸

6 ^{5,8}

78

8

9⁶

10

11

12 7

13

Number Spring oats (spring),

NOT TO SCALE

____<u>WTE</u>____Z3 BASIN BOTTOM ANCHOR NTERIOR WCE 🎽 TRENCH WEIR SECTION Z-Z TOP OF EMBANKMEN1 **•** SIDE OVERLAPPED TERMINAL END OF TRM EMBANKMENT KEY EXTERIOR TRENCH 200 **KEY TRENCH AT TOE** PLAN VIEW <u> DF SLOPE OF SPILLWAY</u> RIPRAP OUTLET DISSIPATOR TTTTTT

EMBANKMENT SECTION ALONG EMERGENCY SPILLWAY SECTION X-X

	WEIR					LINII	NG	CHA			
BASIN NO.	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	TRM TYPE	STAPLE PATTERN	Z5 (FT)	DEPTH Cd (FT)	LENGTH DI (FT)	۷
A	3	3	415.50	413.10	35	NAGC350	E	3	0	5	

HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING. DISPLACED LINER WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY RIPRAP AT TOE OF EMBANKMENT SHALL BE EXTENDED A SUFFICIENT LENGTH IN BOTH DIRECTIONS TO PREVENT SCOUR. THE USE OF BAFFLES THAT REQUIRE SUPPORT POSTS ARE RESTRICTED FROM USE IN BASINS REQUIRING IMPERVIOUS

STANDARD CONSTRUCTION DETAIL #7-13 SEDIMENT BASIN EMERGENCY SPILLWAY WITH TRM LINING

NOT TO SCALE

SECTION Y-Y

	DIDE	RIPI	RAP		APRON	
OUTLET NO.	DIA Pd (IN)	SIZE R	THICK. Rt (IN)	LENGTH AI (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)
B1.2	18	3	9	7	5	8
A OUT	15	3	9	6	4	7
B OUT	36	3	9	13	9	15
C OUT	18	3	9	7	5	8

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS. ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1 RIPRAP APRON AT PIPE OUTLET

WITH FLARED END SECTION OR I NOT TO SCALE

GRADING FOR DRAINAGE IN ORDER TO PROVIDE MORE SUITABLE SITES FOR BUILDING AND OTHER USES, IMPROVE SURFACE DRAINAGE AND CONTROL EROSION, THE FOLLOWING REQUIREMENTS SHALL BE MET:

secure the actual planting rate for switchgrass, divide 12 pounds PLS shown on the seed tag. PLS content of a given seed tot is 35%, divide 12 PLS by 0.35 to obtain 34.3 pounds of seed plant one acre. All mixtures in this table are shown in terms of PLS. It seed is used, for most sites seed spring oats at a rate of 2 bushels per acre, winter wheat at

outheastern or extreme southwestern Pennsylvania. Serecia lespedeza is not w

2. If high-quality seed is used, for most sites seed spring cats at a rate of 2 bushels per acre, winter wheat at 1.5 bushels per acre, and winter nye at 1 bushel per acre. If germination is below 90%, increase these suggested seeding rates by 0.5 bushel per acre. If germination is suitable for frequent mowing. Do not cut shorter than 4 inches.
4. Keep seeding rate to that recommended in table. These species have many seeds per pound and are very competitive. To seed small quantifies of small seeds such as weeping lovegrass and redtop, dilute with dry sawdust, sand, nice hulls, buckwheat hulls, etc. Use for highway slopes and similar sites where the desired species after establishment is crownvetch.

Do not mow shorter than 9 to 10 inches. Seed mixtures containing crown vetch should not be used in areas adjacent to wetlands or stream channels due to the increase adjacent of this precision.

ercentage germination divided by 100. For divide 12 pounds PLS shown on the seed t

- ALL LOTS, TRACTS OR PARCELS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AWAY FROM BUILDINGS AND DISPOSE OF IT WITHOUT PONDING, AND ALL LAND WITHIN A DEVELOPMENT SHALL BE GRADED TO DRAIN AND DISPOSE OF SURFACE WATER WITHOUT PONDING, EXCEPT WHERE APPROVED BY THE TOWNSHIP SUPERVISORS.
 ALL DRAINAGE PROVISIONS SHALL BE OF SUCH DESIGN TO ADEQUATELY HANDLE THE SURFACE RUNOFF AND CARRY IT TO THE NEAREST SUITABLE OUTLET SUCH AS A CURBED ALL DRAINAGE PROVISIONS SHALL BE OF SUCH DESIGN TO ADEQUAILLY HANDLE THE SURFACE RUNOFF AND CARRY TO THE NEAREST SUITABLE OUTLET SUCH AS A CURBED STREET, STORM DRAIN OR NATURAL WATERCOURSE OR PROPERLY DESIGNED SWALE. WHERE DRAINAGE SWALES ARE USED TO DIVERT SURFACE WATERS AWAY FROM BUILDINGS, THEY SHALL BE SODDED OR PLANTED AS REQUIRED AND SHALL OF SUCH SLOPE, SHAPE AND SIZE AS TO CONFORM TO THE REQUIREMENTS OF THE TOWNSIHP.
 CONCENTRATION OF SURFACE WATER RUNOFF SHALL ONLY BE PERMITTED IN PROPERLY DESIGNED AND MAINTAINED SWALES, WATERCOURSES OR RETENTION BASINS.
 NO INCREASED SURFACE RUNOFF WILL BE PERMITTED TO LEAVE THE PROPERTY BEING SUBDIVIDED OR DEVELOPED BY WAY OF NATURAL WATERCOURSES OR STORM DRAINAGE ES WITHOUT FIRST BEING SUITABLY RETAINED IN SUCH A WAY AS TO MAINTAIN RUNOFF VOLUME EXISTING ON THE SITE PREVIOUS TO SUBDIVISION OR DEVELOPMENT.
- 5. EXCAVATIONS AND FILLS. a. CUT AND FILL SLOPES SHALL NOT BE STEEPER THAN 2:1 UNLESS STABILIZED BY A RETAINING WALL OR CRIBBING, EXCEPT AS APPROVED BY THE TOWNSHIP SUPERVISORS WHEN HANDLED UNDER SPECIAL CONDITIONS. b. ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATER FROM DAMAGING THE CUT FACE OF EXCAVATIONS OF THE SLOPING SURFACES OF FILLS.
- ULT AND FILLS SHALL NOT ENDANGER ADJOINING PROPERTY. ILL SHALL BE PLACED AND COMPACTED SO AS TO MINIMIZE SLIDING OR EROSION OF THE SOIL.
- FILLS SHALL NOT ENCROACH ON NATURAL WATERCOURSES OR CONSTRUCTED CHANNELS.
 FILLS SHALL NOT ENCROACH ON NATURAL WATERCOURSES OR CONSTRUCTED CHANNELS.
 FILLS PLACED ADJACENT TO NATURAL WATER COURSES OR CONSTRUCTED CHANNELS SHALL HAVE SUITABLE PROTECTION AGAINST EROSION DURING PERIODS OF FLOODING.
 GRADING WILL NOT BE DONE IN SUCH A WAY SO AS TO DIVERT WATER ONTO THE PROPERTY OF ANOTHER LANDOWNER WITHOUT THE EXPRESSED CONSENT OF THE TOWNSHIP SUPERVISORS.
- SUPERVISIONS. h. DURING GRADING OPERATIONS, NECESSARY MEASURES FOR DUST CONTROL WILL BE EXERCISED. i. GRADING EQUIPMENT WILL NOT BE ALLOWED TO CROSS LIVE STREAMS. PROVISION WILL BE MADE FOR THE INSTALLATION OF CULVERTS OR BRIDGES.

TABLE E.1																
LIMITATIONS OF PE	INNS	rlvan	IA SO	ILS F	PERTA	INING	to e	EARTH	MOVIN	IG PF	ROJEC	TS				
SOIL NAME	CUTBANKS CAVE	CORROSIVE TO CONCRETE/STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	HYDRIC/ HYDRIC INCLUSIONS	LOW STRENGTH / LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	Shrink – Swell	POTENTIAL SINKHOLE	PONDING	WETNESS
BOWMANSVILLE-KNAUERS SILT LOAMS (Bo)																
BOMANSVILLE	х	c/s			x	x	х	х	х	х	х	х				X
KNAUERS	x	c/s	x		x	x	x	x	x		x	x			x	x
PENN-LANSDALE COMPLEX, 3% TO 8% SLOPES (PIB), 8% TO 15% SLOPES (PIC)																
PENN	х	С	х				х	х		х	х	х				
LANSDALE	х	С	х					х	х		х	х				
URBAN LAND-READINGTON COMPLEX, 0 TO 8 PERCENT SLOPES (UryB)	x	c/s		x		x	x	x	x	x	x	x				x
URBAN LAND-UDORTHENTS, SHALE AND SANDSTONE COMPLEX, 8 TO 25 PERCENT SLOPES (UusD)	x	C/S	x	x				x	x		x	x				

-NDWALL	

ORIFICE DIAMETER MUST BE EQUAL TO OR LESS THAN ARM DIAMETER A ROPE SHALL BE ATTACHED TO THE SKIMMER ARM TO FACILITATE ACCESS TO THE SKIMMER ONCE INSTALLED. SKIMMER SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT ANY MALFUNCTIONING SKIMMER SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION. ICE OR SEDIMENT BUILDUP AROUND THE PRINCIPAL SPILLWAY SHALL BE REMOVED SO AS TO ALLOW THE SKIMMER TO RESPOND TO FLUCTUATING WATER ELEVATIONS. SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE LEVEL MARKED ON THE

CONSTRUCTION DETAIL # 7–3).

DEWATERIN

WATER ENTRY UNIT-

FLOAT-

NO GUIDE RAILS SHALL BE REQUIRED FOR THIS INSTALLATION.

SEDIMENT CLEAN-OUT STAKE OR THE TOP OF THE LANDING DEVICE.

A SEMI-CIRCULAR LANDING ZONE MAY BE SUBSTITUTED FOR THE GUIDE RAILS (STANDARD

STANDARD CONSTRUCTION DETAIL #7-1

SKIMMEE

NOT TO SCALE

DISSIPATOR WIDTH RIPRAP THICK. SIZE DRt (FT) (R-_) (IN 35 | N/A | N/A

RIPRAP OUTLET DISSIPATOR

NON-WOVEN GEOTEXTILE

TOE OF SLOPE

SIDE SLOPE Z4 TRM

EMERGENCY SPILLWA

-TRASH RACK PERMANENT OUTLET STRUCTUR -TEMPORARY RISER EXTENSION FLEXIBLE-AASHTO NO. 57 STON VENT-FACILITY

THIS DETAIL SHALL BE USED IN CONJUNCTION WITH STANDARD CONSTRUCTION DETAILS #7-2 AND

STANDARD CONSTRUCTION DETAIL #7-3

SKIMMER WITH STONE LANDING BERM NOT TO SCALE

PVC VENT PIPE

GUARANIELD. PURSUANT TO REQUIREMENTS OF F JISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED 2008, CONTRACTORS MUST VERIFY LOCATION AND INDERGROUND UTILITIES AND FACILITIES PRIOR TO S 20213502293 PA DA 0 N N CHRISTOPHER W. JENSEN, P.E LICENSED PROFESSIONAL ENGINEER REGISTERED A PROFESSIONAL CHRISTOPHER W. JENSE M ENGINEER 🔰 NO. PE76464 レ 4/3/2023 LICENSED PROFESSIONAL ENGINEER STATE OF PA LICENSE No. PE076464 ഗ \Box 00 ROL 00 Q ONT 0 \mathbf{O} \mathbf{O} \odot 0 Ŕ ⊢ ш DIMEN Q 'w # Z S BT \geq AND \geq SION ()111 1700 MARKET STREET, SUITE 3110 PHILADELPHIA, PA 19103 TEL 215-282-7850 FAX 215-627-3459 www.tandmassociates.com OFFICES LOCATED IN CALIFORNIA, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO AND PENNSYLVANIA DESIGNED BY DRAWING CGG/JPK/ROP DET-8 CHECKED B DRAWN B SHEET PG/SR/ROP SCALE

AS NOTED

BETI00056

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OF

R-TANK QUANTITIES		
R-TANK ^{HD} MODULE TYPE	PENTA	СПАРИИС
TRAFFIC LOAD	HS-20	GRAPHIC
# OF PENTA R-TANKS	4301	
TOTAL SYSTEM STORAGE	99,749 CF	0 25
R-TANK STORAGE VOLUME	87,496 CF	
STONE STORAGE VOLUME (40% VOID RATIO)	12,253 CF	SCALE 1"
STONE BED FOOTPRINT	14,958 SF]
STONE QUANTITY	1,135 CY]
N080 NON-WOVEN GEOTEXTILE TANK WRAP	4,136 SY	
N080 NON-WOVEN GEOTEXTILE EXCAVATION WRAP	4,727 SY	
ACF BX-12 GEOGRID	2,246 SY	DESCRIPTION
12" INSPECTION PORTS	14	BASE INV.
GEOTEXTILE PIPE BOOTS (18")	7	TANK INV.
STORMRING CPS (18")	5	TOP OF TANK
NOTE: STONE QUANTITY INCLUDES 12" OF COVER AND 3"	GEOGRID	
NOTE: GEOTEXTILE / LINER QUANTITIES INCLUDE A 15% W	MIN. ALLOW. FINAL GRA	
SEE SHEETS 3 - 6 FOR DETAILS AND ADDITIONAL INFORMA	TION	MAX. ALLOW. FINAL GRA

