

HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72—300 ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.

PERMIT PLANS FOR

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

11 GRASSEY LANE
BLUFFTON, BEAUFORT COUNTY, SC 29910
PARCEL ID: R610 036 000 0014 0000

EXISTING LAND USE: COMMERCIAL EQUESTRIAN PROPOSED LAND USE: ASSEMBLY AND WORSHIP (LARGE)

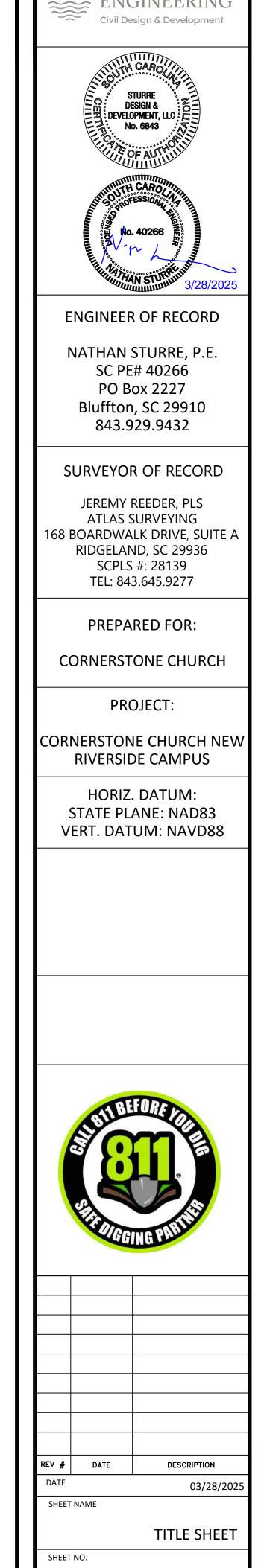
HORIZONTAL DATUM IS BASED OFF STATE PLANE COORDINATES NAD83. VERTICAL DATUM IS NAVD88.

> LATITUDE: 32° 14' 03" N LONGITUDE: -80° 58' 46" W

> > PROPERTY OWNER/DEVELOPER

CORNERSTONE CHURCH
PO BOX 2540
BLUFFTON, SC 29910
PHONE: 843.757.3472
EMAIL: info@gocornerstone.church

	Sheet List Table			
Sheet No. Sheet Title				
1	TITLE SHEET			
2	GENERAL NOTES & LEGEND			
3	EXISTING CONDITIONS			
4	SHEET INDEX			
5	DEMO & SWPP PLAN			
6	DEMO & SWPP PLAN			
7	DEMO & SWPP PLAN			
8	SWPPP DETAILS			
9	SWPPP DETAILS			
10	SWPPP DETAILS			
11	SITE IMPROVEMENTS OVERVIEW			
12	SITE IMPROVEMENTS			
13	SITE IMPROVEMENTS			
14 SITE IMPROVEMENTS				
15	SITE IMPROVEMENTS			
16	UTILITY PLAN			
17	STORMWATER COMPLIANCE PLAN - PRE			
18	STORMWATER COMPLIANCE PLAN - POST			
19	CIVIL DETAILS			
20	CIVIL DETAILS			
21	CIVIL DETAILS			
22	CIVIL DETAILS			
23	UTILITY DETAILS			



ENGINEERING

Civil Design & Development

THE CAROLIN

DESIGN &

No. 6843

ENGINEER OF RECORD

NATHAN STURRE, P.E

SC PE# 40266

PO Box 2227

Bluffton, SC 29910

843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS

ATLAS SURVEYING

168 BOARDWALK DRIVE, SUITE A

RIDGELAND, SC 29936 SCPLS #: 28139

TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

CORNERSTONE CHURCH NEW

RIVERSIDE CAMPUS

HORIZ. DATUM:

STATE PLANE: NAD83

VERT. DATUM: NAVD88

見: DEVELOPMENT, LLC: 产:

	ABBREVIATIONS LIST		ABBREVIATIONS LIST
ABBREVIATIONS	DESCRIPTIONS	ABBREVIATIONS	DESCRIPTIONS
ABBR	ABBREVIATION	LO M	LIVE OAK
ABV	ABOVE	MB	MAILBOX
AC AFF	ACRE ABOVE FINISHED FLOOR	MAG	MAGNOLIA
APPROX	APPROXIMATE	MAP	MAPLE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAX MECH	MAXIMUM MECHANICAL
AWG AWS	AMERICAN WIRE GAUGE AMERICAN WELDING SOCIETY	MH	MANHOLE
AWWA	AMERICAN WATER WORKS ASSOCIATION	MHW	MEAN HIGH WATER
D0	DEON'S OND A	MHHW	MEAN HIGHER HIGH WATER
BC BIR	BEGIN CURVE	MIN	MINIMUM
BLDG	BUILDING	MIM MLW	MIMOSA MEAN LOW WATER
BFS	BEGIN FULL SLOPE	MLLW	MEAN LOWER LOW WATER
BG BNC	BLACK GUM BEGIN NORMAL CROWN	MSL	MEAN SEA LEVEL
BNS	BEGIN NORMAL SHOULDER	N	
BOS BOT	BOTTOM OF STEEL BOTTOM	N/F	NOW OR FORMERLY
B.S.L.	BUILDING SETBACK LINE	NAD NAVO	NORTH AMERICAN DATUM
		NAVD	NORTH AMERICAN VERTICAL DATUM NATIONAL ELECTRICAL MANUFACTURERS
C CATV	CONDUIT CABLE TELEVISION JUNCTION BOX	NEMA	ASSOCIATION
CED	CEDAR	- NIC	NOT IN CONTRACT
CF	CUBIC FEET	NO NTC	NUMBER NOT TO SCALE
CHY CJ	CHERRY CONSTRUCTION JOINT	NTS 0	NOT TO SCALE
CLR	CLEAR	OC	ON CENTER
CMF	CONSTRUCTION MONUMENT FOUND	OD	OUTER DIAMETER
CMP CMU	CORRUGATED METAL PIPE CONCRETE MASONRY UNIT	OE_	OVERHEAD ELECTRICAL
CO	CLEANOUT OR CONDUIT ONLY	P	
COL	COLUMN	PA PL	PLATE
CONC	CONCRETE CONNECTION	PN	PINE
CONST	CONSTRUCTION	PNL	PANEL
COORD	COORDINATES	PP	POWER POLE
CREPE CTR	CREPE MYRTLE CENTER	P/S	PRESTRESSED
OTIV	CENTER	PSF PSI	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH
DEG	DEGREE	PSI PVC	POLYVINYL CHLORIDE
DGAB DIA	DENSE GRADE AGGREGATE BASE DIAMETER	PVMT	PAVEMENT
DIM	DIMENSION	PWR	POWER
DIP	DUCTILE IRON PIPE	R	la cauca
DOG DSTB	DISTURBED	R	RADIUS
DWG	DRAWING	RAD RCP	RADIUS REINFORCED CONCRETE PIPE
	les ou	REINF	REINFORCING
EA EB	ELECTRICAL BOX	REQD	REQUIRED
EC	EMPTY CONDUIT	R/W	RIGHT-OF-WAY
EC	END CURVE	S	1
EF EFS	EACH FACE END FULL SLOPE	SAN SCH	SANITARY SCHEDULE
EJ	EXPANSION JOINT	SD SD	STORM DRAIN
EL OR ELEV	ELEVATION	- SF	SQUARE FEET
ELEC ENC	ELECTRICAL END NORMAL CROWN	SPECS	SPECIFICATIONS
ENS	END NORMAL SHOULDER	SQ	SQUARE
E0 FOR	ELECTRICAL OUTLET	SS SSMH	STAINLESS STEEL OR SANITARY SEWER SANITARY SEWER MANHOLE
EOP EQ	EQUAL	STA	STATION
EQUIP	EQUIPMENT	STD	STANDARD
ES EW	EACH SIDE EACH WAY OR EXISTING WATER	STL	STEEL
EXIST	EXISTING WATER	STRUC	STRUCTURE OR STRUCTURAL
EXP	EXPANSION	SGD	SUBGRADE DRAIN
FFE	FINISH FLOOR ELEVATION	T&B	TOP & BOTTOM
FH	FIRE HYDRANT	TC	TOP OF CURB
FOM	FIBER OPTIC MARKER	TEL	TELEPHONE JUNCTION BOX
FT FR	FOOT OR FEET FRAME	TEMP	TEMPORARY
1 11	100 MIN	TOS	TOP OF STEEL
GA	GAUGE	TRNSFMR TYP	TRANSFORMER TYPICAL
GABC GALV	GRADED AGGREGATE BASE COURSE GALVANIZED	T/P	TOP OF PAVEMENT
GALV	GRATE INLET	U	
GUM	SWEET GUM	UE	UNDERGROUND ELECTRICAL
GW	GUY WIRE	UL	UNDERWRITERS LABORATORY
IE	INVERT ELEVATION	UON V	UNLESS OTHERWISE NOTED
INV	INVERT	V	VOLT
1.0.	IRON PIPE, OLD (FOUND)	VERT	VERTICAL
JB	JUNCTION BOX	W	
JT	JOINT	W/	WITH
	LANDO DED COLLARS WAY	WAX	WAX MYRTLE
KSI	KIPS PER SQUARE INCH	WM	WATER OAK
kV kVA	KILOVOLTS KILOVOLT-AMPERES	WO WP	WATER OAK WORKING POINT
kW	KILOWATTS	- WP	WATER VALVE
kWHM	KILOWATT HOUR METER	WWF	WELDED WIRE FABRIC
	li turber e co		
LA	LAUREL OAK	_	
LB	POUND		

LINEAR FEET

	ABBREVIATIONS LIST		SYMBOLS LIST		LEGEND		
ΓΙΟΝS	DESCRIPTIONS	SYMBOLS	DESCR	RIPTION	 В.S.L.	BUILDING SETBACK LINE	
	LIVE OAK	&c	AND		CATV	CABLE TELEVISION PEDESTAL	
		0	AT		CLD	CENTERLINE OF DITCH	
	MAILBOX	*	ASTERISK		CMFD	CONCRETE MONUMENT FOUND	NOTUDDED
	MAGNOLIA	L	ANGLE		CPP	CORRUGATED PLASTIC PIPE	DISTURBED
	MAPLE	,	DEGREES		HVAC	AIR HANDLER	
	MAXIMUM		MINUTES OR FEET				
1	MECHANICAL	# %	NUMBER OR POUNDS PERCENT		IE IDE	INVERTED ELEVATION	
1	MANHOLE	"	SECONDS OR INCH		IPF	IRON PIN (OLD) FOUND	
			SECONDS ON INCIT		IPS	IRON PIN (NEW) SET	
\ /	MEAN HIGH WATER				OHP	OVERHEAD POWERLINE	
V	MEAN HIGHER HIGH WATER				PP	POWER POLE	
	MINIMUM				RCP	REINFORCED CONCRETE PIPE	
	MIMOSA				SCO	SEWER CLEANOUT	
	MEAN LOW WATER				TELE	TELEPHONE PEDESTAL	
/	MEAN LOWER LOW WATER				WV	WATER VALVE	
	MEAN SEA LEVEL						
			LEGISCO.				
	NOW OR FORMERLY						
	NORTH AMERICAN DATUM						
)	NORTH AMERICAN VERTICAL DATUM		CONTINO.			COCCCCCO.	
	NATIONAL ELECTRICAL MANUFACTURERS						
٠	ASSOCIATION						
	NOT IN CONTRACT		(S)	EXISTING SANITARY MANHOLE		(s)	PROPOSED SANITARY I
	NUMBER						
	NOT TO SCALE		(D)	EXISTING STORM MANHOLE		(SD)	PROPOSED STORM MAN
	ON CENTER			EXISTING SIGN			PROPOSED SIGN
	OUTER DIAMETER						
	OVERHEAD ELECTRICAL						
				POWER POLE			PROPOSED POLE
	PLATE		E	EXISTING ELECTRICAL BOX/TRANSFORMER/VAULT	r	E	PROPOSED ELECTRICAL
	PINE		_	,			
	PANEL						
	POWER POLE		9				
	PRESTRESSED		×1,99	EXISTING SPOT ELEVATION		× 17.99	PROPOSED SPOT ELEV
	POUNDS PER SQUARE FOOT		×`			X 17.00	
	POUNDS PER SQUARE INCH		e -10 /	EVICTING CONTOURS		10	PRODOCED CONTOURS
			/ -16 /	EXISTING CONTOURS		16	PROPOSED CONTOURS
-	POLYVINYL CHLORIDE						
	PAVEMENT			EXISTING DROP INLET			PROPOSED DROP INLET
	POWER						
			4			4	
	RADIUS		đ	EXISTING FIRE HYDRANT		Q	PROPOSED FIRE HYDRA
	RADIUS						
	REINFORCED CONCRETE PIPE		W	EXISTING WATER VAULT		W	PROPOSED WATER VAL
	REINFORCING		***				
)	REQUIRED						PROPOSED WATER/GAS
	RIGHT-OF-WAY		$\langle \rangle \rangle$	EXISTING WATER/GAS/SEWER VALVE			
						TPXX ⋈	TEST PIT
	SANITARY					• • •	
	SCHEDULE			EXISTING CONTROL POINT/BENCHMARK		HAXX 🔀	HAND AUGER
	STORM DRAIN					0VV D	
	SQUARE FEET		—— UE ——	EXISTING UNDERGROUND ELECTRICAL		CXX 🗆	CPT SOUNDINGS
 S	SPECIFICATIONS					UE	PROPOSED UNDERGROU
_	SQUARE		—— OE ——	EXISTING OVERHEAD ELECTRICAL		<u> </u>	COLD CIDENOIO
	CTAINLESS STEEL OF CANITARY SEWER		W/	EXISTING WATER LINE		OE	PROPOSED OVERHEAD

PROPOSED STORM MANHOLE PROPOSED SIGN PROPOSED POLE PROPOSED SPOT ELEVATION PROPOSED CONTOURS PROPOSED DROP INLET PROPOSED FIRE HYDRANT PROPOSED WATER VAULT PROPOSED WATER/GAS/SEWER VALVE ⟨X XX TEST PIT HAND AUGER ⟨X ☒ $(X \square$ CPT SOUNDINGS PROPOSED UNDERGROUND ELECTRICAL PROPOSED OVERHEAD ELECTRICAL —— OE — PROPOSED WATER LINE PROPOSED STORM DRAINAGE PIPE COMM -PROPOSED UNDERGROUND COMMUNICATIONS PROPOSED DUCT BANK PROPOSED FORCE MAIN PROPOSED SANITARY SEWER - SAN -PROPOSED FENCE PROPOSED TREE LINE PROPOSED PAVEMENT - ASPHALT PROPOSED PAVEMENT - CONCRETE

PROPOSED SANITARY MANHOLE PROPOSED ELECTRICAL BOX/TRANSFORMER/VAULT

PROPOSED PAVEMENT - GRAVEL

GENERAL NOTES:

1. ALL SILT BARRIERS AND OTHER EROSION CONTROL MEASURES MUST BE PLACED PRIOR TO LAND DISTURBING ACTIVITIES. 2. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE OWNER AND ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE

OWNER AND ENGINEER AT THE TIME NOTICE TO PROCEED IS GIVEN. 3. THE OWNER AND ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE, DURING REGULAR HOURS (8:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY,

EXCLUDING HOLIDAYS). BEFORE THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY. 4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION FOR THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION (SCDOT), TOWN OF BLUFFTON SPECIFICATIONS, AND THE PROJECT SPECIFICATIONS.

5. THE CONTRACTOR WILL BE REQUIRED TO HAVE ON SITE A COPY OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD

DRAWINGS, LATEST EDITION. 6. ANY DISCREPANCIES, ERRORS, OR OMISSIONS DISCOVERED ON THE PLANS OR IN THE SPECIFICATIONS SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEERS ATTENTION, NOTED ON THE CONTRACTOR'S PROPOSAL, AND DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO CORRECT THE SAME AND CONSTRUCT THE PROJECT AS

7. THE EXISTENCE, ABSENCE, LOCATION AND ELEVATION OF UNDERGROUND UTILITIES ON THE PLANS ARE NOT BASED ON FIELD MARKS, ARE NOT GUARANTEED, AND SHALL BE INVESTIGATED, UNEARTHED IF NECESSARY, AND VERIFIED BY CONTRACTOR BEFORE BEGINNING CONSTRUCTION.

8. THE CONTRACTOR SHALL CONTACT SOUTH CAROLINA 811. "CALL BEFORE YOU DIG" SERVICE IN ORDER TO LOCATE UTILITIES PRIOR TO STARTING ANY EXCAVATION OR CONSTRUCTION

9. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, ABOVE GROUND OR BELOW

10. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH APPROPRIATE UTILITIES PRIOR TO AND/OR DURING CONSTRUCTION. 11. CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY BEFORE DIGGING NEAR WATER

AND SANITARY SEWER LINES. 12. NO EXTRA PAYMENT WILL BE MADE FOR REPAIRS TO DAMAGE OF EXISTING UTILITIES. 13. THE CONTRACTOR WILL NOT BE PAID FOR DELAYS OR EXTRA EXPENSE CAUSED BY

UTILITY FACILITIES, OBSTRUCTIONS, OR ANY OTHER ITEMS NOT REMOVED OR RELOCATED TO CLEAR CONSTRUCTION IN ADVANCE OF THEIR WORK. 14. ALL STRUCTURES, TREES AND SHRUBS WHICH ARE WITHIN THE LIMITS OF THE PROPERTY BOUNDARY, BUT OUTSIDE THE LIMITS OF CONSTRUCTION SHALL NOT BE

DISTURBED UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. 15. UNSUITABLE AND SURPLUS EXCAVATION MATERIAL NOT REQUIRED FOR FILL SHALL BE DISPOSED OF OFFSITE. 16. CONTRACTOR IS TO CLEAN ALL STORM WATER INLETS AND PIPE AT THE COMPLETION OF CONSTRUCTION TO REMOVE ANY SILT AND DEBRIS. THE CLEANING OF DROP INLETS, CULVERTS, AND PIPES (EXISTING AND PROPOSED) SHALL BE CONSIDERED

INCIDENTAL TO THE PROJECT, NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR. 17. ANY DAMAGE TO THE SIDE STREETS OR SIDEWALK DUE TO CONSTRUCTION ACTIVITY SHALL BE REPAIRED IN AN EXPEDIENT MANNER AT THE CONTRACTOR'S EXPENSE.

18. CONTRACTOR MAY SUBMIT BID ALTERNATIVES ON SITE WORK ELEMENTS FOR REVIEW AND APPROVAL BY ENGINEER AND ANY APPLICABLE OUTSIDE REGULATORY AGENCIES

SCDHEC STANDARD NOTES:

OR UTILITY COMPANIES.

1. 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 WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER & TEMPORARY SEEDING AT THE END OF THE DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS

2. 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 14 DAYS AFTER THE WORK HAS CEASED, EXCEPT AS NOTED A. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS. STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.

B. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, & EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE. 3. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE

PAVED ROADWAY FROM THE CONSTRUCTION AREA & THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

4. 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 STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

5. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS OR OBTAIN APPROVAL FOR AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 & SCR100000.
6. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS & BUILDING PRODUCTS WITH THE SIGNIFICANT POTENTIAL IMPACT (SUCH AS STOCK-PILES OF FRESHLY TREATED LUMBER) & CONSTRUCTION CHEMICALS THAT COULD

BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES. 7. ALL SEDIMENT & EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY

OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR

MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION. 8. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND DISTURBING ACTIVITIES HAVE CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS 9. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.

10. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT & VEHICLE WASHING, WHEEL WASH WATER, & OTHER WASH WATER. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.

11. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES & EXCAVATED AREAS.

HESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMP's (SEDIMENT BASIN, FILTER BAG, ETC.) 12. THE FOLLOWING DISCHARGES FROM THE SITE ARE PROHIBITED:

• WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL WASTEWATER FROM WASHOUT & CLEANOUT OF STUCCO, PAINT, FROM RELEASE OILS, CURING COMPOUNDS & OTHER CONSTRUCTION MATERIALS

FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE & EQUIPMENT OPERATION & MAINTENANCE
 SOAPS OR SOLVENTS USED IN VEHICLE & EQUIPMENT WASHING

13. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK & MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.

14. IF EXISTING BMP'S NEED TO BE MODIFIED OR IF ADDITIONAL BMP'S ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE NEXT STORM IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP & ALTERNATIVE BMP'S MUST BE IMPLEMENTED AS SOON A REASONABLY POSSIBLE. 15. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION

O PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER

TO APPROPRIATE TRAPS OR STABLE OUTLETS.

16. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.

17. IF CABLE, ELECTRIC, AND NATURAL GAS UTILITIES ARE INSTALLED, THE INSTALLATION OF THESE IS TO BE WITHIN THE PERMITTED LIMITS OF DISTURBANCE AND INSTALLATION OUTSIDE OF THESE AREAS WILL REQUIRE A MODIFICATION TO THE PERMIT. 18. INLET PROTECTION SHALL BE PROVIDED AT ALL EXISTING INLETS THAT RECEIVE FLOWS FROM THE DISTURBED

19. CONSTRUCTION ENTRANCES SHALL BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC ACCESSES

TOWN OF BLUFFTON WATERSHED NOTES:

1. A RIGHT-OF-WAY PERMIT SHALL BE OBTAINED PRIOR TO PERFORMING CONSTRUCTION ACTIVITY IN THE TOWN OF BLUFFTON RIGHT-OF-WAY.

2. CHLORINATED DISINFECTED WATER SHALL NOT BE DISCHARGED INTO THE STORMWATER

3. THE CONTRACTOR SHALL CONTACT SOUTH CAROLINA 811, "CALL BEFORE YOU DIG" SERVICE IN ORDER TO LOCATE UTILITIES PRIOR TO STARTING ANY EXCAVATION OR

4. SUBMISSION OF ONE SET OF THE AS-BUILT DRAWINGS SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF SOUTH CAROLINA WITHIN 21 DAYS AFTER COMPLETION OF CONSTRUCTION OF THE SITE, ALL BMPS, LAND COVERS, AND STORMWATER CONVEYANCES.

UTILITIES:

WATER AND SEWER
BEAUFORT-JASPER WATER & SEWER AUTHORITY
SERVICE CONTACT: 843-987-9200 REPORT OUTAGE: 843-987-3200

<u>POWER</u> DOMINION POWER SERVICE CONTACT: 800-251-7234 REPORT OUTAGE: 888-333-4465

COMMUNICATION SERVICE CONTACT: 843-379-9000 REPORT OUTAGE: 843-686-1138

GENERAL NOTES & LEGEND

SHEET NO.

