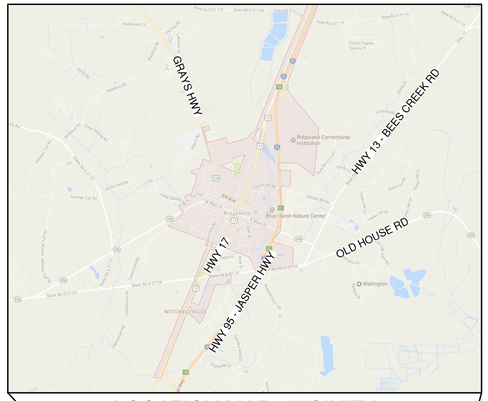
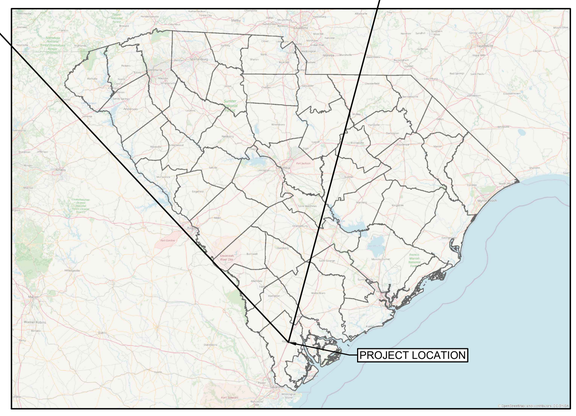
CONSTRUCTION DRAWINGS FOR:

TOWN OF RIDGELAND
SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

REQUEST FOR BIDS NO: TOR-2024-07



LOCATION MAP - VICINITY



LOCATION MAP - REGION

MAYOR

JOSEPH N. MALPHRUS, JR

MAYOR PRO TEMPORE

TOMMY RHODES

COUNCIL MEMBERS

JOSEPHINE BOYLES
BILL FISHBURNE
LIBBY MALPHRUS

TOWN ADMINISTRATOR

DENNIS E. AVERKIN

PROJECT #: 17-007:043

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
904-414-2400 C.O.A.# 5166 WWW.4WENG.COM

PREPARED BY

RIA GRANT #R-24-1357

DATE: SEPTEMBER 2024

ISSUE: **BID**

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NOTE:

IF ARCHEOLOGICAL MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION, THE PROCEDURES CODIFIED AT 33 CFR 800.13(B) WILL APPLY AND EDA, THE SOUTH CAROLINA STATE HISTORIC PRESERVATION OFFICE, THE MUSCOGEE (CREEK) NATION AND THE CATAWBA INDIAN NATION SHALL BE CONTACTED IMMEDIATELY. ARCHEOLOGICAL MATERIALS CONSIST OF ANY ITEMS, FIFTY YEARS OR OLDER WHICH WERE MADE OR USED BY MAN. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO, STONE PROJECTILE POINTS (ARROWHEADS), CERAMIC SHERDS, BRICKS, WORKED WOOD, BONE AND STONE, METAL AND GLASS OBJECTS, AND HUMAN SKELETAL REMAINS.

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

PROJECT INDEX

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

FOUR WATERS ENGINEERING
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DRAWING NUMBER
G0.1

UTILITY SEPARATION NOTES

1. UTILITY SEPARATION FROM WATER MAINS SHALL BE IN ACCORDANCE WITH THE TOWN OF RIDGELAND STANDARD SPECIFICATIONS FOR WATER AND SEWER SYSTEMS. ALL DISTANCES NOTED ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.

2. HORIZONTAL SEPARATION BETWEEN WATER MAIN AND SEWER PIPE UNDER THE TOWN OF RIDGELAND STANDARD SPECIFICATIONS FOR WATER AND SEWER SYSTEMS SHALL BE A MINIMUM OF TEN FEET WHERE POSSIBLE. THE MINIMUM OF THE HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND SEWER PIPE SHALL BE REDUCED WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" INCHES ABOVE THE TOP OF THE SEWER AS APPROVED BY THE ENGINEER.

3. VERTICAL SEPARATION BETWEEN WATER MAIN AND SEWER PIPE SHALL BE 18 INCHES. PREFERENCE IS FOR THE WATER MAIN TO BE ABOVE THE OTHER PIPELINE.

4. FOR UTILITY CROSSINGS WITH WATER MAINS, ONE FULL LENGTH (20 FEET) OF WATER MAIN QUALITY PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THAT THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. WATER PIPE SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE FOR ALL CROSSINGS OF SEWER LINES AND DRAINAGE LINES, REGARDLESS OF CLEARANCE; FOR ALL CROSSINGS OF CREEKS, RIVERS, OR OTHER WATER BODIES; AND FOR WATER MAINS INSTALLED IN CASING. THE CONTRACTOR SHALL VERIFY, RECORD, AND REPORT THE VERTICAL SEPARATION FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE AT THE CROSSING.

5. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE, A STORM SEWER MANHOLE, OR A STORM SEWER INLET STRUCTURE.

GENERAL NOTES

1. REFERENCE INDIVIDUAL EXISTING CONDITIONS DRAWINGS FOR ELEVATION AND COORDINATE SYSTEM INFORMATION FOR EACH SITE

2. IN ACCORDANCE WITH GENERAL CONDITIONS, IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND AVOID ALL UTILITIES, OTHER STRUCTURES AND OBSTRUCTIONS BOTH ABOVE AND BELOW THE GROUND SURFACE. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

3. THE CONTRACTOR SHALL MAINTAIN UNINTERRUPTED SERVICE AT ALL SERVICE CONNECTIONS. THE MANNER IN WHICH THIS IS ACCOMPLISHED SHALL BE LEFT TO THE DISCRETION OF THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.

4. STATIONING SHOWN ON DRAWINGS REFERS TO CENTERLINE OF ROAD OR RIGHT-OF-WAY LINE.

5. ALL PIPE LENGTHS SHOWN ON PLAN AND PROFILES ARE FROM CENTER TO CENTER OF INLETS OR MANHOLES OR ALONG FORCEMAIN OR WATER MAINS.

6. THE CONTRACTOR SHALL PROVIDE NO LESS THAN A 6 INCH CLEARANCE BETWEEN ALL UTILITIES, OTHER THAN WATER MAINS UNLESS OTHERWISE DIRECTED. NO SPECIAL PAYMENT ALLOWED.

7. MINIMUM PIPE COVER SHALL BE 36 INCHES FOR PIPES LESS THAN 12" IN DIAMETER; 48 INCHES FOR PIPES 14" OR LARGER IN DIAMETER; AND 36 INCHES BELOW ANY SCDOT ROAD ELEVATION.

8. CONTRACTOR SHALL EMPLOY A LAND SURVEYOR, REGISTERED IN THE STATE OF SOUTH CAROLINA, TO REFERENCE AND RESTORE PROPERTY CORNERS AND LANDMARKS WHICH MAY BE DISTURBED BY CONSTRUCTION.

9. EXISTING UTILITIES HAVE BEEN SHOWN FROM THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL NOTIFY THE PROPER UTILITY REPRESENTATIVE AT LEAST 48 HOURS PRIOR TO COMMENCING EXCAVATION NEAR UTILITY. CONTRACTOR IS RESPONSIBLE FOR LOCATION OF ALL SUCH UTILITIES IN THE PATH OF CONSTRUCTION. THE LOCATION SHALL BE MADE WELL IN ADVANCE OF CONSTRUCTION SO THAT CONFLICTS IN CONSTRUCTION MAY BE RESOLVED.

10. THE DEPARTMENT OF TRANSPORTATION IS TO BE NOTIFIED 48 HOURS IN ADVANCE AND RAILROAD COMPANY 7 DAYS IN ADVANCE OF CONSTRUCTION WITHIN THEIR RESPECTIVE RIGHT OF WAY.

11. <u>UTILITY CONTACTS</u>
    SPECTRUM – (833-267-6094)
    CENTURYLINK – (866-642-0444)
    DOMINION ENERGY SOUTH CAROLINA – CUSTOMER SERVICE MAIN LINE (1-800-251-7234)
    PALMETTO ELECTRIC COOPERATIVE – RIDGELAND OFFICE (843-726-5551)
    TOWN OF RIDGELAND WATER & SEWER DEPARTMENT – TY SHAFFER (843-226-0312)

12. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNOLOGIES AND SHOULD BE CONSIDERED APPROXIMATE ONLY.

13. CONTACT SOUTH CAROLINA 811 AS REQUIRED BY SC CODE § 58-36-120 (2018).

14. CONTRACTOR TO LOCATE, PROTECT AND SUPPORT ALL WATER, SEWER, GAS TELECOMMUNICATIONS AND ELECTRIC UTILITIES ENCOUNTERED DURING CONSTRUCTION.

15. IF THE CONTRACTOR ENCOUNTERS GROUNDWATER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR UTILIZING DEWATERING SYSTEM(S) TO REMOVE WATER FROM THE EXCAVATIONS. PRIOR TO BEGINNING ANY DEWATERING, THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS LISTED IN THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL REGULATION 61-113, GROUNDWATER USE AND REPORTING; AND REGULATION 61-9, WATER POLLUTION CONTROL PERMITS, BEFORE ANY DEWATERING CAN BEGIN. CONTRACTOR SHALL SECURE THE SCDHEC GENERAL PERMIT FOR THE DISCHARGE OF GROUND WATER.

16. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS DO NOT STAND BY THEMSELVES. ALSO TO BE INCLUDED ARE THE SPECIFICATIONS AND DETAILS.

17. CONTRACTOR TO FURNISH DETOUR AND CONSTRUCTION SIGNING AND LIGHTING AS REQUIRED IN SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT TO THE MANUAL ON TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND OTHER SPECIAL ADVANCED DETOUR SIGNS AS NECESSARY.

18. ALL POTABLE WATER PIPE SHALL BE NSFPW RATED.

19. IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE, FITTINGS AND SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST 100 FEET BEYOND ANY SOLVENT NOTED.

20. PIPE JOINT DEFLECTION, WHERE ALLOWED BY EXCEPTION, SHALL MATCH THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE AND TYPE OF JOINT.

21. ALL PIPELINES, WATERMAINS, FORMAIN, AND SERVICE LATERALS SHALL HAVE A 12 GAUGE SOLID COPPER SINGLE STRAND TRACER WIRE TAPED ALONG THE TOP OF THE PIPE. THE TRACER WIRE SHALL BE BROUGHT TO SURFACE AT EACH LOCATOR POST ON FORCE MAINS AND ACCESSIBLE FROM THE SURFACE AT ALL VALVE BOXED AND LOCATOR POSTS. AT LOCATIONS TRACER WIRE SURFACES BETWEEN VALVES, REGULAR VALVE BOX WITH PLAIN LID AND COLLAR SHALL BE INSTALLED BETWEEN A PIPELINE MARKER PAIR.

22. CONTRACTOR SHALL CONTACT EACH PROPERTY OWNER ALONG THE ROUTE OF NEW PIPING AND CONSTRUCTION AND LOCATE ANY EXISTING IRRIGATION/SPRINKLER SYSTEMS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT OF ANY DAMAGED IRRIGATION/SPRINKLER SYSTEMS ON PRIVATE PROPERTY OR CITY R.O.W'S DUE TO WORK BEING PERFORMED BY CONTRACTOR AND/OR SUB-CONTRACTORS.

23. THE CONTRACTOR SHALL SUBMIT A SHORING PLAN FOR EXCAVATIONS ADJACENT TO BUILDINGS, ADJACENT TO RIGHT-OF-WAY, OR ANY OTHER EXCAVATIONS DEEPER THAN 7 FEET. THE SHORING PLAN SHALL INCLUDE SHORING SYSTEM DESIGN CALCULATIONS AND DETAILS SIGNED AND SEALED BY A SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

24. ALL PROTECTED TREES SHALL BE PROTECTED FROM INJURY DURING ANY LAND CLEARING OR CONSTRUCTION. PRIOR TO ANY LAND CLEARING OR CONSTRUCTION OPERATIONS, TEMPORARY BARRIERS SHALL BE INSTALLED AT THE DRIP LINE OF ALL PROTECTED TREES IN ACCORDANCE WITH JASPER COUNTY ZONING ORDINANCE § 13:5 (2).

25. TREE BARRICADE APPROVAL: OBTAIN TOWN APPROVAL OF TREE BARRICADES BEFORE BEGINNING CLEARING OPERATIONS OR ANY CONSTRUCTION.

26. SCDOT RIGHTS-OF-WAY PERMITS ARE REQUIRED FOR THIS PROJECT

27. CONSTRUCTION ACTIVITIES DISTURBING ANY LAND AREA WITHIN JASPER COUNTY SHALL REQUIRE NOTIFICATION TO SCDHEC PRIOR TO CONSTRUCTION. NOTIFICATION REQUIREMENTS AND/OR NPDES PERMIT REQUIREMENTS VARY BASED UPON LAND DISTURBANCE AREA AND PROXIMITY TO A COASTAL RECEIVING WATER BODY. CONTRACTOR SHALL SUBMIT AN NOI TO SCDHEC PRIOR TO CONSTRUCTION.

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN
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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

GENERAL NOTES

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
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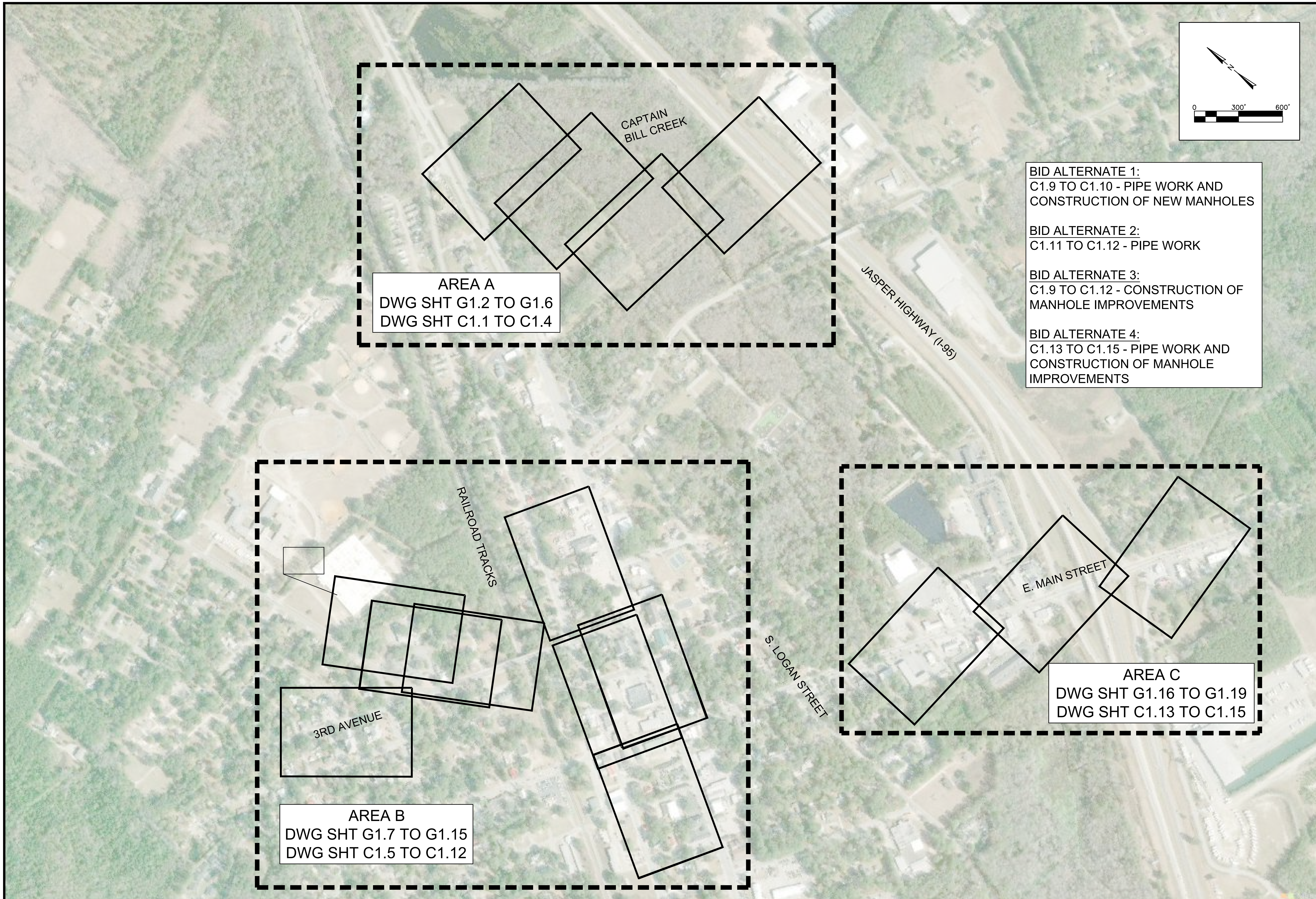
DRAWING NUMBER
G0.2



BID ALTERNATE 1:
C1.9 TO C1.10 - PIPE WORK AND CONSTRUCTION OF NEW MANHOLES

BID ALTERNATE 2:
C1.11 TO C1.12 - PIPE WORK

BID ALTERNATE 3:
C1.9 TO C1.12 - CONSTRUCTION OF MANHOLE IMPROVEMENTS

BID ALTERNATE 4:
C1.13 TO C1.15 - PIPE WORK AND CONSTRUCTION OF MANHOLE IMPROVEMENTS

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

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SOUTH CAROLINA FOUR WATERS ENGINEERING, INC. No. 5166 CERTIFICATE OF AUTHORIZATION

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS MASTER KEY MAP

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN
ABB	SLD
JOB #	17-1007
ISSUE DATE	SEPT 2024
ISSUE	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
G1.0

LAST EDITED BY: STEVE DUCHARME
CAD FILE: R:\17-1007-035 PART-2\X\CDS\RIDGELAND EDA PART 2 EC.DWG
PLOT DATE AND TIME: 10/2/2024 12:11:34 PM

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS.

2. THE CONTRACTOR SHALL PROTECT ALL BENCH MARKS AND MONUMENTS FROM DAMAGE AND SHALL ESTABLISH OFFSET POINTS AS REQUIRED FOR THIS WORK. THE CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT OF ALL SCHEDULED IMPROVEMENTS AS SHOWN ON THE CONTRACT DRAWINGS.

3. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION ACTIVITIES AND NOTIFYING THE TOWN ENGINEER OF POTENTIAL CONFLICTS. THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY MARK-OUT SERVICE PROVIDER PRIOR TO COMMENCING WORK.

4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ANY EXISTING ABOVEGROUND AND UNDERGROUND UTILITIES, CONDUITS, STRUCTURES, EQUIPMENT, FOUNDATIONS, PIPE, ETC. AS NECESSARY TO COMPLETE THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE OWNER'S OF THE UTILITY 72 HOURS PRIOR TO STARTING WORK AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME. VARIOUS UTILITIES MAY NEED TO BE RESET BY THE AFFECTED UTILITY COMPANY. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF THE UTILITY COMPANY TO AVOID DELAYS. NO EXTENSION OF TIME WILL BE PROVIDE DUE TO THE LACK OF COORDINATION BY THE CONTRACTOR. THE CONTRACTOR SHALL PERFORM TEST PITS WHERE EXISTING UTILITIES ARE TO BE CROSSED. TEST PIT INFORMATION SHALL BE GIVEN TO THE TOWN ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS MAY BE REQUIRED TO AVOID CONFLICTS.

5. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS WITHIN SCDOT AND TOWN R.O.W.'S AND EASEMENTS. ALL SURVEY LAYOUT VERIFYING THE EXACT LOCATION OF THE R.O.W.'S SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL COSTS FOR SAME SHALL BE INCLUDED WITHIN THE VARIOUS BID ITEMS.

6. THE CONTRACTOR SHALL TAKE CARE IN MAINTAINING ALL LANDSCAPING AND YARD STRUCTURES WITHIN THE CONSTRUCTION LIMITS. WHEN RELOCATION IS NECESSARY OR WHERE ANY DAMAGE IS DONE TO SAID ITEMS THEY SHALL BE RESTORED BY THE CONTRACTOR, AT HIS EXPENSE, TO THE SATISFACTION OF THE TOWN ENGINEER.

7. ANY CONCRETE STRUCTURE, DRIVEWAY, WALKWAY, OR CURB WHICH IS NOT SHOWN, DIRECTED, OR MARKED OUT BY THE ENGINEER TO BE REPLACED, BUT IS REMOVED, MISALIGNED OR DAMAGED AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR PER SCDOT STANDARDS AT NO ADDITIONAL COSTS TO THE TOWN.

8. THE CONTRACTOR SHALL ENSURE THAT POSITIVE DRAINAGE AWAY FROM RESIDENCES AND ALONG ROAD GUTTERS IS MAINTAINED AT ALL LOCATIONS DISTURBED WITH IN THE PROJECT LIMITS.

9. IF IT SHALL BECOME ABSOLUTELY NECESSARY TO PERFORM WORK AT NIGHT, THE TOWN ENGINEER SHALL BE INFORMED IN ADVANCE AND APPROVAL PROVIDED. GOOD LIGHTING AND ALL OTHER NECESSARY FACILITIES FOR PROPERLY CARRYING OUT AND INSPECTING THE WORK SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO COMPLY WITH ALL STATE AND LOCAL REGULATIONS GOVERNING HOURS DURING WHICH CONSTRUCTION EQUIPMENT MAY BE OPERATED.

10. OPEN TRENCHES SHALL BE KEPT TO A MINIMUM. NO EXCAVATION AREAS ARE TO REMAIN OPEN OVERNIGHT. BITUMINOUS STABILIZED BASE COURSE SHALL BE PLACED IN ALL TRENCH AREAS WITHIN THE ROADWAY AT THE END OF EACH DAYS WORK.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL MATERIALS EXCAVATED OF WHATEVER NATURE AT HIS OWN EXPENSE. THE TOWN IS NOT OBLIGATED TO SUPPLY A DISPOSAL SITE. THE CONTRACTOR CAN NOT DEPOSIT ANY OF THE EXCESS MATERIALS WITHIN TOWN LIMITS WITHOUT THE EXPRESS PERMISSION OF THE TOWN ENGINEER. MATERIALS MUST BE DISPOSED OF IN ACCORDANCE WITH ALL STATE REGULATIONS REGARDING SAME.

12. ALL STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND DETAILS.

13. PROTECTION OF EXISTING TREES WITHIN THE LIMITS OF DISTURBANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TOWN ENGINEER SHALL DETERMINE IN THE FIELD WHICH TREES REQUIRE TREE PROTECTION. NO CONSTRUCTION EQUIPMENT OR SUPPLIES SHALL BE STOCKPILED OR STORED WITHIN THE DRIP LINE OF ANY EXISTING TREE TO REMAIN.

14. ALL PROPERTY CORNERS OR MONUMENTS REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY A SOUTH CAROLINA LICENSED LAND SURVEYOR, AT NO ADDITIONAL COST TO THE TOWN.

15. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED PER THE EROSION AND SEDIMENTATION DOCUMENTATION AND NPDES PERMIT FOR THE PROJECT. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED AS DIRECTED BY THE TOWN ENGINEER AND SCDOT.

16. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE SCDOT STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING PAVEMENT MARKINGS. CONTRACTOR SHALL NOTIFY TOWN ENGINEER AND SCDOT WHEN TRAFFIC STRIPES AND PAVEMENT MARKINGS HAVE BEEN LAID OUT PRIOR TO PAINTING. SCDOT WILL INSPECT AND APPROVE LAYOUT PRIOR TO CONTRACTOR PAINTING TRAFFIC STRIPES AND PAVEMENT MARKINGS.

17. THE CONTRACTOR SHALL PERFORM ONLY THE AMOUNT OF WORK WHICH CAN BE COMPLETED THE SAME DAY. THE ENTIRE ROADWAY SHALL BE OPENED TO TRAFFIC AFTER WORK HOURS UNLESS APPROVED BY TOWN AND SCDOT. SCDOT TEMPORARY PAVEMENT OR APPROVED SURFACE SHALL BE PLACED IN CONSTRUCTION AREAS TO PROVIDE A SMOOTH, SAFE SURFACE FOR VEHICULAR TRAFFIC. THE COST FOR TEMPORARY PAVEMENT SHALL BE INCLUDED IN UNIT PRICE BID FOR VARIOUS CONSTRUCTION ITEMS.

18. THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION STAKEOUT. OFFSET LINES WITH STAKES SHALL BE SET AT APPROPRIATE INTERVALS TO FACILITATE CONSTRUCTION. CUT SHEETS SHALL BE SUBMITTED FOR APPROVAL TO THE TOWN ENGINEER AND TO THE WORK CREWS AT LEAST 5 DAYS PRIOR TO CONSTRUCTION.

19. ALL EXISTING STRUCTURES AND ALL UNDERGROUND STRUCTURES ARE TO BE REMOVED IN ACCORDANCE WITH STATE REGULATIONS.

20. THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEER IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER FROM THOSE SHOWN HEREIN.

21. WORK WITHIN SCDOT ROW SHALL BE CONDUCTED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF THE NPDES PERMIT(S) ISSUED TO SCDOT TO GOVERN THE DISCHARGE OF STORM WATER AND NON-STORM STORM WATER FROM ITS PROPERTIES AND PER THE NPDES PERMIT FOR THE PROJECT

22. THESE GENERAL NOTES SHALL APPLY FOR THE ENTIRE PROJECT.

SPECIAL NOTE:

*HORIZONTAL DATUM IS NAD 83 SOUTH CAROLINA STATE PLANE COORDINATES
*VERTICAL DATUM IN NAVD 88
*SEE NOTE #7 BELOW

LEGEND:

——75——	CONTOUR
+75	SPOT ELEVATION
SSMH	SANITARY SEWER MANHOLE
IE	INVERT ELEVATION
PP	POWER POLE
N.T.S.	NOT TO SCALE
N/F	NOW OR FORMERLY
R/W	RIGHT OF WAY
⚠ A5	TYPICAL WETLAND FLAG LABEL
PVC	POLYVINYL CHLORIDE PIPE
WV	WATER VALVE
EM	ELECTRIC METER
ANT	ANTENNA
GW	GUY WIRE ANCHOR
CO	CLEANOUT
—— OHP ——	OVERHEAD POWERLINE
—— SS ——	SANITARY SEWER LINE
— · — · —	WETLAND LINE

SURVEY NOTES:
THE FOLLOWING INFORMATION APPLIES TO DRAWINGS G1.2-G1.6 AND C1.1-C1.4

1. I HEREBY STATE THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREIN WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN; ALSO THERE ARE NO OBVIOUS, APPARENT OR VISIBLE ENCROACHMENTS OR PROJECTIONS OTHER THAN SHOWN.
2. UNDERGROUND UTILITIES NOT LOCATED EXCEPT AS SHOWN AND ARE APPROXIMATE. SURVEYING CONSULTANTS DOES NOT CERTIFY TO THE EXACT LOCATION OF ANY UNDERGROUND UTILITY.
3. THE WETLAND LINES SHOWN ARE FIELD LOCATIONS OF FLAGS RECENTLY SET BY NEWKIRK ENVIRONMENTAL (SEE REFERENCE PLAT #1) AND ARE SHOWN FOR INFORMATION PURPOSES ONLY. THIS SHOULD NOT BE CONSTRUED AS A CERTIFIED WETLAND SURVEY
4. SURVEYING CONSULTANTS CERTIFIES TO THE TOPOGRAPHIC AND ASBUILT INFORMATION PROVIDED HEREON AS OF THE DATE OF SURVEY. IF THIS DOCUMENT IS TO BE PROVIDED AS A BASE MAP FOR OTHERS, INFORMATION ADDED AFTER THE DATE OF THIS SURVEY IS NOT THE RESPONSIBILITY OF SURVEYING CONSULTANTS.
5. THIS SURVEY WAS CONDUCTED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE, THEREFORE THERE MAY BE OTHER EASEMENTS, RIGHT-OF-WAY, SETBACK LINES, AGREEMENTS, RESERVATIONS, RESTRICTIONS, OR OTHER SIMILAR MATTERS OF PUBLIC RECORD, NOT DEPICTED ON THIS SURVEY.
6. NO BOUNDARY LINES AND/OR ROAD RIGHT-OF-WAY LINES WERE NOT ESTABLISHED AS A PART OF THIS SURVEY. THE APPROXIMATE BOUNDARY LINES SHOWN WERE SCALED FROM THE JASPER COUNTY ONLINE GIS MAPPING SERVICE AND WERE NOT FIELD VERIFIED. THIS PLAT SHOULD IN NO WAY BE CONSTRUED AS A BOUNDARY SURVEY.
7. THE HORIZONTAL DATUM SHOWN IS BASED ON NAD 83 SOUTH CAROLINA STATE PLANE COORDINATES. THE VERTICAL DATUM SHOWN IS BASED ON NAVD 88 DATUM. THE HORIZONTAL AND VERTICAL DATUM SHOWN WERE ESTABLISHED FROM THE SC-VRS SURVEY NETWORK.

REFERENCE PLAT:

1) WETLAND RESOURCE MAP, PS3 SEWER PROJECT,
PROJECT #: 04-4584a,
JASPER COUNTY, SOUTH CAROLINA,
DATED: 06/29/2021,
BY: NEWKIRK ENVIRONMENTAL INC.

2) PLAT OF A PARCEL OF LAND MADE FOR THREE STAR DEVELOPMENT COMPANY, NOW OR FORMERLY SYDNEY N. BROWN, FORMERLY ADA THOMAS, LOCATED NEAR THE TOWN OF RIDGELAND, CONTAINING 41.5 ACRES,
DATED: 1973 & 1974,
BY: D.W. PRICE, S.C.R.L.S. NO. 3217
RECORDED: P.B. 13, PG. 111, 07/16/1974.

SCALE: 1" = 30' DATE: 09/08/2021 JOB NO: SC210030-PS3

SURVEYING CONSULTANTS
17 Sherington Drive, Suite C, Bluffton, SC 29910
SC Telephone: (843) 815-3304 FAX: (843) 815-3305
GA Telephone: (912) 826-2775
www.SurveyingConsultants.com
Email: SC@SurveyingConsultants.com

CREW: AJ/MW
CAD: AJ

NOTES FOR MAINTENANCE AND PROTECTION OF TRAFFIC:

1. ALL DEVICES AND PROCEDURES FOR THE MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE SCDOT. THE CONTRACTOR SHALL PLAN AND CARRY OUT HIS WORK TO PROVIDE FOR THE CONVENIENT AND SAFE PASSAGE OF ALL VEHICULAR AND PEDESTRIAN TRAFFIC ON ADJACENT STREETS.

2. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING MAINTENANCE AND PROTECTION OF TRAFFIC THROUGH THE DURATION OF CONSTRUCTION. NO SEPARATE PAYMENTS WILL BE MADE FOR RELOCATING THE DEVICES AS REQUIRED, OR AS DIRECTED BY THE TOWN ENGINEER, DURING THE COURSE OF CONSTRUCTION.

3. DURING CONSTRUCTION, ALL ROADS SHALL BE PROPERLY MAINTAINED TO ACCOMMODATE EMERGENCY VEHICLES AT ALL TIMES.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE LOCAL AND STATE POLICE DEPARTMENTS FOR TRAFFIC OPERATIONS AND PARKING PROHIBITIONS DURING CONSTRUCTION.

5. THE CONTRACTOR SHALL COORDINATE ANY TEMPORARY DETOURS NECESSARY WITH THE POLICE, TOWN ENGINEER AND/OR FIRE DEPARTMENTS PRIOR TO CONSTRUCTION. ALL EMERGENCY VEHICLES MUST HAVE ACCESS TO STREETS AT ALL TIMES AND ALL RESIDENTS MUST HAVE ACCESS TO THEIR HOMES AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE ROADWAY TO A SAFE CONDITION AT THE END OF EACH DAY'S WORK PER SCDOT STANDARDS.

6. ALL TRAFFIC CONTROL SIGNS AND STRIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE SCDOT. EXACT LOCATION OF STREET SIGNS SHALL BE DETERMINED BY SCDOT SPECIFICATIONS.

