

| Projec     | t Name                              | Reserve at Mitchell Mill | Watershed                    | WatershedLower Neuseate Processing02/27/2025 |                                 | Jurisdiction                               | Rolesville      |
|------------|-------------------------------------|--------------------------|------------------------------|--|---------------------------------|--|-----------------|
| Date R     | eceived                             | 02/27/2025               | Date Processing<br>Initiated |  |                                 | Disturbed<br>Acreage                       | 93.12           |
| S&E        | Permit                              | SEC 44447 2025           | S&E                          | ćar  |                                 |  |                 |
| r          | umber                               | SEC-141417-2025          | Plan Review ree              | ŞZ:  | 5,280 PAID                      | S&E Permit Fee                             | ŞZ3,280 PENDING |
| SW         | Permit                              |                          | sw                           |  |                                 |  |                 |
| Ν          | lumber                              | SWF-137298-2024          | Plan Review Fee              | \$2,   | 500 PAID                        | SW Permit Fee                              | \$2,500 PENDING |
| Applicant: |                                     |                          | Engineer                     | r:   | loshua Lam                      | hert / Strong Rock F                       | ngineering      |
| Name       | HC Role                             | sville Investments IIC   | Nar                          | Name: Group PLLC                             |                                 |  | ingineering     |
| Nume       | 1616 Cleveland Avenue, Charlotte, N |                          | IC                           | 6801 Fa                                      |                                 | Falls of Neuse RD Unit: Suite 108 Raleigh, |                 |
| Address:   | 28203                               |                          | Addre                        | ess: NC 27615                                |                                 |  |                 |
| Phone:     | 919-618-9929                        |                          | Pho                          | ne:  | 984-200-1932                    |  |                 |
| Email:     | <u>bharrel</u>                      | l@hoppercommunites.com   | Em                           | ail:   | information@strongrockgroup.com |  |                 |
|            |                                     |                          |                              | -  |                                 |  |                 |

#### Plan Date/Revision Date: 02/27/2025

| Review Status: | $\boxtimes$ | Construction Plan Not Approved and Incomplete (Items 1-4 required to be a complete submittal) |
|----------------|-------------|---|
| 03/28/2025     | $\boxtimes$ | Construction Plan Not Approved and requires additional information                            |

| Cons  | Construction Plan Review Comments  |   |  |  |  |  |
|---|--|---|--|--|--|--|
| ltem  | Items marked with an "X" were noted as either insufficient or not provided. Engineer comments are in RED and provide the |   |  |  |  |  |
| nece  | essary   | requirements for construction plan approval.  |  |  |  |  |
| Refe  | rences   | s for Erosion and Sediment Control: <u>Wake County Unified Development Ordinance (UDO) Article 10</u>             |  |  |  |  |
| Refe  | rences   | s for Stormwater Management are as follows:   |  |  |  |  |
| ROL   | ESVILL   | E: Town of Rolesville Unified Development Ordinance (UDO) Section 7.5: Stormwater Management Standards            |  |  |  |  |
| WEN   | NDELL:   | Town of Wendell Unified Development Ordinance (UDO) <u>Chapter 6: Environmental Protection, adopted 7/26/10</u> . |  |  |  |  |
| ZEBU  | ULON:  | Town of Zebulon, NC Code of Ordinances: <u>Chapter 151 and Chapter 152.249.</u>                                   |  |  |  |  |
| $\square$   | 1  | Erosion Control and Stormwater Joint Application (Required to initiate processing)                                |  |  |  |  |
