

PROJECT SUMMARY

PROJECT NAME:

PIN #

ENGINEER

WNC SOURCE - ETOWAH 233 BRICKYARD RD

HENDERSONVILLE, NC 28739

9529-81-0511 1A/123 DB/PG

(R1) RESIDENTIAL

HENDERSON COUNTY OWNER

233 BRICKYARD HENDERSONVILLE, NC 28739

DEVELOPER HENDERSON COUNTY

233 BRICKYARD

HENDERSONVILLE, NC 28739

WGLA ENGINEERING, PLLC

WILLIAM R. BUIE, P.E.

724 5TH AVENUE WEST HENDERSONVILLE, NC 28792

0.9 AC± ACREAGE

LANDUSE **EDUCATIONAL**

ON SITE (PUBLIC) CITY OF HENDERSONVILLE WATER SYSTEM

ON SITE (PUBLIC) CITY OF HENDERSONVILLE SEWER SYSTEM

BUILDING SETBACKS FRONT 15'

SIDE REAR 10' 10'

NOTE:

1. CONNECT ALL ROOF LEADERS TO NEW STORM DRAINAGE DROP INLETS.

2. PIPING SHALL BE INSTALLED WITH WASHED STONE & FABRIC BEDDING TO CREATE PROPOSED FRENCH DRAIN (SEE DETAIL ON SHEET C-402)

WGLA Engineering

WGLA ENGINEERING, PLLC 724 5th AVENUE WEST HENDERSONVILLE, NC 28739 (828) 687-7177 WGLA.COM NC LICENSE P-1342

WNC Source

Etowah **Henderson County** North Carolina



REVISIONS DATE DESCRIPTION



24166

3/25

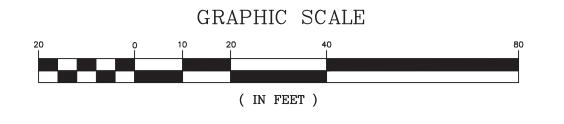
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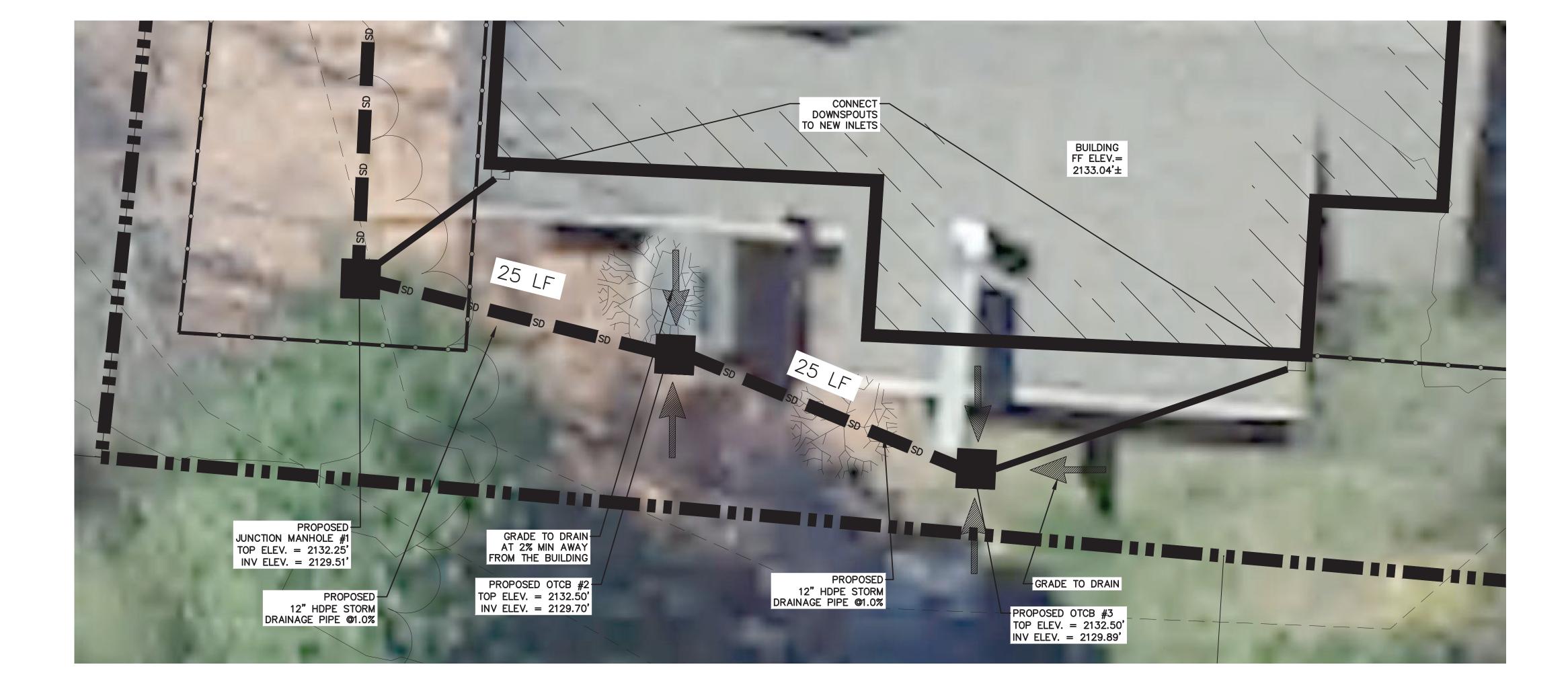
Storm Drainage Improvements