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

GENERAL NOTES

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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JOB #	17-1007
ISSUE DATE	SEPT 2024
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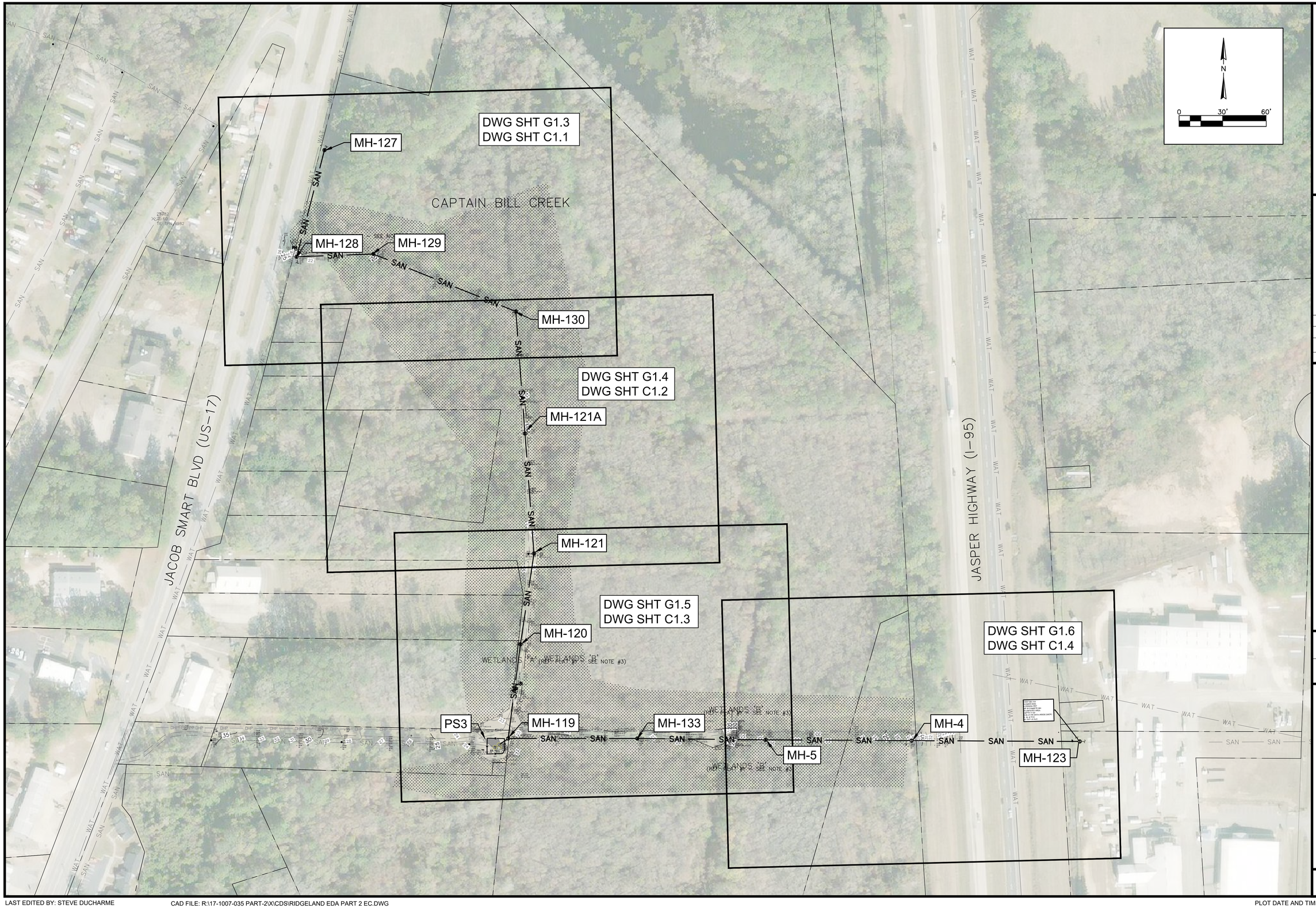
G1.1



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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS KEY MAP

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	ISSUE
ABB	SLD	17-1007	SEPT 2024	BID

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G1.2

LEGEND: DESCRIPTION

- (S) — DENOTES EXISTING MANHOLE
- SAN — DENOTES EXISTING SANITARY SEWER PIPE
- WAT — DENOTES EXISTING WATER MAIN
- DENOTES EXISTING LATERAL CONNECTION
- DENOTES EXISTING MAJOR SANITARY DEFECT
- DENOTES EXISTING MINOR SANITARY DEFECT
- DENOTES WETLAND LINE
- DENOTES WETLAND

N

0 30' 60'

AREA A KEY MAP

CAPTAIN BILL CREEK

N. JACOB SMART BLVD (US 17)

EXIST MH-127
N:239377.9444
E:2007526.7757
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:6.50'
N. IN: 6" PVC
W. IN: 10"
S. OUT: 10" VCP

10277
17.55
IE 6" PVC

10275
22.79
SSMH

IE 8"PVC=17.55'

10276
16.30
IE 10" PVC

SSMH #127
TOP=22.79'
IE 8"VCP=16.30'

EXISTING CRACK 2.0 LF FROM MH-127 TO MH-128

EXISTING INFIL STAIN 19.9 LF FROM MH-127 TO MH-128

EXISTING INFIL STAIN 50.6 LF FROM MH-127 TO MH-128

EXISTING INFIL STAIN 80.9 LF FROM MH-127 TO MH-128

8" WATER MAIN MATERIAL UNKNOWN

253 LF OF 10" VCP

EXISTING INFIL STAIN 5.0 LF FROM MH-128 TO MH-129

EXISTING 25% WATER LEVEL SAG 32.9 LF FROM MH-128 TO MH-129

EXISTING 25% WATER LEVEL SAG 45.6 LF FROM MH-128 TO MH-129

176 LF OF 10" VCP

EXISTING 25% WATER LEVEL SAG 114.3 LF FROM MH-128 TO MH-129

EXISTING INFIL STAIN 135.8 LF FROM MH-128 TO MH-129

EXISTING 25% WATER LEVEL SAG 137.3 LF FROM MH-128 TO MH-129

EXISTING FRACTURE 175.7 LF FROM MH-128 TO MH-129

EXISTING 25% WATER LEVEL 25% SAG 127.6 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL 25% SAG 152.4 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL 25% SAG 161.3 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 168.5 LF FROM MH-129 TO MH-130

EXISTING INFIL STAIN 180.3 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 187.4 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 202.7 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 230.8 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 255.5 LF FROM MH-129 TO MH-130

353 LF OF 10" VCP

EXISTING 25% WATER LEVEL SAG 92.8 LF FROM MH-128 TO MH-129

EXISTING 25% WATER LEVEL SAG 103.3 LF FROM MH-128 TO MH-129

EXISTING 25% WATER LEVEL SAG 16.6 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 32.3 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 50.1 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 66.7 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 72.7 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 83.0 LF FROM MH-129 TO MH-130

EXISTING INFIL STAIN 265.9 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 280.9 LF FROM MH-129 TO MH-130

EXISTING INFIL STAIN 286.3 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 307.5 LF FROM MH-129 TO MH-130

EXISTING 25% WATER LEVEL SAG 344.2 LF FROM MH-129 TO MH-130

EXIST MH-128
N:239133.1812
E:2007462.9049
48"Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:8.20'
S. IN: 8"
N. IN:10" VCP
E. OUT: 10" VCP

10190
15.54
IE 8" PVC

10191
15.51
IE 8" PVC

10189
15.53
IE 8" PVC

SSMH #128
TOP=23.71'
IE 8"VCP FLOWLINE=15.51'

10192
23.74
SSMH

10178
23.50
SSMH

10177
14.70
IE 8" PVC

SSMH #129
TOP=23.50'
IE 8"VCP FLOWLINE=14.66'

EXIST MH-129
N:239139.5030
E:2007638.6961
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:8.84'
W. IN: 10" VCP
E. OUT: 10" VCP

10176
14.66
IE 8" PVC

4984
25.51
TPN

4984
20.57
TPN

4986
19.66
TPN

10164
13.15
SSMH

10163
13.15
IE 8" PVC

10162
13.15
IE 8" PVC

SSMH #130
TOP=22.59'
IE 8" VCP FLOWLINE=13.75'

EXIST MH-130
N:239007.5519
E:2007965.9519
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:9.50'
W. IN: 10" VCP
S. OUT: 10" VCP

CONTROL POINT - NAIL IN DISC
ELEV=25.5' (88 DATUM)

CONTROL POINT - NAIL IN DISC
ELEV=19.7' (88 DATUM)

WETLANDS
(REF. PLAT #1 - SEE NOTE #3)

END OF WETLAND FLAGS

HIGHGROUND

062-22-03-001

063-30-01-001

063-27-13-001

APPROXIMATE PARCEL LINES (TYP.)
PER JASPER COUNTY GIS MAPS

CONTINUES ON SHEET G1.4

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A EXISTING CONDITONS
CAPTAIN BILL CREEK

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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CONTINUES ON SHEET G1.3

(SEE NOTE #6)

LINES (TYP.)
GIS MAPS

SSMH #130
TOP=22.59'
IE 8" VCP FLOWLINE=13.75'

EXIST MH-130
N:239007.5519
E:2007965.9519
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:9.50'
W. IN: 10" VCP
S. OUT: 10" VCP

EXISTING FRACTURE 2.0 LF FROM MH-130 TO MH-121A

EXISTING INFIL STAIN 5.0 LF FROM MH-130 TO MH-121A

EXISTING 25% WATER LEVEL SAG 6.1 LF FROM MH-130 TO MH-121A

EXISTING INFIL STAIN 9.9 LF FROM MH-130 TO MH-121A

EXISTING INFIL STAIN 14.9 LF FROM MH-130 TO MH-121A

EXISTING 25% WATER LEVEL SAG 17.5 LF FROM MH-130 TO MH-121A

EXISTING INFIL STAIN 29.9 LF FROM MH-130 TO MH-121A

277'± L

8" VCP

281 LF OF 10" VCP

EXISTING JOINT SEPARATED AND INFIL STAIN 196.8 LF FROM MH-130 TO MH-121A

EXISTING CRACK 226.8 LF FROM MH-130 TO MH-121A

WETLAND LINE (TYP.)

EXIST MH-121A
N:238727.4424
E:2007986.8787
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:11.30'
N. IN: 10" VCP
S. OUT: 10" VCP

10155
11.88
IE 8" PVC

SSMH #121A
TOP=23.14'
IE 8" VCP
FLOWLINE=11.88

10154
23.14
SSMH

EXISTING FRACTURE 1.0 LF FROM MH-121A TO MH-121

EXISTING INFIL STAIN 35.1 LF FROM MH-121A TO MH-121

EXISTING 25% WATER LEVEL SAG 42.8 LF FROM MH-121A TO MH-121

EXISTING 25% WATER LEVEL SAG 63.8 LF FROM MH-121A TO MH-121

EXISTING 25% WATER LEVEL SAG 75.9 LF FROM MH-121A TO MH-121

277 LF OF 10" VCP

EXISTING INFIL STAIN 151.5 LF FROM MH-121A TO MH-121

EXISTING INFIL STAIN AND 25% WATER LEVEL SAG 181.5 LF FROM MH-121A TO MH-121

EXISTING INFIL STAIN AND 25% WATER LEVEL SAG 191.9 LF FROM MH-121A TO MH-121

EXISTING INFIL STAIN 197.1 LF FROM MH-121A TO MH-121

272.2'±

8" PVC

EXISTING CRACK 247.2 LF FROM MH-121A TO MH-121

EXISTING INFIL STAIN 262.7 LF FROM MH-121A TO MH-121

EXISTING GREASE DEPOSIT 266.9 LF FROM MH-121A TO MH-121

EXISTING INFIL STAIN 272.8 LF FROM MH-121A TO MH-121

EXISTING GREASE DEPOSIT 272.3 LF FROM MH-121A TO MH-121

EXISTING CRACK 277.3 LF FROM MH-121A TO MH-121

SSMH
TOP=23.75'
IE 8" VCP FLOWLINE=10.82'

10130
10.82
IE 8" PVC

10132
23.74
SSMH

10129
11.51
IE 8" PVC

10131
10.84
IE 8" PVC

SSMH
TOP=23.66'
IE 8" VCP IN=11.51'

10128
10.81
IE 8" PVC

10126
15.81
IE 8" PVC

10127
23.66
SSMH

APPROXIMATE PARCEL LINES (TYP.)
PER JASPER COUNTY GIS MAPS
(SEE NOTE #6)

EXIST MH-121
N:238452.2372
E:2008007.4962
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:13.00'
N. IN: 10" VCP
W.IN:8"
S. OUT: 10" VCP

WETLAND LINE (TYP.)

063-27-13-019

063-27-13-007

063-30-01-001

CAPTAIN BILL CREEK

CONTINUES ON SHEET G1.5

AREA A KEY MAP

WAT

N

0 30' 60'

LEGEND: DESCRIPTION

- Ⓢ – DENOTES EXISTING MANHOLE
- SAN – DENOTES EXISTING SANITARY SEWER PIPE
- WAT – DENOTES EXISTING WATER MAIN
- – DENOTES EXISTING LATERAL CONNECTION
- – DENOTES EXISTING MAJOR SANITARY DEFECT
- ⊗ – DENOTES EXISTING MINOR SANITARY DEFECT
- – DENOTES WETLAND LINE
- – DENOTES WETLAND

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
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ANGELA B. BRYAN

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A EXISTING CONDITONS
CAPTAIN BILL CREEK

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	DRAWN SLD		
	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID

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DRAWING NUMBER
G1.4

CONTINUES ON SHEET G1.4

EXIST MH-121
N:238452.2372
E:2008007.4962
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:13.00'
N. IN: 10" VCP
W.IN:8"
S. OUT: 10" VCP

EXISTING CRACK AND GREASE DEPOSIT 1.0 LF FROM MH-121 TO MH-120

EXISTING GREASE DEPOSITS 59.1 LF FROM MH-121 TO MH-120

EXISTING GREASE DEPOSIT 89.6 LF FROM MH-121 TO MH-120

EXISTING 20% WATER LEVEL SAG 92.9 LF FROM MH-121 TO MH-120

EXISTING GREASE DEPOSIT 93.2 LF FROM MH-121 TO MH-120

EXISTING CRACK 100.6 LF FROM MH-121 TO MH-120

EXISTING 20% WATER LEVEL SAG 101.2 LF FROM MH-121 TO MH-120

EXISTING 20% WATER LEVEL SAG 110.0 LF FROM MH-121 TO MH-120

214 LF OF 10" VCP

EXISTING INFIL STAIN 111.0 LF FROM MH-121 TO MH-120

EXISTING INFIL STAIN 120.8 LF FROM MH-121 TO MH-120

EXISTING 25% WATER LEVEL SAG 162.7 LF FROM MH-121 TO MH-120

EXISTING INFIL STAIN 181.5 LF FROM MH-121 TO MH-120

EXISTING INFIL STAIN 191.7LF FROM MH-121 TO MH-120

EXISTING 25% WATER LEVEL SAG 214.1 LF FROM MH-121 TO MH-120

EXIST MH-120
N:238243.6614
E:2007976.4640
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:14.90'
N. IN: 10" VCP
S. OUT: 10" VCP

EXISTING INFIL STAIN 30.9 LF FROM MH-120 TO MH-119

EXISTING INFIL STAIN 60.9 LF FROM MH-120 TO MH-119

EXISTING INFIL STAIN 101.4 LF FROM MH-120 TO MH-119

220 LF OF 10" VCP

EXISTING INFIL STAIN 137.0 LF FROM MH-120 TO MH-119

23 LF OF 10" CIP

EXIST MH-119
N:238027.5305
E:2007948.2123
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:14.80'
N. IN: 10" VCP
E. IN: 8" VCP
SW. OUT: 10" CIP

LARGE GREASE DEPOSITS IMPEDING FLOW FROM MH-133 TO MH-119

296 LF OF 8" VCP

EXISTING INFIL STAIN 143.7 LF FROM MH-133 TO MH-5

EXISTING INFIL STAIN 125.7 LF FROM MH-133 TO MH-5

EXISTING INFIL STAIN 107.4 LF FROM MH-133 TO MH-5

EXISTING 5% WATER LEVEL SAG 72.4 LF FROM MH-133 TO MH-5

EXISTING INFIL STAIN 70.7 LF FROM MH-133 TO MH-5

EXIST MH-5
N:238024.5269
E:2008539.0040
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:6.10'
E. IN: 8" PVC
W. OUT: 8" PVC

EXIST MH-133
N:238027.6472
E:2008244.3569
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:7.40'
E. IN: 8" PVC
W. OUT: 8" VCP

295 LF OF 8" PVC

LARGE RAGS AND DEBRIS BLOCKAGE 220 LF FROM MH-133 TO MH-5

PS-3 SITE

SEE SHEET G1.2 FOR EXISTING CONDITIONS

CAPTAIN BILL CREEK

WETLANDS 'B' (REF. PLAT #1 - SEE NOTE #3)

WETLAND LINE (TYP.)

APPROXIMATE PARCEL LINES (TYP.) PER JASPER COUNTY GIS MAPS

CONTROL POINT - NAIL IN DISC ELEV=25.85' (88 DATUM)

CONTROL POINT - NAIL IN DISC ELEV=22.9' (88 DATUM)

CONTROL POINT - NAIL IN DISC ELEV=23.3' (88 DATUM)

HIGHGROUND

063-27-13-008

063-27-13-018

063-27-13-017

063-30-01-001

LEGEND:

	DESCRIPTION
Ⓢ	– DENOTES EXISTING MANHOLE
SAN	– DENOTES EXISTING SANITARY SEWER PIPE
WAT	– DENOTES EXISTING WATER MAIN
▭	– DENOTES EXISTING LATERAL CONNECTION
●	– DENOTES EXISTING MAJOR SANITARY DEFECT
⊗	– DENOTES EXISTING MINOR SANITARY DEFECT

N

0 30' 60'

AREA A KEY MAP

CONTINUES ON SHEET G1.6

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A EXISTING CONDITIONS
CAPTAIN BILL CREEK

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	
ABB	SLD	17-1007	SEPT 2024	BID

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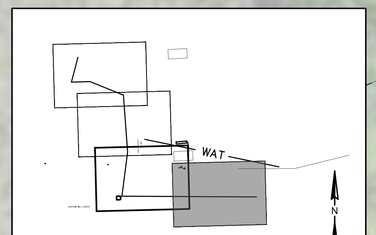
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

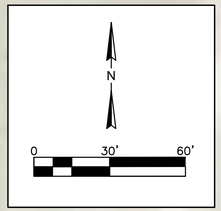
DRAWING NUMBER
G1.5

LEGEND: DESCRIPTION

- Ⓢ – DENOTES EXISTING MANHOLE
- SAN – DENOTES EXISTING SANITARY SEWER PIPE
- WAT – DENOTES EXISTING WATER MAIN
- ▭ – DENOTES EXISTING LATERAL CONNECTION
- ● – DENOTES EXISTING MAJOR SANITARY DEFECT
- ⊗ – DENOTES EXISTING MINOR SANITARY DEFECT

AREA A KEY MAP





EXIST MH-5
N:238024.5269
E:2008539.0040
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:6.10'
E. IN: 8" PVC
W. OUT: 8" PVC

8 LF OF 8" PVC

MATERIAL CHANGE FROM VCP TO PVC 327.3 LF FROM MH-4 TO MH-5

EXISTING JOINT OFFSET LARGE 327.3 LF FROM MH-4 TO MH-5

EXISTING FRACTURE AND INFIL STAIN 322.3 LF FROM MH-4 TO MH-5

EXISTING CRACK AND INFIL STAIN 157.6 LF FROM MH-4 TO MH-5

EXISTING CRACK AND INFIL WEEPER 198.6 LF FROM MH-4 TO MH-5

APPROXIMATE PARCEL LINES (TYP.) PER JASPER COUNTY GIS MAPS

EXISTING INFIL STAIN 39.7 LF FROM MH-4 TO MH-5

EXISTING INFIL RUNNER 82.5 LF FROM MH-4 TO MH-5

063-30-01-002

327.2 LF OF 8" VCP

EXIST MH-4
N:238022.7486
E:2008874.1643
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:10.90'
E. IN: 8" PVC
W. OUT: 8" PVC
WITH OUTSIDE DROP PIPE
(EAST SIDE)

4 LF OF 8" VCP WITH DROP DOWN PIPE OUTSIDE MH-4

EXISTING 25% WATER LEVEL SAG 371.7 LF FROM MH-123 TO MH-4

EXISTING 25% WATER LEVEL SAG 378.5 LF FROM MH-123 TO MH-4

MATERIAL CHANGE FROM PVC TO VCP 382.1 LF FROM MH-123 TO MH-4

EXISTING TAP FACTORY 383.3 LF FROM MH-123 TO MH-4 (DROP CONNECTION)

382.0 LF OF 8" PVC

JASPER HIGHWAY (I-95)

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

EXIST MH-123
N:238020.8263
E:2009259.7857
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:17.00'
N IN: 6" FM (WITH INSIDE DROP)
E. IN: 8" PVC
W. OUT: 8" PVC

EXISTING 25% WATER LEVEL SAG 14.3 LF FROM MH-123 TO MH-4

EXISTING 25% WATER LEVEL SAG 0.0 LF FROM MH-123 TO MH-4

063-30-03-014

063-30-03-011

FORCEMAIN (PER PLANS PROVIDED, IE NOT FOUND)

SSMH #123
TOP=43.54'
8"PVC IN=36.52'
(OPPOSITE SIDE OF I-95)

CONTROL POINT - NAIL IN DISC ELEV=23.3' (88' DATUM)

SSMH #5
TOP=23.45'
IE 8" VCP FLOWLINE=17.38'

SSMH #4
TOP=29.62'

IE 8"PVC=24.74'

IE 8"PVC=18.71'

CAPTAIN BILL CREEK

CONTINUES ON SHEET G1.5

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
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REV NO	DESCRIPTION	DWN. CHK BY	DATE
1			
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A EXISTING CONDITIONS
CAPTAIN BILL CREEK TO JASPER HIGHWAY

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN		
ABB	SLD		
JOB #	17-1007	ISSUE DATE	SEPT 2024
		ISSUE	BID

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DRAWING NUMBER
G1.6

N

0 140' 280'

MH-80
MH-270
MH-79
MH-254
MH-256
MH-255
MH-253
MH-257
MH-321
MH-321A
MH-252
MH-78
MH-161
MH-149
MH-189
MH-182
MH-184
MH-273
MH-191
MH-193
MH-192
MH-45
MH-44
MH-41
MH-43
MH-42
MH-238
MH-40
MH-194

DWG SHT G1.9
DWG SHT C1.6

DWG SHT G1.10
DWG SHT C1.7

DWG SHT G1.8
DWG SHT C1.5

DWG SHT G1.11
DWG SHT C1.7

DWG SHT G1.15
DWG SHT C1.12

DWG SHT G1.14
DWG SHT C1.11

DWG SHT G1.13
DWG SHT C1.10

DWG SHT G1.12
DWG SHT C1.9

SAN

GRAYS HIGHWAY (US 278)

RAIL ROAD

N. GREEN STREET (S-32)

N. LOGAN STREET

JACOB SMART BLVD (HWY-17)

3RD AVENUE (US-278)

S.C HIGHWAY 336 W. MAIN STREET R/W VARIES

BID ALTERNATE 1 C1.9 TO C1.10 - PIPE WORK AND CONSTRUCTION OF NEW MANHOLES
BID ALTERNATE 2 C1.11 TO C1.12 - PIPE WORK
BID ALTERNATE 3 C1.9 TO C1.12 - CONSTRUCTION OF MANHOLE IMPROVEMENTS

SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 21839
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDTIONS AND PROPOSED IMPROVEMENTS KEY MAP

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	DRAWN SLD		
	JOB # 17-1007	ISSUE DATE SEPT 2024	BID ISSUE

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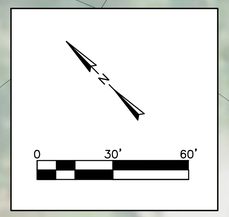
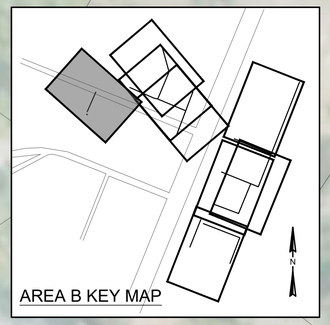
G1.7





LEGEND:	DESCRIPTION
Ⓢ	– DENOTES EXISTING MANHOLE
SAN	– DENOTES EXISTING SANITARY SEWER PIPE
WAT	– DENOTES EXISTING WATER MAIN
▭	– DENOTES EXISTING LATERAL CONNECTION
●	– DENOTES EXISTING MAJOR SANITARY DEFECT
⊗	– DENOTES EXISTING MINOR SANITARY DEFECT

EXIST MH-161
N:237055.0500
E:2004399.4381
48" Ø CONCRETE MH
IN ROADWAY (BRICK PAVERS)
DEPTH:5.80'
SW OUT: 8" PVC
NE IN: 8" PVC
NW IN: 6" PVC
SW. IN: 8" PVC

EXISTING 20% WATER LEVEL SAG
2.0 LF FROM MH-161 TO MH 149

6" WATER MAIN
MATERIAL UNKNOWN

EXISTING 20% WATER LEVEL
SAG 15.8 LF FROM MH-161 TO MH
149

EXISTING TAP FACTORY
LOCATED 57.0 LF FROM MH-161
TO MH-149

231.7 LF OF 8" PVC

EXISTING TAP BREAK-IN
LOCATED 67.4 LF FROM MH-161
TO MH-149

EXISTING 25% WATER LEVEL SAG
100.4 LF FROM MH -161 TO MH-149

EXISTING 35% WATER LEVEL SAG
144.9 LF FROM MH -161 TO MH-149

EXISTING 35% WATER LEVEL
SAG 231.7 LF FROM MH-161
TO MH 149

4" WATER MAIN
MATERIAL UNKNOWN

EXIST MH-149
N:236827.8219
E:2004299.7731
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:7.80'
NE IN: 8" PVC
NW IN: 8" CLAY
SE. OUT: 8" CLAY

6" WATER MAIN
MATERIAL UNKNOWN

JASPER STREET (S-63)
OWENS STREET (S-78)
RUSSELL STREET (SC-366)
3RD AVENUE (S-64)
2ND AVENUE (S-74)
3RD AVENUE (S

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDTIONS
3RD AVENUE TO 2ND AVENUE

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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G1.8

GRETSCH BUILDING

SEE INSET A THIS SHEET FOR NORTH WEST PIPE

8" WATER MAIN MATERIAL UNKNOWN

EXIST MH-79
N:237526.0182
E:2005138.3914
48" Ø BRICK MH
IN PAVED AREA
DEPTH:3.30'
N. IN: 8" VCP
S. OUT: 8" VCP

EXISTING FRACTURE AND CRACK 1.0 LF FROM MH-79 TO MH-256

EXISTING FRACTURE AND ROOTS (FINE) VISIBLE 10.6 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 26.7 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 31.4 LF FROM MH-79 TO MH-256

EXISTING FRACTURE AND ROOTS (TAP) VISIBLE 36.5 LF FROM MH-79 TO MH-256

EXISTING ROOTS VISIBLE (FINE) 41.7 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 46.9 LF FROM MH-79 TO MH-256

EXISTING CRACK 52.9 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 88.7 LF FROM MH-79 TO MH-256

EXISTING FRACTURE AND ROOTS (TAP) VISIBLE 93.6 LF FROM MH-79 TO MH-256

EXISTING FRACTURE AND ROOTS (TAP-2) VISIBLE 109.4 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 115.2 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 119.9 LF FROM MH-79 TO MH-256

EXISTING FRACTURE AND ROOTS (TAP) VISIBLE 124.9 LF FROM MH-79 TO MH-256

274 LF OF 8" VCP

EXISTING FRACTURE 140.5 LF FROM MH-79 TO MH-256

EXISTING 25% WATER LEVEL SAG 140.9 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 151.2 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 156.3 LF FROM MH-79 TO MH-256

EXISTING 25% WATER LEVEL SAG 166.8 LF FROM MH-79 TO MH-256

EXISTING FRACTURE AND 20% WATER LEVEL SAG 176.8 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 182.2 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 187.4 LF FROM MH-79 TO MH-256

EXISTING 20% WATER LEVEL SAG 196.6 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 197.9 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 213.2 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 223.4 LF FROM MH-79 TO MH-256

EXISTING CRACK 228.4 LF FROM MH-79 TO MH-256

EXISTING FRACTURE AND CRACK 248.8 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 269.4 LF FROM MH-79 TO MH-256

EXISTING CRACK 271.7 LF FROM MH-79 TO MH-256

EXISTING FRACTURE 1.0 LF FROM MH-256 TO MH-255

EXISTING CRACK 20.3 LF FROM MH-256 TO MH-255

EXISTING CRACK 30.2 LF FROM MH-256 TO MH-255

EXISTING CRACK 35.5 LF FROM MH-256 TO MH-255

EXISTING FRACTURE 97.1 LF FROM MH-256 TO MH-255

EXISTING FRACTURE133.5 LF FROM MH-256 TO MH-255

EXISTING FRACTURE 138.7 LF FROM MH-256 TO MH-255

EXIST MH-256
N:237262.3510
E:2005212.3216
48" Ø BRICK MH
IN ROADWAY
DEPTH:4.30'
N. IN: 8" VCP
S. OUT: 8" VCP

EXISTING FRACTURE 76.8 LF FROM MH-256 TO MH-255

EXISTING CRACK 82.0 LF FROM MH-256 TO MH-255

EXISTING FRACTURE 87.0 LF FROM MH-256 TO MH-255

185 LF OF 8" VCP

EXISTING FRACTURE 143.8 LF FROM MH-256 TO MH-255

EXISTING FRACTURE 178.6 LF FROM MH-256 TO MH-255

EXIST MH-255
N:237091.0156
E:2005141.8694
48" Ø BRICK MH
IN UNPAVED AREA
(GRAVEL)
DEPTH:4.20'
N. IN: 8" VCP
W. IN: 8" VCP
SW. OUT: 8" VCP

6" WATER MAIN MATERIAL UNKNOWN

EXISTING BROKEN VOID VISIBLE FRACTURE 3.0 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 7.3 LF FROM MH-255 TO MH-257

EXISTING CRACK 12.4 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 22.7 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 38.1 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 43.3 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 48.6 LF FROM MH-255 TO MH-257

EXISTING CRACK 53.8 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 59.1 LF FROM MH-255 TO MH-257

142 LF OF 8" VCP

EXISTING CRACK 73.9 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 89.2 LF FROM MH-255 TO MH-257

EXISTING CRACK 94.0 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 104.3 LF FROM MH-255 TO MH-257

EXISTING CRACK 119.7 LF FROM MH-255 TO MH-257

EXISTING FRACTURE 124.7 LF FROM MH-255 TO MH-257

SEE SHEET G 1.10 FOR PIPE SEGMENT EXISTING CONDITIONS

EXIST MH-257
N:236980.2217
E:2005087.3042
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.20'
W. IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 8" VCP

EXIST MH-321
N:236970.2919
E:2005040.1233
48" Ø BRICK MH
IN UNPAVED AREA
(GRAVEL)
DEPTH:5.50'
NW. IN: 8" VCP
E. OUT: 8" VCP

SEE SHEET G1.10 FOR PIPE SEGMENT EXISTING CONDITIONS

CONTINUES ON SHEET G1.10

CONTINUES ON SHEET G1.10

4TH AVENUE (S-65)

TOWN SQUARE (S-65)

TOWN SQUARE (S-65)

GRAYS HIGHWAY (US-278)

LEGEND:

	DESCRIPTION
Ⓢ	– DENOTES EXISTING MANHOLE
SAN	– DENOTES EXISTING SANITARY SEWER PIPE
WAT	– DENOTES EXISTING WATER MAIN
▭	– DENOTES EXISTING LATERAL CONNECTION
●	– DENOTES EXISTING MAJOR SANITARY DEFECT
⊗	– DENOTES EXISTING MINOR SANITARY DEFECT

N

0 30' 60'

AREA B KEY MAP

INSET A

N

0 30' 60'

VOLUNTEER PARK ROAD

EXIST MH-270
N:238037.9114
E:2004983.5485
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:2.06'
NW. IN: 6" DIP
SE. OUT: 6" DIP

108 LF OF 6" DIP

MANHOLE LOCATED IN SWALE EMBANKMENT

EXIST MH-80
N:238113.8779
E:2004906.1312
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:1.71'
NW. IN: 6"
SE. OUT: 6" DIP

GRETSCH BUILDING

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDTIONS
TOWN SQUARE

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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ISSUE DATE	SEPT 2024
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844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
G1.9

LEGEND: DESCRIPTION

- Ⓢ — DENOTES EXISTING MANHOLE
- SAN — DENOTES EXISTING SANITARY SEWER PIPE
- WAT — DENOTES EXISTING WATER MAIN
- ▭ — DENOTES EXISTING LATERAL CONNECTION
- ● — DENOTES EXISTING MAJOR SANITARY DEFECT
- ⊗ — DENOTES EXISTING MINOR SANITARY DEFECT

EXIST MH-79
N:237526.0182
E:2005138.3914
48" Ø BRICK MH
IN PAVED AREA
DEPTH:3.30'
S. OUT: 8" VCP

SEE SHEET G1.9 FOR PIPE SEGMENT EXISTING CONDITIONS

EXIST MH-256
N:237262.3510
E:2005212.3216
48" Ø BRICK MH
IN ROADWAY
DEPTH:4.30'
N. IN: 8" VCP
S. OUT: 8" VCP

SEE SHEET G1.9 FOR PIPE SEGMENT EXISTING CONDITIONS

EXIST MH-255
N:237091.0156
E:2005141.8694
48" Ø BRICK MH
IN UNPAVED AREA
(GRAVEL)
DEPTH:4.20'
N. IN: 8" VCP
W. IN: 8" VCP
SW. OUT: 8" VCP

SEE SHEET G1.9 FOR PIPE SEGMENT EXISTING CONDITIONS

EXIST MH-254
N:237042.1412
E:2005481.7471
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:3.00'
S. OUT: 8" VCP
"FLUSH WELL"
SYSTEM WITH STAND PIPES