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-481						
1.01 A.	1 - GENERAL RELATED DOCUMEN Drawings, technical spe	rs ecification and general provisions of th	ne Contract as modifi	ed herein apply t	o this section.	
1.02 A. B. C. D.	DESCRIPTION OF WC Provide excavation and and safety from excava Provide and install R-Ta outlet pipe with connect Provide and construct th Protect R-Tank system	RK INCLUDED base preparation per geotechnical er tion sidewall collapse. Excavations sh ankLD/, R-TankHD/, R-TankSD/, or R tions per the manufacturer's installation he cover of the R-Tank system includ from construction traffic after installat	ngineer's recomment nall be in accordance -TankU/D/ system (h on guidelines provide ing; stone backfill, str ion until completion c	dations and/or as with the owner's ereafter called R d in this section. ructural fill cover of all constructior	s shown on the o and OSHA req -Tank) and all r and pavement activity in the i	design drawings, juirements. elated products ir section as specif nstallation area.
1.03 A. 3. 1. 2. 3. C.	QUALITY CONTROL All materials shall be m Installation Contractor s A minimum of three R-T A minimum of 25,000 c Contractor experience r Installation Personnel: F comparable size and ou	anufactured in ISO certified facilities. shall demonstrate the following experi- rank or equivalent projects completed ubic feet of storage volume completed requirement may be waived if the mar Performed only by skilled workers with uality.	ence: I within 2 years; and, d within 2 years. nufacturer's represen n satisfactory record	tative provides o of performance o	n-site training a on bulk earthwo	nd review during rks, pipe, chambe
). 1.04	Contractor must have n	nanufacturer's representative available	e for site review if red	quested by Owne	er.	
A. B. C. D. E. G.	Submit proposed R-Tar tank configuration. Submit manufacturer's Submit manufacturer's Submit R-Tank sample Submit material certifica Submit required experies Any proposed equal alt reviewed performance of	nk layout drawings. Drawings shall inc product data, including compressive s installation instructions. for review. Reviewed and accepted s ates for geotextile, geogrid, base cour ence and personnel requirements as s ernative product substitution to this sp data that meets or exceeds criteria in	clude typical section of strength and unit weig amples will be return se and backfill mater specified in Section 1 pecification must be s Table 2.01 B.	details as well as ght. ed to the Contra ials. .03. submitted for rev	the required back	ase elevation of st ed prior to bid ope
.05 4. 3. 2. 1. 2.	DELIVERY, STORAGE Protect R-Tank and oth two weeks. Storage of r Handling is to be perfor Cold weather: Care must be taken wh Do not use frozen mate	, AND HANDLING er materials from damage during deliv materials should be on smooth surfac med with equipment appropriate to th en handling plastics when air tempera rials or materials mixed or coated with	very, and store UV se es, free from dirt, mu e materials and site o ature is 40 degrees o h ice or frost.	ensitive materials d and debris. conditions, and r r below as plasti	s under tarp to p nay include han c becomes brittl	protect from sunlig Id, handcart, forkli Ie.
3. .06 F	Do not build on frozen g	ground or wet, saturated or muddy su	bgrade.			
	PREINSTALLATION CO	NFERENCE.				
A. 1.07 A.	PREINSTALLATION CO Prior to the start of the i R-Tank installation cont PROJECT CONDITION Coordinate installation f heavier than the design allowed on the system a	NFERENCE. Installation, a preinstallation conference tractor, and the manufacturer's repres IS for the R-Tank system with other on-s I loads shall be allowed over the system at any time.	ce shall occur with th eentative. tite activities to elimin em, and in no case sh	e representative ate all non-insta nall loads higher	s from the desig llation related co than a standard	on team, the gene onstruction traffic I AASHTO HS20
A. 1.07 A. 3. C. D. PART 2.01 F	PREINSTALLATION CO Prior to the start of the i R-Tank installation cont PROJECT CONDITION Coordinate installation f heavier than the design allowed on the system a Protect adjacent work fi All pre-treatment syster needed if unit is operati Contractor is responsib	NFERENCE. Installation, a preinstallation conference tractor, and the manufacturer's repres IS for the R-Tank system with other on-s loads shall be allowed over the system at any time. rom damage during R-Tank system in ms to remove debris and heavy sedim onal during construction due to increa le for any damage to the system durin	ce shall occur with the entative. wite activities to elimin em, and in no case sh estallation. ments must be in plac ased sediment loads. and construction.	e representative ate all non-insta nall loads higher e and functional	s from the desig llation related co than a standard prior to operatic	onstruction traffic AASHTO HS20 on of the R-Tank s
4. 1.07 4. 3. 2. 2. 2.01 F 4. 3.	PREINSTALLATION CO Prior to the start of the i R-Tank installation cont PROJECT CONDITION Coordinate installation f heavier than the design allowed on the system a Protect adjacent work fi All pre-treatment syster needed if unit is operati Contractor is responsib	NFERENCE. Installation, a preinstallation conference tractor, and the manufacturer's repres IS for the R-Tank system with other on-s loads shall be allowed over the system at any time. rom damage during R-Tank system in ms to remove debris and heavy sedim onal during construction due to increa le for any damage to the system durin ed plastic tank plates assembled to for t the following Physical & Chemical C	ce shall occur with the entative. tite activities to eliminem, and in no case sh estallation. The sed sediment loads. The construction.	e representative ate all non-insta nall loads higher e and functional ular structure of p	s from the desig llation related co than a standard prior to operatic	onstruction traffic AASHTO HS20 on of the R-Tank s
а. 1.07 а. 3. 2. 2. 2.01 г а. 3.	PREINSTALLATION CO Prior to the start of the i R-Tank installation cont PROJECT CONDITION Coordinate installation f heavier than the design allowed on the system a Protect adjacent work fi All pre-treatment syster needed if unit is operati Contractor is responsib C 2 - PRODUCTS R-TANK UNITS R-TANK UNITS R-Tank - Injection mold R-Tank units shall meet	NFERENCE. Installation, a preinstallation conference tractor, and the manufacturer's represe IS for the R-Tank system with other on-se toads shall be allowed over the system at any time. rom damage during R-Tank system in ns to remove debris and heavy sedim onal during construction due to increate le for any damage to the system durin ed plastic tank plates assembled to for t the following Physical & Chemical C Volume available for water storage	ce shall occur with the entative. Site activities to eliminer, and in no case shows a stallation. The set and the set of the set o	e representatives hate all non-insta hall loads higher e and functional llar structure of p R-Tank ^{HD} VALUE	s from the desig llation related co than a standard prior to operation predesigned hei R-Tank ^{SD} VALUE	gn team, the gene onstruction traffic I AASHTO HS20 on of the R-Tank s ght (custom for ea R-Tank ^{up} VALUE 95%
A. 1.07 A. 3. 2. 2. 2.01 F A. 3.	PREINSTALLATION CO Prior to the start of the i R-Tank installation cont PROJECT CONDITION Coordinate installation of heavier than the design allowed on the system a Protect adjacent work fi All pre-treatment syster needed if unit is operati Contractor is responsib 2 - PRODUCTS R-TANK UNITS R-TANK UNITS R-Tank - Injection mold R-Tank units shall meet PROPERTY Void Area Surface Void Area	NFERENCE. Installation, a preinstallation conference tractor, and the manufacturer's represe IS for the R-Tank system with other on-se loads shall be allowed over the system at any time. rom damage during R-Tank system in ms to remove debris and heavy sedim onal during construction due to increat le for any damage to the system durin ed plastic tank plates assembled to for t the following Physical & Chemical C Volume available for water storage Percentage of exterior available for infiltration ASTMD 2412 (ARTME 2418	ce shall occur with the entative. Site activities to eliminem, and in no case shows and in no case shows the stallation. The ents must be in place as ediment loads. The orm a 95% void module haracteristics: R-Tank ^{LD} VALUE 95% 90% 30.0 pci	e representatives hate all non-instanall loads higher e and functional ular structure of p R-Tank ^{HD} VALUE 95% 90%	s from the design llation related co than a standard prior to operation predesigned heit R-Tank ^{SD} VALUE 95% 90%	gn team, the gene onstruction traffic I AASHTO HS20 on of the R-Tank s ght (custom for ea R-Tank ^{UD} VALUE 95% 90%
А. 1.07 А. 3. 2. 2.01 г А. 3.	PREINSTALLATION CO Prior to the start of the i R-Tank installation cont PROJECT CONDITION Coordinate installation f heavier than the design allowed on the system a Protect adjacent work fi All pre-treatment syster needed if unit is operati Contractor is responsib C - PRODUCTS R-TANK UNITS R-Tank - Injection mold R-Tank units shall meet PROPERTY Void Area Surface Void Area Vertical Compressive Strength Lateral Compressive Strength	NFERENCE. Installation, a preinstallation conference tractor, and the manufacturer's represe IS for the R-Tank system with other on-se loads shall be allowed over the system at any time. rom damage during R-Tank system in ms to remove debris and heavy sedim onal during construction due to increate le for any damage to the system durin ed plastic tank plates assembled to for t the following Physical & Chemical C DESCRIPTION Volume available for water storage Percentage of exterior available for infiltration ASTM D 2412 / ASTM F 2418	ce shall occur with the entative. Site activities to eliminer, and in no case shows a stallation. The set an	e representatives hate all non-instanall loads higher e and functional ular structure of p R-Tank ^{HD} VALUE 95% 90% 33.4 psi 22.4 psi	s from the design llation related co than a standard prior to operation predesigned heit R-Tank ^{SD} VALUE 95% 90% 42.9 psi 28.9 psi	in team, the gene onstruction traffic I AASHTO HS20 on of the R-Tank s ght (custom for ea <u>R-Tank^{up} VALUE</u> 95% 90% 134.2 psi N/A
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	PART 3 - EXECUTION 3.01 ASSEMBLY OF R-TANK UNITS A. Assembly of modules shall be performed in accordance with the R-Tank Installation Manual, Section 2.
vide adequate support for project design loads	 3.02 LAYOUT AND EXCAVATION A. Installer shall stake out, excavate, and prepare the subgrade area to the required plan grades and dimensions, ensur dimensions in each direction allowing for installation of geotextile filter fabric, R-Tank modules, and free draining back B. All excavations must be prepared with OSHA approved excavated sides and sufficient working space. C. Protect partially completed installation against damage from other construction traffic by establishing a perimeter with means until construction is complete. D. Base of the excavation shall be uniform, level, and free of lumps or debris and soft or yielding subgrade areas. A min 1. Standard Applications: Compact subgrade to a minimum of 95% of Standard Proctor (ASTM D698) density or as requered. E. Unsuitable Soils or Conditions: All questions about the base of the excavation shall be directed to the owner's engine of stone. The owner's engineer shall determine the required bearing capacity of the R-Tank subgrade; however in no square foot be provided.
uction. ond/landfill construction projects of	 If unsuitable soils are encountered at the subgrade, or if the subgrade is pumping or appears excessively soft, repair directed by the owner's engineer. If indications of the water table are observed during excavation, the engineer shall be contacted to provide recommer Do not start installation of the R-Tank system until unsatisfactory subgrade conditions are corrected and the subgrade
nd tanks, minimum cover requirements and	 3.03 PREPARATION OF BASE A. Place a thin layer (3" unless otherwise specified) of bedding material (Section 2.03 A), over the subgrade to establish 1/2" (+/- 1/4") or as shown on the plans. Native subgrade soils or other materials may be used if determined to meet the engineer. 1. Standard Applications: Static roll or otherwise compact bedding materials until they are firm and unyielding. 2. Infiltration Applications: Bedding materials shall be prepared in accordance with the contract documents. B. Outline the footprint of the R-Tank system on the excavation floor using spray paint or chalk line to ensure a 2' perime and compaction of backfill.
Review package should include third party	 3.04 INSTALLATION OF THE R-TANKS A. Where a geotextile wrap is specified on the stone base, cut strips to length and install in excavation, removing wrinkle recommended by manufacturer. Use tape, special adhesives, sandbags or other ballast to secure overlaps. As geote
en time from delivery to installation exceeds	 permissible on/near the geotextile, and tools using a flame to tack the overlaps, such as propane torches, are prohibited. B. Where an impervious liner (for containment) is specified, install the liner per manufacturer's recommendations and the impervious liner by a new way approximation fabric installed approximately with Section 2.044.
tension lifts, etc.	 C. Install R-Tank modules by placing side by side, in accordance with the design drawings. No lateral connections are reand straight edges along the perimeter of the R-Tank system. The modules are to be oriented as per the design draw 1. For LD, HD, and SD installations, the large side plate of the tank should be placed on the perimeter of the system. The have a row of tanks placed perpendicular to all other tanks. If this is not shown in the construction drawings, it is a sir system footprint. Refer to R-Tank Installation Guide for more details 2. For UD installations, there is no perpendicular end row required.
ntractor, the excavation contractor, the	 D. Wrap the R-Tank top and sides in specified geotextile. Cut strips of geotextile so that it will cover the sides and top, e system. Overlap geotextile 12" or as recommended by manufacturer. Take great care to avoid damage to geotextile E. Identify locations of inlet, outlet and any other penetrations of the geotextile (and optional liner). These connections si geotextile fabric shall be cut to enable hydraulic continuity between the connections and the R-Tank units. These con pipe clamps. Support pipe in trenches during backfill operations to prevent pipe from settling and damaging the geotextile
ne completed R-Tank system. No loads 25, depending on design criteria) load be	 90 degree angles facilitates construction, unless otherwise specified. Ensure end of pipe is installed snug against R-1 F. Install Inspection and Maintenance Ports in locations noted on plans. At a minimum one maintenance port shall be installing and use of the stall be installed in the R-Tank Install G. If required, install ventilation pipes and vents as specified on drawings to provide ventilation for proper hydraulic performance.
. Additional pretreatment measures may be	of the system. Vents are often installed using a 90 degree elbow with PVC pipe into a landscaped area with 'U" bend concrete or steel cover can be used.
pject). nent (ACF M200 or equivalent) shall be used. rce backfill above the R-Tank system.	 3.05 BACKFILLING OF THE R-TANK UNITS A. Backfill and fill with recommended materials as follows: Place freely draining backfill materials (Section 2.03 B) around the perimeter in lifts with a maximum thickness of 12", each lift is no more than 24" higher than the side backfill along any other location on the perimeter of the R-Tank syst has been completed. Each lift shall be compacted at the specified moisture content to a minimum of 95% of the Standard Proctor Density u stone materials). The side lifts must be compacted with walk behind compaction equipment. Even when "self-compact compactor must be used. Take care to ensure that the compaction process does not allow the machinery to come into contact with the modules units. No compaction equipment is permissible to operate directly on the R-Tank modules. Top Backfill: Only low pressure track vehicles shall be operated over the R-Tank system during construction. Dump T footprint at any time. Heavy equipment should unload in an area adjacent to the R-Tank system and the material sho operating weight of less than 10 tons. Typical Applications: Install a 12" (or as shown on plans) lift of freely draining material (Section 2.03 B) over the R-Tank System. Lightly compacted using a walk-behind trench roller. Alternately, a roller (maximum gross vehicle mode until a minimum of 24" of cover has been placed over the modules. Sheep foot rollers should not be used. Shallow Applications (< 18" total cover): Install top backfill in accordance with plans. If required, install a geogrid as shown on plans. Geogrid shall extend a minimum of 3 feet beyond the limits of the excention plane adjacent to the R-Tank system. During pla uniform elevation of fill shall be maintained to within 12" across the footprint of the R-Tank system. During pla uniform elevation of fill shall be maintained to within 12" across the footprint of the R-Tank system.
cation System) shall be used below the	 B. Ensure that all unrelated construction traffic is kept away from the limits of excavation until the project is complete and loading should be allowed over the R-Tank system until the final design section has been constructed (including pave C. Place surfacing materials, such as groundcovers (no large trees), or paving materials over the structure with care to a areas.
I be within 3 percent of the optimum moisture	D. Backfill depth over R-Tank system must be within the limitations shown in the table in Section 2.01 B. If the total back manufacturer's representative for assistance.
	3.06 MAINTENANCE REQUIREMENTS A. A routine maintenance effort is required to ensure proper performance of the R-Tank system. The Maintenance progr
or SP as classified by the Unified Soil	structures are clean and functioning properly will reduce the risk of contamination of the R-Tank system and stormwa inspected yearly, or as directed by the regulatory agency and by the manufacturer (for proprietary systems). Maintain
ine use of soil backfill on the sides and top ill material (from top of module to bottom of	manufacturer's guidelines (for proprietary systems). B. All inlet pipes and Inspection and/or Maintenance Ports in the R-Tank system will need to be inspected for accumulat operation and at least yearly thereafter.
naterials may either follow the guidelines for opsoil to aid in establishing vegetation. P or GW as classified by the Unified Soil of 10 percent and a maximum Plasticity Index	 C. If sediment has accumulated to the level noted in the R-Tank Maintenance Guide or beyond a level acceptable to the D. All inspection and maintenance activities should be performed in accordance with the R-Tank Operation, Inspection 8

