

Preliminary Utility Report
US 21 Design-Build Preparation

Project ID P026862

Bridge Replacement over Harbor River, Beaufort County, SC

April 13, 2017

Updated June 19, 2017



South Carolina Department of Transportation



Prepared By:

<p>The Subsurface Utility Engineering Company</p>	The logo for SO-DEEP Inc. It features the text "SO-DEEP" in a large, white, bold, sans-serif font on a red background. Below it, "Inc." is written in a smaller white font. At the bottom, "A SAM COMPANY" is written in white on a red background, with "SAM" in a stylized font. <p>SO-DEEP Inc. A SAM COMPANY</p>	<p>Performing Out-of-sight work... <i>with vision</i></p>
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Project Summary

The South Carolina Department of Transportation (SCDOT) proposes to replace the existing US Highway 21 Bridge over the Harbor River in Beaufort County, South Carolina. The existing bridge to be replaced is 0.54 miles long and spans a navigable waterway, the Harbor River, to connect Saint Helena Island and Harbor Island. The proposed project involves replacement of the existing swing-span bridge with a proposed fixed, high level bridge on new alignment and tying back in to the existing road. The project site is located in a rural area and the roadway corridor consists of marshes, wetlands, and water bodies on either side.

The existing 2,851-foot long bridge over Harbor River is a center swing-span bridge that is 24-feet wide with two 10-foot driving lanes. The existing road on either side of the bridge consists of two 12-foot driving lanes with 4-foot paved shoulders and is built on fill, creating a causeway across the marshy floodplains.

Utilities have been mapped for the project; their depictions are shown in the SUE portion of the project files. Utility owners in the project area are as follows:

Electric (OH Distribution & Transmission)	SCE&G
Telecomm (OH & Buried)	CenturyLink
Telecomm (OH & Buried)	Comcast
Telecomm (OH & Buried)	Spirit Telecomm
Telecomm (Not Present but Plans to be)	Hargray Communications
Water/Sewer	BJWSA
Water	FIPSD
Water/Sewer	Harbor Island Utilities

Water, sewer, power, and telecomm to the existing swing bridge operator need to remain active during new bridge construction. The existing causeway and bridge will serve as the on-site detour until the new bridge is complete and roadway traffic can be diverted onto it.

Once construction of the new bridge and approaches is complete and traffic is shifted to the new bridge, the existing causeway and swing-span bridge will be demolished.

Specific utility owner needs are as follows:

Electric Distribution (SCE&G)	3-4 poles require relocation on Harbor Island (north side of bridge)
Electric Transmission Lines (SCE&G)	No conflicts on south side, remain in place
Telecomm (CenturyLink)	Relocate onto new bridge; 1 – 2” conduit required
Telecomm (Comcast)	Relocate onto new bridge; 1 – 2” conduit required
Telecomm (Spirit)	Relocate onto new bridge; 1 -2” conduit required;
Telecomm (Hargray)	Not currently present; will require 1 -2” conduit for future use
Water/Sewer (BJWSA)	Not in conflict with current alignment; no relocations necessary
Water (FIPSD)	Relocate 10” line with new directional bore under Harbor River
Water/Sewer (Harbor Island Utilities)	No conflicts with current alignment; not within project limits

In addition to the above requirements, SCDOT has indicated a need for 1 conduit for lighting on each side of the bridge. This would bring the total conduit count to 6, or 3 -2” conduits on each side.

Pre-Bid Project Team

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SO-DEEP INC: Preliminary Utility Report

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Utility Conflict Analysis

General

So-Deep was engaged to map existing utilities and coordinate them onto SCDOT (HDR) preliminary plans; this work was completed in 2015. Additionally, two coordination meetings were conducted in January 2016 and one in March 2017 with affected utilities and their representatives for needed input.

The following utility information is the result of SUE mapping, and review of available utility records combined with field observations of utility structures and aerial lines.

Water:

Fripp Island Public Service District (FIPSD)

FIPSD owns a 10" water line, constructed in 2009, that runs along the north side of US 21 within the existing R/W. This line crosses to the south side before the bridge approach and is suspended on the bridge until it arrives at the swing-span, where it drops under Harbor River and runs out and around the bridge fender system at the swing-span. It emerges on the other side and continues suspended on the south side of the bridge until landing on Harbor Island where it again crosses to the north side of US 21.

Conflicts with the 10" water line include the following:

- Line under proposed new paving at bridge approaches (both sides)
- Line suspended on causeway structure to be demolished

All of the water line is currently in SCDOT R/W except where it travels under the river, and is offset from the swing span. FIPSD owns a pump station, located on Butchers Island in private easement, which is out of the project area.

FIPSD currently does not have Prior Rights except at the pump station, and at the swing span where the existing water line is offset and outside the existing R/W.

Concern arose about whether the existing pump station would be able to pump water up the proposed fixed bridge height of 65', or if it will need to be upgraded; thus FIPSD preference and current planning is to perform a new directional bore under Harbor River.

FIPSD needs to know how much of existing US 21 causeway will be removed on each end of the existing bridge, and where the new alignment will diverge from the existing alignment at the beginning and end of the project. Currently SCDOT does not allow utilities under new paving.

A question arose about FIPSD including their work in the highway D/B contract. SCDOT looked into this possibility and determined that it was not feasible (see attached email message).

The existing 10" waterline would need to remain operational until it can be switched over to the new directional bore, and before the existing bridge demolition occurs.

Additionally, FIPSD would need to maintain water service during their peak holiday season, or between Memorial Day & Labor Day. FIPSD would also need to maintain water to the operator house during construction/relocation.

FIPSD indicated an abandoned 6" water line on the north side of the bridge, below the river bed; this was researched and partially depicted on project plans.

FIPSD has submitted preliminary water line relocation plans; these are included in the Utility Exhibits.

Gas:

There were no gas lines found on this project, nor were any utility records available that suggested gas lines were present.

Power:

SCE&G – Distribution & Transmission Electric

Wooden distribution power poles run along the north side of US 21 approaching the causeway/bridge; Steel transmission power poles run along the south side of the existing bridge across Harbor River.

7 steel power poles were constructed over Harbor River 20 years ago at a cost of \$750,000; conductors are approximately 175' high. Current estimated replacement costs are about \$1,000,000. Transmission lines are 23kV; all poles are located outside of the SCDOT R/W (100' either side of C/L) in private easement, therefore Prior Rights will determine cost responsibility. Based on the preferred alternative there will be no conflict with the steel power poles.

OSHA requires any construction to be at least 10 feet away from power lines; no other offsets are necessary, but general constructability concerns for the contractor when in close proximity to power lines.

SCE&G does not have concerns about relocating wooden power poles that are located on the south side of US 21; temporary poles can be installed during construction if needed to maintain services. They would need to maintain power to the existing bridge operator house during construction of the new bridge. SCE&G indicated that 3-4 poles would require relocation on the eastern end (Harbor Island side); this would be a Prior Rights relocation (see attached email message).

Beaufort-Jasper Water & Sewer Authority (BJWSA)

BJWSA water lines stop at the Shrimp Shack, near the western edge of the beginning project area; the water line then changes to FIPSD. All Facilities are within the SCDOT R/W, therefore there are no prior rights. The latest preliminary plans indicate that construction will not impact this area, and therefore no conflicts are anticipated with this utility owner.

Sewer

Harbor Island Utilities

Harbor Island Utilities has an effluent line (forced sanitary sewer) that runs south from their wastewater treatment facility on Harbor Island and adjacent to US 21 toward Fripp Island. The project will not impact this area (outside construction limits). These facilities are likely within private easement, but there are no conflicts according to the current design.

