



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

May 31, 2019

**Chatham County**

**Subject: Subdivision Plan Approval – Bonterra Subdivision off of SR 1532 Manns Chapel Rd in Chatham County**

Peter Bellantoni, PE  
Pennoni Associates  
401 Providence Road, STE 200  
Chapel Hill, North Carolina 27514  
PBellantoni@Pennoni.com

Dear Mr. Bellantoni:

The N. C. Department of Transportation, Division of Highways has reviewed the construction plans signed and sealed by Peter Bellantoni, P.E. on May 22, 2019 as submitted to this office and approval is granted subject to the following stipulations and recommendations:

1. All Construction is to be in accordance with the details as shown on the plans, as well as conform to the most recent edition of the *Standard Specifications for Roads and Structures*.
2. A Driveway Permit was issued for this package (DW 19.1089).
3. The entire proposed right of way is to be cleared and grubbed throughout the whole phase of the project. Please be aware that the areas within the sight distance quadrants are to be treated as right of way.
4. All soil areas within the proposed right of way and any other soil areas disturbed during construction shall be seeded and mulched immediately upon completion of roadway construction. The seeding shall be done as outlined in the seeding specification attachment.
5. The crossline drainage is approved as proposed on the construction plans. If, however field conditions dictate any changes, these shall be made upon approval by NCDOT. If any of the property owners desire to pipe their ditches within the proposed NCDOT right of way, please advise them that this work should conform to NCDOT specifications (see attached). If any ditches are piped and not satisfactorily completed to NCDOT specifications, this could result in the road not being accepted for addition to the State maintained system of roads. Any piped ditches or other installed encroachment prior to addition to the State maintained system are subject to an encroachment agreement, as are utility company installations when the road is added.

*Mailing Address:*  
NC DEPARTMENT OF  
TRANSPORTATION  
DIVISION 8, DISTRICT 1  
POST OFFICE BOX 1164  
ASHEBORO, NC 27204

*Telephone:* (336) 318-4000  
*Fax:* (336) 318-4573  
*Customer Service:* 1-877-368-4968

*Website:* [www.ncdot.gov](http://www.ncdot.gov)

*Location:*  
300 DOT DRIVE  
ASHEBORO, NC 27204

6. The typicals as shown in the attached plans are approved.
7. The Division of Highways will only allow mailboxes, with non-rigid type post, such as 4" x 4" wooden or small diameter metal type on new additions. Brick columns or mailboxes on rigid stands such as block, stone or any other type deemed to be a traffic hazard will not be allowed within the right of way. This policy applies to all roads being considered for addition to the State Maintained System.
8. An erosion control plan shall require approval from Chatham County. The developer should forward this plan to Morgan DeWit, P.E., Erosion Control and Stormwater, 12 East Street, P.O. Box 1809, Pittsboro, N.C. 27312, phone (919) 542-8268 [morgan.dewit@chathamnc.org](mailto:morgan.dewit@chathamnc.org) for review and approval.
9. As this subdivision is proposed to be public and is likely to be requested to be added to the state maintained system of roads, the developer will be responsible for providing a PE Certification, (See Attached) and testing results for base and asphalt density stating that the streets have been built in accordance with the most current "Subdivision Roads: Minimum Construction Standards" manual and with the attached approved plans. Please be advised that this PE Certification does not approve the road for addition to the State Highway System for maintenance. When the proper home density is achieved, and roads have been satisfactorily maintained, the developer or property owners must submit Form SR-1, Petition for Road Addition (copy attached to this correspondence), and one copy of the recorded plat to request that the road or roads be added to the State Highway system. Any maintenance problems found when the road is requested to be added must be repaired by the developer or the party responsible for maintenance of the right of way prior to the road becoming state maintained. As stated in GS 136-102.6, final acceptance by the Division of Highways of the public streets and placing them on the State highway system for maintenance shall be conclusive proof that the streets have been constructed according to the minimum standards of the Board of Transportation.
10. The developer shall comply with all applicable local, state, and federal environmental regulations, and shall obtain all necessary local, state, and federal environmental permits, including, but not limited to, those related to sediment control, stormwater, wetlands, streams, endangered species, and historical sites.
11. A properly completed Verification of Compliance with the Department of Environmental Quality (f.k.a. DENR), copy attached, must be submitted prior to the road(s) being considered for addition to the NCDOT System.
12. In preparing the final plat for certification by this office and subsequent recording, the following information will be incorporated:
  - A. The sight distance quadrants at the intersections shall be shown either as a public easement or as the property line.
  - B. Permanent easements for drainage throughout the development.

