

J:\28283\28283.0000\Engineering\Drawings\City\ICAR\TNS3\0000 - ICAR - TN3 - MASS GRADING - 05 May '20 10:42:57 PM

MASS GRADING IMPROVEMENTS FOR CU ICAR - TECHNOLOGY NEIGHBORHOOD 3

CITY OF GREENVILLE, SC

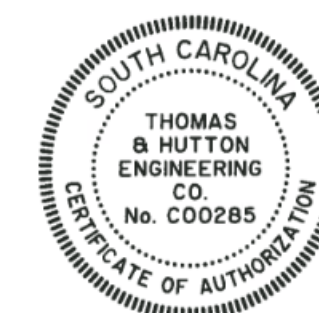
PREPARED FOR:
LICAR, LLC
5 RESEARCH DRIVE
GREENVILLE, SC 29607

TM# M010.03-01-009.05, M010.03-01-009.07

MAY 11, 2020
LATEST REVISION: 07/09/2020

J-28283.0000

PREPARED BY:



PERMIT SET - FOR REVIEW PURPOSES ONLY



VICINITY MAP
SCALE: 1" = 1000'

J-28283.0000
05/11/2020
CU ICAR - TN3 - MASS GRADING

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REVISION HISTORY			
REV. NO.	REVISION	BY	DATE

SUBMITTAL HISTORY	
SUBMITTED TO	DATE



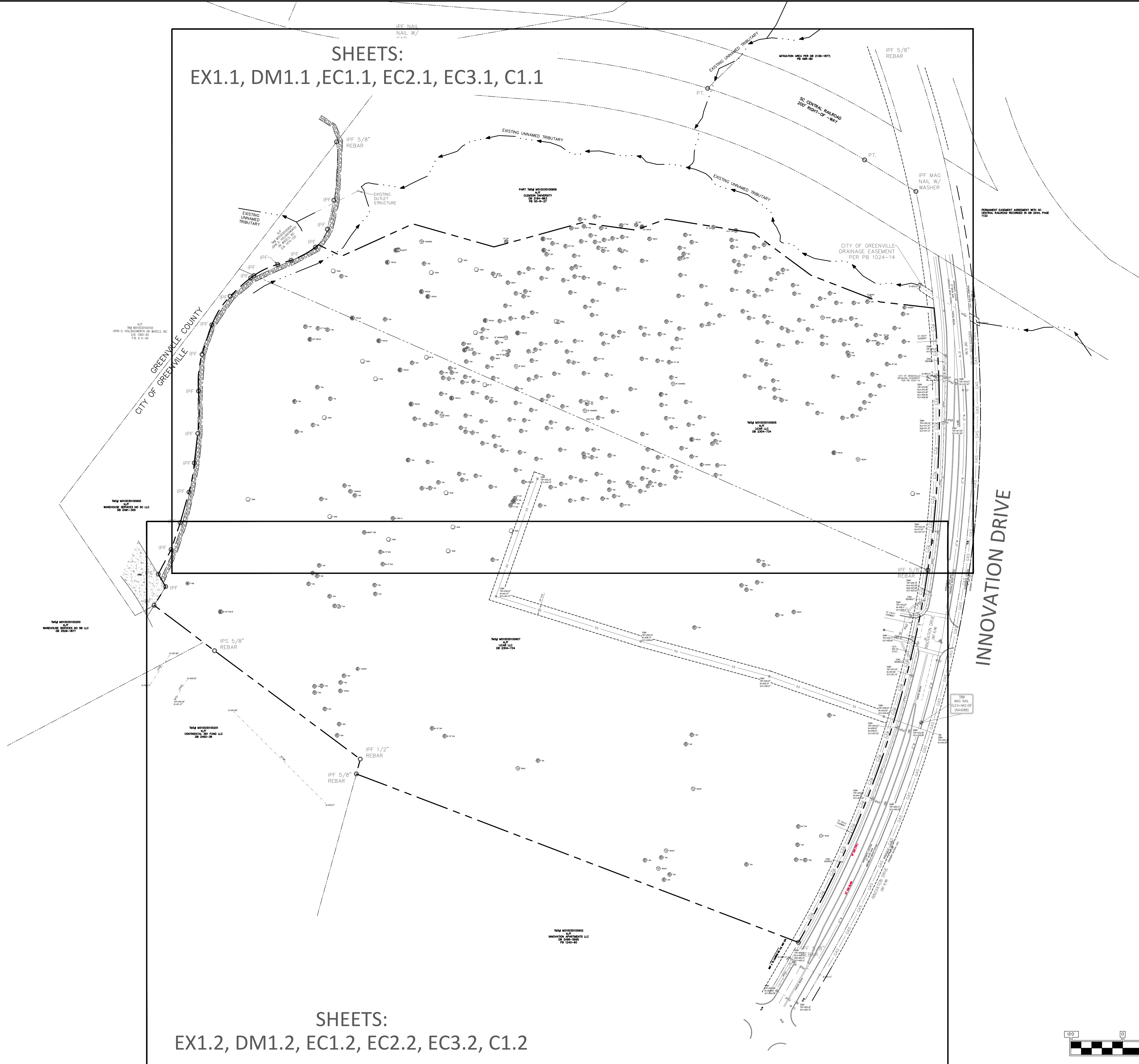
Know what's below.
Call before you dig.



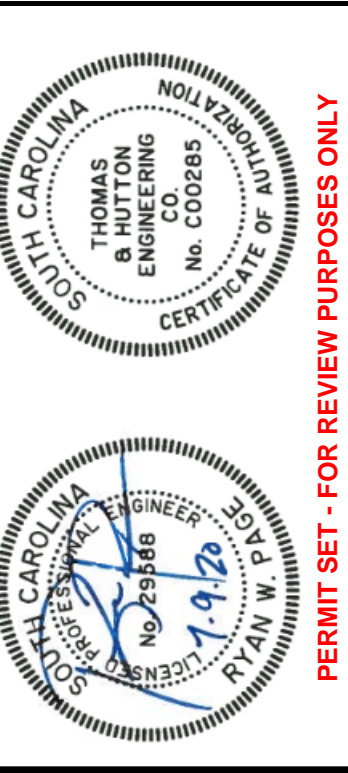
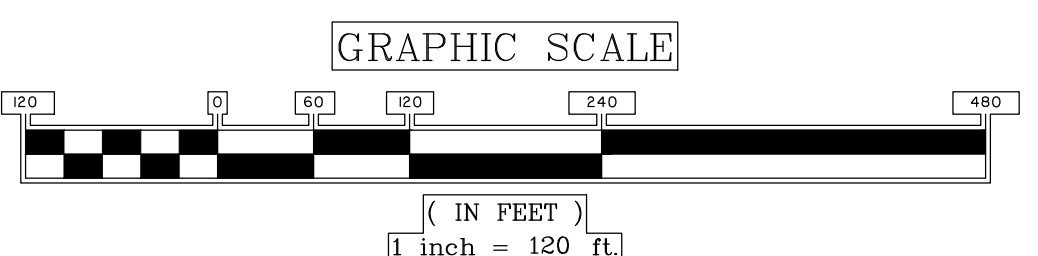
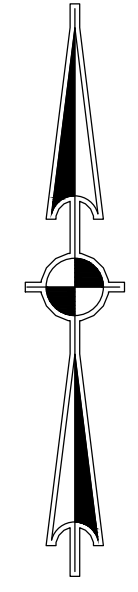
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Greenville, SC 29601
p.864.412.2222
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SHEETS: EX1.1, DM1.1, EC1.1, EC2.1, EC3.1, C1.1



SHEETS: EX1.2, DM1.2, EC1.2, EC2.2, EC3.2, C1.2



NO.	REVISIONS	BY	DATE

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LICAR, LLC
 CITY OF GREENVILLE, SC

CU ICAR - TN3 - MASS GRADING

SHEET INDEX

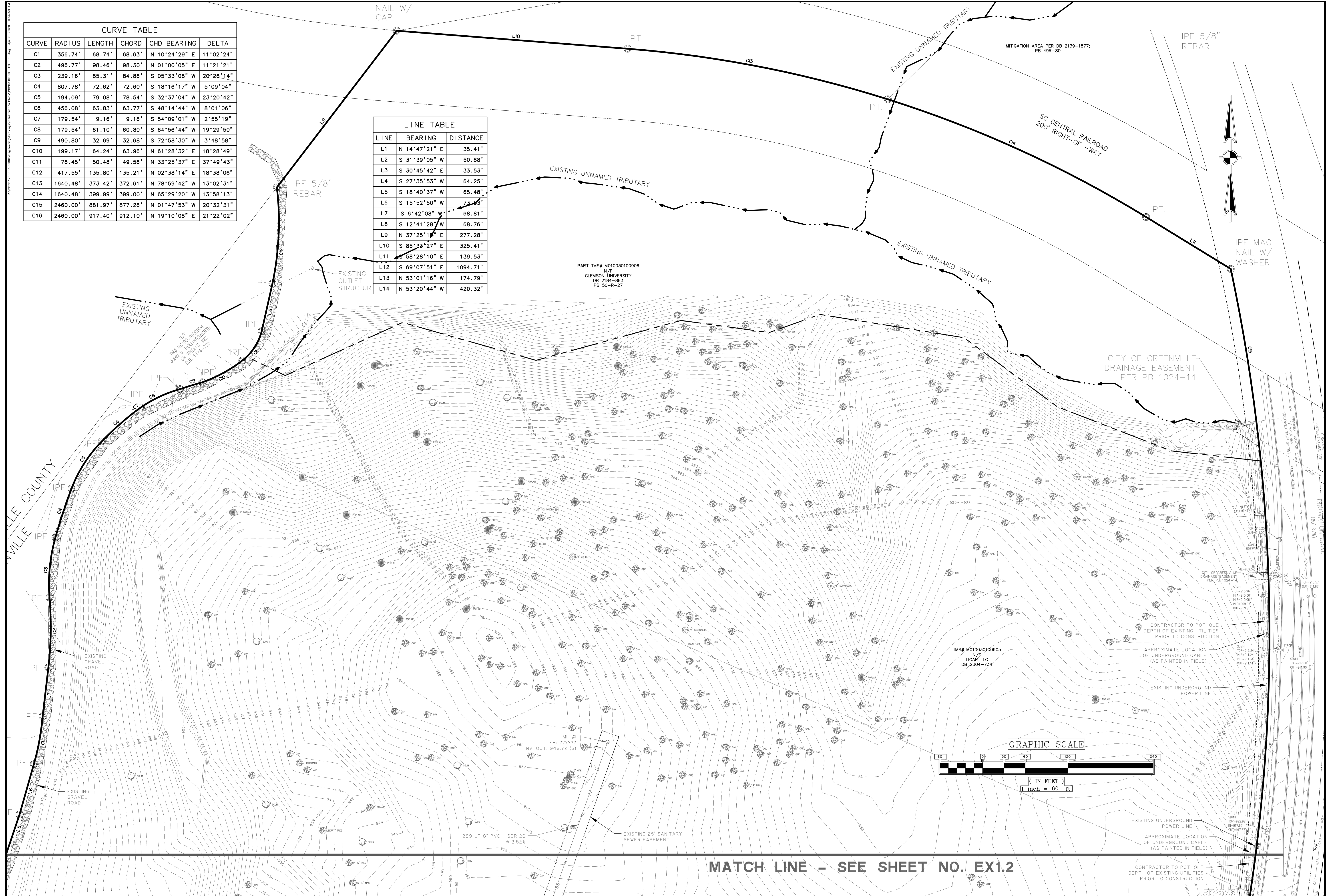
JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CWC
DESIGNED:	RWP
REVIEWED:	KES
APPROVED:	RWP
SCALE:	1" = 120'

G1.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD	CHD BEARING	DELTA
C1	356.74'	68.74'	68.63'	N 10°24'29" E	11°02'24"
C2	496.77'	98.46'	98.30'	N 01°00'05" E	11°21'21"
C3	239.16'	85.31'	84.86'	S 05°33'08" W	20°26'14"
C4	807.78'	72.62'	72.60'	S 18°16'17" W	5°09'04"
C5	194.09'	79.08'	78.54'	S 32°37'04" W	23°20'42"
C6	456.08'	63.83'	63.77'	S 48°14'44" W	8°01'06"
C7	179.54'	9.16'	9.16'	S 54°09'01" W	2°55'19"
C8	179.54'	61.10'	60.80'	S 64°56'44" W	19°29'50"
C9	490.80'	32.69'	32.68'	S 72°58'30" W	3°48'58"
C10	199.17'	64.24'	63.96'	N 61°28'32" E	18°28'49"
C11	76.45'	50.48'	49.56'	N 33°25'37" E	37°49'43"
C12	417.55'	135.80'	135.21'	N 02°38'14" E	18°38'06"
C13	1640.48'	373.42'	372.61'	N 78°59'42" W	13°02'31"
C14	1640.48'	399.99'	399.00'	N 65°29'20" W	13°58'13"
C15	2460.00'	881.97'	877.26'	N 01°47'53" W	20°32'31"
C16	2460.00'	917.40'	912.10'	N 19°10'08" E	21°22'02"

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 14°47'21" E	35.41'
L2	S 31°39'05" W	50.88'
L3	S 30°45'42" E	33.53'
L4	S 27°35'53" W	64.25'
L5	S 18°40'37" W	65.48'
L6	S 15°52'50" W	73.83'
L7	S 6°42'08" W	68.81'
L8	S 12°41'28" W	68.76'
L9	N 37°25'18" E	277.28'
L10	S 85°32'27" E	325.41'
L11	S 58°28'10" E	139.53'
L12	S 69°07'51" E	1094.71'
L13	N 53°01'16" W	174.79'
L14	N 53°20'44" W	420.32'



GRAPHIC SCALE
 (IN FEET)
 1 inch = 60 ft

MATCH LINE - SEE SHEET NO. EX1.2



REVISIONS	
NO.	DATE

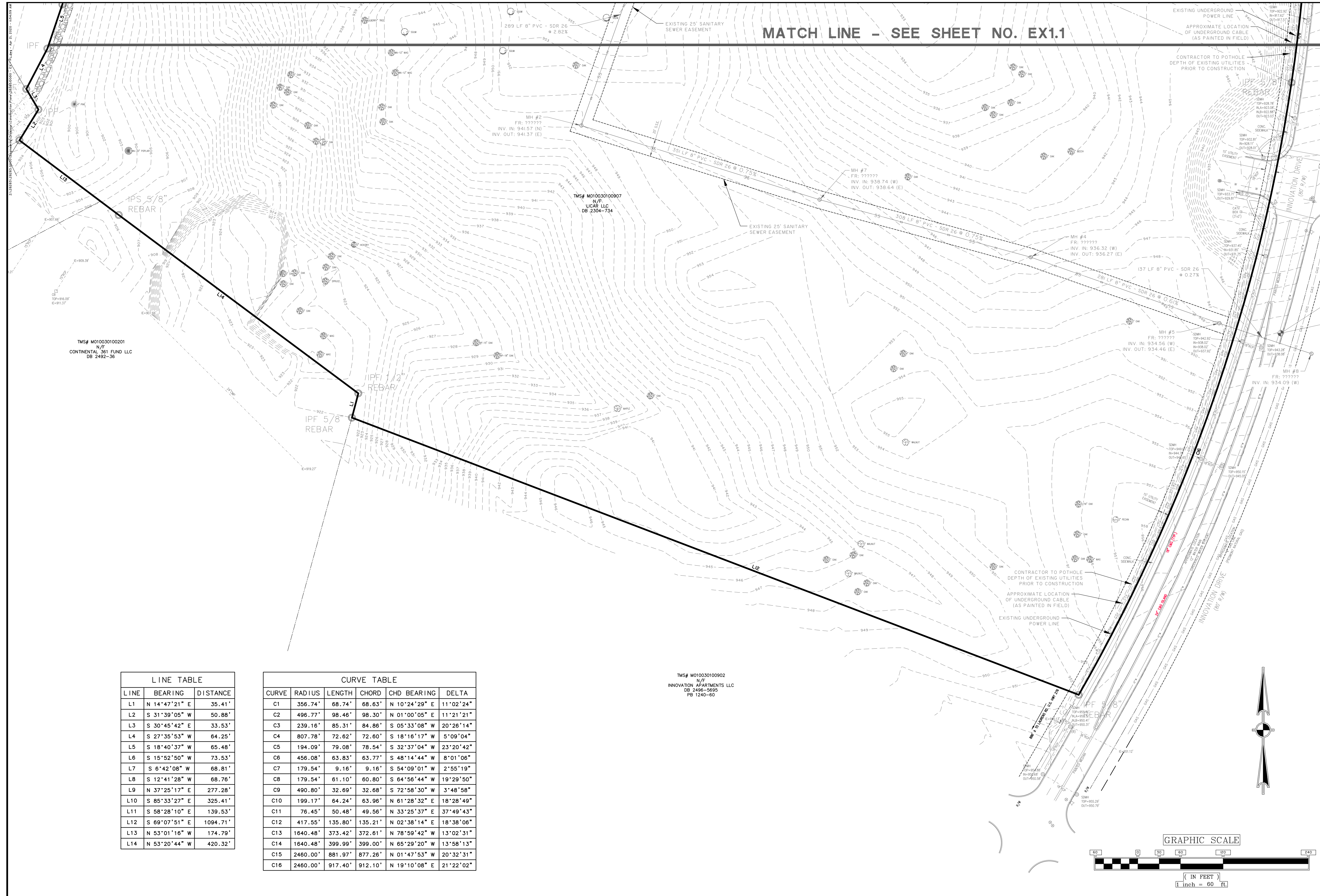
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LICAR, LLC
 CITY OF GREENVILLE, SC
 CU ICAR - TN3 - MASS GRADING
 EXISTING CONDITIONS PLAN

JOB NO: J-28283.0000
 DATE: 05/11/2020
 DRAWN: CMC
 DESIGNED: RWP
 REVIEWED: KES
 APPROVED: RWP
 SCALE: 1" = 60'

EX1.1

MATCH LINE - SEE SHEET NO. EX1.1



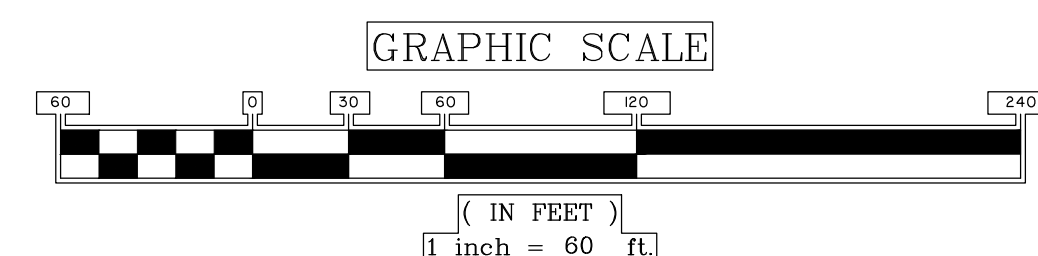
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N/F
CONTINENTAL 361 FUND LLC
DB 2492-36

TMS# M010030100907
N/F
LICAR LLC
DB 2304-734

TMS# M010030100902
N/F
INNOVATION APARTMENTS LLC
DB 2496-5695
PB 1240-60

LINE	BEARING	DISTANCE
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LICAR, LLC
CITY OF GREENVILLE, SC
CU ICAR - TN3 - MASS GRADING
EXISTING CONDITIONS PLAN

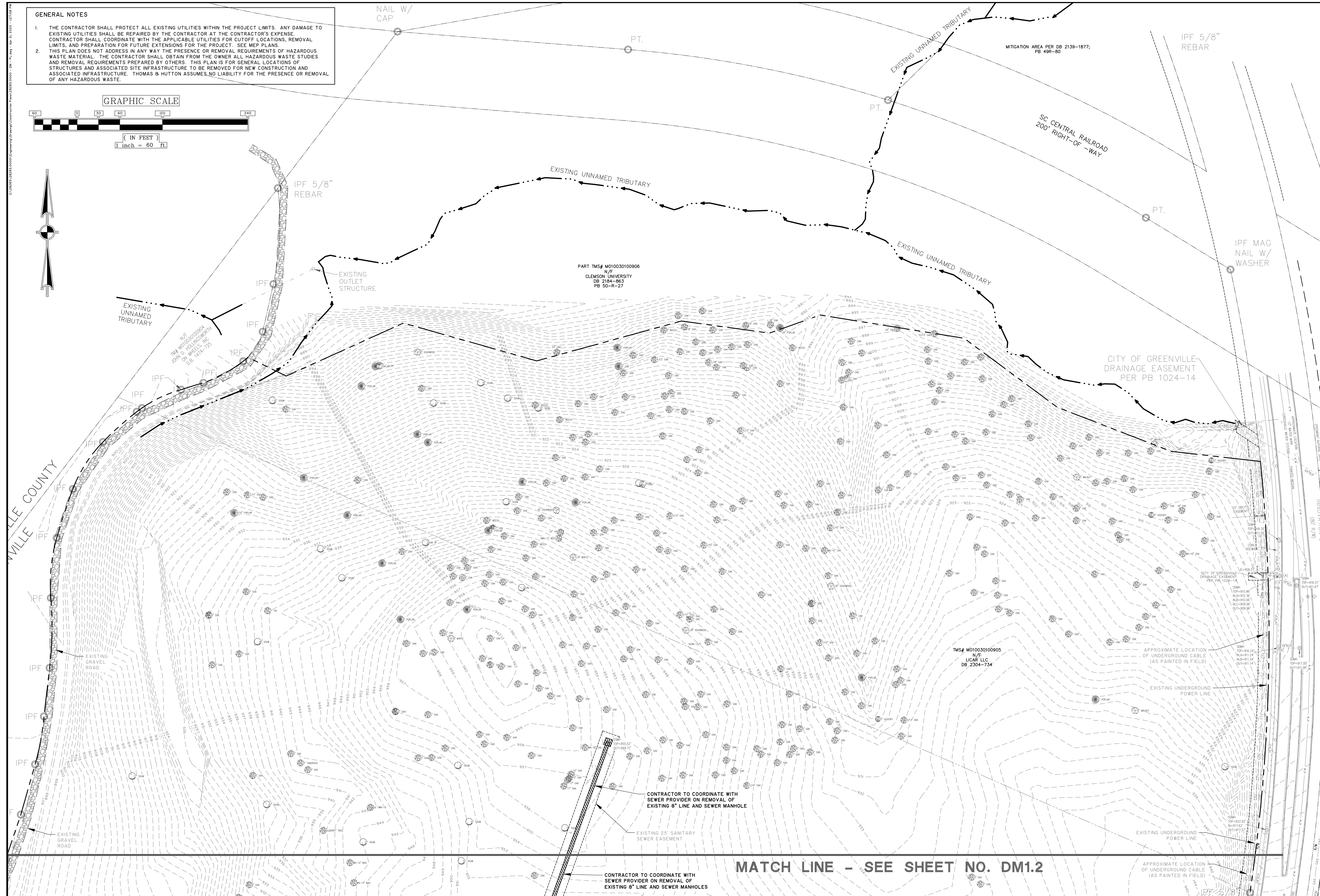
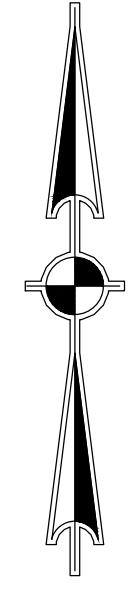
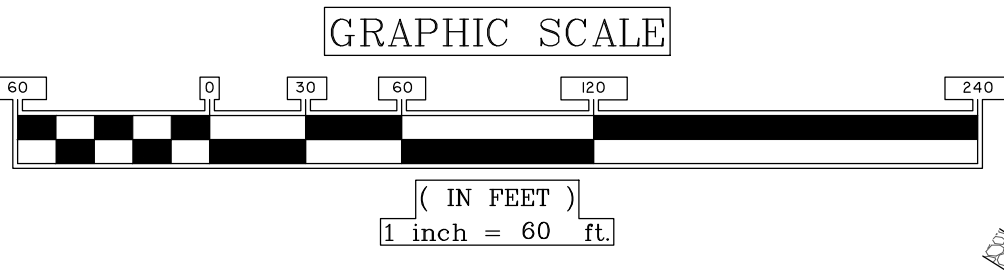
JOB NO: J-28283.0000
DATE: 05/11/2020
DRAWN: CMC
DESIGNED: RWP
REVIEWED: KES
APPROVED: RWP
SCALE: 1" = 60'

EX1.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

GENERAL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL COORDINATE WITH THE APPLICABLE UTILITIES FOR CUTOFF LOCATIONS, REMOVAL LIMITS, AND PREPARATION FOR FUTURE EXTENSIONS FOR THE PROJECT. SEE MEP PLANS.
2. THIS PLAN DOES NOT ADDRESS IN ANY WAY THE PRESENCE OR REMOVAL REQUIREMENTS OF HAZARDOUS WASTE MATERIAL. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER ALL HAZARDOUS WASTE STUDIES AND REMOVAL REQUIREMENTS PREPARED BY OTHERS. THIS PLAN IS FOR GENERAL LOCATIONS OF STRUCTURES AND ASSOCIATED SITE INFRASTRUCTURE TO BE REMOVED FOR NEW CONSTRUCTION AND ASSOCIATED INFRASTRUCTURE. THOMAS & HUTTON ASSUMES NO LIABILITY FOR THE PRESENCE OR REMOVAL OF ANY HAZARDOUS WASTE.



WILLE COUNTY

EXISTING GRAVEL ROAD

EXISTING GRAVEL ROAD

NAIL W/
CAP

PT.

PT.

PT.

