**Planning & Development Department**
**P.O. Box 11706, or 155 Johnston Street**
**Rock Hill, South Carolina 29731-1706**
**Phone: 803-329-5590 FAX: 803-329-7228**
**www.cityofrockhill.com**

# INFRASTRUCTURE GENERAL NOTES

Revised 11/18/2016

Below are the City of Rock Hill (CRH) general informational Infrastructure notes and requirements. These comments are included with all plan submittals and do not need to be addressed for preliminary or sketch plan reviews. However, the information is useful for future construction plan submittals and will help assist the applicant through the planning, design, review and approval process.

**ROADWAY:**

1. Construction shall not commence on proposed roadway improvements until the Street Improvement and Maintenance Agreement has been executed and the permit to construct has been issued. Submit four copies each of construction cost estimates and approved overall plans to the Development Services Department, Infrastructure Division (803-329-5515). Cost Estimates should include grading, curb and gutter, stone base, pavement and storm drain system. The overall plan should show streets (curb and gutter), rights of way, storm drainage system, and easements. Indicate the name of the development and the phase number, if applicable, on the overall plan.

2. Encroachment permits are required for all utility, sprinkler systems, signs, etc. for construction within the street right-of-way. When encroaching into a SCDOT right-of-way, an SCDOT encroachment permit is also required. The SCDOT encroachment application and plans must be approved by the Development Service's Engineer prior to submittal to SCDOT office. It is the responsibility of the project engineer to make sure that these permits are obtained. Submit legal size or digital copy of utility sheet(s) for acquisition of R/W.

3. Locations of all street name, regulatory, warning, guide signs, etc. shall be shown on the construction drawings per Section 7-100(B) 1(n) 2 of the Zoning Ordinance.

4. Dumpster or compactor storage containers are required on all sites. Recycling bins are not required, but need to be planned for if recycling pick-up services are anticipated. For information on how recycling can potentially reduce dumpster service volume and associated costs, please contact Tim Sylvester (803-329-5609). If a grease storage container is to be utilized, the container must be accounted for and secured within an approved enclosure.

Dumpster and recycling bin minimum requirements:

- dumpster bin shall be stored on a concrete pad (see CRH web-site for standard detail)
- dumpster bin shall be screened in accordance with CRH zoning requirements
- dual pads shall be 25' (wide) x 20' (deep)
- single pads shall be 12' (wide) x 20' (deep)
- dumpster pad and enclosure shall be adequately upsized to accommodate any future dumpster or roll-out carts needed for recycled materials (separate containers are required for cardboard, paper and/or commingled items).
- grease storage containers are to be stored in a separate enclosure, or dumpster enclosure must be adequately upsized to accommodate a shared use.
- 12' clear opening required for each access (including gate hinges)
- gates shall be secured during dumpster servicing (cane bolts and ground sleeves)
- concrete pad and screening wall/fence cannot encroach into an easement or buffer

- dumpster/bin truck circulation path must be verified for adequate access in accordance with the following specifications: overall truck length = 34', minimum turning radius for inside front tire = 40', front tread width = 8', wheelbase = 19.5', truck maximum width = 10' and maximum backing distance = 200'.
- dumpster truck circulation path shall be constructed of heavy duty pavement.
- if washout drain is provided: drain must discharge to sanitary sewer system, be fitted with an oil/grit separator, and not susceptible to stormwater runoff.
- stormwater inlets within 50' of dumpster enclosure contributing watershed must be fitted with water quality inserts (or other applicable measures), to screen out oils and pollutants carried by surface stormwater runoff from dumpster area and any wash off activities.

Dumpster waiver requests may be considered on a case-by-case basis. Please contact CRH Planning and Development Services Infrastructure Department (803-329-5515) for additional information.

5. Need to continue same shoulder grade (or max. 10%) min. 10' outside r/w for utility easement before beginning slope.

6. All unopened drives, not to be used with the development, are required to be closed.

7. Any pavement markings in the public R/W are required to be Thermoplastic, paint is not acceptable.

8. A "full depth" asphalt pavement design is required for the following conditions:

- where a City public roadway intersects with a City or SCDOT street, extending from the intersecting road for 50' or to the ROW line, whichever is greater

- where a private roadway, driveway or entrance intersects with a City street, extending from the intersecting road to the drive/entrance radius tangent point or to the ROW line, whichever is greater

- where a private roadway, driveway or entrance intersects with a SCDOT roadway, extending to the ROW line, or as required by SCDOT

9. Note: All materials, construction, and plans are to comply with current City of Rock Hill Standard Specifications and Details.

10. The developer, engineer and/or contractor must submit to PAC a complete set of "as-built" drawings, for roadway, water, sanitary sewer and storm drainage utilities (including detention basins and water quality facilities), for review and approval. As-built drawings are required for all public and privately owned utilities. Easements must be shown on the Final Plat, as applicable. If no Final Plat is required, then all easements must be recorded at the York County Courthouse and identified on the as-built plan with D.B. & Pg. numbers. See CRH web-site for As-Built Construction Check List.

Note, as-builts **MUST** be approved **BEFORE ISSUANCE** of final plat and/or certificate of occupancy (C.O.).

11. The City Engineer will sign the Final Plat when all street, drainage, water and sanitary sewer systems are completed and accepted. See CRH web-site for Water Sewer Roadway Drainage Acceptance Check List. No building permits or C.O.'s will be issued until the Final Plat is reviewed and recorded.

12. Once the plans have been approved by the Infrastructure Department, two additional "Site Plan" sheet(s) must be submitted for the easement and/or ROW acquisition process. One sheet shall have all of the various easements/ROW, public and private, individually highlighted with widths identified. See the City's "Civil Site Construction Plans Checklist", Site Plan section, for Site Plan requirements.

13. The following note shall be added to the roadway construction plans:

"Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging."

14. The final riding asphalt surface course is required to be Type C Surface.

15. Site plan must include all light pole locations. Light poles cannot be installed within easements and must not conflict with parking layout or landscaping requirements.