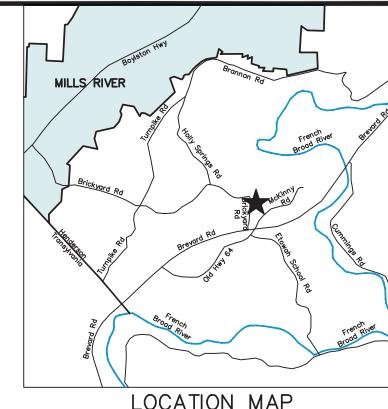
C-400

SCALE: 1"=20'









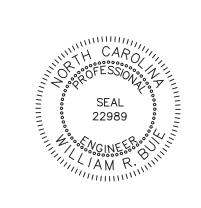
LOCATION MAP N.T.S.

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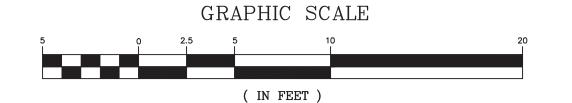
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Storm Drainage Improvements

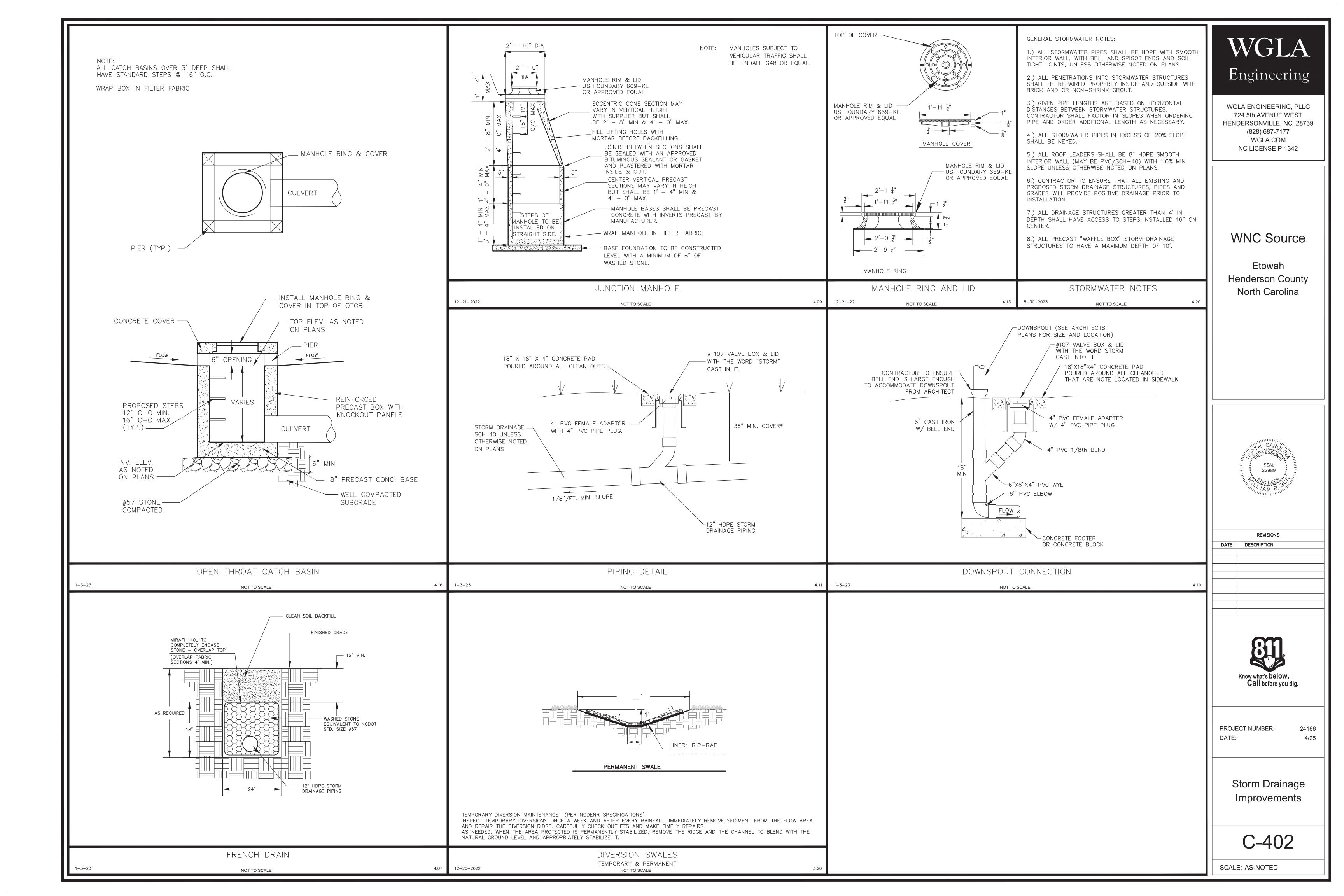
C-401

SCALE: 1"=5'



NOTES:

THROAT FOR OTCB TO BE SET A MIN. OF 6" BELOW FINISHED FLOOR ELEVATION OF THE EXISTING BUILDING.
AREA AT THE REAR OF THE BUILDING TO BE REGRADED TO DRAIN TO NEW INLETS.
ALL DOWNSPOUTS AT THE CORNER OF THE BUILDING TO BE PIPED TO NEW STRUCTURES.
ALL DISTURBED AREA TO BE SEEDED AND MULCHED FOLLOWING CONSTRUCTION.



GENERAL CONSTRUCTION NOTES

