

**FILTER MEDIA SPECIFICATIONS**

DEPTH:  
AS SHOWN ON APPROVED PLANS

CONTENTS:  
85% to 88% SAND  
8% to 12% SOIL FINES  
3% to 5% ORGANIC MATTER

**ADDITIONAL NOTES:**

NO FILTER FABRIC SHALL BE INSTALLED WITHIN BIORETENTION AREAS.

SEE LANDSCAPE PLAN FOR PLANTING DETAILS.

SEE GRADING AND DRAINAGE PLAN FOR UNDERDRAIN LAYOUT.

MAX 3:1 SLOPES INTO BIORETENTION AREA. 4:1 SLOPES PREFERRED.

**PRE-TREATMENT NOTES:**

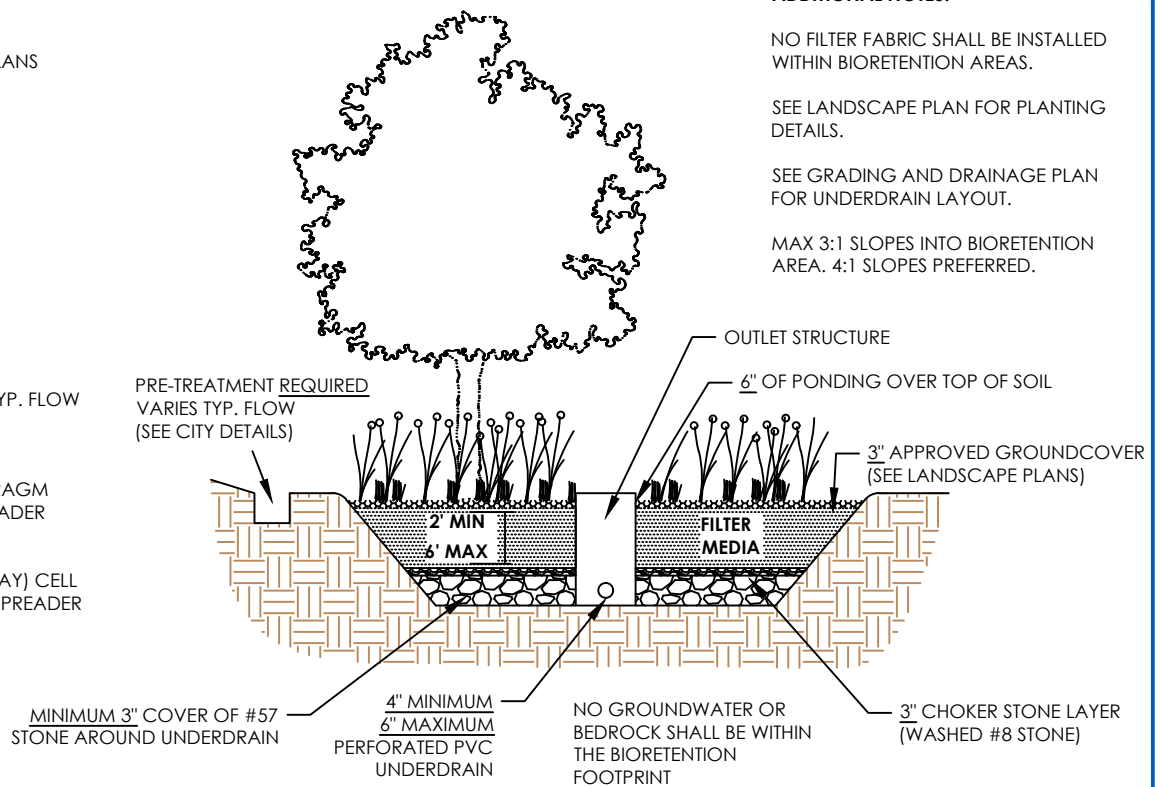
TREATMENT DEPENDENT ON TYP. FLOW

**SHEET FLOW**

- VEGETATED FILTER STRIP
- GRAVEL/STONE DIAPHRAGM
- VEGETATED LEVEL SPREADER

**CONCENTRATED FLOW**

- PRE-TREATMENT (FOREBAY) CELL
- GRAVEL/STONE FLOW SPREADER



1. EXCAVATORS SHALL WORK FROM THE OUTSIDE THE GREEN INFRASTRUCTURE PRACTICE (GIP) FOOTPRINT. EXCAVATED AREAS SHALL NOT BE COMPACTED OR LOADED IN ANY WAY AS TO CAUSE SOIL COMPACTION.
2. DURING EXCAVATION, MOIST CONDITIONS MAY CAUSE FINES TO CLOG THE NATIVE SOIL SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL OR IF SMEARING OCCURS, SCARIFY THE SURFACE TO A DEPTH OF 1' TO RESTORE INFILTRATION CAPACITY.
3. DURING CONSTRUCTION PHASE, CONTRACTOR SHALL DIVERT RUNOFF FLOW AROUND THE GIP AREAS TO ENSURE SEDIMENT DOES NOT ENTER.
4. RECYCLED MATERIAL IS NOT APPROVED FOR USE IN GIP FACILITIES.
5. UTILITIES AND IRRIGATION ARE PROHIBITED WITHIN THE GIP FOOTPRINT.
6. WATER QUALITY SIGNS SHALL BE INSTALLED IN ALL WATER QUALITY AREAS.

**CONSTRUCTION SEQUENCING:**

1. CONSTRUCT STORMWATER RUNOFF DIVERSIONS.
2. EXCAVATE GIP AREAS.
3. SCARIFY SUBGRADE BY RIPPING THE BOTTOM SOILS TO A DEPTH OF 12" PRIOR TO STONE PLACEMENT.
4. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
5. INSTALL STONE SUBBASE AND UNDERDRAINS. CONNECT UNDERDRAIN TO OUTLET STRUCTURE.
6. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
7. INSTALL ADDITIONAL STONE ON AND FLAG THE UNDERDRAIN (3' EACH SIDE).
8. A SMALL SKID STEER LOADER MAY TO BE USED FOR PLACEMENT OF ADDITIONAL SECTIONS AVOIDING THE UNDERDRAIN PIPE INSTALLATIONS.
9. DELIVER AND STORE SOIL MEDIA ON PLASTIC SHEETING WITH APPROPRIATE EROSION CONTROL MEASURES.
10. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
11. INSTALL SOIL MEDIA IN LIFTS. DO NOT COMPACT WITH EQUIPMENT.
12. ADD ADDITIONAL MEDIA AS NEEDED TO ACHIEVE THE DESIGN ELEVATIONS.
13. INSTALL VEGETATION, AND WATER ACCORDINGLY. PERMANENT IRRIGATION IS PROHIBITED IN GIP.
14. INSTALL SPECIFIED GROUNDCOVER.
15. FLAG LIMITS OF GIP FOR SURVEY LOCATE AND SHOW ON AS-BUILT PLANS.  
N.T.S.

BIORETENTION  
LEVEL 1

TITLE



CITY OF FRANKLIN ENGINEERING  
109 THIRD AVE SOUTH  
FRANKLIN, TN 37064

GIP-01 (01)

DWG.NO.

DIRECTOR OF ENGINEERING

*Paul P. Hoyle*

04/30/2021

DATE

07/01/2021

EFFECTIVE DATE

STORMWATER COORDINATOR

*John*

04/30/2021

DATE

**PRE-TREATMENT NOTES:**

- TREATMENT DEPENDENT ON TYP. FLOW
- SHEET FLOW
- VEGETATED FILTER STRIP
  - GRAVEL/STONE DIAPHRAGM
  - VEGETATED LEVEL SPREADER
- CONCENTRATED FLOW
- PRE-TREATMENT (FOREBAY) CELL
  - GRAVEL/STONE FLOW SPREADER

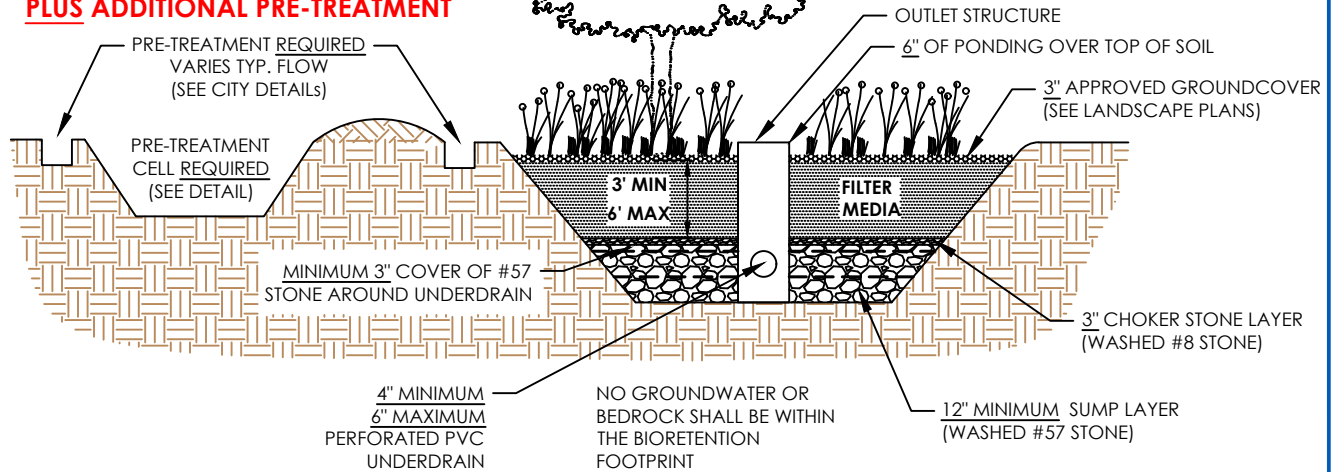
**FILTER MEDIA SPECIFICATIONS:**

- DEPTH:  
AS SHOWN ON APPROVED PLANS
- CONTENTS:  
85% to 88% SAND  
8% to 12% SOIL FINES  
3% to 5% ORGANIC MATTER

**ADDITIONAL NOTES:**

- NO FILTER FABRIC SHALL BE INSTALLED WITHIN BIORETENTION AREAS.
- SEE LANDSCAPE PLAN FOR PLANTING DETAILS.
- SEE GRADING AND DRAINAGE PLAN FOR UNDERDRAIN LAYOUT.
- MAX 3:1 SLOPES INTO BIORETENTION AREA. 4:1 SLOPES PREFERRED.

