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06	Sta 639+50 to 646+50
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Final Construction Plans
Corkscrew Utilities Relocation
(Phase 1)

FOR

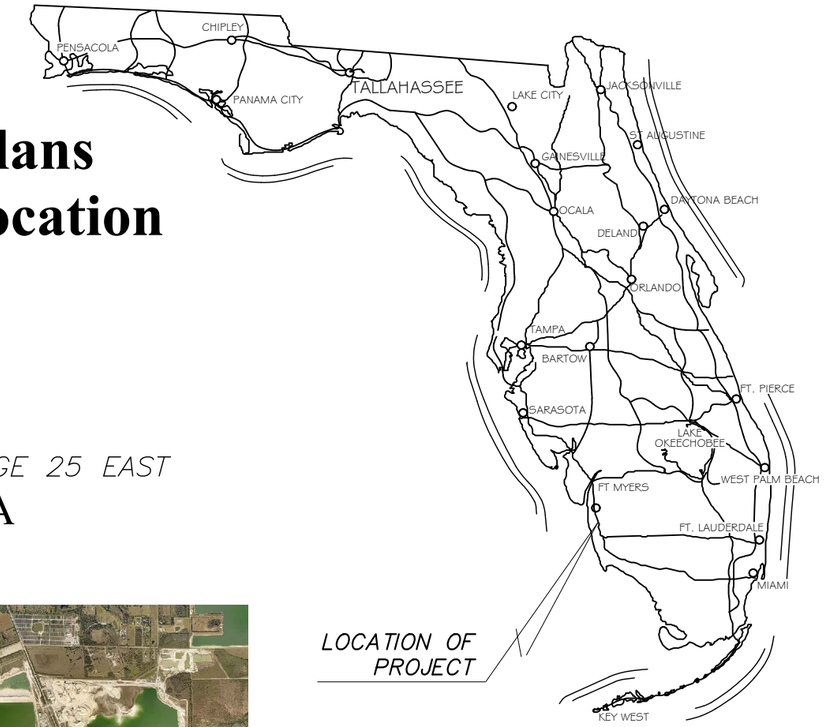
LEE COUNTY

LOCATED IN

SECTIONS 25 TOWNSHIP 46 SOUTH, RANGE 25 EAST

LEE COUNTY, FLORIDA

December 4, 2020



LOCATION MAP
N.T.S.

TRAFFIC CONTROL SHALL COMPLY WITH THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES [MUTCD] AND FDOT DESIGN STANDARDS 600 SERIES

FOR INFORMATION REGARDING THIS PROJECT, CONTACT:
DAVID BRICE TROUTEAUD, PE

DAVID BRICE TROUTEAUD LICENSE No 69783 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by David Brice Trouteaud, P.E. 69783 STATE OF FLORIDA
Date: 2020.12.04 14:16:10 -05'00'

Final Construction Plans

DESIGN CONSULTANT

JOHNSON ENGINEERING

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Cover

SHEET NUMBER
01

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd-PHASE 1 - Cover.dwg (Cover) MNT Dec 03, 2020 - 6:48pm

BEFORE YOU DIG
STOP
CALL SUNSHINE
1-800-432-4770
AVOID DAMAGE TO UNDERGROUND FACILITIES

NOTICE TO ALL CONTRACTORS

IT'S THE LAW IN FLORIDA
2 BUSINESS DAYS BEFORE YOU DIG
CALL SUNSHINE 1-800-432-4770

STATE, COUNTIES & CITIES ARE "NOT" PART OF THE ONE CALL SYSTEM. THEY MUST BE CALLED INDIVIDUALLY.

STATE OF FLORIDA DOT
ALL INTERSTATE RIGHT-OF-WAY
HIGHMAST LIGHTING
7-DAY NOTICE REQUIRED
239-656-7811
239-656-7742 FAX

ABBREVIATIONS

ABD	=	Abandoned
AE	=	Access Easement
ALT	=	Alternate
ARV	=	Air Release Valve
ASPH	=	Asphalt
BLDG	=	Building
BTM	=	Bottom
CATV	=	Cable Television
CB	=	Catch Basin
CMP	=	Corrugated Metal Pipe
CO	=	Cleanout
DE	=	Drainage Easement
DIP	=	Ductile Iron Pipe
DR	=	Dimensional Ratio
EOP	=	Edge of Pavement
EX	=	Existing
FE	=	Flared End Section
FH	=	Fire Hydrant
FLG	=	Flanged
FM	=	Force Main
GV	=	Gate Valve
HDPE	=	High Density Poly Ethylene
INV	=	Invert
IRR	=	Irrigation
MH	=	Manhole
ME	=	Mitered End Section
MJ	=	Mechanical Joint
OC	=	On Center
PAVT	=	Pavement
PKWY	=	Parkway
PS	=	Pump Station
PV	=	Plug Valve
PVC	=	Polyvinyl Chloride
RCWM	=	Reclaimed Water Main
RD	=	Road
REQ	=	Required
ROW	=	Right-of-way
SAN	=	Sanitary
SD	=	Storm Drain
SPEC	=	Specification
SS	=	Sanitary Sewer
ST	=	Street
STA	=	Station
STD	=	Standard
STM	=	Storm
TEL	=	Telephone
TYP	=	Typical
UE	=	Utility Easement
WM	=	Water Main

LEGEND

EX XX" FM	= EXISTING FORCE MAIN & PIPE SIZE
EX XX" WM	= EXISTING POTABLE WATER MAIN & SIZE
EX XX" SS	= EXISTING SANITARY SEWER MAIN & SIZE
EX XX" RCWM	= EXISTING RECLAIMED WATER MAIN & SIZE
	= EX GATE VALVE
WM	= EXISTING WATER METER
	= PROPOSED GATE VALVE
A	= PROPOSED AUTOMATIC AIR RELEASE VALVE
	= PROPOSED FIRE HYDRANT ASSEMBLY
	= PROPOSED REDUCER
	= PROPOSED UTILITY ROLLDOWN

GENERAL (LCU STANDARD NOTES)

1. ALL WORK SHALL CONFORM TO LATEST REVISION OF THE LCU DESIGN MANUAL WHICH IS AVAILABLE ON OUR WEB-PAGE VIA THE FOLLOWING LINK: HTTPS://WWW.LEEGOV.COM/UTILITIES/DESIGN-MANUAL
2. ALL REGULATORY AND PERMITTING AGENCIES' REQUIREMENTS SHALL BE COMPLIED WITH AS WELL.
3. ANY QUANTITIES SHOWN ON PLANS ARE NOT VERIFIED BY LCU.
4. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS THAT MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
5. ALL CONSTRUCTION WORK PERFORMED MUST BE DONE BY A CONTRACTOR LICENSED IN THE STATE OF FLORIDA TO DO THE WORK INTENDED.
6. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE WORK MAY BEGIN. REQUIRED ATTENDEES INCLUDE BUT ARE NOT LIMITED TO; THE ENGINEER OF RECORD OR HIS DESIGNEE, THE UNDERGROUND CONTRACTOR AND THE LCU INSPECTOR ASSIGNED TO THE PROJECT. LCU IS TO BE NOTIFIED TWO (2) WORKING DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING.
7. ONE COPY OF THE LCU APPROVED/STAMPED CONSTRUCTION PLANS, ALL CONTRACT DOCUMENTS, REFERENCE DOCUMENTS AND TECHNICAL DOCUMENTS SUBMITTED MUST BE KEPT AT THE SITE AND MAINTAINED IN GOOD ORDER.
8. ALL WORK AND MATERIALS, WHICH DO NOT CONFORM TO LCU SPECIFICATIONS, ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF LCU IS SUBJECT TO RE-EXCAVATION, REMOVAL AND REPLACEMENT OF SAME TO BE DONE AT THE CONTRACTOR'S EXPENSE.
10. LCU INSPECTION STAFF IS TO BE PRESENT FOR ALL HOT TAPS, PRESSURE TESTS, LIFT STATION START-UPS AND FOR ANY NECESSARY INSPECTION. THE CONTRACTOR IS TO PROVIDE A MINIMUM OF TWO (2) WORKING DAYS NOTICE PRIOR TO SCHEDULING ANY OF THE ABOVE WITH THE EXCEPTION OF THE LIFT STATION START-UP WHICH REQUIRES ONE-WEEK NOTICE.
11. TRAFFIC MUST BE MAINTAINED AT ALL TIMES AS PER LEE COUNTY DEPARTMENT OF TRANSPORTATION AND PER FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
12. THE CONTRACTOR IS TO UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES BEFORE BEGINNING CONSTRUCTION.
13. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. LCU WILL NOT GUARANTEE ANY LOCATIONS AS SHOWN ON THESE PLANS OR THOSE OMITTED FROM THESE PLANS.
14. THE CONTRACTOR SHALL VERIFY ALL UTILITIES AND PROVIDE AT LEAST TWO (2) WORKING DAYS NOTICE TO THE INDIVIDUAL UTILITY COMPANIES, FDOT AND LCDOT PRIOR TO CONSTRUCTION.
15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND TAKE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO ALL UNDERGROUND PIPELINES, TELEPHONE, CABLE TV, ELECTRIC LINES/CONDUITS AND STRUCTURES IN ADVANCE OF ANY CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT MAY OCCUR DUE TO HIS FAILURE TO EXACTLY LOCATE AND PROTECT EXISTING UTILITIES AND STRUCTURES.
16. ANYTHING NOT SHOWN ON THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND SHALL NOT CONSTITUTE AN EXTRA, UNLESS APPROVED BY THE ENGINEER OF RECORD.
17. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND LCU IMMEDIATELY CONCERNING ANY CONFLICTS WITH LCU UTILITIES/STRUCTURES ARISING DURING CONSTRUCTION OF ANY FACILITIES SHOWN ON THESE DRAWINGS.
18. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANS. IF ANY DISCREPANCIES IN QUANTITIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND LCU.
19. THE CONTRACTOR SHALL REPLACE ALL PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, ETC., WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL AREAS AFFECTED BY THE CONSTRUCTION TO ITS ORIGINAL CONDITION, OR BETTER.
20. WITHIN THE FDOT AND LCDOT RIGHT-OF-WAY, ALL DISTURBED AREAS SHALL RECEIVE GRASSING (SEEDING) OR SODDING MATERIALS IN ACCORDANCE WITH FDOT SPECIFICATIONS. THOSE AREAS THAT ARE CLASSIFIED AS DRAINAGE DITCHES SHALL RECEIVE FULL SOLID SOD.
21. ALL FRAMES, COVERS VALVE BOXES, METER BOXES AND MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF PAVING OR RELATED CONSTRUCTION. ALL VALVE PADS SHALL BE POURED IN PLACE. NO PRE-FORMED VALVE PADS WILL BE ALLOWED.
22. APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BALES) WILL BE UTILIZED DURING ALL PHASES OF INSTALLATION AND GRADING. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE NOTICE OF INTENT AND NOTICE OF TERMINATION TO THE EPA IN COMPLIANCE WITH LEE COUNTY'S NPDES PERMIT.
23. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORM WATER POLLUTION PREVENTION PLAN.
24. LCU REQUIRES 36" OF COVER FOR ALL UNDERGROUND PIPING. IF LCU REQUIRED COVER CANNOT BE MAINTAINED, THE CONTRACTOR SHALL PROVIDE OTHER METHODS OF CONSTRUCTION OR PIPE PROTECTION, WHICH SHALL FIRST BE APPROVED BY LCU AND THE ENGINEER, AT NO ADDITIONAL COST TO THE COUNTY. IF STATE AGENCIES REQUIRE ADDITIONAL COVER, MEETING THE REQUIREMENTS SHALL BE DONE AT NO ADDITIONAL COST TO THE COUNTY.
25. LCU REQUIRES THERE TO BE A MINIMUM OF TEN (10) FEET HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN POTABLE WATER & SANITARY SEWER MAINS. LCU ALSO REQUIRES MINIMUM OF TEN (10) FEET HORIZONTAL SEPARATION BETWEEN OTHER PUBLIC AND/OR PRIVATE UTILITIES, STRUCTURE(S), BUILDING(S), WALL(S), FOUNTAIN(S), FENCE(S) AND LCU INFRASTRUCTURE UNLESS SPECIFICALLY APPROVED BY LCU.
26. LCU REQUIRES THERE TO BE A MINIMUM OF FIVE (5) FEET HORIZONTAL SEPARATION BETWEEN LCU INFRASTRUCTURE AND DRAINAGE INFRASTRUCTURE, MITERED END SECTIONS, INLETS, ETC. LCU ALSO REQUIRES MINIMUM OF FIVE (5) FEET HORIZONTAL SEPARATION BETWEEN LCU INFRASTRUCTURE AND ALL NEW LIGHT POLE FOUNDATIONS.
27. THE ROOT BALL OF PALM TREES SHALL BE A MINIMUM OF FIVE (5) FEET AND THE ROOT BALL OF SHADE TREES SHALL BE A MINIMUM OF TEN (10) FEET FROM ANY EXISTING OR PROPOSED LCU OWNED AND MAINTAINED PIPE/INFRASTRUCTURE.
28. AS THE WORK PROGRESSES THE CONTRACTOR SHALL RECORD ALL CHANGES AND DEVIATIONS FROM THE LCU STAMPED/APPROVED CONSTRUCTION PLANS. IN ADDITION, HE SHALL RECORD THE EXACT LOCATION OF ALL CHANGES IN VERTICAL AND HORIZONTAL ALIGNMENT WITH COORDINATES WITH RESPECT TO THE NGVD 1929 STATE PLANE FLORIDA WEST COORDINATE SYSTEM AS WELL AS ALL REQUIREMENTS SET FORTH IN THE LCU DESIGN MANUAL. THIS INFORMATION IS TO BE FORWARDED TO THE ENGINEER OF RECORD WHO PREPARED, SIGNED AND SEALED THE APPROVED CONSTRUCTION PLANS SO THAT HE CAN PREPARE 'RECORD DRAWINGS' PER THE REQUIREMENTS SET FORTH IN THE LCU DESIGN MANUAL.

GENERAL NOTES:

1. ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929).
2. HORIZONTAL DATA IS BASED ON STATE PLANE COORDINATES FOR THE WEST ZONE OF FLORIDA.
3. CONTRACTOR SHALL NOT EXCEED 75% OF THE MANUFACTURERS RECOMMENDED MAXIMUM DEFLECTION WHEN DEFLECTING PIPE AT JOINTS. ENGINEER WILL DETERMINE MAXIMUM DEFLECTION AFTER PIPE MANUFACTURER IS SELECTED.
4. THE CONTRACTOR SHALL KEEP A RECORD OF ALL CHANGES AND MAINTAIN AN AS-BUILT PLAN. PRIOR TO FINAL ACCEPTANCE, THIS PLAN WILL BE FURNISHED TO THE ENGINEER. THE CONTRACTOR SHALL ALSO FURNISH THE ENGINEER WITH A STATEMENT THAT THE AS-BUILT PLAN REPRESENTS ALL CHANGES MADE AND THAT THE LOCATION OF WATER LINES SHOWN ARE WITHIN 2'.
5. THE LOCATION OF EXISTING UTILITIES HAS BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT GUARANTEED. THEREFORE THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA 48 HOURS MINIMUM PRIOR TO START OF CONSTRUCTION, AND SHALL HAVE ALL SERVICE LINES (UTS, FPL, WATER, CABLE AT&T, SANITARY SEWER, IRRIGATION, FORCE MAIN & ANY OTHERS) LOCATED AND FLAGGED PRIOR TO ANY EXCAVATION.
7. THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A DEWATERING PERMIT FROM THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT AS REQUIRED, IF NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LABOR, MATERIALS, MOBILIZATIONS, AND COSTS ASSOCIATED WITH ANY DEWATERING REQUIRED FOR INSTALLATION OF LCU UTILITIES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND USAGE OF THE EXISTING STREETS ADJACENT TO THE PROJECT AREA. ALL TRAFFIC MAINTENANCE CONTROL SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX 600 SERIES.
10. THE CONTRACTOR SHALL COMPLY WITH LEE COUNTY UTILITIES SPECIFICATIONS.
11. THE CONTRACTOR SHALL NOTIFY RESIDENCES AND BUSINESSES AT LEAST 72 HOURS IN ADVANCE OF ANY DISRUPTION IN SERVICE, INCLUDING DRIVEWAY CUTS.
12. AIR RELEASE VALVES ARE REQUIRED AT A MAXIMUM EVERY 1500 LF PER LCU STANDARDS. EXACT LOCATIONS ARE TO BE DETERMINED BY LCU PERSONNEL DURING CONSTRUCTION.
13. ALL FITTINGS AND PIPE SHALL BE RESTRAINED PER LCU DETAILS.
14. CONTRACTOR TO MAINTAIN SIDEWALK ACCESSIBILITY AT ALL TIMES.
15. ALL VALVES SHALL BE RESTRAINED AS DEAD ENDS.
16. CONTRACTOR TO COMPLETELY REMOVE ALL UTILITIES THAT ARE TO BE ABANDONED.
17. CONTRACTOR TO USE DR 14 UNDER DRIVEWAYS FOR FORCE MAIN AND WATER MAIN,UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION PLANS.
18. CONTRACTOR TO USE HDPE DR11 FOR ALL FORCE MAIN ROADWAY CROSSINGS, UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION PLANS.
19. CONTRACTOR TO POTHOLE FOR ALL CONNECTIONS AND CROSSINGS OF EXISTING UTILITIES AHEAD OF TIME.

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Notes & Legends

SHEET NUMBER

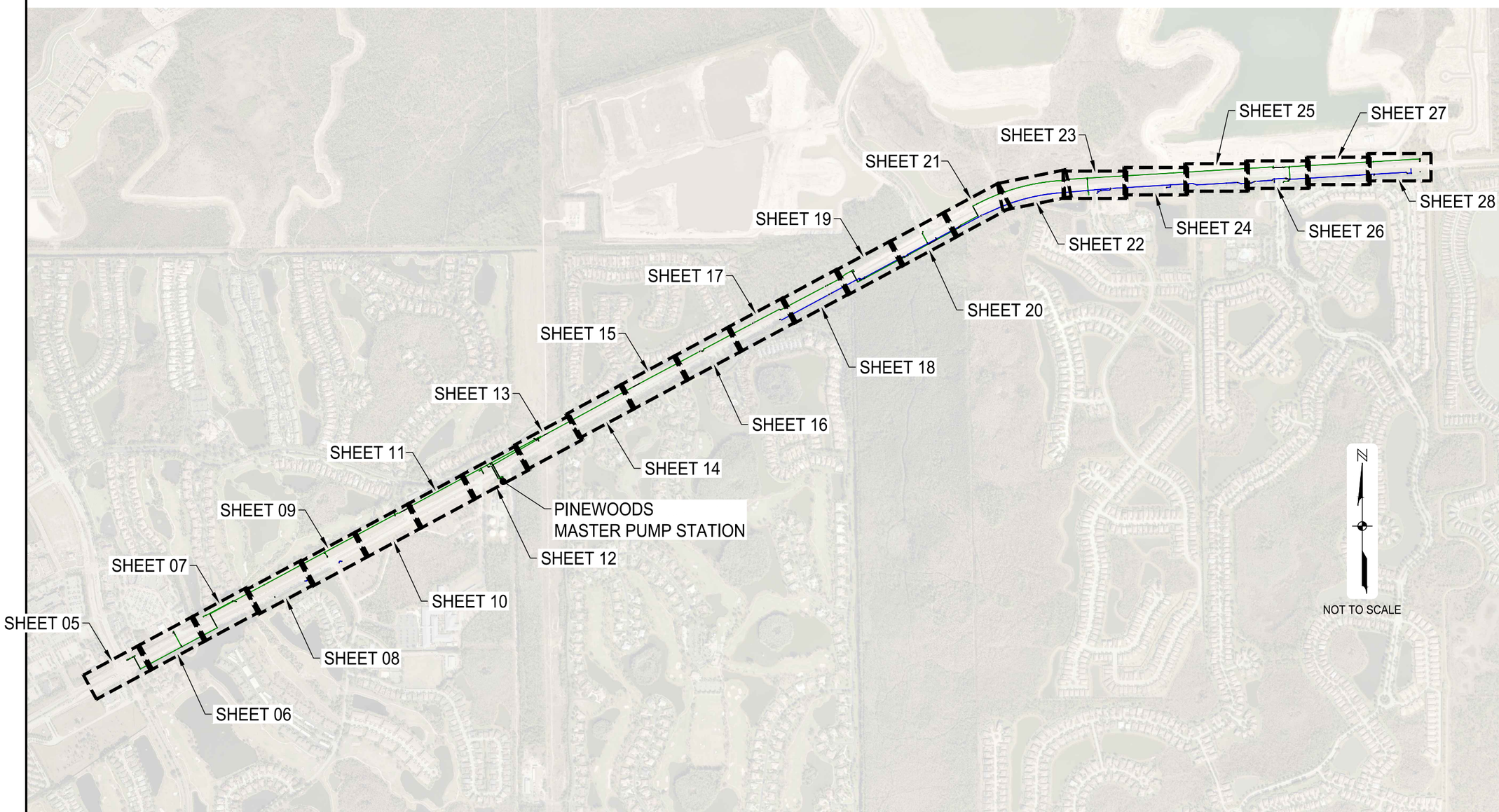
02

EAST OF PINEWOODS MASTER PUMP STATION

1. CONNECT EXISTING 6” FORCE MAIN TO EXISTING 12” FORCE MAIN AT STATION 732+23.
2. ABANDON AND REMOVE EXISTING 6” FORCE MAIN FROM STATION 732+23 TO 696+00. KEEP EXISTING 12” FORCE MAIN IN SERVICE.
3. INSTALL FORCE MAIN FROM PINEWOODS TO THE 10" CONNECTIONS AT 790+40 (PHASE 2)
4. MAKE CONNECTIONS WHILE MAINTAINING FLOWS TO PINEWOODS MASTER PUMP STATION (AT STATION 685+00)

WEST OF PINEWOODS MASTER PUMP STATION

1. INSTALL ALL FORCE MAIN FROM BEN HILL TO PINEWOODS
2. CONNECT EXISTING 12” CONCENTRATE LINE INTO EXISTING 8” FORCE MAIN AT STATION 683+80
3. MAKE CONNECTIONS ALONG ROUTE TO TRANSFER FLOW FROM 12” FORCE MAIN TO 16” FORCE MAIN
4. ABANDON AND REMOVE FORCE MAIN SHOWN WITHIN PLANS.



JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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LEE COUNTY, FLORIDA

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Key Map and Sequencing Table

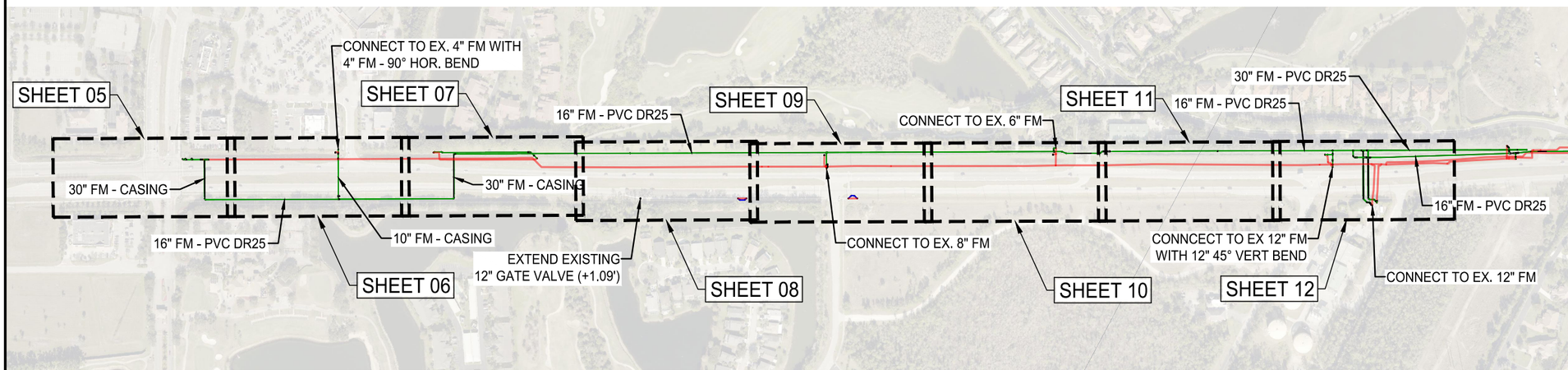
SHEET NUMBER

03

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (KEY MAP) MNT Dec 03, 2020 - 6:50pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY



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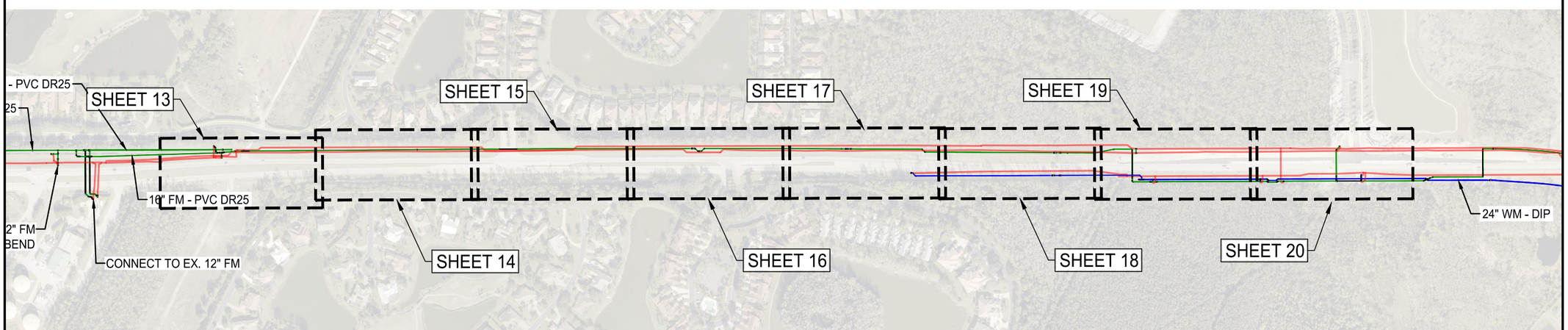

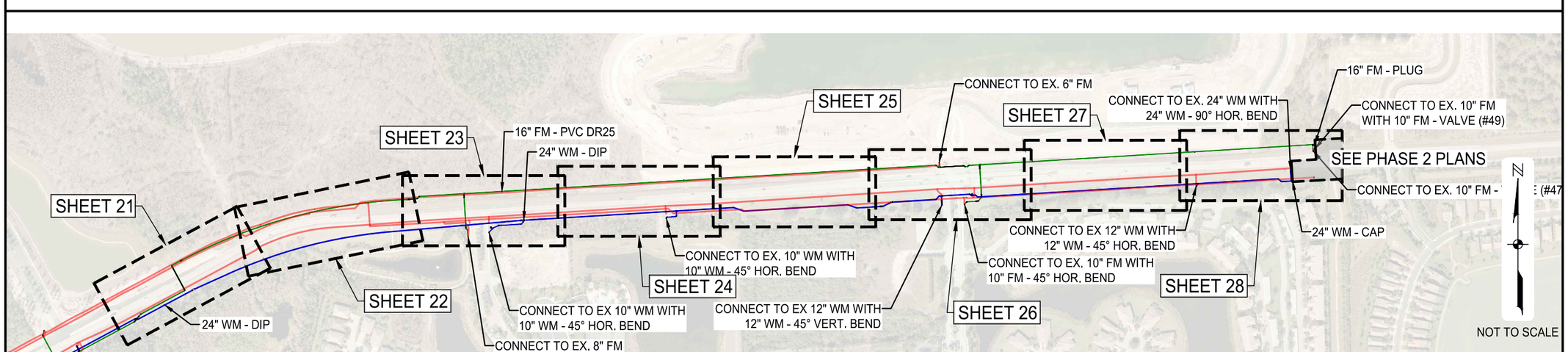

NOT TO SCALE

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2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
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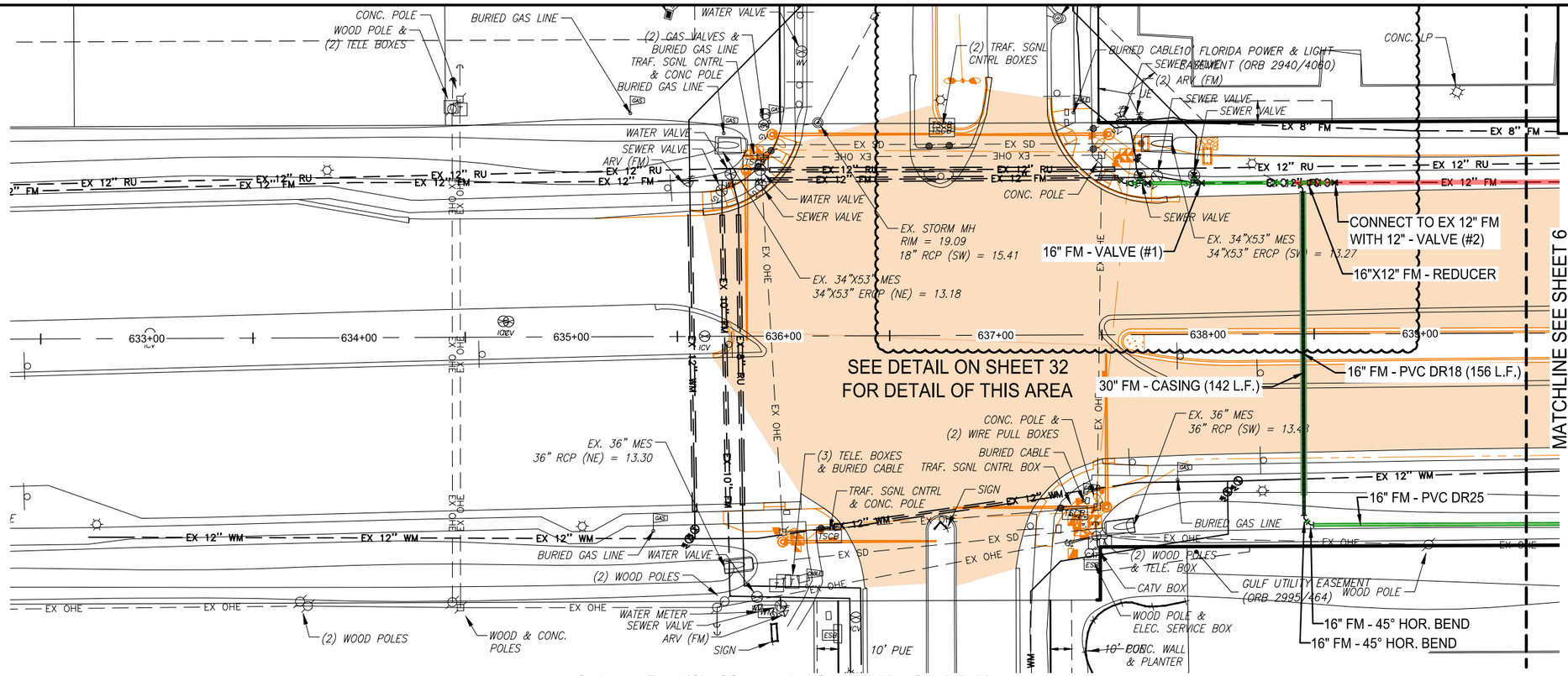
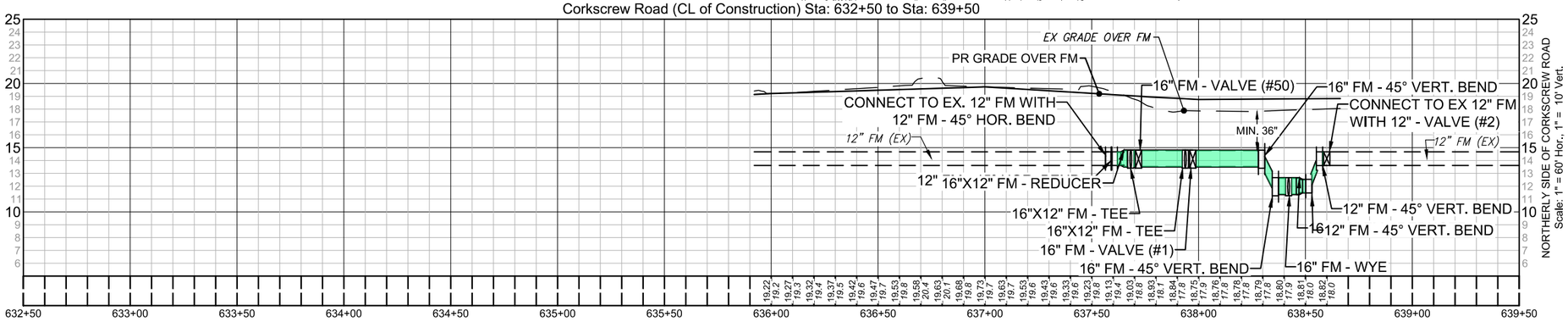
Overall Improvement Map

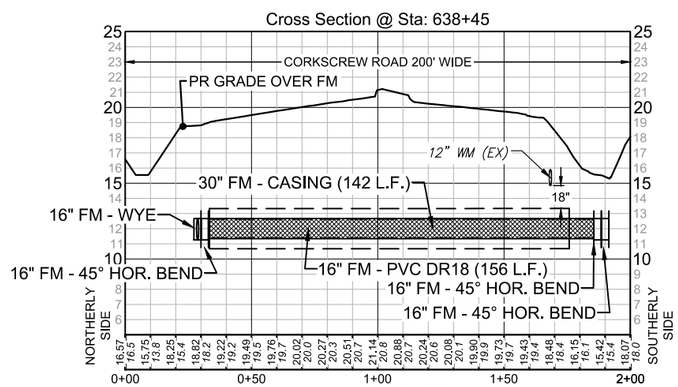
SHEET NUMBER

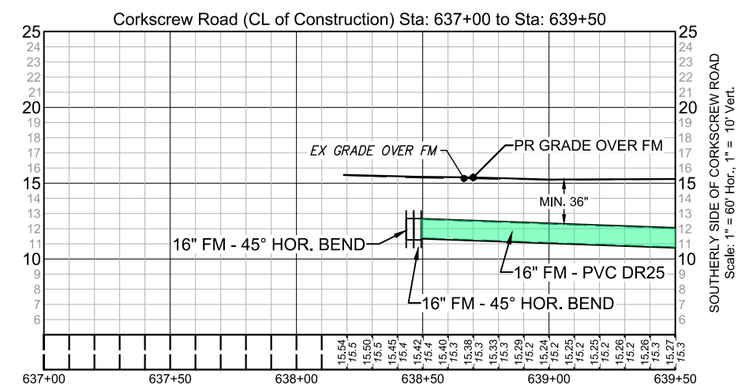
04

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (4) MNT Dec 03, 2020 - 6:52pm









\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (5) MNT Dec 03, 2020 - 6:53pm 1" = 10' Vert.

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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FAX: (239) 334-3661
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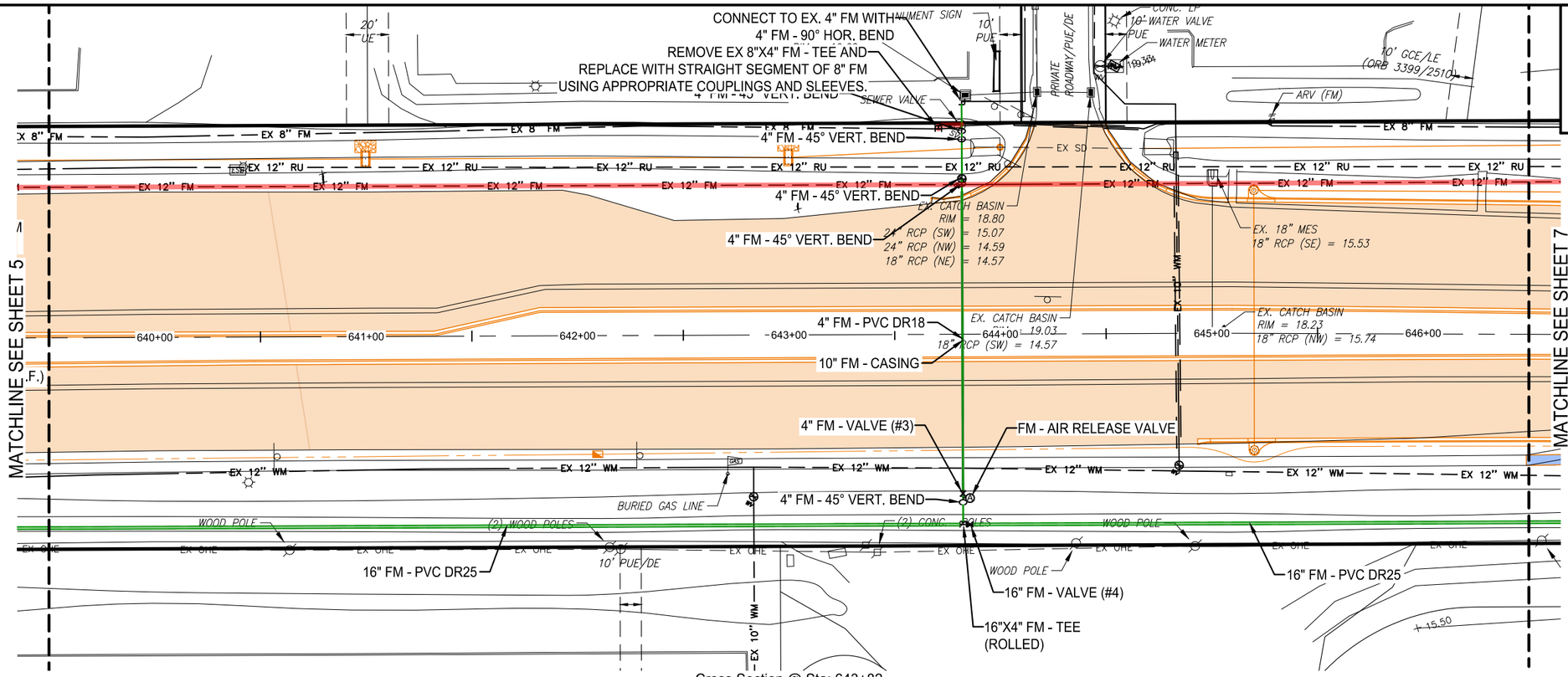
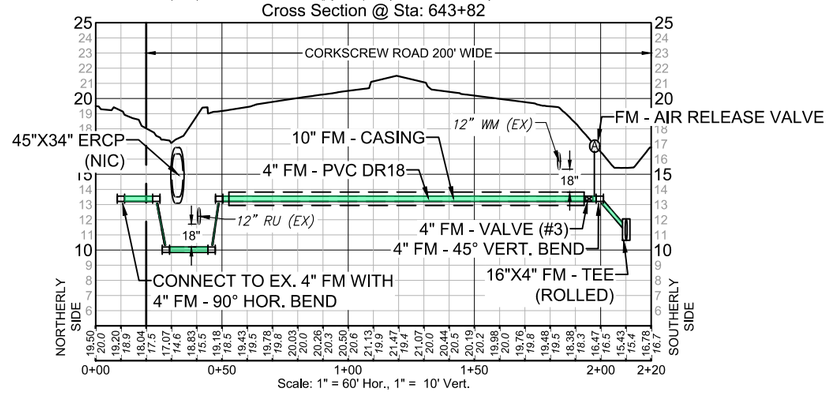
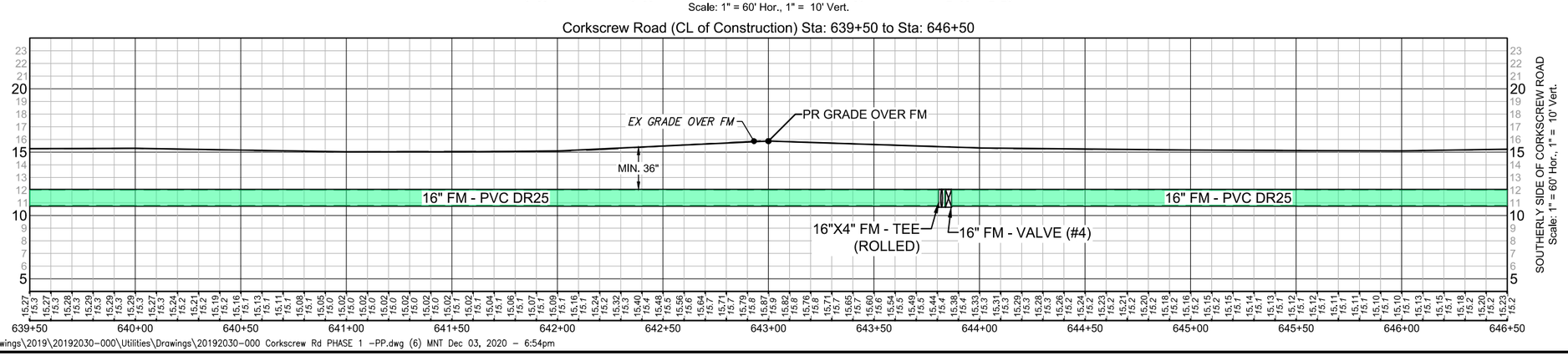
Sta 632+50 to 639+50

SHEET NUMBER

05







\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (6) MNT Dec 03, 2020 - 6:54pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

0 15 30 60

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=60'
22"X34" PLAN 1"=30'

