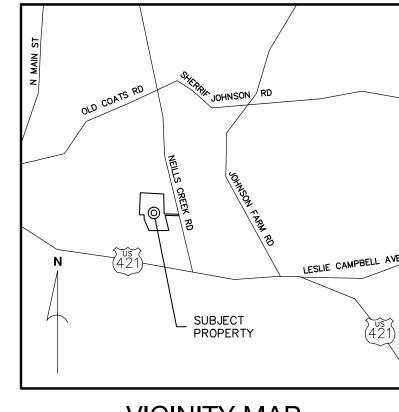
CLOVELLY SOLAR, LLC

HARNETT COUNTY, NORTH CAROLINA

PREPARED FOR:

PINE GATE RENEWABLES, LLC 130 ROBERTS STREET ASHEVILLE, NC 28801 JEFF HUNTLEY (828) 777-6152

INDEX OF SHEETS		
Sheet No.	Title	
C000	COVER	
	SURVEY	
C101	EXISTING CONDITIONS AND DEMOLITION PLAN	
C201	SITE PLAN	
C301	ROUGH GRADING AND EROSION CONTROL PLAN	
0921	SITE DETAILS	
C931	EROSION CONTROL DETAILS	
C932	EROSION CONTROL DETAILS	
C933	EROSION CONTROL DETAILS	
C934	EROSION CONTROL DETAILS	
C998	NCG01	







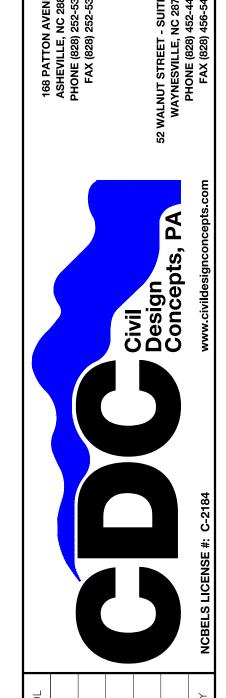
DEVELOPMENT DATA

CONTACT:

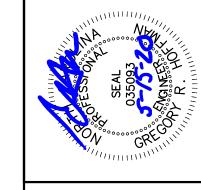
OWNER/DEVELOPER:

PINE GATE RENEWABLES, LLC 130 ROBERTS STREET ASHEVILLE, NC 28801 JEFF HUNTLEY (828) 777-6152 CONTACT: CIVIL ENGINEER:

CIVIL DESIGN CONCEPTS, P.A. 168 PATTON AVENUE ASHEVILLE, NC 28801 GREG HOFFMAN, P.E. (828) 252-5388



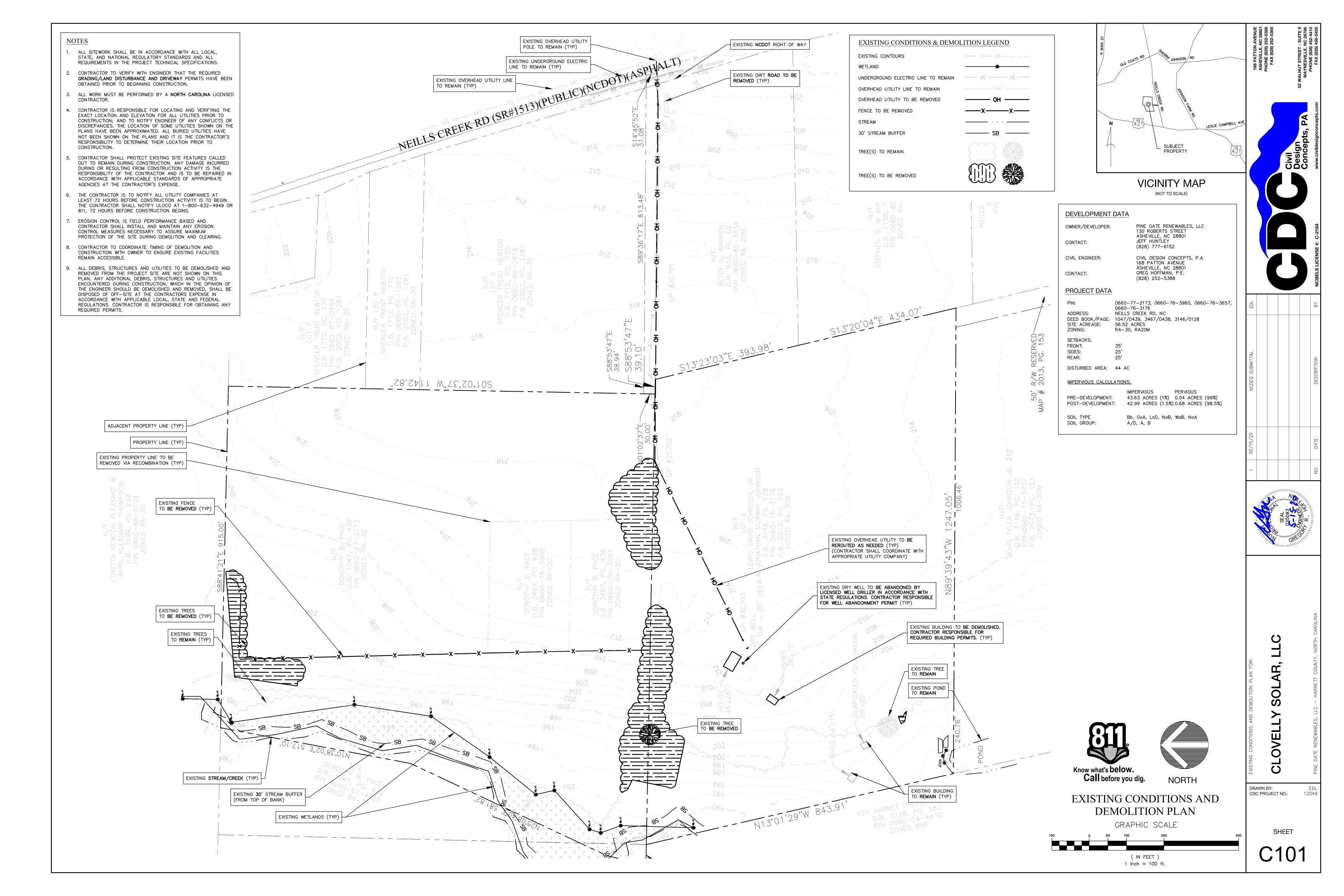
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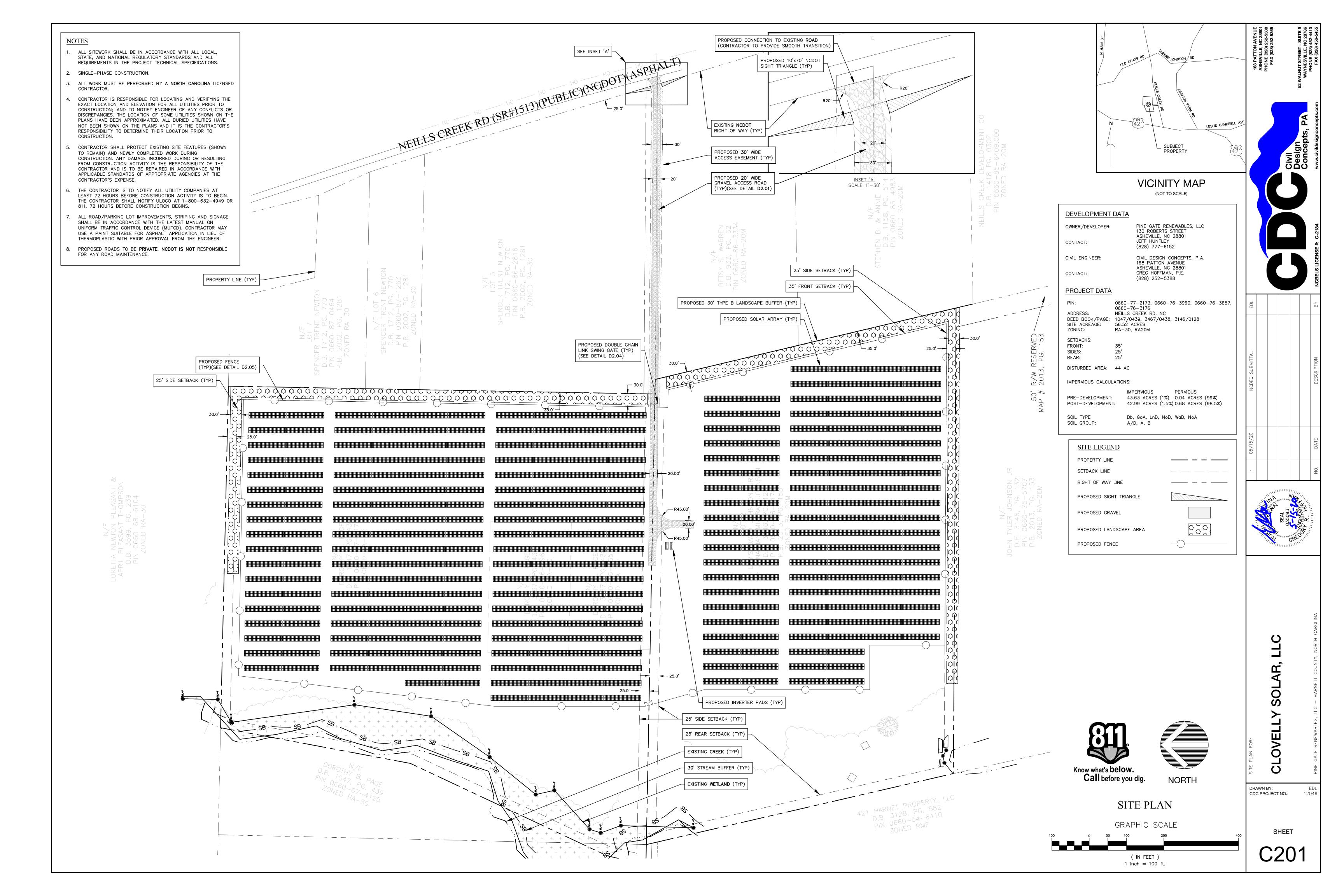