<u>BASIN A</u> <u>*Ferguson r-tank (or approved equal)</u>

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	PPROVE AND DESIGN.	SHOWN RECOR COMPLETEN LOCATION GUARAN LEGISLATIVE 2008, C UNDERGRO	HEREON HAVE BEEN DEVEL DS AND/OR ABOVE-GROUN ESS OR ACCURACY OF TY UNDERGROUND FACILITI ITEED. PURSUANT TO REQU ACT NUMBER 287 OF 19 DNTRACTORS MUST VERIFY UND UTILITIES AND FACILIT SERIAL I 2021350	OPED FROM UNILITY COMPANY DO INSPECTION OF THE SITE PE, SIZE, DEPTH OR HORIZONTAL ES OR STRUCTURES CANNOT BE JIREMENTS OF PENNSYLVANIA 74 AS AMENDED BY ACT 121 OF LOCATION AND DEPTH OF ALL IES PRIOR TO START OF WORK. NO.: 2293
ensuring that the excavation is at least 2 feet greater than R-Tank backfill materials. with high visibility construction tape, fencing, barricades, or other minimum 2,000 pounds per square foot bearing capacity is required. required by the Owner's engineer. subgrade should not be performed in infiltration applications. egineer, who will approve the subgrade conditions prior to placement n no case shall a bearing capacity of less than 2,000 pounds per epair the area in accordance with contract documents and/or as	ENGINEER OF RECORD TO REVIEW, A ENDORSE FINAL SITE SPECIFIC			R CKS REVIEW LETTER DATED 11/22/2022 PRG DS EVISED ENTRANCE ON GERMANTOWN PIKE ROP DS R CKS REVIEW LETTER DATED 03/11/2022 PRG DS R CKS REVIEW LETTER DATED 03/11/2022 BY CHKD
grade conditions are accepted by the owner's engineer. blish a level working platform for the R-Tank modules. Level to within at the requirements of 2.03 A and are accepted by the owner's	SSON ERVORS, VORKS, guson.com			3 11/17/2023 PE 2 4/3/2023 R 1 10/04/2022 PE NO. DATE
erimeter is available around the R-Tank system for proper installation rinkles so material lays flat. Overlap geotextile a minimum 12" or as jeotextiles can be damaged by extreme heat, smoking is not ohibited.	AL INFORMATION P GUSON WATERW 448-3636, www.ferg	CHRI	STOPHER W ed profession	V. JENSEN, P.E. al engineer
nd the contract documents. The R-Tank units shall be separated from are required. It is advisable to use a string line to form square corners drawing with required depth as shown on plans. n. This will typically require that the two ends of the tank area will a simple field adjustment that will have minimal effect on the overall	FOR ADDITION FER FER		CHRISTOPHER ENGINE	AZ JAN RED IONAL W. JENSEN EER
op, encapsulating the entire system to prevent backfill entry into the ctile (and, if specified, impervious liner) during placement. Ins should be installed flush (butted up to the R-Tank) and the e connections shall be secured using pipe boots with stainless steel geotextile, impervious liner (if specified) or pipe. Connecting pipes at at R-Tank system. De installed within 10' of each inlet & outlet connection, and with a installation Guide. performance. The number of pipes and vents will depend on the size bend or venting bollard to inhibit the ingress of debris. A ground level			EED PROFESSION OF PA LICENSE N	4/3/2023 4/3/2023 AL ENGINEER Io. PE076464
F 12". Each lift shall be placed around the entire perimeter such that system. No fill shall be placed over top of tanks until the side backfill sity until no further densification is observed (for self-compacting mpacting" backfill materials are selected, a walk behind vibratory dules due to the potential for damage to the geotextile and R-Tank mp Trucks and Pans shall not be operated within the R-Tank system I should be moved over the system using tracked equipment with an e R-Tank Units, maintaining 12" between equipment tracks and hicle weight of 6 tons) may be used. Roller must remain in static ed. e excavation wall. e placed at the specified moisture content and compacted to a top placement of fill above the system, unless otherwise specified, a d maximum cover depths listed in Table 2.01 B. geosynthetic reinforcement placed above the R-Tank system shall e and final surface materials are in place. No non-installation related	R-TANK ^{HD} SPECIFICATION CITY VIEW APN 67 WORCESTER, PA	BT WORCESTER, LLC	CITY VIEW - APN #67-00-01606-001 2974 Germantown Pike, worcester township, Montgomery county, commonwealth of pennsylvania	POST CONSTRUCTION STORMWATEF MANAGEMENT DETAILS
pavement). a to avoid displacement of cover fill and damage to surrounding backfill depth does not comply with this table, contact engineer or program should be focused on pretreatment systems. Ensuring these mwater released from the site. Pre-treatment systems shall be ntain as needed using acceptable practices or following nulation of sediments at least quarterly through the first year of to the Owner's engineer, the R-Tank system should be flushed. tion & Maintenance Manual.	SCALE NTS DRAWN BY JKB DATE 06/30/2023 SHEET NO.	1 MASS	YOUR GOALS YOUR GOALS 700 MARKET STRI PHILADELPHIA TEL 215-28 FAX 215-62 www.tandmass OFFICES LOO ALIFORNIA, INDIA ACHUSETTS, MICH	OUR MISSION. EET, SUITE 3110 , PA 19103 32-7850 27-3459 ociates.com CATED IN: NNA, KENTUCKY, HIGAN, NEW JERSEY, JINSYL VANIA
	6 of 6	DESIGN	ED BY CGG/JPK/ROP D BY	DET-13

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32

of **34**

BMP SPECIFICATIONS

BMP 5.6.3 RE-VEGETATE AND RE-FOREST DISTURBED AREAS, USING NATIVE SPECIES PART TWO - REVEGETATE AND REFOREST TO RECEIVE CREDIT FOR PLANTING TREES, THE FOLLOWING CRITERIA MUST BE MET:

- 1. TREES MUST BE NATIVE SPECIES, MINIMUM 2" CALIPER, MINIMUM TREE HEIGHT IS 6 FFFT
- 2. TREES SHALL BE ADEQUATELY PROTECTED DURING CONSTRUCTION. 3. TREES CREDITED FOR STORMWATER MANAGEMENT SHALL BE CLEARLY LABELED ON CONSTRUCTION DRAWINGS AND RECORDED ON RECORD PLAN FOR PROJECT.
- 4. TREES SHALL BE MAINTAINED AND PROTECTED FOR THE LIFE OF THE PROJECT (50 YEARS) OR UNTIL REDEVELOPMENT OCCURS.
- 5. NO MORE THAN 25% OF THE RUNOFF VOLUME CAN BE MITIGATED THROUGH THE
- USE OF TREES. 6. ESCROW SHALL BE PROVIDED FOR THE REPLACEMENT OF ANY PROTECTED TREES USED FOR STORMWATER CREDITS THAT DIE WITHIN 5 YEARS OF CONSTRUCTION. DEAD TREES SHALL BE REPLACED WITHIN 6 MONTHS.
- 7. TREES SHALL BE LOCATED ON THE DEVELOPMENT PROJECT.
- 8. MAY BE APPLIED FOR TREES REQUIRED UNDER STREET TREE OR LANDSCAPING REQUIREMENTS
- 9. MAY BE APPLIED FOR TREES PLANTED AS PART OF RIPARIAN BUFFER IMPROVEMENT. NON-NATIVE SPECIES ARE NOT APPLICABLE.

BMP 6.4.5 BIORETENTION (MRC):

VEGETATION - SEE APPENDIX B OF PA BMP MANUAL EXECUTION

- A. SUBGRADE PREPARATION
- 1. INITIAL EXCAVATION CAN BE PERFORMED DURING ROUGH SITE GRADING BUT SHALL NOT BE CARRIED TO WITHIN ONE FEET OF THE FINAL BOTTOM ELEVATION. FINAL EXCAVATION SHOULD NOT TAKE PLACE UNTIL ALL DISTURBED AREAS IN THE DRAINAGE AREA HAVE BEEN STABILIZED.
- 2. WHERE EROSION OF SUB-GRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING IN THE GRADED BOTTOM, THIS MATERIAL SHALL BE REMOVED.
- 3. BRING SUB-GRADE OF MRC AREA TO LINE, GRADE, AND ELEVATIONS INDICATED. INSTALL IMPERMEABLE LINER PER MANUFACTURER'S RECOMMENDATIONS. FILL AND LIGHTLY REGRADE ANY AREAS DAMAGED BY FROSION, PONDING, OR TRAFFIC COMPACTION. ALL MRC AREAS SHALL BE LEVEL GRADE ON THE BOTTOM.
- 4. HALF EXCAVATION AND NOTIFY ENGINEER IMMEDIATELY IF EVIDENCE OF SINKHOLE ACTIVITY OR PINNACLES OF CARBONATE BEDROCK ARE ENCOUNTERED IN THE MRC ARFA.
- B. MRC INSTALLATION. 1. UPON COMPLETION OF SUB-GRADE WORK, THE ENGINEER SHALL BE NOTIFIED AND SHALL INSPECT AT HIS/HER DISCRETION BEFORE PROCEEDING WITH MRC INSTALLATION.
- 2. FOR THE SUBSURFACE STORAGE BED INSTALLATION, UNDERDRAIN AND FILTER
- MEDIA SHOULD BE PLACED ON THE BOTTOM TO THE SPECIFIED DEPTH. 3. PLANTING SOIL SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUB-GRADE PREPARATION / BED INSTALLATION. ANY ACCUMULATION OF DEBRIS OR SEDIMENT THAT TAKES PLACE AFTER APPROVAL OF SUB-GRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF PLANTING SOIL AT NO EXTRA COST TO THE OWNER.
- 4. INSTALL PLANTING SOIL (EXCEEDING ALL CRITERIA) IN 18-INCH MAXIMUM LIFTS AND LIGHTLY COMPACT (TAMP WITH BACKHOE BUCKET OR BY HAND). KEEP EQUIPMENT MOVEMENT OVER PLANTING SOIL TO A MINIMUM - DO NOT OVER COMPACT. INSTALL PLANTING SOIL TO GRADES INDICATED ON THE DRAWINGS. 5. PLANT TREES AND SHRUBS ACCORDING TO SUPPLIER'S RECOMMENDATIONS AND
- ONLY FROM MID-MARCH THROUGH THE END OF JUNE OR FROM MID-SEPTEMBER THROUGH MID-NOVEMBER. 6. INSTALL 2-3" SHREDDED HARDWOOD MULCH (MINIMUM AGE 6 MONTHS) OR
- COMPOST MULCH EVENLY AS SHOWN ON PLANS. DO NOT APPLY MULCH IN AREAS WHERE GROUND COVER IS TO BE GRASS OR WHERE COVER WILL BE ESTABLISHED BY SEEDING.
- 7. PROTECT MRC AREAS FROM SEDIMENT AT ALL TIMES DURING CONSTRUCTION. HAY BALES, DIVERSION BERMS AND/OR OTHER APPROPRIATE MEASURES SHALL BE USED AT THE TOE OF THE SLOPES THAT ARE ADJACENT TO MRC AREAS TO PREVENT SEDIMENT FROM WASHING INTO THESE AREAS DURING SITE DEVELOPMENT.
- 8. WHEN THE SITE IS FULLY VEGETATED AND THE SOIL MANTLE STABILIZED THE PLAN DESIGNER SHALL BE NOTIFIED AND SHALL INSPECT THE MRC DRAINAGE AREA AT HIS/HER DISCRETION BEFORE THE AREA IS BROUGHT ONLINE AND SEDIMENT CONTROL DEVICES REMOVED.
- 9. WATER VEGETATION AT THE END OF EACH DAY FOR TWO WEEKS AFTER PLANTING IS COMPLETED. CONTRACTOR SHOULD PROVIDE A ONE-YEAR 80% CARE AND REPLACEMENT WARRANTY FOR ALL PLANTING BEGINNING AFTER INSTALLATION AND INSPECTION OF ALL PLANTS.

