| Version 2.08; Released April 2018) | | | North Carolina Department of Transportation Highway Stormwater Program STORMWATER MANAGEMENT PLAN FOR NCDOT PROJECTS | | | | | | | | | | | |
|--|------------------------------|---|--|---|--|---|--|---|--|---|--|---|--|--|
| WBS Element: | 35993.1.1 | TIP No.: | U-4700A | | County(ies): | Catawba Caldwell | Catawba | Caldwell | Burke | Page | 1 | of 4 | | |
| | | | | (| General Project | Information | | | | | | | | |
| WBS Element: | | 35993.1.1 TIP Number: U-4700A | | | | | Project | ct Type: Roadway Widening Date: | | | | 10/19/2019 | | |
| NCDOT Contact: | | Bryon Sowell, Pl | Ξ | | Contractor / Designer: Audrey Burnette, PE | | | | mette, PE | | | | | |
| Address: NC Department of Transportation 1710 E. Marion St. | | | | | | | Address | ess: 900 Ridgefield Drive Suite 350 | | | | | | |
| | | Shelby, NC 281 | 51-0047 | | | | | Raleigh, NC 27609 | | | | | | |
| | Phone: | 980-552-4221 | 3 <mark>52-4221</mark> | | | | | | ne: 919-878-9560 | | | | | |
| | Email: | bksowell@ncdot | . <u>gov</u> | | | | | aburnette | orkk.com | | | | | |
| City/Town: | | | Hic | kory | | County(ies): | Cata | wba | Cald | llewb | | Burke | | |
| River Basin(s): | | Cata | awba | | | CAMA County? | N | 0 | N | lo | | No | | |
| Wetlands within Pro | ject Limits? | Yes | | | | | | | | | | | | |
| | | 1 | | 1 | Project Des | cription | | | | | | | | |
| Project Length (lin. | niles or feet): | 4. | 77 | Surrounding | Land Use: | Commercial/Industr | rial/Residentia | 1 | | | | | | |
| | | | | Proposed Proje | ect | | | Existing Site | | | | | | |
| Project Built-Upon A | rea (ac.) | T I | 90.7 | | ac. | ta a di tata di Castin | The station | 71.0 | | ac. | | | | |
| Typical Cross Section Description: | | with curb and gu 12' outside shou | tter. Three 12' la | e concrete median. | 1 he existing typical cross section for US 321 is four lane median divided facility. Two 12' lanes in each direction with 22' wide grassed median. 12' outside shoulders. | | | | | | | | | |
| Annual Avg Daily Traffic (veh/hr/day): Design/Future: | | | e: 5 | 7,490 | 2041 | | Existing | ting: 50,135 Year: 2021 | | | | | | |
| (Description of Mini Quality Impacts) | rative: mization of Water | The widening of several major orn bridge over the (Wolfe Road and incorporated into impacts. The pr basins and one I the outlet of the existing double 1 sills and low flow | US 321 from US obssings on US 32 Catawba River, a the driveway to th the design for al oject is located in lazadrous spill di oroposed culvert i 0'x10' RCBC has baffels were use | 70 in Hickory to Ju 1 providing adequ double 10'x10' RC ne pump station ai 1 proposed drainag the Catawba Rive tch have been inc south of the bridge been retrofitted w d in the 8'x8' RCB | st south of US 3, late cross section BC to be extend t UT Catawba. D ge improvements er Basin so the ai orporated into the e, to attenuate flo <i>i</i> th a 1' sill to cre C's under Grace | 21A/New Farm Road hal opening to allow v ed with a 72" a new rainage outfalls along . The road way side ea crossing the mair e project to handle cf w and velocity, befor ate a floodplain benc Chapel Road, Wolfe | Will involve pa vater to travel suplemental p g the project h slopes around the slopes around the stem of the C memical spills t e entering the the at the inlet a e Road and DF | aving, widen under US 32 ippe at Frye (ave been an d jurisdiction Catawba Riv that may hap existing 6'xt and outlet to R4 to mainta | Ing, drainage imp 21 other side alig Creek, a new sing alyzed to verify s al features have i er adheres to the open along US 32 5' RCBC under th establish a low fl in existing chann | provements and inments. The m gle 8'x8' RCBC tability and outle incorporated ste catawba Buffe 21. One energy re railroad. The low channel thro el widths throug | structures v jor crossing under Grace te protection eeper side si r rules. Two dissipator v northern ba ough the sou h the culver | vork. There are s consists of a > Chapel Road, has been lopes to minimize > Hazardous spill vill be installed at urrel of the thern barrel. 1' ts. | | |
| Surface Weter Darts | (4). | | Octow | a Diver | waterbody In | NCDWD Streem In | day Na I | | | 11 52 | | | | |
| Surrace water Body (1): Catawi | | | Brimany Classif | ication: | Water Supply 1 | NCDWR Stream Index No.: | | lass P | Critical Ar | | 1 | | | |
| NCDWR Surface Water Classification for Water Body | | | Supplemental C | lassification: | vvater Supply I | v (ws-iv) | | JIASS B | | ea (CA) | | | | |
| Other Stream Classification: | | | | | | | | | | | | - | | |
| Impairments: | | None | | | | | | | | | | | | |
| Aquatic T&E Species? Comments | | | | | | | b <i>a</i> c c | | | - | | | | |
| NRTR Stream ID: | _ | | Buffer Rules in Effect: Catawba | | | | atawba | | | | | | | |
| Project Includes Bri | dge Spanning Water | r Body? | Yes | Deck Drains Discharge Over Buffer? No | | | | Dissipator Pads Provided in Buffer? | | | | | | |
| Deck Drains Discha | rge Over Water Bod | y? | No | (IT yes, provi | (If yes, provide justification in the General Project Narrative) | | | | (IT yes, describe in the General Project Narrative; if no, justify in the | | | | | |
| (If yes, provi | de justification in the | General Project N | larrative) | | | | | General Project Narrative) | | | | | | |

