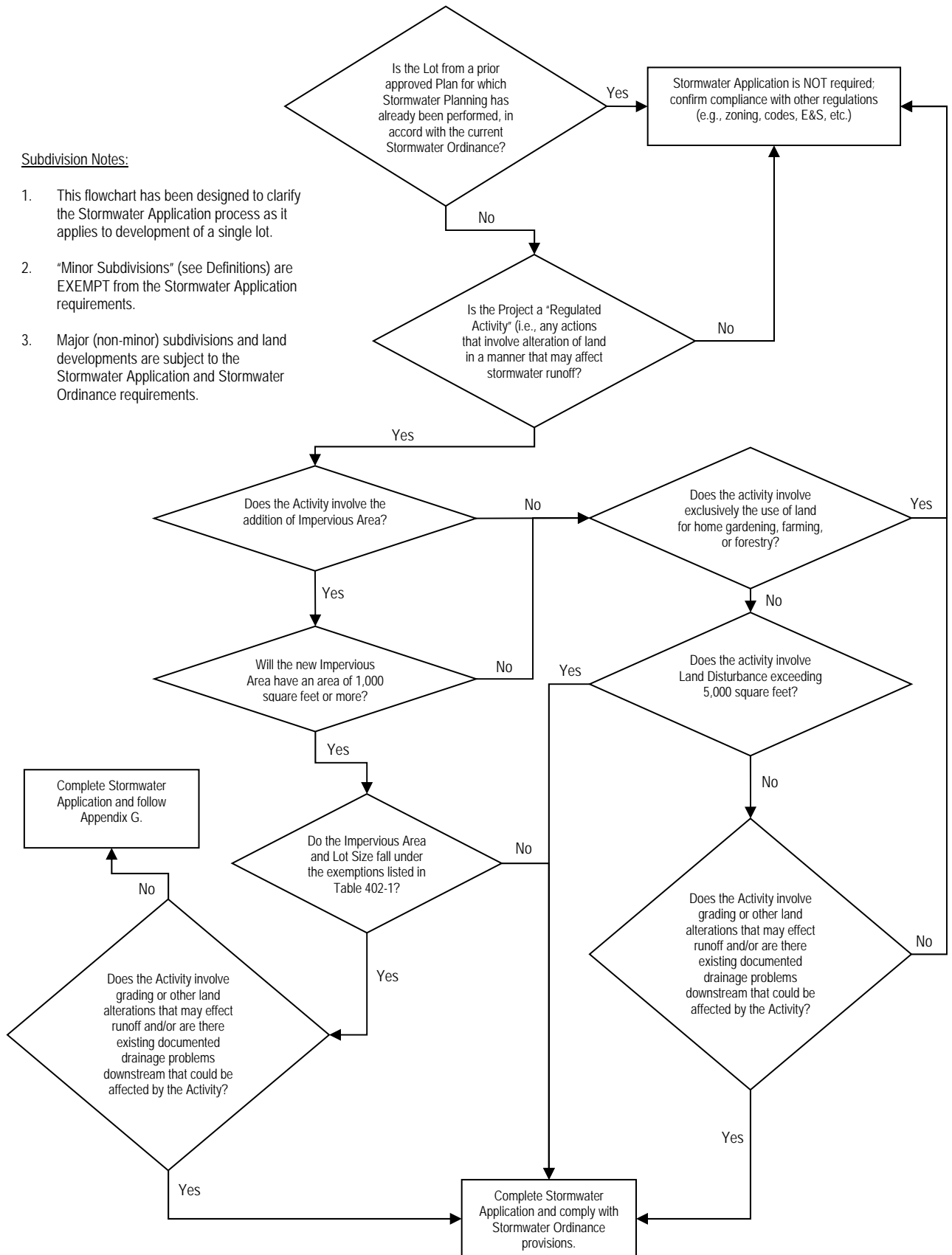


SOUTH MANHEIM TOWNSHIP – STORMWATER APPLICATION FLOWCHART

Subdivision Notes:

1. This flowchart has been designed to clarify the Stormwater Application process as it applies to development of a single lot.
2. "Minor Subdivisions" (see Definitions) are EXEMPT from the Stormwater Application requirements.
3. Major (non-minor) subdivisions and land developments are subject to the Stormwater Application and Stormwater Ordinance requirements.