|   | т.   | *Disturbed area may need to be adjusted for roadway and utilities improvements see item 14d.                      |  |  |  |  |
|   |  | Review Fees (Required to initiate processing)   |  |  |  |  |
| $\square$   | 2.   | RESUBMITTALS: The first resubmittal is free, but all subsequent Stormwater resubmissions require a \$150          |  |  |  |  |
|   |  | Resubmission Fee and Erosion Control resubmissions require a \$75 Resubmission Fee                                |  |  |  |  |
| Notarized Wake County Financial Responsibility/Ownership Form (Required to initiate processing) |  |   |  |  |  |  |
| $\square$   | 2  | -There appears to be some grading in private lots across phase 3. Add their owner information as an additional    |  |  |  |  |
|   | э.   | sheet to the FRO form.  |  |  |  |  |
|   |  | *Disturbed area may need to be adjusted for roadway and utilities improvements see item 14d.                      |  |  |  |  |



| $\square$ | 4.          | Other documents:   |   |  |  |
|-----------|-------------|--|---|--|--|
|           | $\boxtimes$ | a.   | <ul> <li>Engineering Approval: Copy of approval notification for projects in a municipality's zoning jurisdiction</li> <li>aProvide Town of Rolesville approval (approval/correspondence from the Town will be needed prior to permit issuance)</li> </ul>  |  |  |
|           | $\boxtimes$ | <b>b.</b> 401/404 Documentation (Buffer determination letters, PCN application, comments, and approval)<br>-Documentation of wetland delineations. Include impacts maps with approvals |   |  |  |
|           | $\boxtimes$ | c.   | c. NCDOT Approval (Temporary Construction Entrances, Encroachment Agreements, etc.)   |  |  |
|           |             | d.   | Encroachment agreement(s) completed, signed and notarized for all off-site construction   |  |  |
|           | $\boxtimes$ | e.   | The erosion and sedimentation control plan must include the owner's written consent for the applicant to submit an erosion and sedimentation control plan and to conduct the anticipated land-disturbing activity if the applicant is not the owner of the land to be disturbed [10-30-2-(B)-(2)-(c)]<br>-There appears to be some grading in private lots across phase 3. Provide owner consent from the owners giving permission to the financial responsible party to submit for permit and conduct land disturbing activities.<br><u>https://s3.us-west-1.amazonaws.com/wakegov.com.if-us-west-1/s3fs-public/documents/2023-03/Landowner%20Consent%20Form%20Template%20-Fillable%20Form.pdf</u> |  |  |
|           | 5.          | NCDC   | NCDOT Approval (provide documentation upon receipt for our records)   |  |  |
|           | 6.          | Cover<br>objec<br><mark>RESU</mark>  | Cover letter stating the purpose of the submission, describing site drainage, stormwater management objectives, and how the proposed stormwater management plan will meet the objectives and be implemented <b>RESUBMITTALS</b> : A letter detailing any changes, comments, proposed solutions to review comments, etc.   |  |  |
|           | 7.          | Сору   | Copy of the USGS Quad Map with delineated project limits.   |  |  |
|           | 8.          | Copy<br>-Use<br>https  | Copy of the Wake County Soil Survey map with delineated project limits from 1970 manuscript.<br>-Use the black and white map in the link below.<br>https://experience.arcgis.com/experience/a16078049de54d42a2bc384b9ceda91f  |  |  |
|           | 9.          | One (1) electronic copy of a complete set of construction drawings for 1st resubmission, five (5) copies for final approval.   |   |  |  |
|           | 10.         | Two (<br>Drain<br>-Addi  | (2) copies of the Municipal Stormwater Design Tool; digital submittal and hardcopy (Site Data Sheet,<br>lage Area Sheets, Site Summary Sheet, BMP Sheets, and BMP Summary sheet)<br>ress post development peak discharge exceeding pre-development in BMP Summary page.   |  |  |







|           |             | d.  | Velocity calculations for stormwater runoff at points of discharge resulting from a 10-year storm after development were not provided or do not comply  |  |  |
|-----------|-------------|---|---|--|--|