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

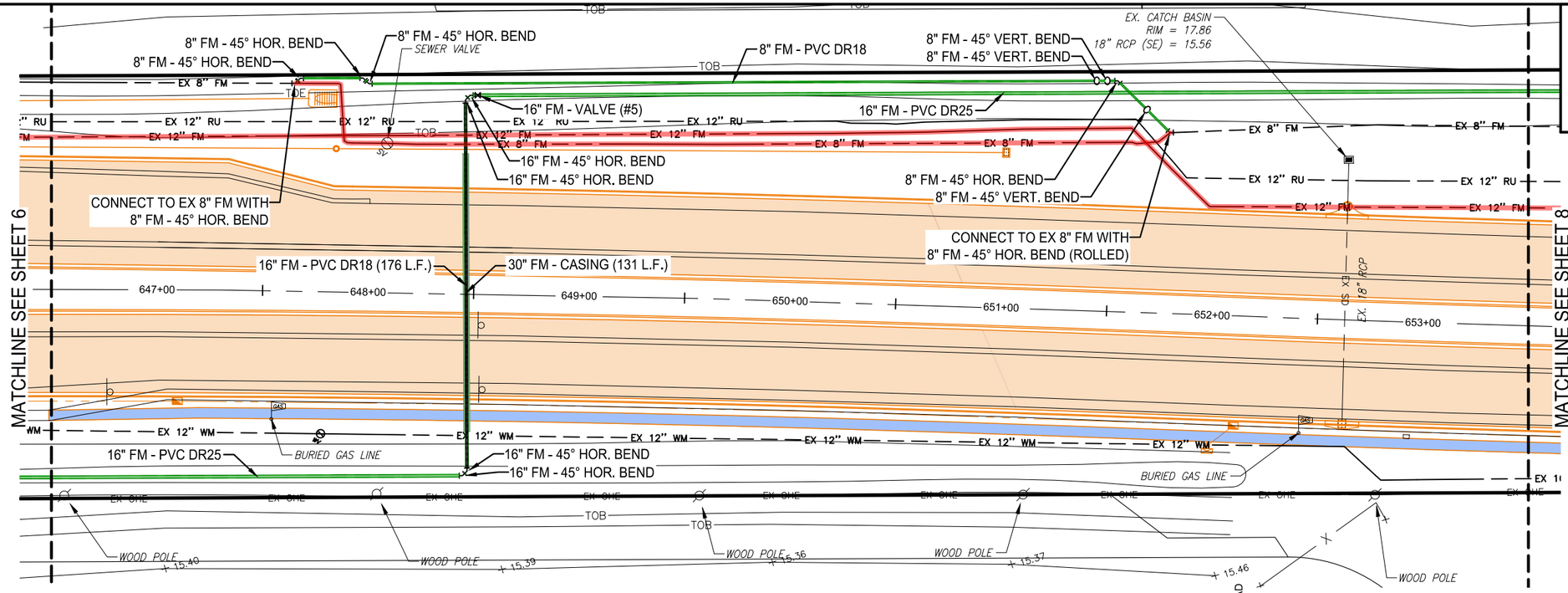
NO.	DESCRIPTION	DATE

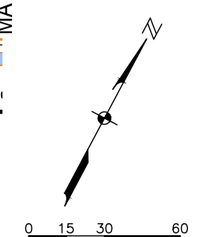
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

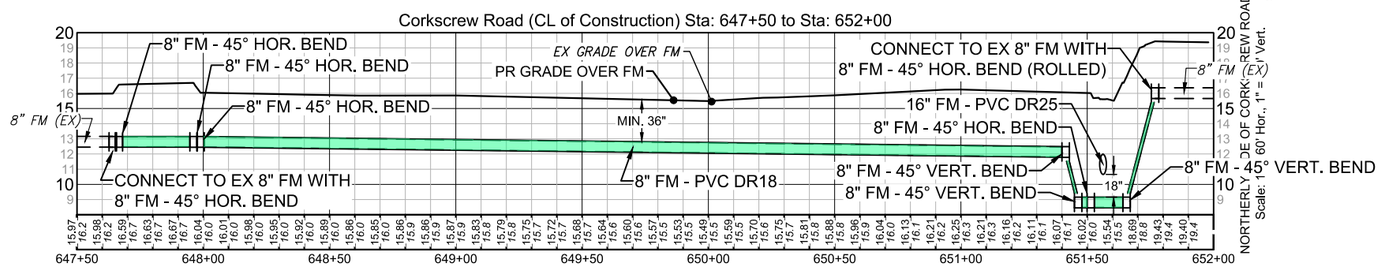
Sta 639+50 to 646+50

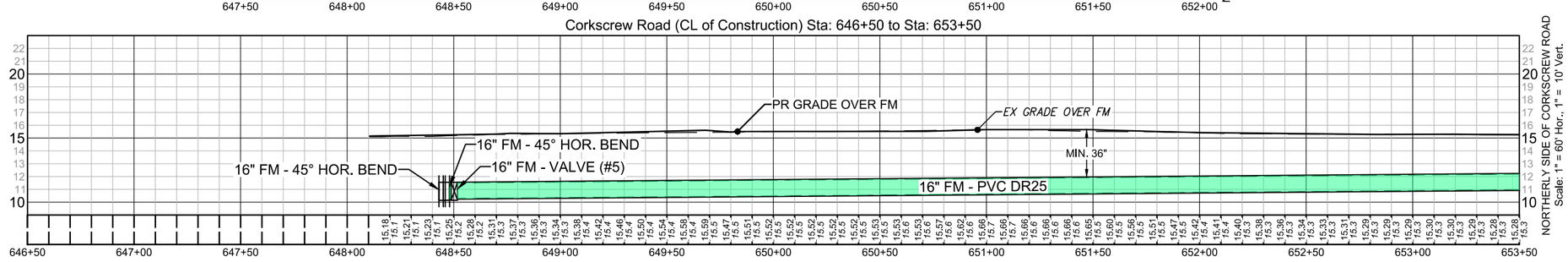
SHEET NUMBER

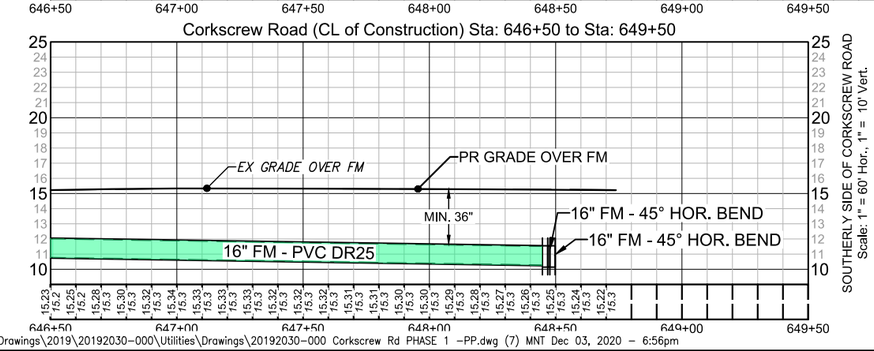
06

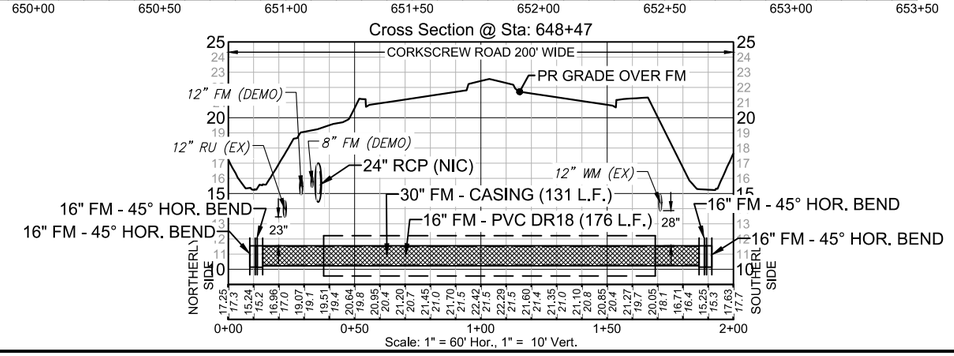












PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

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LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

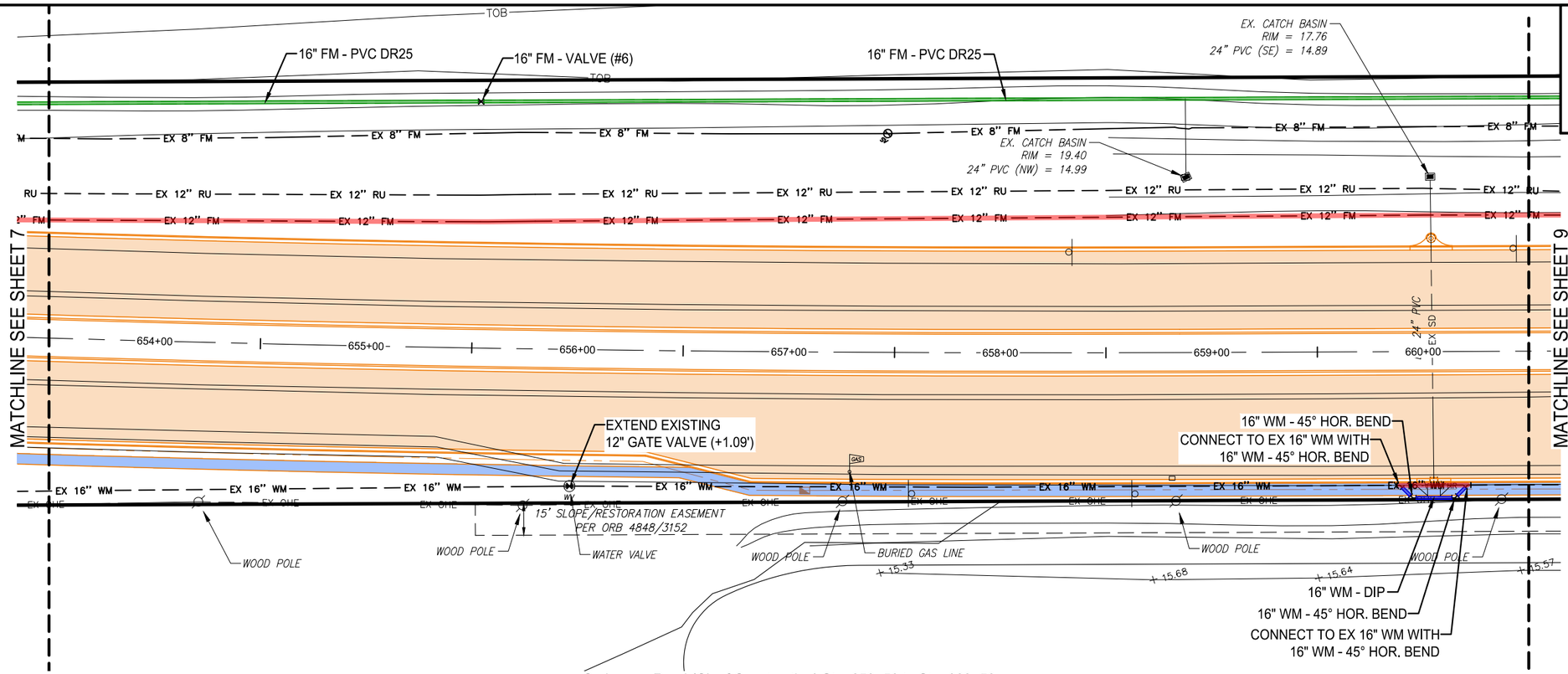
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

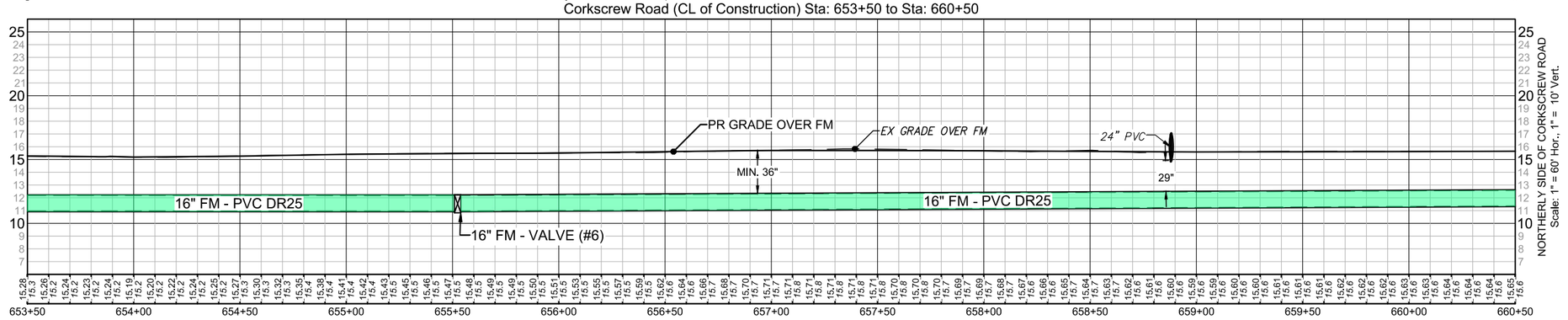
Sta 646+50 to 653+50

SHEET NUMBER

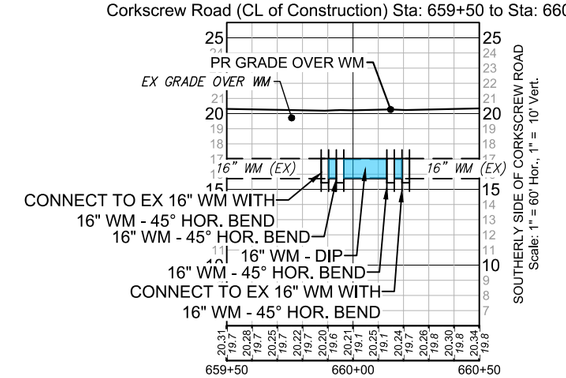
07

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (7) MNT Dec 03, 2020 - 6:56pm





Corkscrew Road (CL of Construction) Sta: 659+50 to Sta: 660+50



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

N

0 15 30 60

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=60'
22"X34" PLAN 1"=30'

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

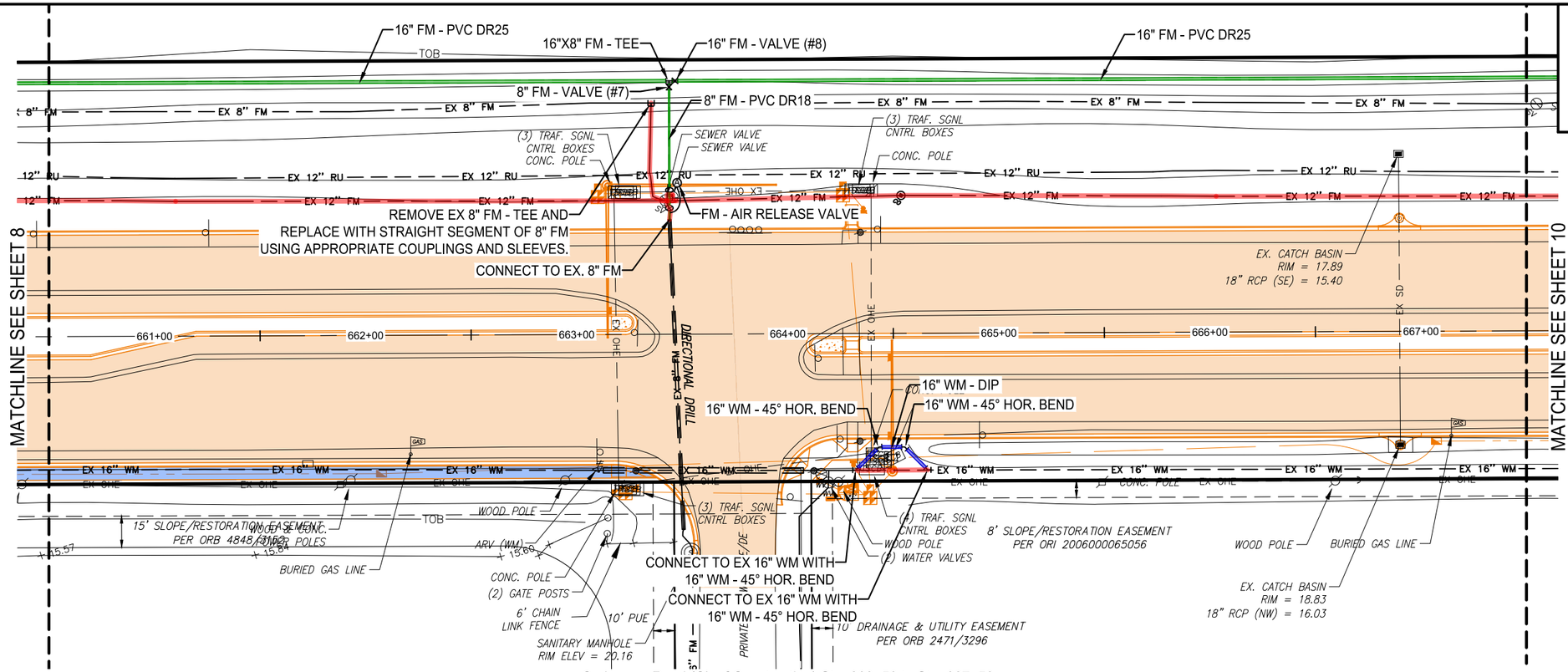
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

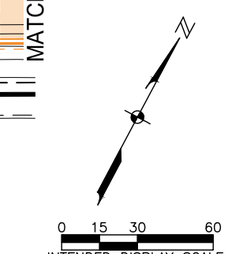
Sta 653+50 to 660+50

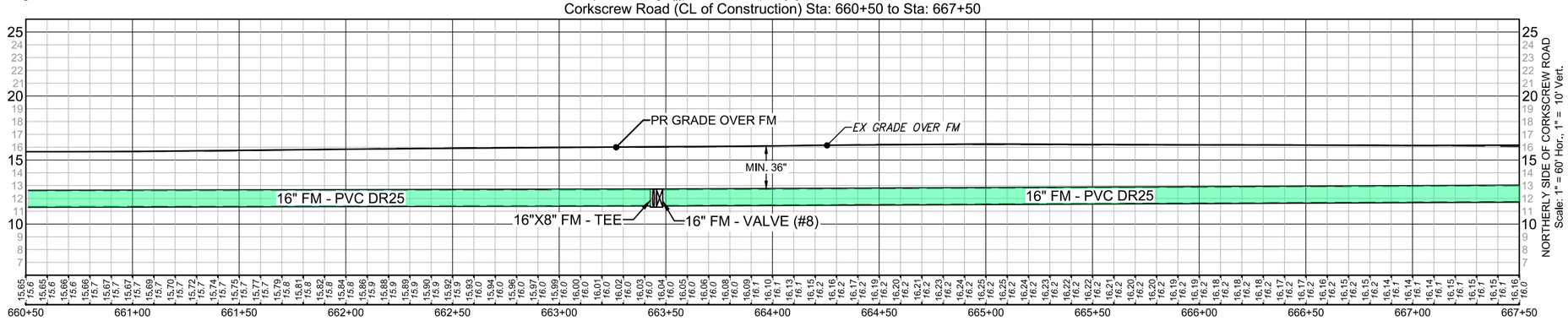
SHEET NUMBER

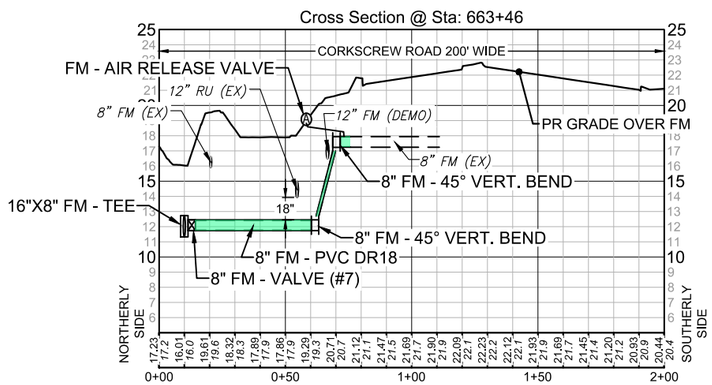
08

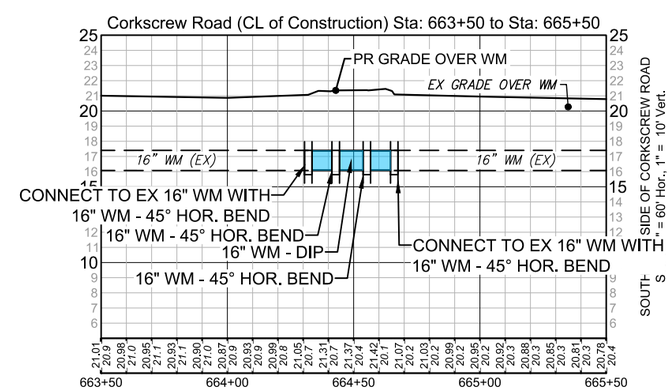
\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (8) MNT Dec 03, 2020 - 6:58pm











PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

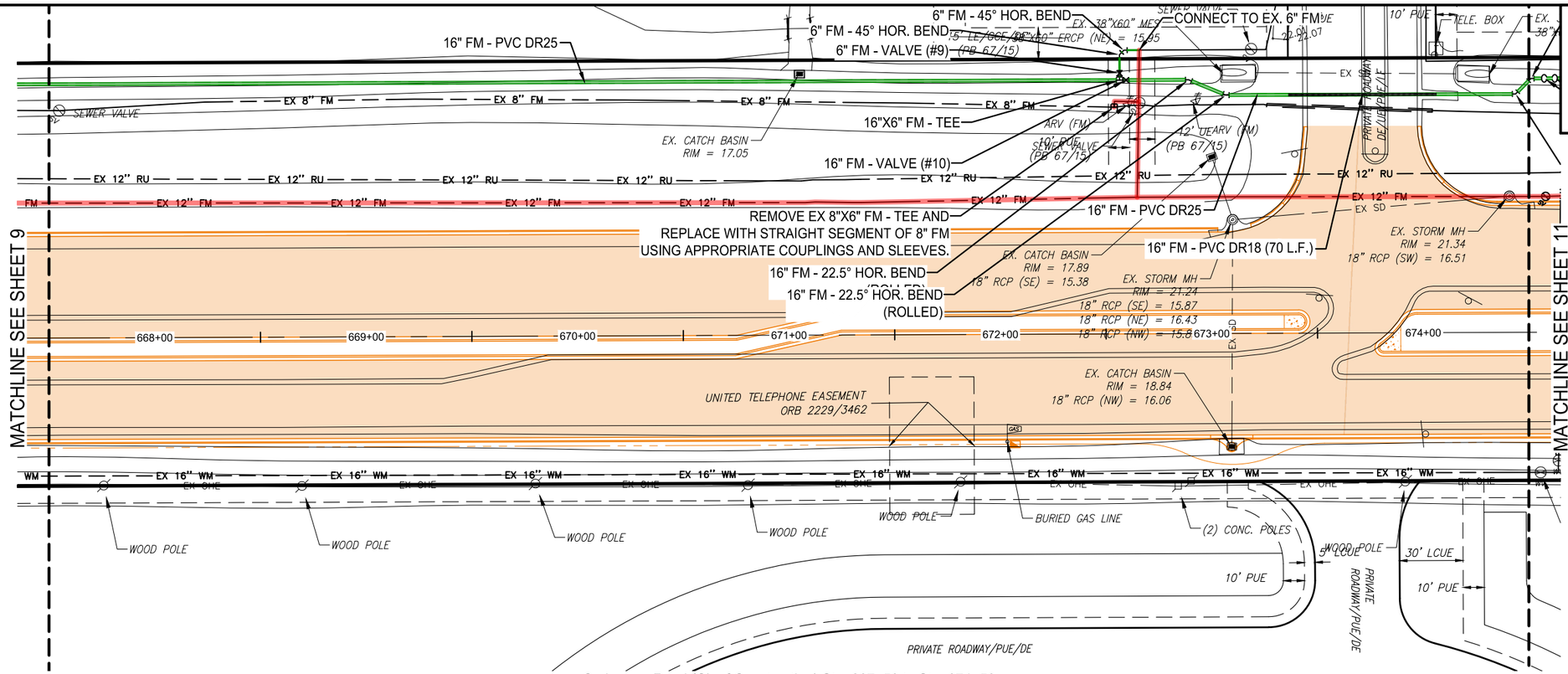
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 660+50 to 667+50

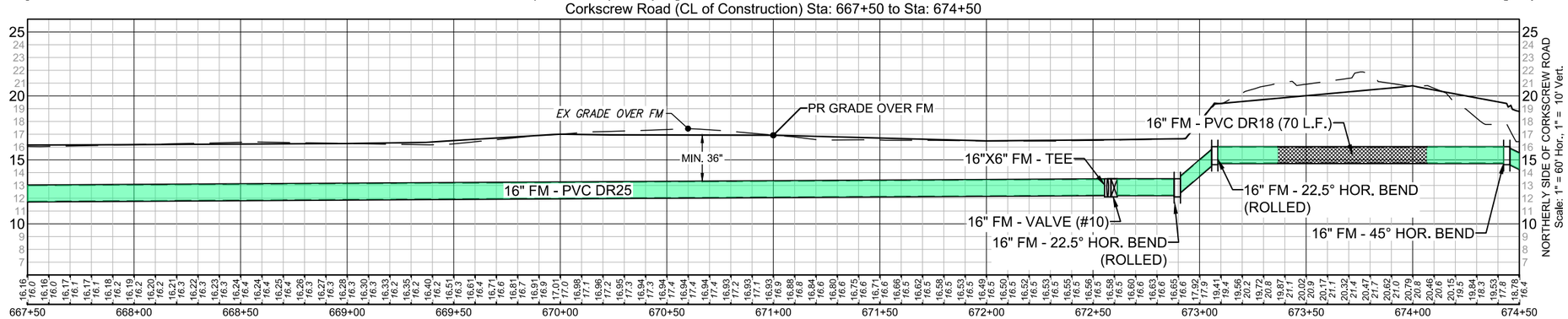
SHEET NUMBER

09

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (9) MNT Dec 03, 2020 - 6:59pm



Corkscrew Road (CL of Construction) Sta: 667+50 to Sta: 674+50



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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
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E.B. #642 & L.B. #642

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FL License No. 69783

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LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

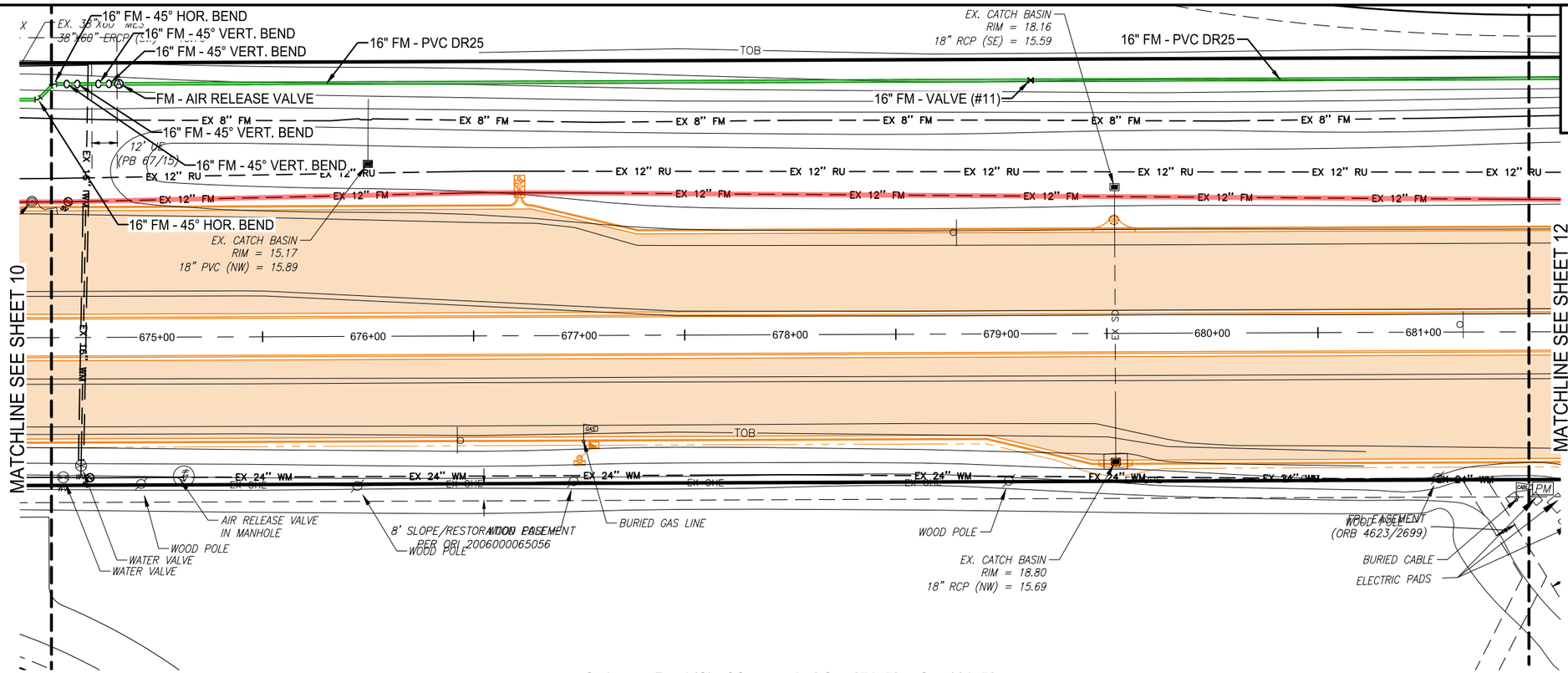
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 667+50 to 674+50

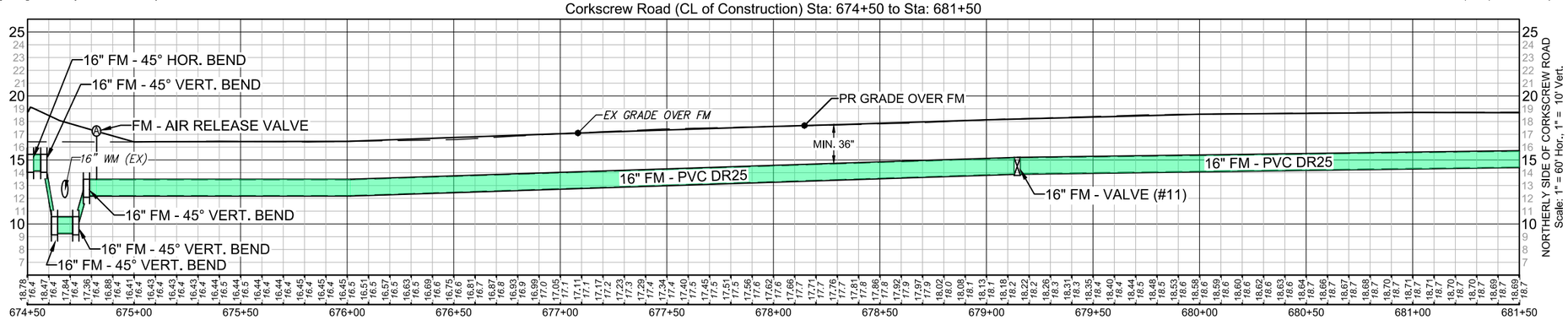
SHEET NUMBER

10

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (10) MNT Dec 03, 2020 - 7:01pm



Corkscrew Road (CL of Construction) Sta: 674+50 to Sta: 681+50



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

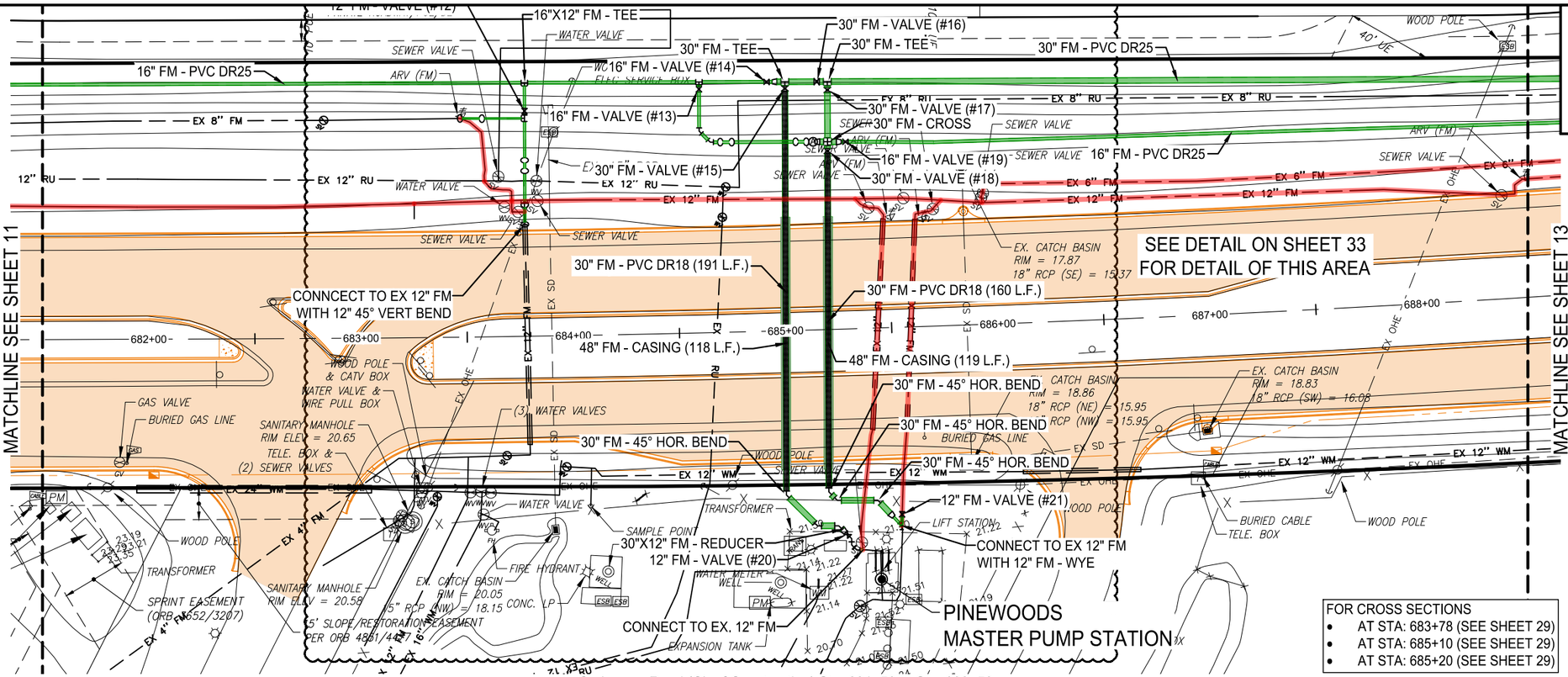
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 674+50 to 681+50

SHEET NUMBER

11

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (11) MNT Dec 03, 2020 - 7:02pm



PROPOSED IMPROVEMENT LEGEND

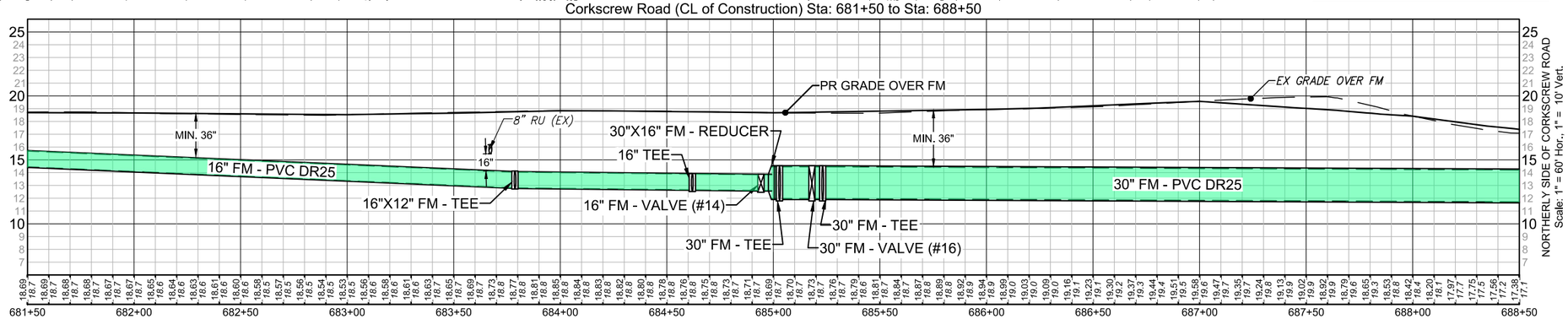
- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

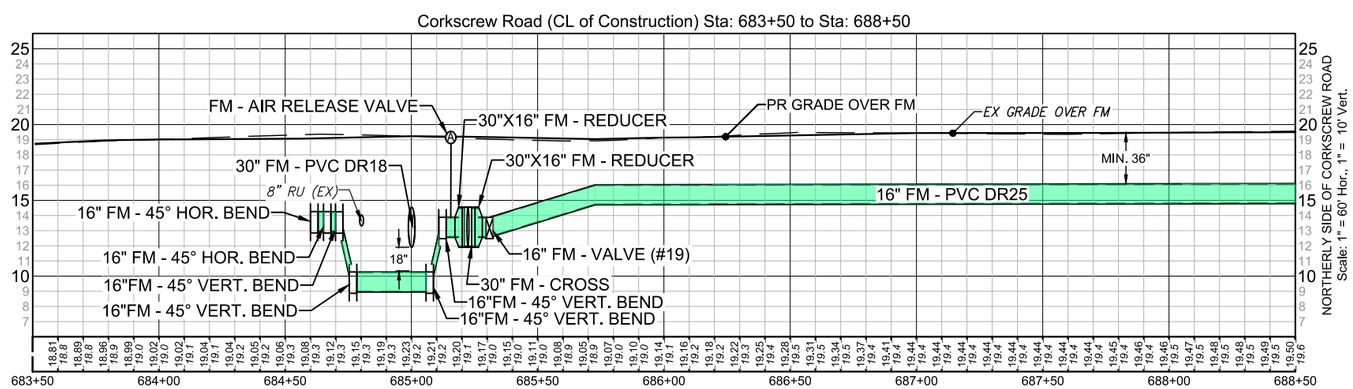
FOR CROSS SECTIONS

- AT STA: 683+78 (SEE SHEET 29)
- AT STA: 685+10 (SEE SHEET 29)
- AT STA: 685+20 (SEE SHEET 29)

0 15 30 60

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=60'
22"X34" PLAN 1"=30'





\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (12) MNT Dec 03, 2020 - 7:03pm

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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FL License No. 69783

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(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

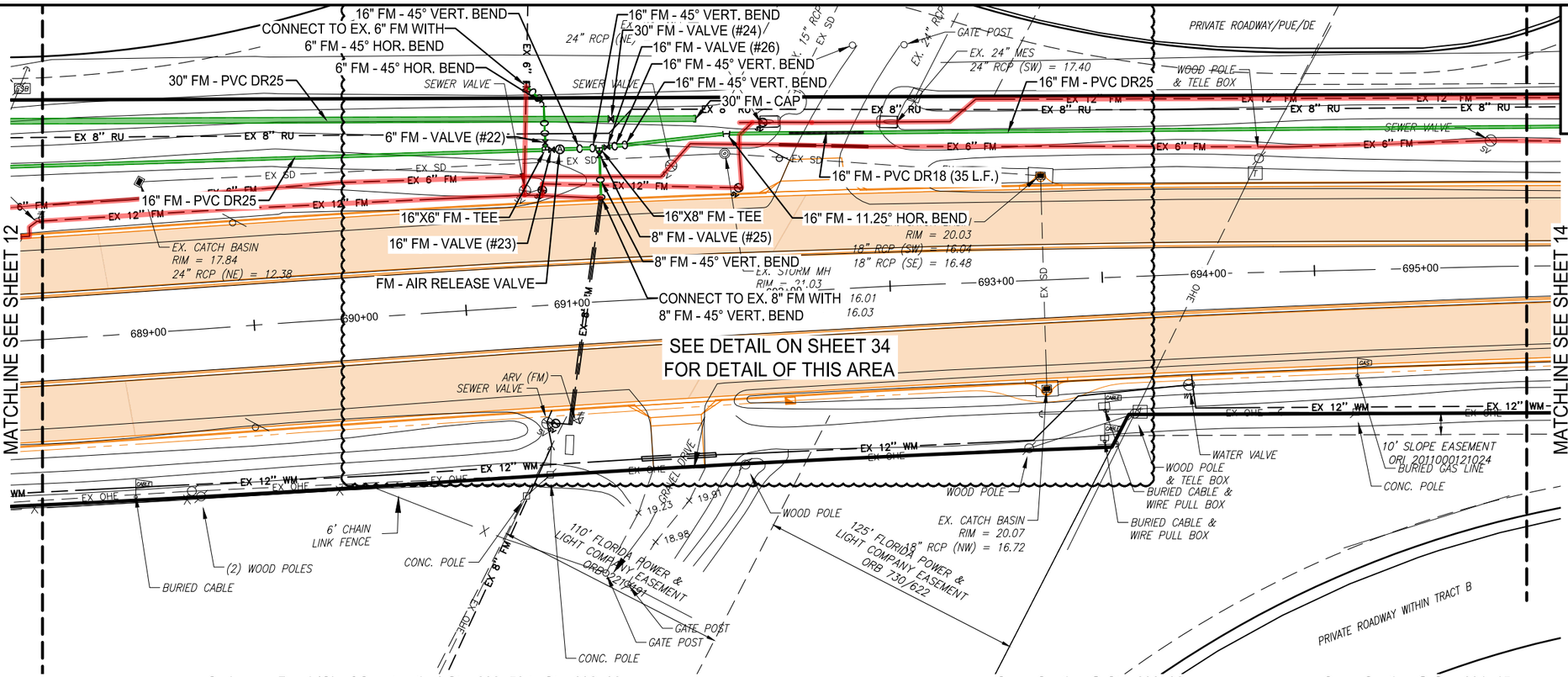
NO.	DESCRIPTION	DATE

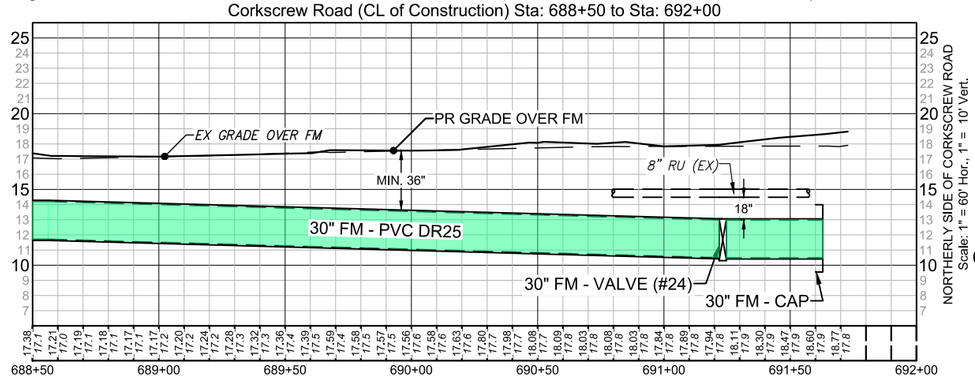
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