IPF MAG
NAIL W/
WASHER

MITIGATION AREA PER DB 2139-1877;
PB 49R-80

SC CENTRAL RAILROAD
200' RIGHT-OF-WAY

IPF 5/8"
REBAR

EXISTING UNNAMED TRIBUTARY

EXISTING UNNAMED TRIBUTARY

PART TMS# M010030100906
N/E
CLEMSON UNIVERSITY
DB 2104-96.3
PB 50-R-27

EXISTING UNNAMED TRIBUTARY

EXISTING OUTLET STRUCTURE

N/E
TMA HOLDINGS COMPANY
JOHN D. HOLDINGS NORTH
DB 1474-725

CITY OF GREENVILLE
DRAINAGE EASEMENT
PER PB 1024-14

TMS# M010030100905
N/E
LICAR LLC
DB 2304-724

CONTRACTOR TO COORDINATE WITH
SEWER PROVIDER ON REMOVAL OF
EXISTING 8" LINE AND SEWER MANHOLE

EXISTING 25' SANITARY
SEWER EASEMENT

CONTRACTOR TO COORDINATE WITH
SEWER PROVIDER ON REMOVAL OF
EXISTING 8" LINE AND SEWER MANHOLES

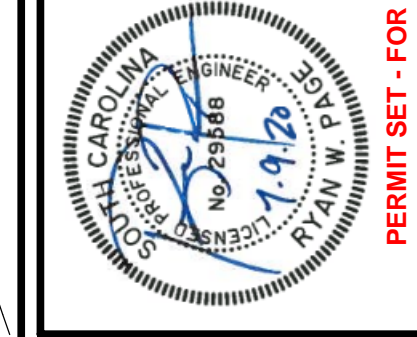
APPROXIMATE LOCATION
OF UNDERGROUND CABLE
(AS PAINTED IN FIELD)

EXISTING UNDERGROUND
POWER LINE

EXISTING UNDERGROUND
POWER LINE

APPROXIMATE LOCATION
OF UNDERGROUND CABLE
(AS PAINTED IN FIELD)

MATCH LINE - SEE SHEET NO. DM1.2



NO.	REVISIONS	BY	DATE

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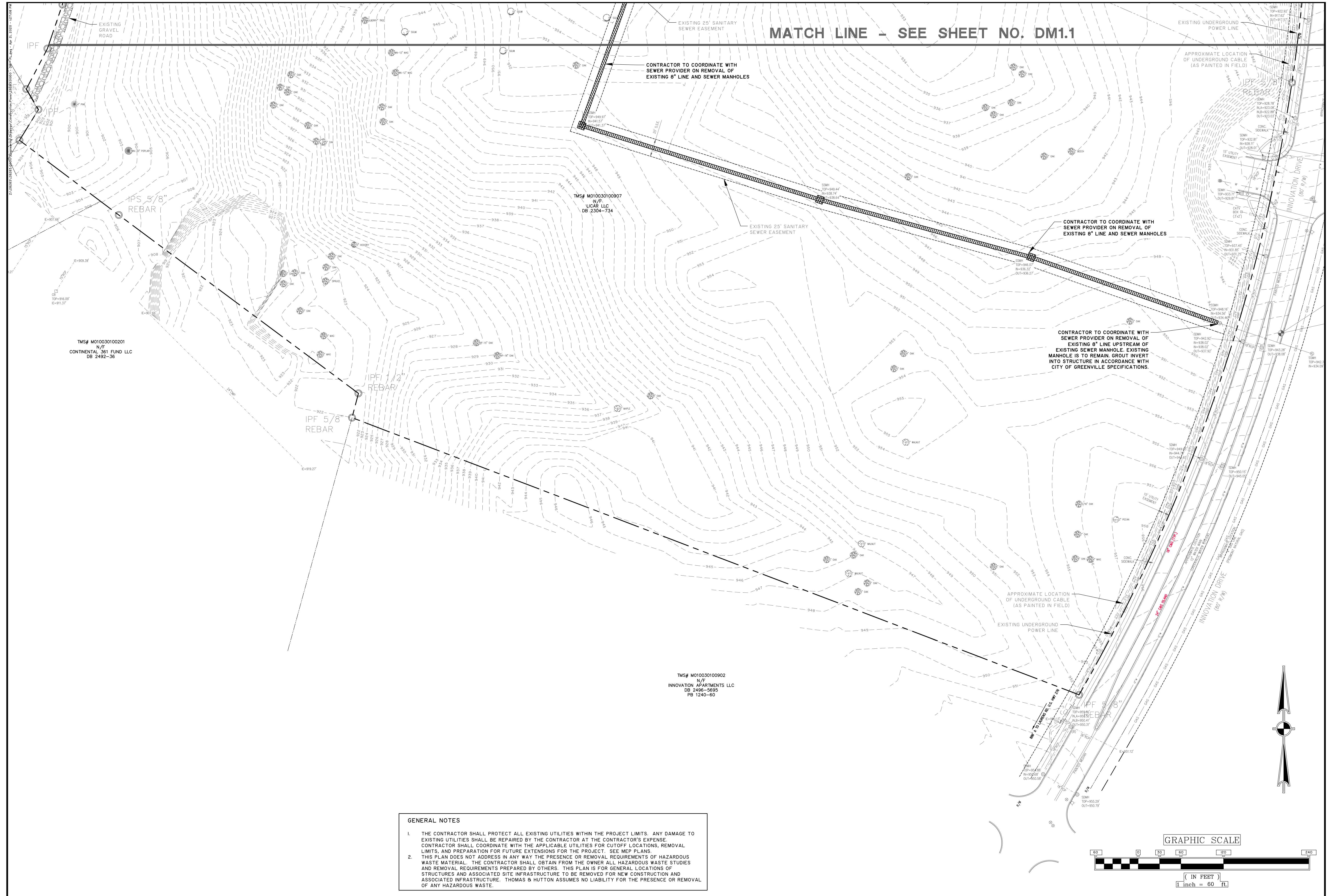
LICAR, LLC
 CITY OF GREENVILLE, SC
 CU ICAR - TN3 - MASS GRADING
 DEMOLITION PLAN

JOB NO: J-28283.0000
 DATE: 05/11/2020
 DRAWN: CMC
 DESIGNED: RWP
 REVIEWED: KES
 APPROVED: RWP
 SCALE: 1" = 60'

DM1.1

PERMIT SET - FOR REVIEW PURPOSES ONLY

MATCH LINE - SEE SHEET NO. DM1.1



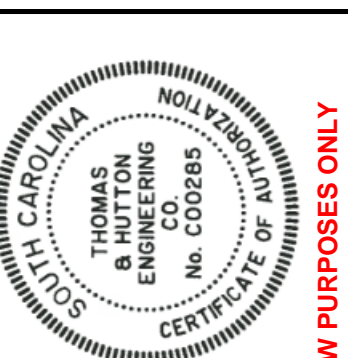
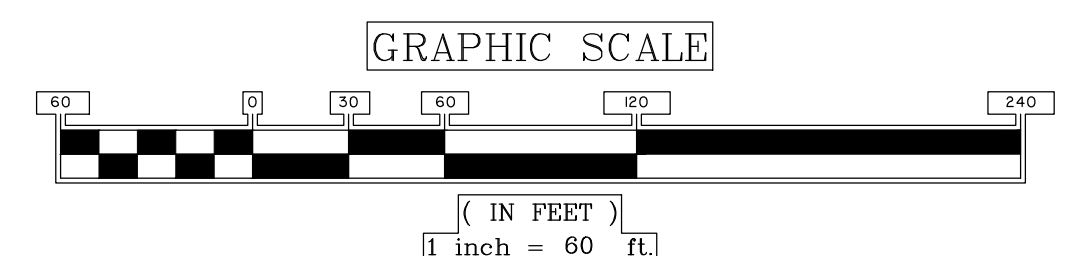
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TMS# M010030100907
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LICAR LLC
DB 2304-734

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N/F
INNOVATION APARTMENTS LLC
DB 2496-5695
PB 1240-60

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NO.	REVISIONS	BY	DATE

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LICAR, LLC
CITY OF GREENVILLE, SC

CU ICAR - TN3 - MASS GRADING
DEMOLITION PLAN

JOB NO: J-28283.0000
DATE: 05/11/2020
DRAWN: CMC
DESIGNED: RWP
REVIEWED: KES
APPROVED: RWP
SCALE: 1" = 60'

DM1.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

STORMWATER POLLUTION PREVENTION PLAN

TEMPORARY SEEDING - UPSTATE													
SPECIES	LBS/AC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BROWNTOP MILLET (ALONE)	40												
BROWNTOP MILLET (MIX)	10												
RYE, GRAIN (ALONE)	56												
RYE, GRAIN (MIX)	10												
RYEGRASS (ALONE)	50												
RYEGRASS (MIX)	8												
FOR STEEP SLOPES/CUT SLOPES													
WEeping LOVEGRASS (ALONE)	40												
WEeping LOVEGRASS (ALONE)	40												

PERMANENT SEEDING - UPSTATE													
SPECIES	LBS/AC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BAHIA GRASS (ALONE)	40												
BAHIA GRASS (MIX)	30												
BERMUDA GRASS (HULLED) (ALONE)	8-12												
BERMUDA GRASS (HULLED) (MIX)	4-6												
FESCUE, TALL (KY31) (ALONE)	40												
FESCUE, TALL (KY31) (MIX)	20												
SERICIA LESPEDEZA (SCARIFIED) ALONE OR MIX (INOCULATE WITH EL INOCULANT)	40												
LADINO CLOVER (MIX ONLY) INOCULATE WITH AB INOCULANT	2												
FOR STEEP SLOPES/CUT SLOPES													
WEeping LOVEGRASS (ALONE)	4												
WEeping LOVEGRASS (MIX)	2												
CROWN VETCH (MIX) (INOCULATE WITH TYPE M INOCULANT)	8-10												

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
SILT FENCE	
CLEARING LIMITS	CL
DIVERSION DIKE	DD
DIVERSION BERM	DB
TEMPORARY DIVERSION	TD
PERMANENT DIVERSION	PD
SUBSURFACE DRAIN	SSD
VEGETATED CHANNEL	
RIP RAP LINED CHANNEL	
ECB OR TRM LINED CHANNEL	
PAVED CHANNEL	PC
TREE PROTECTION	
SURFACE ROUGHENING	OR LG

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
TOP SOILING	
TEMPORARY SEEDING	TS
PERMANENT SEEDING	PS
MULCHING	M
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
FLEXIBLE GROWTH MATRIX	FGM
BONDED FIBER MATRIX	BFM
SODDING	SO
SLOPED SODDING	
STAKED SOD	
STAKED SOD AROUND INLET	
RIPRAP	
OUTLET PROTECTION - RIP RAP	

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
OUTLET PROTECTION - ECB OR TRM	
DUST CONTROL	DC
POLYACRYLAMIDE (PAM)	PAM
SEDIMENT BASIN	
SEDIMENT BASIN WITH SKIMMER	
SEDIMENT TRAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	
ROCK CHECK DAM	
POROUS BAFFLES	
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	
STORM DRAIN INLET PROTECTION - TYPE A FILTER FABRIC	A

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
STORM DRAIN INLET PROTECTION - TYPE A SEDIMENT TUBE	A
STORM DRAIN INLET PROTECTION - TYPE B HARDWARE FABRIC AND STONE	
STORM DRAIN INLET PROTECTION - TYPE C BLOCK AND GRAVEL	
STORM DRAIN INLET PROTECTION - TYPE D RIGID INLET FILTER	D
STORM DRAIN INLET PROTECTION - TYPE E SURFACE COURSE CURB INLET FILTER	E
STORM DRAIN INLET PROTECTION - TYPE F INLET TUBE	F
STORM DRAIN INLET PROTECTION - TYPE G IMPERVIOUS AREA	G
STORM DRAIN INLET PROTECTION - CATCH BASIN INSERT	I
PIPE SLOPE DRAINS	
TEMPORARY STREAM CROSSING	
LEVEL SPREADER	



Standard Detail: 39:00
Version: 5-18-16
Engineering Division



Standard Detail: 39:00
Version: 5-18-16
Engineering Division



Standard Detail: 39:00
Version: 5-18-16
Engineering Division

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

- The City of Greenville Construction Inspection Bureau shall be notified by the permit holder at (864)467-8890 a minimum of 72 hours prior to beginning construction. A Pre-Construction Conference must be held for each construction site with an approved On-Site SWPPP prior to the implementation of construction activities.
- Sediment and erosion control devices shall be installed and functioning prior to beginning any project earth disturbing activities.
- All sediment and erosion controls shall be inspected until construction is complete, the site is permanently stabilized, and the Notice of Termination (NOT) is filed with SCDHEC.
- All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been permanently stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is permanently stabilized.
- All sediment and erosion control devices shall be inspected once every seven (7) calendar days. Damaged, ineffective, or incorrectly installed devices shall be repaired or replaced, as necessary, within 48 hours of identification.
- All inspection records shall be documented in written form and catalogued in a record keeping binder for the project (SWPPP Book). The City may require electronic submission of weekly inspection records.
- A rain gauge shall be installed at the project area, and cumulative precipitation depth shall be recorded with weekly inspection documentation. All rainfall events 0.5" and greater, as recorded onsite or by a weather station in reasonable proximity to the project, shall also be documented with the weekly inspection reports.
- All erosion prevention and sediment control plans and inspection documentation (e.g., SWPPP Book, certification statements, inspection records, maintenance records, and rainfall data) shall be retained at the construction site or, if approved by the City, at a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization is reached. All plans and documents shall be updated as required per SC NPDES General Permit SCR100000.
- If existing BMPs need to be modified or if additional BMPs are necessary to comply with the requirements of this permit and/or SC's Water Quality Standards, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as reasonably possible.
- Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below:
 - Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
 - Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within 14 days, temporary stabilization measures do

- not have to be initiated on that portion of the site.
- The site shall be considered permanently stabilized when all surface disturbing activities are complete and either of the two following criteria is met:
 - A uniform (e.g., evenly disturbed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas not covered by permanent structures, or
 - Equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) have been employed.
 - A stabilized construction entrance shall be installed and maintained on the project site. Storm water inlet protection shall be provided for all inlets (upstream and downstream) within 50 ft. of the construction entrance or disturbance (on both sides of the public roadway).
 - All existing and new storm water structures, affected by this project, shall be inspected and maintained clean of accumulated demolition debris or sediments.
 - Disposal of all recovered sediments and construction debris shall be in accordance with all applicable City, State and Federal Regulations. No sediment or construction debris shall be flushed down the storm water system.
 - During the course of construction activities, erosion and sediment controls shall be used to prevent tracking of mud and/or sediment accumulation on public roadways (including street gutters), sediment laden runoff from entering into existing storm water system inlets or depositing on adjacent properties, and airborne dust migration off-site. The contractor shall daily remove mud/soil from pavement, by sweeping or vacuuming, as may be required.
 - To secure the project site, locate limits of construction, protect areas that are to remain undisturbed, and prevent migration of construction debris, orange construction fencing shall be installed around areas not requiring silt fencing. Any accumulation of construction debris on public roadways or adjacent properties shall be removed within 24 hours. Care shall be taken when installing construction fencing to not obscure oncoming traffic at intersections, adjacent driveways and the project construction entrance.
 - Provide silt fence and/or other control devices, as may be required, to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded, and stabilized immediately after the utility installation.
 - Silt fence shall be installed along lines of equal elevation. Silt fencing shall be installed no closer than 5 feet downhill from the toe of any slope.
 - All Waters of the State (WoS), including wetlands, are to be flagged or otherwise clearly marked in the field. All WoS shall be clearly delineated on the erosion prevention and sediment control plans.
 - Project setback buffers shall be located a minimum of 30 ft. measured from the top of stream bank or edge of wetland, unless otherwise approved by the City Engineer. All setbacks shall be clearly delineated on the erosion prevention and sediment control plans.
 - A single row of silt fencing shall be installed along all setback buffers that meet the minimum requirements.
 - A double row of silt fencing shall be installed in all areas where a minimum setback buffer cannot be maintained between the disturbed area and the water body or wetland. Double row of silt fencing shall be placed no closer than 5 ft. downhill from the toe of any fill area and a minimum of 5 ft. spacing shall be maintained between silt fence rows. A minimum 5 ft. buffer should be maintained between the last row of silt fence and all water bodies and wetlands.

- Stockpiles of useable or waste materials shall be surrounded by a row of silt fence at all times. Stockpiles that are undisturbed for more than fourteen (14) days shall have appropriate stabilization measures installed. Stockpiles shall be placed a minimum of 50 feet away from stormwater flows, stormwater inlet structures, drainage courses, adjacent property and public roadways.
- Litter, construction debris, oils, fuels, building products with significant potential for impact (such as stockpiles of freshly treated lumber), and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in stormwater discharges.
- Temporary diversion berms, ditches, or slope drains shall be provided for all slopes 3:1 or steeper and as otherwise needed during construction to protect areas from upslope runoff and/or to divert sediment laden water to appropriate traps or stable outlets.
- Slopes 3:1 or steeper and/or exceeding eight (8) vertical feet shall be stabilized with staked in place sod or synthetic/vegetative mats in addition to hydro seeding as soon as practical but no more than 7 calendar days after land disturbing activities on the slope have permanently or temporarily ceased
- Cat track or surface roughening is required for all slopes 3:1 or steeper prior to seeding and lying of synthetic or vegetative mats. Cat tracking or surface roughening shall produce a surface with furrows running cross slope, parallel with slope contours, and perpendicular to surface runoff.
- Portable toilet facilities shall not be located within 20 feet of any storm water structure and/or 50 feet of any water course, wetland area, stream, floodplain, or lake.
- The following discharges are prohibited:
 - Wastewater from washout of concrete, unless managed by an appropriate control
 - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials
 - Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance
 - Soaps or solvents used in vehicle and equipment washing during construction.
- Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent treatment prior to discharge.
- Minimize the discharge of pollutants from dewatering of trenches and excavated areas. These discharges are to be routed through appropriate BMPs (sediment basin, filter bag, etc.).
- Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or provide an individual plan in accordance with S.C. Reg. 72-300 et seq. and SCR100000.
- Properly signed and sealed record drawings of the stormwater plan and a signed and sealed detention basin record drawings shall be submitted to the City within 30 days of permanent stabilization and prior to issuance of project acceptance by the City.

LIST OF ACRONYMS FOR SEDIMENT AND EROSION CONTROL	
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AMD	ACRYLAMIDE POLYMER
BFM	BONDED FIBER MATRIX
BMP(S)	BEST MANAGEMENT PRACTICE(S)
CFS	CUBIC FEET PER SECOND
CMP	CORRUGATED METAL PIPE
DHEC	DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
ECB	EROSION CONTROL BLANKET
EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPSC	EROSION PREVENTION AND SEDIMENTATION CONTROL
FDA	UNITED STATES FOOD AND DRUG ADMINISTRATION
FGM	FLEXIBLE GROWTH MATRIX
HDPE	HIGH DENSITY POLYETHYLENE
MS4	MUNICIPAL SEPARATE STORM SEWER SYSTEM
MSDS	MATERIAL SAFETY DATA SHEETS
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PAM	POLYACRYLAMIDE OR POLYMER
RCP	REINFORCED CONCRETE PIPE
SCS	SOIL CONSERVATION SERVICE
SWPPP	STORMWATER POLLUTION PREVENTION PROGRAM
TRM	TURF REINFORCEMENT MAT
VFS	VEGETATED FILTER STRIP



NO.	REVISIONS	BY	DATE

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LICAR, LLC
CITY OF GREENVILLE, SC

CU ICAR - TN3 - MASS GRADING

EROSION CONTROL NOTES

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CWC
DESIGNED:	RWP
REVIEWED:	KES
APPROVED:	RWP
SCALE:	N/A

EC0.2

- EROSION CONTROL PLAN - INITIAL PHASE**
- OBTAIN STORMWATER PERMIT, APPROVED PLANS AND NPDES COVERAGE LETTER FROM DHEC/CITY OF GREENVILLE.
 - A PRECONSTRUCTION CONFERENCE MUST BE HELD WITH THE CITY OF GREENVILLE AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITIES. THE OWNER, DESIGN ENGINEER, CONTRACTOR, AND CEPSCI MUST BE PRESENT AND HAVE OBTAINED THE STORMWATER PERMIT.
 - NOTIFY CITY OF GREENVILLE AND EOC REGIONAL OFFICE 48 HOURS PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
 - ENGINEER WILL BRING BOUND SWPPP AND STAMPED, APPROVED PLANS TO THE SITE. CONTRACTOR WILL SIGN THE CERTIFICATION THAT WILL BE KEPT ON SITE AT ALL TIMES WITH THE SWPPP, THE STAMPED CONSTRUCTION PLANS, THE NPDES PERMIT AND THE GENERAL CONSTRUCTION PERMIT. THE ATTENDANCE SHEET WILL ALSO BE SIGNED.
 - KEEP RAIN GAUGE ON SITE AND CONDUCT CEPSCI INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT OVER 1/8 INCH IN TOTAL.
 - INSTALL CONSTRUCTION ENTRANCE, CONCRETE WASHOUT, PORTABLE TOILETS.
 - CLEARING FOR AND INSTALLATION ONLY FOR PERIMETER SILT FENCING, SEDIMENT BASIN, AND DIVERSION SWALES. KEEP ADJACENT PUBLIC ROADWAYS CLEAN OF DEBRIS.
 - CONSTRUCT CONTROL STRUCTURE, OUTFALL PIPE AND OUTFALL STABILIZATION FOR BASIN. PLACE EROSION MATTING ON BASIN BANKS AS SHOWN AND STABILIZE ALL OTHER FILL AREAS.
 - SEDIMENT BASIN MUST BE INSPECTED PER SCDEH REQUIREMENTS AND MAINTAINED.

PORTABLE TOILETS

PORTABLE TOILET FACILITIES MUST BE PROVIDED AND MAINTAINED IN A SAFE AND SANITARY MANNER IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS OR PERMIT CONDITIONS.

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THE TOILET UNIT MUST BE SET ON A LEVEL STABLE BASE MATERIAL AWAY FROM STORM DRAINS, WATERWAYS, AND AREAS WITH HIGH VEHICULAR TRAFFIC. THE PORTABLE TOILET SHALL NOT BE PLACED ON THE PUBLIC ROAD PAVEMENT, A PUBLIC SIDEWALK, SEWER MANHOLE, CATCH BASIN OR CURB INLET.

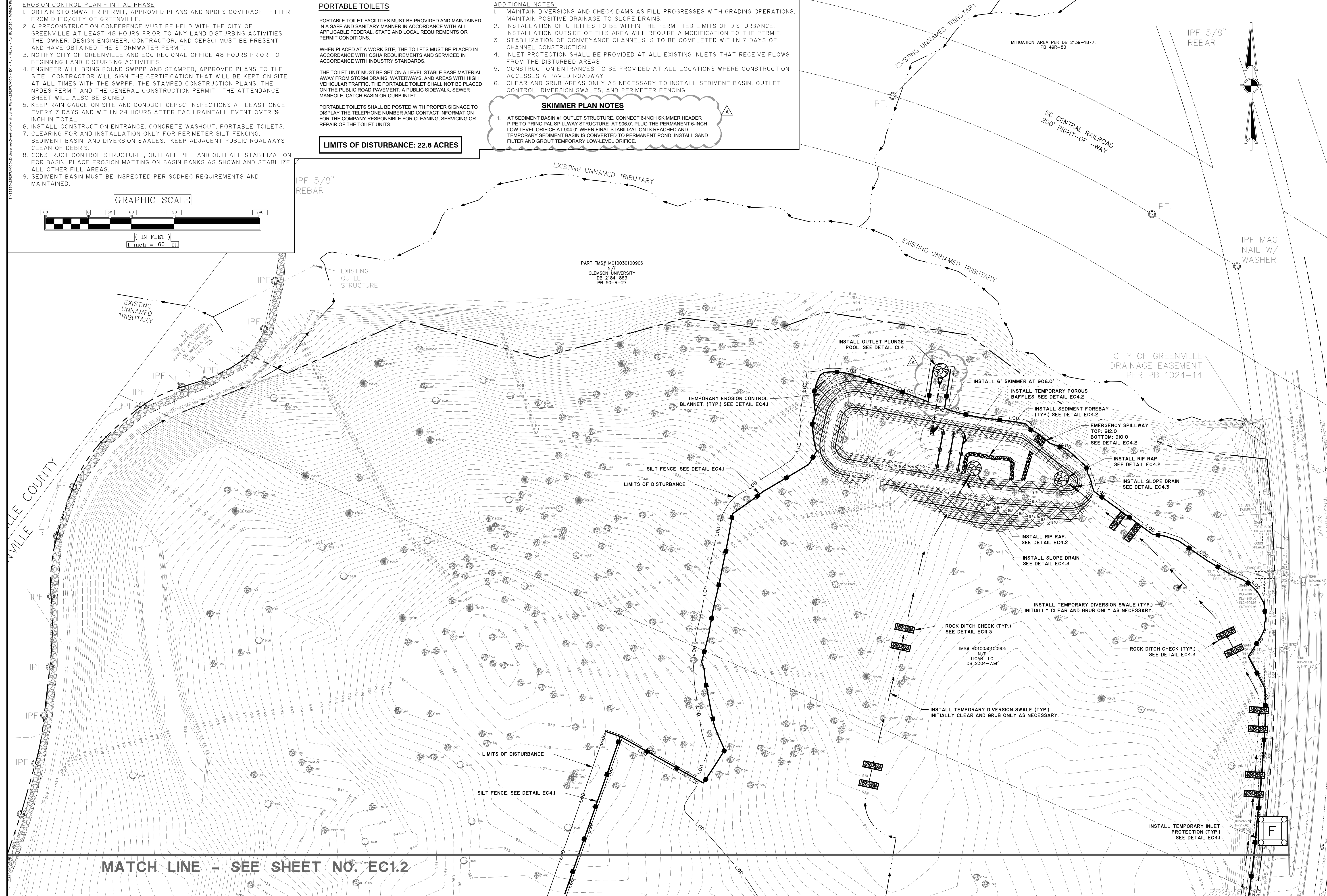
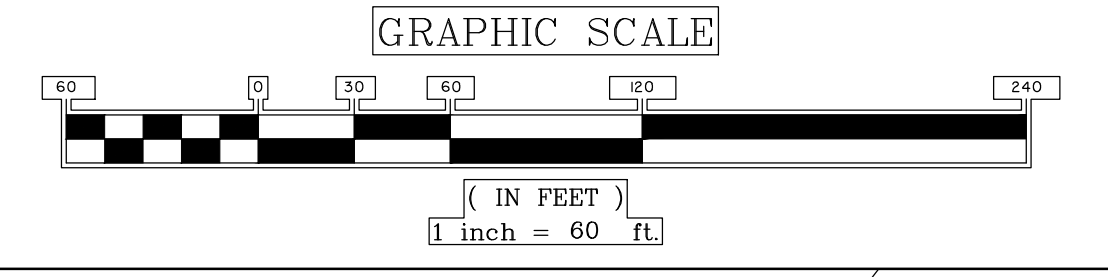
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LIMITS OF DISTURBANCE: 22.8 ACRES

- ADDITIONAL NOTES:**
- MAINTAIN DIVERSIONS AND CHECK DAMS AS FILL PROGRESSES WITH GRADING OPERATIONS. MAINTAIN POSITIVE DRAINAGE TO SLOPE DRAINS.
 - INSTALLATION OF UTILITIES TO BE WITHIN THE PERMITTED LIMITS OF DISTURBANCE.
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 - CONSTRUCTION ENTRANCES TO BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION ACCESSES A PAVED ROADWAY.
 - CLEAR AND GRUB AREAS ONLY AS NECESSARY TO INSTALL SEDIMENT BASIN, OUTFALL CONTROL, DIVERSION SWALES, AND PERIMETER FENCING.

SKIMMER PLAN NOTES

- AT SEDIMENT BASIN #1 OUTFALL STRUCTURE, CONNECT 6-INCH SKIMMER HEADER PIPE TO PRINCIPAL SPILLWAY STRUCTURE. AT 906.0' PLUG THE PERMANENT 6-INCH LOW-LEVEL ORIFICE AT 904.0'. WHEN FINAL STABILIZATION IS REACHED AND TEMPORARY SEDIMENT BASIN IS CONVERTED TO PERMANENT POND, INSTALL SAND FILTER AND GROUT TEMPORARY LOW-LEVEL ORIFICE.