DATE

REV #

DATE

02/13/20

DESCRIPTION

PROJECT DATA:

----- COMM -----

—— DB ——

------ FM ------

ASPHALT

CONC

—— F ——

----F-

TAX MAP & PARCEL NUMBERS:

EXISTING WATER LINE

EXISTING DUCT BANK

EXISTING FORCE MAIN

EXISTING FENCE

EXISTING TREE LINE

EXISTING SANITARY SEWER

EXISTING PAVEMENT - ASPHALT

EXISTING PAVEMENT - CONCRETE

LIMITS OF CONSTRUCTION

EXISTING - FIBER OPTIC

GRADING CUT

GRADING FILL

EXISTING - GAS

EXISTING - WATER

EXISTING STORM DRAINAGE PIPE

EXISTING UNDERGROUND COMMUNICATIONS

2. SITE ADDRESS:

3. ACREAGE OF PROPERTY: 4. ACREAGE OF DISTURBANCE:

5. OWNER/DEVELOPER:

6. ZONING:

EXISTING LAND USE: 8. PROPOSED LAND USE:

9. RECEIVING STREAM:

10. ULTIMATE STREAM: 11. FLOOD ZONE:

12. VERTICAL DATUM: 13. HORIZONTAL DATUM: 11 GRASSEY LANE, BLUFFTON, SC 29910 41.29 ACRES

12.80 ACRES CORNERSTONE CHURCH

RURAL MIXED USE & AGRICULTURE COMMERCIAL EQUESTRIAN

ASSEMBLY & WORSHIP (LARGE) UNNAMED TRIB TO STONY CREEK

R610 036 000 0014 0000

MAY RIVER

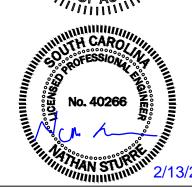
NAVD 88 DATUM

SOUTH CAROLINA STATE PLANE BASED ON NAD 83, SCVRS NETWORK

	Cornerstone Church Pre-Development Area Summary Land Cover SF AC %	
	Total Parcel Area 1,798,788 41.29	
	Forest Cover/Open Space 1,219,410 27.99 68% Turf Cover (Pervious) 88,371 2.03 5%	
	Impervious Cover 148,956 3.42 8% BMP 342,051 7.85 19%	
	Existing Access & Utility Easement 259,941 5.97 14% (Meadow Drive 50' Easement)	
	Forest Cover/Open Space 174,364 4.00 67% Turf Cover (Pervious) 82,161 1.89 32%	
	Compacted Dirt Drive 81,458 1.87 Sandset Brick Pavers 703	
	Impervious Cover 3,416 0.08 1% Asphalt 2,414 0.06	
	Concrete 729 0.02 Compacted Gravel 273 0.01 BMP 0%	
	Parcel Fronting May Piver Poad (SC 46)	
	(Zoned Rural Mixed Use - RMU) Forest Cover/Open Space 305,100 7.00 17% 305,100 302,032 6.93 99%	
	Turf Cover (Pervious) 1,588 0.04 1% Compacted Dirt Drive 1,588 0.04	
JESSE & MELANIE ANDERSON This more due door costs door Build of the state of the s	Impervious Cover 1,481 0.03 0% Asphalt 1,481 0.03 BMP 0%	
9 LA 017 LA 017 LA 110	Cornerstone Church Area	
022 LA	(Zoned Agriculture - AG) Forest Cover/Open Space 743,014 17.06 60%	
*** O 22 II	Turf Cover (Pervious) 4,623 0.11 0% Compacted Dirt Drive 4,623 0.11	
19 LA CONTROL TO	Impervious Cover 144,059 3.31 12% Asphalt 34,817 0.80 Concrete 11,151 0.26	
N.F. JENKINS LEEPHONSO THIS RIDGO 503 600 004A 5000 001.2000 Ptd.1976 015 EED 020 LA 020 LA 020 LA 021 LA 020 LA 021 LA 021 LA 022 LA 023 LA 023 LA 023 LA	Structures 98,090 2.25 BMP 342,051 7.85 28%	
*18 LD 020 LD 22 LD 24 LA 25 LD 25 L	Wet Pond 342,051 7.85	
12 LO 22 LO 21 P 2 10 10 12 LO 22 LO 21 LO 22 LO 21 LO 22 LO 21 LO 22 LO	Note: Soils w/in Limits of Disturbance are approx. 67% HSG A (Wando fine sand) and 33% HSG B (Ridgeland fine sand). These percentages were applied to the	
*12 LA 545 P 021 P 10 DEG 0 15 LO 25 LA 25	areas for SoLoCo calculations.	
25 LA		
5 //F filer		
18 18 18 19 17 18 18 19 18 18 18 18 18 18 18 18 18 18 18 18 18		
ON THE READ OF STATE	STARDUST LANE	
N/F PRINT POR DE CONCENT DE CORNERS ON TAX MAP NO. RECO COSTO COSTO COSTO TAX MAP NO. RECO COSTO COSTO COSTO COSTO COSTO TAX MAP NO. RECO COSTO COST	N/F JAMES & MARTHA WARNER THIS RIGHT GOS 5000 0338 0000 PR 112 Page (01309 Pp 1317)	
DOMPSTER WITH A STATE OF THE ST	12 0 MSTRIFTON MATER AND 15 10 10 10 10 10 10 10 10 10 10 10 10 10	
FORM DELICATION AND ADDRESS OF THE PARTY OF	12 10 10 10 10 10 10 10 10 10 10 10 10 10	
13 TO 16 TO 10 TO	TI LI P 19 CA TO	
EXISTING POND EXISTI	N/E	
NF ALONG UND NF THE RIGHT SEEDS NF UNF NF NF NF NF NF NF NF N	CORNERSTONE CHURCH OF BLUFFTON 10X May 10, 100 C	
N/F CORNERSTONE CHURCH OF BLUFFTON TOX MAP No. 1000 000 000 00140 0000 TOX MAP No. 1000 000 0000 TOX MAP NO. 1000 0000 TOX MAP NO.	13 D	
PRIOR PRISS DIS NOTION PRINT PRISS DIS NOTION PRINT PRISS DIS NOTION PRINT	TO THE REAL PROPERTY OF THE PR	
** 0 P * 9 P ** 8 P ** 15 100 10 10 10 10 10 10 10 10 10 10 10 10	O 20 P 15 PO ST OF ST O	
10 10 10 10 10 10 10 10	NF CLYDE & CARCULY FENDER NE BARRY D. MALPHRUS	
THIS RECO DISTO DO FIND DOOD FRED BOYD MAY BAIRD MEDIT DOOD MEDIT DOOD DOOD DOOD DOOD DOOD DOOD DOOD D	SOLOMON LANE	
	CEDAR LAKE LANE	
	LINE TABLE LABEL BEARING DISTANCE	
	LINE TABLE LABEL BEARING DISTANCE L1 S21°03′09"W 38.54′ L2 S10°54′25"E 40.56′ L3 S68°52′10"E 21.58′ L4 S22°24′45"W 50.05′	
	L4 S22°24'45"W 50.05'	
	CURVE TABLE LABEL RADIUS ARC CHORD CHORD BEARING DELTA C1 145.00' 130.35' 126.01' N48°42'03"E 51°30'27"	







ENGINEER OF RECORD

NATHAN STURRE, P.E. SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS
ATLAS SURVEYING
168 BOARDWALK DRIVE, SUITE A
RIDGELAND, SC 29936
SCPLS #: 28139
TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

HORIZ. DATUM: STATE PLANE: NAD83 VERT. DATUM: NAVD88



0			62	2.5		1	25					2
												ļ
	_		-			Ŀ	. .		_	_	_	J
5	C	Α	L	Ł		ı	N	F	Ł	Ł	ı	
						_		1				
				ıυ	1	Δ	N	1				

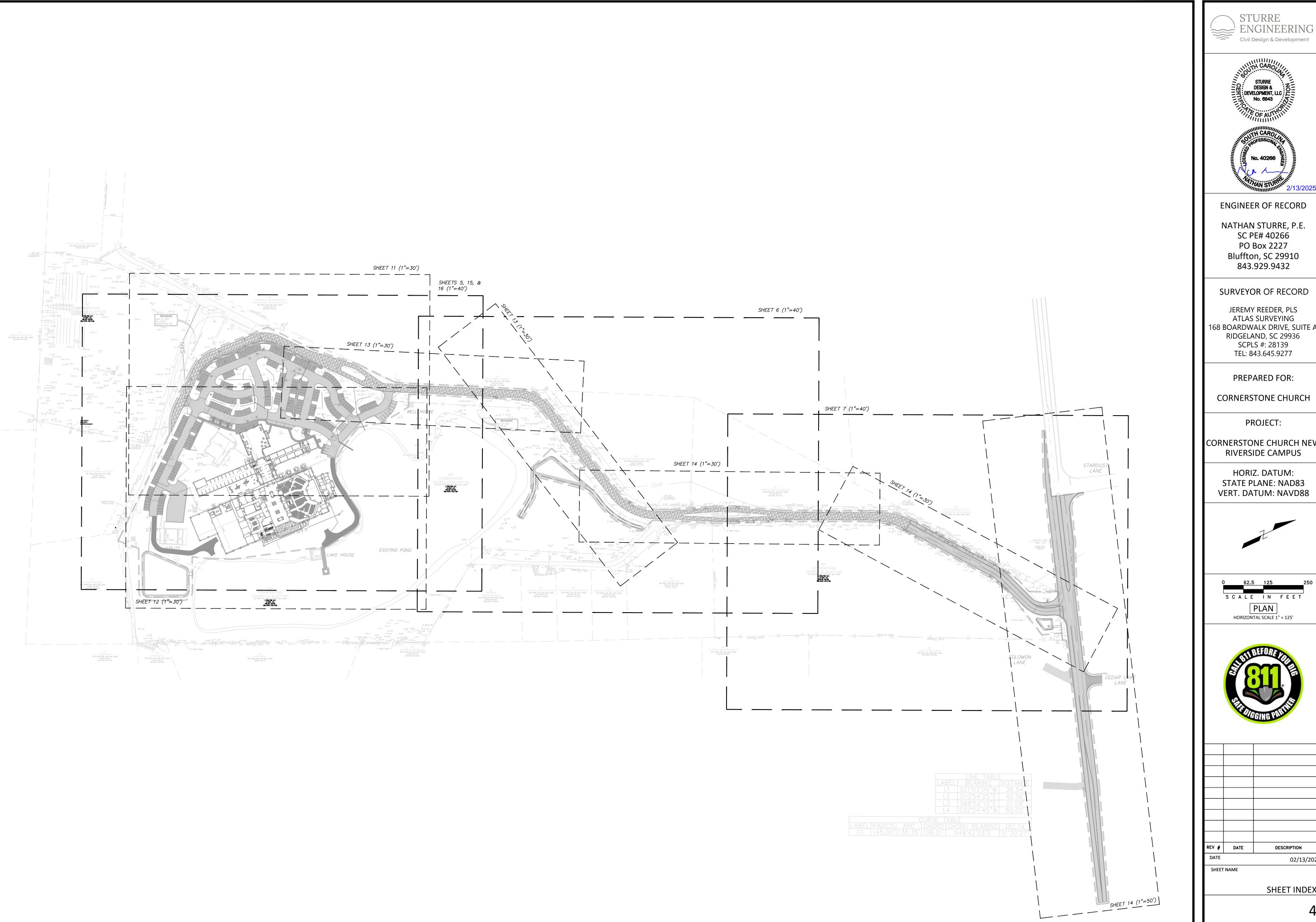
PLAN
HORIZONTAL SCALE 1" = 125'



REV #	DATE	DESCRIPTION
DATE		02/13/2025

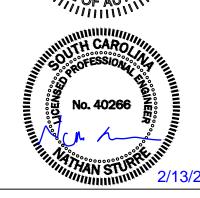
SHEET NAME

EXISTING CONDITIONS









SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

ATLAS SURVEYING 168 BOARDWALK DRIVE, SUITE A RIDGELAND, SC 29936 SCPLS #: 28139 TEL: 843.645.9277

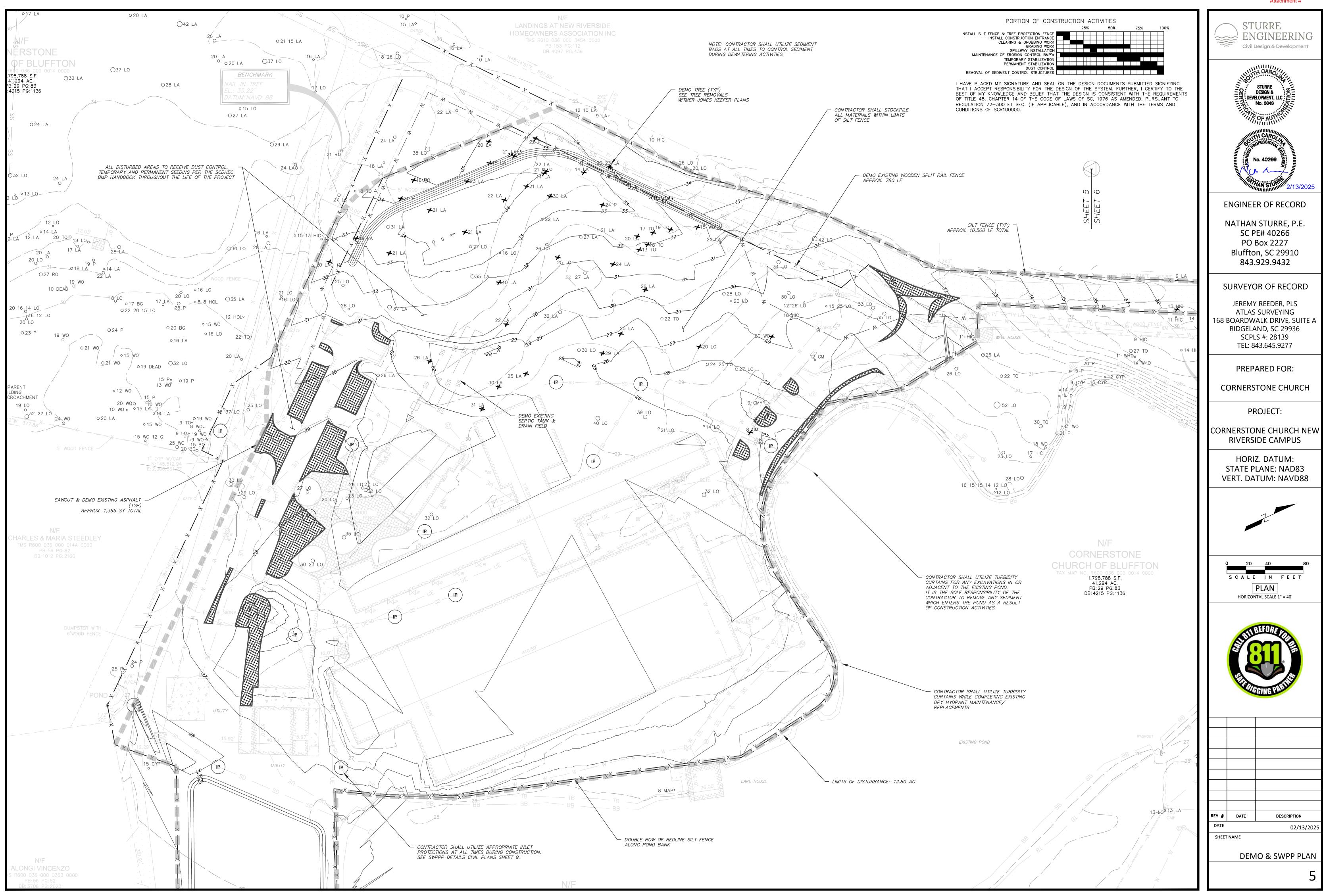
CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

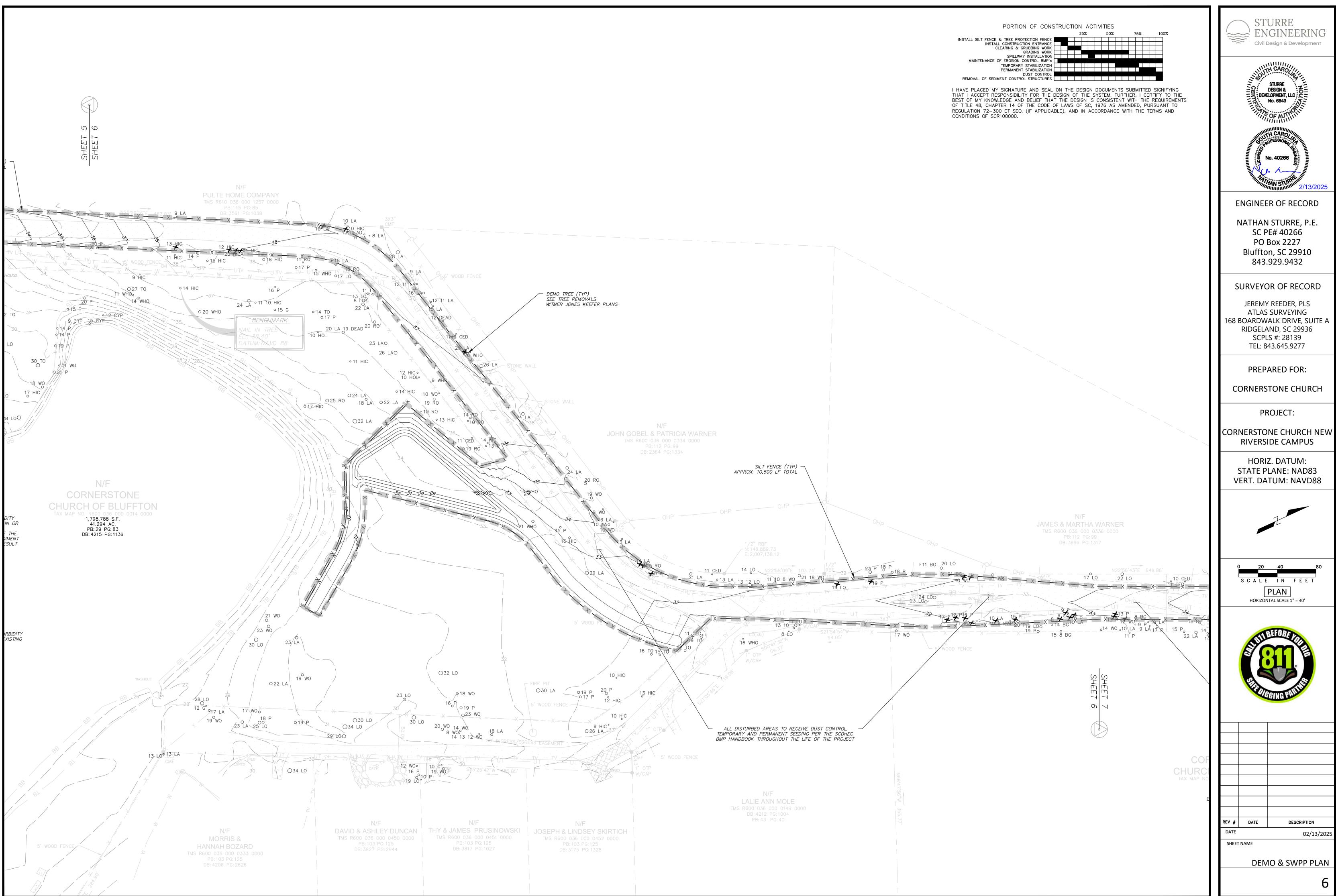




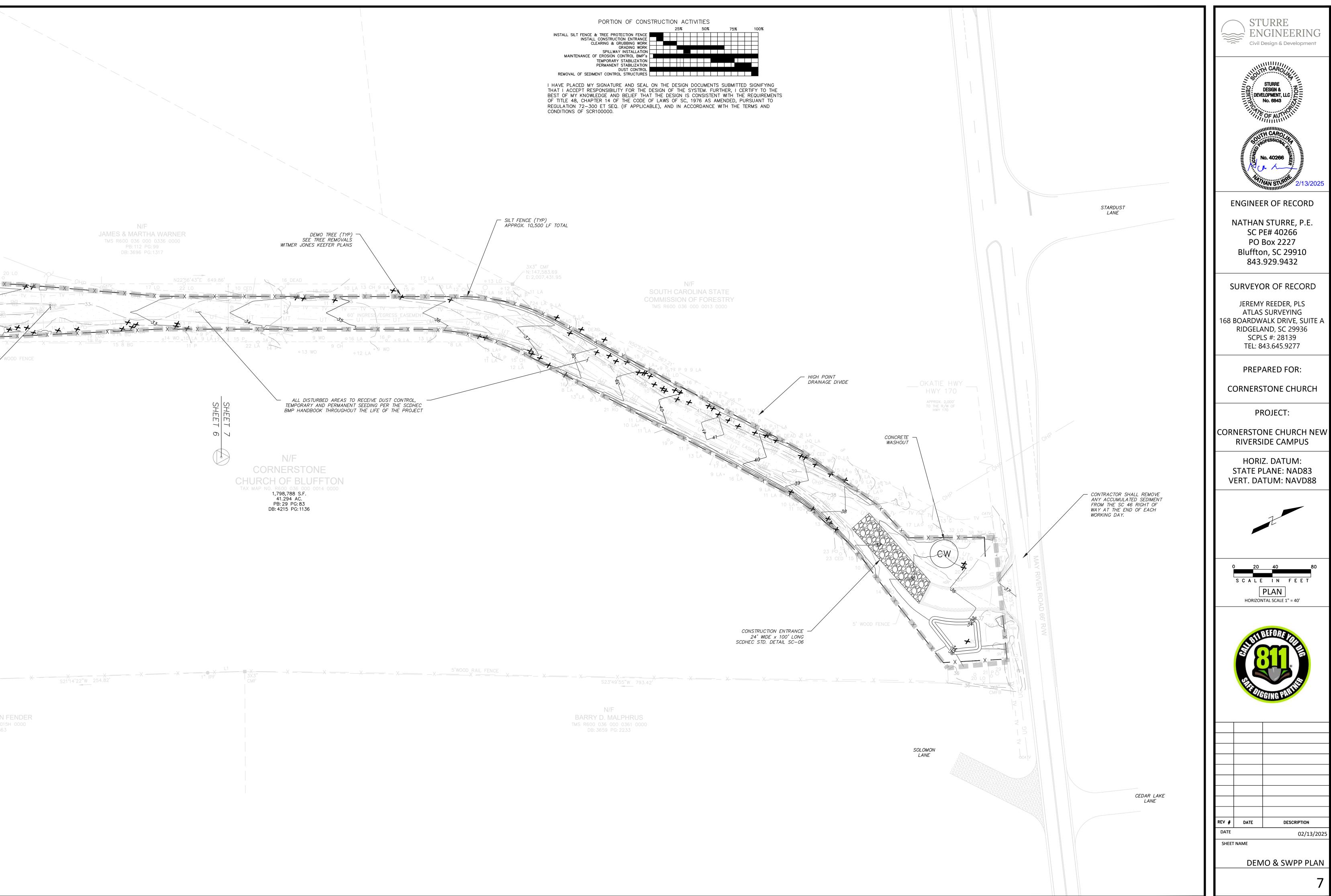
DESCRIPTION	DATE	REV #
02/13/202		DATE

SHEET INDEX





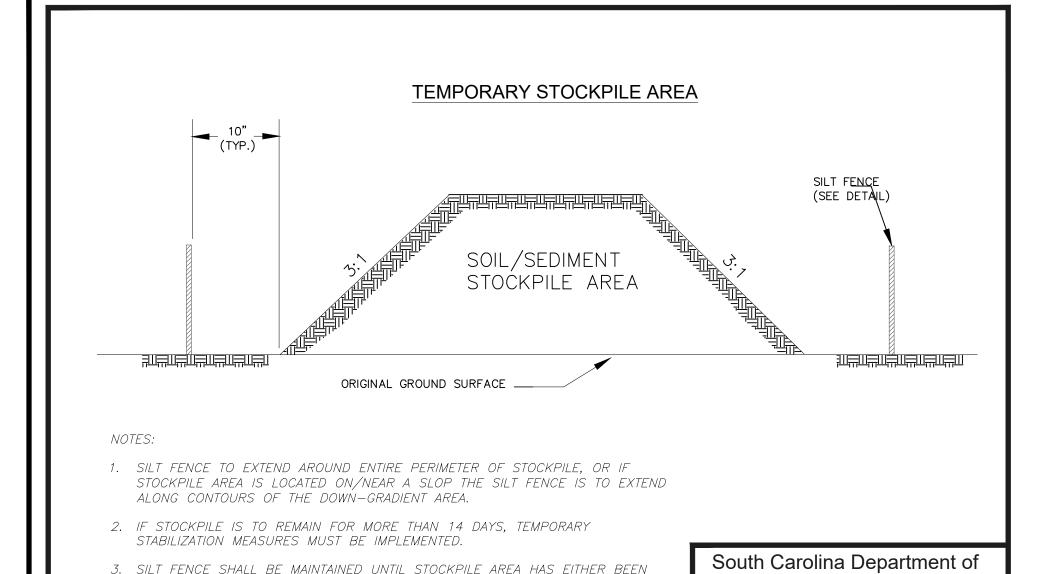
REV #	DATE	DESCRIPTION
DATE		02/13/2025







REV #	DATE	DESCRIPTION
DATE		02/13/2025
CHEET		



-STAPLES 1/8" - BINDING WIRE 4" STAPLE (2 PER BALE) WOOD OR - STRAW BALE NATIVE METAL STAKES MATERIAL (2 PER BALE) -(OPTIONAL) -SECTION B-B 0 0 0 0 NOTES — STRAW BALE TYPE "ABOVE GRADE" (TYP.) 1. ACTUAL LAYOUT DETERMINED IN FIELD.

