STORMWATER MANAGEMENT

SMALL PROJECT APPROACH

For Small Projects in

Mount Pleasant Township, Adams County, Pennsylvania

TABLE OF CONTENTS

Introduction:

This Small Project Approach has been created as a tool to help property owners manage stormwater on their property and streamline the process of designing on-site stormwater management facilities for new, relatively minor residential and accessory structure projects. Through the use of this manual, residents have the ability to determine the appropriate facilities for their property, project, and budget. This approach is consistent with the Simplified Approach in the Adams County Act 167 Stormwater Management Plan. This design method is not intended to be used with large-scale subdivision / land development projects or activities that include infrastructure such as roadways.

I. Directions and Review Process

A. For Small Projects with a total cumulative impervious surface area added since November 15, 2012, **less than or equal to 1,000 ft²** submit two copies of the following along with the applicable fee:

1. Completed Application and Permit Worksheet (Section II).

2. Stormwater Management Sketch Plan as required under Section IV.A.

3. Record of Impervious Worksheet (Section III) with completed columns 1through 3 only.

B. For Small Projects with a total cumulative impervious surface area added since November 15, 2012, that is **greater than 1,000 ft² and less than or equal to 10,000 ft²** submit two (2) copies of the following along with the applicable fee:

1. Complete Application and Permit Worksheet (Section II).

2. Minor Stormwater Management Plan as required under Section IV.B.

3. Record of Impervious Worksheet (Section III) with completed columns 1 through 4 for areas that can be considered disconnected or all 7 columns for areas that cannot be considered disconnected.

4. For all proposed impervious surfaces that cannot be completely disconnected, calculate the volume of stormwater runoff required to be captured by Stormwater BMPs. Multiply the contributory square footage of impervious draining to the BMP by 0.25 (Column 2 x 0.25 = Column 5). Using the "Chart for Determining BMP sizing" based on Volume Required (Section VI) and Standard Details (Section VIII), choose the BMP and size required for each contributory impervious area. Note that the standard details are not a comprehensive list of stormwater BMP's available. Additional information and variation is located in the *Guide to Choosing Stormwater BMPs* in Appendix C of the Adams County Act 167 Stormwater Management Plan. It is the Applicant's responsibility to select a facility and determine the appropriate size.

5. Complete and sign the Stormwater Management/BMP Facilities Operation & Maintenance Agreement, hereinafter referred to as O&M Agreement. (Section VII).

C. The Application shall not be considered to be complete unless it includes all of the information required. Upon receipt of a complete application, the official designated by the Municipality to administer the Small Project Approach process shall review the Application against the requirements applicable to Small Project Approach submissions.

1. The designated official shall approve the Application if the Application conforms to applicable requirements. Upon approval of a complete Application Packet, the designated official shall sign the permit and issue a copy to the Applicant.

2. The Designated Official shall deny the Application if the Application does not conform to applicable requirements. Any denial shall be in writing and shall state the reasons for such denial. The Designated Official shall approve or deny the complete Application within fifteen (15) calendar days of the date of filing. The Property Owner may, in response to denied Small Project Approach submission, resubmit the Application with revisions necessary to address the reasons for denial.

D. Once the permit is signed and its receipt acknowledged, the Applicant is authorized to initiate construction of the approved project. The Applicant is responsible for contacting the designated official at a minimum of 72 hours prior to start of construction to schedule an inspection. Typically, up to 3 inspections could be performed during and after completion of the stormwater management facilities.

II. Application and Permit

Property Owner's Name: _____ **Phone No**:_____

Address of Property:_____

Address of Owner:_____

Contact Phone No. ***(if different than the Owner)*****:**_____

Contact Email:_____

Parcel ID #:_____

Total Existing Impervious on the Property:_____

Total Impervious on the Lot after Project:_____

New Impervious Area Associated with this Project:_____

Are there any known existing drainage problems or the potential for the proposed project to create drainage problems? ***(if yes please explain)*** _____

_____

_____

_____

Declaration and Acknowledgement:

- I (we) declare that I am the property owner or representative of the owner and that the information provided is accurate to the best of my knowledge. I (we) agree to assume full responsibility for the implementation. I (we) understand that stormwater may not adversely affect adjacent properties or be directed onto another property without written permission. I (we) declare that the proposed project will not adversely affect any, septic systems, or drinking water wells on this or any other property.
- I (we) understand that false information may result in a stop work order or revocation of permits. Municipal representatives are granted reasonable access to the property for review and/ or inspection of this project. I (we) acknowledge that the steps, assumptions, and guidelines provided in this submission, including but not limited to the Minor Stormwater Management Plan, the Record of Proposed Impervious and the Stormwater Management / BMP Facilities and Maintenance Agreement (if applicable) will be adhered to.

Applicant Acknowledgement of Submission:

Signature:_____ Date:_____

NOTE: Development activities shall begin only after the Municipality approves the Minor Stormwater Management Plan.

Permit approved by Mount Pleasant Township:

Municipal Official:

Signature:_____ Date:_____

Title: _____

III. Record of Impervious

Record of Proposed Impervious							
Column 1	*Column 2*	*Column 3*	*Column 4*	*Column 5*	*Column 6*	*Column 7*	*Column 8*
Number *(corresponding to Minor Stormwater Management Plan Proposed Impervious)*	**Area of Proposed Impervious** *(ft^2)*	**Description** *(Roof, Patio, Pavement, Driveway, Gravel, etc.)*	**Does the Impervious Area Meet the Requirements to be Disconnected?** *Section 6 (yes/no)*	**Contributary Area Storage Requirement; Storage (ft^3) = Area (ft^2) x .25; Column 4 x .25**	**BMP used to Control Required Volume** *(ft^3)*	**BMP Size Requirement from Chart for Determining BMPs Sizing Based on Volume Required-** *Section 7*	**Notes** *(minimum date)*
PROPOSED IMPERVIOUS SINCE NOVEMBER 15, 2012							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
EXISTING IMPERVIOUS BEFORE NOVEMBER 15, 2012							
A							
B							
C							
D							
E							
F							
G							
H							
I							
J							

IV. Minor Stormwater Management Plan Requirements

The Adams County Office of Planning and Development can provide assistance to Applicants to obtain property maps with the below-required items, for a small fee.