| Version 2.08; Released April 2018) | | | North Carolina Departm Highway Stormw STORMWATER MAN FOR NCDOT F | | | | | | | |
|--|----------------------------------|---------|---|--------------------------------|---|---|--------|------|--|--|
| WBS Element: 35993.1.1 | TIP No.: | U-4700A | County(ies): | Catawba Caldwell Burke | | Page | 2 | of 4 | | |
| | Additional Waterbody Information | | | | | | | | | |
| Surface Water Body (2): | | Frye | Creek | NCDWR Stream Index No.: | | 11-54-1 | | | | |
| NCDWP Surface Water Classification for Water Body | | | Primary Classification: | Water Supply IV (WS-IV) | | | | | | |
| NODWIN Surface Water Glassification fo | Water Douy | | Supplemental Classification: | | | | | | | |
| Other Stream Classification: | | | | | | | | | | |
| Impairments: None | | | | | | | | | | |
| Aquatic T&E Species? Commer | | | | | | | | | | |
| NRTR Stream ID: | | | | | Buffer Rules in Effect: | | | N/A | | |
| Project Includes Bridge Spanning Water Body? No | | | Deck Drains Discharge Over Bu | Dissipator Pads Provide | Dissipator Pads Provided in Buffer? N/A | | | | | |
| Deck Drains Discharge Over Water Body? N/A | | | (If yes, provide justification in | the General Project Narrative) | (If yes, describe in the | (If yes, describe in the General Project Narrative; if no, justify in the | | | | |
| (If yes, provide justification in the General Project Narrative) | | | | | Ge | eneral Project Narra | ative) | | | |

| Highway North Carolina Department of Transportation Highway Stormwater Highway Stormwater Program STORMWATER MANAGEMENT PLAN (Version 2.08; Released April 2018) | | | | | | | | | | | |
|--|---|------------|------------------|-------------|--------------|--------------|----------------|-------|-------|----------------|--|
| - | WBS Element: TIP No.: U-4700A County(ies): Catawba Caldwell Burke Page 3 | | | | | | | | | | |
| | Preformed Scour Holes and Energy Dissipators | | | | | | | | | | |
| Chast | Station & Coordinates | Curfees | | | Drainage | Comunication | Pipe/Structure | 010 | 2/40 | BMP | |
| No | (Road and Non Road | Water Body | | Rinran Type | Area (ac) | Structure | (in) | (cfs) | (fps) | Associated w/ | |
| 14 | -L- 161+37 LT | (1)Catawba | Riprap Energy | | (40) | Culuart | | (013) | (103) | Duriel Rules ! | |
| 14 | | River | Dissipator Basin | Class II | 240.0 | Cuiven | 8 X 8 RUBU | 380.0 | 4.3 | IN/A | |
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| | Additional Comments | | | | | | | | | | |
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| * Refer to t | Refer to the NCDOT Best Management Practices Toolbox (2014), NCDOT Standards, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy | | | | | | | | | | |

| Version 2.08 | North Carolina Department of Transportation Highway Stormwater Program STORMWATER MANAGEMENT PLAN STORMWATER MANAGEMENT PLAN Version 2.08; Released April 2018) FOR NCDOT PROJECTS | | | | | | | | | | |
|--|--|---|-----------------------|--------------------------|---------------------------------|---|----------|----|-----------------|-------------|------------------------------------|
| WBS Element: 35993.1.1 | | | 35993.1.1 | TIP No.: | U-4700A | County(ies): Catawba Caldwe | ll Burke | | Page | 4 | of 4 |
| | Level Spreaders, Hazardous Spill Basins, and Forebays | | | | | | | | | | |
| Sheet No. | Station & Coordinates (Road and Non Road Projects) | Station & Coordinates Surface Hazardous Spill ad and Non Road Projects) Water Body Basin, or Forebay? | | Drainage Area (ac) | New Built- Upon Area (ac) | Required / Minimum Treatment | | | Treatn Achie | nent ved | BMP Associated w/ Buffer Rules? |
| 14 | -L- 155+65 LT | (1)Catawba River | Hazardous Spill Basin | | | 2yr, tc=10 min, td= 5 min storm runoff + 1,550 cf (cf) | 13014.5 | cf | 15474.0 | cf | N/A |
| 16 | -L- 180+95 LT | (1)Catawba River | Hazardous Spill Basin | | | 2yr, tc=10 min, td= 5 min storm runoff + 1,550 cf (cf) | 11143.1 | cf | 13681.5 | cf | N/A |
| 17 | -Y17A- 16+00 LT | UT CATAWBA | Hazardous Spill Basin | | | 2yr, tc=10 min, td= 5 min storm runoff + 1,550 cf (cf) | 4747.7 | cf | 4908.0 | cf | N/A |
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| *Hazardous spill basins are pollution prevention measures designed for spill containment rather than stormwater treatment. Under Required / Minimum Treatment and Treatment Achieved, provide the minimum required volume and the actual HSB volume, respectively. Refer to the NCDOT Stormwater Best Management Practices Toolbox (2014) for design guidance. | | | | | | | | | | | |
| Additional Comments | | | | | | | | | | | |
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