|           |             |   | Support data for all stormwater practice designs, such as inflow/outflow rates, stage/storage data,   |  |  |
|           |             | e.  | hydrographs, outlet designs, infiltration rates, water elevations, design output, summary, etc.   |  |  |
|           |             |   | Other hydraulic and hydrologic computations critical to the plan/designs  |  |  |
|           | $\square$   | f.  | -For SCMs with boardwalks going over emergency spillway. Confirm that boardwalk elevation is 1° over 100-year storm elevation   |  |  |
|           |             |   | -Provide anti-flotation calculations for risers   |  |  |
|           |             | Signature, Date And Professional Seal: for all Stormwater design management proposals, i.e. calcu |   |  |  |
|           |             | g.  | BMP designs, operations/maintenance/budget/asbuilt/inspections/manuals.   |  |  |
| $\square$ | 13.         | Draft   | Stormwater Agreement, Draft Maintenance Agreement   |  |  |
| $\square$ | 14.         | Prop  | osed Site Plan:   |  |  |
|           | $\boxtimes$ | a.  | Location/Vicinity Map   |  |  |
|           |             |   | -Vicinity map does not show offsite roadway and utility improvements<br>North arrow, graphic scale, drafting version date, legend and professional seal   |  |  |
|           | $\square$   | b.  | -Only have one north arrow. Revise in plans   |  |  |
|           |             | c.  | Existing and proposed contours: plan and profiles for roadways  |  |  |
|           | $\boxtimes$ | d.  | Boundaries of tract: including project limits<br>-Total limit of disturbance should include all proposed roadway improvements utilities. C8.11 shows a<br>proposed water line. If the disturbed area changes provided updated applications and FRO form.<br>-In C-10.5 it appears the Limit of Disturbance continues north along Jonesville Road, but the end of the<br>proposed work is not shown terminating, please adjust (or provide more sheets) to clearly show the LOD<br>and improvements. |  |  |
|           |             |   | -In sheet C-10.1, is the amenity center under a different permit number? If there is a permit, please confirm that there are not conflicting limit of disturbances.   |  |  |
|           |             | e.  | <ul> <li>Table with impervious calculations - existing and proposed impervious surfaces: roads, well lots, recreation sites, single family residences, etc. (consistent with the Municipal Stormwater Design Tool</li> <li>e. inputs)         <ul> <li>-Provide on site plan sheet. Breakdown should be between roadways, lots, and other.</li> <li>-Additionally provide impervious allocation for Lot 01 Block A.</li> </ul> </li> </ul>  |  |  |
|           |             | f.  | Show all Riparian Buffers [Article 9-21]; (Neuse: [15A NCAC 2B .0714])  |  |  |
|           |             | g.  | Delineation of current FEMA boundaries (floodway, flood fringe & future/0.2%)   |  |  |
|           |             | h.  | Proposed improvements: roads, buildings, parking areas, grassed, landscaped, and natural areas.   |  |  |
|           |             | i.  | Lot lines, lot numbers, road names, and impervious limit on each lot rounded to nearest whole number  |  |  |
|           |             | j.  | Utilities: community water and sewer, plan/profiles, easements and sediment controls.<br>-Provide summary table for temporary diversion dimensions and liners/groundcover, temporary sediment<br>basins, and energy dissipator pads on plans and report.  |  |  |
|           |             | k.  | Stormwater Network: inlets, culverts, swales, ditches, channels and drainage easements.   |  |  |



|             |    | TEMPORARY SEDIMENT CONTROLS: locations and dimensions of gravel entrances, diversion ditches,  |
|-------------|----|--|
|             |    | silt fence, sediment basins, inlet protection, etc.  |
|             |    | General Erosion Control Comments   |
|             |    | -There appears to be existing structures, provide demolition plan. SEC measure should be in place prior  |
|             |    | -Show blow up of stages (scale change to 1:100/50), including the widening and utility work along<br>Jonesville and Mitchell Mill Roads. The current 200 scale is great to see the overall picture, but a closer<br>scale will be needed to better see plan details<br>-There are two phase 4s please change second one to phase 5 |
