

HARDEE'S - CAMERON, N.C. NC HWY 87 & BUFFALO LAKE RD. CAMERON, NORTH CAROLINA



SITE INFORMATION

.. HARDEE'S AT CAMERON, NC

NC HWY 87

.BUFFALO LAKE RD. &

CAMERON, NC 28326

..1.77 Ac. (77,159 SF)

.HIGHWAY CORRIDOR

.34,383 SF (0.79 Ac.)

...42,776 SF (0.98 Ac.)

...1 SPACE PER 4 SEATS

+ 1 PER 2 EMPLOYEES

20 GPD X 69 SEATS = 1,380 GPD

.COMM (COMMERCIAL BUSINESS DISTRICT)

.HARNETT COUNTY

.. 9575-95-4454

.. 3332/314

...VACANT

...RESTAURANT

...3,162 Sq. Ft.

..69 SEATS

...0.02 Ac.

. 25'

. 42

PROPOSED WASTEWATER ALLOCATION ... 20 GPD PER SEAT

...±1.32 AC.

PROJECT NAME:

DEED BOOK/PAGE:..

OVERLAY DISTRICT:.

EXISTING USE:... PROPOSED USE:

TOTAL SEATS:

TOTAL SITE ACREAGE:

TOTAL BUILDING SIZE:.

EX. IMPERVIOUS AREA:

PRO. PERVIOUS AREA:..

BUILDING HEIGHT:

FRONT:

REAR:

Surveyor:

SIDE STREET:

SIDE (INTERIOR):

REQUIRED PARKING:

PARKING PROVIDED:

H.C. (VAN ACCESSIBLE).

(RESTAURANT SINGLE SERVICE)

FREELAND

FREELAND & ASSOCIATES, INC.

323 WEST STONE AVE.

GREENVILLE S.C. 29609

TEL. (864) 271-4924 FAX: (864) 233-0315

EMAIL: info@freeland-associates.com

SURVEYORS • ENGINEERS

REGULAR 9x19'..

H.C. (REGULAR).

TOTAL PROVIDED:

DISTURBED AREA:

PRO. IMPERVIOUS AREA:

BUILDING SETBACK REQUIRED:

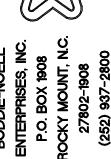
LOCATION:..

COUNTY:...

ZONING:..

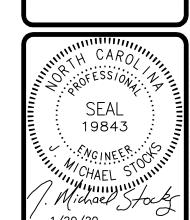












COVER

2/21/20 - BNE COMMEN

FILE NO. 2017-013 HORZ. SCALE: VERT. SCALE: NONE

COVER

CONTACT INFORMATION

HARNETT COUNTY PLANNING/ZONING: 108 E. FRONT STREET LILLINGTON, NC 27546

> JAY SIKES 910-893-7523

WATER & SEWER: HARNETT REGIONAL WATER 700 McKINNEY PKY

LILLINGTON, NC 27546 CONTACT: SHANE CUMMINGS

910-893-7575

STORM DRAINAGE NCDENR-DWQ & ENGINEERING:

FAYETTEVILLE REGIONAL OFFICE 225 GREEN STREET, SUITE 714 FAYETTEVILLE, NC 28301 CONTACT: BELINDA HENSON

910-433-3300

TELEPHONE:

CONTACT: DWIGHT BELL DWIGHT.BELL@VERIZON.COM 877-610-2905 EXT. 41010

ELECTRIC:

DUKE ENERGY 3308 NC-5 ABERDEEN, NC 28315 800-452-2777



INDEX OF SHEETS

COVER COVER SHEET

CE-01 EXISTING CONDITIONS and

DEMOLITION PLAN

CE-02 ROAD WIDENING PLAN CE-03 SITE PLAN

CE-04 UTILITY PLAN

CE-05 GRADING and DRAINAGE PLAN

CE-06 LANDSCAPE PLAN

CE-07 EROSION CONTROL

CE-08 EROSION CONTROL DETAILS CE-09 EROSION CONTROL DETAILS

CE-10 LIGHTING PLAN

STORMWATER WETLAND DETAILS

SITE NOTES and DETAILS

CE-13 UTILITY NOTES and DETAILS

CE-14 NCG01 NOTES SHEET

NCG01 NOTES SHEET

Civil Engineering:



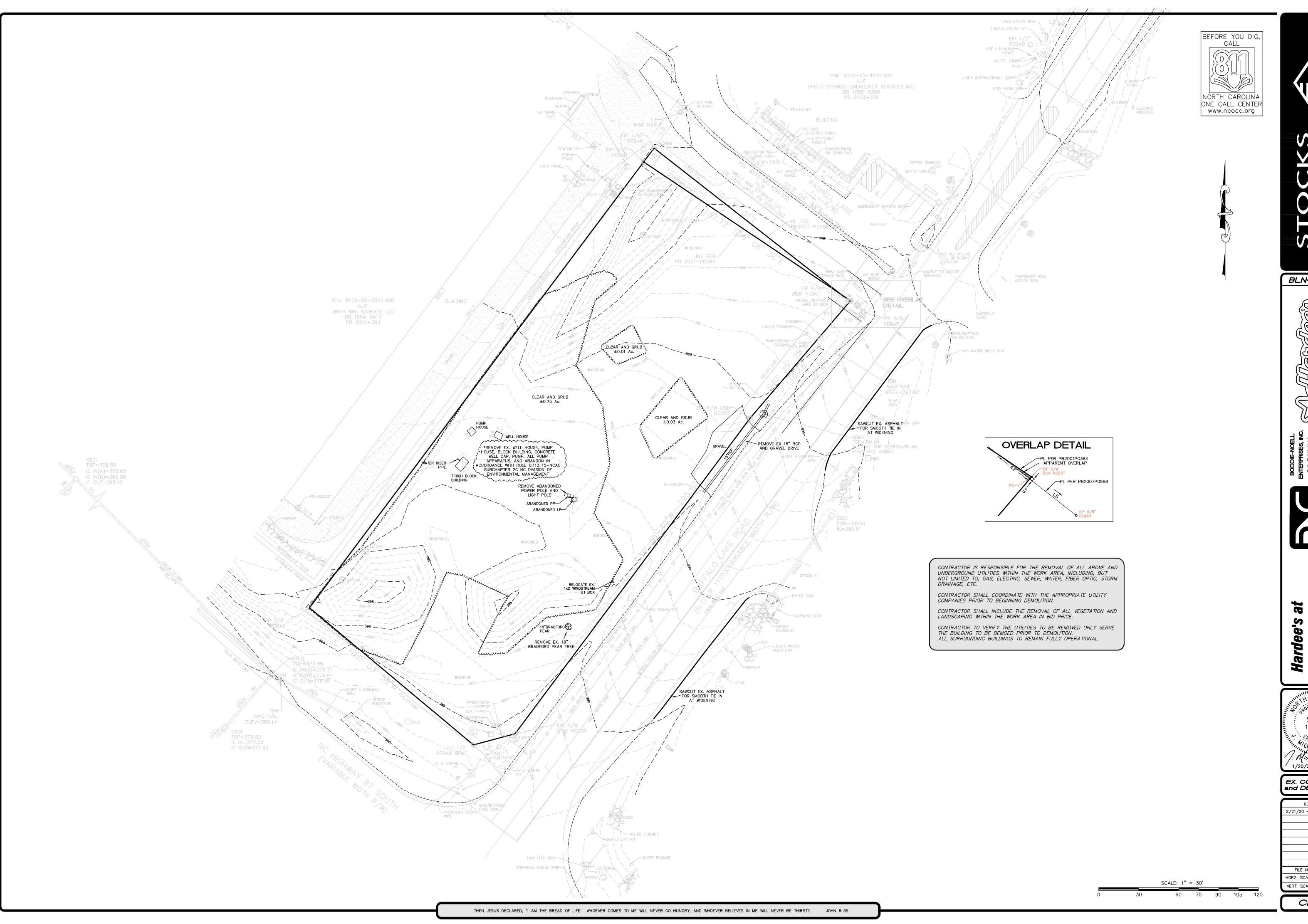
Contact: J. Michael Stocks, PE mstocks@stocksengineering.com License Number: 19843

Owner/Developer:



BODDIE-NOELL ENTERPRISES, INC. P.O. BOX 1908 ROCKY MOUNT, N.C. 27802-1908 (252) 937-2800

Contact: Reggie Barnacascel reggiebarnacascel@boddienoell.com



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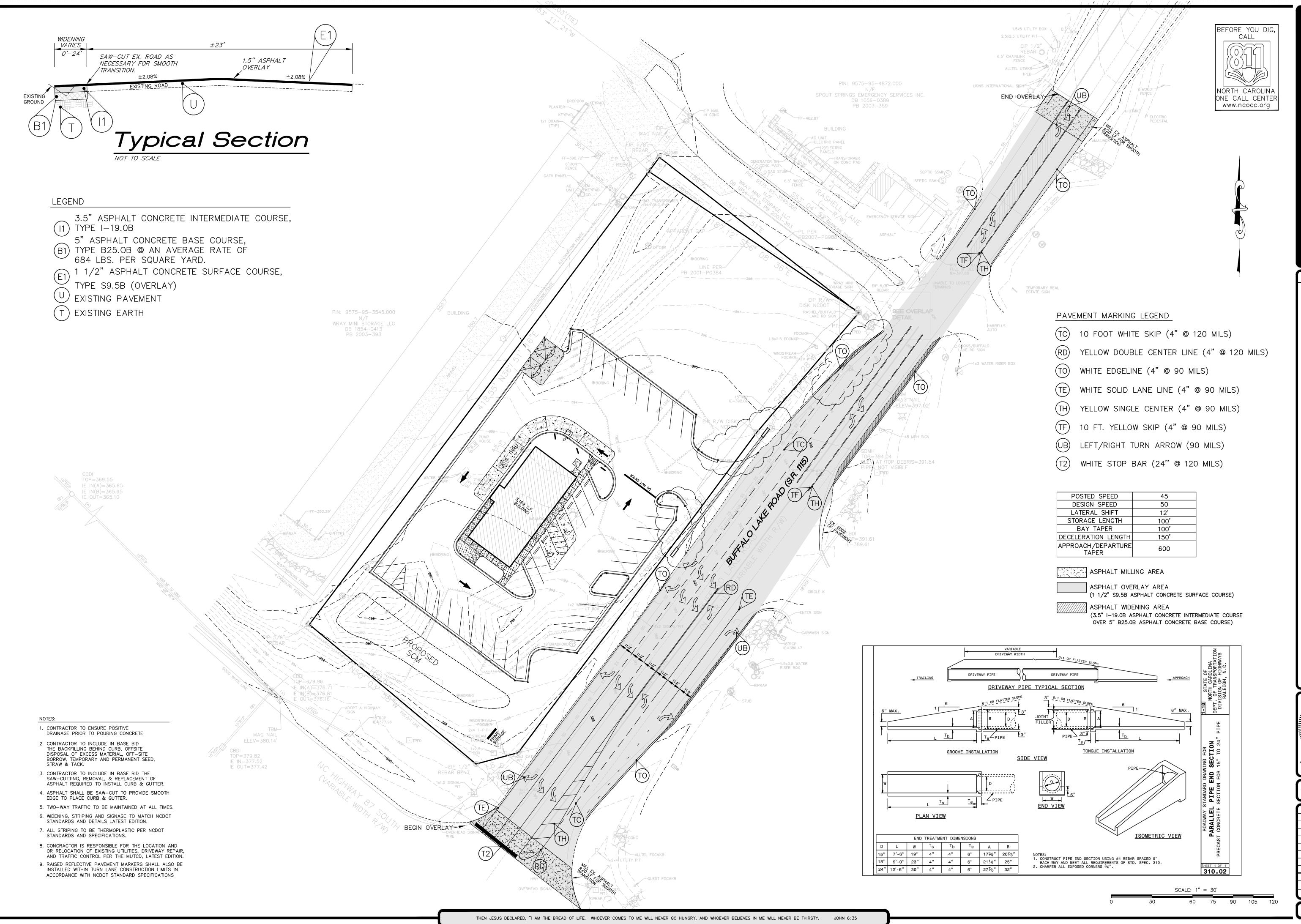


19843 1/20/20 Stock

EX. CONDITIONS and DEMO PLAN

REVISIONS 2/21/20 - BNE COMMENTS

HORZ. SCALE: VERT. SCALE: NONE





AC. CHARBROILED THICKBURGERS.

BODDIE
ENTERPRI
P.O. BO
POCKY MC
27802
(252) 93

ALO LAKE RD.

