

Minutes
Zebulon Technical Review Committee
July 27, 2016

Present: Julie Spriggs-Planning, Wayne Dupree-Fire, Bob Grossman-Police, Chris Ray-Public Works, Joe Moore-Town Manager, Lisa Markland-Town Clerk, Debbie Tanner-Stormwater, Patrick Paine-Raleigh
Others Present: Frank Reynolds, Salman Moazzam, Kathryn McPherson

Julie Spriggs called the meeting to order at 10:00am.

MINUTES

Julie Spriggs stated that there needed to be a change to the minutes for May 25, 2016 on page 7 in the paragraph at the bottom of the page stated comments for Taryn Lake and it should say plans for Taryn Lake.

Joe Moore made a motion, second by Chris Ray to approve the minutes of May 25, 2016 as amended. There was no discussion and the motion passed unanimously.

NEW BUSINESS

TRC-2017-01—Taryn Lake

Julie Spriggs stated that they would be reviewing the site plan for Taryn Lake, which was the second phase of Taryn Meadows located off of Proctor Street.

City of Raleigh

No comments were provided by the City of Raleigh, they referred to the Redlines.

Salman Moazzam asked about the 12 inch water line on Rose Mallow Drive from Watsonia Drive and wanted to know why that was being required since the eight inch line was sufficient.

Patrick Paine stated that the City of Raleigh handbook required a 12 inch line due to the length of the line. The remainder would be sufficient as shown.

Frank Reynolds asked if the existing line that they were tying into was 12 inches. Patrick stated that he thought it was.

Salman asked about the requirement to have the BMP outside the sewer easement and he explained that the BMP's would be graded so that they would be outside the sewer easement but the easement lines were a few feet offset and could overlap into the sewer easement. Patrick Paine said that they would prefer that did not happen and that the plan be adjusted. There was discussion on that and Chris Ray said that the Town had a concern as well since the Town wanted to construct future greenways through that area.

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Patrick Paine asked how far out the BMP easement was. Chris Ray said it appeared to be approximately 80 percent of the easement. Patrick said he did not want that at all and to make it tighter.

Environmental Services

Debbie Tanner had the following comments.

Debbie stated that there would be additional comments from Shawn Springer but wanted to provide the ability to begin reviewing the comments she had. Comments were in accordance with the Town of Zebulon ordinances.

1. All checked items must be addressed upon submittal of construction plans. Construction plans have been formally submitted to Wake County and are under review for stormwater management and sediment control. A separate review checklist will be provided with detailed review comments. As submitted, the two proposed wet detention ponds will provide stormwater management in accordance with Zebulon, NC Code of Ordinances: Chapter 151 - Stormwater Management Requirements.
2. Stormwater Review Required - All residential subdivision development must submit a plan to comply with Chapter 151. Office, institutional, commercial or industrial development that disturbs greater than 20,000 square feet is required to comply with the stormwater management regulations of Chapter 151. 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. [Chapter 151.05(B)(1-3)] (Review comments under separate checklist)
3. Stormwater Permit – 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. [Chapter 151] Note: A permit may not be required if there are no post-construction requirements (i.e. SCMs).
4. SCMs - For projects requiring stormwater treatment for quality and/or quantity control, the applicant must comply with the NC BMP Manual, as well as [Chapter 151.50 – 151.56] Completion of Improvements and Maintenance, prior to issuance of a certificate of compliance or occupancy.
5. Standards Based on Project Density- Projects are identified as Ultra Low-Density (15% or less Built-Upon Area, referred to as BUA, and less than one dwelling unit per acre), Low-Density (more than 15% BUA and no more than 24% BUA), and High-Density (24% or more BUA). [Chapter 151.35]
6. Standards for Ultra-Low and Low-Density Projects:
 - a. Use of vegetated conveyances to maximum extent practicable (Standard met)
 - b. Location of development and redevelopment outside Riparian Buffer and Flood Protection Zones (With the exception of impacts allowed by the 401/404 Permit)
 - c. Recorded deed restrictions or protective covenants to ensure future development maintains consistency with approved project plans (Will be a condition of plan approval)