A. **Sketch Plan Requirements**

1. Property Boundary
2. North Arrow and Scale (graphic) of 1"=50' or less.
3. Aerial Photo (if the land use has changed from the photo then draw in the approximate land uses (grass, woods, etc.).
4. Building Setbacks (Labeled)
5. 5' Contours or smaller where appropriate for the scale of the plan (Labeled)
6. Soils (Labeled)
7. Location of all existing and proposed impervious areas such as roofs, driveways, etc. with dimensions of each. The proposed impervious areas shall be numbered (1, 2, …) and shall correspond to the number on the Record sheet.
8. The location and direction of flow discharge from existing and proposed impervious areas shown with a flow arrow or other symbol.
9. Property Owners Signature.

B. **Minor Stormwater Management Plan Requirements**

1. Section IV.A, Sketch Plan Requirements
2. Slope/flow direction arrows on and 100 feet beyond the property line. If the property is of substantial size, and the proposed impervious is within the lot interior, the slope/flow direction arrows shall be shown for minimum of 100 feet beyond the Regulated Activity area.
3. Distance from proposed discharge location, along the flow path, to property lines, drainage ways (natural or manmade), wooded areas, and structures. If applying for the Disconnect Impervious Area (DIA) credit, label the DIA flow path and length on the plan.
4. Distance between structures and proposed stormwater facilities along with elevations of both.
5. Natural and/or manmade drainage features such as drainage ways, streams, wetlands, etc. on the property and within 100 feet beyond the property line.
6. Manmade features or structures such as buildings 100 feet beyond the property line on the downstream/receiving flow site.
7. Wells and on-site septic systems on and 100 feet beyond the property line.
8. Any other pertinent information that may be significant to the project site (steep slopes, etc.).
9. Size and location of stormwater BMP's with dimensions and details (as required).
10. Soil hydrologic soil group (listed under the soil).
11. Any existing and proposed structure(s) first floor elevations.
12. Grading spot elevations and/or contours defining the proposed flow characteristics.
13. Approximate distance from house and elevation of proposed stormwater BMPs and overflow paths.

V. How to Determine a Disconnected Impervious Area (DIA)

When impervious surface areas like rooftops and paved areas are directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the impervious surface areas may qualify to be treated as Disconnected Impervious Area (DIAs). Disconnected Impervious Area may be deducted from the total proposed impervious area when calculating the required storage volume. Stormwater BMPs are only required for non-disconnected impervious areas.

Impervious Area is defined in the Definitions Section (Section 201) of the Stormwater Management Ordinance.

A. **Rooftop Disconnection:** Impervious is considered to be disconnected if it meets the requirements listed below:

1. The contributing impervious drainage area to each disconnected discharge (downspout) is less than 500 SF.
2. The overland flow path from runoff discharge point has a slope of five percent (5%) or less.
3. Soils along the overland flow path are not classified as hydrologic group "D"
4. The overland flow path is maintained as at least 90% uniformly vegetated condition.
5. The receiving pervious area shall not include another person's property unless written permission has been obtained from the affected property owner.
6. The length of flow path must be 75 feet in length.
7. The distance between discharge points and flow paths must be and remain a minimum of 8 feet apart for entire 75 feet.

B. **Paved Disconnection:** Paved surfaces can be considered disconnected if they, or the adjacent areas, meet the following requirements:

1. The contributing flow path over the impervious area is not more than 75 feet.
2. The length of the overland flow is greater than or equal to the maximum length of flow over the impervious area.
3. The slope of both the contributing impervious area and the overland flow path is five percent (5%) or less.
4. If discharge is concentrated at one or more discrete points, no more than 500 ft^2 may discharge to any one point. In addition, a gravel strip or other spreading device is required for concentrated discharges. For non-concentrated discharges along the entire edge of paved surface, a level spreader is not required; however, there must be provisions for the establishment of vegetation along the paved edge.

VI. Chart for Determining BMP Sizing

	BMP						
	Rain Garden/ BioRetention	*Infiltration Trench*	*Infiltration Bed*	*Infiltration Berm*	*PA Native Deciduous Tree**	*PA Native Evergreen Tree**	*Rain Barrel (55 Gal Typ)*
	Variable Determining Size						
Volume Required (ft^3)	*Area (ft^2)*	*Length (ft)*	*Area (ft^2)*	*Length (ft)*	*Quantity (ea)*	*Quantity (ea)*	*Quantity (ea)*
12.5	4	8	21	3	2	1	2
25	14	16	42	6	4	3	3
50	36	31	83	11	8	5	7
75	59	47	125	17	13	8	10
100	82	63	167	22	17	10	14
125	106	78	208	28	21	13	17
150	130	94	250	33	25	15	20
175	154	109	292	39	29	18	
200	178	125	333	44	33	20	
225	203	141	375	50	38	23	
250	227	156	417	56	42	25	
275	252	172	458	61	46	28	
300	277	188	500	67	50	30	
325	302	203	542	72			
350	326	219	583	78			
375	351	234	625	83			
400	376	250	667	89			
425	401	266	708	94			
450	426	281	750	100			
475	451	297	792	106			
500	476	313	833	111			
525	502	328	875	117			
550	527	344	917	122			
575	552	359	958	128			
600	577	375	1000	133			
625	602	391	1042	139			
650	628	406	1083	144			
675	653	422	1125	150			
700	678	438	1167	156			
725	704	453	1208	161			
750	729	469	1250	167			
775	754	484	1292	172			
800	780	500	1333	178			
825	805	516	1375	183			
850	830	531	1417	189			
875	856	547	1458	194			
900	881	563	1500	200			
925	907	578	1542	206			
950	932	594	1583	211			
975	958	609	1625	217			
1000	983	625	1667	222			
1025	1008	641	1750	239			
1050	1034	656	1750	233			
1075	1059	672	1792	239			
1100	1085	688	1833	244			
1125	1110	703	1875	250			
1150	1136	719	1917	256			
1175	1162	734	1958	261			
1200	1187	750	2000	267			
1225	1213	766	2042	272			
1250	1238	781	2083	278			