SEE SHEET G1.11 FOR PIPE SEGMENT EXISTING CONDITIONS

6" WATER MAIN
MATERIAL UNKNOWN

EXISTING CRACK 36.1 MH-253 TO MH-257

EXISTING ROOTS VISIBLE (FINE) 66.5 LF FROM MH-253 TO MH-257

EXISTING ROOTS VISIBLE (TAP) 72.3 LF FROM MH-253 TO MH-257

EXISTING ROOTS VISIBLE (TAP) 77.9 LF FROM MH-253 TO MH-257

EXISTING ROOTS VISIBLE (FINE) 81.2 LF FROM MH-253 TO MH-257

EXISTING ROOTS VISIBLE (MEDIUM) 108.2 LF FROM MH-253 TO MH-257

EXISTING ROOTS VISIBLE (FINE) 121.0 LF FROM MH-253 TO MH-257

EXISTING TAP FACTORY BREAK-IN 132.5 LF FROM MH-253 TO MH-257

EXISTING ROOTS VISIBLE (TAP) 133.1 LF FROM MH-253 TO MH-257

EXISTING TAP FACTORY DEFECTIVE 153.7 LF FROM MH-253 TO MH-257

332.1 LF OF 8" VCP

EXISTING OBSTACLE (BROKEN CLAY PIPE PIECE) IN JOINT 154.2 LF FROM MH-253 TO MH-257

EXISTING 25% WATER LEVEL SAG 161.2 LF FROM MH-253 TO MH-257

EXISTING HOLE SOIL VISIBLE 209.8 LF FROM MH-253 TO MH-257

EXISTING 25% WATER LEVEL SAG 213.2 LF FROM MH-253 TO MH-257

EXISTING 25% WATER LEVEL SAG 237.9 LF FROM MH-253 TO MH-257

EXISTING ROOTS VISIBLE (FINE) 257.7 LF FROM MH-253 TO MH-257

EXIST MH-253
N:236829.2922
E:2005394.5959
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.10'
W. IN: 8" VCP
N. IN: 8" VCP
S. OUT: 8" VCP

EXIST MH-257
N:236960.2217
E:2005087.3042
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.20'
W. IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 8" VCP

48 LF OF 8" VCP

186 LF OF 8" VCP

EXIST MH-321
N:236970.2919
E:2005040.1233
48" Ø BRICK MH
IN UNPAVED AREA
(GRAVEL)
DEPTH:5.50'
NW. IN: 8" VCP
E. OUT: 8" VCP

EXISTING INTRUDING SEALING GROUT AT INVERT 185.2 LF FROM MH-321 TO MH-321A

ABANDONED SURVEY DUE TO COLLAPSED PIPE WITH CONSTRUCTION DEBRIS OBSTACLE 269.9 LF FROM 253 TO MH-257

EXISTING HOLE VISIBILE 62.2 LF FROM MH-257 TO MH-253

EXISTING TAP BREAK-IN 51.9 LF FROM MH-257 TO MH-253

EXISTING ROOTS VISIBLE (FINE) 137.4 LF FROM MH-321 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 145.8 LF FROM MH-321 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 158.2 LF FROM MH-321 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 163.8 LF FROM MH-321 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 41.2 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 38.2 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 35.1 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 28.8 LF FROM MH-78 TO MH-321A

EXISTING GREASE DEPOSIT AND ROOTS VISIBLE (FINE) 22.7 LF FROM MH-78 TO MH-321A

REPAIR PATCH 19.6 LF FROM MH-78 TO MH-321A

EXISTING GREASE DEPOSIT AND ROOTS VISIBLE (TAP) 16.6 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (TAP) 13.5 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 10.3 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (TAP-2) 7.0 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (TAP) 5.0 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (TAP) 1.0 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 53.6 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 68.9 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 75.2 LF FROM MH-78 TO MH-321A

EXISTING ROOTS VISIBLE (FINE) 81.3 LF FROM MH-78 TO MH-321A

EXISTING PIPE BORED THROUGH MH-321A

106 LF OF 8" VCP

EXIST MH-78
N:237088.4649
E:2004772.7862
22" Ø BRICK MH
IN ROADWAY
DEPTH:4.40'
NW. IN: VCP
SE. OUT: 8" VCP

EXIST BURIED MH-321A
N:237045.3347
E:2004869.8337
48" Ø BRICK MH
IN ROADWAY
PIPE BORED THROUGH MH
DEPTH: ~5.00'
NW. IN: 8" VCP
SE. OUT: 8" VCP

12" WATER MAIN
MATERIAL UNKNOWN

6" WATER MAIN
MATERIAL UNKNOWN

EXIST MH-252
N:236547.3865
E:2005278.7761
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.70'
N. IN: 8" VCP
S. OUT: 8" VCP

4TH AVENUE (S-65)

TOWN SQUARE (S-65)

TOWN SQUARE (S-66)

N PERRY STREET (S-67)

GRAYS HIGHWAY (US-278)

3RD AVENUE (US-278)

RUSSELL ST

AREA B KEY MAP

0 30' 60'

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
1				
2				
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDITIONS GRAYS HIGHWAY TO N. PERRY STREET

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	ABB	DRAWN	SLD
JOB #	17-1007		
ISSUE DATE	SEPT 2024		
ISSUE	BID		

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
G1.10

CONTINUES ON SHEET G1.9

EXIST MH-256
N:237262.3510
E:2005212.3216
48" Ø BRICK MH
IN ROADWAY
DEPTH:4.30'
N. IN: 8" VCP
S. OUT: 8" VCP

EXIST MH-254
N:237042.1412
E:2005481.7471
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:3.00'
S. OUT: 8" VCP
"FLUSH WELL"
SYSTEM WITH STAND PIPES

SURVEY ABANDONED, EXTERNAL PIPE BORED THROUGH WALL,EXISTING HOLE, EXTERNAL PIPE, AND ROOTS VISIBLE (FINE AND TAP) 124.1 LF FROM MH-253 TO MH-254

EXISTING 25% WATER LEVEL SAG 118.0 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 115.2 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 112.5 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 109.1 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (FINE) 106.3 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP-2) 103.1 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) AND 25% WATER LEVEL SAG 99.8 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 96.7 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 94.2 LF FROM MH-253 TO MH-254

230 LF OF 8" VCP

EXISTING ROOTS VISIBLE (TAP) 90.7 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 84.9 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 78.6 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 72.6 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 69.5 LF FROM MH-253 TO MH-254

EXISTING TAP BREAK-IN (INTRUDING) 59.6 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (FINE) 54.3 LF FROM MH-253 TO MH-254

EXISTING TAP BREAK-IN 53.5 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (FINE) 47.9 LF FROM MH-253 TO MH-254

EXISTING 20% WATER LEVEL SAG 37.1 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE 35.7 LF FROM MH-253 TO MH-254

EXISTING 20% WATER LEVEL SAG 29.0 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (FINE AND TAP) 23.4 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (FINE) 17.4 LF FROM MH-253 TO MH-254

EXISTING ROOTS VISIBLE (TAP) 11.2 LF FROM MH-253 TO MH-254

EXISTING 10% WATER LEVEL SAG 0 LF FROM MH-253 TO MH-254

EXIST MH-253
N:236829.2922
E:2005394.5959
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.10'
W. IN: 8" VCP
N. IN: 8" VCP
S. OUT: 8" VCP

SEE SHEET G1.9 FOR PIPE SEGMENT EXISTING CONDITIONS

6" WATER MAIN MATERIAL UNKNOWN

EXIST MH-255
N:237091.0156
E:2005141.8694
48" Ø BRICK MH
IN UNPAVED AREA
(GRAVEL)
DEPTH:4.20'
N. IN: 8" VCP
W. IN: 8" VCP
SW. OUT: 8" VCP

4TH AVENUE (S-65)

TOWN SQUARE (S-69)

PERRY STREET (S-69)

EXIST MH-257
N:236960.2217
E:2005087.3042
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.20'
W. IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 8" VCP

SEE SHEET G1.9 FOR PIPE SEGMENT EXISTING CONDITIONS

SEE SHEET G1.10 FOR PIPE SEGMENT EXISTING CONDITIONS

EXIST MH-321
N:236970.2919
E:2005040.1233
48" Ø BRICK MH
IN UNPAVED AREA
(GRAVEL)
DEPTH:5.50'
NW. IN: 8" VCP
E. OUT: 8" VCP

SEE SHEET G1.9 FOR PIPE SEGMENT EXISTING CONDITIONS

CONTINUES ON SHEET G1.9

3RD AVENUE (US-278)

GRAYS HIGHWAY (US-278)

12" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

133.6 LF OF 8" VCP

EXISTING TAP BREAK-IN 52.9 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (FINE) 60.5 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (FINE) 72.9 LF FROM MH-253 TO MH-252

EXISTING TAP BREAK-IN 93.4 LF FROM MH-253 TO MH-252

12.4 LF OF 8" CAST IRON

N:236706.8751
E:2005343.7511
MATERIAL CHANGE: 8" VCP TO 8" CAST IRON WITH ATTACHED ENCRUSTATION
133.6 LF FROM MH-253 TO MH-252

N:236706.8751
E:2005343.7511
MATERIAL CHANGE: 8" CAST IRON TO 8" VCP WITH ATTACHED ENCRUSTATION AND TUBERCULATION 146.0 LF FROM MH-253 TO MH-252

156.1 LF OF 8" VCP

EXISTING TAP FACTORY CAPPED 231.7 LF FROM MH-253 TO MH-252

EXISTING FRACTURE 233.5 LF FROM MH-253 TO MH-252

EXISTING TAP FACTORY CAPPED 240.7 LF FROM MH-253 TO MH-252

EXISTING TAP BREAK-IN 246.3 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (MEDIUM) 254.3 LF FROM MH-253 TO MH-252

EXISTING GREASE DEPOSIT AND ROOTS VISIBLE (FINE) 260.4 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (TAP AND FINE) AND 25% WATER LEVEL SAG 263.6 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (FINE) 266.4 LF FROM MH-253 TO MH-252

EXISTING GREASE DEPOSIT 272.7 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (MEDIUM) 275.8 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (TAP-2) 278.7 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (TAP-2) AND 25% WATER LEVEL SAG 282.0 LF FROM MH-253 TO MH-252

EXISTING FRACTURE 283.6 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (TAP) 285.1 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (TAP) 291.2 LF FROM MH-253 TO MH-252

EXISTING ROOTS VISIBLE (TAP-2) 297.4 LF FROM MH-253 TO MH-252

EXIST MH-252
N:236547.3865
E:2005278.7761
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.70'
N. IN:8" VCP
S. OUT: 8" VCP

RAILROAD TRACKS

LEGEND: DESCRIPTION

- Ⓢ — DENOTES EXISTING MANHOLE
- SAN — DENOTES EXISTING SANITARY SEWER PIPE
- WAT — DENOTES EXISTING WATER MAIN
- ▭ — DENOTES EXISTING LATERAL CONNECTION
- ● — DENOTES EXISTING MAJOR SANITARY DEFECT
- ⊗ — DENOTES EXISTING MINOR SANITARY DEFECT

N

0 30' 60'

AREA B KEY MAP

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN CHK	DESCRIPTION
1		BY	
2		BY	
3			
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5			
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7			

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDTIONS
4TH AVENUE TO 3RD AVENUE

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN
ABB	SLD
JOB #	17-1007
ISSUE DATE	SEPT 2024
ISSUE	BID

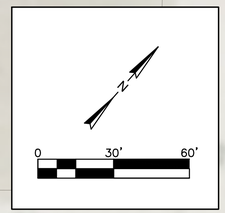
FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
G1.11

LAST EDITED BY: STEVE DUCHARME

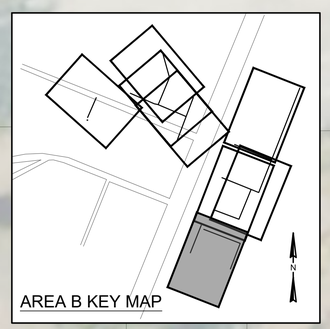
CAD FILE: R:\17-1007-035 PART-2\X\CDS\RIDGELAND EDA PART 2 EC.DWG

PLOT DATE AND TIME: 10/1/2024 1:28:31 PM



LEGEND: DESCRIPTION

- Ⓢ — DENOTES EXISTING MANHOLE
- SAN — DENOTES EXISTING SANITARY SEWER PIPE
- WAT — DENOTES EXISTING WATER MAIN
- — DENOTES EXISTING LATERAL CONNECTION
- ● — DENOTES EXISTING MAJOR SANITARY DEFECT
- ⊗ — DENOTES EXISTING MINOR SANITARY DEFECT



S.GREEN STREET (S-32)

EXISTING 30% WATER LEVEL SAG 67.5 LF FROM MH-40 TO MH-41

EXISTING TAP FACTORY DEFECTIVE 45.0 LF FROM MH-40 TO MH-41

EXISTING INFIL STAIN AND 30% WATER LEVEL SAG 36.2 LF FROM MH-40 TO MH-41

EXISTING 25% WATER LEVEL SAG 17.2 LF FROM MH-40 TO MH-41

EXISTING 25% WATER LEVEL SAG 0 LF FROM MH-40 TO MH-41

EXIST MH-40
N:235327.5943
E:2005462.6243
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:5.50'
SE. OUT: 8" PVC
NE. IN: 8" VCP
NW. IN: 8" PVC

EXISTING TAP FACTORY 72.8 LF FROM MH-40 TO MH-41

EXISTING INFIL STAIN 88.6 LF FROM MH-40 TO MH-41

EXISTING INTRUDING SEALING GROUT 112.3 LF FROM MH-40 TO MH-41

EXISTING TAP FACTORY CAPPED 125.0 LF FROM MH-40 TO MH-41

EXISTING TAP BREAK-IN 127.7 LF FROM MH-40 TO MH-41

EXISTING INFIL STAIN 137.8 LF FROM MH-40 TO MH-41

EXISTING INFIL STAIN 143.9 LF FROM MH-40 TO MH-41

EXISTING INFIL STAIN 150 LF FROM MH-40 TO MH-41

EXISTING TAP BREAK-IN 167.9 LF FROM MH-40 TO MH-41

EXISTING INTRUDING SEALING GROUT 175.8 LF FROM MH-40 TO MH-41

EXISTING INTRUDING SEALING GROUT 176.9 LF FROM MH-40 TO MH-41

EXISTING TAP FACTORY 177.2 LF FROM MH-40 TO MH-41

EXISTING TAP FACTORY DEFECTIVE 260.3 LF FROM MH-40 TO MH-41

EXISTING TAP BREAK-IN 262.6 LF FROM MH-40 TO MH-41

EXISTING TAP BREAK-IN 253.1 LF FROM MH-40 TO MH-41

EXISTING TAP FACTORY 226.4 LF FROM MH-40 TO MH-41

EXISTING TAP FACTORY 192.5 LF FROM MH-40 TO MH-41

338 LF OF 8" VCP

EXISTING 20% WATER LEVEL SAG 311.9 LF FROM MH-40 TO MH-41

EXISTING GREASE DEPOSIT 319.1 LF FROM MH-40 TO MH-41

EXISTING GREASE DEPOSIT 320.5 LF FROM MH-40 TO MH-41

EXISTING 20% WATER LEVEL SAG 326.9 LF FROM MH-40 TO MH-41

EXISTING GREASE DEPOSIT 338.3 LF FROM MH-40 TO MH-41

EXIST MH-41
N:235641.7179
E:2005588.3150
48" Ø BRICK MH
IN ROADWAY
DEPTH:6.50'
SE. OUT: 8" VCP

EXIST MH-42
N:235602.2977
E:2005581.6226
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.25'
SE. OUT: 8" ORANGEBURG

ORANGEBURG PIPE MATERIAL SURVEY ATTEMPT ABANDONED SIGNIFICANT SAND IN LINE

438 LF OF 8" ORANGEBURG

6" WATER MAIN MATERIAL UNKNOWN

W. MAIN STREET (S-336)

ADAMS STREET (S-61)

6" WATER MAIN MATERIAL UNKNOWN

EXISTING CRACK 22.6 LF FROM MH-43 TO MH-238

EXISTING 25% WATER LEVEL SAG 40.9 LF FROM MH-43 TO MH-238

PIPE BROKEN AND LARGE JOINT OFFSET 59.9 LF FROM MH-43 TO MH-238

EXISTING TAP FACTORY CAPPED 73.6 LF FROM MH-43 TO MH-238

EXISTING MEDIUM JOINT OFFSET 119.2 LF FROM MH-43 TO MH-238

EXISTING 20% WATER LEVEL SAG 140.4 LF FROM MH-43 TO MH-238

EXISTING TAP BREAK-IN INTRUDING 180.9 LF FROM MH-43 TO MH-238

EXISTING TAP FACTORY 304.9 LF FROM MH-43 TO MH-238

307 LF OF 8" VCP

EXIST MH-238
N:235156.0167
E:2005879.2394
48" Ø BRICK MH
WITH COATING
IN ROADWAY
DEPTH:8.30'
NE. IN: 8" VCP
NW. IN: 10" HDPE
SE. OUT: 10" HDPE

EXIST MH-43
N:235442.7212
E:2005989.7993
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:5.30'
NW. IN: 8" ORANGEBURG
SW. OUT: 8" VCP

S. JACOB SMART BOULEVARD (HWY-17)

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN. BY	CHK BY	DESCRIPTION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

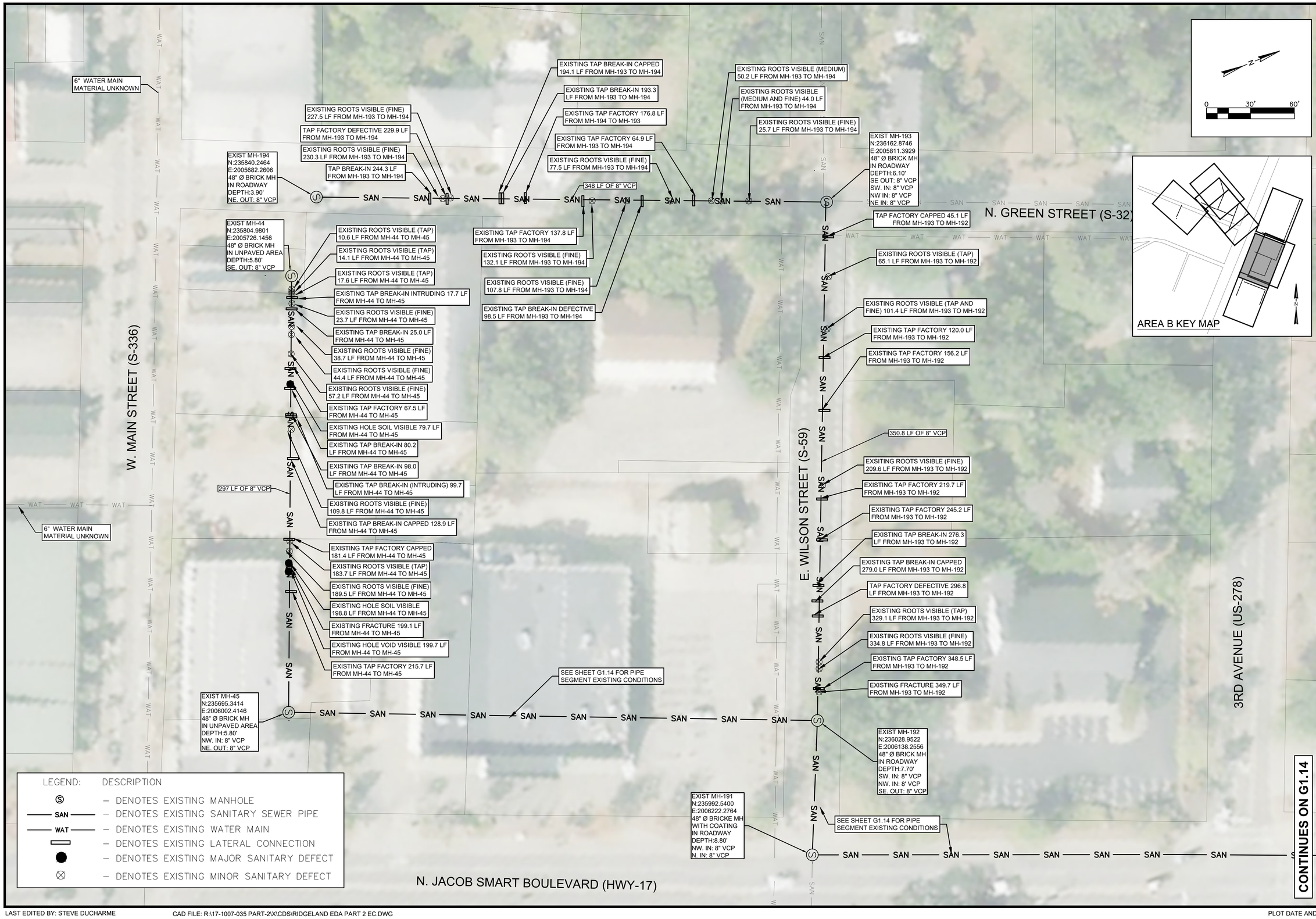
AREA B EXISTING CONDTIONS
S. JACOB SMART BLVD TO S. GREEN ST

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	
ABB	SLD	17-1007	SEPT 2024	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
G1.12



SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN CHK BY
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5		
6		
7		

DESCRIPTION

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDTIONS
N. JACOB SMART BLVD TO N. GREEN ST

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN
ABB	SLD
JOB #	17-1007
ISSUE DATE	SEPT 2024
ISSUE	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
G1.13

CONTINUES ON SHEET G1.13

CONTINUES ON SHEET G1.13

CONTINUES ON SHEET G1.15

W. MAIN STREET (S-336)

E. WILSON STREET (S-59)

3RD AVENUE (US-278)

N. JACOB SMART BOULEVARD (HWY-17)

SEE SHEET G1.13 FOR PIPE SEGMENT EXISTING CONDITIONS

SEE SHEET G1.13 FOR PIPE SEGMENT EXISTING CONDITIONS

SEE SHEET G1.15 FOR PIPE SEGMENT EXISTING CONDITIONS

EXIST MH-45
N:235695.3414
E:2006002.4146
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:5.80'
W. IN: 8" VCP
N. OUT: 8" VCP

EXISTING GREASE DEPOSITS
3.0 LF FROM MH-45 TO MH-192

EXISTING TAP FACTORY CAPPED
7.2 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS 8.6
LF FROM MH-45 TO MH-192

EXISTING WATER LEVEL SAG 25%
aAND GREASE DEPOSITS
11.9 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS 15.3
LF FROM MH-45 TO MH-192

EXISTING 25% WATER LEVEL SAG
20.1 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS
35.1 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS
40.0 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS 49.4
LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS 62.1 LF
FROM MH-45 TO MH-192

EXISTING TAP CAPPED
75.9LF FROM MH-45 TO MH-192

EXISTING TAP BREAK-IN INTRUDING
77.2 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS
96.2 LF FROM MH-45 TO MH-192

EXISTING CRACK 346.2 LF FROM
MH-45 TO MH-192

EXISTING FRACTURE AND INFIL STAIN
312.2 LF FROM MH-45 TO MH-192

EXISTING TAP BREAK-IN 285.3 LF
FROM MH-45 TO MH-192

EXISTING TAP FACTORY DEFECTIVE
263.5 LF FROM MH-45 TO MH-192

EXISTING CRACK 236.8 LF FROM
MH-45 TO MH-192

EXISTING TAP BREAK-IN 233.2 LF
FROM MH-45 TO MH-192

360 LF OF 8" VCP

EXISTING GREASE DEPOSITS 218.4 LF
FROM MH-45 TO MH-192

EXISTING 25% WATER LEVEL SAG
211.6 LF FROM MH-45 TO MH-192

EXISTING 25% WATER LEVEL SAG
206.2 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS
202.8 LF FROM MH-45 TO MH-192

EXISTING INTRUDING SEALING GROUT
193.2 LF FROM MH-45 TO MH-192

EXISTING TAP BREAK-IN CAPPED
166.5 LF FROM MH-45 TO MH-192

EXISTING TAP BREAK-IN 149.2 LF
FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS
128.3 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS
123.8 LF FROM MH-45 TO MH-192

EXISTING GREASE DEPOSITS
103.2 LF FROM MH-45 TO MH-192

6" WATER MAIN
MATERIAL UNKNOWN

EXIST MH-192
N:236028.9522
E:2006138.2556
48" Ø BRICK MH
IN ROADWAY
DEPTH:7.70
SW. IN: 8" VCP
NW. IN: 8" VCP
SE. OUT: 8" VCP

EXISTING FRACTURE 1.5 LF
FROM MH-192 TO MH-191

EXISTING FRACTURE 18.8 LF
FROM MH-192 TO MH-191

EXISTING MULTIPLE FRACTURES
55.9 LF FROM MH-192 TO MH-191

92 LF OF 8" VCP

PIPE BROKEN 426.4 LF
FROM MH-273 TO MH-191

EXISTING FRACTURE 423.1 LF
FROM MH-273 TO MH-191

EXISTING 25% WATER LEVEL SAG
414.7 LF FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS 385.0
LF FROM MH-273 TO MH-191

EXIST MH-191
N:235992.5400
E:2006222.2764
48" Ø BRICKE MH
WITH COATING
IN ROADWAY
DEPTH:8.80'
NW IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 10" HDPE

6" WATER MAIN
MATERIAL UNKNOWN

EXISTING GREASE DEPOSITS 166.2 LF
FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS 169.2 LF
FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS 172.3 LF
FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS 177.7 LF
FROM MH-273 TO MH-191

EXISTING ROOTS VISIBLE (TAP)
329.1 LF FROM MH-193 TO MH-192

EXISTING ROOTS VISIBLE (FINE)
334.8 LF FROM MH-193 TO MH-192

EXISTING TAP FACTORY 348.5 LF
FROM MH-193 TO MH-192

EXISTING FRACTURE 349.7 LF
FROM MH-193 TO MH-192

EXISTING GREASE DEPOSITS 178.5 LF
FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS 194.0 LF
FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS 197.5 LF
FROM MH-273 TO MH-191

EXISTING 25% WATER LEVEL SAG
207.9 LF FROM MH-273 TO MH-191

EXISTING FRACTURE 209.5
LF FROM MH-273 TO MH-191

280.7 LF OF 8" VCP

EXISTING GREASE DEPOSITS 290.1 LF
FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS 308.6 LF
FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS
324.1 LF FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS
330.2 LF FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS
341.5 LF FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS
345.7 LF FROM MH-273 TO MH-191

EXISTING GREASE DEPOSITS
346.9 LF FROM MH-273 TO MH-191

N:236272.3048
E:2006331.2498
MATERIAL CHANGE:
8" VCP TO 8" PVC
100.6 LF FROM
MH-273 TO MH-191

EXIST MH-273
N:236365.1972
E:2006367.9999
48" Ø BRICK MH
IN ROADWAY
DEPTH:9.20'
NE. IN: 8" VCP
NW. IN: 8" VCP
SW. OUT: 8" VCP

100.6 LF OF 8" VCP

47.0 LF OF 8" PVC

EXISTING JOINT SEPARATED MEDIUM
45.7 LF FROM MH-273 TO MH-191

EXISTING 25% WATER LEVEL SAG 12.5 LF
FROM MH-273 TO MH-191

N:236272.3048
E:2006331.2498
MATERIAL CHANGE:
8" PVC TO 8" VCP
147.6 LF FROM
MH-273 TO MH-191

AREA B KEY MAP

LEGEND: DESCRIPTION

Ⓢ – DENOTES EXISTING MANHOLE

SAN – DENOTES EXISTING SANITARY SEWER PIPE

WAT – DENOTES EXISTING WATER MAIN

– DENOTES EXISTING LATERAL CONNECTION

– DENOTES EXISTING MAJOR SANITARY DEFECT

⊗ – DENOTES EXISTING MINOR SANITARY DEFECT

0 30' 60'

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDITIONS
N. JACOB SMART BLVD TO N. GREEN ST

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	ISSUE
ABB	SCD	17-1007	SEPT 2024	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
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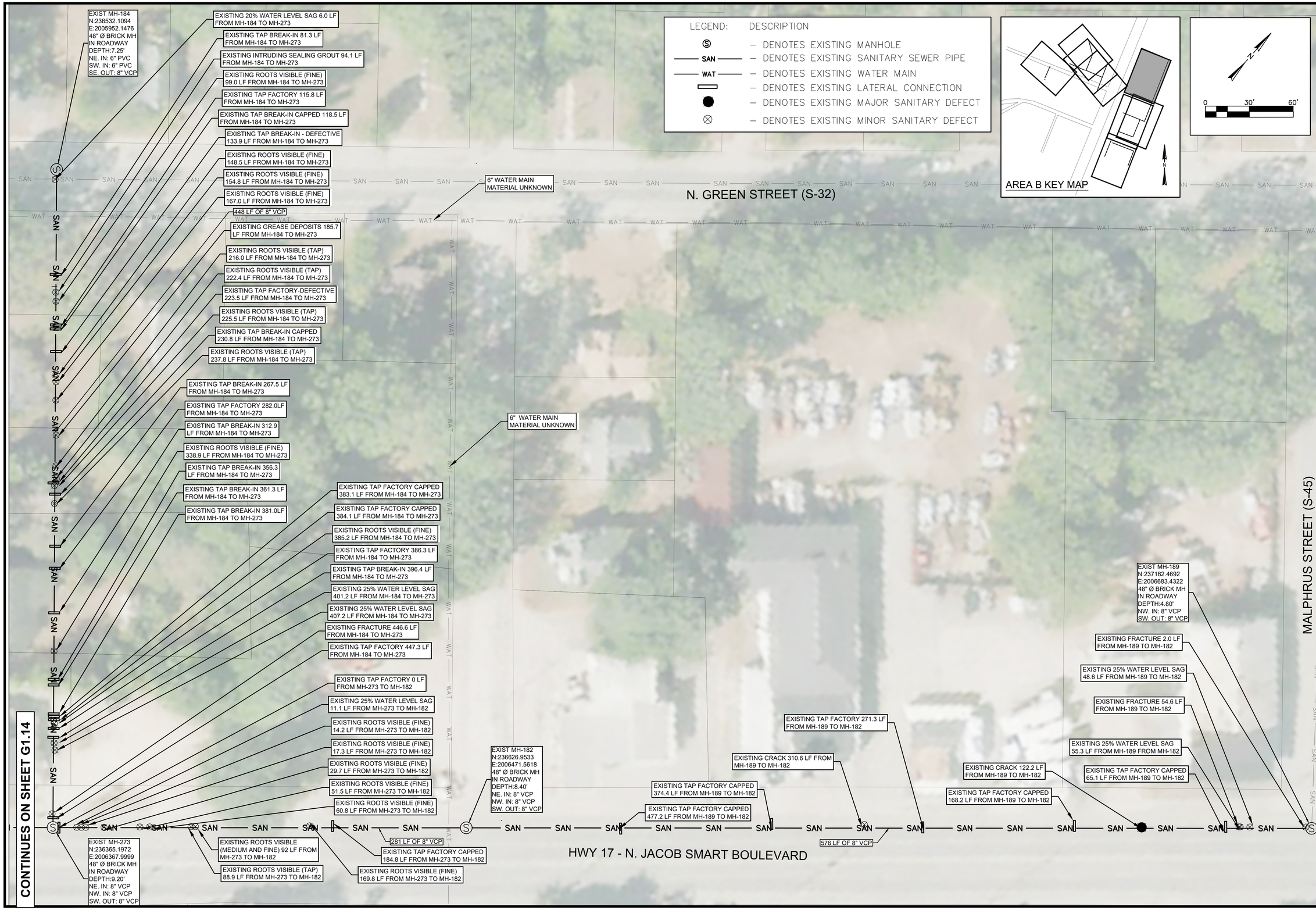

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SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B EXISTING CONDITIONS
N. GREEN ST TO MALPHRUS ST (S-45)

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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BID ALTERNATE 4 C1.13 TO C1.15 - PIPE WORK AND CONSTRUCTION OF MANHOLE IMPROVEMENTS

JASPER HIGHWAY (I-95)

E. MAIN STREET R/W VARIES

S.C HIGHWAY 336

DWG SHT G1.17
DWG SHT C1.13

DWG SHT G1.18
DWG SHT C1.14

DWG SHT G1.19
DWG SHT C1.15

MH-170
MH-171
MH-172
MH-11
MH-10A
MH-10
MH-9A
MH-9
MH-8
MH-8A
MH-7
MH-6
MH-24
MH-25
MH-26
MH-27
MH-294
MH-296
MH-295

SAN

0 30' 60'

N

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA C EXISTING CONDITIONS AND PROPOSED IMPROVEMENTS KEY MAP

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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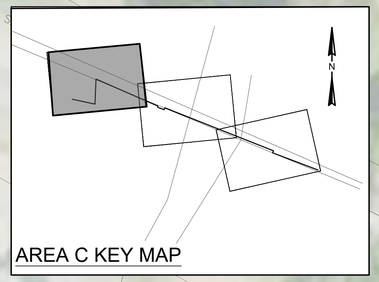

LEGEND: DESCRIPTION
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- SAN – DENOTES EXISTING SANITARY SEWER PIPE
- WAT – DENOTES EXISTING WATER MAIN
- ▭ – DENOTES EXISTING LATERAL CONNECTION
- ● – DENOTES EXISTING MAJOR SANITARY DEFECT
- ⊗ – DENOTES EXISTING MINOR SANITARY DEFECT

N
0 30' 60'

S.C. HIGHWAY 336
E. MAIN STREET R/W VARIES

WILSON STREET (S-157)

JAMES L TAYLOR DRIVE

BUCKNER ROAD

E. ADAMS STREET (S-61)

ADAMS STREET

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

EXIST MH-170
N:234827.0770
E:2007710.6664
48" Ø CONCRETE MH
IN ROADWAY (ADAMS ST)
(FRAME OFFSET)
DEPTH:6.70'
S. IN: 8" PVC
E. OUT: 8" PVC