BMP 6.6.3 DRY EXTENDED DETENTION BASIN: 1. SITE PREPARATION

- ALL EXCAVATION AREAS, EMBANKMENTS, AND WHERE STRUCTURES ARE TO BE INSTALLED SHALL BE CLEARED AND GRUBBED AS NECESSARY, BUT TREES AND EXISTING VEGETATION SHOULD BE RETAINED AND INCORPORATED WITHIN THE DRY DETENTION BASIN AREA WHERE POSSIBLE B. WHERE FEASIBLE, TREES AND OTHER NATIVE VEGETATION SHOULD BE PROTECTED. A MINIMUM 10-FOOT RADIUS AROUND THE INLET AND OUTLET STRUCTURES CAN BE CLEARED TO
- ALLOW CONSTRUCTION. ANY CLEARED MATERIAL SHOULD BE USED AS MULCH FOR EROSION CONTROL OR SOIL STABILIZATION.
- CARE SHOULD BE TAKEN TO PREVENT COMPACTION OF THE BOTTOM OF THE RESERVOIR. IF COMPACTION SHOULD OCCUR, SOILS SHOULD BE RESTORED AND AMENDED. 2. EARTH FILL MATERIAL & PLACEMENT
- THE FILL MATERIAL SHOULD BE TAKEN FROM APPROVED DESIGNATED EXCAVATION AREAS. IT SHOULD BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6 INCHES, OR OTHER OBJECTIONABLE MATERIALS. MATERIALS ON THE OUTER SURFACE OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION. AREAS WHERE FILL IS TO BE PLACED SHOULD BE SCARIFIED PRIOR TO PLACEMENT. FILL MATERIALS FOR THE EMBANKMENT SHOULD BE PLACED IN MAXIMUM 8-INCH LIFTS. PRINCIPAL SPILLWAY SHOULD BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT
- EXCAVATED INTO THE EMBANKMENT THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE SITE SHOULD CONTROLLED. FOR THE EMBANKMENT, EACH LIFT SHOULD BE COMPACTED TO 95% OF THE STANDARD PROCTOR, FILL MATERIAL SHOULD CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED IN TO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT
- 3. EMBANKMENT CORE A. THE CORE SHOULD BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHOULD BE AT LEAST FOUR FEET. THE HEIGHT SHOULD EXTEND UP TO AT LEAST THE 10-YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHOULD BE 1 TO 1 OR FLATTER. THE CORE SHOULD BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. THE CORE SHOULD BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.
- 4. STRUCTURE BACKFILL BACKFILL ADJACENT TO PIPES AND STRUCTURES SHOULD BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FIL SHOULD BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHOULD FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHOULD DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET TO ANY PART OF THE STRUCTURE. EQUIPMENT SHOULD NOT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24 INCHES OR GREATER OVER THE STRUCTURE OR PIPE.
- STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF THE PADOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. MATERIAL SHOULD BE PLACED SO THAT A MINIMUM OF 6 INCHES OF FLOWABLE FILL SHOULD BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL MATERIAL SHOULD BE 7 INCHES TO ASSURE FLOWABILITY OF THE MIXTURE. ADEQUATE MEASURES SHOULD BE TAKEN (SAND BAGS, ETC. TO PREVENT FLOATING THE PIPE. WHEN USING FLOWABLE FILL ALL METAL PIPE SHOULD B BITUMINOUS COATED. ADJOINING SOIL FILL SHOULD BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 4 INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT.
- C. REFER TO CHAPTER 220 OF PENNDOT PUB. 408 (2012). 5. ROCK RIPRAP
- ROCK RIPRAP SHOULD MEET THE REQUIREMENTS OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. 6. STABILIZATION
- ALL BORROW AREAS SHOULD BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHOULD BE STABILIZED BY SEEDING, PLANTING AND MULCHING. 7. OPERATION AND MAINTENANCE
- AN OPERATION AND MAINTENANCE PLAN IN ACCORDANCE WITH LOCAL OR STATE REGULATIONS WILL BE PREPARED FOR ALL BASINS. AS A MINIMUM, A DAM AND INSPECTION CHECKLIST SHOULD BE INCLUDED AS PART OF THE OPERATION AND MAINTENANCE PLAN AND PERFORMED AT LEAST ANNUALLY.
- BMP 6.7.3 SOIL AMENDMENT: 1. SCOPE
- THIS SPECIFICATION COVERS THE USE OF COMPOST FOR SOIL AMENDMENT AND THE MECHANICAL RESTORATION OF COMPACTED, ERODED AND NON-VEGETATED SOILS. SOIL AMENDMENT AND RESTORATION IS NECESSARY WHERE EXISTING SOIL HAS BEEN DEEMED UNHEALTHY IN ORDER TO RESTORE SOIL STRUCTURE AND FUNCTION, INCREASE INFILTRATION POTENTIAL AND SUPPORT HEALTHY VEGETATIVE COMMUNITIES. SOIL AMENDMENT PREVENTS AND CONTROLS FROSION BY ENHANCING THE SOIL SURFACE TO PREVENT THE INITIAL DETACHMENT AND TRANSPORT OF SOIL PARTICLES.

- 3. SUB-SOILING TO RELIEVE COMPACTION
- BEFORE THE TIME THE COMPOST IS PLACED AND PREFERABLY WHEN EXCAVATION IS COMPLETED, THE SUBSOIL SHALL BE IN A LOOSE, FRIABLE CONDITION TO A DEPTH OF 20 INCHES BELOW FINAL TOPSOIL GRADE AND THERE SHALL BE NO EROSION RILLS OR WASHOUTS IN THE SUBSOIL SURFACE EXCEEDING 3 INCHES IN DEPTH. B. TO ACHIEVE THIS CONDITION, SUBSOILING, RIPPING, OR SCARIFICATION OF THE SUBSOIL
- WILL BE REQUIRED AS DIRECTED BY THE OWNERS S REPRESENTATIVE, WHEREVER THE SUBSOIL HAS BEEN COMPACTED BY EQUIPMENT OPERATION OR HAS BECOME DRIED OUT AND CRUSTED. AND WHERE NECESSARY TO OBLITERATE EROSION RILLS. SUB-SOILING SHALL BE REQUIRED TO REDUCE SOIL COMPACTION IN ALL AREAS WHERE PLANT ESTABLISHMENT IS PLANNED. SUB-SOILING SHALL BE PERFORMED BY THE PRIME OR EXCAVATING CONTRACTOR AND SHALL OCCUR BEFORE COMPOST PLACEMENT
- SUBSOILED AREAS SHALL BE LOOSENED TO LESS THAN 1400 KPA (200 PSI) TO A DEPTH OF 20 INCHES BELOW FINAL TOPSOIL GRADE WHEN DIRECTED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL VERIFY THAT THE SUB-SOILING WORK CONFORMS TO THE SPECIFIED DEPTH.
- SUB-SOILING SHALL FORM A TWO-DIRECTIONAL GRID. CHANNELS SHALL BE CREATED BY A COMMERCIALLY AVAILABLE, MULTI-SHANKED, PARALLELOGRAM IMPLEMENT (SOLID-SHANK RIPPER). THE EQUIPMENT SHALL BE CAPABLE OF EXERTING A PENETRATION FORCE NECESSARY FOR THE SITE. NO DISC CULTIVATORS CHISEL PLOWS, OR SPRING-LOADED EQUIPMENT WILL BE ALLOWED. THE GRID CHANNELS SHALL BE SPACED A MINIMUM OF 12 INCHES TO A MAXIMUM OF 36 INCHES APART, DEPENDING ON EQUIPMENT, SITE CONDITIONS, AND THE SOIL MANAGEMENT PLAN. THE CHANNEL DEPTH SHALL BE A MINIMUM OF 20 INCHES OR AS SPECIFIED IN THE SOIL MANAGEMENT PLAN, IF SOILS ARE SATURATED. THE CONTRACTOR SHALL DELAY OPERATIONS UNTIL THE SOIL WILL NOT HOLD A BALL WHEN SQUEEZED. ONLY ONE PASS SHALL BE PERFORMED ON ERODIBLE SLOPES GREATER THAN 1 VERTICAL TO 3 HORIZONTAL. WHEN ONLY ONE PASS IS USED, WORK SHOULD BE AT RIGHT ANGLES TO THE
- DIRECTION OF SURFACE DRAINAGE, WHENEVER PRACTICAL EXCEPTIONS TO SUB-SOILING INCLUDE AREAS WITHIN THE DRIP LINE OF ANY EXISTING TREES, OVER UTILITY INSTALLATIONS WITHIN 30 INCHES OF THE SURFACE, WHERE TRENCHING/DRAINAGE LINES ARE INSTALLED, WHERE COMPACTION IS BY DESIGN (ABUTMENTS, FOOTINGS, OR IN SLOPES), AND ON INACCESSIBLE SLOPES, AS APPROVED BY THE OWNER'S REPRESENTATIVE. IN CASES WHERE EXCEPTIONS OCCUR. THE CONTRACTOR SHALL OBSERVE A MINIMUM SETBACK OF 20 FEET OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

ARCHEOLOGICAL CLEARANCES MAY BE REQUIRED IN SOME INSTANCES.

- 4. COMPOST SOIL AMENDMENT INSTALLATION
- A. A. SPREAD 2-3 INCHES OF APPROVED COMPOST ON EXISTING SOIL. TILL ADDED SOIL INTO FXISTING SOIL WITH A ROTARY TILLER THAT IS SET TO A DEPTH OF 6 INCHES. ADD AN ADDITIONAL 4 INCHES OF APPROVED COMPOST TO BRING THE AREA UP TO GRADE. B. B. AFTER PERMANENT PLANTING/SEEDING, 2-3 INCHES OF COMPOST BLANKET WILL BE APPLIED TO ALL AREAS NOT PROTECTED BY GRASS OR OTHER PLANTS.
- TABLE 1 COMPOST STANDARDS
- ORGANIC MATTER CONTENT: 80% 100% (DRY WEIGHT BASIS)
- ORGANIC PORTION: FIBROUS AND ELONGATED PH 5.5 - 8.0 MOISTURE CONTENT: 35% - 55%
- PARTICLE SIZE: 98% PASS THROUGH 1" SCREEN
- C. SOLUBLE SALT CONCENTRATION: 5.0 DS/M (MMHOS/CM) MAXIMUM

BMP 6.7.3 SOIL AMENDMENT:

- 1. AREA SHALL NOT BE SUBJECT TO GRADING OR MOVEMENT OF EXISTING SOILS. 2. EXISTING NATIVE VEGETATION IN A HEALTHY CONDITION MAY NOT BE REMOVED.
- 3. INVASIVE NON-NATIVE VEGETATION MAY BE REMOVED. 4. PRUNING OR OTHER REQUIRED MAINTENANCE OF VEGETATION IS PERMITTED.
- 5. ADDITIONAL PLANTING IS PERMITTED. 6. AREA SHALL BE PROTECTED BY HAVING THE LIMITS OF DISTURBANCE CLEARLY SHOWN ON ALL
- CONSTRUCTION DRAWINGS AND DELINEATED IN THE FIELD. 7. THE AREA NOT SUBJECT TO GRADING SHALL BE CLEARLY DELINEATED ON THE STORMWATER MANAGEMENT PLAN, IF FUTURE GRADING OR DISTURBANCE OF THIS AREA OCCURS SUBSEQUENT STORMWATER MANAGEMENT MUST BE PROVIDED TO ADDRESS DISTURBANCE.