|             |    | -Snow staging, material laydown, concrete washout and stockpile areas.   |
|             |    | -Provide/show sediment control and limits of disturbance for offsite water and sewer lines along Jonesville and Mitchell Mill Roads. Show bore and jack locations, provide sediment control around bore  |
|             |    | pits.  |
|             |    | -At a minimum, Erosion and Sediment Control Plan must show 3 separate for each phase:  |
|             |    | <ol> <li>Perimeter erosion controls only, this does include temporary basins, – required for Certificate of<br/>Compliance. (This has been provided)</li> </ol>  |
|             |    | 2. Rough grade with sediment basins in place. (At this phase the basin should not appear converted yet,  |
|             |    | this should be rough grading). Show as separate from stage 3.  |
|             |    | 3. Fine/Final grade with sediment basins converted to SCMs.  |
|             |    | General Stage 1 Comments (applies to stage 1 phases)   |
| $\boxtimes$ | Ι. | -Extend existing construction entrances to 100 ft. Can use ABC or alternative from pavement into site and  |
|             |    | then 50ft minimum of 2 – 3 "coarse aggregate.  |
|             |    | -Baffles should be evenly spaced, they currently appear too close to each other.   |
|             |    | -For any sediment basin draining more than 10 acres 5 baffles are needed. See Wake County baffle detail.<br>-Provide rolled erosion control product on slopes 8ft or greater in height, show on drawings. Annotate   |
|             |    | siopes.  |
|             |    | -Provide check dams along diversion ditches at ever 3-4 feet of elevation change.  |
|             |    | -Provide silt fence outlets at all low points and at every 100 ft of run or whenever 0.25 acres of drainage  |
|             |    | has been reached. Some areas on site as well as roadway improvements SEC lack silt fence outlets   |
|             |    | -For sediment basins with a side exposed to overland flow provide berm, as shown below but applies to  |
|             |    | all basin in similar situation.  |
|             |    | 260 DIVERSION DITCH #6A  |
|             |    | COIR BAFFLES (TYP.)  |
|             |    | DPE DRAIN HEB  |



|  |             |    | -Inadequate sediment control and sediment storage provided on the plans. Provide sediment storage downstream each of diversions areas, between sediment basins 4 and 5, protect wetland area and |
|--|-------------|----|--|
|  |             |    | adjacent areas of Phase 3, in drainageway in Phase 4, between sediment basins 1 and 8.   |
|  |             |    | -Provide additional groundcover downstream of temporary sediment basins and diversions.  |
|  |             |    | General Stage 2 & 3 Comments (applies to all stage 2 & 3 phases)   |
|  |             |    | - Incorporate stage 1 erosion control review comments into stage 2 &3 erosion control design sheets, if  |
|  |             |    | applicable.  |
|  |             |    | pipes.   |
|  |             |    | -Separate all stages 2 and 3. Stage 2 should be rough grading and sediment basin not converted.  |
|  |             |    | General Stage 3 Comments   |
|  |             |    | -Submit a stage 3 for each phase separate from stage 2   |
|  |             |    | Sediment Basin Dewatering Bags: Provide a dewatering bag and location pad adjacent to all sediment   |
|  | $\boxtimes$ | m. | basins for maintenance and closeout. Label the bag and pad with dimensions.  |
|  |             |    | -Should be present in all basins, throughout EC phases/stages  |
|  |             |    | Stream Culvert Construction Phasing: Provide a detailed construction sequence for installation of culverts   |
|  |             | n  | at streams and show the stream crossing(s) on the erosion control plan sheets. Include all applicable  |
|  |             | п. | details related to managing the stream flow during the culvert installation (silt bags, pumparound,  |
|  |             |    | impervious dikes, etc.).   |