SEAL
19843

NGINEER OK
MINIMULA
MICHAEL
1/20/20

SEAL
19843

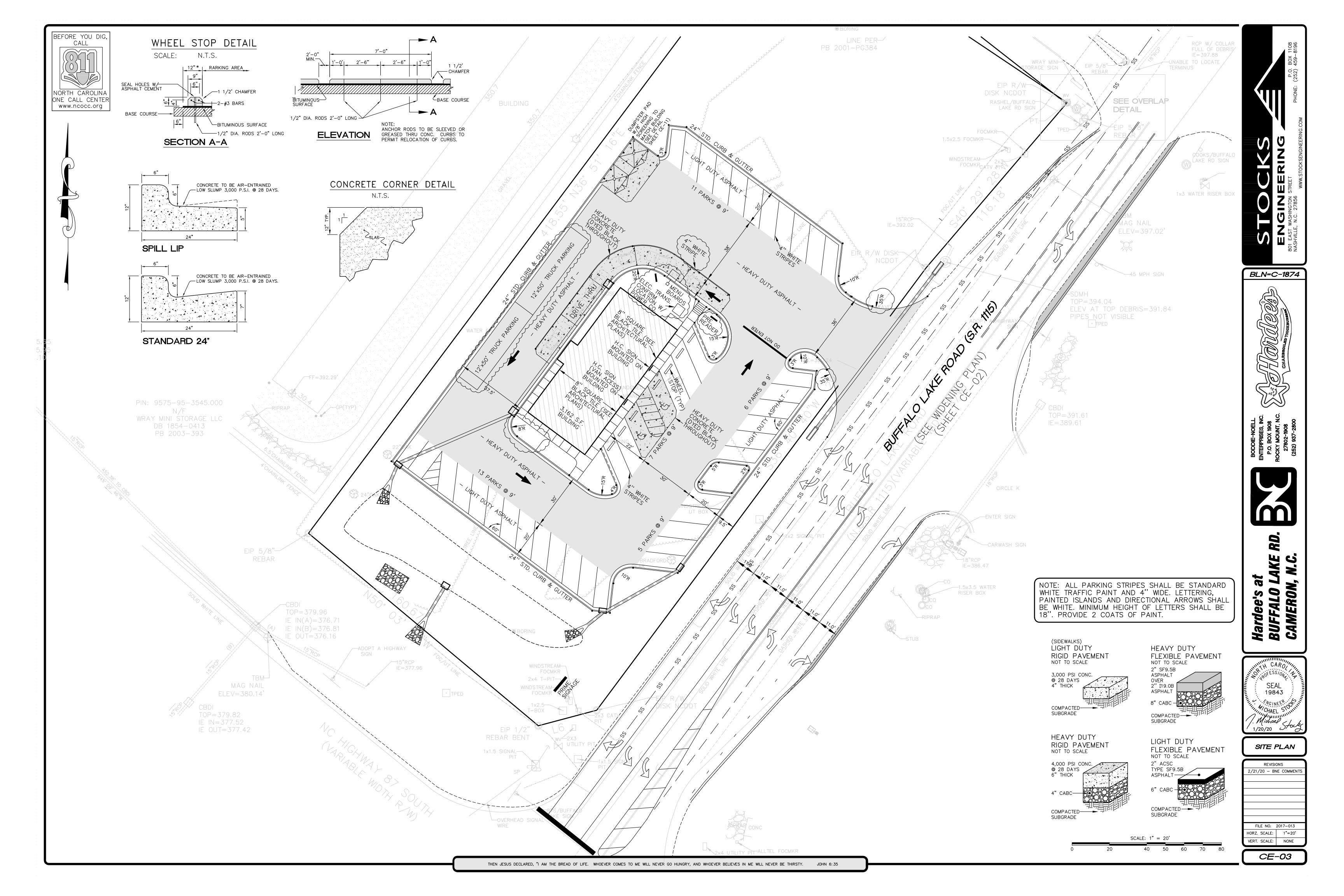
ROAD WIDENING PLAN

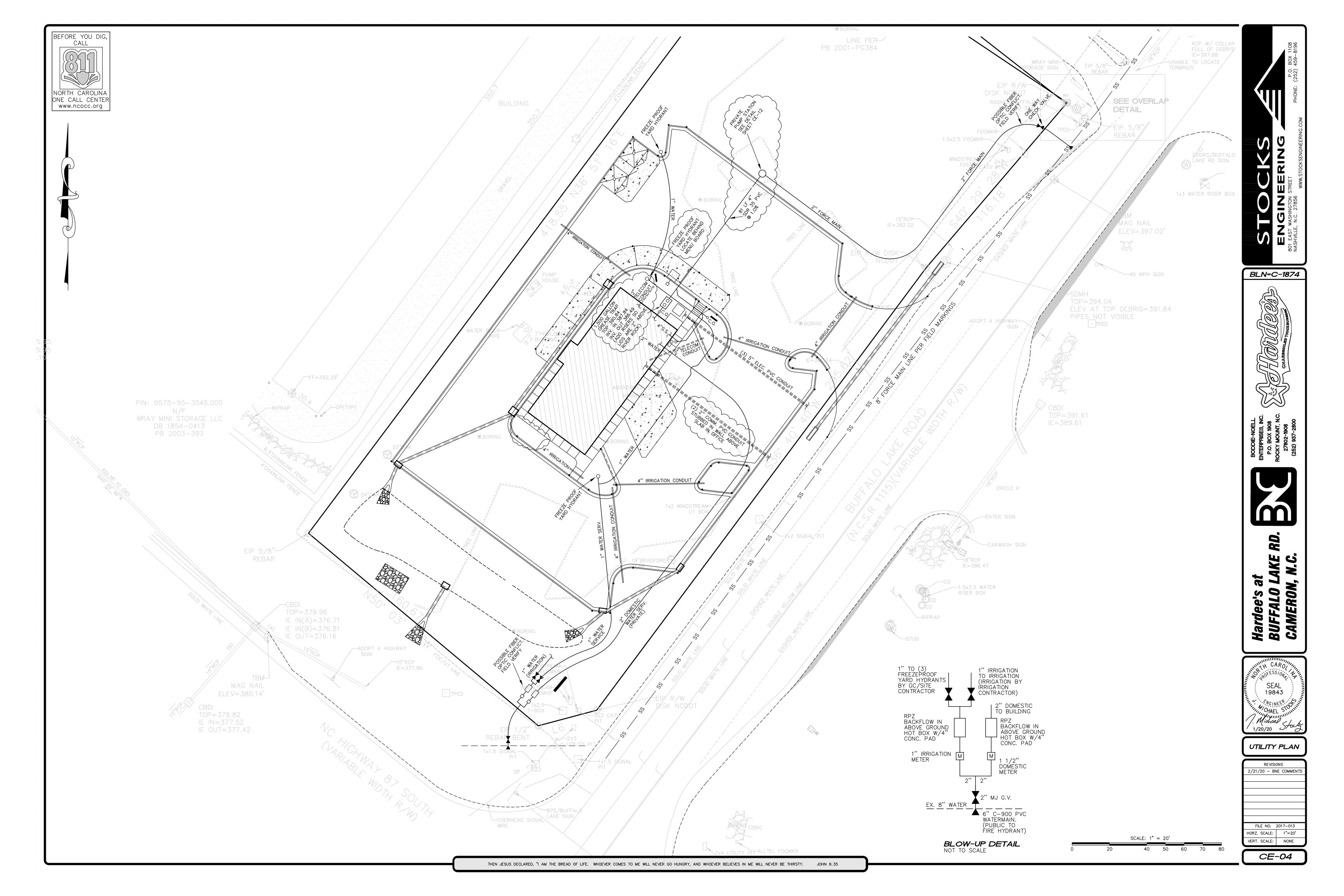
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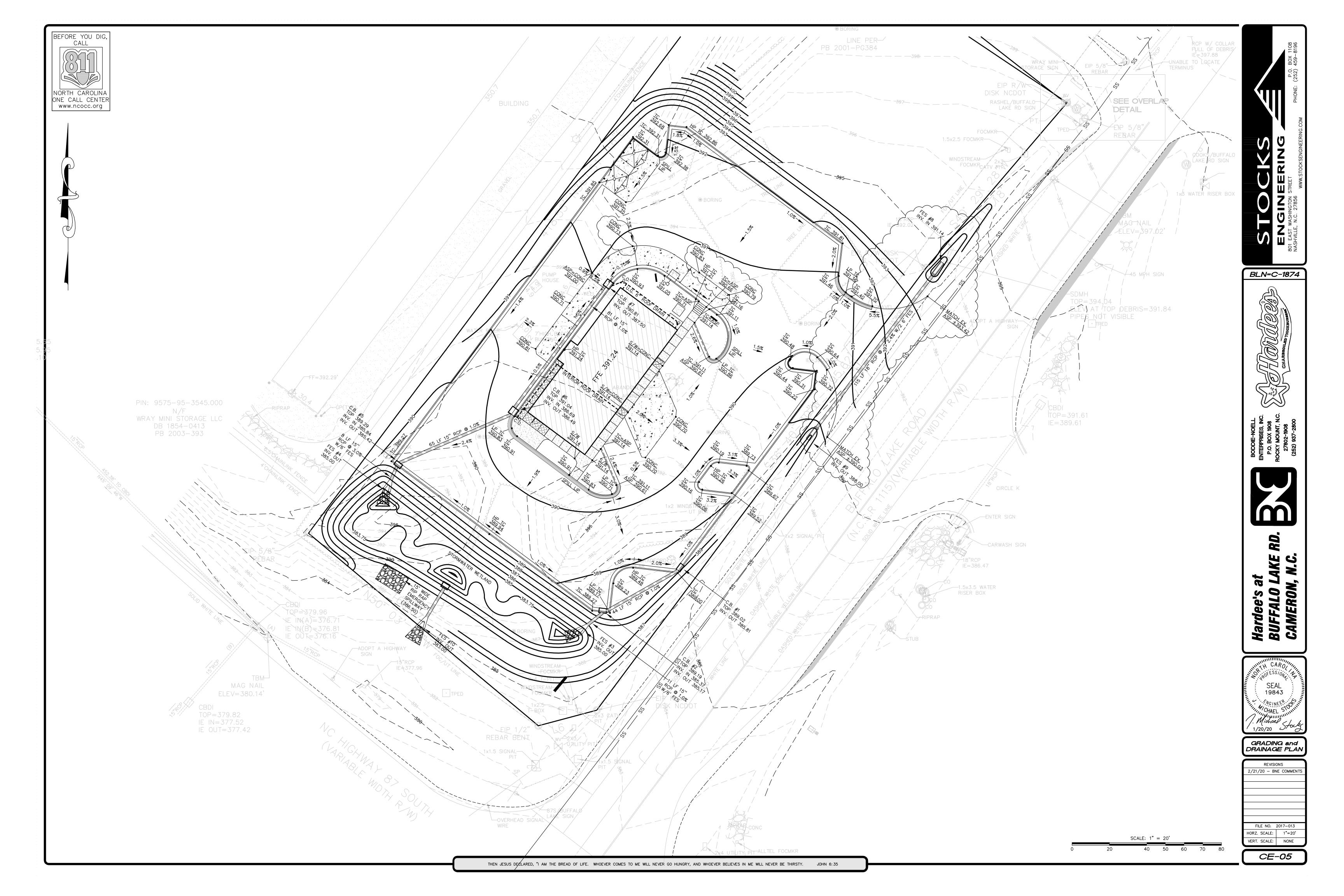
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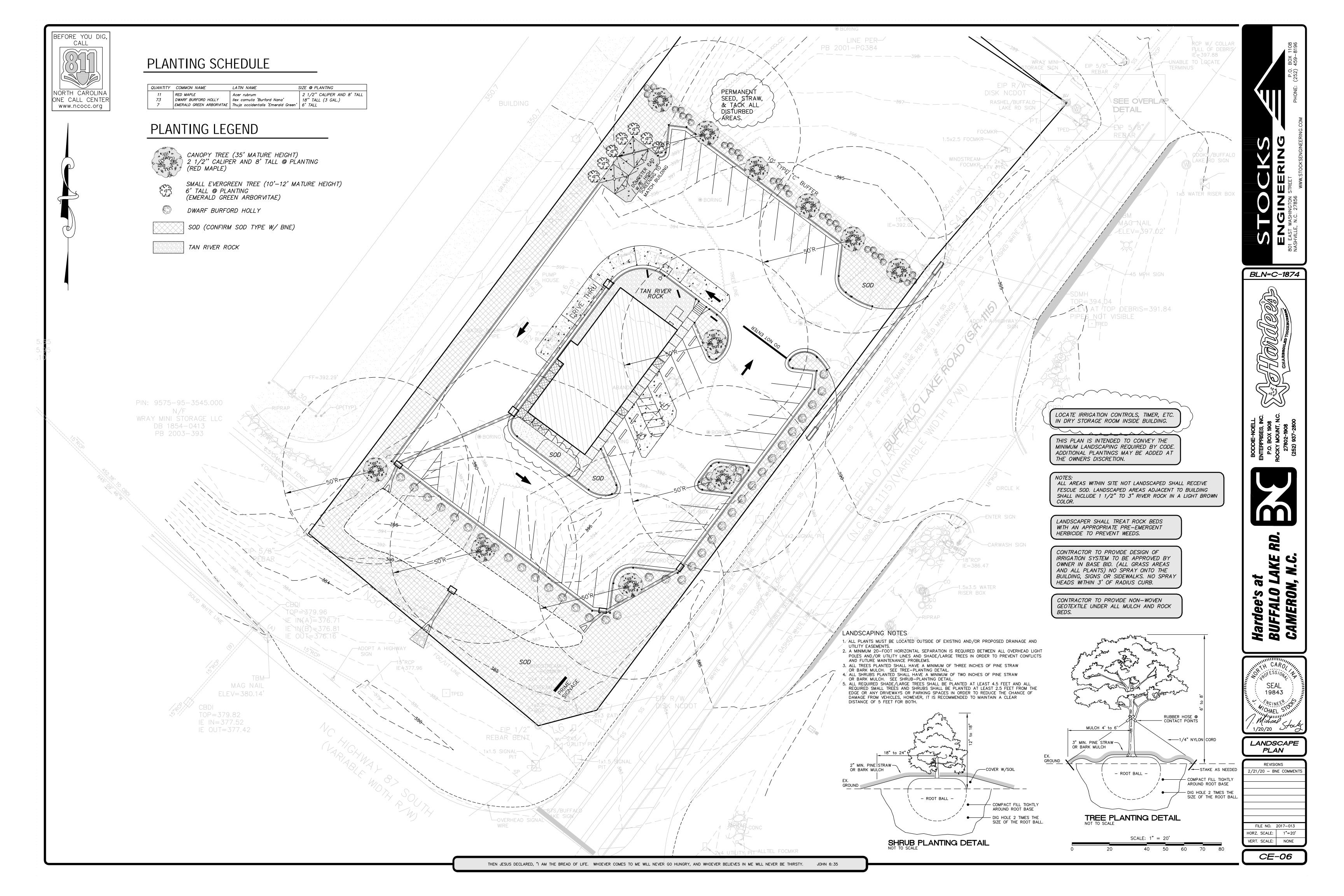
HORZ. SCALE: 1"=30'

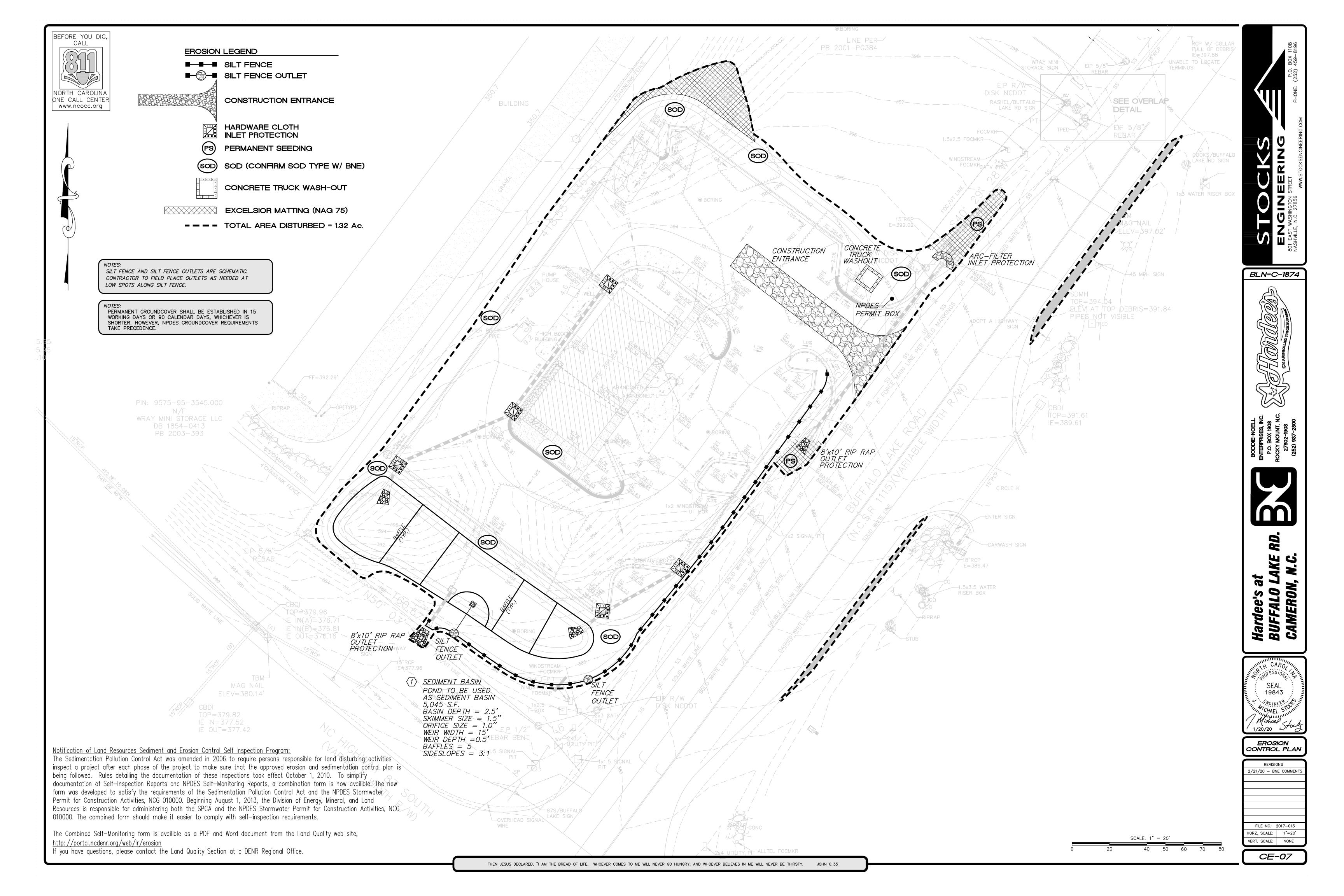
VERT. SCALE: NONE











The purpose of this project is for the construction of a Hardee's Restaurant. The project is owned by Boddie-Noell Enterprises Inc. The site is currently vacant.

Approximately 1.32 acres will be disturbed during construction.

The project is scheduled to begin construction in Summer 2019 with project completion and final stabilization by Winter 2019. The erosion and sediment control program for this project will include the installation of a suitable construction entrance, silt fence, inlet protection with seeding.

ADJACENT PROPERTY

The adjacent property is commercial.

The soil at this site is a sandy clay.

EROSION AND SEDIMENT CONTROL MEASURES All vegetative and structural erosion and sediment control practices shall be constructed and maintained by the contractor according to these plans and specifications and the minimum standards of the Dept. of Environmental Management, Land Quality Section and City of Clayton. The contractor shall also follow any additional requirements as outlined by the Project

Structural Practices

1. Vehicle wheels shall be clean when leaving the site to prevent the tracking of mud on paved 2. Construction Road Stabilization: Construction traffic shall be limited to stabilized areas. At a minimum, a temporary gravel construction entrance shall be provided as shown on this

Silt Fence: Silt fences shall be provided where shown and as needed on the site plan. These barriers shall be used to contain sediment. 4. Rip Rap/Gravel Filter Sediment Basins: Construct basin to the shape and dimensions shown in the details. The basin is to be placed below the existing ditch flow line by 2' with the berm built

Vegetative Practices (Ground Stabilization)

Site Area Description:	Stabilization Time Frame:	Stabilization Time Frame Exceptions:
Perimeter dikes, swales, ditches & slopes.	7 Days	None
High Quality Water (HQW) Zones.	7 Days	None
Slope steeper than 3:1	7 Days	None
Slopes 3:1 or flatter.	10 Days	7 Days for slopes greater than 50 feet in length.

Seeding Schedule

Ongoing Activity. Land left exposed shall be planted or otherwise provided with temporary ground cover, devices, or structures sufficient to restrain erosion within the applicable time period after completetion of any phase of grading or period of inactivity as follows: seven (7) days for steep slope or inclination. Ten (10) days for a moderate slope, fourteen (14) days for land with no slope or inclinination. For purposes of this section, a moderate slope means an inclined area, the inclination oif which is less than or equal to three (3) units of horizontal distance to one (1) unit of vertical distance; and a steep slope means an inclined area, the inclination of which is greater than three (3) units of horizontal distance to one (1) unit of vertical distance. No other criteria apply.

Completed Activity. For any area of land-disturbing activity where grading activities have been completed, temporary or permanent ground cover sufficient to restrain erosion shall be provided as soon as practicable, but in no case later than seven (7) days after completetion of grading.

Management Strategies

1. Perimeter measures are to be installed prior to grubbing or grading. 2. Tail Ditches shall be stabilized immediately following their construction. As an alternate, rock check dams may be provided at their outlets and/or the terminal downstream end of disturbance until around cover is implemented.

. Stockpile and/or waste areas must be maintained within the limits of the areas protected by the proposed measures and otherwise temporarily seeded if to be left stockpiled over 15 days. 4. Construction shall be planned so that grading operations can begin and end as quickly as Silt Fences shall also be installed prior to or as a first step in construction

The Contractor shall be responsible for the installation and maintenance of all erosion and

Vegetative Ground Cover Immediately following grading, all areas shall receive either permanent or temporary seeding, as

TEMPORARY SEEDING SPECIFICATIONS

sediment control practices.

applicable, 'as follows:

BETWEEN MAY 1 AND AUGUST 15, ADD 40 LB/ACRE GERMAN MILLET. PRIOR TO MAY 1 OR AFTER AUGUST 15, ADD 120 LB/ACRE RYE (GRAIN).

FALL IS BEST FOR TALL FESCUE AND LATE WINTER FOR LESPEDEZAS. OVERSEEDING OF KOBE LESPEDEZAS OVER THE FALL SEEDED TALL FESCUE IS VERY EFFECTIVE. USE UNHULLED BERMUDAGRASS SEED IN FALL.

APPLY LIME AND FERTILIZER ACCORDING TO TESTS, OR APPLY 2,000 LB/ACRE GROUND AGRICULTURE LIMESTONE

APPLY 4,000 LB/ACRE GRAIN STRAW, OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCHING MATERIAL. ANCHOR MULCH BY TACKING WITH ASPHALT, ROVING OR NETTING. NETTING IS THE PREFERRED ANCHORING METHOD ON STEEP SLOPES.

REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

PERMANENT SEEDING SPECIFICATIONS

FESCUE - 200 Lbs./Ac. CENTIPEDE - 20 Lbs./Ac.

SOIL AMENDMENTS

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST.

IF GROWTH IS LESS THAN FULLY ADEQUATE, REFERTILIZE THE SECOND YEAR. ACCORDING TO SOIL TESTS OR TOPDRESS WITH 500 LB/ACRE 10-10-10 FERTILIZER. MOW AS NEEDED.

REPLACE, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

Maintenance . Reseed and mulch bare spots larger than 9 square feet (limited to 5% maximum of site area.) 2. Maintain all seeded areas until uniform stand is acceptable.