1. ALL WORK AND CONSTRUCTION ACTIVITIES ON THE PROJECT SITE SHALL COMPLY WITH ALL APPLICABLE OSHA REGULATIONS AND REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN A SAFE WORK SITE.

2. THE ENGINEER AND OWNER RESERVE THE RIGHT TO MODIFY PROJECT WORK ITEMS (INCLUDING GRADING) AS DEEMED NECESSARY FOR THE SUCCESSFUL COMPLETION OF THE PROJECT. THE CONTRACTOR MAY SUGGEST ADJUSTMENTS TO GRADING OR OTHER WORK ITEMS TO BE APPROVED BY THE ENGINEER OR OWNER.

3. THE CONTRACTOR SHALL COMPLY WITH THE GEOTECHNICAL REPORT FOR THE PLACEMENT OF FILL AND COMPACTION REQUIREMENTS. IF NO REPORT IS AVAILABLE, THE FOLLOWING MINIMUM STANDARDS SHALL APPLY:

PLACEMENT OF FILL:

A. PLACE THE MATERIAL IN SUCCESSIVE HORIZONTAL LAYERS NOT EXCEEDING 8" FOR THE FULL WIDTH OF THE CROSS

B. FILL SHALL BE PLACED ONLY WHEN IT IS WITHIN 3% OF ITS OPTIMUM MOISTURE CONTENT AS DETERMINED BY A STANDARD PROCTOR ASTM D 698.

