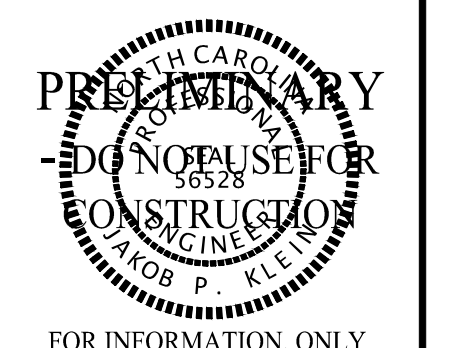


EROSION CONTROL LEGEND	
— SF —	SILT FENCE
—	SILT FENCE OUTLET
— TF —	TREE PROTECTION FENCE
●	SEDIMENT SACK INLET PROTECTION
◡	STANDARD PIPE INLET PROTECTION
◡	GRAVEL INLET PROTECTION
◡	RIPRAP DISSIPATOR
—	DRAINAGE PIPE
—	WATTLE
▨	STAGING AND LAYDOWN AREA

SITE LEGEND	
---	100 YR FLOODLINE
---	PROPERTY BOUNDARY/PHASE LINE
---	2' BUILDING RESTRICTION LINE
---	50' NEUSE RIVER BUFFER
---	PROPOSED SURFACE WATER LEVEL
---	RIGHT-OF-WAY
---	LIMITS OF DISTURBANCE
+	WETLANDS

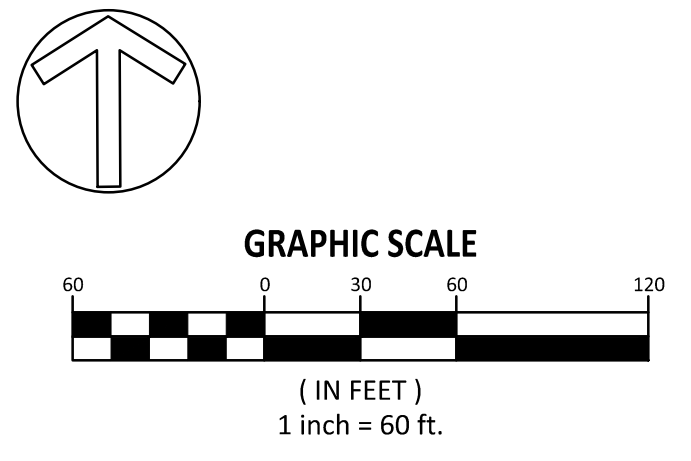


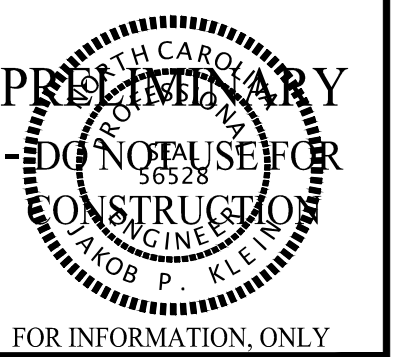
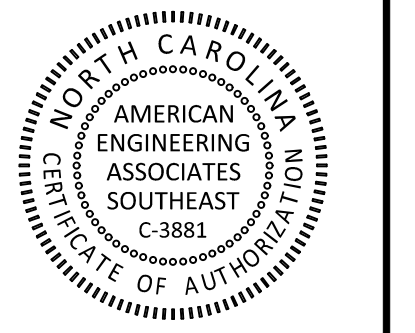
NO.	DATE	REVISION

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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS
 TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115
 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024
 SHEET TITLE: **ESC PHASE 2 OVERALL**
 SHEET NO.: **CE110**

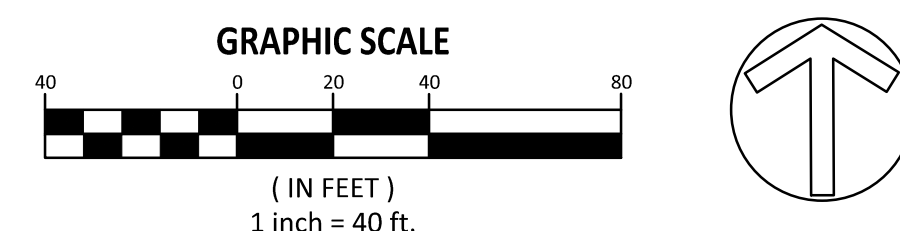
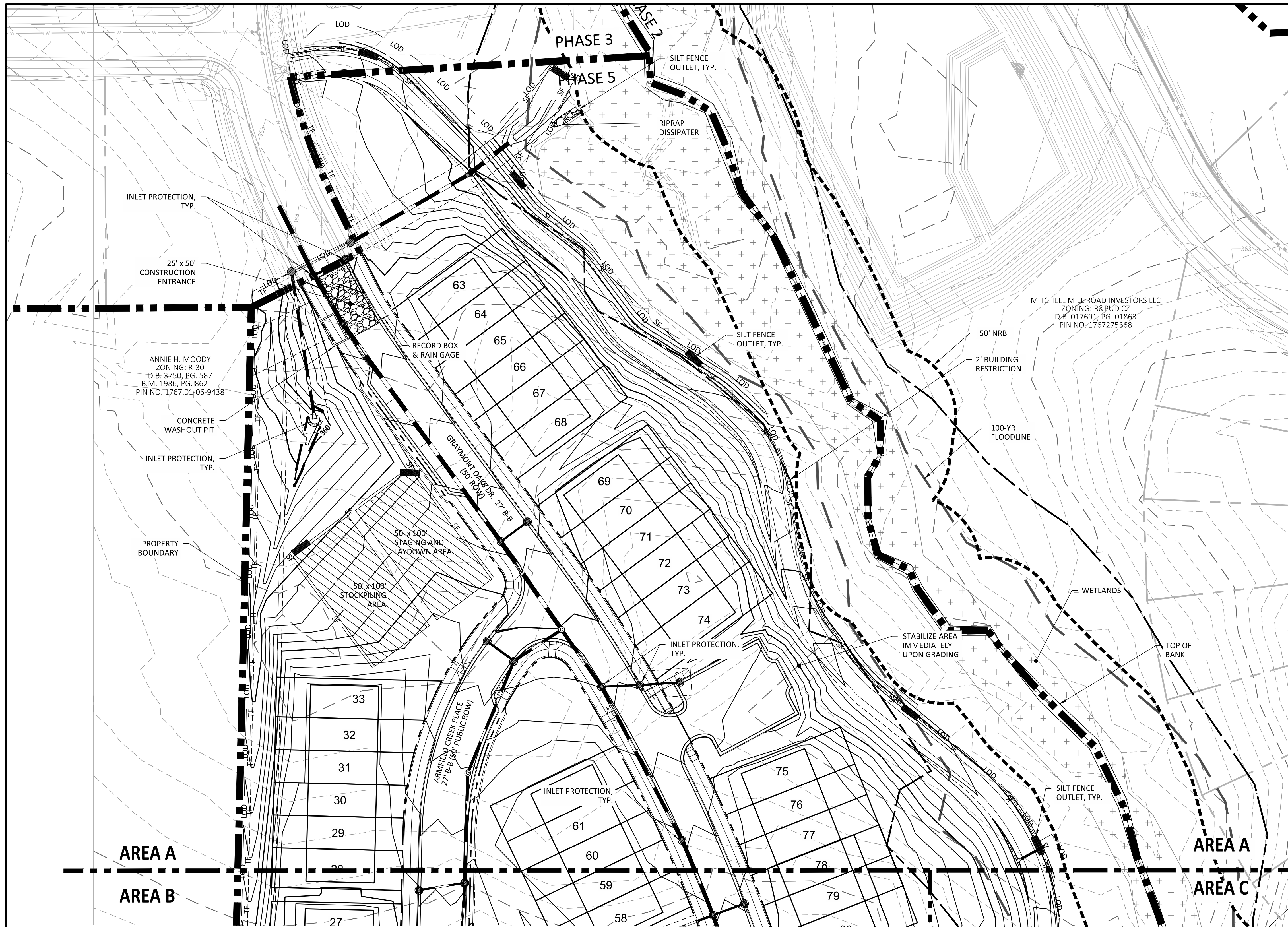




FOR INFORMATION, ONLY

EROSION CONTROL LEGEND	
— SF —	SILT FENCE
---	LIMITS OF DISTURBANCE
— TF —	TREE PROTECTION FENCE
—	SILT FENCE OUTLET
●	SEDIMENT SACK INLET PROTECTION
⌒	STANDARD PIPE INLET PROTECTION
□	GRAVEL INLET PROTECTION
▭	RIPRAP DISSIPATOR
—	DRAINAGE PIPE
—	WATTLE
▨	STAGING AND LAYDOWN AREA

SITE LEGEND	
---	100 YR FLOODLINE
---	PROPERTY BOUNDARY/PHASE LINE
---	2' BUILDING RESTRICTION LINE
---	50' NEUSE RIVER BUFFER
---	PROPOSED SURFACE WATER LEVEL
---	RIGHT-OF-WAY
---	LIMITS OF DISTURBANCE
+	WETLANDS



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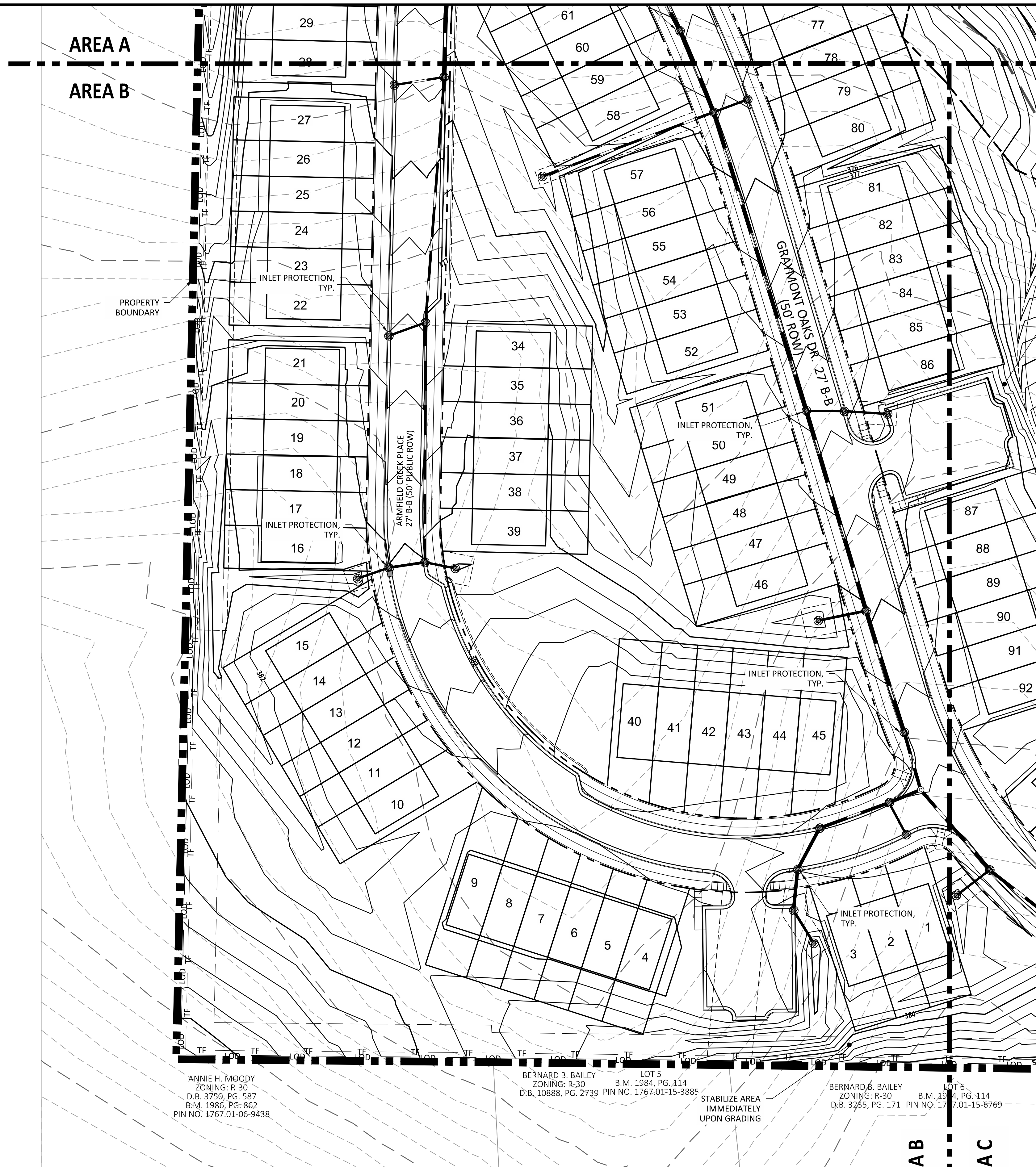
**KALAS FALLS
PHASE 5
CONSTRUCTION DOCUMENTS**
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 12-23-2024

SHEET TITLE:
**ESC PHASE 2
AREA A**

SHEET NO.:
CE410





EROSION CONTROL LEGEND	
— SF —	SILT FENCE
---	LIMITS OF DISTURBANCE
— TF —	TREE PROTECTION FENCE
—	SILT FENCE OUTLET
○	SEDIMENT SACK INLET PROTECTION
—	STANDARD PIPE INLET PROTECTION
□	GRAVEL INLET PROTECTION
▭	RIPRAP DISSIPATOR
—	DRAINAGE PIPE
—	WATTLE
▨	STAGING AND LAYDOWN AREA

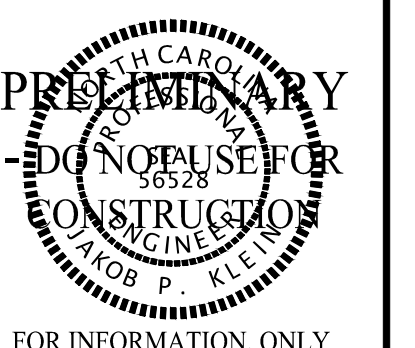
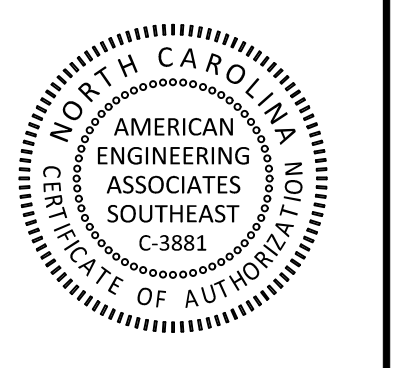
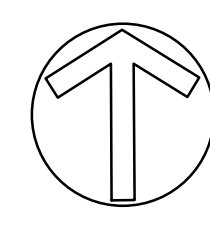
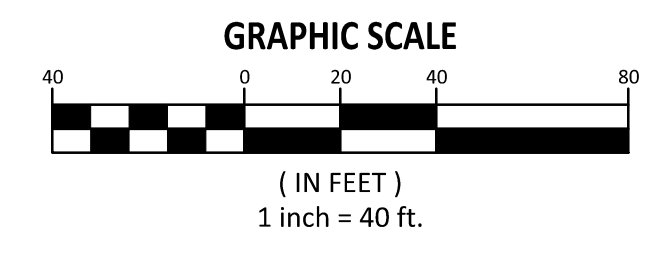
SITE LEGEND	
---	100 YR FLOODLINE
---	PROPERTY BOUNDARY/PHASE LINE
---	2' BUILDING RESTRICTION LINE
---	50' NEUSE RIVER BUFFER
---	PROPOSED SURFACE WATER LEVEL
---	RIGHT-OF-WAY
---	LIMITS OF DISTURBANCE
+	WETLANDS

ANNIE H. MOODY
ZONING: R-30
D.B. 3750, PG. 587
B.M. 1986, PG. 862
PIN NO. 1767-01-06-9438

BERNARD B. BAILEY LOT 5
ZONING: R-30 B.M. 1984, PG. 114
D.B. 10888, PG. 2739 PIN NO. 1767-01-15-3885

BERNARD B. BAILEY LOT 6
ZONING: R-30 B.M. 1984, PG. 114
D.B. 3285, PG. 171 PIN NO. 1767-01-15-6769

STABILIZE AREA
IMMEDIATELY
UPON GRADING



FOR INFORMATION ONLY

NO.	DATE	REVISION

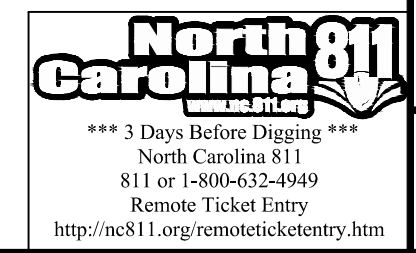
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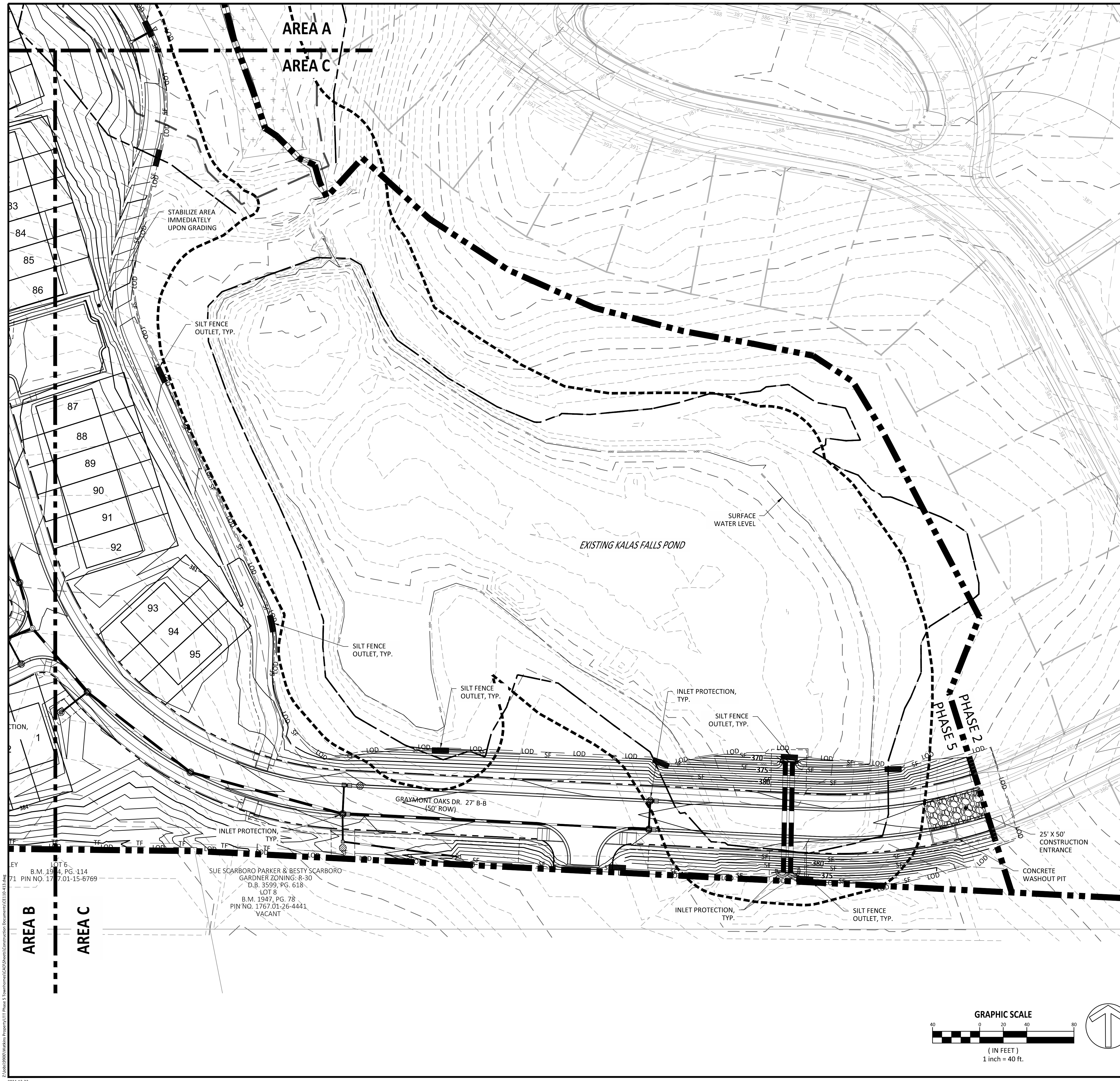
KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS
TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 12-23-2024