MATCH LINE - SEE SHEET NO. EC1.2



NO.	REVISIONS	BY	DATE

APPENDIX A LAND CITY COMMENTS

THOMAS & HUTTON

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LICAR, LLC
CITY OF GREENVILLE, SC

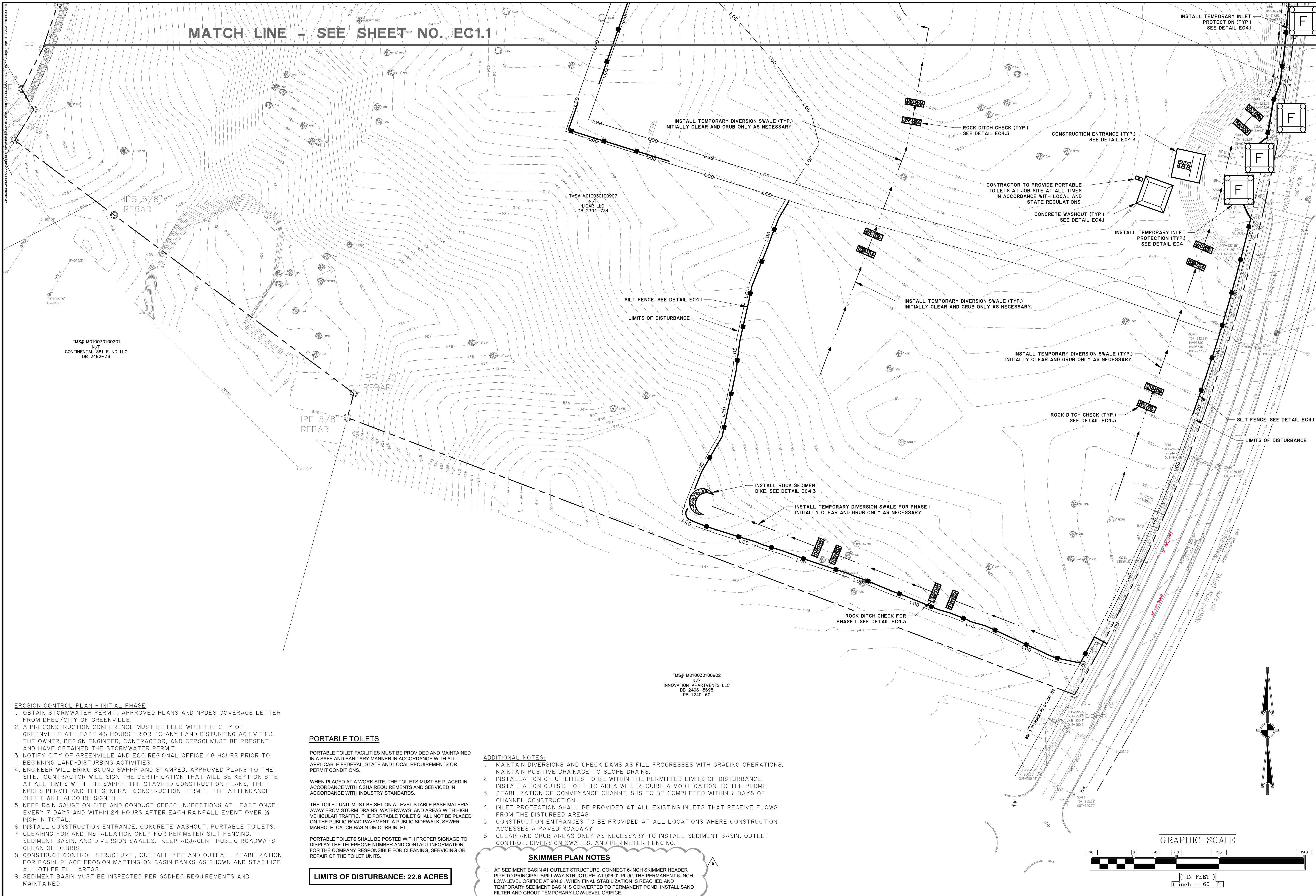
CU ICAR - TN3 - MASS GRADING

EROSION CONTROL PLAN - INITIAL LAND DISTURBANCE

JOB NO: J-28283.0000
DATE: 05/11/2020
DRAWN: CMC
DESIGNED: RWP
REVIEWED: KES
APPROVED: RWP
SCALE: 1" = 60'

EC1.1

MATCH LINE - SEE SHEET NO. EC1.1



TMS# M010030100201
N/F
CONTINENTAL 361 FUND LLC
DB 2492-36

TMS# M010030100907
N/F
LICAR LLC
DB 2304-734

TMS# M010030100902
N/F
INNOVATION APARTMENTS LLC
DB 2496-5695
PB 1240-60

EROSION CONTROL PLAN - INITIAL PHASE

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LIMITS OF DISTURBANCE: 22.8 ACRES

ADDITIONAL NOTES:

- MAINTAIN DIVERSIONS AND CHECK DAMS AS FILL PROGRESSES WITH GRADING OPERATIONS. MAINTAIN POSITIVE DRAINAGE TO SLOPE DRAINS.
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SKIMMER PLAN NOTES

- AT SEDIMENT BASIN #1 OUTLET STRUCTURE, CONNECT 6-INCH SKIMMER HEADER PIPE TO PRINCIPAL SPILLWAY STRUCTURE AT 906.0'. PLUG THE PERMANENT 6-INCH LOW-LEVEL ORIFICE AT 904.0'. WHEN FINAL STABILIZATION IS REACHED AND TEMPORARY SEDIMENT BASIN IS CONVERTED TO PERMANENT POND, INSTALL SAND FILTER AND GROUT TEMPORARY LOW-LEVEL ORIFICE.

THOMAS & HUTTON ENGINEERING, INC. CERTIFICATE OF PROFESSIONAL ENGINEERING
 SOUTH CAROLINA
 THOMAS B. HUTTON
 No. 000285
 No. 29186
 RAN W. PANK

NO.	REVISIONS	BY	DATE
A	ADDENDUM I AND CITY COMMENTS	CMC	7-9-20

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 Greenville, SC 29601 • 864.412.2222
 www.thomasandhutton.com

LICAR, LLC
 CITY OF GREENVILLE, SC

CU ICAR - TN3 - MASS GRADING

EROSION CONTROL PLAN - INITIAL LAND DISTURBANCE

JOB NO: J-28283.0000
 DATE: 05/11/2020
 DRAWN: CMC
 DESIGNED: RWP
 REVIEWED: KES
 APPROVED: RWP
 SCALE: 1" = 60'

EC1.2

EROSION CONTROL PLAN - PHASE 2

- PERFORM MASS GRADING OPERATIONS AND INSTALL STORM PIPING.
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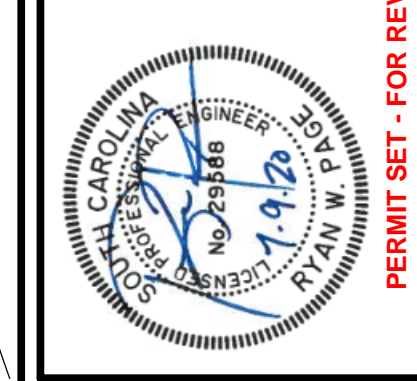
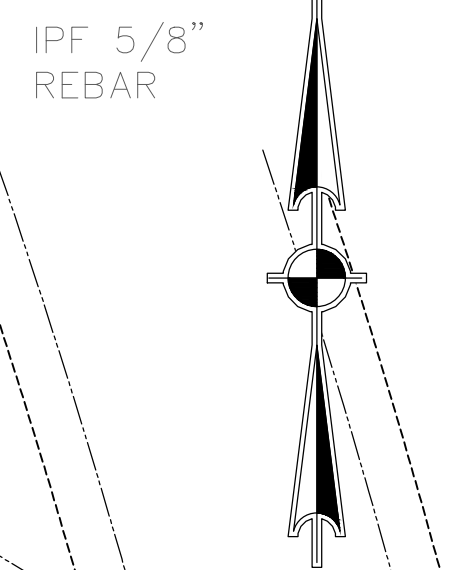
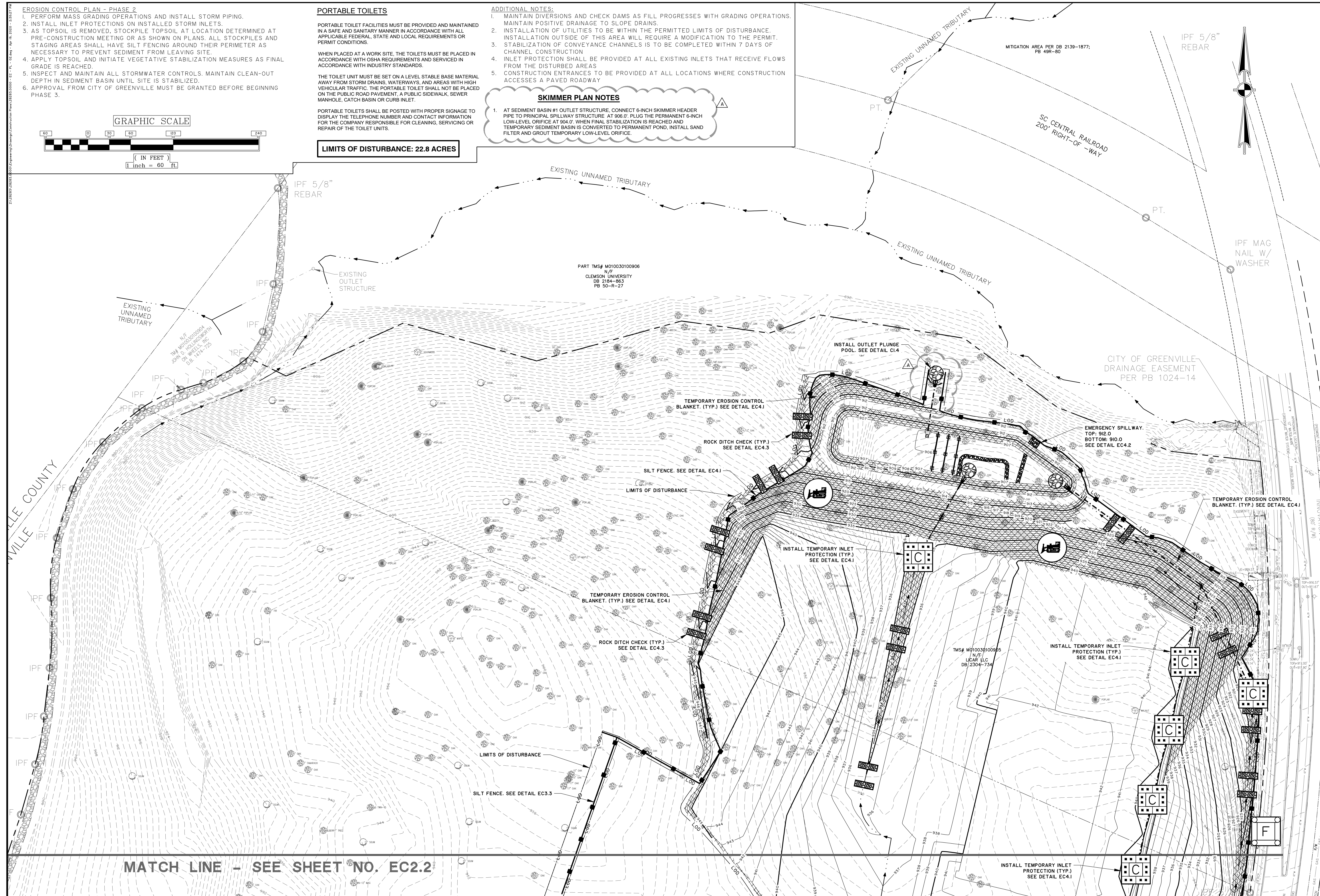
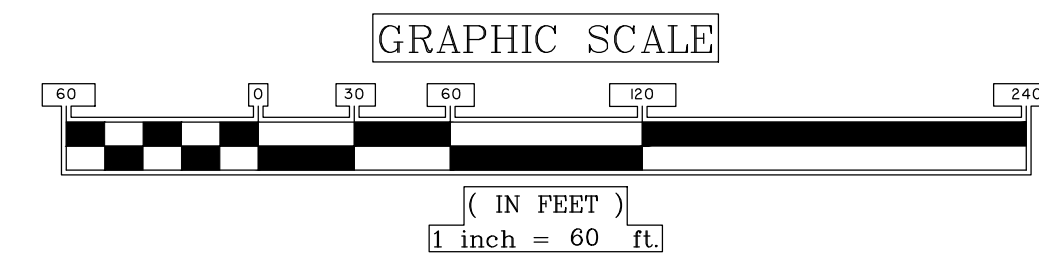
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LIMITS OF DISTURBANCE: 22.8 ACRES



NO.	A	ADDENDUM I AND CITY COMMENTS	BY	CNC	DATE
					7-9-20

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LICAR, LLC
CITY OF GREENVILLE, SC

CU ICAR - TN3 - MASS GRADING

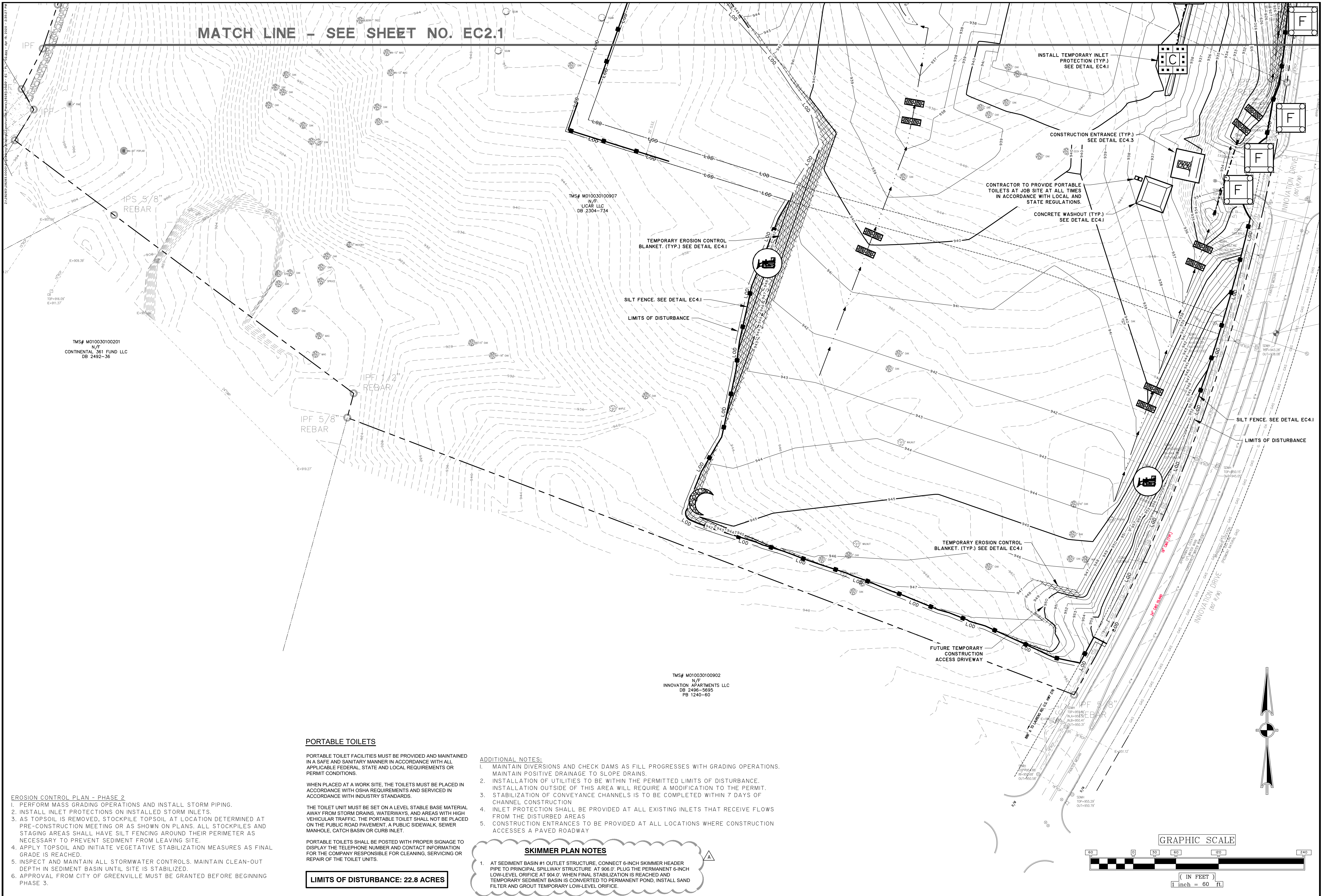
EROSION CONTROL PLAN - CONSTRUCTION

JOB NO: J-28283.0000
DATE: 05/11/2020
DRAWN: CNC
DESIGNED: RWP
REVIEWED: KES
APPROVED: RWP
SCALE: 1" = 60'

EC2.1

MATCH LINE - SEE SHEET NO. EC2.2

MATCH LINE - SEE SHEET NO. EC2.1



TMS# M010030100201
N/F
CONTINENTAL 361 FUND LLC
DB 2492-36

TMS# M010030100907
N/F
LICAR LLC
DB 2304-734

TMS# M010030100902
N/F
INNOVATION APARTMENTS LLC
DB 2496-5695
FB 1240-60

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ADDITIONAL NOTES:

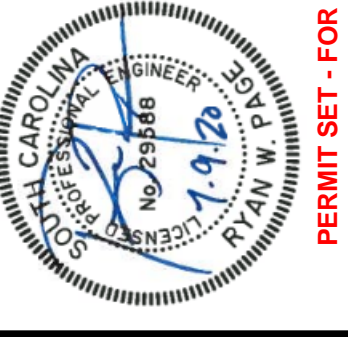
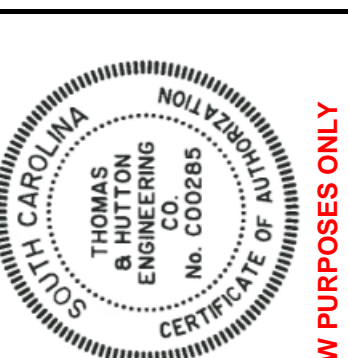
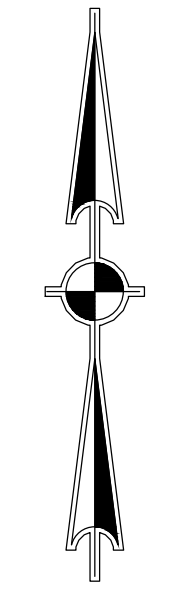
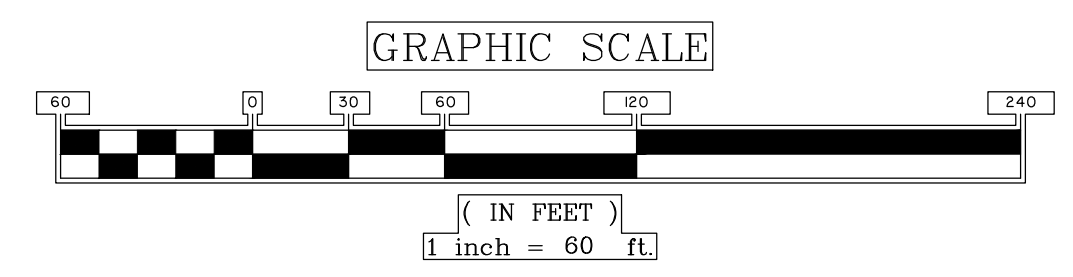
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SKIMMER PLAN NOTES

1. AT SEDIMENT BASIN #1 OUTLET STRUCTURE, CONNECT 6-INCH SKIMMER HEADER PIPE TO PRINCIPAL SPILLWAY STRUCTURE AT 906.0'. PLUG THE PERMANENT 6-INCH LOW-LEVEL ORIFICE AT 904.0'. WHEN FINAL STABILIZATION IS REACHED AND TEMPORARY SEDIMENT BASIN IS CONVERTED TO PERMANENT POND, INSTALL SAND FILTER AND GROUT TEMPORARY LOW-LEVEL ORIFICE.

LIMITS OF DISTURBANCE: 22.8 ACRES

- EROSION CONTROL PLAN - PHASE 2**
1. PERFORM MASS GRADING OPERATIONS AND INSTALL STORM PIPING.
 2. INSTALL INLET PROTECTIONS ON INSTALLED STORM INLETS
 3. AS TOPSOIL IS REMOVED, STOCKPILE TOPSOIL AT LOCATION DETERMINED AT PRE-CONSTRUCTION MEETING OR AS SHOWN ON PLANS. ALL STOCKPILES AND STAGING AREAS SHALL HAVE SILT FENCING AROUND THEIR PERIMETER AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING SITE.
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NO.	REVISIONS	BY	DATE
A	ADDENDUM 1 AND CITY COMMENTS	CMC	7-9-20

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LICAR, LLC
CITY OF GREENVILLE, SC
CU ICAR - TN3 - MASS GRADING
EROSION CONTROL PLAN - CONSTRUCTION

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CMC
DESIGNED:	RWP
REVIEWED:	KEB
APPROVED:	RWP
SCALE:	1" = 60'

EC2.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

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 - AS TOPSOIL IS REMOVED, STOCKPILE TOPSOIL AT LOCATION DETERMINED AT PRE-CONSTRUCTION MEETING OR AS SHOWN ON PLANS. ALL STOCKPILES AND STAGING AREAS SHALL HAVE SILT FENCING AROUND THEIR PERIMETER AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING SITE.
 - APPLY TOPSOIL AND INITIATE VEGETATIVE STABILIZATION MEASURES AS FINAL GRADE IS REACHED.
 - INSPECT AND MAINTAIN ALL STORMWATER CONTROLS. MAINTAIN CLEAN-OUT DEPTH IN SEDIMENT BASIN UNTIL SITE IS STABILIZED.
 - SEDIMENT BASIN TO BE CONVERTED TO PERMANENT POND ONCE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SEE SKIMMER PLAN NOTES THIS SHEET. BASIN TO BE CONVERTED TO A PERMANENT POND WITH SAND FILTER ONCE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SOD ENTIRE BOTTOM OF POND AFTER SITE HAS BEEN STABILIZED AND PRIOR TO SAND FILTER INSTALLATION.
 - CONTINUE MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES UNTIL THE SITE IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED.
 - SUBMIT NOTICE OF TERMINATION (NOT) TO CITY OF GREENVILLE STORMWATER OFFICE ONCE PROJECT IS VERIFIED COMPLETE.

PORTABLE TOILETS

PORTABLE TOILET FACILITIES MUST BE PROVIDED AND MAINTAINED IN A SAFE AND SANITARY MANNER IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS OR PERMIT CONDITIONS.

WHEN PLACED AT A WORK SITE, THE TOILETS MUST BE PLACED IN ACCORDANCE WITH OSHA REQUIREMENTS AND SERVICED IN ACCORDANCE WITH INDUSTRY STANDARDS.

THE TOILET UNIT MUST BE SET ON A LEVEL STABLE BASE MATERIAL AWAY FROM STORM DRAINS, WATERWAYS, AND AREAS WITH HIGH VEHICULAR TRAFFIC. THE PORTABLE TOILET SHALL NOT BE PLACED ON THE PUBLIC ROAD PAVEMENT, A PUBLIC SIDEWALK, SEWER MANHOLE, CATCH BASIN OR CURB INLET.

PORTABLE TOILETS SHALL BE POSTED WITH PROPER SIGNAGE TO DISPLAY THE TELEPHONE NUMBER AND CONTACT INFORMATION FOR THE COMPANY RESPONSIBLE FOR CLEANING, SERVICING OR REPAIR OF THE TOILET UNITS.

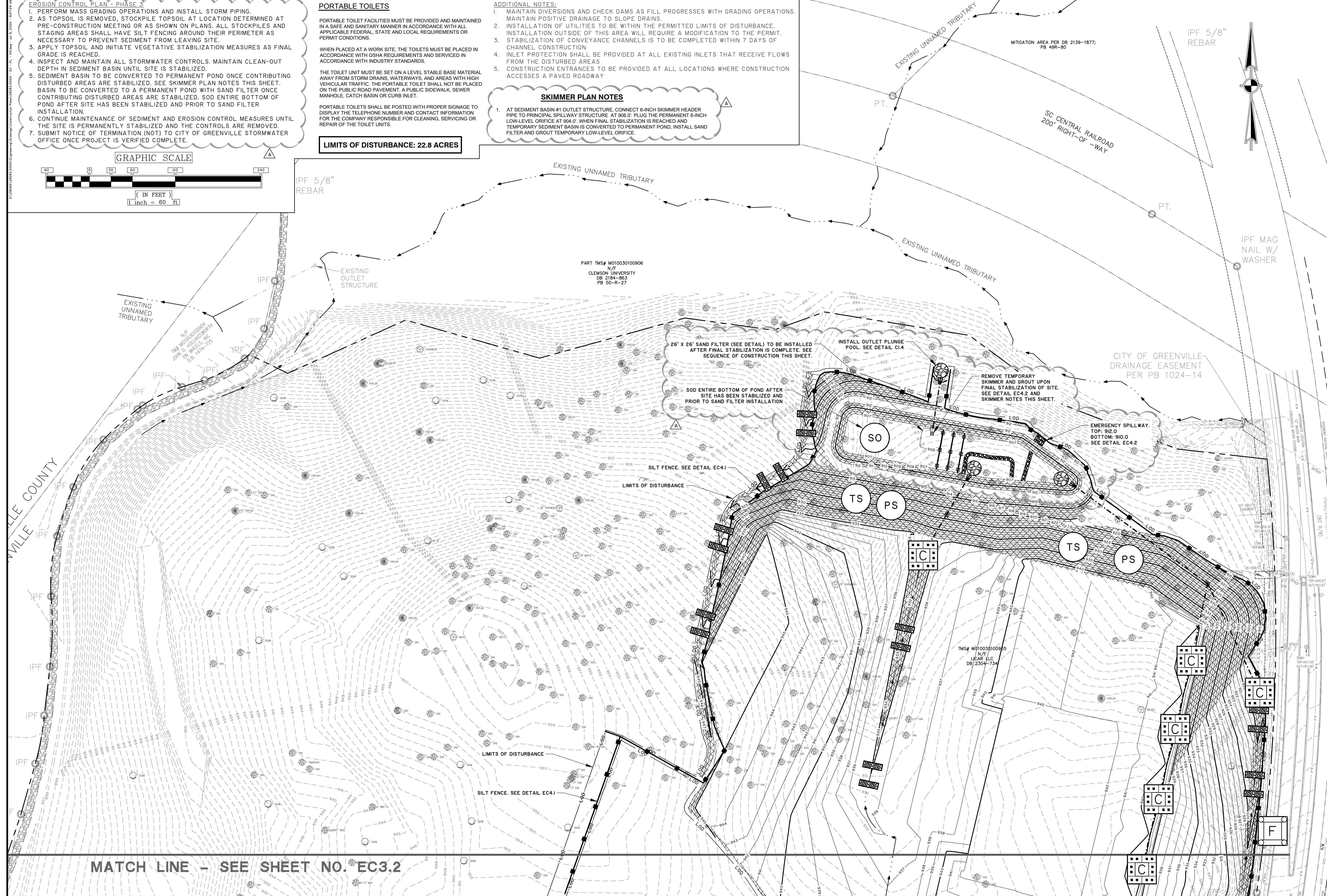
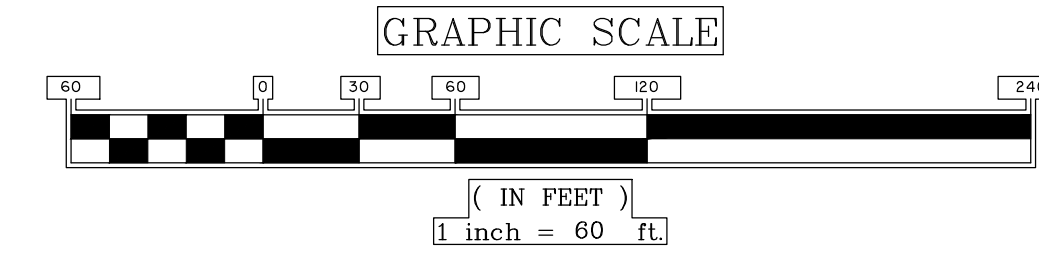
ADDITIONAL NOTES:

- MAINTAIN DIVERSIONS AND CHECK DAMS AS FILL PROGRESSES WITH GRADING OPERATIONS. MAINTAIN POSITIVE DRAINAGE TO SLOPE DRAINS.
- INSTALLATION OF UTILITIES TO BE WITHIN THE PERMITTED LIMITS OF DISTURBANCE.
- INSTALLATION OUTSIDE OF THIS AREA WILL REQUIRE A MODIFICATION TO THE PERMIT.
- STABILIZATION OF CONVEYANCE CHANNELS IS TO BE COMPLETED WITHIN 7 DAYS OF CHANNEL CONSTRUCTION.
- INLET PROTECTION SHALL BE PROVIDED AT ALL EXISTING INLETS THAT RECEIVE FLOWS FROM THE DISTURBED AREAS.
- CONSTRUCTION ENTRANCES TO BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION ACCESSES A PAVED ROADWAY.