C. EACH LAYER OF FILL SHALL BE SPREAD EVENLY AND SHALL BE COMPACTED TO ITS SPECIFIED DENSITY AS DETERMINED BY STANDARD PROCTOR ASTM D 698 BEFORE NEW LAYERS ARE PLACED AND COMPACTED. D. SLOPED GROUND SURFACES STEEPER THAN ONE VERTICAL TO FOUR HORIZONTAL, ON WHICH FILL IS TO BE PLACED,

SHALL BE STEPPED OR BENCHED SUCH THAT FILL MATERIAL WILL BOND TO THE EXISTING SURFACES. E. EMBANKMENT SLOPES SHALL BE CONSTRUCTED BY FILLING ONE (1) FOOT BEYOND THE PROPOSED FINISHED SLOPE SURFACE FOR EACH LIFT. COMPACTION EQUIPMENT SHALL WORK TO THE EDGE OF EACH LIFT. AFTER THE ENTIRE FILL IS PLACED AND COMPACTED, THE OUTSIDE FOOT OF THE SLOPE SHALL BE TRIMMED TO THE DESIGN SLOPE WITH A DOZER. UNLESS INDICATED ON THE DRAWINGS, NO FILL SLOPES SHALL BE STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL.

A. STRUCTURAL FILL UNDER BUILDINGS AND WITHIN 10' OF BUILDING PERIMETER, 100% OF STANDARD PROCTOR THE ENTIRE DEPTH OF FILL. B. UNDER WALKS, DRIVES, PADS, AND PAVED AREAS: 95% OF STANDARD PROCTOR EXCEPT 100% OF STANDARD PROCTOR

IN THE UPPER 2'. C. UNDER LAWNS AND PLANTING AREAS BEYOND 10' FROM BUILDING: 95% OF STANDARD PROCTOR. D. BACKFILL IN TRENCHES: COMPLY WITH COMPACTION REQUIREMENTS FOR THE AREA THROUGH WHICH THE TRENCH RUNS 4. ALL EROSION CONTROL DEVICES SUCH AS SILT FENCES, DIVERSIONS, SEDIMENT TRAPS, ETC. SHALL BE MAINTAINED IN WORKABLE CONDITIONS FOR THE LIFE OF THE PROJECT AND SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT ONLY WITH THE ENGINEER'S APPROVAL. SEE THE NPDES REQUIREMENTS ON THIS PLAN SHEET FOR MORE DETAIL. IF DURING THE LIFE OF THE PROJECT A STORM CAUSES SOIL EROSION WHICH CHANGES THE FINISHED GRADES OR CREATES "GULLIES" AND "WASHED AREAS", THESE SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXTRA COST. THE CONTRACTOR SHALL ADHERE

TO THE APPROVED EROSION CONTROL PLAN AND TAKE ANY ADDITIONAL MEASURES NECESSARY TO PREVENT SEDIMENT FROM

LEAVING THE SITE.

4. DISPOSABLE MATERIALS: A. CLEARING AND GRUBBING WASTES SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE

CONTRACTOR AT THEIR EXPENSE, UNLESS OTHERWISE SPECIFIED. B. SOLID WASTES TO BE REMOVED SUCH AS SIDEWALKS, CURBS, PAVEMENT, ETC. MAY BE PLACED IN SPECIFIED DISPOSAL AREAS IF PERMITTED BY THE APPROPRIATE AGENCIES AND APPROVED BY THE OWNER. THIS MATERIAL SHALL BE SPREAD AND MIXED WITH DIRT ELIMINATING ALL VOIDS. THIS MATERIAL SHALL HAVE A MINIMUM COVER OF 2'. THE CONTRACTOR SHALL MAINTAIN SPECIFIED COMPACTION REQUIREMENTS IN THESE AREAS. WHEN DISPOSAL SITES ARE NOT PROVIDED, THE CONTRACTOR SHALL REMOVE THIS WASTE FROM THE SITE AND PROPERLY DISPOSE OF IT AT THEIR EXPENSE. C. ABANDONED UTILITIES SUCH AS CULVERTS, WATER PIPE, HYDRANTS, CASTING, PIPE APPURTENANCES, UTILITY POLES, ETC. SHALL BE THE PROPERTY OF THE SPECIFIED UTILITY AGENCY OR COMPANY HAVING JURISDICTION. BEFORE THE CONTRACTOR CAN REMOVE, DESTROY, SALVAGE, RE-USE, SELL OR STORE FOR THEIR OWN USE ANY ABANDONED UTILITY, THEY MUST PRESENT TO THE OWNER WRITTEN PERMISSION FROM THE UTILITY INVOLVED.