ESC PHASE 2 AREA B

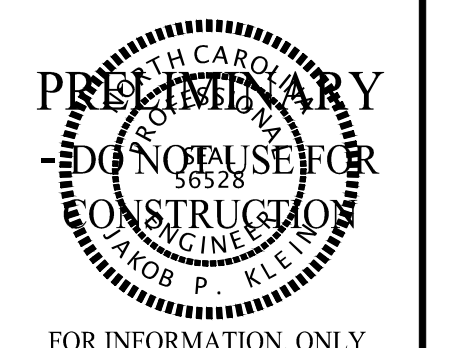
SHEET NO.: **CE411**





EROSION CONTROL LEGEND	
	SILT FENCE
	LIMITS OF DISTURBANCE
	TREE PROTECTION FENCE
	SILT FENCE OUTLET
	SEDIMENT SACK INLET PROTECTION
	STANDARD PIPE INLET PROTECTION
	GRAVEL INLET PROTECTION
	RIPRAP DISSIPATOR
	DRAINAGE PIPE
	WATTLE
	STAGING AND LAYDOWN AREA

SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	WETLANDS



FOR INFORMATION, ONLY

NO.	DATE	REVISION

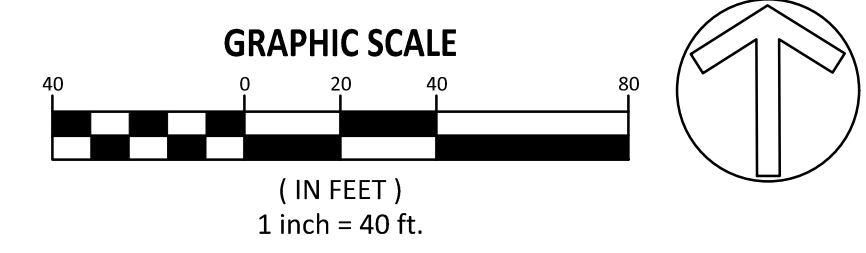
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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS
 TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115
 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024

ESC PHASE 2 AREA C

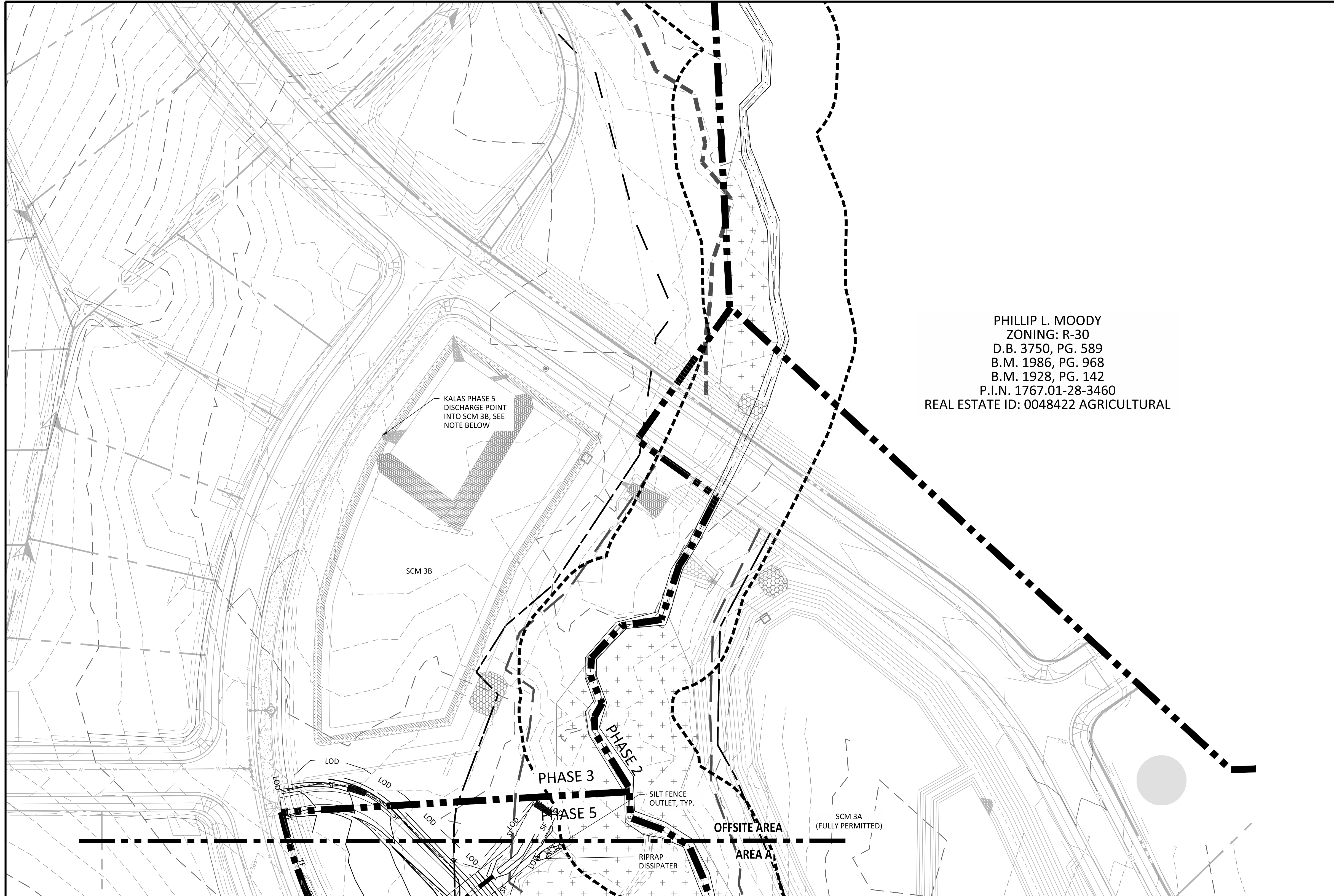
SHEET NO.: **CE412**



LOT 6
 B.M. 1944, PG. 114
 PIN NO. 177.01-15-6769

SUE SCARBORO PARKER & BESTY SCARBORO
 GARDNER ZONING: R-30
 D.B. 3559, PG. 618
 LOT 5
 B.M. 1947, PG. 78
 PIN NO. 1767.01-26-4441
 VACANT

AREA B
AREA C



PHILLIP L. MOODY
ZONING: R-30
D.B. 3750, PG. 589
B.M. 1986, PG. 968
B.M. 1928, PG. 142
P.I.N. 1767.01-28-3460
REAL ESTATE ID: 0048422 AGRICULTURAL

EROSION CONTROL LEGEND	
— SF —	SILT FENCE
---	LIMITS OF DISTURBANCE
— TF —	TREE PROTECTION FENCE
—	SILT FENCE OUTLET
•	SEDIMENT SACK INLET PROTECTION
—	STANDARD PIPE INLET PROTECTION
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**KALAS FALLS
PHASE 5
CONSTRUCTION DOCUMENTS**

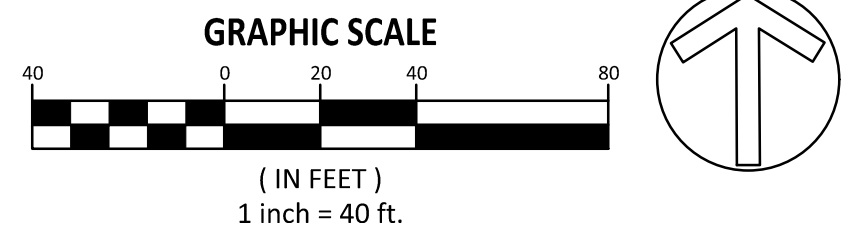
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

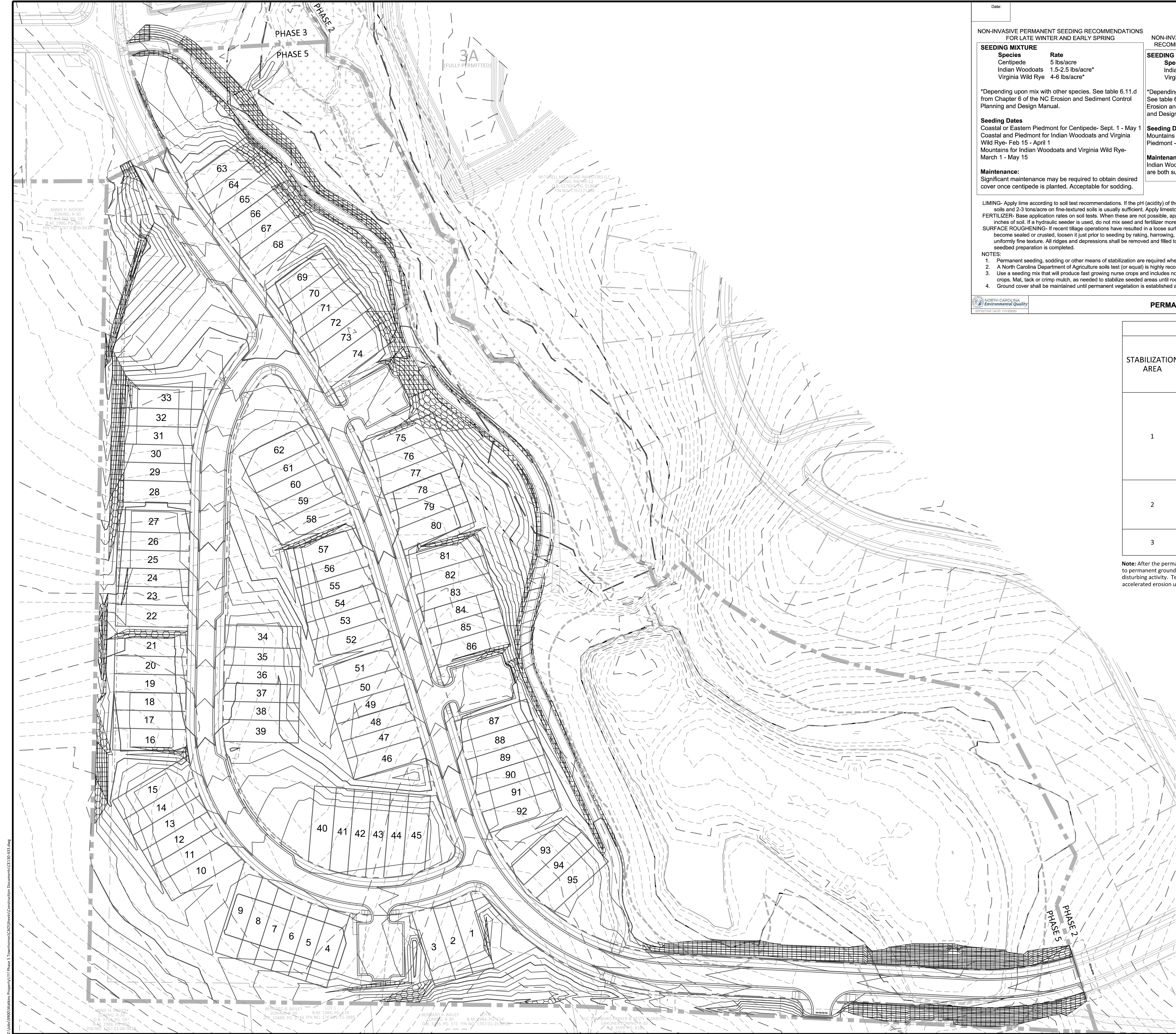
JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 12-23-2024

SHEET TITLE:
**ESC PHASE 2
OFFSITE AREA**

SHEET NO.:
CE413

NOTE: KALAS PHASE 3 CURRENTLY UNDER REVIEW WITH THE TOWN OF ROLESVILLE WHICH CONTAINS SCM 3B, SIZED FOR KALAS PHASE 5 STORM DRAINAGE DISCHARGE (TREATMENT AND ATTENUATION). FOLLOWING KALAS PHASE 5 DRAINAGE INFRASTRUCTURE INSTALLATION, INITIAL ROAD CONSTRUCTION, AND OVERALL SITE STABILIZATION THEN AND ONLY THEN IS SCM 3B TO BE UTILIZED FOR KALAS PHASE 5, STAGE 2 EROSION AND SEDIMENT CONTROL.





Date: _____ Page: _____

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE

Species	Rate
Centipede	5 lbs/acre
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Coastal or Eastern Piedmont for Centipede- Sept. 1 - May 1
Coastal and Piedmont for Indian Woodoats and Virginia Wild Rye- Feb 15 - April 1
Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

Maintenance:
Significant maintenance may be required to obtain desired cover once centipede is planted. Acceptable for sodding.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE

Species	Rate
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Mountains - July 15- Aug 15
Piedmont - Aug 15 - Oct 15

Maintenance:
Indian Woodoats and Virginia Wild Rye are both sun and shade tolerant.

SEED BED PREPARATION:
LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.
FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 1000-1000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.
SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

NOTES:
1. Permanent seeding, sodding or other means of stabilization are required when all construction work is completed according to the NPDES timeframe's table.
2. A North Carolina Department of Agriculture soils test (or equal) is highly recommended to be obtained for all areas to be seeded, sprigged, sodded or planted.
3. Use a seeding mix that will produce fast growing nurse crops and includes non-invasive species that will eventually provide a permanent groundcover. Soil blankets may be used in lieu of nurse crops. Mat, tack or crimp mulch, as needed to stabilize seeded areas until root establishment. Mulch must be applied uniformly over the soil with a cover density of at least 80%.
4. Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.



PERMANENT SEEDING RECOMMENDATIONS

REQUIRED GROUND STABILIZATION TIMEFRAMES

STABILIZATION AREA	SITE AREA DESCRIPTION	STABILIZE WITHIN THIS MANY CALENDAR DAYS AFTER CEASING LAND DISTURBANCE	TIMEFRAME VARIATIONS
1	(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
2	(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
	(e) Areas with slopes flatter than 4:1	14	- 7 days for perimeter dikes, swales, ditches, perimeter slopes with HQW Zones

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.

NPDES STABILIZATION LEGEND

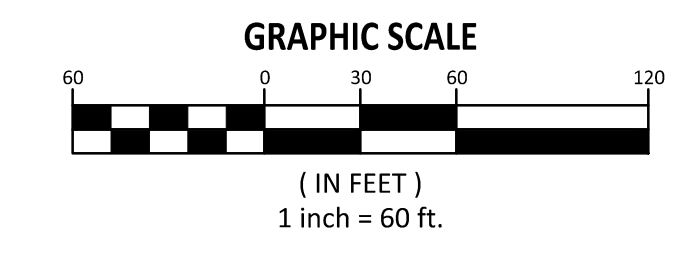
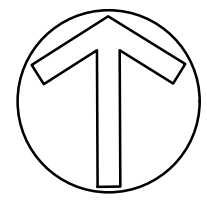
	NPDES STABILIZATION AREA 1
	NPDES STABILIZATION AREA 2
	NPDES STABILIZATION AREA 3

- NPDES DOCUMENTATION NOTES**
- THIS PAGE IS SUBMITTED TO COMPLY WITH THE NPDES GENERAL STORMWATER PERMIT XXXXX.
 - THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL STORMWATER PERMIT XXXXX ONLY.
 - THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT XXXXX.
 - THE CITY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT A PART OF THE APPROVED PLANS FOR PURPOSES OF ENFORCEMENT ACTION UNDER THE CITY CODE.

- SEEDING NOTES**
- REFERENCE PERMANENT SEEDING RECOMMENDATIONS FOR SEEDBED PREPARATION.
 - ROLESVILLE IS LOCATED IN PIEDMONT REGION OF NORTH CAROLINA.

TEMPORARY SEEDING SCHEDULE

DATE	TYPE	RATE (lb/acre)



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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS

TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115
 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024
 SHEET TITLE:
NPDES PLAN
 SHEET NO.: **CE130**

MAINTENANCE OF EROSION CONTROL MEASURES:

SILT FENCE 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.

SILT FENCE OUTLETS - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF DAMAGED, THEY SHALL HAVE FABRIC, POSTS OR WIRE BACKING REPLACED TO RESTORE TO ORIGINAL CONDITION.

TREE PROTECTION FENCE MAINTENANCE:

CONTINUE TO CARE FOR THE SITE UNTIL THE NEW OWNER TAKES POSSESSION. TAKE THESE STEPS AFTER ALL MATERIALS AND EQUIPMENT HAVE BEEN REMOVED FROM THE SITE:

REMOVE TREE PROTECTION ZONE FENCES.

PRUNE ANY DAMAGED TREES. IN SPITE OF PRECAUTIONS, SOME DAMAGE TO PROTECTED TREES MAY OCCUR. IN SUCH CASES, REPAIR ANY DAMAGE TO THE CROWN, TRUNK, OR ROOT SYSTEM IMMEDIATELY.

REPAIR ROOTS BY CUTTING OFF THE DAMAGED AREAS AND PAINTING THEM WITH TREE PAINT. SPREAD PEAT MOSS OR MOIST TOPSOIL OVER EXPOSED ROOTS.

REPAIR DAMAGE TO BARK BY TRIMMING AROUND THE DAMAGED AREA AS SHOWN IN FIGURE 6.05D, TAPER THE CUT TO PROVIDE DRAINAGE, AND PAINT WITH TREE PAINT.

CUT OFF ALL DAMAGED TREE LIMBS ABOVE THE TREE COLLAR AT THE TRUNK OR MAIN BRANCH. USE THREE SEPARATE CUTS AS SHOWN IN FIGURE 6.05D TO AVOID PEELING BARK FROM HEALTHY AREAS OF THE TREE.

CONTINUE MAINTENANCE CARE. PAY SPECIAL ATTENTION TO ANY STRESSED, DISEASED, OR INSECT-INFESTED TREES. REDUCE TREE STRESS CAUSED BY UNINTENDED CONSTRUCTION DAMAGE BY OPTIMIZING PLANT CARE WITH WATER, MULCH, AND FERTILIZER WHERE APPROPRIATE. CONSULT YOUR TREE EXPERT IF NEEDED.

INFORM THE PROPERTY OWNER ABOUT THE MEASURES EMPLOYED DURING CONSTRUCTION, WHY THOSE MEASURES WERE TAKEN, AND HOW THE EFFORT CAN BE CONTINUED.

CONSTRUCTION ENTRANCE - MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING 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.

SOIL STOCKPILE AREAS/OTHER GRASSED AREAS MAINTENANCE - GRASS AREAS SHALL BE RESEDED AS NECESSARY. SOIL STOCKPILE AREAS SHALL BE SEEDED WHEN THEIR USE IS COMPLETE.

TEMPORARY SEDIMENT TRAP - INSPECT TEMPORARY SEDIMENT TRAPS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT, AND RESTORE THE TRAP 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 PART OF THE GRAVEL FACING THAT IS IMPAIRED BY SEDIMENT.

