

# Green Infrastructure for Single Family Residences

Greenville County , South Carolina  
Stormwater Guidelines



# Background

- Land Development permanently alters the way in which stormwater flows across a site due to grading, compaction and impervious cover
- Water Quality control is intended to reduce the impacts of development on the quality of the receiving water bodies
- Greenville County is a Phase I MS4 Permittee which requires the County to support a post-construction permitting program for water quality
- The County's requirements superseded the state's water quality requirements due to this permit

# Types of Single Family Residential

- Effects all current division of land that has already been divided once since 2003
- Single Family Lots (not a part of a larger common plan with a SWPPP) that increase flow by 1 cfs or over 1 acre of disturbance
- Summary Plat Submittals
  - Minor Subdivisions where Zero Lot Disturbance was chosen
  - Family Subdivisions



# Managing stormwater

- Individual residential lots created by summary plats are not required to provide the same type of stormwater management as major subdivisions or commercial projects
- Must ensure that stormwater runoff does not overwhelm stormwater infrastructure
- Must ensure it does not impact water quality in our streams
- Must ensure it does not impact adjacent property

**How many of you  
have gone to get a  
building permit  
from Building  
Codes and were  
told there is a hold  
on the lot and you  
needed to go to  
Land Development?**



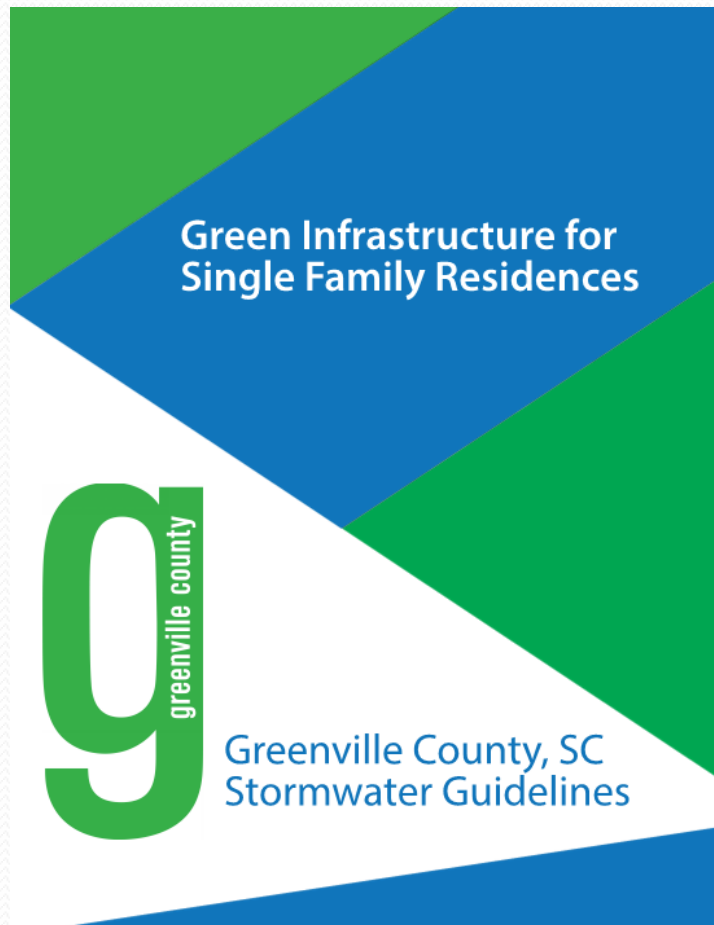
# Land Development Regulations

- County Council felt the burden of permitting should be on the buyer of the newly created lot and not the seller of the lot
- Family Subdivisions allowed for the division of a parcel for family members & that they may not be ready to build on the lots at the time of minor subdivision's creation
- A Zero Lot Land Disturbance Option is allowed under Section 3.5.6 of the Land Development Regulations
- But it also dictates that “A building and land disturbance hold will be placed on each lot until a land disturbance permit has been obtained.”

# The Current Issues

- Some creators of lots did not want to prepare a SWPPP prior to creating a minor subdivision for the entire common plan prior to platting and selling the lots
- Engineers are too busy & it's costly to develop SWPPP's for Summary Plat lots especially on a lot by lot basis
- Recent past experience found those designed features approved did not get installed or did not get install correctly
- People who buy lots on Zero lot disturbance plats and family members who want to build on lots created under Family Subdivision plats need a cheaper and quicker way to meet federal, state and county regulations

# The Solution !







# Purpose

- The Guidelines provide guidance for selecting and installing appropriate stormwater management measures
- Employed simplified design standards more applicable to homeowner/builder experience
- Avoids the need for complex engineering calculations and analysis
- Allows the Building Contractor to provide minor calculations to locate and size the LID features
- Provides simple specifications for the installation of the features



# Key Principles for management

- Green Infrastructure (GI)
- Reliance on infiltration where the water table or bedrock layer allows
- Proper Installation of downspouts, channels and features
- Proper Maintenance of downspouts, channels, features and other sources of concentrated flow



# What is Green Infrastructure (GI)

- Another term is Low Impact Development (LID)
- Practices that reduce runoff & pollutant loading
- Encourages the interception, evapotranspiration, infiltration &/or capture and reuse of stormwater runoff
- Goal is to reduce the volume of runoff/pollutant loads generated & transported offsite