PCSM PLAN GENERAL DESIGN NOTES

- 1. THIS PCSM PLAN PRESERVES THE INTEGRITY OF STREAM CHANNELS AND MAINTAINS AND PROTECTS THE PHYSICAL, BIOLOGICAL AND CHEMICAL QUALITIES OF THE RECEIVING STREAM BY PROTECTING THE EXISTING NATURAL DRAINAGE FEATURES.
- 2. THIS PCSM PLAN PREVENTS AN INCREASE IN THE RATE OF STORMWATER RUNOFF AND MINIMIZES ANY INCREASE IN STORMWATER RUNOFF VOLUME BY USE OF STRUCTURAL BMPS TO FACILITATE STORAGE AND MANAGED RELEASE OF STORMWATER.
- 3. THIS PCSM PLAN MINIMIZES THE EXTENT OF THE PROJECT AREA, IMPERVIOUS AREAS, LAND CLEARING AND GRADING BY CAREFUL SELECTION OF THE USEABLE SITE AREA AND MAINTAINING THE MAJORITY OF THE NATURAL AREA.
- 4. THE PCSM PLAN MINIMIZES THE DURATION OF EARTH DISTURBANCE BY COMPLETING WORK UNDER THE THE CONSTRUCTION SEQUENCE IN ONE PHASE AND WORKING UNDER AN ACCELERATED CONSTRUCTION SCHEDULE.
- 5. THE PCSM PLAN MAXIMIZES THE PROTECTION OF THE EXISTING DOWNSTREAM DRAINAGE FEATURES AND VEGETATION BY AVOIDING THE STREAM CHANNEL AND UTILIZING PERIMETER CONTROL BMPS (COMPOST FILTER SOCKS) AROUND THE PROJECT AREA.
- 6. THE PCSM PLAN MINIMIZES SOIL COMPACTION BY A CAREFUL SELECTION OF THE USABLE SITE AREA REQUIRED FOR THE IMPROVEMENTS AND MINIMIZING THE DISTURBANCE OF VIRGIN SOILS. IT ALSO UTILIZES STRUCTURAL OR NONSTRUCTURAL BMPS THAT PREVENT OR MINIMIZE CHANGES IN STORMWATER RUNOFF AND MAINTAIN STREAM BASEFLOW.
- 7. POST-CONSTRUCTION THERMAL IMPACTS WILL BE MINIMIZED BY THE INSTALLATION OF THE PROPOSED VEGETATED SWALE AND BIO-RETENTION FACILITIES, WHICH WILL ALLOW MIXING AND COOLING OF RUNOFF. DURING CONSTRUCTION, THERMAL IMPACTS ARE MINIMIZED BY RUNOFF FILTERING THROUGH COMPOST FILTER SOCKS.
- 8. THERE ARE NO EXISTING WETLANDS ON THE SITE.
- 9. WATERS OF THE U.S. ARE DESIGNATED AS WWF, MF; THEREFORE, NO SPECIAL PROTECTION IS REQUIRED AND RIPARIAN BUFFERS ARE NOT APPLICABLE. PROTECTION OF WETLANDS WITHIN RIPARIAN FOREST BUFFER AND RIPARIAN BUFFER OFFSET IS NOT SHOWN ON THE PLANS AS THESE FEATURES DO NOT EXIST WITHIN THE LIMIT OF DISTURBANCE OR PERMIT ARFA.
- 10. AREAS PROPOSED FOR INFILTRATION BMPS SHALL BE PROTECTED FROM SEDIMENTATION AND COMPACTION DURING THE CONSTRUCTION PHASE, SO AS TO MAINTAIN THEIR MAXIMUM INFILTRATION CAPACITY.
- 11. INFILTRATION BMPS SHALL NOT BE CONSTRUCTED NOR RECEIVE RUNOFF UNTIL THE ENTIRE CONTRIBUTORY DRAINAGE AREA TO THE INFILTRATION BMP HAS RECEIVED FINAL STABILIZATION.
- 12. THE STORMWATER MANAGEMENT SYSTEM IS A PERMANENT FIXTURE THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL OF A REVISED PLAN BY THE MUNICIPALITY. WHICH SHALL BE RECORDED WITH THE RECORD PLAN AND WHICH SHALL BE APPLICABLE TO ALL FUTURE LANDOWNERS.
- SIGNATURE OF OWNER
- 13. I HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE DELAWARE RIVER SOUTH WATERSHED ACT 167 STORMWATER MANAGEMENT ORDINANCE

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(DESIGN ENGINEER)

- 14. THE MUNICIPAL ENGINEER OR HIS MUNICIPAL ASSIGNEE SHALL OBSERVE ALL PHASES OF THE INSTALLATION OF THE PERMANENT STORMWATER MANAGEMENT FACILITIES AS DEEM APPROPRIATE BY THE MUNICIPAL ENGINEER.
- 15. DURING CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE TOWNSHIP ENGINEER'S OFFICE THREE (3) DAYS PRIOR TO THE CONSTRUCTION OF ANY PROPOSED INFILTRATION BMP STORMWATER FACILITY.
- 16. THE TOWNSHIP SHALL HAVE THE RIGHT TO ENTER PRIVATE PROPERTY TO INSPECT AND REPAIR, IF NECESSARY, ANY STORMWATER MANAGEMENT FACILITY.
- 17. THE STORMWATER MANAGEMENT FACILITIES ARE A PERMANENT PART OF THE DEVELOPMENT AND SHALL NOT BE REMOVED, ALTERED, OR MODIFIED.

FILE FILE LAST LAST

BMP MAINTENANCE & INSPECTION

BMP 5.6.3 RE-VEGETATE AND RE-FOREST DISTURBED AREAS, USING NATIVE SPECIES PART TWO - REVEGETATE AND REFOREST:

• TREES SHALL BE ADEQUATELY PROTECTED DURING CONSTRUCTION. • TREES SHALL BE MAINTAINED AND PROTECTED FOR THE LIFE OF THE PROJECT (50 YEARS) OR UNTIL REDEVELOPMENT OCCURS.

• ESCROW SHALL BE PROVIDED FOR THE REPLACEMENT OF ANY PROTECTED TREES USED FOR STORMWATER CREDITS THAT DIE WITHIN 5 YEARS OF CONSTRUCTION. DEAD TREES SHALL BE REPLACED WITHIN 6 MONTHS.

BMP 6.4.5 BIO-RETENTION (MRC):

- PROPERLY DESIGNED AND INSTALLED MRC AREAS REQUIRE SOME REGULAR MAINTENANCE. • WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.
- DETRITUS MAY ALSO NEED TO BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON. • MULCH SHOULD BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED AS
- NEEDED. ONCE EVERY 2 TO 3 YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT
- MRC AREAS SHOULD BE INSPECTED AT LEAST TWO TIMES PER YEAR FOR SEDIMENT BUILDUP, EROSION, VEGETATIVE CONDITIONS, ETC. DURING PERIODS OF EXTENDED DROUGHT, MRC AREAS MAY REQUIRE WATERING. TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH.

BMP 6.4.8 VEGETATED SWALE:

SWALES SHALL BE KEPT FREE OF ANY BLOCKAGE AT ALL TIMES. MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT:

- INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (ADDRESS WHEN > 3 INCHES AT ANY SPOT OR COVERING VEGETATION) INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES.
- CORRECT AS NEEDED PER AMENDED SOIL SEEDING/MULCHING SPECIFICATION). • INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO AN APPROVED
- LOCATION AND RESTORE TO DESIGN GRADE • INSPECT FOR UNIFORMITY IN CROSS-SECTION AND LONGITUDINAL SLOPE, CORRECT AS NEEDED • INSPECT SWALE INLET (CURB CUTS, PIPES, ETC.) AND OUTLET FOR SIGNS OF EROSION OR BLOCKAGE, CORRECT AS NEEDED

MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED:

- PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT • RESEED BARE AREAS; INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED OR EROSION CHANNELS ARE FORMING • WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY
- NECESSARY WINTER CONDITIONS ALSO NECESSITATE ADDITIONAL MAINTENANCE CONCERNS, WHICH INCLUDE THE
- FOLLOWING: • INSPECT SWALE IMMEDIATELY AFTER THE SPRING MELT, REMOVE RESIDUALS (E.G. SAND) AND REPLACE DAMAGED VEGETATION WITHOUT DISTURBING REMAINING VEGETATION.
- IF ROADSIDE RUNOFF IS DIRECTED TO THE SWALE, MULCHING AND/OR SOIL AERATION/MANIPULATION MAY BE REQUIRED IN THE SPRING TO RESTORE SOIL STRUCTURE AND MOISTURE CAPACITY AND TO REDUCE THE IMPACTS OF DEICING AGENTS.

BMP 6.6.4 WATER QUALITY FILTERS & HYDRODYNAMIC DEVICES (SNOUT)

FOLLOW THE MANUFACTURER'S GUIDELINES FOR MAINTENANCE, ALSO TAKING INTO ACCOUNT EXPECTED POLLUTANT LOAD AND SITE CONDITIONS. INLETS SHOULD BE INSPECTED WEEKLY DURING CONSTRUCTION. POST-CONSTRUCTION. THEY SHOULD BE EMPTIED WHEN OVER HALF FULL OF SEDIMENT (AND TRASH) AND CLEANED AT LEAST TWICE A YEAR. THEY SHOULD ALSO BE INSPECTED AFTER RUNOFF EVENTS. MAINTENANCE IS CRUCIAL TO THE EFFECTIVENESS OF THIS BMP. THE MORE FREQUENT A WATER QUALITY INSERT IS CLEANED, THE MORE EFFECTIVE IT WILL BE. SOME SITES HAVE FOUND KEEPING A LOG OF SEDIMENT AMOUNT DATE REMOVED HELPFUL IN PLANNING A MAINTENANCE SCHEDULE. ENVIRONMENTAL TECHNOLOGY VERIFICATION (ETV) PROGRAM AND THE TECHNOLOGY ACCEPTANCE AND RECIPROCITY PARTNERSHIP (TARP) MAY BE AVAILABLE TO ASSIST WITH THE DEVELOPMENT OF A MONITORING PLAN. THESE PROGRAMS ARE DETAILED IN THE PABMP MANUAL SECTION 6.3

DISPOSAL OF REMOVED MATERIAL WILL DEPEND ON THE NATURE OF THE DRAINAGE AREA AND THE INTENT AND FUNCTION OF THE WATER QUALITY INSERT. MATERIAL REMOVED FROM WATER OUALITY INSERTS THAT SERVE HOT SPOTS SUCH AS FUELING STATIONS OR THAT RECEIVE A LARGE AMOUNT OF DEBRIS SHOULD BE HANDLING ACCORDING TO DEP REGULATIONS FOR THAT TYPE OF SOLID WASTE, SUCH AS A LANDFILL THAT IS APPROVED BY DEP TO ACCEPT SOLID WASTE. WATER QUALITY INSERTS THAT PRIMARILY CATCH SEDIMENT AND DETRITUS FROM AREAS SUCH AS LAWNS MAY REUSE THE WASTE ON SITE.

VACTOR TRUCKS MAY BE AN EFFICIENT CLEANING MECHANISM.

WINTER CONCERNS: THERE IS LIMITED DATA STUDYING COLD WEATHER EFFECTS ON WATER QUALITY INSERT EFFECTIVENESS. FREEZING MAY RESULT IN MORE RUNOFF BYPASSING THE TREATMENT SYSTEM. SALT STRATIFICATION MAY ALSO REDUCE DETENTION TIME. COLDER TEMPERATURES REDUCE THE SETTLING VELOCITY OF PARTICLES, WHICH CAN RESULT IN FEWER PARTICLES BEING TRAPPED SALT AND SAND ARE SIGNIFICANTLY INCREASED IN THE WINTER, AND MAY WARRANT MORE FREQUENT MAINTENANCE. SOMETIMES FREEZING MAKES ACCESSING DEVICES FOR MAINTENANCE DIFFICULT.

BMP 6.6.3 DRY EXTENDED DETENTION BASIN:

ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHOULD BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1 INCH. STRUCTURES INCLUDE BASIN BOTTOMS, TRASH RACKS, OUTLETS STRUCTURES, RIPRAP OR GABION

STRUCTURES. AND INLETS. SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY AND ONCE SEDIMENT IS REMOVED, DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED AND REVEGETATED.

MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM, BUT ALL DETRITUS SHOULD BE REMOVED FROM THE BASIN. VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR EROSION.

VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES. VEGETATIVE COVER SHOULD BE MAINTAINED AT A MINIMUM OF 95 PERCENT. IF VEGETATIVE COVER HAS BEEN REDUCED BY 10%, VEGETATION SHOULD BE REESTABLISHED.

BMP 6.7.3 SOIL AMENDMENT: DESIGN CONSIDERATIONS

- 1. TREATING COMPACTION BY SOIL RESTORATION
- A. SOIL AMENDMENT MEDIA USUALLY CONSISTS OF COMPOST, BUT CAN INCLUDE MULCH, MANURES, SAND, AND MANUFACTURED MICROBIAL SOLUTIONS. B. COMPOST SHOULD BE ADDED AT A RATE OF 2:1 (SOIL: COMPOST). IF A PROPRIETARY PRODUCT IS
- USED, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED IN TERMS OF MIXING AND APPLICATION RATE. C. SOIL RESTORATION SHOULD NOT BE USED ON SLOPES GREATER THAN 30%. IN THESE AREAS,
- DEEP-ROOTED VEGETATION CAN BE USED TO INCREASE STABILITY. D. SOIL RESTORATION SHOULD NOT TAKE PLACE WITHIN THE DRIP LINE OF A TREE TO AVOID DAMAGING THE ROOT SYSTEM.
- E. ON-SITE SOILS WITH AN ORGANIC CONTENT OF AT LEAST 5 PERCENT CAN BE PROPERLY
- STOCKPILED (TO MAINTAIN ORGANIC CONTENT) AND REUSED. F. PROCEDURE: ROTOTILL, OR RIP THE SUBGRADE, REMOVE ROCKS, DISTRIBUTE THE COMPOST, SPREAD THE NUTRIENTS, ROTOTILL AGAIN.
- G. ADD 6 INCHES COMPOST / AMENDMENT AND TILL UP TO 8 INCHES FOR MINOR COMPACTION.
- H. ADD 10 INCHES COMPOST / AMENDMENT AND TILL UP TO 20 INCHES FOR MAJOR COMPACTION. 2. TREATING COMPACTION BY RIPPING / SUBSOILING / TILLING / SCARIFICATION
- A. SUBSOILING IS ONLY EFFECTIVE WHEN PERFORMED ON DRY SOILS. B. RIPPING, SUBSOILING, OR SCARIFICATION OF THE SUBSOIL SHOULD BE PERFORMED WHERE SUBSOIL HAS BECOME COMPACTED BY EQUIPMENT OPERATION, DRIED OUT AND CRUSTED, OR WHERE
- NECESSARY TO OBLITERATE EROSION RILLS. C. RIPPING (SUBSOILING) SHOULD BE PERFORMED USING A SOLID-SHANK RIPPER AND TO A DEPTH OF 20 INCHES, (8 INCHES FOR MINOR COMPACTION).
- D. SHOULD BE PERFORMED BEFORE COMPOST IS PLACED AND AFTER ANY EXCAVATION IS COMPLETED.
- E. SUBSOILING SHOULD NOT BE PERFORMED WITHIN THE DRIP LINE OF ANY EXISTING TREES OVER UNDERGROUND UTILITY INSTALLATIONS WITHIN 30 INCHES OF THE SURFACE, WHERE TRENCHING/DRAINAGE LINES ARE INSTALLED, WHERE COMPACTION IS BY DESIGN. SUBSOILING SHOULD NOT BE PERFORMED WITH COMMON TILLAGE TOOLS SUCH AS A DISK OR CHISEL PLOW BECAUSE THEY ARE TOO SHALLOW AND CAN COMPACT THE SOIL JUST BENEATH THE TILLAGE DEPTH.