	BMP						
	Rain Garden/ BioRetention	*Infiltration Trench*	*Infiltration Bed*	*Infiltration Berm*	*PA Native Deciduous Tree**	*PA Native Evergreen Tree**	*Rain Barrel (55 Gal Typ)*
	Variable Determining Size						
Volume Required (ft^3)	*Area (ft^2)*	*Length (ft)*	*Area (ft^2)*	*Length (ft)*	*Quantity (ea)*	*Quantity (ea)*	*Quantity (ea)*
1275	1264	797	2125	283			
1300	1289	813	2167	289			
1325	1315	828	2208	294			
1350	1341	844	2250	300			
1375	1366	859	2292	306			
1400	1392	875	2333	311			
1425	1417	891	2375	317			
1450	1443	906	2417	322			
1475	1469	922	2458	328			
1500	1494	938	2500	333			
1525	1520	953	2542	339			
1550	1546	969	2583	344			
1575	1571	984	2625	350			
1600	1597	1000	2667	356			
1625	1622	1016	2708	361			
1650	1648	1031	2750	367			
1675	1674	1047	2792	372			
1700	1699	1063	2833	378			
1725	1725	1078	2875	383			
1750	1751	1094	2917	389			
1775	1776	1109	2958	394			
1800	1802	1125	3000	400			
1825	1828	1141	3042	406			
1850	1854	1156	3083	411			
1875	1879	1172	3125	417			
1900	1905	1188	3167	422			
1925	1931	1203	3208	428			
1950	1956	1219	3250	433			
1975	1982	1234	3292	439			
2000	2008	1250	3333	444			
2025	2034	1266	3375	450			
2050	2059	1281	3417	456			
2075	2085	1297	3458	461			
2100	2111	1313	3500	467			
2125	2137	1328	3542	472			
2150	2162	1344	3583	478			
2175	2188	1359	3625	483			
2200	2214	1375	3667	489			
2225	2240	1391	3708	494			
2250	2265	1406	3750	500			
2275	2291	1422	3792	506			
2300	2317	1438	3833	511			
2325	2343	1453	3875	517			
2350	2368	1469	3917	522			
2375	2394	1484	3958	528			
2400	2420	1500	4000	533			
2425	2446	1516	4042	539			
2450	2471	1531	4083	544			
2475	2497	1547	4125	550			
2500	2523	1563	4167	556			

*No more than 25% of total volume can be mitigated by use of trees

VII. Stormwater Management/ BMP Facilities Operation and Maintenance Agreement

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between _____ hereinafter called the "Landowner" and **MOUNT PLEASANT TOWNSHIP**, Adams County, Pennsylvania, hereinafter called the "Township."

WHEREAS, the Landowner is the owner of certain real property located at _____, described as _____ *(Adams County Tax Map / Parcel Identification Number)*, located in Mount Pleasant Township, Adams County, Pennsylvania, as recorded by Deed in the Land Records of Adams County, Pennsylvania, Book _____ Page _____, hereinafter called the "Property";

WHEREAS, the Landowner is proceeding to build on and develop the property; and

WHEREAS, the Minor Stormwater Management Plan hereinafter called the "Plan", which is expressly made a part hereof, as approved or to be approved by the Township, provides for management of stormwater within the confines of the property through the use of Stormwater Best Management Practices (Stormwater BMPs); and

WHEREAS, the Township and the Landowner, its successors and assigns, agree that the health, safety, and welfare of the residents of the Township, require that on-site Stormwater BMPs be constructed and maintained on the Property; and

WHEREAS, the Township requires that on-site Stormwater BMPs as shown on the Plan be constructed and adequately maintained by the Landowner, its successors and assigns. Any additional requirements imposed by the Township are considered part of the Plan.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Landowner in accordance with the specifications identified within the Plan shall construct the onsite Stormwater BMPs.

2. The Landowner assumes full responsibility for the construction, operation, and maintenance of the proposed stormwater management facilities.

3. The Landowner, its successors and assigns, shall adequately maintain the Stormwater BMPs. This includes all pipes and channels built to convey stormwater to the facility, as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater. Adequate maintenance is herein defined as good working condition so that these facilities are performing their design functions.

4. The Landowner, its successors and assigns, shall inspect the Stormwater BMPs after all rainfall events exceeding one inch of precipitation in a 24-hour period.

5. The Landowner, its successors and assigns, hereby grant permission to the Township, its authorized agents and employees, to enter upon the Property without prior notification at reasonable times and upon presentation of proper identification to inspect the Stormwater BMPs whenever the Township deems necessary.

6. The Landowner acknowledges that the proposed Stormwater BMPs will be a permanent fixture of the property that cannot be altered or removed without approval by the Township.

7. In the event the Landowner, its successors and assigns, fails to maintain the Stormwater BMPs as shown on the Plan and in good working condition, the Township may enter upon the Property and take whatever action is deemed necessary to maintain said Stormwater BMPs and to charge the costs of such repairs to the Landowner, its successors and assigns. This provision shall not be construed to allow the Township to erect any structure of permanent nature on the land of the Landowner unless such structures were part of the approved Plan. It is expressly understood and agreed that the Township is under no obligation to routinely maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Township.

8. In the event that the Township, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Township within thirty (30) days of receipt of invoice for all expenses incurred. The Township has the right to file a municipal lien for unpaid costs and expenses that have not been reimbursed thirty (30) days after receipt of invoice.

9. The intent and purpose of this Agreement is to ensure the proper maintenance of the Stormwater BMPs by the Landowner. This Agreement shall not be deemed to create any additional liability of any party for damage alleged to result from or be caused by nonpoint source pollution runoff. This Agreement imposes no liability of any kind whatsoever on the Township and the Landowner agrees to hold the Township harmless from any liability in the event the Stormwater BMPs fail to operate properly. In the event that a claim is asserted against the Township, its designated representatives or employees, the Township shall promptly notify the Landowner and the Landowner shall defend, at his own expense, any suit based on the claim. If any judgment or claims against the Township shall be allowed, the Landowner shall pay all costs and expenses regarding said judgment.