Telecommunications:

There are 4 telecommunications companies involved with the project. Three currently exist within the project limits and one that has requested conduit space on the new bridge. Since SCDOT has already spoken for one conduit on each side (for electrical service to navigational lighting), that would require 4 additional conduits imbedded in the parapet walls, or a total of 6 conduits placed, 3 on each side, to accommodate all requests. Currently, the three owners on the project are carried across Harbor River via attachment to SCE&G transmission poles.

CenturyLink

CenturyLink has existing buried lines on the south side of US 21 within SCDOT R/W. Aerial lines are on SCE&G poles crossing the Harbor River on the south side.

New CenturyLink lines can be run within the wall of the new bridge; 2" conduit is sufficient size. They attempted to bore under Harbor River several years ago; the failed attempt left several empty steel casings under the river outside of the swing span area. Also mentioned was an abandoned 100 pr. submarine cable near the C/L of the existing SCE&G transmission line. So-Deep has located associated record information for these abandoned facilities and has depicted them accordingly (see Exhibits).

CenturyLink does not require any lengthy customer notifications prior to abandoning their existing line. They are located within the SCDOT R/W; there are no prior rights.

Spirit Communications

Robert Robinson has forwarded So-Deep utility record information previously, which depicts their buried/aerial facilities on the south side of US 21. Bill Meyerhoff is the actual contact person for this project (see Exhibits). They are attached to SCE&G poles across Harbor River and share space in the same fiber optic (FO) line as Comcast under a service agreement. Their preference is to reserve a conduit on the causeway and bridge for future use; Spirit was uncertain about their relocation schedule at the time of inquiry. They are depicted in the SUE utility file and are located within SCDOT R/W, so there are no prior rights.

Comcast

Their fiber optic lines (FO) are currently buried on approach to the bridge from both sides, then are aerial on SCE&G poles over the river. Comcast's initial preference was to stay on poles; they have since requested space on the new bridge, a 2" conduit would be sufficient (see Exhibits). They are located within SCDOT R/W and have no prior rights.

Hargray Communications

Hargray does not presently have facilities on the project. They have requested conduit space on the bridge to allow for future service to Fripp Island; their construction schedule was uncertain at time of inquiry. According to their request letter (see Exhibits) one 2" conduit would accommodate one 1" dia. fiber optic cable. If they cannot be accommodated within the standard bridge parapet design, they will request a separate conduit attached to the bridge.

Preliminary Prior Rights Evaluation

Prior Rights determinations have been made based on utility owner input, and their facility's depictions and relationship to the existing R/W as mapped by coordinates onto preliminary plans by HDR:

Utility Owner	Prior Rights?	Approximate Total Cost \$	% Participation by SCDOT	State(SCDOT) Cost \$
FIPSD	Partial (at bridge swing-span)	\$3,100,000	5%	\$ 155,000
BJSWA	No	\$ 0 (not on project)	0%	\$ 0
SCE&G Distribution	Yes	\$ 15,000	100%	\$ 15,000
SCE&G Transmission	Yes	\$ 0 (not in conflict)	100%	\$ 0
CenturyLink Communications	No	\$ 150,000	0%	\$ 0
Spirit Communications	No	\$150,000	0%	\$ 0
Comcast Communications	No	\$150,000	0%	\$ 0
Hargray Communications	No	\$175,000	0%	\$ 0
Harbor Island Utilities	Yes	\$ 0 (not in conflict)	100%	\$ 0
			SCDOT Cost Total	\$ 170,000

Preliminary Estimate of Cost

Utility relocations and costs in the prior rights matrix were estimates based on similar project costs. The design elements discussed previously, and future intentions will directly determine what relocations may ultimately become necessary.

Preliminary Relocation Recommendations

So-Deep has reviewed the utility owner preferences for relocations and concurs with their initial concepts to accommodate the design:

- FIPSD will bore a new 10" water line under Harbor River, and perform relocations to the waterline at the bridge approaches under new pavement
- SCE&G will relocate 3-4 wooden poles on Harbor Island; transmission poles will remain in place and unaffected
- CenturyLink will relocate onto new causeway and bridge in conduit
- Spirit intends to relocate onto new causeway and bridge in conduit; schedule uncertain, would like to reserve conduit for future use.
- Comcast will relocate onto new causeway and bridge in conduit
- Hargray will locate onto new causeway and bridge in conduit

Utility Owners

Beaufort-Jasper Water & Sewer Authority (BJWSA)

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Spirit Communications

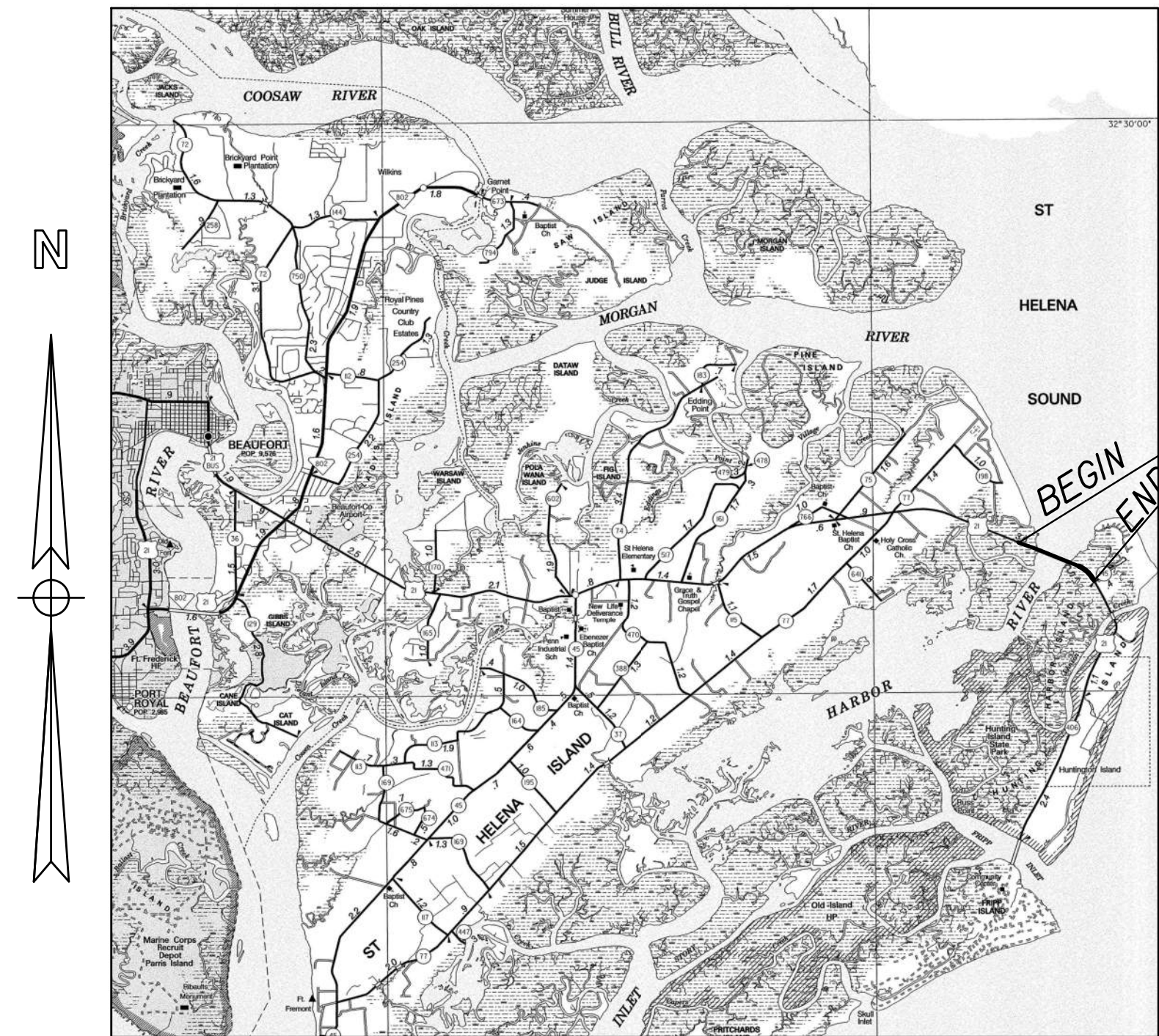
Mr. Bill Meyerhoff
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UTILITY EXHIBITS