**LEVEL II REQUIRES PRE-TREATMENT CELL PLUS ADDITIONAL PRE-TREATMENT**



1. EXCAVATORS SHALL WORK FROM THE OUTSIDE THE GREEN INFRASTRUCTURE PRACTICE (GIP) FOOTPRINT. EXCAVATED AREAS SHALL NOT BE COMPACTED OR LOADED IN ANY WAY AS TO CAUSE SOIL COMPACTION.
2. DURING EXCAVATION, MOIST CONDITIONS MAY CAUSE FINES TO CLOG THE NATIVE SOIL SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL OR IF SMEARING OCCURS, HAND RAKE OR SCARIFY THE SURFACE TO A DEPTH OF 12" TO RESTORE INFILTRATION CAPACITY.
3. DURING CONSTRUCTION PHASE, CONTRACTOR SHALL DIVERT RUNOFF FLOW AROUND THE GIP AREAS TO ENSURE SEDIMENT DOES NOT ENTER.
4. RECYCLED MATERIAL IS NOT APPROVED FOR USE IN GIP FACILITIES.
5. UTILITIES AND IRRIGATION ARE PROHIBITED WITHIN THE GIP FOOTPRINT.
6. WATER QUALITY SIGNS SHALL BE INSTALLED IN ALL WATER QUALITY AREAS.

**CONSTRUCTION SEQUENCING:**

1. CONSTRUCT STORMWATER RUNOFF DIVERSIONS.
2. EXCAVATE GIP AREAS.
3. SCARIFY SUBGRADE BY RIPPING THE BOTTOM SOILS TO A DEPTH OF 12" PRIOR TO STONE PLACEMENT.
4. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
5. INSTALL STONE SUBBASE AND UNDERDRAINS. CONNECT UNDERDRAIN TO OUTLET STRUCTURE.
6. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
7. INSTALL ADDITIONAL STONE ON AND FLAG THE UNDERDRAIN (3' EACH SIDE).
8. A SMALL SKID STEER LOADER MAY TO BE USED FOR PLACEMENT OF ADDITIONAL SECTIONS AVOIDING THE UNDERDRAIN PIPE INSTALLATIONS.
9. DELIVER AND STORE SOIL MEDIA ON PLASTIC SHEETING WITH APPROPRIATE EROSION CONTROL MEASURES.
10. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
11. ALLOW 48 HOURS SETTLEMENT. DO NOT COMPACT WITH EQUIPMENT.
12. ADD ADDITIONAL MEDIA AS NEEDED TO ACHIEVE THE DESIGN ELEVATIONS.
13. INSTALL VEGETATION, AND WATER ACCORDINGLY. PERMANENT IRRIGATION IS PROHIBITED IN GIP.
14. INSTALL SPECIFIED GROUNDCOVER.
15. FLAG LIMITS OF GIP FOR SURVEY LOCATE AND SHOW ON AS-BUILT PLANS.

N.T.S.

BIORETENTION  
LEVEL 2

TITLE



CITY OF FRANKLIN ENGINEERING  
109 THIRD AVE SOUTH  
FRANKLIN, TN 37064

GIP-01 (02)

DWG.NO.

DIRECTOR OF ENGINEERING

*Paul P. Hoff*

04/30/2021  
DATE

07/01/2021

EFFECTIVE DATE

STORMWATER COORDINATOR

*John*

04/30/2021  
DATE

FILTER MEDIA SPECIFICATIONS

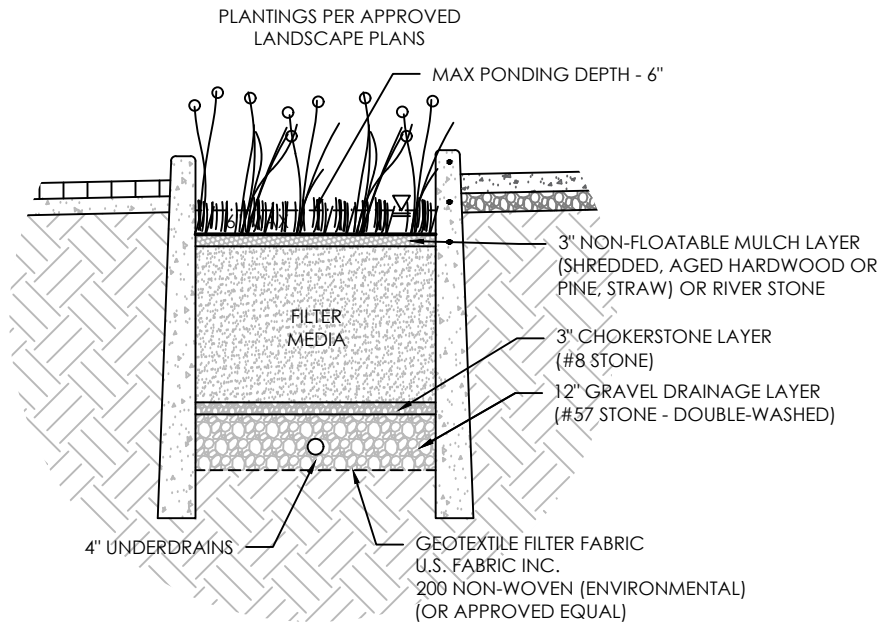
DEPTH: AS SPECIFIED ON PLANS

DEPTH LIMITS:

30" MIN  
48" MAX

CONTENTS:

85% to 88% SAND  
8% to 12% SOIL FINES  
3% to 5% ORGANIC MATTER



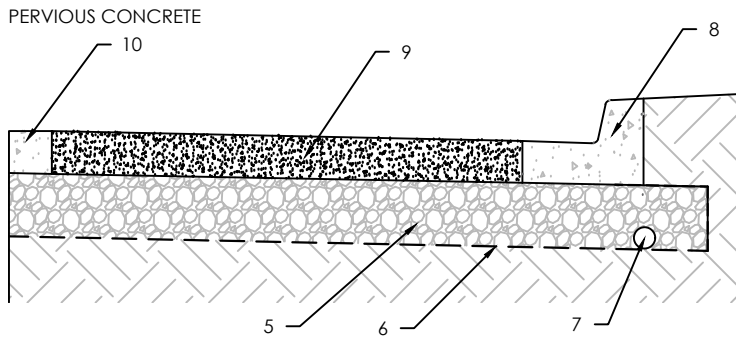
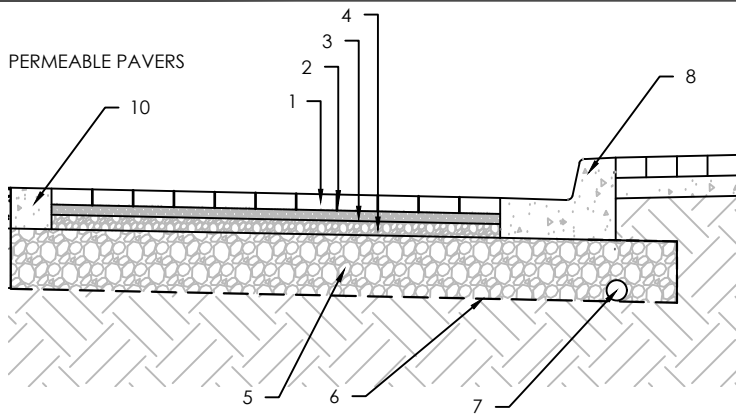
1. EXCAVATORS SHALL BE EQUIPPED IN ORDER TO WORK FROM THE OUTSIDE THE GIP FOOTPRINT. EXCAVATED AREAS SHALL NOT BE COMPACTED OR LOADED IN ANY WAY AS TO CAUSE SOIL COMPACTION.
2. DURING EXCAVATION, MOIST CONDITIONS MAY CAUSE FINES TO CLOG THE NATIVE SOIL SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL OR IF SMEARING OCCURS, HAND RAKE THE SURFACE TO A DEPTH OF 3" TO RESTORE INFILTRATION CAPACITY.
3. DURING CONSTRUCTION PHASE, CONTRACTOR SHALL DIVERT RUNOFF FLOW AROUND THE GIP AREAS TO ENSURE SEDIMENT DOES NOT ENTER.
4. RECYCLED MATERIAL IS NOT AN APPROVED FOR USE IN GIP FACILITIES.
5. UTILITIES, INCLUDING IRRIGATION ARE PROHIBITED WITHIN THE GIP FOOTPRINT.