CHECK THE STRUCTURE FOR DAMAGE FROM EROSION OR PIPING. PERIODICALLY CHECK THE DEPTH OF THE SPILLWAY TO ENSURE IT IS A MINIMUM OF 1.5 FEET BELOW THE LOW POINT OF THE EMBANKMENT. IMMEDIATELY FILL ANY SETTLEMENT OF THE EMBANKMENT TO SLIGHTLY ABOVE DESIGN GRADE. ANY RIPRAP DISPLACED FROM THE SPILLWAY MUST BE REPLACED IMMEDIATELY.

AFTER ALL SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND STABILIZE PROPERLY (REFERENCES: SURFACE STABILIZATION).

SEDIMENT BASINS - INSPECT TEMPORARY SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACE REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS.

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 RISER AND POOL AREA.

CONCRETE WASHOUT - IT SHALL BE CLEANED PERIODICALLY AS NEEDED. IF THE PLASTIC LINER IS DAMAGED, IT SHALL BE REPLACED.

BAFFLES - INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL, TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEANOUT AND REPLACE IF DAMAGED DURING CLEANOUT OPERATIONS. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGN STORAGE DEPTH.

AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE, AND STABILIZE IT.

ROLLED EROSION CONTROL PRODUCTS:

- INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAIN FALL EVENT REPAIR IMMEDIATELY.
- GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP.
- ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
- IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
- MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

SKIMMERS - 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 AN11 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.

GRASSED LINED CHANNEL - DURING THE ESTABLISHMENT PERIOD, CHECK GRASS-LINED CHANNELS AFTER EVERY RAINFALL. AFTER GRASS IS ESTABLISHED, PERIODICALLY CHECK THE CHANNEL; CHECK IT AFTER EVERY HEAVY RAINFALL EVENT. IMMEDIATELY MAKE REPAIRS. IT IS PARTICULARLY IMPORTANT TO CHECK THE CHANNEL OUTLET AND ALL ROAD CROSSINGS FOR BANK STABILITY AND EVIDENCE OF PIPING OR SCOUR HOLES. REMOVE ALL SIGNIFICANT SEDIMENT ACCUMULATIONS TO MAINTAIN THE DESIGNED CARRYING CAPACITY. KEEP THE GRASS IN A HEALTHY, VIGOROUS CONDITION AT ALL TIMES, SINCE IT IS THE PRIMARY EROSION PROTECTION FOR THE CHANNEL (PRACTICE 6.11, PERMANENT SEEDING).

RIP-RAP CHANNEL - INSPECT CHANNELS AT REGULAR INTERVALS AS WELL AS AFTER MAJOR RAINS, AND MAKE REPAIRS PROMPTLY. GIVE SPECIAL ATTENTION TO THE OUTLET AND INLET SECTIONS AND OTHER POINTS WHERE CONCENTRATED FLOW ENTERS. CAREFULLY CHECK STABILITY AT ROAD CROSSINGS, AND LOOK FOR INDICATIONS OF PIPING, SCOUR HOLES, OR BANK FAILURE. MAKE REPAIRS IMMEDIATELY. MAINTAIN ALL VEGETATION ADJACENT TO THE CHANNEL IN A HEALTHY, VIGOROUS CONDITION TO PROTECT THE AREA FROM EROSION AND SCOUR DURING OUT-OF-BANK FLOW.

OUTLET STABILIZATION STRUCTURE - INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE

TEMPORARY SILT DITCH - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF SIGNIFICANT EROSION OF THE DITCH IS HAPPENING IT SHALL BE REGRADED. ANY BREACH OF THE DOWNHILL SIDE BERM SHALL BE FIXED IMMEDIATELY.

WATTLES/COMPOST SOCK - INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN. IF PONDING BECOMES EXCESSIVE, THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED

ROCK PIPE INLET PROTECTION - INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. 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 OF THE GRAVEL FACING.

CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY.

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).

STOCKPILE DESIGN CRITERIA

- A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
- STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
- A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
- STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- APPROVED BMPs SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
- STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
- ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
- OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL, PRIOR TO DISPOSAL. FILL QTY FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

MAINTENANCE REQUIREMENTS TO BE NOTED ON THE PLAN

- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEVED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
- ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

STAGE 1 E&SC CONSTRUCTION SEQUENCE:

- THE OWNER SHALL OBTAIN NCG01 PERMIT AND PAY ANY FEE THAT MAYBE ASSOCIATED WITH THIS PERMIT.
- SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WAKE COUNTY WATERSHED MANAGER.
- ENSURE THAT ALL LIMITS OF DISTURBANCE, SURFACE WATERS, AND RIPARIAN BUFFERS ARE FLAGGED PRIOR TO INSTALLATION OF EROSION CONTROL MEASURES.
- TREE PROTECTION FENCES, SILT FENCES, AND CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS SHOWN ON THE APPROVED EROSION CONTROL PLANS.
- CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES INCLUDING STOCKPILE LOCATIONS. STOCKPILE LOCATIONS SHOULD BE ENCLOSED BY SILT FENCE AS SHOWN ON THE PLANS. SEED TEMPORARY DIVERSIONS, BERMS, AND SEDIMENT BASINS IMMEDIATELY AFTER CONSTRUCTION.
- THE SEDIMENT TEMPORARY SEDIMENT BASINS ARE TO BE FULLY CONSTRUCTED PRIOR TO THE INSTALLATION OF ANY TEMPORARY DIVERSION DITCHES. CONSTRUCT TSBS #1-#2 AS TEMPORARY SEDIMENT BASINS. NOTE THAT IN CONSTRUCTION DRAWINGS, THE MAJORITY OF STORMWATER PIPES AND STRUCTURES INSTALLED WITHIN STAGE 1 OF EROSION CONTROL ARE TO BE UTILIZED AND MAINTAINED THROUGH FINAL BUILD OUT OF THIS PROJECT. THESE PERMANENT PIPES AND STRUCTURES WILL SERVE THE TEMPORARY SEDIMENT BASINS AND ACT AS INLETS FOR THE TEMPORARY DIVERSION DITCHES UNTIL THEY ARE EVENTUALLY MODIFIED TO FINAL SITE DESIGN IN STAGE 2 (FOLLOWING FINAL SITE STABILIZATION). SEE EROSION AND SEDIMENT CONTROL PLANS FOR MORE DETAIL.
- CALL FOR AN ONSITE INSPECTION BY THE WAKE COUNTY WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE. ADDITIONAL MEASURES OR DITCH EXTENSIONS MAY BE REQUIRED BY THE NCDEQ/TOWN OF ROLESVILLE EROSION CONTROL FIELD INSPECTOR TO ROUTE RUNOFF TO SEDIMENT BASINS BASED ON FIELD CONDITIONS AND THESE MEASURES SHALL BE INSTALLED UPON THE INSPECTOR'S DETERMINATION.
- ANY STORMWATER INFRASTRUCTURE INSTALLED SHOULD HAVE INLETS PROTECTED WITH BLOCK AND GRAVEL INLET CONTROL, SEDIMENT TRAPS, OR OTHER APPROVED MEASURES AS SHOWN IN THE PLANS.
- STABILIZE SITE AREAS AS THAT ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH-LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- CALL FOR INSPECTION BY WAKE COUNTY WATERSHED MANAGER FOR APPROVAL BEFORE PROCEEDING TO STAGE 2 CONSTRUCTION.

STAGE 2 E&SC CONSTRUCTION SEQUENCE:

- GENERAL SITE GRADING MAY BEGIN.
- INSTALL STORM DRAINAGE PIPE SYSTEMS AS SEEN IN THE APPROVED CONSTRUCTION DRAWINGS. MODIFICATIONS TO STORM DRAINAGE INFRASTRUCTURE INSTALLED IN STAGE 1 WILL BE REQUIRED AS THE FINISH GRADE IS ESTABLISHED ON SITE.
- FOLLOWING CONNECTION TO KALAS FALLS PHASE 3 STORM DRAINAGE INFRASTRUCTURE, A PLUG SHALL BE INSTALLED WITHIN THE STRUCTURE LOCATED AT THE KALAS PHASE 3 AND PHASE 5 PROPERTY LINE. THIS IS TO ENSURE NO SEDIMENT IS CONVEYED TO SCM 3B (REGIONAL SCM) LOCATED ON KALAS PHASE 3. THIS PLUG SHALL REMAIN IN PLACE UNTIL FINAL SITE STABILIZATION HAS BEEN ACHIEVED AND THE CONTRACTOR HAS APPROVAL TO CONVEY STORMWATER RUNOFF ON SITE TO SCM 3B BY THE WAKE COUNTY INSPECTOR (SEE STAGE 2: STEP 10).
- AS EACH CATCH BASIN OR YARD INLET IS INSTALLED, IT SHALL HAVE INLET PROTECTION INSTALLED. THIS IS TO REMAIN IN PLACE UNTIL THE DRAINAGE AREA(S) HAVE BEEN STABILIZED OR PAVED.
- CLEAR SEDIMENT BASINS WHEN ONE-HALF FULL.
- SEED AND MULCH DENUDED AREA INCLUDING ANY CUT/FILL SLOPES WITHIN FOURTEEN (14) DAYS AFTER FINISHED GRADES ARE ESTABLISHED.
- MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND IS ESTABLISHED.
- UTILITIES (WATER, ELECTRIC, GAS, CABLE TV, TELEPHONE, ETC.) WILL BE INSTALLED DURING THIS PHASE.
- REQUEST INSPECTION BY WAKE COUNTY WATERSHED MANAGER AFTER VEGETATION IS ESTABLISHED TO REMOVE REMAINING EROSION CONTROL MEASURES.
- REMOVE REMAINING SOIL EROSION CONTROL MEASURES AND STABILIZE THE RESULTING BARE AREAS. CONTACT WAKE COUNTY WATERSHED MANAGER TO REQUEST A FINAL INSPECTION FOR APPROVAL TO CLOSE THE LAND DISTURBANCE PERMIT.
- THE OWNER IS TO FINALIZE THE NCG01 PERMIT.

SCM CONVERSION SEQUENCE:

- WHEN ALL CONTRIBUTORY AREAS TO THE STORMWATER CONTROL MEASURE (SCM) HAVE BEEN STABILIZED CONTACT THE EROSION CONTROL OFFICER FOR PERMISSION TO CONVERT THE SEDIMENT BASIN (SB) TO A SCM.
- REMOVE ALL SEDIMENT FROM THE BASIN AND RESTORE GRADES TO DESIGNED CONFIGURATION, IF NEEDED.
- CONSTRUCT FOREBAY DIVIDERS AS SHOWN ON THE PLANS.
- REMOVE TEMPORARY BAFFLES FROM THE BASIN.
- MAKE ANY REPAIRS NECESSARY TO THE OUTLET STRUCTURE, OUTLET PIPE, EMERGENCY OVERFLOW, ETC. EXAMINE RIP-RAP TO SEE IF REFRESHING OR CLEANING OF ROCK IS NECESSARY.
- INSTALL SHELF PLANTINGS AS SHOWN ON THE PLANS. CHECK THAT ALL SLOPES ARE PROPERLY STABILIZED.
- BE SURE THAT THE TRASH RACKS ARE IN PLACE AND PROPERLY FUNCTIONING. REMOVE SKIMMER AND CLOSE OUTLET VALVE.
- CONTACT EROSION CONTROL OFFICER FOR APPROVAL.
- CONTACT A LICENSED SURVEYOR FOR SURVEY OF AS-BUILT CONDITIONS. NOTIFY ENGINEER-OF-RECORD FOR PREPARATION OF AS-BUILT DRAWINGS.

REQUIRED WAKE COUNTY CONSTRUCTION SEQUENCE*

- SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANGER. OBTAIN A LAND-DISTURBING PERMIT.
- INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CALL FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
- INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL FOR AN INSPECTION BY THE WATERSHED MANAGER.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC. AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE WATERSHED MANAGER. OBTAIN A CERTIFICATE OF COMPLETION.

NOTES FOR CONSTRUCTION:

- PLANS FOR INFRASTRUCTURE ONLY.
- ALL CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH CURRENT TOWN OF ROLESVILLE, WAKE COUNTY, AND CITY OF RALEIGH STANDARD SPECS AND DETAILS, AND SPECIFICATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING CONDITIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCIES BETWEEN FIELD CONDITIONS AND THESE DRAWINGS.
- CONTRACTOR WILL KEEP STREETS CLEAN AT ALL TIMES, OR A WASH STATION WILL BE REQUIRED.
- ALL CATCH BASINS SHALL HAVE INLET PROTECTION.
- ALL CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 7 DAYS AS SHOWN ON CHART TO THE LEFT AND ON THE EC SHEETS.
- TREE PROTECTION FENCING ON THIS PROJECT WILL BE INSTALLED AND INSPECTED BEFORE THE GRADING PERMIT IS ISSUED.
- PERMANENT GROUND COVER WILL BE ESTABLISHED IN 15 WORKING DAYS OR 90 CALENDAR DAYS WHICHEVER IS SHORTER.
- THE AREA DESIGNATED SHALL BE USED FOR TOPSOIL STOCKPILE.
- MINIMUM CORNER CLEARANCE FROM THE CURB LINE OF INTERSECTING STREETS SHALL BE AT LEAST 20 FEET FROM THE POINT OF TANGENCY.

10-YEAR EROSION & SEDIMENT CONTROL TEMPORARY DIVERSION DITCH CALCULATIONS (2:1 SIDE SLOPES)

TDD #	DRAINAGE AREA (AC)	AVERAGE SLOPE (%)	WIDTH (FT)	DEPTH (FT)	V ₁₀ (FT/S)	CALCULATED τ (LBS/FT ²)	RECOMMENDED LINER	LINER ALLOWABLE τ (LBS/FT ²)
1A	2.04	0.81	6	1.5	2.65	0.61	AM. EXCELSIOR CO.; CURLEX NET FREE	1.00
1B	1.29	2.28	4	1	3.71	1.29	AM. EXCELSIOR CO.; STRAW; 2 NETS	1.50
1C	1.13	3.46	4	1	4.09	1.70	AM. EXCELSIOR CO.; CURLEX II.73; 2 NETS	1.75
2A	10.43	1.05	8	2	4.19	1.28	AM. EXCELSIOR CO.; STRAW; 2 NETS	1.50
2B	2.59	2.99	6	1.5	4.66	2.00	AM. EXCELSIOR CO.; CURLEX ENFORCER; 2 NETS	2.30
BYPASS	7.74	3.01	6	1.5	5.14	2.29	AM. EXCELSIOR CO.; CURLEX HIGH VELOCITY; 2 NETS	3.00

NOTE: ALL TEMPORARY DIVERSION DITCHES (TDD) ARE TRIANGULAR. TRACTIVE FORCE, τ, IS CALCULATED USING: τ = (γ)(D_{CHANNEL})(S_{CHANNEL})

WHERE:

- γ IS THE UNIT WEIGHT OF WATER (ASSUMED TO BE 62.4 LB/FT³)
- D_{CHANNEL} IS THE DEPTH OF FLOW IN THE CHANNEL (FT/FT)
- S_{CHANNEL} IS THE SLOPE OF THE CHANNEL (FT/FT)

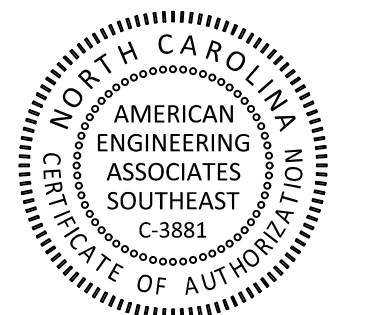
REQUIRED WAKE COUNTY BASIN REMOVAL SEQUENCE

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.

NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

PIPE SUMMARY (ESC)						
DOWNSTREAM STRUCTURE	UPSTREAM STRUCTURE	PIPE SIZE	LENGTH	SLOPE	DOWNSTREAM INVERT (FT)	UPSTREAM INVERT (FT)
31A		36"	38.07	0.50%	352.90	353.09
32A	EX. 32	24"	109.03	2.20%	355.35	357.75
377B	377	36"	78.36	1.57%	362.27	363.50
390	377B	24"	41.68	0.84%	364.00	364.35
EX. 31	31A	30"	98.97	0.50%	353.19	353.68
EX. 32	EX. 31	30"	48.27	0.50%	353.78	354.03

RIP RAP DISSIPATER CALCULATIONS 10-YEAR STORM									
OUTLET ID	PIPE DIAMETER (IN)	PIPE VELOCITY (FPS)	STONE CLASS	STONE DEPTH (IN)	STONE MATERIAL (TONS)	GEO-TEXTILE (SY)	START WIDTH (FT)	END WIDTH (FT)	LENGTH (FT)
FES 10 (TEMP)	12	0.25	B	12	1	4	2	6	4
FES 11 (TEMP)	12	0.17	B	12	1	4	2	6	4
FES 20 (TEMP)	36	3.71	B	12	7	22	6	18	12
FES 30B	36	4.17	B	12	7	22	6	18	12
FES 400B	18	3.25	B	12	2	7	3	9	4



FOR INFORMATION, ONLY

NO.	DATE	REVISION:

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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 12-23-2024
SHEET TITLE:

ESC DETAILS

SHEET NO.: CE500



*** 3 Days Before Digging ***
North Carolina 811
811 or 1-800-552-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm

Figure 1. Minimum Anchor Pattern

Maximum Design Conditions	Anchor Pattern		
Shear Stress	Velocity	Wave Height	Anchor Pattern
<= 6 lbs/ft ²	<= 14 ft/s	6 in.	F
> 6-8 lbs/ft ²	> 14-18 ft/s	12 in.	G
> 8 lbs/ft ²	> 18 ft/s	18 in.	H

Figure 2. Minimum Anchor Type

Soil Type	Anchor Type
Clay/Clay Loam	10 in Wire Staple
Silt Loam - Loam	10 in Wire Staple
Sandy Loam	12 in Wire Staple
Sand / Muck <= 6 in	12 in Rebar Staple
Sand / Muck 6-12 in	18 in Rebar Staple
Sand / Muck 12-18 in	24 in Earth Anchor = 12 in Rebar Staple
Sand / Muck > 18 in	36 in Earth Anchor = 18 in Rebar Staple