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- d. Permanent on-site SCMs (Stormwater Control Measures) shall be provided to lower the nitrogen export amounts and are to be designed in accordance with and as specified in the North Carolina Department of Environmental Quality's Design Manual. (Design in accordance with manual and nitrogen export amounts are lowered)
 - e. 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. (Proposed wet detention ponds meet the requirement)
 - f. Residential runoff after development must not exceed the Target Curve Numbers listed in [Chapter 151.35(B)]. (Stormwater management plan design meets Target Curve Number)
 - g. Ultra-Low and Low-Density projects may be eligible for target curve number credits.
7. General Standards:
- a. Downstream Impact Analysis – DIA must be performed in accordance with the “10% rule”, and a copy provided with the application. [Chapter 151.36(A)]
8. Erosion Control: This project will require a Land Disturbance Permit if it involves greater than one acre of disturbance. Adopting by reference the Wake County Soil Erosion and Sedimentation Control Ordinance. See website for details. (Review comments under separate checklist)
9. Riparian Buffer Rules
- a. Due to the location of this project, it should be noted that a rule to protect and maintain existing buffers along watercourses in the Neuse River Basin became effective on July 22, 1997. The Neuse River Riparian Area Protection and Maintenance Rule (15A NCAC 2B.0233) applies to all perennial and intermittent streams, lakes, ponds and estuaries in the Neuse River Basin with forest vegetation on the adjacent land or “riparian area”.
10. Construction Plan Not Approved and Incomplete (Items 1-4 required to be a complete submittal)
11. Other documents:
- a. Approval from either the Wake County Subdivision Section, Wake County Zoning Section, Wake County Stormwater Section, or the Town Engineer(s) for construction and/or utilities depending on the project location and type. Documentation must be provided that the Town of Zebulon has approved the construction plans or is agreeable to early release of the Grading Permit prior to town approval.
 - b. 401/404 Documentation (Buffer determination letters, PCN application, comments, and approval) Copy of 401/404 Permit and receipt for any mitigation payments required prior to Wake County approval of construction plans for sediment control and stormwater management.
 - c. NCDOT Approval (Driveway permit/encroachment for connection to NC Hwy 96)
 - d. Documentation granting permission for development by landowner

12. Erosion Control Calculations:

- a. Sediment basin design (See website for Wake County design criteria)
 - b. If the proposal is to construct the initial skimmer basins as shown in Phase 1 (S&E plan) and later construct the permanent wet detention ponds in Phase 2, detailed sequencing must be provided regarding removal of the small outlet pipe and replacing it with the principal spillway structure and when the conversion is to occur (in relation to construction phases). If Basin A is to have the principal spillway installed in Phase 1 with skimmer attached (as shown on the construction detail sheet) please clarify on sheet C5.2 to avoid confusion.
 - c. Why is the 10 year rainfall intensity used in calculating peak inflows different for the two temporary skimmer basins?
 - d. It appears the weirs for the temporary basins are undersized.
 - e. Size the skimmers and orifices based on the minimum required volume to draw down, not the provided volume.
 - f. Add a baffle closer to the skimmer on both basins for added protection.
 - g. Ditches, swales, and channels: Q10/V10. Tractive force (shear stress), capacity and geometry.
 - h. Provide design and cross-section for the clean water diversion. Specify channel lining if required. A check dam is needed at the outlet to prevent sediment loss during construction and until the diversion is stabilized sufficient to prevent erosion.
 - i. There are numerous swales directing lot runoff to drop inlets throughout the subdivision. Provide swale calculations and call out any required channel linings for stabilization.
 - j. Dissipaters: Q10 velocities, stone size and dimensions. Is a dissipator pad called for below the 18" culvert at the connection to NC Hwy 96?
13. TEMPORARY SEDIMENT CONTROLS: locations and dimensions of gravel entrances, diversion ditches, silt fence, sediment basins, inlet protection, etc.
- a. In Phase 1, extend the silt fence east of Basin A to block access to the proposed pedestrian trail. Limits of disturbance are shown on sheet C5.2 in this area but sediment control has not been proposed in either phase for installation of the trail/bridge.
 - b. Likewise, detailed sequencing and sediment control devices must be provided for installation of the two 36" RCPs at the stream crossing. Is a bypass channel or coffer dam/pump around needed during installation of the pipes to convey average or storm event flows?
 - c. Is there any proposed turn lane or land disturbing activity in the DOT right-of-way?
14. Location and requirements for stockpiles (see website for Stockpile Requirements)
15. Wake County Construction Details Remove or "X" out construction details that do not apply for this project: "Standard Riser-barrel Sediment Basin", "Standard Rock Dam Sediment Basin", "Standard Custom Basin Attached to Permanent Riser", "Standard Custom Basin" and "Standard Block & Gravel Drop Inlet Protection".
16. Wake County Stabilization Guidelines Add the NPDES "Timeframes for Stabilization" to the plans.