CONSTRUCTION SEQUENCING:

1. CONSTRUCT STORMWATER RUNOFF DIVERSIONS.
2. EXCAVATE GIP AREAS.
3. SCARIFY SUBGRADE BY RIPPING THE BOTTOM SOILS TO A DEPTH OF 12 INCHES PRIOR TO STONE PLACEMENT.
4. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
5. INSTALL PERMEABLE GEOTEXTILE FABRIC.
6. INSTALL STONE LAYER, UNDERDRAIN PIPES, CONNECT TO OUTLET STRUCTURE.
7. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
8. INSTALL ADDITIONAL STONE ON AND FLAG THE UNDERDRAIN (3 FT EACH SIDE).
9. A SMALL BOBCAT LOADER MAY BE USED FOR PLACEMENT OF ADDITIONAL SECTIONS AVOIDING THE UNDERDRAIN PIPE INSTALLATIONS.
10. DELIVER AND STORE SOIL MEDIA ON PLASTIC SHEETING WITH APPROPRIATE EROSION CONTROL MEASURES.
11. SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
12. ALLOW 48 HOURS SETTLEMENT. DO NOT COMPACT WITH EQUIPMENT.
13. ADD ADDITIONAL MEDIA AS NEEDED TO ACHIEVE THE DESIGN ELEVATIONS.
14. INSTALL VEGETATION, AND WATER ACCORDINGLY. PERMANENT IRRIGATION IS PROHIBITED IN GIP.
15. INSTALL SPECIFIED GROUND COVER.
16. FLAG LIMITS OF GIP FOR SURVEY LOCATE AND SHOW ON AS-BUILT PLANS.

N.T.S.

<p>URBAN BIORETENTION</p> <p>TITLE</p>	 <p>CITY OF FRANKLIN ENGINEERING 109 THIRD AVE SOUTH FRANKLIN, TN 37064</p>
<p>GIP-02</p> <p>DWG.NO.</p>	<p>DIRECTOR OF ENGINEERING</p>  <p>04/30/2021</p> <p>DATE</p>
<p>07/01/2021</p> <p>EFFECTIVE DATE</p>	<p>STORMWATER COORDINATOR</p>  <p>04/30/2021</p> <p>DATE</p>



PVIOUS CONCRETE INSTALLATION SHALL BE PERFORMED PER ACI 522.1-13: SPECIFICATION FOR PVIOUS CONCRETE PAVEMENT.

1	3 1/8" THICKNESS CONCRETE PAVERS 8,000 PSI STRENGTH
2	1/4" JOINTS NO. 8 STONE
3	2" BEDDING COURSE NO. 8 AGGREGATE
4	3" OPEN-GRADED BASE NO. 57 STONE
5	12" STONE SUBBASE NO. 2 STONE
6	GEOTEXTILE FILTER FABRIC U.S. FABRIC INC. 200 NON-WOVEN (ENVIRONMENTAL) (OR APPROVED EQUAL)
7	4" OR 6" P.V.C. UNDERDRAIN
8	STANDARD C.O.F. CURB AS SPECIFIED ON PLANS
9	PVIOUS CONCRETE PER ACI STANDARD
10	RIBBON CURB DETAILS AS SPECIFIED ON PLANS

- EXCAVATORS SHALL TO WORK FROM THE OUTSIDE THE GIP FOOTPRINT. EXCAVATED AREAS SHALL NOT BE COMPACTED OR LOADED IN ANY WAY AS TO CAUSE SOIL COMPACTION.
- DURING EXCAVATION, MOIST CONDITIONS MAY CAUSE FINES TO CLOG THE NATIVE SOIL SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL OR IF SMEARING OCCURS, HAND RAKE THE SURFACE TO A DEPTH OF 3" TO RESTORE INFILTRATION CAPACITY.
- DURING CONSTRUCTION PHASE, CONTRACTOR SHALL DIVERT RUNOFF FLOW AROUND THE GIP AREAS TO ENSURE SEDIMENT DOES NOT ENTER.
- RECYCLED MATERIAL IS NOT APPROVED FOR USE IN GIP FACILITIES.
- UTILITIES, INCLUDING IRRIGATION ARE PROHIBITED WITHIN THE GIP FOOTPRINT.

CONSTRUCTION SEQUENCING:

- CONSTRUCT STORMWATER RUNOFF DIVERSIONS.
- EXCAVATE GIP AREAS.
- SCARIFY SUBGRADE BY RIPPING THE BOTTOM SOILS TO A DEPTH OF 12 INCHES PRIOR TO STONE PLACEMENT.
- SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
- INSTALL PERMEABLE GEOTEXTILE FABRIC.
- INSTALL STONE SUBBASE AND UNDERDRAINS. CONNECT UNDERDRAIN TO OUTLET STRUCTURE.
- SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
- INSTALL ADDITIONAL STONE AND FLAG THE UNDERDRAIN (3 FT EACH SIDE).
- A SMALL BOBCAT LOADER MAY BE USED FOR PLACEMENT OF ADDITIONAL SECTIONS AVOIDING THE UNDERDRAIN PIPE INSTALLATIONS.
- INSTALL CURBING AND BEDDING LAYER.
- SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
- INSTALL PAVERS.

N.T.S.

PERVIOUS PAVERS		 CITY OF FRANKLIN ENGINEERING 109 THIRD AVE SOUTH FRANKLIN, TN 37064
TITLE		
GIP-03	DIRECTOR OF ENGINEERING	 04/30/2021 DATE
DWG.NO.		
07/01/2021	STORMWATER COORDINATOR	 04/30/2021 DATE
EFFECTIVE DATE		

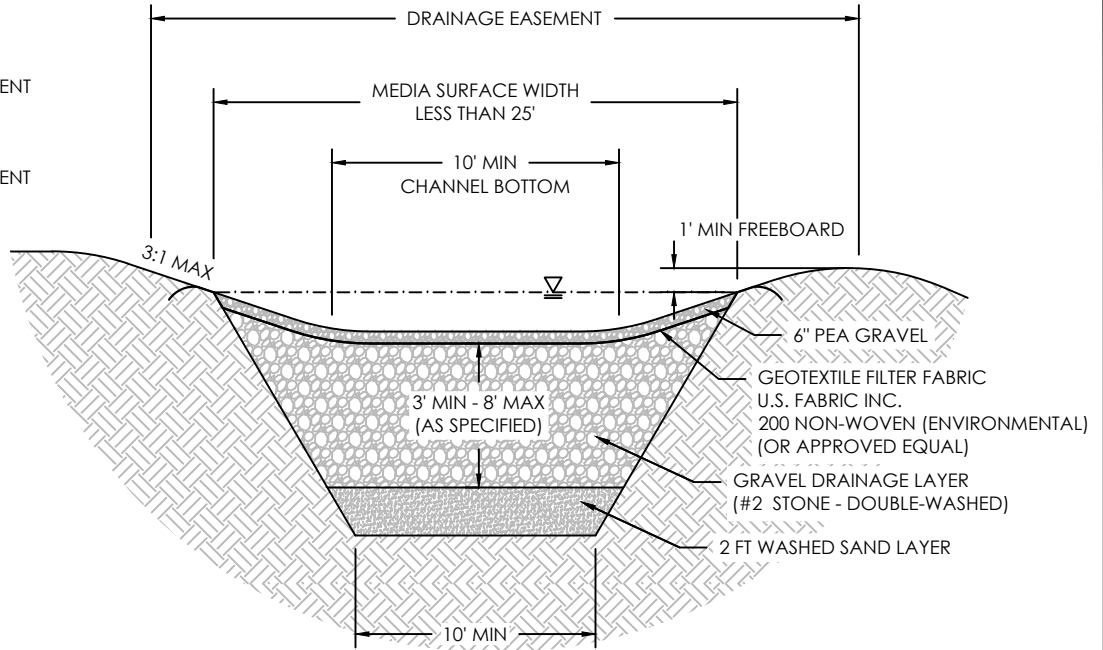
NOTES:

LEVEL 1 REQUIREMENTS:  
 0.5 IN/HR < INFILTRATION > 1 IN/HR  
 2 FORMS OF APPROVED PRETREATMENT

LEVEL 2 REQUIREMENTS:  
 INFILTRATION > 1 IN/HR  
 3 FORMS OF APPROVED PRETREATMENT

SEE BMP MANUAL FOR  
 REQUIRED SETBACKS.

NO GROUNDWATER OR  
 BEDROCK SHALL BE WITHIN  
 THE BIORETENTION  
 FOOTPRINT



1. EXCAVATORS SHALL BE EQUIPPED IN ORDER TO WORK FROM THE OUTSIDE THE GIP FOOTPRINT. EXCAVATED AREAS SHALL NOT BE COMPACTED OR LOADED IN ANY WAY AS TO CAUSE SOIL COMPACTION.
2. DURING EXCAVATION, MOIST CONDITIONS MAY CAUSE FINES TO CLOG THE NATIVE SOIL SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL OR IF SMEARING OCCURS, HAND RAKE THE SURFACE TO A DEPTH OF 3" TO RESTORE INFILTRATION CAPACITY.
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12. ALLOW 48 HOURS SETTLEMENT. DO NOT COMPACT WITH EQUIPMENT.
13. ADD ADDITIONAL MEDIA AS NEEDED TO ACHIEVE THE DESIGN ELEVATIONS.
14. INSTALL VEGETATION, AND WATER ACCORDINGLY. PERMANENT IRRIGATION IS PROHIBITED IN GIP.
15. INSTALL SPECIFIED GROUND COVER.
16. FLAG LIMITS OF GIP FOR SURVEY LOCATE AND SHOW ON AS-BUILT PLANS.