C. All roads shall be shown as public and the right of way width shown

9. If the plans of this subdivision change in a way that would cause a change in the classification of these roads from Local Residential to Residential Collector the developer will be responsible for upgrading roads to meet Residential Collector standards prior to addition to the State maintenance system.
10. This approval does not approve the utilities within this subdivision. Any utilities shall be submitted for approval to this office via a properly executed Encroachment Agreement to be approved at the time the roads within the subdivision are petitioned to be added to the State system for maintenance. Please note that utilities should be located at the back of ditch (outside the shoulders and ditches) and as close to the right of way line as possible. Fire hydrants should be behind the right of way line and all service taps should be installed prior to paving.

If you have any further questions regarding this matter, please do not hesitate to call this office at 336. 318.4000

Sincerely,

DocuSigned by:  
  
DE44C69F4BC74D9...  
Matthew Kitchen, PE  
District Engineer

Attachments

cc: Brandon Jones, PE, Division Engineer  
Justin Bullock, P.E., Chatham County Maintenance Engineer  
Kimberly Tyson, Chatham County Subdivision Administrator (kimberly.tyson@chathamnc.org)  
Bill Scholl, Division Right of Way Agent  
File

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PROFESSIONAL ENGINEER CERTIFICATION  
**SUBDIVISIONS AND COMMERCIAL DRIVEWAYS**  
**DIVISION 8, DISTRICT 1**

DATE: \_\_\_\_\_

COUNTY: \_\_\_\_\_

SUBDIVISION NAME: \_\_\_\_\_

STREET NAMES                      From Sta. No.                      To Sta. No. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This is to certify that the above listed roads have been constructed in accordance with the approved plans and all aspects of the most current Subdivision Roads: Minimum Construction Standards manual.

NAME: \_\_\_\_\_

Professional Engineer Seal

SIGNATURE: \_\_\_\_\_

NC PE LICENSE #: \_\_\_\_\_

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**VERIFICATION OF COMPLIANCE  
WITH ENVIRONMENTAL  
REGULATIONS**

(Check Appropriate Box)

- Permits from the N.C. Department of Environment and Natural Resources and the U.S. Army Corp of Engineers are not required for this project. However, all applicable federal and state regulations have been followed.
  
- The required permits from the N.C. Department of Environment and Natural Resources and the U.S. Army Corp of Engineers have been obtained for this project. Copies of permits and Completion Certificates are attached.
  
- All applicable NPDES Stormwater Permit requirements have been met for this project. (The applicant should contact the N.C. Division of Water Quality in Raleigh to determine if a stormwater permit is required.)
  
- The project is in compliance with all applicable sedimentation and erosion control laws and regulations.

Project Name: \_\_\_\_\_

Township: \_\_\_\_\_ County: \_\_\_\_\_

Project Engineer: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Project Contact: \_\_\_\_\_

Applicant's Name: \_\_\_\_\_

P.E. SEAL

Date Submitted: \_\_\_\_\_

North Carolina Department of Transportation  
**Division of Highways**  
**Petition for Road Addition**

**ROADWAY INFORMATION:** (Please Print/Type)

County: \_\_\_\_\_ Road Name: \_\_\_\_\_  
(Please list additional street names and lengths on the back of this form.)

Subdivision Name: \_\_\_\_\_ Length (miles): \_\_\_\_\_

Number of occupied homes having street frontage: \_\_\_\_\_ Located (miles): \_\_\_\_\_

miles N  S  E  W  of the intersection of Route \_\_\_\_\_ and Route \_\_\_\_\_ .  
(Check one) (SR, NC, US) (SR, NC, US)

We, the undersigned, being property owners and/or developers of \_\_\_\_\_ in \_\_\_\_\_ County, do hereby request the Division of Highways to add the above described road.