SKIMMER PLAN NOTES

- AT SEDIMENT BASIN #1 OUTLET STRUCTURE, CONNECT 6-INCH SKIMMER HEADER PIPE TO PRINCIPAL SPILLWAY STRUCTURE AT 906.0' PLUS THE PERMANENT 6-INCH LOW-LEVEL ORIFICE AT 904.0'. WHEN FINAL STABILIZATION IS REACHED AND TEMPORARY SEDIMENT BASIN IS CONVERTED TO PERMANENT POND, INSTALL SAND FILTER AND GROUT TEMPORARY LOW-LEVEL ORIFICE.

LIMITS OF DISTURBANCE: 22.8 ACRES



GRAPHIC SCALE
(IN FEET)
1 inch = 60 ft.

THOMAS & HUTTON ENGINEERS
SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 000285
CERTIFICATE OF REGISTRATION

THOMAS & HUTTON ENGINEERS
SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 29186
CERTIFICATE OF REGISTRATION

PERMIT SET - FOR REVIEW PURPOSES ONLY

NO.	REVISIONS	BY	DATE
A	APPENDIX I AND CITY COMMENTS		

THOMAS & HUTTON
501 River Street • Suite 200
Greenville, SC 29601 • 864.412.2222
www.thomasandhutton.com

LICAR, LLC
CITY OF GREENVILLE, SC

CU ICAR - TN3 - MASS GRADING

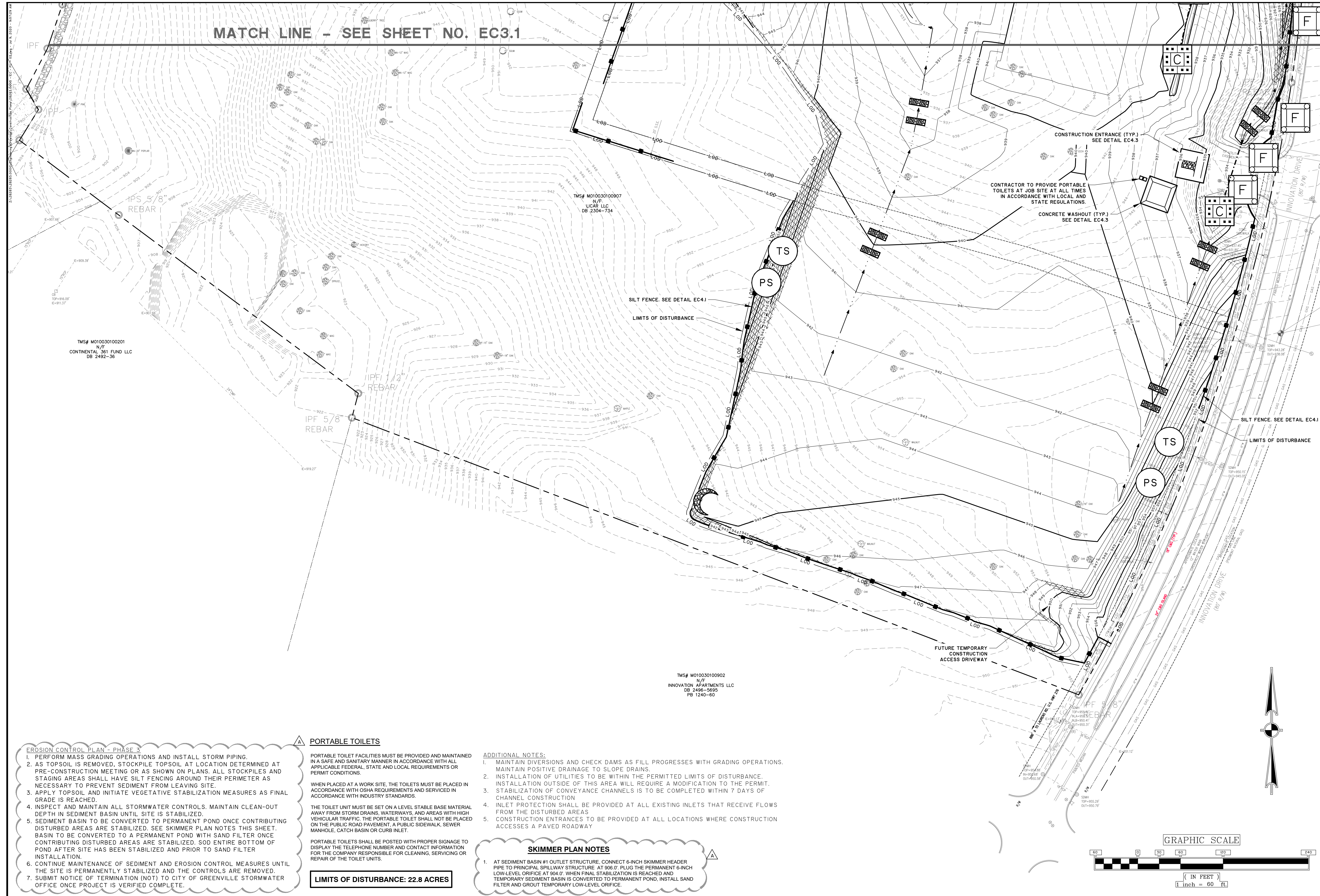
EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CWC
DESIGNED:	RWP
REVIEWED:	KES
APPROVED:	RWP
SCALE:	1" = 60'

EC3.1

MATCH LINE - SEE SHEET NO. EC3.2

MATCH LINE - SEE SHEET NO. EC3.1



EROSION CONTROL PLAN - PHASE 3

- PERFORM MASS GRADING OPERATIONS AND INSTALL STORM PIPING.
- AS TOPSOIL IS REMOVED, STOCKPILE TOPSOIL AT LOCATION DETERMINED AT PRE-CONSTRUCTION MEETING OR AS SHOWN ON PLANS. ALL STOCKPILES AND STAGING AREAS SHALL HAVE SILT FENCING AROUND THEIR PERIMETER AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING SITE.
- APPLY TOPSOIL AND INITIATE VEGETATIVE STABILIZATION MEASURES AS FINAL GRADE IS REACHED.
- INSPECT AND MAINTAIN ALL STORMWATER CONTROLS. MAINTAIN CLEAN-OUT DEPTH IN SEDIMENT BASIN UNTIL SITE IS STABILIZED.
- SEDIMENT BASIN TO BE CONVERTED TO PERMANENT POND ONCE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SEE SKIMMER PLAN NOTES THIS SHEET. BASIN TO BE CONVERTED TO A PERMANENT POND WITH SAND FILTER ONCE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SOD ENTIRE BOTTOM OF POND AFTER SITE HAS BEEN STABILIZED AND PRIOR TO SAND FILTER INSTALLATION.
- CONTINUE MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES UNTIL THE SITE IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED.
- SUBMIT NOTICE OF TERMINATION (NOT) TO CITY OF GREENVILLE STORMWATER OFFICE ONCE PROJECT IS VERIFIED COMPLETE.

PORTABLE TOILETS

PORTABLE TOILET FACILITIES MUST BE PROVIDED AND MAINTAINED IN A SAFE AND SANITARY MANNER IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS OR PERMIT CONDITIONS.

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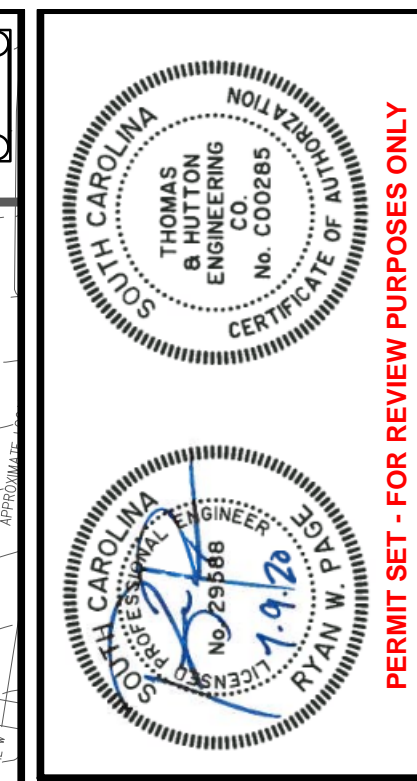
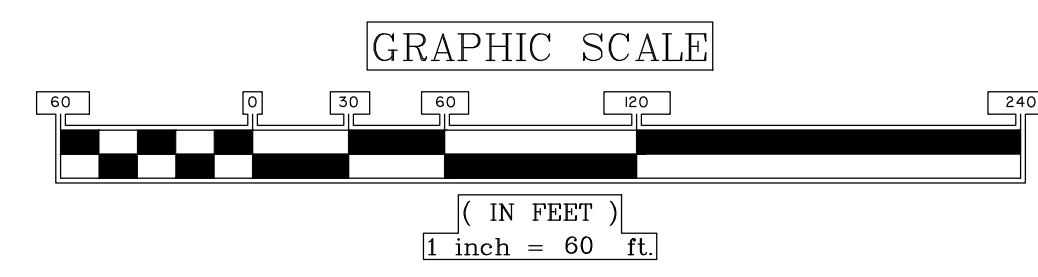
LIMITS OF DISTURBANCE: 22.8 ACRES

ADDITIONAL NOTES:

- MAINTAIN DIVERSIONS AND CHECK DAMS AS FILL PROGRESSES WITH GRADING OPERATIONS. MAINTAIN POSITIVE DRAINAGE TO SLOPE DRAINS.
- INSTALLATION OF UTILITIES TO BE WITHIN THE PERMITTED LIMITS OF DISTURBANCE. INSTALLATION OUTSIDE OF THIS AREA WILL REQUIRE A MODIFICATION TO THE PERMIT.
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SKIMMER PLAN NOTES

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NO.	REVISIONS	BY	DATE
A	ADDENDUM I AND CITY COMMENTS		
		CMC	7-9-20

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LICAR, LLC
CITY OF GREENVILLE, SC

CU ICAR - TN3 - MASS GRADING

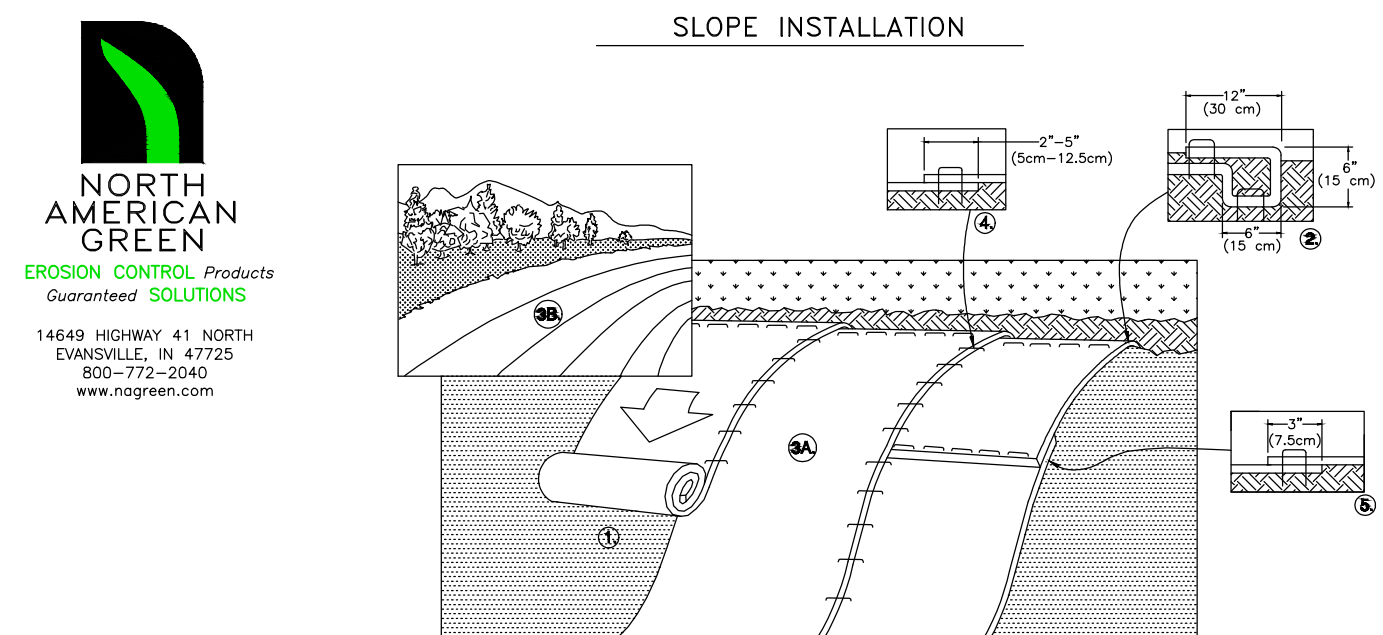
EROSION CONTROL PLAN - STABILIZATION

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CMC
DESIGNED:	RWP
REVIEWED:	KEK
APPROVED:	RWP
SCALE:	1" = 60'

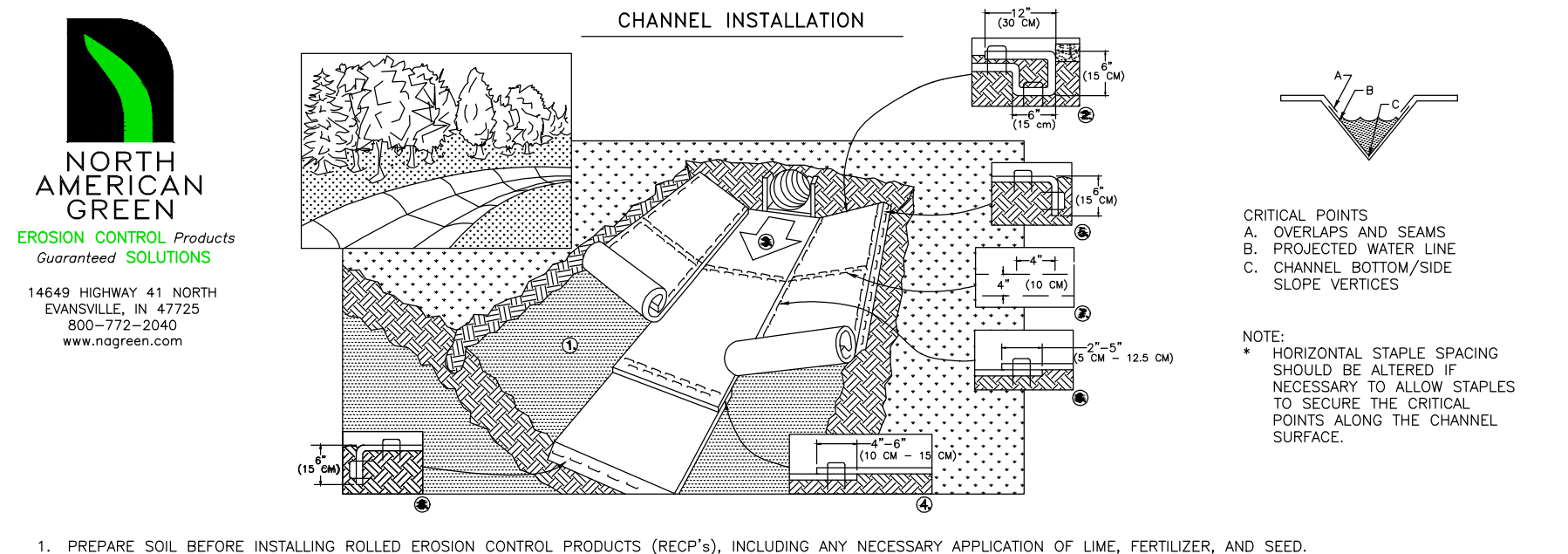
EC3.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

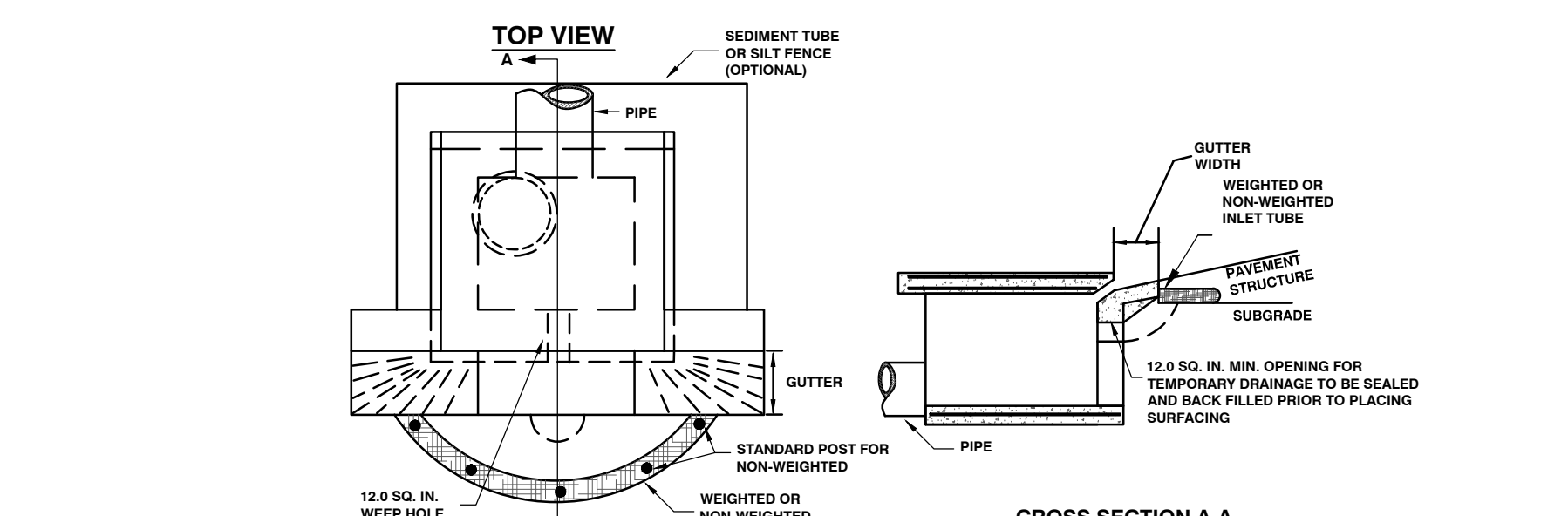
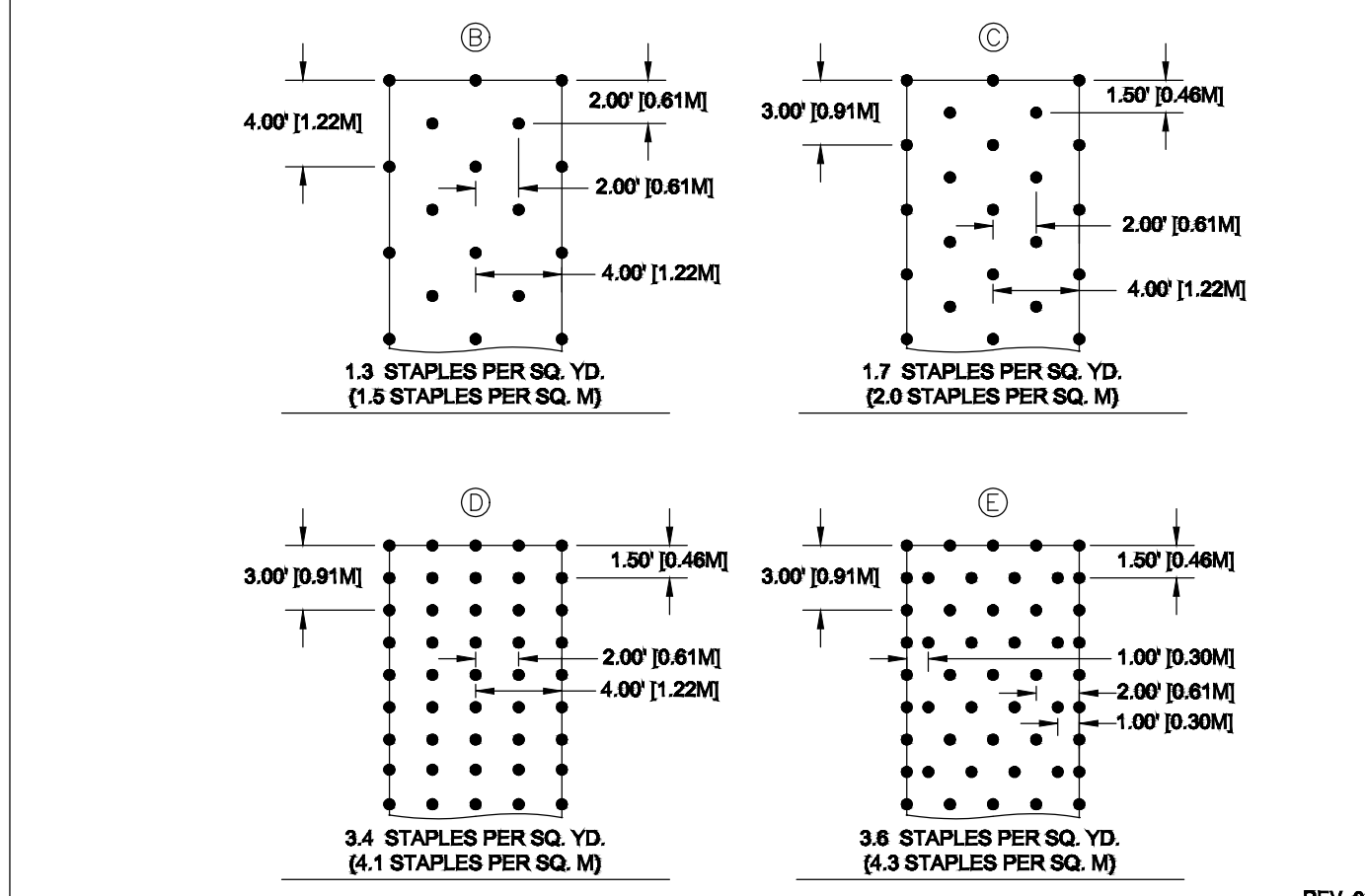
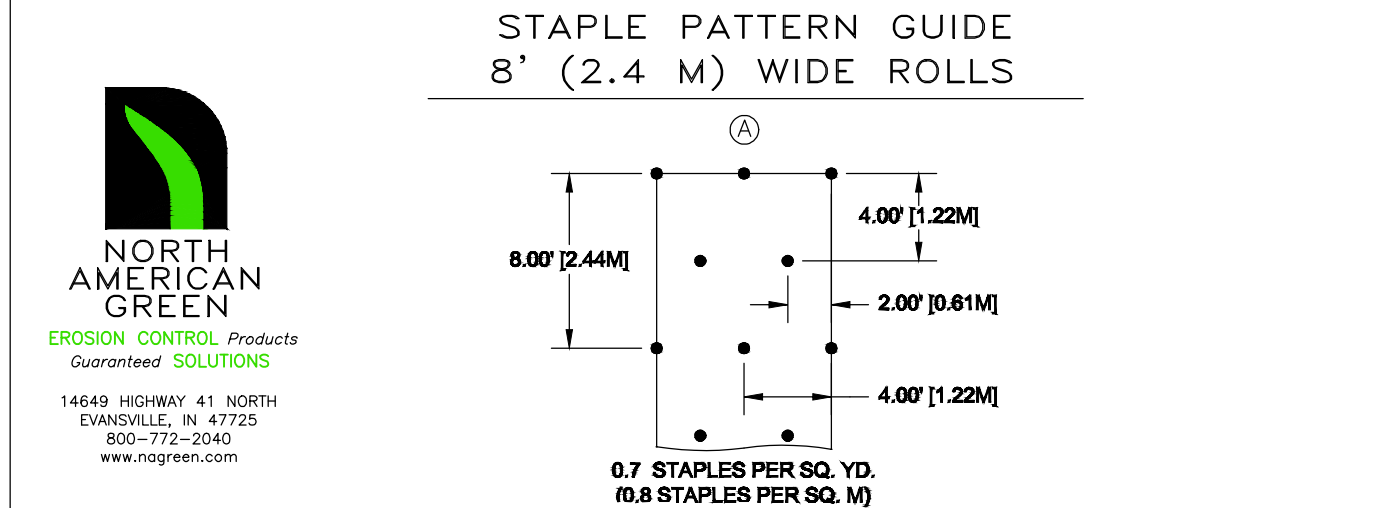
STORMWATER POLLUTION PREVENTION PLAN



- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE THE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
- ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE. CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAP AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.



