

Department of Engineering  
Dan Gaillet, P.E., County Engineer

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MEMORANDUM

February 14, 2018

To: Sheila Jones, Supervisor, District I  
Trey Baxter, Supervisor, District II  
Gerald Steen, Supervisor, District III  
David Bishop, Supervisor, District IV  
Paul Griffin, Supervisor, District V

From: Dan Gaillet, P.E.  
County Engineer



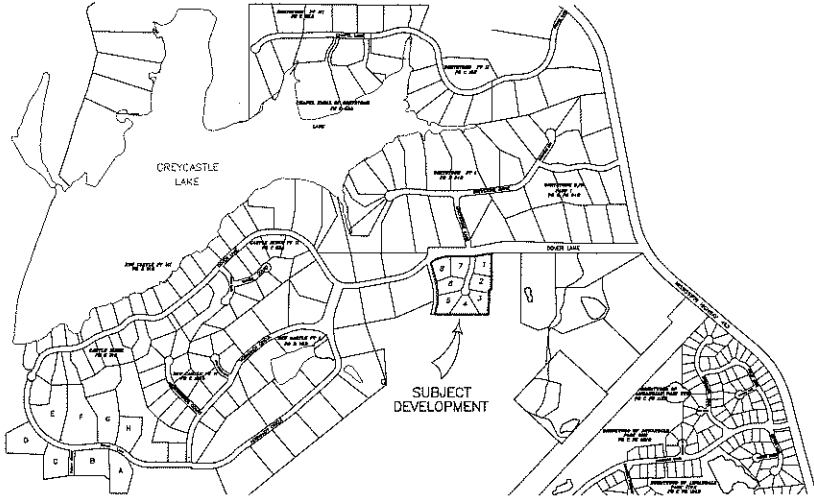
Re: Design Exception  
New Castle Subdivision, Part V

Under the Subdivision Regulations for Madison County, Mississippi, Article III, 301.02-08, the maximum gradient of roadway profile for local roads is 6%. The developer for New Castle, Part V is requesting that the roadway grade be permitted for 8.89%.

As a result, the Engineering Department recommends that the Board approve the exception for the road grade.

# NEW CASTLE SUBDIVISION, PART V

SITUATED IN SECTION 28, T8N-R1E,  
MADISON COUNTY, MISSISSIPPI



Peter De Beukelaer ————— Owner/Developer

NOVEMBER, 2017  
REVISED FEBRUARY, 2018

**DRAINAGE CALCULATIONS**  
POST CONSTRUCTION  
Intensity = 12.19 (30 yr. Frequency)  
Volume of C  
Impervious Areas = 0.97  
Pervious Areas = 0.88