STRAW BALE BARRIER CONCRETE WASHOUT

WITH STRAW BALES LETTERS A MINIMUM OF 5" IN HEIGHT — CONCRETE WASHOUT

CONCRETE WASHOUT SIGN DETAIL

2. INSTALL CONCRETE WASHOUT SIGN (24"X24", MINIMUM) WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM A STORM DRAIN, CREEK BANK OR PERIMETER CONTROL.

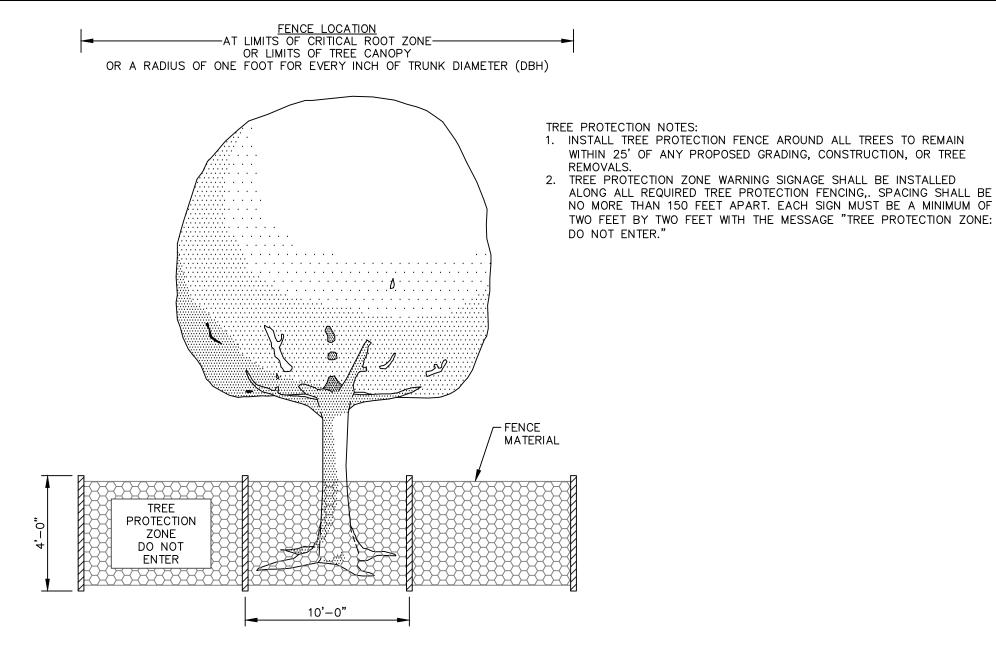
4. CLEAN OUT CONCRETE WASHOUT AREA WHEN 50% FULL. 5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE

MAINTENANCE, AND REGULAR CLEAN OUT.

6. SILT FENCE SHALL BE INSTALLED AROUND PERIMETER OF CONCRETE WASHOUT AREA EXCEPT FOR THE SIDE UTILIZED FOR ACCESSING THE WASHOUT.

7. A ROCK CONSTRUCTION ENTRANCE MAY BE NECESSARY ALONG ONE SIDE OF THE WASHOUT TO PROVIDE VEHICLE ACCESS.

CONCRETE WASHOUT STRAW BALES OR ABOVE GROUND SOUTH CAROLINA DEPARTMENT OF PUBLIC HEALTH STANDARD DRAWING NO. RC-07 [PAGE 1] N.T.S.



TREE PROTECTION FENCE DETAIL N.T.S.

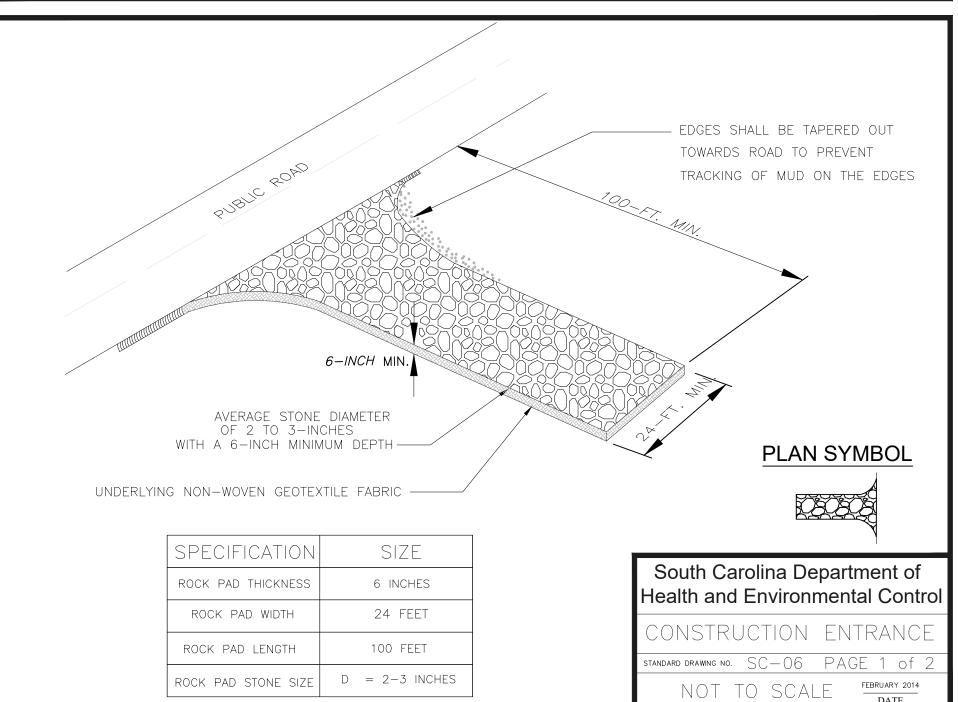
SPACING BETWEEN DITCH CHECK

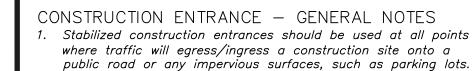
L = THE DISTANCE SUCH THAT POINTS A & B ARE OF EQUAL ELEVATION

1-FT. SUMP

NON-WOVEN GEOTEXTILE FABRIC

TYPICAL DITCH CHECK SECTION





- 2. Install a non-woven geotextile fabric prior to placing any
- 3. Install a culvert pipe across the entrance when needed to provide positive drainage.
- 4. The entrance shall consist of 2-inch to 3-inch D50 stone
- Minimum dimensions of the entrance shall be 24-feet wide by 100-feet long, and may be modified as necessary to accommodate site constraints.
- 6. The edges of the entrance shall be tapered out towards the
- road to prevent tracking at the edge of the entrance. 7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin or other sediment trapping structure.
- Limestone may not be used for the stone pad.

placed at a minimum depth of 6-inches.

- CONSTR. ENTRANCE INSPECTION & MAINTENANCE 1. The key to functional construction entrances is weekly inspections, routine maintenance, and regular sediment removal.
- 2. Regular inspections of construction entrances shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- 3. During regular inspections, check for mud and sediment buildup and pad integrity. Inspection frequencies may need to be more frequent during long periods of wet weather.
- 4. Reshape the stone pad as necessary for drainage and runoff
- 5. Wash or replace stones as needed and as directed by site inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce the amount of mud being carried off-site by vehicles. Frequent washing will extend the useful life of stone pad.
- 6. Immediately remove mud and sediment tracked or washed onto adjacent impervious surfaces by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.
- 7. During maintenance activities, any broken pavement should be repaired immediately.
- 8. Construction entrances should be removed after the site has reached final stabilization. Permanent vegetation should replace areas from which construction entrances have been removed, unless area will be converted to an impervious surface to serve post-construction.

South Carolina Department of Health and Environmental Control

CONSTRUCTION ENTRANCE

andard drawing no. SC-06 PAGE 2 of GENERAL NOTES FEBRUARY 2014
DATE

ROCK DITCH CHECK - GENERAL NOTES

- Rock Ditch Checks should not be placed in Waters of the State or USGS blue—line streams (unless approved by Federal Authorities).
- Rock Ditch Checks should be installed in steeply sloped channels where adequate vegetation cannot be established. This BMP measure should only be used in small open channels.
- A non-woven geotextile fabric shall be installed over the soil
- surface where the rock ditch check is to be placed. The body of the rock ditch check shall be composed of
- 1-inch D50 washed stone.

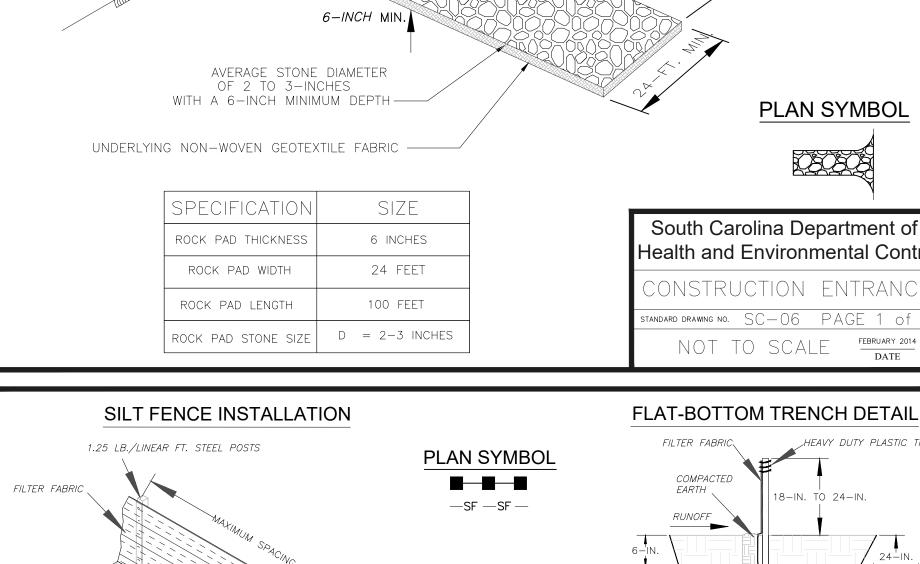
12—inch D50 Riprap. The upstream face may be composed of

- Rock Ditch Checks should not exceed a height of 2-feet at the centerline of the channel.
- 6. Rock Ditch Checks should have a minimum top flow length of
- Riprap should be placed over channel banks to prevent water from cutting around the ditch check.
- The riprap should be placed by hand or mechanical placement (no dumping of rock to form dam) to achieve complete coverage of the channel. Doing so will also ensure that the center of the check is lower than the edges.
- 9. The maximum spacing between the dams should be such that the toe of the upstream check is at the same elevation as the top of the downstream check.

ROCK DITCH CHECK - INSPECTION & MAINTENANCE

- 1. The key to functional rock ditch check is weekly inspections, routine maintenance, and regular sediment removal.
- once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- check is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- 4. Remove accumulated sediment when it reaches 1/3 the height
- or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- runoff bypassing the installed check. If evident repair promptly as necessary to prevent erosion and bypassing.
- reached, the entirety of the rock ditch check should be removed if vegetation will be used for permanent erosion control measures. The area beneath the removed rock ditch check must be addressed with permanent stabilization

South Carolina Department of Health and Environmental Control
ROCK DITCH CHECK
standard drawing no. SC -04 PAGE 2 of 2
GENERAL NOTES FEBRUARY 2014 DATE



REMOVED OR PERMANENTLY STABILIZED.

BACKFILL TRENCH WITH

USE EITHER FLAT-BOTTOM

be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.

- Wrap each fabric together at a support post with both ends fastened to the post, with a 1-foot

- Overlap entire width of each silt fence roll from one support post to the next support post.

- Overlap silt fence by installing 3-feet passed the support post to which the new silt fence roll is

2. Maximum sheet or overland flow path length to the silt fence shall be 100—feet.

3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.

attached. Attach old roll to new roll with heavy—duty plastic ties; or,

4. Silt fence joints, when necessary, shall be completed by one of the following options:

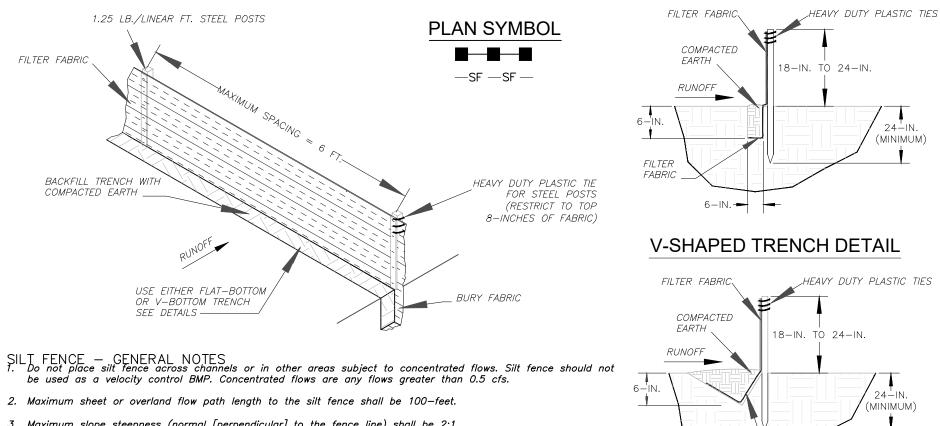
OR V-BOTTOM TRENCH

COMPACTED EARTH

minimum overlap:

4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY

INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.



Health and Environmental Contro

TEMPORARY STOCKPILE

indard drawing no. SC-15 PAGE 1 of

NOT TO SCALE

South Carolina Department of Attach filter fabric to the steel posts using heavy-duty plastic ties that are evenly spaced within the top Health and Environmental Contro 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. SILT FENCE 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 randard drawing no. SC-03 Page 1 of

NOT TO SCALE

_T 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 - Include a standard "T" section with a nominal face width of 1.38-inches and a nominal "T" length of 1.48-inches. – Weigh 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
- Install posts to a minimum of 24-inches. A minimum height of 1- to 2inches 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.
- ILT 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.

5. Filter Fabric shall be installed at a minimum of 24—inches above the ground.

SILT FENCE - INSPECTION & MAINTENANCE 1. The key to functional silt fence is weekly inspections, routine maintenance, and

TOP OF BANK-

1-INCH D50 WASHED STONE _____

FLOW

ARFA WHFRF SEDIMENT IS

- 2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- 3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when
- Remove accumulated sediment when it reaches 1/3 the height of the silt
- 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,
- 7. 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
- 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

South Carolina Department of Health and Environmental Control

SILT FENCE andard drawing no. SC-03 PAGE 2 of GENERAL NOTES FEBRUARY 20 DATE

CROSS SECTION A-A

OVERFLOW

CHANNEL BOTTOM GEOTEXTILE FABRIC

PLAN SYMBOL

OR OR

South Carolina Department of

Health and Environmental Control

ROCK DITCH CHECK

andard drawing no. SC-04 PAGE 1 of

NOT TO SCALE

PLACE STONE OVER
 CHANNEL BANKS

THRU STONE DITCH CHECK

12-INCH D50 RIPPAP

AT CENTER

-LENGTH AS REQUIRED IN FIELD

TO KEY INTO SIDE OF SLOPES

0.5-FT. MIN.

2-FT.' MAX

AT CENTER

— 12−INCH D50 RIPRAP

OF DITCH

- NON-WOVEN

2. Regular inspections of rock ditch checks shall be conducted

3. Attention to sediment accumulations in front of the rock ditch

of the rock ditch check.

5. Removed sediment shall be placed in stockpile storage areas

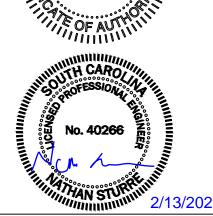
6. Inspect Rock Ditch Checks' edges for erosion and evidence of

7. In the case of grass-lined ditches, channels, and swales, rock ditch checks should be removed when the grass has matured sufficiently to protect the ditch or swale unless the slope of the swale is greater than 4%.

8. After construction is completed and final stabilization is measures.







ENGINEER OF RECORD

NATHAN STURRE, P.E. SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS ATLAS SURVEYING 168 BOARDWALK DRIVE, SUITE A RIDGELAND, SC 29936 SCPLS #: 28139 TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

HORIZ. DATUM: STATE PLANE: NAD83 **VERT. DATUM: NAVD88**



REV #	DATE	DESCRIPTION

SHEET NAME SWPPP DETAILS

SHEET NO.

DATE

02/13/20

ENGINEERING

Civil Design & Development

STH CAROLIN

STURRE

DESIGN &

No. 6843

ENGINEER OF RECORD

NATHAN STURRE, P.E SC PE# 40266

PO Box 2227

Bluffton, SC 29910

843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS ATLAS SURVEYING

168 BOARDWALK DRIVE, SUITE A

RIDGELAND, SC 29936

SCPLS #: 28139

TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

CORNERSTONE CHURCH NEW

RIVERSIDE CAMPUS

HORIZ. DATUM:

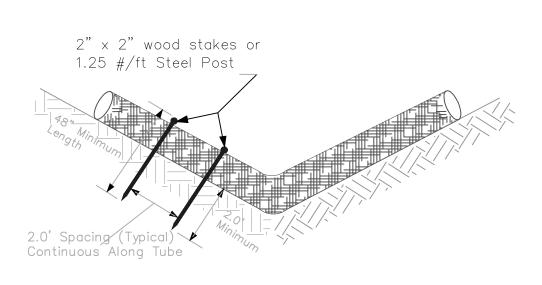
STATE PLANE: NAD83

VERT. DATUM: NAVD88

i DEVELOPMENT, LLC : 25

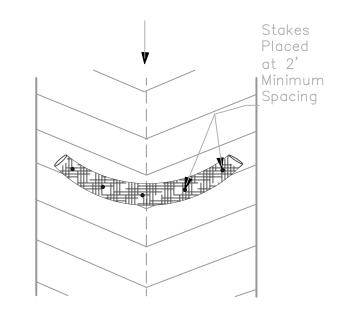
STURRE

SEDIMENT TUBE INSTALLATION



SEDIMENT TUBE SPACING

SLOPE	MAX. SEDIMENT TUBE SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET



PLAN SYMBOL



South Carolina Department of Health and Environmental Control

ANDARD DRAWING NO.

- SEDIMENT TUBES GENERAL NOTES Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off-site discharge of sediment-laden stormwater runoff.
- 2. Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch-filled sediment tubes are not permitted.
- The outer netting of the sediment tube should consist of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-dearadable material.
- range between 18-inches and 24-inches depending on channel dimensions. Diameters outside this range may be allowed where necessary when approved.

Sediment tubes, when used as checks within channels, should

- Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
- Sediment tubes should be staked using wooden stakes (2-inch X 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48—inches in length placed on 2—foot centers.
- Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before
- 6-inches to prevent flow and sediment from passing through Sediment tubes should not be stacked on top of one

The ends of adjacent sediment tubes should be overlapped

- 10. Each sediment tube should be installed in a trench with a
- depth equal to 1/5 the diameter of the sediment tube. 11. Sediment tubes should continue up the side slopes a minimum
- of 1-foot above the design flow depth of the channel. 12. Install stakes at a diagonal facing incoming runoff.

another, unless recommended by manufacturer.

- SEDIMENT TUBES INSPECTION & MAINTENANCE 1. The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.
- 2. Regular inspections of sediment tubes shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of
 - 3. Attention to sediment accumulations in front of the sediment tube 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 sediment tube.
- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed
- sediment after it is relocated. 6. Large debris, trash, and leaves should be removed from in front of tubes when found.
- 7. If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be made immediately to prevent runoff from bypassing tube.
- 8. Sediment tubes should be removed after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which sediment tubes have been removed.

South Carolina Department of

ANDARD DRAWING NO.

Health and Environmental Contro

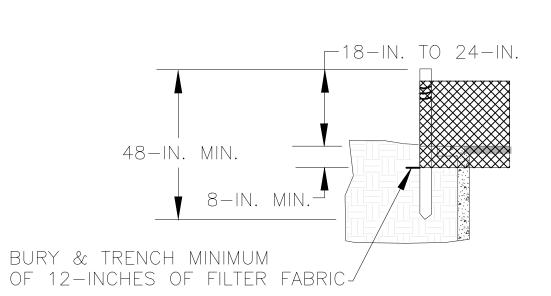


3-FT. MAX. SPACING POST INSTALLATION DETAIL

1/5 "D"-

SEDIMENT TUBE BURIAL DETAIL

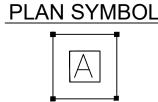
24-IN. MIN.



FILTER FABRIC BURIAL DETAIL

1 FOOT AND SECURE TO POSTS WITH HEAVY DUTY BURY FABRIC (SEE DETAIL) FILTER FABRIC INSTALLATION

DETAIL



South Carolina Department of Health and Environmental Control

Type A
FILTER FABIC INLET PROTECTION
standard drawing no. $SC-07$ PAGE 1 of 2
NOT TO SCALE FEBRUARY 2014

South Carolina Department of

Health and Environmental Control

Type A

NOT TO SCALE $\frac{\text{FEBRUARY 2014}}{\text{DATE}}$

SEDIMENT TUBE INLET PROTECTION

andard drawing no. SC-O7A PAGE 1 of

TYPE A — FILTER 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
- 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.
- 2. 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
- 3. 12—inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
- 4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
- 5. Filter Fabric shall be installed at a minimum of 24-inches above the
- TYPE A POST REQUIREMENTS 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.
- Weigh 1.25 pounds per foot $(\pm 8\%)$ 2. Posts shall be equipped with projections to aid in fastening of filter
- 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 3-feet on center.

TYPE A - INSPECTION & MAINTENANCE 1. The key to functional inlet protection is weekly inspections, routine

mainténance, and regular s'ediment removal.

- 2. Regular inspections of inlet protection shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- 3. Attention to sediment accumulations along the filter fabric 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 filter fabric. When a sump is installed in front of the fabric, sediment should be removed when it fills approximately 1/3 the depth of the
- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- 6. Check for areas where stormwater runoff has eroded a channel beneath the filter fabric, or where the fabric has sagged or collapsed due to runoff overtopping the inlet protection.
- 7. Check for tears within the filter fabric, areas where fabric has begun to decompose, and for any other circumstance that may render the inlet protection ineffective. Removed damaged fabric and reinstall new filter fabric immediately.
- Silt Fence posts must be 48-inch long steel posts that meet, at a 8. Inlet protection structures should be removed after all 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

South Carolina Department of Health and Environmental Control

FILTER FABIC INLET PROTECTION andard drawing no. SC-07 PAGE 2 of

GENERAL NOTES FEBRUARY 2014
DATE

TYPE A - SEDIMENT TUBE INLET PROTECTION

- curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch-filled sediment tubes are not permitted.
- 2. The outer netting of the sediment tube should consist of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable material.
- 4. Curled excelsior wood, or natural coconut products that are
- (2-inch X 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48-inches in length placed on 2-foot centers.
- between the soil and the bottom of the tube. Manufactuer's recommendations should always be consulted before
- 7. The ends of adjacent sediment tubes should be overlapped

INSPECTION & MAINTENANCE

- 1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.
- 2. Regular inspections of sediment tube inlet protection shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- 3. Attention to sediment accumulations in front of the sediment tube 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 sediment tube. When a sump is installed in front of the inlet protection, sediment shall be removed when if fills approximately 1/3 the depth of the sump.
- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- 6. Large debris, trash, and leaves should be removed from in front of tubes when found.
- 7. Inlet protection structures should be removed 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.