Figure 3. Anchor Patterns for use with Wire/Rebar Staples

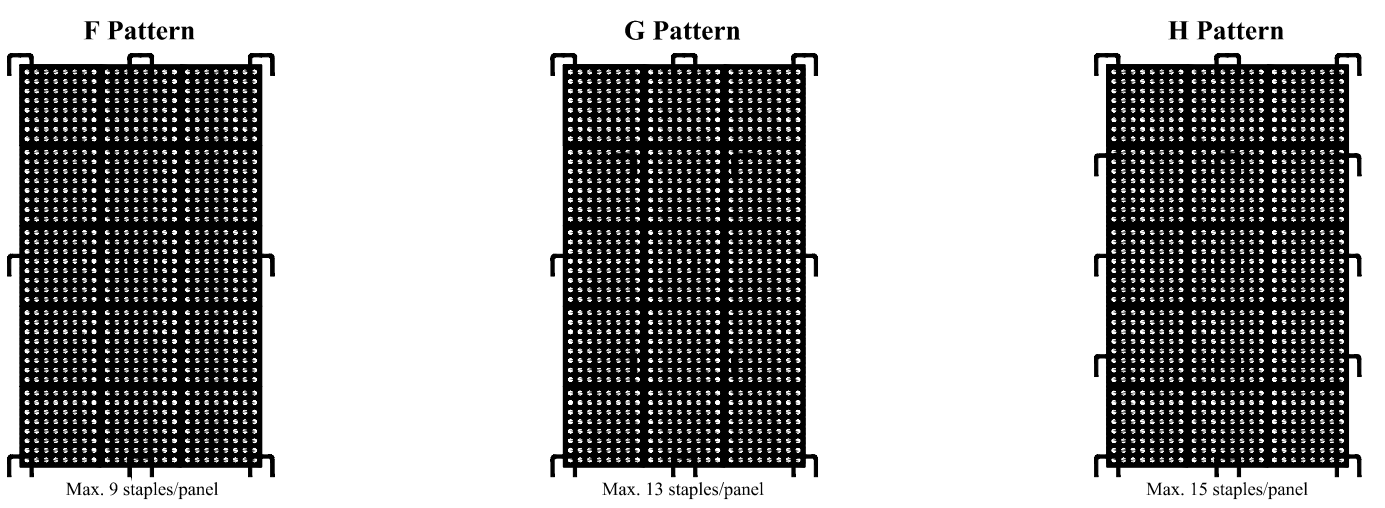
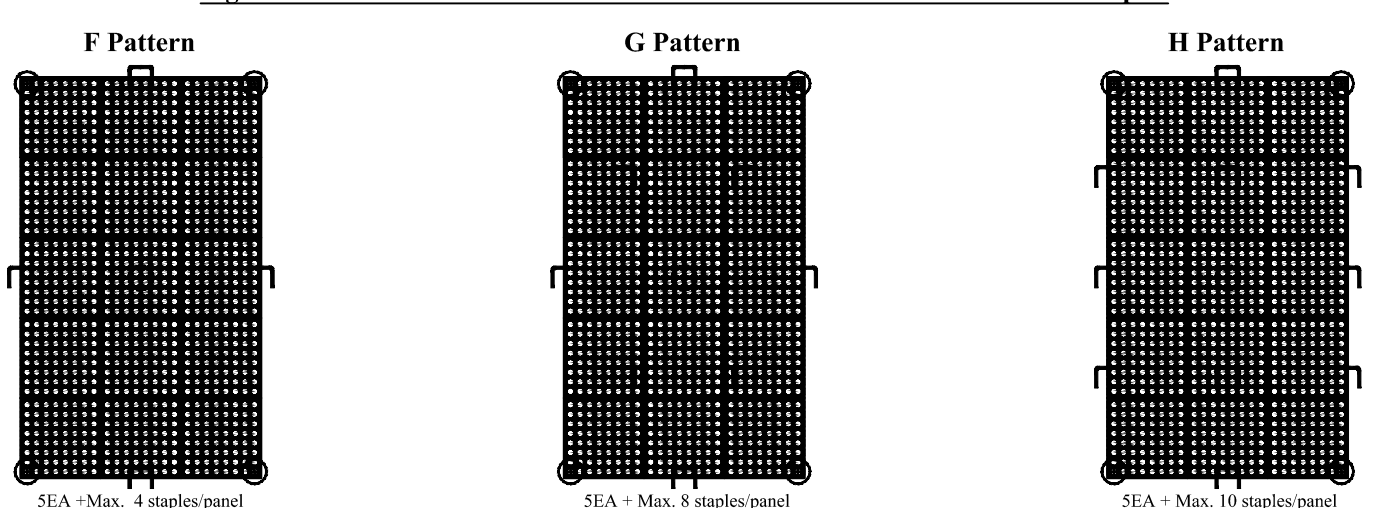


Figure 4. Anchor Patterns for use with Combination of Earth Anchors and Staples



ShoreMax
ANCHORING GUIDE

1. When installing ShoreMax mat, the anchor pattern (figure 3 or 4) should be selected based on the expected maximum design conditions (shear stress, velocity, or wave impact) (figure 1).

2. Anchor selection should be based on the soil type and pull-out strength required (figure 2). In soft, highly erodible soils percussion earth anchors may be necessary. Earth anchors can be installed in conjunction with rebar staples (figure 4).

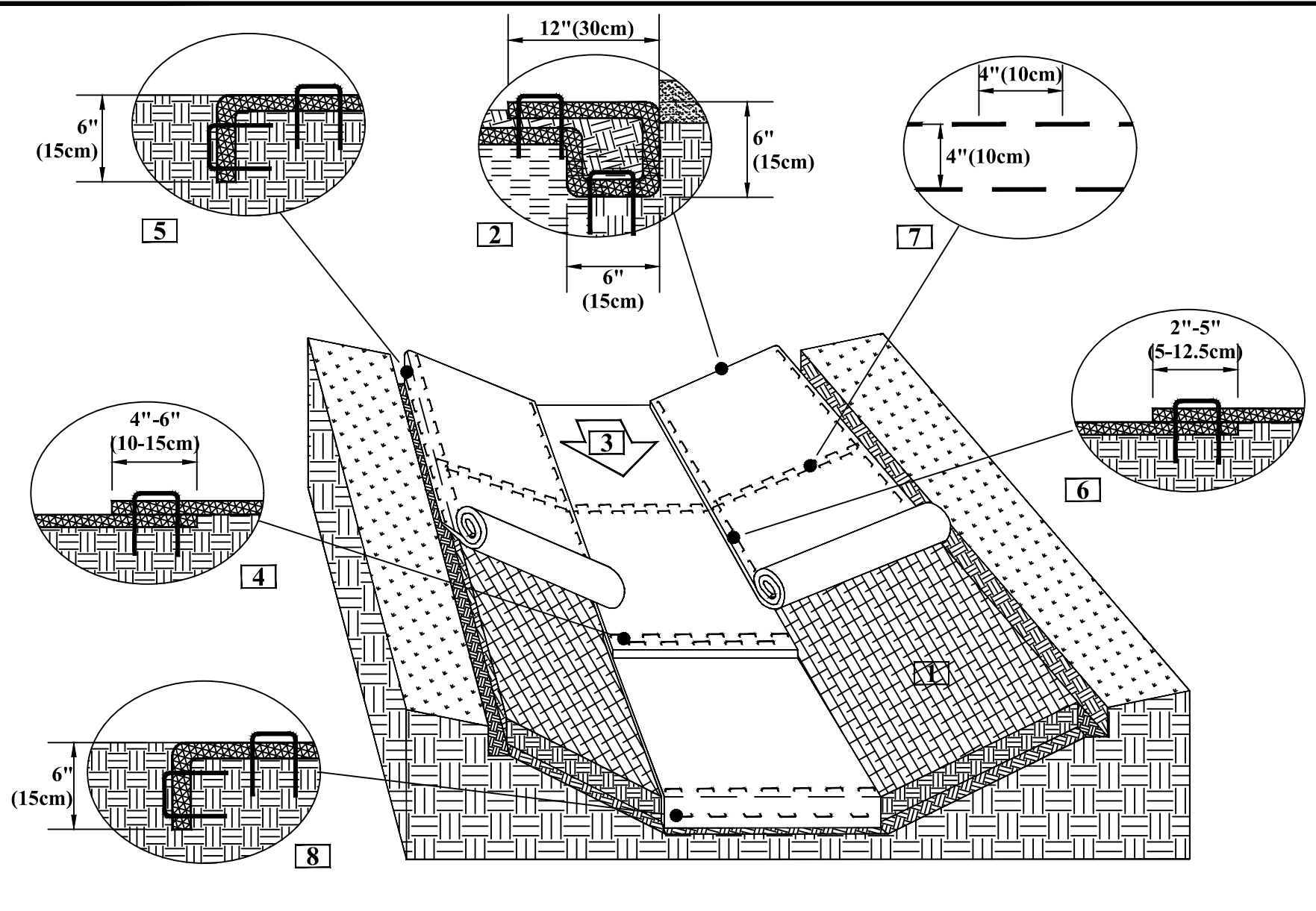
3. When using percussion earth anchors, position anchors in each corner and the center of the panel. Place staples in the appropriate pattern through remainder of mat. Staples can be shared between two adjacent panels.

Note:
Number of staples used per panel can be reduced by 30-40% when sharing staples between panels.

- - Wire/Rebar Staple
- ⊙ - Percussion Earth Anchor

Drawn on: 5-4-17
Drawing Not To Scale

CHANNEL INSTALLATION DETAIL



1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.

2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the RECPs.

3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.

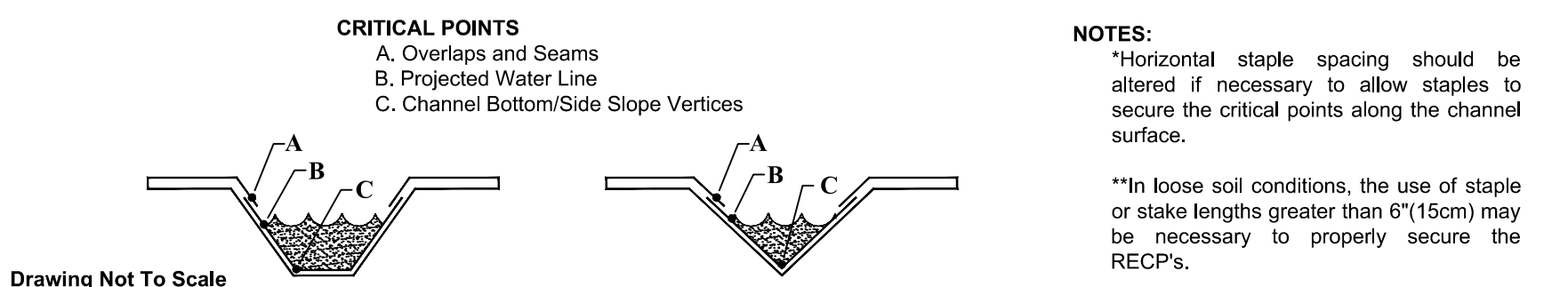
4. Place consecutive RECPs end-over-end (Shingle style) with a 4" (10cm) overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.

5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12"(30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.

6. Adjacent RECPs must be overlapped approximately 2"-5" (5-12.5cm) (Depending on RECPs type) and stapled.

7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9-12m) intervals. Use a double row of staples staggered 4"(10cm) apart and 4"(10cm) on center over entire width of the channel.

8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.



CRITICAL POINTS
A. Overlaps and Seams
B. Projected Water Line
C. Channel Bottom/Side Slope Vertices

NOTES:
*Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.
**In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECPs.

Drawn on: 5-4-17
Drawing Not To Scale

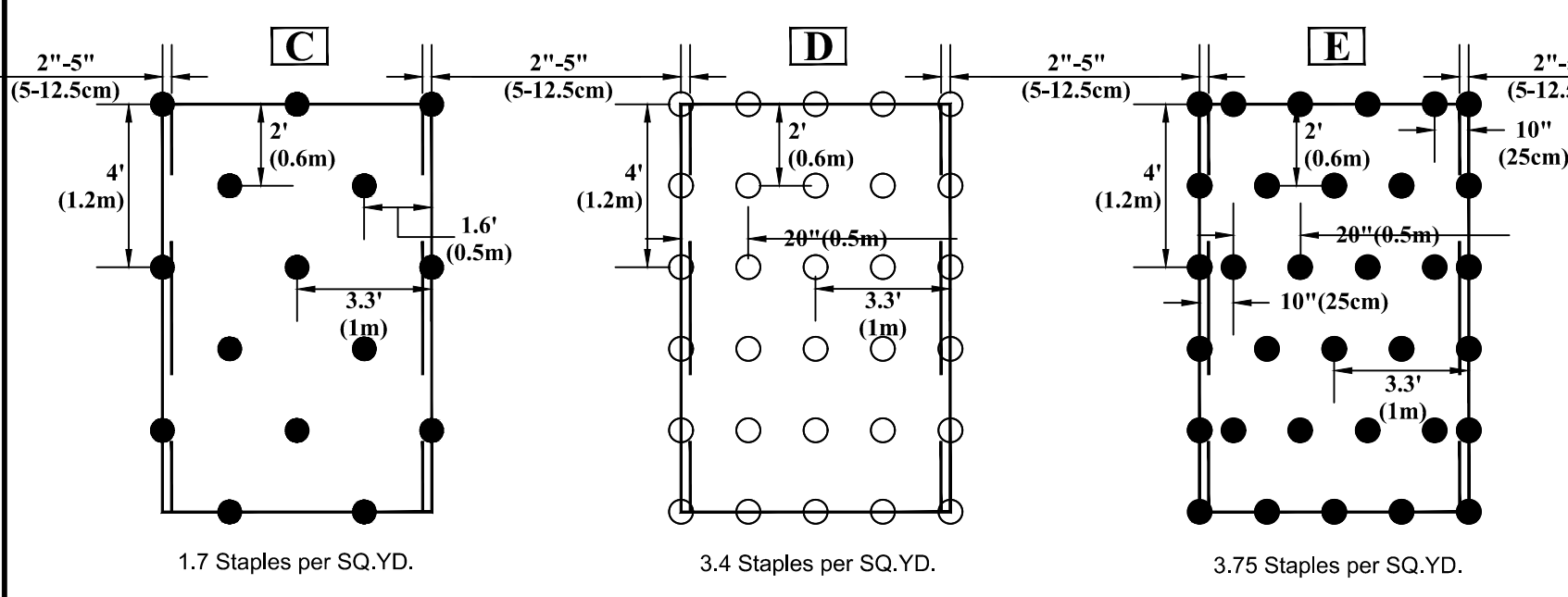
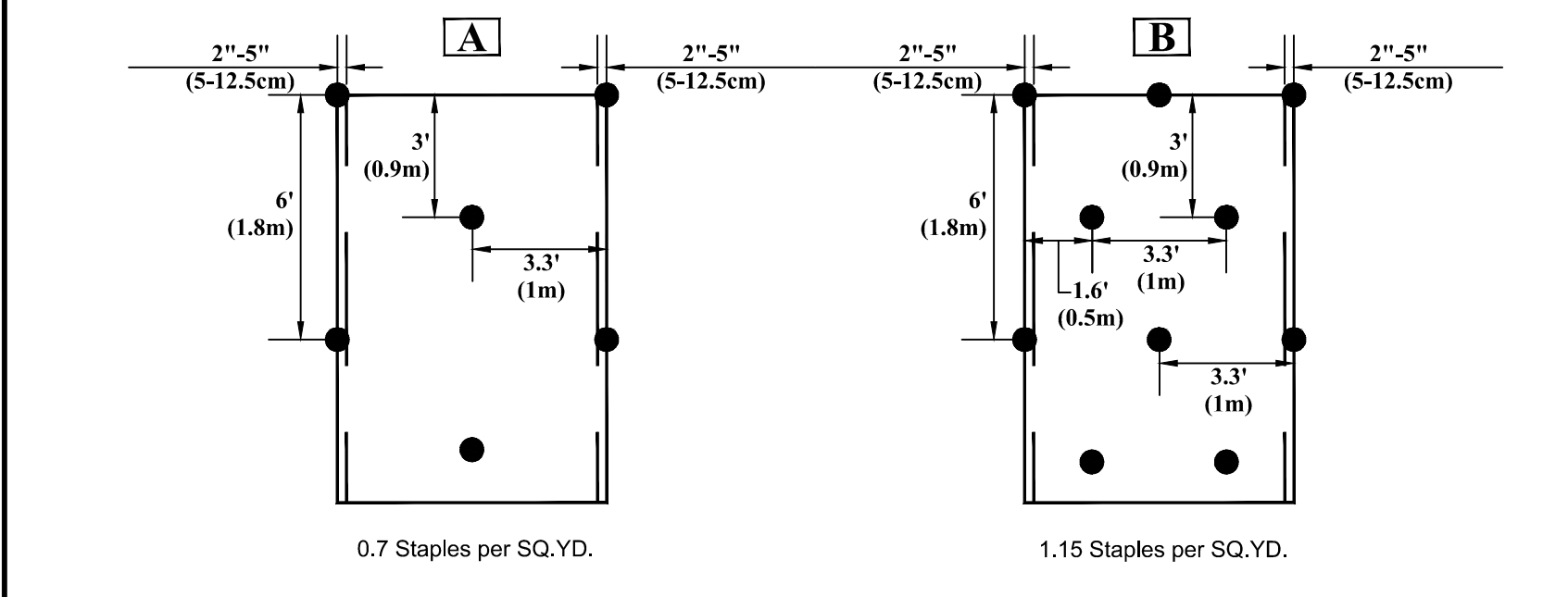
NORTH AMERICAN GREEN
5401 St. Wendel - Cynthiana Rd. POSEYVILLE, IN 47633
PH: 800-722-2040
www.nagreen.com

Disclaimer:
The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

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STAPLE PATTERN GUIDE



- 4:1 Slopes (A)
- 3:1 Slopes (B)
- 2:1 Slopes (C)
- 1:1 & Steeper Slopes (D)
- Medium/High Flow Channel (D)
- High Flow Channel And Shoreline (E)

NOTES:
* Use ECMDS® for more accurate staple pattern selection.

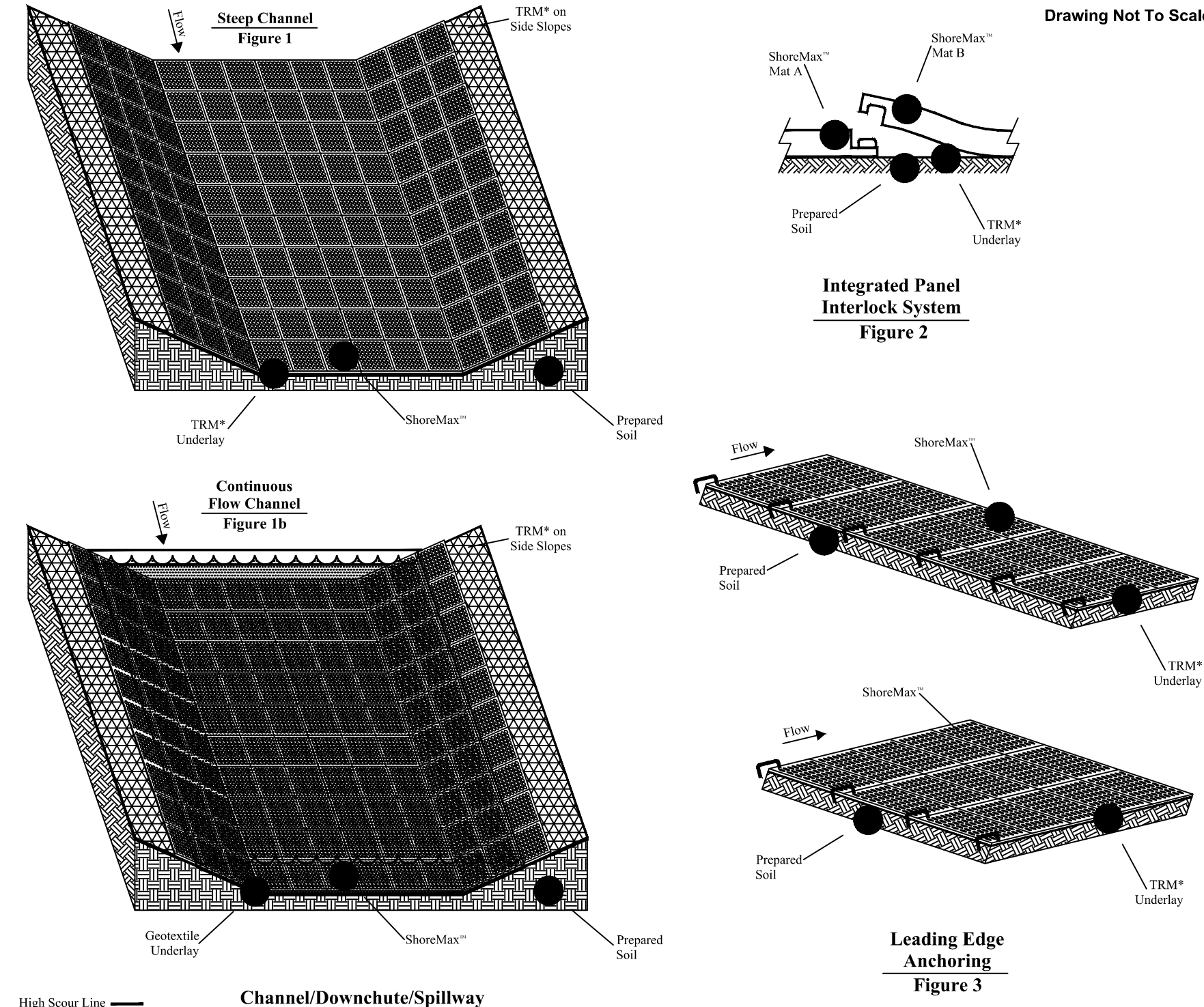
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ShoreMax
STEEP CHANNEL/CHUTE/PILLWAY DETAIL



1. Prepare soil before installing erosion control products, including any necessary application of lime, fertilizer, and seed (when installing TRM or ECB underlayment).