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17. Wake County Basin Removal Sequence
18. Wake County or jurisdictional municipality must grant permission to convert the sediment basin over to stormwater use prior to completing any related work (a note in the construction sequence or elsewhere on the plan should indicate this).
19. Erosion Control: This project will require a Land Disturbance Permit if it involves greater than one acre of disturbance. See website for details.
20. 10-20-1 Minimum Standards - All soil erosion and sedimentation control plans and measures must conform to the minimum applicable standards specified in North Carolina's Erosion and Sediment Control Planning and Design Manual and the Wake County Sedimentation and Erosion Control Plan Review Manual. Erosion control devices must be installed to prevent any offsite sedimentation for any construction site regardless of the size of the land disturbance.
21. 10-20-3 Operation in Lakes or Natural Watercourses -Land disturbing activity in connection with construction in, on, over, or under a lake or natural watercourse must minimize the extent and duration of disruption of the stream channel. Where relocation of a stream forms an essential part of the proposed activity, the relocation must minimize unnecessary changes in the stream flow characteristics.
22. Riparian Buffer Rules:
 - a. Due to the location of this project, it should be noted that a rule to protect and maintain existing buffers along watercourses in the Neuse River Basin became effective on July 22, 1997. The Neuse River Riparian Area Protection and Maintenance Rule (15A NCAC 2B.0233) applies to all perennial and intermittent streams, lakes, ponds and estuaries in the Neuse River Basin with forest vegetation on the adjacent land or "riparian area".

Salman stated that they had seen the comments and were fine with those and asked when Shawn's comments would be provided. Debbie said that she would check with him when she returned to the office.

Debbie Tanner stated that they would have to have the 401/404 and applicable approvals prior to them providing their approvals. Debbie asked if they were requesting early grading prior to their approvals. Frank said that he would like to have the ability to do early clearing and grubbing. Debbie said at a minimum that they could not make any impacts (401/404) and Town would have to approve and the S&E would have to be in place.

Town Manager:

Joe Moore thank them for building in Zebulon.

Joe said that the Watsonia Drive entrance was a concern with debris moving into the neighborhood, construction traffic damaging the roadways and disturbing the existing residents.

Salman stated that they would be removing Watsonia Drive as the construction entrance and would be using the Zebulon Road entrance.

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Police

Bob Grossman had no comments prepared but did think that the concerns expressed by the Manager were good ones that would need addressing since there were some complaints with previous construction and safety.

Fire

Wayne Dupree stated that they had the following comment.

1. Hydrant paint color requirements have changed. To reflect the most current update, Sheet WS3.4, Drawing/Detail W-5, #3 should reflect "ZEBULON PUBLIC HYDRANTS SHALL BE PAINTED SOLID SAFETY YELLOW."

Public Works

Chris Ray had the following comments.

1. Roadway Widening – to comply with 2014 Town of Zebulon Transportation Plan – B3 (attached). A 4' paved shoulder for bicycle lane with sidewalk separated by drainage.
2. Demolition of the existing house and buildings – Well abandonment? Permit to abandon well?
3. The Town of Zebulon future greenway is planned along the existing 20' sewer easement to Weavers Pond and 30' Beaverdam Creek Sewer outfall under construction by the City of Raleigh. Please provide a 20' greenway easement with a 10' construction easement toward Weavers Pond. Please provide a 30' easement along the Beaverdam Sewer Easement and 30' greenway easement from Spiderlily Court to the intersection of Beaverdam and Weavers Sewer easements.
4. Greenway Connection from Rose Mallow Drive shall be a 20' greenway easement instead of Public ROW. Trail shall be 10' wide and constructed of asphalt or concrete to include Hinged Barrier Bollard with HCR at cul-de-sac. See attached cross section from Masterplan and bollard detail. Development of Trailhead Markings/Columns at entrance to trail – see attached example.
5. Proposed footbridge to open space to be constructed by developer to comply with SUP condition # 16. The proposed trail north of the existing 20' sewer easement will be the maintenance responsibility of the HOA.
6. Increase ROW at proposed mailbox cluster to include sidewalk and parking. Please add curb and gutter to this area. Parking along the street must be a min. 22' X 9' instead of 20' x 11'.
7. Please note all landscape islands in the cul-de-sac will be the responsibility of the HOA to maintain. Note to be added on Final Plat.
8. Please add Handicap ramp at the end of sidewalk at Milkweed Court.
9. All the stormwater system drainage behind the lots (lot drainage) in the shown easements will be the owned and maintain by the HOA. BMP A and B will be maintained by the HOA. Please add note to the drawings. The Town of Zebulon will be responsible for all street drainage within ROW and dedicated public drainage easements until the stilling basin.