16. Utility easements must be shown on the landscaping and lighting plans.

**WATER – SEWER:**

1. Water and sewer fees (as applicable) are to be paid in the Inspections Division at City Hall. The City will install the water meter(s) upon payment of the water meter and acceptance of the water system by the City, which includes the issuance of the Permits to Operate by SCDHEC.

2. Need to submit *Willingness & Capability to Serve* application for all water & sewer extensions. A Willingness & Capability Letter, as issued by the City, must be included in the Engineer's DHEC construction permit application.

3. Construction shall not commence on any proposed water or sanitary systems until the necessary extension agreements have been executed and the city permit has been issued. Submit four copies each of construction cost estimates and approved overall plan to Infrastructure (Kathy Paterniti 803-329-5515 or kpaterniti@cityofrockhill.com). Extension Agreements cannot be fully executed without the receipt of the SCDHEC construction permits (See below).

4. Water or sewer extensions require SCDHEC permits. It is the responsibility of the Project Engineer to secure these permits from SCDHEC. For information on SCDHEC permitting process, visit www.scdhec.net. Plans must be approved by the City Development Services Engineer prior to application submittal to SCDHEC.

A pre-construction conference cannot be scheduled with the City until copies of all required SCDHEC construction permits are forwarded to Kathy Paterniti (kpaterniti@cityofrockhill.com).

5. If a flow test is required for this project, please submit a completed Fire Hydrant Flow Test Request application form and associated drawings with fee to Permit Application Center for processing. The form is available on our website.

6. Maximum distance between hydrants is 800' in residential with 1 hydrant at all intersections and within 250' of end of cul-de-sac.

7. Show FDC location on the plans with a hydrant within 100' of the FDC.

8. Maximum distance from farthest point of building to hydrant is 500' (measured as the line is laid not in a radius). A building permit cannot be issued until there is an operable fire hydrant within 500' of all points of all buildings.

9. Show fire hydrants on same side of street as water main, in alignment with property line (property line perpendicular to street) and not in middle of lot. Hydrants shall not be placed adjacent to proposed street parking (no parking allowed within 15' of hydrant, each direction).

10. All sewer and water extensions not located in City ROW must be ductile iron pipe. Ductile iron pipe requirement also applies to sewer lines within the SCDOT ROW.

11. Any sewer extensions between 12 & 18 ft deep are to be ductile iron pipe.

12. Maximum depth of sewer mains to be 18 ft.

13. The minimum elevation drop across manhole invert is 0.2 feet.

14. Required utility easement widths are as follows: water, storm drainage, and electric are 20', sewer is 30', and combined water & sewer is 40' min. (depending on depths the combined easement may be required to be wider).

15. For residential subdivision layout, water and sewer taps are to be shown 10' apart and centered in the middle of the lot; taps are not allowed to be placed in driveways.

16. All water meter boxes must be tagged with permanent identifying tags, to correspond with address served.

17. The following notes are required on the Site Utility Plan:

- "The contractor, prior to pouring the building slab and foundation, shall verify the accessibility of the sanitary sewer service and obtain confirmation from the design engineer regarding sanitary sewer service functionality."

- "The developer/contractor is responsible for flow testing private fire hydrants. Flow test results for private hydrants must be shown on the "As-Built" plans."

- "All materials, construction, and plans are to comply with current City of Rock Hill Standard Specifications and Details."

- "Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging."

18. All commercial and private swimming pools, saunas or fountains (with pump/filter systems or chemically treated water), must connect pool drain line(s) and pump filter system backwash line(s) to an approved sanitary sewer service connection. Chemically treated water, including backwash CANNOT be discharged onto the ground or into storm drainage facilities, above or underground, including stormwater detention or water quality facilities.

19. All public and private fire hydrants must be specified on the plans. Note public hydrants to be painted "silver" and private hydrants as "red".

20. The developer, engineer and/or contractor must submit to PAC a complete set of "as-built" drawings, for roadway, water, sanitary sewer and storm drainage utilities (including detention basins and water quality facilities), for review and approval. As-built drawings are required for all public and privately owned utilities. Easements must be shown on the Final Plat, as applicable. If no Final Plat is required, then all easements must be recorded at the York County Courthouse and identified on the as-built plan with D.B. & Pg. numbers. See CRH web-site for As-Built Construction Check List.

Note, as-builts **MUST** be approved **BEFORE ISSUANCE** of final plat and/or certificate of occupancy (C.O.).

21. The City Engineer will sign the Final Plat when all street, drainage, water and sanitary sewer systems are completed and accepted. See CRH web-site for Water Sewer Roadway Drainage Acceptance Check List. No building permits or C.O.'s will be issued until the Final Plat is reviewed and recorded.

22. Label all existing pipe systems (pipe size and material).

23. Overlay all utility easements on the landscaping and lighting plans.

24. Once the plans have been approved by the Infrastructure Department, two additional "Site Plan" sheet(s) must be submitted for the easement and/or ROW acquisition process. One sheet shall have all of the various easements/ROW, public and private, individually highlighted with widths identified. See the City's "Civil Site Construction Plans Checklist", Site Plan section, for Site Plan requirements.

25. Internal building floor drains and mop sinks must discharge into the sanitary sewer system, via an approved service connection and be equipped with an on-site oil/grit separator, where use involves oil/grease (cooking) and/or potential for grit/debris to enter the sewer system.

26. Prior to Issuance of building C.O., all easements, private and/or public, shall be recorded. Documentation shall be submitted to PAC for verification of all recorded easements.

27. All sanitary sewer service lines shall be installed with a cleanout at the easement or ROW line, as applicable. If cleanout location falls within an area subject to traffic loading, such as a driveway, parking lot, emergency access, etc., a cast iron or traffic rated equal clean-out is required to be specified on the plans.