2. Install turf reinforcement mat (TRM) over prepared soils according to manufacturer's recommendations.

3. Place ShoreMax mat in the bottom of the channel over the installed TRM (figure 1). The ShoreMax mat should be installed up to the appropriate elevation on the side slope as determined by the engineer. When using multiple panels, connect the panels using the Integrated Panel Interlock System (figure 2). ShoreMax mat can be laid in either direction.

4. For channels carrying continuous water flows, an appropriate geotextile should be placed under the ShoreMax mat for submerged applications (figure 1b).

5. Place staples/anchors in the appropriate pattern. Perimeter staples can be shared between two adjacent panels. In soft or highly erodible soils, percussion earth anchors may be required. View ShoreMax Anchoring Guide, for additional details.

6. At beginning of channel and areas where significant concentrated flows are directed onto the ShoreMax mat, place 1 staple/pin per linear foot along the leading edge of the ShoreMax system, resulting in 1 staple/pin on each corner and gridline (figure 3).

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Drawing Not To Scale

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KALAS FALLS
PHASE 5
CONSTRUCTION DOCUMENTS
TOWN OF ROLESVILLE,
WAKE COUNTY, NC

JOB NUMBER: R180115
CHECKED BY: JK
DRAWN BY: GE, RC
DATE: 12-23-2024
SHEET TITLE:

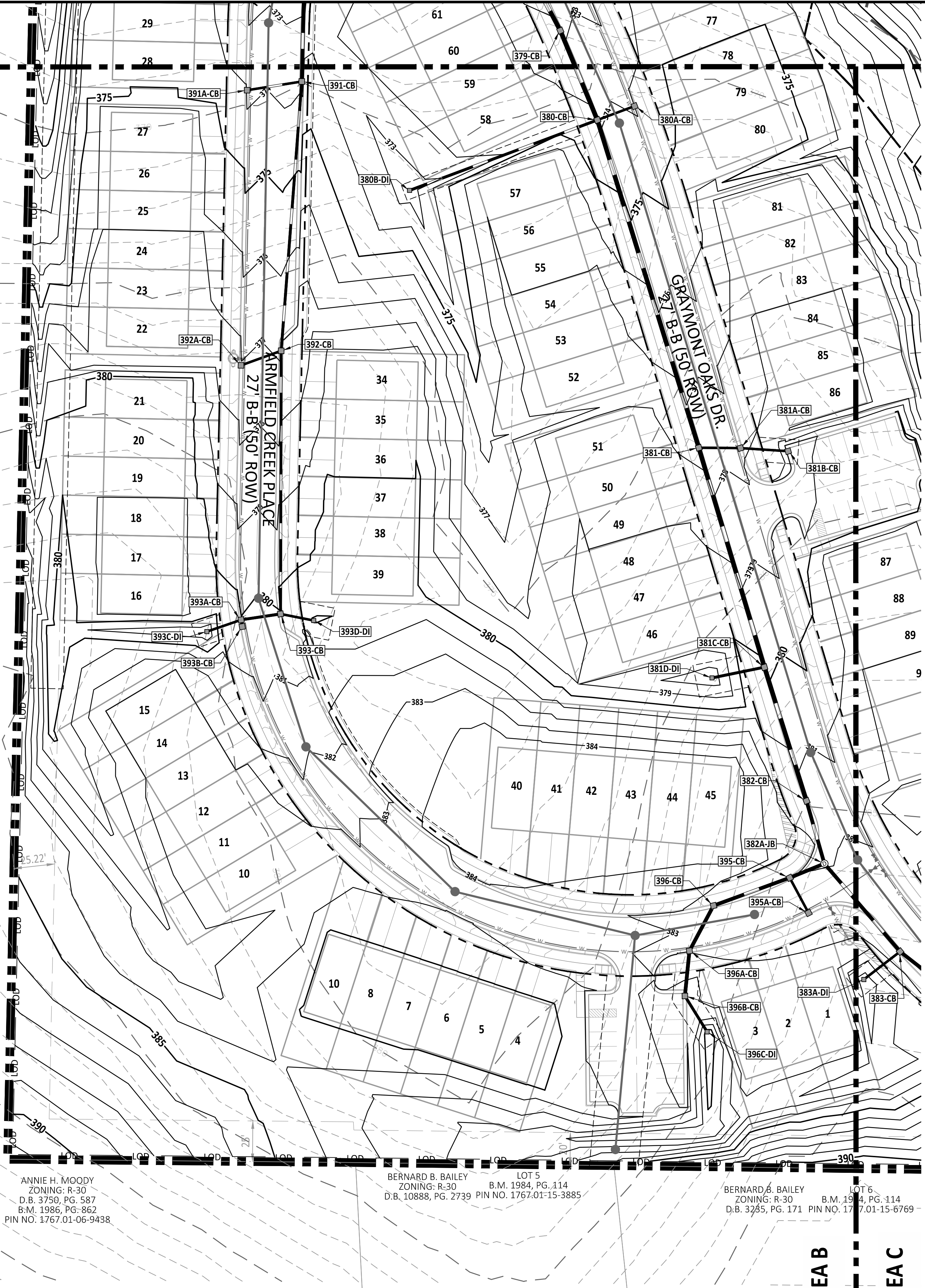
ESC DETAILS

SHEET NO.:
CE504



AREA A

AREA B



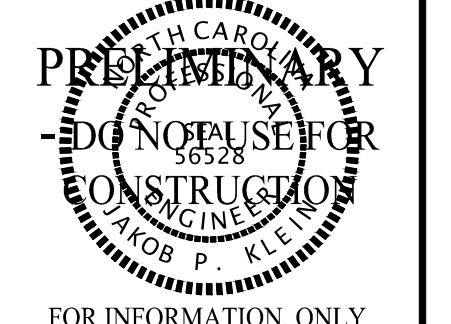
ANNIE H. MOODY
 ZONING: R-30
 D.B. 3750, PG. 587
 B.M. 1986, PG. 862
 PIN NO. 1767.01-06-9438

BERNARD B. BAILEY LOT 5
 ZONING: R-30 B.M. 1984, PG. 114
 D.B. 10888, PG. 2739 PIN NO. 1767.01-15-3885

BERNARD B. BAILEY LOT 6
 ZONING: R-30 B.M. 1984, PG. 114
 D.B. 3285, PG. 171 PIN NO. 1767.01-15-6769

Public Sewer Collection / Extension System
 The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # _____

Public Water Distribution / Extension System
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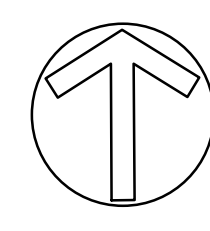
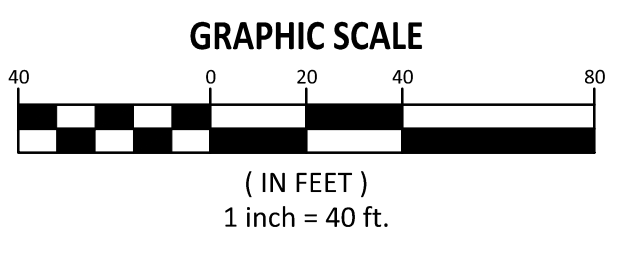
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	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	CONCRETE
	10' CURB TRANSITION

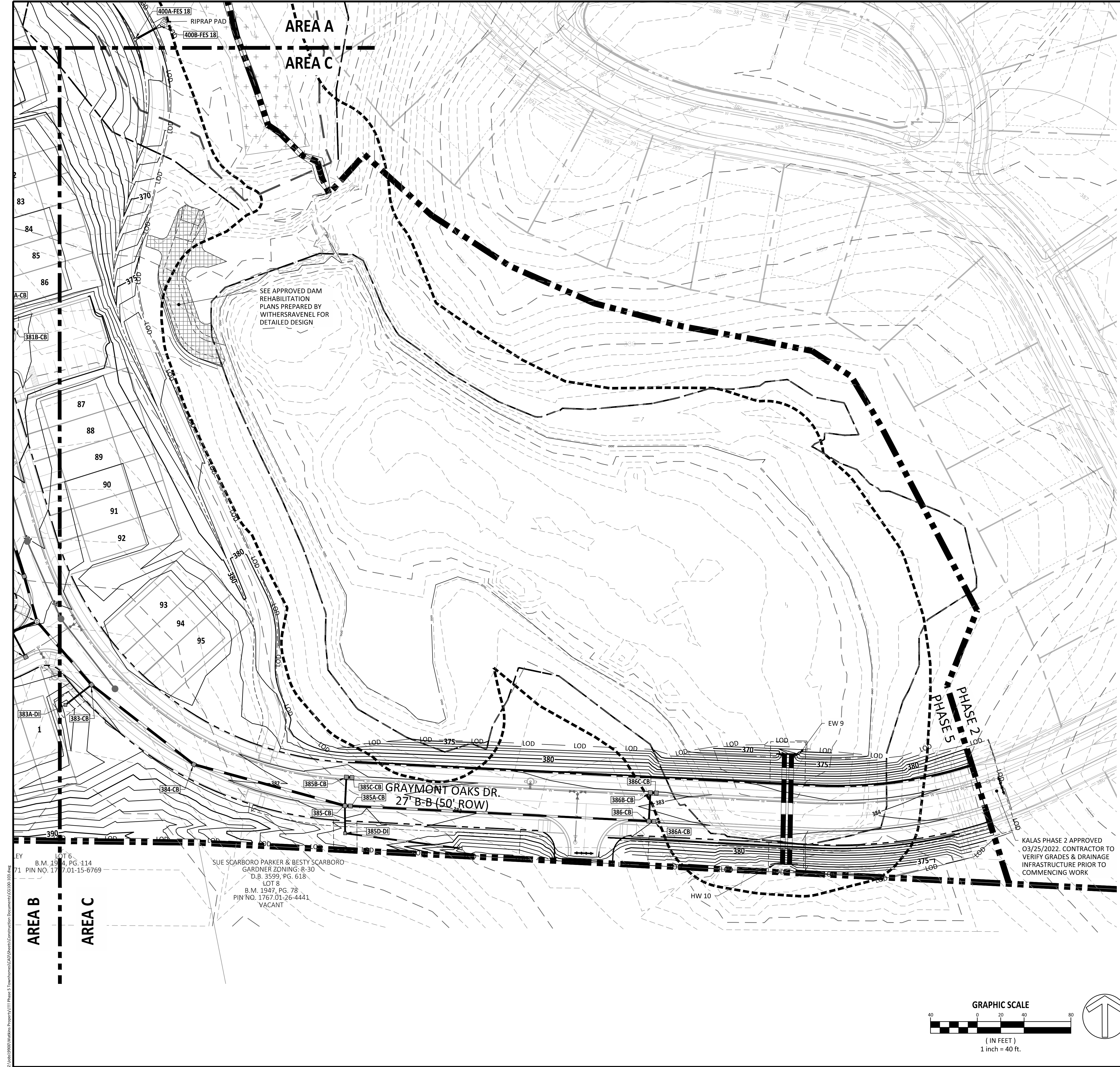
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KALAS FALLS
 PHASE 5
 CONSTRUCTION DOCUMENTS
 TOWN OF ROLESVILLE,
 WAKE COUNTY, NC

JOB NUMBER: R180115
 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024
 SHEET TITLE:
GRADING & DRAINAGE AREA B
 SHEET NO.:
CG401





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AMERICAN Engineering
 American Engineering Associates - Southeast, P.A.
 4020 Westchase Boulevard, Suite 450
 Raleigh, NC 27607
 919-469-1101



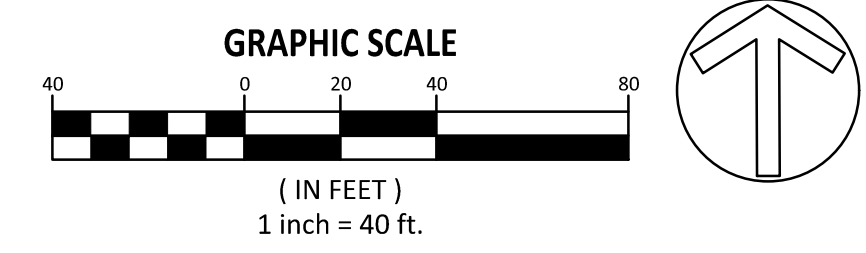
SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	CONCRETE
	10' CURB TRANSITION

NO.	DATE	REVISION:

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KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS
 TOWN OF ROLESVILLE, WAKE COUNTY, NC

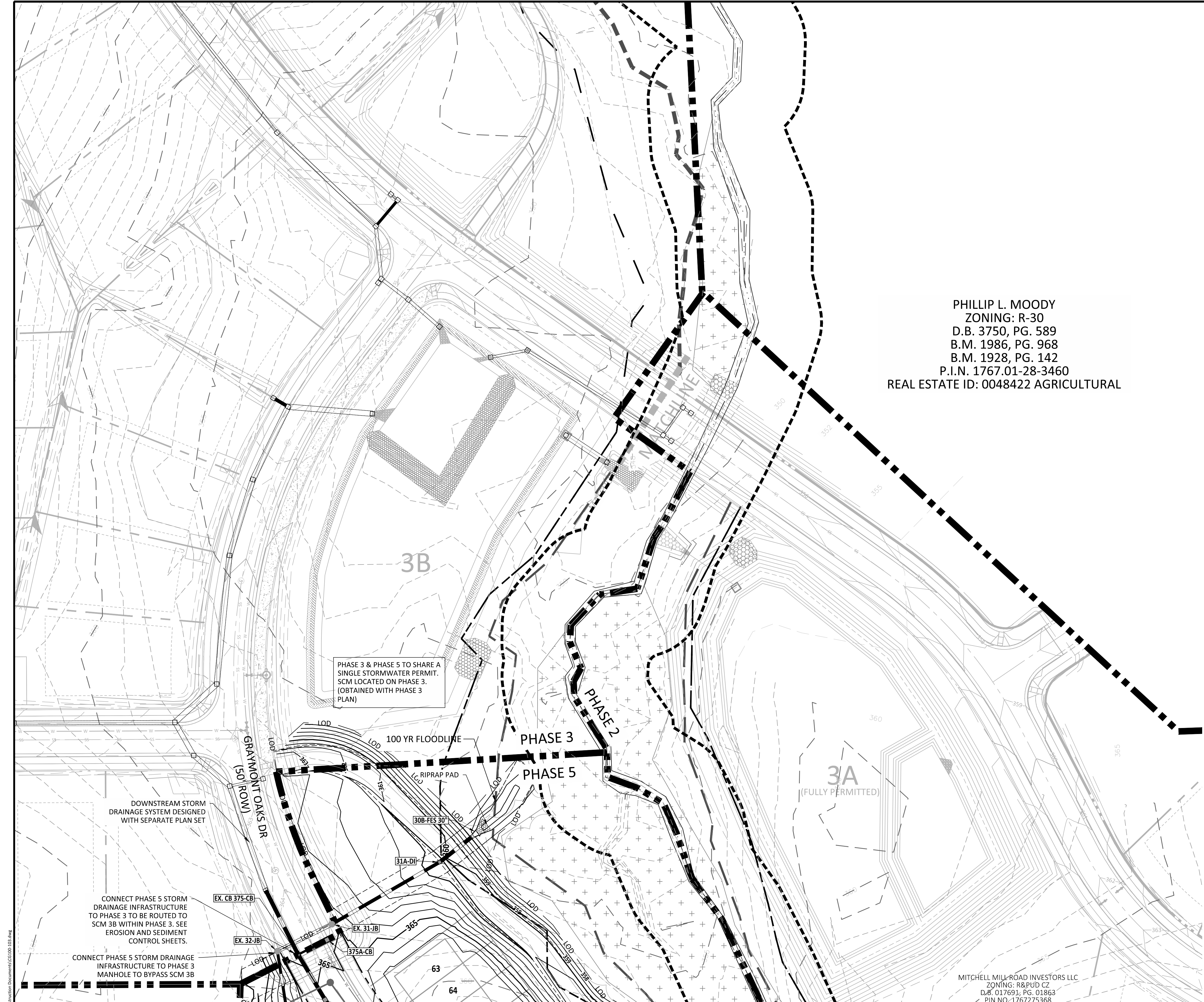
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 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024
 SHEET TITLE:
GRADING & DRAINAGE AREA C
 SHEET NO.:
CG402



LOT 6
 B.M. 1944, PG. 114
 PIN NO. 177.01-15-6769

SUE SCARBORO PARKER & BESTY SCARBORO
 GARDNER ZONING: R-30
 D.B. 3559, PG. 618
 LOT 3
 B.M. 1947, PG. 78
 PIN NO. 1767.01-26-4441
 VACANT

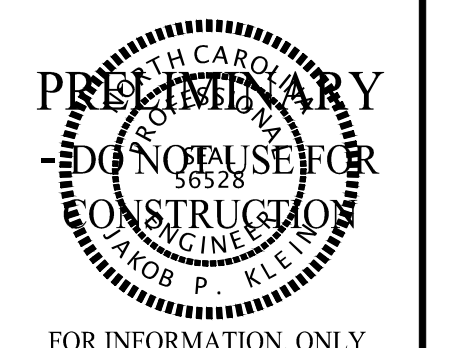
AREA B
AREA C



PHILLIP L. MOODY
 ZONING: R-30
 D.B. 3750, PG. 589
 B.M. 1986, PG. 968
 B.M. 1928, PG. 142
 P.I.N. 1767.01-28-3460
 REAL ESTATE ID: 0048422 AGRICULTURAL

Public Sewer Collection / Extension System
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 Public Utilities Department Permit # _____

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FOR INFORMATION ONLY

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	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	CONCRETE
	10' CURB TRANSITION

NO.	DATE	REVISION:

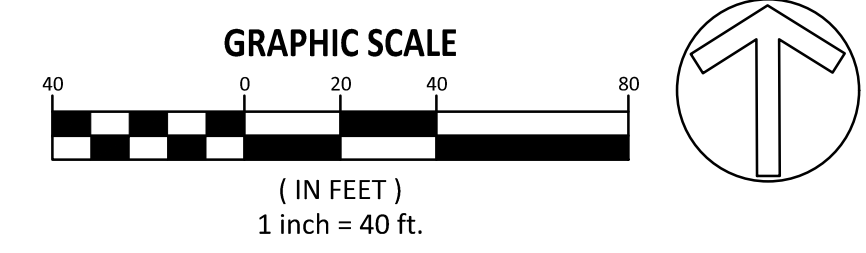
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**KALAS FALLS
 PHASE 5
 CONSTRUCTION DOCUMENTS**
 TOWN OF ROLESVILLE,
 WAKE COUNTY, NC