US 21 (SEA ISLAND PARKWAY) WATER MAIN RELOCATION BEAUFORT COUNTY

INDEX OF SHEETS	
NO.	DESCRIPTION
C0	COVER SHEET
C1	NOT INCLUDED IN SET
C2	NOT INCLUDED IN SET
C3	NOT INCLUDED IN SET
C4	NOT INCLUDED IN SET
C5	NOT INCLUDED IN SET
C6	WATER MAIN RELOCATION STA 52+00 TO 67+00
C7	WATER MAIN RELOCATION STA 67+00 TO 82+00
C8	WATER MAIN RELOCATION STA 82+00 TO 97+00
C9	WATER MAIN RELOCATION STA 97+00 TO 112+00
C10	WATER MAIN RELOCATION STA 112+00 TO 121+00
C11	NOT INCLUDED IN SET
C12	NOT INCLUDED IN SET



LAYOUT Beaufort County
NOT TO SCALE

SUGGESTED SEQUENCE OF CONSTRUCTION

(NOTE: ALL WORK TO BE PERFORMED DURING OFF-SEASON UNLESS OTHERWISE DIRECTED BY FRIPP ISLAND PUBLIC SERVICE DISTRICT)

PHASE 1

(PRIOR TO START OF NEW BRIDGE CONSTRUCTION)

- OBTAIN NECESSARY PERMITS.
- SET UP A PRECONSTRUCTION MEETING WITH FRIPP ISLAND PUBLIC SERVICE DISTRICT AND SCDOT.

WEST SIDE OF BRIDGE

- 10" WATER MAIN ALONG SOUTH SHOULDER**
- INSTALL ADVANCE SIGNING/TRAFFIC CONTROL FOR SHORT TERM FLAGGING OPERATION AND ROUTE TRAFFIC TO WESTBOUND LANE.
 - INSTALL E&S MEASURES AND MAINTAIN THROUGHOUT CONSTRUCTION.
 - CONSTRUCT PORTION OF NEW 10" WATER MAIN PARALLEL TO AND ON SOUTH SIDE OF SEA ISLAND PARKWAY.
 - DRESS AND OVERSEED ALL DISTURBED AREAS AND IMMEDIATELY ESTABLISH PERMANENT VEGETATIVE COVER UPON COMPLETION OF GRADING OPERATIONS IN A GIVEN AREA. MAINTAIN VEGETATIVE COVER THROUGHOUT DURATION OF PROJECT. (TYPICAL FOR ALL REMAINING STEPS IN PHASE 1)
 - REOPEN BOTH LANES TO TRAFFIC.
 - REPEAT STEPS 3-7 AS NECESSARY FOR EACH 500' MAX. SEGMENT OF INSTALLED PIPING IN GRASS SHOULDER.

10" WATER MAIN CROSSING OF SEA ISLAND PARKWAY AND CONNECTIONS TO EXISTING MAIN

- INSTALL ADVANCE SIGNING/TRAFFIC CONTROL FOR SHORT TERM FLAGGING OPERATION AND ROUTE TRAFFIC TO WESTBOUND LANE/PAVED SHOULDER.
- INSTALL ONE HALF OF 10" WATER MAIN CROSSING OF SEA ISLAND PARKWAY AND REQUIRED CASING PIPE VIA OPEN CUT IN EASTBOUND LANE/PAVED SHOULDER.
- PATCH OPEN CUT.
- MODIFY ADVANCE SIGNING/TRAFFIC CONTROL FOR SHORT TERM FLAGGING OPERATION AND ROUTE TRAFFIC TO EASTBOUND LANE/PAVED SHOULDER.
- INSTALL REMAINING HALF OF 10" WATER MAIN CROSSING OF SEA ISLAND PARKWAY AND REQUIRED CASING PIPE VIA OPEN CUT IN WESTBOUND LANE/PAVED SHOULDER.
- TEMPORARILY SHUT DOWN EXISTING 10" WATER MAIN, INSTALL CONNECTIONS TO AND PLUG EXISTING MAIN AT EAST AND WEST ENDS OF NEW MAIN, TEST AND ACTIVATE NEW MAIN.
- PATCH REMAINDER OF OPEN CUT
- REOPEN BOTH LANES TO TRAFFIC.

10" WATER MAIN ABANDONMENT

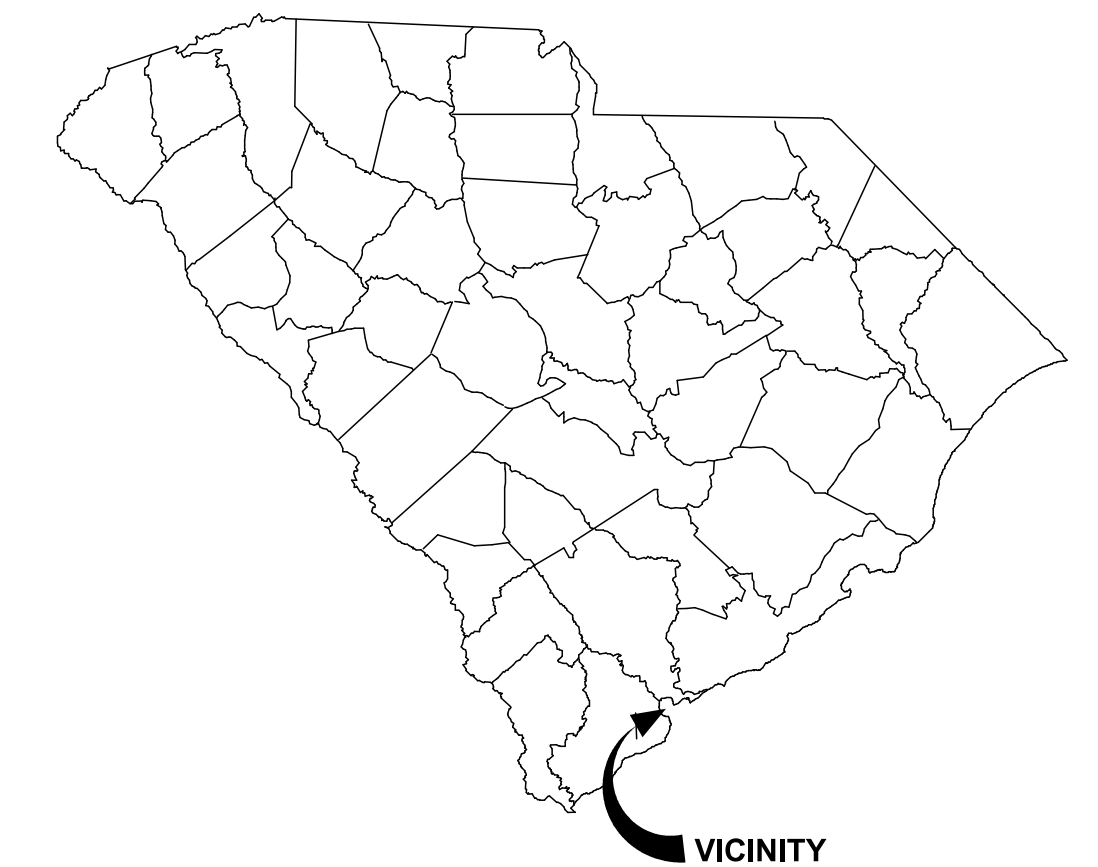
- INSTALL ADVANCE SIGNING/TRAFFIC CONTROL FOR SHORT TERM FLAGGING OPERATION AND ROUTE TRAFFIC TO EASTBOUND LANE.
- ABANDON PORTION OF EXISTING 10" WATER MAIN LOCATED IN THE NORTHERN PAVED SHOULDER OF SEA ISLAND PARKWAY IN ACCORDANCE WITH SCDOT REQUIREMENTS.
- PATCH SHOULDER PAVEMENT AS REQUIRED.
- REOPEN BOTH LANES TO TRAFFIC.
- REPEAT STEPS 17-20 AS NECESSARY FOR EACH 500' MAX. SEGMENT OF ABANDONED PIPING IN PAVED SHOULDER.
- REMOVE TRAFFIC CONTROL AND REOPEN BOTH LANES TO TRAFFIC.
- UPON ESTABLISHMENT OF VEGETATION, REMOVE ALL TEMPORARY E&S MEASURES WITHIN THIRTY (30) DAYS.