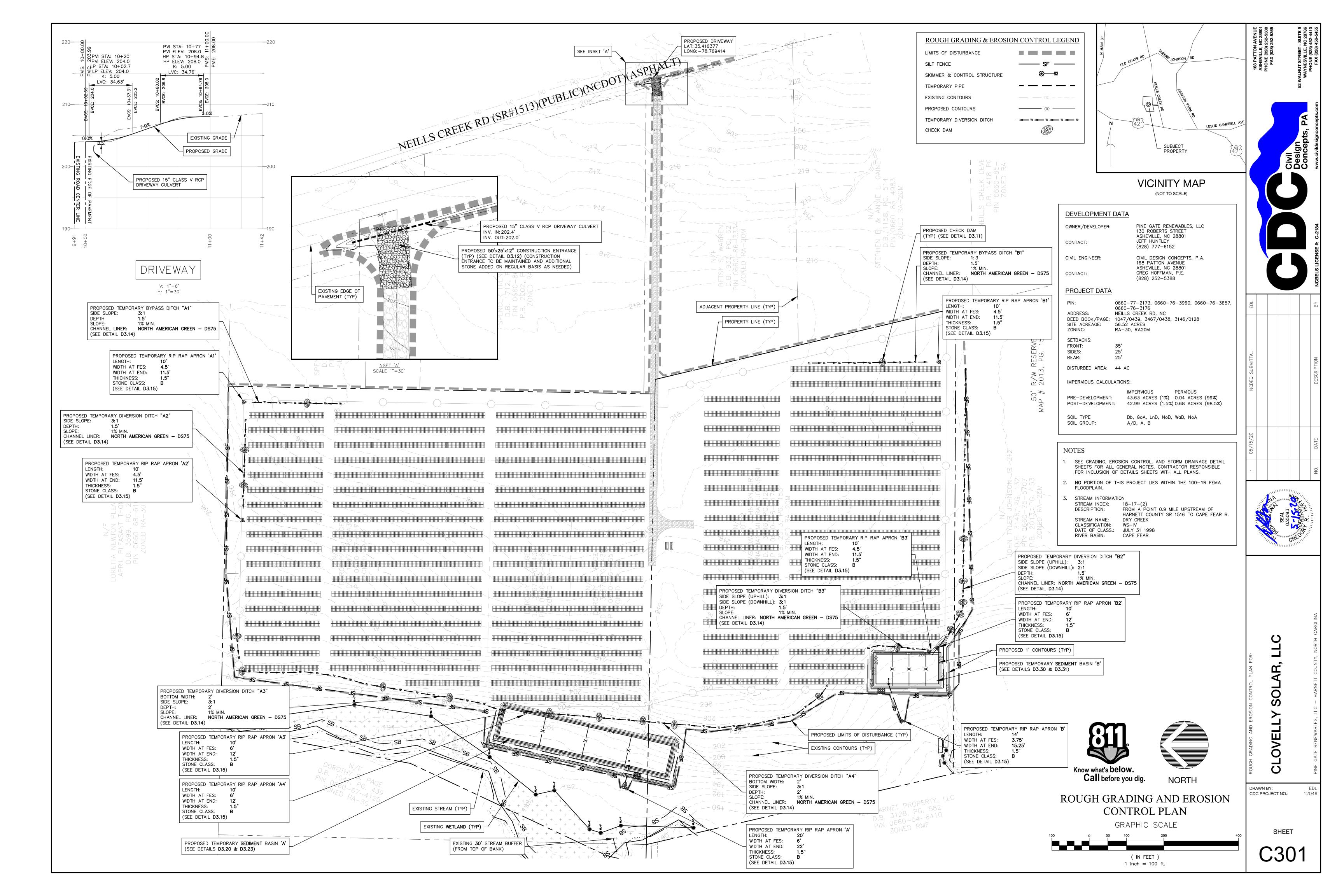
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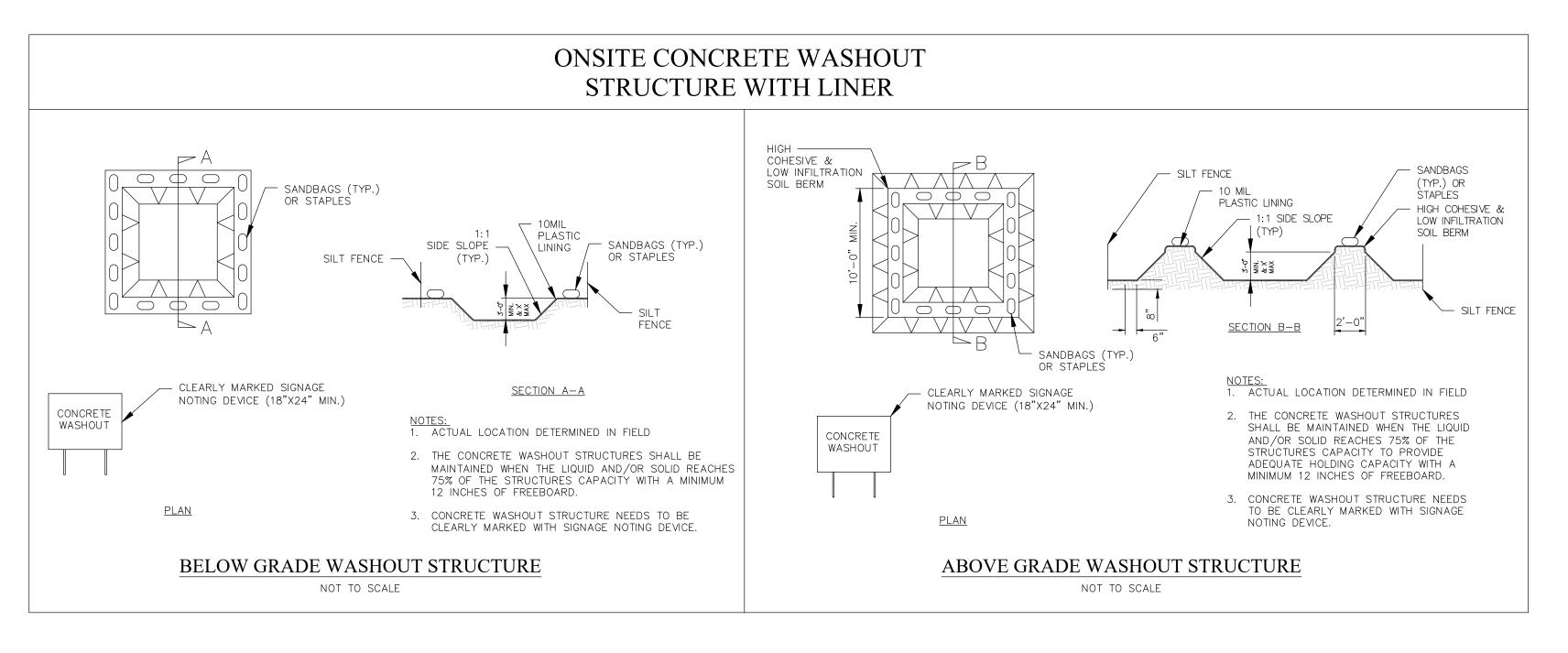
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C000









2. DISPOSE OF, OR RECYCLE, HARDENED CONCRETE RESIDUE IN ACCORDANCE WITH LOCAL AND STATE SOLID WASTE REGULATIONS

3. MANAGE WASHOUT FROM MORTAR MIXERS IN ACCORDANCE WITH THE ABOVE ITEM AND IN ADDITION PLACE THE MIXER AND ASSOCIATED MATERIALS ON IMPERVIOUS BARRIER AND WITHIN LOT PERIMETER SILT FENCE.

4. INSTALL TEMPORARY CONCRETE WASHOUTS PER LOCAL REQUIREMENTS, WHERE APPLICABLE. IF AN ALTERNATE METHOD OR PRODUCT IS TO BE USED., CONTACT YOUR APPROVAL AUTHORITY FOR REVIEW AND APPROVAL. IF LOCAL STANDARD DETAILS ARE NOT AVAILABLE, USE ONE OF THE TWO TYPES OF TEMPORARY CONCRETE WASHOUTS PROVIDED ON THIS DETAIL.

5. DO NOT USE CONCRETE WASHOUTS FOR DEWATERING OR STORING DEFECTIVE CURB OR SIDEWALK SECTIONS. STORMWATER

6. LOCATE WASHOUTS AT LEAST 50 FEET FROM STORM DRAIN INLETS AND SURFACE WATERS UNLESS IT CAN BE SHOWN THAT

NO OTHER ALTERNATIVES ARE REASONABLY AVAILABLE. AT A MINIMUM, INSTALL PROTECTION OF STORM DRAIN INLET(S)

7. LOCATE WASHOUTS IN AN EASILY ACCESSIBLE AREA, ON LEVEL GROUND AND INSTALL A STONE ENTRANCE PAD IN FRONT OF

8. INSTALL AT LEAST ONE SIGN DIRECTING CONCRETE TRUCKS TO THE WASHOUT WITHIN THE PROJECT LIMITS. POST SIGNAGE ON

9. REMOVE LEAVINGS FROM THE WASHOUT WHEN AT APPROXIMATELY 75% CAPACITY TO LIMIT OVERFLOW EVENTS. REPLACE THE TARP, SANDBAGS OR OTHER TEMPORARY STRUCTURAL COMPONENTS WHEN NO LONGER FUNCTIONAL. WHEN USING ALTERNATIVE

10. AT THE COMPLETION OF THE CONCRETE WORK, REMOVE REMAINING LEAVINGS AND DISPOSE OF IN AN APPROVED DISPOSAL

FACILITY. FILL PIT, IF APPLICABLE, AND STABILIZE ANY DISTURBANCE CAUSED BY REMOVAL OF WASHOUT.