OPERATION & MAINTENANCE & WATER QUALITY FACILITIES

- 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 FOR AT LEAST 10 YEARS. THESE RECORDS SHALL BE SUBMITTED TO THE TOWNSHIP, COUNTY CONSERVATION DISTRICT AND PADEP IF REQUESTED. • THE TOWNSHIP RESERVES THE RIGHT, BUT NOT THE RESPONSIBILITY, TO CONDUCT BMP INSPECTIONS AT
- REASONABLE TIMES. • THE OWNER OF EACH BMP AND CONVEYANCE SHALL KEEP ON FILE WITH THE TOWNSHIP THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR MAINTENANCE ACTIVITIES AND IMPLEMENTATIOI OF THE O&M PLAN. IN THE EVENT OF A CHANGE, NEW INFORMATION SHALL BE SUBMITTED BY THE BMP OR CONVEYANCE OWNER TO THE TOWNSHIP WITHIN 30 CALENDAR DAYS OF THE CHANGE.
- INSPECTION ACTIVITIES SHALL, AT A MINIMUM, INCLUDE: INSPECTING FOR DAMAGE TO THE FACILITY.
- INSPECTING EMBANKMENT AND EMERGENCY SPILLWAY FOR EROSION, SEEPS OR LEAKS, FAILURE OF SLOPE PROTECTION OR RIPRAP AND ADEQUATE GROUND COVER. ENSURE THE EMERGENCY SPILLWAY IS CLEAR OF OBSTRUCTIONS AND DEBRIS.
- MONITOR SEDIMENT ACCUMULATIONS IN ALL STORMWATER MANAGEMENT, STORMWATER CONVEYANCE AND WATER QUALITY FACILITIES.
- ENSURE INLET AND OUTLET DEVICES ARE FREE OF DEBRIS AND OPERATIONAL INSPECT OUTFALLS FOR RIPRAP FAILURES AND SLOPE FROSION
- INSPECT FACILITIES FOR UNDESIRABLE VEGETATIVE OR WOODY GROWTH. INSPECT FOR PROPER INFILTRATION FUNCTION.

THE LANDOWNER(S) ACKNOWLEDGE THAT, PER THE PROVISIONS OF THE TOWNSHIP'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 OR 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 TOWNSHIP.

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 CERTAIL BMPS OWNED BY A HOMEOWNERS' ASSOCIATION, OR ALLOWABLE USES BY AN INDIVIDUAL RESIDENTIAL LANDOWNER). BMP CHARACTERISTICS & FUNCTIONALITY

GENERAL MAINTENANCE PROCEDURES (ALL FACILITIES) OBSTRUCTIONS AND DEBRIS (ALL FACILITIES)

ALL STORMWATER MANAGEMENT FACILITIES SHALL BE CLEARED OF ALL DEBRIS AND LITTER ON A REGULAR BASIS AND AFTER ALL MAJOR STORM EVENTS. ADDITIONALLY, FLOATING DEBRIS SHALL BE REMOVED, AND THE FACILITY SHALL BE INSPECTED FOR VISIBLE POLLUTION OR SHORELINE PROBLEMS. ERODED CHANNELS OR AREAS OF EXCESSIVE EROSION NEAR THE FACILITY SHALL BE BACKFILLED AND STABILIZED IMMEDIATELY. SEDIMENT ACCUMULATION (ALL FACILITIES)

MRC FACILITY DESERVATIONS SHALL BE MADE TO DETERMINE THE LENGTH OF TIME NEEDED FOR RETAINED WATER TO DRAWDOWN INTO THE SOIL MEDIA AFTER A STORM EVENT. THE OBSERVATIONS SHALL BE MADE BY READING THE WATER LEVEL IN THE DEPRESSION OF THE MRC BASIN BED SEVERAL TIMES OVER A PERIOD OF TWO (2) DAYS AFTER A LARGE STORM EVENT. THE FIRST OF THESE OBSERVATIONS SHALL PROVIDE A RECORD OF HOW WELL THE SYSTEM IS WORKING WHEN COMPARING FUTURE OBSERVATIONS. MEASUREMENTS SHOULD BE TAKEN AFTER EACH RAIN EVENT OF 0.5-INCHES OR MORE, OR MONTHLY, AS DETERMINED BY LOCAL WEATHER CONDITIONS. AT A MINIMUM, OBSERVATIONS SHALL BE MADE TWICE THE FIRST YEAR AND YEARLY THEREAFTER. AT A MINIMUM, OPERATION AND MAINTENANCE PROCEDURES FOR MRC AREAS SHALL INCLUDE:

VEGETATED AREAS SHALL BE INSPECTED QUARTERLY FOR EROSION. VEGETATED AREAS SHALL BE INSPECTED QUARTERLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES. * VEGETATIVE COVER SHALL BE MAINTAINED AT A MINIMUM OF 95 PERCENT. IF VEGETATIVE COVER HAS BEEN REDUCED BY 10%, VEGETATION SHOULD BE REESTABLISHED. * ACCESS TO MRC BASINS SHOULD BE PROHIBITED, AND CARE SHALL BE TAKEN TO AVOID COMPACTION OF FLOOR OF STORAGE AREA.

APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE-BASED LIQUID PRODUCTS OR AS PRETREATED SALT, ARE

WITH AN APPROPRIATE CONCRETE PATCHING MATERIAL. A PROFESSIONAL ENGINEER SHALL BE CONSULTED TO REPAIR EXTENSIVE LEAKAGE, SPALLS OR FRACTURES. ANY REPAIRS MADE TO THE PRINCIPAL SPILLWAY (RISER OR BARREL) SHALL BE REVIEWED BY A PROFESSIONAL ENGINEER. VERTICAL TRENCHING TO EXPOSE THE BARREL SHALL NOT BE ALLOWED UNDER ANY CIRCUMSTANCES. THE TRENCH SIDE SLOPES SHALL BE STEPPED BACK AT A 2:1 SLOPE, MINIMUM.

EARTH EMBANKMENTS (ALL FACILITIES)

FAILURE INDICATORS:

PCSM PLAN REVISIONS:

CONSERVATION DISTRICT OR TOWNSHIP (AS APPLICABLE) FOR A DETERMINATION OF ADEQUACY PRIOR TO THE

A REVISED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO, AND APPROVED BY, THE

ANY REVISION TO THE APPROVED SWM SITE PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE TOWNSHIP, AND

EROSION AND SEDIMENTATION POLLUTION CONTROL SPECIALISTS' CONTACTS:

QUALITY FACILITIES, SEE THE 2006 PENNSYLVANIA STORMWATER BMP MANUAL.

CONSTRUCTION OF THE REVISED FEATURES, SHALL BE SIGNED BY THE APPLICANT.