If growth is not established by final project inspection, continue specified attention until the stand is acceptable.

. Correct and repair all undue settling and erosion within 1 year after final inspection. . Remove from the site, all erosion control structures after complete stabilization at end of

6. Remove silt from sediment pits and from behind check dams when silt is within half depth of the pit or spillway. Dispose of in an area where silt cannot re—enter pit / trap.

Calculations The practice utilized for the proposed site did require formal calculations. Calculations have

been provided. OWNER

Boddie-Noell Enterprises, Inc. PO Box 1908 Rocky Mount, NC 27802-1908 252.937.2800

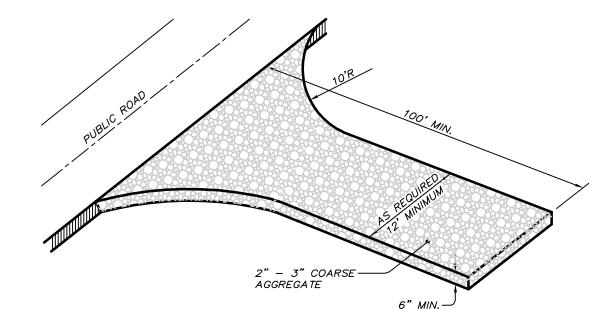
Maintenance Notes: 1. Follow chart for timelines of when to apply temporary seeding.

2. Maintain all erosion control measures daily and reseed disturbed areas as needed. 3. Inspect all erosion control measures weekly and after each rainfall event. Repair as needed.

1. All Stockpile areas shall be a minimum of 100' away from surface waters and inside the perimeter EC Measures. 2. All Concrete Washout areas shall be a minimum of 100' away from surface waters and inside the perimeter EC Measures.

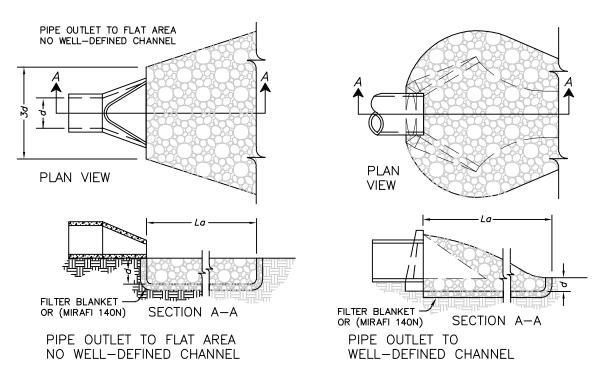
3. If an offsite soil spoil or borrow site is utilized, then the disturbed area for the spoil/borrow site must be included in the land-disturbance plan and permit unless the spoil/borrow site already has a land-disturbance permit.

CONSTRUCTION ENTRANCE



. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT. 2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT. . PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET. 4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE: MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



1. La = THE LENGTH OF THE RIP RAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS

TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE

4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE FLARED FND SECTION IS OPTIONAL. SEE PLANS FOR REQUIREMENT.

6. SEE PLAN AND PROFILES FOR ACTUAL DIMENSIONS.

INSPECT RIP RAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIP RAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

PIPE OUTLET PROTECTION

Conversion Procedure - Sediment Basin to Constructed Wetland

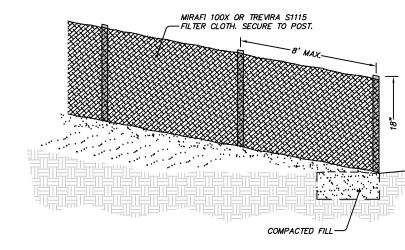
- 1. After the site is completely stabilized, contact Stocks Engineering @ 252-459-8196 for verification
- of completion and stabilization. 2. Contact NCDEQ for approval to remove
- all temporary erosion control measures.
- 3. Upon approval from NCDEQ, begin the conversion of the wetland from a temporary sediment trap to a permanent BMP as follows.
- 4. If standing water is in the basin, contractor shall pump the water out discharging through a silt
- 5. Bring the side slopes surrounding the pond and vegetated shelf to the proposed grade.
- 6. Contractor shall excavate the bottom of the pond to the depth of the proposed wetland.
- 7. Excavated material must be disposed of in an approved off—site location.
- 8. Care must be taken to prevent any sedimentation/re—sedimentation during this process, as sediment deposits in the bottom of the pond may affect the depth.
- If any sedimentation occurs during this process, Contractor shall remove sediment immediately. 9. Contact Stocks Engineering @ 252-459-8196 to inspect excavated pond before continuing
- 10. Upon approval of Stocks Engineering, continue constructing wetland per details. Establish appropriate permanent vegetation around pond as soon as possible.
- 11. Upon completion of wetland construction, remove sediment from silt fence and dispose of at an
- approved off—site location. Plant vegetation as called for in planting schedule and seed and mulch side slopes. 12. Contact Stocks Engineering @ 252-459-8196 to inspect completed pond before placing pond in service.

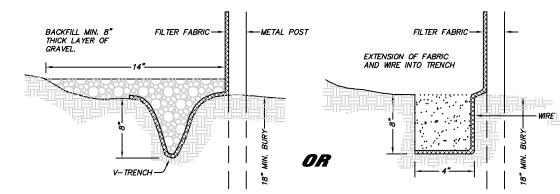
Construction Sequence

- Schedule and hold a pre-construction conference prior to beginning any land-disturbing activities. This conference should be attended by a representative of the financially responsible party and/or the general contractor, grading sub-contractor, erosion control sub-contractor and the Engineer.
 Obtain Land Disturbing Permit and placard, and post the placard on site.
 Obtain an approved (stamped) S&E control plan and keep it on site, either in the inspection box, construction office or with the contractor.
 Install construction egress/exit, silt fencing with outlets, inlet/outlet protection, concrete truck wash, and other initial experience control measures as specified in the plan. Permove only trees and ground cover necessary to describe the plan. initial erosion control measures as specified in the plan. Remove only trees and ground cover necessary to
- 5. Notify the Harnett County S&E site inspector after measures have been installed and project has
- 5. Begin demolition, clearing, grubbing and grading of site in accordance with the approved S&E control plan. 7. Provide all disturbed areas with ground cover as per ground stabilization table or after completion of any phase of clearing, grubbing or grading. The seeding, seedbed preparation, mulch and/or rolled erosion control product installation must be in accordance with the seeding schedule provided
- 8. At the conclusion of building or if land—disturbing activity is stopped temporary or permanent vegetative cover shall be installed in accordance with ground stabilization table. If required include excelsior matting.

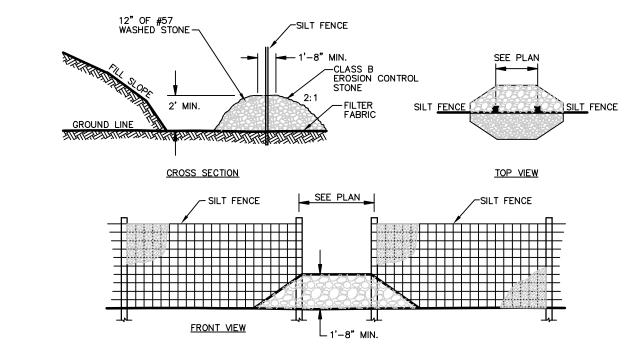
 9. Remove all erosion control measures after the Harnett County S&E office approval of permanent stabilization.

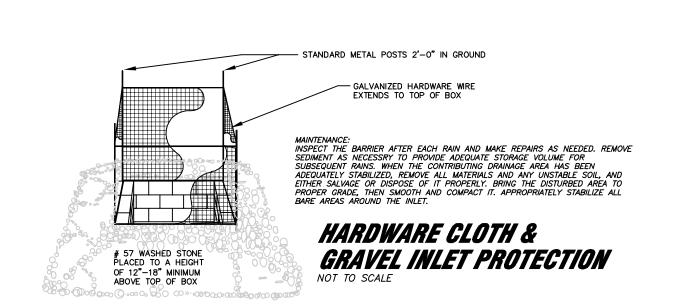
SILT FENCE





SILT FENCE OUTLET NOT TO SCALE





SUCTION HOSE- \sim

Installation and Use:

- 1. Place Dewatering Bag on the ground or on a trailer over a relatively level, stabilized area.
- 2. Insert discharge pipe a minimum of 5ft. inside dewatering bag and secure with a rope wrapped 6 times around the snout over a 6 inch width of the
- 3. Replace Dewatering Bag when half full of sediment or when the sediment has reduced the flow rate of the pump discharge to an impractical amount.

Maintenance and Disposal:

1. Remove and dispose of accumulated sediment away from waterways or environmentally sensitive areas. Slit open Sediment Bag and remove accumulated sediment. Dispose of bag at an appropriate recycling or solid waste facility. OR; as directed by engineer or inspector.

DEWATERING BAG

SCALE: N.T.S.

CONSTRUCTION SPECIFICATIONS:

. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. 2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE). 3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST. 4. SUPPORT STANDARD FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH. 5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE

GROUND A MINIMUM OF 24 INCHES. 6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH. 7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER. 8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE

9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE. 10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

MAINTENANCE:

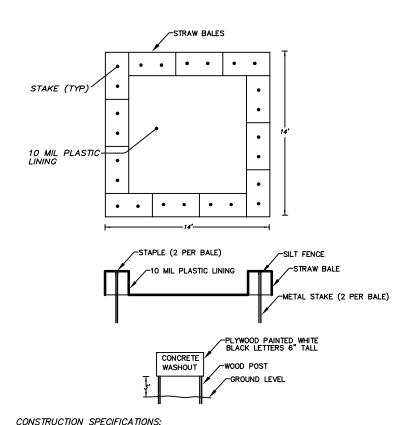
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

CONSTRUCTION SPECS:

- 1. CLEAR & GRUB THE AREA AROUND THE SILT FENCE OUTLET AND PROPERLY DISPOSE OF DEBRIS.
- 2. PLACE GRAVEL TO THE SPECIFIC GRADE AS SHOWN PER THE DETAIL.
- 3. PROPERLY OVERLAP STONE BEYOND EDGES OF SILT FENCE OPENING.

MAINTENANCE:

INSPECT OUTLETS WEEKLY AND AFTER EACH RAIN EVENT. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR AS NEEDED. CAREFULLY CHECK OUTLETS FOR EROSION AND REPAIR IMMEDIATELY. ENSURE THERE IS NO SCOURING APPARENT DOWNSTREAM OF OUTLET. IMMEDIATELY STABILIZE ANY AREAS THAT NEED REPAIR.



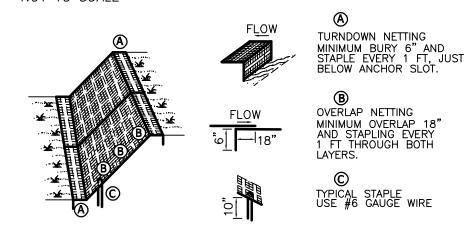
1. CONCRETE WASHOUT SIGN SHALL BE INSTALLED NO FURTHER THAN 25' FROM THE FACILITY AND SHALL BE VISIBLE TO ALL CONSTRUCTION TRAFFIC.

2. POLYETHYLENE SHEETING SHALL BE 10 MILS FREE OF HOLES, TEARS, OR LEAKS. FACILITY SHALL NOT BE FILLED MORE THAN 12" FROM THE TOP BEFORE DISPOSING OF CONCRETE. CONCRETE SHALL BE DISPOSED OF IN THE SAME MANNER AS OTHER NON-HAZORDOUS MATERIALS FROM THE SITE OR MAY BE BROKEN UP AND USED AS

CONCRETE TRUCK WASHOUT NOT TO SCALE

EXCELSIOR MATTING

FILL IN NON-STRUCTURAL AREAS



GENERAL NOTES:

1. Apply seed, and tack with rs or crs liquid emulsified asphalt at a rate equal to 10 gal. per 1000 s.f. Cover w/excelsion

2. Staple every 24" along perimeter edges and overlaps. Staple every 36" to 48" randomly to secure netting. 3. Roll out netting in the direction of water flow. Do not stretch.



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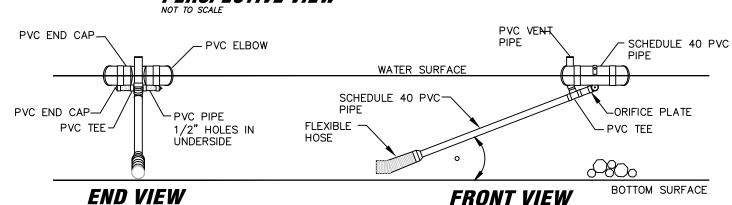
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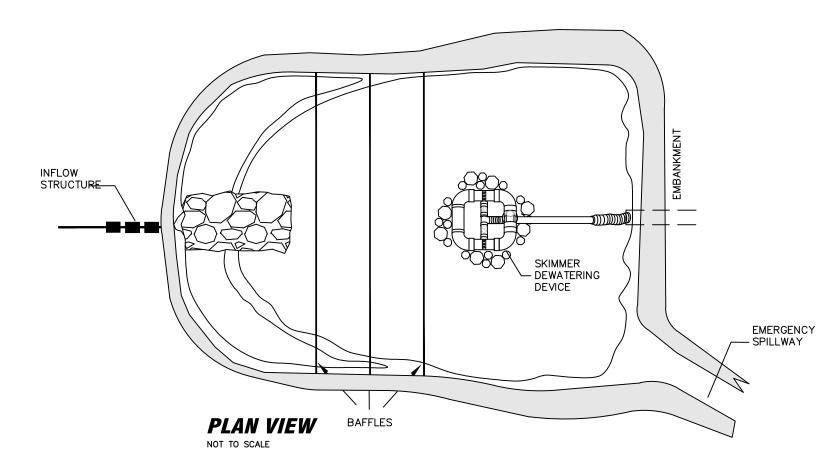


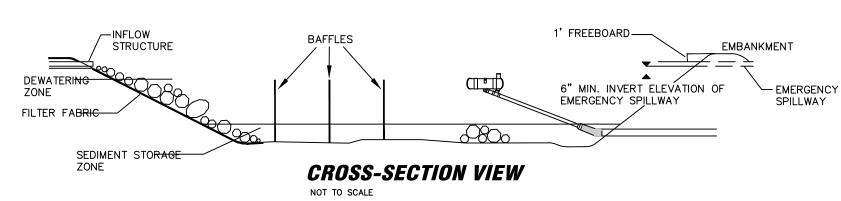
EC NOTES AND DETAILS

REVISIONS 2/21/20 - DEQ COMMENT

FILE NO. 2017-013 HORZ. SCALE: 1"=20' VERT. SCALE: NONE







CONSTRUCTION SPECIFICATIONS:

NOT TO SCALE

1. Clear, grub, and strip the area under the embankment of all vegetation and root mat. Remove all surface soil containing high amounts of organic matter and stockpile or dispose of it properly. Haul all objectionable material to the designated disposal area. Place temporary sediment control measures below basin as needed. 2. Ensure that fill material for the embankment is free of roots, woody vegetation, organic matter, and other objectionable material. Place the fill in lifts not to exceed 9 inches, and machine compact it. Over fill the embankment 6 inches to allow for settlement.

3. Shape the basin to the specified dimensions. Prevent the skimming device from settling into the mud by excavating a shallow pit under the skimmer or providing a low support under the skimmer of stone or timber. 4. Place the barrel (typically 4-inch Schedule 40 PVC pipe) on a firm, smooth foundation of impervious soil. Do not use pervious material such as sand, gravel, or crushed stone as backfill around the pipe. Place the fill material around the pipe spillway in 4—inch layers and compact it under and around the pipe to at least the same density as the adjacent embankment. Care must be taken not to raise the pipe from the firm contact with its foundation when compacting under the pipe haunches.

Place a minimum depth of 2 feet of compacted backfill over the pipe spillway before crossing it with construction equipment. In no case should the pipe conduit be installed by cutting a trench through the dam after the embankment is complete.

5. Assemble the skimmer following the manufacturers instructions, or as designed.

6. Lay the assembled skimmer on the bottom of the basin with the flexible joint at the inlet of the barrel pipe. Attach the flexible joint to the barrel pipe and position the skimmer over the excavated pit or support. Be sure to attach a rope to the skimmer and anchor it to the side of the basin. This will be used to pull the skimmer to the side for maintenance.

7. Earthen spillways — Install the spillway in undisturbed soil to the greatest extent possible. The achievement of planned elevations, grade, design width, and entrance and exit channel slopes are critical to the successful operation of the spillway. The spillway should be lined with laminated plastic or impermeable geotextile fabric. The fabric must be wide and long enough to cover the bottom and sides and extend onto the top of the dam for anchoring in a trench. The edges may be secured with 8—inch staples or pins. The fabric must be long enough to extend down the slope and exit onto stable ground. The width of the fabric must be one piece, not joined or spliced; otherwise water can get under the fabric. If the length of the fabric is insufficient for the entire length of the spillway, multiple sections, spanning the complete width, may be used. The upper section(s) should overlap the lower section(s) so the water cannot flow under the fabric. Secure the upper edge and sides of the fabric in a trench with staples or pins. 8. Inlets — Discharge water into the basin in a manner to prevent erosion. Use temporary slope drains or diversions with outlet protection to divert sediment—laden water to the upper end of the pool area to improve basin trap

9. Erosion control — Construct the structure so that the disturbed area is minimized. Divert surface water away from bare areas. Complete the embankment before the area is cleared. Stabilize the emergency spillway embankment and all other disturbed areas above the crest of the principal spillway immediately after construction. 10. Install porous baffles as specified.

11. After all the sediment-producing areas have been permanently stabilized, remove the structure and all the unstable sediment. Smooth the area to blend with the adjoining areas and stabilize properly.

MAINTENANCE:

Inspect skimmer sediment basins at least weekly and after each significant (one-half inch or greater) rainfall event and repair immediately. Remove sediment and restore the basin to its original dimensions when sediment accumulates to one-half the height of the first baffle. Pull the skimmer to one side so that the sediment underneath it can be excavated. Excavate the sediment from the entire basin, not just around the skimmer or the first cell. Make sure vegetation growing in the bottom of the basin does not hold down the skimmer.