**SOUTH MANHEIM TOWNSHIP
SCHUYLKILL COUNTY, PENNSYLVANIA**

STORMWATER PLAN REVIEW FEE SCHEDULE

1 PERMIT APPLICATION/ISSUANCE

- | | |
|---|----------|
| • Residential | \$125.00 |
| • Non-Residential, Commercial, Industrial | \$175.00 |
-

2 PLAN REVIEW AND INSPECTIONS

- | | |
|---|----------|
| • Residential | |
| • Plan Review | \$125.00 |
| • Inspection (includes one (1) inspection - after BMP installation) | \$100.00 |
| <hr/> | |
| • Non-Residential, Commercial, Industrial | |
| • Plan Review | \$175.00 |
| • Inspection (includes one (1) inspection - after BMP installation) | \$135.00 |
-

3 ADDITIONAL PERMIT FEES (AS APPLICABLE)

- | | |
|------------------------------------|---------------|
| • Exemption | \$75.00 Each |
| • Failed or Additional Inspections | \$150.00 Each |
| • Site Meeting or Site Visit | \$150.00 Each |
| • Hourly Rate for Specified Work | \$70.00 /hr |

Note:

This fee schedule shall apply to all Stormwater Plan review applications under Ordinance No. 83, the "South Manheim Township Stormwater Management Ordinance", UNLESS the Stormwater Plan is part of a Subdivision and/or Land Development Plan application, in which case the appropriate Municipal review fees under the Subdivision and Land Development Ordinance will supercede this fee schedule.

Rev 02-08-24

- F. No stormwater detention facility shall be placed within fifty (50) feet of a special geologic feature. No stormwater conveyance facility shall be constructed within fifty (50) feet of a special geologic feature, unless it is constructed of durable pipe utilizing watertight joints.

ARTICLE IV-DRAINAGE PLAN REQUIREMENTS

Section 401. General Requirements

For any of the activities regulated by this Ordinance, the preliminary or final approval of subdivision and/or land development plans, the issuance of any building or occupancy permit, or the commencement of any earth disturbance activity may not proceed until the Property Owner or Applicant or his/her agent has received written approval of a Drainage Plan from South Manheim Township unless the project qualifies for an exemption from the requirements to submit a Drainage Plan.

Section 402. Exemptions

A. General Exemptions

The following land use activities are exempt from the application requirements of this ordinance.

1. Use of land for gardening for home consumption.
2. Agricultural plowing and tilling are exempt from the application requirements of this ordinance provided the activities are performed according to the requirements of 25 PA Code, Chapter 102.
3. Forest Management and timber operations are exempt from the application requirements of this ordinance provided the activities are performed according to the requirements of 25 PA Code, Chapter 102.
4. Land disturbance activities of less than 5,000 square feet, which do not include any impervious surface area additions, subject to subsection C.4. below. For the purpose of this subsection, "impervious" shall include compacted gravel and compacted earth or stone.

B. Impervious Area Exemptions

1. Any Regulated Activity that results in less than 1,000 square feet of new impervious area shall be exempt from the application requirements of this ordinance. The limitations of this exemption shall apply to the total development even if development is to take place in phases. The date of the municipal ordinance adoption shall be the starting point from which to consider tracts as "parent tracts" in which future subdivisions and respective impervious area computations shall be cumulatively considered. Impervious areas existing on the "parent tract" prior to adoption of this

Ordinance shall not be considered in cumulative impervious area calculations for exemption purposes.

2. Submissions for projects that meet the impervious area exemption criteria in Table 402-1 shall reference Ordinance Appendix G to meet the requirements of groundwater recharge, water quality, and streambank erosion controls of this Ordinance. The limitations of this exemption shall apply to the total development even if development is to take place in phases. The date of the municipal ordinance adoption shall be the starting point from which to consider tracts as "parent tracts" in which future subdivisions and respective impervious area computations shall be cumulatively considered. Impervious areas existing on the "parent tract" prior to adoption of this Ordinance shall not be considered in cumulative impervious area calculations for exemption purposes. Drainage plans in accordance with Sections 403 A.2, 403 B.7, 8, 11, 15, and 22 and 403.D.2. must be submitted.