SURFACE WATERS. LIQUID WASTE MUST BE PUMPED OUT AND REMOVED FROM PROJECT.

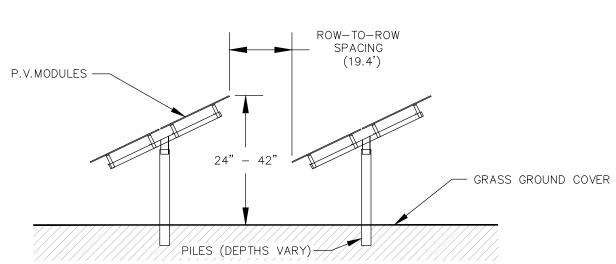
THE WASHOUT. ADDITIONAL CONTROLS MAY BE REQUIRED BY THE APPROVING AUTHORITY.

CLOSEST TO THE WASHOUT WHICH COULD RECEIVE SPILLS OR OVERFLOW.

OR PROPRIETARY PRODUCTS, FOLLOW MANUFACTURER'S INSTRUCTIONS.

THE WASHOUT ITSELF TO IDENTIFY THIS LOCATION.

ACCUMULATED WITHIN THE WASHOUT MAY NOT BE PUMPED INTO OR DISCHARGED TO THE STORM DRAIN SYSTEM OR RECEIVING





6" VERTICAL
SPACING
LINE POST
CAP
BRACE RAIL GALV.
1 5/8" LG40

20/96/6 GALV. FIXED KNOT
FENCING
TENSION BAND 15"
ON CTR.
CORNER/END POST
3" LG40 GALV.
TENSION BAR.
CHAIN LINK FABRIC

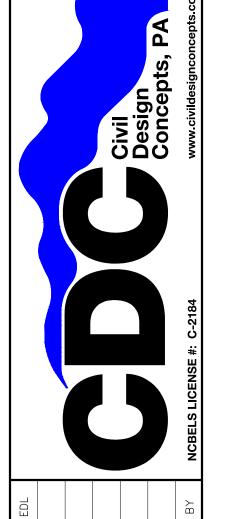
A TOP & BOTTOM GALV.
1 5/8" LG40

CORNER/END POST
3" LG40 GALV.
TENSION BAR.
CHAIN LINK FABRIC

	HEIGHT	MESH	GAGE	SELVAGE	FINISH
FABRIC	8'	F.K.			GALV
FRAME	EWORK	O.D.	WALL	WT. PER FT.	LENGTH
END/CORI	NER POST	3"	0.160	4.64	11'
LINE	POST	2 1/2"	0.130	3.12	10.5'
RA	ILS	1 5/8"	0.111	1.84	21'
GATE	FRAME	1 5/8"	0.111	1.84	VARIES
GATE	POST	4"	0.160	6.56	11'

SITE DETAILS

D2.05 FIXED KNOT FENCE DETAIL NOT TO SCALE



CABC STONE COMPACTED TO 100% OF MAXIMUM

T 180)

TYPICAL GRAVEL CROSS SECTION

NOT TO SCALE

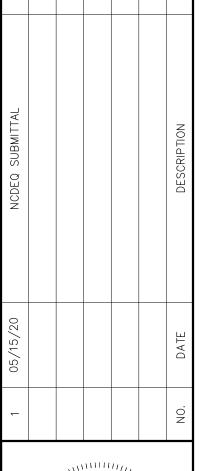
LABORATORY DRY DENSITY (ASTM D 1557 OR AASHTO