# Permitting Process

- The Building Contractor & Owner will come to the Land Development Division to meet with a Plan Reviewer
- The Plan Reviewer will explain the guidelines and what is needed to issue a permit
- They will start a case in our tracking system and give the Contractor a permit number for future reference
- Using the guideline booklet and in discussion with the owner one or more of the LID features in the booklet will be chosen for use



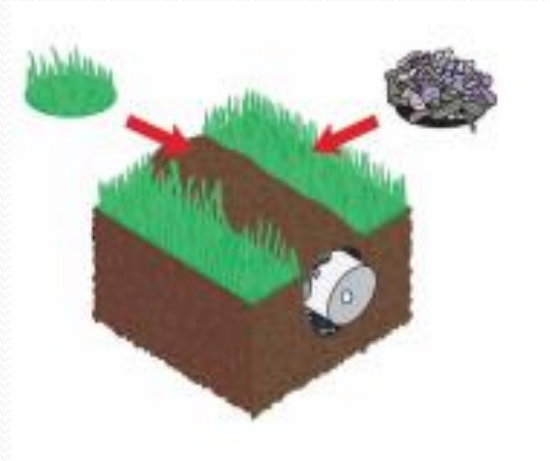
# The LID Features

- Dry Well
- Modified French Drain
- Permeable Pavers
- Rain Gardens
- Vegetated Filter Strip
- Water Quality Buffer