28. For all water/sewer design, where vertical elevation control is necessary, a bench mark (BM) datum reference is required to be shown and noted on the plans.

29. Water meter boxes must be installed at the ROW/easement line or between the sidewalk and ROW line where adjacent to public ROW.

30. Sanitary sewer service connections at manholes shall be noted on the plan as core drilled with rubber boot.

**CITY OF ROCK HILL IMPACT FEES**
**(**Rates to Increase 7/1/2016- Please see Future Changes to the Impact Fee Schedule form**)**

*Note, the total impact fee for a typical single family house is $1,823.

**Fire Protection Impact Fees:**

Single-Family Residential Detached - $495
Multi-Family Residential - - - - $430 per 1000 sq. ft. (1000 sq. ft. min.)
Commercial & Institutional - - - $221 per 1000 sq. ft. (1000 sq. ft. min.)
Industrial & Manufacturing - - - $132 per 1000 sq. ft. (1000 sq. ft. min.)

**Water & Sanitary Sewer Wastewater Impact Fees:**

| Meter Size | Water | Wastewater |
|---|---|---|
| ¾" | $ 478 | $ 850 |
| 1" | $ 798 | $1,420 |
| 2" | $ 2,548 | $4,531 |
| 3" | $ 5,100 | $ 9,070 |
| 4" | $ 7,968 | $14,170 |
| 6" | $15,932 | $ 28,331 |
| 8" | $25,492 | $ 45,331 |
| 10" | $36,648 | $ 65,170 |
| 12" | $68,512 | $121,831 |

***Impact fees must be paid prior to the issuance of the building permits.***
***Call 803-329-5515, Kathy Paterniti for estimate.***

**STORMWATER:**

1. In accordance with the EPA's Phase II stormwater regulations and South Carolina Department of Health and Environmental Control (SCDHEC), the City of Rock Hill (CRH) is designated as a MS4 (Municipal Separate Stormwater System). Therefore, the City is responsible for issuing an erosion control permit. The applicant must submit, for **all** sites, a completed: "Stormwater Permanent Maintenance Agreement", "Stormwater Management and Erosion Control Checklist" and a Stormwater Sediment Control Certification." All forms are available on City website: http://www.cityofrockhill.com/ (Planning & Development Department / Infrastructure & Engineering).

2. CRH Land Disturbance Fee - applies to **all** sites and is based on a rate of $250/per disturbed acre, rounded up to next whole acre. The total disturbed area must be delineated and noted on the plans and include any associated construction for off-site activities, such as: water and sewer extensions; stormwater and roadway improvements; stock pile/staging areas; or other mitigating measures.

3. SCDHEC Notice of Intent (N.O.I.) Application - must be submitted to CRH for review and approval. Please select the appropriate N.O.I. form from the City website:

- SCDHEC N.O.I. Application – use this form for a disturbance of one or more acres, or for sites considered part of a Larger Common Plan (LCP). SCDHEC $125.00 fee is required. Once the plans are approved by Planning & Development Services Infrastructure, CRH will forward the accepted N.O.I. and Fee to SCDHEC. SCDHEC will review N.O.I. for errors and be responsible for issuing a National Pollution Discharge Elimination System (NPDES) permit. Approximate time frame for SCDHEC review is 10 days.

- SCDHEC N.O.I. Application Less than One Acre – use this form for disturbances less than one acre. No SCDHEC fee or NPDES permit is required.

4. CRH Construction Approval – construction cannot begin until all applicable fees are paid and Extension Agreements executed; CRH issues an Approval Letter; SCDHEC grants a NPDES permit; and a pre-construction meeting is held with the Infrastructure Division (call 803-329-5515 to schedule).

5. Existing wetlands must be delineated on the plans. Proposed wetland impacts will require 401 and/or 404 permits from SCDHEC and the US Army Corps of Engineers.

6. Encroachments or construction within the regulatory floodway and/or flood plain will require approval from the City Floodplain Manager. Proposed floodway and floodplain impacts must be evaluated for in accordance with City Municipal Code Buildings and Building Regulations, Article IX. Flood Damage Prevention and Zoning Ordinance Article 2, Section 2-300, Subsection (J) Stormwater Management and Erosion Control Plan. A flood study (CLOMR, LOMR, etc.) and/or floodplain compensation may be required in accordance with Article IX and as directed by the Floodplain Manager.

7. Show all erosion control measures and notes on plans, including details, for "Initial", "Secondary", and "Final" phases of construction, as applicable.

8. Show sediment control measures for existing drainage systems: catch basins, pipe inlets and ditches or swales.

9. Label and show existing and proposed contours.

10. List the total area for each of the following on the plans:
a. Roof b. Concrete c. Asphalt d. Remaining hard surface (ex. Gravel)
e. Water surface (ex. Wet Pond) f. Site Total Area

11. Stormwater Mitigation - flow rates for the post-development 2, 10 and *25-yr storms shall not exceed pre-development rates, at all property line points of discharge. (* Required if the downstream receiving system cannot adequately pass the 25-yr storm. Downstream improvements will be considered as an option, in lieu of mitigating for the 25-yr event, at the Developer's expense.) Additional requirements may be required, as directed by the Infrastructure Engineer, if it is determined that an increase in stormwater runoff "volume" may result in adverse impacts to adjacent or downstream properties, and where standard control of pre to post runoff rates will not suffice. See CRH "Stormwater Management and Erosion Control Checklist" for specific stormwater requirements. All projects needing to address stormwater mitigation must include a "Stormwater Mitigation Worksheet."