EXISTING 15% WATER LEVEL SAG
218.2 LF FROM MH-171 TO MH-170

EXISTING 15% WATER LEVEL SAG
205.2 LF FROM MH-171 TO MH-170

EXISTING TAP BREAK 165.1 LF
FROM MH-171 TO MH-170

EXISTING 15% WATER LEVEL SAG
132.9 LF MH-171 TO MH-170

EXISTING 15% WATER LEVEL SAG
123.7 LF MH-171 TO MH-170

240 LF OF 8" PVC

EXISTING TAP BREAK IN AND 25% WATER
LEVEL SAG 92.0 LF MH-171 TO MH-170

EXISTING FRACTURE 90.9 LF
FROM MH-171 TO MH-170

EXISTING 25% WATER LEVEL SAG
72.2 LF FROM MH-171 TO MH-170

EXISTING 25% WATER LEVEL SAG
174.1 LF FROM MH-11 TO MH-170

EXISTING 25% WATER LEVEL SAG
158.9 LF FROM MH-11 TO MH-170

EXISTING GREASE DEPOSIT 112.7 LF
FROM MH-11 TO MH-170

EXISTING 25% WATER LEVEL SAG
AND GREASE DEPOSIT 93.1 LF
FROM MH-11 TO MH-170

EXISTING 25% WATER LEVEL SAG
AND GREASE DEPOSIT 81.2 LF
FROM MH-11 TO MH-170

228 LF OF 8" PVC

EXISTING 25% WATER LEVEL SAG
9.4 LF FROM MH-11 TO MH-170

EXISTING GREASE DEPOSIT 7.2 LF
FROM MH-11 TO MH-170

EXISTING GREASE DEPOSIT 6.9 LF
FROM MH-11 TO MH-170

EXISTING 25% WATER LEVEL SAG
6.0 LF FROM MH-11 TO MH-170

EXIST MH-11
N:234742.4795
E:2007922.0173
48" Ø CONCRETE MH
IN CONCRETE DRIVEWAY
(BROKEN CONCRETE)
DEPTH:5.70'
S. IN: 4" PVC
W. IN: 8" PVC
SE. OUT: 8" PVC

EXISTING GREASE DEPOSIT 2.0 LF
FROM MH-11 TO MH-10A

EXISTING GREASE DEPOSIT 6.0 LF
FROM MH-11 TO MH-10A

EXISTING GREASE DEPOSIT 41.5 LF
FROM MH-11 TO MH-10A

EXISTING GREASE DEPOSIT 42.7 LF
FROM MH-11 TO MH-10A

EXISTING TAP FACTORY 55.0 LF
FROM MH-11 TO MH-10A

EXISTING 25% WATER LEVEL SAG
78.6 LF FROM MH-11 TO MH-10A

EXISTING 25% WATER LEVEL SAG
89.3 LF FROM MH-11 TO MH-10A

EXISTING TAP BREAK-IN ACTIVE
107.3 LF FROM MH-11 TO MH-10A

211.9 LF OF 8" PVC

EXIST MH-10
N:234648.2530
E:2008155.2880
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:4.70'
S. IN: 6" PVC
W. IN: 8" PVC
E. OUT: 8" PVC

EXISTING TAP BREAK-IN 203.5 LF
FROM MH-11 TO MH-10A

EXIST BURIED MH-10A
N:234660.6296
E:2008119.8549
48" Ø CONCRETE MH
IN PARKING LOT
DEPTH:3.20'
NW. IN: 8" PVC
E. OUT: 8" PVC

EXISTING GREASE DEPOSITS 23.3 LF
FROM MH-10 TO MH-10A

35 LF OF 8" PVC

EXIST MH-172
N:234634.3706
E:2007493.2350
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:6.30'
E. OUT: 8" PVC

EXISTING CRACK 199.5 LF
FROM MH-171 TO MH-172

EXISTING TAP FACTORY 171.4 LF
FROM MH-171 TO MH-172

EXISTING TAP FACTORY CAPPED 145.5 LF
FROM MH-171 TO MH-172

EXISTING TAP BREAK-IN 127.3 LF
IN FROM MH-171 TO MH-172

EXISTING GREASE DEPOSITS 109.1 LF
FROM MH-171 TO MH-172

EXISTING GREASE DEPOSITS 103.3 LF
FROM MH-171 TO MH-172

EXISTING TAP BREAK-IN 84.2 LF
FROM MH-171 TO MH-172

EXISTING TAP FACTORY CAPPED
69.7 LF FROM MH-171 TO MH-172

230 LF OF 8" PVC

EXIST MH-171
N:234587.1502
E:2007718.0743
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:5.90'
W. IN: 8" PVC
N. OUT: 8" PVC
S. IN: 4" PVC
DROP PIPE (INSIDE)

CONTINUES ON SHEET G1.18

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
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No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA C EXISTING CONDTIONS
E. ADAM STREET TO MAIN STREET

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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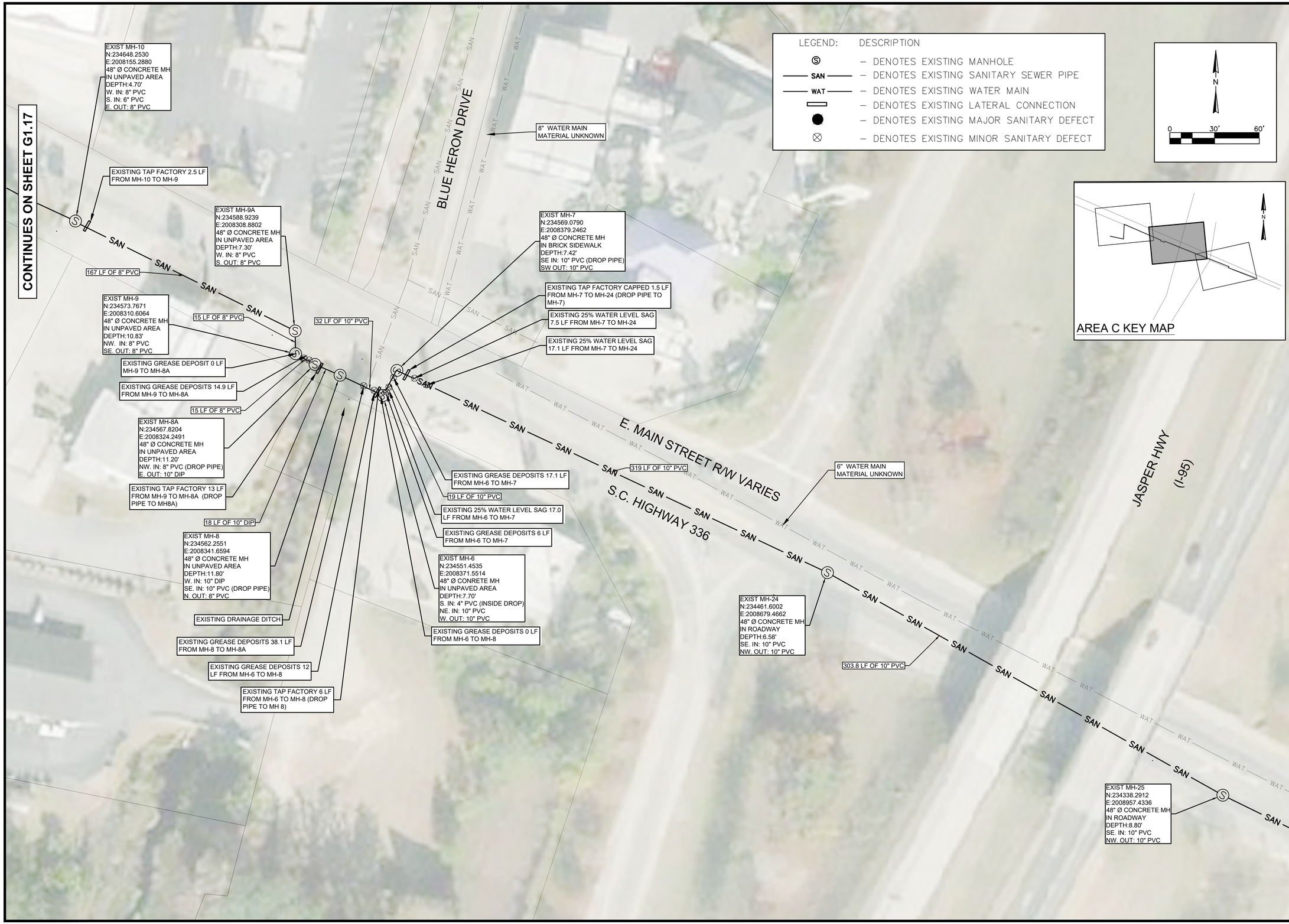

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA C EXISTING CONDTIONS
MAIN STREET

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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CONTINUES ON SHEET G1.18

EXIST MH-25
N:234338.2912
E:2008957.4336
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:8.80'
SE. IN: 10" PVC
NW. OUT: 10" PVC

313 LF OF 10" PVC

EXISTING 25% WATER LEVEL SAG
244.9 LF MH-25 TO MH-26

EXIST MH-26
N:234227.9514
E:2009250.3559
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:10.50'
SE. IN: 10" PVC
SE. IN: 6" PVC
SW. IN: 6" CIP
(INSIDE DROP)
NW. OUT: 10" PVC

183.0 LF OF 10" PVC

EXISTING TAP BREAK-IN ACTIVE
69.9 LF FROM MH-27 TO MH-26

EXIST MH-27
N:234157.4069
E:2009419.1443
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:8.60'
S. IN: 10" PVC
S. IN: 4" PVC
NW. OUT: 10" PVC

21 LF OF 10" PVC

EXIST MH-296
N:234137.3082
E:2009424.2165
48" Ø CONCRETE MH
IN BRICK SIDEWALK
DEPTH:7.70'
SE. IN: 10" PVC
N. OUT: 10" PVC

EXISTING TAP FACTORY DEFECTIVE
26.4 LF FROM MH-296 TO MH-294

EXISTING GREASE DEPOSITS 33.5 LF
FROM MH-296 TO MH-294

EXISTING GREASE DEPOSITS 40.5 LF
FROM MH-296 TO MH-294

201.8 LF OF 10" PVC

EXIST BURIED MH-294
N:234067.4025
E:2009613.2212
48" Ø CONCRETE MH
IN BRICK SIDEWALK
DEPTH:8.60'
SE. IN: 10" PVC
NE. IN: 8" PVC
NW. OUT: 10" PVC

EXISTING GREASE DEPOSITS 201.8 LF
FROM MH-296 TO MH-294

EXISTING TAP FACTORY 44.0
LF FROM MH-294 TO MH-295

263 LF OF 10" PVC

EXIST MH-295
N:233974.7681
E:2009859.0189
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:8.30'
SE. IN: 10" PVC
SW. IN: 8" PVC
NW. OUT: 10" PVC

EXISTING TAP FACTORY 192.0 LF
FROM MH-294 TO MH-295

EXISTING TAP FACTORY 220.2 LF
FROM MH-294 TO MH-295

8" WATER MAIN
MATERIAL UNKNOWN

GRAHAMVILLE ROAD (S-336)

HENRY LAWTON ROAD (SR-S-27-405)

SYCAMORE DRIVE

LEGEND: DESCRIPTION

- Ⓢ – DENOTES EXISTING MANHOLE
- SAN – DENOTES EXISTING SANITARY SEWER PIPE
- WAT – DENOTES EXISTING WATER MAIN
- ▭ – DENOTES EXISTING LATERAL CONNECTION
- ● – DENOTES EXISTING MAJOR SANITARY DEFECT
- ⊗ – DENOTES EXISTING MINOR SANITARY DEFECT

N

0 30' 60'

AREA C KEY MAP

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA C EXISTING CONDTIONS
GRAHAMVILLE ROAD

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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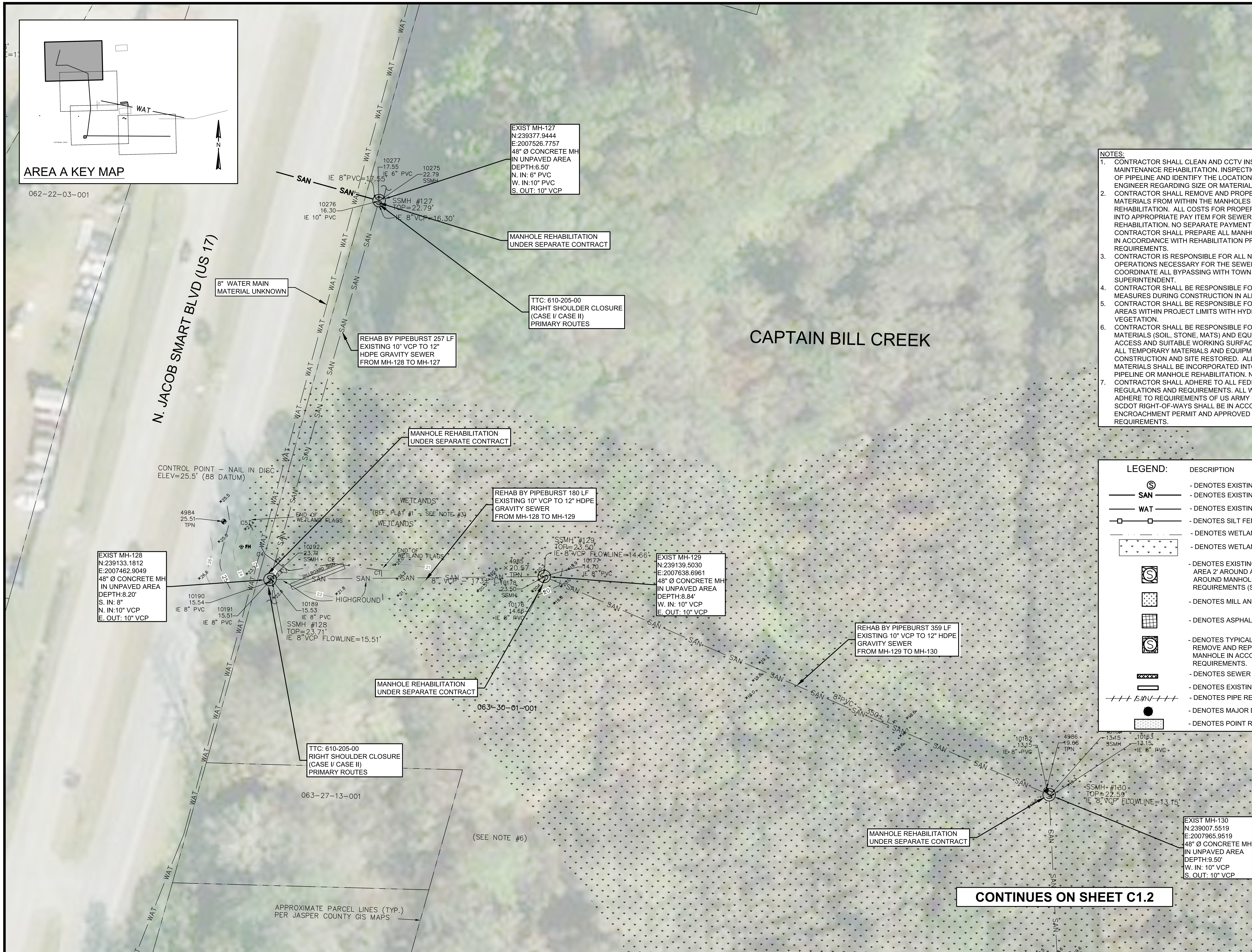

CONTINUES ON SHEET C1.2

N
0 30' 60'

NOTES:

1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
2. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS AND MATERIALS FROM WITHIN THE MANHOLES OR PIPELINES PRIOR TO REHABILITATION. ALL COSTS FOR PROPER DISPOSAL SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL. CONTRACTOR SHALL PREPARE ALL MANHOLES AND PIPES FOR REHABILITATION IN ACCORDANCE WITH REHABILITATION PRODUCT MANUFACTURERS' REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION IN ALL DISTURBED AREAS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS WITHIN PROJECT LIMITS WITH HYDROSEEDING AND/OR PERMANENT VEGETATION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY MATERIALS (SOIL, STONE, MATS) AND EQUIPMENT TO DEVELOP APPROPRIATE ACCESS AND SUITABLE WORKING SURFACE FOR PROPOSED CONSTRUCTION. ALL TEMPORARY MATERIALS AND EQUIPMENT USED SHALL BE REMOVED AFTER CONSTRUCTION AND SITE RESTORED. ALL COSTS FOR SUCH TEMPORARY MATERIALS SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAY ITEM WILL BE MADE.
7. CONTRACTOR SHALL ADHERE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS. ALL WORK WITHIN WETLAND AREAS SHALL ADHERE TO REQUIREMENTS OF US ARMY CORPS OF ENGINEERS. ALL WORK IN SCDOT RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH SCDOT ENCROACHMENT PERMIT AND APPROVED PAVING RESTORATION AND MOT REQUIREMENTS.

LEGEND:	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A PROPOSED IMPROVEMENTS
CAPTAIN BILL CREEK

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

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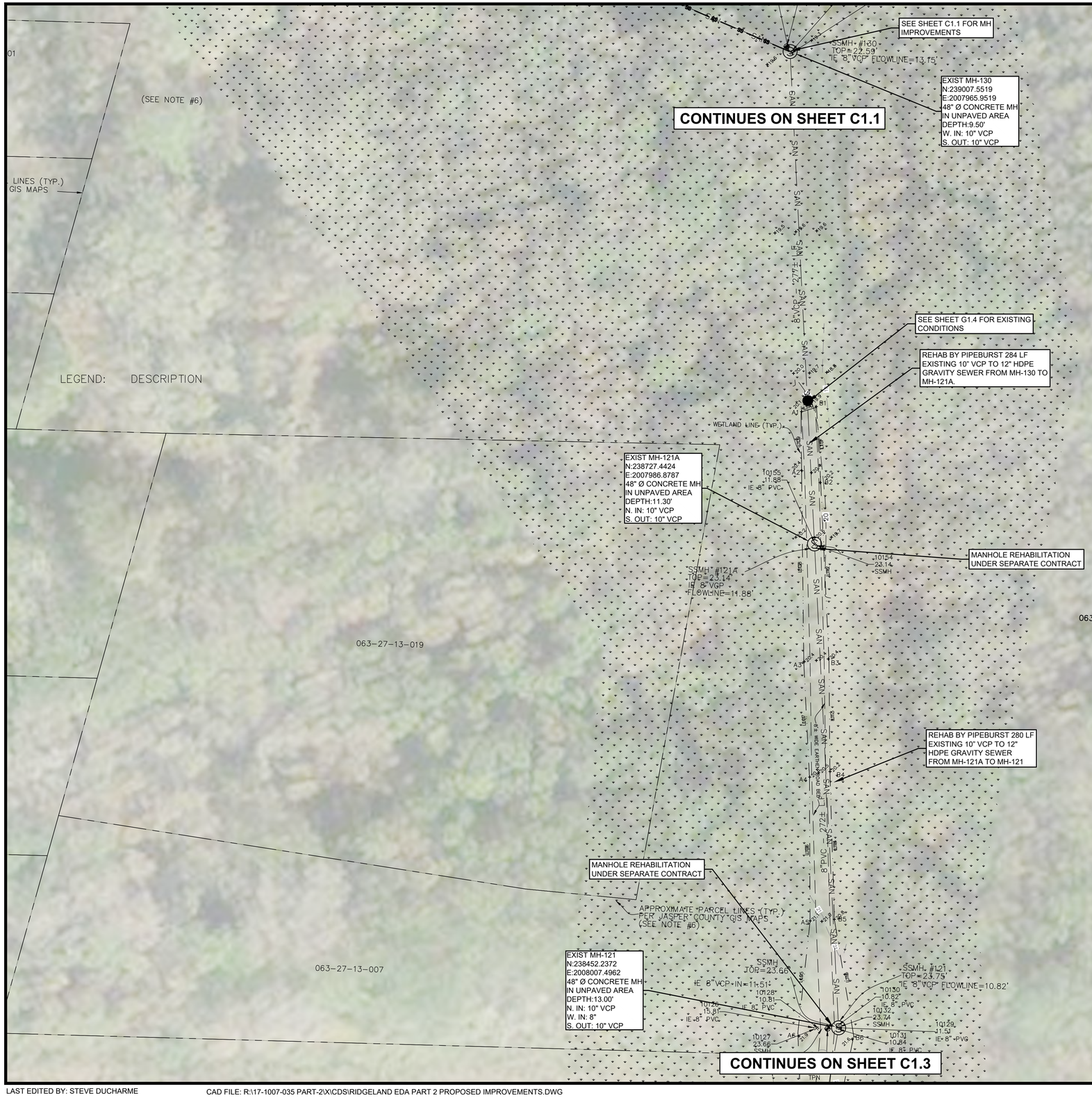

LEGEND: DESCRIPTION

- (S) - DENOTES EXISTING MANHOLE
- SAN - DENOTES EXISTING SANITARY SEWER PIPE
- WAT - DENOTES EXISTING WATER MAIN
- DENOTES SILT FENCE
- DENOTES WETLAND LINE
- DENOTES WETLAND
- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
- DENOTES MILL AND RESURFACE
- DENOTES ASPHALT REMOVE AND REPLACE
- (S) - DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
- DENOTES SEWER LATERAL CONNECTION RESTORATION
- DENOTES EXISTING SEWER LATERAL
- SAN - DENOTES PIPE REMOVAL AREA
- DENOTES MAJOR DEFECT
- DENOTES POINT REPAIR

NOTES:

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SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

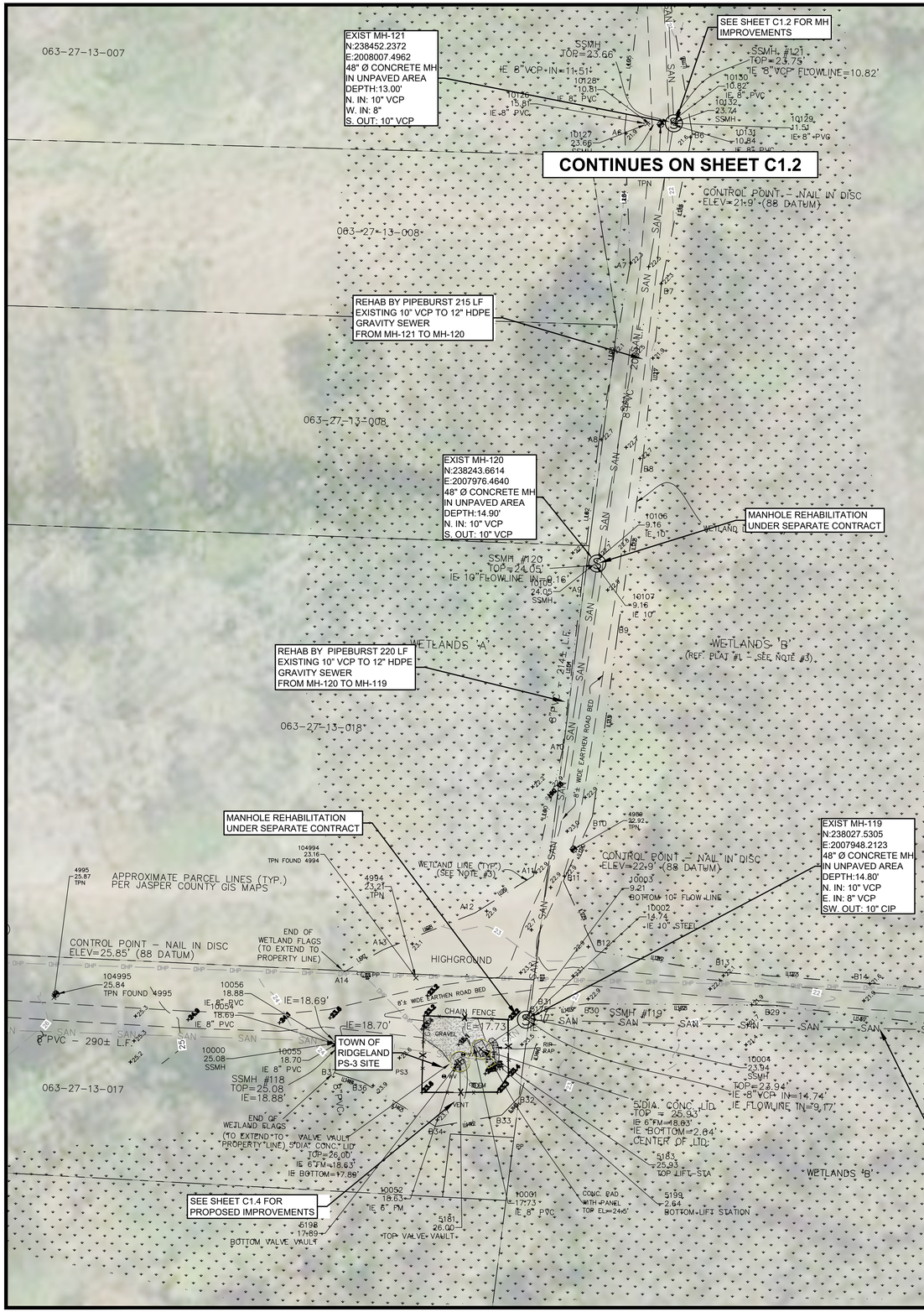
AREA A PROPOSED IMPROVEMENTS
CAPTAIN BILL CREEK

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

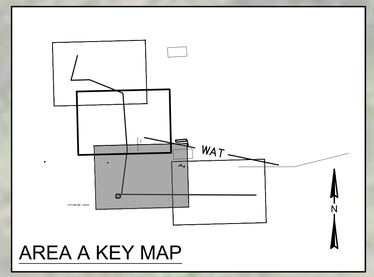
DRAWING NUMBER
C1.2



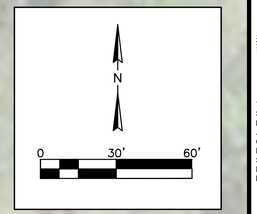
LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
Ⓢ	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

CAPTAIN BILL CREEK



AREA A KEY MAP



NOTES:

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SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SOUTH CAROLINA
FOUR WATERS ENGINEERING, INC.
No. 5166
CERTIFICATE OF AUTHORIZATION

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A PROPOSED IMPROVEMENTS
CAPTAIN BILL CREEK

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	
ABB	SLD	17-1007	SEPT 2024	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.3

CAPTAIN BILL CREEK

EXIST MH-5
N:238024.5269
E:2008539.0040
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:6.10'
E. IN: 8" PVC
W. OUT: 8" PVC

APPROXIMATE PARCEL LINES (TYP.) PER JASPER COUNTY GIS MAPS

063-30-01-002

SEE SHEET C1.3 FOR MH-5 IMPROVEMENTS

SEE SHEET G1.6 FOR EXISTING CONDITIONS

CONTROL POINT - NAIL IN DISC
ELEV=23.3' (88 DATUM)

CONTINUES ON SHEET C1.3

SSMH #5
TOP=23.45'
IE 8" VCP FLOWLINE=17.38'

REHAB BY PIPEBURST 335 LF
EXISTING 8" VCP AND PVC TO 10"
HDPE GRAVITY SEWER
FROM MH-4 TO MH-5

8" VCP - 324± LF

SSMH #4
TOP=29.62'

EXIST MH-4
N:238022.7486
E:2008874.1643
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:10.90'
E. IN: 8" PVC
W. OUT: 8" PVC
WITH OUTSIDE DROP PIPE
(EAST SIDE)

IE 8"PVC=24.74'

IE 8"PVC=18.71'

MANHOLE REHABILITATION
UNDER SEPARATE CONTRACT

JASPER HIGHWAY
(I-95)

6" WATER MAIN
MATERIAL UNKNOWN

NO PIPE REHABILITATION REQUIRED FOR
EXISTING 8" PVC AND VCP PIPE.
CONTRACTOR SHALL FLUSH AND CLEAN
386 LF OF SEWER LINE.

6" WATER MAIN
MATERIAL UNKNOWN

063-30-03-014

063-30-03-011

SSMH #123
TOP=43.54'
8"PVC IN=36.52'
(OPPOSITE SIDE OF I-95)

IE 8" PVC=26.99'

MANHOLE REHABILITATION
UNDER SEPARATE CONTRACT

EXIST MH-123
N:238020.8263
E:2009259.7857
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:17.00'
N IN: 6" FM WITH INSIDE DROP
E. IN: 8" PVC
W. OUT: 8" PVC

AREA A KEY MAP

N

0 30' 60'

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LEGEND:

	DESCRIPTION
S	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
S	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
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	- DENOTES ASPHALT REMOVE AND REPLACE
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	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA A PROPOSED IMPROVEMENTS
CAPTAIN BILL CREEK TO JASPER HIGHWAY

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN		
ABB	SLD		
JOB #	17-1007		
ISSUE DATE	SEPT 2024		
ISSUE	BID		

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.4

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3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
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JASPER STREET (S-63)

3RD AVENUE (S-64)

RUSSELL STREET (SC-366)

OWENS STREET (S-78)

2ND AVENUE (S-74)

EXIST MH-161
N:237054.9905
E:2004399.5805
48" Ø CONCRETE MH
IN ROADWAY (BRICK PAVERS)
DEPTH:5.80'
SW OUT: 8" PVC
NE IN: 8" PVC
NW IN: 6" PVC
SW. IN: 8" PVC

TTC: 610-005-20
FLAGGING OPERATIONS, WORKING ZONES CONTINUING THROUGH STOP SIGN CONTROLLED SIDE ROADS

MH-161
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

6" WATER MAIN
MATERIAL UNKNOWN

JASPER COUNTY GOVERNMENT BUILDINGS COMPLEX AND VEHICLE RESTRICTED BRICK PAVER PEDESTRIAN AREA

REHAB BY CIPP 232 LF EXISTING 8" PVC GRAVITY SEWER FROM MH-161 TO MH-149

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

MH-149
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-149
N:236827.8219
E:2004299.7731
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:7.80'
NE IN: 8" PVC
NW IN: 8" CLAY
SE. OUT: 8" CLAY

6" WATER MAIN
MATERIAL UNKNOWN

LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
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	- DENOTES ASPHALT REMOVE AND REPLACE
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SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

AREA B KEY MAP

0 30' 60'

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B PROPOSED IMPROVEMENTS
3RD AVENUE TO 2ND AVENUE

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	
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SEE INSET A THIS SHEET FOR NORTH WEST PIPE

8" WATER MAIN MATERIAL UNKNOWN

GRETSCH BUILDING

EXIST MH-79
N:237526.0182
E:2005138.3914
48" Ø BRICK MH
IN PAVED AREA
DEPTH:3.30'
N. IN: 8" VCP
S. OUT: 8" VCP

MH-79
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
FORM INVERT CHANNEL AND BENCH.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

8" WATER MAIN MATERIAL UNKNOWN

REHAB BY CIPP 274 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-79 TO MH-256

EXIST MH-256
N:237262.3510
E:2005212.3216
48" Ø BRICK MH
IN ROADWAY
DEPTH:4.30'
N. IN: 8" VCP
S. OUT: 8" VCP

MH-256
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

REHAB BY CIPP 186 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-256 TO MH-255

EXIST MH-255
N:237091.0156
E:2005141.8694
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:4.20'
N. IN: 8" VCP
W. IN: 8" VCP
SW. OUT: 8" VCP

MH-255
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-005-20
FLAGGING OPERATIONS, WORKING ZONES CONTINUING THROUGH STOP SIGN CONTROLLED SIDE ROADS

REMOVE AND REPLACE ASPHALT ROADWAY (~22 SY) FOR GRAVITY SEWER PIPE REPLACEMENT. SEE DETAIL SHEET D-1

4TH AVENUE (S-65)

MILL AND RESURFACE ASPHALT ROADWAY WITH 1-1/2" SCDOT TYPE "C" ASPHALT (~64 SY). TAPER OVERLAY ASPHALT TO TIE INTO EXISTING ASPHALT. RE-STRIPE ROADWAY TO MATCH EXISTING (PAINT OR THERMOPLASTIC TO BE DETERMINED BY SCDOT) AS NECESSARY PER SCDOT SPECIFICATIONS. MILL AND RESURFACE AREA SHALL BE FULL WIDTH OF BOTH LANES AND A MIN 5' BACK FROM EXCAVATION

POINT REPAIR 10 LF OF EXISTING 8" VCP WITH 8" PVC CENTERED AT OBSTRUCTION FROM MH-255 TO MH-257

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

REHAB BY CIPP 142 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-255 TO MH-257

TOWN SQUARE (S-65)

SEE SHEET G1.9 FOR EXISTING CONDITIONS

SEE SHEET C1.7 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.7 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.7 FOR FOR PROPOSED MH IMPROVEMENTS

SEE SHEET C1.7 FOR PROPOSED PIPES IMPROVEMENTS

SEE SHEET C1.7 FOR FOR PROPOSED MH IMPROVEMENTS

EXIST MH-257
N:236960.2217
E:2005087.3042
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.20'
W. IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 8" VCP

EXIST MH-321
N:236970.2919
E:2005040.1233
48" Ø BRICK MH
IN UNPAVED AREA (GRAVEL)
DEPTH:5.50'
NW. IN: 8" VCP
E. OUT: 8" VCP

CONTINUES ON SHEET C1.7

CONTINUES ON SHEET C1.7

INSET A

REMOVE EXISTING 109 LF DIP GRAVITY SEWER AND REPLACE WITH 8" PVC (SDR26). 70 LF 8" PVC GRAVITY SEWER SHALL BE INSTALLED IN 12" STEEL CASING PIPE WITH END CAPS FROM 5 LF NORTHWEST OF VOLUNTEER PARK ROAD TO MH-270. 8" PVC GRAVITY SEWER SHALL MAINTAIN EXISTING SLOPE

REMOVE AND REPLACE ASPHALT ROADWAY (~28 SY) FOR GRAVITY SEWER PIPE REPLACEMENT. SEE DETAIL SHEET D-1

MILL AND RESURFACE ASPHALT ROADWAY WITH 1-1/2" SCDOT TYPE "C" ASPHALT (~60 SY). TAPER OVERLAY ASPHALT TO TIE INTO EXISTING ASPHALT. RESTRIPE ROADWAY WITH PAINT AS NECESSARY PER SCDOT SPECIFICATIONS. MILL AND RESURFACE AREA SHALL BE FULL WIDTH AND A MIN 5' BACK FROM EXCAVATION.