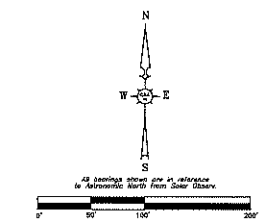
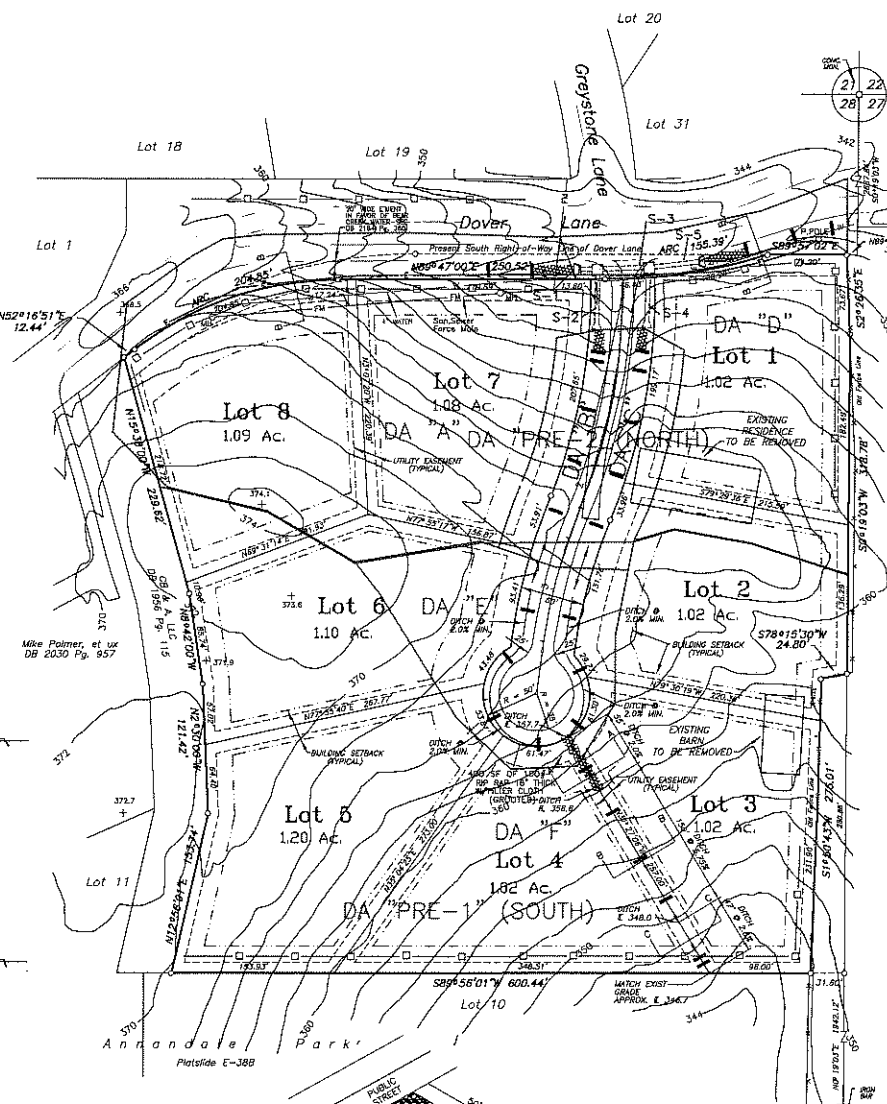
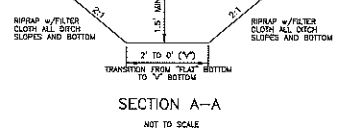
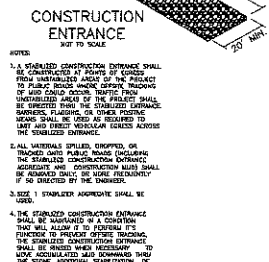
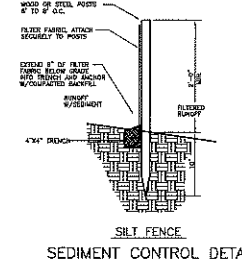
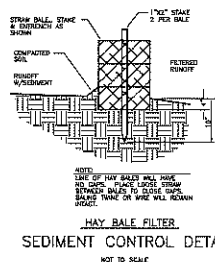
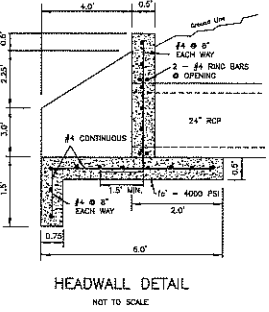
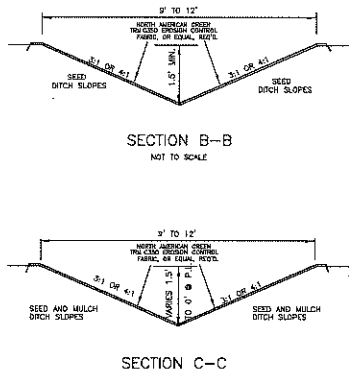
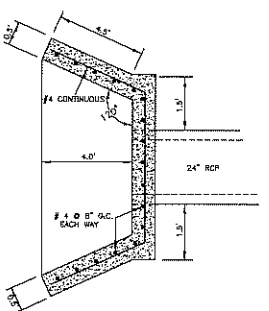
| Drainage Area          | Pervious Area | Impervious Area | Area      | Req'd     | Design                      |
|------------------------|---------------|-----------------|-----------|-----------|-----------------------------|
| <b>Drainage Area A</b> | 2.12 AC       | 1.29 AC         | 3.41 AC   | 21.38 cfs | 24" RCP @ 1.0% = 22.60 cfs  |
| <b>Drainage Area B</b> | 6.87 AC       | 0.06 AC         | 6.93 AC   | 2.60 cfs  | 18" RCP @ 2.40% = 16.26 cfs |
| <b>Drainage Area C</b> | 0.25 AC       | 0.06 AC         | 0.31 AC   | 2.74 cfs  | 18" RCP @ 2.40% = 14.26 cfs |
| <b>Drainage Area D</b> | 10.69 cfs     | 1.03 cfs        | 11.72 cfs | 11.70 cfs |                             |
| <b>Drainage Area E</b> | 0.22 AC       | 0.22 AC         | 0.44 AC   | 1.99 cfs  |                             |
| <b>Drainage Area F</b> | 31.42 cfs     | 9.87 cfs        | 41.29 cfs | 7.35 cfs  |                             |