# Dry Well



# Modified French Drain





# Permeable Pavers





# Rain Garden



# Vegetated Filter Strip

Vegetated filter

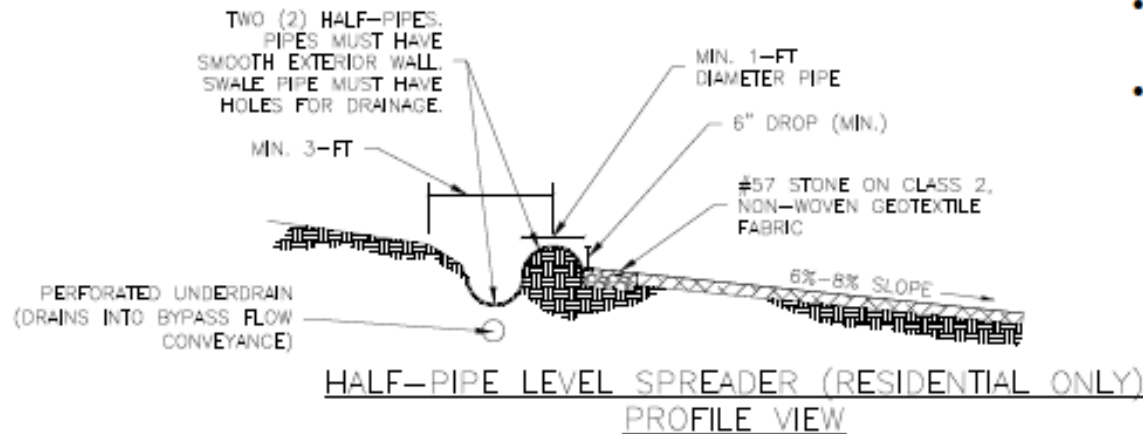


Level Spreader

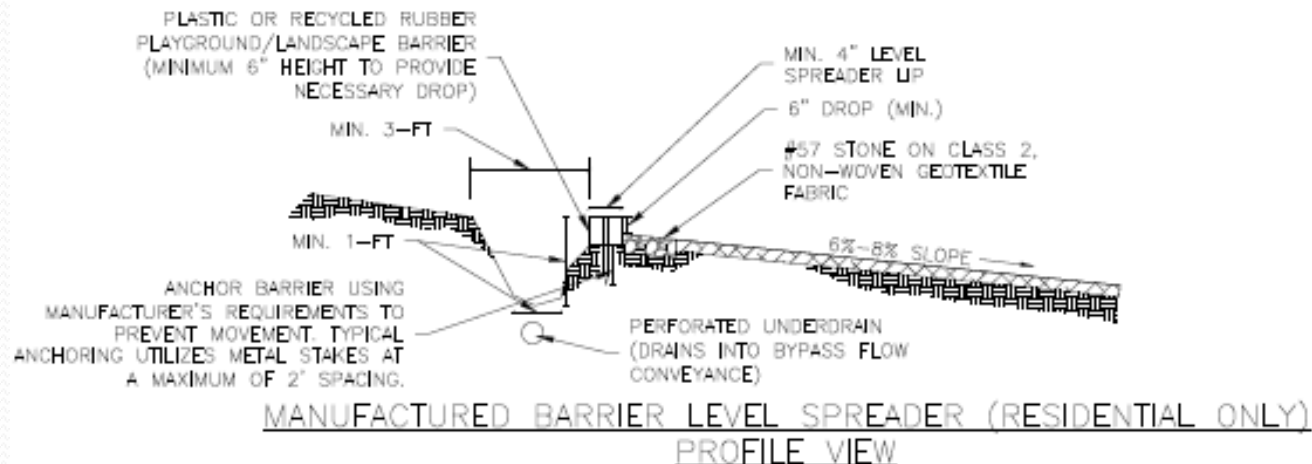




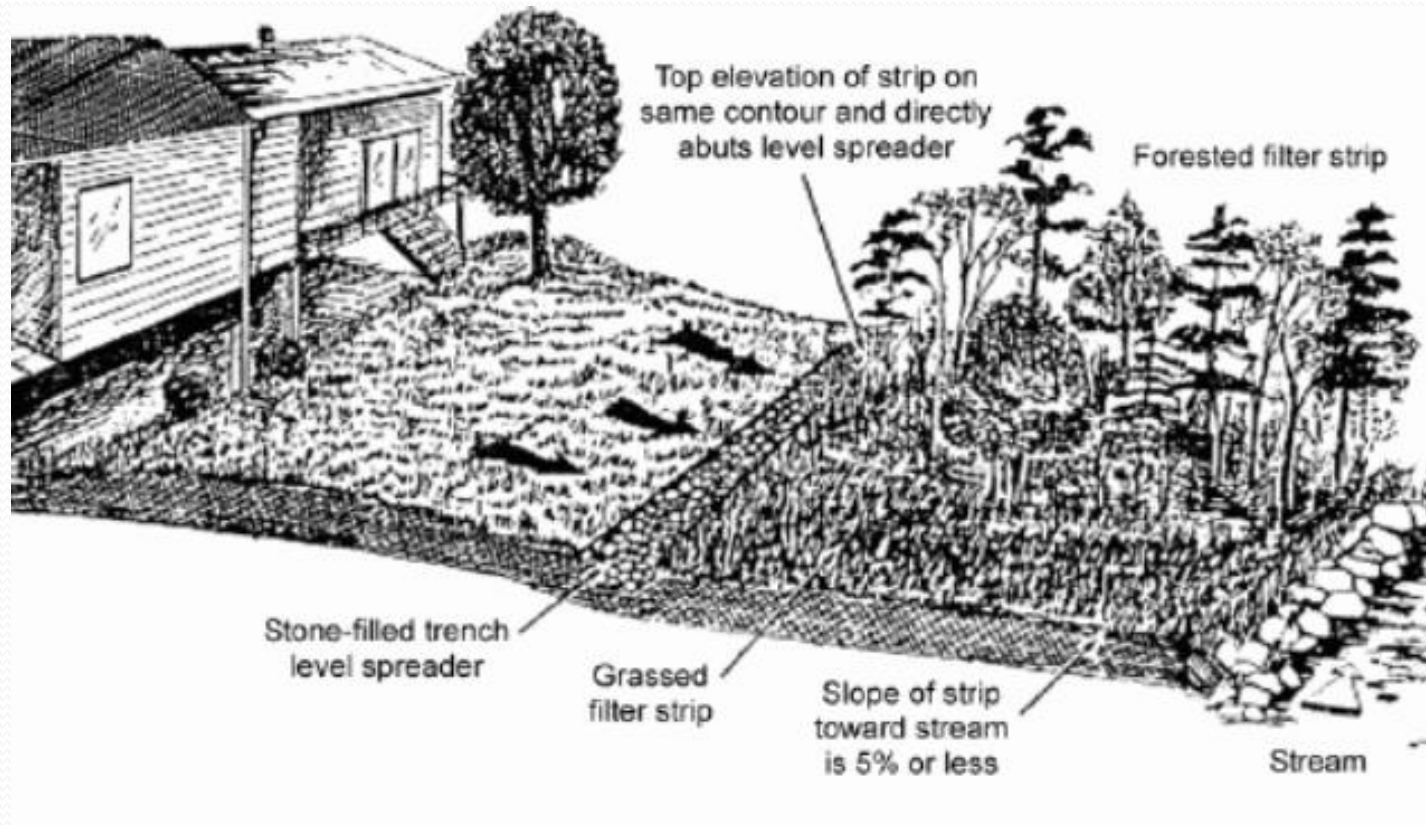
# Alternate Level Spreader



- PLASTIC OR RECYCLED RUBBER PLAYGROUND/LANDSCAPE BARRIER (MINIMUM 6" HEIGHT TO PROVIDE NECESSARY DROP)
- CONSULT MANUFACTURER'S REQUIREMENTS TO PREVENT MOVEMENT. TYPICAL ANCHORING UTILIZES METAL STAKES AT A MAXIMUM OF 2' SPACING.



# Water Quality Buffer



# Infiltration Trench



# Contractor Actions

- The Contractor will use the “tear-out” pages of the chosen feature from the booklet
- The Contractor will show the necessary calculations for their chosen LID practice
- The assigned permit number will be listed on the calculations sheets
- The Contractor will bring those pages, along with a roof plan of the home, back to the Land Development Division for review and approval
- The Residential Lot Plan Fee will be paid (\$500)