10. This Agreement shall be binding to the Landowner, its administrators, executors, assigns, heirs, and any other successors in interests, in perpetuity.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Adams County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs, and any other successors in interests, in perpetuity.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first above written.

ATTEST:

LANDOWNER:

_____

By: _____
Name/Title

_____

By: _____
Name/Title

Date: _____

ATTEST:

MUNICIPALITY:

MOUNT PLEASANT TOWNSHIP

_____
Name/Title

By: _____
Name/Title

Date: _____

(SEAL)

STATE OF _____

: ss

COUNTY OF _____

On this, the _____ day of_____, 20___, before me, the undersigned officer, personally appeared _____, who acknowledged [himself] [herself] [themselves] to be the _____ of _____ and that [he] [she] [they] executed the within Agreement on behalf of _____ by signing [his] [her] [their] name as such _____.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____ (SEAL)

My commission expires:

COMMONWEALTH OF PENNSYLVANIA

: ss

COUNTY OF _____

On this, the _____day of_____, 20____, before me, the undersigned officer, personally appeared_____, who acknowledged [himself] [herself] to be the _____ of MOUNT PLEASANT TOWNSHIP and that [he] [she] executed the within Agreement on behalf of MOUNT PLEASANT TOWNSHIP by signing [his] [her] name as such, _____.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

_____ (SEAL)

My commission expires:

VIII. Standard Details

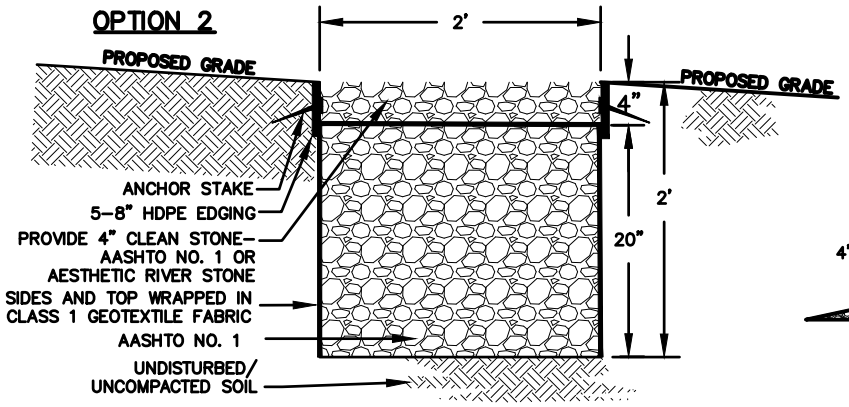
INFILTRATION TRENCH

SMALL PROJECT APPROACH STANDARD DETAIL

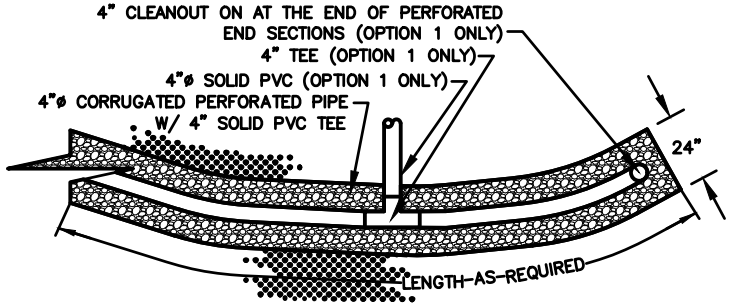
DRAWING PREPARED BY C. S. DAVIDSON, INC.