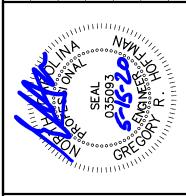
SUBGRADE TO MINIMUM 98%

- OF THE MAXIMUM DRY

STANDARD PROCTOR TEST

DENSITY USING THE



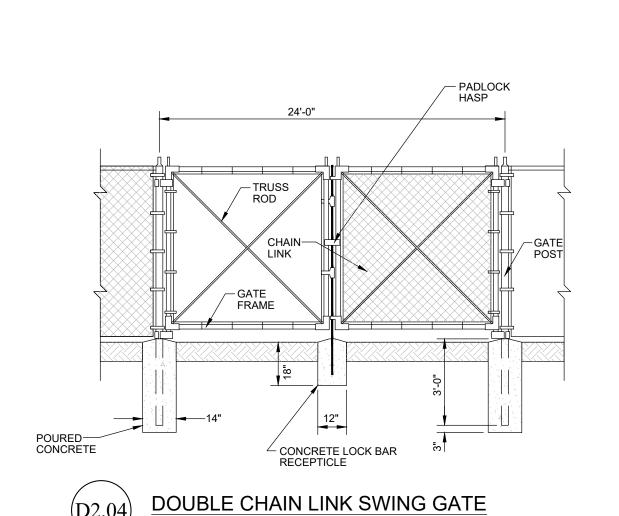


CLOVELLY SOLAR, LLC

DRAWN BY: EDL CDC PROJECT NO.: 12049

SHEET

C92



1. DO NOT DISCHARGE CONCRETE OR CEMENT SLURRY FROM THE SITE.

GENERAL CONSTRUCTION NOTES

- 1. ALL GRADING, STORM INSTALLATION, AND SOIL EROSION CONTROL MEASURES ON THIS SITE MUST BE AUTHORIZED BY PERMITS ISSUED BY NCDEQ. ALL SITEWORK SHALL BE IN ACCORDANCE WITH ALL LOCAL. STATE, AND NATIONAL REGULATORY STANDARDS AND ALL REQUIREMENTS IN THE PROJECT TECHNICAL SPECIFICATIONS
- 2. CONTRACTOR TO VERIFY WITH ENGINEER THAT THE REQUIRED GRADING, EROSION CONTROL, STORM WATER, LAND DISTURBANCE, AND ASSOCIATED NON-GRADING PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
- 3. ALL CONSTRUCTION SHALL BE UNDER THE INSPECTION OF THE ENGINEER, THE OWNER, AND NCDEQ. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS PRIOR TO BEGINNING WORK. ANY WORK COVERED PRIOR TO ENGINEER'S INSPECTION IS SUBJECT TO UNCOVERING AND BACKFILLING AT THE CONTRACTOR'S EXPENSE.
- 4. ALL WORK MUST BE PERFORMED BY A NORTH CAROLINA LICENSED CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING THE EXACT LOCATION AND ELEVATION FOR ALL UTILITIES PRIOR TO CONSTRUCTION; AND TO NOTIFY ENGINEER OF ANY CONFLICTS OR DISCREPANCIES. THE LOCATION OF SOME UTILITIES SHOWN ON THE PLANS HAVE BEEN APPROXIMATED. ALL BURIED UTILITIES HAVE NOT BEEN SHOWN ON THE PLANS AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR LOCATION PRIOR TO
- 6. PROTECT EXISTING SITE FEATURES (SHOWN TO REMAIN) AND NEWLY COMPLETED WORK DURING CONSTRUCTION. ANY DAMAGE INCURRED DURING OR RESULTING FROM CONSTRUCTION ACTIVITY IS THE RESPONSIBILITY OF THE CONTRACTOR AND IS TO BE REPAIRED IN ACCORDANCE WITH APPLICABLE STANDARDS OF APPROPRIATE AGENCIES, AS WELL AS THE PROJECT PLANS AND SPECIFICATIONS, AT THE CONTRACTOR'S EXPENSE.
- 7. THE CONTRACTOR IS TO NOTIFY ALL UTILITY COMPANIES AT LEAST 72 HOURS BEFORE CONSTRUCTION ACTIVITY IS TO BEGIN. THE CONTRACTOR SHALL NOTIFY NC ONE CALL AT 811, 48 HOURS BEFORE CONSTRUCTION BEGINS. NOTIFY THE ENGINEER AT LEAST 72 HOURS BEFORE STARTING CONSTRUCTION ACTIVITIES.
- 8. EROSION CONTROL IS A FIELD PERFORMANCE BASED ACTIVITY; AND ADDITIONAL SILT FENCES, TEMPORARY SEDIMENT BASINS, AND ALL OTHER MEASURES MAY NEED TO BE ADDED IN ADDITION TO THE APPROVED PLAN AS NECESSARY, MEASURES SHOWN CAN AND SHOULD BE ADJUSTED TO ASSURE MAXIMUM PROTECTION ON SITE. CONTRACTOR SHALL ADD ADDITIONAL MEASURES AS NEEDED IN ENVIRONMENTALLY SENSITIVE AREAS.
- 9. CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MAINTAINING, AND REMOVING ALL NECESSARY EROSION AND SEDIMENTATION CONTROL MEASURES.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ADJUSTMENT OF ALL UTILITY SURFACE ACCESSES WHETHER THE CONTRACTOR PERFORMS THE WORK OR A UTILITY COMPANY PERFORMS THE WORK.
- 11. ALL AREAS WHERE THERE IS EXPOSED DIRT SHALL BE SEEDED. FERTILIZED AND MULCHED ACCORDING TO THE SPECIFICATIONS NOTES IN THE PLANS. SITE STABILIZATION IS A PERFORMANCE BASED REQUIREMENT, AND THE SITE WILL NOT BE ACCEPTED UNTIL PERMANENT VEGETATION IS ESTABLISHED TO THE SATISFACTION OF THE ENGINEER.
- 12. ALL HIGH DENSITY POLYETHYLENE (HDPE) CORRUGATED STORM SEWER DETENTION PIPE SHALL BE TYPE "S" HANCOR SURELOK ADSN12 OR APPROVED EQUIVALENT WITH WATER TIGHT JOINTS MEETING AASHTO M252, M294 OR MP7. ALL HDPE PIPE IS TO BE INSTALLED ACCORDINGLY TO MANUFACTURERS SPECIFICATIONS AND IN ACCORDANCE WITH ASTM D2321 WITH THE EXCEPTION THAT MINIMUM COVER IN TRAFFIC LOAD AREA SHALL BE 24" FOR 4"-48" AND 18" FOR 60". PIPE MATERIAL SHALL MEET THE PRODUCT SPECIFICATIONS OF ASTM F667 AND SHALL HAVE A SMOOTH WALL INTERIOR. FOR ALL STORM SYSTEMS, WORK MUST BEGIN AT THE LOW POINT OF THE SYSTEMS. NOTIFY THE ENGINEER IMMEDIATELY OF ANY VARIANCES FROM EXPECTED CONDITIONS.
- 13. CURB INLET FRAME, GRATE AND HOOD SHALL CONFORM TO NCDOT 840.03E. DROP INLET FRAME AND GRATE SHALL CONFORM TO NCDOT 840.16. FIELD INLET COVER SHALL CONFORM TO NCDOT STANDARD DETAIL 840.03, OPENING FACING UPSTREAM. MANHOLE RING AND LID TO CONFORM TO NCDOT 840.54. OPEN THROAT INLETS TO CONFORM TO NCDOT 840.04 WITH A MANHOLE RING AND LID INSTALLED IN THE TOP FOR ACCESS TO THE STRUCTURE. SET ACCESS POINT ADJACENT TO A STRUCTURE WALL AS TO ALLOW
- 14. CONCRETE AND MASONRY SHALL MEET THE REQUIREMENTS OF APPROPRIATE SECTION OF NCDOT STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES (LATEST EDITION). CONCRETE SHALL BE CLASS A OR B, 4000 PSI MINIMUM, MEETING THE REQUIREMENTS OF SECTION 900, CONSTRUCTED IN ACCORDANCE WITH SECTION 825. MASONRY SHALL MEET THE REQUIREMENTS OF SECTION 940, CONSTRUCTED IN ACCORDANCE WITH SECTION 830
- 15. TRENCH BACKFILL AND COMPACTION TESTING SHALL BE PERFORMED BY A CERTIFIED SOILS LABORATORY UNDER ALL PAVED AREAS.
- 16. CONTRACTOR RESPONSIBLE FOR KEEPING ACCURATE LOG OF SITE CONDITIONS IN ACCORDANCE WITH NPDES PERMIT. MAINTENANCE INSPECTIONS SHALL BE PERFORMED WEEKLY AND AFTER EACH RAINFALL. ALL REPAIRS NECESSARY SHOULD BE MADE IMMEDIATELY AND IN STRICT ACCORDANCE WITH **NCDEQ STANDARDS A**ND NPDES PERMI CONTRACTOR SHALL SUPPLY THE ENGINEER WITH RECORD OF DEVIATIONS FROM PLANS FOR PREPARATION OF FINAL RECORD DRAWINGS.
- 17. ALL SLOPES GREATER THAN 2:1 SLOPE AND OVER 5' IN HEIGHT SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL AS REQUIRED BY NCDEQ
- 18. CONTRACTOR IS REQUIRED TO OBTAIN AND PROVIDE A COPY OF THE EROSION CONTROL PERMIT FOR ANY OFFSITE BORROW/ SPOIL AREA. CONTRACTOR MUST PROVIDE COPY OF PERMIT TO NCDEQ INSPECTOR PRIOR TO CONSTRUCTION.
- 19. IF BORROWED OR WASTE FILL MATERIAL IS GENERATED, AN APPROVED GRADING PERMIT MUST BE SECURED FOR THE BORROW OR WASTE MATERIAL SITE PRIOR TO INITIATION OF ANY LAND DISTURBING ACTIVITY
- 20. ALL FILL SLOPES SHALL BE COMPACTED FULL DEPTH TO NOT LESS THAN 95% MAXIMUM DENSITY (STANDARD PROCTOR), SHALL BE PLACED ON A SURFACE CLEARED OF GROWTH AND DEBRIS, AND BE PROPERLY BENCHED AND DRAINED.
- 21. COMPACTION REPORTS MUST BE PROVIDED TO THE NCDEQ STORMWATER SERVICES DIVISION INDICATING THAT FILL HAS BEEN COMPACTED TO NOT LESS THAN 95% MAXIMUM DENSITY (STANDARD PROCTOR).
- 22. ALL FILL MATERIAL, UNLESS A PERMIT FROM NCDEQ DIVISION OF WASTE MANAGEMENT TO OPERATE A LANDFILL IS ON FILE FOR THE OFFICAL SITE, SHALL BE FREE OF ORGANIC OR OTHER DEGRADABLE MATERIALS, MASONRY, CONCRETE AND BRICK SIZES EXCEEDING 12 INCHES, AND ANY MATERIALS WHICH COULD CAUSE THE SITE TO BE REGULATED AS A LANDFILL BY THE STATE OF NORTH CAROLINA.

EROSION CONTROL MAITENANCE NOTES:

- INSPECT EROSION CONTROL MEASURES ONCE A WEEK AND AFTER EVERY SIGNIFICANT RAINFALL. CONTRACTOR TO INSPECT MEASURES FOR COMPLIANCE WITH PLANS AND DETAILS; INCLUDING SEDIMENT ACCUMULATION BEYOND DETAIL ALLOWANCE, AND ALSO DAMAGE OR FAILURE OF
- 2. WHEN SEDIMENT ACCUMULATION EXCEEDS DETAIL ALLOWANCE, CONTRACTOR TO REMOVE SEDIMENT AND/OR DEBRIS, AND RELOCATE TO ANOTHER AREA WITH SEDIMENT CONTROLS.
- 3. WHEN MEASURES ARE FOUND TO BE DAMAGED, CONTRACTOR TO REPAIR IMMEDIATELY TO BRING MEASURE BACK INTO COMPLIANCE WITH PLANS AND DETAILS.
- 4. IF MEASURES ARE FOUND TO BE INSUFFICIENT, CONTRACTOR TO INSTALL ADDITIONAL MEASURES AS NEEDED TO ENSURE SEDIMENT REMAINS CONTROLLED ONSITE AS REQUIRED.
- 5. CONTRACTOR TO REMOVE MEASURES AND BRING AREA TO GRADE ONCE CONFORMATION OF SITE STABILIZATION HAS BEEN REQUESTED AND RECEIVED FROM PROJECT ENGINEER.

CONSTRUCTION SEQUENCE

- CONTACT NCDEQ AT THE WASHINGTON OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND-DISTURBING ACTIVITY. THE CONTACT NUMBER IS
- 2. INSTALL SITE CONSTRUCTION ENTRANCE, STONE STAGING, AND MOBILIZATION AREA.
- INSTALL ALL EROSION CONTROL MEASURES AS REQUIRED BY THE APPROVED PLANS. INCLUDING SEDIMENT TRAPS, SILT FENCES, BARRIERS AND DIVERSION DITCHES AS
- 4. STABILIZE BANKS AS EARLY AS POSSIBLE.
- 5. PROCEED WITH GRADING, CLEARING AND GRUBBING.
- 6. APPLY TEMPORARY AND PERMANENT SEEDING, RIP RAP AND STABILIZATION MEASURES.
- 7. PERIMETER MEASURES MUST BE LEFT IN PLACE UNTIL ALL UPLAND AREAS ARE PERMANENTLY STABILIZED. AFTER SITE IS PERMANENTLY STABILIZED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND PROVIDE PERMANENT SEEDING WHERE TEMPORARY MEASURES HAVE BEEN REMOVED AND GROUND COVER IS NOT ADEQUATE SEDIMENT BASINS MAY NOT BE REMOVED OR CONVERTED TO PERMANENT BMPS UNTIL ALL UPLAND AREAS ARE PERMANENTLY STABILIZED. ALL EROSIONS CONTROL MEASURES INCLUDING SEDIMENT BASINS MUST BE REMOVED.
- 8. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR.
- 9. WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT THE TOWN OF HENDERSONVILLE TO CLOSE OUT THE E&SC PLAN. AFTER HENDSERONVILLE INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E-NOT). A \$100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILLED OUT.

MAINTENANCE INSPECTIONS SHALL BE PERFORMED WEEKLY AND AFTER EACH RAINFALL. ALL REPAIRS NECESSARY SHOULD BE MADE IMMEDIATELY AND IN STRICT ACCORDANCE WITH NCDEQ STANDARDS AND NPDES PERMIT.

NCDEQ EROSION CONTROL AND TEMPORARY **SEEDING NOTES**

GENERAL: ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF NCDEQ. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

- 1. OBTAIN EROSION AND SEDIMENTATION CONTROL PERMIT.
- 2. INSTALL ALL EROSION CONTROL MEASURES AS REQUIRED.
- 3. OBTAIN GRADING PERMIT THROUGH ON-SITE INSPECTION BY A REPRESENTATIVE OF NCDEQ.
- 4. PROCEED WITH GRADING, CLEARING, AND GRUBBING.
- 5. SEED AND MULCH DENUDED AREA WITHIN EITHER 7 CALENDAR DAYS (SLOPES GREATER THAN 3:1) OR 14 CALENDAR DAYS (3:1 OR FLATTER). AFTER FINISHED GRADE ARE ESTABLISHED, TEMPORARY SEEDING AND SOIL AMENDMENTS SHALL BE PLACED ON A PREPARED SEEDBED AT THE FOLLOWING RATES PER ACRE

LIME	2,000 L
FERTILIZER (10-10-10)	1,000 LE
STRAW MULČH	4,000 LI

FOR LATE WINTER/EARLY SPRING SEEDING ADD TO THE ABOVE

RYE GRAIN 120 LBS 50 LBS (OMIT IF COVER IS NOT TO EXTEND BEYOND JUNE) ANNUAL LESPEDEZA

FOR SUMMER SEEDING ADD: 40 LBS GERMAN MILLET FOR FALL ADD: RYE GRAIN 120 LBS

IF HYDROSEEDING IS USED, WOOD CELLULOSE MAY BE SUBSTITUTED FOR STRAW MULCH AT THE RATE OF 1,000 LBS PER ACRE.