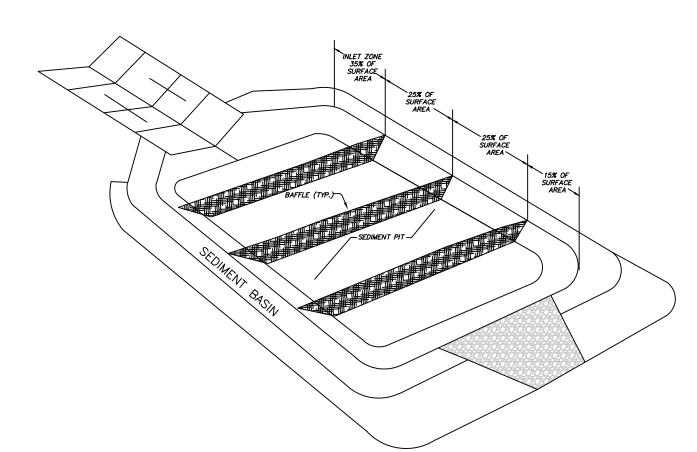
Repair the baffles if they are damaged. Re—anchor the baffles if water is flowing underneath or around them.

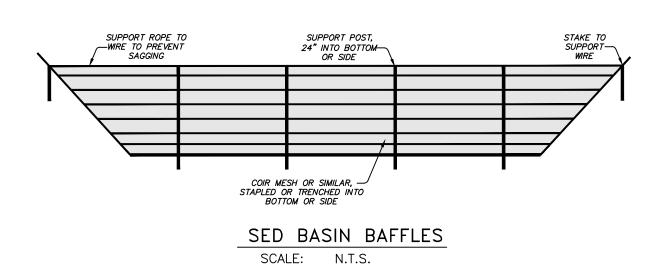
If the skimmer is clogged with trash and there is water in the basin, usually jerking on the rope will make the skimmer bob up and down and dislodge the debris and restore flow. If this does not work, pull the skimmer over to the side of the basin and remove the debris. Also check the orifice inside the skimmer to see if it is clogged; if so, remove the debris.

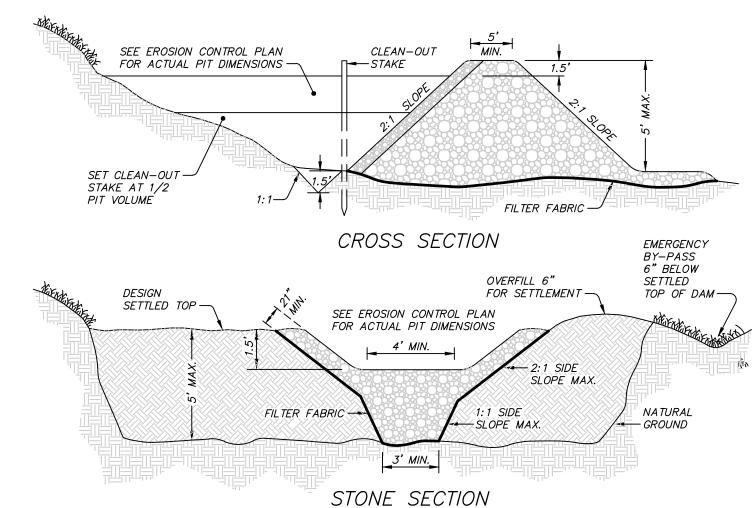
If the skimmer arm or barrel pipe is clogged, the orifice can be removed and the obstruction cleared with a plumber's snake or by flushing with water. Be sure and replace the orifice before repositioning the skimmer.

Check the fabric lined spillway for damage and make any required repairs with fabric that spans the full width of the spillway. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Make all necessary repairs immediately. Remove all trash and other debris from the skimmer and pool areas.

Freezing weather can result in ice forming in the basin. Some special precautions should be taken in the winter to prevent the skimmer from plugging with ice.







GENERAL NOTES:

1. Clear, grub, and strip the area under the embankment of all vegetation and root mat. Remove all surface soil containing high amounts of organic matter and stockpile or dispose of it properly. Haul

all objectionable material to the designated disposal area. 2. Ensure that fill material for the embankment is free of roots, woody vegetation, organic matter, and other objectionable material. Place the fill in lifts not to exceed 9 inches and machine compact it. Over fill the embankment 6 inches to allow for settlement.

3. Construct the outlet section in the embankment. Protect the connection between the riprap and the soil from piping by using filter fabric or a keyway cutoff trench between the riprap structure and the soil.

Place the filter fabric between the riprap and soil. Extend the fabric across the spillway

foundation and sides to the top of the dam; or Excavate a keyway trench along the centerline of the spillway foundation extending up the sides to the height of the dam. The trench should be at least 2 ft. deep and 2 ft. wide with 1:1 side slopes.

4. Clear the pond area below the elevation of the crest of the spillway to facilitate sediment cleanout. 5. All cut and fill slopes should be 2:1 or flatter.

6. Ensure that the stone (drainage) section of the embankment has a minimum bottom width of 3 ft. and a maximum side slopes of 1:1 that extend to the bottom of the spillway section. 7. Construct the minimum finished stone spillway bottom width, as shown on the plans, with 2:1 side

slopes extending to the top of the over filled embankment. Keep the thickness of the sides of the spillway outlet structure at a minimum of 21 inches. The weir must be level and constructed to grade to assure design capacity. 8. Material used in the stone section should be a well—graded mixture of stone with a d size of 9

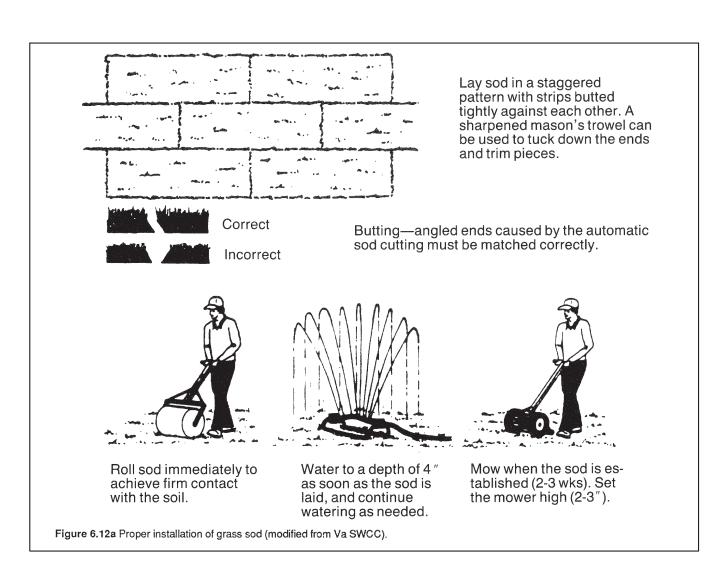
inches (class B erosion control stone is recommended) and a maximum stone size of 14 inches. The stone may be machine placed and the smaller stones worked into the voids of the larger stones. The stone should be hard, angular, and highly weather—resistant. 9. Ensure that the stone spillway outlet section extends downstream past the toe of the embankment

until stable conditions are reached and outlet velocity is acceptable for the receiving stream. Keep the edges of the stone outlet section flush with the surrounding ground and shape the center to confine the outflow stream (References: Outlet Protection).

10. Direct emergency bypass to natural, stable areas. Locate bypass outlets so that flow will not damage the embankment. 11. Stabilize the embankment and all disturbed areas above the sediment pool and downstream from the

trap immediately after construction (References: Surface Stabilization). 12. Show the distance from the top of the spillway to the sediment cleanout level (one—half the design depth) on the plans and mark it in the field.

SEDIMENT BASIN



SOD INSTALLATION 1. Moistening the sod after it is unrolled helps maintain its viability. Store is in the shade during installation. 2. Rake the soil surface to break the crust just before laying sod. During the summer, lightly irrigate the soil,

immediately before laying the sod to cool the soil, reduce root burning, and dieback. 3. Do not sod on gravel, frozen soils, or soils that have been treated recently with sterilants or herbicides. 4. Lay the first row of sod in a straight line with subsequent rows placed parallel to and butting tightly against each other. Stagger strips in a brick like pattern. Be sure that the sod is not stretched or overlapped and that all joints are butted tightly to prevent voids. Use a knife or sharp spade to trim and fit irregularly shaped areas. 5. Install strips of sod with their longest dimention perpendicular to the slope. On slopes 3:1 or greater, or wherever

erosion may be a problem, secure sod with pegs or staples. 6. As sodding of clearly defined areas is completed, roll sod to provide firm contact between roots and soil. 7. After rolling, irrigate until the soil is wet 4 inches below the sod.

8. Keep sodded areas moist to a depth of 4 inches until the grass takes root. This can be determined by gently tugging on the sod - resistance indicates that rooting has occurred.

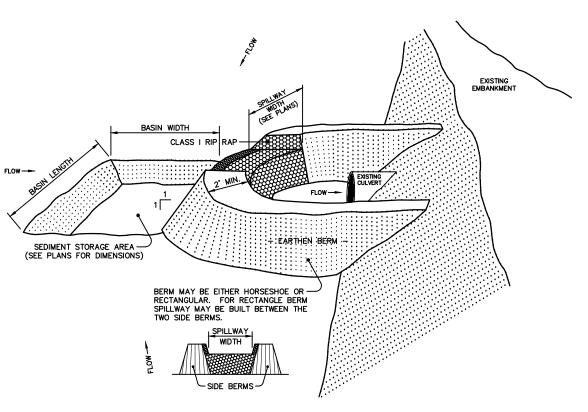
9. Mowing should not be attempted until the sod is firmly rooted, usually 2-3 weeks.

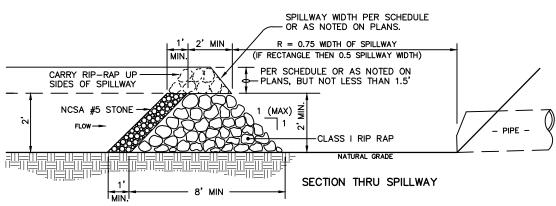
MAINTENANCE:

1. After the first week, water as neccessary to maintain adequate moisture in the root sone and prevent dormancy of 2. Do not remove more than one—third of the shoot in any mowing. Grass height should be maintained between two

and three inches unless otherwise specified. 3. After the first growing season, established sod requires fertilization, and may also require lime. Follow soil test recommendations when possible, or use the rates in Table 6.12b of the NCDEQ E&SC Design Manual.

SOD INSTALLATION





ARC FILTER INLET PROTECTION

INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (4) NCH OR GREATER.) REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE—HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART

CHECK THE STRUCTURE FOR DAMAGE. ANY RIP RAP DISPLACED FROM THE STONE HORSESHOE MUST BE

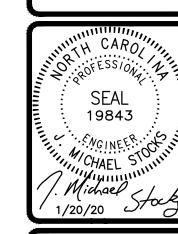
AFTER ALL THE SEDIMENT PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND PROVIDE PERMANENT GROUND COVER (SURFACE STABILIZATION).



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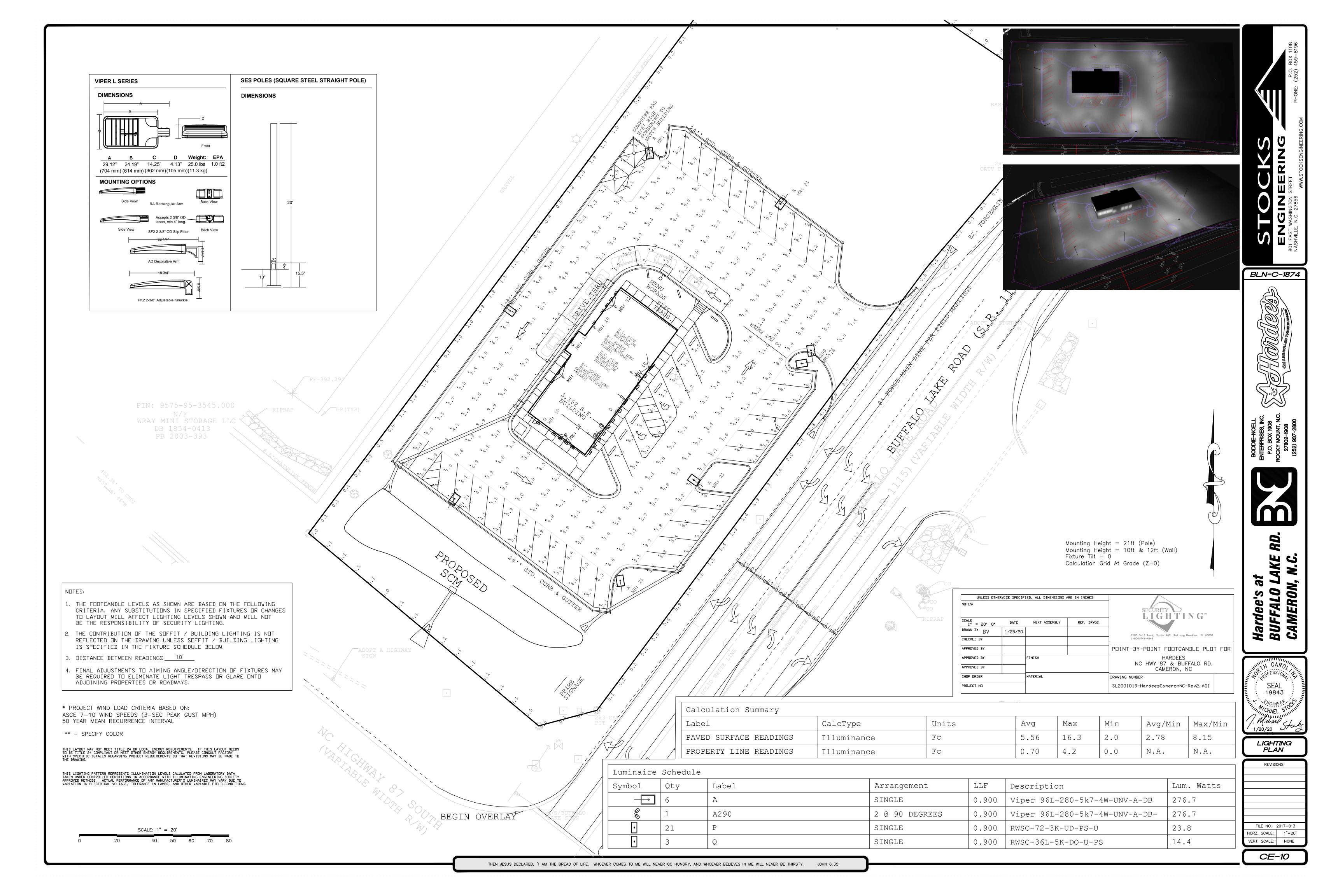
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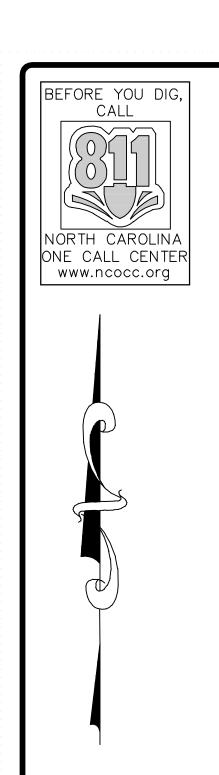


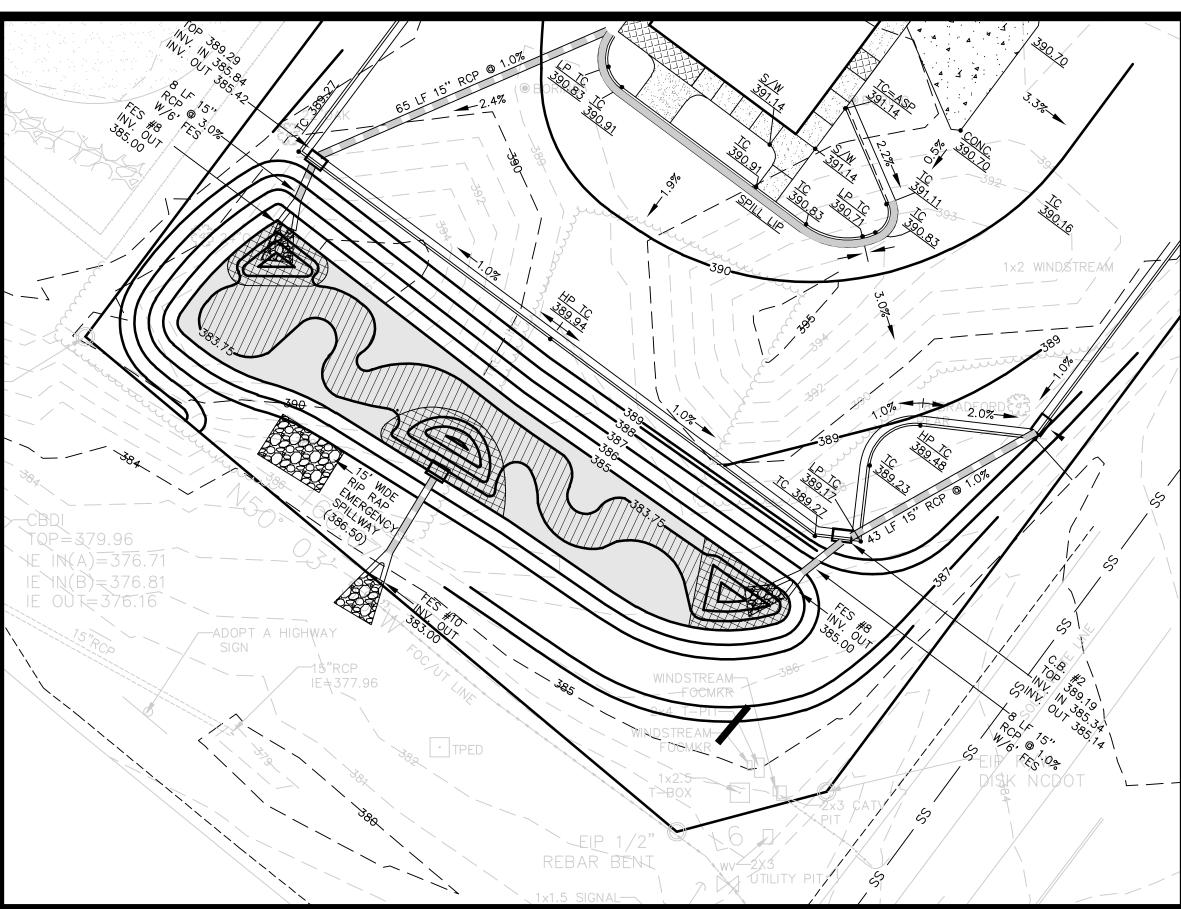
EC NOTES AND DETAILS

REVISIONS 2/21/20 - DEQ COMMEN⁻

HORZ. SCALE: 1"=20 VERT. SCALE: NONE







SCALE: 1" = 20'
0 20 40 50 60 70 80

WETLAND AREA

FOREBAY 453 S.F. (15%)

NON-FOREBAY 327 S.F. (11%)

SHALLOW WATER 1,078 S.F. (35%)

TEMP. INUNDATION ZONE 1,193 S.F. (39%)

3,051 Sq. Ft.