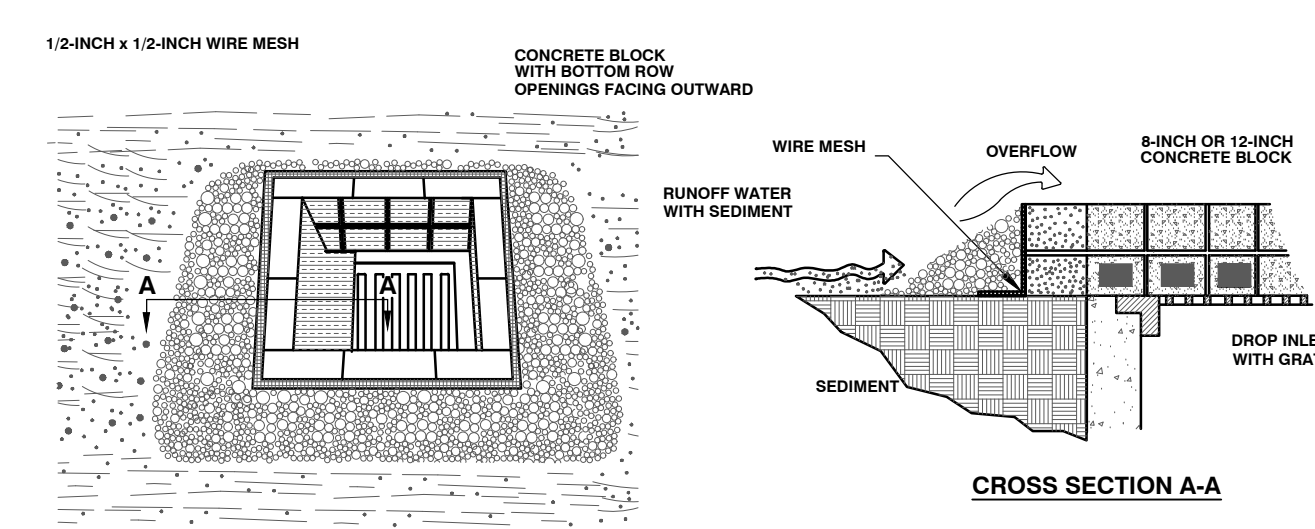
- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 4" (10 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE THE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
- ROLL CENTER RECP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- PLACE CONSECUTIVE RECP'S END OVER END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP'S.
- FULL LENGTH EDGE OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) (DEPENDING ON RECP'S TYPE) AND STAPLED.
- IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
- THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.



- USE INLET TUBES THAT EXHIBIT THE FOLLOWING PROPERTIES:**
PRODUCED BY A MANUFACTURER EXPERIENCED IN SEDIMENT TUBE MANUFACTURING. COMPOSED OF COMPACTED GEOTEXTILES, CURLED EXCELRIOR WOOD, NATURAL COCONUT FIBERS OR HARDWOOD MULCH OR A MIX OF THESE MATERIALS ENCLOSED BY A FLEXIBLE NETTING MATERIAL. DO NOT USE STRAW, STRAW FIBER, STRAW BALES, PINE NEEDLES OR LEAF MULCH. SPECIFICATION: UTILIZE AN OUTER NETTING THAT CONSISTS OF SEAMLESS, HIGH-DENSITY POLYETHYLENE PHOTODEGRADABLE MATERIALS TREATED WITH ULTRAVIOLET STABILIZERS OR A SEAMLESS, HIGH-DENSITY POLYETHYLENE NON-DEGRADABLE MATERIALS. CURLED WOOD EXCELRIOR FIBER OR NATURAL COCONUT FIBER ROLLED EROSION CONTROL PRODUCTS (RECP) ROLLED UP TO CREATE AN INLET TUBE DEVICES ARE NOT ALLOWED UNDER THIS SPECIFICATION.
- WEIGHTED INLET TUBES:**
WEIGHTED INLET TUBES ARE SEDIMENT TUBES CAPABLE OF STAYING IN PLACE WITHOUT EXTERNAL STABILIZATION MEASURES AND MAY HAVE A WEIGHTED INNER CORE OR OTHER WEIGHTED MECHANISM TO KEEP THEM IN PLACE.
- MATERIALS:**
APPLICABLE TYPE F WEIGHTED INLET TUBES MAY BE SELECTED FROM THE SCOTD APPROVED PRODUCTS LIST.
- INSTALLATION:**
INSTALL WEIGHTED INLET TUBES LYING FLAT ON THE GROUND, WITH NO GAPS BETWEEN THE UNDERLYING SURFACE AND THE INLET TUBE. NEVER STACK WEIGHTED INLET TUBES ON TOP OF ONE ANOTHER.
- DO NOT COMPLETELY BLOCK INLETS WITH WEIGHTED INLET TUBES.
- INSTALL WEIGHTED INLET TUBES IN SUCH A MANNER THAT ALL OVERFLOW OR OVERTOPPING WATER HAS THE ABILITY TO ENTER THE INLET UNOBSTRUCTED.
- TO AVOID POSSIBLE FLOODING, TWO OR THREE CONCRETE CINDER BLOCKS MAY BE PLACED BETWEEN THE WEIGHTED INLET TUBES AND THE INLET.
- NON-WEIGHTED INLET TUBES:**
NON-WEIGHTED INLET TUBES ARE DEFINED AS SEDIMENT TUBES THAT REQUIRE STAKING OR OTHER STABILIZATION METHODS TO KEEP THEM SAFELY IN PLACE.
- MATERIALS:**
APPLICABLE TYPE F NON-WEIGHTED INLET TUBES MAY BE SELECTED FROM THE SCOTD APPROVED PRODUCTS LIST.
- INSPECTION AND MAINTENANCE:**
INLET TUBES MAY BE TEMPORARILY MOVED DURING CONSTRUCTION AS NEEDED.
REPLACE INLET TUBES DAMAGED DURING INSTALLATION AS DIRECTED BY THE ENGINEER OR MANUFACTURER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

TYPE F INLET TUBES

NOT TO SCALE

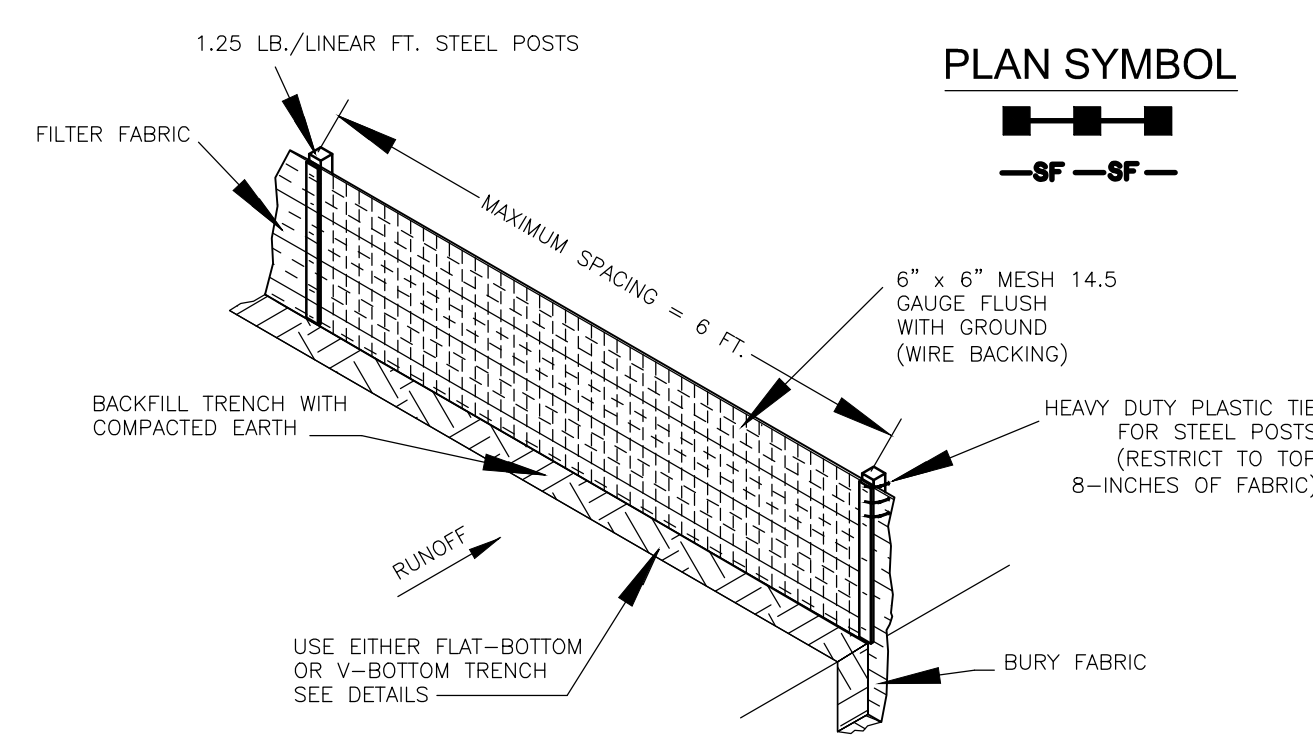


- INSTALLATION:**
BLOCK AND GRAVEL FILTERS CAN BE USED WHERE HEAVY FLOWS AND HIGHER VELOCITIES ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.
- GRAVEL SHALL CONSIST OF 1-INCH D60 WASHED STONE AND SHOULD EXTEND TO HEIGHT EQUAL TO THE ELEVATION OF THE TOP OF THE BLOCKS.
- PLACE THE BOTTOM ROW OF THE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDE SO THAT THE OPEN END FACES OUTWARD, NOT UPWARD.
- THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING UPON DESIGN NEEDS BY STACKING A COMBINATION OF BLOCKS THAT ARE 8- AND 15-INCHES WIDE.
- WIRE MESH SHOULD BE PLACED OVER THE OUTSIDE VERTICAL FACE OF THE CONCRETE BLOCKS TO PREVENT STONES FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/4-INCH X 1/4-INCH OPENINGS SHOULD BE USED.
- INSPECTION AND MAINTENANCE:**
SEDIMENT SHOULD BE REMOVED WHEN IT REACHES APPROXIMATELY 1/3 THE HEIGHT OF THE BLOCKS. IF A SUMP IS USED, SEDIMENT SHOULD BE REMOVED WHEN IT FILLS APPROXIMATELY 1/3 THE DEPTH OF THE HOLE.
- IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT, THE STONES MUST BE PULLED AWAY FROM THE INLET AND CLEANED OR REPLACED. SINGLE CLEANING OF GRAVEL AT A CONSTRUCTION SITE MAY BE DIFFICULT, AN ALTERNATE APPROACH WOULD BE TO USE THE WIDER STONE AS FILL AND PUT FRESH STONE AROUND THE INLET.
- STORM DRAIN INLET PROTECTION STRUCTURES SHOULD BE REMOVED ONLY AFTER THE DISTURBED AREAS ARE PERMANENTLY STABILIZED. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT, AND DISPOSE OF THEM PROPERLY. GRADE THE DISTURBED AREA TO THE ELEVATION OF THE DROP INLET STRUCTURE CREST. STABILIZE ALL BARE AREAS IMMEDIATELY.

BLOCK AND GRAVEL DROP INLET PROTECTION (TYPE C)

NOT TO SCALE

SILT FENCE INSTALLATION



- SILT FENCE - GENERAL NOTES**
- Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
 - Maximum sheet or overland flow path length to the silt fence shall be 100-feet.
 - Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
 - Silt fence joints, when necessary, shall be completed by one of the following options:
 - Wrap each fabric together at a support post with both ends fastened to the post, with a 1-foot minimum overlap;
 - Overlap silt fence by installing 3-feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy-duty plastic ties; or,
 - Overlap entire width of each silt fence roll from one support post to the next support post.
 - Attach filter fabric to the steel posts using heavy-duty plastic ties that are evenly spaced within the top 8-inches of the fabric.
 - Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
 - Install Silt Fence Checks (Tie-Backs) every 50-100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

SILT FENCE - POST REQUIREMENTS

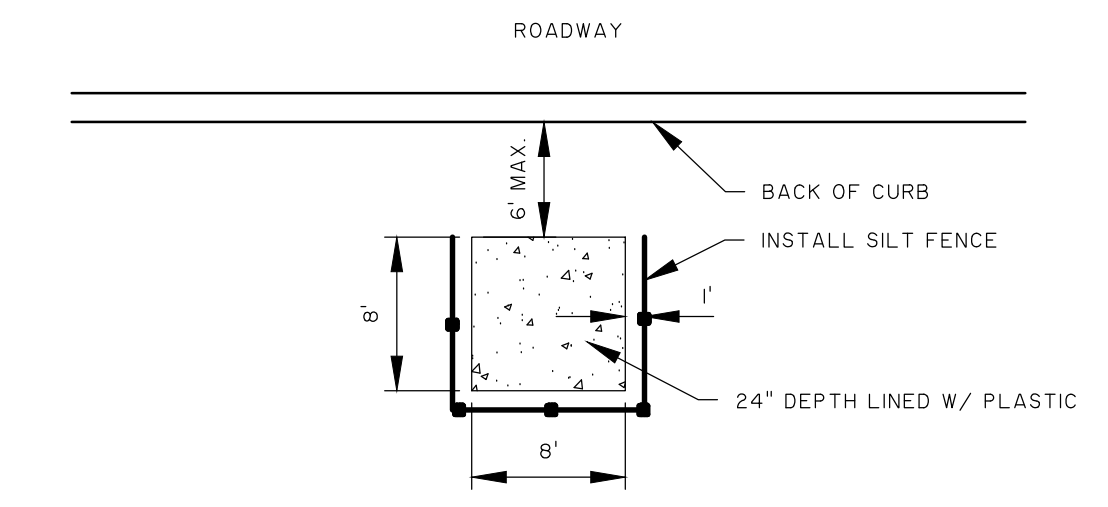
- Silt Fence posts must be 48-inch long steel posts that meet, at a minimum, the following physical characteristics:
 - Composed of a high strength steel with a minimum yield strength of 50,000 psi.
 - Include a standard "T" section with a nominal face width of 1.38-inches and a nominal "T" length of 1.48-inches.
 - Weight 1.25 pounds per foot (± 8%)
- Posts shall be equipped with projections to aid in fastening of filter fabric.
- Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17-square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
- Install posts to a minimum of 24-inches. A minimum height of 1- to 2-inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
- Post spacing shall be at a maximum of 6-feet on center.

SILT FENCE - FABRIC REQUIREMENTS

- Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
 - Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
 - Free of any treatment or coating which might adversely alter its physical properties after installation;
 - Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
 - Have a minimum width of 36-inches.
- Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
- 12-inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
- Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
- Filter Fabric shall be installed at a minimum of 24-inches above the ground.

SILT FENCE

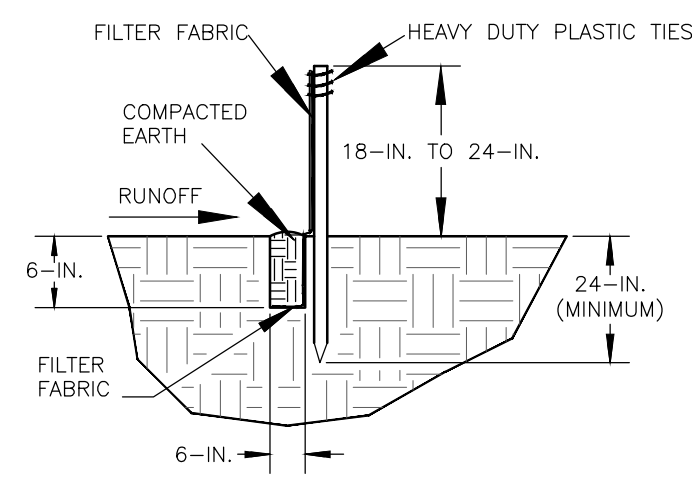
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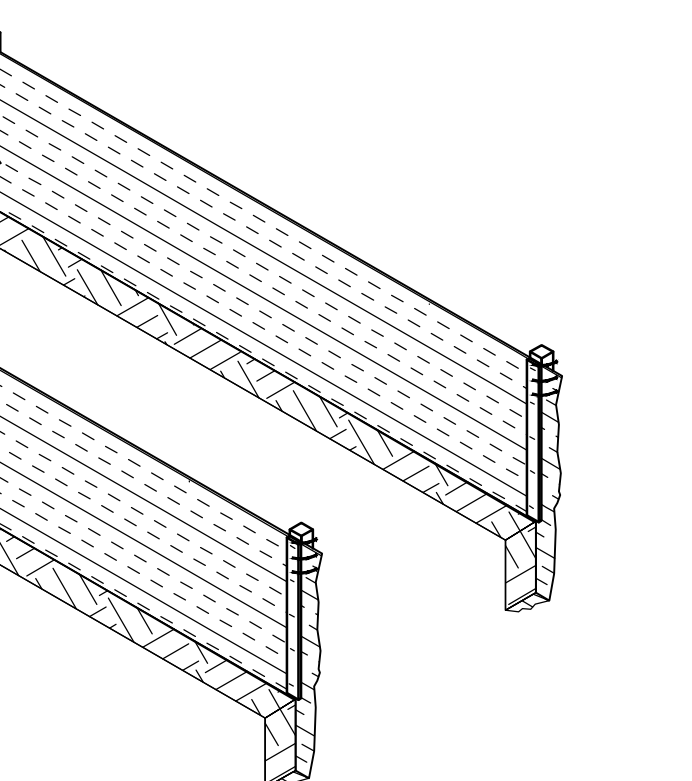
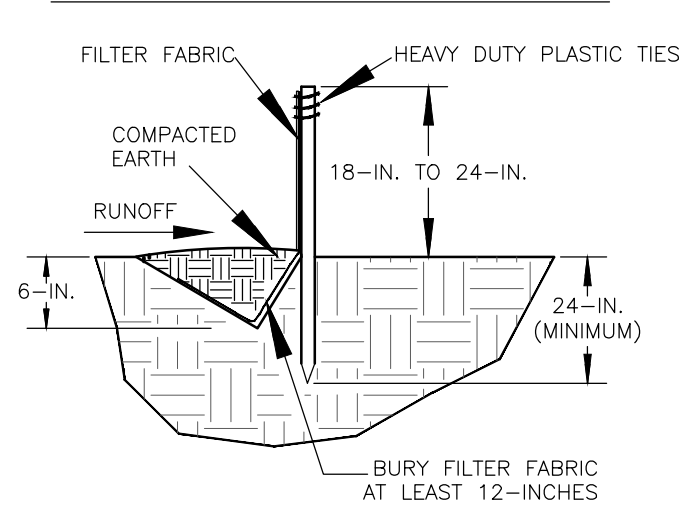
CONCRETE WASHOUT DETAIL

NOT TO SCALE

FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL



DOUBLE ROW SILT FENCE

SILT FENCE - INSPECTION & MAINTENANCE

- The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
- Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces 1/2-inch or more of precipitation.
- Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
- Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie-backs and/or reinstall silt fence, as necessary.
- Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
- Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.



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NO.	A.	ADDENDUM / LAND CITY COMMENTS	REVISIONS	DATE	BY	CDC

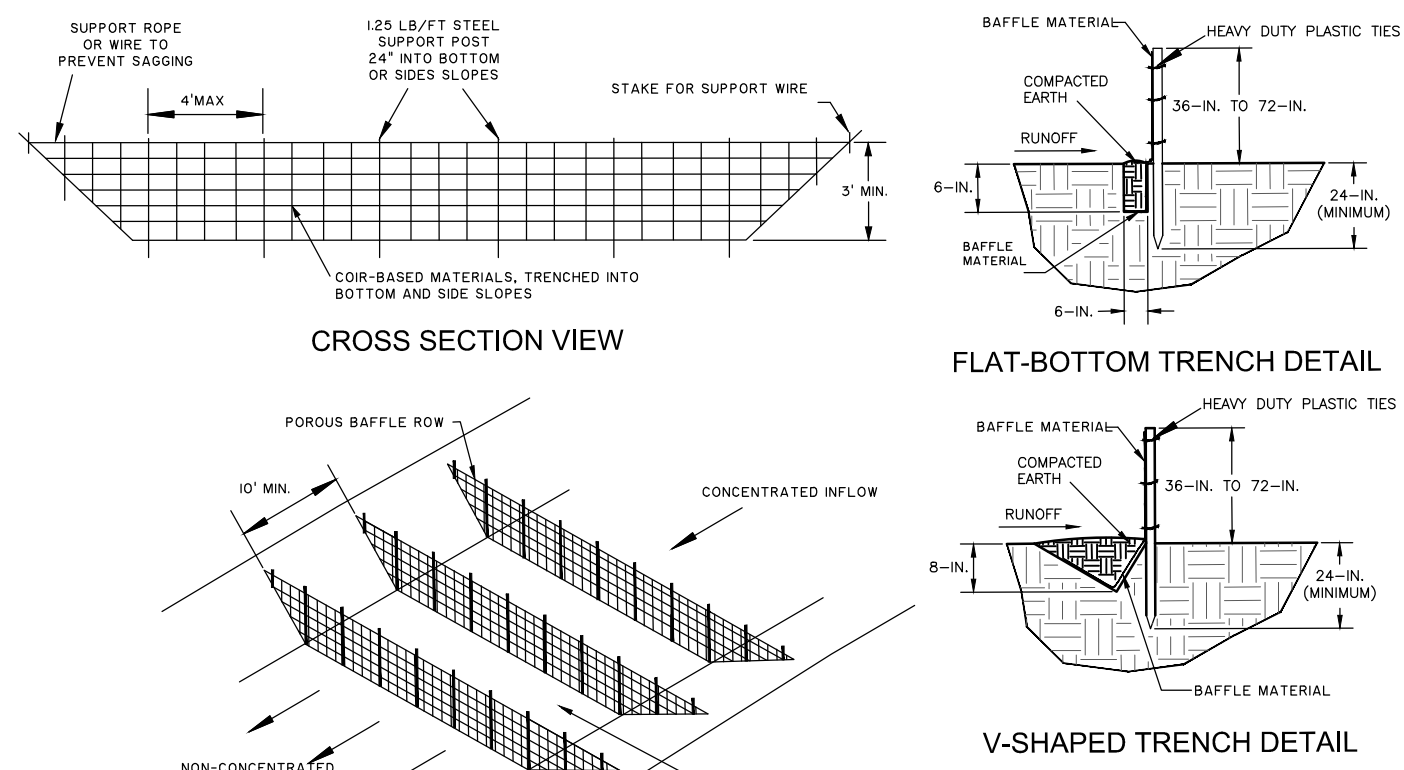
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LICAR, LLC
CITY OF GREENVILLE, SC
CU ICAR - TN3 - MASS GRADING
EROSION CONTROL DETAILS

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CWC
DESIGNED:	CWC
REVIEWED:	KEB
APPROVED:	RWP
SCALE:	N/A

EC4.1

STORMWATER POLLUTION PREVENTION PLAN



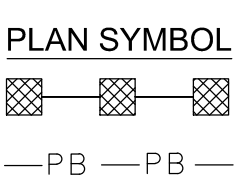
- BAFFLES - POST REQUIREMENTS**
1. Porous baffle posts must be 60-inch to 96-inch long steel posts that meet, at a minimum, the following physical characteristics:
 - Composed of a high strength steel with a minimum yield strength of 50,000 PSI.
 - Include a standard T section with a nominal face width of 1.38-inches and a nominal T length of 1.48-inches.
 - Weight 1.25 pounds per foot (± 8%).
 2. Posts shall be equipped with projections to aid in fastening of baffle material.
 3. Install posts to a minimum of 24-inches. A minimum height of 1- to 2-inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
 4. Post spacing shall be at a maximum of 4-feet on center.

- BAFFLES - MATERIAL REQUIREMENTS**
1. Baffle material must be composed of coil-based materials or Turf Reinforcement Matting (TRM) that consists of the following requirements:
 - Have a light penetration (3% openings) between 10-35%.
 - Free of loose straw material.
 - Have a minimum tensile strength of 145 lb/ft and.
 - Have a minimum width of 48-inches.
 2. 12-inches of the fabric should be placed within excavated trench and laid in when the trench is backfilled or baffle material may be stepped into ground using 12-inch slopes with a maximum spacing of 12-inches.
 3. Baffle material shall be purchased in continuous rolls and cut to the width of the sediment basin or trap to avoid joints.

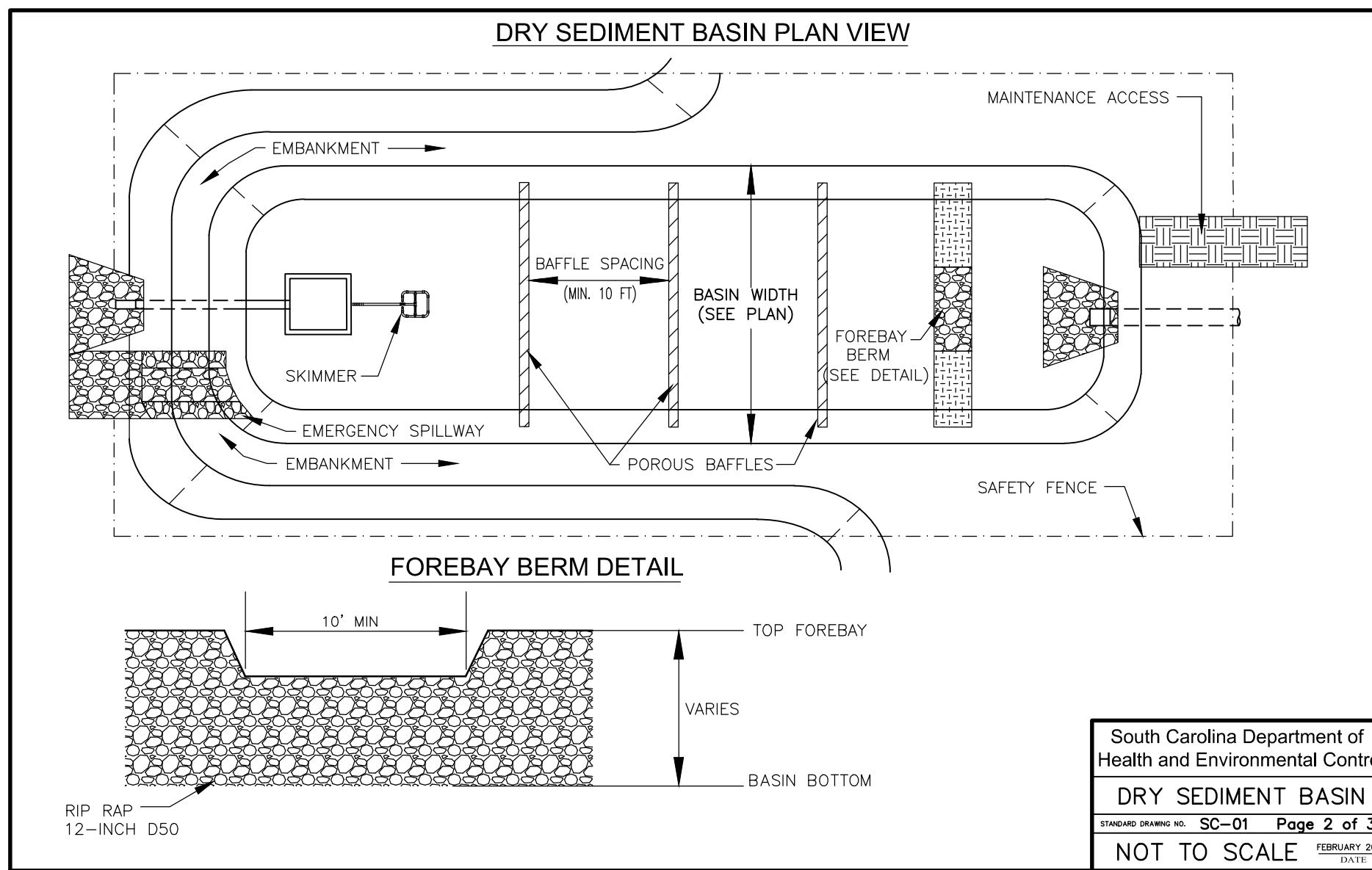
- BAFFLES - GENERAL NOTES**
1. Attach baffle to the steel posts using heavy-duty plastic ties that are evenly spaced along the above ground portion of each post.
 2. Install the baffle rows perpendicular to the direction of the stormwater flow and place each baffle the proper distance from inlet and outlets to allow access for maintenance and clean-out.