EAST SIDE OF BRIDGE (SAME AS WEST SIDE)

PHASE 2

(FOLLOWING NEW BRIDGE CONSTRUCTION/OPENING TO TRAFFIC AND PRIOR TO DEMOLITION OF EXISTING BRIDGE/10" WATER MAIN)

- INSTALL E&S MEASURES IN CAUSEWAY AREA AT BOTH ENDS OF EXISTING BRIDGE AND MAINTAIN THROUGHOUT CONSTRUCTION.
- PREPARE DRILL RIG (BORE ENTRY) SITE IN THE CAUSEWAY ON THE EAST SIDE OF THE BRIDGE AND PIPE (BORE EXIT) SITE IN THE CAUSEWAY ON THE WEST SIDE OF THE BRIDGE.
- INSTALL ADVANCE SIGNING/TRAFFIC CONTROL FOR SHORT TERM FLAGGING OPERATION AND ROUTE TRAFFIC TO WESTBOUND LANE ON WEST SIDE OF BRIDGE.
- LAYOUT AND FUSE 10" PVC WATER MAIN SEGMENTS WITHIN THE GRASS SHOULDER ALONG THE SOUTH SIDE OF SEA ISLAND PARKWAY ON THE WEST SIDE OF THE BRIDGE.
- REOPEN BOTH LANES TO TRAFFIC.
- REPEAT STEPS 26-28 AS NECESSARY FOR EACH 500' MAX. SEGMENT OF PIPING LAID OUT AND FUSED IN GRASS SHOULDER.
- BEGIN HORIZONTAL DIRECTIONAL DRILL (HDD) OPERATION.
- INSTALL CONNECTION OF HDD PIPING TO PREVIOUSLY INSTALLED 10" WATER MAIN AT WEST END OF BRIDGE.
- DRESS AND OVERSEED ALL DISTURBED AREAS AND IMMEDIATELY ESTABLISH PERMANENT VEGETATIVE COVER UPON COMPLETION OF GRADING OPERATIONS IN A GIVEN AREA. MAINTAIN VEGETATIVE COVER THROUGHOUT DURATION OF PROJECT. (TYPICAL FOR ALL REMAINING STEPS IN PHASE 2)
- TEMPORARILY SHUT DOWN EXISTING 10" WATER MAIN, INSTALL CONNECTION TO AND PLUG EXISTING MAIN AT EAST END OF NEW MAIN, TEST AND ACTIVATE NEW MAIN.
- PLUG AND ABANDON PORTION OF EXISTING 10" WATER MAIN LOCATED AT THE EAST END OF THE EXISTING BRIDGE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
- PLUG AND ABANDON PORTION OF EXISTING 10" WATER MAIN LOCATED AT THE WEST END OF THE EXISTING BRIDGE IN ACCORDANCE WITH SCDOT REQUIREMENTS.
- UPON ESTABLISHMENT OF VEGETATION, REMOVE ALL TEMPORARY E&S MEASURES WITHIN THIRTY (30) DAYS.



3 DAYS BEFORE DIGGING IN
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CALL 1-888-SC1-PUPS
PALMETTO UTILITY PROTECTION SERVICE

ENGINEER:
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952 HOUSTON NORTHCUTT BLVD., SUITE 100
MT. PLEASANT, SC 29464
P: (843)556-2624 | F: (843)556-4329 | www.jmt.com

SEALS



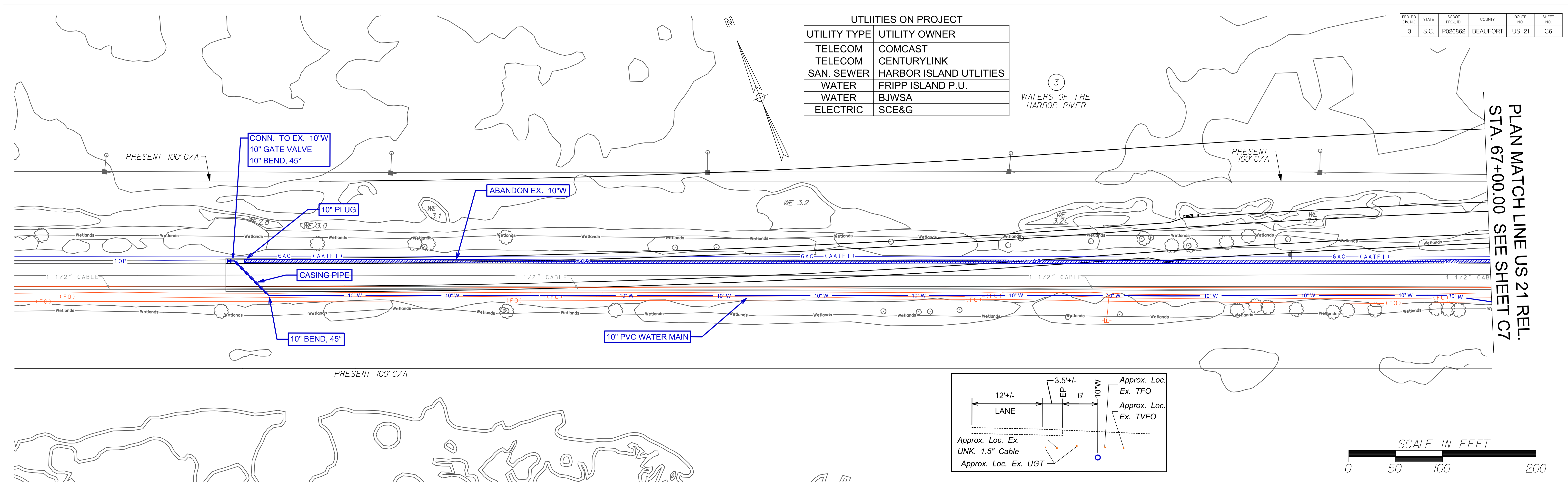
PROJECT NO. 17-10199-001
DATE JUNE, 2017
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DRAWN BY ELW
CHECKED BY CAT