TOP OF DAM 387.50

2'X3' D.I. #7

W/ TRASH RACK
TOP 385.50

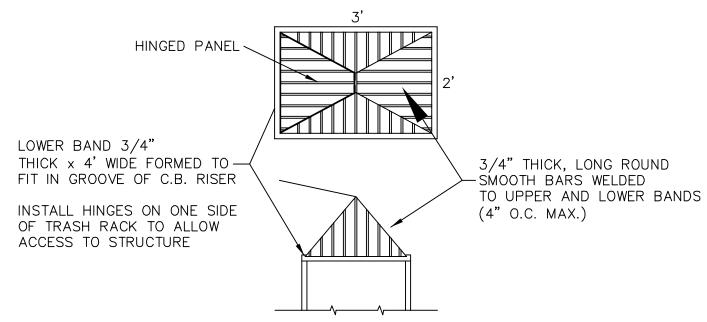
15" RCP

BOTTOM OF STRUCTURE
ELEV. 382.0
TO PREVENT FLOATATION
FILL BOX WITH CONCRETE
TO 383.50

STORMWATER WETLAND PROFILE
NOT TO SCALE

NOTE:
CONTRACTOR TO COMPACT BOTTOM OF POND TO
ENSURE INFILTRATION IS LESS THAN 0.01 IN./HR.
OR IMPORT IMPERMEABLE CLAY AS NEEDED.

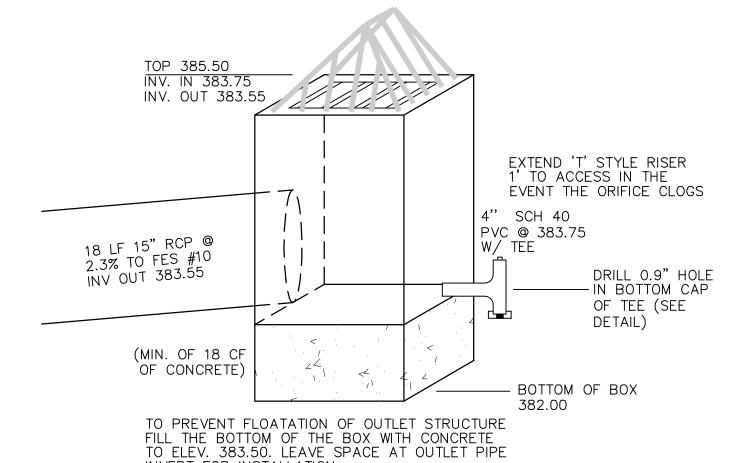
NOTE:
A PORTABLE PUMP SHALL BE USED DURING
MAINTENANCE AND EMERGENCIES. THE DRAWDOWN
PUMP RATE SHOULD ALLOW FOR THE SCM TO BE
DRAWN DOWN OVER A 3 DAY OF LONGER PERIOD
TO PREVENT THE COLLAPSE OF THE SATURATED
SIDE SLOPES.



TRASH GRATE DETAIL

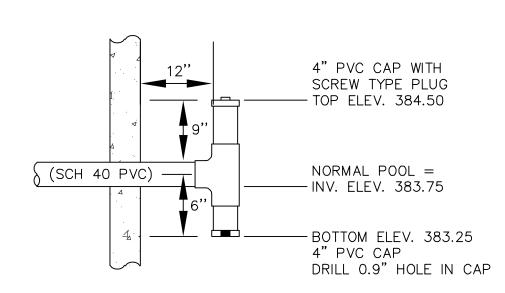
TO BE CONSTRUCTED ALUMINUM

N.T.S



2'x3' RISER STRUCTURE

INVERT FOR INSTALLATION.



// ALUMINUM TRASH RACK

PLANTING NOTE: PLANTINGS SHALL BE EVENLY SPACED TO COVER THE ENTIRE POND AREA EXCLUDING THE FOREBAY AND OUTLET DEEP POOL.

VEGETATED SHELF LANDSCAPE PLAN

CHOOSE A MINIMUM OF 5 OF THE FOLLOWING SPECIES FOR EACH AREA W/NO MORE THAN 33% OF ANY SPECIES. PLANTS SHALL BE IN 4" CONTAINERS.

SHALLOW WATER (BELOW PERM. POOL)

(MIN. 270 PLANTS)

Botanical NameCommon NameIris virginicaBlue flag irisLudwigia spp.Primrose willowPeltandra virginicaArrow arumPontederia cordataPickerelweedSagittaria latifoliaDuck PotatoSagittaria lancifoliaBulltongue

SHALLOW LAND (ABOVE PERM. POOL)

(MIN. 300 PLANTS)

Botanical Name
Chelone glabra
Eupatoriadelphus dubius
Kosteletzkya virginica
Lobelia cardinalis
Lobelia siphilitica
Rhynchospora colorata

Common Name
White Turtlehead
Dwarf Joe Pye Weed
Seashore Mallow
Cardinal flower
Great blue Lobelia
Starrush whitetop

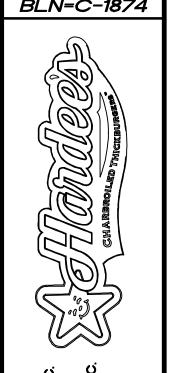
STAGE/STORAGE TABLE

STAGE	ELEVATION	CONTOUR AREA (SF)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0	383.75	1,858	0	0
1.25	385.00	3,051	3,068	3,068
2.25	386.00	4,019	3,535	6,603
3.25	387.00	5,045	4,532	11,135
3.75	387.50	6,108	2,788	13,923



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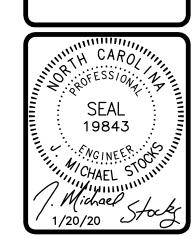
SOT EAST WASHINGTON SNASHWILE, N.C. 27856



ENTERPRISES, INC.
P.O. BOX 1908
ROCKY MOUNT, N.C.
27802-1908
(252) 937-2800



Hardee's at BUFFALO LAKE RD. CAMERON, N.C.



STORMWATER WETLAND DETAILS

REVISIONS

FILE NO. 2017-013

HORZ. SCALE: 1"=20'

VERT. SCALE: NONE

he following notes do not represent the belief of any municipality, government organization, or client of Stocks Engineering. The detail is included to show the foundation of Stocks Engineering and its employees. Our prayer is that through the truth outlined below you will clearly see what it means to have a

onal relationship with Christ 1. GOD'S LOVE

God loves you and he created you to know him personally. He has a wonderful plan for your life. John 3:16 "For God so loved the world that he gave his only son, that whoever believes in him shall not perish but have eternal life."

What prevents us from knowing God personally? 2. OUR CONDITION People are sinful and separated from God, so we cannot know him personally and experience his love and plan.

Romans 3:23 "For all have sinned and fall short of the Romans 6:23 "For the wages of sin is death" (Spiritual separation from God)

There is only on way to bridge this gulf.. 3. GODS RESPONSE

Jesus Christ is God's only provision for sin, through Him alone we can know God personally and experience his love and plan.

Romans 5:8 "But God demonstrated His own love for us in this:While we were still sinners, Christ died for us. John 14:6 Jesus answered, 'I AM the way the Truth and the Life. No one comes to the Father except through me

This diagram ilustrates that God has bridged the gulf that separates us from Him by sending His son, Jesus Christ, to die on the cross in our place to pay the penalty for our sins.

This diagram ilustrates that God

is Holy and people are sinful. A

great gulf separates the two. The

trying to reach God through our

arrows illustrate people continually

own efforts, but we inevitably fail.

It is not enough just to know these truths... 4. OUR RESPONSE

We must individually receive Jesus Christ as Savior and Lord; only then can we know God personally and experience His love and plan. These two circles represent two kinds of lives.

Ephesians 2:8-9 "For it is by grace you have been saved, through faith — and this is not from yourselves, it is the gift of God - not by works, so no one can John 1:12 "Yet to all who received Him, to those who believed in His name, he gave

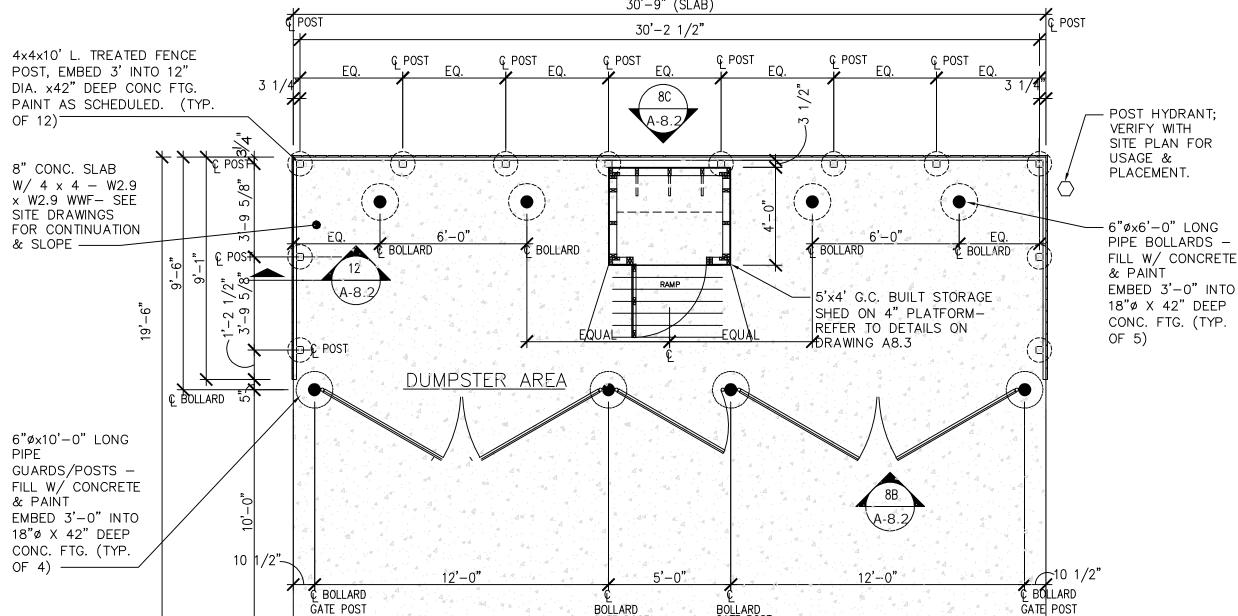
he right to become children

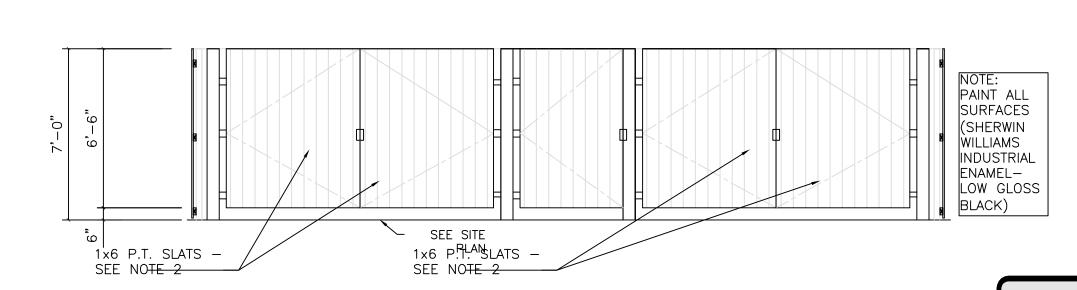
Christ-Directed Life Self-Directed Life Self is in the center and on the throne; and on the throne; self yeilds to Christ Christ is outside.

Which circle best represents your life? Which circle would you like to have represent your life?

You can receive Christ right now by faith in prayer "Lord Jesus, I need you. Thank you for dying on the cross for my sins. I open the door to my life and receive you as my Savior and Lord. Thank you for forgiving my sins and giving me_eternal life. Take control of the throne of my life. Make me the kind of person you want me to be." If this prayer expresses the desire of your heart, then you can pray this prayer and Christ will come into your life as he promised.

For more information on what it means to have a relationship with God, or if you have any questions or prayer requests please submit them to stocksengineering@gmail.com, call us at 252.459.8196, or visit our web site, www.stocksengineering.com





- . GENERAL CONTRACTOR SHALL VERIFY DUMPSTER REQUIREMENTS WITH LOCAL AUTHORITIES AND COORDINATE WITH INDICATED DIMENSIONS.
- 2. MIRATECH BOARD GATE TO BE PAINTED W/ SHERWIN WILLIAMS INDUSTRIAL ENAMEL-LOW GLOSS BLACK.
- . DUMPSTER BOLLARDS, DOOR FRAME, HARDWARE AND INSIDE DUMPSTER ENCLOSURE TO BE PAINTED WITH SHERWIN WILLIAMS INDUSTRIAL ENAMEL -LOW GLOSS BLACK
- 4. SUPPLY SHED EXTERIOR FINISH TO BE HARDIE BOARD PAINTED SHERWIN WILLIAMS COLOR SW7043.
- 5. PROVIDE 2'-0" GRADE 40 #4 LUBRICATED SMOOTH DOWEL BARS @ 18" O.C. AT CONCRETE SLAB CONSTRUCTION JOINTS.

Grading Notes

- 1. Site Contractor to inform General Contractor to verify finished grade at building before digging footings. Some portions of the building foundation wall may, of necessity, need to retain building pad fill to allow
- exterior grades to be dropped. In this case, step footings may be necessary to achieve the desired grade 2. New finished contours shown are top of future paving in areas to receive pavement and top of topsoil
- in areas to be seeded or sodded. 3. Areas outside of the parking lot perimeters shown to be seeded shall receive 4 inches of topsoil. This topsoil to be placed and leveled by the Contractor.
- 4. Dimensions on buildings are for grading purposes only and are not to be used to lay—off footings. See 5. Contractor shall notify and cooperate with all utility companies or firms having facilities on or adjacent to the site before disturbing, altering, removing, relocating, adjusting or connecting to said facilities. Contractor shall raise or lower tops of existing manholes, as required, to match finished grades.
- 6. All catch basin grate and frames are to be Vulcan or approved equal. Verify that dimension heights on castings are not exceeded in critical areas before ordering substitute castings.
- 7. All areas not covered by an impervious surface or landscaped planting beds are to be grassed. 8. Unusable excavated materials and all waste resulting from clearing and grubbing shall be disposed of off-site by Contractor.
- 9. All excavation is unclassified and shall include all materials encountered. 10. Before any machine work is done, Contractor shall stake out and mark the items established by the Site Plan. Control points shall be preserved at all times during the course of the project. Lack of proper working points and grade stakes may require cessation of operations until such points and grades have been placed to the Owner's satisfaction.

Parking, Roadway and Building Subgrade Preparation

1. Subgrade on Precompacted Original Soil a. Remove all the topsoil and all questionable organic soil and extend a minimum of four (4) feet beyond the outside edge of the pavement. Stockpile all topsoil that is free from trash and debris for re—use. b. Precompact the exposed grade with a vibratory roller weighing a minimum of ten (10) tons (static load or equal to stabilize the initial settlement of the top strata of the soil. The stability of the subgrade will be considered adequate when the total settlement after the last four (4) complete passes by the vibratory roller does not exceed 1/8". Any area that settles excessively and fails to stabilize under continued rolling should be further undercut and replaced with properly compacted select granular fill.

2. Subgrade on Certified Compacted Fill

a. Prepare the site following the same procedures as outlined in Items 1 and 2 above. b. Using the same compaction equipment as outlined above, compact new fill soil in ± -8 —inch layers to a minimum 98-percent of the maximum dry density at its optimum moisture content in accordance with the Standard Proctor Method, ASTM Standard D 698-78 and field controlled in accordance with ASTM Standard D 2167-84, or equal. The top one (1) foot of the prepared fill subgrade should be compacted to 100-percent of the maximum dry density using the Standard Proctor Method. c. The end of the fill should be terminated at the minimum slope of two (2) horizontal to one (1) vertical

measured from three (3) feet beyond the outside edge of the pavement to the toe of the fill. The fill

soil is to be select granular soil weighing a minimum of 110 pcf at its optimum moisture content.

Site Plan Notes

- 1. Contractor to provide full water service to site including meter, setting, and connection fees in his
- 2. The Site Contractor is to assume responsibility for all water and sewer utilities from a point 5' outside of the building to the point of public connection. Contractor to furnish all paint striping.
- . Owner to purchase or lease dumpsters & recycle bins. These will not be provided by City. 5. A Geotechnical Investigation was prepared for this project. Contractor is responsible for digging site, if desired prior to bid. Contact Engineer at 252.459.8196 at least 48 hours prior to want to gain access. Contact Denny Muyres to obtain copy of Geotech Report @ (770) 729-5700
- 6. All site plumbing is to meet the NC State Building Code, Volume II, Plumbing. . Water service lines to be HDPE 1 1/4 inch w/1 inch meter and backflow preventor 8. Sewer services to be PVC, service weight. Minimum grades for 4-inch lines
- 9. Pressure reducing valve, if needed, to be located in building and is not Site Contractor's responsibility.
- 10. Provide handicap signs, markings and ramp per the details. 11. All signs, pavement markings, and other traffic control devices are the Site Contractor's responsibility and shall conform to: Manual on Uniform Traffic Control Devices, current edition, as amended; ADA guidelines; and, ANSI A117.1.
- 12. All dimensions are to face of curb unless indicated otherwise. Staking plan coordinates are to back 13. Contractor shall coordinate installation of all signs, pavement markings, and other traffic control
- devices with other Contractors on the site. 14. Contractor shall saw—cut to provide smooth transition at tie—in to existing edge of pavement when
- 15. Do not pour any concrete before forms are inspected and approved by Engineer/Owner. 16. Contractor shall comply with all pertinent provisions of the "Manual of Accident Prevention in
- Construction" issued by AGC of America, Inc., and the Safety and Health Regulations for Construction issued by the U.S. Department of Labor. 17. Storm drainage pipe is to be Class III reinforced concrete meeting ASTM C-76, latest revision.
- 18. All handicap ramps are to meet "ADA Accessibility Guidelines for Buildings and Facilities" as detailed in Federal Register, Vol. 56, No. 144, dated July 26, 1991, rules and regulations activated January 26, 1992, latest revision. Also, refer to North Carolina State Building Code Volume 1-C, "Making Buildings and Facilities Accessible To and Useable by the Physically Handicapped", 1991, latest edition and ANSI A117.1, current edition, as amended.