D. UNLESS OTHERWISE NOTED ON THE PLANS, BURNING WILL NOT BE ALLOWED ON THIS PROJECT. SHOULD BURNING BE ALLOWED BY THE OWNER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS (AT THEIR EXPENSE AND FOLLOW ALL APPLICABLE RULES AND REGULATIONS.

6. UNLESS OTHERWISE SPECIFIED, ALL BASE, PAVING, CURBING AND OTHER CONCRETE WORK SHALL CONFORM TO THE LOCAL MUNICIPALITY OR NCDOT SPECIFICATIONS FOR CONSTRUCTION. ALL WATER AND SEWER CONSTRUCTION SHALL CONFORM TO THE LOCAL UTILITY REQUIREMENTS AND/OR THE NCDENR MINIMUM STANDARDS.

7. IN THE EVENT EXCESSIVE GROUND WATER OR SPRINGS ARE ENCOUNTERED WITHIN THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL INSTALL NECESSARY UNDERDRAINS AND STONE AS DIRECTED BY THE ENGINEER. ALL WORK SHALL BE PAID BASED UPON THE UNIT PRICES UNLESS OTHERWISE SPECIFIED.

8. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ADJUSTMENT OF ALL UTILITY SURFACE ACCESSES (INCLUDING MANHOLE COVERS, VALVE BOXES, ETC.) WHETHER HE PERFORMS THE WORK OR THE UTILITY COMPANY PERFORMS THE WORK.

THE CONTRACTOR SHALL CONTROL ALL "DUST" BY PERIODIC WATERING AND SHALL PROVIDE ACCESS AT ALL TIMES FOR PROPERTY OWNERS WITHIN THE PROJECT AND FOR EMERGENCY VEHICLES. ALL OPEN DITCHES AND HAZARDOUS AREAS SHALL BE CLEARLY MARKED IN ACCORDANCE WITH OSHA REGULATIONS.

10. ALL AREAS OF EXPOSED SOIL SHALL BE SEEDED, FERTILIZED AND MULCHED ACCORDING TO THE SPECIFICATIONS. THE FINISHED SURFACE SHALL BE TO GRADE AND SMOOTH, FREE OF ALL ROCKS LARGER THAN 3", EQUIPMENT TRACKS, DIRT CLODS, BUMPS, RIDGES, AND GOUGES PRIOR TO SEEDING. THE SURFACE SHALL BE LOOSENED TO A DEPTH OF 1"+/- TO ACCEPT SEED. THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING OPERATIONS WITHOUT FIRST OBTAINING THE ENGINEER'S APPROVAL OF THE GRADED SURFACE. ALL SEEDING SHALL BE PERFORMED BY A MECHANICAL "HYDRO-SEEDER" THE ENGINEER PRIOR TO SEEDING MUST APPROVE HAND SEEDING ON ANY AREA.

11. GRADED SLOPES AND FILLS SHALL BE PROTECTED WITH ROLLED EROSION CONTROL PRODUCT IF COMPLETED OUTSIDE OF OPTIMUM GERMINATION SEASON WHEN UNFAVORABLE WEATHER CONDITIONS PREVENT ESTABLISHMENT OF VEGETATIVE GROUND

GENERAL CONSTRUCTION NOTES

12-20-2022 NOT TO SCALE

SEEDING SPECIFICATIONS

TEMPORARY COVER

LIME & FERTILIZER

CONTRACTOR SHALL FURNISH AND APPLY LIME AND FERTILIZER TO THE SOIL AS REQUIRED TO PROVIDE SATISFACTORY CONDITIONS FOR SEED GERMINATION.

A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST OR EQUAL SHALL BE OBTAINED FOR ALL AREAS TO BE SEEDED. RECOMMENDED FERTILIZER AND pH ADJUSTING PRODUCTS SHALL BE INCORPORATED INTO APPLICABLE AREAS BASED ON THE TEST RESULTS.

THESE MATERIALS SHALL BE SPREAD UNIFORMLY OVER THE AREA TO BE PLANTED. THE SOIL SHALL BE TILLED TO A DEPTH OF 3 - 4 INCHES WITH EQUIPMENT APPROVED BY THE ENGINEER.

SEEDING - CONTRACTOR SHALL SELECT A QUICK GROWING GRASS WITH HIGH SEEDING VIGOR THAT IS SUITED TO THE AREA, THE TIME OF PLANTING, AND THAT WILL NOT INTERFERE WITH PLANT TO BE SOWN LATER FOR PERMANENT COVER.