FRATION & MAINTENIANCE STORMWATER MANAGEMENT	CONSTRUCTION SEQUENCE			
CONTRACTOR OF A CONTRACT OF A	CONSTRUCTION SEQUENCE		The second	NU STOTEM
ACH INDIVIDUAL BMP ARE PROVIDED IN RESPECTIVE DETAILS. MAINTENANCE OF SAID BMPS CAN INCLUDE INSTRUCTION SHOULD A FAILURE OCCUR. THEREFORE, THESE RESPECTIVE DETAILS INCLUDE CONSTRUCTION ENCES FOR RESTORATION PER THE APPROVED DESIGN. ANY RECONSTRUCTION ACTIVITIES REQUIRE TOWNSHIP, ITY CONSERVATION DISTRICT AND RACE ADDROVAL	AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL		ALL BEL	000-100 00-100 00-100
ATION & MAINTENANCE RESPONSIBILITIES STORMWATER MANAGEMENT FACILITIES AND ALL PROPOSED STORM SEWER PIPING LOCATED OUTSIDE OF	INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 WORKING DAYS BEFORE	ATTENTION SHOWN H RECORE COMPLETENE L OCATION (ALL CONTRACTORS: LOCA HEREON HAVE BEEN DEVEL DS AND/OR ABOVE-GROU ESS OR ACCURACY OF TY DE UNDERGROUND FACILIT	IONS OF ALL EXISTING UTILITIES OPED FROM UTILITY COMPANY ND INSPECTION OF THE SITE PE, SIZE, DEPTH OR HORIZONTAL FS OR STRUCTURES CANNOT BF
WAYS RIGHTS-OF-WAY SHALL BE OWNED AND MAINTAINED BY GREAT VALLEY SCHOOL DISTRICT. APPLICABLE ARE DRY EXTENDED DETENTION BASINS, UNDERGROUND DETENTION BASINS, MRC BASIN AND VEGETATED ES.OWNER SHALL NOTIFY THE TOWNSHIP OF THE RESPECTIVE PERSONS RESPONSIBLE FOR ONGOING	STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.	GUARANT LEGISLATIVE 2008, CO UNDERGRO	TEED. PURSUANT TO REQ ACT NUMBER 287 OF 19 DNTRACTORS MUST VERIFY UND UTILITIES AND FACILI SERIAL	JIREMENTS OF PENNSYLVANIA 74 AS AMENDED BY ACT 121 OF LOCATION AND DEPTH OF ALL TIES PRIOR TO START OF WORK. NO.:
CTIONS, OPERATION, REPAIR, AND MAINTENANCE OF THE BMP AND CONVEYANCE SYSTEMS AFTER COMPLETION ONSTRUCTION. IF RESTORATION ACTIVITIES ARE REQUIRED, A SCHEDULE INDICATING THE DATE WHEN THE ORATION ACTIVITIES WILL BE STARTED AND COMPLETED SHALL BE PREPARED AND SUBMITTED TO THE ISHIP.	EROSION AND SEDIMENT BMPS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPS.		2021350	02293
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 FOR AT LEAST 10 YEARS. THESE RECORDS SHALL BE SUBMITTED TO THE TOWNSHIP, COUNTY CONSERVATION	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.			DS DS DS
DISTRICT AND PADEP IF REQUESTED. THE TOWNSHIP RESERVES THE RIGHT, BUT NOT THE RESPONSIBILITY, TO CONDUCT BMP INSPECTIONS AT REASONABLE TIMES. THE OWNER OF FACH BMP AND CONVEYANCE SHALL KEEP ON FILE WITH THE TOWNSHIP THE NAME, ADDRESS.	CRITICAL STAGE ITEMS THAT REQUIRE INSPECTION BY THE ENGINEER ARE SPECIFIED.			PRG ROP PRG BY 0
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 TOWNSHIP WITHIN 30 CALENDAR DAYS OF THE CHANGE.	NOTE: NO ACTIVITIES SHALL DISTURB IDENTIFIED WATERS OF THE U.S. WITHOUT PRIOR APPROVAL OF PADEP. DISTURBANCES SHALL BE IN STRICT ACCORDANCE WITH IDENTIFIED PLAN AREAS WHICH ARE MINIMIZED FOR PROPOSED IMPROVEMENTS.			22/2022 VN PIKE L1/2022
ECTION ACTIVITIES SHALL, AT A MINIMUM, INCLUDE: NSPECTING FOR DAMAGE TO THE FACILITY. NSPECTING EMBANKMENT AND EMERGENCY SPILLWAY FOR EROSION, SEEPS OR LEAKS, FAILURE OF SLOPE PROTECTION OR RIPRAP AND ADEQUATE GROUND COVER. ENSURE THE EMERGENCY SPILLWAY IS CLEAR OF OBSTRUCTIONS AND DEBRIS.	SITE CONSTRUCTION SEQUENCE			ATED 11/? ERMANTOV ATED 03/? S
MONITOR SEDIMENT ACCUMULATIONS IN ALL STORMWATER MANAGEMENT, STORMWATER CONVEYANCE AND WATER QUALITY FACILITIES. ENSURE INLET AND OUTLET DEVICES ARE FREE OF DEBRIS AND OPERATIONAL. INSPECT OUTEALLS FOR PIPEAR FAILURES AND SLOPE EPOSION	1. INSTALL CONSTRUCTION ENTRANCE, INSTALL PERIMETER COMPOST SOCK AND TREE PROTECTION FENCING.			ETTER D E ON GI ETTER D EVISION
NSPECT FOR UNDESIRABLE VEGETATIVE OR WOODY GROWTH. NSPECT FOR PROPER INFILTRATION FUNCTION.	2. INSTALL STORM SEWER B OUT TO OCS 2 (NOT INCLUDING OCS 2 STRUCTURE) AND B1 TO B3			EVIEW LI NTRANC EVIEW LI R
LANDOWNER(S) ACKNOWLEDGE THAT, PER THE PROVISIONS OF THE TOWNSHIP'S STORMWATER MANAGEMENT VANCE, IT IS UNLAWFUL TO MODIFY, REMOVE, FILL, LANDSCAPE, ALTER OR IMPAIR THE EFFECTIVENESS OF, OR E ANY STRUCTURE, OTHER VEGETATION, YARD WASTE, BRUSH CUTTINGS, OR OTHER WASTE OR DEBRIS INTO PERMANENT STORMWATER MANAGEMENT BMP OR CONVEYANCE DESCRIBED IN THIS O&M PLAN OR TO ALLOW	CRITICAL STAGE - ENSURE CONSTRUCTED INLETS ARE PROPERLY INSTALLED, STABILIZED AND			ER CKS RI EEVISED E ER CKS RI
BMP OR CONVEYANCE TO EXIST IN A CONDITION WHICH DOES NOT CONFORM TO THIS O&M PLAN, WITHOUT TEN APPROVAL FROM THE TOWNSHIP. IMP OR MAN-MADE CONVEYANCE MAY BE USED BY THE OWNER OR OTHERS FOR ANY PURPOSE OTHER THAN	PROTECTED 3. GRADE SEDIMENT BASIN A AND INSTALL TEMPORARY RISER, SKIMMER DEVICES, AND ALL OTHER			023 PE
TENDED STORMWATER CONTROL FUNCTION, OR, IF APPROVED BY THE TOWNSHIP ENGINEER, A STATEMENT OF IFIC ALLOWABLE USES OF THE BMP (I.E., RECREATIONAL BENEFITS THAT MAY BE ASSOCIATED WITH CERTAIN SOWNED BY A HOMEOWNERS' ASSOCIATION, OR ALLOWABLE USES BY AN INDIVIDUAL RESIDENTIAL LANDOWNER).	BASIN RELATED CONTROL STRUCTURES AS INDICATED IN THE ENS PLAN. INSTALL COMPOST FILTER SOCK BERM AS SHOWN ON THE PLAN. CRITICAL STAGE – SEDIMENT BASIN A AND CONTROL STRUCTURES TO BE INSPECTED PRIOR TO			11/17/2 4/3/20 10/04/2 DATE
EXTENDED DETENTION/UNDERGROUND DETENTION XTENDED DETENTION BASIN IS AN EARTHEN STRUCTURE CONSTRUCTED EITHER BY IMPOUNDMENT OF A IRAL DEPRESSION OR EXCAVATION OF EXISTING SOIL, THAT PROVIDES TEMPORARY STORAGE OF RUNOFF AND	ADVANCING 4. MASS GRADING OF SITE MAY BEGIN. REMOVE EXISTING SITE FEATURES AND DISPOSE PROPERLY.			No. 14 No.
TIONS HYDRAULICALLY TO ATTENUATE STORMWATER RUNOFF PEAKS. IT CAN ALSO BE PROVIDED IN A VARIETY UB-SURFACE STRUCTURAL ELEMENTS, SUCH AS LARGE PIPES OR OTHER STRUCTURAL MEDIA PLACED IN AN EGATE FILLED BED IN THE SOIL MANTLE. FACILITY	INCLUDING WALLS. ENSURE ONSITE RUNOFF IS DIRECTED TO SEDIMENT BASIN A AT ALL TIMES. DO NOT INSTALL CURBING UPSLOPE OF THE SEDIMENT BASIN UNTIL THE CONTRIBUTING DRAINAGE ARE/ IS STABILIZED AND THE STORM INLETS NO LONGER NEED TO BE SEALED. INSTALL NEW PAVEMENT AND SIDEWALKS TO PINDER COURSE STABILIZE SLOPES WITH EPOSION CONTROL BLANKETS WHERE		STOPHER V	V. JENSEN, P.E.
ETENTION IS AN EXCAVATED SHALLOW SURFACE DEPRESSION PLANTED WITH NATIVE VEGETATION TO CAPTURE TREAT RUNOFF. BIORETENTION TREATS STORMWATER BY ALLOWING FILTERING AND SETTLING OF SUSPENDED IS AND SEDIMENT AT THE SURFACE AS WELL AS INFILTRATION AND POLLUTANT REMOVAL VIA	INDICATED.			
RUNOFF VIA THE MANAGED RELEASE CONCEPT (MRC). THE GOAL OF MRC IS TO TEMPORARILY IMPOUND RUNOFF FROM STORM EVENTS UP TO AND INCLUDING THE 2-YEAR/24-HOUR STORM, AND THEN RELEASE UGH AND UNDERDRAIN AND CONTROL STRUCTURE AT A RATE SIMILAR TO THE LATERAL UNSATURATED FLOW	5. WHEN TRIBUTARY DRAINAGE AREAS ARE 70% STABILIZED, CONVERT SEDIMENT BASIN TO PERMANENT BASIN. MUST BE APPROVED BY CONSERVATION DISTRICT AND ENGINEER. DESILT AND			
MENT TO THE RECEIVING WATERS OF UNDEVELOPED AREAS. TATED SWALES TATED SWALES ARE BROAD, SHALLOW, PARABOLIC CHANNELS THAT ARE DENSELY PLANTED WITH A VARIETY	STABILIZE. REMOVE SKIMMER AND ESTABLISH FINAL OUTLET STRUCTURE. EXCAVATE TO INSTALL UNDERGROUND HDPE CRATE STORMWATER FACILITY. FACILITY MUST BE PROTECTED FROM SILTATION AT ALL TIMES. INSTALL CRATES PER MANUFACTURER RECOMMENDATIONS. INSTALL OCS 1 AND OCS			
REES, SHRUBS AND/OR GRASSES. THEY ARE DESIGNED TO ATTENUATE OR INFILTRATE RUNOFF VOLUME FROM CENT IMPERVIOUS SURFACES AND ALLOW SETTLING OF POLLUTANTS. RAL MAINTENANCE PROCEDURES (ALL FACILITIES)	2. COMPLETE FINAL GRADING OF SLOPE BETWEEN UNDERGROUND DETENTION AND MRC BASIN. STABILIZE SLOPE WITH SOD, AND COMPLETE ANY FINAL LANDSCAPING. INSTALL MRC BASIN MEDIA AND PLANTINGS WHERE INDICATED.		CUNION WE REGISTE	
RUCTIONS AND DEBRIS (ALL FACILITIES) STORMWATER MANAGEMENT FACILITIES SHALL BE CLEARED OF ALL DEBRIS AND LITTER ON A REGULAR BASIS AFTER ALL MAJOR STORM EVENTS. ADDITIONALLY, FLOATING DEBRIS SHALL BE REMOVED, AND THE FACILITY L BE INSPECTED FOR VISIBLE POLLUTION OR SHORELINE PROBLEMS. ERODED CHANNELS OR AREAS OF SSVE FROSION NEAR THE FACILITY SHALL BE BACKELLED AND STABILIZED IMMEDIATELY.	CRITICAL STAGE — DESIGN ENGINEER SITE INSPECTION TO VERIFY FUNCTION OF MRC BASIN 1 AND UNDERGROUND DETENTION FACILITY AND 90% STABILIZATION. NO CONTROLS MAY BE REMOVED WITHOUT MCCD APPROVAL.		CHRISTOPHER	W. JENSEN
MENT ACCUMULATION (ALL FACILITIES) TOR SEDIMENT ACCUMULATIONS IN ALL STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES. REMOVE	6. ONLY WHEN SITE IS 90% UNIFORMLY STABILIZED, REMOVE PERIMETER CONTROLS. COMPOST FROM SOCKS MAY BE RE-SPREAD ON SITE OR DISPOSED OF PROPERLY. RESPONSIBILITIES FOR FILL MATERIALS		NO. PET	6464
ME STAGNANT. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE STORMATER MANAGEMENT AND WATER ITY FACILITIES ON A REGULAR BASIS (EVERY 2 TO 10 YEARS FOR BASINS) AND SHALL EITHER BE REMOVED I THE SITE OR DISPOSED OF ON-SITE AT AN APPROVED DISPOSAL AREA. MAINTENANCE OF CATCH BASINS	1. THE OPERATOR MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT ANY			4/3/2023
INLETS IS BEST DONE AT LEAST ANNUALLY OR AS NECESSARY WITH A VACUUM TRUCK. ALL COLLECTED WASTE BE HANDLED AND DISPOSED OF ACCORDING TO LOCAL ENVIRONMENTAL REQUIREMENTS. PRIOR TO ON-SITE DSAL OF SEDIMENT, THE OWNER SHALL ACQUIRE THE APPROPRIATE EARTH DISTURBANCE PERMITS FROM THE CIPALITY AND/OR THE CONSERVATION DISTRICT.	FILL ALL FILL MATERIAL ASSOCIATED WITH THIS PROJECT QUALIFIES AS CLEAN FILL. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH PADEP'S POLICY "MANAGEMENT OF FILL", DOCUMENT NUMBER 258–2182–773. A COPY OF THIS POLICY IS AVAILABLE ONLINE AT WWW.DEPWEB.STATE.PA.US.	STATE C	OF PA LICENSE N	IO. PE076464
FACILITY RVATIONS SHALL BE MADE TO DETERMINE THE LENGTH OF TIME NEEDED FOR RETAINED WATER TO DRAWDOWN THE SOIL MEDIA AFTER A STORM EVENT. THE OBSERVATIONS SHALL BE MADE BY READING THE WATER LEVEL	2. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSED, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK,			
E DEPRESSION OF THE MRC BASIN BED SEVERAL TIMES OVER A PERIOD OF TWO (2) DAYS AFTER A LARGE M EVENT. THE FIRST OF THESE OBSERVATIONS SHALL PROVIDE A RECORD OF HOW WELL THE SYSTEM IS KING WHEN COMPARING FUTURE OBSERVATIONS. MEASUREMENTS SHOULD BE TAKEN AFTER EACH RAIN EVENT	STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM THE WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS			
.5-INCHES OR MORE, OR MONTHLY, AS DETERMINED BY LOCAL WEATHER CONDITIONS. AT A MINIMUM, RVATIONS SHALL BE MADE TWICE THE FIRST YEAR AND YEARLY THEREAFTER. MINIMUM, OPERATION AND MAINTENANCE PROCEDURES FOR MRC AREAS SHALL INCLUDE:	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).		• 10	TER
THE OVERLYING VEGETATION OF SUBSURFACE MRC FEATURES SHALL BE MAINTAINED IN GOOD CONDITION, AND BARE SPOTS REVEGETATED AS SOON AS POSSIBLE. MOWING AND/OR TRIMMING OF VEGETATION SHALL BE PERFORMED QUARTERLY TO SUSTAIN THE SYSTEM, BUT DETRITUS SHOULD BE REMOVED FROM THE BASIN.	3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL		06-0 HIP, SYLVAN	IWA
VEGETATED AREAS SHALL BE INSPECTED QUARTERLY FOR EROSION. VEGETATED AREAS SHALL BE INSPECTED QUARTERLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES. VEGETATIVE COVER SHALL BE MAINTAINED AT A MINIMUM OF 95 PERCENT. IF VEGETATIVE COVER HAS BEEN	MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP—1A AND FP—1B FOUND IN PADEP'S POLICY "MANAGEMENT OF FILL"		016 TOWNS	DRN TES
CED BY 10%, VEGETATION SHOULD BE REESTABLISHED. ACCESS TO MRC BASINS SHOULD BE PROHIBITED, AND CARE SHALL BE TAKEN TO AVOID COMPACTION OF R OF STORAGE AREA. SEDIMENT REMOVAL SHALL BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHALL BE	4. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE PADEP FORM FP-001 TO	S, LL(-00- ESTER	ST(NO
DSED OF PROPERLY AND ONCE SEDIMENT IS REMOVED, DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED RE-VEGETATED, AS APPLICABLE. FENCES AND GATES SHALL BE INSPECTED FOR DAMAGE AND REPAIRED AS NECESSARY. SALT IS ACCEPTABLE FOR USE AS A DEICER ON THE PAVEMENT THOUGH NONTOXIC ORGANIC DEICERS	CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A	ESTEI	#67 , word	
IED EITHER AS BLENDED, MAGNESIUM CHLORIDE-BASED LIQUID PRODUCTS OR AS PRETREATED SALT, ARE ERRED.	5. ENVIRONMENTAL DUE DILIGENCE: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT	ORCI		UCT iem
TATED AREAS TATED AREAS SHALL BE MAINTAINED WITH A MINIMUM UNIFORM VEGETATIVE 70% PERENNIAL VEGETATIVE COVER A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION. VEGETATED AREAS THAT WASH MUST BE FILLED AND GRADED AS NECESSARY AND THEN RESEEDED. AN ANCHORING METHOD SHOULD THEN	REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREEN, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.	BT W	W - /	STR
SED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT ON STEEP SLOPES. MINIMUM, OPERATION AND MAINTENANCE PROCEDURES FOR THE WHIP PLANTING AREAS SHALL INCLUDE: TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH. ADDITIONAL PLANTINGS PROVIDED AS NECESSARY TO MAINTAIN STABILIZATION.	6. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FUL MAY HAVE BEEN SUBJECTED TO A SPULL OR RELEASE		VIE 974 GER SOMERY	MA
<u>ET STRUCTURES (ALL FACILITIES):</u> NG DRY CONDITIONS, CONCRETE SPILLWAY STRUCTURES SHALL BE INSPECTED TO DETERMINE IF WATER IS ING THROUGH ANY JOINTS OR OTHER STRUCTURE CONTACTS AND TO IDENTIFY ANY CRACKS, SPALLING, BROKEN	OF A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE		MONT	IST (
OOSE SECTIONS. ANY CRACKED, SPALLED, BROKEN OR LOOSE SECTIONS SHALL BE CLEANED AND REFILLED AN APPROPRIATE CONCRETE PATCHING MATERIAL. A PROFESSIONAL ENGINEER SHALL BE CONSULTED TO IR EXTENSIVE LEAKAGE, SPALLS OR FRACTURES. REPAIRS MADE TO THE PRINCIPAL SPILLWAY (RISER OR BARREL) SHALL BE REVIEWED BY A PROFESSIONAL	WITH APPENDIX A OF PADEP'S POLICY "MANAGEMENT OF FILL". 7. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL.			PC
NEER. VERTICAL TRENCHING TO EXPOSE THE BARREL SHALL NOT BE ALLOWED UNDER ANY CIRCUMSTANCES. TRENCH SIDE SLOPES SHALL BE STEPPED BACK AT A 2:1 SLOPE, MINIMUM.	REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE MUNICIPAL OR RESIDUAL WASTE REGULATIONS IN 25 PA CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.			
AREA. SEEDLINGS NOT INDICATED ON LANDSCAPE PLANS SHALL BE REMOVED AT THE FIRST OPPORTUNITY. SIMILARLY, VINE COVER AND BRUSH SHALL BE REMOVED FROM THE EMBANKMENT TO ALLOW FOR INSPECTIONS.	8. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SUPPING, EROSION OR EXCESS SATURATION.			
<u>RE TO MAINTAIN:</u> OWNERS, HEIRS, AND/OR ASSIGNS OF THE PROJECT SITE SHALL MAINTAIN OWNERSHIP OF AND BE ONSIBLE FOR THE MAINTENANCE OF THE STORM SEWER SYSTEM AND DETENTION FACILITY. IN THE EVENT SAID	9. REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES.			
rs, Heirs, and/or assigns fail to properly maintain said facilities, the municipality shall have the To perform said maintenance at the expense of the owners after proper notification of the TRS.	Map Unit SymbolMap Unit NameAcres in AOIPercent of AOIBoBowmansville-Knauers silt loams1.13.7%			
RE INDICATORS: SECTION DEFINES FAILURE OF THE PRIMARY BMPS AS RELATED TO DEWATERING TIME.	PIBPenn-Lansdale complex, 3 to 8 percent slopes8.7 29.2%PICPenn-Lansdale complex, 8 to to reserve to the reserve		AND	
WILL AS A PORTION OF OFF-SITE RUNOFF. ITS PLANTING MEDIA IS DESIGNED TO FILTER THE INFLOW AND DEWATER (TO INVERT OF UNDERDRAIN) IN APPROXIMATELY 72 HOURS AFTER ALL STORMS EQUAL OR GREATER THAN A 2.7 INCH RAIN EVENT. IF A LONGER OR CONSTANT STANDING WATER DEPTH	Ib percent slopes UryB Urban land-Readington complex, 0 to 8 percent slopes 8.7		YOUR GOALS	. OUR MISSION.
OCCURS, THERE MAY BE AN ISSUE WITH UNDERDRAIN / ORIFICE CLOGGING AND THE UNDERDRAIN PIPE SHOULD BE FLUSHED. SHOULD THIS ACTION NOT CORRECT THE ISSUE, THE FILTER MEDIA SHOULD BE ASSESSED AND REPLACED TO THE EXTENT REQUIRED TO RESTORE FUNCTION. VEGETATION RE-ESTABLISHMENT PER THE ORIGINAL DESIGN SHALL BE REQUIRED IN THE MEDIA PERIACEMENT	UusD Urban land-Udorthents, shale and sandstone complex, 8 to 25 percent slopes 4.3 14.3%	17	700 MARKET STR PHILADELPHIA	EET, SUITE 3110 A, PA 19103
AREAS.	Totals for Area of Interest29.9100.0%		FAX 215-28 FAX 215-62 www.tandmass	27-3459 ociates.com
MUNIGUMENT COUNTY CONSERVATION DISTRICT: (610) 489-4506 PADEP SOUTHEAST REGIONAL OFFICE: (484) 250-5900 ADDITIONAL INFORMATION REGARDING MAINTENANCE OF SPECIFIC STORMWATER MANAGEMENT AND WATER INF FACILITIES SEE THE 2006 DENNISY VANIA STORMWATER DATED DATE MANUAL	TABLE E.1	С	<u>OFFICES LO</u> ALIFORNIA. INDI/	CATED IN: ANA, KENTUCKY.