DRAWING NO.
C0

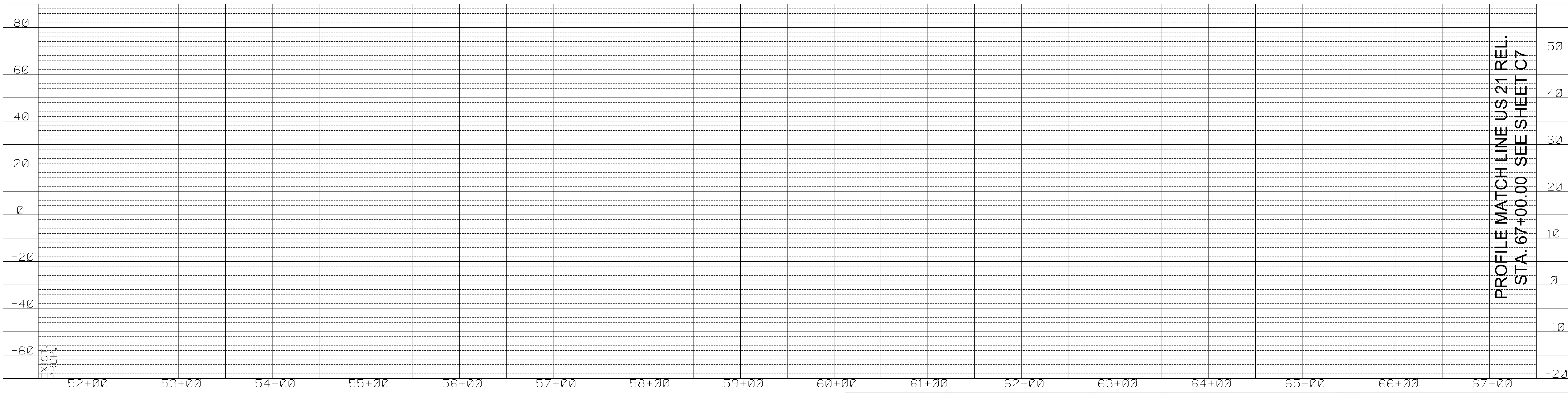
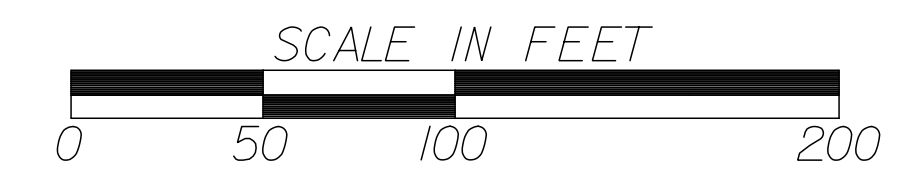
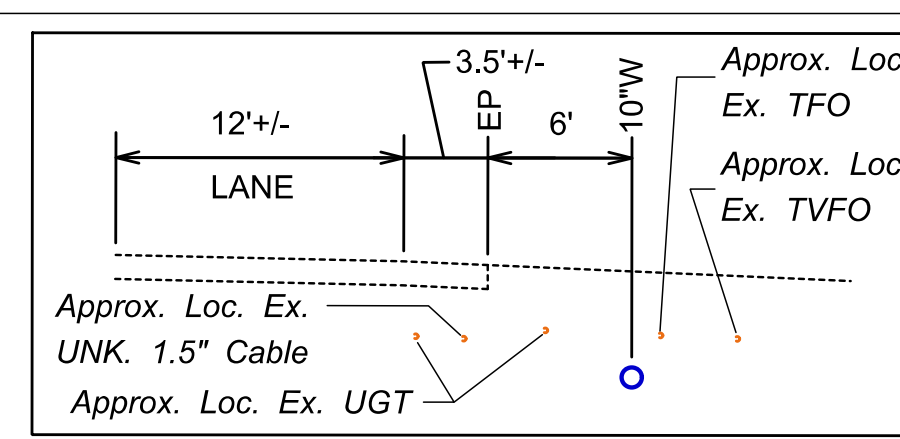
NOTE: ALL DIMENSIONS AND CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE SITE BEFORE PROCEEDING WITH THE WORK.

FED. RD. DIST. NO.	STATE	SCOTT PROJ. ID.	COUNTY	ROUTE NO.	SHEET NO.
3	S.C.	P026862	BEAUFORT	US 21	C6

UTILITIES ON PROJECT	
UTILITY TYPE	UTILITY OWNER
TELECOM	COMCAST
TELECOM	CENTURYLINK
SAN. SEWER	HARBOR ISLAND UTILITIES
WATER	FRIPP ISLAND P.U.
WATER	BJWSA
ELECTRIC	SCE&G



PLAN MATCH LINE US 21 REL.
 STA. 67+00.00 SEE SHEET C7



PROFILE MATCH LINE US 21 REL.
 STA. 52+00.00 TO STA. 67+00.00 SEE SHEET C7

NOTE: EXISTING UTILITY INFORMATION PROVIDED BY SO-DEEP, INC.
 NOTE: HYDROGRAPHIC SURVEY PROVIDED BY GEL ENGINEERING, LLC

PHASE 1
 PHASE 2

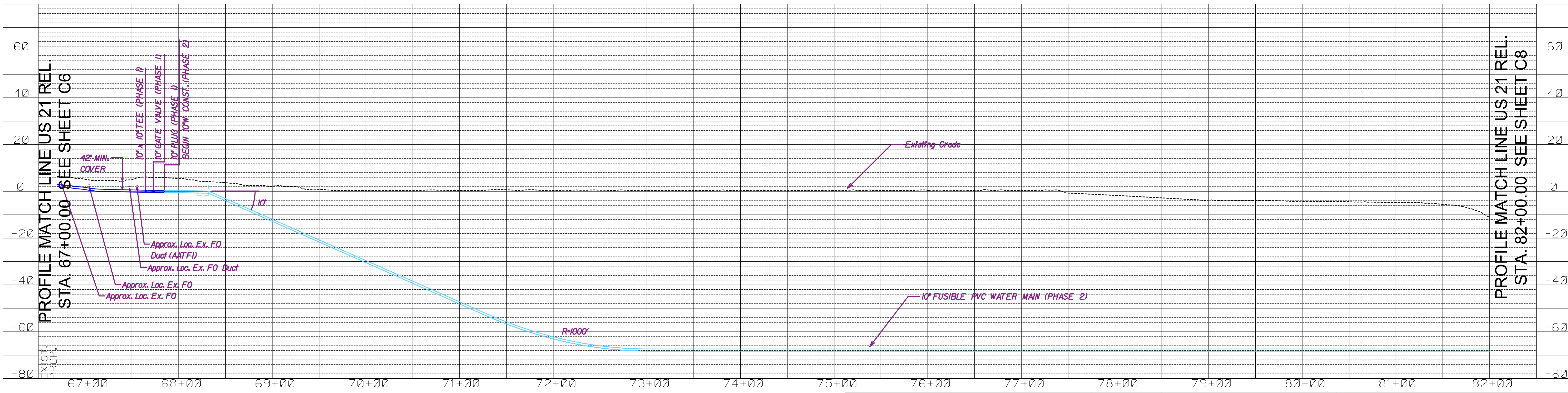
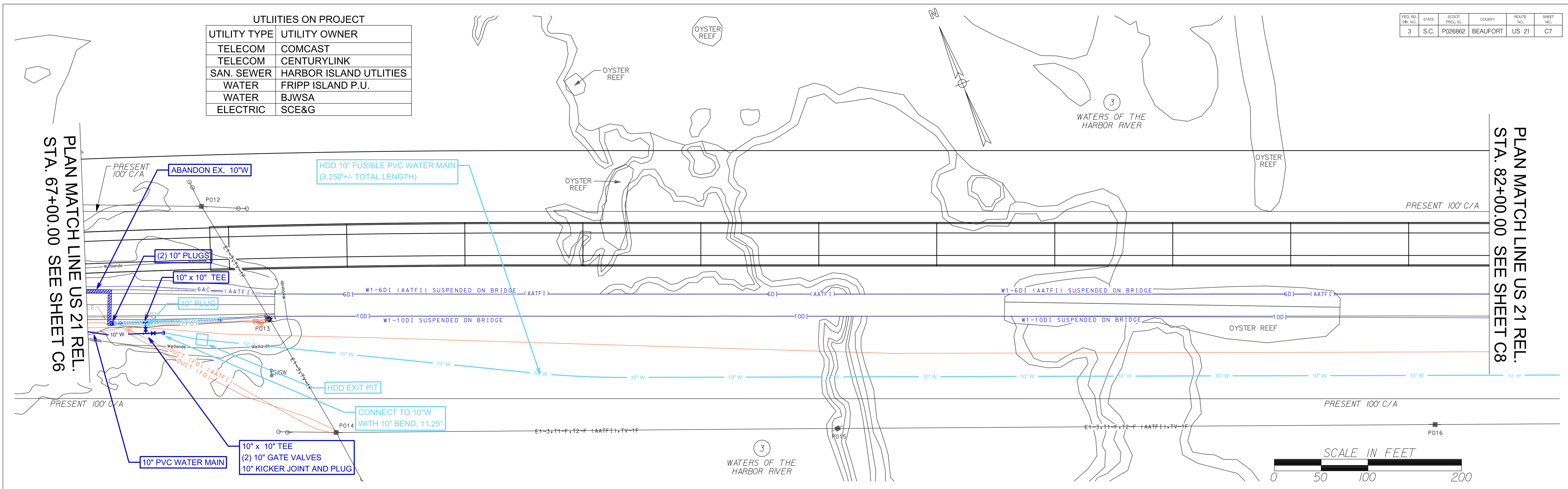
CONCEPTUAL PLANS
 DO NOT USE FOR CONSTRUCTION