N.T.S.

<p>INFILTRATION TRENCH</p> <p>TITLE</p>	 <p>CITY OF FRANKLIN ENGINEERING          109 THIRD AVE SOUTH          FRANKLIN, TN 37064</p>
<p>GIP-04</p> <p>DWG.NO.</p>	<p>DIRECTOR OF ENGINEERING</p>  <p>04/30/2021</p> <p>DATE</p>
<p>07/01/2021</p> <p>EFFECTIVE DATE</p>	<p>STORMWATER COORDINATOR</p>  <p>04/30/2021</p> <p>DATE</p>

**FILTER MEDIA SPECIFICATIONS**

CHECK DAMS REQUIRED EVERY 50 LINEAR FEET.

DEPTH: AS SPECIFIED ON PLANS

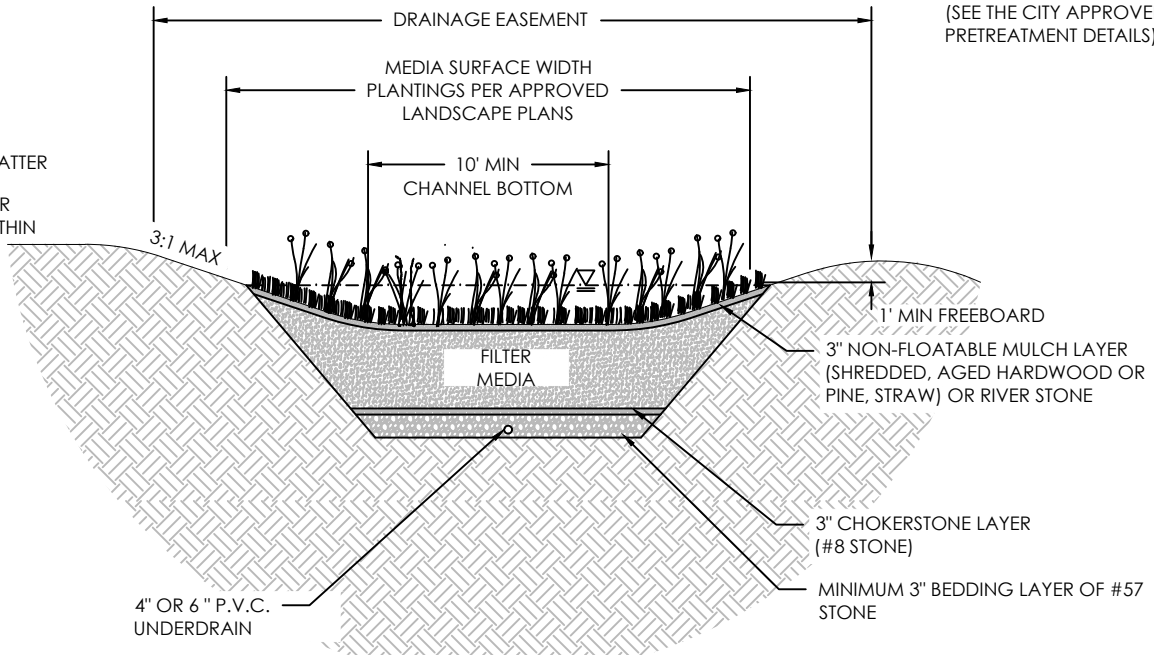
RECOMMENDED SLOPE IS LESS THAN 2%

DEPTH LIMITS:  
24" MIN (LEVEL 1)  
72" MAX

CONTENTS:  
85% to 88% SAND  
8% to 12% SOIL FINES  
3% to 5% ORGANIC MATTER

NO GROUNDWATER OR  
BEDROCK SHALL BE WITHIN  
THE BIORETENTION  
FOOTPRINT

ONE PRETREATMENT REQUIRED  
(SEE THE CITY APPROVED  
PRETREATMENT DETAILS)



1. EXCAVATORS SHALL BE EQUIPPED IN ORDER TO WORK FROM THE OUTSIDE THE GIP FOOTPRINT. EXCAVATED AREAS SHALL NOT BE COMPACTED OR LOADED IN ANY WAY AS TO CAUSE SOIL COMPACTION.
2. DURING EXCAVATION, MOIST CONDITIONS MAY CAUSE FINES TO CLOG THE NATIVE SOIL SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL OR IF SMEARING OCCURS, HAND RAKE THE SURFACE TO A DEPTH OF 3" TO RESTORE INFILTRATION CAPACITY.
3. DURING CONSTRUCTION PHASE, CONTRACTOR SHALL DIVERT RUNOFF FLOW AROUND THE GIP AREAS TO ENSURE SEDIMENT DOES NOT ENTER.
4. RECYCLED MATERIAL IS NOT AN APPROVED FOR USE IN GIP FACILITIES.
5. UTILITIES, INCLUDING IRRIGATION ARE PROHIBITED WITHIN THE GIP FOOTPRINT.

**CONSTRUCTION SEQUENCING:**

1. CONSTRUCT STORMWATER RUNOFF DIVERSIONS.
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8. INSTALL ADDITIONAL STONE ON AND FLAG THE UNDERDRAIN (3 FT EACH SIDE).
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15. INSTALL SPECIFIED GROUND COVER.
16. FLAG LIMITS OF GIP FOR SURVEY LOCATE AND SHOW ON AS-BUILT PLANS.

N.T.S.

<p>WATER QUALITY SWALE LEVEL 1</p> <p>TITLE</p>	 <p>CITY OF FRANKLIN ENGINEERING 109 THIRD AVE SOUTH FRANKLIN, TN 37064</p>
<p>GIP-05 (01)</p> <p>DWG.NO.</p>	<p>DIRECTOR OF ENGINEERING</p> <p><i>Paul P. Hoje</i></p> <p>04/30/2021</p> <p>DATE</p>
<p>07/01/2021</p> <p>EFFECTIVE DATE</p>	<p>STORMWATER COORDINATOR</p> <p><i>AW</i></p> <p>04/30/2021</p> <p>DATE</p>

**FILTER MEDIA SPECIFICATIONS**

CHECK DAMS REQUIRED EVERY 50 LINEAR FEET.

DEPTH: AS SPECIFIED ON PLANS

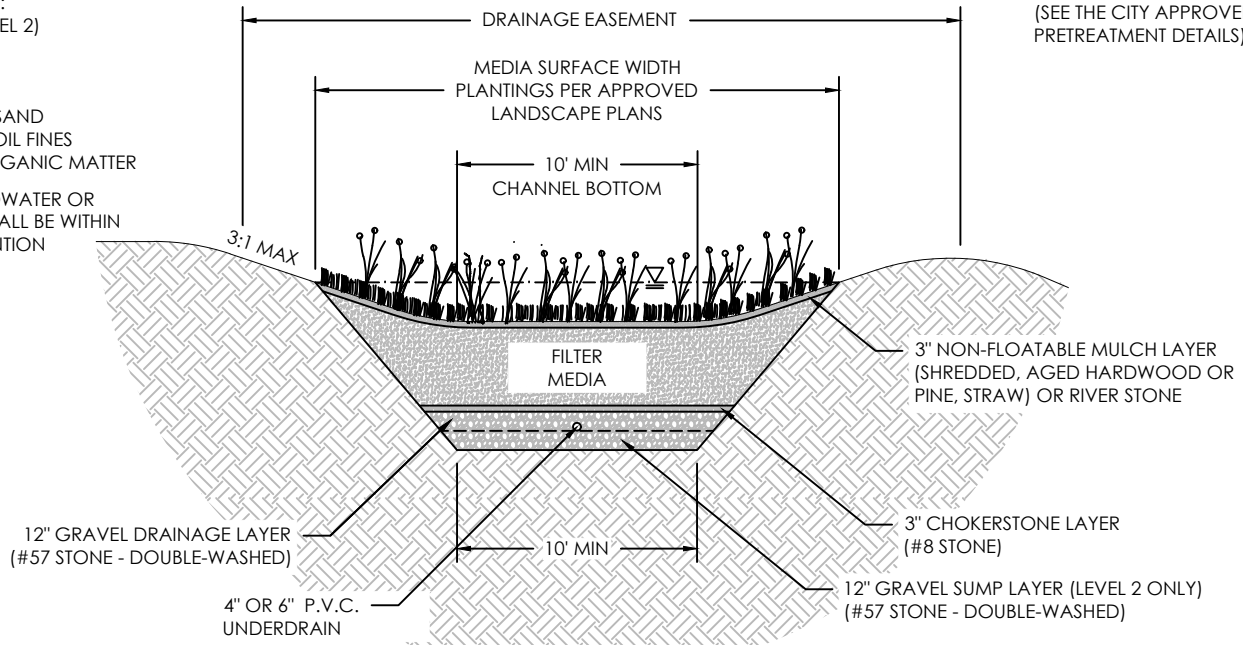
RECOMMENDED SLOPE IS LESS THAN 1%

DEPTH LIMITS:  
36" MIN (LEVEL 2)  
72" MAX

CONTENTS:  
85% to 88% SAND  
8% to 12% SOIL FINES  
3% to 5% ORGANIC MATTER

NO GROUNDWATER OR BEDROCK SHALL BE WITHIN THE BIORETENTION FOOTPRINT

ONE PRETREATMENT REQUIRED (SEE THE CITY APPROVED PRETREATMENT DETAILS)