**CONTACT PERSON:** Name and Address of First Petitioner. (Please Print/Type)

Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Street Address: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

**PROPERTY OWNERS**

<u>Name</u>	<u>Mailing Address</u>	<u>Telephone</u>
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**INSTRUCTIONS FOR COMPLETING PETITION:**

1. Complete Information Section
2. Identify Contact Person (This person serves as spokesperson for petitioner(s)).
3. Attach four (4) copies of recorded subdivision plat or property deeds, which refer to candidate road.
4. Adjoining property owners and/or the developer may submit a petition. Subdivision roads with prior NCDOT review and approval only require the developer's signature.
5. If submitted by the developer, encroachment agreements from all utilities located within the right of way shall be submitted with the petition for Road addition. However, construction plans may not be required at this time.
6. Submit to District Engineer's Office.

**FOR NCDOT USE ONLY:** Please check the appropriate block

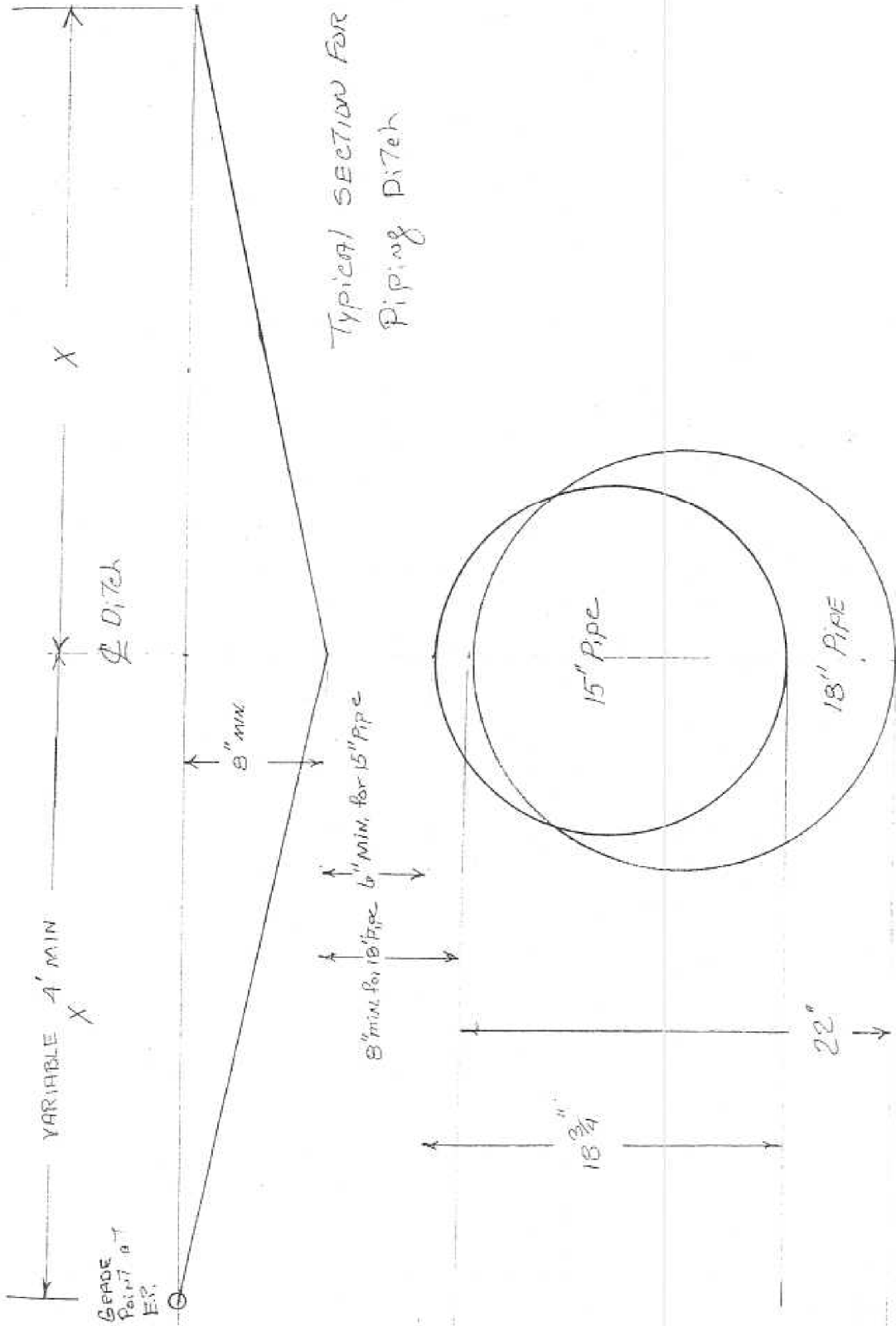
- Rural Road     Subdivision platted prior to October 1, 1975     Subdivision platted after September 30, 1975