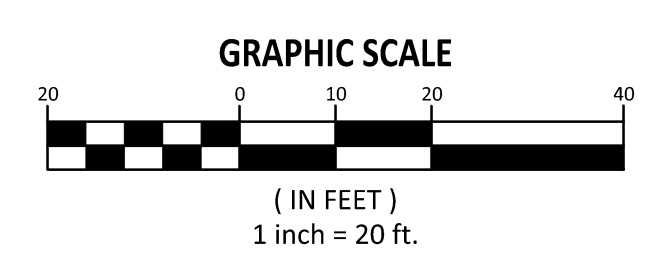
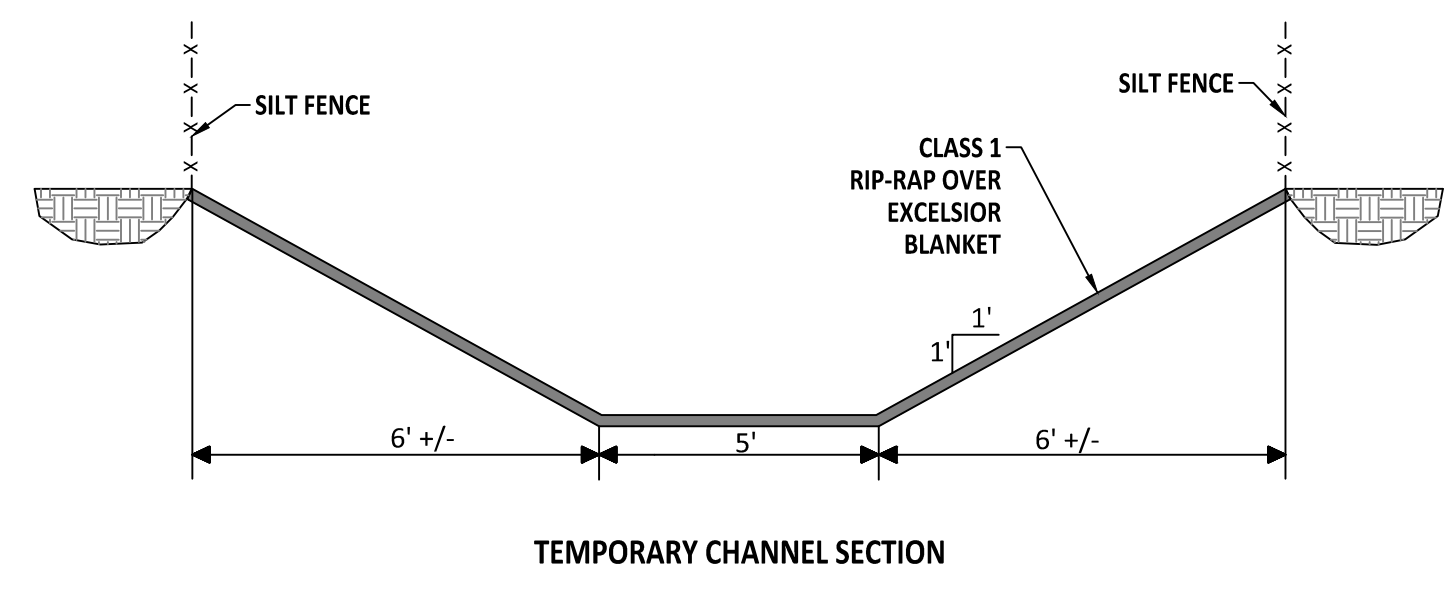
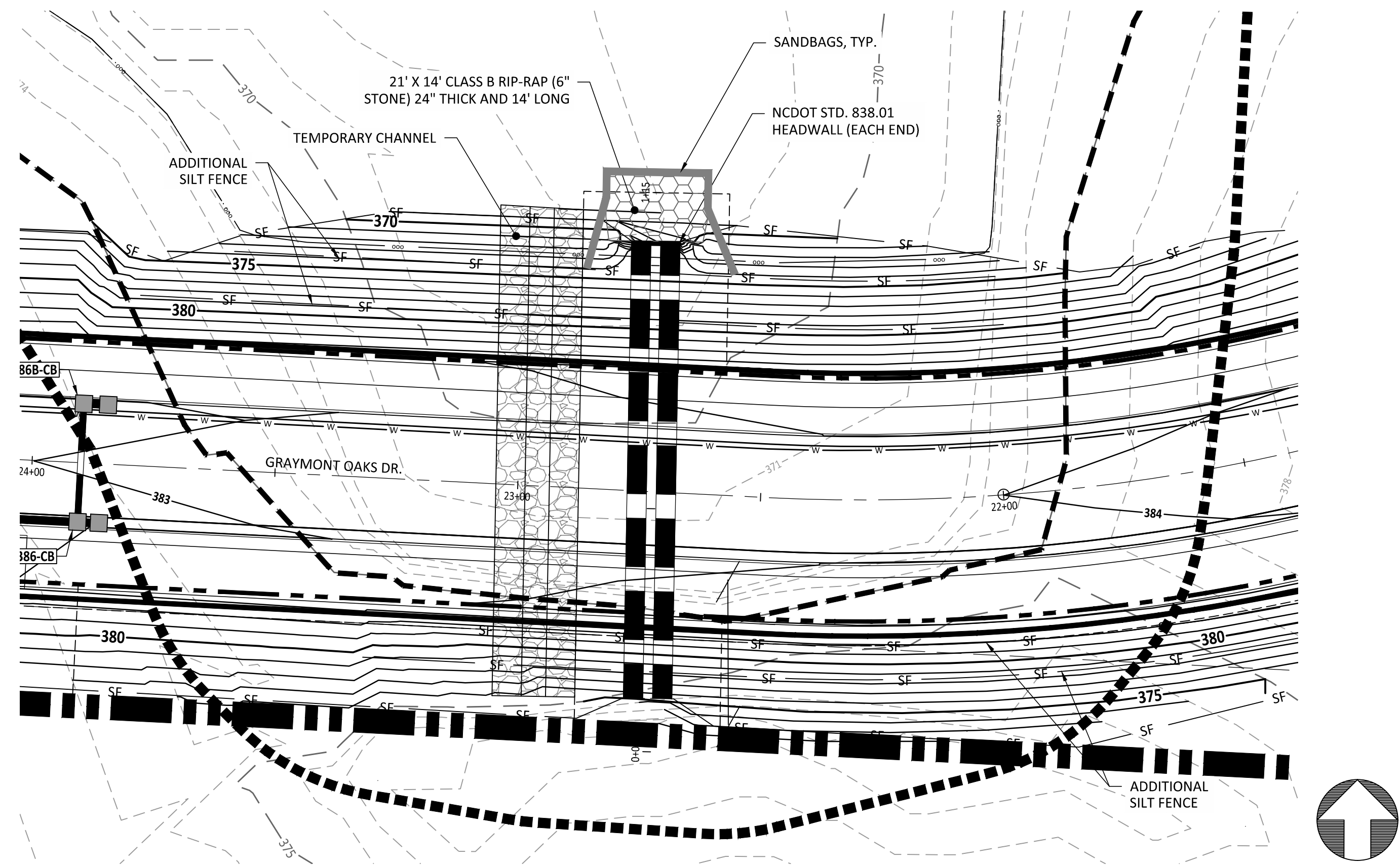
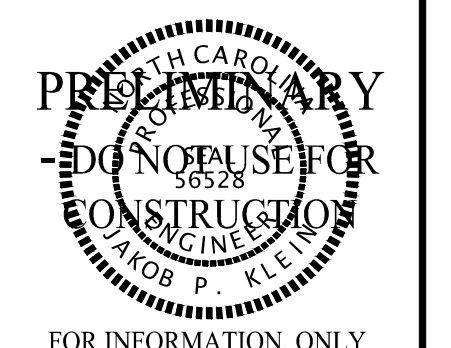
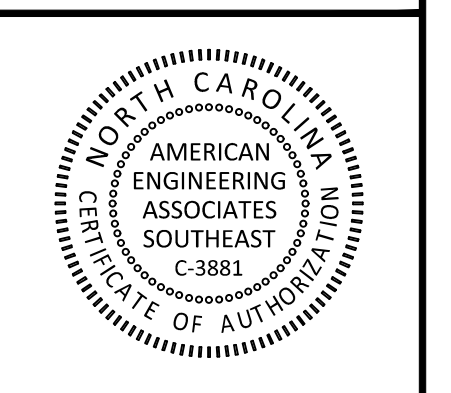
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 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024
 SHEET TITLE:
**GRADING &
 DRAINAGE
 OFFSITE**
 SHEET NO.:
CG403

MITCHELL MILL ROAD INVESTORS LLC
 ZONING: R&PUD C2
 D.B. 017691, PG. 01863
 PIN NO. 176775368



Public Sewer Collection / Extension System
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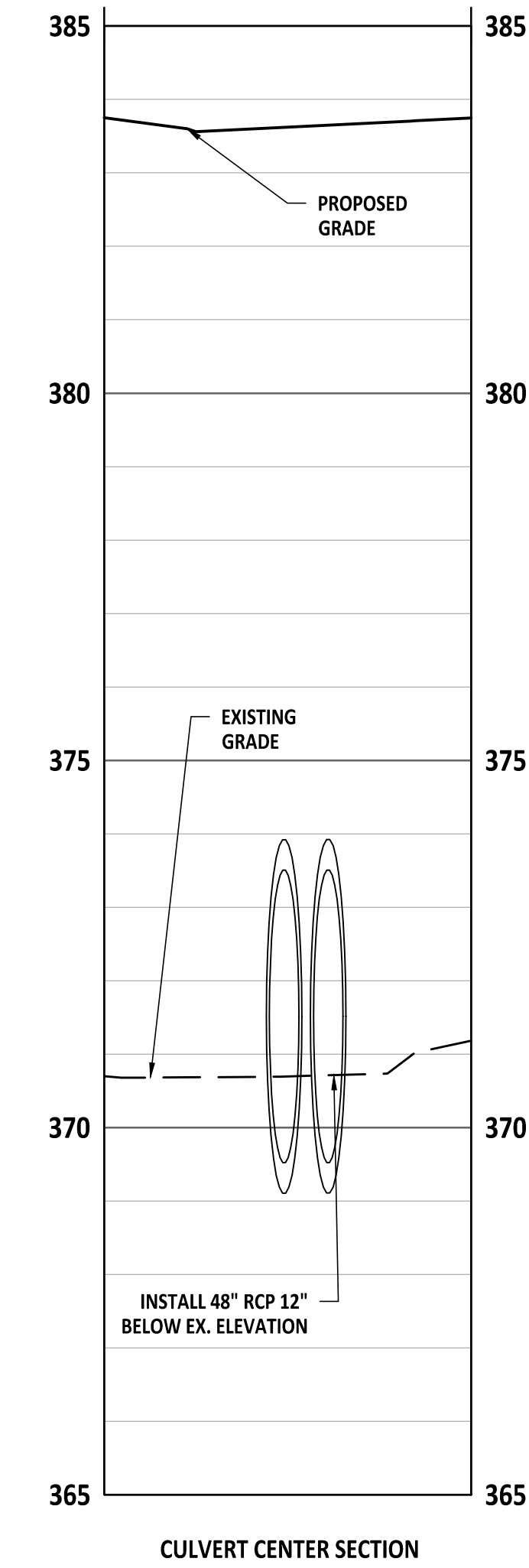
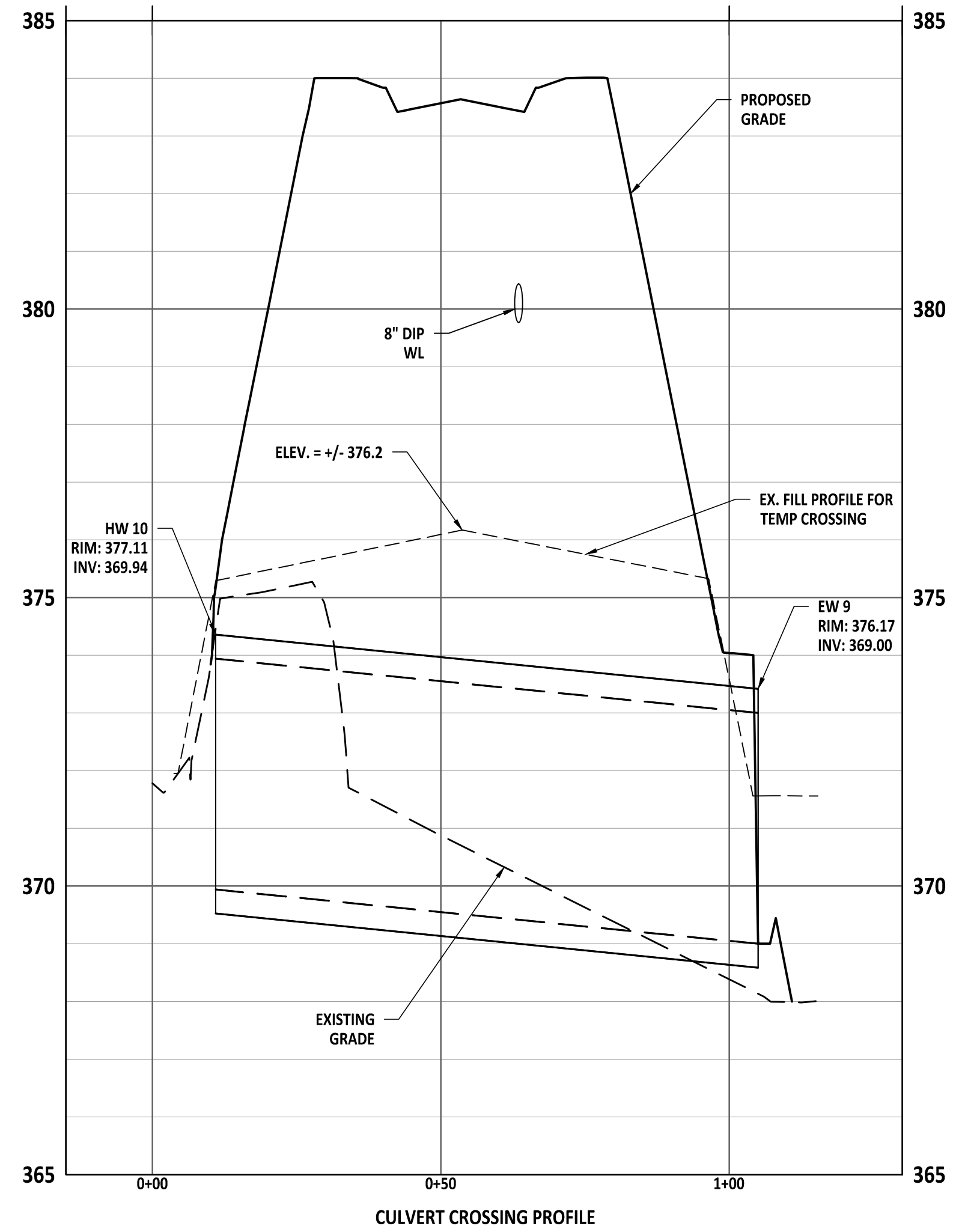
CONSTRUCTION SEQUENCE FOR THE GRAYMONT OAKS CROSSING OF THE EXISTING POND NEAR THE SOUTHERN BORDER OF KALAS FALLS SUBDIVISION SHALL BE AS FOLLOWS:

- STAGE 1A CULVERT CROSSING INSTALLATION:**
1. CONDUCT A MEETING WITH THE WAKE COUNTY INSPECTOR PRIOR TO PROCEEDING WITH THE CONSTRUCTION OF THE CULVERT CROSSING.
 2. PUMP THE EXISTING POND DOWN SO IT IS BELOW THE PROPOSED PIPE INVERTS.
 3. INSTALL THE BYPASS CHANNEL AS SHOWN WITH LINING LEAVING A PORTION OF THE BANK ON EACH END TO ACT AS A DAM TO PREVENT WATER FLOW DURING CONSTRUCTION OF THE CHANNEL. (STEPS 4 - 8 SHOULD BE ACCOMPLISHED DURING ONE WORKDAY).
 4. DURING A PERIOD OF DRY WEATHER AND WHEN THE WATER LEVEL OF THE POND IS BELOW THE CHANNEL INVERT, REMOVE THE DOWNSTREAM DAM FIRST AND CONSTRUCT THE REMAINDER OF THE CHANNEL TO THE EXISTING POND.
 5. REMOVE THE UPSTREAM DAM AND CONSTRUCT THE REMAINDER OF THE CHANNEL TO TIE TO THE LOW AREA INCLUDING LINING.
 6. ADD SANDBAGS ACROSS THE LOW POINT AT THE UPSTREAM END TO FORCE THE WATER FLOW INTO THE BY-PASS CHANNEL.
 7. ADD SANDBAGS ACROSS THE DOWNSTREAM END OF THE LOW POINT JUST ABOVE THE POINT WHERE THE BY-PASS CHANNEL RE-ENTERS THE POND TO PREVENT FLOW INTO THE LOCATION OF THE PIPE TO BE INSTALLED.
 8. SEED/SOD AND STABILIZE ALL DENUDED AREAS ONCE THE CHANNEL IS IN PLACE.
 9. THE PUMP IS TO REMAIN ON SITE AND TO KEEP POND ELEVATION AT OR BELOW THE CHANNEL AND PIPE INVERTS.

- STAGE 1B CULVERT CROSSING INSTALLATION:**
1. OBTAIN PERMISSION FROM THE WAKE COUNTY INSPECTOR TO PROCEED WITH THIS STEP.
 2. EXCAVATE AREA AS SHOWN AND INSTALL PIPE WITH HEADWALLS AND DOWNSTREAM RIP-RAP AS SHOWN IN RIP-RAP CROSS-SECTION WITHIN THE WORKABLE AREA.
 3. OBTAIN WAKE COUNTY APPROVAL OF THE PIPE INSTALLATION.

- STAGE 1C CULVERT CROSSING INSTALLATION**
1. WITHIN ONE ACTIVE WORKDAY, REMOVE THE TEMPORARY DAM ON DOWNSTREAM AND UPSTREAM ENDS.
 2. REMOVE LINING ON UPSTREAM END OF BY-PASS CHANNEL AND INSTALL EARTHEN DAM ACROSS THE UPSTREAM END OF THE BY-PASS CHANNEL. REUSE SANDBAGS TO FORCE WATER FLOW THROUGH THE PIPE.
 3. INSTALL EARTHEN DAM ACROSS THE DOWNSTREAM OF THE BY-PASS CHANNEL AFTER REMOVING THE LINING.
 4. REMOVE REMAINDER OF THE BY-PASS CHANNEL LINING AND FILL THE CHANNEL COMPACTING THOROUGHLY IN LAYERS.
 5. INSTALL SILT FENCE AT THE TOE OF SLOPES AND TIE TO ENDWALLS AS SHOWN ON THIS PLAN.
 6. INSTALL ADDITIONAL SILT FENCE ALONG THE SLOPE AS SHOWN AND AS NEEDED.
 7. COMPLETE FILL AROUND THE PIPE TO A LEVEL AT LEAST TWO (2) FEET ABOVE THE TOP OF THE PIPE TO ALLOW CONSTRUCTION EQUIPMENT TO PASS OVER IT.
 8. COMPLETE FILL BRINGING THE AREA TO FINISHED GRADE.
 9. INSTALL PAVEMENT AND FOLLOW THE SEEDING SCHEDULE FOR ALL BARE AREAS.
 10. REFER TO MAIN CONSTRUCTION SEQUENCE FOR OTHER DETAILS.