- BAFFLES - INSPECTION & MAINTENANCE**
1. The key to functional porous baffles is weekly inspection, routine maintenance, and regular sediment removal.
 2. Regular inspections of porous baffles shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces 1/2-inch or more of precipitation.
 3. Attention to sediment accumulations along each row of baffles is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
 4. Remove accumulated sediment when it reaches 1/3 the height of the baffle row or when it reaches the clean-out height of the sediment basin or trap, whichever is reached first.
 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed areas. Stabilize the removed sediment after it is relocated.
 6. Check for areas where stormwater runoff has eroded a channel beneath each row of baffles, or where the baffle has sagged or collapsed due to runoff overtopping the baffle.
 7. Check for tears/gaps within the baffles, areas where the baffle has begun to decompose, and for any other circumstance that may render the baffle ineffective. Removed damaged baffles and re-install new baffles immediately.
 8. Porous baffles should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

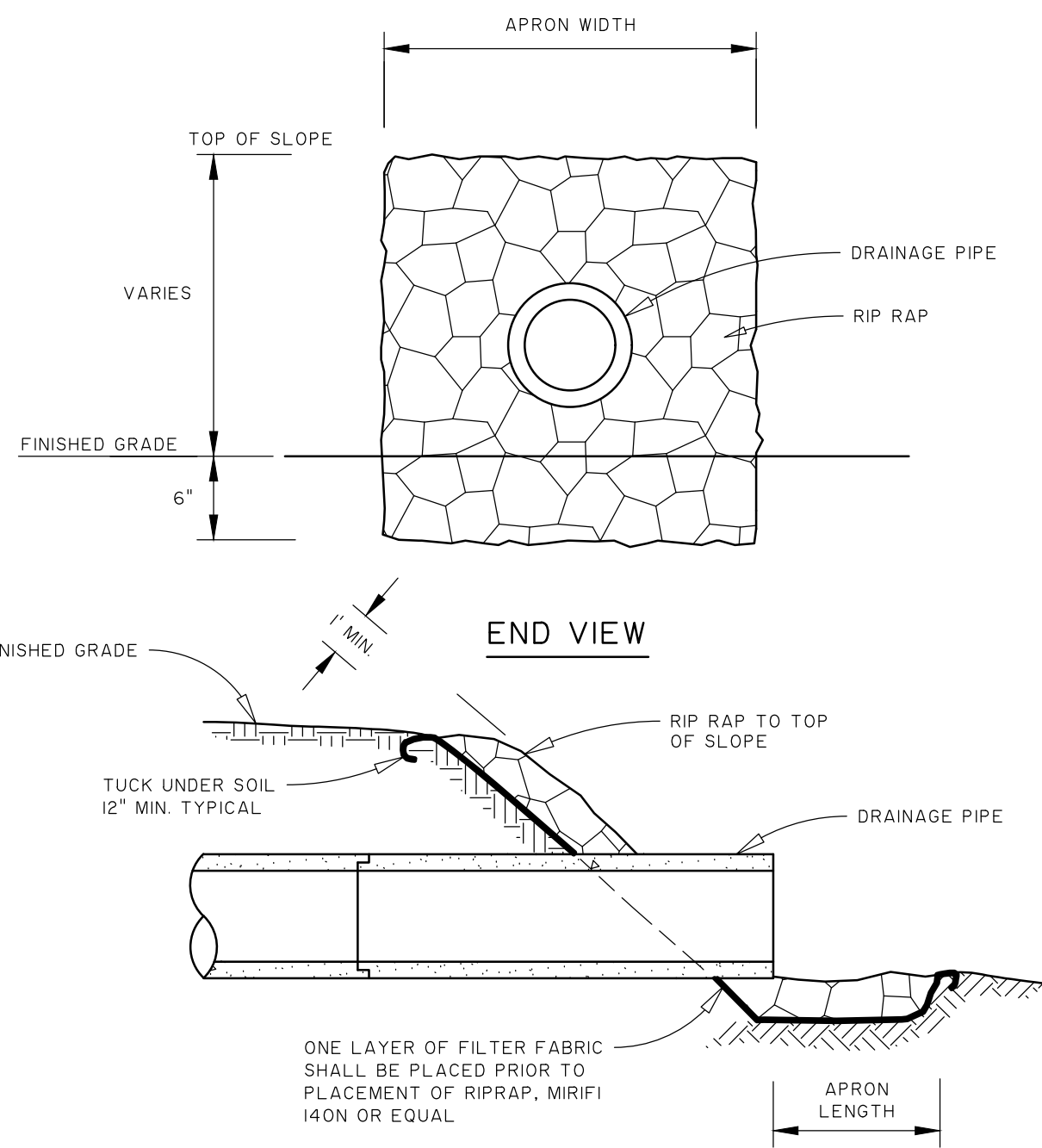
PIPE SIZE (INCHES)	APRON WIDTH (FEET)	APRON LENGTH (FEET)	QUANTITY (S.Y.)
15	6	18	12
18	6	18	12
24	8	22	20
30	10	28	31
36	12	32	43
42	14	36	68
48	16	44	78
54	18	52	104



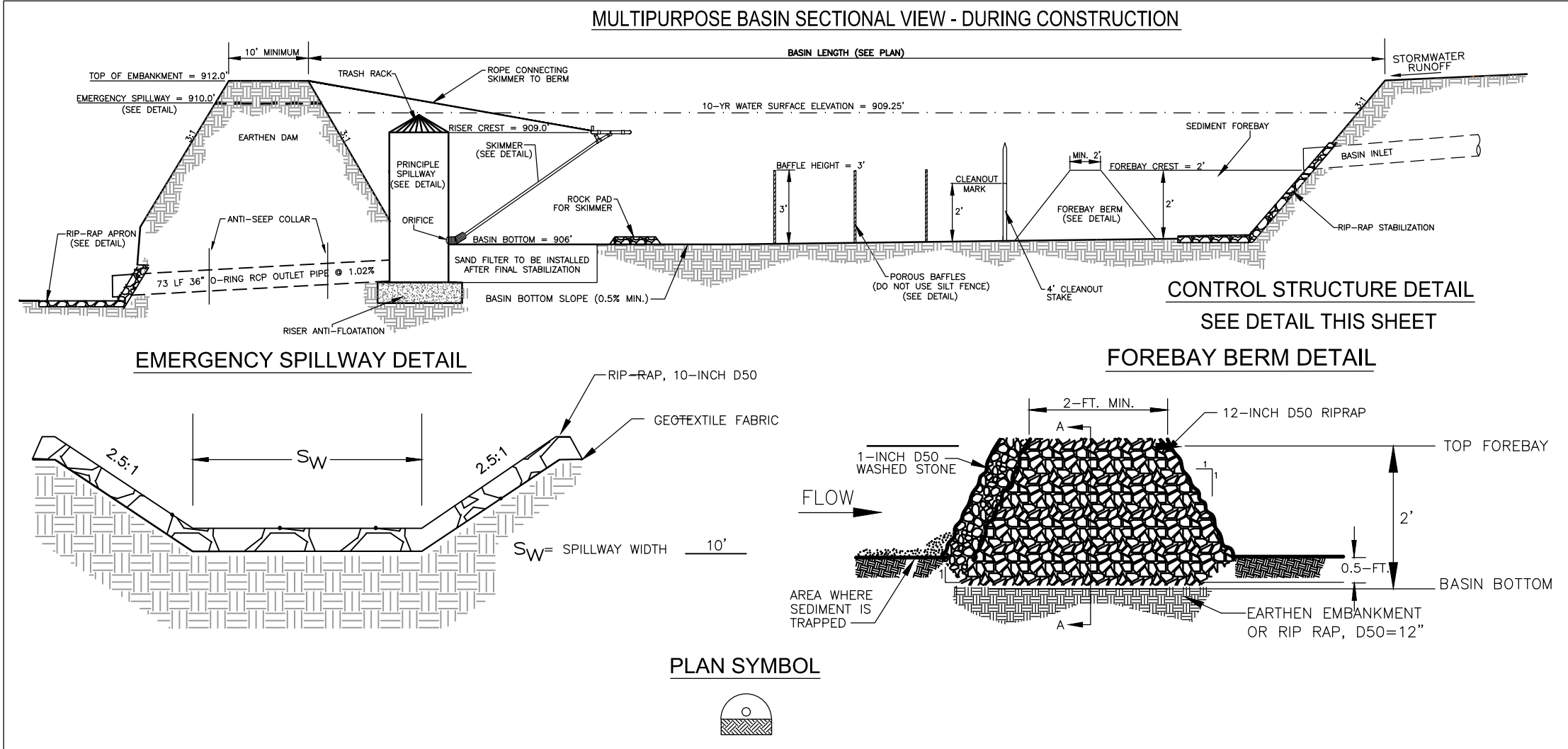
POROUS BAFFLES
NOT TO SCALE



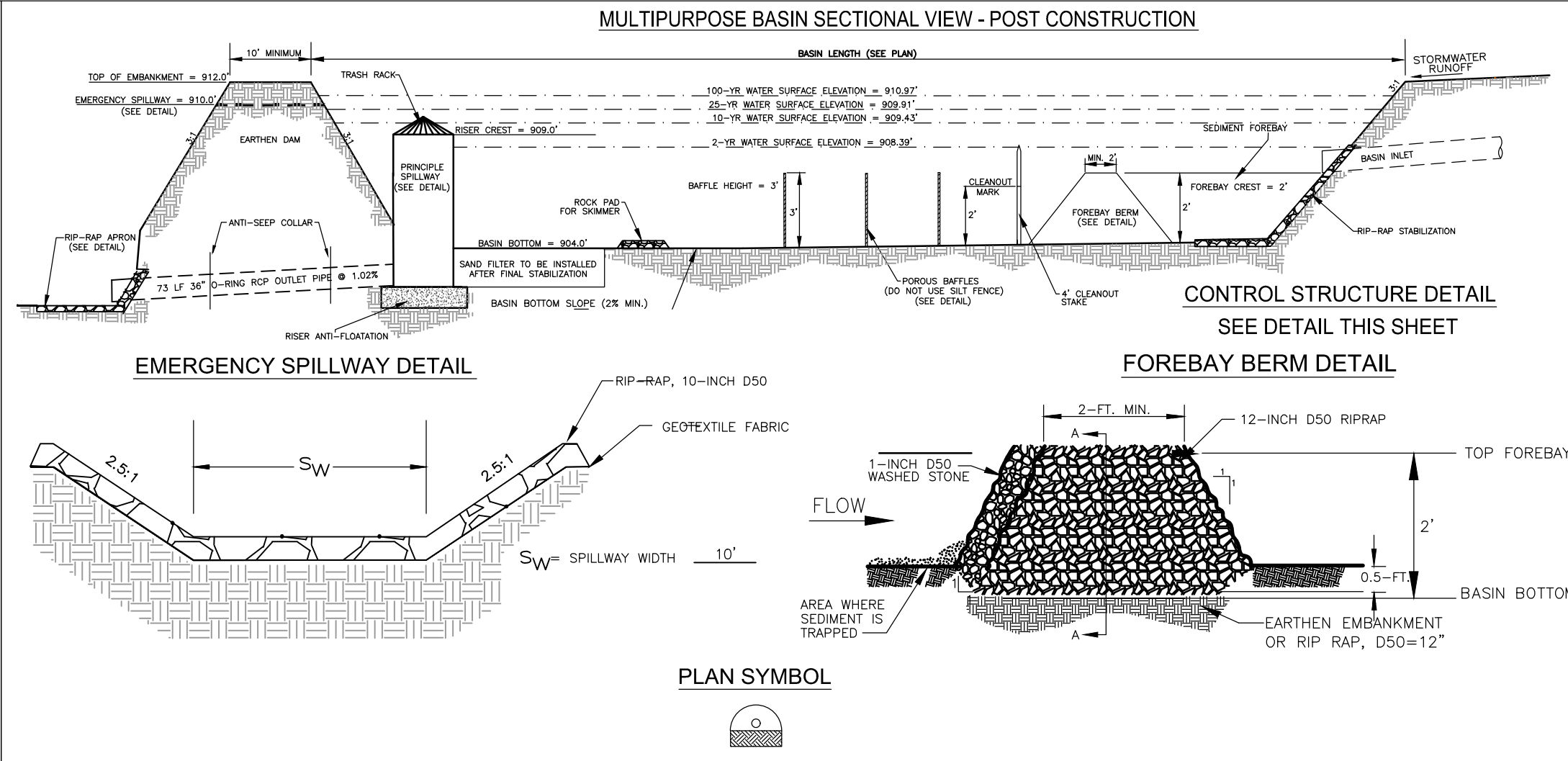
South Carolina Department of Health and Environmental Control
DRY SEDIMENT BASIN
Drawing No. SC-01 Page 2 of 3
NOT TO SCALE



RIP RAP DETAIL
NOT TO SCALE

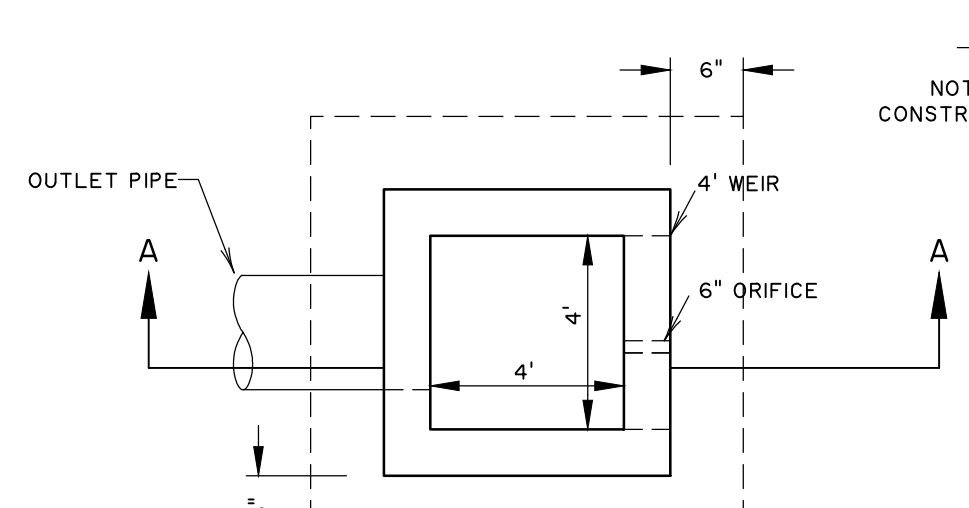


CONTROL STRUCTURE DETAIL
SEE DETAIL THIS SHEET



CONTROL STRUCTURE DETAIL
SEE DETAIL THIS SHEET

NOTE: THE PRECAST MANUFACTURER IS TO PREPARE AND SUBMIT TO THE ENGINEER DESIGN DETAILS AND CALCULATIONS FOR THE STRUCTURES SHOWN BASED ON THE DESIGN CRITERIA SPECIFIED. THE DESIGN SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH OR SOUTH CAROLINA EXPERIENCED IN THE DESIGN OF PRECAST CONCRETE. THE DESIGN SHALL INCLUDE PROVISIONS FOR HANDLING STRESSES AND CONSTRUCTION LOADS. REPRODUCED COPIES OF ASTM C789 "STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE BOX SECTIONS FOR CULVERTS, STORM DRAINS, AND SEWERS" WILL NOT BE ACCEPTED AS A SUBSTITUTE FOR DESIGN.



- CONSTRUCTION NOTES:**
1. THE PERMANENT CONTROL STRUCTURE SHALL BE USED DURING CONSTRUCTION.
 2. CORE A TEMPORARY SEPARATE HOLE INTO THE CS FOR THE SKIMMER 6-INCH HEADER PIPE. TEMPORARILY PLUG THE 6-INCH SAND FILTER UNDERDRAIN ORIFICE DURING CONSTRUCTION.
 3. REMOVE 6-INCH SKIMMER AND HEADER PIPE AND GROUT THE TEMPORARY CORED SKIMMER HOLE AFTER FINAL STABILIZATION.

- GENERAL NOTES:**
1. OUTFALL STRUCTURE SHALL HAVE 6" THICK WALLS AND 12" THICK BOTTOM.
 2. INSIDE DIMENSIONS OF OUTFALL STRUCTURE SHALL BE 4'-0" x 4'-0".
 3. ENDS OF ALL PIPES SHALL BE FLUSH WITH INSIDE WALL OF STRUCTURE.
 4. CONCRETE STRUCTURES CONSTRUCTED ON SANDY SOIL SHALL HAVE 1/2" REINFORCING STEEL PLACED 6" O/C HORIZONTAL AND 14" O/C VERTICAL WITH 2" CLEARANCE FROM INSIDE FACE OF CONCRETE.

POND I CONTROL STRUCTURE (CS#18)
NOT TO SCALE

BAasin NOTES

1. Sediment basins should not be placed in Waters of the State or USGS blue-line streams (unless approved by Federal Authorities).
2. Sediment basin's side slopes shall be seeded and, when necessary, stabilized with vegetative or synthetic matting to prevent the formation of rills and gullies.
3. Install three (3) rows of porous baffles with a minimum spacing of 10 feet. Baffles should ultimately be placed to maximize the space between each row of baffles and the basin's inlets/outlets. Only two (2) rows of baffles are necessary for basins that are less than 50 feet in length.
4. Porous Baffles should be composed of coil-based materials or TRMs with a light penetration (open spaces) between 10-35%. These materials should not have loose straw. Silt Fence may not be used as Porous Baffles.
5. Each porous baffles shall be installed across the entire width of the basin and along the basin's side slope until the height of the baffle intersects the slope.
6. Install skimmer and coupling (as necessary) to riser structure at orifice along bottom of the principle spillway's riser structure. (Refer to skimmer manufacturer for installation procedures and skimmer specifications.)
7. Skimmer should be equipped with a mechanism, such as a rope, to allow easy access to skimmer to unclogged orifice or perform other necessary maintenance.
8. Stormwater runoff entering the basin must be directed into proper BMPs to prevent erosion along side slopes and to prevent scour at the basin's inlets.
9. The forebay berm should consist of riprap, gabion, or an earthen berm with a rock filled outlet that is constructed across the bottom of the basin's width.
10. An additional cleanout stake for the forebay area is recommended and should be marked for cleanout at 50% of provided sediment storage.
11. The elevation of the emergency spillway should be at least 1 foot below the top of the embankment. The emergency spillway should not be located on fill material, when possible. Riprap and geotextile liner should be placed on all spillways that must be located on fill material.

Skimmer Size (in.)	POND 1
6"	6"
Skimmer Orifice (in.)	6"
Skimmer Daily Discharge Capacity (FT ³ /DAY)	51,840
Skimmer Average Discharge Rate (GFS)	0.6
Dewatering Time (Days)	0.69
No. of Skimmers	1



NO.	REVISIONS	DATE
1	APPENDIX LAND CITY COMMENTS	7-9-20

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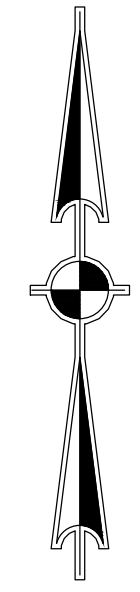
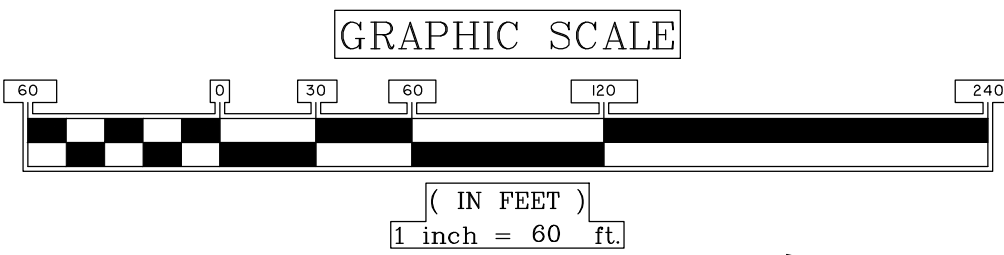
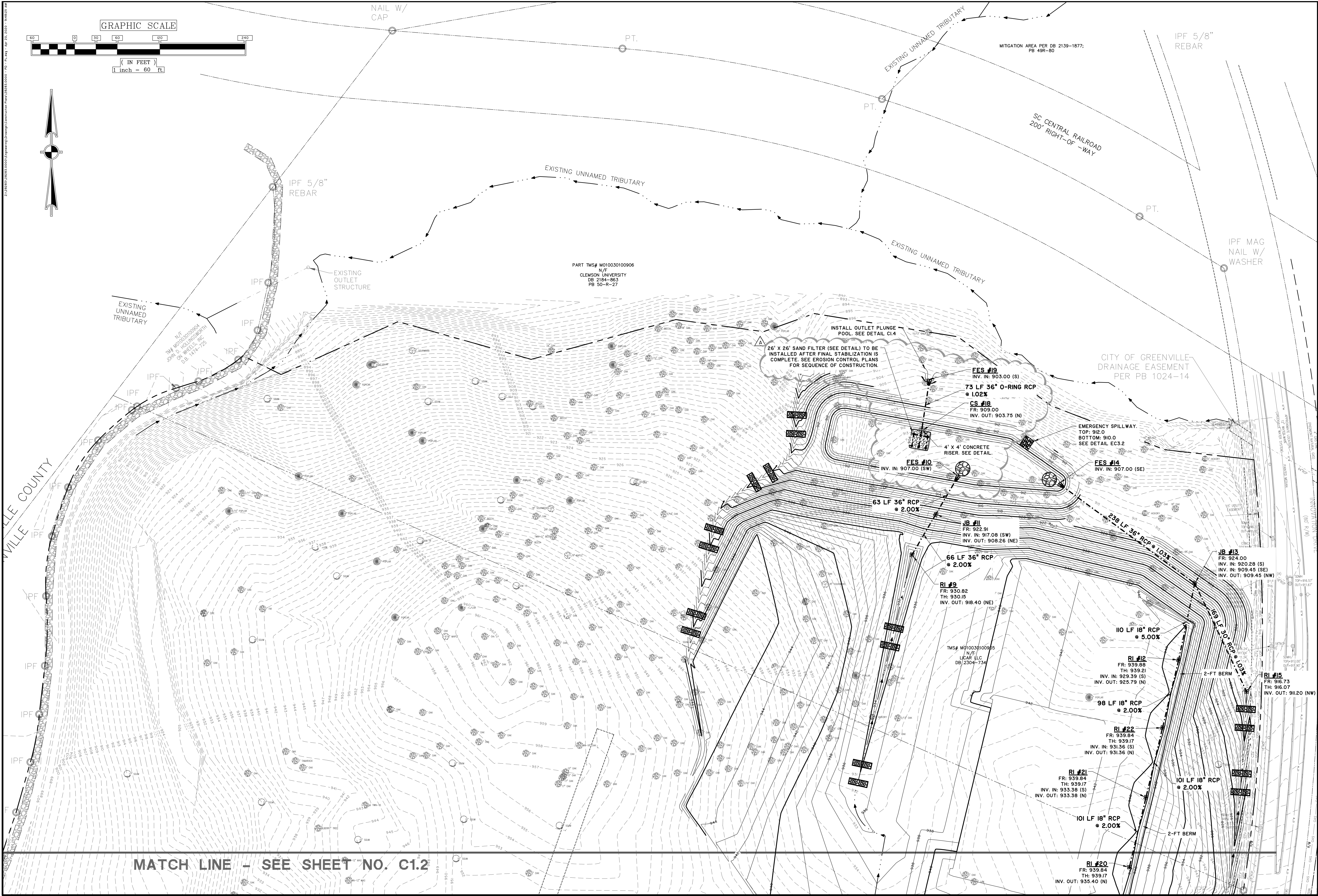
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CITY OF GREENVILLE, SC

EROSION CONTROL DETAILS

CUI CAR - TN3 - MASS GRADING

JOB NO: J-28283.0000
DATE: 05/11/2020
DRAWN: CMC
DESIGNED: RWP
REVIEWED: KES
APPROVED: RWP
SCALE: N/A

EC4.2



MATCH LINE - SEE SHEET NO. C1.2



NO.	A	APPENDIX LAND CITY COMMENTS	BY	DATE

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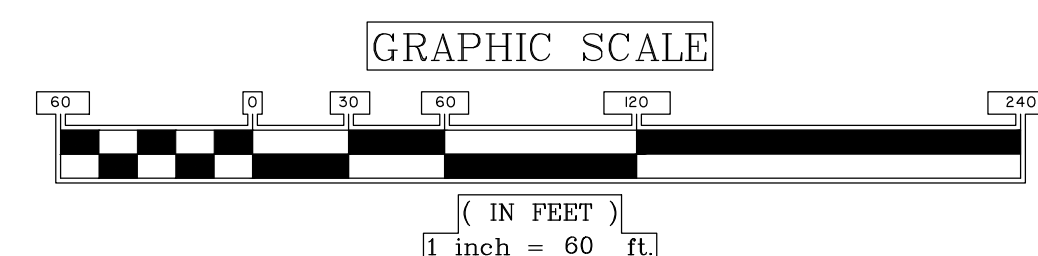
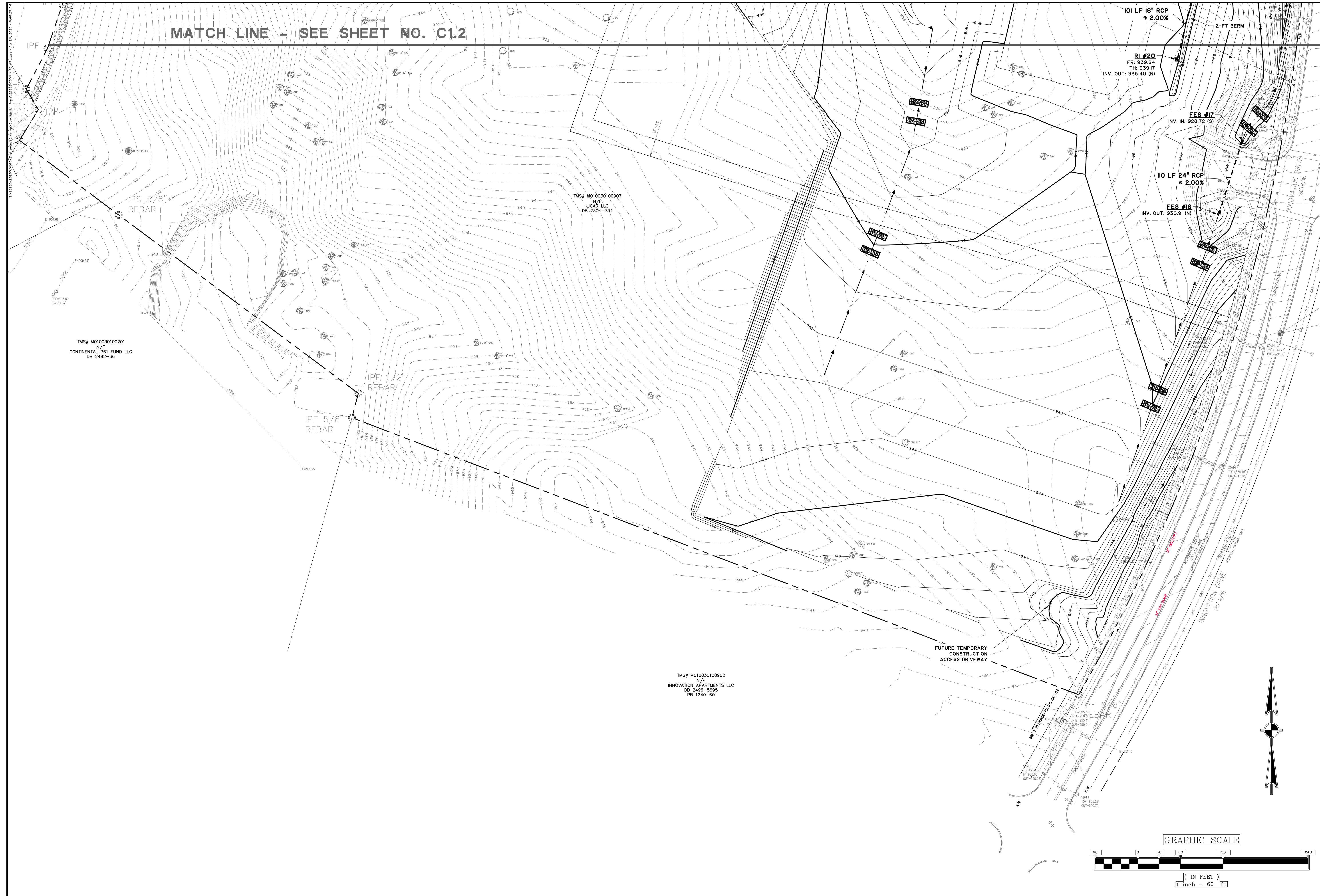
LICAR, LLC
 CITY OF GREENVILLE, SC
 CU ICAR - TN3 - MASS GRADING
GRADING AND DRAINAGE PLAN