PREFERRED ANCHORING METHOD ON STEEP SLOPES. A DISK WITH BLADES SET NEARLY STRAIGHT

SOIL AMENDMENTS:

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 5-10-10 FERTILIZER.

MULCH: APPLY 4,000-5,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCHING MATERIAL. ANCHOR MULCH USING MULCH ANCHORING TOOL OR NETTING. NETTING IS THE

- CAN BE USED AS A MULCH ANCHORING TOOL. 6. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- 7. REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREA.
- 8. REQUEST FINAL APPROVAL BY NCDEQ.

PERMANENT SEEDING MEASURES

ALL PERMANENT MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF NCDENR. THE FOLLOWING APPLY TO AREAS WITHIN NCDENR PERMANENT SEEDING MIXTURE AREA #1M:

SEEDING MIXTURE:

SPECIES RATE (LB/ACRE)

PURPLETOP SWITCHGRASS PARTRIDGE PEA 10

NURSE PLANTS:

BETWEEN MAY 1 AND AUG. 15, ADD 10 LB/ACRE GERMAN MILLET OR 10 LB/ACRE LITTLE BLUESTEM. PRIOR TO MAY 1 OR AFTER AUG. 15, ADD 40 LB/ACRE RYE (GRAIN). IT MAY BE BENEFICIAL TO PLANT THE GRASSES IN LATE SUMMER.

BEST POSSIBLE

BELOW 2500 FT: AUG. 15 - SEPT. 1 JULY 25 - SEPT 15 MAR. 1 — APR. 1 MAR. 1 - MAY 10 JULY 25 - AUG. 15 JULY 15 - AUG. 30 MAR. 20 - APR. 20 MAR. 5 - MAY 15

COMPLETE SEEDING EARLIER IN FALL, AND START LATER IN SPRING ON NORTH- AND EAST-FACING SLOPES.

SOIL AMENDMENTS: APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 5-10-10 FERTILIZER.

APPLY 4,000-5,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCHING MATERIAL. ANCHOR MULCH USING MULCH ANCHORING TOOL OR NETTING. NETTING IS THE PREFERRED ANCHORING METHOD ON STEEP SLOPES. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE MOW NO MORE THAN ONCE A YEAR. REFERTILIZE IN THE SECOND YEAR UNLESS GROWTH IS FULLY ADEQUATE. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

1) GROUND STABILIZATION

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES, AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES GREATER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAT 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

*EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE. (SECTION II.B(2)(B))

2) BUILDING WASTE HANDLING

- NO PAINT OR LIQUID WASTE IN STREAM OR STORM DRAINS. DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED 50' FROM STORM DRAINS AND
- STREAMS UNLESS NO REASONABLE ALTERNATIVES AVAILABLE. EARTHEN-MATERIAL STOCKPILES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE
- ALTERNATIVES AVAILABLE CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.

3) DISCHARGES TO FEDERALLY-LISTED WATERS

• REQUIREMENTS ARE THE SAME AS IN PREVIOUS PERMIT. THE PERMIT ALLOWS REDUCTION FROM THE 20 ACRE MINIMUM IF THE DIRECTOR OF DWQ DETERMINES THAT OTHER BMPS PROVIDE FOUIVALENT PROTECTION.

4) SELF-INSPECTION REQUIREMENTS

- SAME WEEKLY INSPECTION REQUIREMENTS.
- SAME RAIN GAUGE & INSPECTIONS AFTER 0.5" RAIN EVENT. INSPECTIONS ARE ONLY REQUIRED DURING "NORMAL BUSINESS"
- RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE ON-SITE DURING BUSINESS HOURS UNLESS A SITE-SPECIFIC EXEMPTION IS
- RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE UPON
- ELECTRONICALLY—AVAILABLE RECORDS MAY BE SUBSTITUTED UNDER CERTAIN CONDITIONS
- ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND CONDITIONS RECORDED ON NCDEQ SELF-INSPECTION AND SELF-MONITORING COMBINED FORM LOCATED AT HTTPS: //DEQ.NC.GOV/ABOUT/DIVISIONS/

5) IMPLEMENTATION OF NEW PERMIT CONDITIONS

ENERGY-MINERAL-LAND-RESOURCES/EROSION-SEDIMENT-CONTROL/FORMS

- PROJECTS PERMITTED UNDER THE PREVIOUS PERMIT CAN CONTINUE
- TO FOLLOW THE PREVIOUSLY-PERMITTED CONDITIONS. COMPLETE APPLICATIONS RECEIVED PRIOR TO AUGUST 3, 2011 CAN FOLLOW CONDITIONS OF APPROVED APPLICATION.
- APPLICATIONS RECEIVED AFTER AUGUST 2, 2011 MUST COMPLY WITH NEW PERMIT CONDITIONS.

6) CONDITIONS IN EROSION & SEDIMENTATION CONTROL PLANS

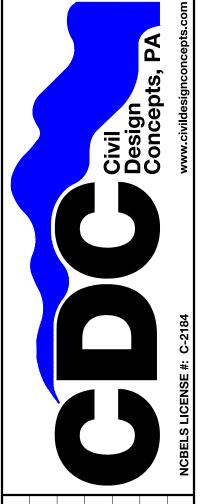
- DESIGNATION ON THE PLANS WHERE 7 AND 14—DAY GROUND
- STABILIZATION REQUIREMENTS ON THE NPDES PERMIT APPLY. DESIGNATION ON THE PLANS WHERE BASINS THAT COMPLY WITH
- THE SURFACE-WITHDRAWAL REQUIREMENTS OF THE NPDES PERMIT ARE LOCATED.

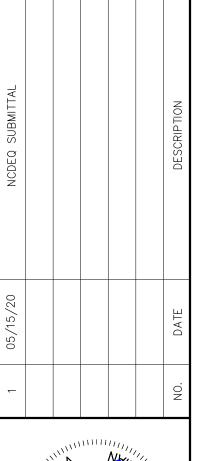
7) SEDIMENT BASINS

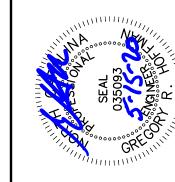
- OUTLET STRUCTURES MUST WITHDRAW FROM BASIN SURFACE UNLESS DRAINAGE AREA IS LESS THAN 1 ACRE.
- USE ONLY DWQ—APPROVED FLOCCULANTS.