12. Post Construction Water Quality (WQ) – shall be required for all sites.

- Watershed/Basin routing of WQ volume is not allowed, must use the orifice equation and actual volume associated with contributing drainage area.
- Dry ponds must treat a volume of water equal to 1" deep for the total contributing drainage area.
- Wet ponds shall treat a volume of water equal to ½" deep for the total contributing drainage area.
- Ponds must release the WQ volume between 24 – 72 hours.
- Other innovative WQ measures, such as rain gardens, buffers, level spreaders, bio-swales, man-made wetlands, select tree plantings in and around stormwater ponds, etc. may be utilized in conjunction, or in lieu of traditional WQ pond treatment. Contact the Infrastructure engineer for pre-approval consideration of innovative measures.
- It is recommended that all stormwater mitigation facilities be addressed for WQ thermal impacts. Retention and detention ponds should be designed to include adequate landscaping for shading of pond, with selective plantings for pond perimeter and interior shown on the landscaping plans (no trees with tap roots allowed on dam). Underground filters may also be utilized for thermal treatment.

13. See the City of Rock Hill "Stormwater Management and Erosion Control Checklist" for specific requirements related to stormwater systems and erosion control.

14. A separate post-construction "Stormwater Mitigation Maintenance Plan" must be included in the Civil Site plan set and submitted for review and approval. The plan shall provide a comprehensive schedule and maintenance procedure to address the site, future operations and Best Management Practices (BMP's) with respect to stormwater impacts. The plan shall highlight all proposed BMP's. Instructions must be noted on how to manage detention basins, water quality facilities, sensitive natural areas, private stormwater systems, rain gardens, bio-swales, dumpster/compactor areas, grassed or landscaped areas, cleaning and washing activities, proper usage of herbicides and pesticides, material and equipment storage areas, etc. An approved plan shall be posted at the site management facility, HOA, or place of business, and be readily accessible by employees or City Stormwater Utility personnel.

15. CITY OF ROCK HILL/SCDHEC REQUIRED NOTES:

(See City website www.cityofrockhill.com for a list of mandatory SWPPP (stormwater pollution prevention plan) notes to be placed on the civil site construction plans.

a- If necessary, slopes which exceed eight (8) feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed daily until the slope is brought to grade.

b- Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below:

Where stabilization by the 14$^{th}$ day is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the site.

c- All sediment and erosion control devices shall be inspected every seven (7) days and within 24 hours after each rainfall occurrence that exceeds one-half (0.5) inch. If site inspections or other information identify BMPs that are damaged, inappropriately or incorrectly installed, or not operating effectively, then maintenance must be performed as soon as practicable, or as reasonably possible and no less than 48 hours from the time of identification (preferably before the next storm event).

d- Provide silt fence and/or other control devices as may be required to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded and stabilized with grassing immediately after the utility installation. Fill cover and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any stormwater systems, water courses and waters of the state (WoS) or waters of the United States (WoU.S.).

e- All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.

f- The contractor must take necessary action to minimize the tracking of mud onto paved roadway from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.

g- Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or obtain approval of an individual plan in accordance with SC Reg. 72-300 Seq. and SCR100000.

h- Temporary diversion berms and/or ditches will be provided as needed during construction to protect work areas from upslope runoff and/or divert sediment laden water to appropriate traps or stable outlets.

i- All WoS or WoU.S., including wetlands, are to be flagged or otherwise clearly marked in the field. A double row of silt fence is to be installed in all areas where a 50-foot buffer cannot be maintained between the disturbed area and all WoS and a 130-foot minimum buffer for WoU.S. A 25-foot no disturbance zone shall be maintained between the last row of silt fence and all WoS and a minimum 50-foot no disturbance zone for WoU.S. Buffers and no disturbance zones shall be measured from top of creek bank.

j- Litter, construction debris, oils, fuels and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.

k- A copy of the SWPPP (including civil construction plans and supporting documents), inspections records, and rainfall data must be retained at the construction site or a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization is reached.

l- Initiate stabilization measures on any exposed steep slope (3H:1V or greater) where land-disturbing activities have permanently or temporarily ceased, and will not resume for a period of seven (7) calendar days.

m- Minimize soil compaction and, unless infeasible, preserve and stockpile topsoil for reuse.

n- The following discharges from sites are prohibited: Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials; Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and Soaps or solvents used in vehicle and equipment washing.

o- After construction activities begin, inspections must be conducted at a minimum of at least once every calendar week and must be conducted until final stabilization is reached on all areas of the construction site.

p- If existing BMPs need to be modified or if additional BMPs are necessary to comply with the requirements of this permit and/or SC's Water Quality Standards, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as reasonably possible.

q- A Pre-Construction Conference must be held for each construction site with an approved On-Site SWPPP prior to the implementation of construction activities. For non-linear projects that disturb 10 acres or more this conference must be held on-site unless the Department has approved otherwise.

r- Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

s- Minimize the discharge of pollutants from dewatering of trenches and excavated areas. These discharges are to be routed through appropriate BMPs (sediment basin, filter bag, etc.).

t- Show BMP measures for concrete truck washout area, or add the following notes:

Concrete trucks shall not typically be washed out on site. If concrete truck washout is permitted on site, coordinate location and BMP's with site inspector.

Do not dispose of concrete truck washout waste by dumping into a sanitary sewer, storm drain or onto soil or pavement that carries storm water runoff.

Concrete truck washout shall be disposed of in accordance with the following:

- designated area that will later be backfilled (slurry pit)
- designated area where concrete wash can harden and be disposed of as solid waste.
- location that is not subject to water runoff, and more than 50 feet away from a storm drain, open ditch, or receiving water way.
- pump excess concrete in concrete pump bin back into concrete mixer truck.
- concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of offsite.

u- The following discharges from sites are prohibited:

- Wastewater from washout of concrete, unless managed by an appropriate control;
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
- Soaps or solvents used in vehicle and equipment washing.

v- All chemical spills, oil spills, or fish kills must be reported to SCDHEC Land & Waste Management Emergency Response – call the 24-hour emergency response line at 1-888-481-0125.

w- Temporary toilet facilities shall be provided for all construction workers and site visitors in accordance with 2006 International Plumbing Code General Regulations, Section 311. Portable facilities shall be placed on level ground and away from storm drainage systems (ditches, catch basins, etc.). Disposal and handling of sanitary waste must comply with SCDHEC requirements.

x- Final grades for grassed and landscaped areas shall require a minimum of 4-6" of clean top soil, free of debris and contaminants, and preferably of native origin.