VOLUNTEER PARK ROAD

MH-270
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE RIM ELEVATION APPROXIMATELY 1' ABOVE GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL SEAMLESS EPDM RUBBER SEAL FOR EXTERNAL CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-270
N:238037.9114
E:2004983.5485
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:2.06'
NW. IN: 6" DIP
SE. OUT: 6" DIP

12" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

TOWN SQUARE (S-65)

TTC:610-601-00 DETOUR SIGNING FOR SECONDARY ROADS

GRETSCH BUILDING

GRAVITY SEWER PIPING PASSES THROUGH DRAINAGE SWALE. MAINTAIN DRAINAGE DURING CONSTRUCTION AND RESTORE SWALE AND EMBANKMENT

GRAYS HIGHWAY (US-278)

EXIST MH-80
N:238113.8779
E:2004906.1312
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:1.71'
NW. IN: 6"
SE. OUT 6" DIP

MH-80
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

AREA B KEY MAP

NOTES:
1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
2. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS AND MATERIALS FROM WITHIN THE MANHOLES OR PIPELINES PRIOR TO REHABILITATION. ALL COSTS FOR PROPER DISPOSAL SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL. CONTRACTOR SHALL PREPARE ALL MANHOLES AND PIPES FOR REHABILITATION IN ACCORDANCE WITH REHABILITATION PRODUCT MANUFACTURERS' REQUIREMENTS.
3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION IN ALL DISTURBED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS WITHIN PROJECT LIMITS WITH HYDROSEEDING AND/OR PERMANENT VEGETATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY MATERIALS (SOIL, STONE, MATS) AND EQUIPMENT TO DEVELOP APPROPRIATE ACCESS AND SUITABLE WORKING SURFACE FOR PROPOSED CONSTRUCTION. ALL TEMPORARY MATERIALS AND EQUIPMENT USED SHALL BE REMOVED AFTER CONSTRUCTION AND SITE RESTORED. ALL COSTS FOR SUCH TEMPORARY MATERIALS SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAY ITEM WILL BE MADE.
8. CONTRACTOR SHALL ADHERE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS. ALL WORK WITHIN WETLAND AREAS SHALL ADHERE TO REQUIREMENTS OF US ARMY CORPS OF ENGINEERS. ALL WORK IN SCDOT RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH SCDOT ENCROACHMENT PERMIT AND APPROVED PAVING RESTORATION AND MOT REQUIREMENTS.

LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
Ⓢ	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

N

0 30' 60'

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
1				
2				
3				
4				
5				
6				
7				

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B PROPOSED IMPROVEMENTS TOWN SQUARE

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	ABB	JOB #	17-1007
DRAWN	SLD	ISSUE DATE	SEPT 2024
CHK		ISSUE	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.6

EXIST MH-79
N:237526.0182
E:2005138.3914
48" Ø BRICK MH
IN PAVED AREA
DEPTH:3.30'
N. IN: 8" VCP
S. OUT: 8" VCP

SEE SHEET C1.6 FOR PROPOSED MH IMPROVEMENTS

SEE SHEET C1.6 FOR PROPOSED PIPE IMPROVEMENTS

EXIST MH-256
N:237262.3510
E:2005212.3216
48" Ø BRICK MH
IN ROADWAY
DEPTH:4.30'
N. IN: 8" VCP
S. OUT: 8" VCP

SEE SHEET C1.6 FOR PROPOSED MH IMPROVEMENTS

SEE SHEET C1.6 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.6 FOR PROPOSED MH IMPROVEMENTS

EXIST MH-255
N:237091.0156
E:2005141.8694
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:4.20'
N. IN: 8" VCP
W. IN: 8" VCP
SW. OUT: 8" VCP

SEE SHEET C1.6 FOR PROPOSED PIPE IMPROVEMENTS

EXIST MH-257
N:236960.2217
E:2005087.3042
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.20'
W. IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 8" VCP

REHAB BY CIPP 48 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-321 TO MH-257

MH-321
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM
FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

REHAB BY CIPP 186 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-321A TO MH-321

EXIST MH-321
N:236970.2919
E:2005040.1233
48" Ø BRICK MH
IN UNPAVED AREA (GRAVEL)
DEPTH:5.50'
NW. IN: 8" VCP
E. OUT: 8" VCP

MH-257
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE. INSTALL LINING IN MANHOLE PER SPECFICATIONS. INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME. INSTALL HDPE MANHOLE INSERT.

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

REHAB BY CIPP 332 LF
EXISTING 8" VCP AND NEW 8" PVC
GRAVITY SEWER
FROM MH-253 TO MH-257

EXISTING HOLE SOIL VISIBLE 209.8 LF
FROM MH-253 TO MH-257

POINT REPAIR 88 LF OF EXISTING 8" VCP WITH 8" PVC (SDR 26) FROM 10' OUTSIDE OF THE NOTED MAJOR DEFECTS BETWEEN MH-253 TO MH-257

ABANDONED SURVEY DUE TO COLLAPSED PIPE WITH CONSTRUCTION DEBRIS OBSTACLE 269.9 LF FROM 253 TO MH-257

EXCAVATE 4'X6' AREA AND RESTORE 1 EXISTING SEWER SERVICE LATERALS BETWEEN MH-253 TO MH-257 (TYP OF 1)

SEE SHEET C1.8 FOR PROPOSED MH IMPROVEMENTS

EXIST MH-254
N:237042.1412
E:2005481.7471
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:3.00'
SW. OUT: 8" VCP
"FLUSH WELL"
SYSTEM WITH STAND PIPES

SEE SHEET C1.8 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.8 FOR PROPOSED MH-254A IMPROVEMENTS

SEE SHEET C1.8 FOR PROPOSED MH IMPROVEMENTS

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

EXIST MH-253
N:236829.2922
E:2005394.5959
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.10'
W. IN: 8" VCP
N. IN: 8" VCP
S. OUT: 8" VCP

SEE SHEET C1.8 FOR PROPOSED PIPE IMPROVEMENTS

6" WATER MAIN
MATERIAL UNKNOWN

EXIST MH-252
N:236547.3865
E:2005278.7761
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.70'

TTC: 610-610-00
DETOUR SIGNING FOR
SECONDARY ROUTES

SEE SHEET C1.8 FOR PROPOSED MH IMPROVEMENTS

SEE SHEET G1.10 FOR EXISTING CONDITIONS

SEE SHEET G1.10 FOR EXISTING CONDITIONS

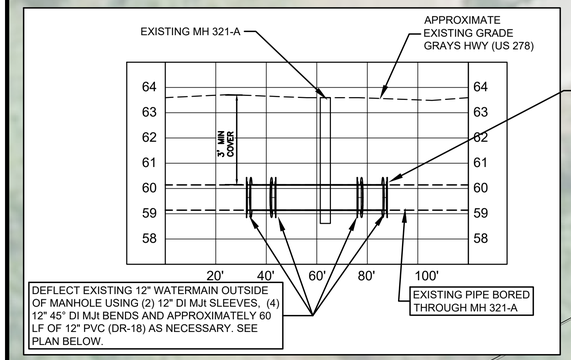
12" WATER MAIN
MATERIAL UNKNOWN

6" WATER MAIN
MATERIAL UNKNOWN

12" WATER MAIN
MATERIAL UNKNOWN

6" WATER MAIN
MATERIAL UNKNOWN

DEFLECT EXISTING 12" WATERMAIN OUTSIDE OF MANHOLE USING (2) 12" DI MJt SLEEVES, (4) 12" 45 DI MJt BENDS AND APPROXIMATELY 60 LF OF 12" PVC (DR-18) AS NECESSARY. SEE PLAN BELOW.



CUT EXISTING 12" WATER MAIN AT SEWER CONFLICT MANHOLE WALL LEAVING PIPE WITHIN WALL IN PLACE. INSTALL BRICK AND MORTAR PLUG AND SEAL WITHIN THE REMAINING PIPE FOR ABANDONMENT. EXISTING BRICK MANHOLE TO REMAIN INTACT AND OPERATIONAL. ANY DAMAGE TO MANHOLE SHALL BE RESTORED IN ACCORDANCE WITH SPECIFICATIONS.

GROUT FILL ~25 LF OF EXISTING 12" WATERMAIN TO ABANDON

MAINTAIN MINIMUM 18" CLEARANCE OVER GRAVITY SEWER

REMOVE AND REPLACE ASPHALT ROADWAY (~30 SY) FOR WATER MAIN PIPE REPLACEMENT. SEE DETAIL SHEET D-1

10" MIN (TYP)

DEFLECT EXISTING 12" WATERMAIN OUTSIDE OF MANHOLE USING (2) 12" DI MJt SLEEVES, (4) 12" 45° DI MJt BENDS AND APPROXIMATELY 60 LF OF 12" PVC (DR-18) AS NECESSARY, SEE PROFILE ABOVE

REHAB BY CIPP 107 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-78 TO MH-321A

SEE SHEET G1.10 FOR EXISTING CONDITIONS

MH-78
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM
FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

EXIST MH-78
N:237088.4649
E:2004772.7862
22" Ø BRICK MH
IN ROADWAY
DEPTH:4.40'
NW. IN: VCP
SE. OUT: 8" VCP

EXISTING PIPE BORED THROUGH MH 321-A

MH-321A
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO RAISE BURIED MANHOLE AND ACHIEVE EXISTING GRADE. INSTALL LINING IN MANHOLE PER SPECIFICATIONS. INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME. INSTALL HDPE MANHOLE INSERT.

MILL AND RESURFACE ASPHALT ROADWAY WITH 1-1/2" SCDOT TYPE "C" ASPHALT (~282 SY). TAPER OVERLAY ASPHALT TO TIE INTO EXISTING ASPHALT. RESTRIPE ROADWAY TO MATCH EXISTING (PAINT OR THERMOPLASTIC TO BE DETERMINED BY SCDOT) NECESSARY PER SCDOT SPECIFICATIONS. MILL AND RESURFACE AREA SHALL BE FULL WIDTH OF BOTH LANES AND A MIN 10' BACK FROM EXCAVATION

EXIST BURIED MH-321A
N:237045.3347
E:2004869.8337
48" Ø BRICK MH
IN ROADWAY
PIPE BORED THROUGH MH
DEPTH: ~5.00'
NW. IN: 8" VCP
SE. OUT: 8" VCP

RUSSELL ST

TOWN SQUARE (S-65)

GRAYS HIGHWAY (US-278)

4TH AVENUE (S-65)

3RD AVENUE (US-278)

N PERRY STREET (S-67)

NOTES:
1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
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3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
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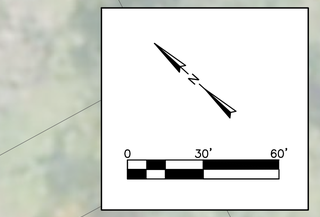
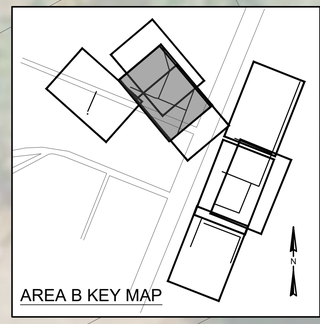
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY MATERIALS (SOIL, STONE, MATS) AND EQUIPMENT TO DEVELOP APPROPRIATE ACCESS AND SUITABLE WORKING SURFACE FOR PROPOSED CONSTRUCTION. ALL TEMPORARY MATERIALS AND EQUIPMENT USED SHALL BE REMOVED AFTER CONSTRUCTION AND SITE RESTORED. ALL COSTS FOR SUCH TEMPORARY MATERIALS SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAY ITEM WILL BE MADE.
8. CONTRACTOR SHALL ADHERE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS. ALL WORK WITHIN WETLAND AREAS SHALL ADHERE TO REQUIREMENTS OF US ARMY CORPS OF ENGINEERS. ALL WORK IN SCDOT RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH SCDOT ENCROACHMENT PERMIT AND APPROVED PAVING RESTORATION AND MOT REQUIREMENTS.

LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
Ⓢ	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
BMN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR





SOUTH CAROLINA
LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA
CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DESCRIPTION	DATE	DWN. BY	CHK BY
1				
2				
3				
4				
5				
6				
7				

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B PROPOSED IMPROVEMENTS
GRAYS HIGHWAY TO N. PERRY STREET

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN			
ABB	SLD			
JOB #	17-1007	ISSUE DATE	SEPT 2024	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.7

CONTINUES ON SHEET C1.7

EXIST MH-256
N:237262.3510
E:2005212.3216
48" Ø BRICK MH
IN ROADWAY
DEPTH:4.30'
N. IN: 8" VCP
S. OUT: 8" VCP

SEE SHEET C1.6 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.6 FOR PROPOSED MH IMPROVEMENTS

EXIST MH-255
N:237091.0156
E:2005141.8694
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:4.20'
N. IN: 8" VCP
W. IN: 8" VCP
SW. OUT: 8" VCP

4TH AVENUE (S-65)

TOWN SQUARE (S-66)

SEE SHEET C1.6 FOR PROPOSED PIPE IMPROVEMENTS

EXIST MH-257
N:236960.2217
E:2005087.3042
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.20'
W. IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 8" VCP

SEE SHEET C1.7 FOR PROPOSED PIPE IMPROVEMENTS

EXIST MH-321
N:236970.2919
E:2005040.1233
48" Ø BRICK MH
IN UNPAVED AREA (GRAVEL)
DEPTH:5.50'
NW. IN: 8" VCP
E. OUT: 8" VCP

SEE SHEET C1.7 FOR PROPOSED MH IMPROVEMENTS

SEE SHEET C1.7 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.7 FOR PROPOSED MH IMPROVEMENTS

SEE SHEET C1.7 FOR PROPOSED PIPE IMPROVEMENTS

EXIST MH-254
N:237042.1412
E:2005481.7471
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:3.00'
SW. OUT: 8" VCP
"FLUSH WELL"
SYSTEM WITH STAND PIPES

MH-254
REMOVE EXISTING MANHOLE FULL DEPTH, BACKFILL AND RESTORE AREA. CUT AND CAP ANY WATER SERVICES TO MANHOLE.

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

REMOVE AND REPLACE ASPHALT ROADWAY (~42 SY) FOR GRAVITY SEWER PIPE REPLACEMENT. SEE DETAIL SHEET D-1

CONTRACTOR TO REMOVE APPROXIMATELY 105 LF OF 8" VCP. BACKFILL AND RESTORE AREA.

UNOPENED ROW

MILL AND RESURFACE ASPHALT ROADWAY WITH 1-1/2" SCDOT TYPE "C" ASPHALT (~103 SY). TAPER OVERLAY ASPHALT TO TIE INTO EXISTING ASPHALT. RESTRIPE ROADWAY TO MATCH EXISTING (PAINT OR THERMOPLASTIC TO BE DETERMINED BY SCDOT) AS NECESSARY PER SCDOT SPECIFICATIONS. MILL AND RESURFACE AREA SHALL BE FULL WIDTH OF BOTH LANES, SHALL EXTEND TO EDGE OF PAVEMENT ON UNOPENED ROW AND SHALL EXTEND A MIN 5' BACK FROM EXCAVATION

EXISTING CONDUIT (POTENTIAL FIBER OPTIC) INTERSECTING MAIN SEWER LINE
124 LF FROM MH-253 TO MH-254
SEE SHEET G1.10 FOR EXISTING CONDITIONS

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

REHAB BY CIPP 124 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-253 TO MH-254A

5' MIN

NEW MH-254A
N:236945.4113
E:2005441.6087
INSTALL NEW PRECAST SEWER MANHOLE
(SEE DETAIL D-1) INSTALL LINING IN MANHOLE PER SPECIFICATIONS. INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME. INSTALL HDPE MANHOLE INSERT.
DEPTH ~4.00'
S. OUT 8" VCP
CONNECT EXISTING 8" GRAVITY SEWER TO MANHOLE WITH BOOT

EXIST MH-253
N:236829.2922
E:2005394.5959
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.10'
N. IN: 8" VCP
S. OUT: 8" VCP

MH-253
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

N PERRY STREET (S-67)

RAILROAD TRACKS

6" WATER MAIN
MATERIAL UNKNOWN

REHAB BY CIPP 302 LF EXISTING 8" VCP AND 8" CAST IRON GRAVITY SEWER FROM MH-253 TO MH-252

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

EXIST MH-252
N:236547.3865
E:2005278.7761
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.70'
N. IN: 8" VCP
S. OUT: 8" VCP

MH-252
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

3RD AVENUE (US-278)

12" WATER MAIN
MATERIAL UNKNOWN

6" WATER MAIN
MATERIAL UNKNOWN

LEGEND:

	DESCRIPTION
S	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
S	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
S	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

NOTES:
1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
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3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION IN ALL DISTURBED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS WITHIN PROJECT LIMITS WITH HYDROSEEDING AND/OR PERMANENT VEGETATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY MATERIALS (SOIL, STONE, MATS) AND EQUIPMENT TO DEVELOP APPROPRIATE ACCESS AND SUITABLE WORKING SURFACE FOR PROPOSED CONSTRUCTION. ALL TEMPORARY MATERIALS AND EQUIPMENT USED SHALL BE REMOVED AFTER CONSTRUCTION AND SITE RESTORED. ALL COSTS FOR SUCH TEMPORARY MATERIALS SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAY ITEM WILL BE MADE.
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0 30' 60'

AREA B KEY MAP

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN CHK	DESCRIPTION
1		BY	
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3			
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

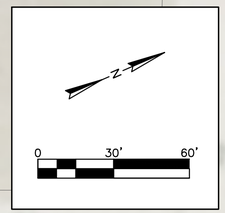
AREA B PROPOSED IMPROVEMENTS
4TH AVENUE TO 3RD AVENUE

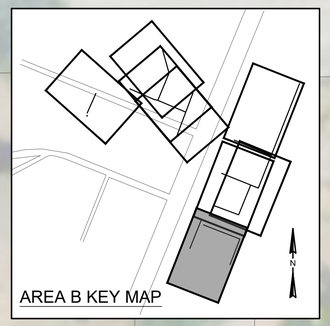
TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN
ABB	SLD
JOB #	17-1007
ISSUE DATE	SEPT 2024
ISSUE	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.8





LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
Ⓢ	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

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S.GREEN STREET (S-32)

EXIST MH-40
N:235327.5943
E:2005462.6243
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:5.50'
SE. OUT: 8" PVC
NE. IN: 8" VCP
NW. IN: 8" PVC

TTC: 610-005-20
FLAGGING OPERATIONS, WORKING ZONES CONTINUING THROUGH STOP SIGN CONTROLLED SIDE ROADS

MH-40
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

CONTRACTOR SHALL COORDINATE WITH LOCAL BUSINESSES IN VICINITY OF CONSTRUCTION TO MAINTAIN ACCESS AND PARKING FOR CUSTOMERS

REHAB BY CIPP 340 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-41 TO MH-40

TTC: 610-005-20
FLAGGING OPERATIONS, WORKING ZONES CONTINUING THROUGH STOP SIGN CONTROLLED SIDE ROADS

MH-41
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-41
N:235641.7179
E:2005588.3150
48" Ø BRICK MH
IN ROADWAY
DEPTH:6.50'
SE. OUT: 8" VCP

NEW MH-42A
N:235582.8544
E:2005597.5115
INSTALL NEW PRECAST SEWER MANHOLE (SEE DETAIL D-1)
INSTALL LINING IN MANHOLE PER SPECIFICATIONS. INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME. INSTALL HDPE MANHOLE INSERT.
DEPTH ~ 5.50' (COORDINATE WITH ENGINEER)
SE OUT 8" PVC (MATCH INVERT TO EXISTING MH-42 INVERT)

MH-42
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

INSTALL 65 LF OF 8" PVC (SDR 26)

New MH-42B
N:235558.4970
E:2005659.6874
INSTALL NEW PRECAST SEWER MANHOLE (SEE DETAIL D-1)
INSTALL LINING IN MANHOLE PER SPECIFICATIONS. INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME. INSTALL HDPE MANHOLE INSERT.
DEPTH ~ 5.50'
NE OUT 8" PVC
NW IN 8" PVC
COORDINATE MH DEPTH AND INVERT ELEVATIONS WITH ENGINEER

EXIST MH-42
N:235602.2977
E:2005581.6226
48" Ø BRICK MH
IN ROADWAY
DEPTH:5.25'
E. OUT: 8" ORANGEBURG

EXISTING 88 LF ORANGEBURG PIPE TO REMAIN

INSTALL 10 LF OF 8" PVC (SDR 26)

CUT ORANGEBURG PIPE AND CONNECT WITH COUPLING TO SEGMENT OF 8" PVC (SDR26) FOR TIE-IN TO MH42-C

TOWN OF RIDGELAND
WELL NO. 1 SITE

SEE SHEET G1.12 FOR EXISTING CONDITIONS

6" WATER MAIN
MATERIAL UNKNOWN

New MH-42C
N:235569.0912
E:2005663.8377
INSTALL NEW PRECAST SEWER MANHOLE (SEE DETAIL D-1)
INSTALL LINING IN MANHOLE PER SPECIFICATIONS. INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME. INSTALL HDPE MANHOLE INSERT.
DEPTH ~ 5.50'
SE OUT 8" PVC
NW IN 8" ORANGEBURG (EXISTING)
SW IN 8" PVC (MATCH EXISTING ORANGEBURG PIPE INVERT)
COORDINATE MH DEPTH AND INVERT ELEVATIONS WITH ENGINEER
CONNECT EXISTING 8" ORANGEBURG/PVC SEGMENT OF GRAVITY SEWER TO MANHOLE WITH PIPE BOOT

6" WATER MAIN
MATERIAL UNKNOWN

REMOVE AND REPLACE 342 LF OF 8" ORANGEBURG PIPE WITH 8" PVC (SRD-26) FROM MH-42C TO MH-43. MAINTAIN EXISTING SLOPE AND INVERTS

CONTRACTOR TO IDENTIFY AND RESTORE LATERALS

MH-43
8" NW IN: REMOVE 8" ORANGEBURG PIPE AND CONNECT NEW 8" PVC PIPE WITH PIPE BOOT.
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

W. MAIN STREET (S-336)

ADAMS STREET (S-61)

TTC: 610-025-00
LANE CLOSURE DAYTIME
MULTILANE PRIMARY ROUTES

MH-238
NO MANHOLE REHABILITATION REQUIRED.

6" WATER MAIN
MATERIAL UNKNOWN

EXIST MH-238
N:235156.0167
E:2005879.2394
48" Ø BRICK MH
WITH COATING
IN ROADWAY
DEPTH:8.30'
NE. IN: 8" VCP
NW. IN: 10" HDPE
SE. OUT: 10" HDPE

CONTRACTOR SHALL COORDINATE WITH LOCAL BUSINESSES IN VICINITY OF CONSTRUCTION TO MAINTAIN ACCESS AND PARKING FOR CUSTOMERS

REHAB BY CIPP 307 LF EXISTING
8" VCP GRAVITY SEWER FROM
MH-43 TO MH-238

10' MIN (TYP)

CONTRACTOR TO UTILIZE SEDIMENT TUBES AS NECESSARY FOR SEDIMENT AND EROSION CONTROL

REMOVE AND REPLACE ASPHALT ROADWAY (~10 SY) FOR GRAVITY SEWER PIPE REPLACEMENT. SEE DETAIL SHEET D-1

MILL AND RESURFACE ASPHALT ROADWAY WITH 1-1/2" SCDOT TYPE "C" ASPHALT (~27 SY). TAPER OVERLAY ASPHALT TO TIE INTO EXISTING ASPHALT. RESTRIPE ROADWAY TO MATCH EXISTING (PAINT OR THERMOPLASTIC TO BE DETERMINED BY SCDOT) AS NECESSARY PER SCDOT SPECIFICATIONS. MILL AND RESURFACE AREA SHALL BE FULL WIDTH OF SINGLE LANE AND A MIN 10' BACK FROM EXCAVATION

TTC: 610-025-00
LANE CLOSURE DAYTIME
MULTILANE PRIMARY ROUTES

EXIST MH-43
N:235442.7212
E:2005989.7993
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:5.30'
NW. IN: 8" ORANGEBURG
SW. OUT: 8" VCP

S. JACOB SMART BOULEVARD (HWY-17)

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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FOUR WATERS ENGINEERING, INC.
No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B PROPOSED IMPROVEMENTS
S. JACOB SMART BLVD TO S. GREEN ST

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

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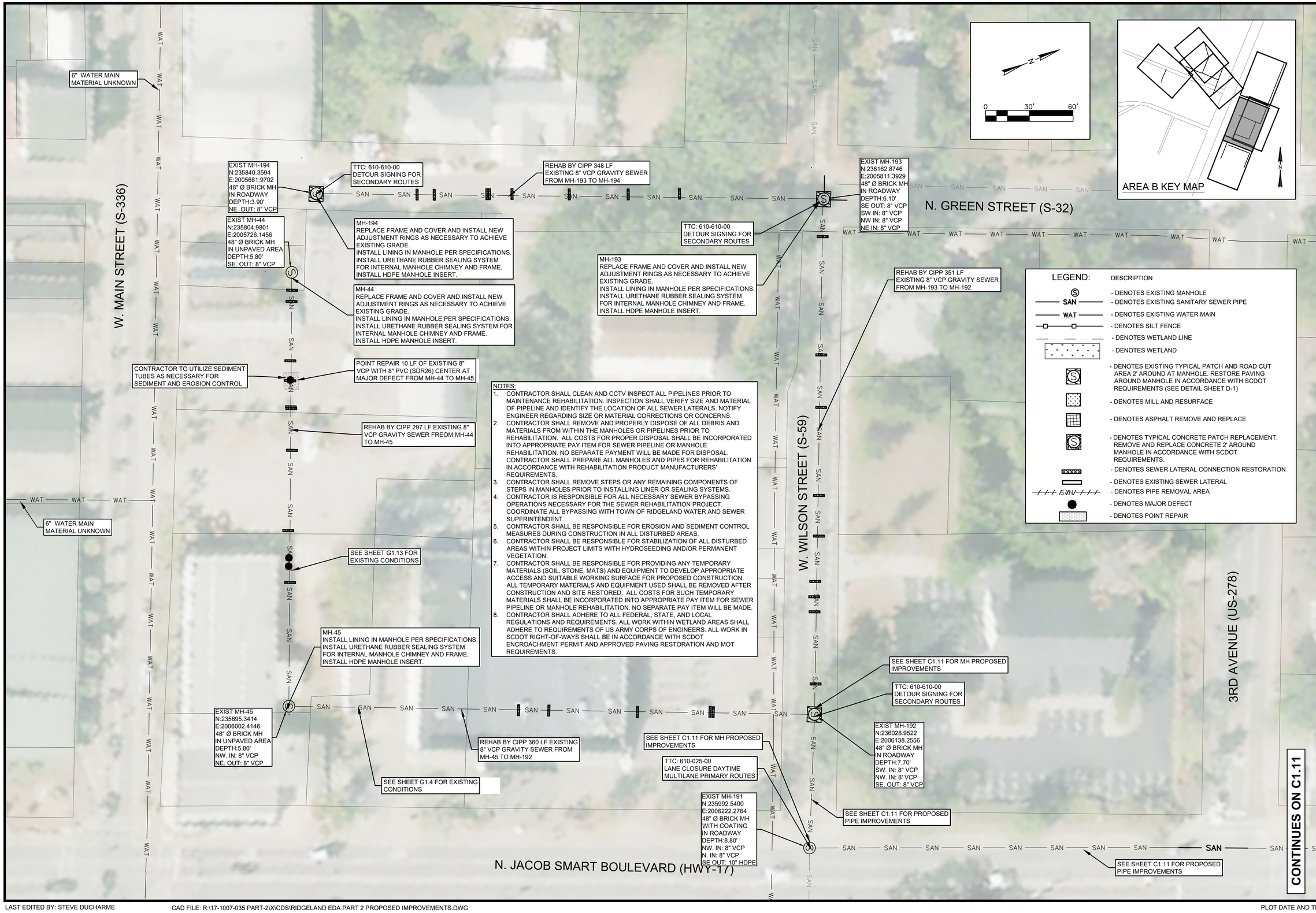
C1.9



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SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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FOUR WATERS ENGINEERING, INC.
No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B PROPOSED IMPROVEMENTS
N. JACOB SMART BLVD TO N. GREEN ST

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN		
ABB	SLD		
JOB #	17-1007		
ISSUE DATE	SEPT 2024		BID
ISSUE			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.10

CONTINUES ON SHEET C1.10

CONTINUES ON SHEET C1.10

CONTINUES ON SHEET C1.12

W. WILSON STREET (S-59)

3RD AVENUE (US-278)

N. JACOB SMART BOULEVARD (HWY-17)

SEE SHEET C1.10 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.10 FOR PROPOSED MH IMPROVEMENTS

SEE SHEET C1.10 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.10 FOR PROPOSED PIPE IMPROVEMENTS

SEE SHEET C1.12 FOR PROPOSED PIPE IMPROVEMENTS

EXIST MH-45
N:235695.3414
E:2006002.4146
48" Ø BRICK MH
IN UNPAVED AREA
DEPTH:5.80'
W. IN: 8" VCP
N. OUT: 8" VCP

EXIST MH-192
N:236028.9522
E:2006138.2556
48" Ø BRICK MH
IN ROADWAY
DEPTH:7.70
SW. IN: 8" VCP
NW. IN: 8" VCP
SE. OUT: 8" VCP

MH-192
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-610-00
DETOUR SIGNING FOR SECONDARY ROUTES

REHAB BY CIPP 92 LF EXISTING 8" VCP GRAVITY SEWER FROM MH-192 TO MH-191

EXIST MH-191
N:235992.5400
E:2006222.2764
48" Ø BRICK MH
WITH COATING
IN ROADWAY
DEPTH:8.80'
NW IN: 8" VCP
NE. IN: 8" VCP
SE. OUT: 10" HDPE

TTC: 610-025-00
LANE CLOSURE DAYTIME
MULTILANE PRIMARY ROUTES

REHAB BY CIPP 428 LF EXISTING 8" VCP AND 8" PVC GRAVITY SEWER FROM MH-273 TO MH-191

TTC: 610-025-00
LANE CLOSURE DAYTIME
MULTILANE PRIMARY ROUTES

EXIST MH-273
N:236365.1972
E:2006367.9999
48" Ø BRICK MH
IN ROADWAY
DEPTH:9.20'
NE. IN: 8" VCP
NW. IN: 8" VCP
SW. OUT: 8" VCP

SEE SHEET G1.14 FOR EXISTING CONDITIONS

MH-191
NO MANHOLE REHABILITATION REQUIRED

MH-273
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

CONTINUES ON SHEET C1.12

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AREA B KEY MAP

LEGEND:

	DESCRIPTION
S	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
S	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
S	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

0 30' 60'

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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CONTINUES ON SHEET C1.12

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B PROPOSED IMPROVEMENTS
N. JACOB SMART BLVD TO N. GREEN ST

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	ISSUE
ABB	SCD	17-1007	SEPT 2024	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.11

EXIST MH-184
N:236532.1094
E:2005952.1476
48" Ø BRICK MH
IN ROADWAY
DEPTH:7.25'
NE. IN: 6" PVC
SW. IN: 6" PVC
SE. OUT: 8" VCP

TTC: 610-610-00
DETOUR SIGNING FOR
SECONDARY ROUTES

MH-184
REPLACE FRAME AND COVER AND INSTALL NEW
ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE
EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR
INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

6" WATER MAIN
MATERIAL UNKNOWN

6" WATER MAIN
MATERIAL UNKNOWN

REHAB BY CIPP 448 LF EXISTING
8" VCP GRAVITY SEWER FROM
MH-184 TO MH-273

AREA B KEY MAP

N. GREEN STREET (S-32)

MALPHRUS STREET (S-45)

HWY 17 - N. JACOB SMART BOULEVARD

CONTINUES ON SHEET C1.11

SEE SHEET C1.11 FOR
PROPOSED MH IMPROVEMENTS

EXIST MH-273
N:236365.1972
E:2006367.9999
48" Ø BRICK MH
IN ROADWAY
DEPTH:9.20'
S. IN: 8" VCP
W. IN: 8" VCP
N. OUT: 8" VCP

REHAB BY CIPP 282 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-182 TO MH-273

EXIST MH-182
N:236626.9533
E:2006471.5618
48" Ø BRICK MH
WITH COATING
IN ROADWAY
DEPTH:8.40'
NE. IN: 8" VCP
NW. IN: 8" VCP
SW. OUT: 8" VCP

MH-182
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM
FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-025-00
LANE CLOSURE DAYTIME
MULTILANE PRIMARY ROUTES

REHAB BY CIPP 576 LF
EXISTING 8" VCP GRAVITY SEWER
FROM MH-189 TO MH-182

MH-189
REPLACE FRAME AND COVER AND INSTALL NEW
ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE
EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM
FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-025-00
LANE CLOSURE DAYTIME
MULTILANE PRIMARY ROUTES

EXIST MH-189
N:237162.4692
E:2006683.4322
48" Ø BRICK MH
IN ROADWAY
DEPTH:4.80'
NW. IN: 8" VCP
SW. OUT: 8" VCP

SEE SHEET G1.15 FOR
EXISTING CONDITIONS

LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
Ⓢ	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

NOTES:
1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
2. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS AND MATERIALS FROM WITHIN THE MANHOLES OR PIPELINES PRIOR TO REHABILITATION. ALL COSTS FOR PROPER DISPOSAL SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL. CONTRACTOR SHALL PREPARE ALL MANHOLES AND PIPES FOR REHABILITATION IN ACCORDANCE WITH REHABILITATION PRODUCT MANUFACTURERS' REQUIREMENTS.
3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION IN ALL DISTURBED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS WITHIN PROJECT LIMITS WITH HYDROSEEDING AND/OR PERMANENT VEGETATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY MATERIALS (SOIL, STONE, MATS) AND EQUIPMENT TO DEVELOP APPROPRIATE ACCESS AND SUITABLE WORKING SURFACE FOR PROPOSED CONSTRUCTION. ALL TEMPORARY MATERIALS AND EQUIPMENT USED SHALL BE REMOVED AFTER CONSTRUCTION AND SITE RESTORED. ALL COSTS FOR SUCH TEMPORARY MATERIALS SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAY ITEM WILL BE MADE.
8. CONTRACTOR SHALL ADHERE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS. ALL WORK WITHIN WETLAND AREAS SHALL ADHERE TO REQUIREMENTS OF US ARMY CORPS OF ENGINEERS. ALL WORK IN SCDOT RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH SCDOT ENCROACHMENT PERMIT AND APPROVED PAVING RESTORATION AND MOT REQUIREMENTS.