REV. NO.	BY	DATE	DESCRIPTION OF REVISION

FRIPP ISLAND PUBLIC SERVICE DISTRICT
 SCALE
 HORIZONTAL: 1" = 50'
 VERTICAL: 1" = 10'
 FRIPP ISLAND PUBLIC SERVICE DISTRICT
 US 21 (SEA ISLAND PARKWAY)
 WATER MAIN RELOCATION
 PLAN & PROFILE: US 21
 STA. 52+00.00 TO STA. 67+00.00
 SCALE: 1"=50' RTE.US 21 DWG. C6

UTILITIES ON PROJECT	
UTILITY TYPE	UTILITY OWNER
TELECOM	COMCAST
TELECOM	CENTURYLINK
SAN. SEWER	HARBOR ISLAND UTILITIES
WATER	FRIPP ISLAND P.U.
WATER	BJWSA
ELECTRIC	SCE&G

FED. RD. DIST. NO.	STATE	SCOTT PROJ. ID.	COUNTY	ROUTE NO.	SHEET NO.
3	S.C.	P026862	BEAUFORT	US 21	C7



NOTE: EXISTING UTILITY INFORMATION PROVIDED BY SO-DEEP, INC.
 NOTE: HYDROGRAPHIC SURVEY PROVIDED BY GEL ENGINEERING, LLC

PHASE 1
PHASE 2

CONCEPTUAL PLANS
DO NOT USE FOR CONSTRUCTION

REV. NO.	BY	DATE	DESCRIPTION OF REVISION

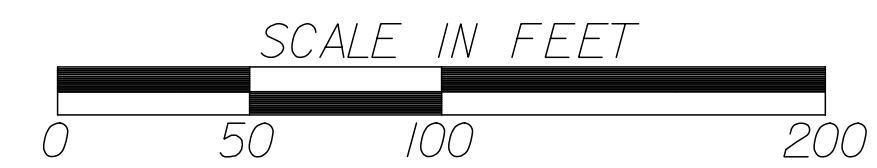
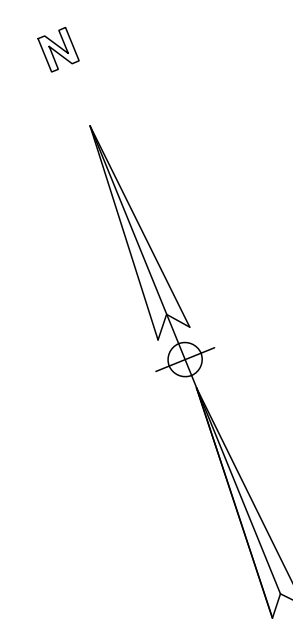
FRIPP ISLAND PUBLIC SERVICE DISTRICT

FRIPP ISLAND PUBLIC SERVICE DISTRICT
US 21 (SEA ISLAND PARKWAY)
WATER MAIN RELOCATION
PLAN & PROFILE: US 21
STA. 67+00.00 TO STA. 82+00.00

SCALE: 1" = 50'
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'

RTE. US 21 DWG. C7

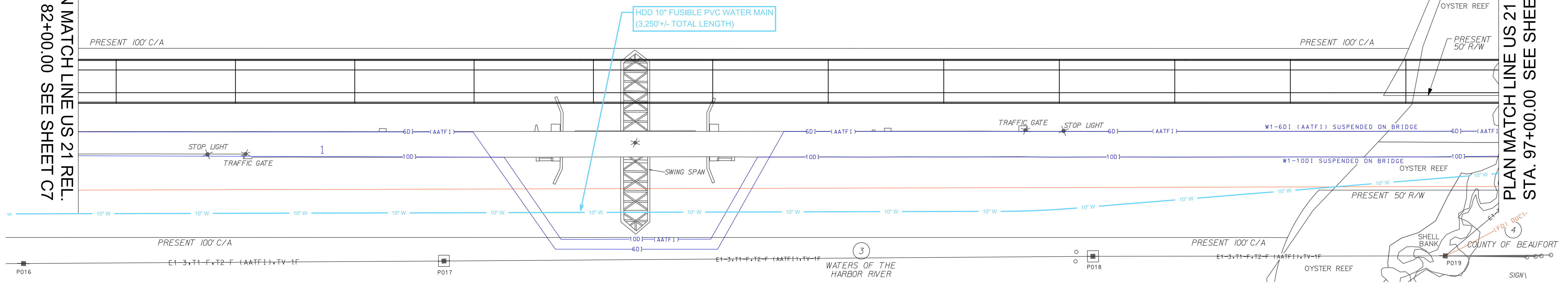
UTILITIES ON PROJECT	
UTILITY TYPE	UTILITY OWNER
TELECOM	COMCAST
TELECOM	CENTURYLINK
SAN. SEWER	HARBOR ISLAND UTILITIES
WATER	FRIPP ISLAND P.U.
WATER	BJWSA
ELECTRIC	SCE&G