**DRAINAGE CALCULATIONS**  
Q = ACI  
Impervious Areas = 0.92  
Pervious Areas = 0.88

| Drainage Area                             | Pervious Area | Impervious Area | Area    | Req'd     | Design |
|---|---------------|-----------------|---------|-----------|--------|
| <b>Drainage Area PRE-1 (South Basin)</b>  | 6.83 AC       | 0.08 AC         | 6.91 AC | 10.99 min |        |
| <b>Drainage Area PRE-2 (North Basin)</b>  | 3.47 AC       | 0.68 AC         | 4.15 AC | 8.84 min  |        |
| <b>Drainage Area POST-1 (South Basin)</b> | 4.85 AC       | 0.21 AC         | 5.06 AC | 10.00 min |        |
| <b>Drainage Area POST-2 (North Basin)</b> | 3.17 AC       | 0.21 AC         | 3.38 AC | 7.9 min   |        |

**RUNOFF SUMMARY**

| Drainage Area                        | Post-Condition | Increase |
|--------------------------------------|----------------|----------|
| <b>Drainage Area 1 (South Basin)</b> | 31.34 cfs      | 2.64 cfs |
| <b>Drainage Area 2 (North Basin)</b> | 36.41 cfs      | 2.89 cfs |
| <b>Drainage Area 3 (South Basin)</b> | 27.45 cfs      | 3.14 cfs |
| <b>Drainage Area 4 (North Basin)</b> | 22.78 cfs      | 1.82 cfs |
| <b>Drainage Area 5 (South Basin)</b> | 25.23 cfs      | 1.97 cfs |
| <b>Drainage Area 6 (North Basin)</b> | 27.45 cfs      | 2.16 cfs |



**LEGEND**  
Silt Fence  
Straw Bale Barrier

- GENERAL NOTES:**
- OWNERS NAME and ADDRESS: Peter De Boulevar, 213 Industrial Drive North, Madison, Mississippi 39110
  - TOTAL AREA = 9.201 Acres
  - BUILDING SETBACKS: Front = 30 Feet, Side = 15 Feet, Rear = 25 Feet
  - MINIMUM LOT SIZE = 44,430 Square Feet
  - MATHEMATICAL CLOSURE = 1: 50,000+
  - EASEMENTS: A 10-foot Wide Utility Easement is Reserved along each rear and side lot line. A 5-foot Wide Utility Easement is Reserved along the street frontage of each lot.
  - This property is located in Zone "X", unshaded according to LULU Community Plan No. 28089C0330F, Revised 11-17-10.
  - Water and Sewer service will be furnished by Bear Creek Water Association.
  - ZONING: This property is Zoned RT-4. Minimum lot size = 30,500 square feet. Minimum lot width = 100 feet.
  - VERTICAL DATUM = NGVD

- CONSTRUCTION NOTES:**
- ALL PAVING RADI AT STREET INTERSECTIONS AND CUL-DE-SAC PILETS SHALL BE 25 FEET.
  - OPEN LINER SHALL BE NORTH AMERICAN GREEN T.M. C-350 OR APPROVED EQUAL. SEE PLAN AND PROFILE SHEETS FOR LOCATIONS.
  - ALL DRAINAGE STRUCTURES SHALL HAVE FLARED END SECTIONS, EXCEPT THE 24" RCP SHOW.
  - ALL DISTURBED AREAS SHALL BE SEED, FERTILIZED AND MULCHED.
  - ROCK INLETS AND OUTLETS SHALL BE INSTALLED AT ALL DRAINAGE STRUCTURES.
  - JUNCTION BOXES SHALL BE MDOT JB-1 AS SHOWN ON SHEET 8304 OF MDOT STANDARD PLAN FOR JUNCTION BOXES.
  - HAY BALES FOR SEDIMENT CONTROL SHALL EXTEND UP BOTH DITCH SLOPES.
  - HEADWALLS SHALL BE JOB CONSTRUCTED, SEE DETAIL.
  - THE LOCATIONS OF THE 4" WATER MAIN AND 12" SAN, SEWER FORCE MAIN ARE APPROXIMATE. CONTRACTOR MUST CONTACT BEAR CREEK WATER FOR EXACT LOCATIONS.
  - CONTRACTOR MUST CONTACT "ONE CALL" (811) FOR ALL EXISTING UTILITIES LOCATED.
  - CONTRACTOR MUST CONTACT ALL UTILITY COMPANIES TO COORDINATE THE CONSTRUCTION OF PROPOSED DRAINAGE DITCHES AND CULVERTS.
  - ALL CONCRETE PIPE SHALL BE CLASS III.
  - ALL CONSTRUCTION SHALL BE PERFORMED ACCORDING TO MADISON COUNTY, MISSISSIPPI'S STANDARD CONSTRUCTION SPECIFICATIONS.

**PROFESSIONAL ENGINEER**  
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**PROFESSIONAL SURVEYOR**  
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Madison, Mississippi 39110  
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Cell: 601-808-0023



**NEW CASTLE, PART V**  
**DRAINAGE, GEOMETRIC & EROSION CONTROL**

SCALE: 1" = 80'  
NOVEMBER, 2017  
REVISED 2/16/18  
SHEET 2 of 3