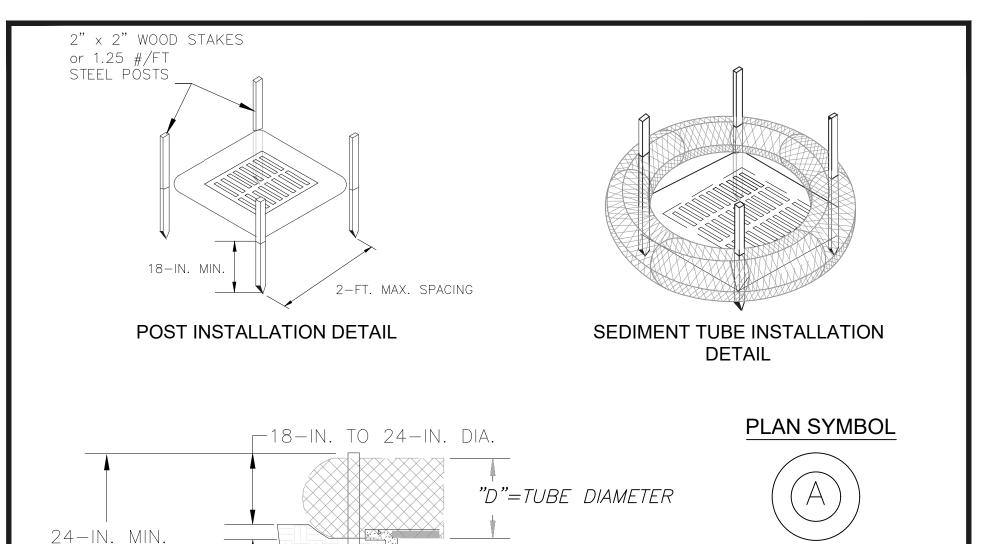
South Carolina Department of Health and Environmental Contro

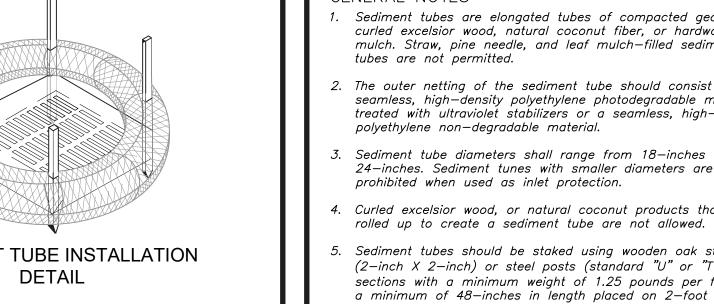
> Type A SEDIMENT TUBE INLET PROTECTION andard drawing no. SC-07A PAGE 2 o NOT TO SCALE $\frac{\text{FEBRUARY 2014}}{\text{DATE}}$

SWPPP DETAILS

02/13/202

DESCRIPTION





8. Sediment tubes should not be stacked on top of one another.

9. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.

GENERAL NOTES . Sediment tubes are elongated tubes of compacted geotextiles,

- Sediment tube diameters shall range from 18-inches to 24-inches. Sediment tunes with smaller diameters are
- 5. Sediment tubes should be staked using wooden oak stakes
- 6. Install all sediment tubes to ensure that no gaps exist
- 6-inches to prevent flow and sediment from passing through
- 10. Install stakes at a diagonal facing incoming runoff.



REV #

SHEET NAME

SHEET NO.

DATE

DATE

Permanent Seeding

Dust Control

Plan Symbol



Wind erosion occurs when the surface soil is loose and dry, vegetation is sparse or absent, the wind is sufficiently strong, and when construction traffic disturbs the soil. Wind erodes soils and transports the sediment off site in the form of fugitive dust, where it may be washed into receiving water bodies by the next rainfall event. Fugitive dust is a nuisance for neighbors. It settles on automobiles, structures and windows and finds its way into homes. It also makes breathing difficult for those with respiratory problems and becomes a safety problem when it blinds motorists, equipment operators, and laborers.

When and Where to Use It

Utilize dust control methods whenever there are offsite impacts, especially during periods of drought. Implemented dust control until final stabilization is reached.

Dust Control Design Criteria

There are many methods to control dust on construction sites. These methods include but are not limited

- <u>Phasing the Project.</u> Phasing is done to decrease the area of disturbed soil that is exposed to erosion. The smaller the amount of soil that is exposed at one time, the smaller the potential for dust generation. Phasing a project and utilizing temporary stabilization practices can significantly reduce
- Vegetative Cover. A vegetative cover helps reduce wind erosion. Vegetative Cover is for disturbed areas not subject to traffic. Vegetation provides the most practical method of dust control.
- Mulch. Mulching offers a temporary way to stabilize the soil and prevent erosion. Mulching offers a fast, effective means of controlling dust.
- Sprinkling Water. Sprinkling helps control the suspension of dust particles and promotes dust to settle
- out of the air. Sprinkling water is effective for dust control on haul roads and other traffic routes. Spray-on-Adhesive. Adhesives prevent soil from blowing away. Latex emulsions, or resin in water is
- sprayed onto mineral soils to prevent their blowing away and reduce dust caused by traffic. Calcium Chloride. Calcium chloride keeps the soil surface moist and prevents erosion. Calcium chloride is applied by mechanical spreaders as loose, dry granules or flakes at a rate that keeps the
- surface moist but not so high as to cause water pollution or plant damage. <u>Barriers.</u> Barriers are fences that prevent erosion by obstructing the wind near the ground stopping the soil from blowing offsite. Broad, wind, or sediment fences can control air currents and blowing soil. Barriers are not a substitute for permanent stabilization. Perennial grass and strands of existing trees may also serve as wind barriers.

Inspection and Maintenance

- Add additional dust control or re-spray area as necessary to keep dust to a minimum.
- Spray exposed soil areas only with approved dust control agents as indicated by the SCDHEC Standard Specifications.

South Carolina DHEC

July 31, 2005

July 31, 2005

Storm Water Management BMP Handbook

Dust Control



Dust Control by Sprinkling Water



Dust Control by Sprinkling Water

Preventive Measures and Troubleshooting Guide

Field Condition	Common Solutions
Excessive dust leaves the site.	Increase frequency of dust control application. Consider using a palliative or binder on inactive areas.
Vehicles kick up dust.	Water more frequently. Limit vehicle speeds. Stabilize the roadway.
Watering for dust control causes erosion.	Reduce water pressure on the water truck. Check watering equipment to ensure that it has a positive shutoff. Water less frequently.
Sprayed areas are ineffective at limiting dust.	Re-spray areas and ensure that the application rate is proper. Try another product or method if current dust control is not effective.

South Carolina DHEC

Storm Water Management BMP Handbook

Temporary Seeding

July 31, 2005



Plan Symbol

The purpose of temporary seeding is to reduce erosion and sedimentation by stabilizing disturbed areas that would otherwise lay bare for long periods of time before they are worked or stabilized. Temporary seeding is also used where permanent vegetation growth is not necessary or appropriate.

When and Where to Use It

Temporary seeding is used on exposed soil surfaces such as denuded areas, soil stockpiles, dikes, dams, banks of sediment basins, banks of sediment traps, and temporary road banks. Temporary seeding prevents and limits costly maintenance operations on other sediment control structures. Sediment cleanout requirements for sediment basins, sediment, traps, and silt fence is reduced if the drainage area is seeded when grading and construction operation are not taking place.

Temporary stabilization is required within 14 days after construction activity is complete unless construction activity is going to resume within 21 days. Cover seeded areas with an appropriate mulch to provide protection from the weather. When the temporary vegetation does not grow quickly or thick enough to prevent erosion, re-seed as soon as possible. Keep seeded areas adequately moist. Irrigate the seeded area if normal rainfall is not adequate for the germination and growth of seedlings. Water seeded areas at controlled rates that are less than the rate at which the soil can absorb water to prevent runoff. Runoff of irrigation water wastes water and can cause erosion.

Seed selection is based on geographical location, soil type and the season of the year in which the planting is to be done. Use the tables in Appendix C as a guide for conventional tillage methods (plowing, seedbed preparation, hydroseeding, etc). If a fast growing crop to nurse the permanent specie or species is required, then use the mix rate. Failure to carefully follow agronomic recommendations results in an inadequate stand of temporary vegetation that provides little or no erosion control.

If the area has been recently plowed, no tillage is required other than raking or surface roughening to break any crust that has formed leaving a textured surface. Disk the soil for optimal germination when the soil is compacted less than 6-inches.

Soil testing is available through Clemson University Cooperative Extension Service.

South Carolina DHEC

Storm Water Management BMP Handbook

Temporary Seeding

Lime is not required for temporary seeding unless a soil test shows that the soil pH is below 5.0. It may be desirable to apply lime during the temporary seeding operation to benefit the long-term permanent seeding. Apply a minimum of 1.5 tons of Lime/acre (70 pounds per 1000 square feet) if it is to be used.

Fertilizer

Apply a minimum of 500 pounds per acre of 10-10-10 fertilizer (11.5 pounds per 1000 square feet) or equivalent during temporary seeding unless a soil test indicates a different requirement. Incorporate fertilizer and lime (if used) into the top 4-6 inches of the soil by disking or other means where conditions

Loosen the soil surface before broadcasting the seed. Apply seed evenly by the most convenient method

available for the type of seed used and the location of the temporary seeding. Typical application methods include but are not limited to cyclone seeders, rotary spreaders, drop spreaders, broadcast spreaders, hand spreaders, cultipacker seeder, and hydro-seeders. Cover applied seed by raking or dragging a chain, and then lightly firm the area with a roller or cultipacker.

Use mulch with temporary seed applications to retain soil moisture and reduce erosion during the establishment of vegetation. Typical mulch applications include straw, wood fiber, hydromulches, BFM and FGM. Use hydromulches with a minimum blend of 70% wood fibers.

The most commonly accepted mulch used in conjunction with temporary seeding is small grain straw. This straw should be dry and free from mold damage and noxious weeds. The straw may need to be anchored with netting or emulsions to prevent it from being blown or washed away. Apply the straw mulch by hand or machine at the rate 1.5-2 tons per acre (90 pounds per 1000 square feet). Frequent inspections are necessary to check that conditions for growth are good.

Seeded areas should be kept adequately moist. Irrigate the seeded area if normal rainfall is not adequate for the germination and growth of seedlings. Water seeded areas at controlled rates that are less than the rate at which the soil can absorb water to prevent runoff. Runoff of irrigation water wastes water and can cause erosion.

Re-seed areas where seeding does not grow quickly, thick enough, or adequately to prevent erosion. Base seed selection should on the requirements of local Specifications.

Inspection and Maintenance

- Inspect every 7 calendar days and within 24-hours after each rainfall event that produces ½-inches or more of precipitation.
- Cover seeded with mulch to provide protection. Frequent inspections are necessary to check that conditions for growth are good.
- Supply temporary seeding with adequate moisture. Supply water as needed, especially in abnormally hot or dry weather or on adverse sites. Control water application rates to prevent runoff.

South Carolina DHEC

Storm Water Management BMP Handbook

South Carolina DHEC Storm Water Management BMP Handbook

Plan Symbol

Permanent Seeding



Controlling runoff and preventing erosion by establishing a perennial vegetative cover with seed.

When and Where to Use It

A major consideration in the selection of the type of permanent grass to establish is the intended use of the land. Land use is separated in to two categories, high-maintenance and low-maintenance.

High-maintenance High maintenance areas are mowed frequently, lime or fertilized on a regular basis, and require maintenance to an aesthetic standard. Land uses with high maintenance grasses include homes, industrial parks, schools, churches, and recreational areas such as parks, athletic fields, and golf courses.

Low-maintenance

Low maintenance areas are mowed infrequently, if at all, and lime and fertilizer may not be applied on a regular schedule. These areas are not subject to intense use and do not require a uniform appearance. The vegetation must be able to survive with little maintenance over long periods of time. Grass and legume mixtures are favored in these areas because legumes are capable of fixing nitrogen in the soil for their own use and the use of the grasses around them. Land uses requiring low-maintenance grasses include steep slopes, stream and channel banks, road banks, and commercial and industrial areas with limited

Seed Selection

The use of native species is preferred when selecting vegetation. Base plant seed selection or geographical location, the type of soil, the season of the year in which the planting is to be done, and the needs and desires of the permanent land user. Failure to carefully follow agronomic recommendations results in an inadequate stand of permanent vegetation that provides little or no erosion control.

Apply topsoil if the surface soil of the seedbed is not adequate for plant growth.

If the area has been recently plowed, no tillage is required other than raking or surface roughening to break any crust that has formed leaving a textured surface. Disk the soil for optimal germination when the soil is compacted less than 6-inches. If the soil is compacted more than 6-inches, sub-soiled and disk the

Soil Testing

Soil testing is available through Clemson University Cooperative Extension Service.

South Carolina DHEC Storm Water Management BMP Handbook

Temporary Seeding

Permanent Seeding

Base seed selection on local Specifications.

Re-seed areas where the plants do not grow quick enough, thick enough, or adequately enough to prevent erosion should be re-seeded.





Temporary Seeding

Preventive Measures and Troubleshooting Guide

Field Condition	Common Solutions
Slope was improperly dressed before application.	Roughen slopes. Furrow along the contour of areas to be seeded.
Coverage is inadequate.	Follow recommended application rates. Count the number of seedbags to ensure the correct amount of material is being applied. Reapply to thin areas.
Seeds fail to germinate.	Apply straw mulch to keep seeds in place and to moderate soil moisture and temperature. In arid areas, temporary irrigation may be necessary.
Seeded slope fails.	Fill in rills and re-seed; fertilize, and mulch slopes.
Seeding is washed off slope.	Allow at least 24-hours for the materials to dry before a rain event. Follow manufacturer's recommendations. Reapply where necessary.
Excessive water flows across stabilized surface.	Use other BMPs to limit flow on stabilized area and to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

Unless a specific soil test indicates otherwise, apply 1½ tons of ground course textured agricultural limestone per acre (70 pounds per 1000 square feet).

Apply a minimum of 1000 pounds per acre of a complete 10-10-10 fertilizer (23 pounds per 1000 square feet) or equivalent during permanent seeding of grasses unless a soil test indicates a different requirement. Incorporate fertilizer and lime (if used) into the top 4-6 inches of the soil by disking or other means where conditions allow. Do not mix the lime and the fertilizer prior to the field application.

Loosen the surface of the soil just before broadcasting the seed. Evenly apply seed by the most convenient method available for the type of seed applied and the location of the seeding. Typical application methods include but are not limited to cyclone seeders, rotary spreaders, drop spreaders, broadcast spreaders, hand spreaders, cultipacker seeder, and hydro-seeders. Cover applied seed by raking or dragging a chain or brush mat, and then lightly firm the area with a roller or cultipacker. Do not roll seed that is applied with a hydro-seeder and hydro-mulch.

Cover all permanent seeded areas with mulch immediately upon completion of the seeding application to retain soil moisture and reduce erosion during establishment of vegetation. Apply the mulch evenly in such a manner that it provides a minimum of 75% coverage. Typical mulch applications include straw, wood fiber, hydromulches, BFM and FGM. Use hydromulches with a minimum blend of 70% wood

The most commonly accepted mulch used in conjunction with permanent seeding is small grain straw. Select straw that is dry and free from mold damage and noxious weeds. The straw may need to be anchored with netting or asphalt emulsions to prevent it from being blown or washed away. Apply straw mulch by hand or machine at the rate 2 tons per acre (90 pounds per 1000 square feet). Frequent inspections are necessary to check that conditions for growth are good.

Keep permanent seeded areas adequately moist, especially late in the specific growing season. Irrigate the seeded area if normal rainfall is not adequate for the germination and growth of seedlings. Water seeded areas at controlled rates that are less than the rate at which the soil can absorb water to prevent runoff. Runoff of irrigation water wastes water and can cause erosion.

Re-seeding

Inspect permanently seeded areas for failure, make necessary repairs and re-seed or overseed within the same growing season if possible. If the grass cover is sparse or patchy, re-evaluate the choice of grass and quantities of lime and fertilizer applied. Final stabilization by permanent seeding of the site requires that it be covered by a 70% coverage rate.

South Carolina DHEC July 31, 2005 Storm Water Management BMP Handbook

Permanent Seeding

Inspection and Maintenance

- Inspect seeded areas for failure and make necessary repairs and re-seed immediately. Conduct a follow-up survey after one year and replace failed plants where necessary.
- If vegetative cover is inadequate to prevent rill erosion, overseed and fertilize in accordance with soil
- If a stand of permanent vegetation has less than 40 percent cover, re-evaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand following seed bed preparation and seeding recommendations, omitting lime
- and fertilizer in the absence of soil test results. If the season prevents re-sowing, mulch is an effective temporary cover.
- Final stabilization of the site requires a 70 percent overall coverage rate. This does not mean that 30 percent of the site can remain bare. The coverage is defined as looking at a square yard of coverage, in which 70 percent of that square yard is covered with vegetation.





Permanent Seeding

Permanent Seeding

Preventive Measures and Troubleshooting Guide

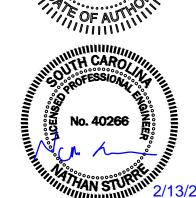
Field Condition	Common Solutions
Areas have eroded.	Re-seed or replace eroded areas.
Vegetation cover is inadequate and rill erosion is occurring.	Overseed and fertilize in accordance with soil test results.
Stand of permanent vegetation has less than 40% cover.	Re-evaluate choice of plant materials and quantities of lime and fertilizer.
Vegetation show signs of wilting before noon.	Water vegetation by wetting soil to a depth of 4-inches.

South Carolina DHEC July 31, 2005 Storm Water Management BMP Handbook

ENGINEERING Civil Design & Development



Attachment 4



ENGINEER OF RECORD

NATHAN STURRE, P.E. SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS ATLAS SURVEYING 168 BOARDWALK DRIVE, SUITE A RIDGELAND, SC 29936 SCPLS #: 28139 TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

HORIZ. DATUM: STATE PLANE: NAD83 VERT. DATUM: NAVD88

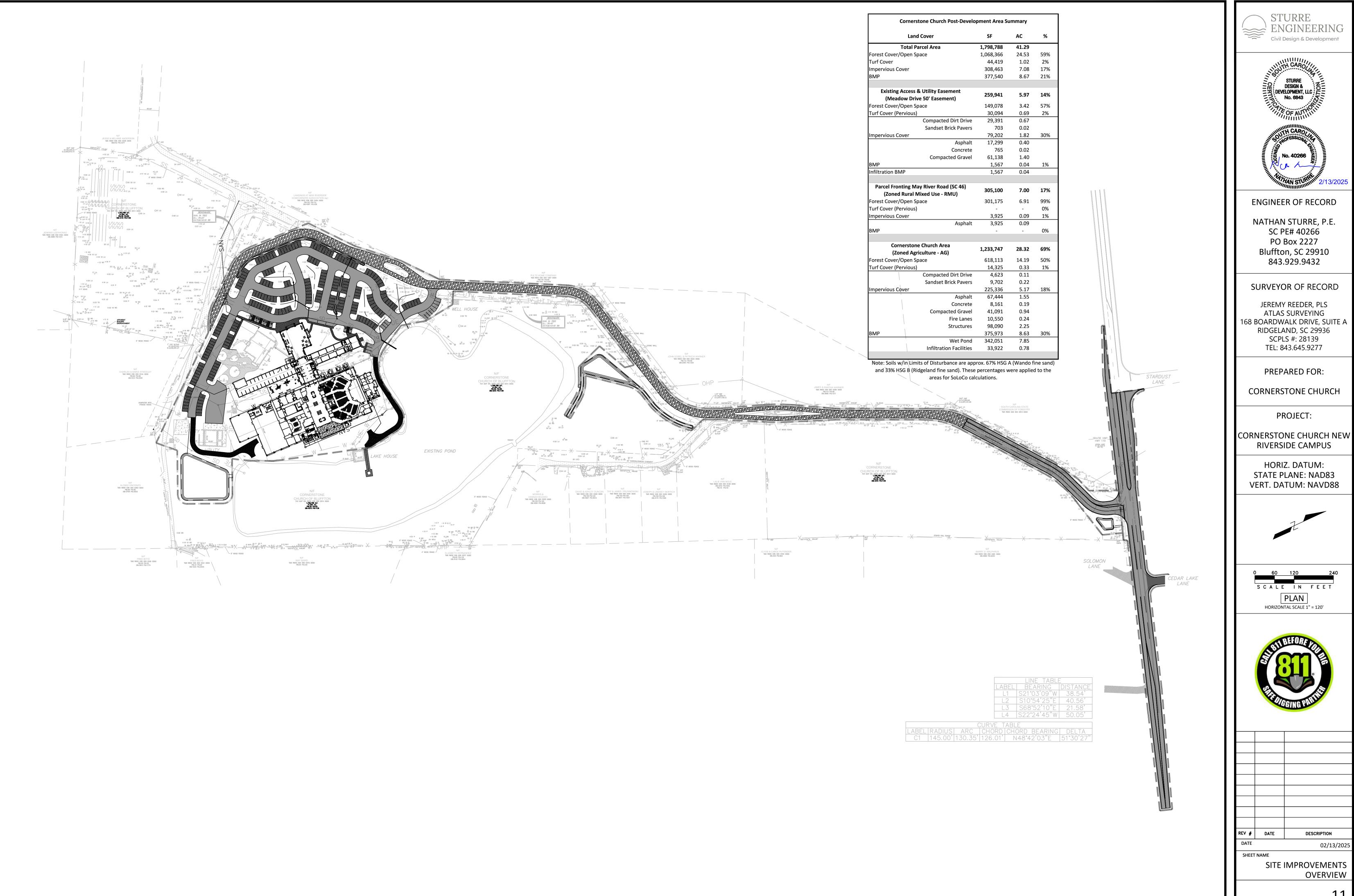


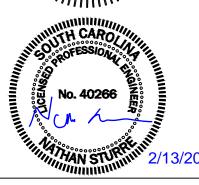
REV #	DATE	DESCRIPTION

02/13/202 SHEET NAME **SWPPP DETAILS**

SHEET NO.