MAY THROUGH AUGUST

SUNDANGRASS 50 LB / AC OR GERMAN MILLET 40 LB / AC

SEPT. THROUGH APRIL

RYEGRAIN 120 LB / AC

ALL SEEDS SHALL HAVE BEEN TESTED NOT MORE THAN 6 MONTHS PRIOR TO THE DATE OF SEEDING.

CONTRACTOR SHALL APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRAULICALLY.

A SLURRY MIXTURE OF WATER, FERTILIZER, SEED AND CELLULOSE FIBER MULCH IS ACCEPTABLE ON THIS PROJECT.

ACRE

IN ORDER TO REDUCE DAMAGE FROM WATER RUN-OFF AND IMPROVE MOISTURE CONDITIONS FOR SEEDLINGS, A MULCH MATERIAL SHALL BE FURNISHED WHEN TEMPORARY SEEDING IS TO BE DONE. ACCEPTABLE MATERIALS ARE: -DRY UNCHOPPED, UNWEATHERED SMALL GRAIN STRAW OR HAY FREE OF SEEDS OF COMPETING PLANTS - 1-2 TONS /

-WOOD FIBER (EXCELSIOR) -WOOD CELLULOSE FIBER - 500 LBS / ACRE WITHOUT STRAW -JUTE MATTING

II. PERMANENT COVER

A. CONTRACTOR SHALL FURNISH AND APPLY

1- A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST OR EQUAL SHALL BE OBTAINED FOR ALL AREAS TO BE SEEDED. RECOMMENDED FERTILIZER AND pH ADJUSTING PRODUCTS SHALL BE INCORPORATED INTO APPLICABLE AREAS BASED ON THE TEST RESULTS.

2- 2.3 LBS / 1000 SF OF KENTUCKY 31 TALL FESCUE (100 LBS / ACRE)

IN THE MANNER DESCRIBED ABOVE IN PARTS 1, 2 AND 3.

APPLY NURSE CROP AS FOLLOWS:

MAY 1 - AUG 15 - 10 LBS / AC GERMAN MILLET OR

- 15 LBS / AC SUNDANGRASS AUG 15 - MAY 1 - 40 LBS / AC RYE (GRAIN)

B. SEEDING DATES: KY.31 TALL FESCUE

(BELOW 2500' ELEV) AUG 20 - SEPT 15

MARCH 1 - MAY 1

(ABOVE 2500' ELEV)

JULY 15 - AUG 30

MARCH 5 - MAY 15

APPLY 4000 LB / AC OF GRAIN STRAW SUITABLY TACKED DOWN. ADD NETTING TO STEEP SLOPES AND STAPLE PER MANUFACTURERS RECOMMENDATIONS

III. SOIL PREPARATION

<u> A. GENERAL REQUIREMENTS</u>

1-PREPARATION FOR PRIMARY/PERMANENT STABILIZATION SHALL NOT BEGIN UNTIL ALL CONSTRUCTION AND UTILITY WORK WITHIN THE PREPARATION AREA IS COMPLETE. HOWEVER, IT MAY BE NECESSARY TO PREPARE FOR NURSE CROPS PRIOR TO COMPLETION OF CONSTRUCTION AND INSTALLATION OF UTILITIES.

2-A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST (OR EQUAL) SHALL BE OBTAINED FOR ALL AREAS TO BE SEEDED, SPRIGGED, SODDED OR PLANTED. RECOMMENDED FERTILIZER AND PH ADJUSTING PRODUCTS SHALL BE INCORPORATED INTO THE PREPARED AREAS AND BACKFILL MATERIAL PER THE TEST.

3-ALL AREAS TO BE SEEDED OR PLATED SHALL BE TILLED OR RIPPED TO A DEPTH OF 4". RIPPING CONSISTS OF CREATING FISSURES IN A CRISS-CROSS PATTERN OVER THE ENTIRE SURFACE AREA USING AN IMPLEMENT THAT WILL NOT GLAZE THE SIDE WALLS OF THE FISSURES. SITE PREPARATION THAT DOES NOT COMPLY WITH THESE DOCUMENTS SHALL NOT BE ACCEPTABLE. THE DEPTH OF SOIL PREPARATION MAY BE ESTABLISHED AS A RANGE BASED ON THE APPROVAL OF THE REVIEW AGENCY. ONCE TILLED OR RIPPED ACCORDING TO THE APPROVED PLAN, ALL AREAS ARE TO BE RETURNED TO FINAL GRADE. pH MODIFIERS AND/OR OTHER SOIL AMENDMENTS SPECIFIED IN THE SOIL TESTS CAN BE ADDED DURING THE SOIL PREPARATION PROCEDURE OR AS DESCRIBED BELOW.