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10. Please include the use of sediment bags (detail # 50) to catch sediment during the construction process. See detail # 50.
11. Please revise inlet report to address Town of Zebulon Specification 2.0.8 J - Inlet shall be spaced to prevent spread of flow in the street to seven feet (7') or less. See Town of Zebulon Standard Details for specifics on the design of Curb inlets. Gutter spread calculations shall be based upon a 4 inch per hour rainfall intensity storm and must be provided with construction plans. See attached example "Inlet Report"
12. Watsonia Drive – Please add Curb inlet or junction box in ROW to eliminate SDE at LOT 70 – too close to building footprint.
13. Recommend consideration of fence around BMP A and B.
14. Delete construction entrance and wash out station on Watsonia Drive – construction Traffic will need to enter from Arendell Ave. Concern – Heavy Equipment could damage existing roadway and traffic congestion along Watsonia Drive.
15. Please add 5' sidewalk w/ HCR to the right side of street on Purple Verbena Court.
16. Please use/provide NCDOT Detail for dual 36" culverts on Watsonia Drive. See section/sheet 838.
17. Instead of SDE on the dual 36" culverts on Watsonia Drive – increase ROW width at this location. See Section 2.2.1 – Table # 5
18. Please include the following General Town of Zebulon Construction notes to the plan:
 - a. All roadway infrastructure construction shall conform to the Town of Zebulon standards and specifications.
 - b. Contractor shall contract Jason Brown at 919-795-5640 with the Town of Zebulon to schedule a pre-construction meeting prior to beginning construction.
 - c. All roadway, sidewalk and storm drainage improvements in ROW or dedicated Public Easements will be required to be dedicated to the Town of Zebulon at completion of the project.
 - d. As-built site plans for roadway and utility work must be submitted and approved prior to final acceptance. Contractor is responsible for maintaining red-line line drawings.
 - e. Developer/owner is responsible for contracting with third party NCDOT certified testing firm. The firm must be approved by Town of Zebulon. Material testing is required for all roadway work. Final reporting and certification(sealed) is required at completion of the project by the Geo-Technical Engineer. Testing is required for subgrade, roadway stone, asphalt and curb and gutter per Town of Zebulon specs.
19. Please add the following Town of Zebulon Construction notes regarding concrete:
 - a. All curb and gutter requires concrete testing for the following requirements - section 2.1.1
 - b. 4" concrete slump
 - c. Temperature - 50 and 90 degrees
 - d. Air Mixture Range 3.5% to 6.5%
 - e. Structural Strength Break test - 7,14,28 days @ 3000 psi @ 28 days
 - f. Samples every 1000 LF of curb and gutter to ensure quality
 - g. Max water -cement ratio by weight: 0.594
 - h. Minimum Cement content (LBS/CY): 602