TABLE 402-1
Impervious Area Exemption Criteria

| Total Parcel Size | Impervious Area Exemption (sq.ft.) |
|--------------------------|---|
| 0 to <0.125 ac | 1,000 sq. ft. |
| 0.125 to <0.5 ac | 2,500 sq. ft. |
| 0.5 to <1 ac | 5,000 sq. ft. |
| 1 to <2 ac | 7,500 sq. ft. |
| 2 to <3 ac | 10,000 sq. ft. |
| 3 to <4 ac | 12,500 sq. ft. |
| ≥ 4 ac | 15,000 sq. ft. |

C. Additional Exemption Requirements:

1. An exemption does not relieve the Applicant from the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. Nor does exemption relieve the Applicant from meeting the water quality requirements of this Ordinance.
2. Exemption responsibilities – An exemption shall not relieve the Applicant from implementing such measures as are necessary to protect the public health, safety, and property. An exemption shall not relieve the Applicant from providing adequate stormwater management for Regulated Activities to meet the purpose of this Ordinance; however, drainage plans will not have to be submitted to South Manheim Township.
3. HQ and EV streams - An exemption shall not relieve the Applicant from meeting the special requirements for watersheds draining to high quality (HQ) or exceptional value (EV) waters, identified and Source Water Protection Areas (SWPA) and requirements for nonstructural project design sequencing (Section 304), groundwater recharge (Section 305), water quality (Section 306), and streambank erosion (Section 307). The volume

and rate of the net increase in stormwater runoff from Regulated Activities must be managed to prevent the physical degradation of receiving waters from such effects as scour and streambank destabilization, to satisfy State Water Quality Requirements;

All regulated activities occurring in drainage areas tributary to waters designated HQ/EV pursuant to 25 PA Code, Chapter 93, shall not change any biological, chemical, or physical characteristics, including volume, rate, velocity, course, current, cross section, or temperature of the waters, unless the activity is specifically permitted in accordance with the environmental laws of the Commonwealth.

4. Drainage Problems - If a drainage problem is documented or known to exist downstream of, or expected from the proposed activity, then South Manheim Township may require a drainage plan submittal.
5. Minor Subdivision Plans are exempt from the requirement to submit a Drainage Plan at the time of the subdivision; however, development of the individual lots created by the subdivision is subject to all other provisions of this Ordinance.
6. Any exemption must first be approved by South Manheim Township.

Section 403. Drainage Plan Contents

The Drainage Plan shall consist of a general description of the project including sequencing items described in Section 304, calculations, maps and plans. A note on the maps shall refer to the associated computations and erosion and sediment control plan by title and date. The cover sheet of the computations and erosion and sediment control plan shall refer to the associated maps by title and date. All Drainage Plan materials shall be submitted to South Manheim Township in a format that is clear, concise, legible, neat, and well organized; otherwise, the Drainage Plan shall not be accepted for review and shall be returned to the Applicant.

The following items shall be included in the Drainage Plan:

A. General

1. General description of the project including those areas described in Section 304.
2. General description of permanent stormwater management techniques, including construction specifications of the materials to be used for stormwater management facilities.
3. Complete hydrologic, hydraulic, and structural computations for all stormwater management facilities.
4. An Erosion and Sediment Control Plan, including all reviews and approvals by the Conservation District.

ORDINANCE APPENDIX G

**Stormwater Management Practices
for projects which are exempt under Section 402 of this
Ordinance.**

STORMWATER MANAGEMENT PROCEDURES FOR PROJECTS MEETING THE LAND COVER EXEMPTION CRITERIA

What are the Act 167 Stormwater Management Requirements?

Pennsylvania Act 167 was authorized on October 4, 1978 (32 P.S., P.L. 864) and gave Pennsylvania Municipalities the power to regulate activities that affect stormwater runoff, surface and groundwater quantity and quality.

Who is affected by these requirements?

The South Manheim Township Stormwater Management Ordinance affects all NEW development in South Manheim Township. Individual home construction projects on single family lots which result are exempt under Section 402 of this Ordinance, are not required to submit formal drainage plans to South Manheim Township; however, they must still address Water Quality and Groundwater Recharge criteria specified in the Stormwater Management Ordinance (Ord. Sections 305 and 306).

Do I require professional services to meet these requirements?

This brochure has been developed to assist the individual homeowner in meeting the water quality and groundwater recharge goals of the South Manheim Township Stormwater Management Ordinance. If the guidelines presented in this brochure are followed, the individual homeowner will not require professional services to comply with these water quality and groundwater recharge.