SKETCH LAYOUT																																																																																																																																								
PROVIDE PLAN AND ELEVATION VIEWS OF DRY WELL AND HOUSE SHOWING ROOF AREA DIRECTED TO DRY WELL AND KEY DIMENSIONS, CONNECTIONS AND OVERFLOW RELATIVE TO PROPERTY LINE. ATTACH ADDITIONAL PAGES IF NECESSARY.																																																																																																																																								
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b>SIZING CALCULATION FOR SEEPAGE TANK DRY WELL:</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Gravel Bed Depth (inches)</th> <th rowspan="2">Tank Height (inches)</th> <th colspan="5">Round Tank Inside Diameter (inches)</th> </tr> <tr> <th>24</th> <th>30</th> <th>36</th> <th>42</th> <th>48</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>30</td> <td>258</td> <td>345</td> <td>447</td> <td>563</td> <td>692</td> </tr> <tr> <td>12</td> <td>30</td> <td>285</td> <td>380</td> <td>490</td> <td>615</td> <td>755</td> </tr> <tr> <td>6</td> <td>60</td> <td>461</td> <td>622</td> <td>809</td> <td>1,022</td> <td>1,263</td> </tr> <tr> <td>12</td> <td>60</td> <td>489</td> <td>657</td> <td>852</td> <td>1,075</td> <td>1,325</td> </tr> </tbody> </table>   <table border="1"> <thead> <tr> <th rowspan="2">Gravel Bed Depth (inches)</th> <th rowspan="2">Tank Height (inches)</th> <th colspan="5">Tank Cross-Sectional Area (LxW) (square feet)</th> </tr> <tr> <th>4</th> <th>6</th> <th>8</th> <th>10</th> <th>12</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>30</td> <td>350</td> <td>440</td> <td>530</td> <td>620</td> <td>711</td> </tr> <tr> <td>12</td> <td>30</td> <td>363</td> <td>460</td> <td>557</td> <td>654</td> <td>751</td> </tr> <tr> <td>6</td> <td>60</td> <td>517</td> <td>691</td> <td>865</td> <td>1,039</td> <td>1,213</td> </tr> <tr> <td>12</td> <td>60</td> <td>530</td> <td>711</td> <td>891</td> <td>1,072</td> <td>1,253</td> </tr> </tbody> </table> </div> <div style="width: 48%;"> <p><b>SIZING CALCULATION FOR ALTERNATIVE STONE PIT AND STANDPIPE DRY WELL (SEE SFR-02 SECTION 1.3):</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Hole Depth (inches)</th> <th colspan="5">6" Perforated Standpipe Gravel Filled Hole Diameter (inches)</th> </tr> <tr> <th>24</th> <th>30</th> <th>36</th> <th>42</th> <th>48</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>30</td> <td>46</td> <td>65</td> <td>88</td> <td>114</td> </tr> <tr> <td>30</td> <td>38</td> <td>58</td> <td>82</td> <td>110</td> <td>142</td> </tr> <tr> <td>36</td> <td>46</td> <td>69</td> <td>98</td> <td>132</td> <td>171</td> </tr> <tr> <td>42</td> <td>53</td> <td>81</td> <td>114</td> <td>154</td> <td>199</td> </tr> <tr> <td>48</td> <td>61</td> <td>92</td> <td>130</td> <td>176</td> <td>228</td> </tr> <tr> <td>60</td> <td>76</td> <td>115</td> <td>163</td> <td>219</td> <td>285</td> </tr> </tbody> </table> </div> </div> <p>MEASURE CONTRIBUTING DRAINAGE AREA AND READ AREA FOR SIZING CRITERIA.</p> <p>CONTRIBUTING DRAINAGE AREA= _____ SQ FT          TANK DIAMETER= _____ INCHES          TANK HEIGHT= _____ INCHES          GRAVEL BED DEPTH= _____ (6 OR 12 INCHES)</p> <p>MEASURE CONTRIBUTING DRAINAGE AREA AND READ AREA FOR SIZING CRITERIA.</p> <p>CONTRIBUTING DRAINAGE AREA= _____ SQ FT          HOLE DIAMETER= _____ INCHES          HOLE DEPTH= _____ INCHES</p>										Gravel Bed Depth (inches)	Tank Height (inches)	Round Tank Inside Diameter (inches)					24	30	36	42	48	6	30	258	345	447	563	692	12	30	285	380	490	615	755	6	60	461	622	809	1,022	1,263	12	60	489	657	852	1,075	1,325	Gravel Bed Depth (inches)	Tank Height (inches)	Tank Cross-Sectional Area (LxW) (square feet)					4	6	8	10	12	6	30	350	440	530	620	711	12	30	363	460	557	654	751	6	60	517	691	865	1,039	1,213	12	60	530	711	891	1,072	1,253	Hole Depth (inches)	6" Perforated Standpipe Gravel Filled Hole Diameter (inches)					24	30	36	42	48	24	30	46	65	88	114	30	38	58	82	110	142	36	46	69	98	132	171	42	53	81	114	154	199	48	61	92	130	176	228	60	76	115	163	219	285
Gravel Bed Depth (inches)	Tank Height (inches)	Round Tank Inside Diameter (inches)																																																																																																																																						
		24	30	36	42	48																																																																																																																																		
6	30	258	345	447	563	692																																																																																																																																		
12	30	285	380	490	615	755																																																																																																																																		
6	60	461	622	809	1,022	1,263																																																																																																																																		
12	60	489	657	852	1,075	1,325																																																																																																																																		
Gravel Bed Depth (inches)	Tank Height (inches)	Tank Cross-Sectional Area (LxW) (square feet)																																																																																																																																						
		4	6	8	10	12																																																																																																																																		
6	30	350	440	530	620	711																																																																																																																																		
12	30	363	460	557	654	751																																																																																																																																		
6	60	517	691	865	1,039	1,213																																																																																																																																		
12	60	530	711	891	1,072	1,253																																																																																																																																		
Hole Depth (inches)	6" Perforated Standpipe Gravel Filled Hole Diameter (inches)																																																																																																																																							
	24	30	36	42	48																																																																																																																																			
24	30	46	65	88	114																																																																																																																																			
30	38	58	82	110	142																																																																																																																																			
36	46	69	98	132	171																																																																																																																																			
42	53	81	114	154	199																																																																																																																																			
48	61	92	130	176	228																																																																																																																																			
60	76	115	163	219	285																																																																																																																																			
<p><b>MAINTENANCE:</b></p> <ol style="list-style-type: none"> <li>1. INSPECT GUTTERS AND DOWNSPOUTS REMOVING ACCUMULATED LEAVES AND DEBRIS, CLEANING LEAF REMOVAL SYSTEM(S).</li> <li>2. IF APPLICABLE, INSPECT PRETREATMENT DEVICES FOR SEDIMENT ACCUMULATION. REMOVE ACCUMULATED TRASH AND DEBRIS.</li> <li>3. INSPECT DRY WELL FOLLOWING A LARGE RAINFALL EVENT TO ENSURE OVERFLOW IS OPERATING AND FLOW IS NOT CAUSING EROSION OR OTHER PROBLEMS.</li> </ol>																																																																																																																																								
GREENVILLE COUNTY LAND DEVELOPMENT DIVISION			ATTACH THIS TWO-PAGE SPECIFICATION TO HOUSE PLAN SUBMITTAL				DRY WELL SPECIFICATIONS PAGE 2 OF 2																																																																																																																																	