0 30' 60'

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
1	5/23	SD	ABB	UPDATE TO LEGEND
2				
3				
4				
5				
6				
7				

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA B PROPOSED IMPROVEMENTS
GREEN ST TO MALPHRUS ST (S-45)

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.12

LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
Ⓢ	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

AREA C KEY MAP

NOTES:
1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
2. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS AND MATERIALS FROM WITHIN THE MANHOLES OR PIPELINES PRIOR TO REHABILITATION. ALL COSTS FOR PROPER DISPOSAL SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL. CONTRACTOR SHALL PREPARE ALL MANHOLES AND PIPES FOR REHABILITATION IN ACCORDANCE WITH REHABILITATION PRODUCT MANUFACTURERS' REQUIREMENTS.
3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION IN ALL DISTURBED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS WITHIN PROJECT LIMITS WITH HYDROSEEDING AND/OR PERMANENT VEGETATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY MATERIALS (SOIL, STONE, MATS) AND EQUIPMENT TO DEVELOP APPROPRIATE ACCESS AND SUITABLE WORKING SURFACE FOR PROPOSED CONSTRUCTION. ALL TEMPORARY MATERIALS AND EQUIPMENT USED SHALL BE REMOVED AFTER CONSTRUCTION AND SITE RESTORED. ALL COSTS FOR SUCH TEMPORARY MATERIALS SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAY ITEM WILL BE MADE.
8. CONTRACTOR SHALL ADHERE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS. ALL WORK WITHIN WETLAND AREAS SHALL ADHERE TO REQUIREMENTS OF US ARMY CORPS OF ENGINEERS. ALL WORK IN SCDOT RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH SCDOT ENCROACHMENT PERMIT AND APPROVED PAVING RESTORATION AND MOT REQUIREMENTS.

0 30' 60'

S.C. HIGHWAY 336
E. MAIN STREET R/W VARIES

WILSON STREET (S-157)

BUCKNER ROAD

E. ADAMS STREET (S-61)

ADAMS ST

JAMES L TAYLOR DRIVE

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

6" WATER MAIN MATERIAL UNKNOWN

EXIST MH-170
N:234827.0770
E:2007710.6664
48" Ø CONCRETE MH
IN ROADWAY (ADAMS ST)
(FRAME OFFSET)
DEPTH:6.70'
S. IN: 8" PVC
E. OUT: 8" PVC

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

MH-170
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 228LF OF SEWER LINE.

EXIST MH-10
N:234645.4969
E:2008151.4165
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:4.70'
S. IN: 6" PVC
W. IN: 8" PVC
E. OUT: 8" PVC

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

MH-10
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST BURIED MH-10A
N:234658.8862
E:2008118.6742
48" Ø CONCRETE MH
IN PARKING LOT
DEPTH:3.20'
NW IN: 8" PVC
E. OUT: 8" PVC

EXIST MH-172
N:234634.3706
E:2007493.2350
48" Ø CONRETE MH
IN UNPAVED AREA
DEPTH:6.30'
E. OUT: 8" PVC

MH-172
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 240LF OF SEWER LINE.

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

MH-11
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-11
N:234740.4491
E:2007922.7149
48" Ø CONCRETE MH
IN CONRETE DRIVEWAY
(BROKEN CONCRETE)
DEPTH:5.70'
SE. OUT: 8" PVC

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 212LF OF SEWER LINE.

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 230LF OF SEWER LINE.

MH-171
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-171
N:234587.1502
E:2007718.0743
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:5.90'
W. IN: 8" PVC
N. OUT: 8" PVC
S. IN: 4" PVC
DROP PIPE (INSIDE)

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

MH-10A
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 35LF OF SEWER LINE.

CONTINUES ON SHEET C1.14

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
1				
2				
3				
4				
5				
6				
7				

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA C PROPOSED IMPROVEMENTS
E. ADAM ST TO MAIN ST

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	ISSUE
ABB	SLD	17-1007	SEPT 2024	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.13

CONTINUES ON SHEET C1.13

SEE SHEET C1.13 FOR PROPOSED MH IMPROVEMENTS

EXIST MH-10
N:234645.4969
E:2008151.4165
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:4.70'
W. IN: 8" PVC
S. IN: 6" PVC
E. OUT: 8" PVC

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 167 LF OF SEWER LINE.

EXIST MH-9
N:234573.7671
E:2008310.6064
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:10.83'
NW. IN: 8" PVC
SE. OUT: 8" PVC

MH-9
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-8A
N:234567.8204
E:2008324.2491
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:11.20'
NW.IN"8" PVC (DROP PIPE)
E. OUT: 10" DIP

MH-8A
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.INSTALL HDPE MANHOLE INSERT.

EXIST MH-8
N:234561.9261
E:2008342.6150
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:11.80'
W. IN: 10" DIP
SE. IN: 10" PVC(DROP PIPE)
N. OUT: 8" PVC

MH-8
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-9A
N:234587.0486
E:2008310.8569
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:7.30'
W. IN: 8" PVC
S. OUT: 8" PVC

MH-9A
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

BLUE HERON DRIVE

8" WATER MAIN
MATERIAL UNKNOWN

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 15 LF OF SEWER LINE.

NO PIPE REHABILITATION REQUIRED FOR EXISTING 8" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 15 LF OF SEWER LINE.

REHAB BY CIPP 18 LF
EXISTING 10" DIP GRAVITY SEWER FROM MH-8A TO MH-8

EXIST MH-7
N:234569.0790
E:2008379.2462
48" Ø CONCRETE MH
IN BRICK SIDEWALK
DEPTH:7.40'
SE. IN: 10" PVC (DROP PIPE)
SW. OUT: 10" PVC

MH-7
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 319 LF OF SEWER LINE

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 19 LF OF SEWER LINE.

MH-6
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST MH-6
N:234551.4535
E:2008371.5514
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:7.70'
S. IN: 4" PVC (INSIDE DROP)
NE. IN: 10" PVC
W. OUT: 10" PVC

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 32 LF OF SEWER LINE.

6" WATER MAIN
MATERIAL UNKNOWN

MH-24
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 304 LF OF SEWER LINE

EXIST MH-24
N:234461.6002
E:2008679.4662
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:6.58'
SE. IN: 10" PVC
NW. OUT: 10" PVC

JASPER HWY (I-95)

E. MAIN STREET R/W VARIES

S.C. HIGHWAY 336

EXIST MH-25
N:234338.2912
E:2008957.4336
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:8.80'
SE. IN: 10" PVC
NW. OUT: 10" PVC

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

MH-25
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

CONTINUES ON SHEET C1.15

CAPTAIN BILL CREEK

LEGEND:

	DESCRIPTION
S	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
S	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
S	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
S	- DENOTES CONCRETE MANHOLE IN BRICK SIDEWALK
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

N

0 30' 60'

AREA C KEY MAP

NOTES:
1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
2. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS AND MATERIALS FROM WITHIN THE MANHOLES OR PIPELINES PRIOR TO REHABILITATION. ALL COSTS FOR PROPER DISPOSAL SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL. CONTRACTOR SHALL PREPARE ALL MANHOLES AND PIPES FOR REHABILITATION IN ACCORDANCE WITH REHABILITATION PRODUCT MANUFACTURERS' REQUIREMENTS.
3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION IN ALL DISTURBED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS WITHIN PROJECT LIMITS WITH HYDROSEEDING AND/OR PERMANENT VEGETATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY MATERIALS (SOIL, STONE, MATS) AND EQUIPMENT TO DEVELOP APPROPRIATE ACCESS AND SUITABLE WORKING SURFACE FOR PROPOSED CONSTRUCTION. ALL TEMPORARY MATERIALS AND EQUIPMENT USED SHALL BE REMOVED AFTER CONSTRUCTION AND SITE RESTORED. ALL COSTS FOR SUCH TEMPORARY MATERIALS SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAY ITEM WILL BE MADE.
8. CONTRACTOR SHALL ADHERE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS. ALL WORK WITHIN WETLAND AREAS SHALL ADHERE TO REQUIREMENTS OF US ARMY CORPS OF ENGINEERS. ALL WORK IN SCDOT RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH SCDOT ENCROACHMENT PERMIT AND APPROVED PAVING RESTORATION AND MOT REQUIREMENTS.

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

REV NO	DATE	DWN. CHK BY	DESCRIPTION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA C PROPOSED IMPROVEMENTS
MAIN STREET

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	DRAWN SLD		
JOB #	17-1007		
ISSUE DATE	SEPT 2024		BID
ISSUE			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
C1.14

CONTINUES ON SHEET C1.14

SEE SHEET C1.14 FOR PROPOSED MH IMPROVEMENTS

EXIST MH-25
N:234338.2912
E:2008957.4336
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:8.80'
SE. IN: 10" PVC
NW. OUT: 10" PVC

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 313 LF OF SEWER LINE.

TTC: 610-005-10
FLAGGING OPERATIONS.
TWO LANE TWO-WAY ROADWAYS WITHOUT INTERSECTIONS

MH-26
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 183 LF OF SEWER LINE.

MH-27
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

EXIST MH-27
N:234157.4069
E:2009419.1443
48" Ø CONCRETE MH
IN UNPAVED AREA
DEPTH:8.60'
S. IN: 10" PVC
S. IN: 4" PVC
NW. OUT: 10" PVC

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 21 LF OF SEWER LINE.

EXIST MH-26
N:234227.9514
E:2009250.3559
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:10.50'
SE. IN: 10" PVC
SE. IN: 6" PVC
SW. IN: 6" CIP
(INSIDE DROP)
NW. OUT: 10" PVC

EXIST MH-296
N:234137.3082
E:2009424.2165
48" Ø CONCRETE MH
IN BRICK SIDEWALK
DEPTH:7.70'
SE. IN: 10" PVC
N. OUT: 10" PVC

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

MH-296
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 202 LF OF SEWER LINE.

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

MH-294
REPLACE FRAME AND COVER AND INSTALL NEW ADJUSTMENT RINGS AS NECESSARY TO ACHIEVE EXISTING GRADE.
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

EXIST BURIED MH-294
N:234067.4025
E:2009613.2212
48" Ø CONCRETE MH
IN BRICK SIDEWALK
DEPTH:8.60'
SE. IN: 10" PVC
NE. IN: 8" PVC
NW. OUT: 10" PVC

EXIST MH-295
N:233974.7681
E:2009859.0189
48" Ø CONCRETE MH
IN ROADWAY
DEPTH:8.30'
SE. IN: 10" PVC
SW. IN: 8" PVC
NW. OUT: 10" PVC

NO PIPE REHABILITATION REQUIRED FOR EXISTING 10" PVC PIPE. CONTRACTOR SHALL FLUSH AND CLEAN 263 LF OF SEWER LINE.

MH-295
REPLACE MANHOLE COVER
INSTALL LINING IN MANHOLE PER SPECIFICATIONS.
INSTALL URETHANE RUBBER SEALING SYSTEM FOR INTERNAL MANHOLE CHIMNEY AND FRAME.
INSTALL HDPE MANHOLE INSERT.

TTC: 610-205-00
RIGHT SHOULDER CLOSURE (CASE I/ CASE II)
PRIMARY ROUTES

8" WATER MAIN
MATERIAL UNKNOWN

GRAHAMVILLE ROAD (S-336)

SYCAMORE DRIVE

HENRY LAWTON ROAD (SR-S-27-405)

AREA C KEY MAP

NOTES:
1. CONTRACTOR SHALL CLEAN AND CCTV INSPECT ALL PIPELINES PRIOR TO MAINTENANCE REHABILITATION. INSPECTION SHALL VERIFY SIZE AND MATERIAL OF PIPELINE AND IDENTIFY THE LOCATION OF ALL SEWER LATERALS. NOTIFY ENGINEER REGARDING SIZE OR MATERIAL CORRECTIONS OR CONCERNS.
2. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS AND MATERIALS FROM WITHIN THE MANHOLES OR PIPELINES PRIOR TO REHABILITATION. ALL COSTS FOR PROPER DISPOSAL SHALL BE INCORPORATED INTO APPROPRIATE PAY ITEM FOR SEWER PIPELINE OR MANHOLE REHABILITATION. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL. CONTRACTOR SHALL PREPARE ALL MANHOLES AND PIPES FOR REHABILITATION IN ACCORDANCE WITH REHABILITATION PRODUCT MANUFACTURERS' REQUIREMENTS.
3. CONTRACTOR SHALL REMOVE STEPS OR ANY REMAINING COMPONENTS OF STEPS IN MANHOLES PRIOR TO INSTALLING LINER OR SEALING SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY SEWER BYPASSING OPERATIONS NECESSARY FOR THE SEWER REHABILITATION PROJECT. COORDINATE ALL BYPASSING WITH TOWN OF RIDGELAND WATER AND SEWER SUPERINTENDENT.
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LEGEND:

	DESCRIPTION
Ⓢ	- DENOTES EXISTING MANHOLE
SAN	- DENOTES EXISTING SANITARY SEWER PIPE
WAT	- DENOTES EXISTING WATER MAIN
	- DENOTES SILT FENCE
	- DENOTES WETLAND LINE
	- DENOTES WETLAND
Ⓢ	- DENOTES EXISTING TYPICAL PATCH AND ROAD CUT AREA 2' AROUND AT MANHOLE. RESTORE PAVING AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS (SEE DETAIL SHEET D-1)
	- DENOTES MILL AND RESURFACE
	- DENOTES ASPHALT REMOVE AND REPLACE
Ⓢ	- DENOTES TYPICAL CONCRETE PATCH REPLACEMENT. REMOVE AND REPLACE CONCRETE 2' AROUND MANHOLE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
Ⓢ	- DENOTES CONCRETE MANHOLE IN BRICK SIDEWALK
	- DENOTES SEWER LATERAL CONNECTION RESTORATION
	- DENOTES EXISTING SEWER LATERAL
SAN	- DENOTES PIPE REMOVAL AREA
	- DENOTES MAJOR DEFECT
	- DENOTES POINT REPAIR

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SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

AREA C PROPOSED IMPROVEMENTS
GRAHAMVILLE ROAD

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN		
ABB	SLD		
JOB #	17-1007		
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844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

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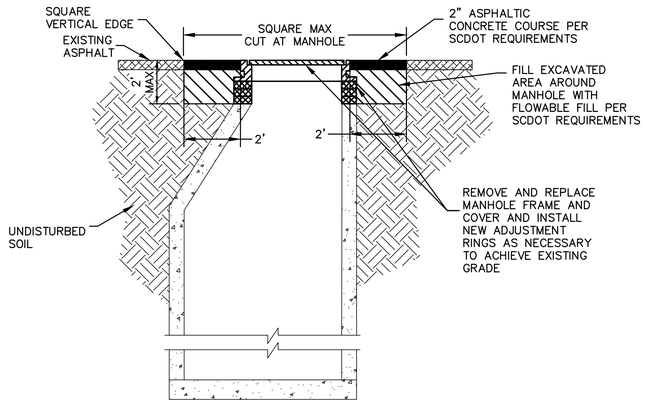
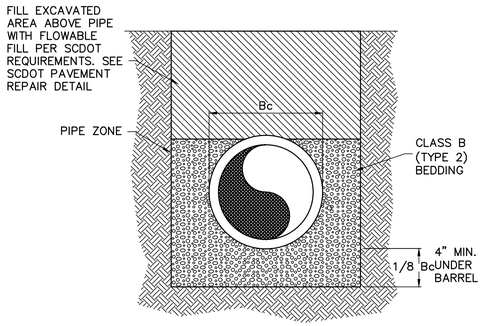


SECTION

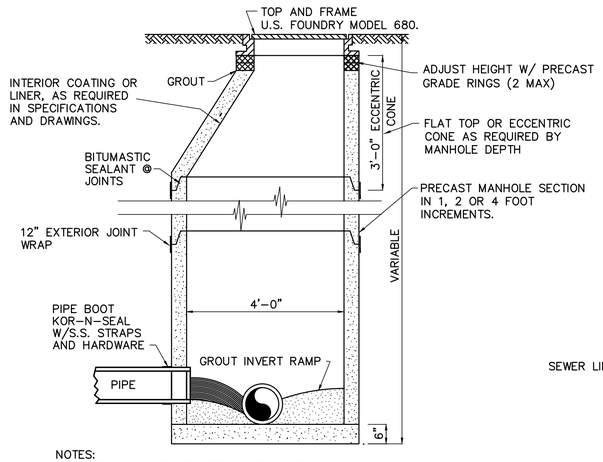
OPEN CUT SCDOT PAVEMENT REPAIR FOR LOW VOLUME ASPHALT AT MANHOLE

NOT TO SCALE



BEDDING FOR PVC GRAVITY SEWER PIPE

NOT TO SCALE

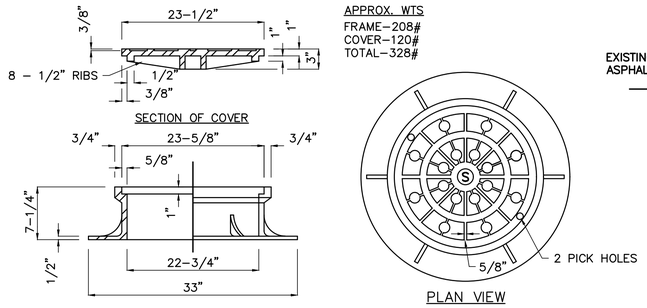


NOTES:
1. GROUT ALL JOINTS INSIDE AND OUTSIDE USING NON-SHRINK GROUT.
2. INSTALL INTERIOR COATING OR LINER AS REQUIRED IN THE SPECIFICATIONS AND DRAWINGS.
3. INSTALL SEAL WRAP EXTERIOR JOINT SEALER AS MANUFACTURED BY MAR-MAC.

SECTION

PRECAST SEWER MANHOLE

NOT TO SCALE

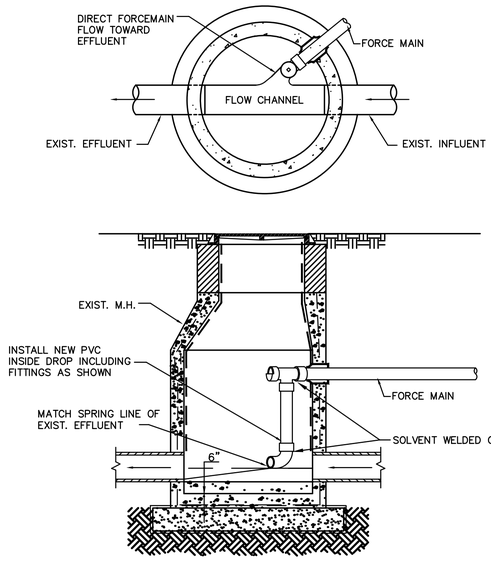


HALF SECTION FRAME HALF ELEVATION FRAME

NOTES:
1. AS MANUFACTURED U.S. FOUNDRY MODEL 680. PROVIDE WITH 2 COATS OF BITUMASTIC PAINT.
2. MACHINED BEARING SURFACES BETWEEN COVER AND FRAME.

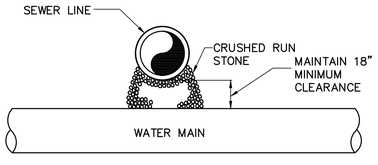
STANDARD SEWER MANHOLE FRAME & COVER

NOT TO SCALE



TYPICAL FORCE MAIN CONNECTION TO MANHOLE

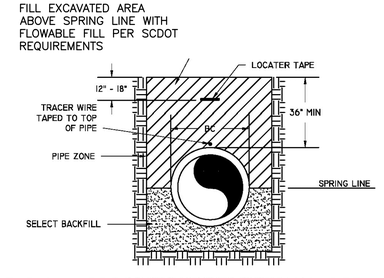
NOTE:
1. PVC PIPE AND FITTINGS SHALL BE (SCH 80) WITH SOLVENT WELDED JOINTS OR C900 PVC WITH INTEGRAL RESTRAINED JOINTS



NOTE:
FULL JOINT OF DUCTILE IRON PIPE FOR BOTH WATER AND SEWER TO BE CENTERED AT CROSSING.

SEWER CROSSING ABOVE WATER LINE DETAIL

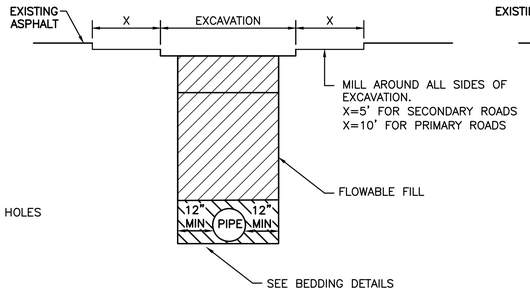
NOT TO SCALE



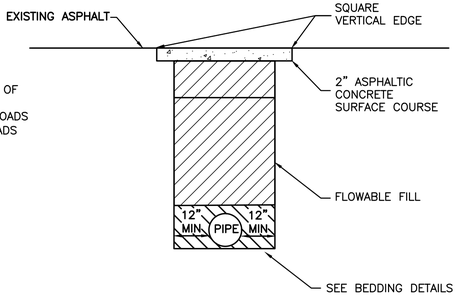
TYPICAL PRESSURE PIPE BEDDING DETAIL

NOT TO SCALE

MILL AND RESURFACE AT OPEN CUT REPAIR



OPEN CUT REPAIR FOR ALL ROADWAYS



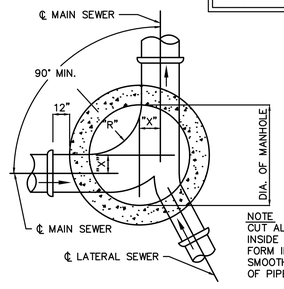
NOTES:
1. COMPACTION TESTS TO BE CONDUCTED BY A GEOTECHNICAL PROFESSIONAL ENGINEER LICENSED IN THE STATE OF SOUTH CAROLINA AND SUBMITTED TO THE TOWN AND SCDOT FOR REVIEW AND APPROVAL PRIOR TO PAVING. TESTING RESULTS SHALL BE PROVIDED DIRECTLY TO SCDOT BY TESTING LAB.
2. COMPACTION TESTS SHALL BE CONDUCTED ON EACH SIDE OF THE MANHOLE (2 TOTAL) ABOVE THE PIPE INSTALLATION AND AS REQUIRED BY SCDOT FOR THE STRUCTURE. TESTS TO BE CONDUCTED BY A GEOTECHNICAL PROFESSIONAL ENGINEER LICENSED IN THE STATE OF SOUTH CAROLINA AND SUBMITTED TO THE TOWN AND SCDOT FOR REVIEW AND APPROVAL PRIOR TO PAVING
3. ALL EXCAVATION AREAS SHALL BE COVERED WITH STEEL PLATE TO SCDOT STANDARDS AND TRAFFIC RESTORED AT THE END OF THE WORK DAY
4. ALL DISTRIBUTED PAVEMENT STRIPING AND MARKINGS SHALL BE RESTORED TO SCDOT STANDARDS (THERMOPLASTIC IN PRIMARY ROADS AND PAINT IN SECONDARY ROADS) TO BE DETERMINED BY SCDOT)

SCDOT PAVEMENT REPAIR

NOT TO SCALE

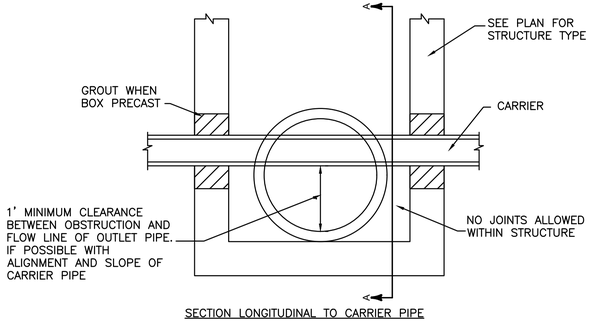
STANDARD MANHOLES
SCHEDULE OF GOVERNING DIMENSIONS

PIPE SIZE	ANGLE △	MANHOLE DIAMETER	"R"	"X"
8" TO 15"	0° TO 90°	4'-0"	2'-0"	0"
18" TO 30"	0° TO 90°	5'-0"	2'-0"	6"
36" TO 42"	0° TO 60°	6'-0"	3'-0"	9"
36" TO 42"	60° TO 90°	6'-0	3'-0"	1'-2"
48" OR LARGER	0° TO 45°	7'-0	4'-0"	6"
48" OR LARGER	45° TO 90°	8'-0	3'-0"	1'-3"



NOTE
CUT ALL PIPE FLUSH WITH INSIDE WALL OF MANHOLE FORM INVERT UNIFORM AND SMOOTH. CUT OFF TOP HALF OF PIPE AT WALL.

TYPICAL PLAN STANDARD MANHOLE



SECTION LONGITUDINAL TO CARRIER PIPE

UTILITY CONFLICT CONDITION 1
(NON-PRESSURE OR NON-FLUID CARRIER)

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

CONSTRUCTION DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	ISSUE
ABB	SLD	17-1007	SEPT 2024	BID

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324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
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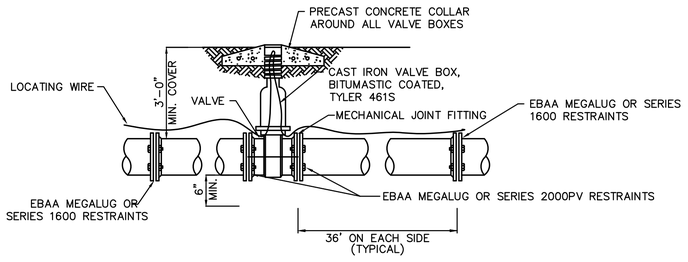
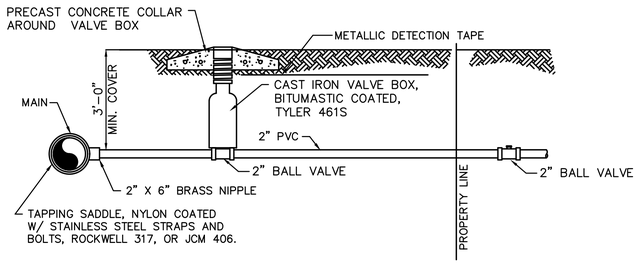


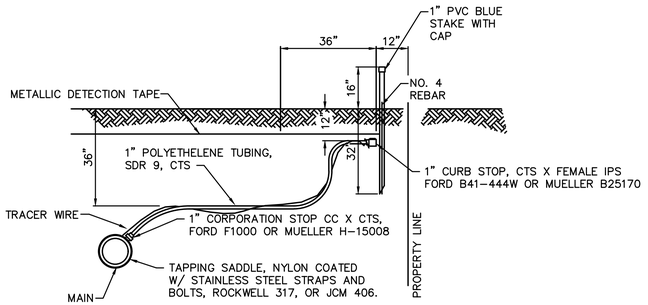
GATE VALVE SETTING DETAIL

NOT TO SCALE



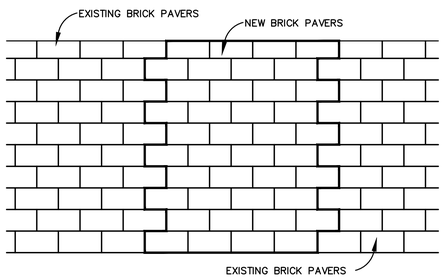
2" SERVICE CONNECTION DETAIL

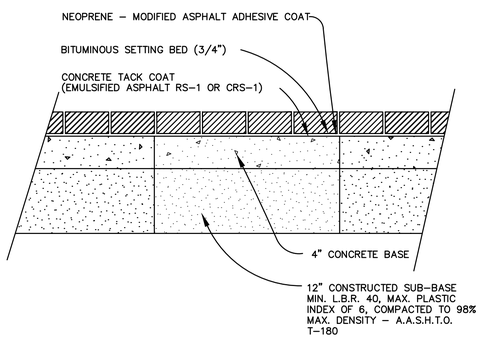
NOT TO SCALE



1" WATER SERVICE CONNECTION DETAIL

NOT TO SCALE





STANDARD BRICK SIDEWALK REPAIR DETAIL

PVC PIPE RESTRAINT NOTES:

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Ll IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

PVC PIPE RESTRAINT JOINT SCHEDULE

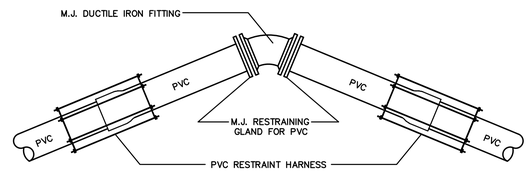
LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)	L (FT.)
4	21	9	5	3	17	3	47
6	30	13	6	3	23	4	66
8	38	16	8	4	30	6	86
10	45	19	9	5	36	7	103
12	53	22	11	6	43	8	121
14	61	26	13	6	50	9	140
16	66	28	14	7	55	10	154
18	73	30	15	8	60	11	170
20	79	33	16	8	66	12	186
24	79	33	16	8	77	15	185
30	93	39	19	10	97	17	222
36	106	39	21	11	107	20	257
42	117	49	24	12	120	24	289
48	144	53	26	13	133	26	321

REDUCERS	
SIZE (IN.)	L (FT.)
6x4	34
8x6	36
8x4	62
10x8	35
10x6	63
12x10	36
12x8	64
16x12	66
16x10	92
20x18	35
20x16	66
20x12	117
24x20	56
24x18	80
24x16	101
30x24	78
30x20	121
36x30	78
36x24	141
42x36	75
42x30	140
48x42	75
48x36	139

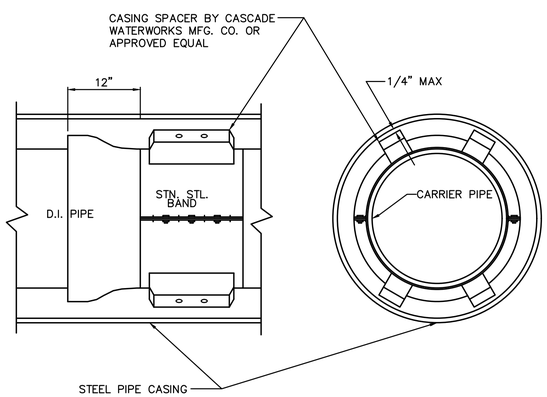
TEES SEE NOTE 5		
RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	4	F.O.
4	6	10
	4 < LESS	F.O.
8	8	29
	6 < LESS	F.O.
10	10	45
	8	13
	6 < LESS	F.O.
12	12	62
	10	32
	8 < LESS	F.O.
16	16	94
	12	39
	10	5
	10 < LESS	F.O.
20	20	125
	16	76
	12	14
	10 < LESS	F.O.
24	24	124
	20	84
	16	36
	12 < LESS	F.O.
30	30	159
	24	104
	20	60
	16	5
	16 < LESS	F.O.
36	36	192
	30	142
	24	83
	20	33
	16 < LESS	F.O.
42	42	223
	36	178
	30	124
	24	59
	20	5
	16 < LESS	F.O.
48	48	253
	42	209
	36	162
	30	104
	24	34
	20 < LESS	F.O.

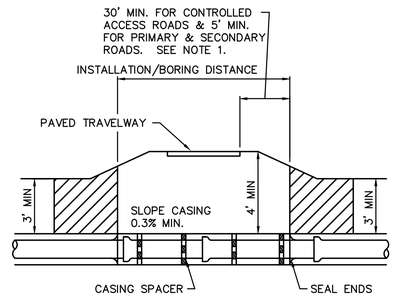
F.O. = FITTING ONLY



RESTRAINED JOINT FITTING DETAIL

NOT TO SCALE





NOTES:

1. THE NEAR EDGE OF THE PIT CAN BE NO CLOSER TO THE EDGE OF THE TRAVELWAY THAN ITS DEPTH BELOW THE SURFACE OF THE TRAVELWAY UNLESS BULKHEADED.
2. STEEL CASING PIPE SHALL HAVE A 0.25 INCH WALL THICKNESS.