GENERAL CONSTRUCTION NOTES

- ALL GRADING, STORM INSTALLATION, AND SOIL EROSION CONTROL MEASURES ON THIS SITE MUST BE AUTHORIZED BY PERMITS ISSUED BY THE NCDEQ. ALL SITEWORK SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL REGULATORY STANDARDS AND ALL REQUIREMENTS IN THE PROJECT TECHNICAL SPECIFICATIONS.
- CONTRACTOR TO VERIFY WITH ENGINEER THAT THE REQUIRED GRADING, EROSION CONTROL, STORM WATER, LAND DISTURBANCE, AND ASSOCIATED NON-GRADING PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
 - ALL CONSTRUCTION SHALL BE UNDER THE INSPECTION OF THE ENGINEER, THE OWNER, AND NCDEQ. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS PRIOR TO BEGINNING WORK. ANY WORK COVERED PRIOR TO ENGINEER'S INSPECTION IS SUBJECT TO UNCOVERING AND BACKFILLING AT THE CONTRACTOR'S EXPENSE.
 - 4. ALL WORK MUST BE PERFORMED BY A NORTH CAROLINA LICENSED CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING THE EXACT LOCATION AND ELEVATION FOR ALL UTILITIES PRIOR TO CONSTRUCTION: AND TO NOTIFY ENGINEER OF ANY CONFLICTS OR DISCREPANCIES. THE LOCATION OF SOME UTILITIES SHOWN ON THE PLANS HAVE BEEN APPROXIMATED. ALL BURIED UTILITIES HAVE NOT BEEN SHOWN ON THE PLANS AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR LOCATION PRIOR TO
- PROTECT EXISTING SITE FEATURES (SHOWN TO REMAIN) AND NEWLY COMPLETED WORK DURING CONSTRUCTION. ANY DAMAGE INCURRED DURING OR RESULTING FROM CONSTRUCTION ACTIVITY IS THE RESPONSIBILITY OF THE CONTRACTOR AND IS TO BE REPAIRED IN ACCORDANCE WITH APPLICABLE STANDARDS OF APPROPRIATE AGENCIES, AS WELL AS THE PROJECT PLANS AND SPECIFICATIONS, AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS TO NOTIFY ALL UTILITY COMPANIES AT LEAST 72 HOURS BEFORE CONSTRUCTION ACTIVITY IS TO BEGIN. THE CONTRACTOR SHALL NOTIFY NC ONE CALL AT 811. 48 HOURS BEFORE CONSTRUCTION BEGINS. NOTIFY THE ENGINEER AT LEAST 72 HOURS BEFORE STARTING CONSTRUCTION ACTIVITIES.
- EROSION CONTROL IS A FIELD PERFORMANCE BASED ACTIVITY; AND ADDITIONAL SILT FENCES, TEMPORARY SEDIMENT BASINS, AND ALL OTHER MEASURES MAY NEED TO BE ADDED IN ADDITION TO THE APPROVED PLAN AS NECESSARY, MEASURES SHOWN CAN AND SHOULD BE ADJUSTED TO ASSURE MAXIMUM PROTECTION ON SITE. CONTRACTOR SHALL ADD ADDITIONAL MEASURES AS NEEDED IN ENVIRONMENTALLY SENSITIVE AREAS.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MAINTAINING, AND REMOVING ALL NECESSARY EROSION AND SEDIMENTATION CONTROL MEASURES.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ADJUSTMENT OF ALL UTILITY SURFACE ACCESSES WHETHER THE CONTRACTOR PERFORMS THE WORK OR A UTILITY COMPANY PERFORMS THE WORK.
- 11. ALL AREAS WHERE THERE IS EXPOSED DIRT SHALL BE SEEDED, FERTILIZED AND MULCHED ACCORDING TO THE SPECIFICATIONS NOTES IN THE PLANS. SITE STABILIZATION IS A PERFORMANCE BASED REQUIREMENT, AND THE SITE WILL NOT BE ACCEPTED UNTIL PERMANENT VEGETATION IS ESTABLISHED TO THE SATISFACTION OF THE ENGINEER.
- 12. ALL HIGH DENSITY POLYETHYLENE (HDPE) CORRUGATED STORM SEWER DETENTION PIPE SHALL BE TYPE "S" HANCOR SURELOK ADSN12 OR APPROVED EQUIVALENT WITH WATER TIGHT JOINTS MEETING AASHTO M252, M294 OR MP7. ALL HDPE PIPE IS TO BE INSTALLED ACCORDINGLY TO MANUFACTURERS SPECIFICATIONS AND IN ACCORDANCE WITH ASTM D2321 WITH THE EXCEPTION THAT MINIMUM COVER IN TRAFFIC LOAD AREA SHALL BE 24" FOR 4"-48" AND 18" FOR 60". PIPE MATERIAL SHALL MEET THE PRODUCT SPECIFICATIONS OF ASTM F667 AND SHALL HAVE A SMOOTH WALL INTERIOR. FOR ALL STORM SYSTEMS, WORK MUST BEGIN AT THE LOW POINT OF THE SYSTEMS. NOTIFY THE ENGINEER IMMEDIATELY OF ANY VARIANCES FROM EXPECTED CONDITIONS.
- 13. CONTRACTOR RESPONSIBLE FOR KEEPING ACCURATE LOG OF SITE CONDITIONS IN ACCORDANCE WITH NPDES PERMIT. MAINTENANCE INSPECTIONS SHALL BE PERFORMED WEEKLY AND AFTER EACH RAINFALL. ALL REPAIRS NECESSARY SHOULD BE MADE IMMEDIATELY AND IN STRICT ACCORDANCE WITH NCDEQ AND NPDES PERMIT. CONTRACTOR SHALL SUPPLY THE ENGINEER WITH RECORD OF DEVIATIONS FROM PLANS FOR PREPARATION OF FINAL RECORD DRAWINGS.
- 14. CONTRACTOR IS REQUIRED TO OBTAIN AND PROVIDE A COPY OF THE EROSION CONTROL PERMIT FOR ANY OFFSITE BORROW/ SPOIL AREA. CONTRACTOR MUST PROVIDE COPY OF PERMIT TO THE NCDEQ INSPECTOR PRIOR TO CONSTRUCTION.
- 15. IF BORROWED OR WASTE FILL MATERIAL IS GENERATED, AN APPROVED GRADING PERMIT MUST BE SECURED FOR THE BORROW OR WASTE MATERIAL SITE PRIOR TO INITIATION OF ANY LAND DISTURBING ACTIVITY
- 16. ALL FILL SLOPES SHALL BE COMPACTED FULL DEPTH TO NOT LESS THAN 95% MAXIMUM DENSITY (STANDARD PROCTOR). SHALL BE PLACED ON A SURFACE CLEARED OF GROWTH AND DEBRIS, AND BE PROPERLY BENCHED AND DRAINED.
- 17. ALL FILL MATERIAL, UNLESS A PERMIT FROM NCDENR DIVISION OF WASTE MANAGEMENT TO OPERATE A LANDEILL IS ON FILE FOR THE OFFICAL SITE, SHALL BE FREE OF ORGANIC OR OTHER DEGRADABLE MATERIALS. MASONRY. CONCRETE AND BRICK SIZES EXCEEDING 12. INCHES, AND ANY MATERIALS WHICH COULD CAUSE THE SITE TO BE REGULATED AS A LANDFILL BY THE STATE OF NORTH CAROLINA.







EROSION CONTROL DETAILS

SHEET

DRAWN BY:

CDC PROJECT NO.:

12049

BETWEEN CHECK DAMS EXCEPT ON ROADS GREATER THAN 10% GRADE IN WHICH CASE MAXIMUM SPACING OF 50' BETWEEN CHECK DAMS IS REQUIRED

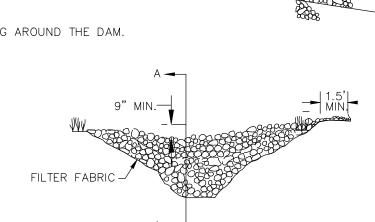
NOTE: MAXIMUM 100' SPACING

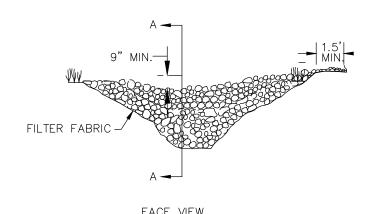
STONE CHECK DAM: STONE SHOULD BE PLACED OVER THE CHANNEL BANKS TO KEEP WATER FROM CUTTING AROUND THE DAM. L = THE DISTANCE SUCH THAT POINTSA AND B ARE OF EQUAL ELEVATION

- THE FOLLOWING CRITERIA SHOULD BE USED WHEN DESIGNING A CHECK DAM: - ENSURE THAT THE DRAINAGE AREA ABOVE THE CHECK DAM DOES NOT EXCEED 0.5 ACRES. - KEEP THE MAXIMUM HEIGHT AT 2 FT AT THE CENTER OF THE DAM. - KEEP THE CENTER OF THE CHECK DAM AT LEAST 9 INCHES LOWER THAN
- THE OUTER EDGES AT NATURAL GROUND ELEVATION. - KEEP THE SIDE SLOPES OF THE DAM AT 2:1 OR FLATTER. - ENSURE THAT THE MAXIMUM SPACING BETWEEN DAMS PLACES THE TOE OF THE UPSTREAM DAM AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM. - STABILIZE OVERFLOW AREAS ALONG THE CHANNEL TO RESIST EROSION
- CAUSED BY CHECK DAMS. - USE NCDOT CLASS B STONE AND LINE THE UPSTREAM SIDE OF THE DAM WITH NCDOT #5 OR #57 STONE.
- KEY THE STONE INTO THE DITCH BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 1.5 FEET TO AVOID WASHOUTS FROM OVERFLOW AROUND THE DAM.

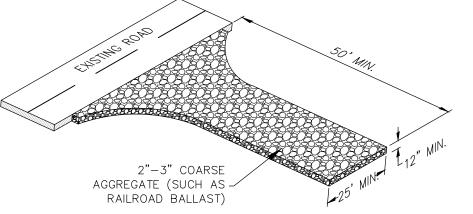


STONE CHECK DAM



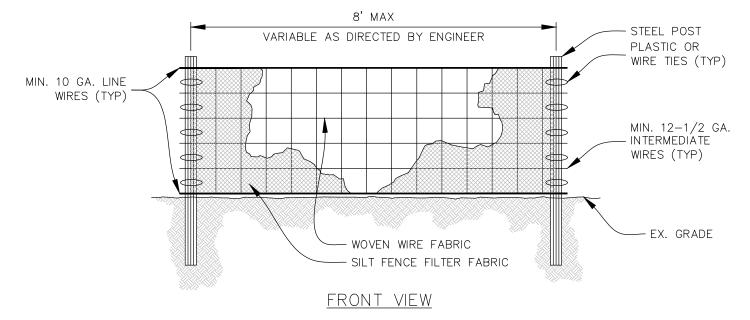


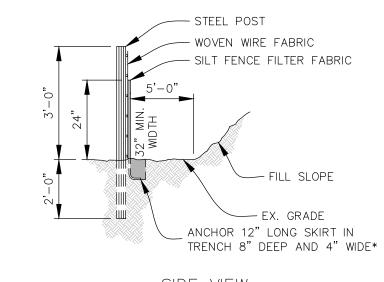
STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



NOTES:

- 1. A STABILIZED PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM AN EXISTING ROAD.
- 2. FILTER FABRIC SHALL BE PLACED UNDER. THE ENTRANCE/EXIT AND SHALL BE MIRAFI 500 OR EQUAL.
- 3. STONE TO BE 2-3 INCH WASHED STONE.
- 4. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- 5. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC STREETS MUST BE REMOVED IMMEDIATELY.
- 6. WHEN NECESSARY WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET, WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN





<u>SIDE VIEW</u>

CONSTRUCTION NOTES:

- 1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER
- 2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24" ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.)
- 3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4' MIN. OVERLAP TO THE NEXT POST.
- 4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE RENFORCEMENT, THEN THE FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC TIES SHOULD HAVE A MIN. 50 Ib TENSILE STRENGTH.
- 5. EXCAVATE A TRENCH APPROXIMATELY 4" WIDE AND 8" DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- 6. PLACE 12" OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
- 7. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
- 8. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

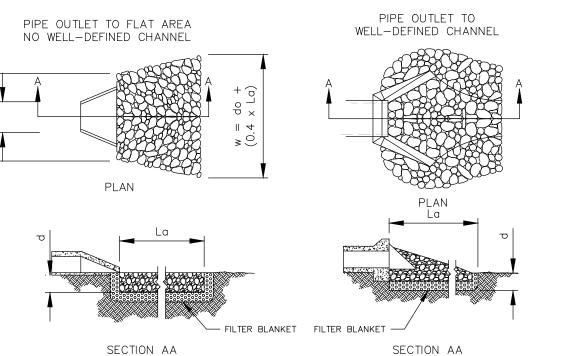
MATERIALS NOTES:

- 1. USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6461, WHICH IS SHOWN IN PART IN TABLE 6.62b OF THE NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
- SYNTHETIC FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USUABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120°F.
- ENSURE THAT POSTS FOR SEDIMENT FENCES ARE 1.33 LB/LINEAR FT STEEL WITH A MINIMUM LENGTH OF 5 FEET. MÁKE SURE THAT STEEL POSTS HAVE PROJECTIONS TO FACILITATE FASTENING THE FABRIC.
- 4. FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.

- USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW
- * FOR REPAIR OF SILT FENCE FAILURES, USE No. 57 WASHED STONE. AS AN ANCHOR WHEN SILT FENCE IS PROTECTING CATCH BASIN.

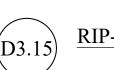


NOT TO SCALE



NOTES:

- 1. La IS THE LENGTH OF THE RIP RAP APRON. 2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (MINIMUM IS 24" DEEP IF STONE IS CLASS II) 3. IN A WELL-DEFINED CHANNEL, ÉXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE
- BANK, WHICHEVER IS LESS. 4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP RAP AND SOIL FOUNDATION. 5. COMPACT ANY REQUIRED FILL TO DENSITY OF SURROUNDING UNDISTURBED MATERIAL. 6. RIP RAP MAY BE FIELDSTONE OR ROUGH QUARRY STONE AND SHALL BE HARD.
- ANGULAR AND WELL-GRADED 7. CONSTRUCT APRON AT ZERO GRADE. TOP OF RIP RAP SHALL BE LEVEL WITH THE RECEIVING CHANNEL OR SLIGHTLY LOWER. 8. ALIGN APRON WITH RECEIVING CHANNEL OR STREAM. ASSURE APRON IS STRAIGHT
- THROUGHOUT ITS LENGTH. 9. END WIDTH OF APRON TO BE EQUAL TO WIDTH OF RECEIVING CHANNEL.



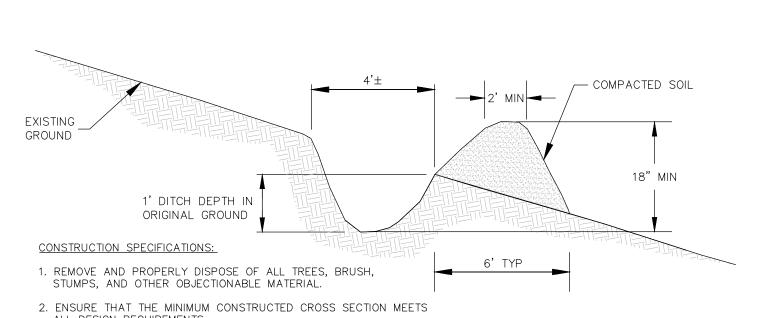
RIP-RAP APRON

NOT TO SCALE

EROSION CONTROL DETAILS

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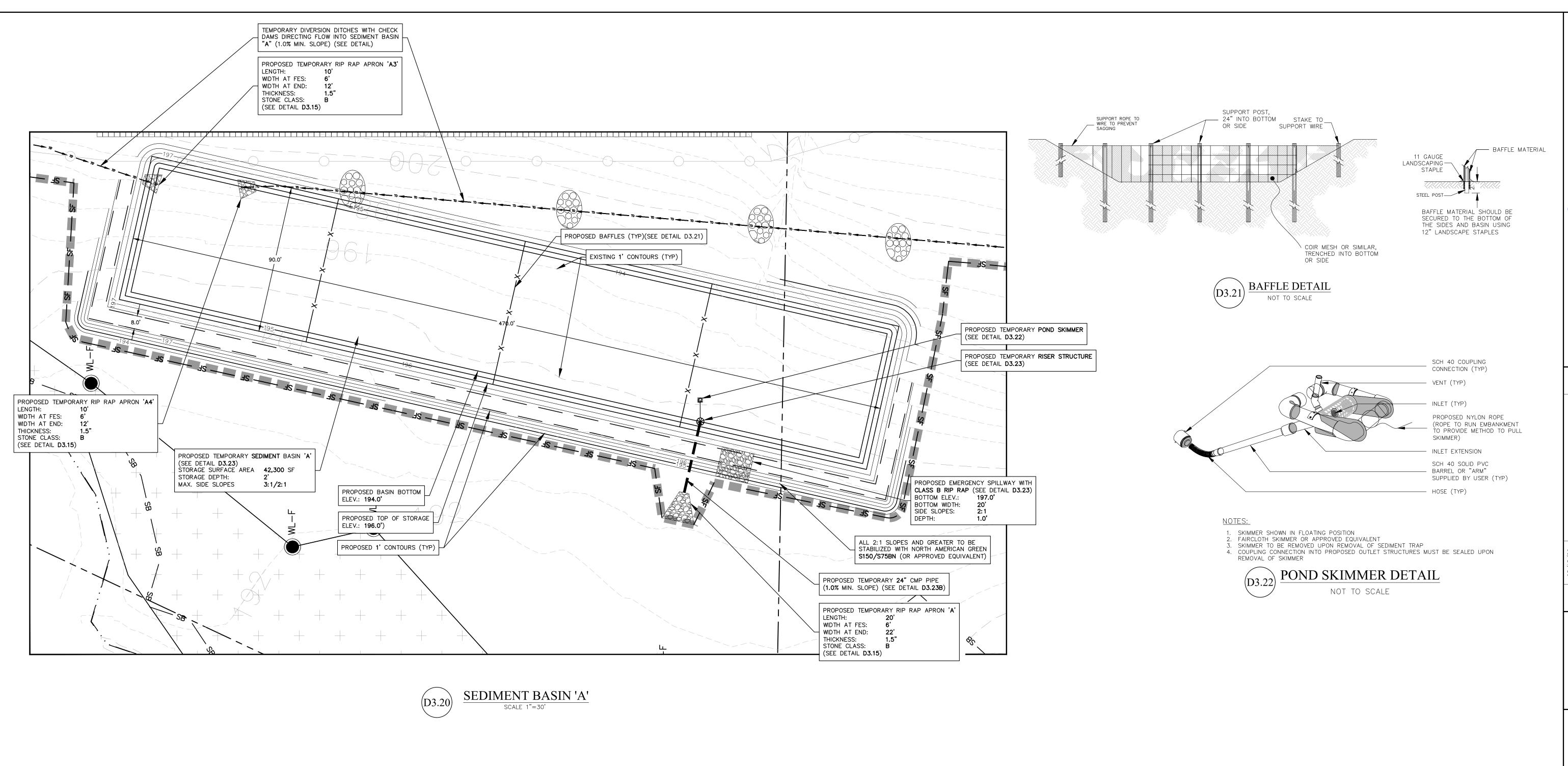


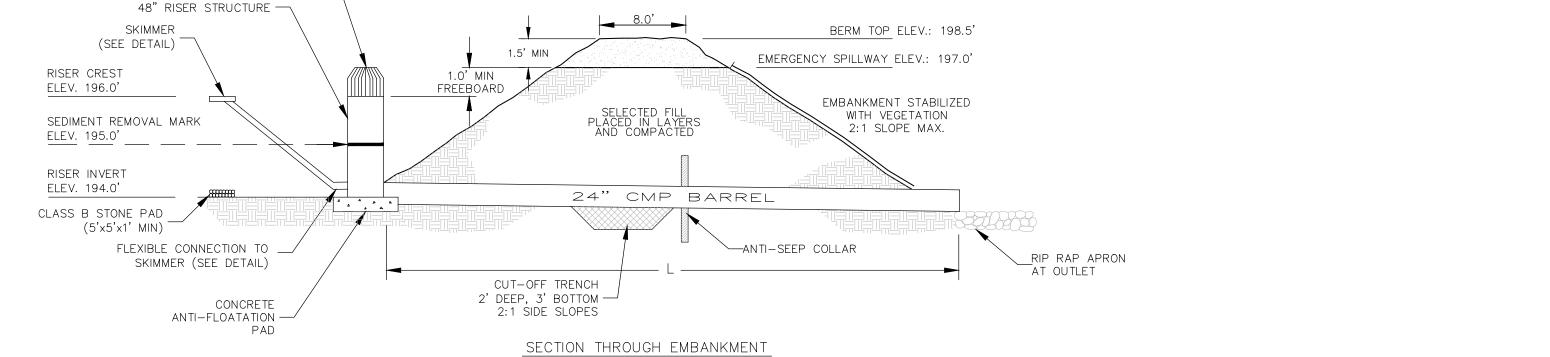
- ALL DESIGN REQUIREMENTS.
- 3. ENSURE THAT THE TOP OF THE DIKE IS NOT LOWER AT ANY POINT THAN THE DESIGN ELEVATION PLUS THE SPECIFIED SETTLEMENT. 4. PROVIDE SUFFICIENT ROOM AROUND DIVERSIONS TO PERMIT MACHINE RE-GRADING AND CLEAN OUT.
- 5. CONSTRUCT ALL TEMPORARY DIVERSION DITCHES WITH A MINIMUM 2% SLOPE.
- 5. VEGETATE THE RIDGE IMMEDIATELY AFTER CONSTRUCTION, UNLESS IT WILL REMAIN IN PLACE LESS THAN 30 WORKING DAYS.