LIMITATIONS OF PENNSYLVANIA SOILS PERTAINING TO EARTHMOVING PROJECTS SOIL NAME BOWMANSVILLE-KNAUERS SILT LOAMS (Bo) BOMANSVILLE PENN-LANSDALE COMPLEX, 3% TO 8% SLOPES (PIB), 8% TO 15% SLOPES (PIC) x x x x x x x x x x URBAN LAND-READINGTON COMPLEX, 0 TO 8 PERCENT SLOPES (UryB) X C/S X URBAN LAND-UDORTHENTS, SHALE AND SANDSTONE COMPLEX, 8 TO 25 PERCENT SLOPES (Uusd) X C/S X X X X X X X X X

MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO AND PENNSYLVANIA DESIGNED BY DRAWING CGG/JPK/ROP **DET-14** SHEET PG/SR/ROP AS NOTE

OF

CHECKED BY

DRAWN BY

SCALE

BETI00056

RESPONSIBLE FOR THEIR PROTECTION.

4. ALL PLANTS SHALL BE NURSERY GROWN.

OR LARVAE. THEY SHALL HAVE HEALTHY WELL-DEVELOPED ROOT SYSTEMS.

A MINIMUM OF 90% COVER PER 5 SQUARE FEET OF LAWN AREA AVERAGE.

SHALL GOVERN.

HARDWOOD MULCH.

2. THE CONTRACTOR SHALL VERIFY ALL UTILITIES WITHIN WORK AREA PRIOR TO COMMENCING WITH ANY EXCAVATIONS AND SHALL BE

3. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS SHOWN ON THE DRAWINGS, AS SPECIFIED, AND IN QUANTITIES INDICATED ON THE PLANT LIST. IF A DISCREPANCY SHOULD ARISE BETWEEN THE AMOUNT OF PLANTS SHOWN ON THE PLAN VS. THE PLANT SCHEDULE, THE PLAN

6. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OR GROWTH. THEY SHALL BE SOUND,

HEALTHY AND VIGOROUS WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF THEY SHALL BE FREE OF DISEASE AND INSECT PESTS, EGGS

7. SUBSTITUTIONS: WHEN PLANTS OF A SPECIFIED KIND OR SIZE ARE NOT AVAILABLE WITHIN A REASONABLE DISTANCE, SUBSTITUTIONS MAY BE

8. ALL AREAS TO BE SHOWN AS LAWN SHALL BE SEEDED, AS SPECIFIED, AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED WITH

9. TREE LOCATIONS MAY NEED TO BE ADJUSTED BASED ON LOCATIONS OF UTILITIES, FIELD CONDITIONS, OR FINAL GRADING. THE

5. ALL PLANTS SHALL BE HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT.

MADE UPON REQUEST BY THE CONTRACTOR IF APPROVED BY THE LANDSCAPE ARCHITECT OR HIS/HER REPRESENTATIVE.

CONTRACTOR SHALL NOTIFY THE OWNER AND/OR THEIR REPRESENTATIVE IF ADJUSTMENTS ARE NECESSARY.

2" MIN. LAYER OF MULCH -BACKFILL WITH SOIL REMOVED -FROM EXCAVATION PIT. REMOVE STONES AND ROCKS LARGER THAN 2" AND OTHER DEBRIS. BREAK UP SOIL CLUMPS WHEN BACKFILLING. LIGHTLY COMPACT BACKFILL TO REMOVE AIR POCKETS AND VOIDS. FINISHED GRADE -OF BALL SUBGRADE -DECIDUOUS TREE PLANTING NOT TO SCALE RETAIN LEADER -DO NOT MOUND MULCH AROUND -STEM. KEEP MULCH PULLED AWAY FROM TRUNK MIN. I" 2" MIN. LAYER OF MULCH -FINISHED GRADE DEPTH

> SUBGRADE -SHRUB PLANTING NOT TO SCALE

OF BALL

15. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING. 16. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR HIS/HER EQUAL.

17. INSTALL ALL PLANTS SO THAT THE TOP OF THE ROOTBALL IS SLIGHTLY ABOVE FINISHED GRADE. IN NO CASE SHALL THE PLAN BE INSTALLED WITH NO LESS THAN THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL ROOT CROWN. EXCESS SOIL MAY EXIST AROUND THE ROOT CROWN FROM NURSERY OPERATIONS. THIS EXCESS MATERIAL SHALL BE REMOVED PRIOR TO PLANTING TO DETERMINE THE PROPER BALL INSTALLATION DEPTH.

18. ALL EXISTING TREES THAT ARE TO BE SAVED AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE PROTECTED UNTIL CONSTRUCTION HAS BEEN COMPLETED. AREA WITHIN DRIPLINE SHALL NOT BE TRAVELED ACROSS BY CONSTRUCTION TRAFFIC. 19. TREES PLANTED ALONG STREETS SHALL HAVE A SINGLE STRAIGHT TRUNK THAT DOES NOT FORK BELOW 61

20. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL NON-BIODEGRADEABLE ROOT WRAPPING MATERIAL SHALL BE REMOVED AT TIME OF PLANTING. 21. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS MINIMUM.

22. THE CONTRACTOR SHALL LAYOUT WITH IDENTIFIABLE STAKES INDIVIDUAL TREE AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE PLANTING ALONG WITH THE ARRANGEMENTS AND OUTLINE OF PLANTING BEDS AS INDICATED ON DRAWING. THE LAYOUT OF PLANTING WILL THEN BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO ANY EXCAVATION OF PLANT PITS OR PLANT BEDS.

23. AT PLANTING TIME, ALL PLANT MATERIAL SHALL TRIMMED TO REMOVE BROKEN AND/OR DEAD VEGETATIVE MATERIAL. 24. ALL PLANTS SHALL BE INSTALLED AS PER THE PLANTING DETAILS AND THE CONTRACT SPECIFICATIONS, WHERE APPLICABLE.

25. ALL PLANTS SHALL BE INSTALLED PLUMB UNLESS OTHERWISE SPECIFIED.

26. ALL PLANTS SHALL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON.

27. CONDITIONS DETRIMENTAL TO PLANTS: THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE IN WRITING OF ALL SOIL OR DRAINAGE CONDITIONS WHICH THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANTS. HE SHALL STATE THE CONDITIONS AND SUBMIT A PROPOSAL FOR CORRECTING THE CONDITIONS INCLUDING ANY CHANGE IN COST FOR REVIEW AND ACCEPTANCE BY THE PROJECT REPRESENTATIVE.

28. WARRANT TREES AND SHRUBS FOR A MINIMUM PERIOD OF EIGHTEEN (18) MONTHS AFTER DATE OF WRITTEN FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT AND/OR THE OWNERS AUTHORIZED REPRESENTATIVE AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MONITOR THE PROJECT PLANTINGS DURING THE WARRANTY PERIOD AND NOTIFY THE OWNER IF PROBLEMS DEVELOP. PLANTS THAT DIE DURING THE WARRANTY PERIOD SHALL BE REMOVED IMMEDIATELY AND REPLACED.

29. ANY TREE OR SHRUB WHICH DIES WITHIN 18 MONTHS OF PLANTING SHALL BE REPLACED IN KIND. ANY TREE OR SHRUB WHICH WITHIN 18 MONTHS OF PLANTING OR REPLANTING IS DEEMED BY THE TOWNSHIP NOT TO BE HEALTHY AND VIGOROUS SHALL BE REPLACED IN KIND. REPLACEMENTS MAY BE OF A SUBSTITUTE SPECIES ONLY WHEN APPROVED BY THE TOWNSHIP.

- EXISTING SUBGRADE TO BE LOOSENED TO A MINIMUM DEPTH OF 6'

PLANT SPACING DIAGRAM NOT TO SCALE

BORE TO PREVIOUS GRADE IN THE NURSERY. PLUG AND PERENNIAL PLANTING

NOT TO SCALE

EMERGENCY SEEDING RECOMMENDATIONS TOWNSHIP OF WORCESTER

DURING CONSTRUCTION, ALL DISTURBED AREAS SHOULD BE SEEDED ACCORDING TO THE FOLLOWING INSTRUCTIONS: SEEDING RECOMMENDATION FOR SIX TO TWELVE-MONTHS PERIODS.

I. INSTALL NEEDED WATER-CONTROL MEASURES.

- 2. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
- 3. LIME ACCORDING TO SOIL TEST OR KNOWLEDGE OF THE SITE OR APPLY TWO TONS OF GROUND LIMESTONE PER ACRE.

4. FERTILIZE ACCORDING TO SOIL TEST OR KNOWLEDGE OF THE SITE OR APPLY 40-40-40 PER ACRE.

5. INCORPORATE LIME AND FERTILIZER INTO THE TOP FOUR INCHES OF SURFACE SOIL BY DISCING OR OTHER SUITABLE MEANS.

6. SEED ONE OF OF THE FOLLOWING MIXTURES AT THE MOST SUITABLE DATE. APPLY UNIFORMLY WITH A DRILL OR BY BROADCASTING:

a. MARCH | TO OCTOBER |: 20 POUNDS OF ANNUAL RYE GRASS OR FIELD BROMEGRASS PER ACRE.

b. MARCH I TO MAY 30: 20 POUNDS OF ANNUAL RYE GRASS OR FIELD BROMEGRASS AND 64 POUNDS OF SPRING OATS PER ACRE.

c. AUGUST I TO NOVEMBER I: 20 POUNDS OF ANNUAL RYE GRASS OR FIELD BROMEGRASS AND 112 POUNDS OF WINTER RYE PER ACRE.

7. COVER GRASS AND LEGUME SEEDS ONE-FOURTH-INCH DEEP WITH CULTIPACKER OR HARROW. COVER RYE OR OATS ABOUT TWO INCHES DEEP.

8. MOW RYE OR OATS JUST BEFORE THEY HEAD OUT IF SLOPE PERMITS.

SECTION 130-6 SHALL PREVAIL IN CASES OF CONFLICT WITH THE ABOVE PROVISIONS.