FED. RD. DIST. NO.	STATE	SCOTT PROJ. ID.	COUNTY	ROUTE NO.	SHEET NO.
3	S.C.	P026862	BEAUFORT	US 21	C8

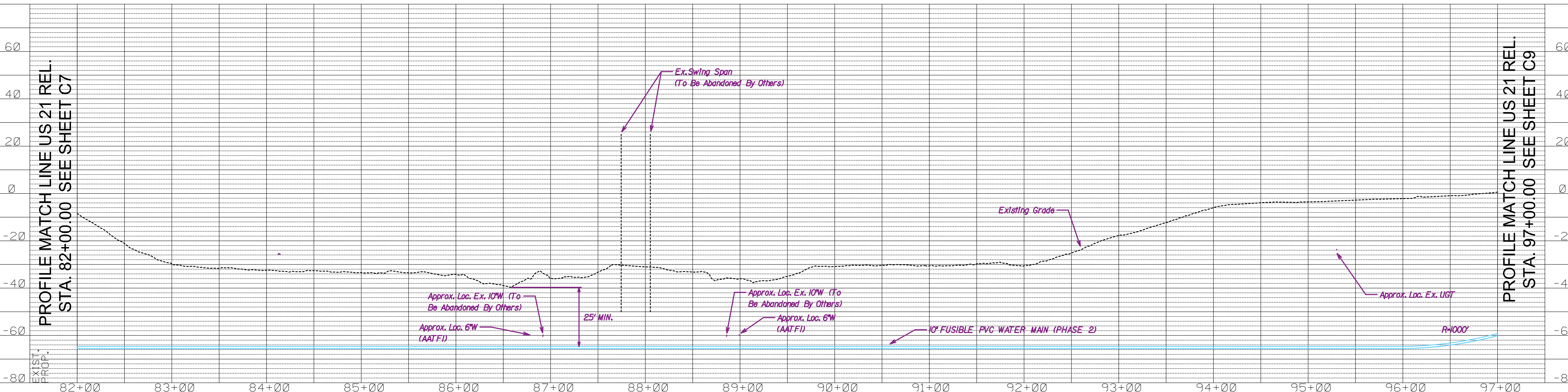
PLAN MATCH LINE US 21 REL.
STA. 82+00.00 SEE SHEET C7

PLAN MATCH LINE US 21 REL.
STA. 97+00.00 SEE SHEET C9



PROFILE MATCH LINE US 21 REL.
STA. 82+00.00 SEE SHEET C7

PROFILE MATCH LINE US 21 REL.
STA. 97+00.00 SEE SHEET C9



NOTE: EXISTING UTILITY INFORMATION PROVIDED BY SO-DEEP, INC.
NOTE: HYDROGRAPHIC SURVEY PROVIDED BY GEL ENGINEERING, LLC

PHASE 1
PHASE 2

CONCEPTUAL PLANS
DO NOT USE FOR CONSTRUCTION

REV. NO.	BY	DATE	DESCRIPTION OF REVISION

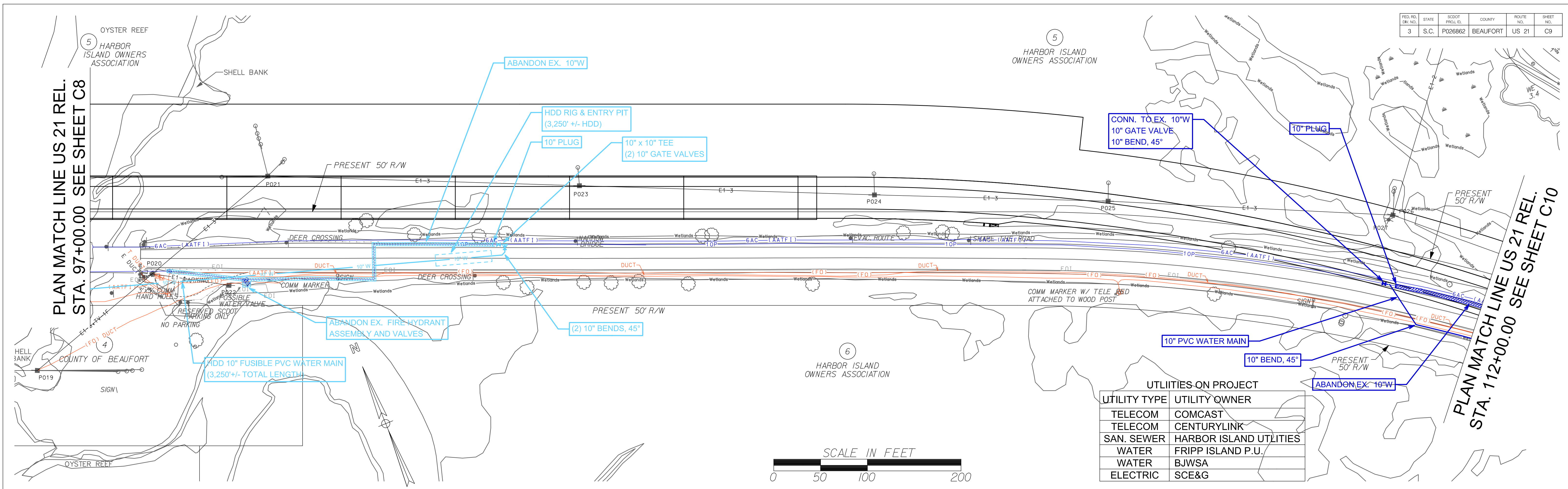
FRIPP ISLAND PUBLIC SERVICE DISTRICT

FRIPP ISLAND PUBLIC SERVICE DISTRICT
US 21 (SEA ISLAND PARKWAY)
WATER MAIN RELOCATION
PLAN & PROFILE: US 21
STA. 82+00.00 TO STA. 97+00.00

SCALE: 1" = 50'
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'

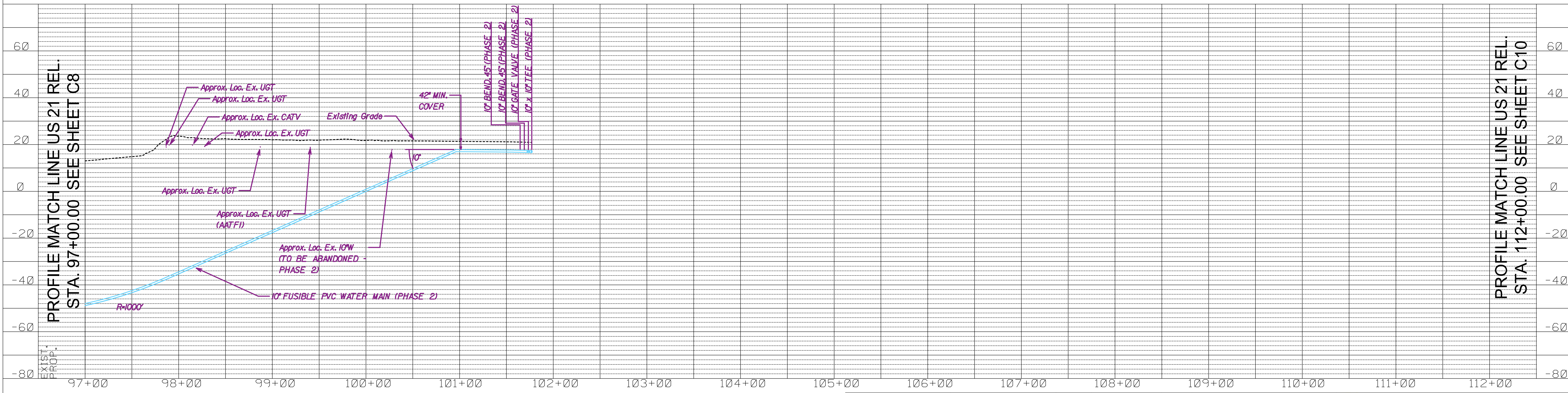
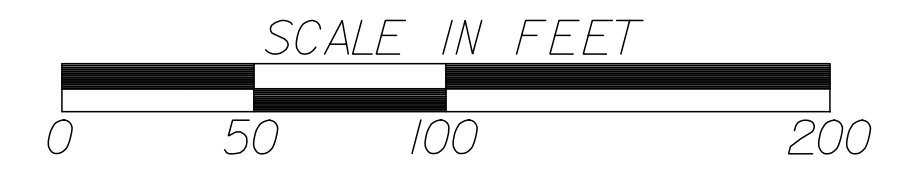
RTE. US 21 DWG. C8