16. Storm drainage easements shall be provided for stormwater systems traversing across lots or for the conveyance of off-site stormwater flows, and shall include proposed constructed facilities or natural waterways. Generally, water flowing from one property to another must be adequately accounted for and conveyed in an easement. The minimum size easement is 20 feet. Larger easements may be required, depending on facility size, design flow rates, and floodplain limits (FEMA or "Local" flooding conditions). Adequate access for post-development maintenance of stormwater mitigation facilities shall be provided and defined by a minimum 20' private access and/or drainage easement, where applicable.

Storm Drainage Easements shall be labeled as follows:

"Private Storm Drainage Easement" – privately owned and maintained stormwater mitigation facilities (no contributing off-site through drainage)
"Public Storm Drainage Easement" - system receives off-site through drainage, primarily consisting of runoff from City ROW or City owned property (final determination to be approved by City Infrastructure)

"Storm Drainage Easement" – system receives off-site through drainage from multiple upstream entities, such as privately owned land, commercial properties, SCDOT ROW and City ROW

"Private Storm Drainage Easement" and "Storm Drainage Easement" will be the responsibility of the Property Owner or H.O.A. to maintain, as applicable. All easements need to be accurately depicted and labeled on the grading and drainage plans, shown on the Record Plat and properly recorded at the York County Court House.

17. Add the following notes to the Stormwater and Erosion Control plans:

"All materials, construction, and plans are to comply with current City of Rock Hill Standard Specifications and Details."

"Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging."

"Contractor shall provide verification to the Design Engineer that all sediment basin and/or post construction stormwater mitigation facility configuration, including outlet structure elevations, dam elevations, spillway elevations and basin volumes are in accordance with approved design. If basin configuration does not meet the intent of the approved design, then the basin facility shall be corrected to meet compliance or a new revised analysis must be submitted to CRH Development Services Infrastructure for review and approval."

If the SWPPP has been developed by a Registered Professional Engineer, Registered Landscape Architect or Tier B Land Surveyor, the following statement must be included:

"I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000."

18. The developer, engineer and/or contractor must submit to PAC a complete set of "as-built" drawings, for roadway, water, sanitary sewer and storm drainage utilities (including detention basins and water quality facilities), for review and approval. As-built drawings are required for all public and privately owned utilities. Easements must be shown on the Final Plat, as applicable. If no Final Plat is required, then all easements must be recorded at the York County Courthouse and identified on the as-built plan with D.B. & Pg. numbers. See CRH web-site for As-Built Construction Check List.

Note, as-builts **MUST** be approved **BEFORE ISSUANCE** of final plat and/or certificate of occupancy (C.O.).

19. The "Stormwater Mitigation Maintenance Plan" must be included as part of the stormwater "as-builts".

20. The City Engineer will sign the Final Plat when all street, drainage, water and sanitary sewer systems are completed and accepted. See CRH web-site for Water Sewer Roadway Drainage Acceptance Check List. No building permits or C.O.'s will be issued until the Final Plat is reviewed and recorded.

21. Five (5) sets of Civil Site Construction Plans and one (1) set of calculations (SWPPP Report) shall be submitted for final approval, after all comments and revisions have been addressed. A CD (digital file) with plans and calculations in PDF format is also required.

22. Label all existing pipe systems (pipe size and material).

23. Retaining walls over 4' require a separate permit and inspections.

24. Once the plans have been approved by the Infrastructure Department, two additional "Site Plan" sheet(s) must be submitted for the easement and/or ROW acquisition process. One sheet shall have all of the various easements/ROW, public and private, individually highlighted with widths identified. See the City's "Civil Site Construction Plans Checklist", Site Plan section, for Site Plan requirements.

25. All stormwater catch basins, inlets, manholes, outlet structures, etc. shall be permanently labeled as "No Dumping, Drains to River" and include a fish symbol.

26. For all stormwater facility design, where vertical elevation control is necessary, a bench mark (BM) datum reference is required to be shown and noted on the plans.

*************END OF INFRASTRUCTURE STANDARD NOTES*************

**MISCELLANEOUS:**

The following note shall be added to Sketch and Major Site Plans (preliminary plans):

"Approval of the preliminary, sketch or major site plan is for conceptual layout and design purposes only. Construction plans for roadway, water, sewer and stormwater utilities, including easements, shall reflect any unforeseen site constraint limitations and must comply with City Infrastructure requirements."

**Single Family SWPPP (LCP):**

The subject residential lot is considered part of a previously pemitted subdivision/development. However, since the orginal SCDHEC NPDES permit has expired, a new NPDES permit must be obtained. Please submit a N.O.I. (Notice of Intent) and SWPPP (Stormwater Pollution Prevention Plan) in accordance with the following requirements:

1. In accordance with the EPA's Phase II stormwater regulations and South Carolina Department of Health and Environmental Control (SCDHEC), the City of Rock Hill (CRH) is designated as a MS4 (Municipal Separate Stormwater System). Therefore, the City is responsible for issuing an erosion control permit. The applicant must submit, for all sites, a completed: "Stormwater Management and Erosion Control Checklist" and a Stormwater Sediment Control Certification." All forms are available on City website: http://www.cityofrockhill.com/ (Planning & Development Department / Infrastructure & Engineering).

2. CRH Land Disturbance Fee - applies to all sites and is based on a rate of $250/per disturbed acre, rounded up to next whole acre. The total disturbed area must be delineated and noted on the plans and include any associated construction for off-site activities, such as: water and sewer extensions; stormwater and roadway improvements; stock pile/staging areas; or other mitigating measures.