|  |             |    | Stream Protection: Design temporary sediment storage during the construction phase of stream culvert   |
|  |             |    | installation on all four-corners of the stream crossing (where applicable) and show on the erosion control   |
|  | $\square$   | 0. | plan sheets. Provide erosion control blankets on all permanent slopes of culvert at stream crossing.   |
|  |             | 0. | -Provide additional sediment control at creek crossings. Provide at least a sediment basin on both sides of  |
|  |             |    | crossings, 2-corners with runoff conveyance. Address equipment crossing of creek, construction in the dry  |
|  |             |    | (detail and sequence), what will be the method of stream bypass, etc.  |
|  | $\square$   | n  | Location and requirements for stockpiles (see website for Stockpile Requirements)  |
|  |             | ρ. | *See highlighted link for more information with regards to silt fence requirements.  |
|  |             |    | Wake County Construction Sequence (Provide project specific details as needed)   |
|  |             |    | -Limit exposed area to 50 rolling acres. 10-30-4(A)(3) Limit Exposed Area – All land-disturbing activities   |
|  |             |    | must be planned and conducted to limit exposure to the shortest feasible time. Add note to plans to limit  |
|  |             |    | exposed area to 50 rolling acres.  |
|  | $\bowtie$   | q. | -Construction sequence should be phase and stage specific. Provide details how the project will move on  |
|  |             |    | from on stage and phase to the next one.   |
|  |             |    | -Must include notes relating to obtain the certificate of compliance and certificate of completion. See link   |
|  |             |    | as reference <a href="https://s3.us-west-2.amazonaws.com/wakegov.com.if-us-west-2/prod/documents/2020-">https://s3.us-west-2.amazonaws.com/wakegov.com.if-us-west-2/prod/documents/2020-</a>     |
|  |             |    | <u>11/Required%20Wake%20County%20Construction%20Sequence Nov.2020.pdf</u> .  |
|  |             |    | Wake County Basin Removal Sequence   |
|  | $\bowtie$   | r. | -Wake County must grant permission to convert the sediment basin over to stormwater use prior to   |
|  |             |    | completing any related work (construction sequence or note elsewhere on the plan should indicate this)   |



|  |             |    | Wake County Construction Details  |
|--|-------------|----|---|
|  |             |    | -Provide details for Erosion & Sediment Control devices shown on the plan: include vegetative       |
|  |             |    | groundcover. There does not appear to be any SEC details. <u>https://www.wake.gov/departments-</u>  |
|  |             |    | government/water-quality-division/watershed-management-erosion-sedimentation-control-floodplain-    |
|  |             |    | and-stormwater-management/sedimentation-and-erosion-control/sediment-and-erosion-control-           |
|  | $\boxtimes$ | s. | standard-details  |
|  |             |    | -Provide detail on for boardwalk over emergency spillway.   |
|  |             |    | -Add approval block to coversheet https://s3.us-west-1.amazonaws.com/wakegov.com.if-us-west-1/s3fs- |
|  |             |    | public/documents/2023-09/Combined ESC SW Flood Approval Block.pdf                                   |
|  |             |    | -Provide NCG010000 detail sheets. https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-   |
|  |             |    | resources/stormwater/stormwater-program/npdes-construction-program                                  |
|  |             | t. | Wake County Stabilization Guidelines  |