**REQUIREMENTS FOR ADDITION**

If this road meets the requirements necessary for addition, we agree to grant the Department of Transportation a right-of-way of the necessary width to construct the road to the minimum construction standards of the NCDOT. The right-of-way will extend the entire length of the road that is requested to be added to the state maintained system and will include the necessary areas outside of the right-of-way for cut and fill slopes and drainage. Also, we agree to dedicate additional right-of-way at intersections for sight distance and design purposes and execute said right-of-way agreement forms that will be submitted to us by representatives of the NCDOT. The right-of-way shall be cleared at no expense to the NCDOT, which includes the removal of utilities, fences, other obstructions, etc.

General Statute 136-102.6 (see page 29 for Statute) states that any subdivision recorded on or after October 1, 1975, must be built in accordance with NCDOT standards in order to be eligible for addition to the State Road System.

<u>ROAD NAME</u>	<u>HOMES</u>	<u>LENGTH</u>	<u>ROAD NAME</u>	<u>HOMES</u>	<u>LENGTH</u>





**POSSIBLE SUPPLIERS FOR  
GRATES AND FRAMES**

SOUTHERN FOUNDRY  
P.O. BOX 186  
APEX, N.C. 27502  
(919) 362-7744

NORFOLK CAST, INC.  
P.O. BOX 328  
NORFOLK, VA. 23501

VULCAN FOUNDRY CORP.  
P.O. BOX 905  
DENHAM SPRINGS, LA.  
1(800)626-4653

US FOUNDRY  
8351 N. W. 93<sup>RD</sup> ST  
MEDLEY, FLA. 33166  
(305)885-0301 FAX (305) 844-3253

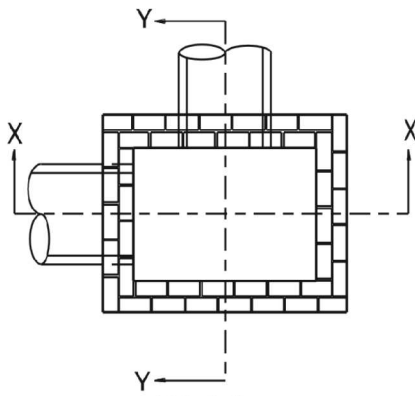
SUPER CAST, INC.  
1104 US HWY. 117 BYPASS, S.  
GOLDSBORO, N.C. 27530  
(919)736-9010 FAX (919)736-0290