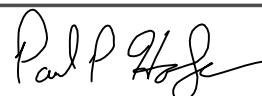



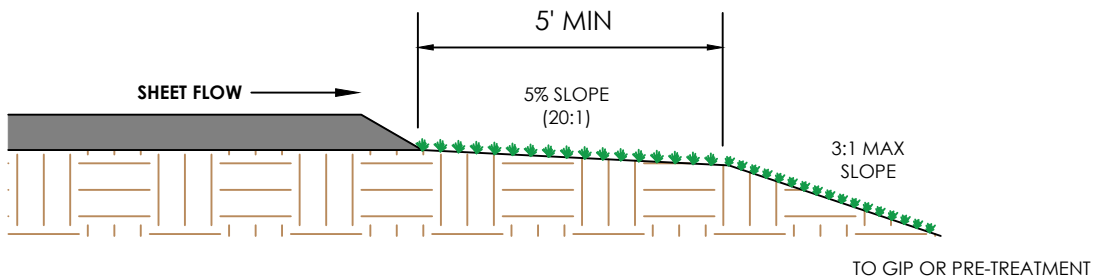
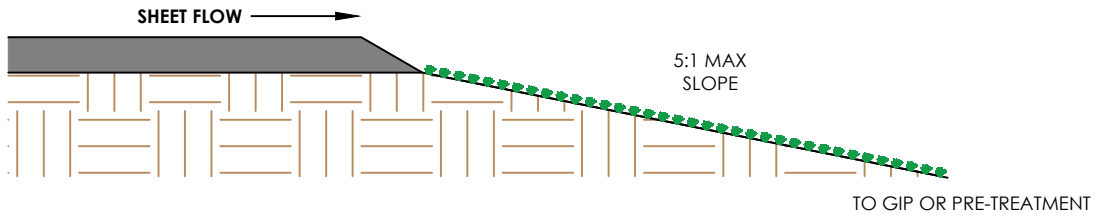
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- DURING EXCAVATION, MOIST CONDITIONS MAY CAUSE FINES TO CLOG THE NATIVE SOIL SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL OR IF SMEARING OCCURS, HAND RAKE THE SURFACE TO A DEPTH OF 3" TO RESTORE INFILTRATION CAPACITY.
- DURING CONSTRUCTION PHASE, CONTRACTOR SHALL DIVERT RUNOFF FLOW AROUND THE GIP AREAS TO ENSURE SEDIMENT DOES NOT ENTER.
- RECYCLED MATERIAL IS NOT AN APPROVED FOR USE IN GIP FACILITIES.
- UTILITIES, INCLUDING IRRIGATION ARE PROHIBITED WITHIN THE GIP FOOTPRINT.

**CONSTRUCTION SEQUENCING:**

- CONSTRUCT STORMWATER RUNOFF DIVERSIONS.
- EXCAVATE GIP AREAS.
- SCARIFY SUBGRADE BY RIPPING THE BOTTOM SOILS TO A DEPTH OF 12 INCHES PRIOR TO STONE PLACEMENT.
- SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
- INSTALL PERMEABLE GEOTEXTILE FABRIC.
- INSTALL STONE LAYER, UNDERDRAIN PIPES, CONNECT TO OUTLET STRUCTURE.
- SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
- INSTALL ADDITIONAL STONE ON AND FLAG THE UNDERDRAIN (3 FT EACH SIDE).
- A SMALL BOBCAT LOADER MAY TO BE USED FOR PLACEMENT OF ADDITIONAL SECTIONS AVOIDING THE UNDERDRAIN PIPE INSTALLATIONS.
- DELIVER AND STORE SOIL MEDIA ON PLASTIC SHEETING WITH APPROPRIATE EROSION CONTROL MEASURES.
- SCHEDULE GIP INSPECTION WITH CITY STORMWATER INSPECTOR AT (615) 791-3218.
- ALLOW 48 HOURS SETTLEMENT. DO NOT COMPACT WITH EQUIPMENT.
- ADD ADDITIONAL MEDIA AS NEEDED TO ACHIEVE THE DESIGN ELEVATIONS.
- INSTALL VEGETATION, AND WATER ACCORDINGLY. PERMANENT IRRIGATION IS PROHIBITED IN GIP.
- INSTALL SPECIFIED GROUNDCOVER.
- FLAG LIMITS OF GIP FOR SURVEY LOCATE AND SHOW ON AS-BUILT PLANS.

N.T.S.

<p>WATER QUALITY SWALE LEVEL 2</p> <p>TITLE</p>	 <p>CITY OF FRANKLIN ENGINEERING 109 THIRD AVE SOUTH FRANKLIN, TN 37064</p>
<p>GIP-05 (02)</p> <p>DWG.NO.</p>	<p>DIRECTOR OF ENGINEERING</p>  <p>04/30/2021</p> <p>DATE</p>
<p>07/01/2021</p> <p>EFFECTIVE DATE</p>	<p>STORMWATER COORDINATOR</p>  <p>04/30/2021</p> <p>DATE</p>



VEGETATED FILTER STRIPS ARE BEST SUITED TO TREAT RUNOFF FROM SMALL SEGMENTS OF IMPERVIOUS COVER (USUALLY LESS THAN 5,000 SQ.FT.) ADJACENT TO ROAD SHOULDERS, SMALL PARKING LOTS, AND ROOFTOPS.

VEGETATED FILTER STRIPS MAY ALSO BE USED AS A PRE-TREATMENT FOR ANOTHER STORMWATER PRACTICE SUCH AS A DRY SWALE, BIORETENTION, OR INFILTRATION AREAS.

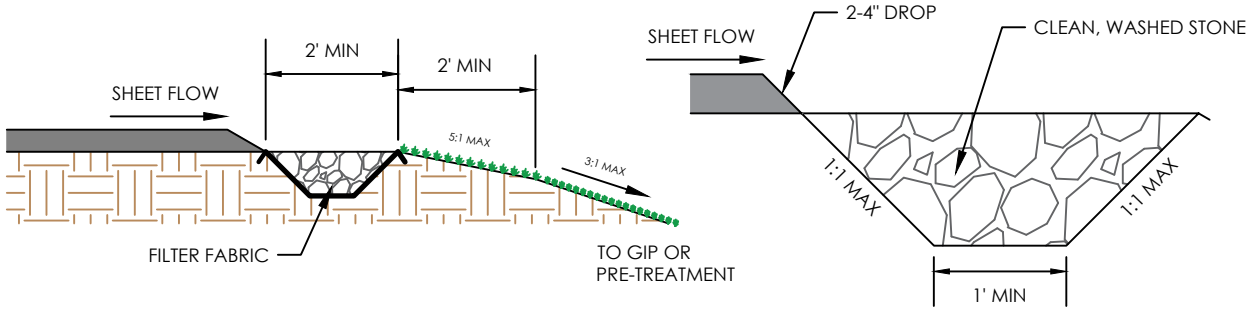
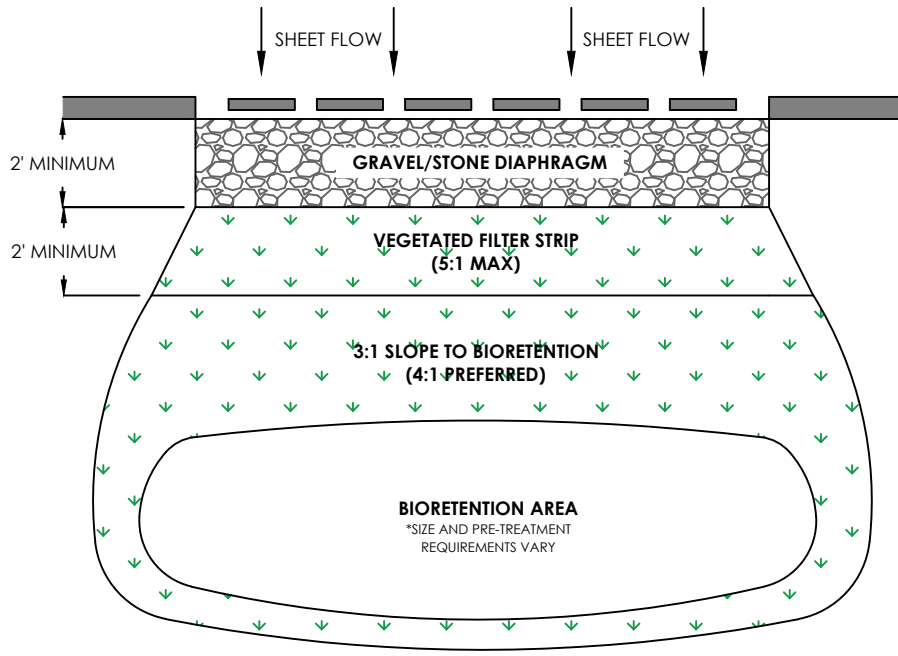
**VEGETATED FILTER STRIP NOTES:**

1. FILTER STRIPS SHOULD BE PLANTED AT A DENSITY TO ACHIEVE 90% COVER AFTER SECOND GROWING SEASON
2. FILTER STRIPS SHOULD BE SEEDED, NOT SODDED, WHENEVER POSSIBLE
3. VEGETATION SHALL BE ABLE TO WITHSTAND BOTH WET AND DRY PERIODS
4. FILTER STRIPS SHOULD NOT RECEIVE HOTSPOT RUNOFF

N.T.S.