|  | x. | PERMANENT STORMWATER MANAGEMENT STRUCTURES: locations and types of all proposed<br>stormwater management structures (grass swale, wet/dry detention basin, filtering/infiltration basin,<br>bioretention, etc.)<br>-Provide a detail planting plan and construction sequence for each of the SCMs. Add permanent<br>stabilization notes for pond slopes and open space.<br>-Add anti-seep collars to outlet pipes in SCM, include a detail in plan.<br>-Provide 1, 10, 100-year storm events in SCM profiles.<br>-For SCMs with boardwalks going over emergency spillway. Confirm that boardwalk elevation is 1' over<br>100-year storm elevation.<br>*Recommendation: Relocate either inlet or outlet of SCM #2. In SCM #2 the inlet and outlet a fairly<br>close in distance which could cause short circuiting, see MDC 4 for wet ponds.<br>MDC 4: LOCATION OF INLET(S) AND OUTLET.<br>The inlet(s) and outlet shall be located in a manner that avoids short circuiting.<br>The most direct way of maximizing the flow path between the inlet and the outlet is to design a<br>long, narrow pond. In fact, long and narrow but irregularly shaped wet ponds usually appear<br>more natural and therefore may have increased aesthetic value. If local site conditions prohibit a<br>relatively long, narrow facility, baffles may be placed in the wet pond to lengthen the stormwater<br>flow path as much as possible. Baffles should extend to at least the temporary pool elevation.<br>Where possible, the width of the pond should expand near the outlet to facilitate settling.  |  |  |
|--|----|--|--|--|
|  | у. | DETAILED COMMENTS REGARDING PERMANENT STORMWATER MANAGEMENT:   |  |  |
|  | z. | <ul> <li>Proposed stormwater easements, access lanes, and backwater easements.</li> <li>-Access easement and Maintenance easement 10 ft. from toe of stormwater pond embankment.</li> <li>*Maintenance easement should remain out of environmentally sensitive areas or private lots</li> <li>GENERAL MDC 9: EASEMENTS.</li> <li>All SCMs and associated maintenance accesses on privately owned land except for those located on single family residential lots shall be located in permanent recorded easements. The SCM shall be shown and labeled within the easement. These easements shall be granted in favor of the party responsible for enforcing the stormwater program under which the SCMs were approved.</li> <li>SCMs must have access and maintenance easements to provide the legal authority for inspections, maintenance personnel and equipment. The location and configuration of easements must be established during the design phase and should be clearly shown on the design drawings. The entire footprint of the SCM system must be included in the access and maintenance easement, plus an additional ten or more feet around the SCM to provide enough room to complete maintenance tasks. This SCM system includes the side slopes, forebay, rise structure, SCM device, and basin outlet, dam embankment, outlet, and emergency spillway.</li> <li>In addition to the provisions required by Rule, it is recommended that maintenance easements specify who may make use of the easement and for what purposes. Where feasible, it is also recommended that SCMs be posted with conspicuous signage stating who is responsible for required maintenance and annual inspection. Signage should be maintained so as to remain visible and legible.</li> </ul> |  |  |



|             |         | aa.  | aa. A note should be added to the recorded plat distinguishing areas of disconnected impervious   |  |  |  |
|-------------|---------|--|---|--|--|--|
|             |         |  | RESIDENTIAL ONLY Perpetuity statement   |  |  |  |
|             |         | ab.  | Maximum Impervious Area Square Footage on each Individual Lot will be Stringently Enforced with no  |  |  |  |
| Stan        | dards   | and Re   | equirements   |  |  |  |
|             |         |  |   |  |  |  |
| Item        | is marl | ked wit  | h an "X" note relevant standards to be applied to the proposed development. Notes in <b>RED</b> provide   |  |  |  |
| Ordi        | ew con  | nments<br>refere   | s and/or any required elements to comply with standard.   |  |  |  |
| Orui        | nance   | Telele   |   |  |  |  |
| $\boxtimes$ | 15.     | <b>Stormwater Review Required</b> - All residential subdivision development must submit a plan to comply with the applicable municipalities' stormwater ordinance. Office, institutional, commercial or industrial development that <u>disturbs</u> greater than 20,000 square feet is required to comply with the stormwater management regulations. Development and redevelopment that disturb less than 20,000 square feet are not exempt if such activities are part of a larger common plan of development or sale, even though multiple, separate or distinct activities take place at different times on different schedules. |   |  |  |  |