BUNCH PATTERN WORKS, INC.  
P.O. BOX 267 HWY 308 N.  
LEWISTON-WOODVILLE, N.C. 27849

CAPITAL FOUNDRY OF VIRGINIA, INC.  
P.O. BOX 2212  
VIRGINIA BEACH, VIRGINIA 23450

EMPORIA FOUNDRY, INC.  
620 REESE STREET  
EMPORIA, VIRGINIA 23847

ENNIS ENTERPRISES  
P.O. BOX 931  
WILMINGTON, N.C. 28402  
(910) 371-9323

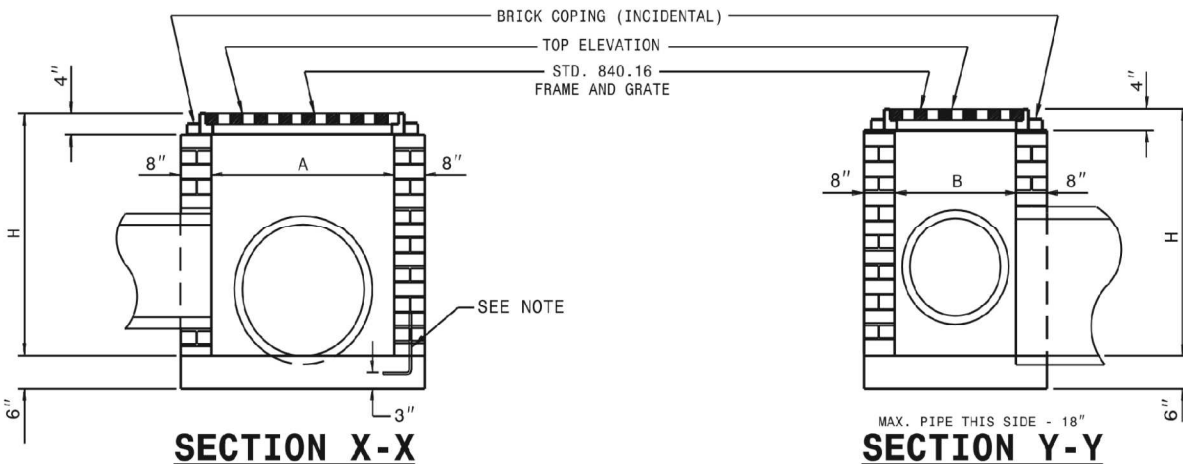


**PLAN**

WITH COPING REMOVED

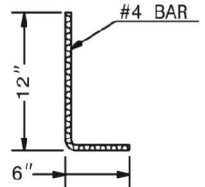
**GENERAL NOTES:**

- MORTAR JOINTS  $\frac{1}{2}$ " +/-  $\frac{1}{8}$ " THICK.
- USE CLASS "B" CONCRETE THROUGHOUT.
- USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB.
- USE #4 BAR DOWELS AT 12" CENTERS.
- DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.
- PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
- USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
- IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
- FOR 8'-0" IN HEIGHT OR LESS, USE 8" WALL. OVER 8'-0" IN HEIGHT, USE 12" WALL TO 6'-0" FROM TOP OF WALL AND 8" WALL FOR THE REMAINING 6'-0". QUANTITIES TO BE ADJUSTED ACCORDINGLY.
- CONSTRUCT WITH PIPE CROWNS MATCHING.
- SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.
- DO NOT USE BRICK MASONRY DROP INLET IN LOCATIONS SUBJECT TO TRAFFIC.
- CHAMFER ALL EXPOSED CORNERS 1".
- DRAWING NOT TO SCALE.



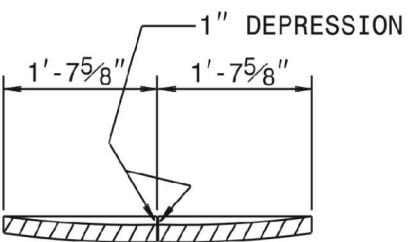
**SECTION X-X**

**SECTION Y-Y**

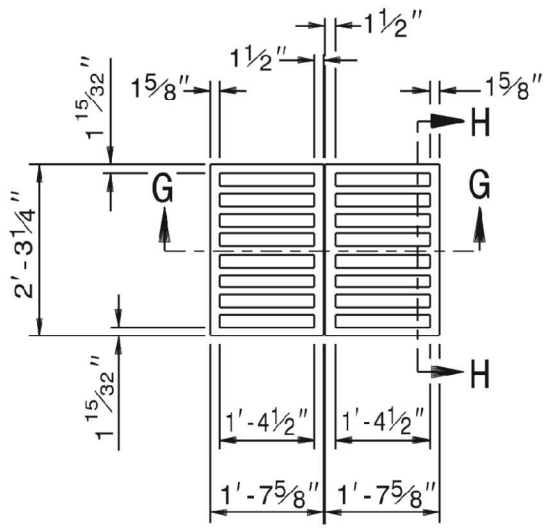


**DOWEL**

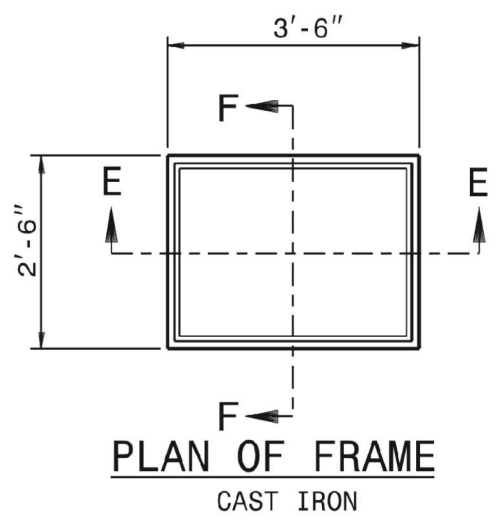
DIMENSIONS AND QUANTITIES FOR DROP INLET (BASED ON MIN. HEIGHT, H)									
DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONCRETE	CUBIC YARDS BRICK MASONRY		DEDUCTIONS FOR ONE PIPE		
PIPE	SPAN	WIDTH	MIN. HEIGHT		BOTTOM SLAB	WALL PER FOOT HT.	TOTAL BRICK MASONRY FOR MIN. HEIGHT, H	C.S.	R.C.
12"	3'-0"	2'-0"	2'-0"	0.268	0.313	0.522	0.020	0.032	
15"	/	/	2'-3"	0.268	0.313	0.600	0.031	0.047	
18"	/	/	2'-6"	0.268	0.313	0.678	0.041	0.065	
24"	/	/	3'-0"	0.268	0.313	0.835	0.078	0.113	
30"	3'-0"	2'-0"	3'-6"	0.268	0.313	0.991	0.122	0.170	