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- i. Concrete sidewalk testing is not required, unless construction inspector determines that the quality is inferior and does not meet industry standards. Contractor must maintain a 4-inch slump for all sidewalk work. Air temperatures at placement must be 40 degrees and rising. Surface temperatures shall be 50 degrees or greater. (Section 2.2.2 E)
20. Please add the following notes regarding Roadway Sub-grade, Roadway ABC and Asphalt:
 - a. Roadway Sub-Grade: The base soil elevation determined by approved engineered drawings prior to placement of roadway ABC and Asphalt.
 - b. Roadway Stone Grade: The approved compacted roadway sub-grade plus the compacted stone grade prior to placement of asphalt.
 - c. In all cases, the roadway sub-grade must pass a proof-roll test before placement of stone. The developer/owner/contractor should provide third party NCDOT certified geotechnical firm to perform density testing of sub-grade every 300 feet and roadway ABC every 150 feet via a nuclear gauge. The Town of Zebulon construction inspector will select various locations of the density testing. It is recommended that testing be performed at fill locations or utility cuts. A Town of Zebulon construction inspector must be present during all testing. All test results shall be submitted to and approved by the Town of Zebulon Public Works Director before roadway stone is installed.
 - d. Proof Roll Standard- A fully loaded tandem dump truck/Motor Grader that has a minimum gross weight of at least 20,000 pounds (10 tons) under the observation of the Town of Zebulon representative. No other method will be accepted. All areas of the roadway sub-grade or roadway stone shall be covered by the wheels of the proof-roller operating at walking speed (two to three miles per hour) or 225 to 300 feet per minute.
 - e. It is the contractor responsibility to protect all structural facilities on the project such as bridges, box culverts, pipe culverts, and utilities from damage from proof rolling equipment.
 - f. Proof Rolls are required at the roadway sub-grade construction phase and roadway stone construction phase
 - g. Any and all areas, which rut or pump excessively under the wheels of the proof-roller shall be repaired by the developer/contractor before roadway stone or asphalt is installed
 - h. Proof roll areas again following the completion of the necessary corrections. All cost associated with the proof rolling process is the responsibility of developer/owner or contractor.
 - i. The Town shall not be responsible for ensuring proper grades and alignment of Roadway and Curb and Gutter. If the alignment and grades are incorrect; it will be the responsibility of the contractor/developer/owner to make corrective repairs at their own expense.
 - j. Requirements: 98% Standard proctor on all soils every 300'. All locations tested shall meet the 98% testing requirements. Averaging of density scores to meet standard is not allowed.

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- k. Successful proof-rolls required for all sub-grade soils. All roadway sub-grade must pass a proof-roll test (No Exceptions).
- l. Roadway sub grade that does not pass the proof roll test or density test will require remedial repairs. Repair recommendations from geo-technical firm can be made by using several methods including the use of Geo-grid/stabilization fabric and additional ABC stone, cement stabilization, lime stabilization or replacement of unsuitable soils with drier/more suitable soils. Regardless of the method chosen by the contractor, geotechnical firm, developer or owner for remedial repairs; a successful proof-roll must be obtained prior to placement of ABC stone can begin.
- m. If repairs were made to the roadway sub grade involve using Geo-grid/stabilization fabric and additional stone; no density additional testing is required. If repairs to the roadway sub grade involve undercutting unsuitable soils and replacement with other more suitable soils, then density testing is required to verify compliance of 98% compaction requirement. The contractor/geo-technical firm must provide the Town of Zebulon inspector with density test results prior to placement of ABC Stone were required. All cost of density testing shall be by the developer or owner.
- n. Note: If the roadway sub-grade is exposed to precipitation (rain, snow, ice, etc.) greater than a 1/10 of inch before it is covered with ABC stone, the exposed sub-grade must pass an additional proof-roll. Additional density testing is not required under these conditions.
- o. Requirements: 98% Standard proctor on all Roadway ABC every 150'. All locations tested shall meet the 98% testing requirements. Averaging of density scores to meet standard is not allowed. Successful proof-rolls required for all Roadway ABC Stone.
- p. Roadway ABC stone must be installed per Town of Zebulon minimum requirements and/or approved engineering roadway drawings. Roadway ABC stone shall be installed in compacted lifts per manufacture equipment recommendations. A minimum of six inches of compacted ABC stone shall be installed under Curb and Gutter. All roadways will have a minimum of eight inches of compacted ABC stone. The placement of roadway ABC stone is required to pass a proof-roll and pass density testing of 98% minimum every 150' feet. The Zebulon construction Inspector must have density testing results prior to start of paving. The roadway stone cross-slope, from crown to curb, shall be checked with a string line prior to the placement of asphalt.
- q. The roadway stone shall be proof rolled just prior to the placement of asphalt. If a section of roadway fails prior to placement of asphalt after all other successful tests; additional asphalt at the direction of the construction inspector may be allowed. One inch of asphalt may be substituted for every two inches of stone.
- r. Note: If the roadway ABC is exposed to precipitation (rain, snow, ice, etc.) greater than 1/10 inch before it is covered with ABC stone, the exposed sub-grade must pass an additional proof-roll. Additional density testing is not required under these conditions.