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CMC
DESIGNED:	RWP
REVIEWED:	KES
APPROVED:	RWP
SCALE:	1" = 60'

C1.1

PERMIT SET - FOR REVIEW PURPOSES ONLY

MATCH LINE - SEE SHEET NO. C1.2



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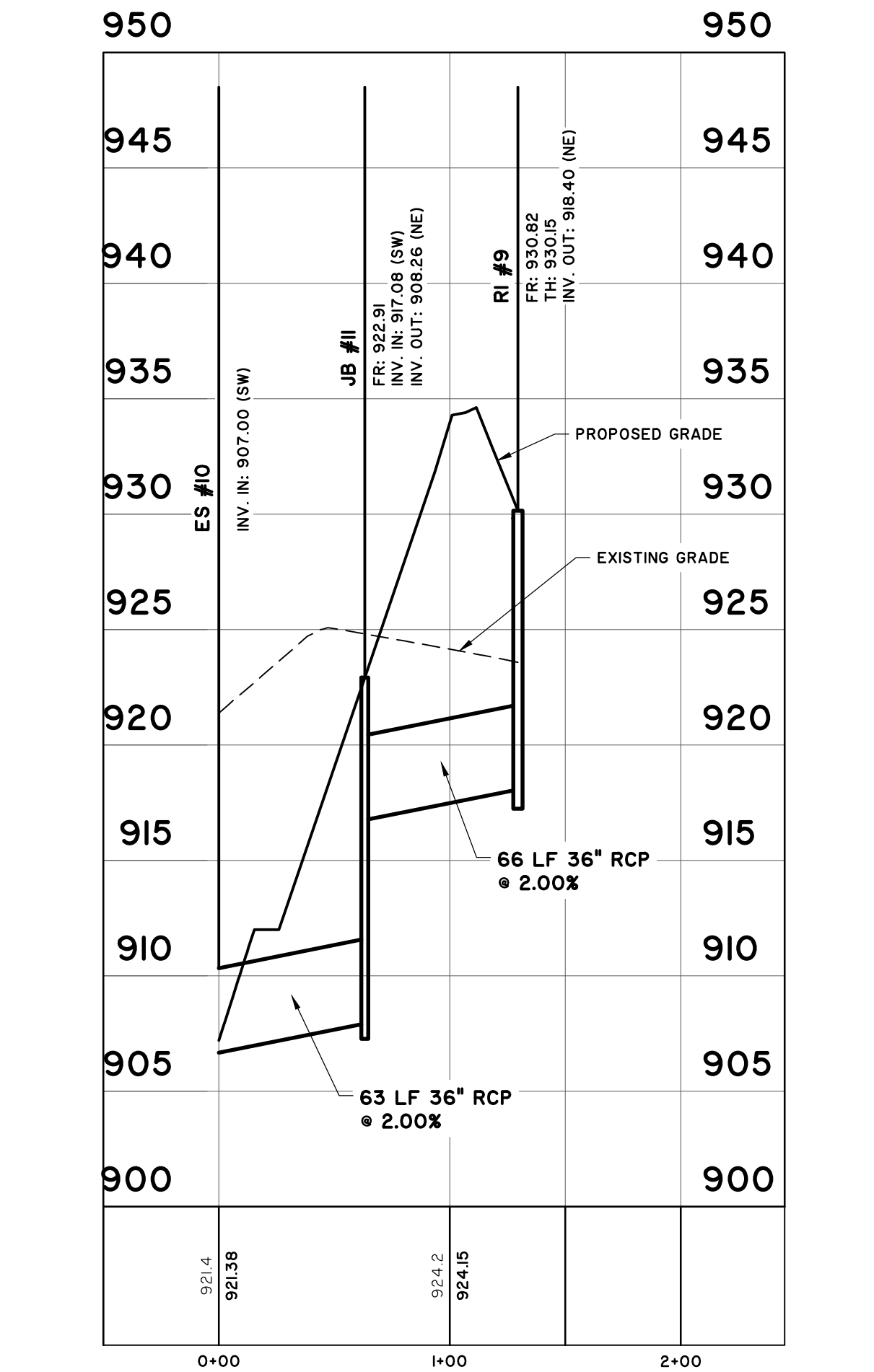
LICAR, LLC
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GRADING AND DRAINAGE PLAN

JOB NO:	J-28283.0000
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REVIEWED:	KES
APPROVED:	RWP
SCALE:	1" = 60'

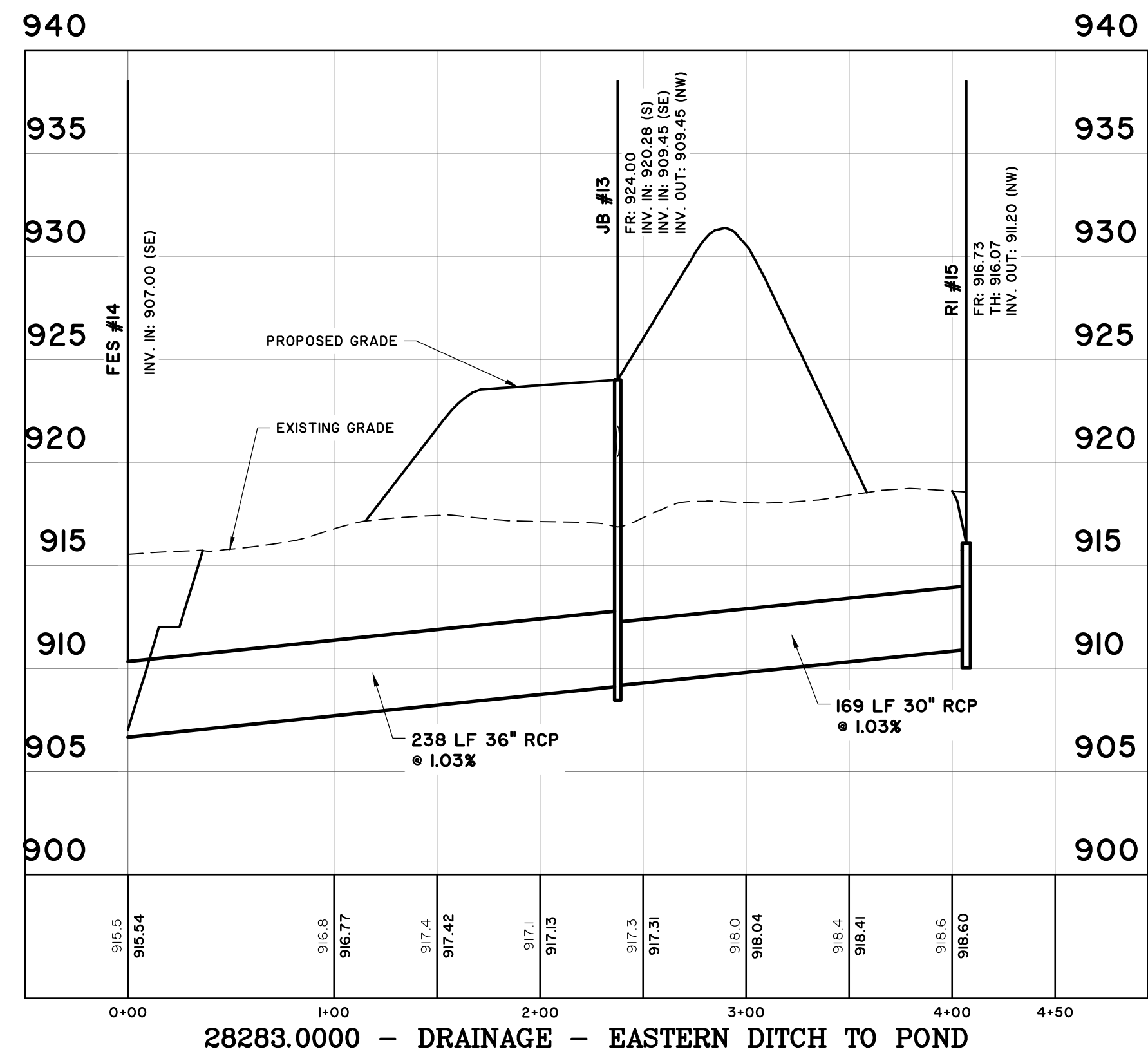
C1.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

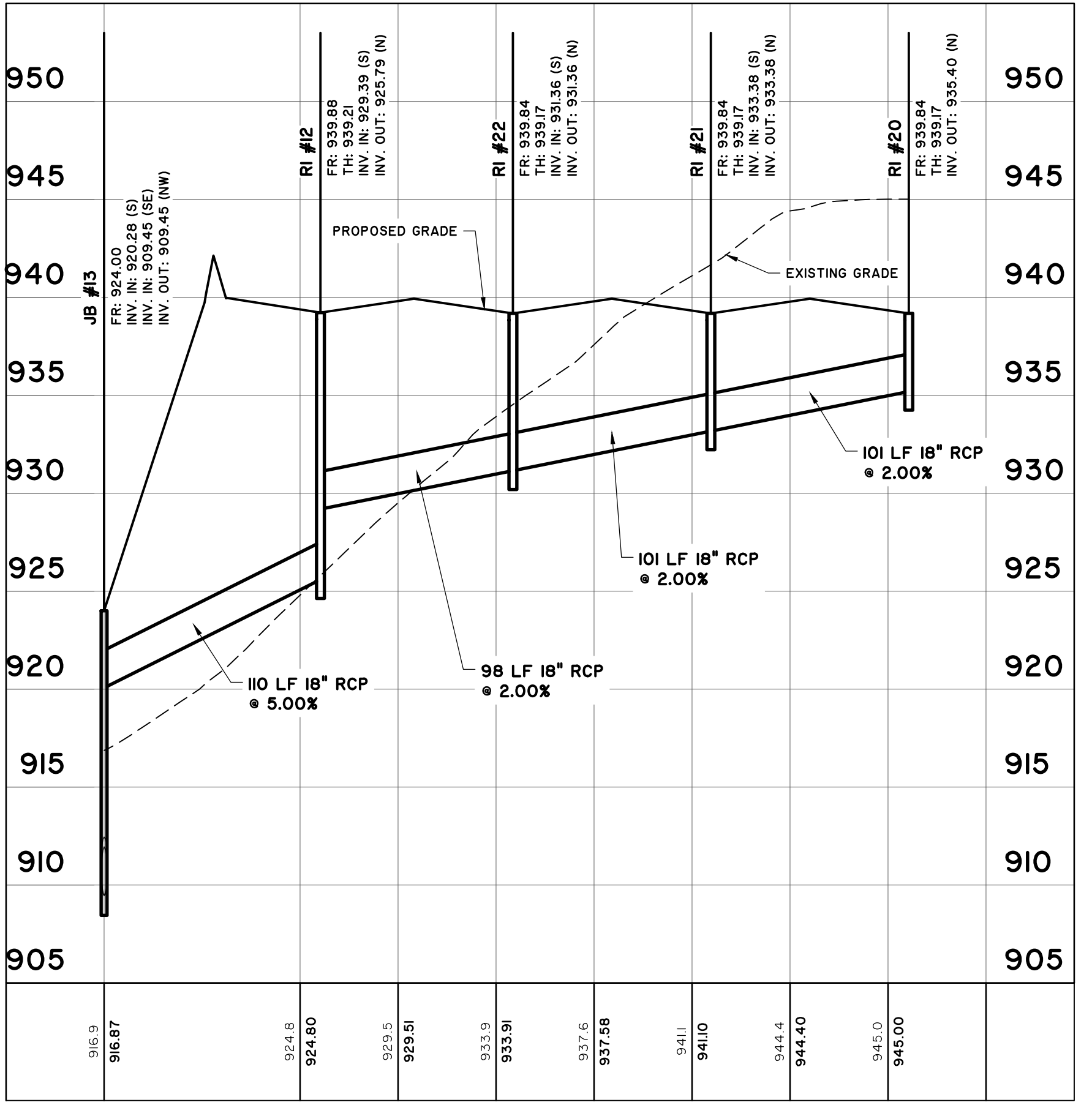
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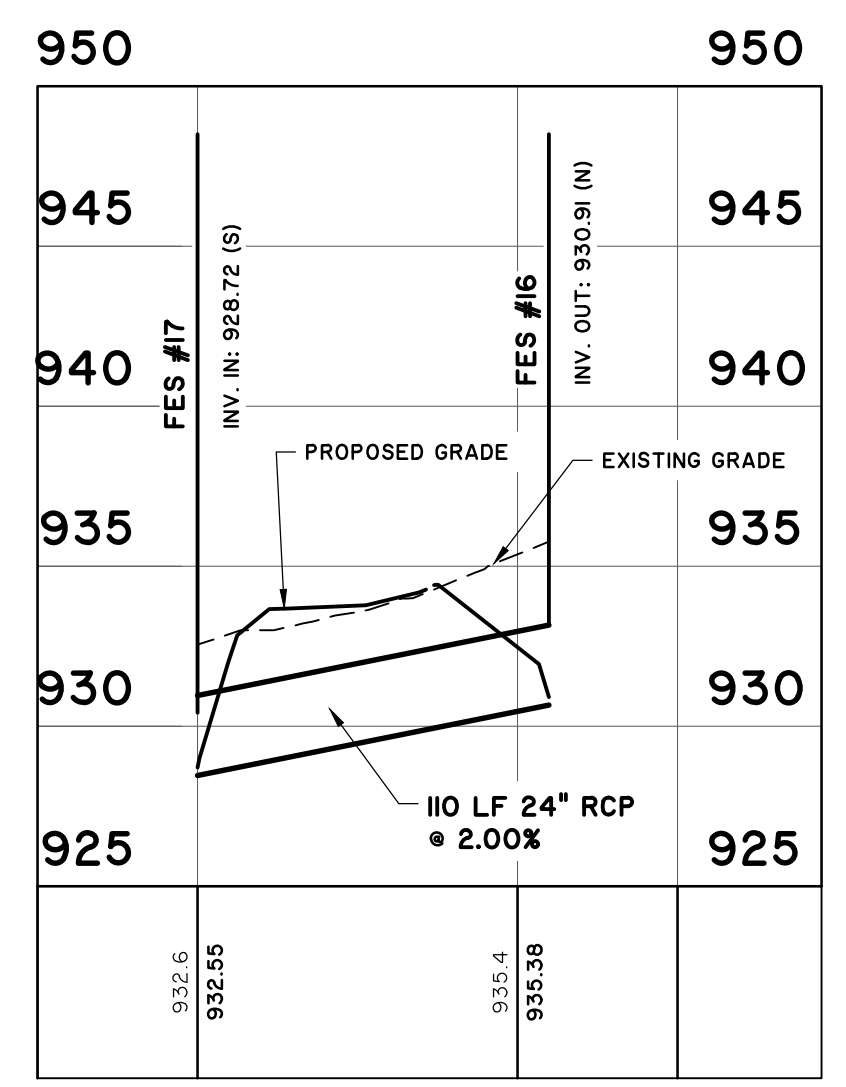
28283.0000 - DRAINAGE - WESTERN DITCH TO POND
 STATIONS: -0+50 - 2+00
 SCALE: HORZ.: 1" = 60'
 VERT.: 1" = 6'



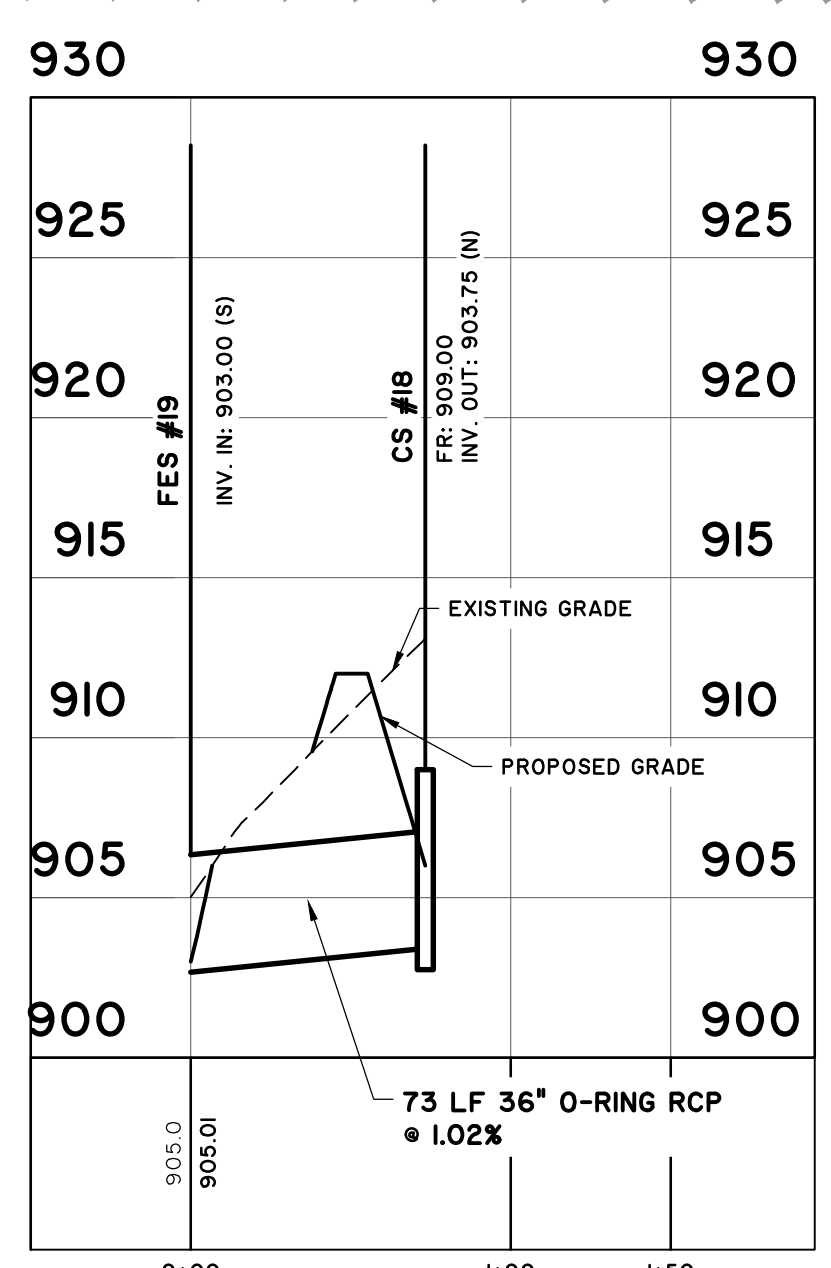
28283.0000 - DRAINAGE - EASTERN DITCH TO POND
 STATIONS: -0+50 - 4+50
 SCALE: HORZ.: 1" = 60'
 VERT.: 1" = 6'



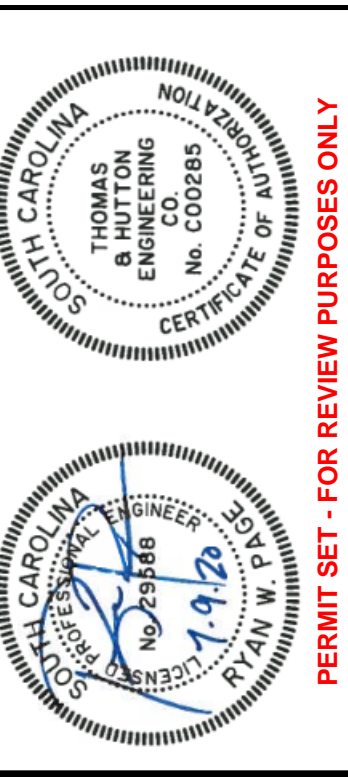
28283.0000 - DRAINAGE - EASTERN PARKING
 STATIONS: -0+50 - 4+50
 SCALE: HORZ.: 1" = 60'
 VERT.: 1" = 6'



28283.0000 - DRAINAGE - DRIVEWAY CULVERT
 STATIONS: -0+50 - 1+50
 SCALE: HORZ.: 1" = 60'
 VERT.: 1" = 6'



28283.0000 - DRAINAGE - SEDIMENT BASIN OUTFALL
 STATIONS: -0+50 - 1+50
 SCALE: HORZ.: 1" = 60'
 VERT.: 1" = 6'