| $\square$   | 16.     | <b>Stormwater Permit</b> – is required for all development and redevelopment unless exempt pursuant to the Code of Ordinances. A permit may only be issued subsequent to a properly submitted, reviewed and approved stormwater management plan and permit application.<br><b>Rolesville</b> [7.5.1(E)(3)], <b>Wendell</b> [6.5(F)(3)], <b>Zebulon</b> [151.21(A)]<br>Note: A permit may not be required if there are no post-construction requirements (i.e. SCMs).   |   |  |  |  |
| $\boxtimes$ | 17.     | <b>SCMs</b> - For projects requiring stormwater treatment for quality and/or quantity control, the applicant must 1) comply with the <u>NC Stormwater Design Manual</u> <b>Rolesville</b> [7.5.1(G)], <b>Wendell</b> [6.5(H)], <b>Zebulon</b> [151.07] 2) as well as <i>Completion of Improvements and Maintenance</i> , prior to issuance of a certificate of compliance or occupancy. <b>Rolesville</b> [7.5.5], <b>Wendell</b> [6.5(O)], <b>Zebulon</b> [151.50 – 151.56]   |   |  |  |  |
|             | 18.     | Stanc<br>Densi<br>Densi<br><b>Roles</b>  | <b>lards Based on Project Density</b> - In accordance with the definitions, projects are identified as Ultra Low-<br>ity (15% or less Built-Upon Area, referred to as BUA, and less than one dwelling unit per acre), Low-<br>ty (more than 15% BUA and no more than 24% BUA), and High-Density (24% or more BUA).<br><b>ville</b> [7.5.4], <b>Wendell</b> [ 6.5(M)], <b>Zebulon</b> [151.35] |  |  |  |



|   | Standards for Ultra-Low and Low-Density Projects:  |
|---|--|
|   | <ul> <li>Use of vegetated conveyances to maximum extent practicable</li> </ul>                                   |
|   | <ul> <li>Location of development and redevelopment outside Riparian Buffer and Flood Protection Zones</li> </ul> |
|   | <ul> <li>Recorded deed restrictions or protective covenants to ensure future development maintains</li> </ul>    |
|   | consistency with approved project plans  |
|   | <ul> <li>Permanent SCMs (Stormwater Control Measures) are to be designed in accordance with and as</li> </ul>    |
|   | specified in the North Carolina Department of Environmental Quality's Design Manual.                             |
|   | • For Low-Density only, no net increase in peak flow leaving the site from the pre- development                  |
|   | conditions for the 1 yr-24hr storm. Runoff volume drawdown time shall be a minimum of 48 hours,                  |
|   | but not more than 120 hours.   |
|   | Residential runoff after development must not exceed the Target Curve Numbers listed in the chart                |
|   | "Maximum Composite Curve Number, by Soil Group".   |
|   | • Ultra-Low and Low-Density projects may be eligible for target curve number credits.                            |
|   | Wendell Only: Nitrogen export limited to 3.6 pounds per acre per year unless project achieves classification     |
|   | as an LID Project.   |
|   | Rolesville [7.5.4(A)(1-3)], Wendell [6.5(M)(1-3)], Zebulon [151.35(A-C)]   |
|   |  |
|   | Standards for High-Density Projects:   |
|   | Measures shall control and treat runoff from the first inch of rain. Runoff volume drawdown time                 |
|   | shall be a minimum of 48 hours, but not more than 120 hours.   |
|   | • Structural measures shall be designed to have a minimum of 85 % average annual removal for Total               |
|   | Suspended Solids (TSS)   |
|   | • Permanent SCMs (Stormwater Control Measures) are to be designed in accordance with and as                      |
|   | specified in the North Carolina Department of Environmental Quality's Design Manual.                             |
|   | • No net increase in peak flow leaving the site from the pre -development conditions for the 1 yr-24hr           |
|   | storm. Runoff volume drawdown time shall be a minimum of 48 hours, but not more than 120                         |
|   | hours.   |
|   | Location of development and redevelopment outside Riparian Buffer and Flood Protection Zones                     |
|   | Rolesville [7.5.4(A)(4)], Wendell [6.5(M)(4)], Zebulon [151.35(D)]   |
|   |  |
|   | General Standards:   |
| _ | Downstream Impact Analysis – DIA must be performed in accordance with the "10% rule", and a                      |