Concrete Notes

- 1. All construction, placing, pouring and curing concrete is to conform to the latest edition of ACI 318. 2. All reinforcing steel is to be cold cut and bent in conformance with the latest edition of ACI 318 and
- ASTM A-615. 3. Portland Cement Concrete shall have a minimum 28-day compressive strength of 4,000 PSI (or noted), a non-vibrated slump between 2.5 and 4-inches, a minimum cement content of 545 pounds per cubic yard, an air entrainment of 5-7-percent and a maximum water-cement ratio of 0.545 in accordance with Class B concrete as described in the NCDOT Standard Specifications for Roads and Structures unless otherwise
- 4. Do not use chloride in any concrete which has reinforcing steel or wire fabric. 5. Reinforcing steel shall meet ASTM A-615, Grade 60. Welded wire fabric shall meet ASTM A-185. Tie wire
- shall conform to ASTM A-82. 6. Lap welded wire fabric a minimum of one mesh. Lap all bars a minimum of 24 inch. Alternate adjacent bar splices a minimum of 48".
- Use only approved chairs with sand plates to support reinforcing on grade. 8. All crossings of reinforcement are to be tied. Supports for reinforcing to hold bars against movement during pour and finish operation. Supports for reinforcing bars to be a minimum of 48 inches apart.
- 9. Concrete shall be only plant-mixed, transit-mixed or ready-mixed concrete. The time elapsing from mixing to placing the concrete shall not exceed ninety (90) minutes. 10. Concrete shall not be deposited on frozen subgrade and shall not be poured when the air temperature for
- the succeeding 24-hour period is less than 32 degrees F 11. All concrete when placed in forms shall have a temperature between 50 degrees F and 90 degrees F and shall be maintained at a temperature of not less than 50 degrees for at least 72 hours for normal concrete and 24 hours for high early strength concrete. 12. Do not place fresh concrete during summer on a dry subgrade. Moisten subgrade before placing concrete.
- 13. Subarade is to be firm, free of water and/or silt and undisturbed or compacted properly. Consult Engineer if soft or vielding subgrade is encountered for improvement directions. If ground water is entering subgrade, consult Engineer for instructions. 14. Areas of concrete to be removed shall be saw cut before removing. The saw cut shall provide a smooth,
- straight edge approximately two (2) inches deep before breaking away the adjacent concrete. 15. Immediately after the forms have been removed and all honeycombed areas are repaired, backfill to prevent underwash.
- 16. Brooming of the concrete surface shall be done transverse to the direction of traffic for all pedestrian 17. Joint spacing shall be no less than 8-feet. Where existing sidewalks are being widened, transverse joints shall be located so as to line up with existing joints in the adjacent existing sidewalk. Grooved joints shall not be sealed.
- 18. Concrete Sub shall be responsible for all score joints and expansion joints. A preliminary score join pattern and expansion joint pattern shall be submitted to the project engineer for review prior to pouring 19. Expansion joints shall be one—half (1/2) inch in width and shall be placed between all rigid objects at a
- distance of no more than thirty (30) feet apart and shall extend the full depth of the concrete with the top of the filler one-half (1/2) inch below the finished surface. 20. The edges of the curb/sidewalk shall be finished with an approved edging tool one-half (1/2) inch radius Joints shall be similarly finished immediately after templates have been removed.
- Saw control joints as soon as fresh concrete will retain coarse aggregate against the sawing action. 22. Contractor SHALL NOT POUR any concrete before forms are inspected by the project engineer and/or the owner. Any concrete that has not been approved by the engineer and/or owner will be the responsibility

Concrete and Asphalt Testing

- Portland Cement Concrete Testing Requirements Initial Test: The initial test (from first ready-mix truck) is to be taken after the second cubic yard is dispensed from the mixer and is to consist of the following:
- One slump test Three cylinders pulled, prepared and stored on—site for 24 hours
- Subsequent Tests: After the above tests are pulled from the initial truck, every 5th truck thereafter is to be tested in the same manner as noted above.
- Asphalt Concrete Testing Requirements Compaction: Testing for asphalt density is to follow NCDOT "Standard Specifications for Roads and Structures" Section 609-9, "Field Compaction Quality Management," latest revision. Thickness: The minimum frequency of coring for thickness testing shall be on the basis of test sections
- consisting of not more than 1500 linear feet of lay down width, exclusive of intersections and irregular areas. The test sample is to be a 6-inch cored sample. The sample is to be numbered and logged for identification purposes.

Contractor's Quality Control System: Follow NCDOT "Standard Specifications for Roads and Structures",

Section 609-5, "Contractor's Quality Control System," latest revision. Mixture and Job Mix Formula Adjustments: Follow NCDOT "Standard Specifications for Roads and Structures" Section 609-4. "Field Verification of Mixture and Job Mix Formula Adjustments", latest revision. General: All other applicable sections of Section 609 of the NCDOT "Standard Specifications for Roads and

Structures" shall apply relating to Quality Control Plan, mix design, control limits, corrective action,

equipment and measurement Testing Cost: Site Contractor is responsible for cost of testing.

Sewer Notes

Storm Drainage

- 1. No Sewer line installation shall take place until an approved Site Plan has been issued.
- Sewer Pipe:
 a. SDR-35 SMOOTHWALL: Pipe shall conform to ASTM D-3034 Type PSM, SDR-35.
- 3. Pipe bedding shall be Class B modified (i.e. stone to top of pipe).
- 4. Any well pointing, dewatering, etc. needed during sewer construction is to be included in the cost of the line laid. Utilize select fill from on-site for trench borrow when needed. If material of a select nature is not available, bring in from off-site.

above sewer

above sewer

5. The minimum clearances for water, sewer and storm drainage lines shall be as follows Between Horizontal Vertical 18" w/water Water and Sewer

12" w/water above Water and StormDrainage 24" w/storm drainage Sewer and

6. The Contractor shall make arrangements with the local utility authority when connecting to existing manholes or mains.

- 7. Location, size and invert elevations of clean outs shown on "private" services are to be coordinated with the approved Plumbing Plans for the building. All plumbing is to meet the requirements of the NC State Building Code, Volume II, Plumbing, latest revision. 8. Contractor shall seed, mulch and tack all disturbed areas within 7 days after backfilling trench. All
- sedimentation control measures shall be kept in operable condition until a stand of grass is established and the area is capable of resistina erosion by wind and rain. All erosion control measures shall be removed when authorized by the Engineer after the completion of the project.
- 9. All excavated wood and rocks shall be disposed of offsite by the Contractor. Bury will not be 10. Contractor shall take proper precautions not to disturb existing property corner markers. All

disturbed property corner markers shall be replaced by a Registered Land Surveyor.

- 11. All cost for the provision of erosion control rip rap, jute meshing, matting, grass seeding and silt fence shall be included in total base bid. 12. Manholes or Wetwells qualify as "confined" and require compliance with OSHA "Confined Access Entry" requirements. Certified equipment, proper notification and other applicable equipment and or
- devices may be necessary to protect workers, after system is operational, from hydrogen-sulfide gas build-up or an otherwise oxygen-less environment. 13. The contractor shall provide to Engineer, upon completion of water and sewer construction, record drawings of the sewer installation specifically showing/depicting any deviations from the permitted plans. Plans are to be marked surveyed and submitted to Engineer. The final payment request will not be submitted to the owner nor will a "certificate of substantial completion" be issued until these "surveyed
- plans" have been completed and received by the Engineer. 14. Utility contractor is responsible for notifying local authority of time and date he plans to commence
- 15. Where lines cross gravel/asphalt driveways, Contractor is to restore driveways to the original condition. Drives shall be repaired within 7-days of open cut.

16. All Sanitary Sewer shall be in accordance to Town of Clayton Standards and Specifications. 17. All Frames and Lids to receive a bituminous coating.

- 1. No existing valves and fire hydrants shall be operated without the explicit permission from the Public Utility Owner. The contractor shall make arrangements with the local utility authority prior to connecting to existing mains. 2. Contractor shall seed, mulch, and tack all disturbed area within 7 days after backfilling trench. All sedimentation control measures shall be kept in operable condition until a stand of control measures shall be removed when authorized by the Engineer after the completion of the project.
- 3. All excavated wood and rocks shall be disposed off-site by the Contractor. Bury will not be permitted on-site. 4. Water line crossing existing asphalt pavement shall be installed by the Open Cut method.
- 5. Where lines cross gravel/asphalt driveways, Contractor is to restore driveways to the original condition. Drives shall be repaired within 7-days of open cut. 6. Contractor shall take proper precautions not to disturb existing property corner markers. All
- disturbed property corner markers shall be replaced by a Registered Land Surveyor. 7. All cost for the provision of erosion control rip rap, jute meshing, matting, grass seeding and silt fence shall be included in the total base bid.
- 8. Utility contractor is responsible for notifying local authority of time and date he plans to commence construction. 9. Any well pointing, dewatering, etc. needed during construction shall be the responsibility of the
- contractor. Trench borrow needed during construction shall be included in the cost of the line laid, unless otherwise specified. 0. Valve box to be 3 piece telescopic with concrete collar when not in pavement.
- . The contractor shall provide all the material and appurtenances necessary for the complete installation of the utilities. All pipe and fittings shall be inspected prior to being covered. 12. Lines shall be flushed thoroughly to remove all dirt and debris. Chlorine shall be applied to all water lines in sufficient concentration to leave an overall residual of 50 ppm. The chlorinated water shall remain in the lines for 24 hours at the end of which time the chlorine residual shall be at least 10
- ppm. The lines shall then be flushed until there is normal chlorine residual present and samples shall be collected for bacteriological analysis. 13. The contractor to conduct bacteriological testing of water lines, which have successfully passed hydrostatic testing and have been disinfected in conformance with AWWA Standards. This procedure
- requires (5) days to complete. 14. No contractors are authorized to use un-metered water during construction. All pipe and appurtenances shall be thoroughly cleaned prior to placement. Pipe shall be laid with straight lines and even grades and all joints shall be perfectly fitted. During periods when pipe is not being laid, open
- ends shall be securely blocked. 15. All excavation is unclassified and shall include all materials encountered. 16. All concrete used for blocking and concrete collars is to be minimum 3,000 psi at 28 days, air
- 17. Contractor shall saw—cut to provide smooth transitions where existing asphalt is to be removed.

General Notes:

- 1. This plan must be approved by Harnett County prior to construction of any street, water, storm drainage or other site improvements on this plan. All improvements shall conform to Harnett County Standards and Specifications or NCDOT, as applicable.
- . Disturbed area is greater than 1 acre and formal Sedimentation & Erosion Control plan approval is required as a condition of construction plan approval. Measures shown on the approved Erosion & Sedimentation Control Plan should be regarded as minimum requirements; additional measures shall be put in place as needed to insure that no sediment is released
- 4. The General Contractor is responsible for installing and maintaining all measures necessary to ensure that all sediment is contained on-site.
- Stormwater detention and nutrient management has previously been approved and addressed. . Water and sewer service fees are due on this site prior to setting of taps or meters. Contact the Harnett County for payment information 8. Contractor shall make arrangements with the local utility authority for connection to existing mains.

Do NOT operate any existing valves without permission of Harnett County.

- 9. Water meters supplied by contractors shall contain encoder register and module for radio transmitted meter reading per Harnett County Standard. 10. For the installation of electrical services, location of pad-mounted transformer if needed and to coordinate electrical temporary service, contact Duke Energy.
- 11. Any relocation of existing utilities will be at the cost of the General Contractor. The Town will not accept responsibility for damages to curb and gutter or street improvements if installed prior to underground services, nor will the Town absorb the cost for pavement patching, damages to landscaping or borings to
- install underground services. 12. Contractor shall be responsible for all work zone traffic control in or adjacent to ROW. All signs, pavement markings and other traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (MUTCD), latest edition as amended.

13. Fire Protection water supply system including fire hydrants, shall be installed and in service prior to

- recording the subdivision, or, if no subdivision is involved, shall be installed prior to the placing of combustible building materials for structures or combustible pre-tested fabricated building assemblies on the project site or utilizing them in the construction of building structures. If phased coordination is planned, coordinate installation of the fire protection water system is permitted. 14. Fire department vehicular access to all structures under construction shall be provided at all times.
- 15. Omitted. 16. Commercial property Address Numbers shall be a minimum of ten (10) inches in height with a minimum stroke width of one (1) inch. These numbers shall contrast with their background and shall be

In areas where ground surfaces are soft or likely to become soft, hard all weather surface roads shall be

- Arabic style numerals. 17. Address Numbers must be posted on the front of the structure nearest to the main entrance in a position to be plainly legible, visible and unobstructed from the street or road fronting the property. 18. Any change or deviation from this plat, prior to or during construction, will cause addressing and/or street names to be re-evaluated with possible subsequent change
- 19. Plans are based on an actual field survey performed by FREELAND SURVEYING, P.C. Reference horizontal datum is NAD 83, reference vertical datum is NAVD 88. 20. Contractor to verify all buildina dimensions and/or location(s) with architectural drawinas before beginning construction. If discrepancies are found, cease construction and consult the architect and civil
- site engineer for resolution. 2. All HVAC equipment shall be screened from the view of all public street rights—of—way for their entire length along those streets, except for necessary access.
- 23. For the installation of gas services, contact Public Utilities. . The customer is required to provide an outside lockable disconnect
- 5. Right—of—Way Easement must be signed prior to installation of utilities. 6. Call NC One Call Center at (800) 632—4949 before digging to locate existing utilities. . If overhead primary electric lines are present, mature tree heiaht shall not exceed 15 feet.
- B. Copies of all permits and approved plans must be kept on site in a permit box that is conspicuously ocated and easily accessible during construction. This includes approved construction plans, approved erosion control plans, encroachment agreements, driveway permits, water/sewer permits, etc. 29. Plan approval is valid for two (2) years from approved date.

Drainage Notes

- . Boxes may be reinforced masonry, masonry, precast concrete or cast—in—place reinforced concrete. 2. The maximum height of an un—reinforced masonry drainage structure with 8" walls shall be limited to 8' — 0" from invert of the outlet pipe to the top of the casting. Depths greater than 8' - 0" shall have walls 12' thick. Basins over 12' in total depth shall be designed by a NC Professional Engineer. 4? walls are not allowed on drainage structures.
- 3. Steps are to be provided on all basins deeper than 42". 4. Steps are to be PS1-PF as manufactured by M. A. Industries or an approved equal. Locate on non-pipe
- 5. Mortar in masonry boxes is to be type M.
- 6. Clay brick structures are not allowed. Concrete pipe is to be minimum Class III reinforced concrete meeting ASTM C-76, latest revision. 3. Concrete building brick is to meet ASTM C-55, Grade N, Type 1. . All iron castings are to be drilled and lagged to the drainage structure. The drainage structure as well is
- to be drilled. 10. All cast—in—place or precast concrete drainage structures located in paved areas accessible to truck loadings to be designed to meet AASHTO HS 20—44 loading. See manufacturers details for wall, top and bottom thickness.
- 11. All frames, grates, and hoods to receive a bituminous coating.