What do I need to Send to South Manheim Township?

Even though a formal drainage plan is not required for many individual lot owners, a brief description of the proposed infiltration facilities, including types of material to be used, total impervious areas and volume calculations as shown above, and a simple sketch plan showing the following information shall be submitted to South Manheim Township prior to construction:

- Location of proposed structures, driveways or other paved areas with approximate size in square feet.
- Location of any existing or proposed on site septic system and/or potable water wells showing rough proximity to infiltration facilities.

Determination of Recharge Volume

The amount of recharge volume to be provided can be determined by following the simple steps below. Impervious area calculations should include all areas on the

individual lots that are covered by roof area or pavement which would prevent rain for naturally percolating into the ground, including sidewalks, driveways or parking areas. Sidewalks, driveways or patios that are constructed with gravel or turf pavers and will not be blacktopped in the future, need not be included in this calculation.

Example Recharge Volume:

STEP 1 – Determine Total Impervious Surfaces:

| | | | |
|--------------------|---------------|---|---------------|
| House Roof (Front) | 12 ft x 48 ft | = | 576 sq. ft. |
| House Roof (Rear) | 12 ft x 48 ft | = | 576 sq. ft. |
| Driveway | 12 ft x 50 ft | = | 600 sq. ft. |
| Parking Pad | 12 ft x 12 ft | = | 144 sq. ft. |
| Walkway | 6 ft x 20 ft | = | 120 sq. ft. |
| | | | ----- |
| | | | 2,016 sq. ft. |

STEP 2 – Determine Require Infiltration Volume (Rv) Using the Following Equation

$$Rv = \frac{0.46 \text{ inches} \times (\text{total impervious area in square feet})}{12} = \text{_____ cubic feet of recharge}$$

$$Rv = \frac{0.46 \text{ in.} \times 2,016 \text{ sq. ft.}}{12} = 77.3 \text{ cu. ft.}$$

STEP 3 – Sizing of Select Infiltration Method

The following pages show several methods of infiltrating stormwater runoff from residential areas. Their appropriateness depends on the amount of infiltration volume required and the amount of land available. More than one method can be implemented on a site, depending on site constraints. Dry wells should be used only for receiving runoff from roof drains. Infiltration trenches are appropriate for receiving runoff from driveways, sidewalk or parking areas. Other methods may be appropriate, but these should be discussed with the municipal engineer prior to installation.

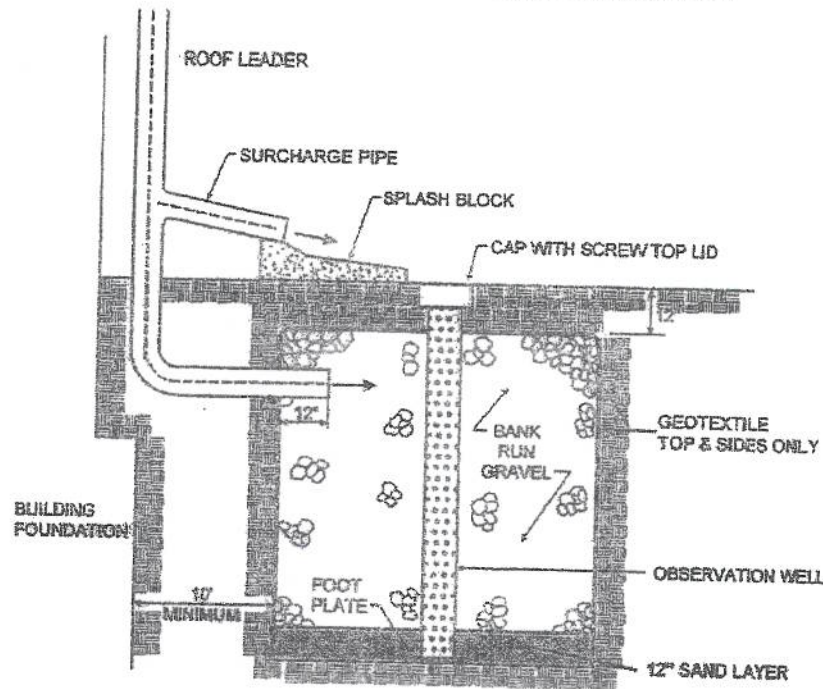
Dry Wells

Dry wells are effective methods of infiltrating runoff from roof leaders. These facilities should be located a minimum of 10 feet from the building foundation to avoid seepage problems. A dry well can be either a structural prefabricated chamber or an excavated pit filled with aggregate. Construction of a dry well should be performed after all other areas of the site are stabilized, to avoid clogging. During construction, compaction of the subgrade soil should be avoided and construction should be performed with only light machinery. Depth of dry wells in excess of 3 ½ feet should be avoided. Gravel fill