CARRIER PIPE INSTALLATION IN CASING

NOT TO SCALE

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN
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FOUR WATERS ENGINEERING, INC.
No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

CONSTRUCTION DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
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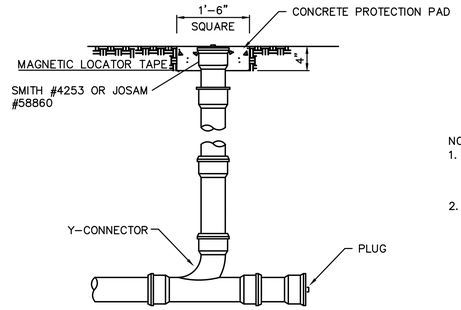
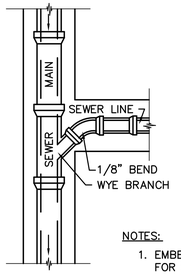


CLEANOUT DETAIL

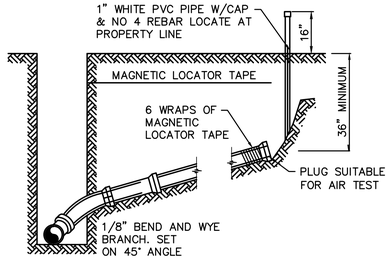
NOT TO SCALE

NOTES:
1. THE CLEANOUT SHOULD BE THE SAME SIZE DIAMETER AS THE LINE THAT IT IS INSTALLED ON.
2. CLEANOUT SHOULD CONSIST OF A PLUG SUITABLE FOR AIR TEST.



PLAN

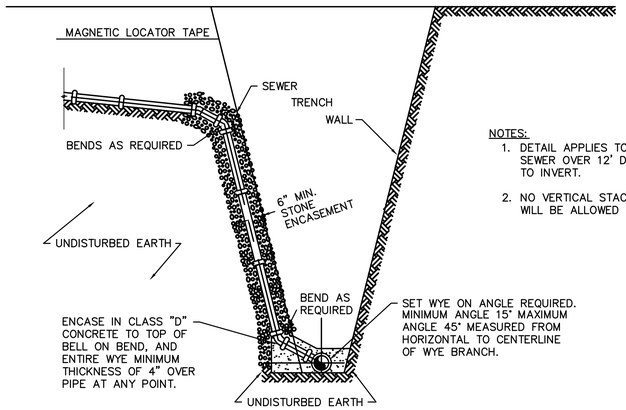
NOTES:
1. EMBEDMENT SAME AS FOR SEWER LINE.
2. SERVICE LINE SHALL BE ON SUCH A GRADE THAT WILL PERMIT SERVICING OF PROPERTY. MINIMUM GRADE SHALL BE 1.0%. MAXIMUM GRADE SHALL BE 50%
3. NO VERTICAL STACKING WILL BE ALLOWED.



SECTION

SEWER SERVICE CONNECTION DETAIL

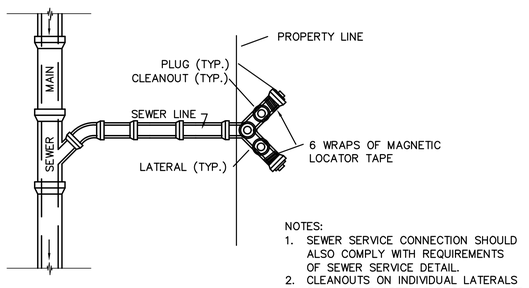
NOT TO SCALE



DEEP SEWER SERVICE DETAIL

NOT TO SCALE

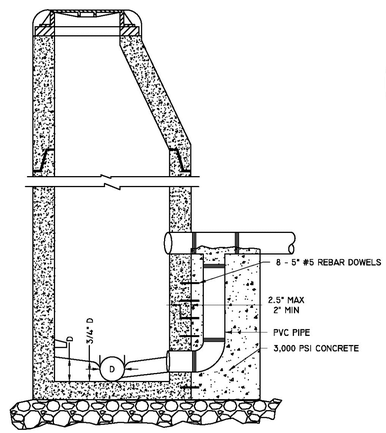
NOTES:
1. DETAIL APPLIES TO SEWER OVER 12' DEEP TO INVERT.
2. NO VERTICAL STACKING WILL BE ALLOWED



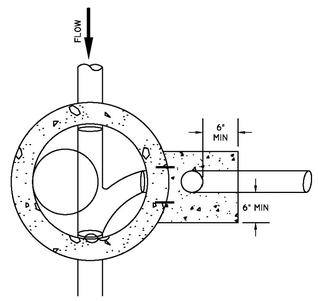
NOTES:
1. SEWER SERVICE CONNECTION SHOULD ALSO COMPLY WITH REQUIREMENTS OF SEWER SERVICE DETAIL.
2. CLEANOUTS ON INDIVIDUAL LATERALS SHALL BE PLACED AT PROPERTY LINE.
3. CONNECTION TO MAIN SHALL BE 6" PIPE. SERVICES MAY BE 4".

DOUBLE SEWER SERVICE

NOT TO SCALE



SECTION VIEW



PLAN VIEW

DROP MANHOLE

NOT TO SCALE

REV NO	DATE	DWN. BY	CHK BY	DESCRIPTION
1				
2				
3				
4				
5				
6				
7				

SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

CONSTRUCTION DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.3

REFERENCES

NATIONAL DOCUMENTS

SCDOT DOCUMENTS

RELATED DRAWINGS & KEYWORDS

THIS DRAWING IS ONLY VALID FOR CONSTRUCTION WHEN SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA. CHECK WWW.SCDOT.ORG FOR LATEST UPDATE.

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
NO. 21242
JAMES W. KENDALL, JR.

James W. Kendall
SIGNATURE

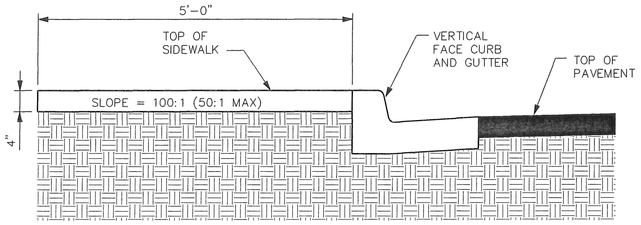
10/30/2015
DATE

#	DATE	CHK	DESCRIPTION
6	---	---	---
5	---	---	---
4	---	---	---
3	---	---	---
2	---	---	---
1	---	---	---
0	1/2016	DSO	NEW DRAWING

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

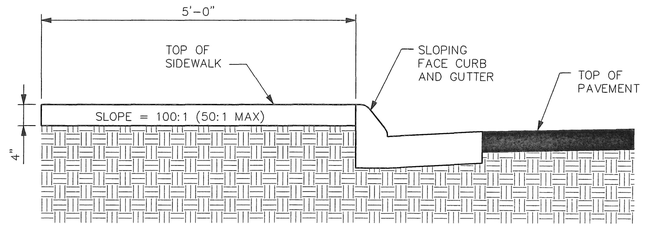
STANDARD DRAWING
SIDEWALK ADJACENT TO CURB

720-150-00
EFFECTIVE LETTING DATE: JAN., 2016

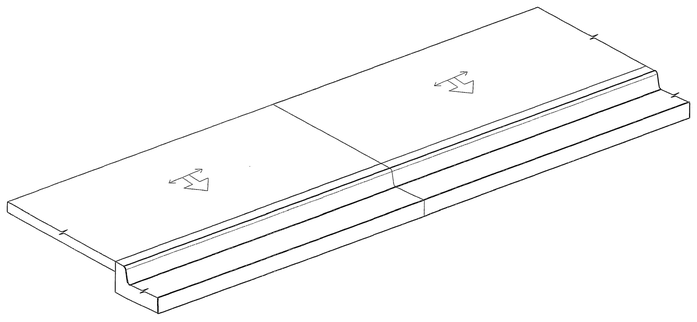


DETAIL 1
1/2" = 1'-0"
SIDE ELEVATIONS

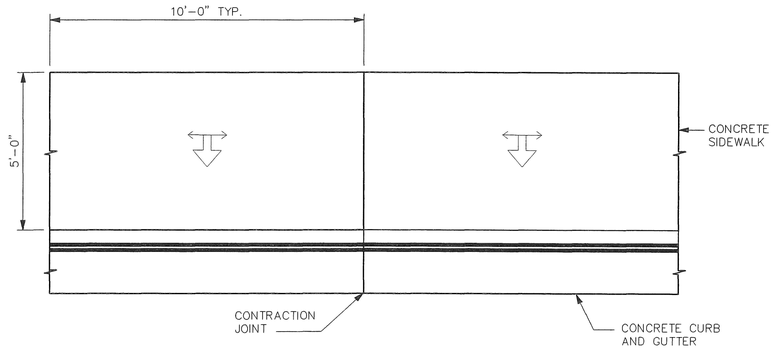
NOTES:
1 SEE DRAWING 720-105-01 FOR STANDARD CURB AND GUTTER DETAILS.
2 SEE DRAWING 720-901-03 FOR SYMBOLS AND CONSTRUCTION TOLERANCE.
3 PLACE TRANSVERSE EXPANSION JOINTS (FULL DEPTH ACROSS THE ENTIRE SIDEWALK WIDTH) WHEN NEAR TURNS IN THE SIDEWALK, AND IN LONG CONTINUOUS RUNS OF SIDEWALK AS DIRECTED IN THE STANDARD SPECIFICATIONS.
4 PLACE EXPANSION JOINTS BETWEEN THE SIDEWALK EDGE AND THE BACK OF CURB WHEN ALONG A RADIUS LESS THAN 100'.
5 PLACE EXPANSION JOINTS BETWEEN THE SIDEWALK EDGE AND ANY ADJACENT STRUCTURE (RETAINING WALLS, BUILDINGS, ETC.)
6 PLACE CONTRACTION JOINTS AT REGULAR INTERVALS BETWEEN EXPANSION JOINTS NOT TO EXCEED STANDARD SPECIFICATION SPACING.
7 MEASURE SIDEWALK IN SQUARE YARDS BY THE ACTUAL PLACED AREA OF CONCRETE UP TO THE ADJACENT PAY ITEM LIMITS (CURBS, PEDESTRIAN RAMPS, DRIVEWAYS, ETC.).



DETAIL 2
1/2" = 1'-0"
SIDE ELEVATIONS



DETAIL 4
ISOMETRIC VEIW



DETAIL 3
SCALE: 1/4" = 1'-0"
PLAN VEIW

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN
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No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

CONSTRUCTION DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID
DRAWN SLD			

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844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.4

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER NO. 24242 WILLIE E. McCONNELL, JR

SIGNATURE

6/1/2018

DATE

#	DATE	CHK	DESCRIPTION
5			
4			
3			
2			
1	4-27-18	WEM	REVISED FLAGGING OPERATIONS NOTE 1
0	1-14-15	JCS	NEW DRAWING

SCDOT

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

FLAGGING OPERATIONS TWO-LANE TWO-WAY PRIMARY & SECONDARY ROUTES

610-005-00

EFFECTIVE LETTING DATE: JAN 2019

FLAGGING OPERATIONS GENERAL NOTES

(ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED)

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:

   APPROACH TAPER - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.

   DOWNSTREAM TAPER - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.

   FLAGGER STATION - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.

   CLOSED LANE FLAGGER - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.

   OPEN LANE FLAGGER - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTREAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.

   SIDE ROAD FLAGGER - THIS FLAGGER IS STATIONED ON AN INTERSECTING SIDE ROAD AND CONTROLS THE SIDE ROAD TRAFFIC ENTERING INTO THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.

   BUFFER SPACE - THIS AREA IS LOCATED BETWEEN THE DOWNSTREAM END OF THE APPROACH TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENCROACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.

   WORK ACTIVITY AREA - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.

   LIMITS of the WORK ACTIVITY AREA - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.

   APPROACH LANE - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

   DEPARTURE LANE - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.

   MAINLINE APPROACH - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.

   SIDE ROADS - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.

   LIMITS of the INTERSECTION - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT, WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER RADII BETWEEN ADJACENT ROADWAY APPROACHES TIE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.

2. INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO A FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MINIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
3. LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
4. INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE "FLAGGER STATION" WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
5. INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
6. MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

1. EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI / ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
2. ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 Lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
3. SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD". A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
4. UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

1. THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.

SPEED LIMIT	DISTANCES
LOW SPEED ≤ 35 MPH	200 FEET
INTERMEDIATE SPEED 40 - 50 MPH	300 FEET
HIGH SPEED 55 MPH	400 FEET

2. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
3. WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENCROACH UPON THE "BUFFER SPACE" AND THIS ENCROACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENCROACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENCROACHMENT BY REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

SIGNS AND TRAFFIC CONTROL DEVICES -

1. MEASURE THE ADVANCE WARNING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
2. INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
3. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE III OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
8. DELINEATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENCROACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

1. DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREINBEFORE IS PROHIBITED.
2. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

1. A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
2. WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVM) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVM OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINTLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVM OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
3. LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

1. CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENCROACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
2. IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTREAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
* ≤ 35 MPH LOW SPEED	200
* 40 - 50 MPH INTERMEDIATE SPEED	350
* 55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

THIS DRAWING IS NOT TO SCALE

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

TEMPORARY TRAFFIC CONTROL DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN		
ABB	SLD		
JOB #	17-1007		
ISSUE DATE	SEPT 2024		BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.5

DRAWING 610-005-10 NOTES

1. SEE STANDARD DRAWING NO. 610-005-00 FOR ALL GENERAL NOTES AND REQUIREMENTS.

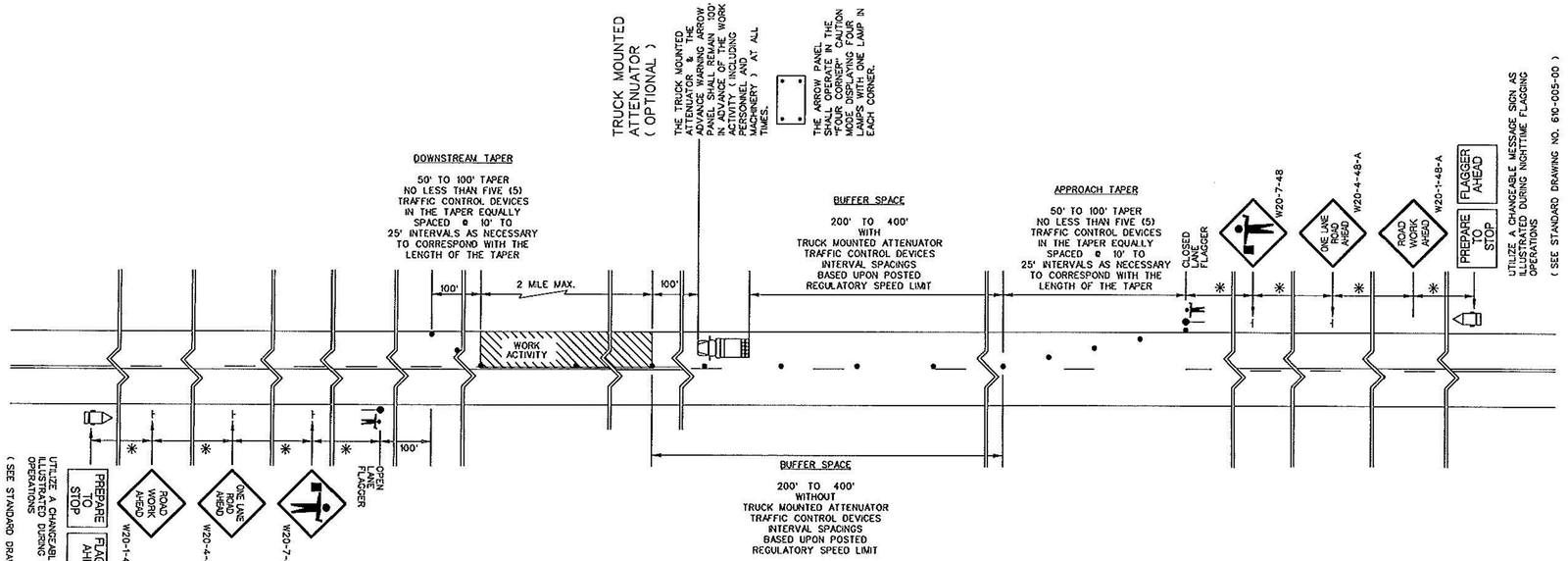

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
# ≤ 35 MPH LOW SPEED	200
# 40 - 50 MPH INTERMEDIATE SPEED	350
# 55 MPH HIGH SPEED	500

REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

THIS DRAWING IS NOT TO SCALE

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER NO. 24242 WILLIE F. McCONNELL, JR

SIGNATURE

7/27/15
DATE

#	DATE	CHK	DESCRIPTION
6			
5			
4			
3			
2			
1			
0	1-15-15	JCS	NEW DRAWING

SCDOT

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

FLAGGING OPERATIONS TWO-LANE TWO-WAY ROADWAYS WITHOUT INTERSECTIONS

610-005-10

EFFECTIVE LETTING DATE | JAN 2016

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

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SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

TEMPORARY TRAFFIC CONTROL DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN
ABB	SLD
JOB #	17-1007
ISSUE DATE	SEPT 2024
ISSUE	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.6

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER NO. 24242 WILLIE E. McCONNELL, JR

SIGNATURE

6/1/2018
DATE

#	DATE	CHK	DESCRIPTION
5			
4			
3			
2			
1	4-27-18	WEM	REVISED WORK ACTIVITY DIMENSION AND NOTE 5
0	1-15-15	JCS	NEW DRAWING

SCDOT

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

FLAGGING OPERATIONS WORK ZONES CONTINUING THROUGH STOP SIGN CONTROLLED SIDE ROADS

610-005-20

EFFECTIVE LETTING DATE: JAN 2019

DRAWING 610-005-20 NOTES

1. SEE STANDARD DRAWING NO. 610-005-00 FOR ALL GENERAL NOTES AND REQUIREMENTS. THE FOLLOWING NOTES ARE SPECIFIC REQUIREMENTS FOR THIS STANDARD DRAWING.
2. WHEN THE WORK ZONE PROCEEDS THROUGH OR MUST ENCROACH UPON THE "LIMITS OF THE INTERSECTION", DO NOT ALLOW THE "APPROACH TAPER" OR THE "DOWNSTREAM TAPER" OF THE LANE CLOSURE TO ENCROACH UPON THE "LIMITS OF THE INTERSECTION". ONLY THE "BUFFER SPACE" OR THE "WORK ACTIVITY AREA" OF THE LANE CLOSURE MAY ENCROACH UPON THE "LIMITS OF THE INTERSECTION".
3. WHEN THE WORK ZONE PROCEEDS THROUGH OR MUST ENCROACH UPON THE "LIMITS OF THE INTERSECTION" WITH "STOP SIGN CONTROLLED" "SIDE ROADS", UTILIZE FLAGGERS TO CONTROL THE TRAFFIC FROM THE INTERSECTING "SIDE ROADS" UNLESS OTHERWISE DIRECTED BY THE ENGINEER. MAINTAIN THESE FLAGGERS IN PLACE FOR THE DURATION THAT ANY PORTION OF THE "BUFFER SPACE" OR THE "WORK ACTIVITY AREA" MAY ENCROACH UPON THE "LIMITS OF THE INTERSECTION".
4. WHEN THE WORK ZONE PROCEEDS THROUGH OR MUST ENCROACH UPON THE "LIMITS OF THE INTERSECTION" WITH "STOP SIGN CONTROLLED" "SIDE ROADS", THE CONTRACTOR SHOULD CONTINUE THE WORK OPERATIONS THROUGH THE INTERSECTION TO A LOCATION POINT BEYOND THE "LIMITS OF THE INTERSECTION" THAT WILL PERMIT THE WORK TRAIN TO CLEAR THE INTERSECTION AND THE LOCATION OF THE SUBSEQUENT "FLAGGER STATION" BE NO LESS THAN 200' PAST THE "LIMITS OF THE INTERSECTION" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
5. WHEN THE WORK ZONE PROCEEDS THROUGH A "STOP SIGN CONTROLLED" "SIDE ROAD" INTERSECTION, CONTINUE THE WORK OPERATIONS THROUGH THE INTERSECTION TO A SPECIFIC LOCATION POINT WITHIN THE "DEPARTURE LANE" NO LESS THAN 300 FT TO 500 FT BEYOND THE LIMITS OF THE INTERSECTION TO ALLOW THE WORK TRAIN AND ALL PORTIONS OF THE LANE CLOSURE TO CLEAR THE INTERSECTION.
6. MAINTAIN THE MAXIMUM TIME DURATION OF 5 TO 7½ MINUTES FOR STOPPED TRAFFIC ON THE ROADWAY WHERE THE WORK ACTIVITY IS LOCATED AND BEING CONDUCTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WHEN ANY PORTION OF THE "WORK ACTIVITY AREA" ENCROACHES UPON THE "LIMITS OF THE INTERSECTION", VARIOUS TYPES OF WORK MAY REQUIRE TRAFFIC TO AND FROM THE "SIDE ROADS" BE STOPPED FOR TIME DURATIONS GREATER THAN THE MAXIMUM TIME DURATION OF 5 TO 7½ MINUTES. ONLY WHEN APPROVED BY THE ENGINEER MAY THE MAXIMUM TIME DURATION OF 5 TO 7½ MINUTES FOR STOPPED TRAFFIC FOR THE SIDE ROAD TRAFFIC BE EXCEEDED. IN THE EVENT THE TYPE OF WORK REQUIRES THE SIDE ROAD TRAFFIC BE STOPPED FOR TIME DURATIONS GREATER THAN 5 TO 7½ MINUTES, THE SIDE ROAD TRAFFIC MAY BE STOPPED FOR TIME PERIODS UP TO 20 MINUTES IF APPROVED BY THE ENGINEER. IF THE SIDE ROAD TRAFFIC MUST BE STOPPED FOR TIME PERIODS GREATER THAN 20 MINUTES, CLOSURE OF THE "SIDE ROADS" MAY BE CONSIDERED IF APPROVED BY THE ENGINEER. IN THE EVENT CLOSURE OF THE "SIDE ROADS" IS APPROVED, CLOSE THE "SIDE ROADS" TO TRAFFIC IN ACCORDANCE WITH THE REQUIREMENTS OF STANDARD DRAWING NO. 610-510-00. INSTALL AND MAINTAIN APPROPRIATE DETOURS WHEN NECESSARY AND AS DIRECTED BY THE ENGINEER.

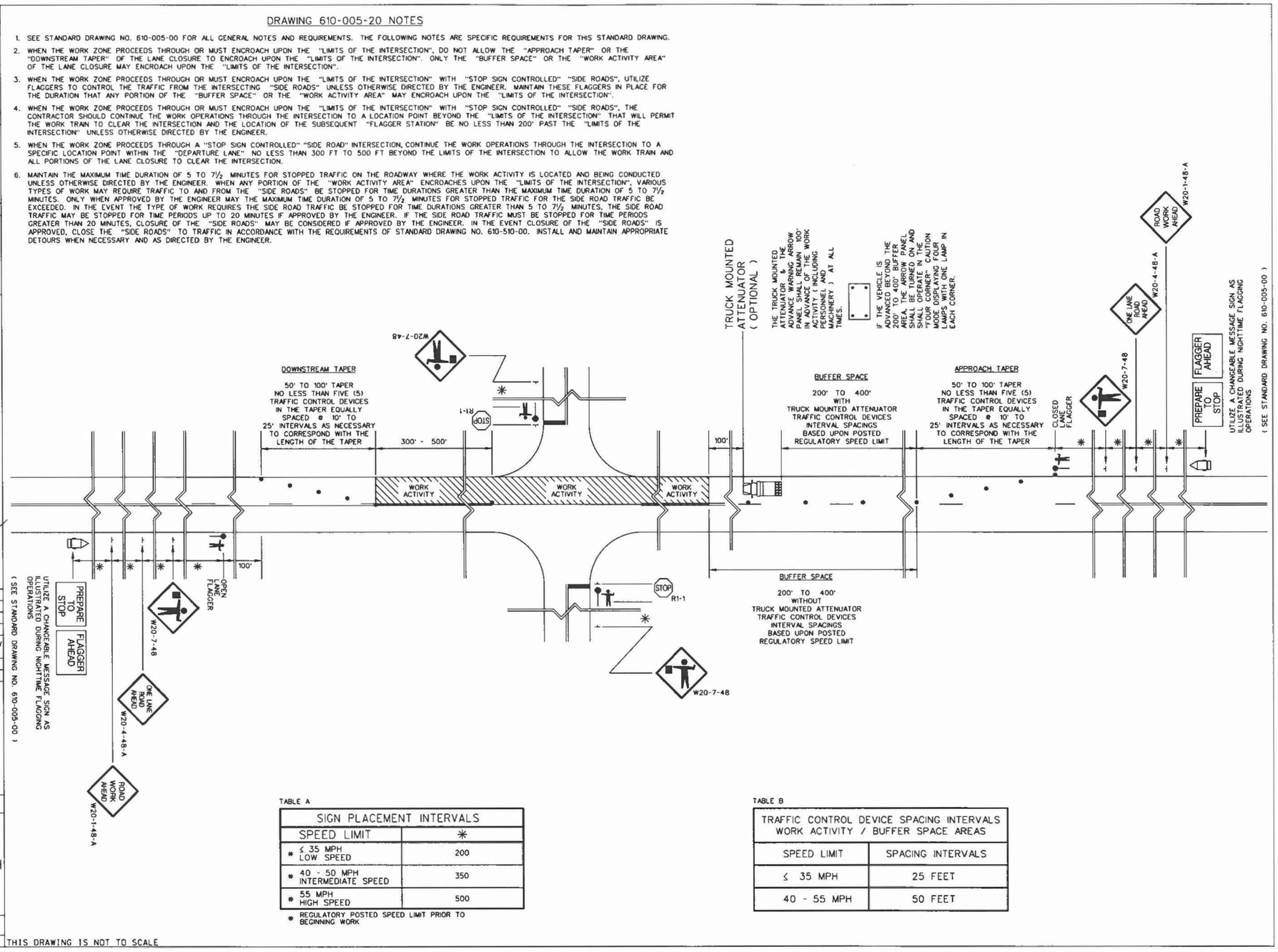

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
* ≤ 35 MPH LOW SPEED	200
* 40 - 50 MPH INTERMEDIATE SPEED	350
* 55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

THIS DRAWING IS NOT TO SCALE

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

TEMPORARY TRAFFIC CONTROL DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN
ABB	SLD
JOB #	17-1007
ISSUE DATE	SEPT 2024
ISSUE	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.7

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER NO. 24242 WILLIE E. McCONNELL, JR.

SIGNATURE

8/2/12
DATE

#	DATE	CHK	DESCRIPTION
6			
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2			
1	8-12-11	JCS	GENERAL UPDATE
0	8-23-07	JCS	DRAWING NO. UPDATE

SCDOT

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

RIGHT SHOULDER CLOSURE (CASE I / CASE II) PRIMARY ROUTES

610-205-00

EFFECTIVE LETTING DATE: JUNE, 2013

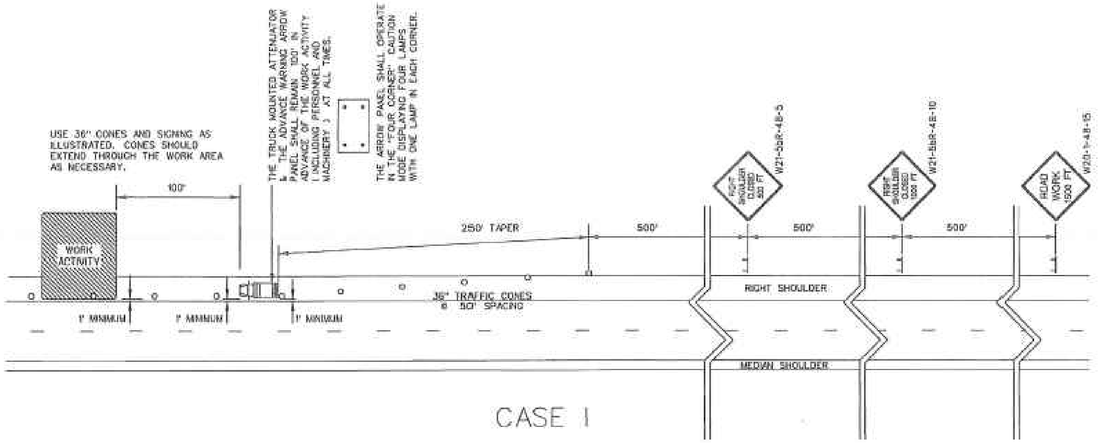
THIS DRAWING IS NOT TO SCALE

GENERAL NOTES

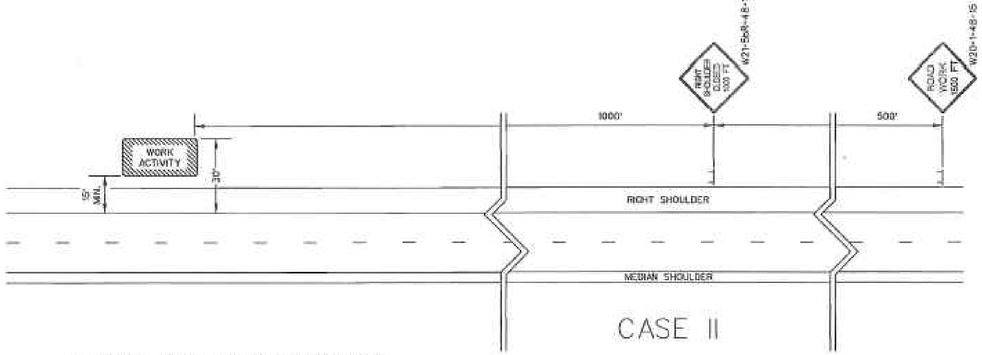
1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. SPACINGS INDICATED ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLEFACED GUARDRAIL.
8. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR DAYTIME SHOULDER CLOSURES ARE 36" CONES. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR NIGHTTIME SHOULDER CLOSURES ARE PORTABLE PLASTIC DRUMS. DURING DAYTIME SHOULDER CLOSURES, 42" OVERSIZED CONES MAY BE SUBSTITUTED FOR 36" CONES. DURING NIGHTTIME SHOULDER CLOSURES, 42" OVERSIZED CONES ARE PROHIBITED FOR USE. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE HOURS OF DARKNESS, REPLACE ALL CONES, 36" OR 42" OVERSIZED, WITH PORTABLE PLASTIC DRUMS.
9. THE 36" CONES UTILIZED DURING DAYLIGHT HOURS ARE NOT REQUIRED TO BE RETLECTORIZED. REFLECTORIZE ALL 42" OVERSIZED CONES UTILIZED DURING DAYTIME SHOULDER CLOSURES WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
11. THE DEPARTMENT PROHIBITS CONDUCTING WORK ON PRIMARY AND SECONDARY ROUTES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE UNDER A SHOULDER CLOSURE. ALL WORK THAT MAY REQUIRE THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE SHALL BE CONDUCTED UNDER A LANE CLOSURE.

    CASE I: WHENEVER ANY PORTION OF THE SHOULDER AREA WITHIN 15' BUT NOT CLOSER THAN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE MUST BE OCCUPIED BY EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES TO CONDUCT THE WORK, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL DEVICES AS ILLUSTRATED.

    CASE II: WHENEVER THE WORK IS CONDUCTED BEYOND 15' BUT WITHIN 30' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE, INCLUDING THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL AS ILLUSTRATED.
12. CONDUCT THE WORK IN SUCH A MANNER THAT WILL NOT REQUIRE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
13. PLACE THE TRUCK MOUNTED ATTENUATOR AT A LOCATION 100' IN ADVANCE OF THE WORK ACTIVITY AND NO CLOSER THAN 1' FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
14. FOR A CASE I SCENARIO IN THE RIGHT SHOULDER AREA, ADJUST THE TAPER AS NECESSARY TO FIT THE WIDTH OF THE SHOULDER WHILE MAINTAINING THE REQUIRED 250' TAPER LENGTH.
15. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS AT THE SAME TIME UNDER CASE I SHOULDER CLOSURES, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 1 MILE FROM THE END OF THE FIRST CASE I CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CASE I CLOSURE. A MINIMUM SEPARATION DISTANCE OF ONE-HALF MILE IS RECOMMENDED BETWEEN SHOULDER CLOSURES WHEN ONE OR BOTH SHOULDER CLOSURES IS A CASE II CLOSURE.
16. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
17. THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF SHOULDER CLOSURES IN THE RIGHT SHOULDER AREAS OF PRIMARY AND SECONDARY ROADWAYS.