<p>Pre-Treatment (sheet flow) VEGETATED FILTER STRIP</p> <p>TITLE</p>	 <p>CITY OF FRANKLIN ENGINEERING 109 THIRD AVE SOUTH FRANKLIN, TN 37064</p>
<p>PRE-01</p> <p>DWG.NO.</p>	<p>DIRECTOR OF ENGINEERING</p>  <p>04/30/2021</p> <p>DATE</p>
<p>07/01/2021</p> <p>EFFECTIVE DATE</p>	<p>STORMWATER COORDINATOR</p>  <p>04/30/2021</p> <p>DATE</p>






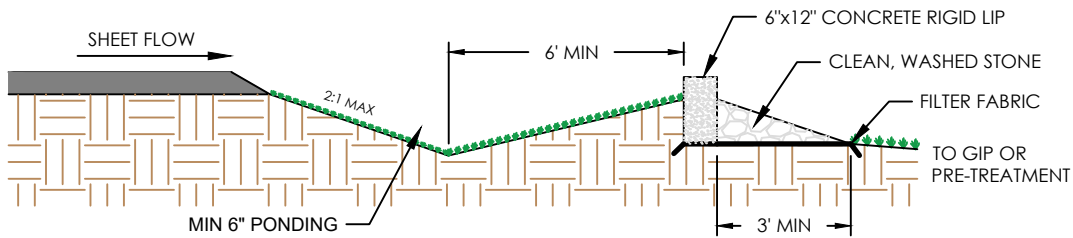
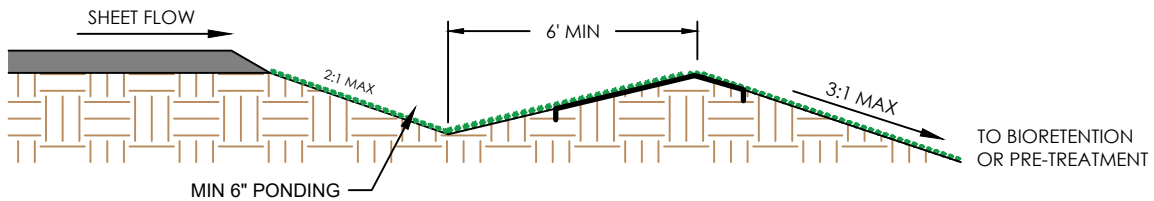
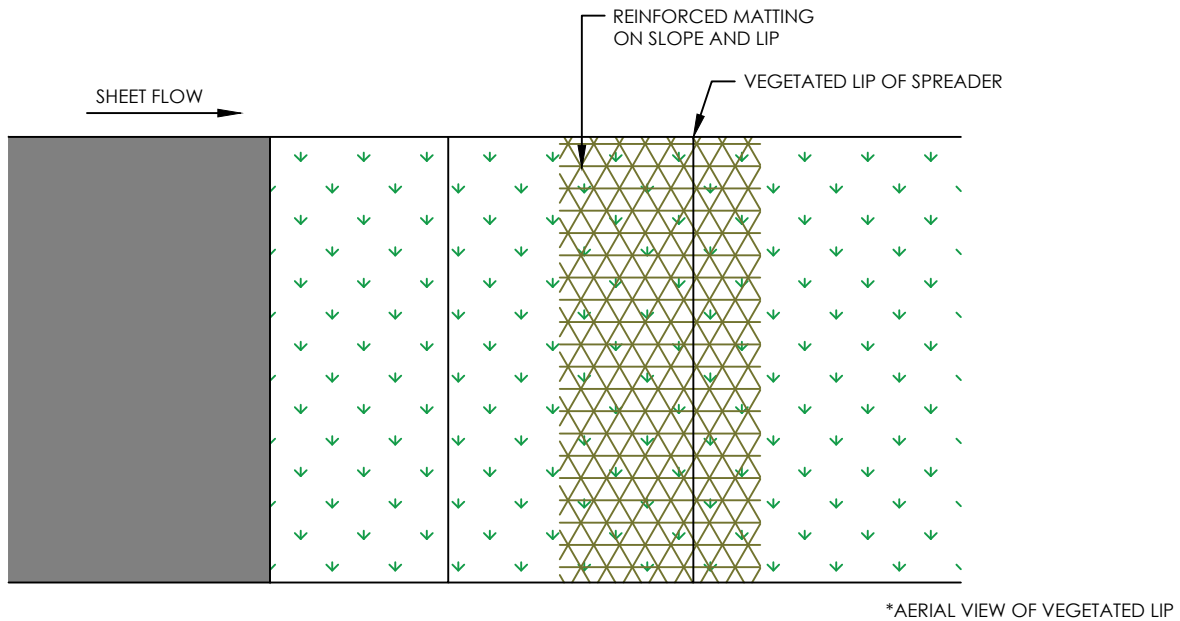
A GRAVEL DIAPHRAGM LOCATED AT THE EDGE OF THE PAVEMENT SHOULD BE ORIENTED PERPENDICULAR TO THE FLOW PATH TO PRE-TREAT LATERAL RUNOFF, AND SHALL RUN ALONG THE SAME CONTOUR AT THE TOP OF THE FILTER STRIP. A LAYER OF FILTER FABRIC SHOULD BE PLACED BETWEEN THE GRAVEL AND THE UNDERLYING SOIL TRENCH. IF THE CONTRIBUTING DRAINAGE AREA IS STEEP (6% OR GREATER), LARGER STONE SHOULD BE USED.

**GRAVEL/STONE DIAPHRAGM NOTES:**

1. A LAYER OF FILTER FABRIC SHALL BE PLACED BETWEEN THE GRAVEL AND THE UNDERLYING SOIL TRENCH
2. STONE SHALL BE SIZED ACCORDING TO THE EXPECTED RATE OF DISCHARGE

N.T.S.

<p>Pre-Treatment (sheet flow) GRAVEL/STONE DIAPHRAGM</p> <p>TITLE</p>	 <p>CITY OF FRANKLIN ENGINEERING 109 THIRD AVE SOUTH FRANKLIN, TN 37064</p>
<p>PRE-02</p> <p>DWG.NO.</p>	<p>DIRECTOR OF ENGINEERING <i>Paul P. Hoje</i></p> <p>04/30/2021</p> <p>DATE</p>
<p>07/01/2021</p> <p>EFFECTIVE DATE</p>	<p>STORMWATER COORDINATOR <i>John</i></p> <p>04/30/2021</p> <p>DATE</p>



VEGETATED LEVEL SPREADERS SHOULD BE PLANTED AT SUCH A DENSITY TO ACHIEVE 90% GRASS/HERBACEOUS COVER AFTER THE SECOND GROWING SEASON. PERFORMANCE HAS BEEN SHOWN TO FALL RAPIDLY AS VEGETATIVE COVER FALLS BELOW 80%. FILTER STRIPS SHOULD BE SEEDED, NOT SODDED, WHENEVER POSSIBLE. VEGETATION AT THE TOE OF THE FILTER, WHERE TEMPORARY PONDING WILL OCCUR, SHOULD BE ABLE TO WITHSTAND BOTH WET AND DRY PERIODS.

**VEGETATED LEVEL SPREADER NOTES:**

1. CONSULT SPECIFICATIONS FOR APPROPRIATE USE OF VEGETATED LIP VERSUS RIGID LIP. RIGID LIPS ARE REQUIRED IN AREAS OF HIGH EROSIVITY
2. 6" MINIMUM PONDING ALLOWABLE
3. ENDS OF REINFORCEMENT MATTING SHALL BE BURIED TO A 6" MINIMUM

N.T.S.

Pre-Treatment (sheet flow)  
VEGETATED LEVEL SPREADER

TITLE



CITY OF FRANKLIN ENGINEERING  
109 THIRD AVE SOUTH  
FRANKLIN, TN 37064

PRE-03

DWG.NO.