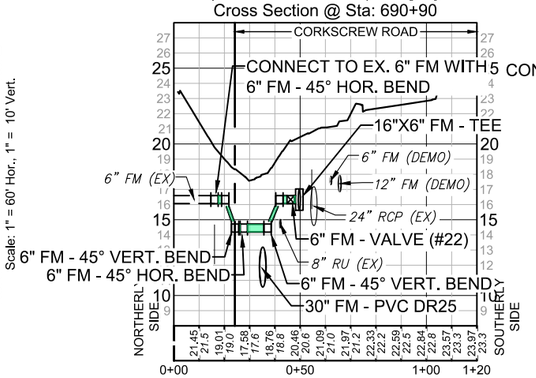
Sta 681+50 to 688+50

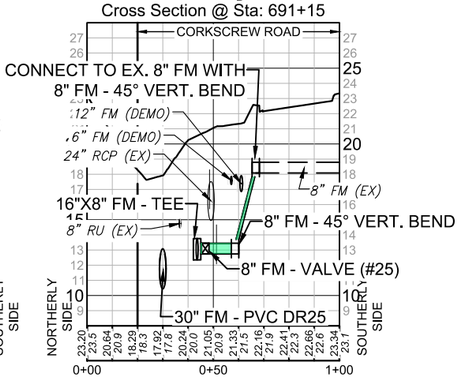
SHEET NUMBER

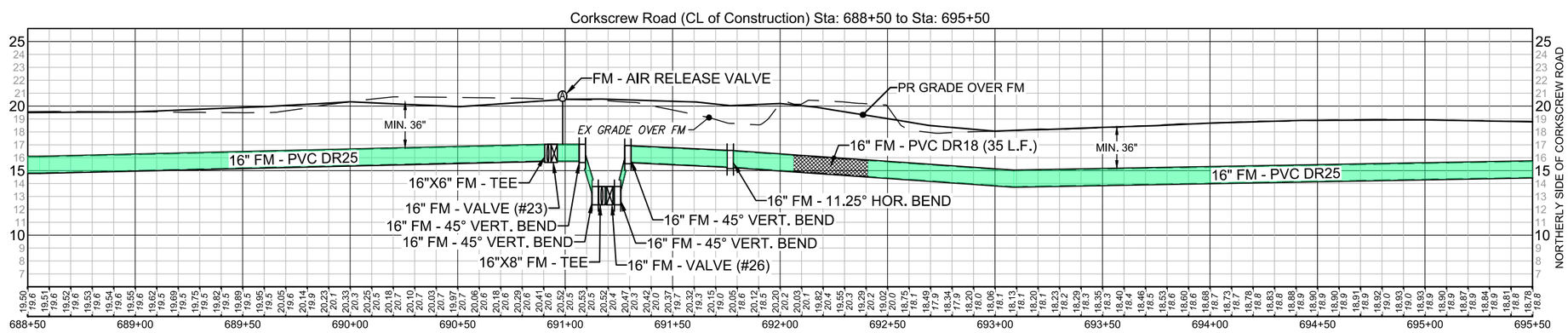
12











\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (13) MNT Dec 03, 2020 - 7:05pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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2122 JOHNSON STREET
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LEE COUNTY, FLORIDA

REVISIONS

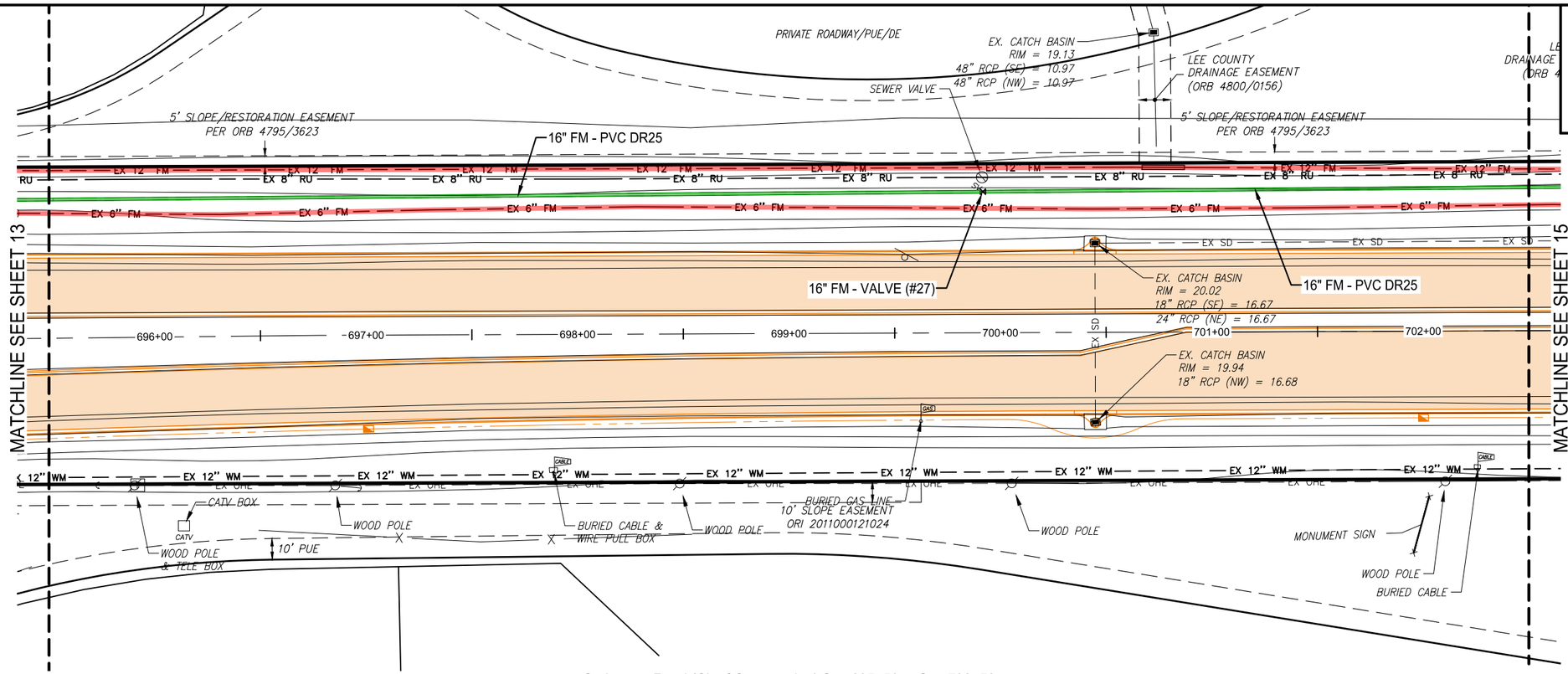
NO.	DESCRIPTION	DATE

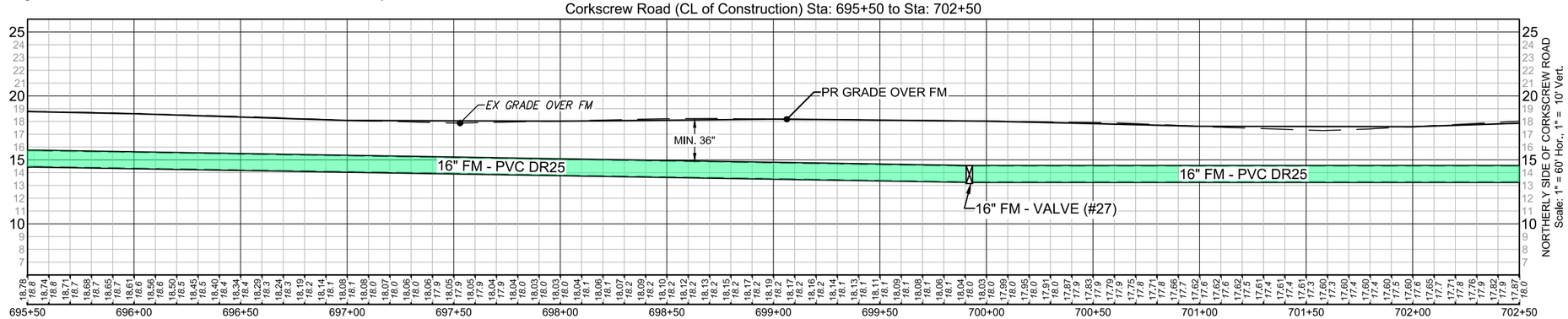
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 688+50 to 695+50

SHEET NUMBER

13





PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

0 15 30 60

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=60'
22"X34" PLAN 1"=30'

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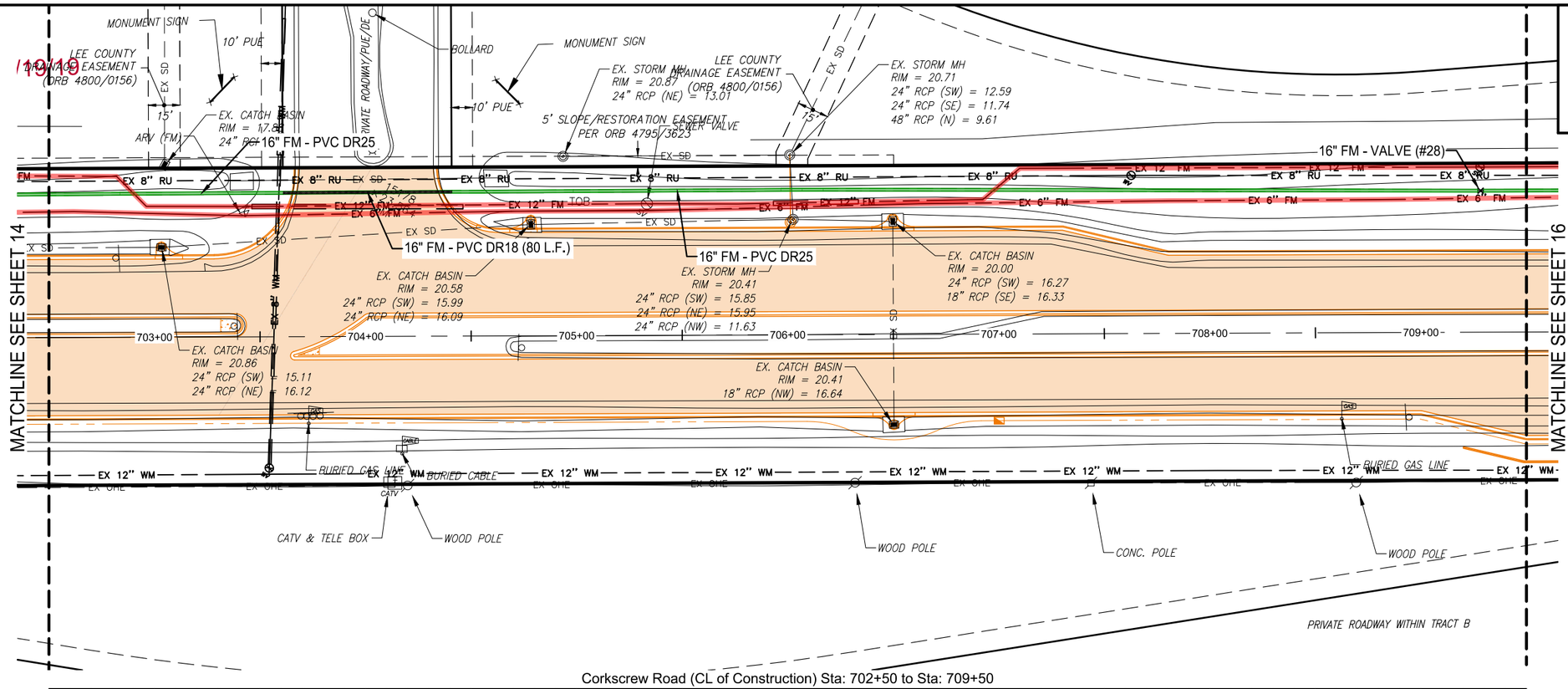
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

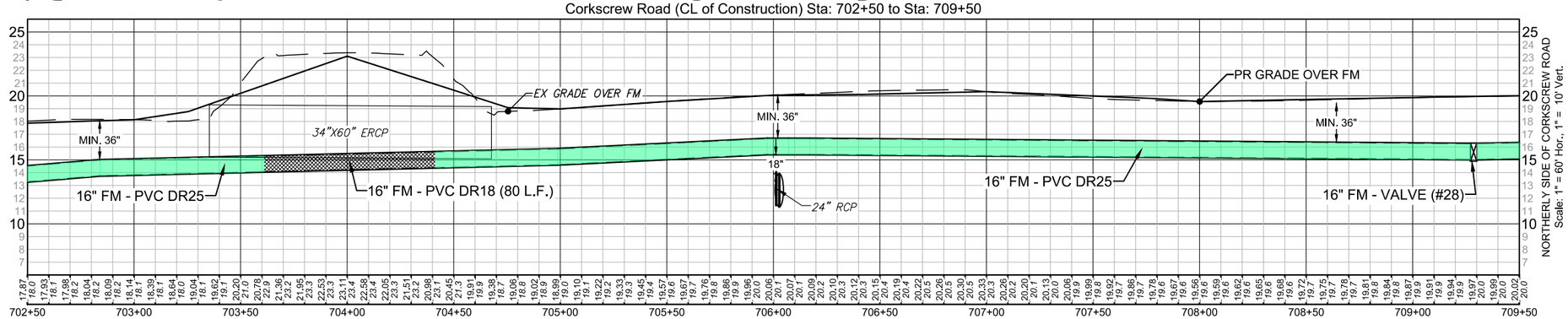
Sta 695+50 to 702+50

SHEET NUMBER

14

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (14) MNT Dec 03, 2020 - 7:06pm





PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

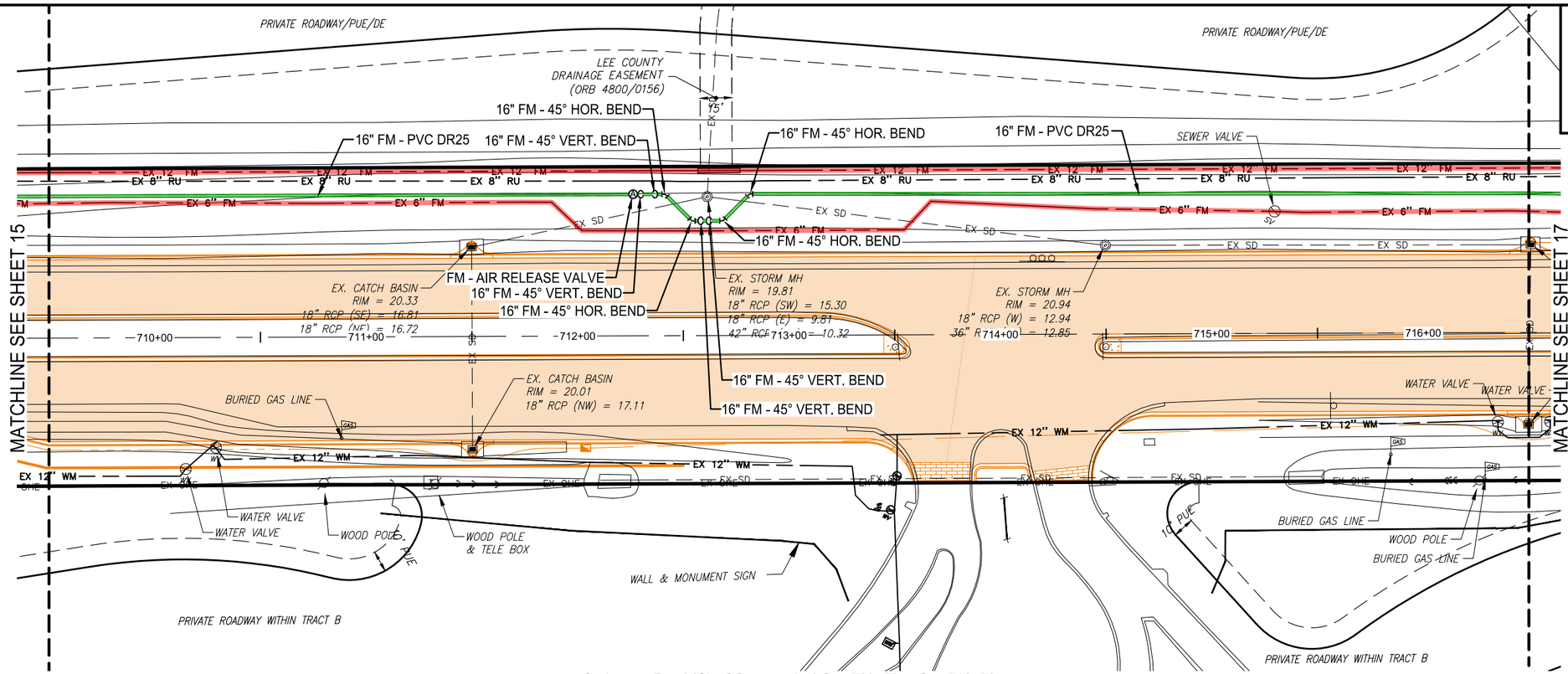
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 702+50 to 709+50

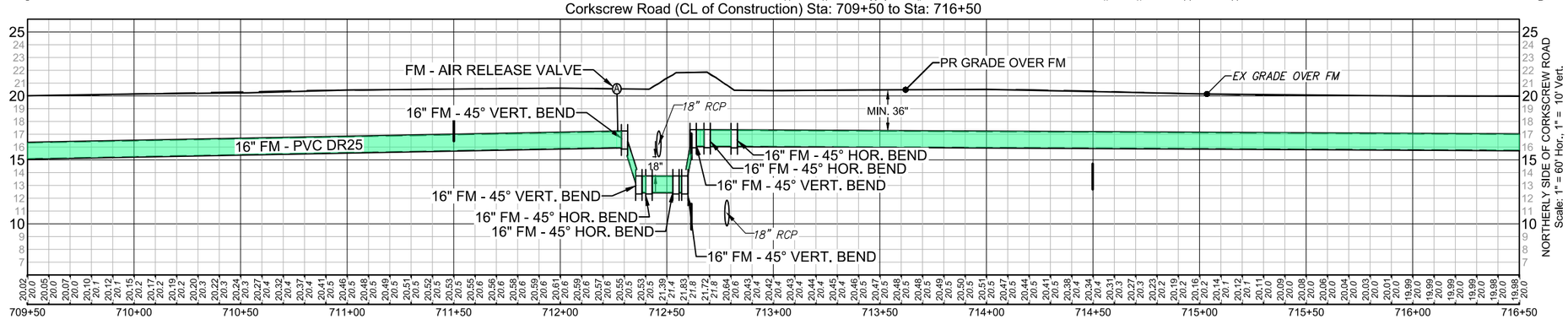
SHEET NUMBER

15

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (15) MNT Dec 03, 2020 - 7:08pm



Corkscrew Road (CL of Construction) Sta: 709+50 to Sta: 716+50



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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FL License No. 69783

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(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