# Review Process

- These paper copies will be scanned into the permit tracking system
- A plan reviewer will be assigned and this will start the plan review process
- The plan reviewer has 10 days maximum to review and will either approve or deny (if additional questions exist)
- The calculations “tear-out” sheets will be stamped approved. This will serve as the permit
- The Contractor will take these stamped sheets to Building Codes as proof of an approved permit



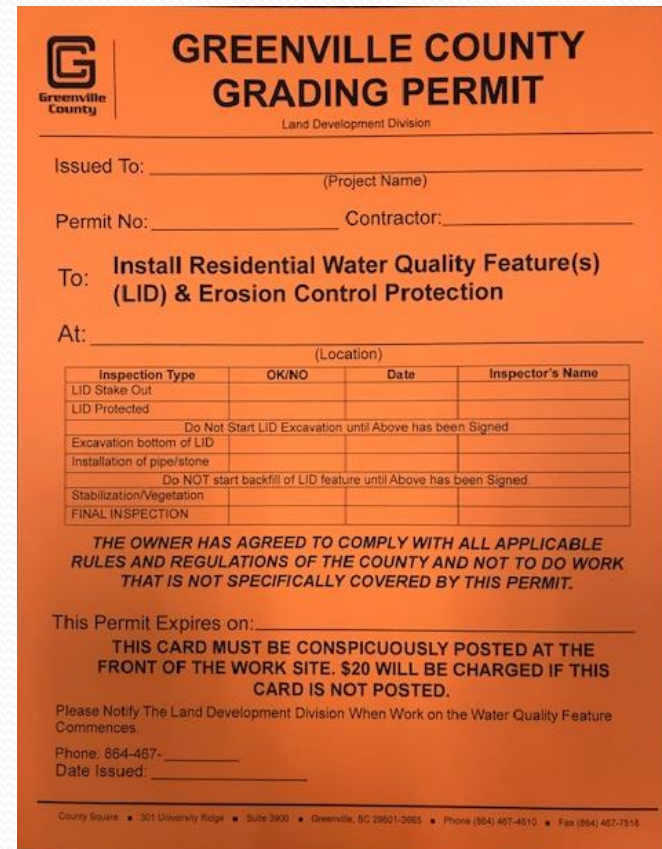
# Building Codes Process

- The Building Codes Permit Clerk will scan this document into their permit system & make these documents a part of their building permit
- The Permit Clerk will release the previous hold to allow for the issuance of the Building Permit
- A hold will be placed on the Final Building Inspection of the residence and add that the Land Development Division must approve to allow the home to be occupied



# Inspection Process

- Once the Land Development permit is approved a LID Inspector is assigned
- The LID Inspector will call the Contractor to set up a Pre-Con meeting to be held at the site of the new home
- The LID Inspector will explain the inspection approval process & close out process
- The Grading Permit will then be issued to the Contractor



**GREENVILLE COUNTY**  
**GRADING PERMIT**  
Land Development Division

Issued To: \_\_\_\_\_ (Project Name)

Permit No: \_\_\_\_\_ Contractor: \_\_\_\_\_

To: **Install Residential Water Quality Feature(s) (LID) & Erosion Control Protection**

At: \_\_\_\_\_ (Location)