DATE

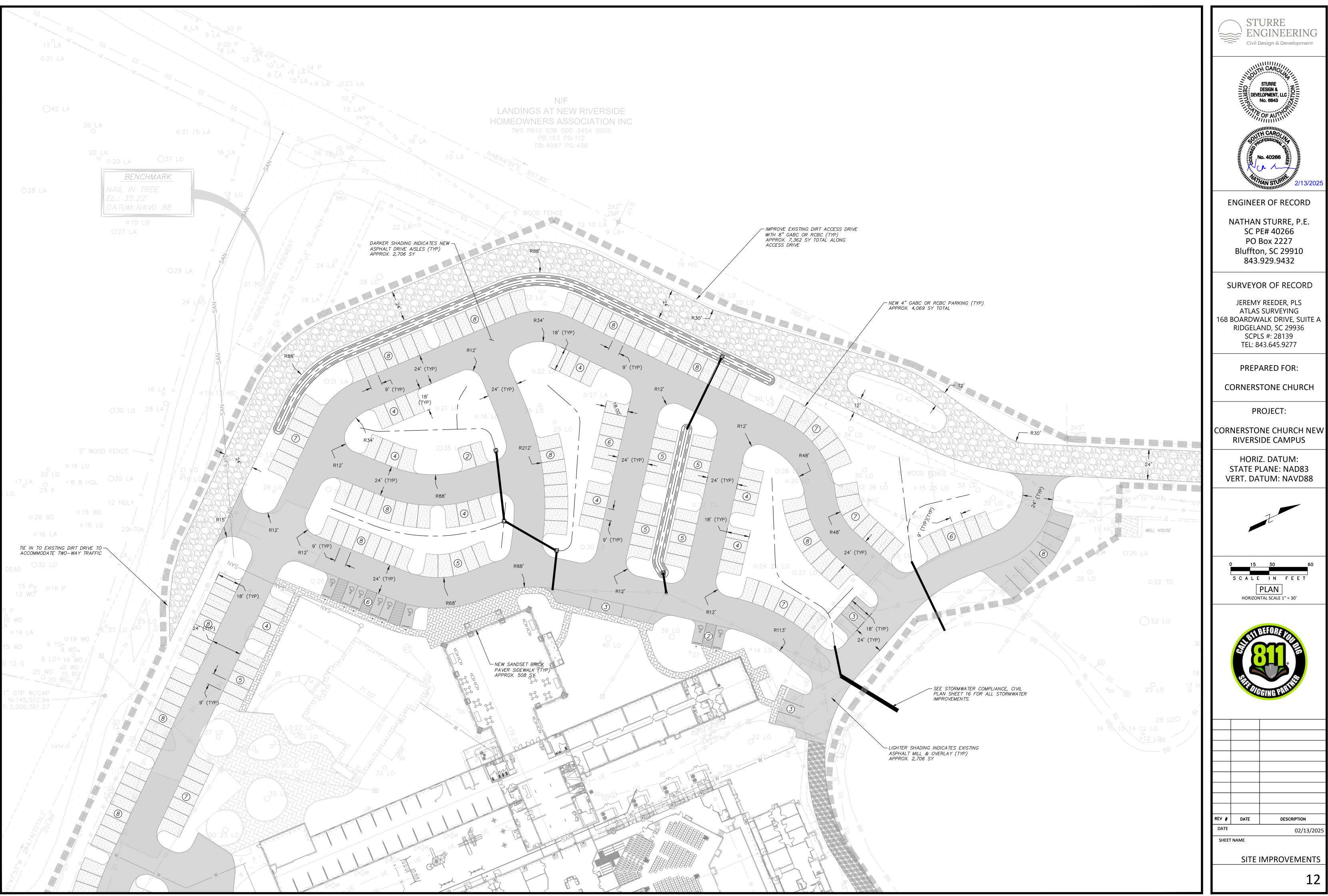




168 BOARDWALK DRIVE, SUITE A

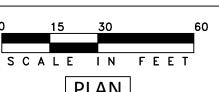


REV #	DATE	DESCRIPTION
DΔTF		02/12/202



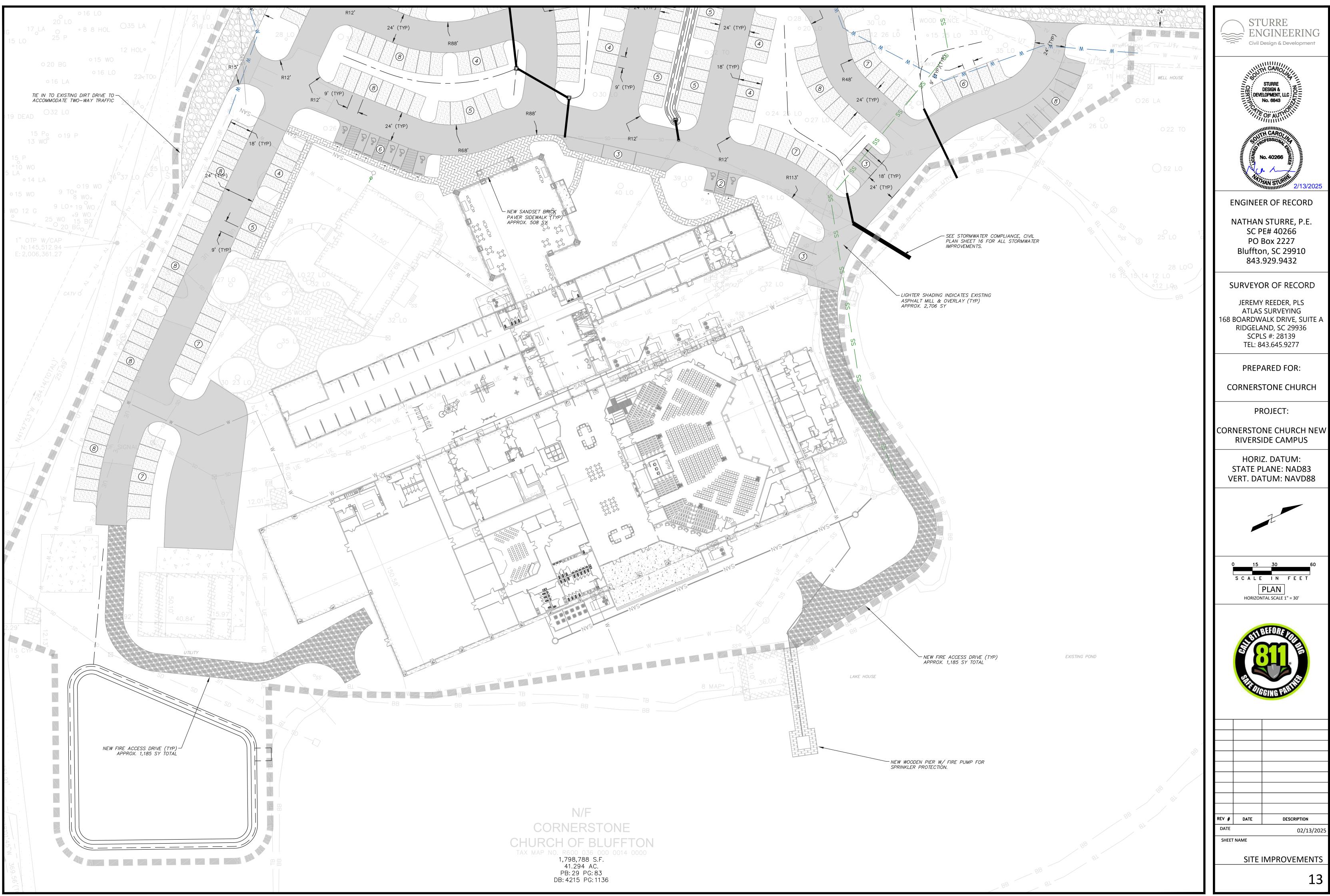
ENGINEERING
Civil Design & Development

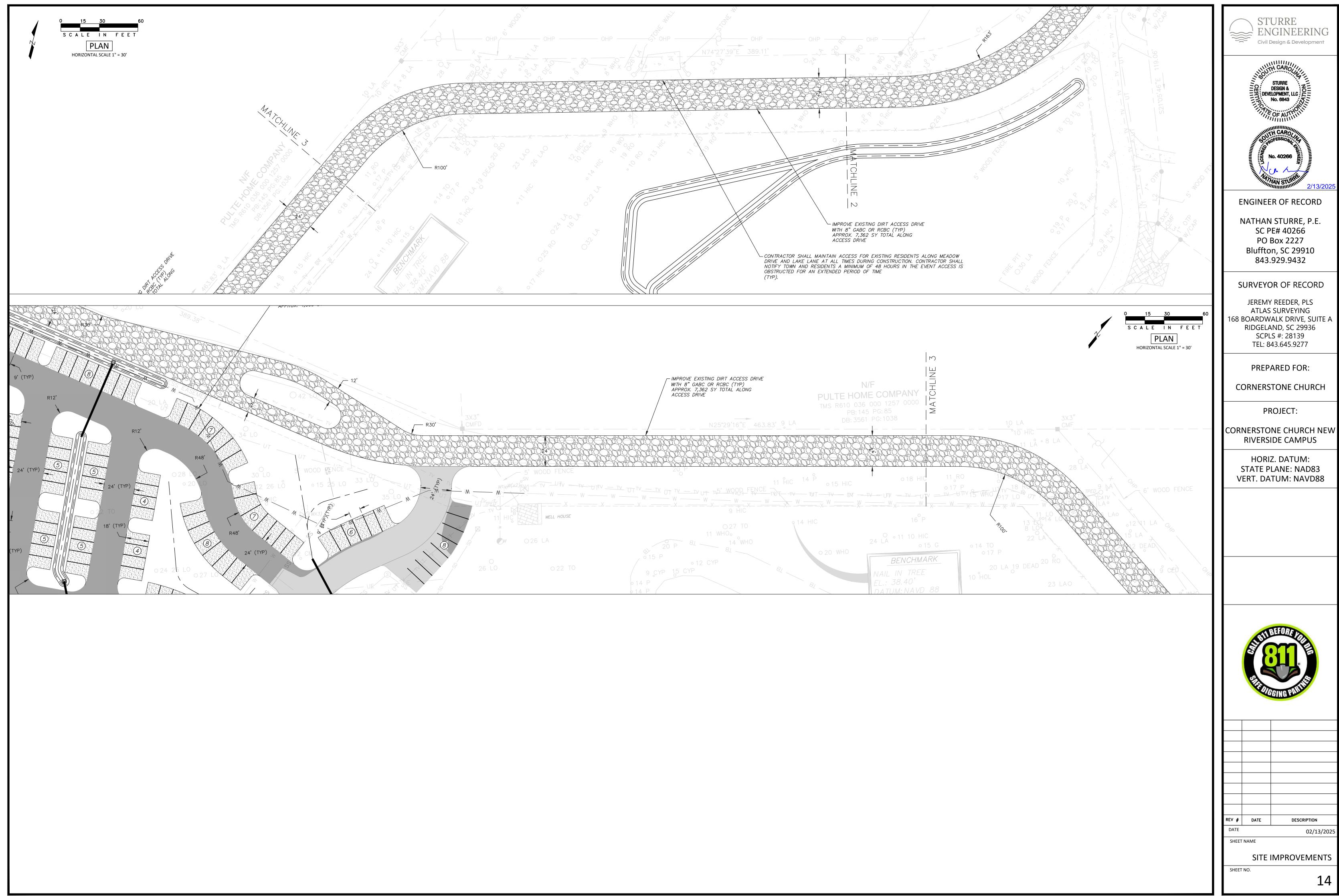


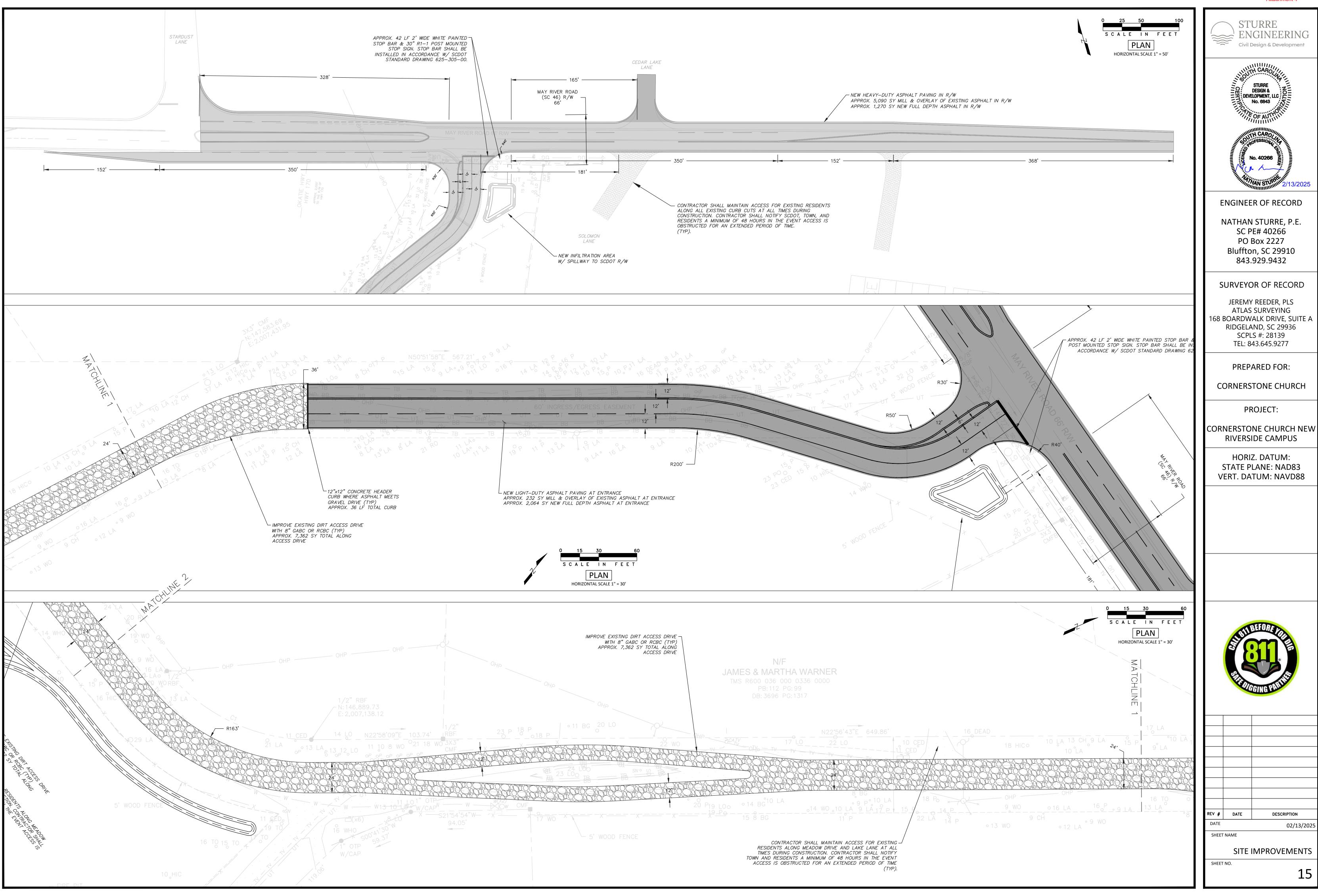


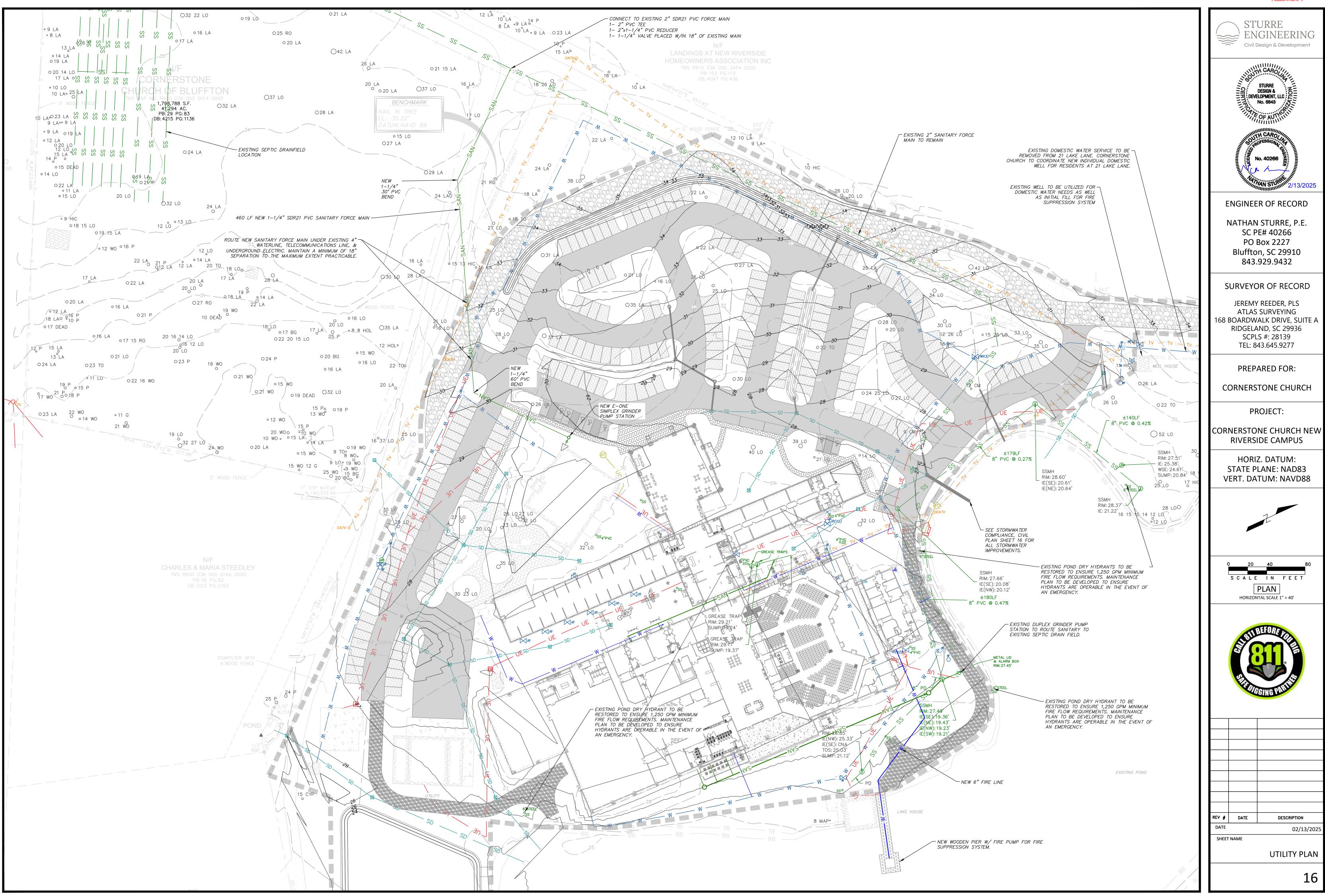


REV #	DATE	DESCRIPTION
DATE		02/13/2025











STURRE ENGINEERING
Civil Design & Development





ENGINEER OF RECORD

NATHAN STURRE, P.E. SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS ATLAS SURVEYING 168 BOARDWALK DRIVE, SUITE A RIDGELAND, SC 29936 SCPLS #: 28139 TEL: 843.645.9277

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

STATE PLANE: NAD83 VERT. DATUM: NAVD88



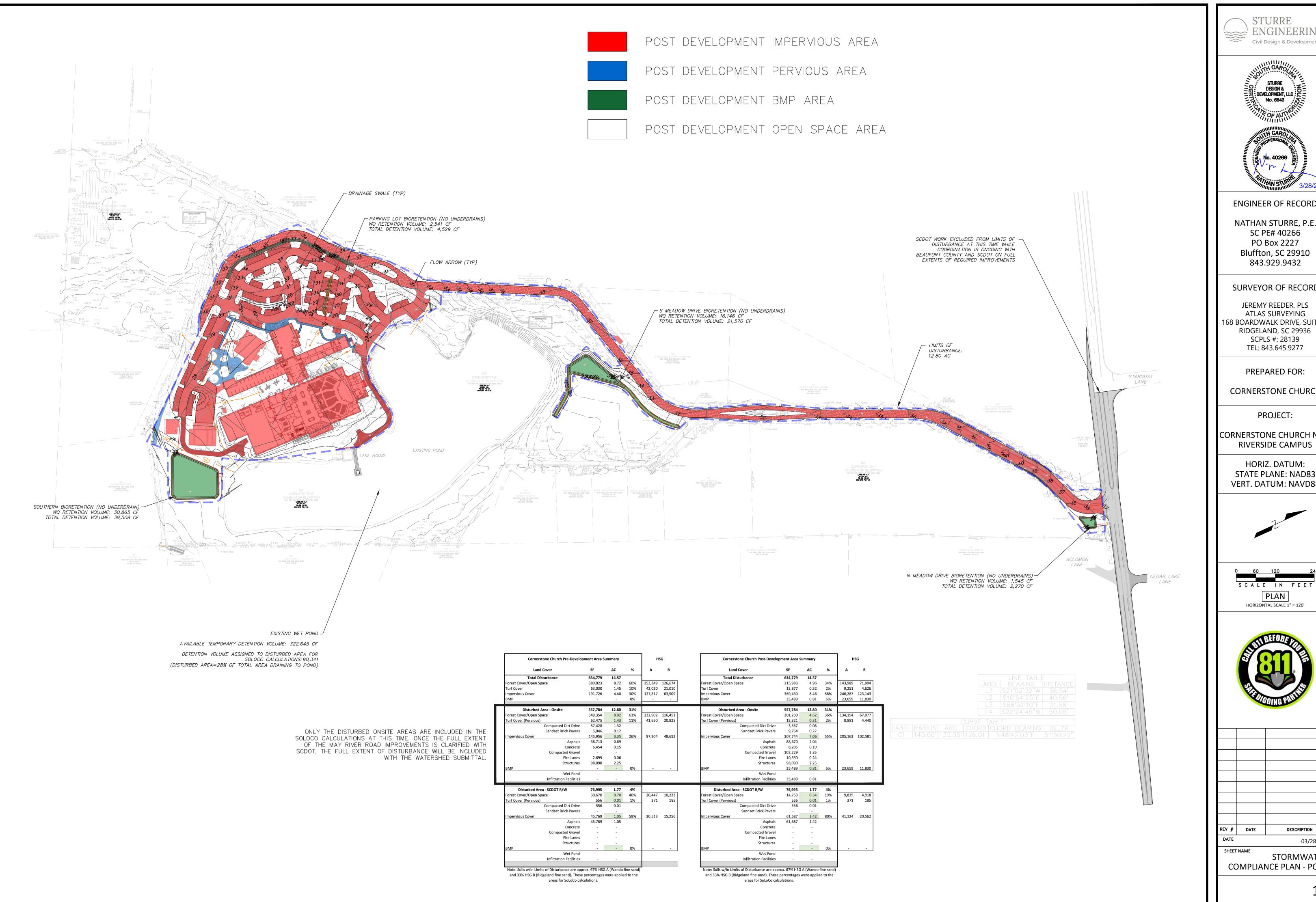
HORIZONTAL SCALE 1" = 120'



REV #	DATE	DESCRIPTION
	REV #	REV # DATE

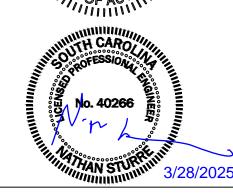
03/28/2025

STORMWATER COMPLIANCE PLAN - PRE



STURRE ENGINEERING CIVIL DES Civil Design & Development





ENGINEER OF RECORD

SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

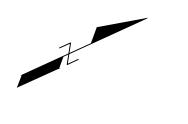
JEREMY REEDER, PLS ATLAS SURVEYING 168 BOARDWALK DRIVE, SUITE A RIDGELAND, SC 29936 SCPLS #: 28139 TEL: 843.645.9277

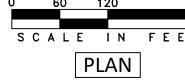
PREPARED FOR:

CORNERSTONE CHURCH

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

STATE PLANE: NAD83 VERT. DATUM: NAVD88





HORIZONTAL SCALE 1" = 120'



R	EV#	DATE	DESCRIPTION
	DATE		03/28/2025

STORMWATER COMPLIANCE PLAN - POST

ENGINEERING

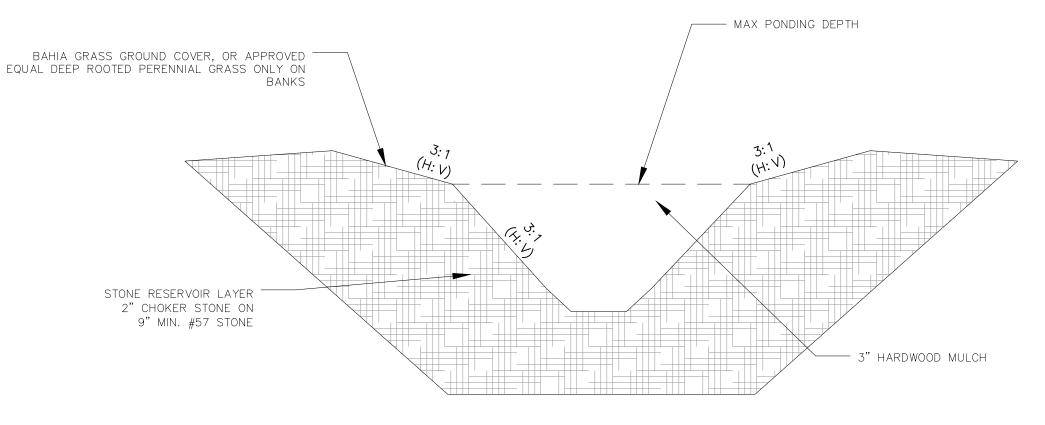
Civil Design & Development

DESIGN & DEVELOPMENT, LLC

No. 6843

ENGINEER OF RECORD

STURRE



INFILTRATION BASIN

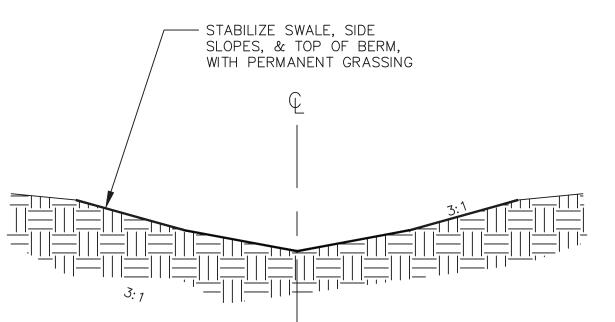
N.T.S.