TEMPORARY DIVERSION DITCH

NOT TO SCALE





1. LOCATE THE SEDIMENT INLETS TO THE BASIN THE GREATEST DISTANCE FROM THE PRINCIPLE SPILLWAY. 2. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES. 3. INSTALL A MINIMUM OF 3 COIR FIBER BAFFLES IN ACCORDANCE WITH NCDEQ PRACTICE STANDARD 6.65. 4. INSTALL SKIMMER AND COUPLING TO RISER STRUCTURE OR DIRECTLY INTO THE EMBANKMENT 1 FT. FROM BOTTOM OF BASIN 5. THE ARM PIPE SHALL HAVE A MINIMUM LENGTH OF 6 FT. BETWEEN THE SKIMMER AND THE COUPLING. 6. ALLOW THE MAXIMUM REASONABLE DETENTION PERIOD BEFORE THE BASIN IS COMPLETELY DE-WATERED (AT LEAST 10 HOURS).
7. REDUCE THE INFLOW VELOCITY AND DIVERT ALL SEDIMENT-FREE RUNNOFF.

SEDIMENT BASIN 'A'

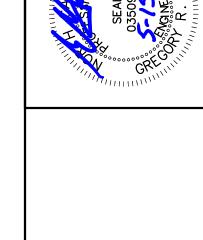
PEAK ROOF TRASHRACK —



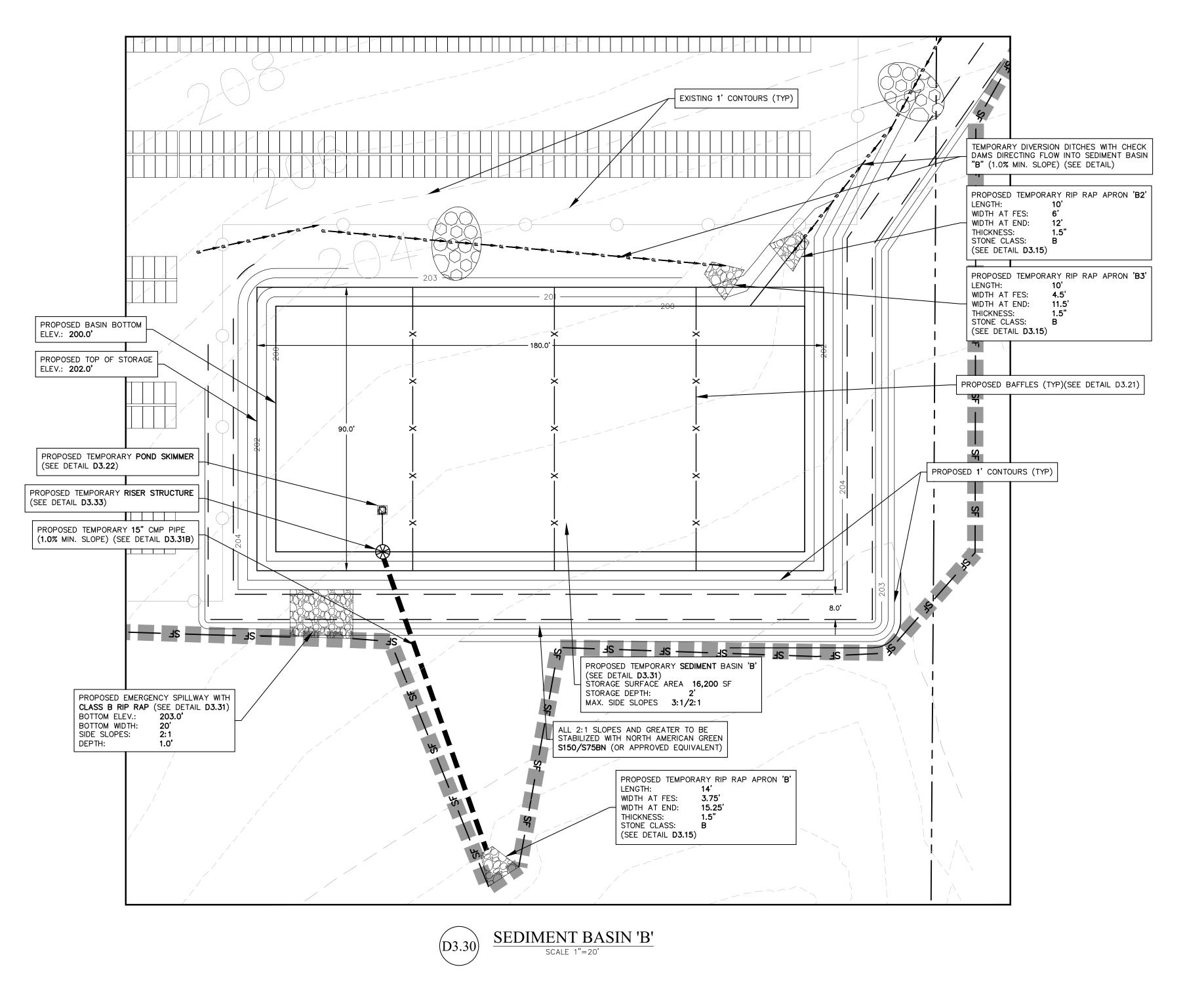


EROSION CONTROL DETAILS

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PEAK ROOF TRASHRACK — 48" RISER STRUCTURE — SKIMMER BERM TOP ELEV .: 204.5' (SEE DETAIL) EMERGENCY SPILLWAY ELEV.: 203.0' RISER CREST ELEV. 202.0' FREEBOARD EMBANKMENT STABILIZED WITH VEGETATION SEDIMENT REMOVAL MARK 2:1 SLOPE MAX. ELEV. 201.0' ___ RISER INVERT ELEV. 200.0' 15" CMP BARREL CLASS B STONE PAD (5'x5'x1' MIN) ⁻ FLEXIBLE CONNECTION TO __ —ANTI-SEEP COLLAR _RIP RAP APRON SKIMMER (SEE DETAIL) AT OUTLET CUT-OFF TRENCH 2' DEEP, 3' BOTTOM — 2:1 SIDE SLOPES ANTI-FLOATATION — SECTION THROUGH EMBANKMENT

> 1. LOCATE THE SEDIMENT INLETS TO THE BASIN THE GREATEST DISTANCE FROM THE PRINCIPLE SPILLWAY. 2. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
> 3. INSTALL A MINIMUM OF 3 COIR FIBER BAFFLES IN ACCORDANCE WITH NCDEQ PRACTICE STANDARD 6.65. 4. INSTALL SKIMMER AND COUPLING TO RISER STRUCTURE OR DIRECTLY INTO THE EMBANKMENT 1 FT. FROM BOTTOM OF BASIN 5. THE ARM PIPE SHALL HAVE A MINIMUM LENGTH OF 6 FT. BETWEEN THE SKIMMER AND THE COUPLING.
> 6. ALLOW THE MAXIMUM REASONABLE DETENTION PERIOD BEFORE THE BASIN IS COMPLETELY DE—WATERED (AT LEAST 10 HOURS).
> 7. REDUCE THE INFLOW VELOCITY AND DIVERT ALL SEDIMENT—FREE RUNNOFF.

SEDIMENT BASIN 'B'

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EROSION CONTROL DETAILS

NORTH

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

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

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

ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

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

Temporary Stabilization other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed

Plastic sheeting

• Temporary grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Appropriately applied straw or other mulch
 Shrubs or other permanent plantings covered

with mulch

 Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

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

ITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

Dispose waste off-site at an approved disposal facility. 9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE Do not dump paint and other liquid waste into storm drains, streams or wetlands. Locate paint washouts at least 50 feet away from storm drain inlets and surface

- waters unless no other alternatives are reasonably available. Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site. 5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from

construction sites.

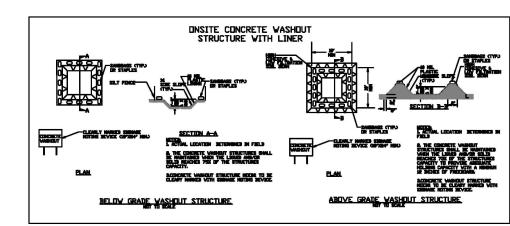
- PORTABLE TOILETS Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot
- offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags. Provide staking or anchoring of portable toilets during periods of high winds or in high
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

foot traffic areas.

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





CONCRETE WASHOUTS

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

HERBICIDES, PESTICIDES AND RODENTICIDES

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

Do not stockpile these materials onsite.

- HAZARDOUS AND TOXIC WASTE
- Place hazardous waste containers under cover or in secondary containment.
- Create designated hazardous waste collection areas on-site.

3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

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

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

SELF-INSPECTION, RECORDKEEPING AND REPORTING

Documentation Requirements

SECTION B: RECORDKEEPING 1. E&SC Plan Documentation

Item to Document

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

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

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

(a) This General Permit as well as the Certificate of Coverage, after it is received.

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

3. Documentation to be Retained for Three Years

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

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

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

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,

(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit, (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
 - NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING 1. Occurrences that Must be Reported

Permittees shall report the following occurrences: (a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:

deposition in a

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or

(a) Visible sediment • Within 24 hours, an oral or electronic notification.

case-by-case basis.

- They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the

2. Reporting Timeframes and Other Requirements After a permittee becomes aware of an occurrence that must be reported, he shall contact

the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800)

Reporting Timeframes (After Discovery) and Other Requirements

Within 7 calendar days, a report that contains a description of the

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

NORTH CAROLINA **3** Environmental Quality

EFFECTIVE: 04/01/19

DRAWN BY: CDC PROJECT NO.:

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