Inspection Type	OK/NO	Date	Inspector's Name
LID Stake Out			
LID Protected			
Do Not Start LID Excavation until Above has been Signed			
Excavation bottom of LID			
Installation of pipe/stone			
Do NOT start backfill of LID feature until Above has been Signed			
Stabilization/Vegetation			
FINAL INSPECTION			

**THE OWNER HAS AGREED TO COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS OF THE COUNTY AND NOT TO DO WORK THAT IS NOT SPECIFICALLY COVERED BY THIS PERMIT.**

This Permit Expires on: \_\_\_\_\_

**THIS CARD MUST BE CONSPICUOUSLY POSTED AT THE FRONT OF THE WORK SITE. \$20 WILL BE CHARGED IF THIS CARD IS NOT POSTED.**

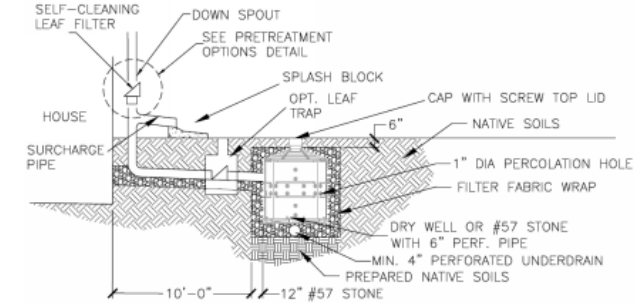
Please Notify The Land Development Division When Work on the Water Quality Feature Commences.

Phone: 864-467- \_\_\_\_\_

Date Issued: \_\_\_\_\_

County Square • 301 University Ridge • Suite 3000 • Greenville, SC 29601-3665 • Phone (864) 467-4610 • Fax (864) 467-7518

# Construction Process

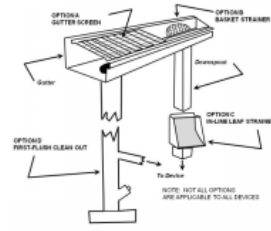


**TYPICAL COMPONENTS OF SEEPAGE TANK DRY WELL**  
(ATTACH MANUFACTURER'S SPECIFICATIONS)

**CONSTRUCTION STEPS:**

1. Review potential dry well areas and layout. Dry wells should not be located: (1) beneath an impervious (paved) surface; (2) above an area with a water table or bedrock less than two feet below the trench bottom; (3) over other utility lines; or, (4) above a septic field. Ensure outlet daylight is at least ten feet from property line.
2. Measure the area draining to the dry well and determine required size from the table on the next page.
3. Infiltration rate testing is not necessary when using the required perforated underdrain. If an underdrain is infeasible, see Appendix A for soil infiltration rate testing and requirements.
4. If the infiltration rate is greater than or equal to 1.0 in/hr, the contributing area captured (square feet) may be decreased 10% for every 0.5 in/hr infiltration rate in excess of the required 0.5 in/hr. See Appendix A for soil infiltration testing and requirements.
5. Measure elevations and dig the hole to the required dimensions. Scarify the bottom soil surface 3".
6. Place and tamp 6" to 12" of #57 gravel in bottom. Pea gravel can be substituted for leveling purposes in the upper three inch layer below the tank.
7. Place and secure filter cloth down sides of the excavation leaving enough to fold over the top below the soil and turf.
8. Place tank and install piping. Bond top of tank in place.
9. Cut and route downspouts or other rainwater delivery components, leaf screen option(s) chosen (circle selected options in Pretreatment Options Detail figure). Strap and support as needed.
10. Create a safe overflow at least 10 feet from your property edge and ensure it is protected from erosion.
11. Test connections with water flow.
12. Fill with gravel jacket around tank and place permeable fabric above between gravel and soil.
13. Backfill with soil/sod or pea gravel.
14. Consider aesthetics as appropriate and erosion control for overflow.

CIRCLE ONE OR MORE OPTIONS USED A B C D



**PRETREATMENT OPTIONS DETAIL**

NOTE: NOT ALL OPTIONS ARE APPLICABLE TO ALL DEVICES

GREENVILLE COUNTY LAND DEVELOPMENT DIVISION	NAME/ADDRESS:	DRY WELL SPECIFICATIONS PAGE 1 OF 2
---	---------------	--

- On the front side of the calculations are the specifications that outline the construction steps
- Each feature has required steps where the Inspector must be called out to inspect/sign off
- Each feature has required steps where the Contractor must take pictures to document proper installation

# Construction Certification Form

- Six different certifications depending of the feature chosen
- Includes need for materials receipts
- Includes steps for photos
- Includes steps for required inspections
- Areas draining to the LID must be 100% stabilized – sod preferred
- Must turn in with close out documents



Land Development Division  
Greenville County Square  
301 University Ridge  
Suite 3900  
Greenville, SC 29601  
(864) 467-4610

LID CONSTRUCTION CERTIFICATION FORM  
Modified French Drain/Dry Wells  
Page 1 of 2

Project Name: \_\_\_\_\_ Permit Number: \_\_\_\_\_

1. Contact the project's assigned LID Inspector at least one (1) day prior to the start of construction on any LID, including excavation for the LID. LIDs installed must be observed by the LID Inspector.
2. Provide the LID Inspector with an estimated schedule for the placement of any of the following: geotextile, stone, storage media, piping, soil, etc.
3. Provide the following information about the LID.