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- s. Asphalt placement should be in accordance with engineering drawings, signed and sealed by a licensed North Carolina professional engineer. The contractor shall install asphalt in two layers. The final 1" overlay will be at the 80% building permit level for each phase or at the direction of the Public Works Director. Asphalt cores will be taken at both overlays to insure compliance with Engineering Drawings for thickness.
 - t. If more than 2.5 inches of SF 9.5 asphalt is required, asphalt must be placed in two lifts, the first lift having a thickness of not less than 1.5 inches.
 - i. SF 9.5A – 1.0- 1.5 inches
 - ii. SF9.5B - 1.5-2.0 inches
 - u. Asphalt mixtures shall not be placed during rainy weather, when subgrade or course is frozen, or when the moisture on the surface to be paved would prevent a proper bond. Asphalt material must not be placed when the air temperature measured in the shade away from artificial heat at the location of the paving operation and the road surface temperature in the shade at the paving site is below 40 degrees air temperature and 50 degrees minimum surface temperature.
 - v. A tack coat of liquid asphalt is required for existing layers of asphalt or concrete surfaces to promote a bond between old pavement surfaces and the new asphalt layer. Prior to placing asphalt tack the following conditions must be met:
 - i. Existing pavement surface must be clean.
 - ii. Rate of application must comply with NCDOT standards.
 - iii. Unformed coverage over the entire areas to be paved.
 - iv. Allow tack to thoroughly cure before placing the new asphalt.
 - w. Asphalt core samples should be selected every 300' feet or minimum of two cores per roadway for analysis of thickness and density. Asphalt pavement mix SF 9.5 B should be compacted to a minimum of 92% of the maximum specific gravity. Asphalt pavement mix of SF 9.5 A should be compacted to a minimum of 90% of the maximum specific gravity. The contractor is responsible for developing/creating a chart/map if the cored locations for submittal with the testing. Cores will be randomly taken along the longitudinal directions across the roadway but not within one foot of the edge of pavement. The results of samples greater than 10 feet apart will Not be average and used to verify compliance with the Town of Zebulon specifications. (section 2.6.H)
21. Please add water main conflict statement from storm drainage pipe plan and profile pages to City of Raleigh water and sewer pages – In case of conflict with stormwater pipes, contractor to dip (45-degree bends) the waterline below the storm drain to maintain a min. 18" vertical clearance between the utilities.
22. What is the purpose of the 8" Gravity Sewer behind lots 71-74? Shows – lateral services to the front.
23. Concerned about the BMP A grading encroachment and discharge on the existing sewer outfall – potential problems for greenway construction in near future.
24. Concerned about the BMP B grading encroachment and discharge on the existing sewer outfall – potential problems for greenway construction in near future.
25. Who is scheduled to construct the proposed retaining walls – Developer/ Contractor – Permits (locations at lot 57 and 33)

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26. Street and Stop sign combined and not separate poles. Please choose detail 30 or 31 styles. Both styles are acceptable to the town.
27. Please add the additional stop sign at the intersection of Wild Lilac Court and Rose Mallow Drive.
28. Please add speed limit sign at the following locations:
 - a. Lot line of 12 and 13
 - b. Lot line of 91 and 90
 - c. Lot line 48 and open space (entrance to new section)
29. Please relocate the following speed limit signs:
 - a. Lot 79 sign to between 74 and 73
 - b. Lot sign 47 to between 50 and 51
 - c. Lot sign at 21 to between 22 and 23
30. Recent changes to MUTCDD standards requires break-away hardware to be installed on new signage. See attached approved installation hardware. Provide detail for pole type selected. – see VLOC product guide information.
31. Please create a separate sheet with Street Light layout, signage and striping – easier to view and evaluate.
32. Please revise note: Town of Zebulon will be submitting approved lighting plans to Duke Energy for installation. The Developer is responsible for paying the \$563.63 installation charge per pole in advance of installation - Approximately sixty days prior to installation.
33. Lighting needs to be provided for the parking and mail box cluster location at Arendell Ave entrance.

Chris Ray asked if there were plans in place for the abandonment of the well and septic systems. It was explained that they were working on that.

Kathryn McPherson asked about the bridges that went across the creek to the greenway. Chris stated that in the area she was referencing there was not a greenway but designated open space for the development which was required by condition 16 of the special use permit. It would remain private and HOA maintained. Chris Ray stated that the Town had not accepted any greenways at the current time but stated that the lift station at Spiderlily would be removed and follow the sewer easement from the lift station over to Weaver's Pond around the cul-de-sac at Tamar. There was further discussion about the greenway, its requirements and the easements for that subdivision and what the homeowners may think.