FED. RD. DIST. NO.	STATE	SCOTT PROJ. ID.	COUNTY	ROUTE NO.	SHEET NO.
3	S.C.	P026862	BEAUFORT	US 21	C9



UTILITIES ON PROJECT

UTILITY TYPE	UTILITY OWNER
TELECOM	COMCAST
TELECOM	CENTURYLINK
SAN. SEWER	HARBOR ISLAND UTILITIES
WATER	FRIPP ISLAND P.U.
WATER	BJWSA
ELECTRIC	SCE&G



NOTE: EXISTING UTILITY INFORMATION PROVIDED BY SO-DEEP, INC.
 NOTE: HYDROGRAPHIC SURVEY PROVIDED BY GEL ENGINEERING, LLC

PHASE 1
PHASE 2

CONCEPTUAL PLANS
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REV. NO.	BY	DATE	DESCRIPTION OF REVISION

FRIPP ISLAND PUBLIC SERVICE DISTRICT

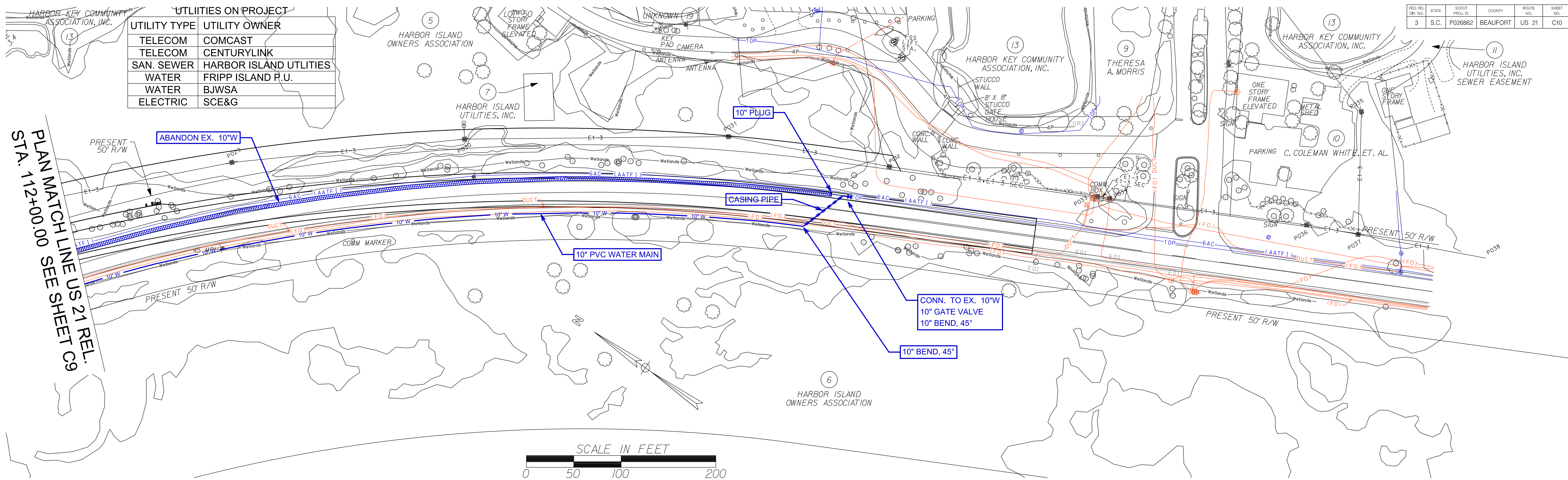
SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'

FRIPP ISLAND PUBLIC SERVICE DISTRICT
US 21 (SEA ISLAND PARKWAY)
WATER MAIN RELOCATION
PLAN & PROFILE: US 21
STA. 97+00.00 TO STA. 112+00.00

SCALE: 1"=50' RTE.US 21 DWG. C9

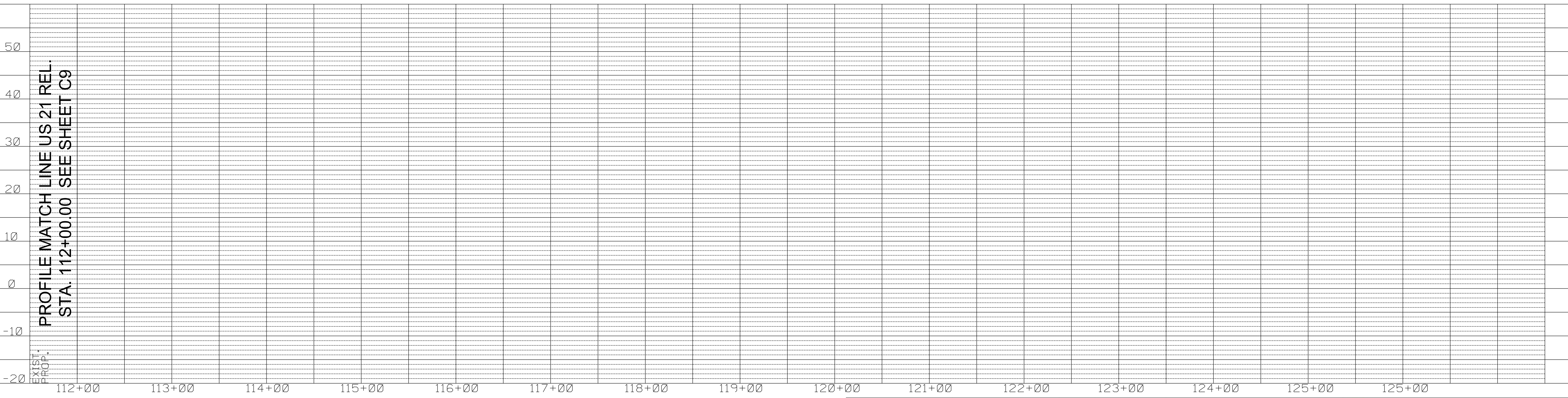
FED. RD. DIST. NO.	STATE	SCOTT PROJ. ID.	COUNTY	ROUTE NO.	SHEET NO.
3	S.C.	P026862	BEAUFORT	US 21	C10

UTILITIES ON PROJECT	
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WATER	BJWSA
ELECTRIC	SCE&G



PLAN MATCH LINE US 21 REL.
 STA. 112+00.00 SEE SHEET C9

PROFILE MATCH LINE US 21 REL.
 STA. 112+00.00 TO STA. 121+00.00 SEE SHEET C9



NOTE: EXISTING UTILITY INFORMATION PROVIDED BY SO-DEEP, INC.
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PHASE 1
 PHASE 2

CONCEPTUAL PLANS
 DO NOT USE FOR CONSTRUCTION



FRIPP ISLAND PUBLIC SERVICE DISTRICT
 SCALE
 HORIZONTAL: 1" = 50'
 VERTICAL: 1" = 10'
 FRIPP ISLAND PUBLIC SERVICE DISTRICT
 US 21 (SEA ISLAND PARKWAY)
 WATER MAIN RELOCATION
 PLAN & PROFILE
 STA. 112+00.00 TO STA. 121+00.00
 SCALE: 1"=50' RTE.US 21 DWG. C10

REV. NO.	BY	DATE	DESCRIPTION OF REVISION

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 5/15/2017