- GENERAL NOTES**
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WAKE COUNTY STANDARDS AND REGULATIONS.
 2. THERE SHALL BE NO DISTURBANCE OUTSIDE THE LIMITS SHOWN ON THIS PLAN WITHOUT AN APPROVED PLAN AMENDMENT BY WAKE COUNTY.
 3. ALL DISTURBED AREAS SHALL BE SEEDED PER THE SEEDING SCHEDULE.
 4. PERMANENT GROUND COVER SHALL BE ESTABLISHED PER NPDES SEEDING SCHEDULE AT EITHER 7 DAYS OR 14 DAYS DEPENDING ON MEASURE AND SLOPE.
 5. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SELF-INSPECTION LOG.
 6. CUT AND FILL SLOPES THAT ARE 2:1 OR GREATER SHALL BE STABILIZED WITH PERMANENT SLOPE RETENTION DEVICES OR A SUITABLE COMBINATION OF PLANTING AND RETENTION DEVICES. SLOPES GREATER THAN 3:1 SHALL NOT BE STABILIZED WITH TURF GRASS BUT MUST BE STABILIZED WITH VEGETATION THAT REQUIRES MINIMAL MAINTENANCE SUCH AS WEEPING LOVE GRASS, RED FESCUE, OR OTHER APPROVED VARIETY.



NO.	DATE	REVISION:

STIPULATION FOR REUSE
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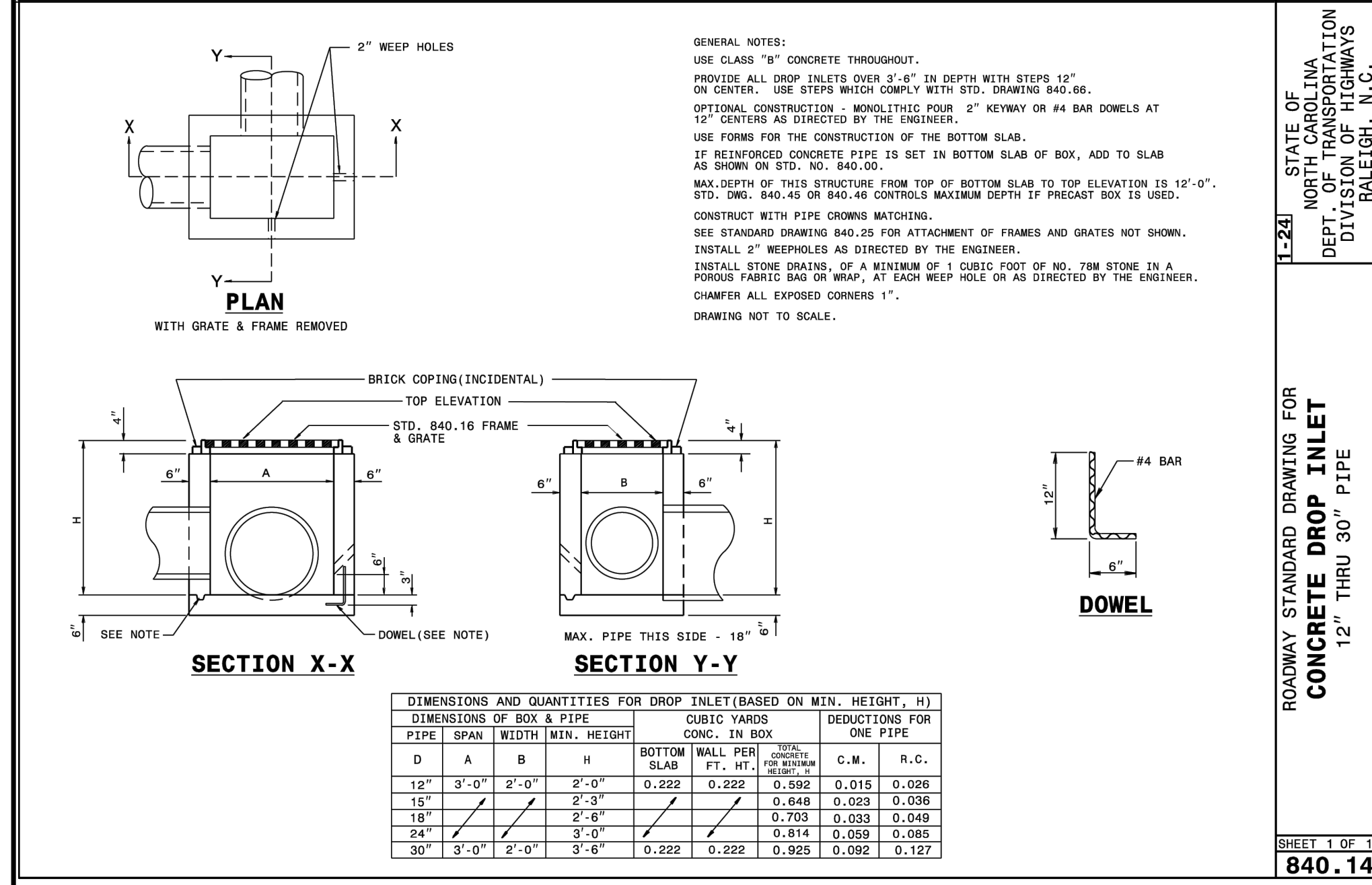
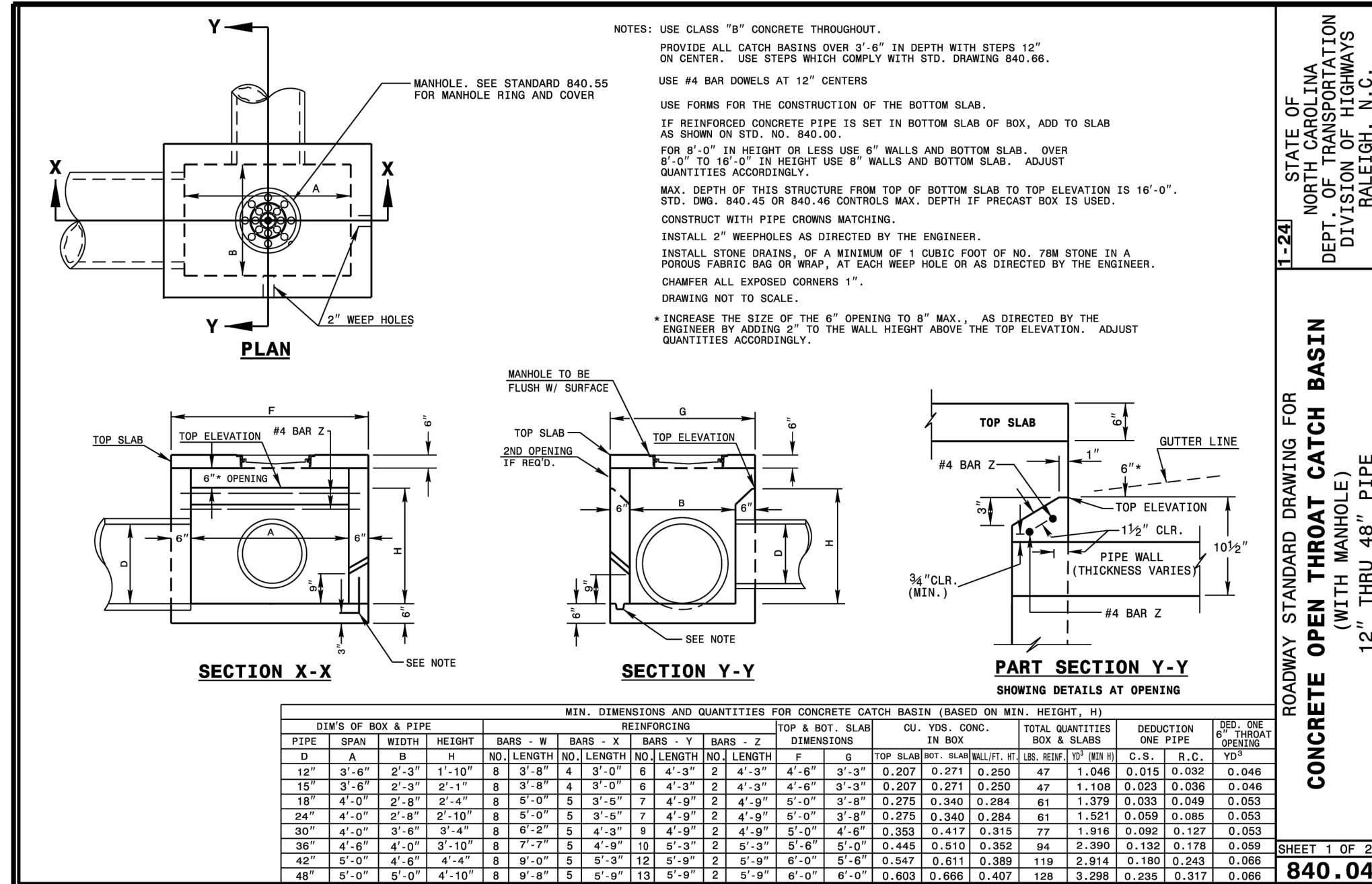
KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS
 TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115
 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024

SHEET TITLE:
CULVERT CROSSING PLAN & PROFILE
 SHEET NO.:
CD201



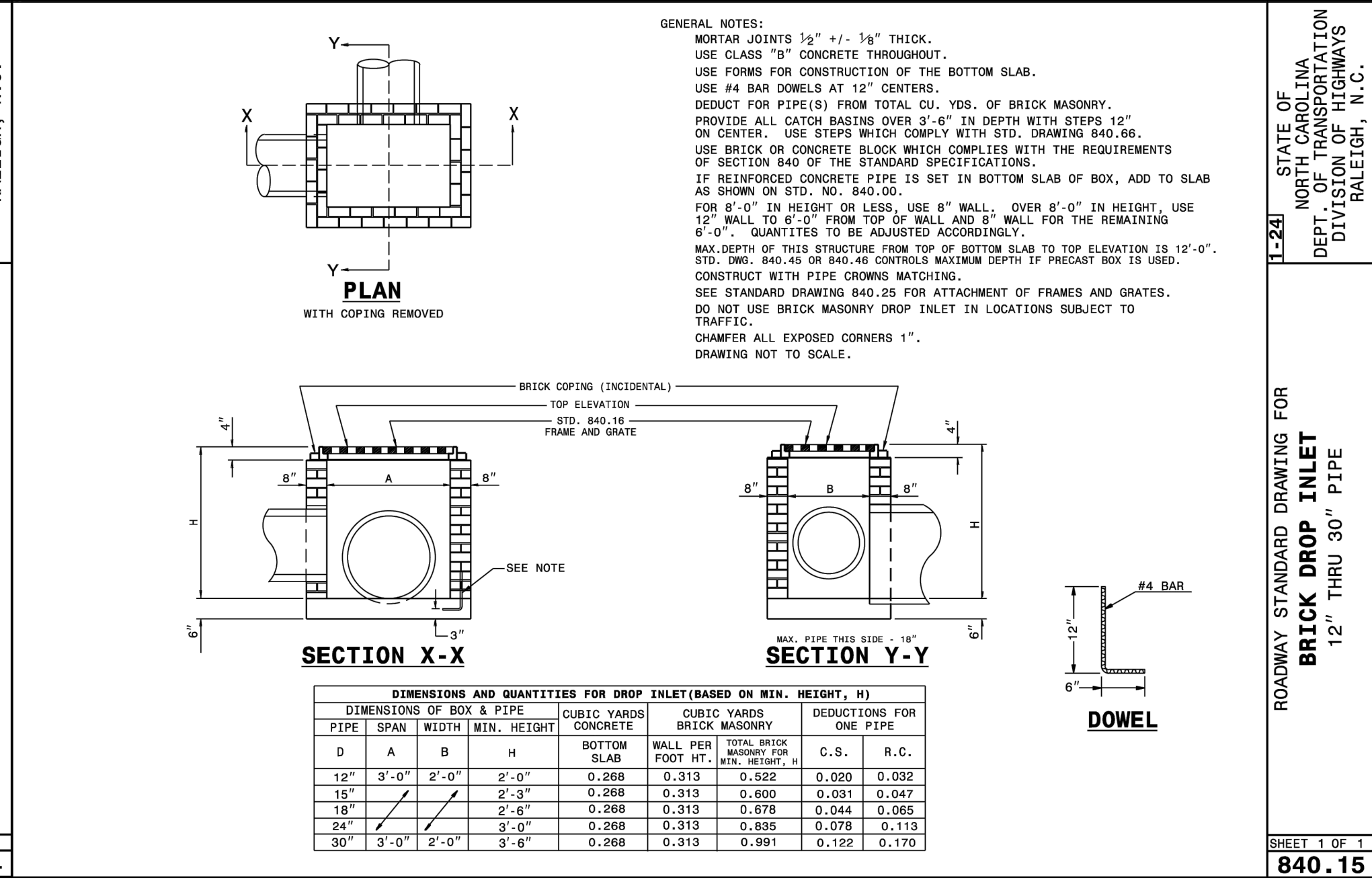
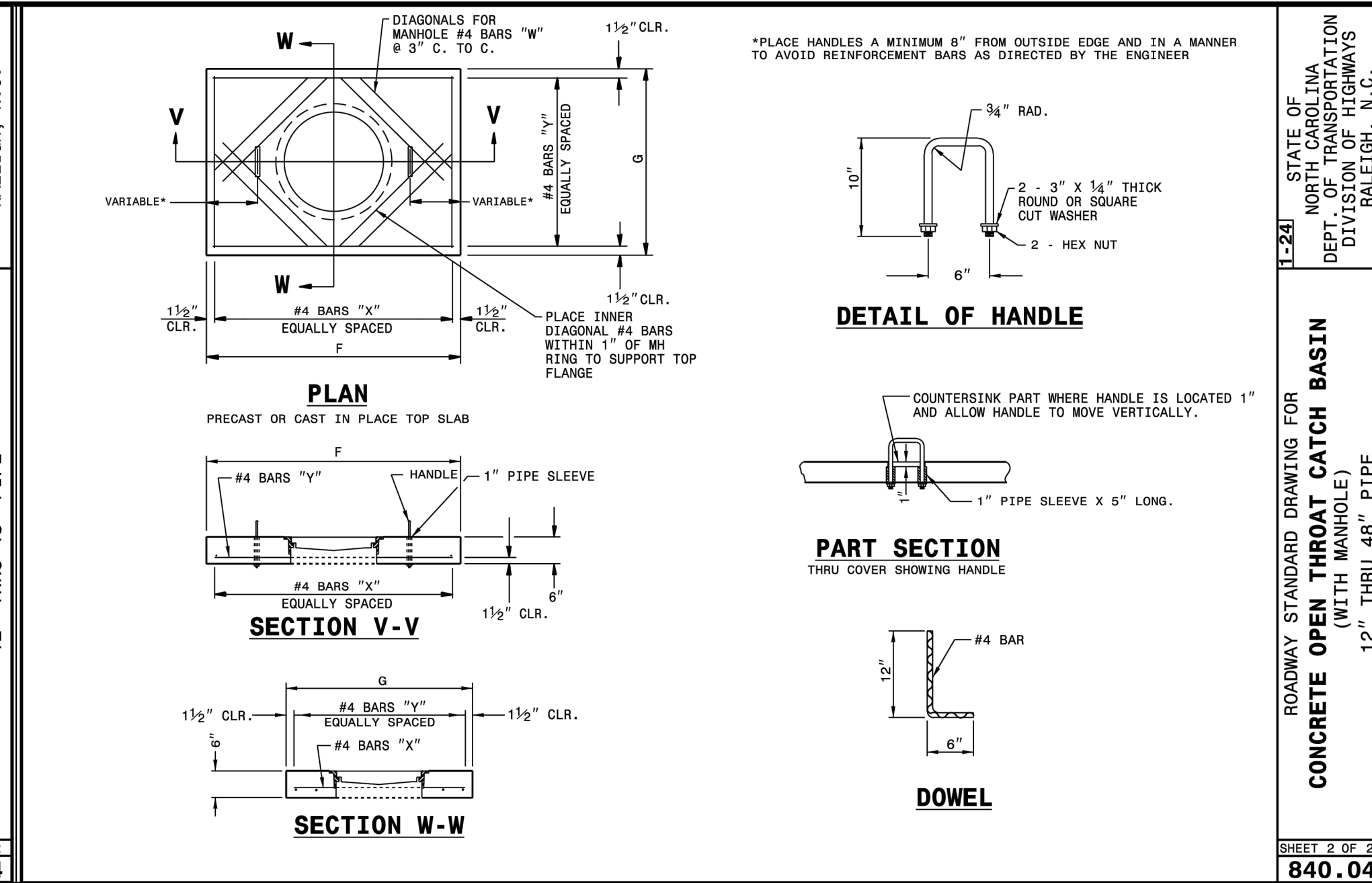
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR CONCRETE OPEN THROAT CATCH BASIN (WITH MANHOLE) 12" THRU 48" PIPE SHEET 1 OF 2 840.04