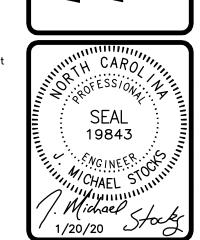


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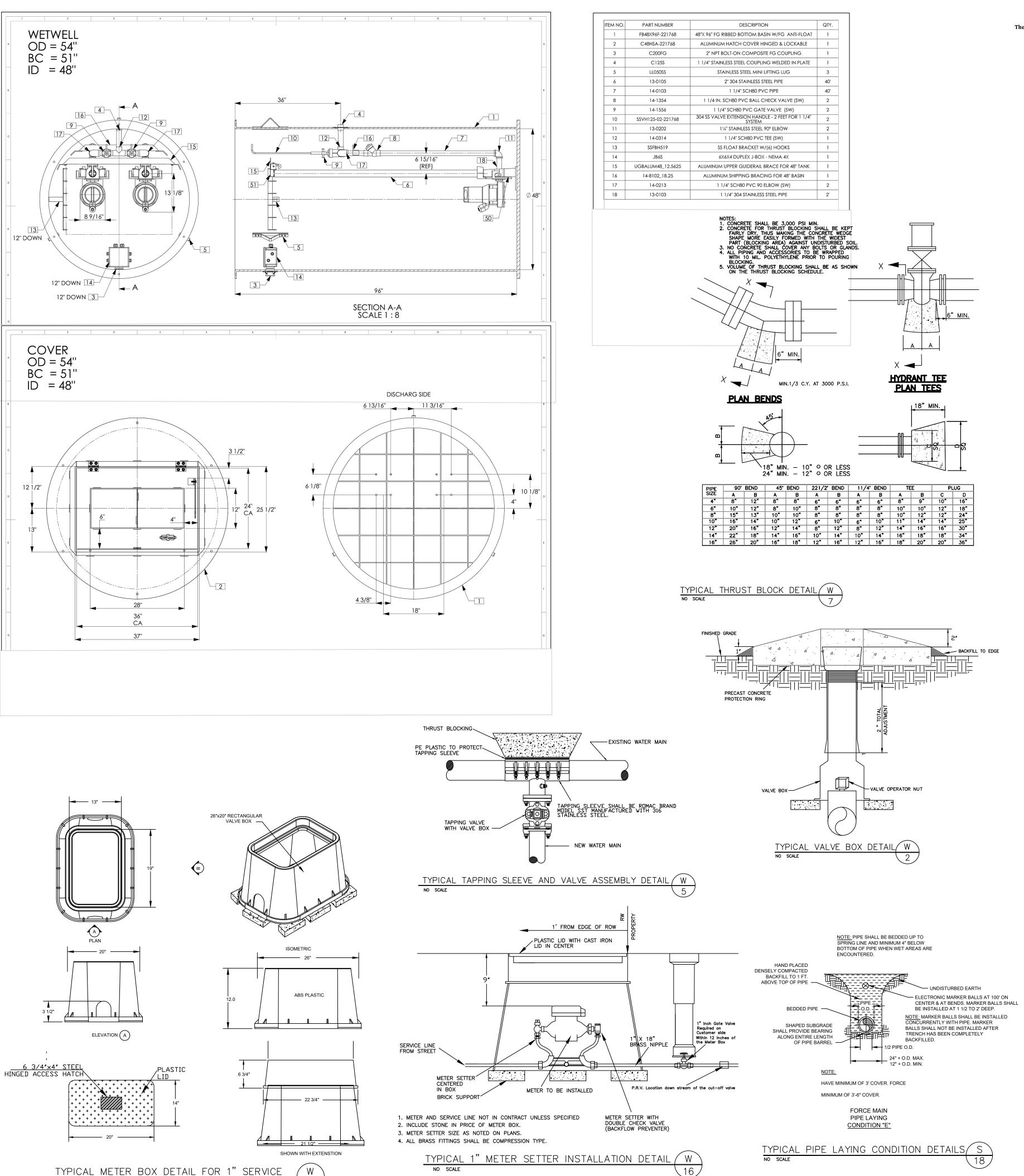


E 8

SITE NOTES AND DETAILS

REVISIONS /21/20 - BNE COMMENT

> HORZ. SCALE: 1"=20' VERT. SCALE: NONE



The following utility notes should be added to the coversheet of utility plans for projects located in Harnett County:

A. The Fire Marshal's Office shall approve all hydrant types and locations in new subdivisions. However, Harnett Regional Water (HRW) prefers the contractors to install one of the following fire hydrants: 1. Mueller - Super Centurion 250 A-423 model with a 5¼" main valve opening three way (two hose nozzles and one pumper nozzle);

2. American Darling - Mark B-84-B model with a 5¼" main valve opening three way (two hose nozzles and one pumper nozzle);

3. Waterous - Pacer B-67-250 model with a 5¼" main valve opening three way (two hose nozzles and

ne pumper nozzle) or approved equal for standardization B. Fire hydrants are installed at certain elevations. Any grade change in the vicinity of any fire hydrant which impedes its operation shall become the responsibility of the Utility Contractor for correction. Corrections will be monitored by the HRW Utility Construction Inspector and the Harnett County Fire Marshal. C. The Professional Engineer (PE) shall obtain and provide the NCDEQ "Authorization to Construct" permit to the Utility Contractor before the construction of the water line shall begin. The Utility Contractor must post a copy of the NCDEO "Authorization to Construct" permit issued by the North Carolina Department of Environmental Quality - Division of Environmental Health, Public Water Supply (NCDEO-DEH, PWS) on site prior to the start of construction. The permit must be maintained on site throughout the entire construction process of the

proposed water lines that will serve this project. D. The Utility Contractor shall notify Harnett Regional Water (HRW) and the Professional Engineer (PE) at least two days prior to construction commencing. The Utility Contractor must schedule a pre-construction conference with Mr. Alan Moss, HRW Utility Construction Inspector at least two (2) days before construction will begin and the Utility Contractor must coordinate with HRW for regular inspection visitations and acceptance of the water system(s). Construction work shall be performed only during the normal working hours of HRW which is 8:00 am - 5:00 pm Monday through Friday. Holiday and weekend work is not permitted by HRW.

E. The Professional Engineer (PE) shall provide HRW and the Utility Contractor with a set of NCDEQ approved plans marked "Released for Construction" at least two days prior to construction commencing. The Registered Land Surveyor (RLS) should stake out all lot corners and the grade stakes for the proposed finish grade for each street before the Utility Contractor begins construction of the water line(s). The grade stakes should be set with a consistent offset from the street centerline so as not to interfere with the street grading and utility

F. The Utility Contractor shall provide the HRW Utility Construction Inspector with material submittals and shop drawings for all project materials prior to the construction of any water line extension(s), and associated water services in Harnett County. The materials to be used on the project must meet the established specifications of HRW and be approved by the Engineer of Record prior to construction. All substandard materials or materials not approved for use in Harnett County found on the project site must be removed immediately when notified by the HRW Utility Construction Inspector.

G. The water main(s), fire hydrants, service lines, meter setters and all associated appurtenances shall be constructed in strict in accordance with the standard specifications of the Harnett Regional Water (HRW). The Utility Contractor shall be responsible to locate the newly installed water main(s), water service lines and all associated meter setters and meter boxes for other utility companies and their contractors until the new water main(s) have been approved by the North Carolina Department of Environmental Quality, Division of Environmental Health, Public Water Supply Section (NCDEQ, DEH, PWS) and accepted by HRW. H.Prior to acceptance, all services will be inspected to insure that they are installed at the proper depth. All meter boxes must be flush with the ground level at finish grade and the meter setters must be a minimum

of 8" below the meter box lid. Meter setters shall be centered in the meter box and supported by brick, block I. The Utility Contractor shall provide the Professional Engineer (PE) and HRW Utility Construction Inspector with a set of red line drawings identifying the complete water system installed for each project. The red line drawings should identify the materials, pipe sizes and approximate depths of the water lines as well as the gate valves, fire hydrants, meter setters, blow off assemblies and all associated appurtenances for all water line(s) constructed in Harnett County. The red line drawings should clearly identify any deviations from the

NCDEO approved plans. All change orders must be approved by HRW and the Professional Engineer (PE) in

writing and properly documented in the red line field drawings.

J. Potable water mains crossing other utilities and non-potable water lines (sanitary sewer, storm sewer, RCP, etc.) shall be laid to provide a minimum vertical distance of twenty-four (24") inches between the potable water main and all other utilities. NCDOT requires the new water mains to be installed under the storm water lines. The potable water main shall be installed with twenty-four (24") inches of vertical separation and with ductile iron pipe when designed to be placed under a non-potable water line such as sanitary sewer or storm sewer lines. If these separations cannot be maintained then the water main shall be installed with ductile iron pipe. Both the potable water main and the non-potable water line must be cast iron or ductile iron pipe (DIP) if the state minimum separations cannot be maintained. The ductile iron pipe must be laid so the mechanical joints are at least (10') feet from the point where the potable water main crosses the non-potable water line.

K.Potable water mains installed parallel to non-potable water lines (sanitary sewer, storm sewer, RCP, etc.) shall be laid to provide a minimum horizontal distance of ten (10') feet between the potable water main and sanitary sewer mains, sewer laterals and services. The horizontal separation between the potable water main and any other utility or storm sewer shall not be less than five (5') feet. The potable water main must be ductile iron pipe if this horizontal separation of ten (10') feet cannot be maintained. The ductile iron pipe shall extend at least ten (10') feet beyond the point where the minimum required horizontal separation of ten (10') feet can be re-established

L. Meter setters shall be installed in pairs on every other lot line where possible to leave adequate space for other utilities to be installed at a later time. The meter setters shall be installed at least one (1') foot inside the right-of-way and at least three (3') to five (5') feet from the property line between the lots. M. HRW requires that meter boxes for 3/4" services shall be 12" wide x 17" long ABS plastic boxes at

least 18" in height with cast iron lids/covers. Meter boxes for 1" services shall be 17" wide x 21" long ABS plastic boxes at least 18" in height with plastic lids and cast iron flip covers in the center of the lids. Meter boxes for 2" services shall be 20" wide x 32" long ABS plastic boxes at least 20" in height with plastic lids and cast iron flip covers in the center of the lids.

N. Master meters must be installed in concrete vaults sized for the meter assembly and associated appurtenances so as to provide at least eighteen (18") inches of clearance between the bottom of the concrete vault and the bottom of the meter setter. The master meter must be provided test ports if the meter is not equipped with test ports from the manufacturer in accordance with the HRW established standard specifications and details. Ductile iron pipe must be used for the master meter vault piping and valve vault piping. The Utility Contractor must provide shop drawings for the meter vaults to HRW prior to ordering the

O. The Utility Contractor will install polyethylene SDR-9 water service lines that cross under the payement inside a schedule 40 PVC conduit to allow for removal and replacement in the future. Two (2) independent 3/4" water service lines may be installed inside one (1) - two (2") inch schedule 40 PVC conduit or two (2) independent 1" water service lines may be installed inside one (1) - three (3") inch schedule 40 PVC conduit, but each water service shall be tapped directly to the water main. Split services are not allowed b

P. The water main(s), fire hydrants, gate valves, service lines, meter setters and associated appurtenances mus be rated for 200 psi and hydrostatically pressure tested to 200 psi. The hydrostatic pressure test(s) must be witnessed by the HRW Utility Construction Inspector. The Utility Contractor must notify HRW when they are ready to begin filling in lines and coordinate with Harnett Regional Water to witness all pressure testing. Q. The Utility Contractor shall conduct a pneumatic pressure test using compressed air or other inert gas on the stainless steel tapping sleeve(s) prior to making the tap on the existing water main. This pneumatic pressure test must be witnessed by the HRW Utility Construction Inspector. The Utility Contractor shall use Romac brand stainless steel tapping sleeve(s) or approved equal for all taps made in Harnett County. All new water line extensions must begin with a resilient wedge type gate valve sized equal to the diameter of the new water line extension in order to provide a means of isolation between Harnett Regional Water's existing water mains and the new water line extensions under construction.

R. All water mains will be constructed with SDR-21 PVC Pipe or Class 50 Ductile Iron Pipe rated for at least 200 psi or greater. All pipes must be protected during loading, transport, unloading, staging, and installation. PVC pipe must be protected from extended exposure to sunlight prior to installation. S. All water mains will be flushed and disinfected in strict accordance with the standard specifications of the Harnett Regional Water. All water samples collected for bacteria testing will be collected by the HRW Utility

Construction Inspector and tested in the HRW Laboratory T. All fittings larger than two (2") inches diameter shall be ductile iron. HRW requires that mechanical joints be assembled with grip rings as "Megalug" fittings are not approved by Harnett Regional Water for pipe sizes smaller than twelve inches (12") diameter. PVC pipe used for water mains shall be connected by slip joint or mechanical joint with grip rings. Glued pipe joints are not allowed on PVC pipe used for water mains in U.HRW requires that the Utility Contractor install tracer wire in the trench with all water lines. The tracer wire

manholes. No spliced wire connections shall be made underground on tracer wire installed in Harnett County. The tracer wire may be secured with duct tape to the top of the pipe before backfilling. V. The Utility Contractor will provide Professional Engineer (PE) and the HRW Utility Construction Inspecto with a set of red line field drawings to identify the installed locations of the water line(s) and all associated services. All change orders must be pre-approved by HRW and the Professional Engineer (PE) in writing and properly documented in the red line field drawings.

shall be 12 ga. insulated, solid copper conductor and it shall be terminated at the top of the valve boxes or

W. The Utility Contractor shall spot dig to expose each utility pipe or line which may conflict with construction of proposed water line extensions well in advance to verify locations of the existing utilities. The Utility Contractor shall provide both horizontal and vertical clearances to the Professional Engineer (PE) to allow the PE to adjust the water line design in order to avoid conflicts with existing underground utilities. The Utility Contractor shall coordinate with the utility owner and be responsible for temporary relocation and/or securing existing utility poles, pipes, wires, cables, signs and/or utilities including services in accordance with the utility owner requirements during water line installation, grading and street construction. X. Prior to the commencement of any work within established utility easements or NCDOT right-of-ways the Utility Contractor is required to have a signed NCDOT encroachment agreement posted on site and notify all concerned utility companies in accordance with G.S. 87-102. The Utility Contractor must call the NC One Call Center at 811 or (800) 632-4949 to verify the location of existing utilities prior to the beginning of construction. Existing utilities shown in these plans are taken from maps furnished by various utility companies and have not been physically located or verified by the P.E. (i.e. TELEPHONE, CABLE, WATER,

SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS, ETC.). The Utility Contractor will be responsible to repair any and all damages to the satisfaction of the related utility company Y. The Utility Contractor shall provide HRW with at least one (1) fire hydrant wrench and one (1) break-away flange kit for every subdivision with fire hydrants developed in Harnett County. These items must be provided to HRW before the final inspection will be scheduled by the HRW Utility Construction Inspector. In addition, the Utility Contractor shall install a 4" x 4" concrete valve marker at the edge of the right-of-way to identify the location of each gate valve installed in the new water system with the exception of the fire hydrant isolation valves. The contractor shall measure the distance from the center of the concrete marker to the center of the valve box. This distance (in linear feet) shall be stamped on the brass plate located on the top of the concrete valve marker. In lieu of installing the concrete valve markers, the Utility Contractor may provide at least two measurements from two independent permanent above ground structures to the Professional

Engineer (PE) in the red line drawings to identify the valve locations. The Professional Engineer (PE) must

include these measurements in the As-Built Record Drawings submitted to HRW. Z. The Utility Contractor will be responsible for any and all repairs due to leakage damage from poor workmanship during the one (1) year warranty period once the water system improvements have been accepted by Harnett Regional Water. Harnett Regional Water will provide maintenance and repairs when requested and bill the Developer and/or Utility Contractor if necessary due to lack of response within 48 hours of notification of warranty work. The Utility Contractor will be responsible for any and all repairs due to damages resulting from failure to locate the new water lines and associated appurtenances for other utilities and their contractors until the water lines have been approved by NCDEO and accepted by HRW. The final inspection of water system improvements cannot be scheduled with HRW until the streets have been paved; the rights-of-way and utility easements have been seeded and stabilized with an adequate stand of grass in place to prevent erosion issues on site.

AA The Engineer of Record is responsible to insure that construction is, at all times, in compliance with accepted sanitary engineering practices and approved plans and specifications. No field changes to the approved plans are allowed without prior written approval by HRW. A copy of each engineer's field report is to be submitted to HRW as each such inspection is made on system improvements or testing is performed by the contractor. Water and sewer infrastructure must pass all tests required by HRW specifications and those of all applicable regulatory agencies. These tests include, but are not limited to: air test, vacuum test, mandrel test, visual test, pressure test, bacteriological test, etc. A HRW Inspector must be present during testing and all test results shall be submitted to HRW. All tests must be satisfied before the final inspection will be scheduled with the HRW Inspector. The Engineer of Record must request in writing to schedule the final inspection once all construction is complete. The Developer's Engineer of Record and the HRW Utility Construction Inspector shall prepare a written punch list of any defects or deficiencies noted during the final inspection, should any exist. Upon completion of the punch list, the Developer's Engineer of Record will schedule another inspection. In the event the number of inspections performed by the HRW exceeds two, additional fees may be accessed to the Developer.

water lines.

The Professional Engineer (PE) shall obtain and supply a copy of the sewer permit for the construction and operation of the wastewater collection system to the Utility Contractor before the construction of the sanitary sewer line, sewer lift station and associated force main shall begin. The Utility Contractor must post a copy of the sewer permit issued by the North Carolina Department of Environmental Quality (NCDEQ) on site prior to the start of construction. The permit must be maintained on site during the construction of the sewer system improvements.

The Utility Contractor shall notify Harnett Regional Water (HRW) and the Professional Engineer (PE) at least two days prior to construction commencing. The Utility Contractor must schedule a pre-construction conference with Mr. Alan Moss, HRW Utility Construction Inspector at least two (2) days before construction will begin and the Utility Contractor must coordinate with HRW for regular inspection visitations and acceptance of the wastewater system(s). Construction work shall be performed only during the normal working hours of HRW which is 8:00 am - 5:00 pm Monday through

Friday. Holiday and weekend work is not permitted by HRW. The Professional Engineer (PE) shall provide HRW with a set of NCDEQ approved plans marked "Released for Construction" at least two days prior to construction commencing. HRW will stamp the approved plans as "Released for Construction" and provide copies to the utility contractor. The Registered Land Surveyor (RLS) shall stake out all lot corners and establish grade stakes for the proposed finish grade for each street and sewer line before the Utility Contractor begins construction or installation of the manholes, sanitary sewer gravity line(s), sewer lift stations and/or sanitary sewer force main(s). The grade stakes should be set with a consistent offset from the street centerline so as not

to interfere with the street grading or utility construction. The Utility Contractor shall provide the HRW Utility Construction Inspector with material submittals and shop drawings for all project materials prior to the construction of any gravity sewer line(s), manhole(s), sewer lift station(s) and associated force main(s) in Harnett County. The materials to be used on the project must meet the established specifications of HRW and be approved by the Engineer of Record prior to construction. All substandard materials or materials not approved for use in Harnett County found on the project site must be removed immediately when notified

by the HRW Utility Construction Inspector. The sanitary sewer lateral connections should be installed 90° (perpendicular) to the sanitary sewer gravity lines with schedule 40 PVC pipe. HRW requires the Utility Contractor to provide the Professional Engineer (PE) with accurate measurements for locating sanitary sewer service lateral and associated each sanitary sewer clean-out. These measurements should be taken from the nearest downstream manhole up along the sanitary sewer main to the in-line wye fitting (or tapping saddle) and then another measurement from the in-line wye fitting (or tapping saddle) to the 4" x 4" long sweep combination wye fitting at the bottom of the sewer clean-out stack. These field measurements must be provided to the Professional Engineer (PE) in the red line drawings from the Utility Contractor for proper documentation in the As-Built Record Drawings submitted to HRW.