SMALL PROJECT APPROACH DETAILS.dwg

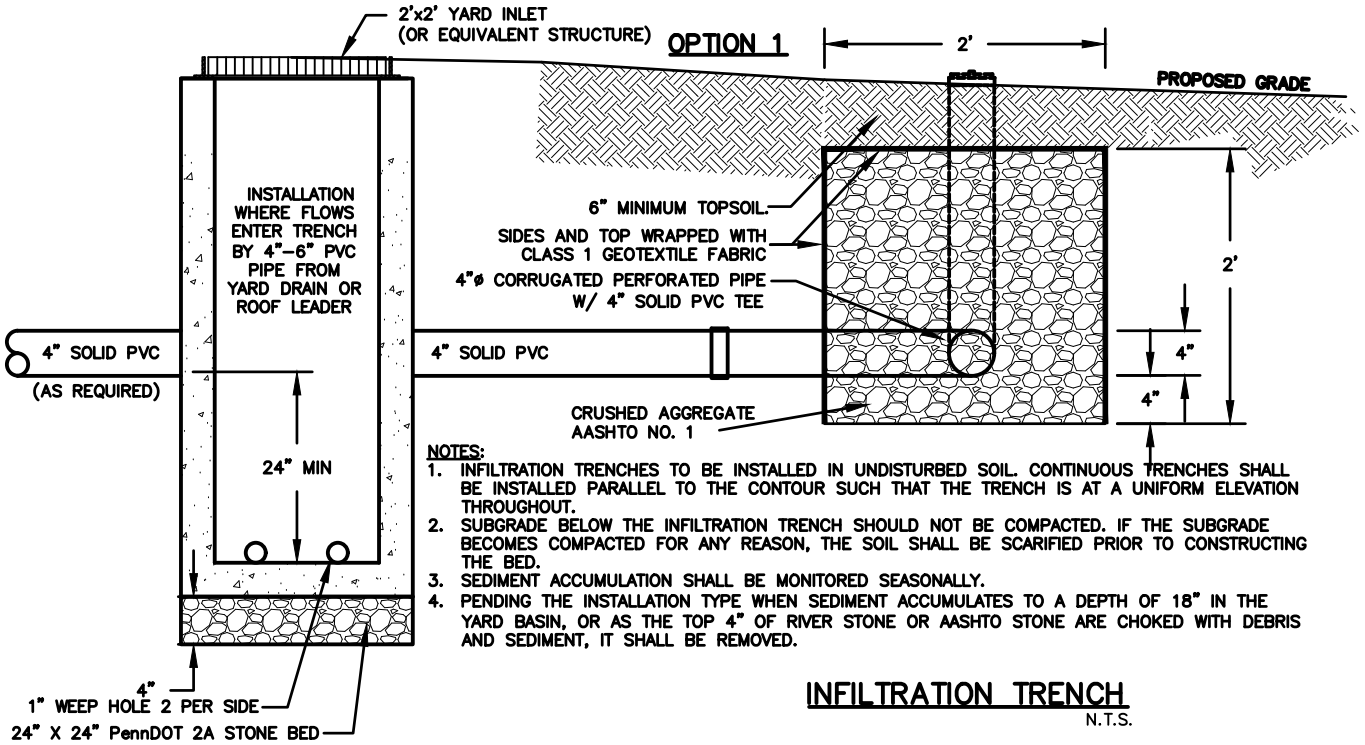
DATE: JULY 2022



DESIGN NOTE:
CHOOSE TRENCH LENGTH TO MEET REQUIREMENT PER THE BMP SIZING CHART. TRENCHES SHALL BE INSTALLED PARALLEL TO THE EXISTING CONTOUR SUCH THAT THE TOP AND BOTTOM OF TRENCH IS INSTALLED AT A UNIFORM ELEVATION.



PLAN VIEW



NOTES:
1. INFILTRATION TRENCHES TO BE INSTALLED IN UNDISTURBED SOIL. CONTINUOUS TRENCHES SHALL BE INSTALLED PARALLEL TO THE CONTOUR SUCH THAT THE TRENCH IS AT A UNIFORM ELEVATION THROUGHOUT.
2. SUBGRADE BELOW THE INFILTRATION TRENCH SHOULD NOT BE COMPACTED. IF THE SUBGRADE BECOMES COMPACTED FOR ANY REASON, THE SOIL SHALL BE SCARIFIED PRIOR TO CONSTRUCTING THE BED.
3. SEDIMENT ACCUMULATION SHALL BE MONITORED SEASONALLY.
4. PENDING THE INSTALLATION TYPE WHEN SEDIMENT ACCUMULATES TO A DEPTH OF 18" IN THE YARD BASIN, OR AS THE TOP 4" OF RIVER STONE OR AASHTO STONE ARE CHOKED WITH DEBRIS AND SEDIMENT, IT SHALL BE REMOVED.

INFILTRATION TRENCH

N.T.S.

INFILTRATION BED

SMALL PROJECT APPROACH STANDARD DETAIL

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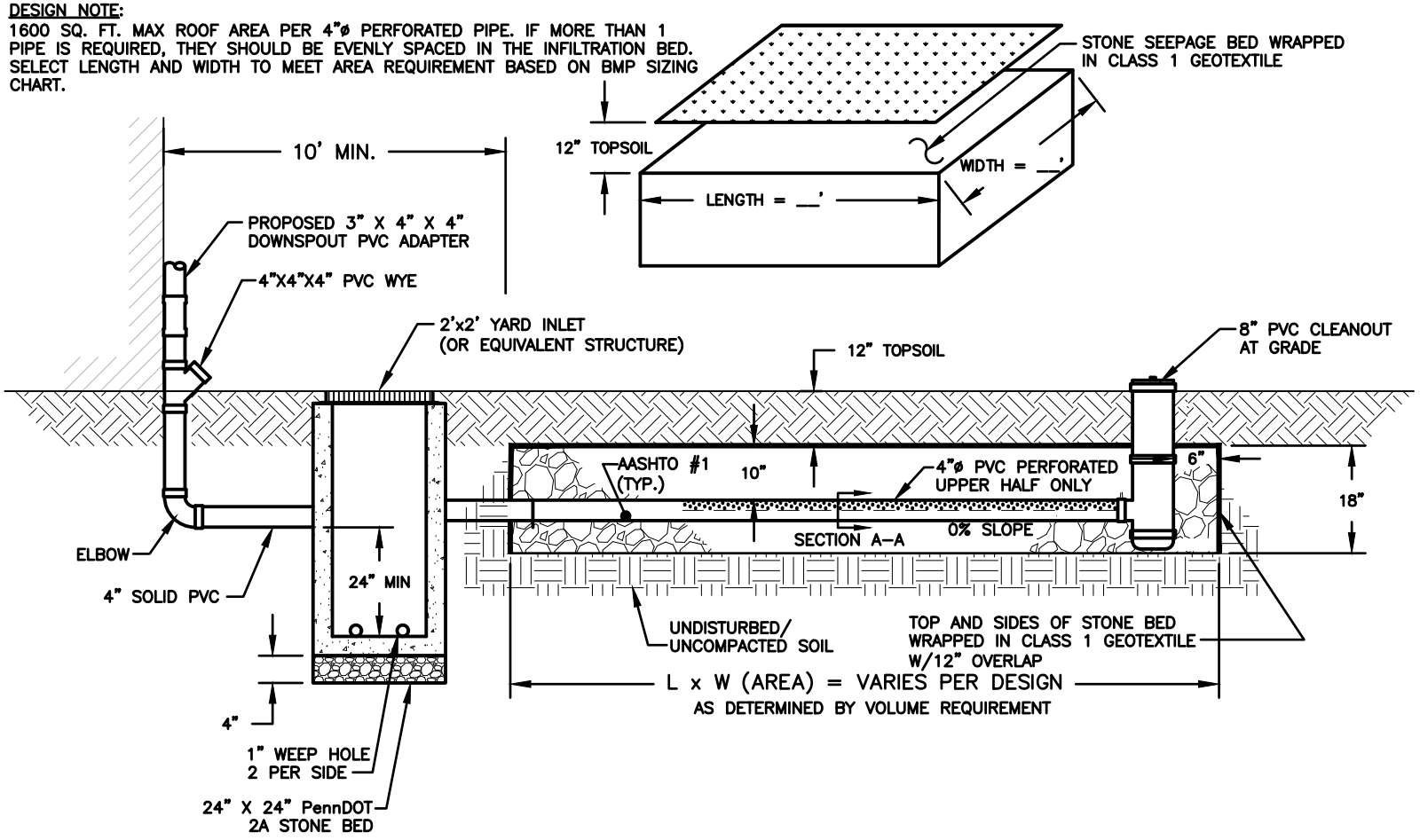
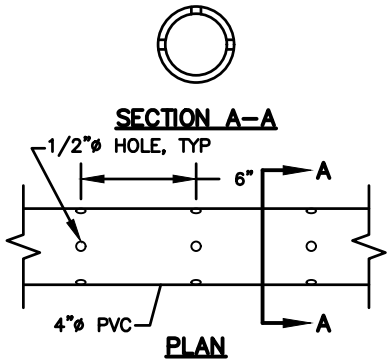
SMALL PROJECT APPROACH DETAILS.dwg