3. SCDHEC Notice of Intent (N.O.I.) Application - must be submitted to CRH for review and approval.

- SCDHEC N.O.I. Application – use this form for a disturbance of one or more acres, or for sites considered part of a Larger Common Plan (LCP). SCDHEC $125.00 fee is required. Once the plans are approved by Planning & Development Services Infrastructure, CRH will forward the accepted N.O.I. and Fee to SCDHEC. SCDHEC will review N.O.I. for errors and be responsible for issuing a National Pollution Discharge Elimination System (NPDES) permit. Approximate time frame for SCDHEC review is 10 days.

4. CRH Construction Approval – construction cannot begin until all applicable fees are paid and Extension Agreements executed; CRH issues an Approval Letter; SCDHEC grants a NPDES permit; and a pre-construction meeting is held with the Infrastructure Division (call 803-329-5515 to schedule).

5. Show all erosion control measures and notes on plans, including details, for "Initial", "Secondary", and "Final" phases of construction, as applicable.

6. Show sediment control measures for existing drainage systems: catch basins, pipe inlets and ditches or swales.

7. Label and show existing and proposed contours.

8. See the City of Rock Hill "Stormwater Management and Erosion Control Checklist" for specific requirements related to stormwater systems and erosion control.

9. CITY OF ROCK HILL/SCDHEC REQUIRED NOTES:

(See City website www.cityofrockhill.com for a list of mandatory SWPPP (stormwater pollution prevention plan) notes to be placed on the civil site construction plans.)

10. Add the following notes to the Stormwater and Erosion Control plans:

“All materials, construction, and plans are to comply with current City of Rock Hill Standard Specifications and Details.”

“Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging.”

"Any site grading shall comply with intent of original development grading and drainage plans."

11. Five (5) sets of Civil Site Construction Plans and one (1) set of calculations (SWPPP Report) shall be submitted for final approval, after all comments and revisions have been addressed. A CD (digital file) with plans and calculations in PDF format is also required.

12. Label all existing pipe systems (pipe size and material).

13. Retaining walls over 4’ require a separate permit and inspections.

14. A drainage swale is required along each side property line and shall be constructed to provide a positive drainage outlet, in accordance with the approved SWPPP grading plans.

**Single Family Infield:**

1- Provide silt fence and/or other control devices as may be required to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded and stabilized with grassing immediately after the utility installation. Fill cover and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any stormwater systems, water courses and waters of the state (WoS) or waters of the United States (WoU.S.).

2- All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.

3- The contractor must take necessary action to minimize the tracking of mud onto paved roadway from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.

4-Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or obtain approval of an individual plan in accordance with SC Reg. 72-300 Seq. and SCR100000.

5-Litter, construction debris, oils, fuels and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.

6- Show BMP measures for concrete truck washout area, or add the following notes:
Concrete trucks shall not typically be washed out on site. If concrete truck washout is permitted on site, coordinate location and BMP's with site inspector.

Do not dispose of concrete truck washout waste by dumping into a sanitary sewer, storm drain or onto soil or pavement that carries storm water runoff.

Concrete truck washout shall be disposed of in accordance with the following:

- designated area that will later be backfilled (slurry pit)
- designated area where concrete wash can harden and be disposed of as solid waste.
- location that is not subject to water runoff, and more than 50 feet away from a storm drain, open ditch, or receiving water way.
- pump excess concrete in concrete pump bin back into concrete mixer truck.
- concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of offsite.

7- All chemical spills, oil spills, or fish kills must be reported to SCDHEC Land & Waste Management Emergency Response – call the 24-hour emergency response line at 1-888-481-0125.

8- Temporary toilet facilities shall be provided for all construction workers and site visitors in accordance with 2006 International Plumbing Code General Regulations, Section 311. Portable facilities shall be placed on level ground and away from storm drainage systems (ditches, catch basins, etc.). Disposal and handling of sanitary waste must comply with SCDHEC requirements.

9- Final grades for grassed and landscaped areas shall require a minimum of 4-6” of clean top soil, free of debris and contaminants, and preferably of native origin.

10-Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging.

11-Water and sewer fees (as applicable) are to be paid in the Inspections Division at City Hall. The City will install the water meter(s) upon payment of the water meter. The water meter cannot be located within the driveway. The water meter cannot be located in the driveway.

12-Any damage to the street, utilities, curb, gutter, sidewalk, etc. is the responsibility of the builder to repair, prior to issuance of building CO.

13-The contractor, prior to pouring the building slab and foundation, shall verify the accessibility of the sanitary sewer service to confirm the sanitary sewer service functionality. It is the contractor's responsibility to determine if a backwater valve is required.

14-Encroachment permits are required for all utility, sprinkler systems, signs, driveways, etc. for construction within the street right-of-way. When encroaching into a SCDOT right-of-way, a SCDOT encroachment permit is also required. The SCDOT encroachment application and plans must be approved by the Development Service’s Engineer prior to submittal to SCDOT office. It is the responsibility of the contractor to make sure these permits are obtained.

15-No change in existing drainage patterns.

16- A drainage swale is required along each side property line and shall be constructed to provide a positive drainage outlet, in concert with topographical constraints.

**Lot Part of LCP with Co-permittee Agreement Advisory Notes:**

1. Since subject lot is part of a Larger Common Plan (LCP), Contractor shall comply with NPDES permit requirements for development.

2. All materials, construction, and plans are to comply with current City of Rock Hill Standard Specifications and Details.

3. Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging.

4. Any site grading shall comply with intent of original development grading and drainage plans.

5. Retaining walls over 4' require a separate permit and inspections.

6. Any damage to the street, utilities, curb, gutter, sidewalk, etc. is the responsibility of the builder to repair any damage before the building CO is issued.

7. The contractor, prior to pouring the building slab and foundation, shall verify the accessibility of the sanitary sewer service to confirm the sanitary sewer service functionality. It is the contractor's responsibility to determine if a backwater valve is required.

8. A minimum 4" of top soil is required for all permanent grassed and landscape areas.

9. A drainage swale is required along each side property line and shall be constructed to provide a positive drainage outlet, in accordance with the approved SWPPP grading plans.