should be an average 1.5 – 3.0 inches in diameter. Dry wells should be inspected at least four times annually as well as after large storm events.

FIGURE G-1

TYPICAL DRY WELL CONFIGURATION



Source: Maryland Stormwater Design Manual, 2000

Example Sizing:

STEP 1 – Determine Total Impervious Surfaces

House Roof Area: $12 \text{ ft} \times 48 \text{ ft} = 576 \text{ sq. feet}$

STEP 2 – Determine Required Infiltration Volume using Equation

$$\frac{0.46 \text{ in.} \times 576 \text{ sq. ft.}}{12} = 22.1 \text{ cu. ft.}$$

$$\frac{22.1 \text{ cu. ft.}}{0.4} = 55.3 \text{ cu. ft. (* assume 40% void ratio in gravel bed)}$$

STEP 3 – Sizing of Select Infiltration Method

Volume of facility = Depth x Width x Length

Set D = 3.5 ft; Set W = L for a square chamber

$$55.3 \text{ cu. ft.} = 3.5 \times L \times L ; L = 4.0 \text{ ft}$$

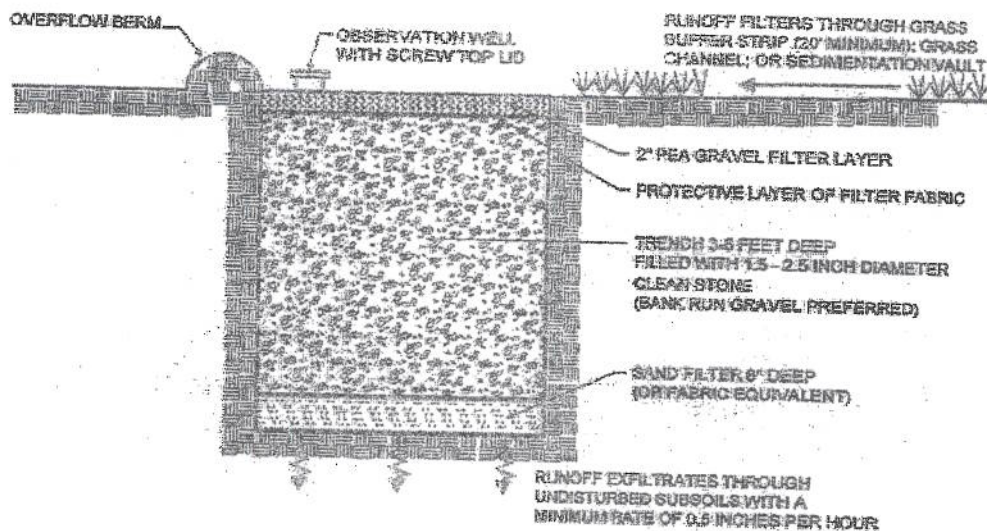
Final Facility Dimensions: 3.5 ft (D) x 4.0 ft (W) x 4.0 ft (L)

Infiltration Trenches

An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. Runoff is stored in the void space between the stones and infiltrates through the bottom and into the soil matrix. Infiltration trenches perform well for removal of fine sediment and associated pollutants. Pretreatment using buffer strips, swales, or detention basins is important for limiting amounts of coarse sediment entering the trench which can clog and render the trench ineffective.