DATE: JULY 2022

DESIGN NOTE:
1600 SQ. FT. MAX ROOF AREA PER 4"ø PERFORATED PIPE. IF MORE THAN 1 PIPE IS REQUIRED, THEY SHOULD BE EVENLY SPACED IN THE INFILTRATION BED. SELECT LENGTH AND WIDTH TO MEET AREA REQUIREMENT BASED ON BMP SIZING CHART.





NOTES:
1. INFILTRATION PITS TO BE INSTALLED IN UNDISTURBED SOIL.
2. SUBGRADE BELOW THE INFILTRATION PIT SHOULD NOT BE COMPACTED. IF THE SUBGRADE BECOMES COMPACTED FOR ANY REASON, THE SOIL SHALL BE SCARIFIED PRIOR TO CONSTRUCTING THE BED.
3. SEDIMENT ACCUMULATION SHALL BE MONITORED SEASONALLY.
4. WHEN SEDIMENT ACCUMULATES TO A DEPTH OF 18" IN THE YARD BASIN, IT SHALL BE REMOVED.
5. PIPING AND CLEANOUTS TO BE CENTERED WITHIN INFILTRATION BED.

TYPICAL INFILTRATION BED DETAIL

N.T.S.

INFILTRATION BERM

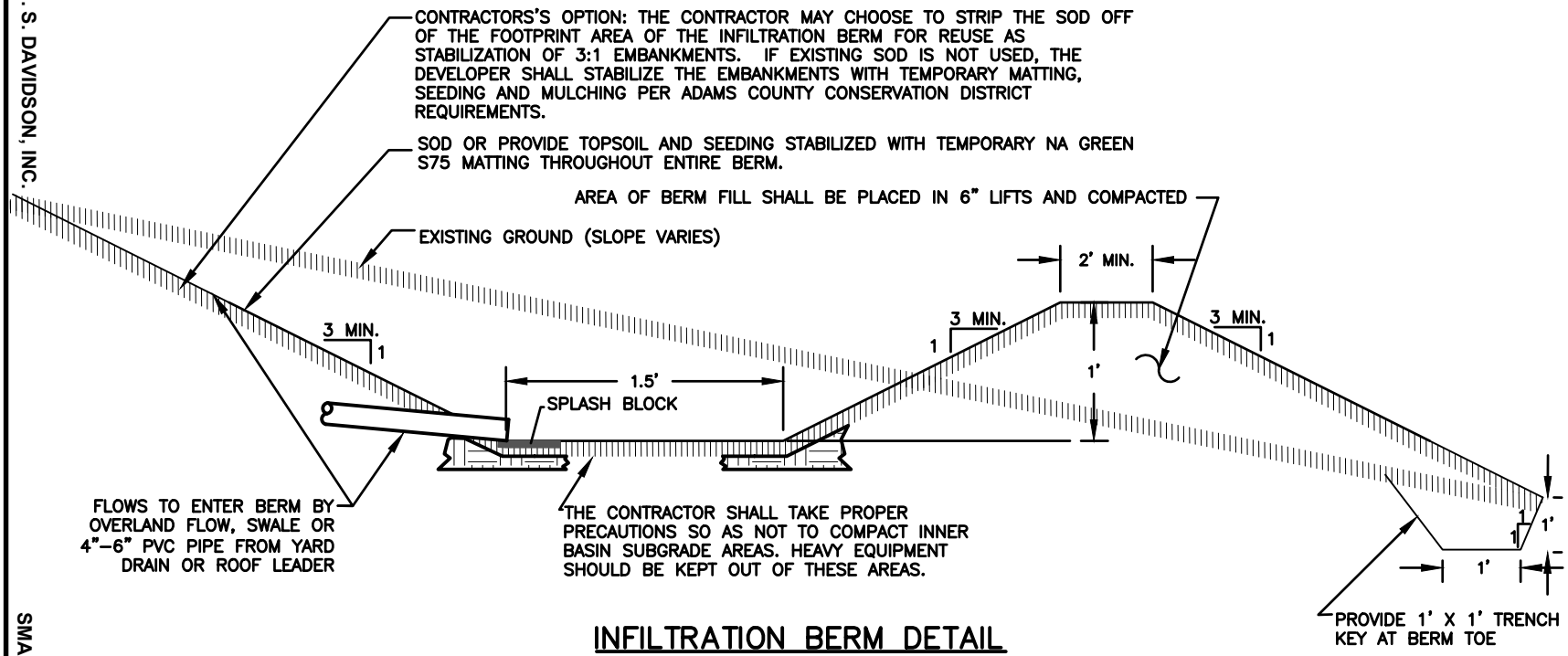
SIMPLIFIED APPROACH STANDARD DETAILS

DRAWING PREPARED BY C. S. DAVIDSON, INC.

SMALL PROJECT APPROACH DETAILS.dwg

DATE: JULY 2022

DESIGN NOTE:
HOME OWNER TO CHOOSE LENGTH OF THE BERM REQUIRED BASED ON THE VOLUME REQUIRED PER THE BMP SIZING CHART. BERMS SHALL BE INSTALLED PARALLEL TO THE EXISTING CONTOUR SUCH THAT THE TOP OF BERM IS INSTALLED AT A UNIFORM ELEVATION.



INFILTRATION BERM DETAIL

(N.T.S.)