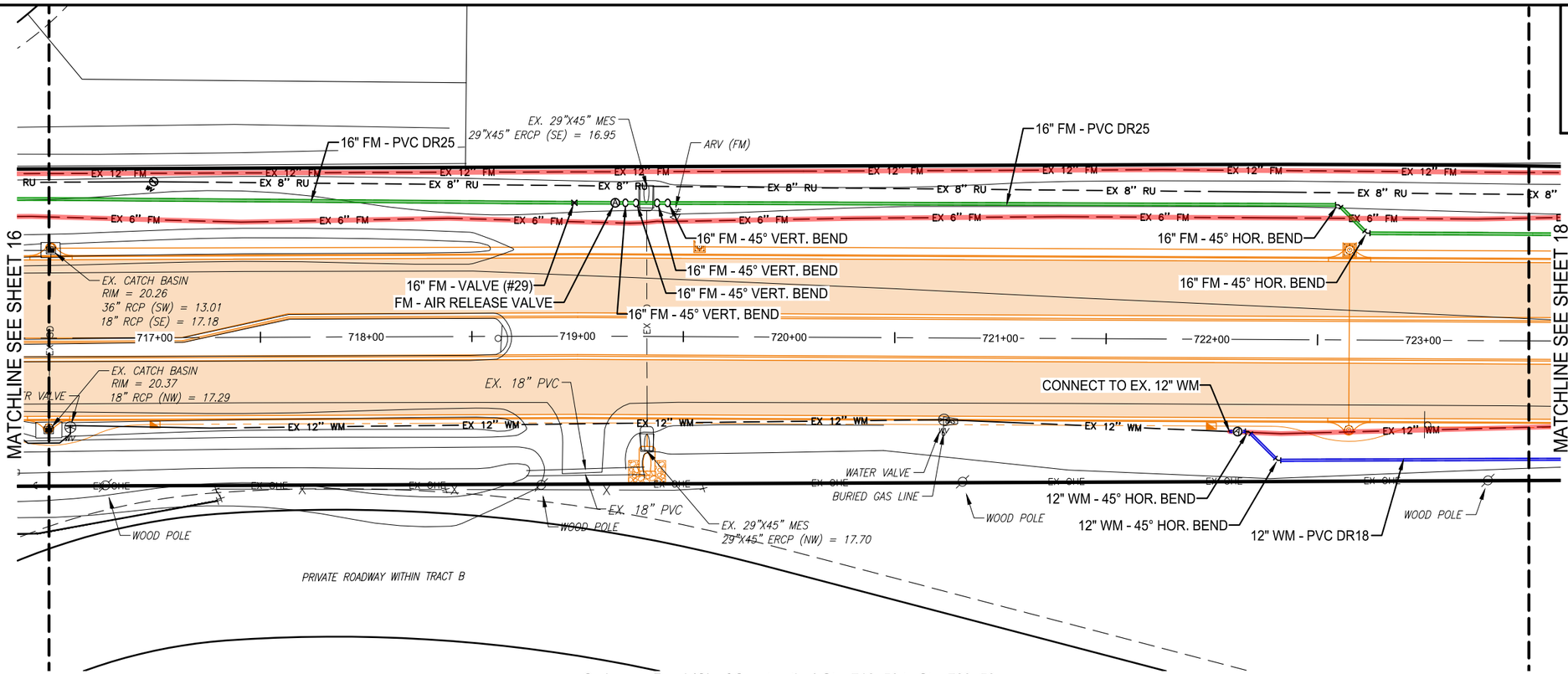
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

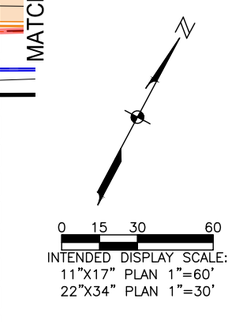
Sta 709+50 to 716+50

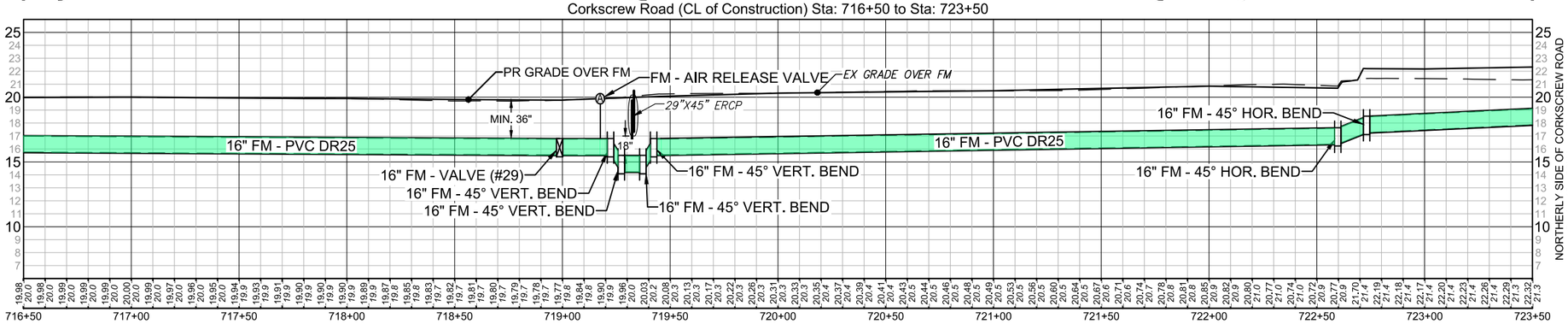
SHEET NUMBER

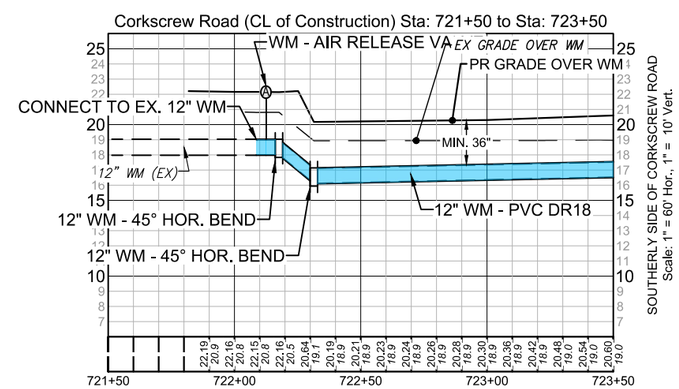
16

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (16) MNT Dec 03, 2020 - 7:09pm









PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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FL License No. 69783

LEE COUNTY

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(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

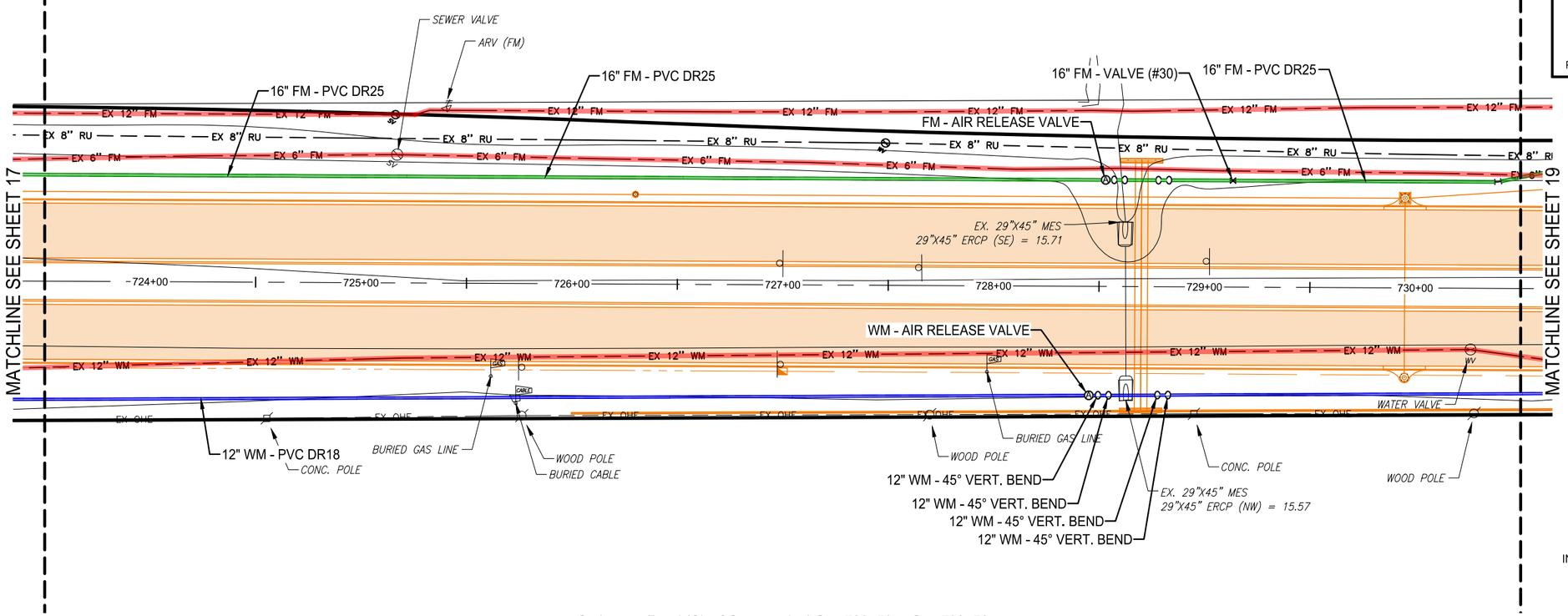
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 716+50 to 723+50

SHEET NUMBER

17

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (17) MNT Dec 03, 2020 - 7:11pm

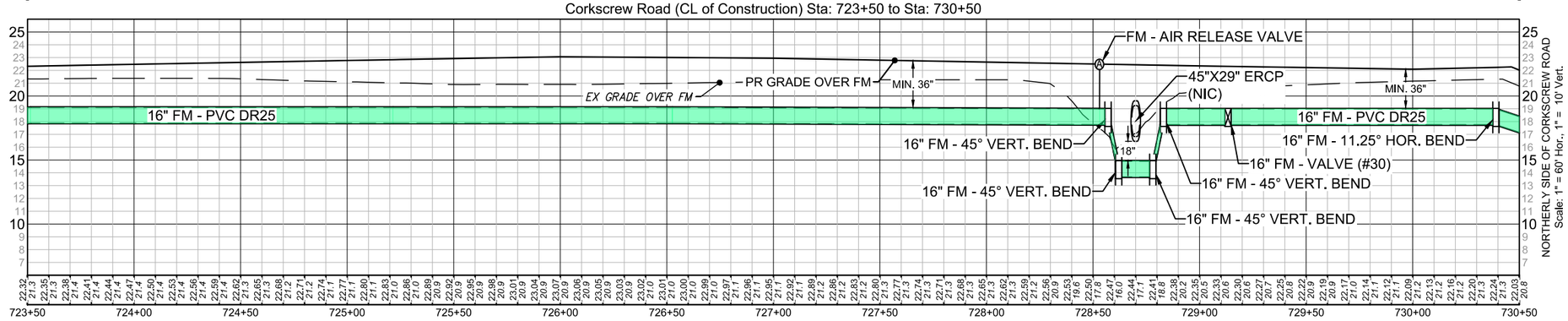


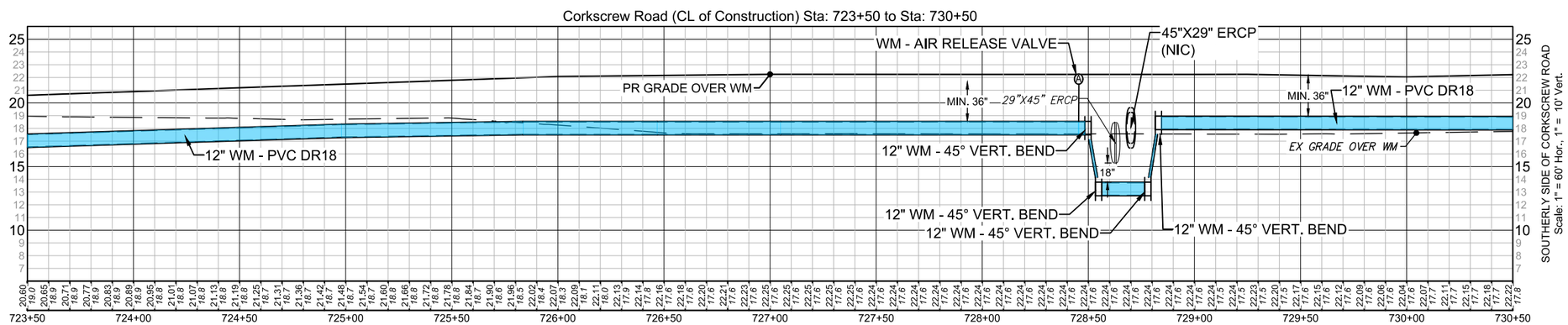
PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

0 15 30 60

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=60'
22"X34" PLAN 1"=30'





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2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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FAX: (239) 334-3661
E.B. #642 & L.B. #642

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(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

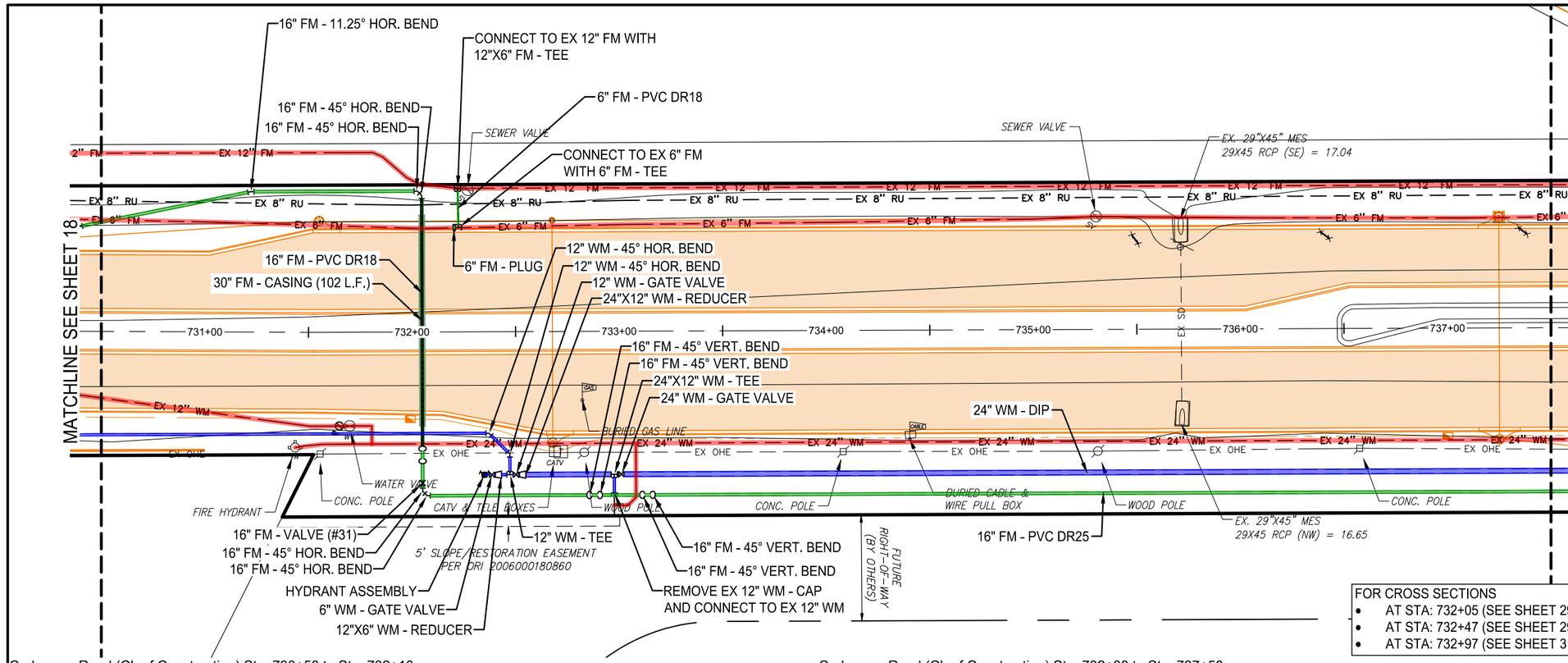
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 723+50 to 730+50

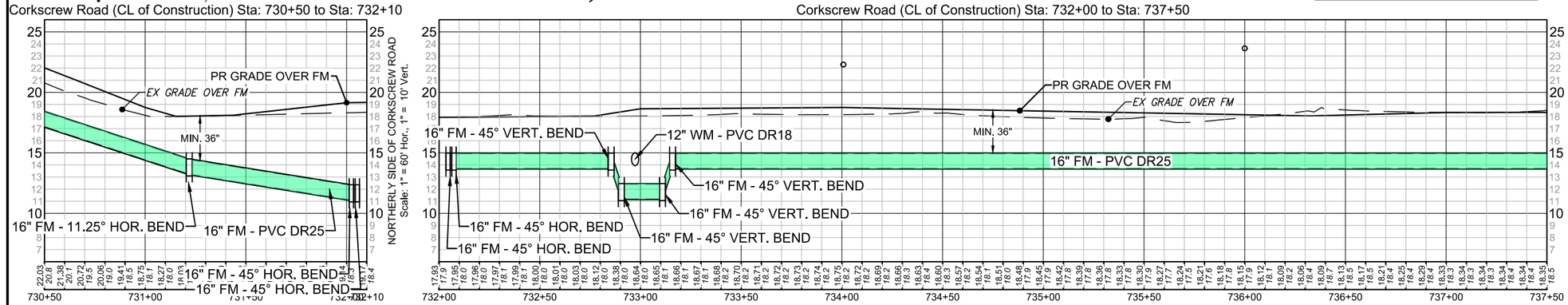
SHEET NUMBER

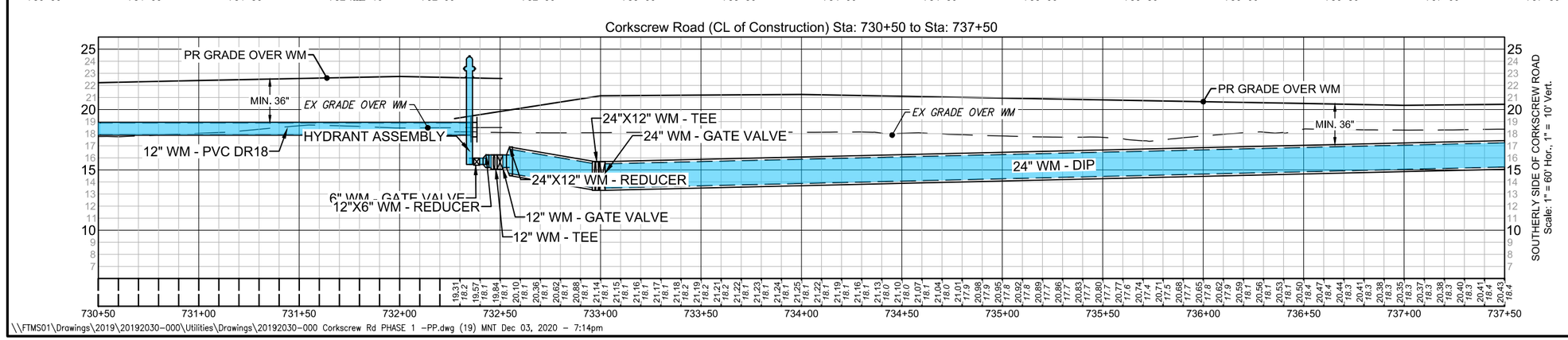
18

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (18) MNT Dec 03, 2020 - 7:12pm



FOR CROSS SECTIONS
- AT STA: 732+05 (SEE SHEET 29)
- AT STA: 732+47 (SEE SHEET 29)
- AT STA: 732+97 (SEE SHEET 31)





\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (19) MNT Dec 03, 2020 - 7:14pm

PROPOSED IMPROVEMENT LEGEND
- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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FAX: (239) 334-3661
E.B. #642 & L.B. #642