FIGURE G-2

TYPICAL INFILTRATION TRENCH CONFIGURATION



Source: Maryland Stormwater Design Manual, 2000

Example Sizing:

STEP 1 -- Determine Total Impervious Surfaces

| | | | |
|-------------|---------------|---|-------------|
| Driveway | 12 ft x 50 ft | = | 600 sq. ft. |
| Parking Pad | 12 ft x 12 ft | = | 144 sq. ft. |
| Walkway | 6 ft x 20 ft | = | 120 sq. ft. |
| | | | ----- |
| | | | 864 sq. ft. |

STEP 2 – Determine Required Infiltration Volume using Equation

$$\frac{0.46 \text{ in.} \times 864 \text{ sq. ft.}}{12} = 33.1 \text{ cu. ft.}$$

$$\frac{33.1 \text{ cu. ft.}}{0.4} = 82.8 \text{ cu. ft. (* assume 40% void ratio in gravel bed)}$$

STEP 3 – Sizing of Select Infiltration Method

Volume of facility = Depth x Width x Length

Set D = 3.0 ft; Determine Required Surface Area of Trench

$$82.8 \text{ cu. ft.} / 3.0 \text{ ft.} = 27.6 \text{ sq. ft.}$$

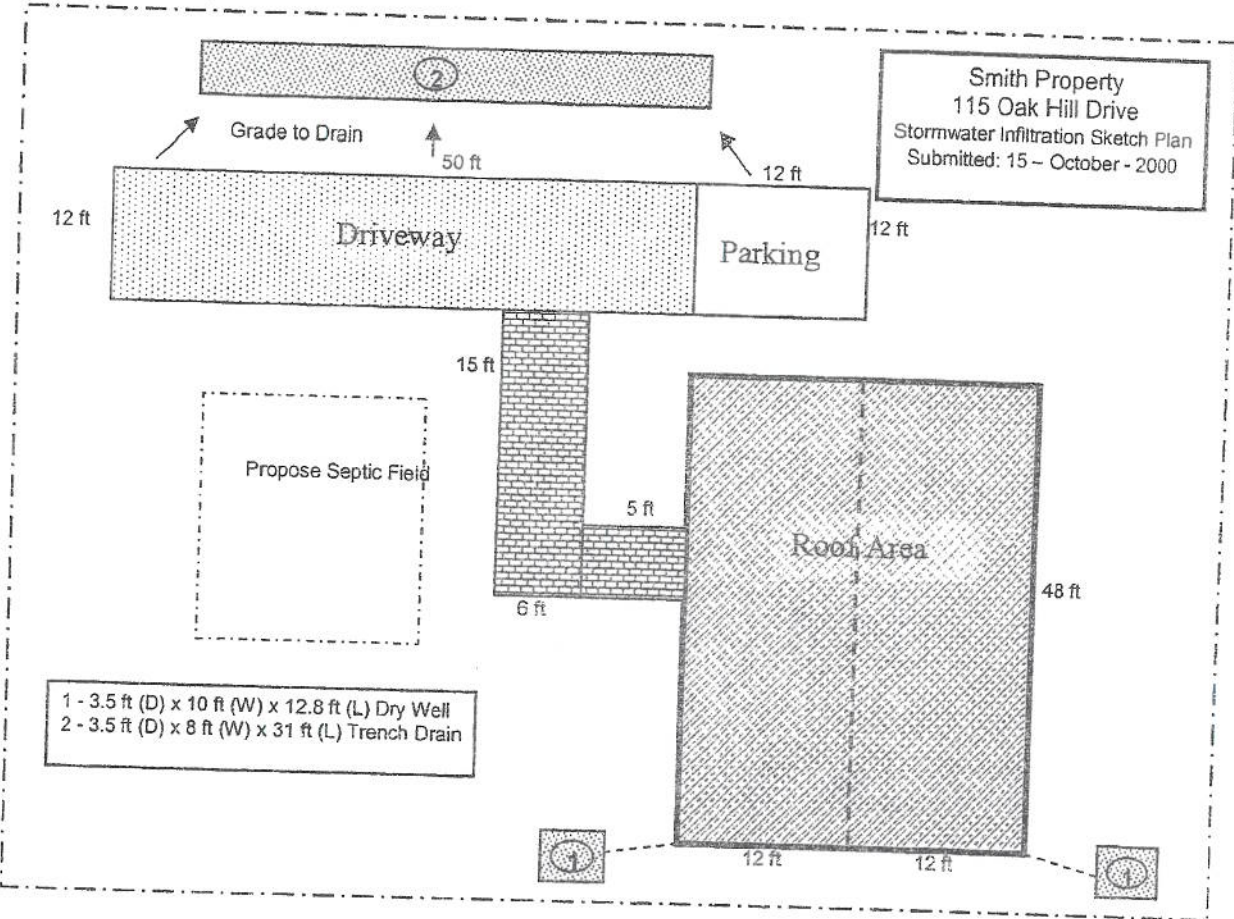
The width of the trench should be greater than 2 times its depth (2 x D); therefore in this example a trench width of 6 feet is selected;