Required Documents	Receipt #	Professional's Initials & Date
ies of receipts for stone clean washed stone		
ies of receipts for soil amendments, filter media mix plicable)		

Required Photos	Photo # (one photo per feature)	Professional's Initials & Date
to(s) showing basin protected from sediment and paction during construction (E&S controls around basin) **		
to(s) verifying that the system location is staked **		
tos showing the bottom of the flat, scarified, non-pacted basin before installation of geotextile or pea vel		
tos showing bottom of the basin after installation of textile or pea gravel		
tos showing outlet structure, including internal weirs /or orifices, and outlet pipes (with take measure as reference)		
to(s) showing installation of perforated es/storage units (tops showing with stone filled und them) ** (+)		
tos showing installation of observation well(s)		
tos showing the completed installation with stone to shed bed elevation and geotextile in place (prior to kfill) **		

(+) Obtain Water Quality Easement Survey Plat

\*\*Greenville County Land Development Inspector required\*\*

# Close Out Procedure



Land Development Division  
Greenville County Square  
301 University Ridge  
Suite 3900  
Greenville, SC 29601  
(864) 467-4610

## LID Construction Field Inspection Checklist Infiltration

Project Name: \_\_\_\_\_ Permit Number: \_\_\_\_\_

Inspection Item	Yes	No	NA	Corrective action (if "no")
1. Will site runoff enter the practice as intended?				
2. Upstream drainage area stabilized?				
3. Facility excavated to dimensions and at location as per the approved plans.				
4. Facility excavated from the sides so as to not compact the existing soil.				
5. Groundwater NOT encountered during excavation. (Note: If groundwater is encountered during the excavation process, construction of the facility must cease and the designer notified that a plan modification is necessary.)				
6. Bottom of trench excavation scarified prior to placement of sand.				
7. Geotextile fabric placed along the vertical sides of the trench, tucked in at the bottom for anchoring.				
8. Discharge pipe diameter and material installed from overdrain to discharge point matches plans.				
9. Underdrain pipe size and material according to approved plan.				
10. Outlet protection provided at discharge point.				
11. Underdrain pipe perforations according to approved plans.				
12. Underdrain piping lay flat or with positive slope toward outlet.				
13. Clean-outs and/or observation ports provided at endpoints of underdrain pipes or as shown on				
14. Double-washed crushed aggregate, clean DE #57 stone, used for the underdrain gravel. Stone free of rock dust, fines and soil particles. (See invoice)				
15. Depth of stone over underdrain piping matches plan.				
16. Channel protection and/or level spreader provided at infiltration practice inlets as specified on the approved plan.				
17. Earth spillway construction with matting to the plans (if applicable).				
18. Vegetation planed in the basin as indicated on the plans.				
19. For trenches, placement of topsoil and sod over the pea gravel, if this option is specified on plan.				

- The LID Inspector must be called for a final inspection
- The Certification Form must be provided
- The home owner must sign the SW Management Maintenance Agreement
- As-built Survey Required
- Both Survey and Agreement must be recorded at Register of Deeds

## LAND SURVEYOR, PLS

Located in South Carolina 29500X  
 STREET ADDRESS  
 CITY, STATE, ZIP CODE  
 Phone: (803) XXX-XXXX  
 XXXXXXX@XXXXXX.com

# WATER QUALITY EASEMENT PLAT

FOR  
PROPERTY OWNER(S)  
STREET ADDRESS  
MUNICIPALITY, GREENVILLE COUNTY, SOUTH CAROLINA

SCALE: 1" = XX'

**REVIEWED:**

**DRAWN BY:** INITIALS    **DATE:** MM/DD/YYYY    **JOB #:** XXX-XXXXX

**SITE**

**EASEMENT NOTES:**

PER GREENVILLE COUNTY, RAIN GARDENS SHOULD BE LOCATED AT LEAST 10 FEET FROM FOUNDATIONS AND NOT WITHIN THE PUBLIC RIGHT OF WAY. AWAY FROM UTILITY LINES, NOT OVER SEPTIC FIELDS, AND NOT NEAR A STEEP BLUFF EDGE. RAIN GARDENS ON STEEP SLOPES (HOB) MAY REQUIRE AN ALTERNATIVE DESIGN WITH TERRACING.

SIZE WILL VARY DEPENDING ON THE DRAINING INTERFEROUS SURFACE AND THE DEPTH OF THE FILTER MEDIA. SEE GREENVILLE COUNTY RESIDENTIAL GREEN PRACTICES TECHNICAL SPECIFICATIONS FOR RAIN GARDENS FOR DETAILS.

**REFERENCES:**

PB PG

DB PG

**NOTES:**

TAX PARCEL(S):

ZONED:

AREA: SF, AC, DETERMINED BY COORDINATE GEOMETRY.

THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY BE SUBJECT TO ADDITIONAL COVENANTS AND RESTRICTIONS THAT MAY BE ON RECORD.

A PORTION OF THIS PROPERTY DOES NOT LIE IN A FLOOD HAZARD AREA AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY AS SHOWN ON FIRM PANEL NO. XXXXXXX DATED XXX-XX-XXXX.

PROPERTY LINES SHOWN AS DASHED WERE NOT SURVEYED.