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FL License No. 69783

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LEE COUNTY, FLORIDA

REVISIONS

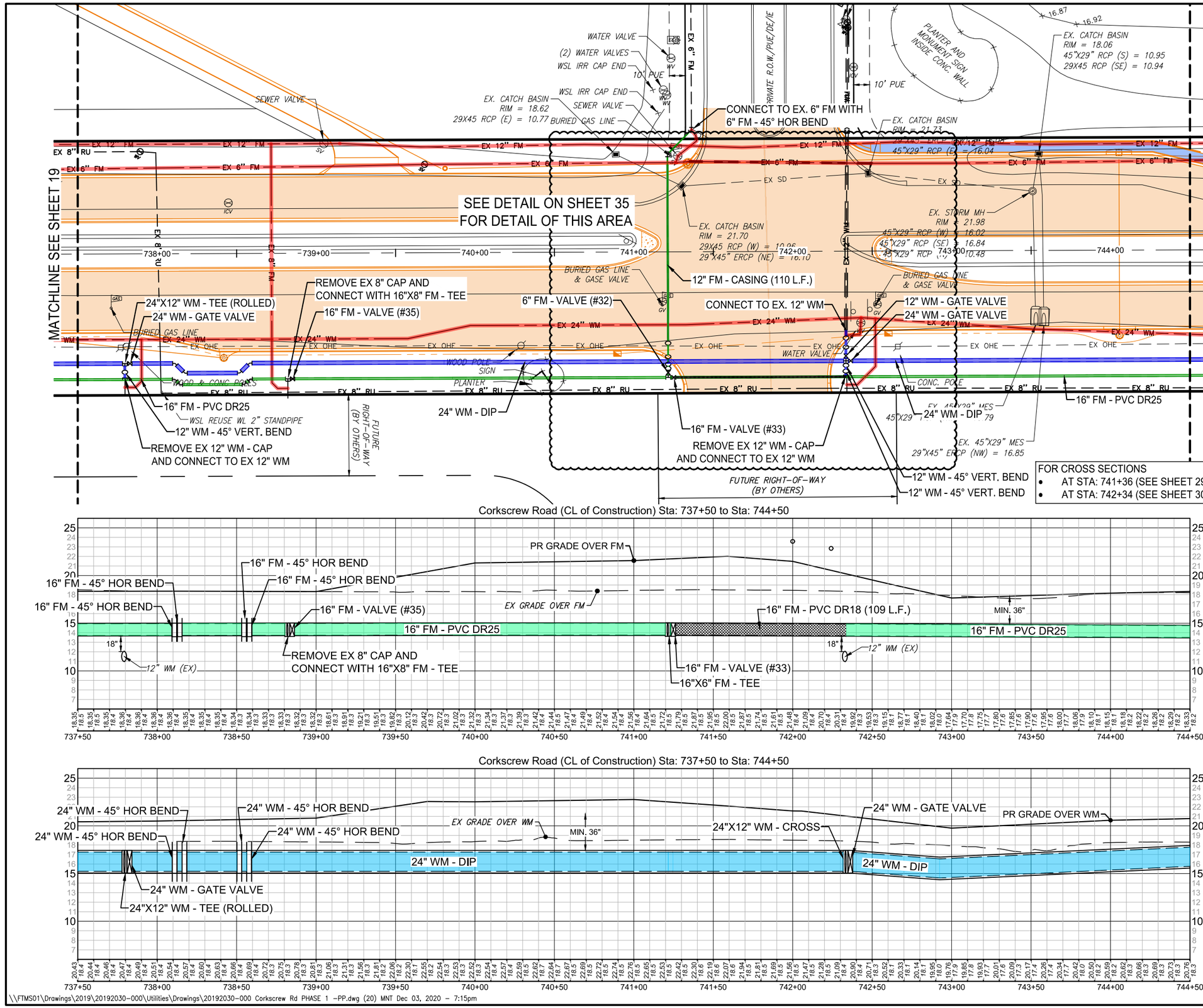
NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 730+50 to 737+50

SHEET NUMBER

19



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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FAX: (239) 334-3661
E.B. #642 & L.B. #642

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FL License No. 69783

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(Phase 1)
LEE COUNTY, FLORIDA

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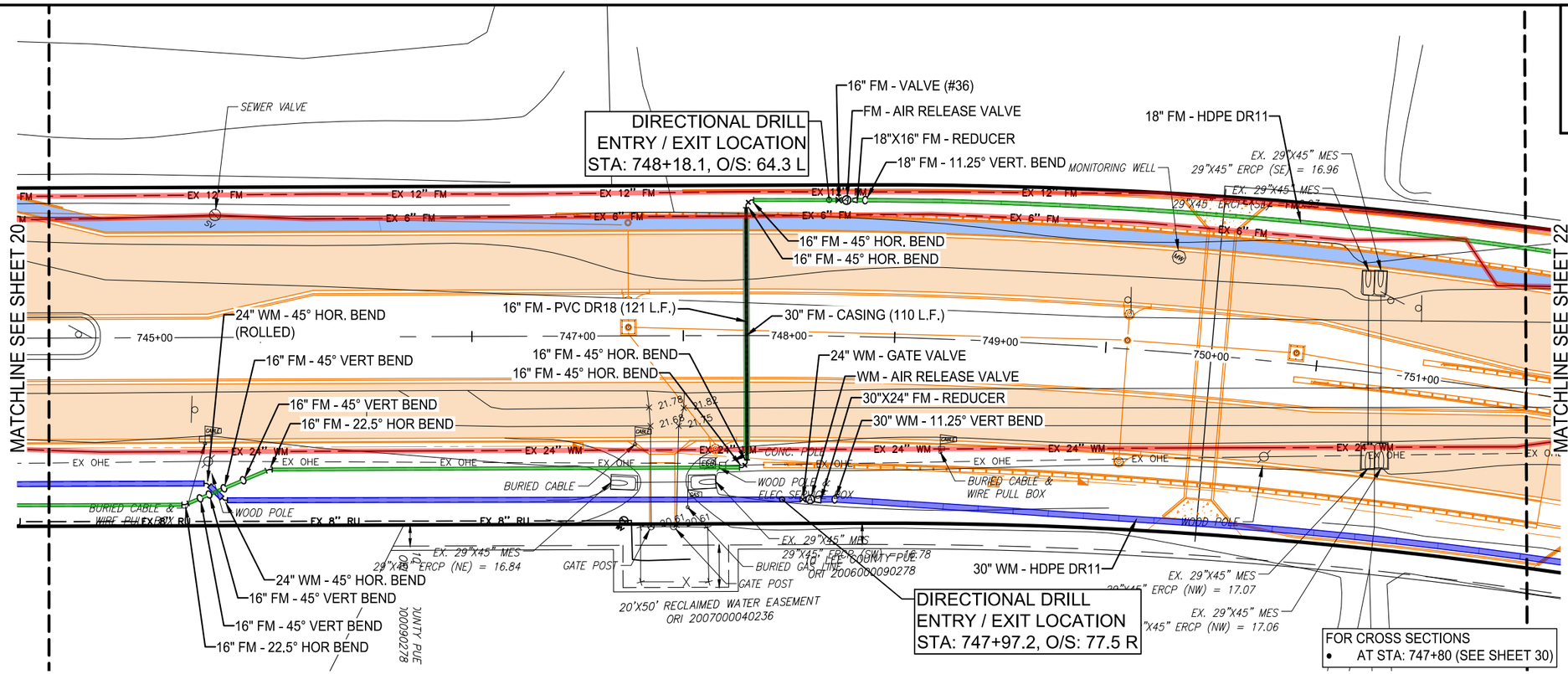
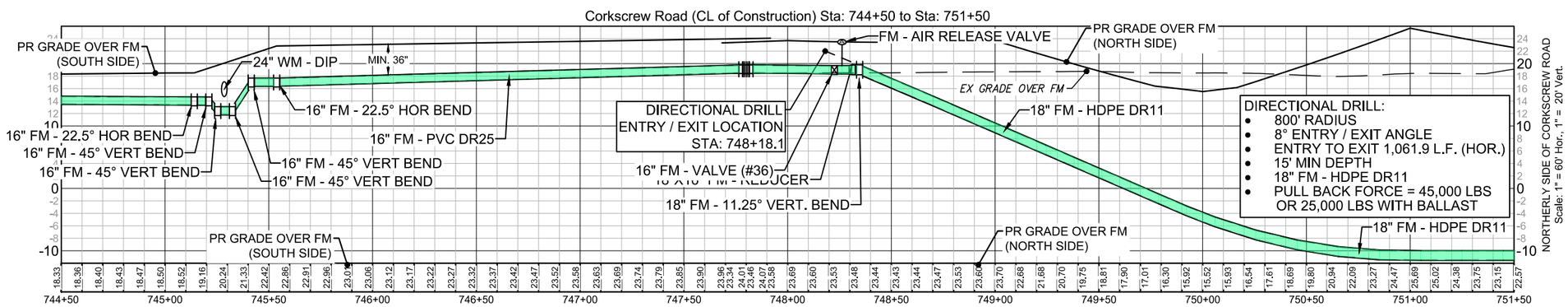
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

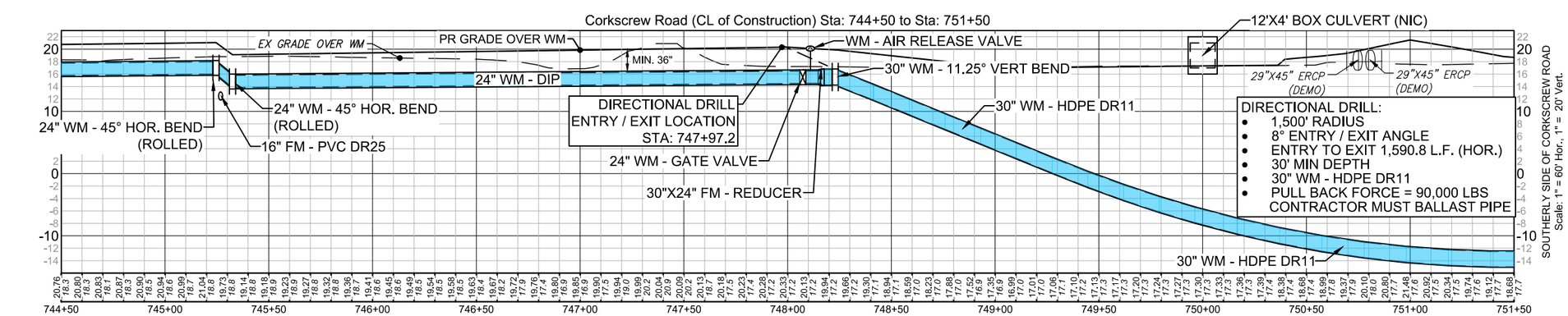
Sta 737+50 to 744+50

SHEET NUMBER

20







\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (21) MNT Dec 03, 2020 - 7:17pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

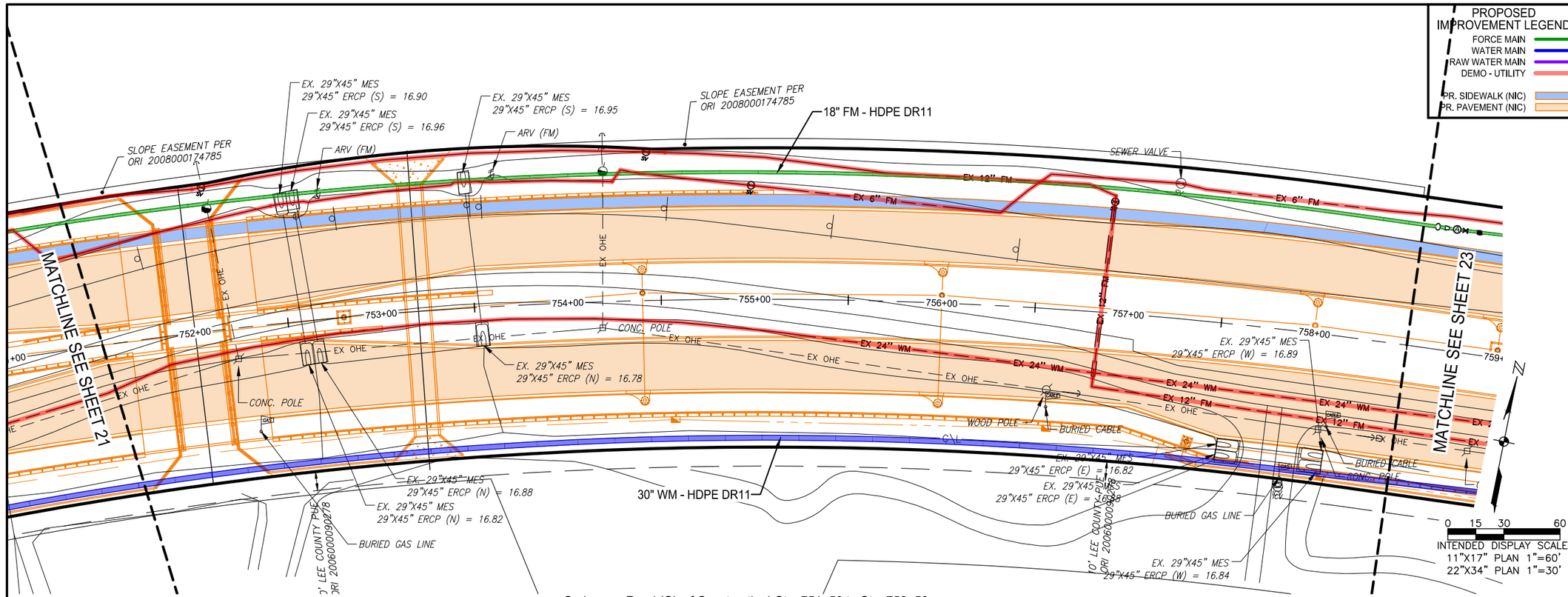
NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

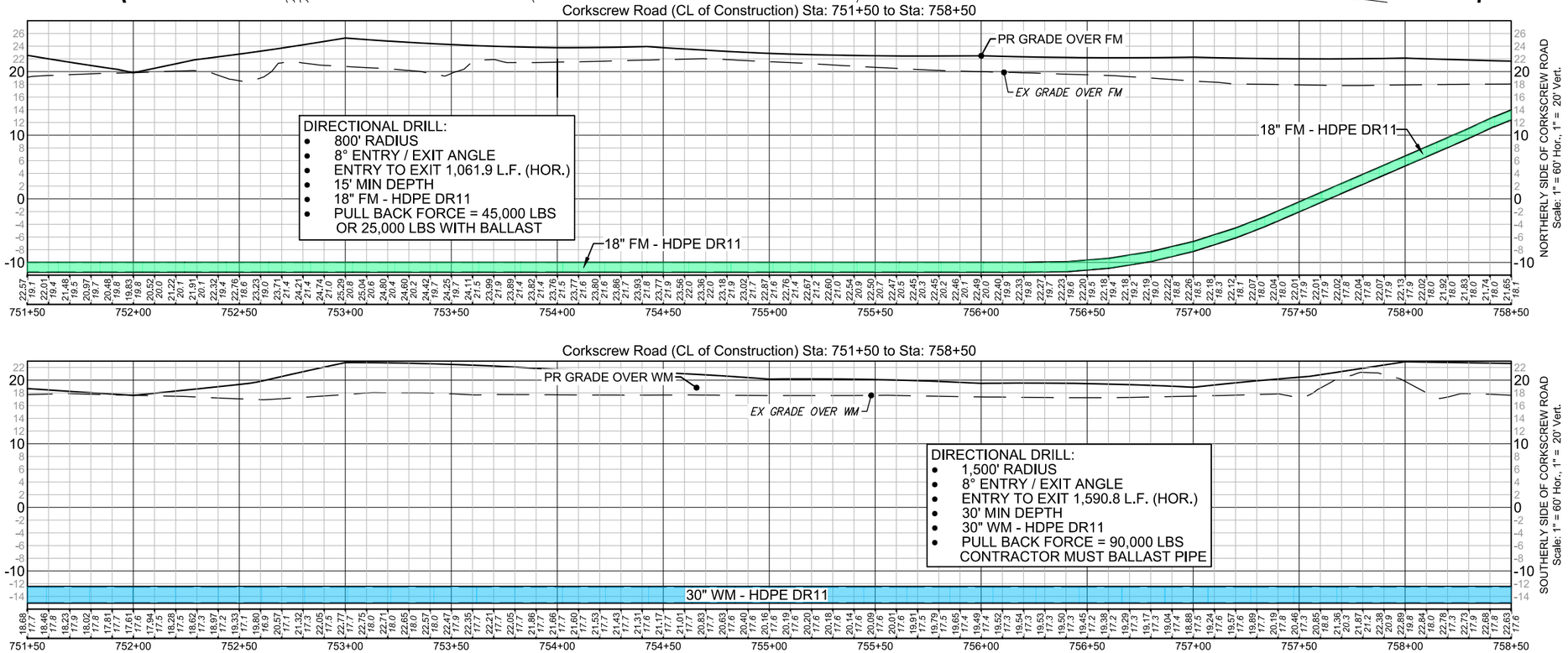
Sta 744+50 to 751+50

SHEET NUMBER

21



Corkscrew Road (CL of Construction) Sta: 751+50 to Sta: 758+50



Corkscrew Road (CL of Construction) Sta: 751+50 to Sta: 758+50

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (22) MNT Dec 03, 2020 - 7:19pm

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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(Phase 1)
LEE COUNTY, FLORIDA

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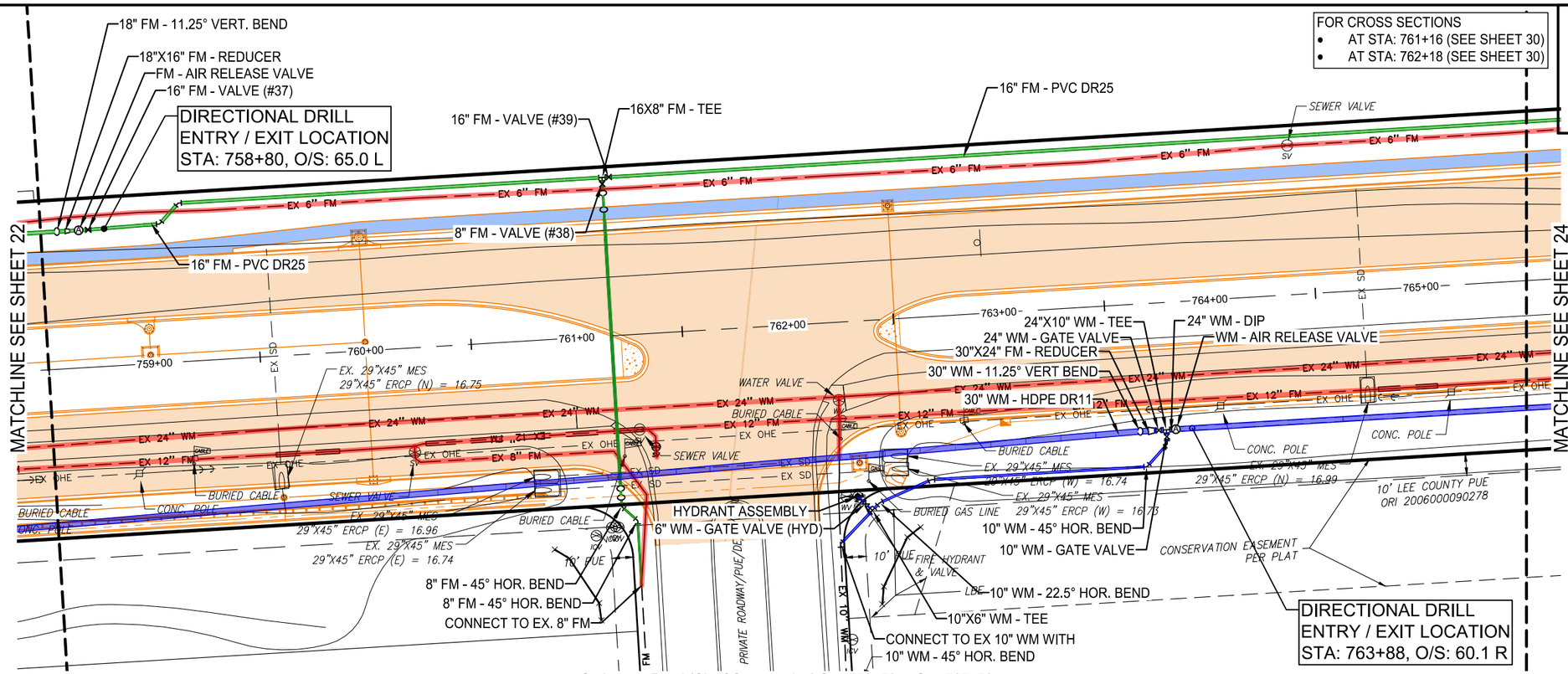
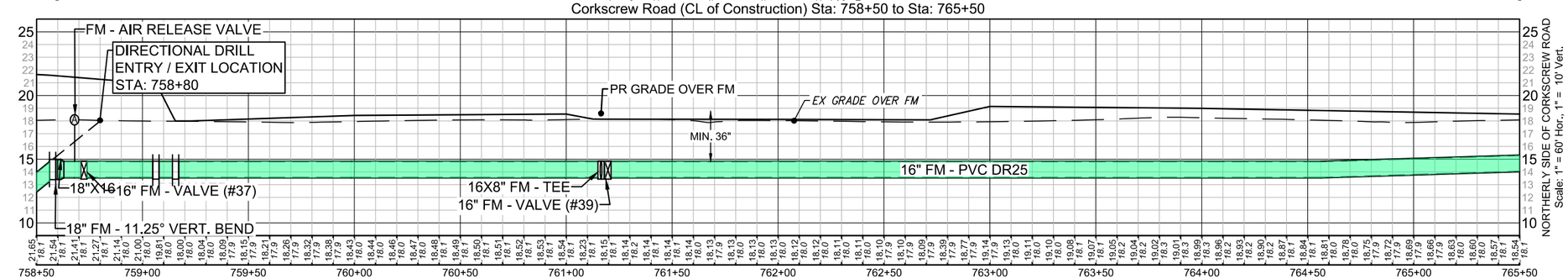
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