DIRECTOR OF ENGINEERING

*Paul P. Hoff*

04/30/2021

DATE

07/01/2021

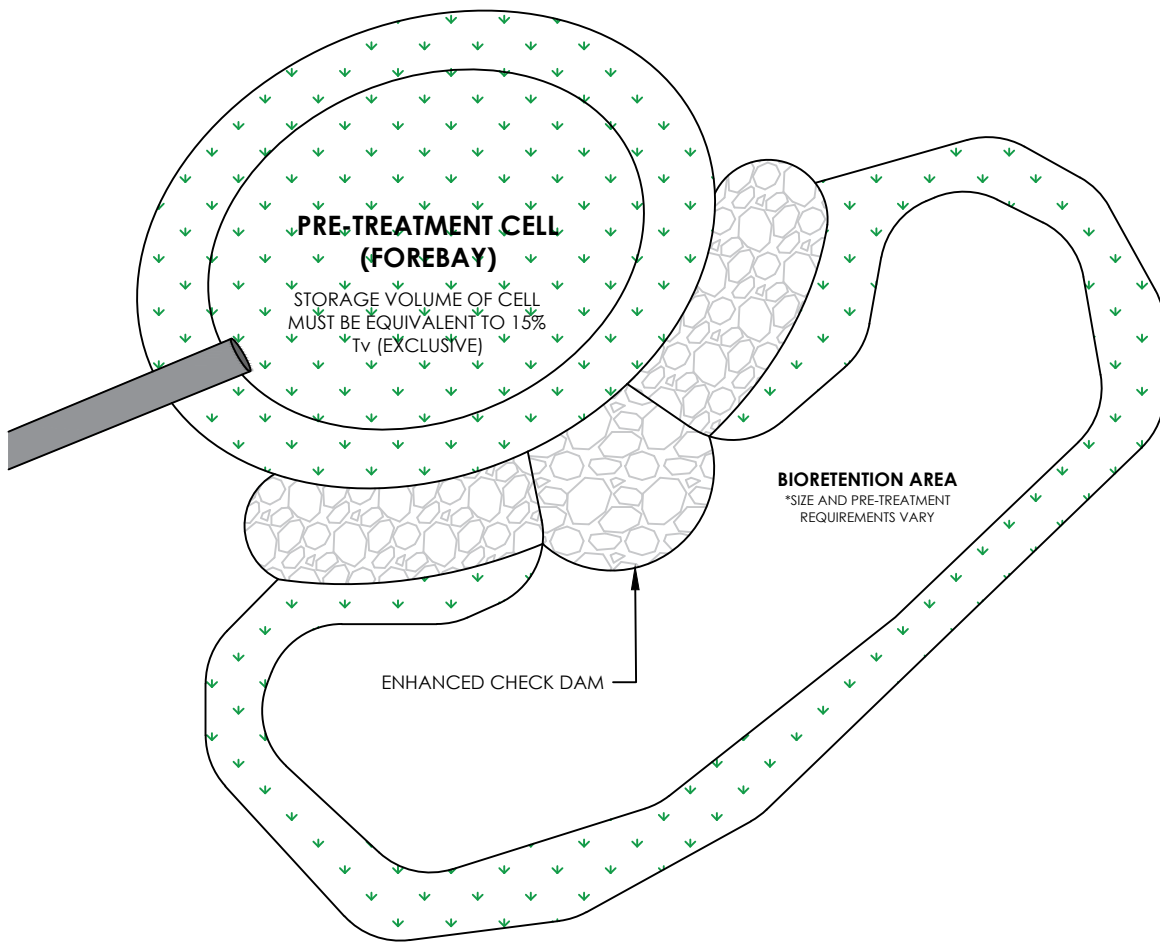
EFFECTIVE DATE

STORMWATER COORDINATOR

*John*

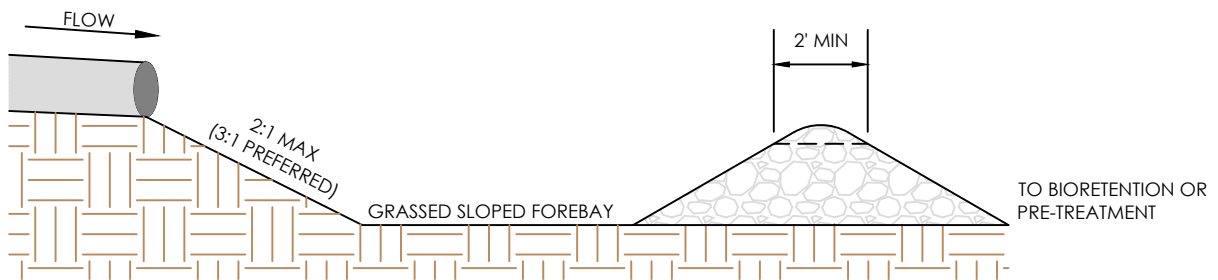
04/30/2021

DATE



**PRE-TREATMENT CELL NOTES:**

1. LEVEL II REQUIRES PRE-TREATMENT CELL PLUS ADDITIONAL TREATMENT
2. FOREBAY STORAGE VOLUME = 15% OF TREATMENT VOLUME (Tv) (EXCLUSIVE)
3. DISSIPATION REQUIRED FOR EXPECTED RATES OF DISCHARGE
4. PRE-TREATMENT CELL MUST NOT INTERFERE WITH REQUIRED PONDING IN BIORETENTION AREAS
5. PRE-TREATMENT CELLS DO NOT REQUIRE UNDERLYING FILTER MEDIA



N.T.S.

Pre-Treatment (concentrated flow)  
PRE-TREATMENT CELL/FOREBAY

TITLE



CITY OF FRANKLIN ENGINEERING  
109 THIRD AVE SOUTH  
FRANKLIN, TN 37064

PRE-04  
DWG.NO.

DIRECTOR OF ENGINEERING

*Paul P. Hoyle*

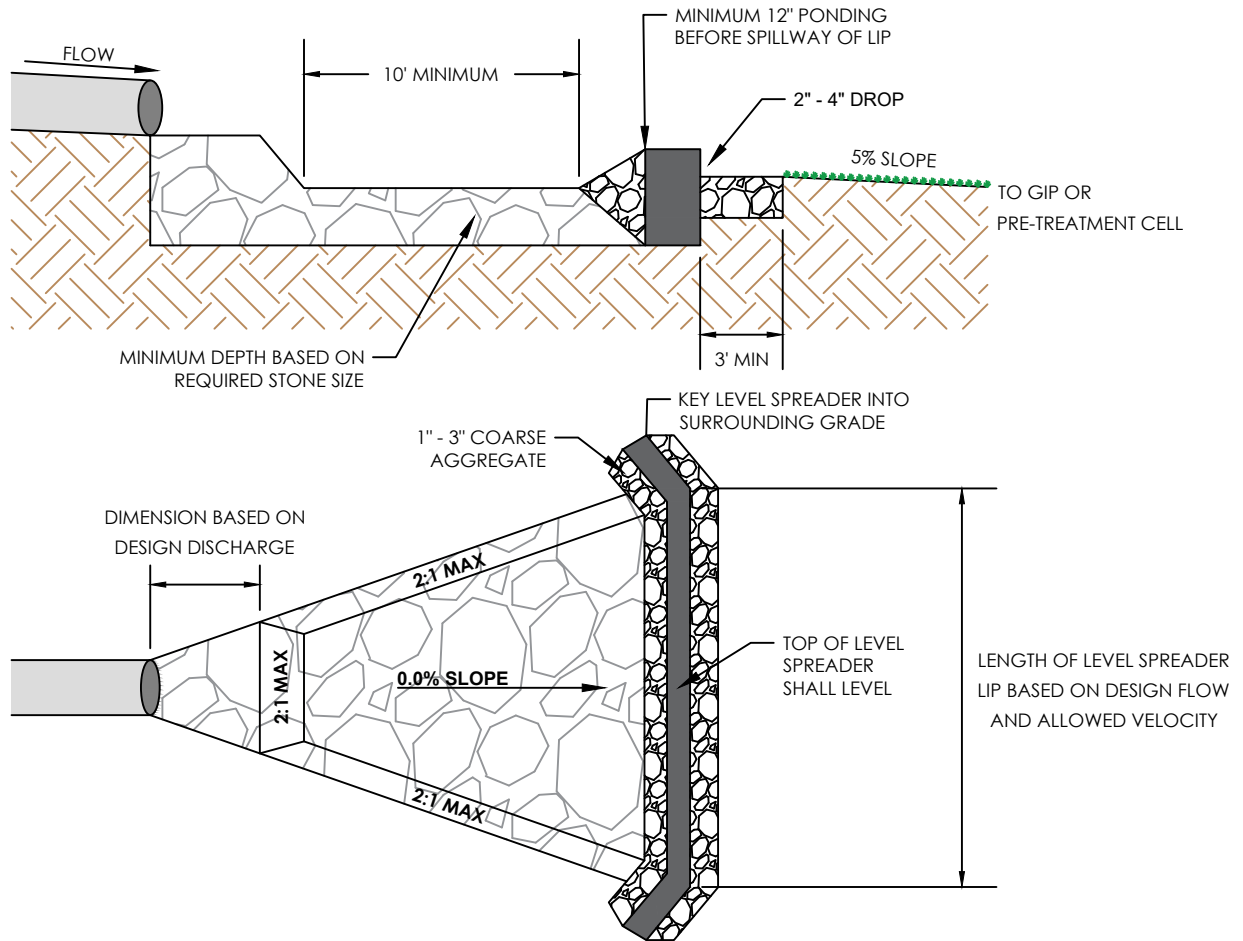
04/30/2021  
DATE

07/01/2021  
EFFECTIVE DATE

STORMWATER COORDINATOR

*John*

04/30/2021  
DATE



THE GRAVEL FLOW SPREADER IS LOCATED AT CURB CUTS, DOWNSPOUTS, OR OTHER CONCENTRATED INFLOW POINTS, AND SHALL HAVE A 2" - 4" ELEVATION DROP FROM A HARD-EDGED SURFACE INTO A GRAVEL OR STONE DIAPHRAGM. THE GRAVEL SHOULD EXTEND THE ENTIRE WIDTH OF THE OPENING AND CREATE A LEVEL STONE WEIR AT THE BOTTOM OR TREATMENT ELEVATION OF THE BASIN. CONSTRUCTION INSPECTION IS CRITICAL TO OBTAIN ADEQUATE SPOT ELEVATIONS, TO ENSURE THE GRAVEL FLOW SPREADER LIP IS LEVEL, KEYED INTO EXISTING CONTOURS, AND CONSTRUCTED TO THE CORRECT DESIGN ELEVATION.

**LEVEL SPREADER NOTES:**

1. ALL STONE SHALL BE WASHED BEFORE INSTALLATION
2. MINIMUM PONDING DEPTH OF 12" TO SPREADER LIP
3. THE FOREBAY SHALL BE SIZED TO ACCOMMODATE 0.2% OF THE CONTRIBUTING IMPERVIOUS AREA
4. THE LEVEL SPREADER LIP SHALL BE AN ACCEPTED, RIGID, NON-ERODIBLE MATERIAL; TIMBER WOOD IS NOT ACCEPTED
5. **SEE CITY BMP MANUAL FOR SPECIFIC DESIGN REQUIREMENTS**

N.T.S.