The Utility Contractor shall be responsible to locate the newly installed sanitary sewer gravity line(s), sanitary sewer force main(s), sanitary sewer service lateral(s) and all associated sewer clean-out(s) in the proposed sanitary sewer system for other utility companies and their contractors until the new sanitary sewer line(s) and associated appurtenances have been approved by the North Carolina Department of Environmental Quality (NCDEQ) and accepted by HRW. All new sanitary sewer lines must have at least three (3 ft.) feet of cover and extend under all existing water main and storm water lines with a least 24" of vertical clearance below the bottom of the existing water main and storm

The sanitary sewer gravity line(s), manhole(s), sanitary sewer service lateral(s) and associated clean-out(s) shall be constructed in strict accordance with the standard specifications of the Harnett Regional Water. The sanitary sewer gravity line(s) must pneumatically pressure tested with compressed air at 5 psi and the sanitary sewer force main(s) must hydrostatically pressure tested with water or air at 200 psi. Sanitary sewer manholes must be vacuum tested to 10 inches of mercury and cannot drop below 9 inches in 60 seconds for 4 ft. diameter manholes, 75 seconds for 5 ft. diameter manholes. All tests mentioned above must be witnessed by the HRW Utility Construction Inspector and

H. Prior to acceptance, all sewer service laterals will be inspected to insure that they are installed at the proper depth. All sewer clean-outs must be installed so the 4" x 4" long sweep combination wye is at least three (3') feet but no more than four (4') feet below the finish grade unless otherwise approved in writing by HRW. The sewer cleanouts shall have a four (4") schedule 40 PVC pipe stubbed up from both ends of the 4" x 4" long sweep combination wye to be at least two (2') feet above the finish grade and cover each end with a four (4") inch temporary cap to keep out dirt, sand, rocks, water and construction debris. The vertical stack on each clean-out must be provided with a concrete donut for protection.

Once the sanitary sewer gravity line(s) have been installed, pneumatically pressure tested and in place for at least 30 days, the Utility Contractor must contact the HRW Utility Construction Inspector to witness the mandrel test on each PVC sanitary sewer gravity line. The Utility Contractor will notify HRW to schedule the mandrel testing. The mandrel and proving ring must be supplied by the Utility Contractor. Closed circuit video camera inspections (at the Utility Contractor's expense) may be required by the HRW Utility Construction Inspector if the mandrel and mirror tamping testing cannot be completed with satisfactory results. The sanitary sewer lines should be flushed clean using a sewer ball of the proper diameter before any mandrel testing can be performed. The Utility Contractor is responsible to remove all dirt, sand, silt, gravel, mud and debris from the newly constructed sewer lines exercising care to keep the Harnett Regional Water's existing sanitary sewer systems clean. Sanitary sewer force main(s) shall be pressure tested to 200 psi for at least 2 hours like water lines.

The Utility Contractor shall be responsible to locate the newly installed sanitary sewer system(s) for other utility companies and their contractors until the new sanitary sewer system(s) have been approved by the North Carolina

Department of Environmental Quality (NCDEQ) and accepted by HRW. HRW requires that the Utility Contractor install tracer

wire in the trench with all sanitary sewer force mains. The tracer wire shall be 12 ga. insulated, solid copper conductor and it shall be terminated at the top of the valve boxes or manholes. No spliced wire connections shall be made underground on tracer wire installed in Harnett County. The tracer wire may be secured with duct tape to the top of the pipe before backfilling. The tracer wire is not required for the gravity sewer line(s) between manholes. The Utility Contractor shall provide the Professional Engineer (PE) and HRW Utility Construction Inspector with a set of red line drawings identifying the complete sewer system installed for each project. The red line drawings should identify the materials, pipe sizes and approximate depths of the sewer lines as well as the installed locations of the manhole(s), sanitary sewer gravity line(s), sanitary sewer service laterals, clean-outs, sewer lift station(s) and associated force main(s). The red line drawings should clearly identify any deviations from the NCDEQ approved plans.

the red line field drawings. Prior to the commencement of any work within established utility easements or NCDOT right-of-ways the Utility Contractor is required to notify all concerned utility companies in accordance with G.S. 87-102. The Utility Contractor must call the NC One Call Center at 811 or (800) 632-4949 to verify the location of existing utilities prior to the beginnin of construction. Existing utilities shown in these plans are taken from maps furnished by various utility companies and have not been physically located by the P.E. (i.e. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC,

All change orders must be approved by HRW and the Professional Engineer (PE) in writing and properly documented in

NATURAL GAS. ETC.). The Utility Contractor shall spot dig to expose each existing utility pipe or line which may conflict with construction of proposed sanitary sewer line extensions well in advance to verify locations of the existing utilities. The Utility Contractor shall provide both horizontal and vertical clearances to the Professional Engineer (PE) to allow the PE to adjust the sanitary sewer line design in order to avoid conflicts with existing underground utilities. The Utility Contractor shall coordinate with the utility owner and be responsible for temporary relocation of existing utilities and/or securing existing utility poles, pipes, wires, cables, signs and/or utilities including services in accordance with the utility owner's requirements during sanitary sewer line installation, grading and street construction.

O. When making a tap on an existing sewer force main, the Utility Contractor must have a permit from the North Carolina Department of Environmental Quality (NCDEQ) prior to begin the tap work. The Utility Contractor shall conduct a pneumatic pressure test using compressed air or other inert gas on the stainless steel tapping sleeve and gate valve prior to making the tap on an existing sanitary sewer force main. This pneumatic pressure test must be witnessed by the HRW Utility Construction Inspector. The Utility Contractor shall use Romac brand stainless steel tapping sleeve(s) or approved equal for all taps made on sanitary sewer force mains in Harnett County. The Utility Contractor shall use Romac brand Style "CB" sewer saddles with stainless steel bands or approved equal for all taps made on existing

sanitary sewer gravity lines in Harnett County. The Utility Contractor shall provide a grease trap for each sanitary sewer service lateral that will be connected to a restaurant, food processing facility and any other commercial or industrial facility as required by the Harnett County Fat, Oil & Grease Ordinance. The grease trap must be rated for a minimum capacity of at least 1,000 gallons unless otherwise approved in writing by the HRW Pre-Treatment Coordinator. Garbage disposals should not be installed in homes and businesses that discharge wastewater to the Harnett Regional Water's Sanitary Sewer System as they are not

approved by HRW. Each sewer lift station must be provided with three phase power (at least 480 volts) and constructed to meet the minimum requirements of the latest version of the National Electrical Code (NEC) and Harnett Regional Water standard specifications and details. If three phase power is not available from the power company other arrangements must be approved by HRW Engineering prior to the start of construction.

Where a new sanitary sewer force main is connected to an existing manhole in the Harnett Regional Water sewer collections system, the Utility Contractor must provide a protective coating (coal tar epoxy) for the interior surfaces of

the manhole to protect it against corrosion, erosion and deterioration from the release of sewer gases such as methane The sewer lift station design and associated equipment must meet or exceed the MINIMUM REQUIREMENTS FOR HARNETT COUNTY SEWER LIFT STATIONS 2009 edition. Each sanitary sewer lift station must be constructed with an

all-weather access road that is at least 20 feet wide. The lift station site must be covered with weed blocking material and at least six (6") inches of # 57 stone (crush and run). Once a sewer lift station has been installed, the Utility Contractor is responsible to schedule a draw down test with HRW Engineering and Collections staff, the Professional Engineer (PE), the Electrician, the original equipment manufacturer's

(OEM) representatives [For both the Pumps and the Generator]. This draw down test must be completed with power supplied from the electrical utility company and with power supplied by the emergency generator with satisfactory results before final inspections are conducted by the HRW Utility Construction Inspector. Once the Utility Contractor completes the installation of a sewer lift station, the Professional Engineer (PE) must submit the sewer permit certification and As-Built Record Drawings to the North Carolina Department of Environmental Quality (NCDEQ) and HRW for final approval. The Utility Contractor must supply HRW Engineering staff with three original Operation & Maintenance (0&M) Manuals along with the associated pump curves and electrical schematics for the

associated sewer lift station equipment including all warranty information and documentation. Once the Utility Contractor completes the installation of a sewer lift station, the Developer must pay HRW the established System Control and Data Acquisition (SCADA) fees before the SCADA system will be installed at the new sewer lift station. The SCADA system must be installed and operational before the utilities may be accepted by HRW and

. HRW requires the Utility Contractor to provide all necessary equipment and devices for the testing and inspection of the sanitary sewer system. The equipment and devices may include but not limited to lamping with mirrors, mandrels, sewer balls, plugs, air compressors and associated compressed air lines. If the HRW Utility Construction Inspector deems that a closed circuit video camera inspection of the newly constructed sewer system is necessary, then all costs for the closed circuit camera inspection will be the responsibility of the Utility Contractor. All closed circuit video camera inspections must be recorded on VHS tapes that will released to HRW for record keeping, review and approval of

the sewer system. Any use of sewer plugs to temporarily block Harnett Regional Water's existing sanitary sewer lines must be coordinated with the HRW Collections Supervisor at least two (2) days in advance of installing the plugs. The sewer plugs must be removed as soon as possible once the new sanitary sewer lines have been inspected, pressure tested, mandrel tested, approved by the North Carolina Department of Environmental Quality (NCDEQ) and accepted by HRW to allow the sewer to flow as designed in Harnett Regional Water's existing sanitary sewer lines or when so ordered by the HRW Collections Supervisor to limit interruptions to the normal flow of the sanitary sewer collection system(s). The Utility Contractor must provide the pumps hoses and necessary connectors for a temporary pump around setup if required by the HRW Collections Supervisor. Mr. Randolph Clegg, HRW Collections Supervisor may be contacted between 8:00 am and 5:00 pm Monday through Friday at (910) 893-7575 extension 3241.

The Utility Contractor will be responsible for any and all repairs due to leakage or damage resulting from poor workmanship during the one (1) year warranty period once the sewer system improvements have been approved by the North Carolina Department of Environmental Quality (NCDEQ) and accepted by HRW. The Utility Contractor will be responsible for any and all repairs due to damages resulting from failure to locate the new sanitary sewer lines and associated appurtenances for other utilities and their contractors until the sanitary sewer lines have been approved by NCDEQ and accepted by HRW. HRW will provide maintenance and warranty repairs if necessary due to lack of response within 48 hours of notification of warranty work. HRW will invoice the Developer and/or Utility Contractor for

materials and labor in such cases. In developments and projects that require utility easements to be established for future HRW right-of-way, the Registered Land Surveyor (RLS) must provide the HRW Right-of-Way Agent with an official copy of the recorded plat and legal description of the said easement as recorded with the Harnett County Register of Deeds. The recorded documents must be provided to the HRW Right-of-Way Agent before the utility improvements within the said easement can be placed into operation. Any and all easements that must be obtained from adjoining property owners must be provided to HRW by the Developer at no cost to Harnett County. The final inspection of all sanitary sewer system improvements cannot be scheduled with HRW until the streets have been paved; the rights-of-way and utility easements have been seeded and stabilized with an adequate stand of grass in place to prevent erosion issues on site.

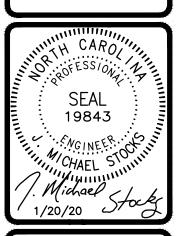
A. The Engineer of Record is responsible to insure that construction is, at all times, in compliance with accepted sanitary engineering practices and approved plans and specifications. No field changes to the approved plans are allowed vithout prior written approval by HRW. A copy of each engineer's field report is to be submitted to HRW as each such inspection is made on system improvements or testing is performed by the contractor. Water and sewer infrastructure must pass all tests required by HRW specifications and those of all applicable regulatory agencies. These tests include, but are not limited to: air test, vacuum test, mandrel test, visual test, pressure test, bacteriological test, etc. A HRW Inspector must be present during testing and all test results shall be submitted to HRW. All tests must be satisfied before the final inspection will be scheduled with the HRW Inspector. The Engineer of Record must request in writing to schedule the final inspection once all construction is complete. The Developer's Engineer of Record and the HRW Utility Construction Inspector shall prepare a written punch list of any defects or deficiencies noted during the final inspection, should any exist. Upon completion of the punch list, the Developer's Engineer of Record will schedule another inspection. In the event the number of inspections performed by the HRW exceeds two, additional fees may be accessed



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UTILITY NOTES AND DETAILS

REVISIONS

HORZ. SCALE: VERT. SCALE: NONE

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes			
Site Area Description		Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a)	Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b)	High Quality Water (HQW) Zones	7	None
(c)	Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d)	Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e)	Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
 Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	 Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- 1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- 2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- 3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- 4. Provide ponding area for containment of treated Stormwater before discharging offsite.
- 5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- 1. Maintain vehicles and equipment to prevent discharge of fluids.
- 2. Provide drip pans under any stored equipment.
- 3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- 4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- 5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- 6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER. BUILDING MATERIAL AND LAND CLEARING WASTE

- 1. Never bury or burn waste. Place litter and debris in approved waste containers.
- 2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- 3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- 4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- 5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- 6. Anchor all lightweight items in waste containers during times of high winds.
- 7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- 8. Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- 2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- 3. Contain liquid wastes in a controlled area.
- 4. Containment must be labeled, sized and placed appropriately for the needs of site.
- 5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

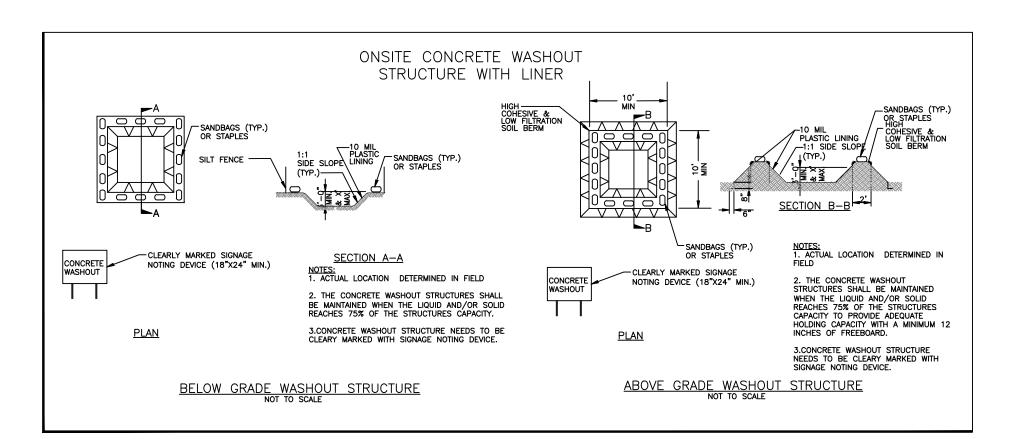
PORTABLE TOILETS

- 1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- 2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- 3. Monitor portable toilets for leaking and properly dispose of any leaked material.

 Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- 1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- 2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- 3. Provide stable stone access point when feasible.
- 4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- 1. Do not discharge concrete or cement slurry from the site.
- 2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- 3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- 4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- 5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- 6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- 7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- 8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- 9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- 10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- 1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- 2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- 3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- 4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

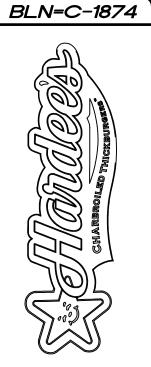
- 1. Create designated hazardous waste collection areas on-site.
- 2. Place hazardous waste containers under cover or in secondary containment.
- 3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

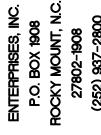
NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19











Hardee's at BUFFALO LAKE R CAMERON, N.C.



NCG01 NOTES SHEET

REVISIONS

FILE NO. 2017-013
HORZ. SCALE: 1"=20'
VERT. SCALE: NONE

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend of holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded a "zero." The permittee may use another rain-monitoring devices.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	 approved by the Division. Identification of the measures inspected, Date and time of the inspection, Name of the person performing the inspection, Indication of whether the measures were operating properly, Description of maintenance needs for the measure, Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	 Identification of the discharge outfalls inspected, Date and time of the inspection, Name of the person performing the inspection, Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, Indication of visible sediment leaving the site, Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	 If visible sedimentation is found outside site limits, then a record of the following shall be made: Actions taken to clean up or stabilize the sediment that has left the site limits, Description, evidence, and date of corrective actions taken, and An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	 The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

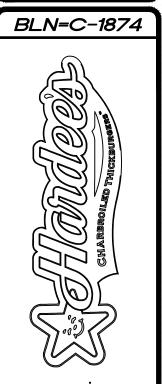
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment	Within 24 hours, an oral or electronic notification.
deposition in a	Within 7 calendar days, a report that contains a description of the
stream or wetland	sediment and actions taken to address the cause of the deposition.
	Division staff may waive the requirement for a written report on a case-by-case basis.
	• If the stream is named on the NC 303(d) list as impaired for sediment-
	related causes, the permittee may be required to perform additional
	monitoring, inspections or apply more stringent practices if staff
	determine that additional requirements are needed to assure compliance
	with the federal or state impaired-waters conditions.
(b) Oil spills and	Within 24 hours, an oral or electronic notification. The notification
release of	shall include information about the date, time, nature, volume and
hazardous	location of the spill or release.
substances per Item	
1(b)-(c) above	
(c) Anticipated	• A report at least ten days before the date of the bypass, if possible.
bypasses [40 CFR	The report shall include an evaluation of the anticipated quality and
122.41(m)(3)]	effect of the bypass.
(d) Unanticipated	Within 24 hours, an oral or electronic notification.
bypasses [40 CFR	Within 7 calendar days, a report that includes an evaluation of the
122.41(m)(3)]	quality and effect of the bypass.
(e) Noncompliance	Within 24 hours, an oral or electronic notification.
with the conditions	Within 7 calendar days, a report that contains a description of the
of this permit that	noncompliance, and its causes; the period of noncompliance,
may endanger	including exact dates and times, and if the noncompliance has not
health or the	been corrected, the anticipated time noncompliance is expected to
environment[40	continue; and steps taken or planned to reduce, eliminate, and
CFR 122.41(I)(7)]	prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6).
.,.,	 Division staff may waive the requirement for a written report on a
	case-by-case basis.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19



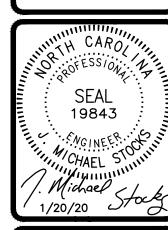
ENGINETERING STREET
NASHVILLE, N.C. 27856 WWW.STOCKSENGINEERING.COM



ENTERPRISES, INC.
P.O. BOX 1908
ROCKY MOUNT, N.C.
27802-1908
(252) 937-2800



Hardee's at
BUFFALO LAKE RD



NCG01 NOTES SHEET

REVISIONS

FILE NO. 2017-013
HORZ. SCALE: 1"=20'
VERT. SCALE: NONE