10. Lot specific SCDHEC approved sediment and erosion control measures, such as construction entrance, silt fencing, etc. shall be implemented, as required. "City of Rock Hill/SCDHEC Required Notes" shall be attached to the approved SWPPP and maintained on site at all times.

***If no co-permitttee agreement is submitted, then suggest the following comment in Review Comments:***

Since lot is part of a Larger Common Plan (LCP), a Co-Permittee Agreement is required, or a new Stormwater Pollution Prevention Plan (SWPPP) plan must be submitted for review and approval. The Advisory Comments provided correspond with a Co-Permittee Agreement. Additional comments may be forthcoming if applicant chooses to submit a new SWPPP.

***If part of a previously approved SWPPP plan, where contractor is same as SWPPP permit holder, then suggest the following be added to Advisory Notes:***

Erosion and sediment controls shall be in accordance with DHEC NPDES permit for _____ Subdivision, File # __-__-__-___, general permit coverage #SCR_____.

Contractor shall maintain a set of approved SWPPP (erosion/sediment control plans) on site at all times.

**Residential Building Addition or Storage Building (outside of floodplain):**

1. All materials, construction, and plans are to comply with current City of Rock Hill Standard Specifications and Details.

2. Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging.

3. No change in existing drainage patterns are allowed.

4. Provide silt fence and/or other control devices as may be required to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded and stabilized with grassing immediately after the utility installation. Fill cover and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any stormwater systems, water courses and waters of the state (WoS) or waters of the United States (WoU.S.).

5. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.

6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.

7. Litter, construction debris, oils, fuels and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.

8. Show BMP measures for concrete truck washout area, or add the following notes:
Concrete trucks shall not typically be washed out on site. If concrete truck washout is permitted on site, coordinate location and BMP's with site inspector.

Do not dispose of concrete truck washout waste by dumping into a sanitary sewer, storm drain or onto soil or pavement that carries storm water runoff.

Concrete truck washout shall be disposed of in accordance with the following:

- designated area that will later be backfilled (slurry pit)
- designated area where concrete wash can harden and be disposed of as solid waste.
- location that is not subject to water runoff, and more than 50 feet away from a storm drain, open ditch, or receiving water way.
- pump excess concrete in concrete pump bin back into concrete mixer truck.
- concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of offsite.

9. All chemical spills, oil spills, or fish kills must be reported to SCDHEC Land & Waste Management Emergency Response – call the 24-hour emergency response line at 1-888-481-0125.

10. Temporary toilet facilities shall be provided for all construction workers and site visitors in accordance with 2006 International Plumbing Code General Regulations, Section 311. Portable facilities shall be placed on level ground and away from storm drainage systems (ditches, catch basins, etc.). Disposal and handling of sanitary waste must comply with SCDHEC requirements.

11. Final grades for grassed and landscaped areas shall require a minimum of 4-6” of clean top soil, free of debris and contaminants, and preferably of native origin.

12. Any damage to the street, utilities, curb, gutter, sidewalk, etc. is the responsibility of the builder to repair any damage before the building CO is issued.

13. Encroachment permits are required for all utility, sprinkler systems, signs, driveways, etc. for construction within the street right-of-way. When encroaching into a SCDOT right-of-way, a SCDOT encroachment permit is also required. The SCDOT encroachment application and plans must be approved by the Development Service's Engineer prior to submittal to SCDOT office. It is the responsibility of the contractor to make sure these permits are obtained.

**Swimming Pools:**

Review-

1. Need to show pool drain and backwash system discharging into the city sewer - discharge is not allowed onto the ground or into stormwater systems. Even if the filter system is to be a disposable cartridge, the pool drains must be tied to existing sanitary sewer service connection.

2. Please show approximate limits of grading construction on the site plan.

Advisory-

The following notes shall be attached to the site plan and posted at the construction site:

1. Chemically treated pool water shall not be discharged onto the ground or into stormwater systems.

2. No change in existing drainage patterns.

3. Provide silt fence and/or other control devices as may be required to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded and stabilized with grassing immediately after the utility installation. Fill cover and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any stormwater systems, water courses and waters of the state (WoS) or waters of the United States (WoU.S.).

4. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.

5. The contractor must take necessary action to minimize the tracking of mud onto paved roadway from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.

6. Litter, construction debris, oils, fuels and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.

7. Do not dispose of concrete truck washout waste by dumping into a sanitary sewer, storm drain or onto soil or pavement that carries storm water runoff.

Concrete truck washout shall be disposed of in accordance with the following:

- designated area that will later be backfilled (slurry pit)
- designated area where concrete wash can harden and be disposed of as solid waste.
- location that is not subject to water runoff, and more than 50 feet away from a storm drain, open ditch, or receiving water way.
- pump excess concrete in concrete pump bin back into concrete mixer truck.

- concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of offsite.

8. All chemical spills, oil spills, or fish kills must be reported to SCDHEC Land & Waste Management Emergency Response – call the 24-hour emergency response line at 1-888-481-0125.

9. Contact Palmetto Utility Protection Service (PUPS) @ 811 or 888-721-7877, a minimum of 72 hours before digging.

10. Any damage to the street, utilities, curb, gutter, sidewalk, etc. is the responsibility of the builder/contractor.

**Sample Notes for Lot in Stormwater Sag**

1. Need to clarify what is meant by the "Flood=559" note on the site plan. According to Site Design Data, note #25, per Walker's Ridge Final Plat, the plat designates a minimum FFE (first floor elevation). Please review Final Plat and clarify information on site plan.