THE PURPOSE OF THIS SURVEY IS TO ILLUSTRATE THE SIZE, LOCATION & TYPE OF WATER QUALITY FEATURE AS SHOWN HEREON.

**-EXAMPLE-**

**GREENVILLE COUNTY NOTES:**

1) THIS PROPERTY CONTAINS A PERMANENT WATER QUALITY FEATURE(S) THAT MUST BE MAINTAINED IN PERPETUITY IN ACCORDANCE WITH THE RECORDED STORM WATER MANAGEMENT FEATURES MAINTENANCE AGREEMENT BY THE RESPONSIBLE PROPERTY OWNER.

2) THE PURPOSE OF THE PERMANENT WATER QUALITY FEATURE(S) IS TO TREAT/REDUCE THE POLLUTANT ASSOCIATED WITH STORMWATER RUNOFF IN ORDER TO MINIMIZE NEGATIVE EFFECTS TO DOWNSTREAM RECEIVING WATERS.

3) THESE FEATURES SHALL BE MAINTAINED AS OUTLINED IN THE AGREEMENT AND IT SHALL BE UNLAWFUL TO ALTER OR REMOVE ANY PERMANENT WATER QUALITY FEATURES. MODIFICATION OR ALTERATION MUST BE APPROVED BY GREENVILLE COUNTY'S LAND DEVELOPMENT DIVISION.

4) THE EASEMENT AROUND THE FEATURE IS INTENDED TO PRESERVE THE FEATURE AND TO ENSURE ITS FUNCTION AND MAINTENANCE. ANY BUILDING WITHIN THE EASEMENT OR OBSTRUCTION WHICH IMPEDES STORMWATER FLOW TO THE FEATURE OR MAINTENANCE IS PROHIBITED.

**CERTIFICATE OF ACCURACY**

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN, ALSO THERE ARE NO VISIBLE ENCROACHMENTS OR PROJECTIONS OTHER THAN SHOWN.

PROFESSIONAL LAND SURVEYOR  
SC PLS #

DATE

**LEGEND**

O MARKER FOUND (AS NOTED)

C.T. CRIMPED TOP

O.T. OPEN TOP

PB/PG PLAT BOOK/PAGE

DB/PG DEED BOOK/PAGE



# Building Permit Close Out

- Once the LID Inspector approves the final inspection and all the close out documents they will sign off on the Orange Grading Permit Card at the construction site
- This will serve as a visual sign to the Building Inspector that the site is OK to close
- The LID Inspector will release the hold on the Building Permit C/O
- A new hold will be placed on the home for any future additions that could alter/remove the LID feature

# Post Construction Inspection

- The close out documents are handed over to the Post Construction BMP team and scanned into tracking system
- The BMP Inspection Team is responsible for the long term function of all stormwater management features
- A LID BMP Inspector will call the new owner of the home to set up a meeting to discuss how to maintain the feature
- Educational Information will be given to them
- The BMP Inspector will GPS the new LID into his field computer which downloads into our tracking system

# Annual Maintenance

- The tracking system will automatically set up an annual inspection date
- The new homeowner will receive a post card in the mail reminding them of the need to inspect their LID feature(s)
- Self Reporting Inspection Forms are located on our Website
- The Homeowner will perform the inspection, take pictures and mail or e-mail them to the LID BMP Inspector



## Single Family Residential LID - Self-Report Rain Garden Maintenance Inspection Report

Inspection Date: \_\_\_\_\_  
 Property Owner: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Inspector Name: \_\_\_\_\_

**Any storm water management feature element shall be corrected, repaired, and/or replaced immediately. These deficiencies can affect the integrity of and the efficiency of the storm water management feature.**

BMP Element:	BMP Deficiency:	Deficient: (✓ if Yes)	Comments:
The Inlet: pipe, stone, or grassed swale	Trash/Debris Present.		If checked, remove trash and debris & properly dispose to allow water to flow freely.
	The pipe is clogged. (if applicable)		If checked, unclog pipe.
	Sediment Accumulation.		If checked, remove sediment with shovel and dispose of outside of planter.
	Eroded or undercut areas. (if applicable)		If checked, fill in eroded or undercut areas and reseed areas of erosion. May need to provide erosion control devices such as turf matting or river stone to avoid future problems with erosion.
	Weeds, Overgrowth, Large Woody Debris.		If checked, remove all weeds, overgrowth, and large woody debris. (including trees)
	The pipe is cracked or otherwise damaged. (if applicable)		If checked, replace the pipe.
Rain Garden: Vegetation	Pruning or vegetation maintenance is needed to maintain optimal plant health.		If checked, prune occasionally maintain vegetation to minimize clogging of the media. Remove dead tree material.
	Plants are dead, diseased, or dying.		If checked, vegetation must be drought tolerant; watering could be required during prolonged dry periods after vegetation has been established.
	Unwanted / invasive vegetation, leaves, debris.		If checked, remove all weeds, invasive vegetation, leaves and debris (periodically). Conduct routine vegetation maintenance.
	Tree stakes/wires are present six months after planting.		If checked, remove tree stakes/wires.
	Trash/Organic debris present.		If checked, remove trash, feces and leaf debris ect.





# Questions