CASE I



CASE II

PORTABLE TRUCK MOUNTED ATTENUATOR

1. UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICULAR WEIGHT (GVW) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
2. LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
3. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND

○ 36" TRAFFIC CONES

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

REV NO	DATE	DWN BY	CHK BY	DESCRIPTION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

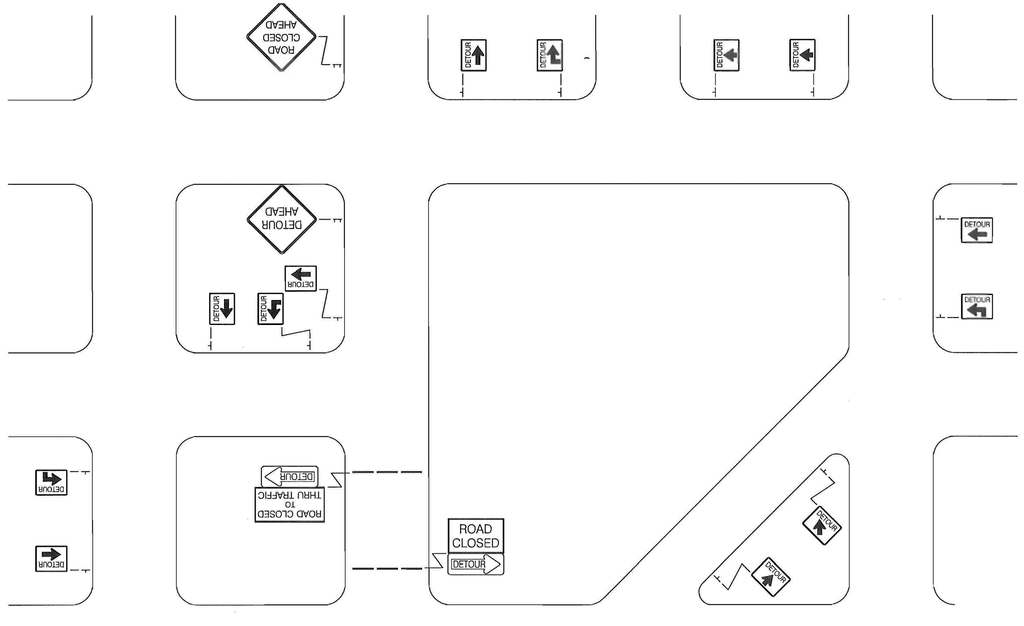
TEMPORARY TRAFFIC CONTROL DETAILS

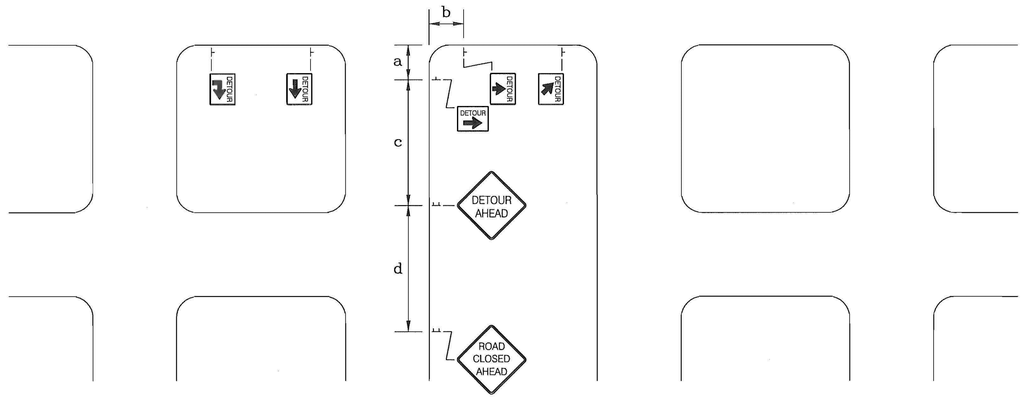
TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN			
ABB	SLD	JOB # 17-1007	ISSUE DATE SEPT 2024	ISSUE BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.8





THIS DRAWING IS NOT TO SCALE

GENERAL NOTES

1.) ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.

2.) IN AREAS WITH PAVED SHOULDERS OR CURB & GUTTER, GROUND MOUNT ALL DETOUR SIGN ASSEMBLIES 2 FEET FROM EITHER THE PAVEMENT EDGE OF A PAVED SHOULDER OR THE FACE OF A CURB. IN AREAS WITH NO PAVED SHOULDERS OR CURB & GUTTER, GROUND MOUNT ALL DETOUR SIGN ASSEMBLIES 6-12 FEET FROM THE NEAR EDGE OF AN ADJACENT TRAVEL LANE TO THE NEAREST EDGE OF THE SIGN ASSEMBLY. MOUNT EACH DETOUR SIGN ASSEMBLY SO THE BOTTOM EDGE OF THE BOTTOM SIGN HAS A MINIMUM MOUNTING HEIGHT OF NO LESS THAN 5 FEET ABOVE THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.

3.) SPACINGS INDICATED ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.

4.) MOUNT ALL SIGNS SUCH THAT THEY ARE STRAIGHT AND LEVEL AND THE FACE OF THE SIGNS ARE PERPENDICULAR TO THE SURFACE OF THE ROADWAY.

5.) REFLECTORIZE ALL DETOUR MARKERS, DETOUR SIGNS, AND DETOUR ARROW SIGNS WITH A FLUORESCENT ORANGE COLORED PRISMATIC REFLECTIVE SHEETING.

6.) ALL TRAFFIC CONTROL DEVICES, INCLUDING TYPE III BARRICADES, PORTABLE SIGN SUPPORTS, SIGN SUBSTRATUMS, BREAKAWAY SYSTEMS FOR GROUND MOUNTED SIGN SUPPORTS, WARNING LIGHTS, ETC., SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL BE APPROVED BY THE DEPARTMENT. ALL APPROVED TRAFFIC CONTROL DEVICES ARE INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES". THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .

7.) SPECIAL SIGN MOUNTING ASSEMBLIES MAY BE NECESSARY IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS, OR DOUBLEFACED GUARDRAIL AND SHALL BE PROVIDED BY THE CONTRACTOR.

8.) REFLECTORIZE ALL BARRICADES WITH A TYPE III HIGH INTENSITY REFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.

9.) ALL SUPPLEMENTAL SIGNS ATTACHED TO TYPE III BARRICADES SHALL BE CONSTRUCTED OF AN APPROVED REFLECTIVE ROLL-UP MATERIAL OR AN APPROVED ALUMINUM COMPOSITE MATERIAL. ONLY THOSE ALUMINUM COMPOSITE MATERIALS INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" SUCH AS "ALPOLIC", "DIBOND", OR "REYNOLITE" ARE APPROVED. ALL OTHER RIGID SIGN SUBSTRATUMS, INCLUDING .08 AND .10 ALUMINUM SIGN BLANKS, ARE PROHIBITED FOR ATTACHMENT TO A TYPE III BARRICADE.

10.) THE TRAFFIC CONTROL SETUP SHOWN IS A TYPICAL INSTALLATION FOR A SECONDARY ROADWAY. SPECIFIC SIGNING WILL BE BASED ON SITE CONDITIONS AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO INSTALLATION. ROAD AND STREET NAMES MAY ALSO BE USED.

11.) THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT CONSTRUCTION OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS, AND/OR THE ENGINEER.

12.) THE TRAFFIC CONTROL SETUP ILLUSTRATED ON THIS STANDARD DRAWING, INCLUDING INSTALLATION AND MAINTENANCE OF THE DETOUR SIGNING AND ALL TRAFFIC CONTROL DEVICES PERTINENT TO THE DETOUR, SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE BID ITEM FOR TRAFFIC CONTROL.

13.) COORDINATE THE SIGNS IN EACH SIGN ASSEMBLY ACCORDING TO LOCATION, ROUTE, DIRECTION, SIZE, AND COLOR.

SIGN PLACEMENT AND SPACING INTERVALS

SPEED LIMIT	a	b	c	d
35 mph OR LESS	50'	100'	200'	200'
40 mph TO 50 mph	75'	150'	350'	350'
55 mph OR GREATER	100'	200'	500'	500'

TYPICAL SIGNS

DETOUR AHEAD — W20-2-48-A

ROAD CLOSED AHEAD — W20-3-48-A

DETOUR — M4-9-30

DETOUR — M4-9L-30

DETOUR — M4-9.2L-30

DETOUR — M4-9R-30

DETOUR — M4-9.2R-30

DETOUR — M4-9.1L-30

DETOUR — M4-10L-48

DETOUR — M4-9.1R-30

DETOUR — M4-10R-48

ROAD CLOSED — R11-2-48

ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY — R11-3a-60-XX

ROAD CLOSED TO THRU TRAFFIC — R11-4-60

BRIDGE OUT XX MILES AHEAD LOCAL TRAFFIC ONLY — R11-3b-60-XX

LEGEND

TYPE III BARRICADE (6 FEET)

SINGLE POST SIGN ASSEMBLY

DUAL POSTS SIGN ASSEMBLY

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER NO. 24242 WILLIE E. McCONNELL, JR

SIGNATURE

1-30-2008

DATE

#	DATE	CHK	DESCRIPTION
6			
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1			
0	8-30-07	JCS	DRAWING NO. UPDATE

SCDOT

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

DETOUR SIGNING FOR SECONDARY ROUTES

610-610-00

EFFECTIVE LETTING DATE | MAY 2008

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

TEMPORARY TRAFFIC CONTROL DETAILS
DETOUR SIGNING - SECONDARY ROUTES

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN		
ABB	SLD		
JOB #	17-1007		
ISSUE DATE	SEPT 2024		
ISSUE	BID		

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.9

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER NO. 24242 WILLIE E. McCONNELL, JR

SIGNATURE

8/2/12

DATE

#	DATE	CHK	DESCRIPTION
6			
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2			
1	2-15-11	JCS	GENERAL UPDATE
0	8-22-07	JCS	DRAWING NO. UPDATE

SCDOT

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

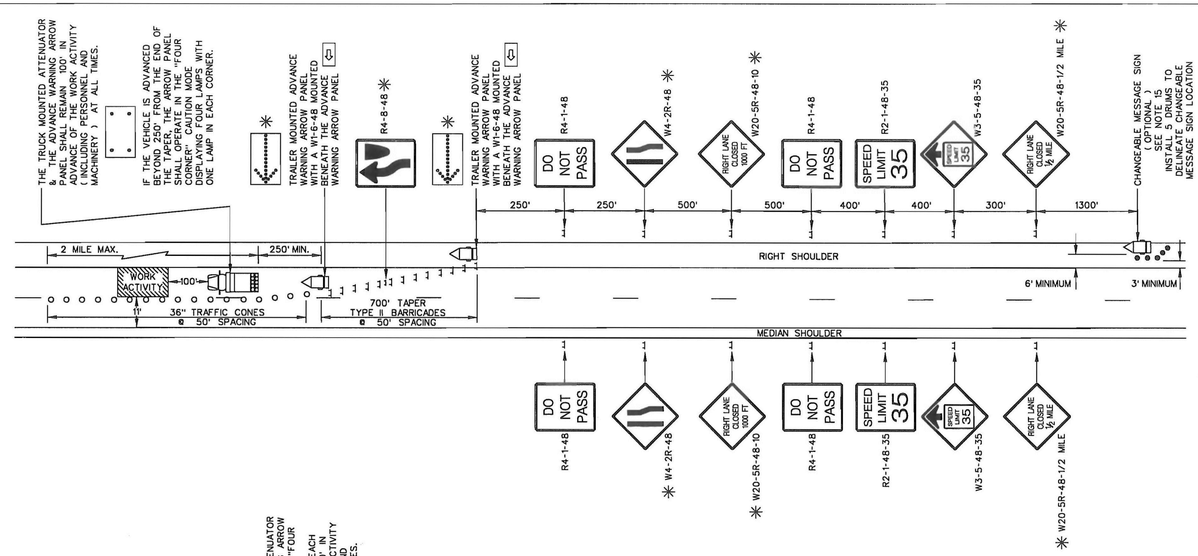
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

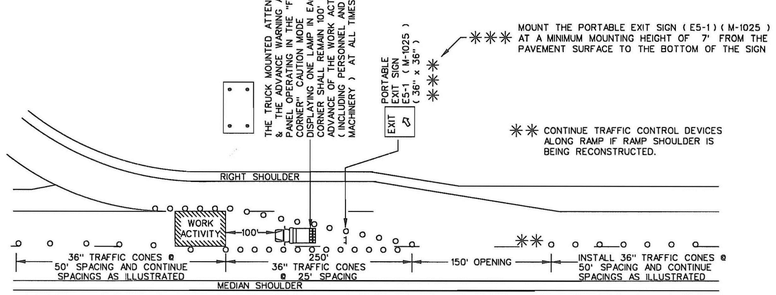
STANDARD DRAWING

LANE CLOSURE
DAYTIME
MULTILANE
PRIMARY ROUTES

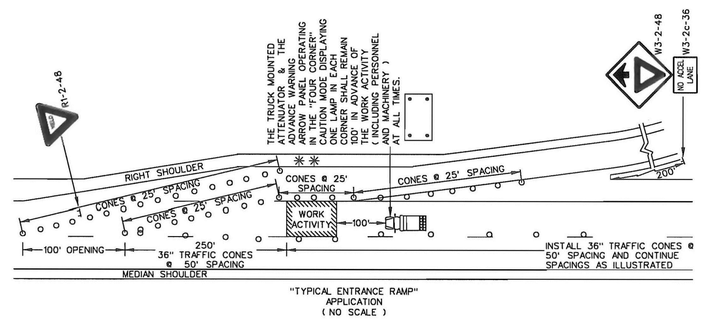
610-025-00

EFFECTIVE LETTING DATE JAN., 2013





"TYPICAL EXIT RAMP" APPLICATION
(NO SCALE)



"TYPICAL ENTRANCE RAMP" APPLICATION
(NO SCALE)

GENERAL NOTES

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. SPACINGS INDICATED ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org .
7. THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLEFACED GUARDRAIL.
8. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
9. REFLECTORIZE ALL BARRICADES WITH A TYPE VIII OR IX PRISMATIC RETROREFLECTIVE SHEETING ON ALL PROJECTS LET TO CONTRACT AFTER MAY 1, 2012 UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
10. TYPE II BARRICADES SHALL HAVE A MINIMUM WIDTH OF 3 FEET UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
11. CONDUCT THE WORK IN SUCH A MANNER THAT WILL MINIMIZE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES ONTO AN ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
12. LANE CLOSURES ARE RESTRICTED TO MAXIMUM LENGTHS OF 2 MILES UNLESS OTHERWISE DIRECTED BY THE SPECIAL PROVISIONS AND/OR THE DEPARTMENT.
13. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS WITHIN THE SAME TRAVEL LANE UNDER TWO SEPARATE LANE CLOSURES ON A PRIMARY ROADWAY WITH A POSTED REGULATORY SPEED LIMIT OF 40 MPH OR GREATER, SEPARATE THE TWO LANE CLOSURES BY NO LESS THAN 2 MILES FROM THE END OF THE FIRST CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CLOSURE.
14. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS IN THE SAME DIRECTION BUT WITHIN DIFFERENT TRAVEL LANES UNDER TWO SEPARATE LANE CLOSURES ON A PRIMARY ROADWAY WITH A POSTED REGULATORY SPEED LIMIT OF 40 MPH OR GREATER, SEPARATE THE TWO LANE CLOSURES BY NO LESS THAN 4 MILES FROM THE END OF THE FIRST CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CLOSURE.
15. UTILIZATION OF A CHANGEABLE MESSAGE SIGN IS OPTIONAL WITH THIS TRAFFIC CONTROL SETUP. HOWEVER, WHEN A CHANGEABLE MESSAGE SIGN IS UTILIZED, INSTALL THE SIGN AS ILLUSTRATED ON THIS STANDARD DRAWING UNLESS OTHERWISE DIRECTED BY THE SPECIAL PROVISIONS, THE PLANS AND/OR THE ENGINEER. INSTALL THE CHANGEABLE MESSAGE SIGN NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE AND SUPPLEMENT THE SIGN LOCATION WITH NO LESS THAN 5 PORTABLE PLASTIC DRUMS FOR DELINEATION AS ILLUSTRATED. 36" STANDARD TRAFFIC CONES OR 42" OVERSIZED TRAFFIC CONES ARE PROHIBITED AS SUBSTITUTES FOR THE PORTABLE PLASTIC DRUMS IN THIS APPLICATION. DURING A RIGHT LANE CLOSURE, THE SIGN SHOULD FLASH ALTERNATELY TO READ "RIGHT LANE CLOSED", "MERGE LEFT" AT A RATE THAT WILL PERMIT MOTORISTS TO READ BOTH MESSAGES AT LEAST ONCE.
16. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
17. THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF A LANE CLOSURE ON A PRIMARY ROADWAY WITH A POSTED REGULATORY SPEED LIMIT OF 40 MPH OR GREATER.

✳ LEFT LANE CLOSURE

1. SIGNS ILLUSTRATED ARE FOR A RIGHT LANE CLOSURE.
2. WHEN CLOSING THE LEFT TRAVEL LANE, USE THE FOLLOWING:
   2 - W20-5L-48-10 2 - W20-5L-48-1/2 MILE
   2 - W4-2L-48 1 - R4-7-48
3. THE STRIPES ON THE BARRICADES TO THE LEFT OF TRAFFIC SHALL SLOPE DOWNWARD FROM THE UPPER LEFT TO THE LOWER RIGHT.
4. THE FLASHING ARROW AND THE "LARGE ARROW" SIGN (W1-6-48) SHALL POINT TO THE RIGHT.
5. THE CHANGEABLE MESSAGE SIGN SHALL FLASH ALTERNATELY TO READ "LEFT LANE CLOSED", "MERGE RIGHT".

PORTABLE TRUCK MOUNTED ATTENUATOR

1. UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICULAR WEIGHT (GVM) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
2. LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
3. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
4. DUE TO THE WEIGHT OF A TRUCK MOUNTED ATTENUATOR, THE TRUCK MOUNTED ATTENUATOR SUPPLEMENTED WITH AN ADVANCE WARNING ARROW PANEL MAY BE REPLACED WITH A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL WHEN THIS TRAFFIC CONTROL SETUP IS UTILIZED FOR ASPHALT CONCRETE PAVEMENT OPERATIONS. REPLACEMENT WITH A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL SHALL REQUIRE THE ENGINEER'S APPROVAL.

ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENT AS DIRECTED BY THE STANDARD SPECIFICATIONS AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND

○ 36" TRAFFIC CONES

THIS DRAWING IS NOT TO SCALE

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

TEMPORARY TRAFFIC CONTROL DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN	JOB #	ISSUE DATE	ISSUE
ABB	SLD	17-1007	SEPT 2024	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.10

LAST EDITED BY: STEVE DUCHARME

CAD FILE: R:\17-1007-035 PART-2\X\CDS\CONSTRUCTION DETAILS.DWG

PLOT DATE AND TIME: 10/1/2024 1:32:04 PM

TYPICAL SIGNS

76 M1-4-24-XX	176 M1-4-30-XXX	M5-1L-21
S.C. 34 M1-6-24-XX	S.C. 219 M1-6-30-XXX	M5-1R-21
NORTH M3-1-24	NORTH M3-1-30	M5-2L-21
EAST M3-2-24	EAST M3-2-30	M5-2R-21
SOUTH M3-3-24	SOUTH M3-3-30	M6-1-21
WEST M3-4-24	WEST M3-4-30	M6-2L-21
DETOUR M4-8-24	DETOUR M4-8-30	M6-2R-21
DETOUR M4-10L-48	DETOUR M4-10R-48	M6-3-21
		M6-4-21

ROAD CLOSED
R11-2-48

ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-3a-60-XX

ROAD CLOSED TO THRU TRAFFIC
R11-4-60

BRIDGE OUT XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-3b-60-XX

NOTE: ALWAYS INSTALL 24" SIGNS WITH 24" SIGNS AND 30" SIGNS WITH 30" SIGNS. SIGNING IS NOT LIMITED TO THOSE SIGNS ILLUSTRATED.

LEGEND

- TRAVEL DIRECTION
- SIGN
- TYPE III BARRICADE

N

0 30' 60'

GENERAL NOTES

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. IN AREAS WITH PAVED SHOULDERS OR CURB & GUTTER, GROUND MOUNT ALL DETOUR SIGN ASSEMBLIES 2 FEET FROM EITHER THE PAVEMENT EDGE OF A PAVED SHOULDER OR THE FACE OF A CURB. IN AREAS WITH NO PAVED SHOULDERS OR CURB & GUTTER, GROUND MOUNT ALL DETOUR SIGN ASSEMBLIES 6-12 FEET FROM THE NEAR EDGE OF AN ADJACENT TRAVEL LANE TO THE NEAREST EDGE OF THE SIGN ASSEMBLY. MOUNT EACH DETOUR SIGN ASSEMBLY SO THE BOTTOM EDGE OF THE BOTTOM SIGN HAS A MINIMUM MOUNTING HEIGHT OF NO LESS THAN 5 FEET ABOVE THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
3. SPACING INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT RESTRICTIONS.
4. MOUNT ALL SIGNS SUCH THAT THEY ARE STRAIGHT AND LEVEL AND THE FACE OF THE SIGNS ARE PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ALL DETOUR MARKERS, DETOUR SIGNS AND DETOUR ARROW SIGNS WITH FLUORESCENT ORANGE COLORED PRISMATIC REFLECTIVE SHEETING. REFLECTORIZE ALL ROUTE MARKER SIGNS AND ALL AUXILIARY SIGNS, INCLUDING BUT NOT LIMITED TO THE CARDINAL, DIRECTIONAL, ADVANCE TURN ARROW AND DIRECTIONAL ARROW AUXILIARY SIGNS, WITH A TYPE III HIGH INTENSITY ENCAPSULATED GLASS BEAD REFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES INCLUDING TYPE III BARRICADES, PORTABLE SIGN SUPPORTS, SIGN SUBSTRATUMS, BREAKAWAY SYSTEMS FOR GROUND MOUNTED SIGN SUPPORTS, WARNING LIGHTS ETC., SHALL COMPLY WITH ALL NCHRP REPORT 350 REQUIREMENTS AND SHALL BE APPROVED BY THE DEPARTMENT. ALL APPROVED TRAFFIC CONTROL DEVICES ARE INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES". THIS LIST MAY BE ACCESSED ON THE DEPARTMENTS WEB SITE AT: WWW.SCDOT.ORG .
7. SPECIAL SIGN MOUNTING ASSEMBLIES MAY BE NECESSARY IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLE FACED GUARDRAIL AND SHALL BE PROVIDED BY THE CONTRACTOR.
8. REFLECTORIZED ALL BARRICADES WITH A TYPE III HIGH INTENSITY REFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
9. ALL SUPPLEMENTAL SIGNS ATTACHED TO TYPE III BARRICADES SHALL BE CONSTRUCTED OF AN APPROVED REFLECTIVE ROLL-UP MATERIAL OR AN APPROVED ALUMINUM COMPOSITE MATERIAL. ONLY THOSE ALUMINUM COMPOSITE MATERIALS INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" SUCH AS "ALPOLIC", "DIBOND", OR "REYNOLITE" ARE APPROVED. ALL OTHER RIGID SIGN SUBSTRATUMS, INCLUDING .08 AND .10 ALUMINUM SIGN BLANKS ARE PROHIBITED FOR ATTACHMENT TO A TYPE III BARRICADE

GRAYS HIGHWAY (US-278)
TOWN SQUARE (S-65)
4TH AVENUE (S-65)
TOWN SQUARE (S-366)
N PERRY STREET (S-67)
JASPER STREET (S-63)
3RD AVENUE (S-64)
3RD AVENUE (US-278)
RUSSELL STREET (SC-366)
2ND AVENUE (S-74)

MH-255
MH-257
MH-321-A
MH-321-A
TYPE III BARRICADE
TYPE III BARRICADE

US-278 DETOUR
ROAD CLOSED
500'
5091 5090
62.19 61.87
IE 15" RCP 15" RCP

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

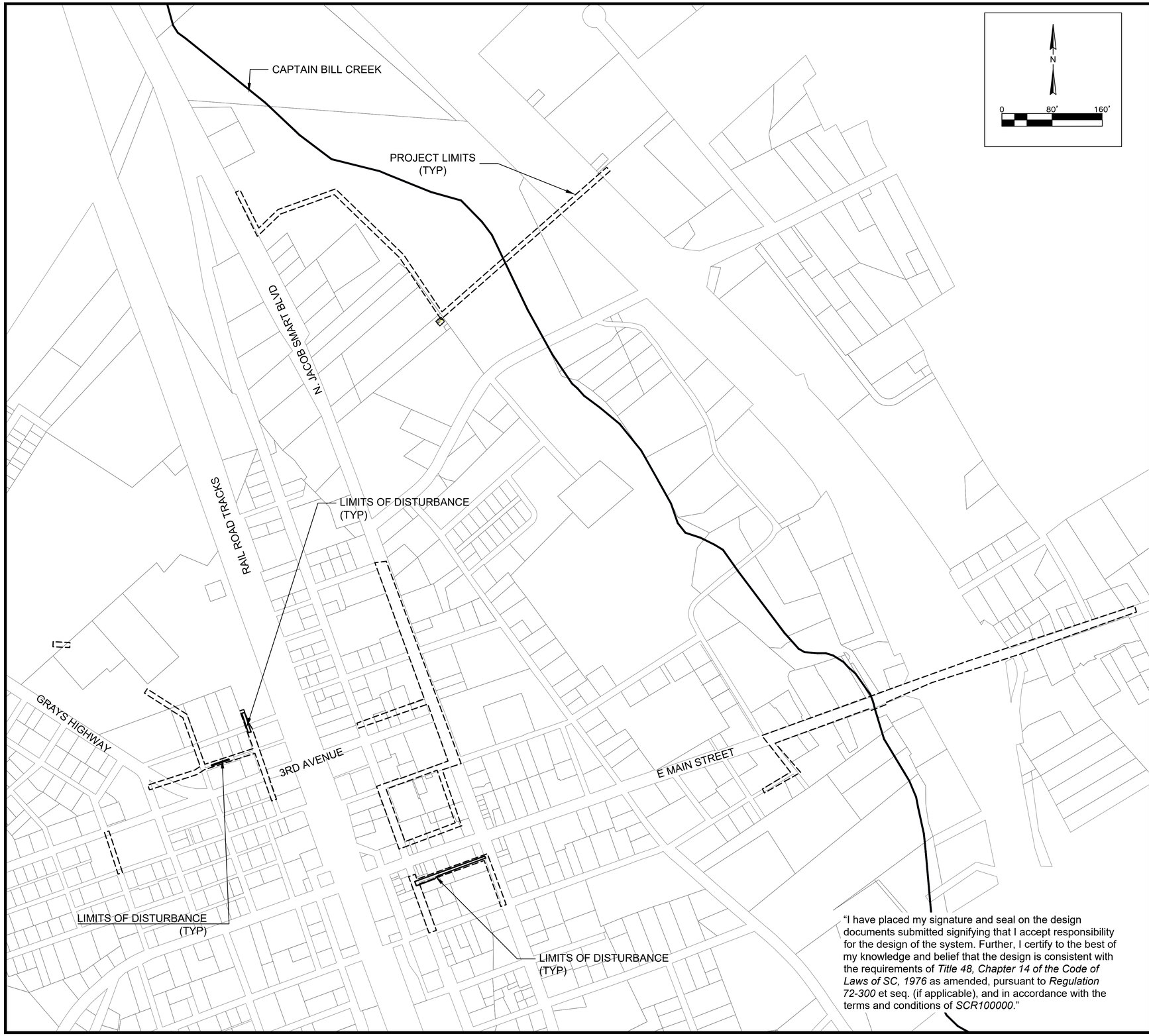
MAINTENANCE OF TRAFFIC PLAN
PRIMARY ROUTE US 278 DETOUR

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	DRAWN SLD	JOB # 17-1007	ISSUE DATE SEPT 2024
			ISSUE BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
D1.11



PROJECT LIMIT AND LAND DISTURBANCE LIMITS

SCALE 1" = 80'

SCDHEC SEDIMENT AND EROSION CONTROL STANDARD NOTES

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

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 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.

3. ALL SEDIMENT AND 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, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.

4. 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, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE SEDIMENT BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.

5. 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 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 STABILIZED.

6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.

7. 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 OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C REG. 72-300 ET SEQ. AND SCR100000.

8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

9. 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.

10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND 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 STORM WATER DISCHARGES.

11. A COPY OF THE SWPPP, INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR 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.

12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.

13. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.

14. 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 OR BETTER TREATMENT PRIOR TO DISCHARGE;

15. 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.).

16. THE FOLLOWING DISCHARGES FROM SITES 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; AND
- SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

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

18. 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.

19. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

PLANNED SEQUENCE OF OPERATIONS:

1. CLEARING AND GRUBBING OF AREAS NECESSARY FOR INSTALLATION OF SILT FENCE AND INLET PROTECTION PER CONSTRUCTION PLANS.
2. INSTALLATION OF SEWER MAIN AND SEWER LATERALS PER CONSTRUCTION PLANS
3. REPAVEMENT OF ROADWAY SURFACE AS PER CONSTRUCTION PLANS
4. INSTALLATION OF HYDROSEEDING AND/OR SOD FOR PERMANENT STABILIZATION OF DISTURBED AREAS.
5. MAINTAIN GRASS SURFACE.
6. REMOVE TEMPORARY SEDIMENT CONTROL FEATURES ONCE FINAL STABALIZATION IS OBTAINED.

PROJECT LIMITS NOTES:

PROJECT LIMITS DETERMINED BY RIGHT-OF-WAY DIMENSIONS AS SPECIFIED AND SHOWN ON DRAWINGS.

PROJECT LIMIT AREAS:
APPROX 11.645 ACRES

LAND DISTURBANCE LIMITS BASED ON PROJECT IMPROVEMENTS AND CONSTRUCTION RELATED ITEMS (DOES NOT INCLUDE MAINTENANCE OF ROADWAYS).

LAND DISTURBANCE AREAS:
APPROX 0.243 ACRES

"I 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*."

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 21839
ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
FOUR WATERS ENGINEERING, INC.
No. 5166

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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

SCDHEC SEDIMENT AND EROSION CONTROL NOTES

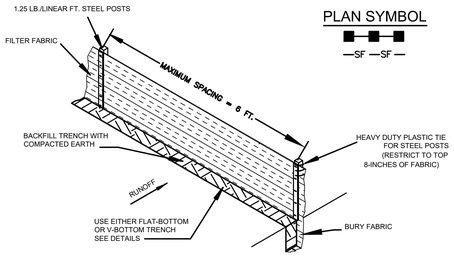
TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN ABB	JOB # 17-1007	ISSUE DATE SEPT 2024	DRAWN SLD
			BID
			ISSUE

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER
EC1.1

SILT FENCE INSTALLATION



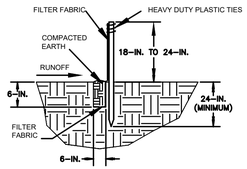
PLAN SYMBOL

—SF —SF—

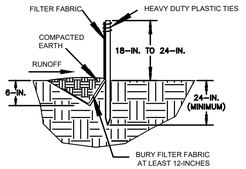
SILT FENCE – GENERAL NOTES

1. 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.
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.
4. 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.
5. Attach filter fabric to the steel posts using heavy-duty plastic ties that are evenly spaced within the top 8-inches of the fabric.
6. 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.
7. 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.

FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL



South Carolina Department of Health and Environmental Control

SILT FENCE

STANDARD DRAWING NO. SC–03 Page 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

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.
- Weigh 1.25 pounds per foot (± 8%)

2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. 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.
4. 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.
5. Post spacing shall be at a maximum of 6-feet on center.

SILT FENCE – FABRIC REQUIREMENTS

1. 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.
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 Construction.
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 ground.

South Carolina Department of Health and Environmental Control

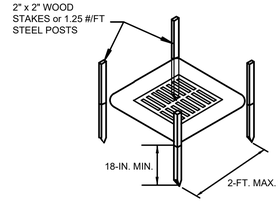
SILT FENCE

STANDARD DRAWING NO. SC–03 PAGE 2 of 2

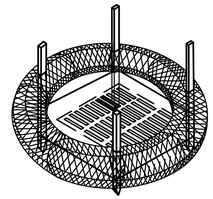
GENERAL NOTES FEBRUARY 2014 DATE

SILT FENCE – INSPECTION & MAINTENANCE

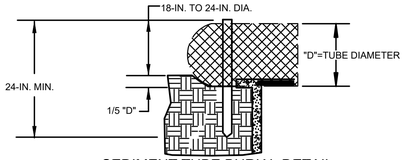
1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
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 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.
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 immediately.
8. 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.



POST INSTALLATION DETAIL



SEDIMENT TUBE INSTALLATION DETAIL



SEDIMENT TUBE BURIAL DETAIL

PLAN SYMBOL

(A)

South Carolina Department of Health and Environmental Control

Type A

SEDIMENT TUBE INLET PROTECTION

STANDARD DRAWING NO. SC–07A PAGE 1 of 2

NOT TO SCALE FEBRUARY 2014 DATE

TYPE A – SEDIMENT TUBE INLET PROTECTION

GENERAL NOTES

1. 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.
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.
3. Sediment tube diameters shall range from 18-inches to 24-inches. Sediment tunes with smaller diameters are prohibited when used as inlet protection.
4. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
5. Sediment tubes should be staked using wooden oak 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.
6. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufactuer's recommendations should always be consulted before installation.
7. The ends of adjacent sediment tubes should be overlapped 6-inches to prevent flow and sediment from passing through the field joint.
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.
10. Install stakes at a diagonal facing incoming runoff.

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 Control

Type A

SEDIMENT TUBE INLET PROTECTION

STANDARD DRAWING NO. SC–07A PAGE 2 of 2

NOT TO SCALE FEBRUARY 2014 DATE

TYPE A – FILTER FABRIC REQUIREMENTS

1. 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.
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 Construction.
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 ground.

TYPE A – POST REQUIREMENTS

1. 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.
   - Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
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 maintenance, and regular sediment 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 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. 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.
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 immediately.

South Carolina Department of Health and Environmental Control

FILTER FABIC INLET PROTECTION

STANDARD DRAWING NO.

GENERAL NOTES

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21839 ANGELA B. BRYAN

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ANGELA BRYAN, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION FOUR WATERS ENGINEERING, INC. No. 5166

REV NO	DATE	DWN. CHK BY	DESCRIPTION
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SEWER RESILIENCY IMPROVEMENTS - GRAVITY SEWER REHABILITATION

SCDHEC SEDIMENT AND EROSION CONTROL DETAILS

TOWN OF RIDGELAND
RIDGELAND, SOUTH CAROLINA

DESIGN	DRAWN
ABB	SLD
JOB #	17-1007
ISSUE DATE	SEPT 2024
ISSUE	BID

FOUR WATERS ENGINEERING
324 6th AVE N. JACKSONVILLE BEACH, FLORIDA 32250
844-414-2400 S.C. COA # 5166 WWW.4WENG.COM

DRAWING NUMBER

EC1.2