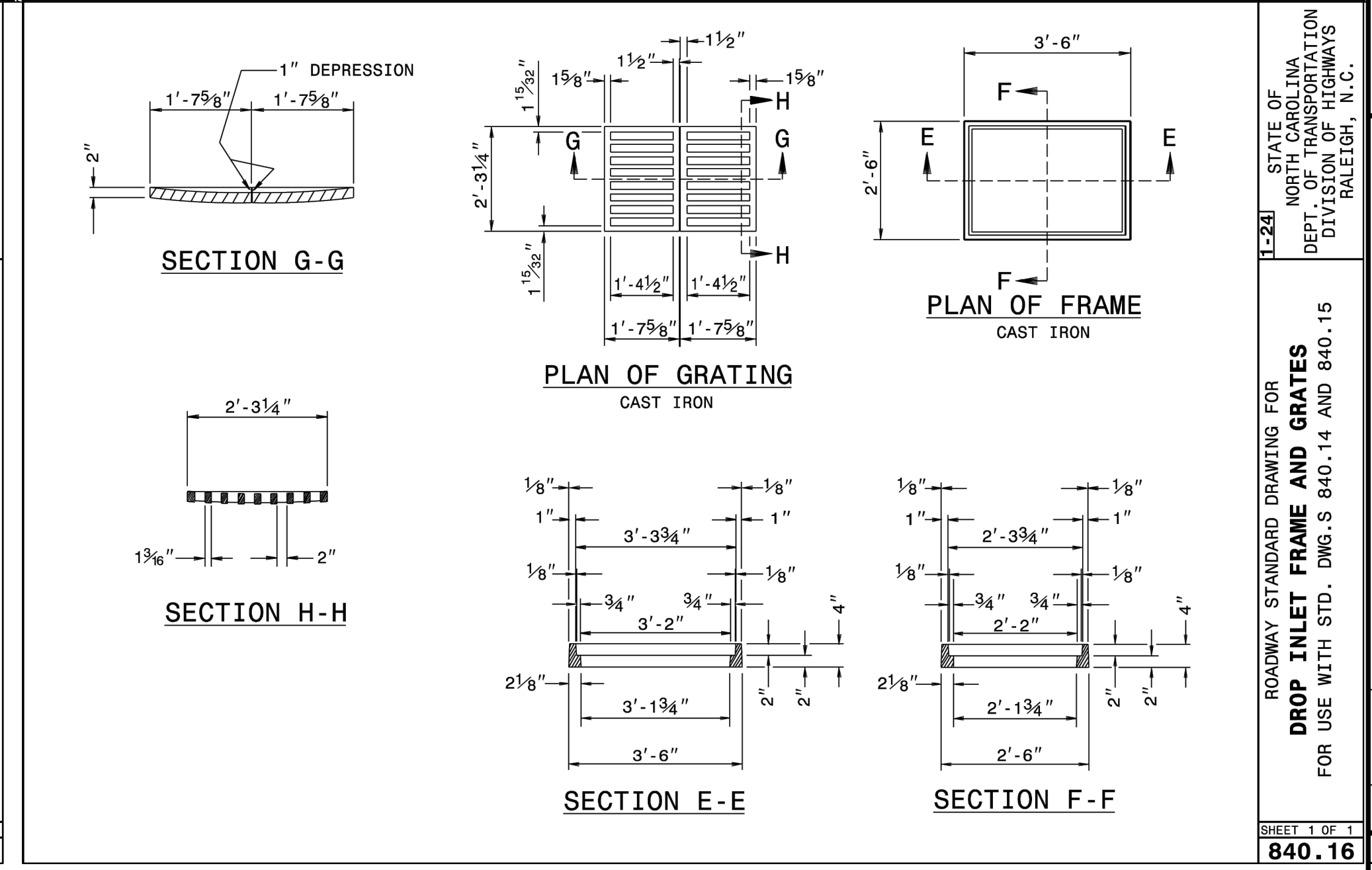
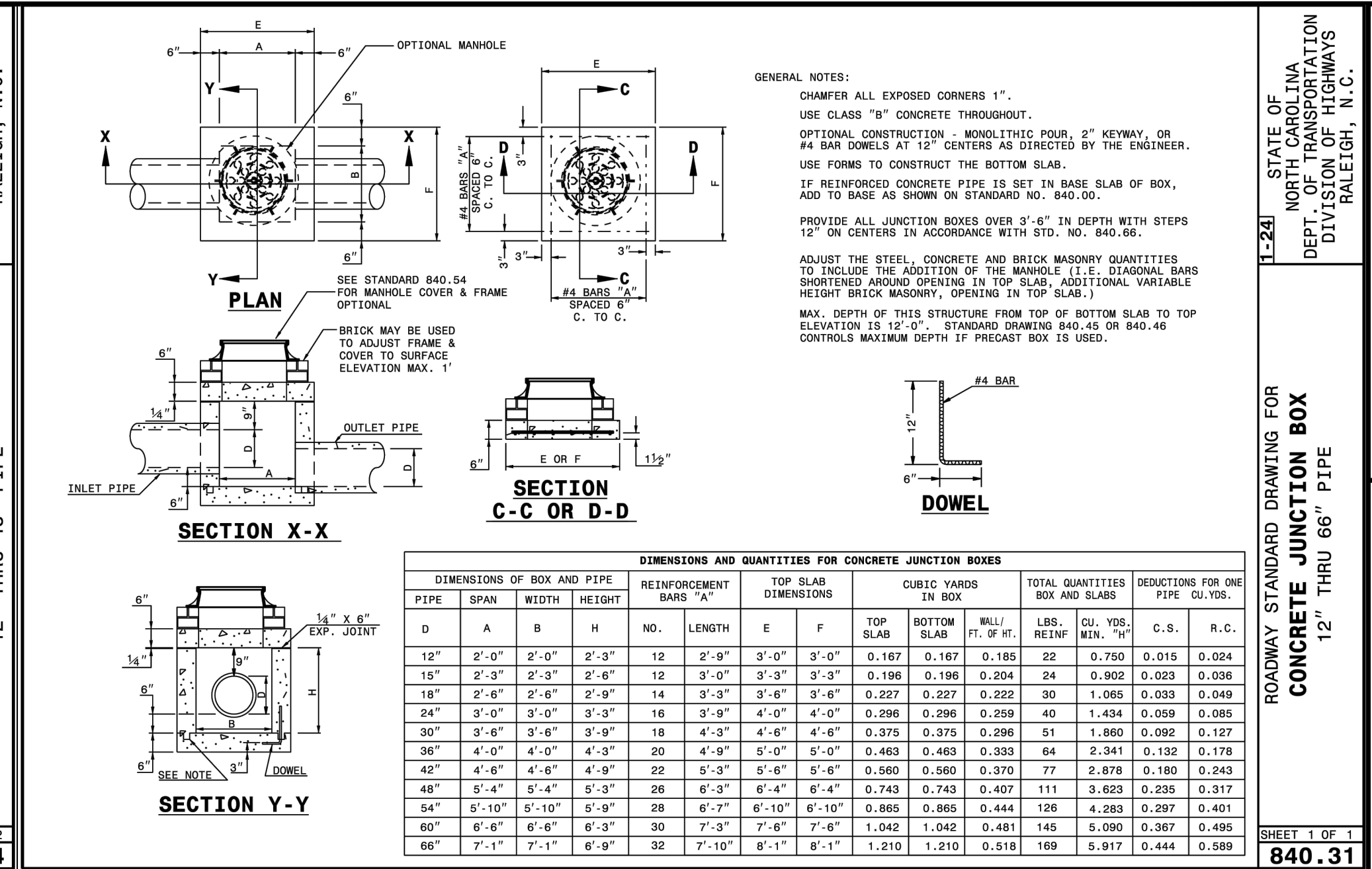
DIMENSIONS OF BOX & PIPE		MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H)				CUBIC YARDS IN BOX		TOTAL QUANTITIES BOX & SLABS		DEDUCTIONS FOR ONE PIPE		USE PER THROAT OPENING					
PIPE	SPAN	WIDTH	HEIGHT	REINFORCING BARS - X	REINFORCING BARS - Y	TOP & BOT. SLAB DIMENSIONS	CU. YDS. CONC. IN BOX	NO. WALL PER MIN. HEIGHT	NO. WALL PER MIN. HEIGHT	C.S.	R.C.	C.S.	R.C.				
12"	3'-6"	2'-3"	1'-10"	8	3'-8"	4	3'-0"	2	4'-3"	0.207	0.271	0.260	47	1.046	0.915	0.032	0.048
15"	3'-6"	2'-3"	2'-1"	8	3'-8"	4	3'-0"	2	4'-3"	0.207	0.271	0.260	47	1.046	0.915	0.032	0.048
18"	4'-0"	2'-6"	2'-4"	8	3'-8"	4	3'-0"	2	4'-3"	0.275	0.340	0.284	61	1.379	0.933	0.049	0.053
24"	4'-0"	2'-6"	2'-10"	8	3'-8"	4	3'-0"	2	4'-3"	0.275	0.340	0.284	61	1.379	0.933	0.049	0.053
30"	4'-0"	2'-6"	3'-4"	8	3'-8"	4	3'-0"	2	4'-3"	0.353	0.417	0.315	77	1.818	0.992	0.127	0.053
36"	4'-0"	2'-6"	3'-10"	8	3'-8"	4	3'-0"	2	4'-3"	0.443	0.510	0.392	94	2.394	1.192	0.178	0.059
42"	5'-0"	4'-6"	4'-4"	8	3'-8"	4	3'-0"	2	4'-3"	0.547	0.611	0.388	119	3.814	1.160	0.263	0.056
48"	5'-0"	4'-6"	4'-10"	8	3'-8"	4	3'-0"	2	4'-3"	0.603	0.666	0.407	128	3.288	0.235	0.317	0.056



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR BRICK DROP INLET 12" THRU 30" PIPE SHEET 1 OF 1 840.15

DIMENSIONS OF BOX & PIPE		MIN. DIMENSIONS AND QUANTITIES FOR DROP INLET (BASED ON MIN. HEIGHT, H)				CUBIC YARDS IN BOX		TOTAL QUANTITIES BOX & SLABS		DEDUCTIONS FOR ONE PIPE		USE PER THROAT OPENING	
PIPE	SPAN	WIDTH	HEIGHT	REINFORCING BARS - X	REINFORCING BARS - Y	TOP & BOT. SLAB DIMENSIONS	CU. YDS. CONC. IN BOX	NO. WALL PER MIN. HEIGHT	NO. WALL PER MIN. HEIGHT	C.S.	R.C.	C.S.	R.C.
12"	3'-0"	2'-0"	2'-6"	0.268	0.313	0.552	0.020	0.032					
15"	3'-0"	2'-3"	2'-6"	0.268	0.313	0.600	0.031	0.047					
18"	3'-0"	2'-6"	2'-6"	0.268	0.313	0.678	0.044	0.065					
24"	3'-0"	3'-0"	2'-6"	0.268	0.313	0.885	0.078	0.113					
30"	3'-0"	3'-6"	2'-6"	0.268	0.313	0.991	0.122	0.170					



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR DROP INLET FRAME AND GRATES FOR USE WITH STD. DWG. S 840.14 AND 840.15 SHEET 1 OF 1 840.16

NO. DATE REVISION:

STIPULATION FOR REUSE
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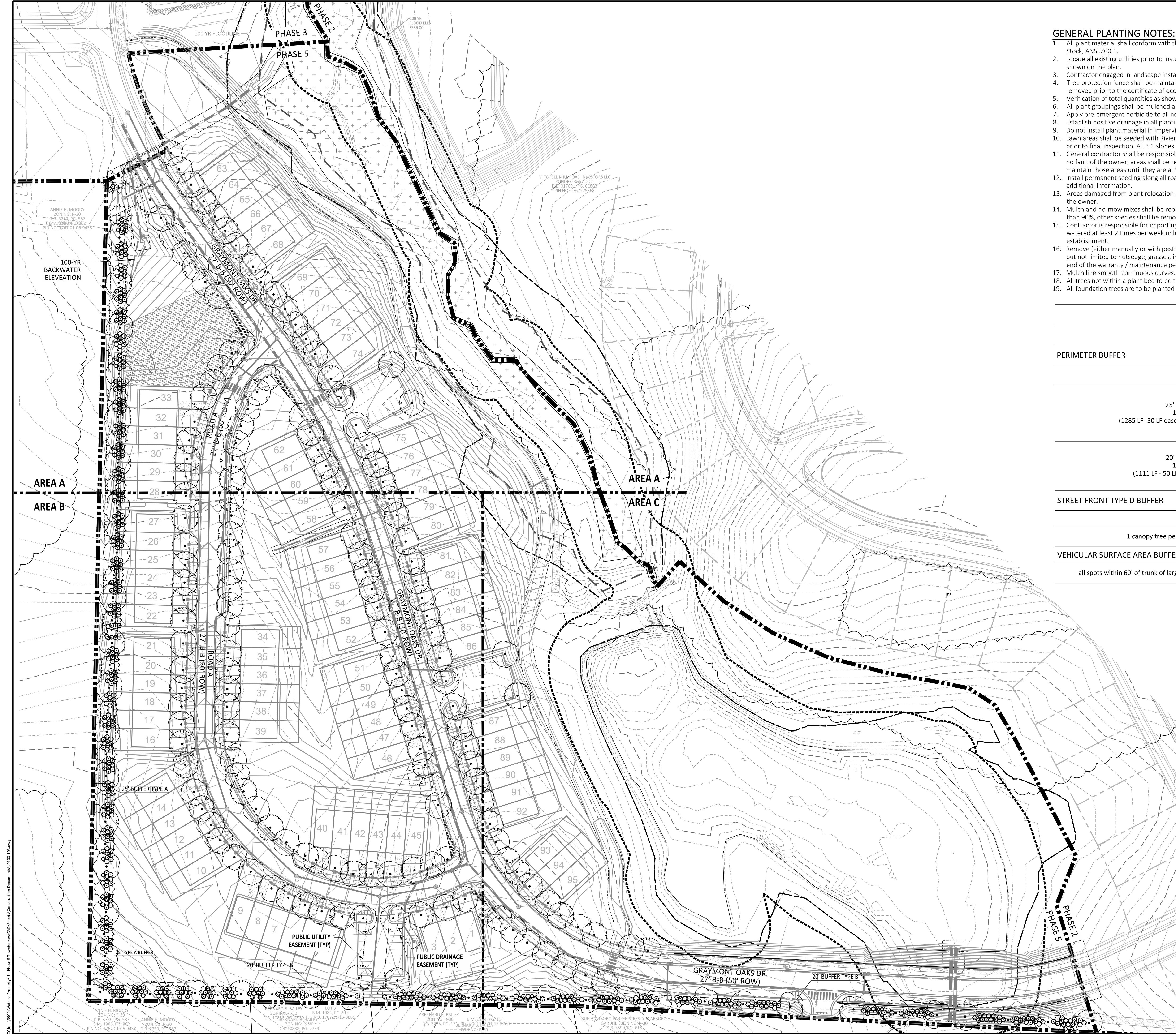
KALAS FALLS PHASE 5 CONSTRUCTION DOCUMENTS TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115
 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024
 SHEET TITLE: DRAINAGE DETAILS
 SHEET NO.: CD502

AMERICAN Engineering
 American Engineering Associates - Southeast, P.A.
 4020 Westchase Boulevard, Suite 450
 Raleigh, NC 27607

FOR INFORMATION ONLY

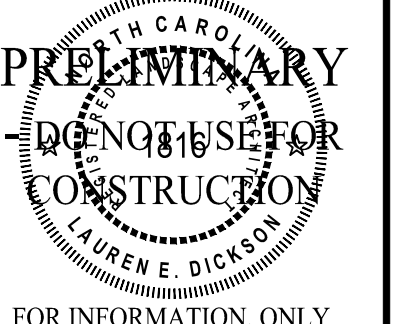
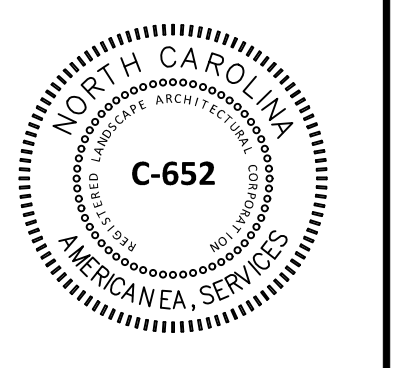
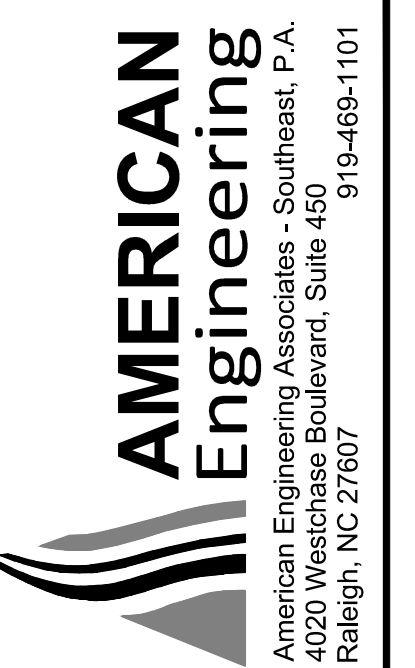
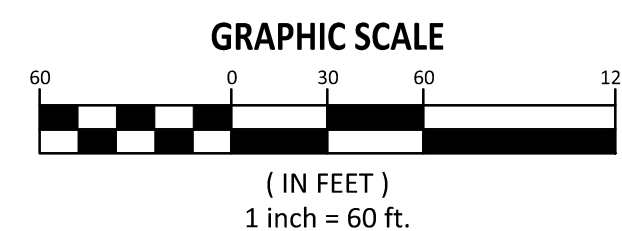
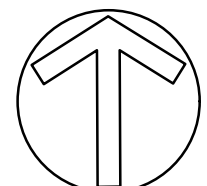
North Carolina 811
 *** 3 Days Before Digging ***
 North Carolina 811
 811 or 1-800-433-7499
 Remote Ticket Entry
 http://nc811.org/remoteticketentry.htm



GENERAL PLANTING NOTES:

- All plant material shall conform with the standards set forth by the American Association of Nurserymen, American Standard for Nursery Stock, ANSI Z60.1.
- Locate all existing utilities prior to installation of plant material. Notify owner of any discrepancies between field conditions and those shown on the plan.
- Contractor engaged in landscape installation shall be a landscape contractor registered in the state of North Carolina.
- Tree protection fence shall be maintained on site until all site work and the final site inspection is completed. The fencing shall be removed prior to the certificate of occupancy (CO) inspection is scheduled.
- Verification of total quantities as shown on the plant list shall be the responsibility of the contractor.
- All plant groupings shall be mulched as one bed. 3" of triple shredded hardwood mulch shall be used around all plantings.
- Apply pre-emergent herbicide to all new planting beds at manufacturer's recommended rate prior to installation of mulch.
- Establish positive drainage in all planting beds and away from buildings.
- Do not install plant material in impervious soils, (i.e. holes which, when filled with water, do not completely drain within two hours.)
- Lawn areas shall be seeded with Riviera or Sunstar Bermuda grass 95% coverage (based on a per square yard sample) shall be attained prior to final inspection. All 3:1 slopes shall be stabilized with biodegradable erosion control matting. See detail sheet seeding schedule.
- General contractor shall be responsible for keeping all equipment & subcontractors away from seeded areas. If damage occurs, through no fault of the owner, areas shall be regraded and reseeded immediately at no additional cost to the owner. Contractor shall water and maintain those areas until they are at 95% coverage at final completion.
- Install permanent seeding along all roadside ditches and channels within construction limits of project. see erosion control plans for additional information.
- Areas damaged from plant relocation or other activities of landscape contractor to be reseeded and established at no additional cost to the owner.
- Mulch and no-mow mixes shall be replenished as needed, especially after heavy rain events. If no-mow mix germinates at a rate of less than 90%, other species shall be removed and the area re-seeded.
- Contractor is responsible for importing, testing, and preparing the soil on site per the recommendations of a soil test. Plants shall be watered at least 2 times per week unless soil is moist based on core sample or moisture meter reading. Water more frequently during establishment.
- Remove (either manually or with pesticide treatment) all weeds in mulch areas, plant beds, tree rings, and hardscape areas: including but not limited to nutsedge, grasses, invasive plants, and any non-desirable plant material. This treatment shall occur monthly until the end of the warranty / maintenance period.
- Mulch line smooth continuous curves.
- All trees not within a plant bed to be treated with a 6-ft diameter mulch ring (typ).
- All foundation trees are to be planted a minimum of 8' away from building wall. Notify Landscape Architect of any discrepancies.

LANDSCAPE REQUIREMENTS			
	REQUIRED	PROVIDED	UDO SECTION
PERIMETER BUFFER			
25' type A 1255 LF (1285 LF - 30 LF easement)	50% of trees and shrubs evergreen Trees 10' between canopies at maturity	207 Evergreen Shrubs + 169 Deciduous Shrubs 22 Evergreen Trees + 21 Deciduous Trees	14.6.7 (1)
20' type B 1061 LF (1111 LF - 50 LF R/W)	50% of shrubs evergreen Trees 20' between canopies at maturity	121 Evergreen Shrubs + 104 Deciduous Shrubs 21 Deciduous Trees	14.6.7 (2)
STREET FRONT TYPE D BUFFER			
1 canopy tree per 40 LF	73	156	14.6.7 (4)
VEHICULAR SURFACE AREA BUFFER			
all spots within 60' of trunk of large tree			14.7



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**KALAS FALLS
 PHASE 5
 CONSTRUCTION DOCUMENTS**
 TOWN OF ROLESVILLE,
 WAKE COUNTY, NC

JOB NUMBER: R180115
 CHECKED BY: JK
 DRAWN BY: GE, RC
 DATE: 12-23-2024
 SHEET TITLE:
**LANDSCAPE
 PLAN
 OVERALL**
 SHEET NO.:
LP100