NOTES:

1. REMOVE TOPSOIL IN AREA OF INSTALLATION OF BERM AND STOCKPILE ABOVE. PERFORM EXCAVATION OF SUBGRADE. OVER EXCAVATING BERM BY 6" AND REPLACE WITH STOCKPILED SOIL.
2. SOIL IN THE INFILTRATION BERM BOTTOM SHOULD NOT BE COMPACTED. IF THE SUBGRADE BECOMES COMPACTED FOR ANY REASON, THE SOIL SHALL BE SCARIFIED PRIOR TO SEEDING.
3. SEDIMENT ACCUMULATION SHALL BE MONITORED SEASONALLY.
4. WHEN SEDIMENT ACCUMULATES TO A DEPTH OF 3" IN THE BERM, IT SHALL BE REMOVED.
5. BERM SOILS SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER.
6. BERMS SHALL BE KEPT FREE FROM NOXIOUS WEEDS AND INVASIVE SPECIES
7. BERMS SHOULD BE MOWED ANNUALLY OR BIANNUALLY

TREE PLANTING

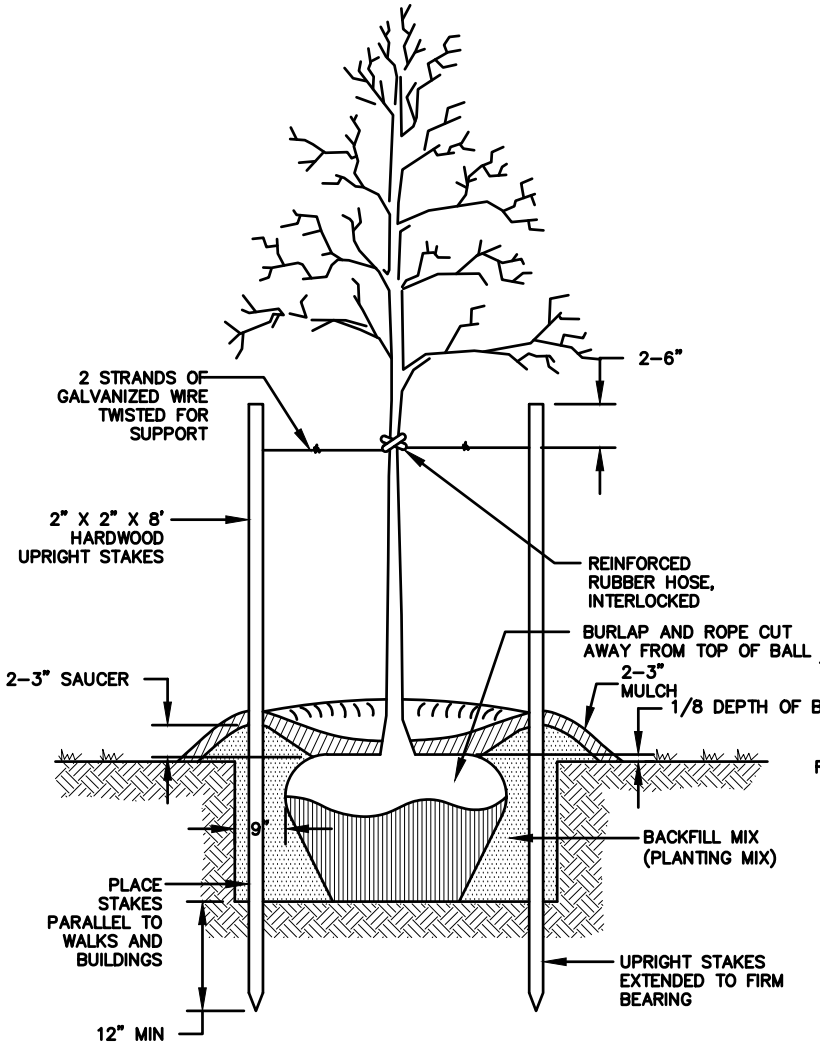
SMALL PROJECT APPROACH STANDARD DETAIL

DRAWING PREPARED BY C. S. DAVIDSON, INC.

SMALL PROJECT APPROACH DETAILS.dwg

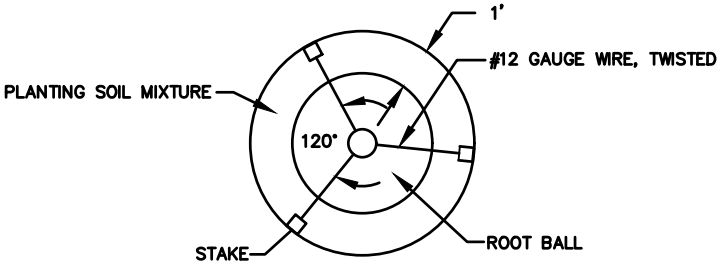
DATE: JULY 2022

DESIGN NOTE:
TREES MUST BE PA NATIVE SPECIES, A MINIMUM OF 1" CALIPER. DEAD TREES SHALL BE REPLACED BY PROPERTY OWNER WITHIN A MINIMUM OF 12 MONTHS. NO MORE THAN 25% OF VOLUME REQUIREMENT CAN BE TAKEN FOR TREE PLANTING.