Chris Ray asked why the sewer line was on the back side of the lots. Salman stated that was at the request of the City of Raleigh. Patrick stated that it was for future development.

Chris Ray asked about the retaining walls at lots 39 and 57, Salman stated that they would be part of the developer contract and part of the grading. Chris asked that additional information be provided for review to include the materials, height and sealed plan.

The storm drainage for roadways would be accepted but any other drainage would not be accepted from the backside of the properties and that needed to be designated as HOA

maintained and should be very clear on the plans what was town maintained and what was HOA maintained.

There was discussion about the process for lighting and the Town's involvement.

There was a question to the City of Raleigh about putting fencing in the easements. Patrick Paine said that no fencing could be placed in the easement but they would need to go through code enforcement to address that question. Some may be dealt with through the HOA.

Planning

Julie Spriggs had the following comments.

1. Final zoning approval will not be given until all approved permits from other agencies are on file with the Town (DWQ, NCDOT, etc.)
2. Signage is not approved with site plan. A separate building and zoning permit are required for all signage.
3. On vicinity map and site plan – add a north arrow
4. §152.271(A) – General Design Requirements – “vehicle accommodation areas shall be designed so that, without resort to extraordinary movements, vehicles may exit such areas without backing onto a public street”. Please make all spaces by mail kiosk parallel parking. See similar detail for Weaver's Pond Mail kiosk.
5. §152.269 - Parallel Parking for Mail Kiosk should be 9ft by 22ft
6. The detail shows the mail kiosk with 16 regular mail boxes (with large parcel slots). The site plan shows 4 kiosks. This is only 64 mail boxes for 97 homes?
7. Stop sign on Wild Lilac Court does not appear on all pages of the site plan. It does appear on some but it does not show up on every page.
8. Recreation fee-in-lieu will be accepted. FY 2017 Fee schedule is \$2,000 per unit. $\$2,000 \times 97 = \$194,000$.
9. Please add to general construction notes §97.02(I) “The erection, excavation, demolition, alteration or repair of any building, infrastructure or other structure in a residential or business district other than between the hours of 7:00 a.m. and 8:00 p.m. will not be allowed, with the exception of emergency repairs.”

Julie stated that there were some issues with the layers and that needed to be corrected so that everything was showing where it needed to be.

There was a statement from Reid Elmore with NCDOT about the TIA requirement and the fact that they were just under the threshold for it being required which was 100 trips and they were at 98.94 trips. If more than two lots decide to use their entrance they would be at the 100 trips. Julie Spriggs stated that Reid Elmore was not going to require a TIA but she said it might be in their best interest because the Town could ask for one to be done based on the purpose for a TIA. Julie stated that NCDOT was going to require a left turn lane on Highway 96 and a TIA could be accepted for that so that the storage could be set at minimum otherwise NCDOT would

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determine the storage for them. The TIA basically allowed for some negotiations with NCDOT but without one NCDOT would dictate that. A right turn lane could be required and the right-of-way was being reviewed and with the limited frontage there may not be sufficient right-of-way. A copy of the TIA would need to be submitted to the Town of Zebulon and NCDOT.

Driveway permits were taking eight weeks and those needed to be submitted as soon as possible.

Kathryn McPherson asked for an explanation of the recreation fee-in-lieu charge mentioned in item eight.

Chris Ray stated that it was part of the greenway masterplan and it could be that they would be required to build the greenway or they could provide payment to the Town since it was being worked on by the Town and that would allow for the Town to build it instead of the developer building it. There was some discussion about the cost of that and that it was detrimental to the developer as well as other issues that were coming up.

Chris Ray stated that he understood greenways were very expensive and the Town had an adopted plan and if the developer did not construct then they could pay a fee in lieu and the Town would construct but there was no way to do any tradeoffs since there was a Board adopted plan. The same requirements were in place for all developments.

Julie thanked everyone and stated that there were no deadlines for future submissions.

There were no further questions or comments.

Joe Moore made a motion, second by Chris Ray to adjourn the meeting. There was no discussion and the motion passed unanimously.

The meeting was adjourned at 10:55am.

Date

Lisa M. Markland—Town Clerk

SEAL