NO.	REVISIONS	DATE	BY
A	APPENDIX LAND CITY COMMENTS	7-9-20	CMC

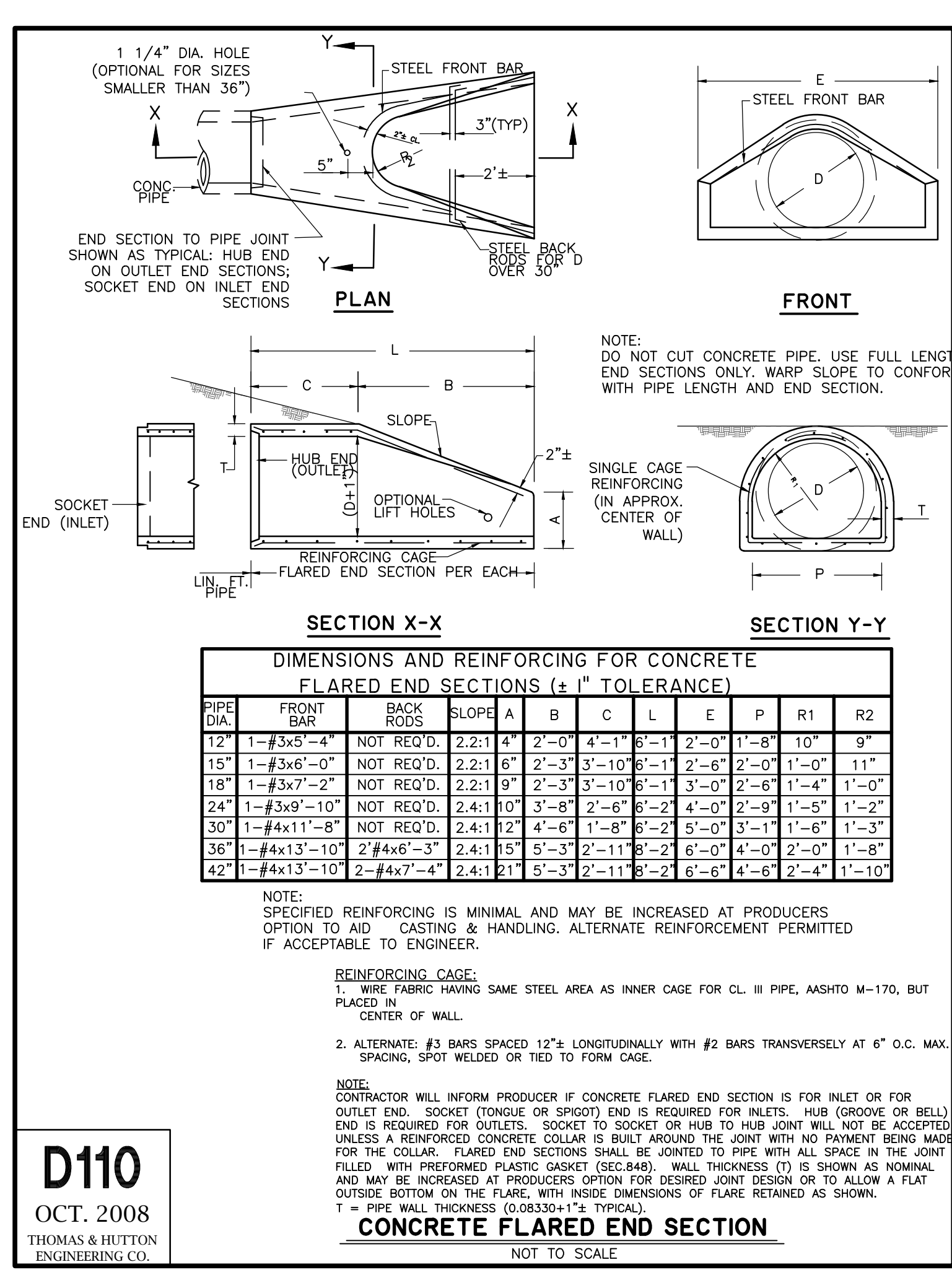
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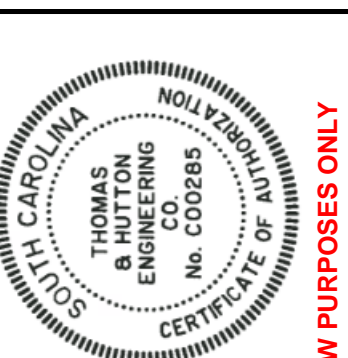
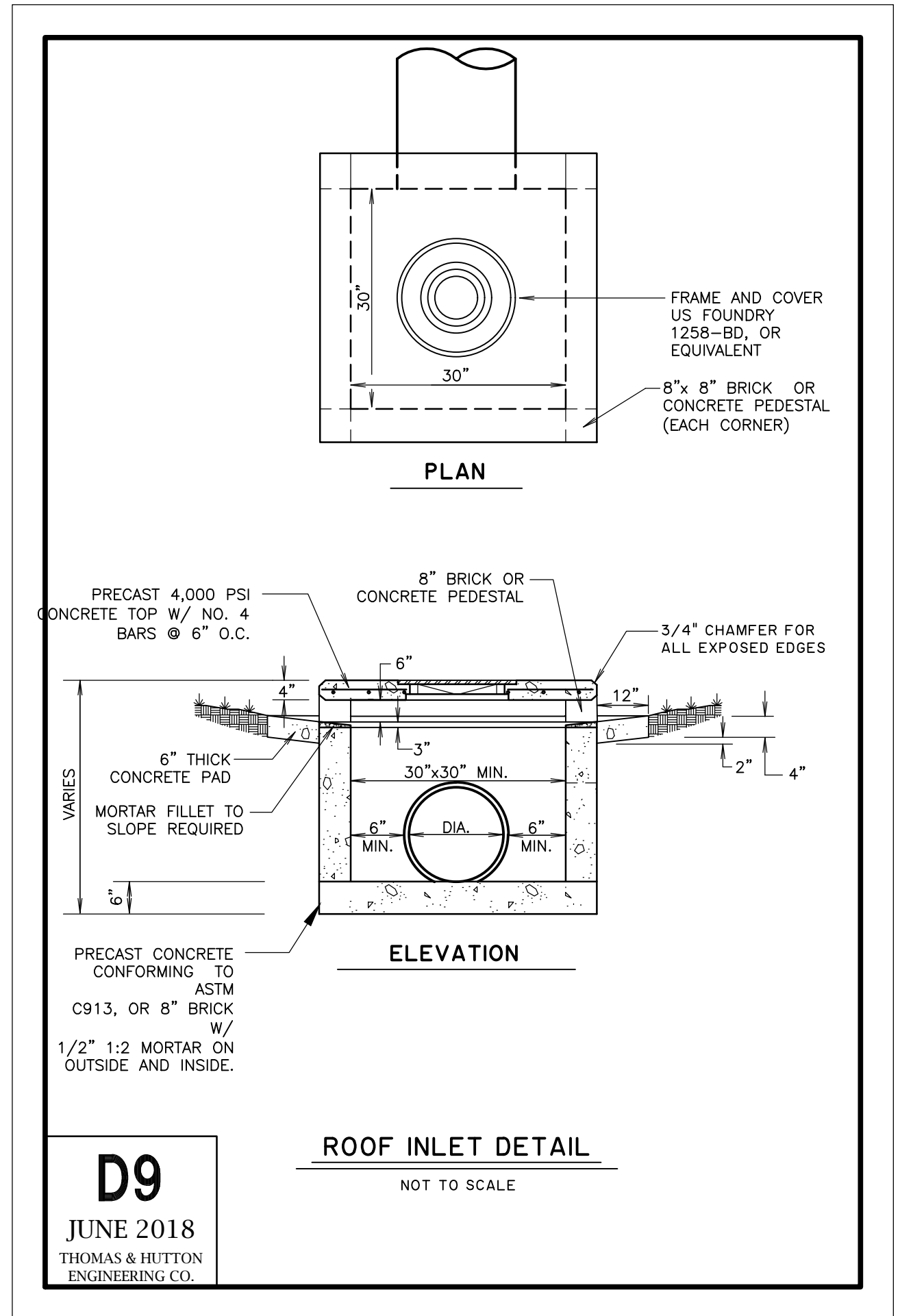
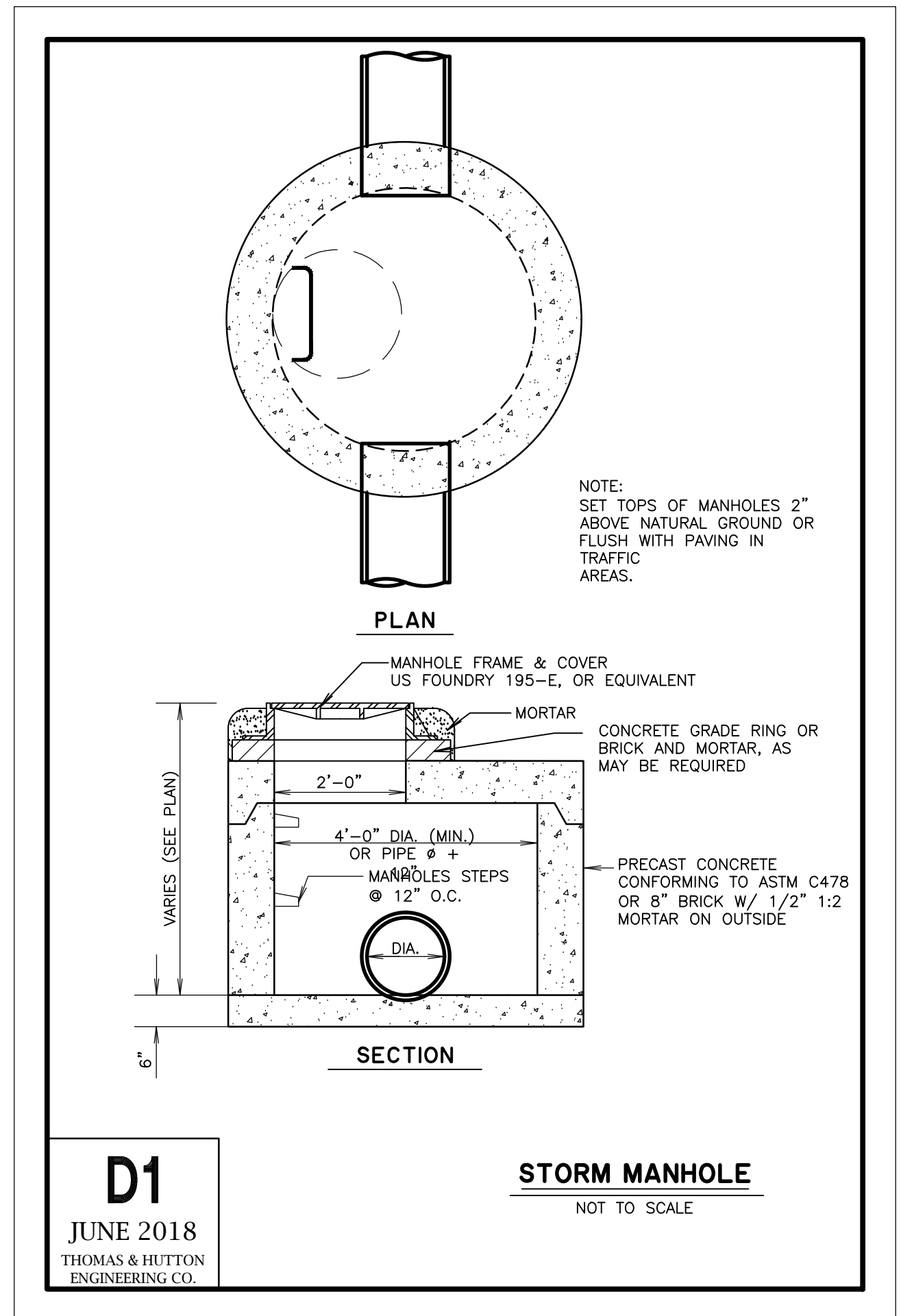
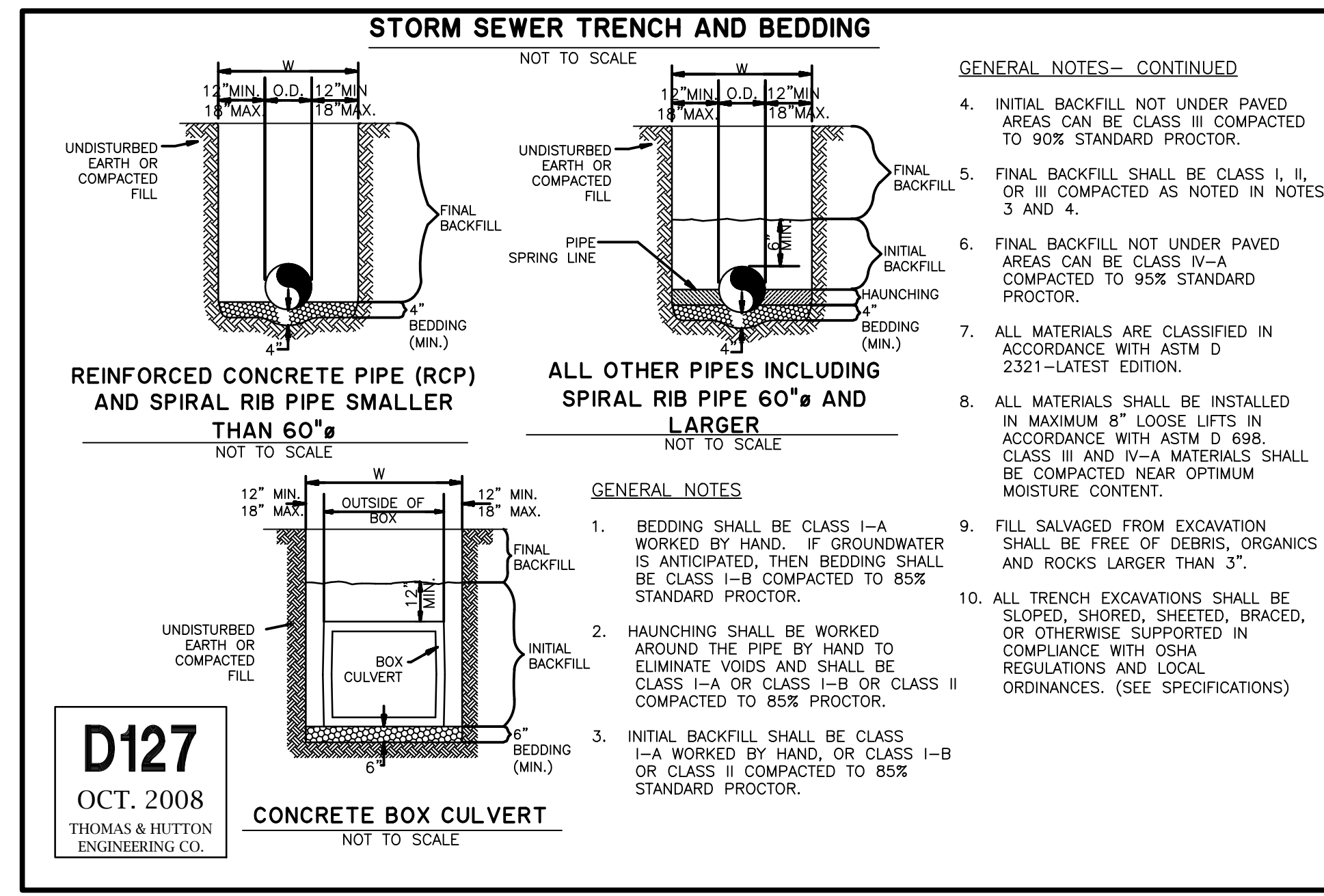
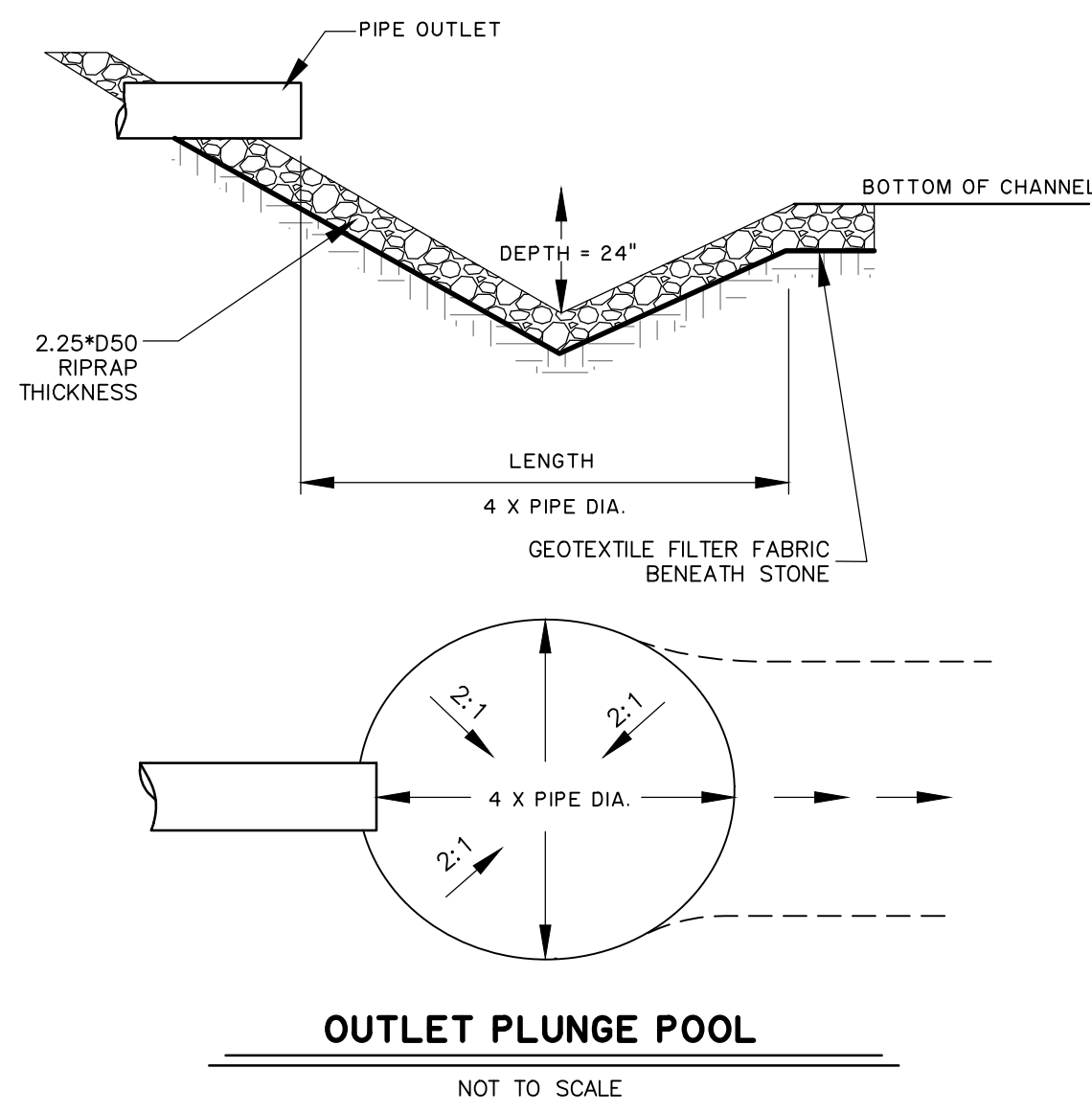
CU ICAR - TN3 - MASS GRADING

DRAINAGE PROFILES

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CMC
DESIGNED:	RWP
REVIEWED:	KES
APPROVED:	RWP
SCALE:	1" = 60'



D110
OCT. 2008
THOMAS & HUTTON
ENGINEERING CO.



NO.	REVISIONS	DATE

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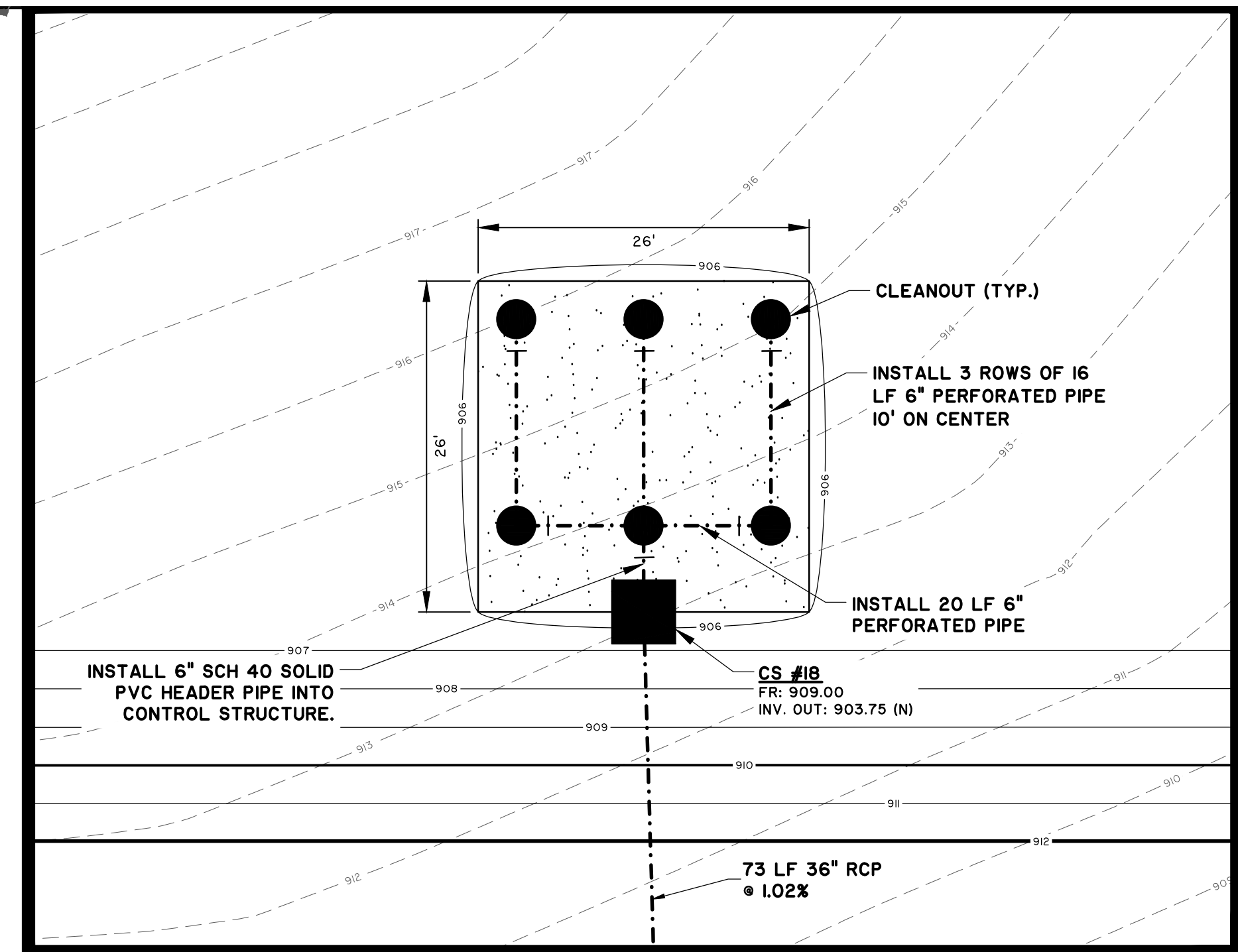
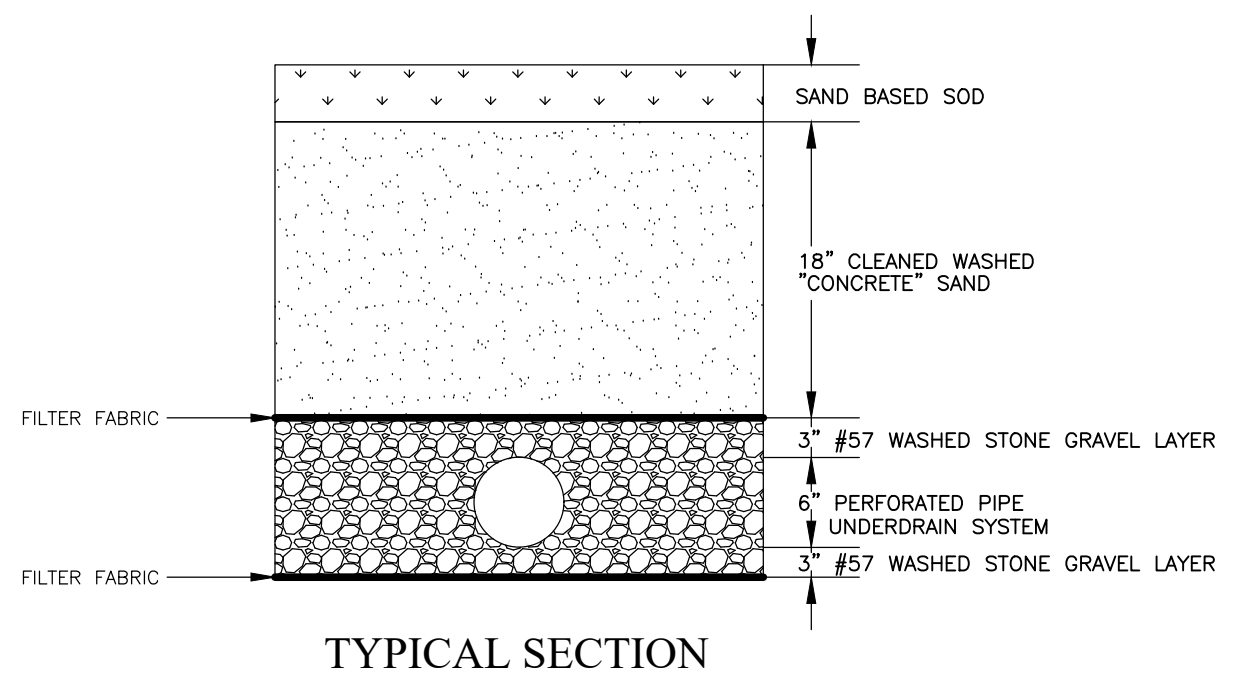
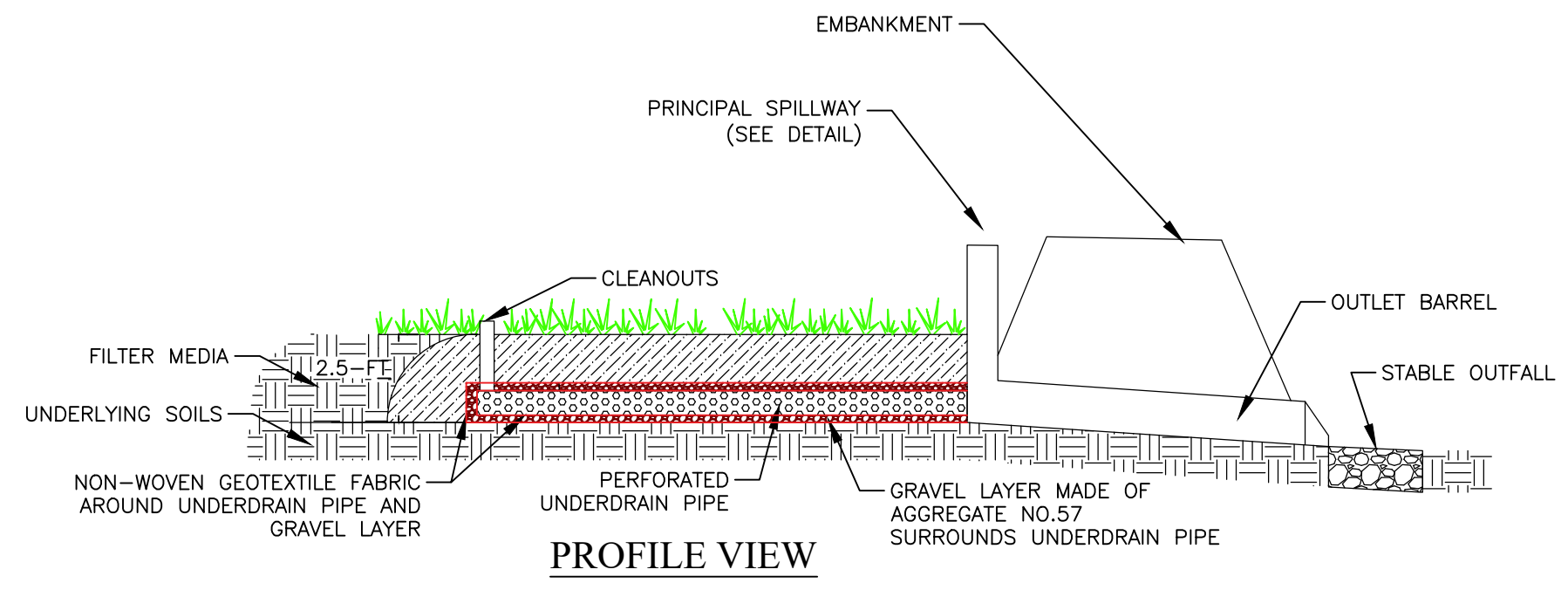
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GRADING AND DRAINAGE DETAILS

JOB NO:	J-28283.0000
DATE:	05/11/2020
DRAWN:	CMC
DESIGNED:	RWP
REVIEWED:	KES
APPROVED:	RWP
SCALE:	1" = 50'

C1.4



SAND FILTER MAINTENANCE NOTES

1. INSPECT SAND FILTER AT LEAST ONCE PER MONTH, AND AFTER ANY LARGE STORM EVENTS TO CHECK FOR DAMAGE.
2. MAINTAIN SAND FILTERS AS NEEDED TO REMOVE VISIBLE SURFACE SEDIMENT ACCUMULATION, TRASH, DEBRIS, AND LEAF LITTER TO PREVENT THE FILTER FROM CLOGGING PREMATURELY.
3. REMOVE SEDIMENT FROM THE FOREBAY/SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN 6 INCHES.
4. CHECK ANY STRUCTURES (OUTLETS, FLOW DIVERSIONS, EMBANKMENTS, ETC.) AT LEAST ANNUALLY FOR DAMAGE OR DEGRADATION.
5. PERFORM INSPECTION ACTIVITIES AS SHOWN IN TABLE 1 BELOW. REPAIR ANY PROBLEMS IDENTIFIED IMMEDIATELY.

Table 1 – Maintenance for Sand Filters

BMP Element:	Potential Problems:	How to Remediate the Problem:
Entire BMP	Trash/debris is present.	Remove the trash/debris.
Adjacent pavement (if applicable)	Sediment is present on the pavement surface.	Sweep or vacuum the sediment as soon as possible.
Perimeter of sand filter	Areas of bare soil and/or erosive gullies have formed.	Regrade soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	Vegetation is too short or too long.	Maintain vegetation at an appropriate height.
Flow diversion structure	The structure is clogged.	Unclog the conveyance and dispose of any sediment offsite.
	The structure is damaged.	Make any necessary repairs or replace if damage is too large for repair.
Pre-treatment area	Sediment has accumulated to a depth of greater than six inches.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and stabilize or dispose of it in a location where it will not cause impacts to streams or the BMP.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If a pesticide is used, wipe it on the plants rather than spraying.
Filter bed and underdrain collection system	Water is ponding on the surface for more than 24 hours after a storm.	Check to see if the collector system is clogged and flush if necessary. If water still ponds, remove the top few inches of filter bed media and replace. If water still ponds, then consult an expert.
Outlet device	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment offsite.
	The outlet device is damaged.	Repair or replace the outlet device.

SAND FILTER
NOT TO SCALE

PLAN VIEW
SCALE: 1"=10'



No.	Revisions	By	Date

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C1.5