2. Please note, the minimum first floor elevations shown on the Final Plat do not appear to be based on the most current FEMA FIRM (Sept. 2008). Therefore, base flood elevations for establishment of minimum first floor elevations needs to be checked with respect to the 2008 FIRM. If the 2008 FIRM base flood elevations are greater than what is reflected on the approved Final Plat, then the minimum first floor elevation should also be adjusted to reflect the most current FEMA FIRM. If the elevations shown on the Final Plat prove to be more conservative, then it is recommended for the minimum first floor elevation to reflect the plat requirements. The base flood elevation, as required per FEMA elevation certificate, will need to reflect the latest revision of FEMA FIRM (Sept. 2008).

3. Development Services recently responded to a flooding complaint regarding the existing adjacent single family residence at 134 Front Porch Drive. As a result of our investigation the following needs to be resolved:

- It appears the existing storm junction manhole along property line near ROW and storm manhole for water quality diversion structure at rear of lot, have been graded over. The manholes need to be maintained in an accessible state and all fill removed to show manhole lids.

- The existing water quality diversion structure and pipe needs to be checked for any blockages or silt accumulation. All debris and silt shall be removed to ensure unobstructed flow of system.

- Since it is critical to have optimum flow throught the existing drainage system, to help prevent flooding associated with high intensity events, please remove the silt sacks located in the roadway sump catchbasins in front of 134 Front Porch Dr. All other silt sacks will need to be replaced for the remainder of the upstream contributing storm system (extending up Front Porch Dr. & Homeward Lane).

- Since lots 128 and 134 Front Porch Drive are located adjacent to a sump condition with respect to the roadway, it is critical that appropriate overland relief is provided for storm events in excess of the standard 25-yr event. This can be addressed by grading in an adequate swale between lots 128 and 134, within the existing drainage easement. The swale currently shown between the lots is practically nonexistent. The swale/ditch should extend from the ROW sidewalk to the rear of the lot and be appropriately stabilized.

- The existing fence located on 134 Front Porch Drive was constructed without a permit and appears to be on top of the 36" pipe through drainage system. The fence will need to be removed out of the easement and the lot grades adjusted to accommodate a relief swale/ditch. Any potential conflicts with existing storm drainage system, including water quality diversion structure will need to be coordinated with the development engineer and the City.

**LOCAL FLOODPLAIN BUILDING ADDITION SAMPLE NOTES**

The City of Rock Hill recently conducted studies identifying areas with a high risk of flooding. These studies were conducted for stormwater planning purposes. The referenced property (_____) may be located within a high-risk area, as shown on the City's flood maps. Although the property may not be located in a FEMA (Federal Emergency Management Agency) high risk designated flood area, the City's studies indicate the chances of flooding may be similar to such FEMA designated areas.

Since the lot and/or home located at _____. has been identified as potentially being located within a local floodplain or inundation zone, it is "recommended" that new construction comply with the City's Floodplain Ordinance. Adherence to these requirements is specifically at the Homeowner's discretion. The following must be addressed to satisfy these requirements:

- Complete a FEMA FIRM Elevation Certificate to show elevation of lowest adjacent grade for house, lowest grade of enclosed crawl space and first floor elevation. (Note: based on Stormwater Master Plan flood study, the base flood elevation for 2006 Montclair is 590.0)
- Submit the Elevation Certificate to the City Building Official to determine if additional hydrostatic venting will be required for the structure's crawl space.
- Any applicable conditions will be placed on the building permit.
- If required, a final post-construction elevation certificate shall be submitted for review and approval. (Certificate shall demonstrate appropriate hydrostatic venting is installed).
- Elevate mechanical equipment to a minimum of 2' above base flood elevation.
- _____

**NEW HOUSE/LOT IN FEMA FIRM OR LOCAL FLOODPLAIN NOTES**

1. USE NOTE WHEN APPLICABLE - Need to provide a note on the plan for a geotech soil investigation to be performed to identify suitable soils for structures. (Note, past site inspections identified miscellaneous fill being placed and spread across the subject lots. Quality of soil and degree of compaction is questionable.)

2. USE NOTE WHEN APPLICABLE - Need to provide a grading plan for all lots. Grading plans shall show adequate positive drainage, as follows:

- since this portion of Kilgarnin Ct. is located at bottom of hill with a single catchbasin in cul-de-sac, a relief swale to handle overland 100-yr overflow needs to be incorporated into the grading plan for the lots, most likely extending from low point of cul-de-sac and back toward creek across a portion of Lot 48.

- need to incorporate a swale on uphill side of Lot 50 and Lot 47 to direct and intercept any runoff from lots above and around proposed residence.

3. Minimum first floor elevations shall be established for lots 47/48 and 49/50. These lots are located adjacent to an existing creek where a local inundation flood zone has been identified, per the City's Stormwater Masterplan. This information is in the preliminary stage and has not been officially adopted, but is considered the best available information at this time. The inundation area is based on a 100-yr storm event. For Lot 47/48 the approximate flood elevation is 598.8 and Lot 49/50 is 600.8. The miminum FF elevation needs to be set at two feet above the flood elvation, thereby yielding the following:

Lot 47/48 - Min. FF Elev. 600.8
Lot 49/50 - Min. FF Elev. 602.8

4. Place the following note on the SWPPP:

Elevation Certificates will be required for Lots 47/48 and 49/50. Elevation Certificates shall be submitted to Development Services Infrastructure for review as a two step process, where Foundation Only and Minimum First Floor approvals will be required.

5. The FEMA FIRM or Local Inundation Flood Zone needs to be shown on the plans. Please contact Development Services Infrastructure for Local Inundation Flood Zone data.

8. Need to show a dual row of silt fence where disturbance is less than 50' from top of creek bank.

9. The N.O.I. needs to be revised, as follows:

- The total acreage needs to include acreage associated with the larger common plan. Based on GIS database, the total area is approximately 13 acres.
- Waters of the U.S. - it appears the blue-line stream running across rear of lots 47/48 & 49/50 may need to be addressed under Section B. Waters of the U.S./State Information, please revise as necessary.

10. If the SWPPP has been developed by a Registered Professional Engineer, Registered Landscape Architect or Tier B Land Surveyor, the following statement must be shown on the plans:

"I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000."