NOTE: 1. DETAIL MODIFIED FROM SOUTHERN LOWCOUNTRY STORMWATER DESIGN

- 2. FILTER MEDIA NOT SPECIFIED AS USDA SOILS REPORT INDICATES SANDY SOILS WITH ADEQUATE INFILTRATION RATES. SOIL AMENDMENTS MAY BE REQUIRED BASED ON IN-SITU SOIL CONDITIONS AS IDENTIFIED ON THE SITE
- PLAN. CONTRACTOR SHALL CONTACT ENGINEER FOR ADDITIONAL DETAIL. 3. CONTRACTOR SHALL COORDINATE WITH ENGINEER IF GROUNDWATER IS
- INTERCEPTED DURING CONSTRUCTION IN FACILITY. 4. STABILIZE BANKS, PRETREATMENT AND/OR OUTFALL AREAS WITH VEGETATIVE
- OR SYNTHETIC MATTING WHERE NECESSARY 5. USE 4-INCH RIGID SCHEDULE 40 PVC PIPE WITH THREE OR FOUR ROWS OF
- 3/8-INCH PERFORATIONS AT 6 INCHES ON CENTER. 6. THERE SHOULD BE NO PERFORATION WITHIN 1 FOOT OF THE SURFACE

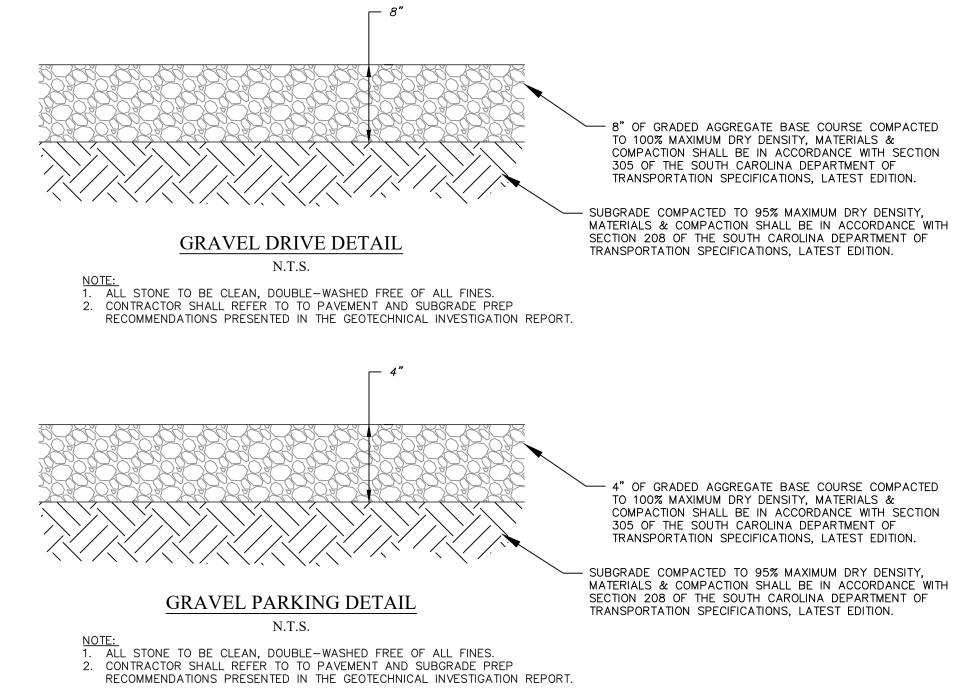
FOR MAINTENANCE REQUIREMENTS ON PROPOSED INFILTRATION AREAS, PLEASE REFERENCE THE APPLICABLE SECTIONS IN THE SCDHEC BMP HANDBOOK, AVAILABLE AT THE WEBSITE BELOW.

HTTPS: //SCDHEC.GOV/BOW/STORMWATER/BEST-MANAGEMENT-PRACTICES-BMPS/BMP-HANDBOOK



SHALLOW SWALE DETAIL

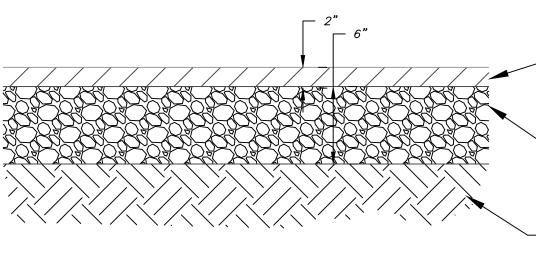
MINIMUM LONGITUDINAL SLOPE 1.0%. 2. STABILIZE SWALE WITH VEGETATIVE OR SYNTHETIC MATTING WHERE NECESSARY TO PREVENT THE FORMATION OF RILLS AND GULLIES. IF EROSION PERSISTS INSTALL 18" DEEP CLASS A1 RIP RAP ALONG SPILLWAY BOTTOM WITH FILTER FABRIC.



SCPLS #: 28139 TEL: 843.645.9277

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

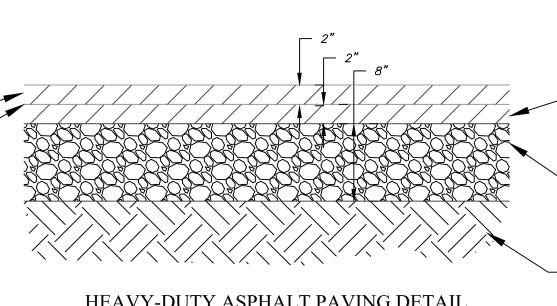
> HORIZ. DATUM: STATE PLANE: NAD83 VERT. DATUM: NAVD88



LIGHT-DUTY ASPHALT PAVING DETAIL

RECOMMENDATIONS PRESENTED IN THE WHITAKER LABORATORY, INC. GEOTECHNICAL INVESTIGATION REPORT.

FINAL ROLLER PASS.



HEAVY-DUTY ASPHALT PAVING DETAIL

GEOTECHNICAL INVESTIGATION REPORT.

2" OF 220#/SY OF HOT MIX ASPHALT SURFACE COURSE TYPE B, IN ACCORDANCE WITH SECTION 403 OF THE SOUTH CAROLINA DEPARTMENT OF

TACK COAT -

TRANSPORTATION SPECIFICATIONS, LATEST EDITION.

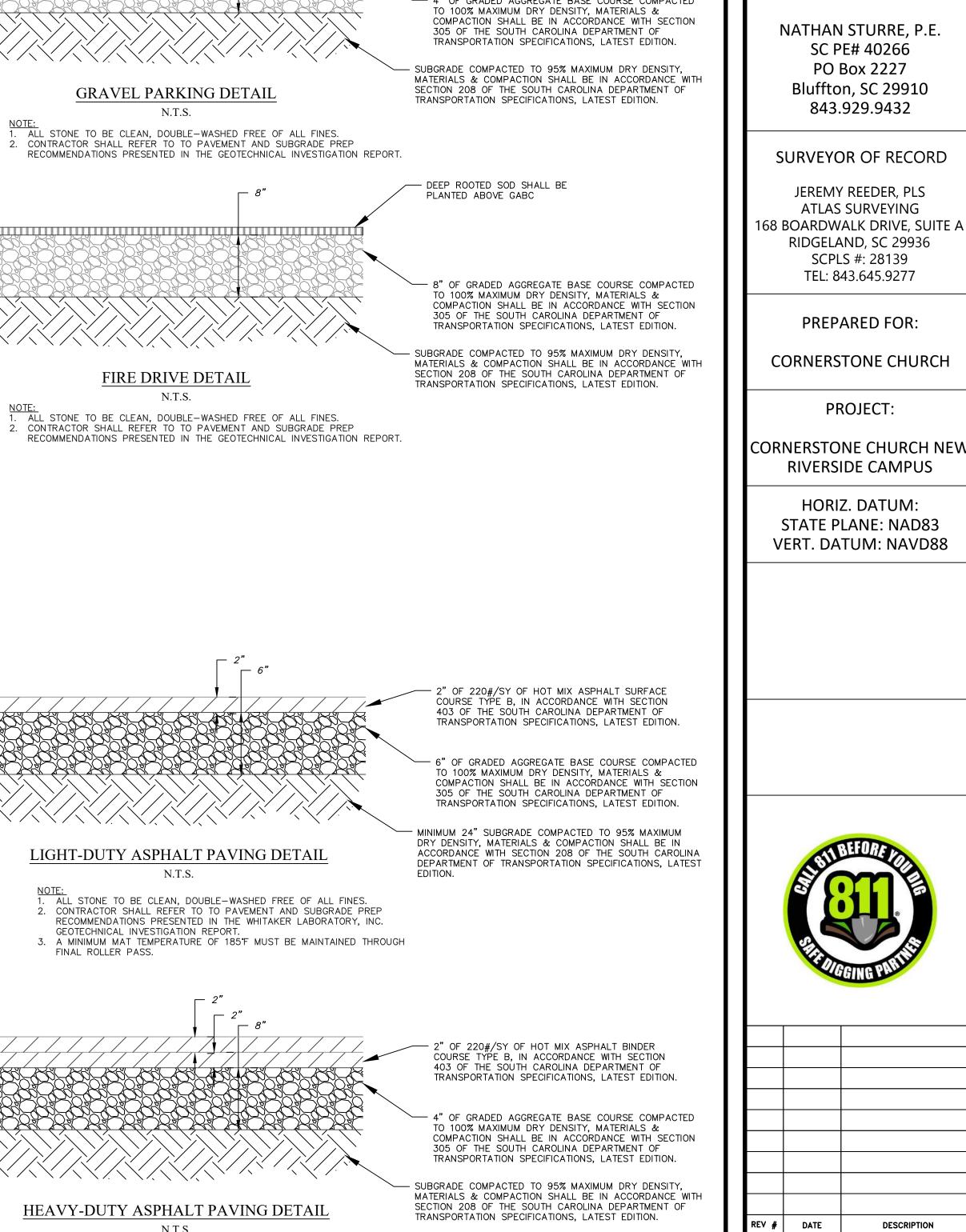
- 1. ALL STONE TO BE CLEAN, DOUBLE—WASHED FREE OF ALL FINES.
 2. CONTRACTOR SHALL REFER TO TO PAVEMENT AND SUBGRADE PREP RECOMMENDATIONS PRESENTED IN THE WHITAKER LABORATORY, INC.
- 3. A MINIMUM MAT TEMPERATURE OF 185°F MUST BE MAINTAINED THROUGH FINAL ROLLER PASS.

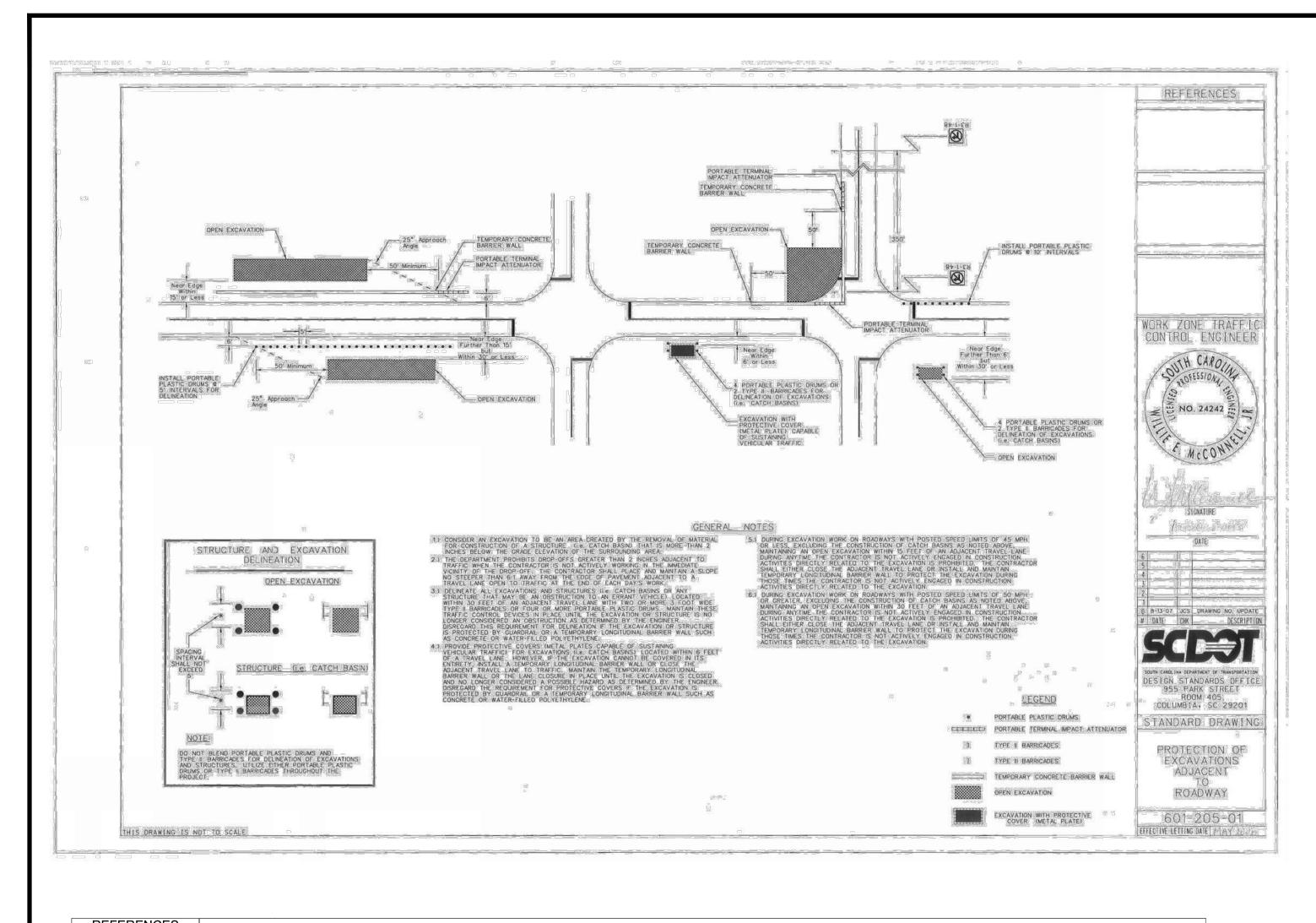
DATE

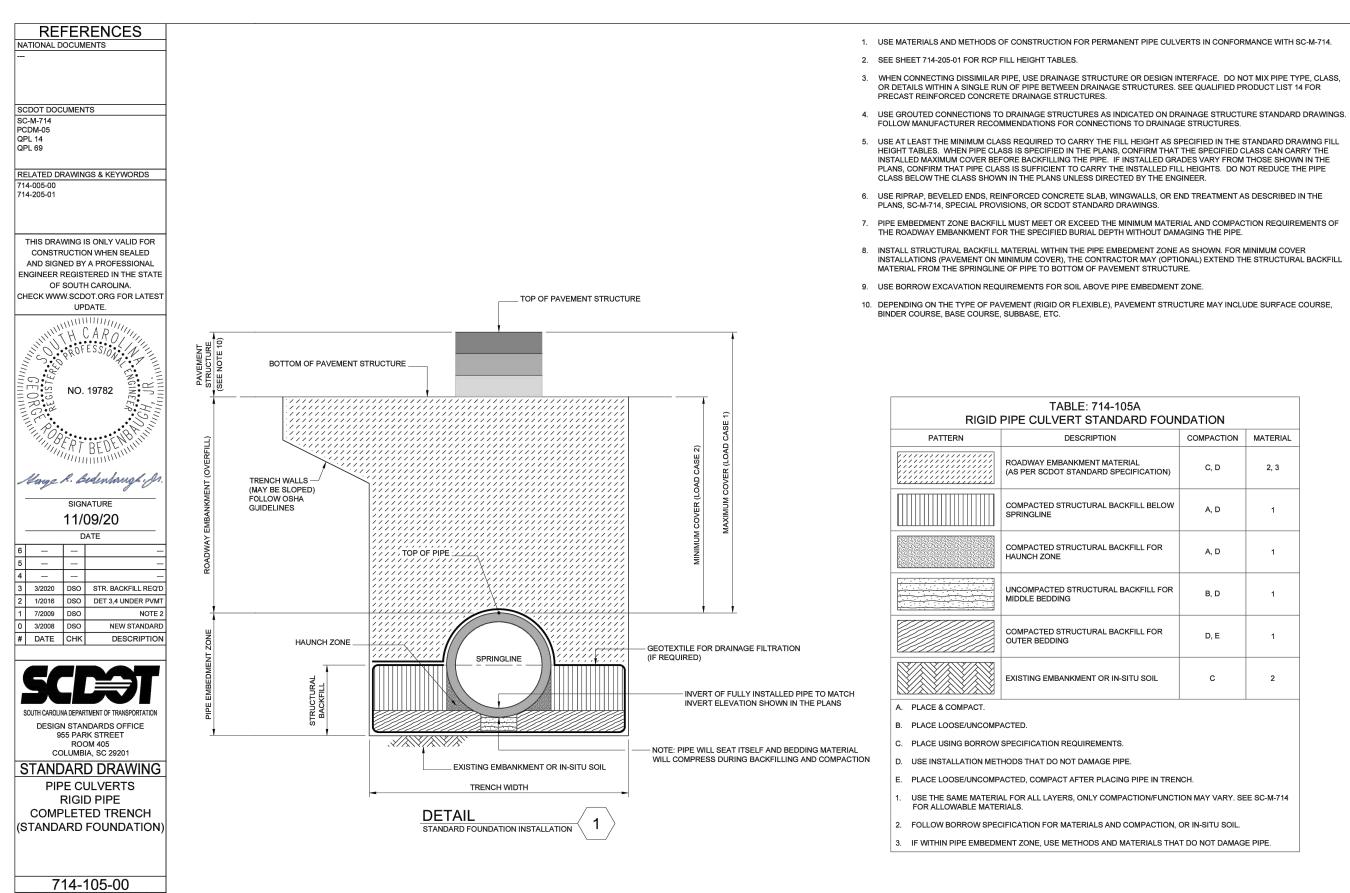
CIVIL DETAILS

DESCRIPTION

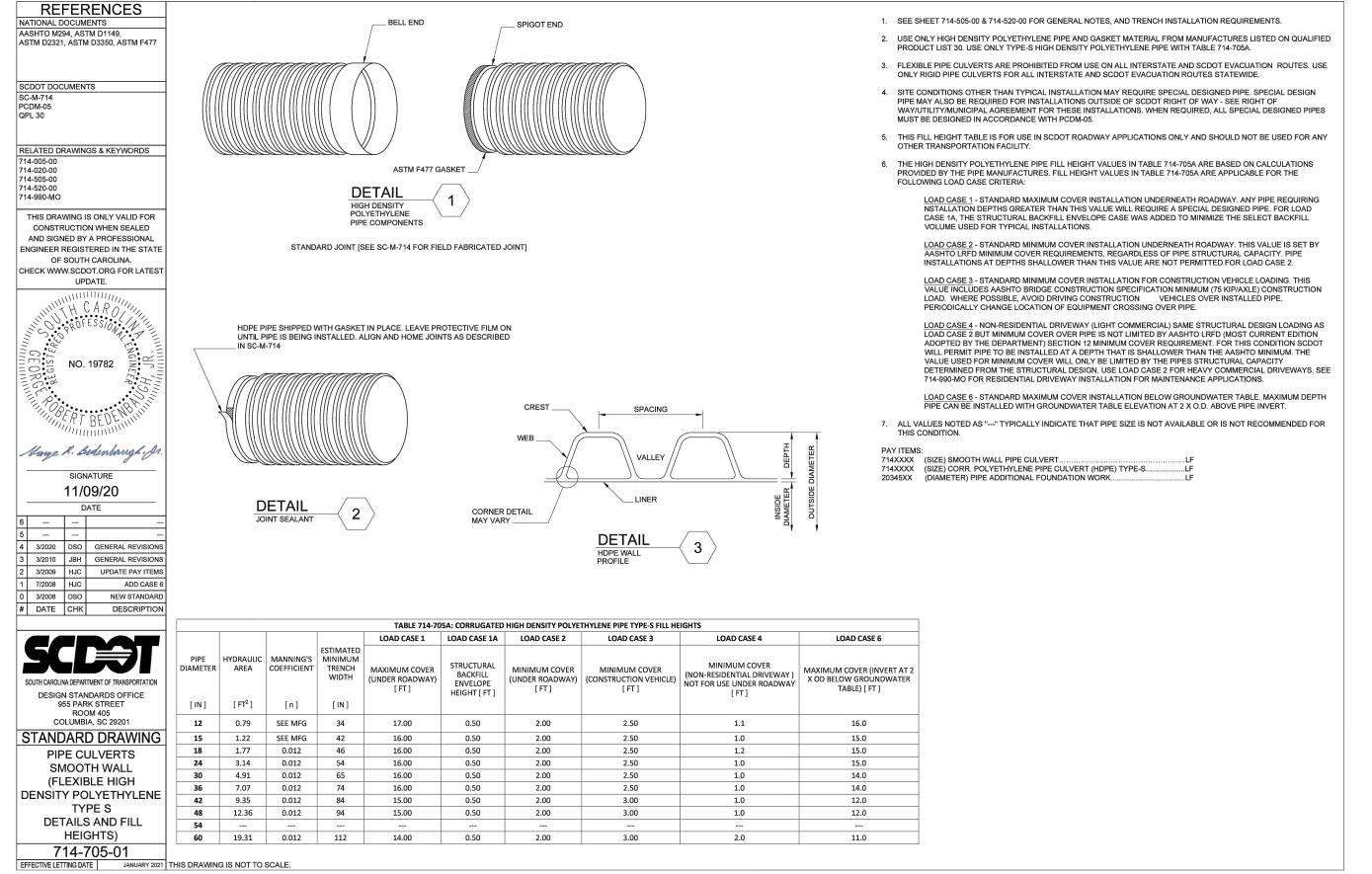
03/28/202

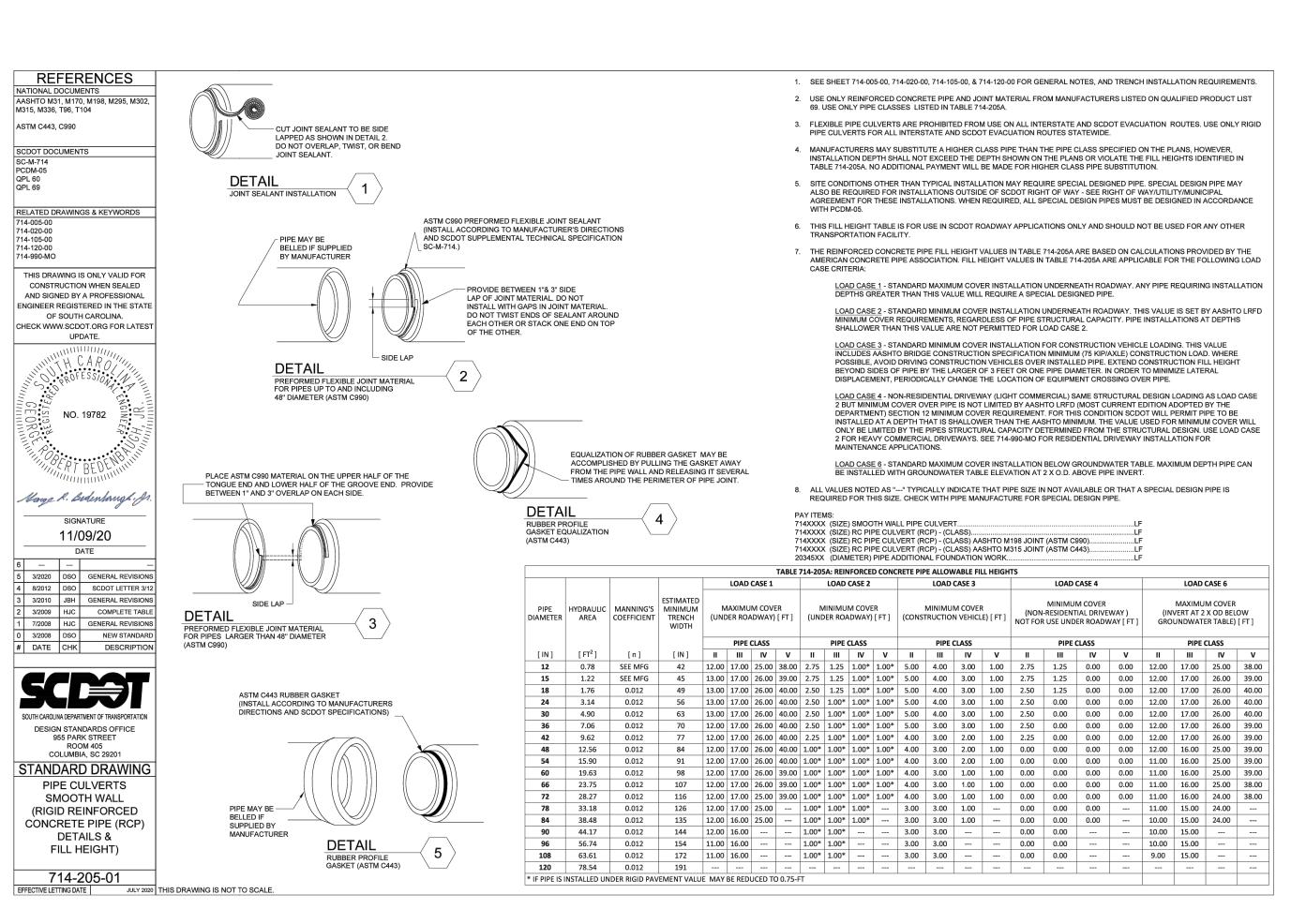






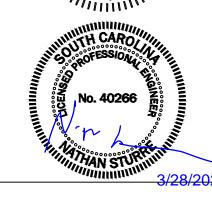
EFFECTIVE LETTING DATE JANUARY 2021 THIS DRAWING IS NOT TO SCALE.