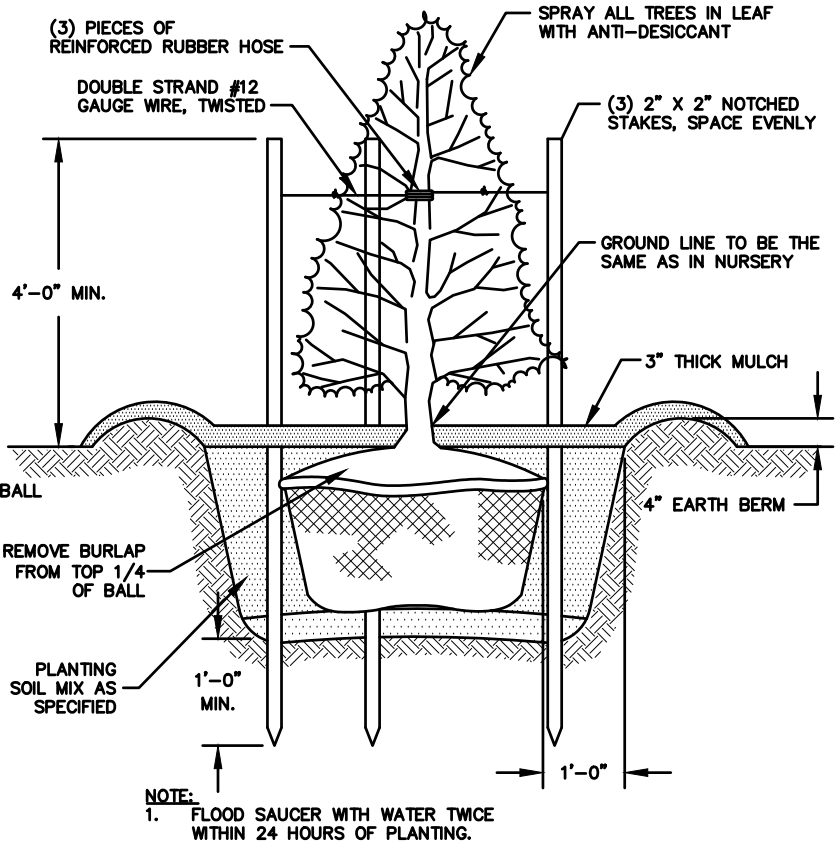


NOTES:
1. SPRAY ALL TREES IN LEAF WITH ANTI-DESSICANT PRIOR TO PLANTING.
2. FLOOD SAUCER WITH WATER TWICE WITHIN 24 HOURS OF PLANTING.

DECIDUOUS TREE PLANTING DETAIL



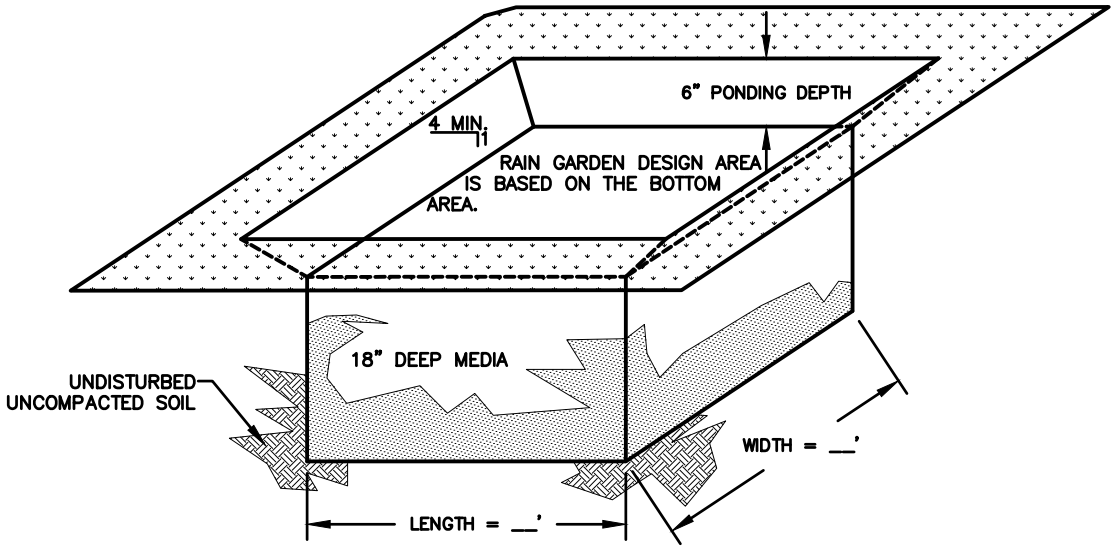
STAKING PLAN



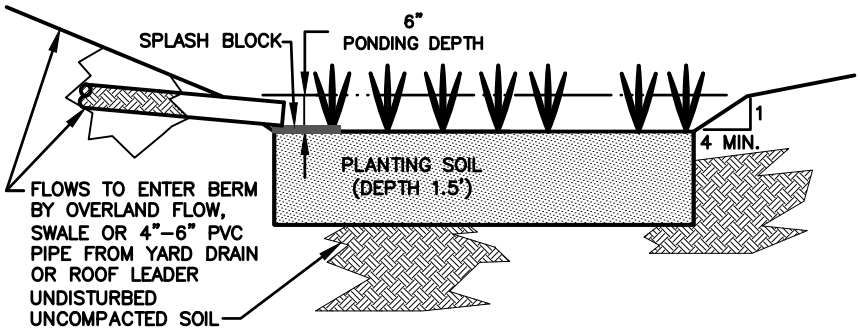
NOTE:
1. FLOOD SAUCER WITH WATER TWICE WITHIN 24 HOURS OF PLANTING.

EVERGREEN TREE PLANTING DETAIL

N.T.S.



DESIGN NOTE:
CHOOSE LENGTH AND WIDTH TO MEET AREA REQUIREMENT PER THE BMP SIZING CHART. BERMS SHALL BE INSTALLED PARALLEL TO THE EXISTING CONTOUR SUCH THAT THE TOP OF BERM IS INSTALLED AT A UNIFORM ELEVATION.



NOTES:

1. PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX. RATIO FOR RAIN GARDEN SOIL MIX SHOULD CONTAIN AN APPROXIMATE RATIO OF 50% SAND, 30% COMPOST AND 20% NATIVE SOILS
2. THE SOILS SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER.
3. BRUSH OR SEEDS FROM NOXIOUS WEEDS SHALL NOT BE PRESENT IN THE SOILS.
4. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 9" LIFTS THAT ARE LOOSELY COMPACTED.
5. BIO-RETENTION AREA MUST BE PROTECTED FROM EROSION/SEDIMENTATION DURING CONSTRUCTION.
6. WET PLANTINGS IN RAIN GARDEN SHOULD BE NATIVE TO PA.
7. SUBGRADE IN THE RAIN GARDEN BOTTOM SHOULD NOT BE COMPACTED. IF THE SUBGRADE BECOMES COMPACTED FOR ANY REASON, IT SHALL BE SCARIFIED PRIOR TO SOIL PLACEMENT
8. DO NOT INSTALL WITHIN 10' OF A STRUCTURE

RAIN GARDEN

N.T.S.

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SIMPLIFIED APPROACH STANDARD DETAIL

RAIN GARDEN