|   | copy provided with the application.  |
|   | Rolesville [7.5.4(B)(1)], Wendell [6.5(N)(1)], Zebulon [151.36(A)]   |
|   | -Provide calculations and drainage map. Map provided shows an area of 618 acres, for the 10% rules, and          |
|   | area of at least 930 acres will be required to analyze.  |



|             |                    | <ul> <li>Low Impact Development (LID) Classification:         <ul> <li>All development or redevelopment may be submitted for LID classification</li> <li>Development must mimic the pre-developed hydrologic conditions of the site, as defined as "woods in good condition" for the 2-yr, 24 hr storm, within 10%.</li> <li>Techniques required to achieve LID classification                 <ul></ul></li></ul></li></ul>   |   |  |  |
|-------------|--------------------|--|---|--|--|
| Wal<br>(Apj | ke Cou<br>plies to | ty UDO Article 10 - Ero<br>Rolesville, Wendell an  | osion and Sedimentation Control Requirements<br>d Zebulon)  |  |  |
| $\boxtimes$ | 19.                | <b>Erosion Control:</b> This project will require a Land Disturbance Permit if it involves <u>greater than one acre of</u><br><u>disturbance</u> . <b>Note</b> : If the land disturbance is part of a common plan of development that is greater than one<br>acre of disturbance, an Approved Erosion and Sediment Control Plan and Land Disturbance Permit are<br>required for each individual tract or parcel disturbance within the common plan of development, regardless<br>of land disturbance acreage in each tract/parcel. |   |  |  |
|             | 20.                | <b>10-20-1 Minimum Standards</b> - All soil erosion and sedimentation control plans and measures must conform to the minimum applicable standards specified in <i>North Carolina's Erosion and Sediment Control Planning and Design Manual</i> and the <i>Wake County Sedimentation and Erosion Control Plan Review Manual</i> . Erosion control devices must be installed to prevent any offsite sedimentation for any construction site regardless of the size of the land disturbance.  |   |  |  |
|             | 21.                | <b>10-20-3 Operation in</b><br>construction in, on, ov<br>disruption of the strea  | Lakes or Natural Watercourses -Land disturbing activity in connection with<br>ver, or under a lake of natural watercourse must minimize the extent and duration of<br>m channel. Where relocation of a stream forms an essential part of the proposed<br>must minimize unnecessary changes in the stream flow characteristics |  |  |
|             | 22.                | <b>10-20-10 Standards fo</b><br>Land-disturbing activit  | r High Quality Water (HQW) Zones<br>ties to be conducted in High Quality Water Zones must be designed as follows:   |  |  |
|             |                    | a. Uncovered area area of 20 acres   | is in High Quality Water (HQW) zones must be limited at any time to a maximum total within the boundaries of the tract.   |  |  |
|             |                    | <b>Maximum Peal</b><br><b>b.</b> within HQW zor<br>of the 25-year s  | <b>Rate of Runoff</b> - Erosion and sedimentation control measures, structures, and devices nes must be planned, designed and constructed to provide protection from the runoff torm.   |  |  |
|             |                    | c. Settling Efficier<br>basin will have<br>transported int<br>of runoff.   | <b>cy</b> - Sediment basins within HQW zones must be designed and constructed so that the a settling efficiency of at least 70% for the 40 micron (0.04mm) size soil particle to the basin by the runoff of that 2-year storm which produces the maximum peak rate  |  |  |
|             |                    | <ul> <li>d.</li> <li>Grade - The angle for side slopes must be sufficient to restrain accelerated erosion (side slopes no steeper than 2 horizontal to 1 vertical if a vegetative cover is used for stabilization unless soil conditions permit a steeper slope or where the slopes are stabilized by using mechanical devices, structural devices or other acceptable ditch liners).</li> </ul>   |   |  |  |
|             | 23.                | Senate Bill 1020; "SECTION 3.(h) Additional standards for land-disturbing activities in the water supply watershed":   |   |  |  |