Determine trench length: $L = 27.6 \text{ sq. ft.} / 6 \text{ ft} = 4.6 \text{ ft.}$

Final Trench Dimensions: 3.0 ft. (D) x 6 ft. (W) x 4.6 ft. (L)

FIGURE G-3

SAMPLE SITE SKETCH PLAN



ORDINANCE APPENDIX C

DRAINAGE PLAN APPLICATION

(Use where Stormwater Management and Erosion and Sedimentation Control Plan are submitted independently of a "Subdivision Plan" or "Land Development Plan" review application)

Application is hereby made for review of the Stormwater Management and Erosion and Sedimentation Control Plan and related data as submitted herewith in accordance with the South Manheim Township Stormwater Management Ordinance.

IMPORTANT: Refer to Stormwater Application Flowchart that follows this application to determine whether your project is exempt from the Application requirements.

Date of Submission _____ Submission/Revision No. _____

1. Name of development (if applicable) _____

2. Name of Applicant _____

Telephone No. _____ Email Address: _____

(if corporation, list the corporation's name and the names of two officers of the corporation)

| | |
|--|-----------|
| | Officer 1 |
| | Officer 2 |

Address _____

Applicant's interest in development _____
(if other than property owner give owners name and address)

3. Name of Property Owner _____

Telephone No. _____ Email Address: _____

Address _____

Tax Parcel Number: _____

4. Name of engineer or surveyor _____ Telephone No. _____

5. Type development proposed:

____ Residential ____ Commercial ____ Industrial ____ Other (____)

6. Areas

a. Lot area _____ (indicate square feet or acres)

b. Area to be disturbed (indicate square feet or acres)

| c. Proposed Impervious (new) | | S.F. | % of Property |
|------------------------------|--|------|---------------|
| | | | |

7. Erosion and Sediment Pollution Control (E&S):

- a. Has or will the stormwater management and E&S plan, supporting documentation and narrative been submitted to the Schuylkill County Conservation District? _____
(if "no", please explain _____)

8. Wetlands

- a. Are wetlands present within the project area? _____
(if "no", skip remainder of this section)
- b. Have the wetlands been delineated by someone trained in wetland delineation? _____
- c. Have the wetland lines been verified by a state or federal permitting authority? _____
- d. Have the wetland lines been surveyed? _____
- e. Will the wetlands be disturbed? _____
(if "yes", attach permit-related documentation)

9. Filing

- a. Has the required fee been submitted? _____
Amount _____

SIGNATURE OF APPLICANT _____
(signature authorizes South Manheim Township or its agents to enter subject property for examination of site conditions, photography, etc., as may be necessary to complete review of this application).

////////////////////////////////////
(Following information to be completed by South Manheim Township)

Date complete application received _____ Plan Number _____

Fees _____ date fees paid _____ received by _____

Official submission receipt date _____

Received by _____

Municipality

**STORMWATER BEST MANAGEMENT PRACTICE (BMP)
OPERATIONS AND MAINTENANCE REQUIREMENTS**

1. The BMPs shall be constructed by the Landowner in accordance with the plans and specifications identified in the Plan.
2. The Landowner shall operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the Municipality and in accordance with the specific maintenance requirements noted on the Plan.
3. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper identification, to inspect the BMP(s) whenever it deems necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.
4. In the event the Landowner fails to operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the Municipality, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). This provision shall not be construed to allow the Municipality to erect any permanent structure on the land of the Landowner. It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.
5. In the event the Municipality, 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 Municipality for all expenses (direct and indirect) incurred within 10 days of receipt of invoice from the Municipality.
6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMP(s) by the Landowner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.
7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality's employees and designated representatives from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Municipality. In the event that a claim is asserted against the Municipality, its designated representatives or employees, the Municipality 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 Municipality's employees or designated representatives shall be allowed, the Landowner shall pay all costs and expenses regarding said judgment or claim.

I certify that I understand and agree to the above Operation and Maintenance provisions.

Landowner (print name)

Landowner (signature)

Date