Pre-Treatment (concentrated flow)  
GRAVEL/STONE FLOW SPREADER

TITLE



CITY OF FRANKLIN ENGINEERING  
109 THIRD AVE SOUTH  
FRANKLIN, TN 37064

PRE-05

DWG.NO.

DIRECTOR OF ENGINEERING

04/30/2021

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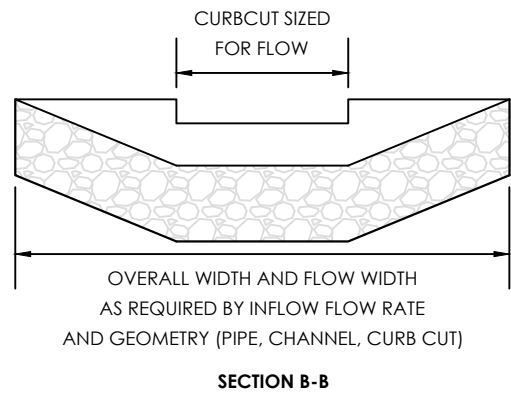
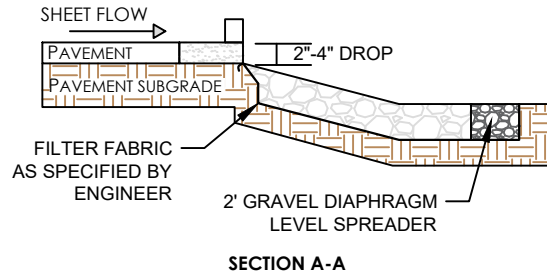
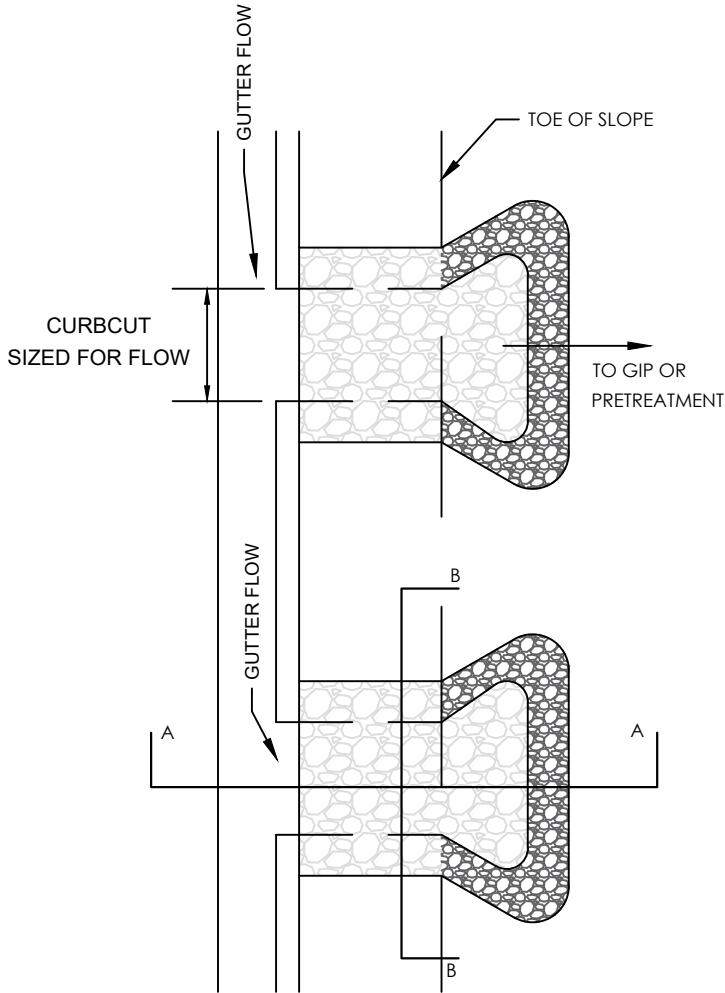
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**NOTE:** STONE SIZE AND DEPTH TO BE DESIGNED BASED ON DESIGN FLOW

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N.T.S.

Pre-Treatment (concentrated flow)  
GRAVEL/STONE FLOW SPREADER

TITLE



CITY OF FRANKLIN ENGINEERING  
109 THIRD AVE SOUTH  
FRANKLIN, TN 37064

PRE-06

DWG.NO.

DIRECTOR OF ENGINEERING

*Paul P. Hoyle*

04/30/2021  
DATE

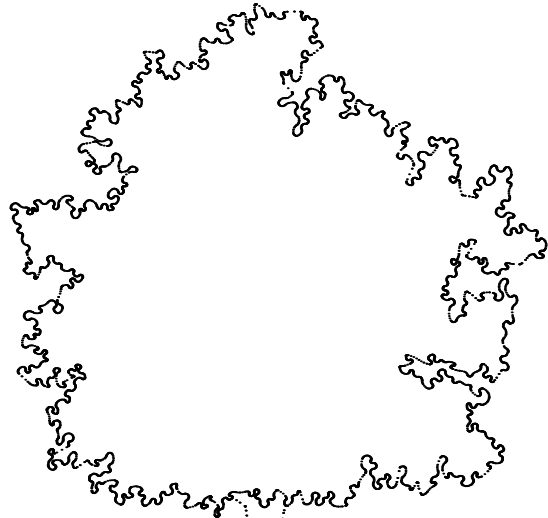
07/01/2021

EFFECTIVE DATE

STORMWATER COORDINATOR

*John*

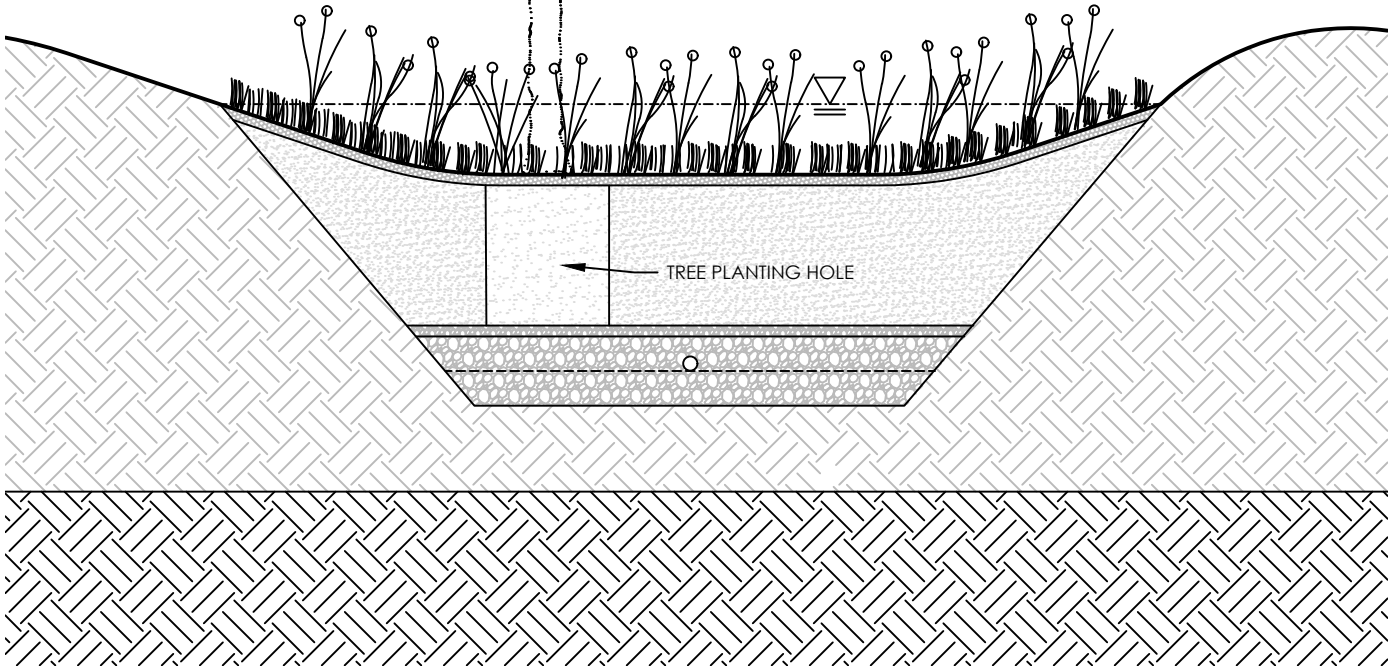
04/30/2021  
DATE



TREE PLANTING HOLE SHALL BE AT LEAST THE SIZE OF THE ROOT BALL.

TREE PLANTING HOLE SOIL MEDIA:


50% SAND, 30% TOPSOIL and 20% ACCEPTABLE LEAF COMPOST



**TREE PLANTING NOTES:**

1. TREE PLANTING HOLES SHALL BE AT LEAST 4 FEET DEEP (OR AS MUCH AS THE DESIGN ALLOWS)

N.T.S.

<p>TREE PLANTING HOLE FOR AMENDED SOIL GREEN INFRASTRUCTURE PRACTICES</p>		<p>CITY OF FRANKLIN ENGINEERING 109 THIRD AVE SOUTH FRANKLIN, TN 37064</p>
<p>GIP-01 (3)</p>	<p>DIRECTOR OF ENGINEERING <i>Paul P. Hoyle</i></p>	<p>04/30/2021 DATE</p>
<p>07/01/2021</p>	<p>STORMWATER COORDINATOR <i>John</i></p>	<p>04/30/2021 DATE</p>