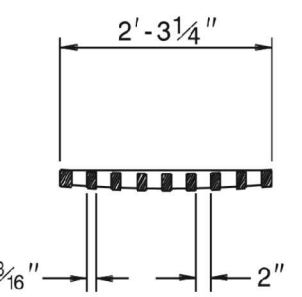
**SECTION G-G**



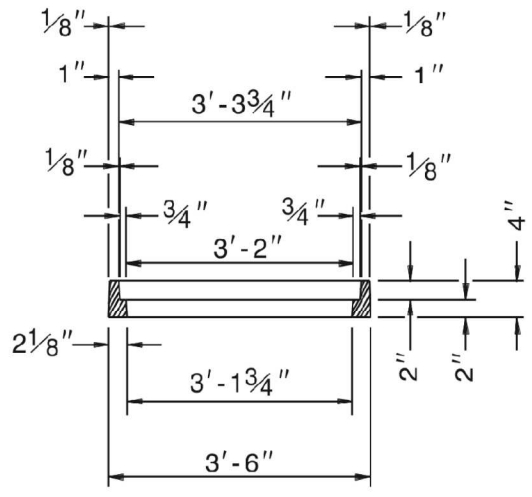
**PLAN OF GRATING**  
CAST IRON



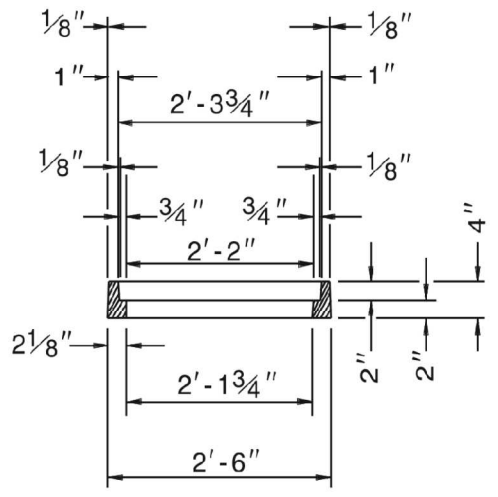
**PLAN OF FRAME**  
CAST IRON



**SECTION H-H**



**SECTION E-E**



**SECTION F-F**

**STABILIZATION REQUIREMENTS:**

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective August 3, 2011 issued by the North Carolina Department of Environment and Natural Resources Division of Water Quality. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land- disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

**NATIVE GRASS SEEDING AND MULCHING:**

**(West)**

Native Grass Seeding and Mulching shall be performed on the disturbed areas of wetlands and riparian areas, and adjacent to Stream Relocation and/or trout stream construction within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank or center of depression. The stream bank of the stream relocation shall be seeded by a method that does not alter the typical cross section of the stream bank. Native Grass Seeding and Mulching shall also be performed in the permanent soil reinforcement mat section of preformed scour holes, and in other areas as directed.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

**August 1 - June 1**

18#	Creeping Red Fescue
8#	Big Bluestem
6#	Indiangrass
4#	Switchgrass
35#	Rye Grain
500#	Fertilizer
4000#	Limestone

**May 1 – September 1**

18#	Creeping Red Fescue
8#	Big Bluestem
6#	Indiangrass
4#	Switchgrass
25#	German or Browntop Millet
500#	Fertilizer
4000	Limestone

Approved Creeping Red Fescue Cultivars: Aberdeen

Boreal

Epic

Cindy Lou

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

### **Temporary Seeding**

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. German Millet or Browntop Millet shall be used in summer months and rye grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

### **Fertilizer Topdressing**

Fertilizer used for topdressing shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

### **Supplemental Seeding**

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, and the rate of application may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

### **Mowing**

The minimum mowing height shall be 6 inches.

### **Measurement and Payment**

Native Grass *Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.