ENGINEER OF RECORD

NATHAN STURRE, P.E SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS
ATLAS SURVEYING
168 BOARDWALK DRIVE, SUITE A
RIDGELAND, SC 29936
SCPLS #: 28139
TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

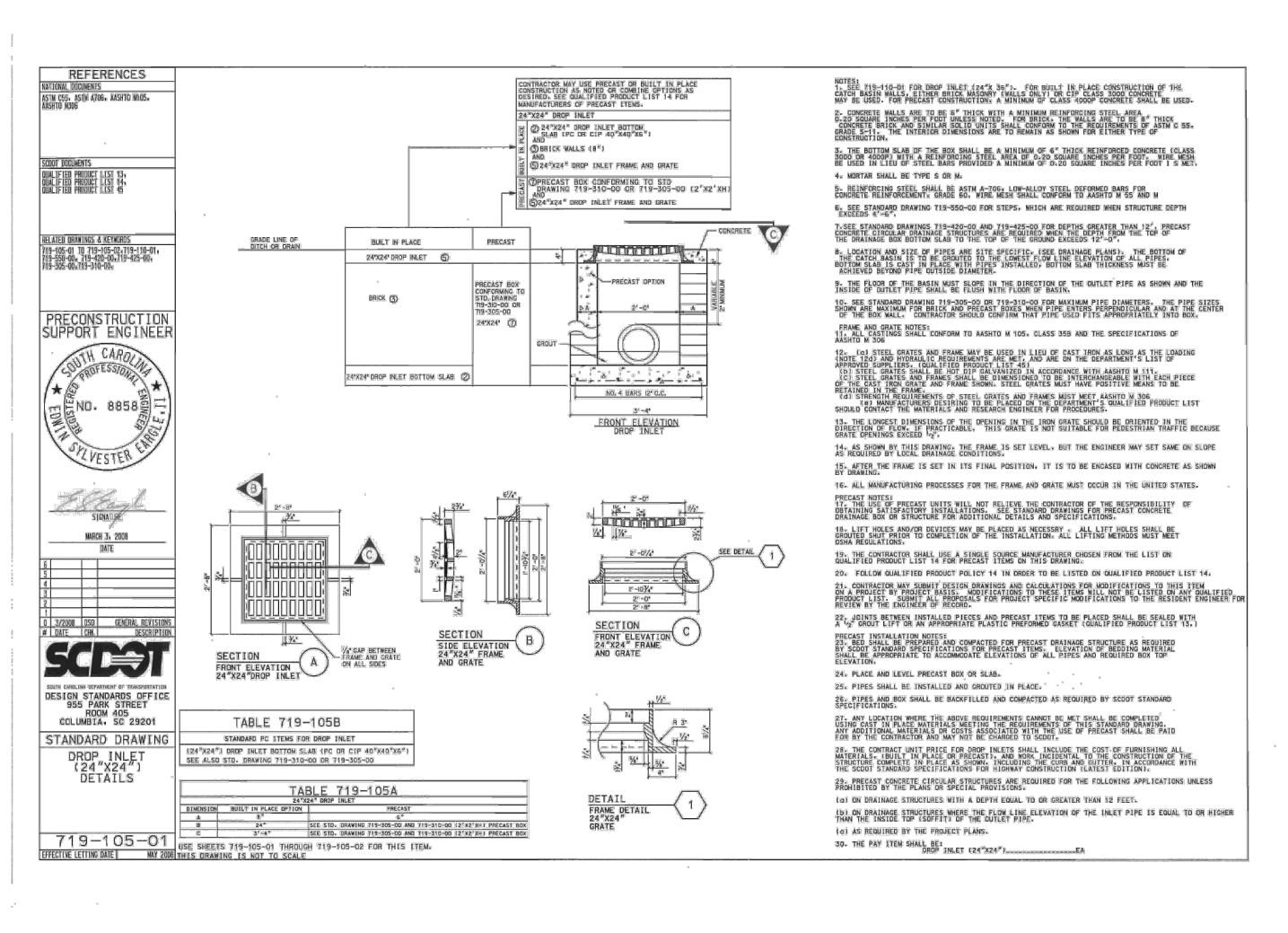
CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

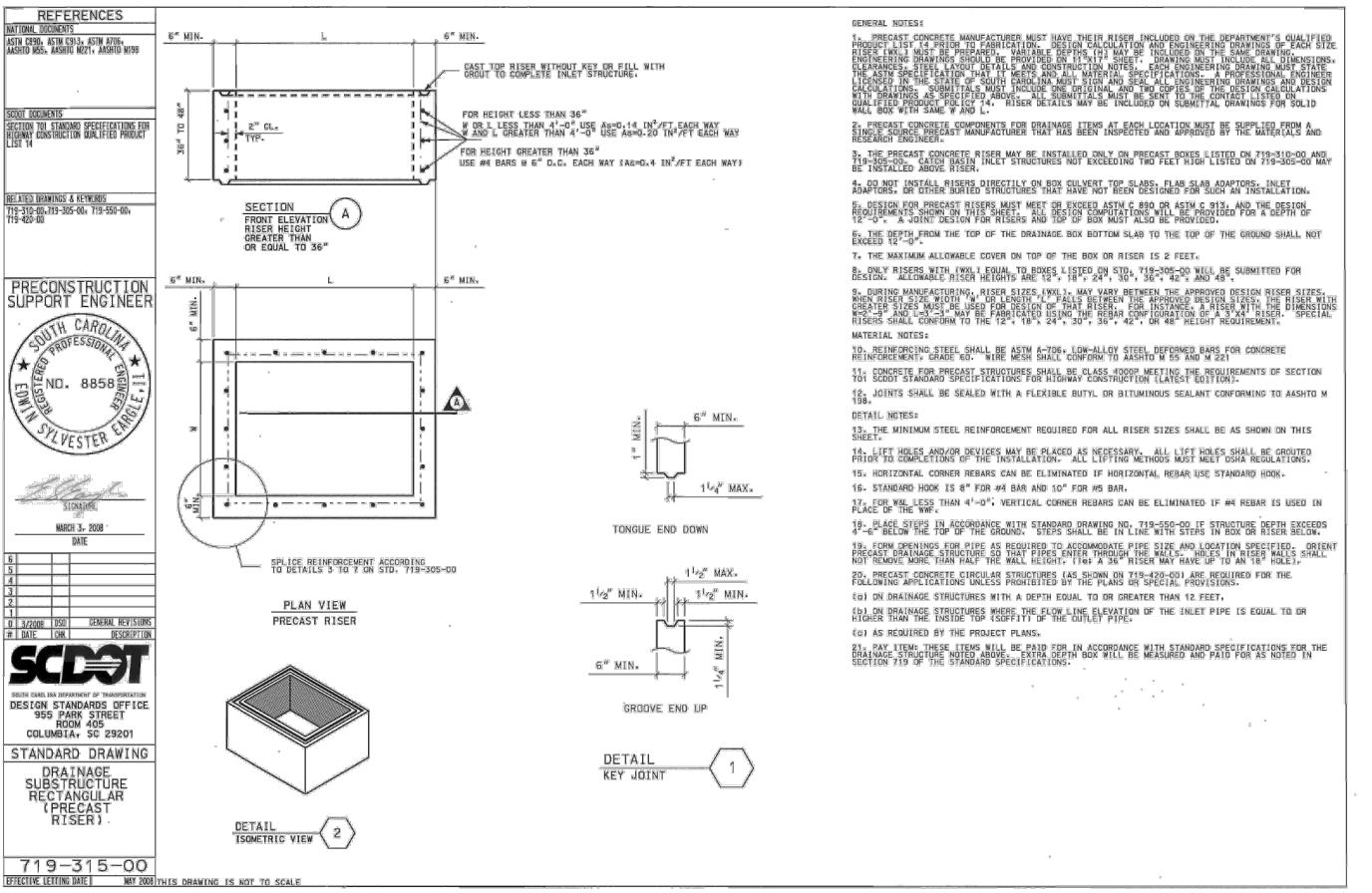
HORIZ. DATUM: STATE PLANE: NAD83 VERT. DATUM: NAVD88

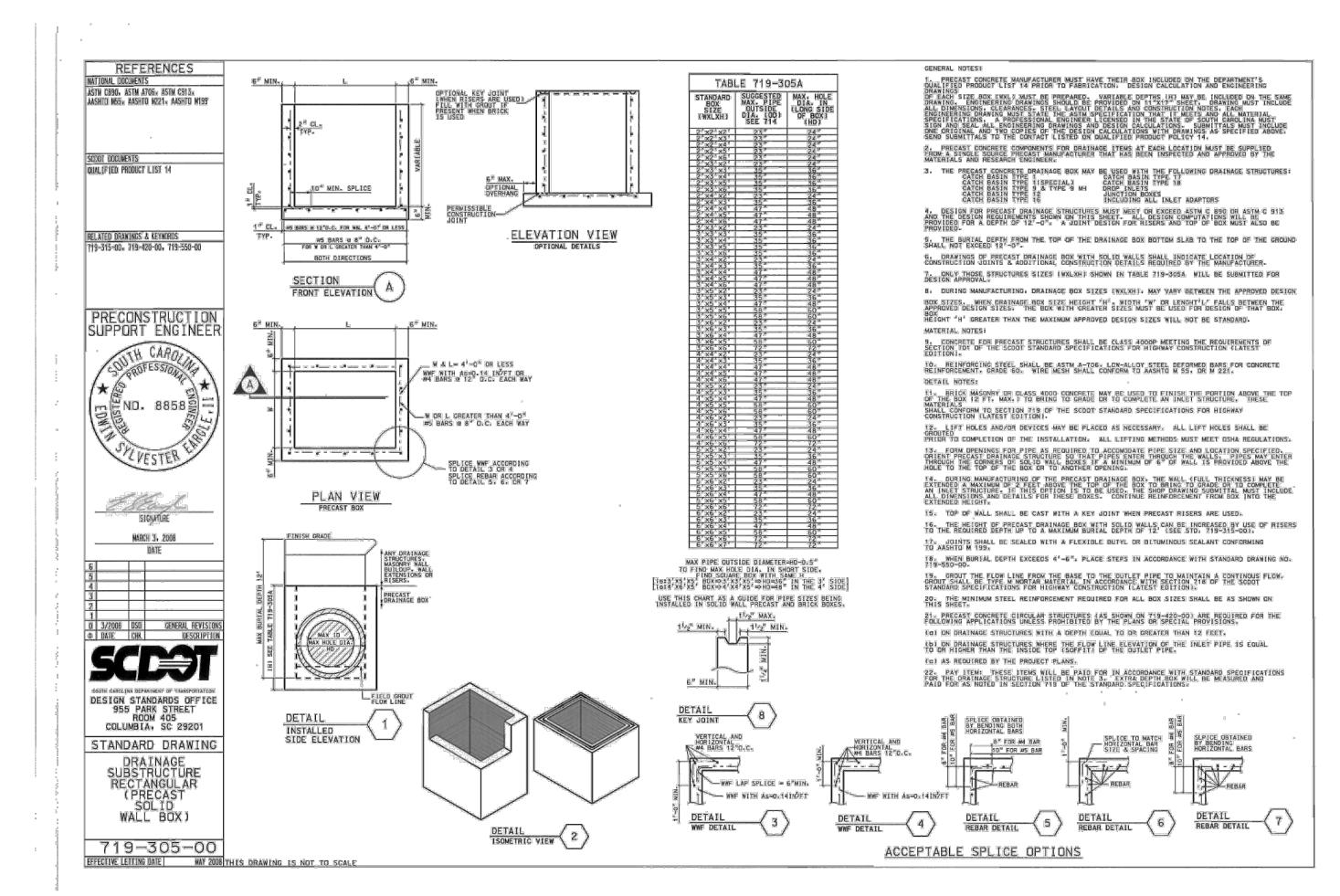


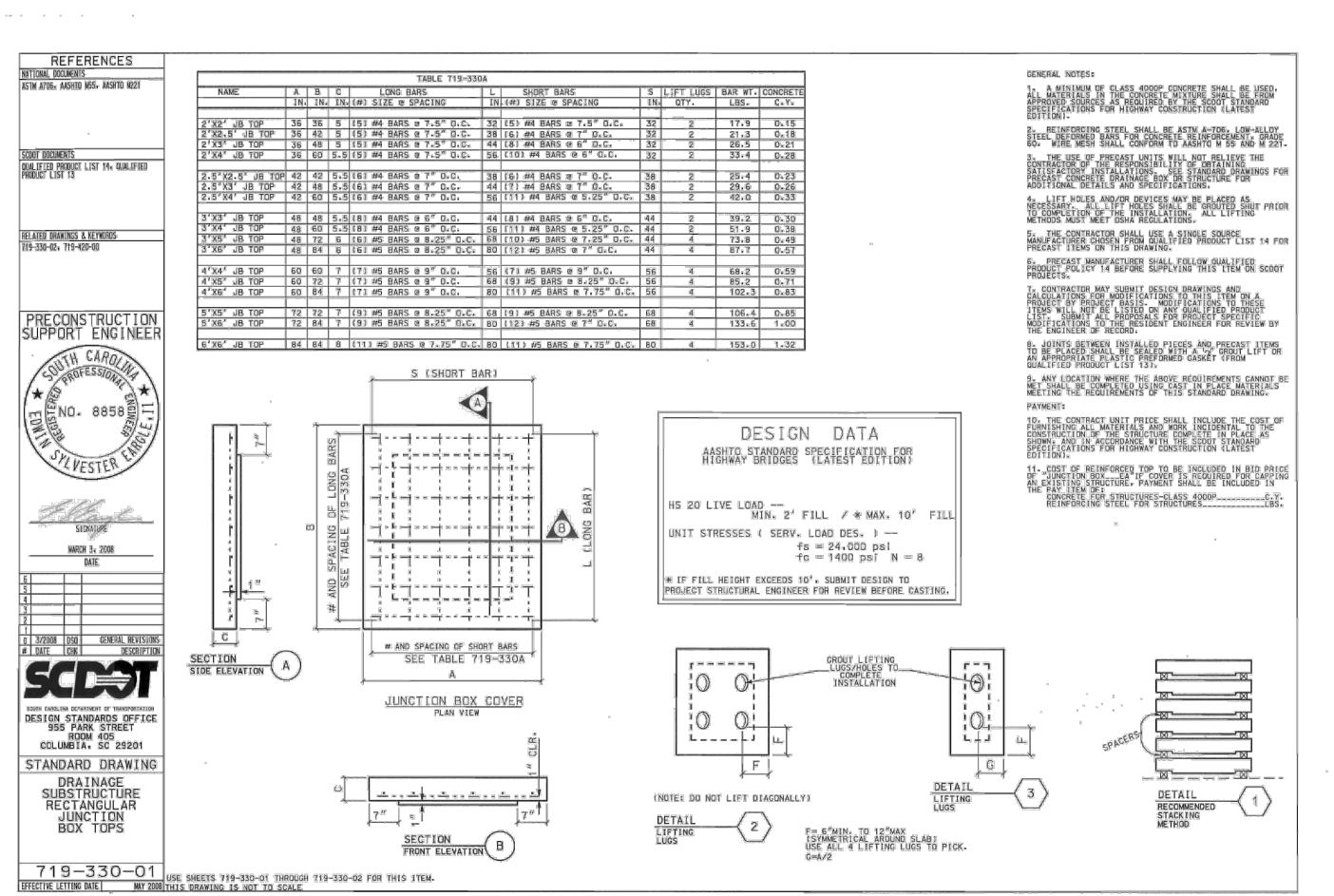
REV #	DATE	DESCRIPTION
DATE		03/28/2025

CIVIL DETAILS















ENGINEER OF RECORD

NATHAN STURRE, P.E SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS
ATLAS SURVEYING
168 BOARDWALK DRIVE, SUITE A
RIDGELAND, SC 29936
SCPLS #: 28139
TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

HORIZ. DATUM: STATE PLANE: NAD83 VERT. DATUM: NAVD88



REV #	DATE	DESCRIPTION
DATE		03/28/2025

CIVIL DETAILS

VIE DE ITALES

Civil Design & Development

STURRE Design &

No. 6843

ENGINEER OF RECORD

NATHAN STURRE, P.E. SC PE# 40266

PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS ATLAS SURVEYING 168 BOARDWALK DRIVE, SUITE A

RIDGELAND, SC 29936 SCPLS #: 28139

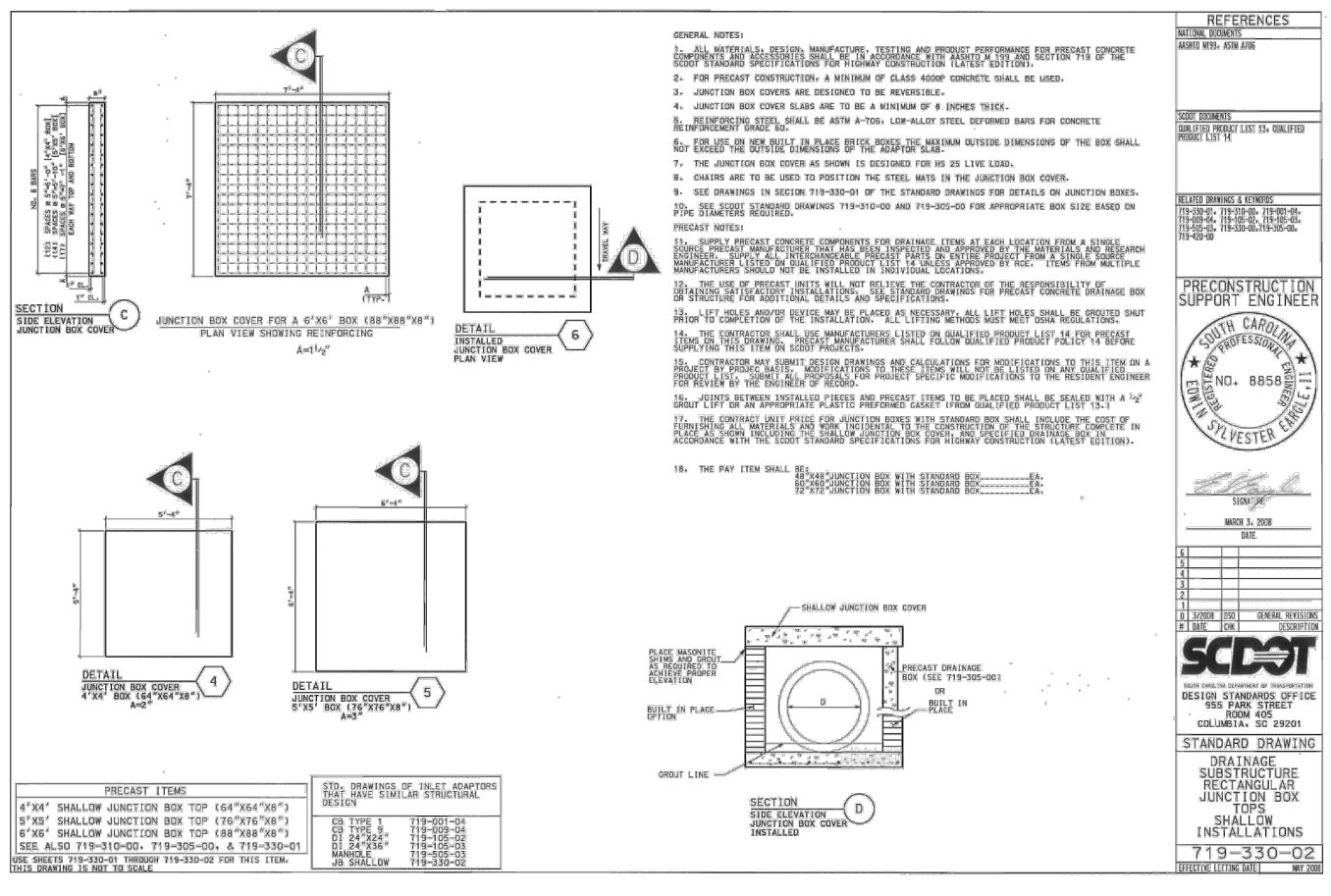
TEL: 843.645.9277

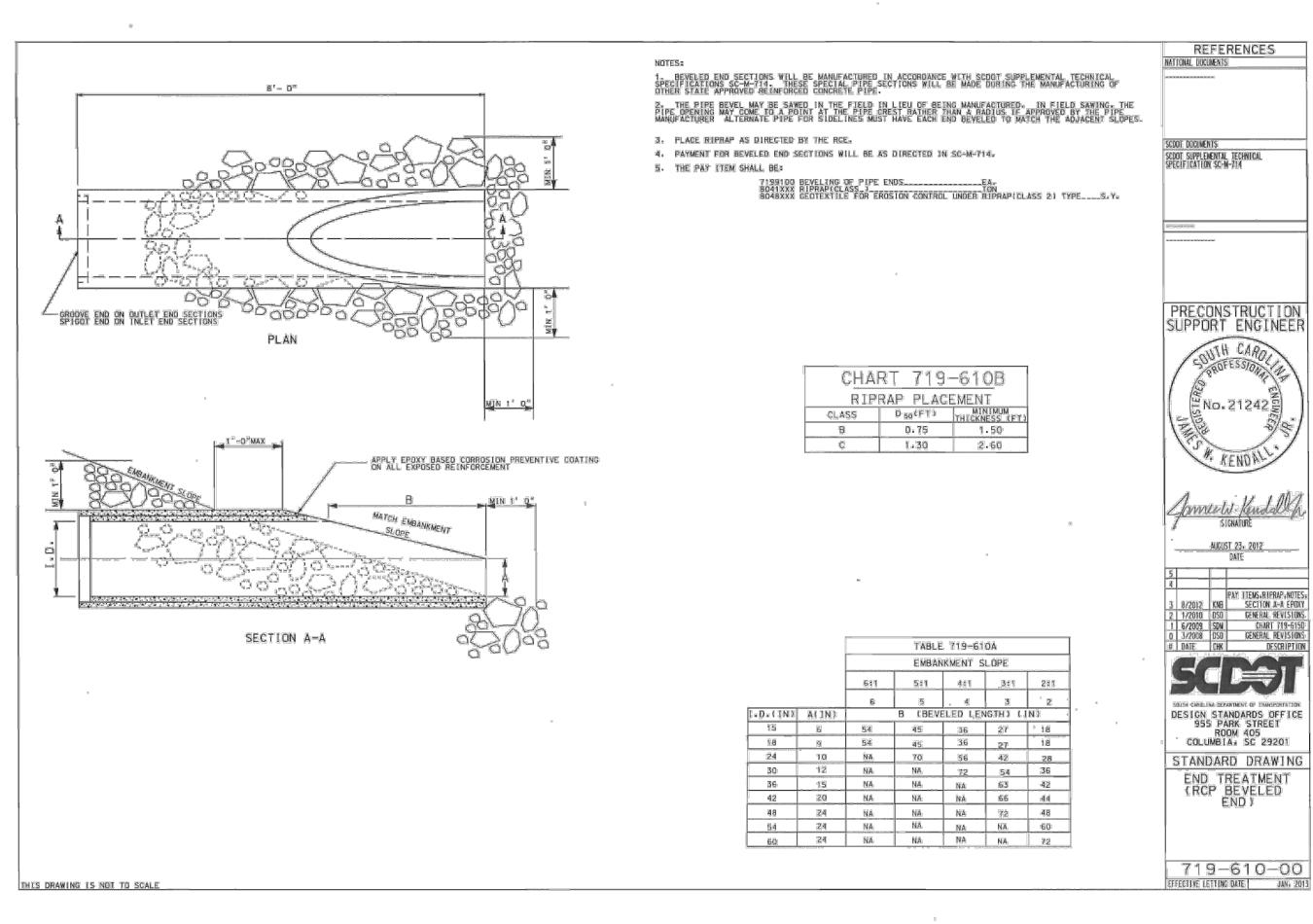
PREPARED FOR:

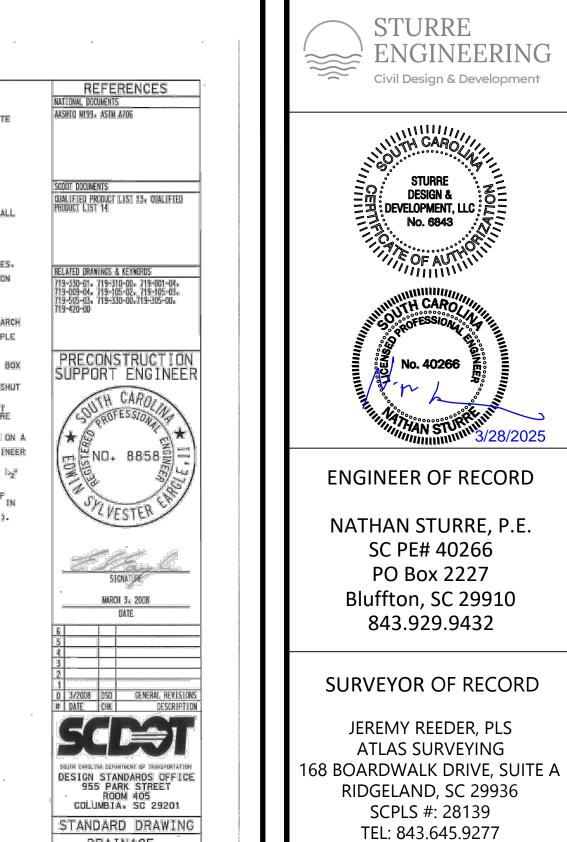
CORNERSTONE CHURCH

PROJECT:

DEVELOPMENT, LLC







CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS HORIZ. DATUM:

STATE PLANE: NAD83 VERT. DATUM: NAVD88

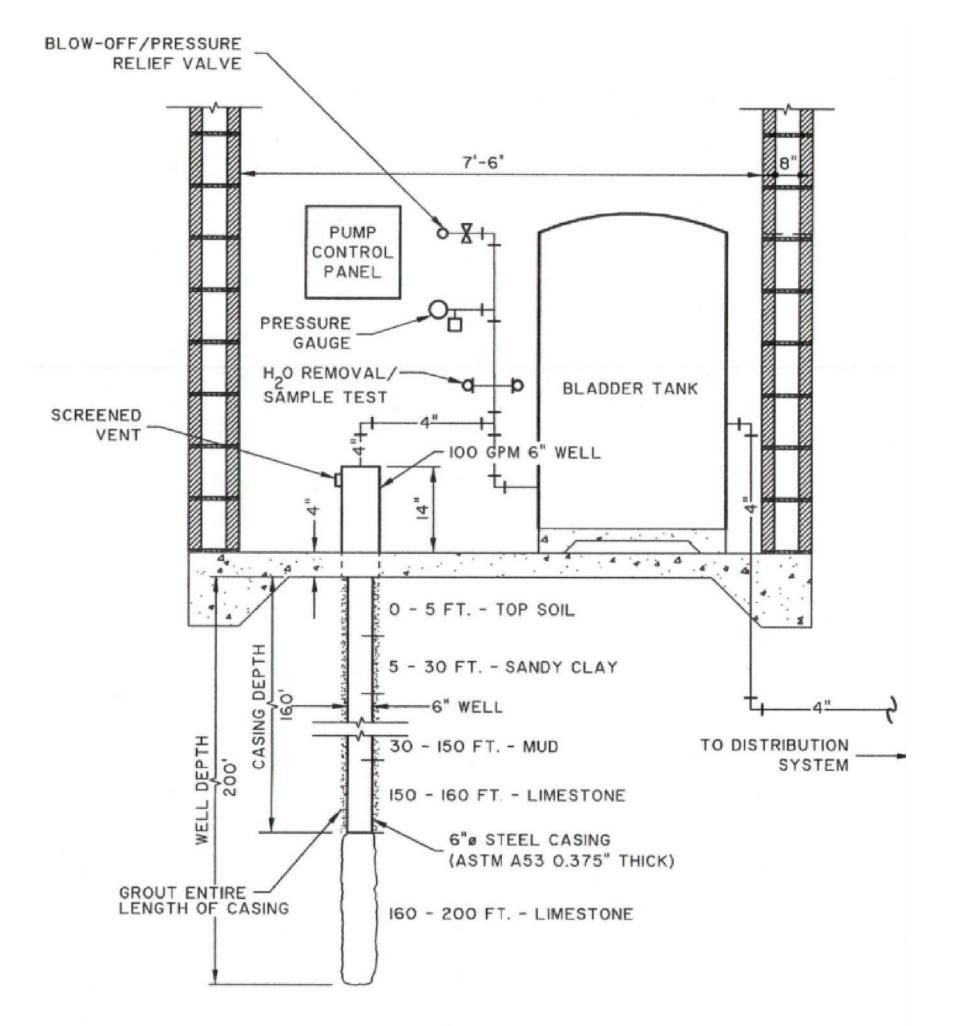


REV #	DATE	DESCRIPTION

DATE SHEET NAME

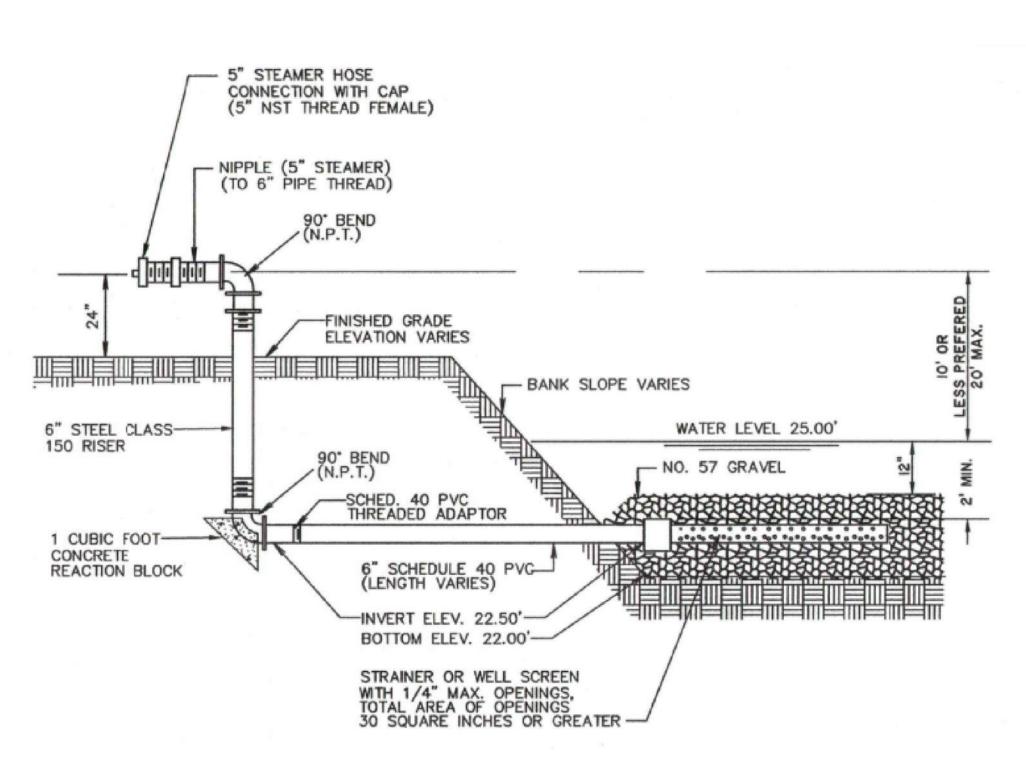
CIVIL DETAILS

03/28/202



EXISTING WELL & PUMP HOUSE SECTION

NOT TO SCALE



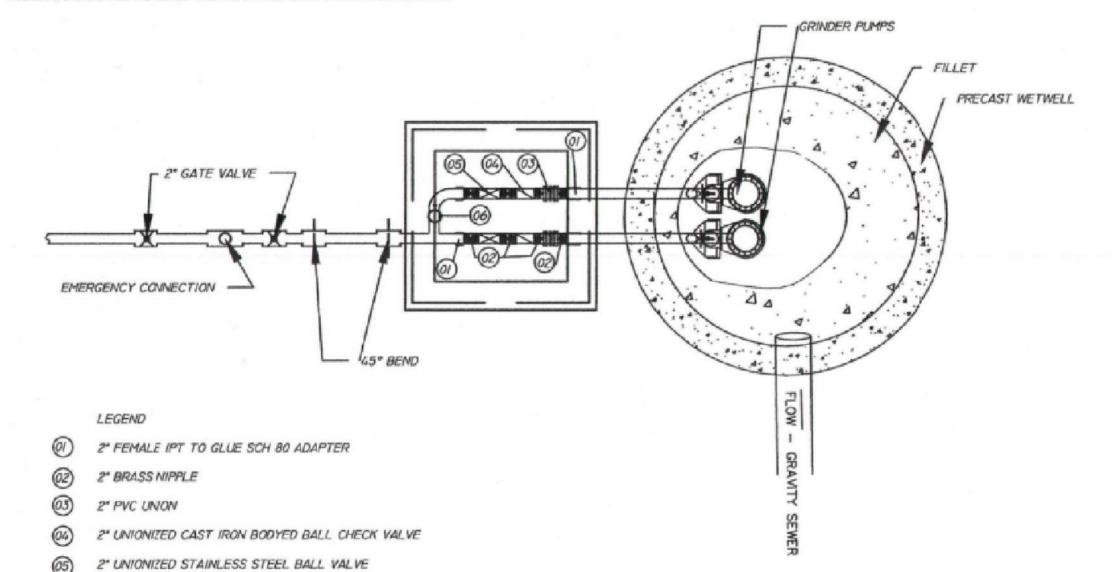
DRY HYDRANT DETAIL (BLUFFTON FIRE DISTRICT)

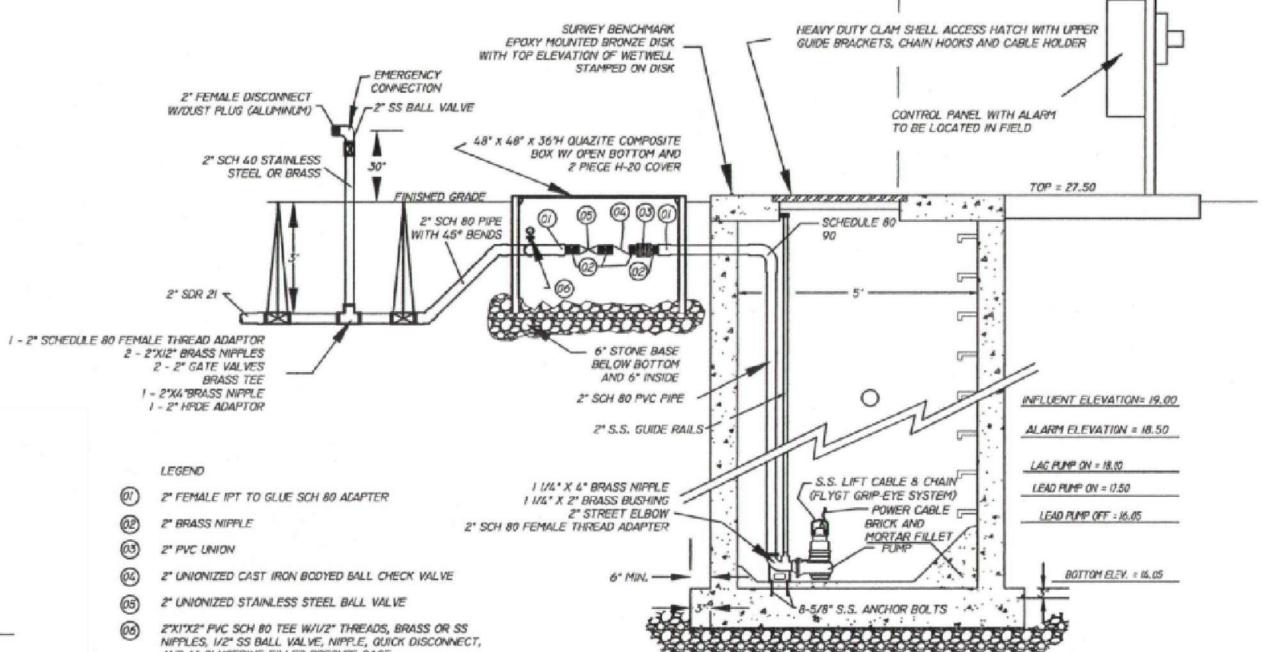
NOTE:
THE PRECAST MANUFACTURER IS TO PREPARE AND SUBMIT TO THE ENGINEER DESIGN DETAILS AND CALCULATIONS FOR THE STRUCTURE SHOWN BASED ON THE DESIGN CRITERIA SPECIFIED. THE DESIGN SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF, AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH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

Z"XI"XZ" PVC SCH 80 TEE W/I/Z" THREADS, BRASS OR SS NIPPLES, V2" SS BALL VALVE, NIPPLE, QUICK DISCONNECT,

AND 4" GLYCERINE FILLED PRESURE GAGE.

AND 4" GLYCERINE FILLED PRESURE GAGE.





EXISTING PUMP STATION

WET WELL DESIGN SCHEDULE

- 1	DESCRIPTION	ELE
Г	FIN. GRADE ELEV.	27.
- 1	INFLUENT ELEV.	19.0
- 1	ALARM ELEV.	18.5
- 1	START LAG PUMP	18.0
- 1	H.W.L. ELEV.	17.5
- 1	L.W.L. ELEV.	16.0
- 1	BOTTOM ELEV.	14.0
- 1	WET WELL DIA.	5

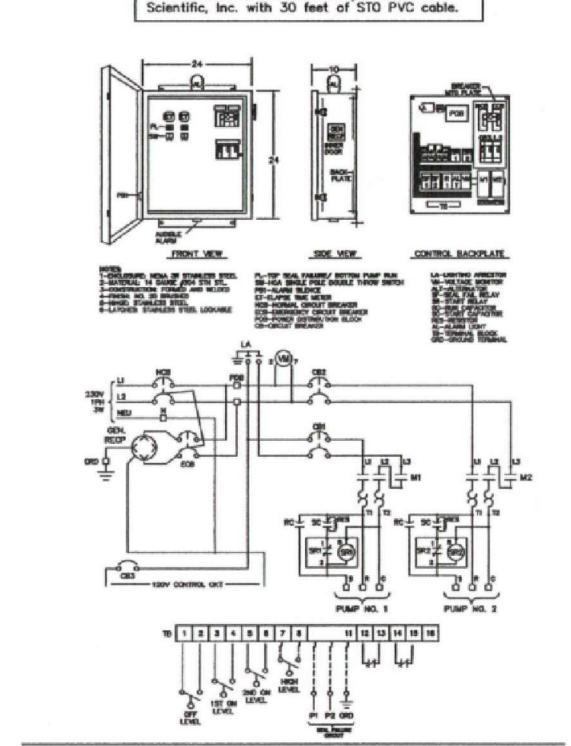
PUMP DESIGN SCHEDULE

L	DESCRIPTION	PUMPS
	T-D-H PUMP CAP.(GPM) RPM	28 20 3450
-	PHASE VOLTAGE MIN. HP	230

Furnish two ABS heavy duty submersible grinder pumps. Pump shall be connected to the discharge piping when lowered onto the discharge connection by one 2" dia. Sch40 304SS roll. Pump shall be centrifugal type with rotating cutter mounted on the pump shaft. The stationary cutter shall be mounted in the adjustable bottom plate. Shredding shall occur outside of volute to avoid clogging. The cutter shall be super abrasive material and hardness of 58-62 Rockwell C. Each pump shall be equipped with two seals. The lower shall be mechanical type with silicon carbide faces. The oil chamber shall be fitted with a moisture probe extending from the bottom of the motor housing into the oil chamber. The pump motor shall be air filled and have class "F" insulated moisture resistant windings. Bimetallic thermal switches shall be imbedded into each phase of the winding to sense high temperature.

Float holder and upper guide rall brackets shall be made with 304SS only.

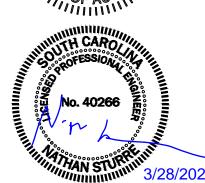
Float switches shall be UL listed type
"S-RotaFloat" manufactured by Anchor



CONTROL PANEL DETAILS







ENGINEER OF RECORD

NATHAN STURRE, P.E SC PE# 40266 PO Box 2227 Bluffton, SC 29910 843.929.9432

SURVEYOR OF RECORD

JEREMY REEDER, PLS ATLAS SURVEYING 168 BOARDWALK DRIVE, SUITE A RIDGELAND, SC 29936 SCPLS #: 28139 TEL: 843.645.9277

PREPARED FOR:

CORNERSTONE CHURCH

PROJECT:

CORNERSTONE CHURCH NEW RIVERSIDE CAMPUS

HORIZ. DATUM: STATE PLANE: NAD83 VERT. DATUM: NAVD88



REV #	DATE	DESCRIPTION
DATE		03/28/2025
SHEET	NAME	

UTILITY DETAILS



PLAN REVIEW COMMENTS FOR DP-02-25-019597

Town of Bluffton

Department of Growth Management

20 Bridge Street P.O. Box 386 Bluffton, South Carolina 29910
Telephone 843-706-4522
NEW RIVERSIDE VILLAGE

Plan Type: Development Plan Apply Date: 02/14/2025

Plan Status: Active Plan Address: 11 Grassey Lane

BLUFFTON, SC 29910

Case Manager: Dan Frazier Plan PIN #: R610 036 000 0014 0000

Plan Description: A request by Sturre Engineering on behalf of Cornerstone Church for approval of a Preliminary Development

Plan application. The project consists of site improvements to accommodate a new assembly hall and offices for church operations including stormwater, parking and associated infrastructure. The property is zoned Agricultural (AG) and Rural Mixed Use (RMU) and consists of approximately 41.3 acres identified by tax map number R610 036 000 0014 0000 and located south of May River Road approximately 600 feet east of Stardust

Lane.

STATUS: This item will be heard at the March 26, 2025 Development Review Committee meeting.

Technical Review

Submission #: 1 Received: 02/14/2025 Completed: 03/21/2025

Reviewing Dept.	Complete Date	Reviewer	Status
Watershed Management Review	03/21/2025	Samantha Crotty	Revisions Required
DRC			

Comments:

1. Provide a pre-development land cover exhibit and a post-development land cover exhibit showing only the land covers outlined in the compliance calculator.

SE Response: See Civil Plan Sheets 17 & 18.

2. Provide a BMP exhibit only showing areas of BMPs proposed in the compliance calculator.

SE Response: See Civil Plan Sheet 18.

- 3. Infiltration practices do not have underdrains (SWDM 4.5). Change all underdrained infiltration basins to bioretention standard in the compliance calculator and revise notes/details in the site plans.
- SE Response: See revised SoLoCo Calcs and Civil Plan Sheet 18. All infiltration basins relabeled as Bioretention no underdrains. Onsite soils were very sandy with great infiltration rates and good separation from seasonal high groundwater, no underdrains will be necessary. Line work on Civil Plan Sheet 18 clarified to label shallow swales in parking area.
- 4. Pre-development and post-development area summary tables on sheet 17 of the site plans do not match values in the compliance calculator.
- SE Response: As coordination with Beaufort County and SCDOT on the full extent of May River Road improvements is ongoing, the areas for current SoLoCo compliance were only onsite disturbed areas. Once the full extent of May River Road improvements is understood, limits of disturbance and SoLoCo areas will be revised, at time of Watershed Submittal.
- 5. Provide contours and contour labels in all BMPs on the site plans.
- SE Response: Contours and labels added to Stormwater Compliance Plan, detailed grading can be seen on grading plan sheets. At time of stormwater submittal:

SE Response: All to be addressed at time of Watershed Submittal.

- 6. Infiltration basin geometry should have side-slopes no steeper than 4H:1V (SWDM 4.5.4). Revise detail.
- 7. Provide infiltration basin detail that meets requirements of SWDM 4.3, to include surface stone layer, stone layer, observation well, sand layer, and geotextile fabric.
- 8. Show pre-treatment areas for all infiltration BMPs (SWDM 4.5.3).

Fire Department Review 03/21/2025 Dan Wiltse Approved with Conditions

Comments:

1. Confirm via third-party certification that dry hydrants will meet 1250 GPM requirement.

SE Response: Palmetto Fire Apparatus has tested current hydrants and helped develop a maintenance plan to ensure property hydrant flows will be maintained.

03/21/2025 Page 1 of 2

Planning Review - Principal 03/21/2025 Dan Frazier

Approved with Conditions

Comments:

1. Trees proposed to be removed in Landscape Plan (Sheets 501 - 506) conflict with trees proposed to be removed in Tree Exhibit. The Tree Exhibit appears to reflect additional trees that may be removed based the Arborist recommendations. Clarify.

SE Response: All Landscaping exhibits to be updated for Final DRC.

2. Staff may be able to provide flexibility on the "maximum eight parking spaces allowed without a parking island" requirement where it is demonstrated that trees can be saved.

SE Response: Design team will explore alternatives to save existing trees utilizing the potential flexibility in ordinances, finalized plan will be provided at Final DRC.

3. Additional information regarding parking lighting will be required at time of final development plan submittal. SE Response: Photometrics plan and lighting cut sheets will be provided at Final DRC.

Beaufort Jasper Water and Sewer Review	03/21/2025	Matthew Michaels	Approved
Building Safety Review	03/21/2025	Marcus Noe	Approved
Planning Review - Address	03/21/2025	Diego Farias	Approved
Police Department Review	03/21/2025	Bill Bonhag	Approved
Planning Commission Review	03/07/2025	Angie Castrillon	Approved
Comments: No comments.			
Transportation Department Review	02/18/2025	Mark Maxwell	Approved

Plan Review Case Notes:

03/21/2025 Page 2 of 2