

PHASE II STORMWATER
 MANAGEMENT PERMIT APPLICATION FORM

LOW DENSITY SUPPLEMENT

This form may be photocopied for use as an original

A low density project is one that meets the appropriate criteria for built upon area and transports stormwater runoff primarily through vegetated conveyances. Low density projects should not have a discrete stormwater collection system as defined by 15A NCAC 2H .1002(18). Low density requirements and density factors can be found in 15A NCAC 2H .1005 through .1007, DWQ BMP Manual (2007), Session Law 2006-246, and the City of Kannapolis Unified Development Ordinance (UDO).

I. PROJECT INFORMATION

Project Name: _____

Contact Person: _____ Phone Number: (_____) _____

Company: _____

Number of Lots: _____ Allowable Built Upon Area Per Lot*: _____

Number of Dwelling Units Per Acre: _____

*If lot sizes are not uniform, attach a table indicating the number of lots, lot sizes and allowable built upon area for each lot. The attachment must include the project name, phase, page numbers and provide area subtotals and totals. BUA shall be shown in units of square feet.

II. BUILT UPON AREA

For uniform lot sizes, complete the following calculation in the space provided below where:

- SA Site Area - the total project area above Mean High Water. Wetlands may be excluded when the development results in high density pockets.
- DF Density Factor - the appropriate percent built upon area divided by 100.
- RA Road Area - the total impervious surface occupied by roadways.
- OA Other Area - the total area of impervious surfaces such as clubhouses, tennis courts, sidewalks, etc.
- No. Lots - the total number of lots in the subdivision.
- BUA/Lot - the computed allowable built upon area for each lot including driveways and impervious surfaces located between the front lot line and the edge of pavement.
- Total allowable lot BUA - the computed allowable built upon area for all lots combined.
- Total BUA from lot listing - the sum of built upon area allocated for each lot on the list of non-uniform lots.

For uniform lot sizes:

$$\underline{(SA \times DF) - RA - OA} = \underline{BUA}$$

For non-uniform lot sizes:

$$(SA \times DF) - RA - OA = \text{Total allowable lot BUA}$$

No. Lots Lot

Calculation:

For uniform lot sizes:

$$\frac{(\text{SA: } ______ \text{ ft}^2 \times \text{DF: } ______) - (\text{RA: } ______ \text{ ft}^2) - (\text{OA: } ______ \text{ ft}^2)}{(\text{No of Lots: } ______)} = \text{BUA per Lot} = ______ \text{ ft}^2$$

For non-uniform lot sizes:

a. $(\text{SA: } ______ \text{ ft}^2 \times \text{DF: } ______) - (\text{RA: } ______ \text{ ft}^2) - (\text{OA: } ______ \text{ ft}^2) = \text{Total allowable lot BUA} = ______ \text{ ft}^2$

b. Total BUA from lot listing: _____ sf. **b must be ≤ a**

III. REQUIRED ITEMS CHECKLIST

Initial in the space provided to indicate that the following requirements have been met and supporting documentation is provided as necessary. Indicate the page or plan sheet number where supporting documentation can be found. If the applicant has designated an agent on the Stormwater Management Permit Application Form, the agent may initial below.

Page/Plan
Initials Sheet No.

- _____ _____ a. A vegetative buffer is provided adjacent to surface waters per R.S.O.D. requirements of the City of Kannapolis Unified Development Ordinance (UDO).
- _____ _____ b. For Phase II Post-Construction projects: All built upon area is located at least 30 feet landward of all perennial and intermittent surface waters.
- _____ _____ c. Swales are located in recorded drainage easements.
- _____ _____ d. Swales discharging to wetlands are designed to flow into and through the wetlands at a non-erosive velocity (for this flow requirement into wetlands, non-erosive is velocity ≤ 2 ft/s).
- _____ _____ e. Length of swale or vegetated area is at least 100 feet for each curb outlet.
- _____ _____ f. The system takes into account the run-off at ultimate built-out potential from all surfaces draining to the system (delineate drainage area for each swale).
- _____ _____ g. Curb outlets direct flow to a swale or vegetated area.
- _____ _____ h. Grass type(s) for permanent vegetative cover specified on detail.
- _____ _____ i. A completed Grassed Swale Supplement.
- _____ _____ j. A completed Curb Outlet System Supplement.
- _____ _____ k. A level spreader is provided at the end of all swales that will drain into wetlands or surface waters. Level spreader O & M is provided.

STORMWATER SUBMITTAL OBJECTIVES
LOW DENSITY

- A. Limit amount of built-upon surfaces per the most current rules.
- B. No collection systems (limited piping-only enough to get under a road, no inverted crown streets).
- C. Sheet flow.
- D. No area of the project of such high density that runoff threatens water quality. (i.e., pocket of high density).
- E. If a pocket of high density is formed, the application must include an engineered control suitable for the classification of the receiving waters.

Revision History:

R1	4-17-2009	Removed maintenance and submittal notes; updated BUA formulae per NCDENR supplements.
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