4-ALL STONES LARGER THAN 3" ON ANY SIDE, STICKS, ROOTS, AND OTHER EXTRANEOUS MATERIALS THAT SURFACE DURING THE BED PREPARATION SHALL BE REMOVED.

B. AREAS TO BE SEEDED

1-TILL OR DISC THE PREPARED AREAS TO BE SEEDED TO A MINIMUM DEPTH OF 4". REMOVE STONES LARGER THAN 3" ON ANY SIDE, STICKS, ROOTS, AND OTHER EXTRANEOUS MATERIALS THAT SURFACE. IF NOT INCORPORATED IN THE RIPPING PROCESS, ADD pH MODIFIERS AND FERTILIZERS AT THE RATE SPECIFIED.

2-RECOMPACT THE AREA UTILIZING A CULTIPACKER ROLLER. THE FINISHED GRADE SHALL BE SMOOTH EVEN SOIL SURFACE WITH LOOSE, UNIFORMLY FINE TEXTURE. ALL RIDGES AND DEPRESSIONS SHALL BE REMOVED AND FILLED TO PROVIDE THE APPROVED SURFACE DRAINAGE. SEEDING THE GRADED AREAS IS TO BE DONE IMMEDIATELY AFTER FINISHED GRADES ARE OBTAINED AND SEEDBED PREPARATION IS COMPLETE.

C. AREAS TO BE SPRIGGED, SODDED, AND/OR PLANTED

1-AT THE TIME OF PLANTING, TILL OR DISC THE PREPARED AREA TO A DEPTH OF 4"-6" BELOW THE APPROVED FINISHED GRADE. REMOVE ALL STONES LARGER THAN 3" ON ANY SIDE. STICKS. ROOTS AND OTHER EXTRANEOUS MATERIALS THAT SURFACE. IF NOT INCORPORATED DURING THE RIPPING PROCESS, ADD pH MODIFIERS, FERTILIZER AND OTHER RECOMMENDED SOIL AMENDMENTS.

2-RECOMPACT THE AREA UTILIZING A CULTIPACKER ROLLER AND PREPARE FINAL GRADES AND DESCRIBED ABOVE. INSTALL SPRIGS, SOD AND PLANTS AS DIRECTED IMMEDIATELY AFTER FINE GRADING IS COMPLETE. MULCH, MAT AND/OR TACK AS SPECIFIED.

IV. CLOSEOUT

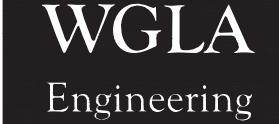
1-REFER TO NCG01 REQUIREMENTS AND CONSTRUCTION SEQUENCE FOR GROUND STABILIZATION TIMEFRAMES.

2-CONTRACTOR RESPONSIBLE FOR ESTABLISHING GROUND COVER PRIOR TO CLOSE OUT OF EROSION CONTROL PERMIT OR ACCEPTANCE BY OWNER. GROUND COVER WILL BE CONSIDERED ESTABLISHED WHEN ALL EXPOSED SOILS HAVE BEEN STABILIZED WITH A PERMANENT PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 80% WITH NO CONTIGUOUS BARE AREAS GREATER THAN ONE SQUARE YARD. VEGETATION DENSITY SHALL BE DETERMINED BY THE ENGINEER OR EROSION CONTROL INSPECTOR.

3-MULTIPLE SEEDING EFFORTS BY THE CONTRACTOR MAY BE REQUIRED FOR PORTIONS OF OR THE ENTIRE SITE TO ESTABLISH SUITABLE GROUND COVER.

SEEDING SPECIFICATIONS

1-15-23



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WNC Source

Etowah Henderson County North Carolina



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PROJECT NUMBER

Erosion Control Details

C-403

SCALE: AS-NOTED