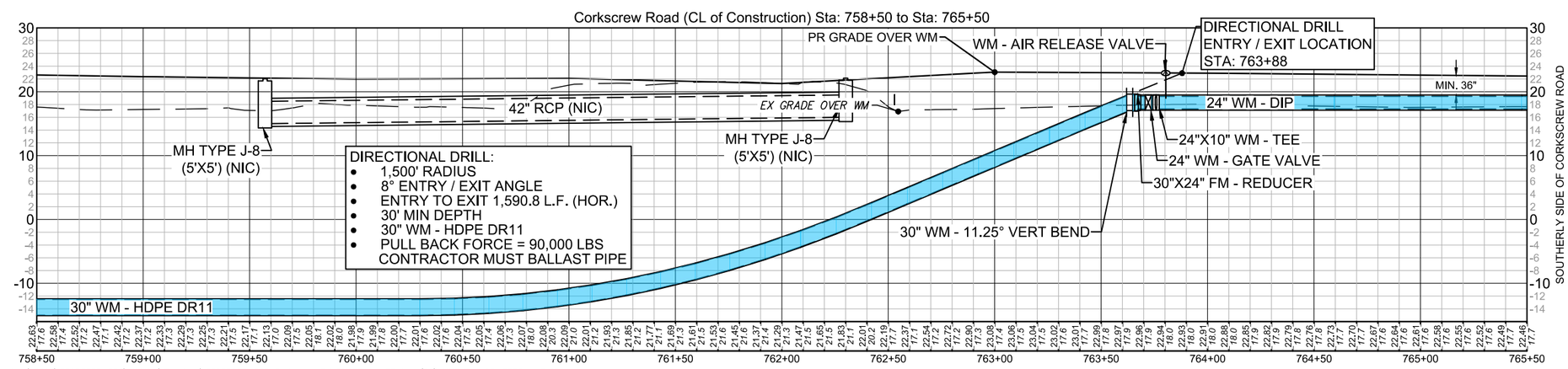
Sta 751+50 to 758+50

SHEET NUMBER

22







\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (23) MNT Dec 03, 2020 - 7:20pm

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

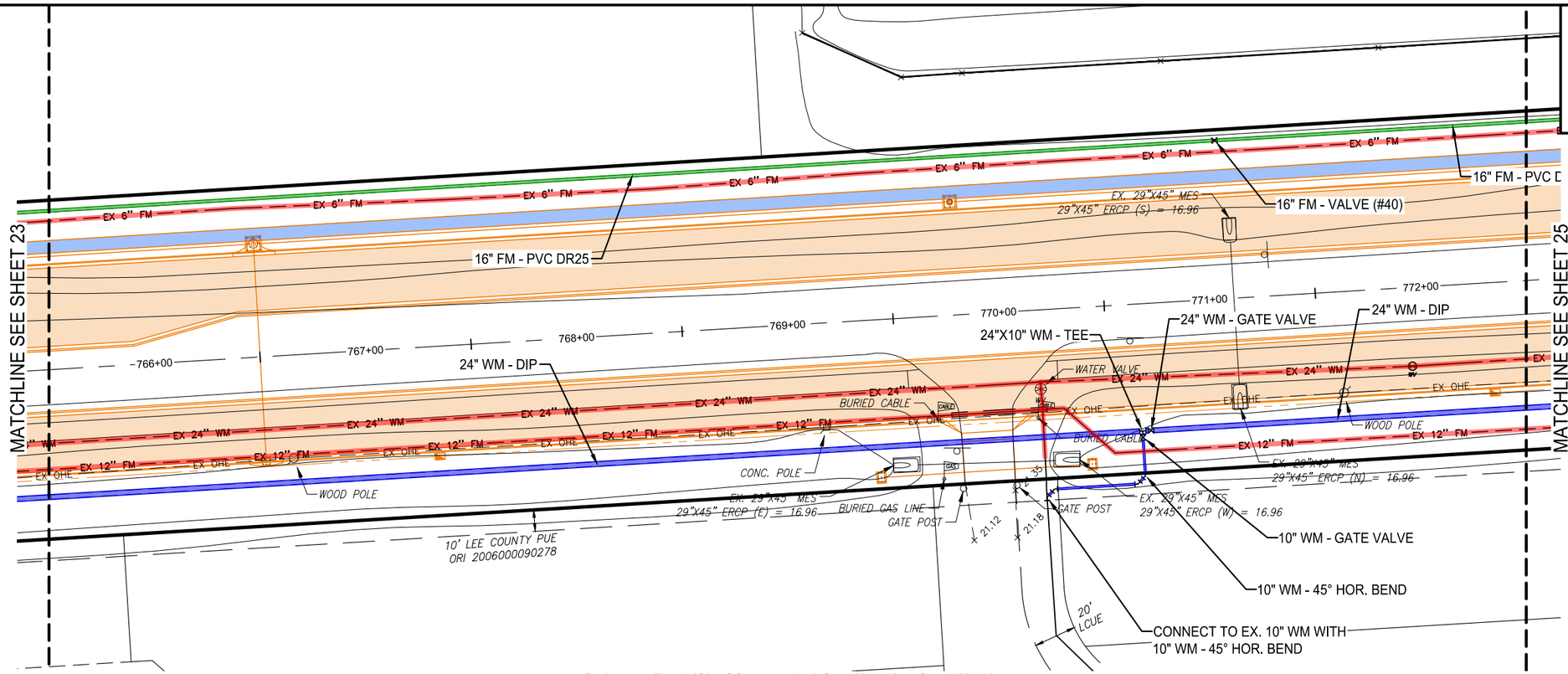
NO.	DESCRIPTION	DATE

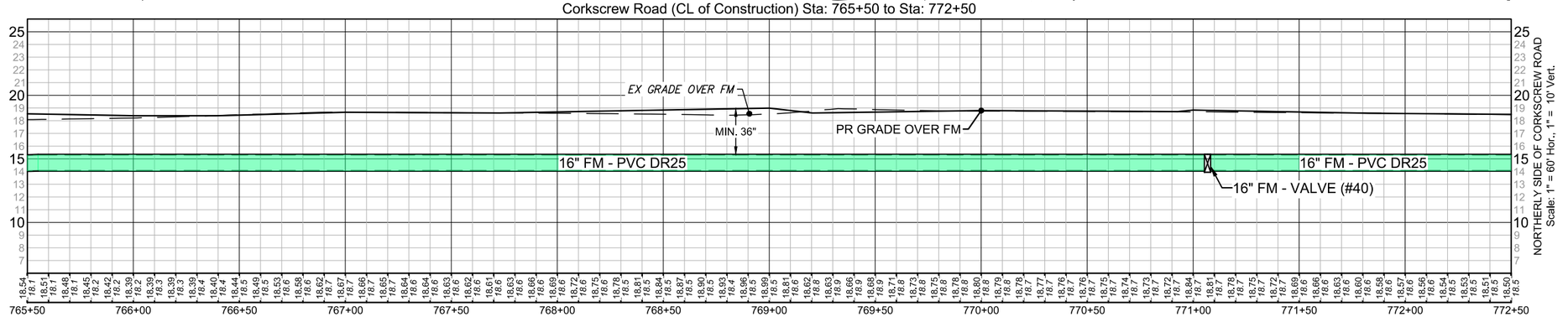
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

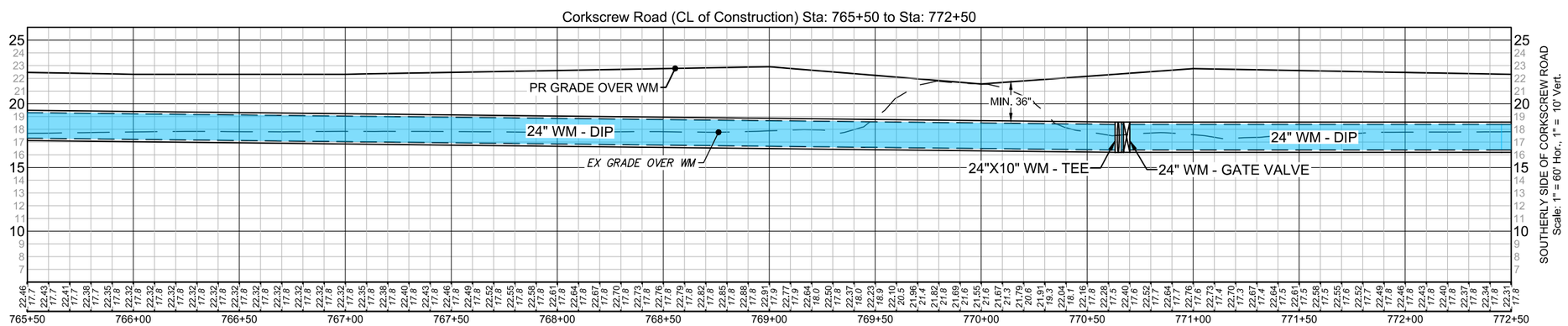
Sta 758+50 to 765+50

SHEET NUMBER

23







\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (24) MNT Dec 03, 2020 - 7:22pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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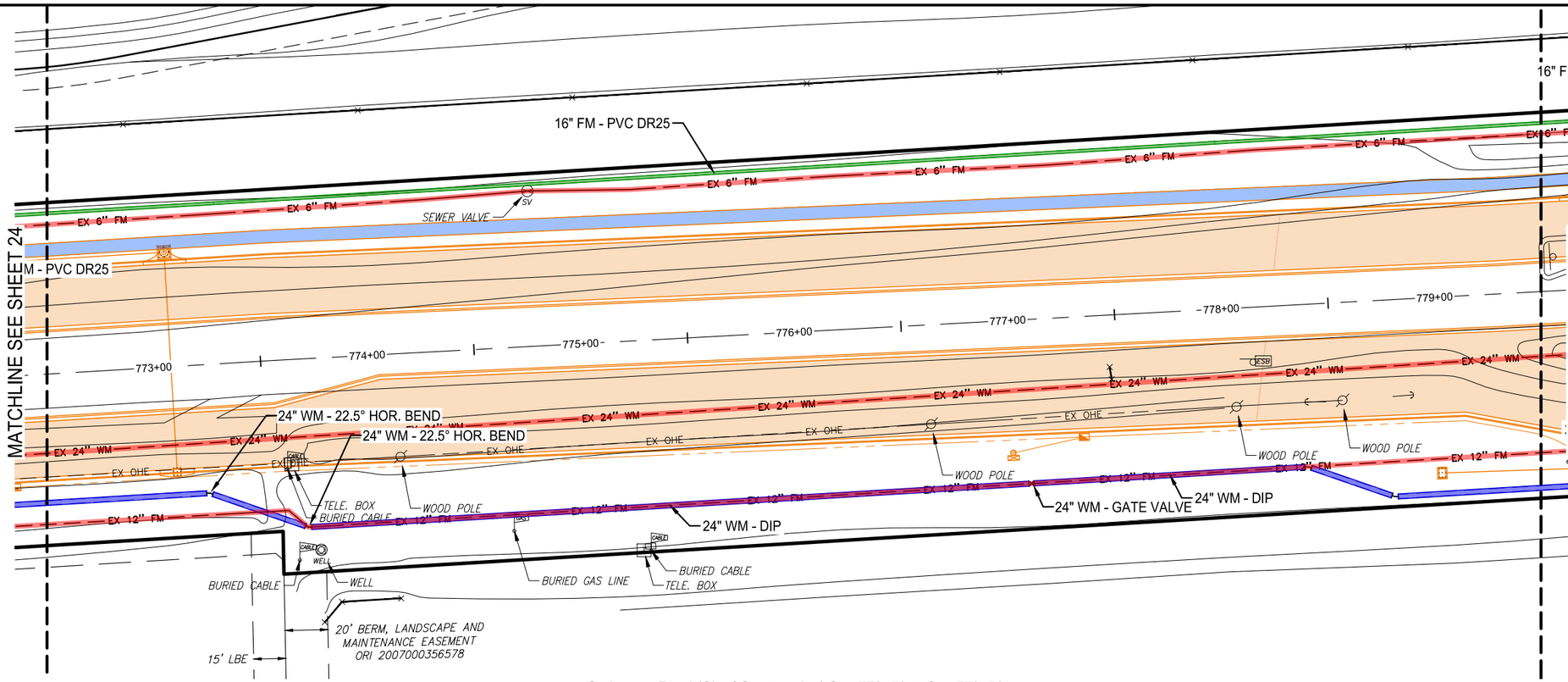
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 765+50 to 772+50

SHEET NUMBER

24



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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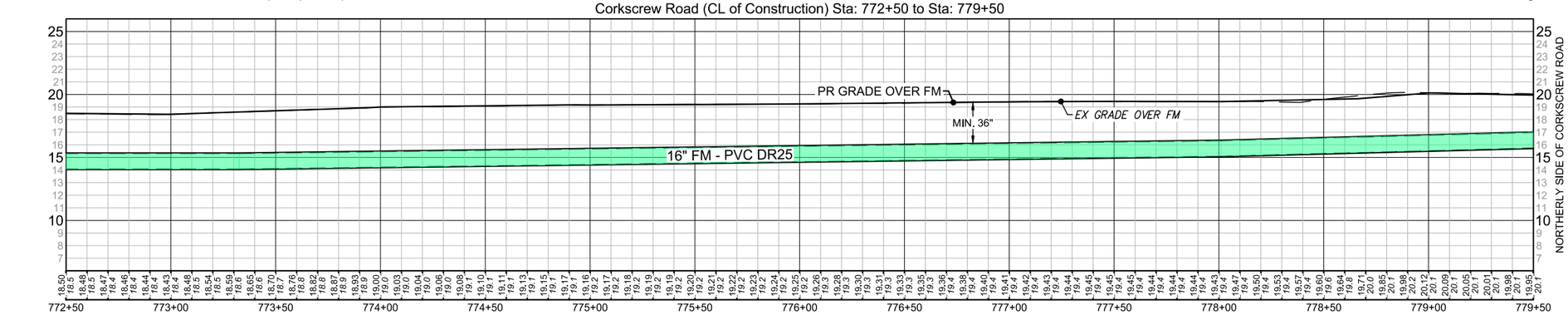
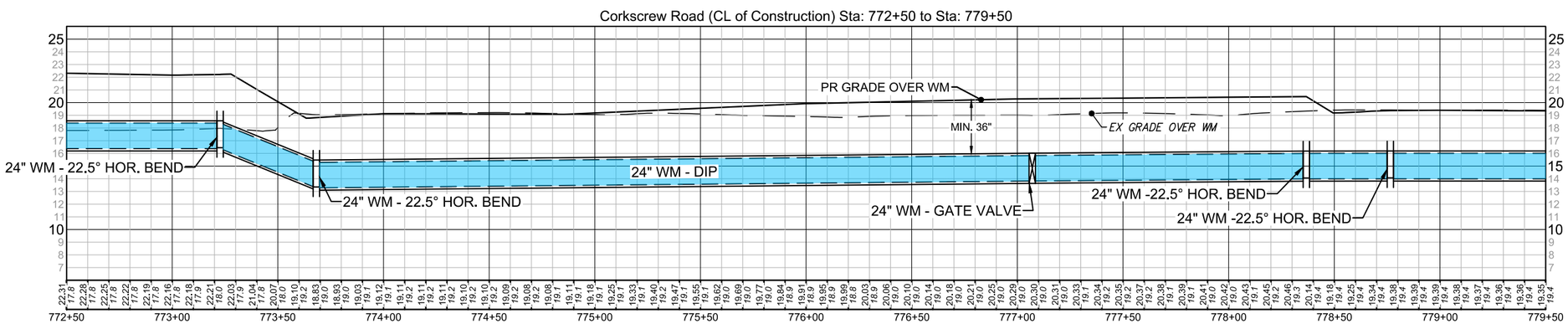
(Phase 1)
LEE COUNTY, FLORIDA





REVISIONS

NO.	DESCRIPTION	DATE

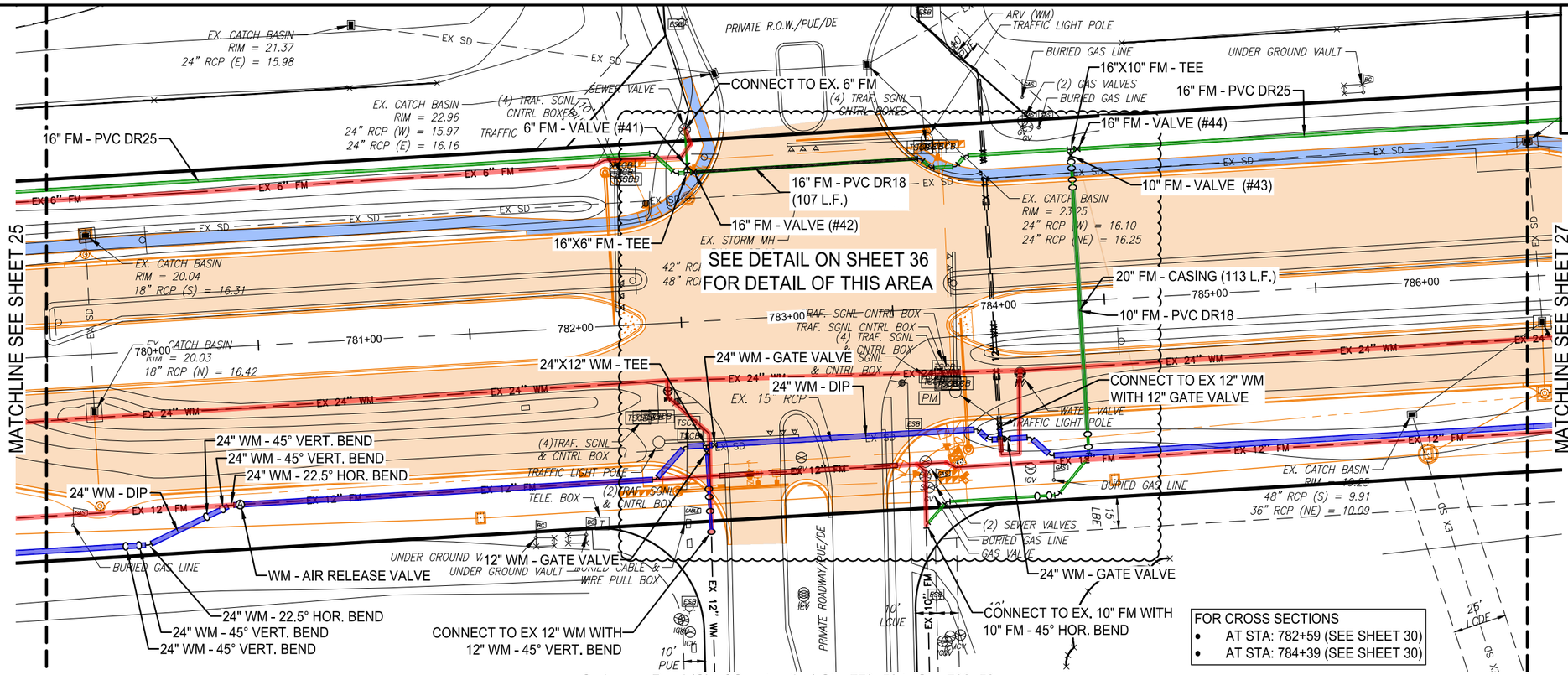
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 772+50 to 779+50

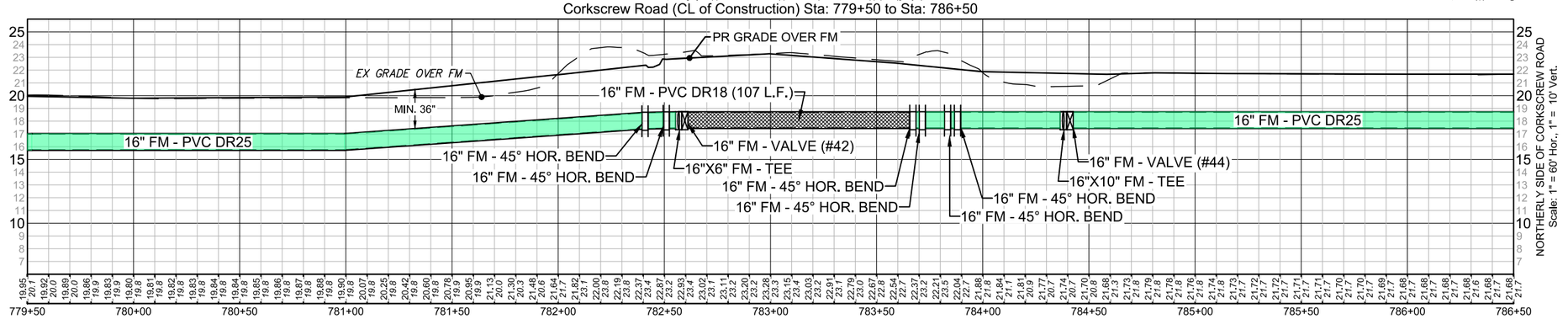
SHEET NUMBER

25

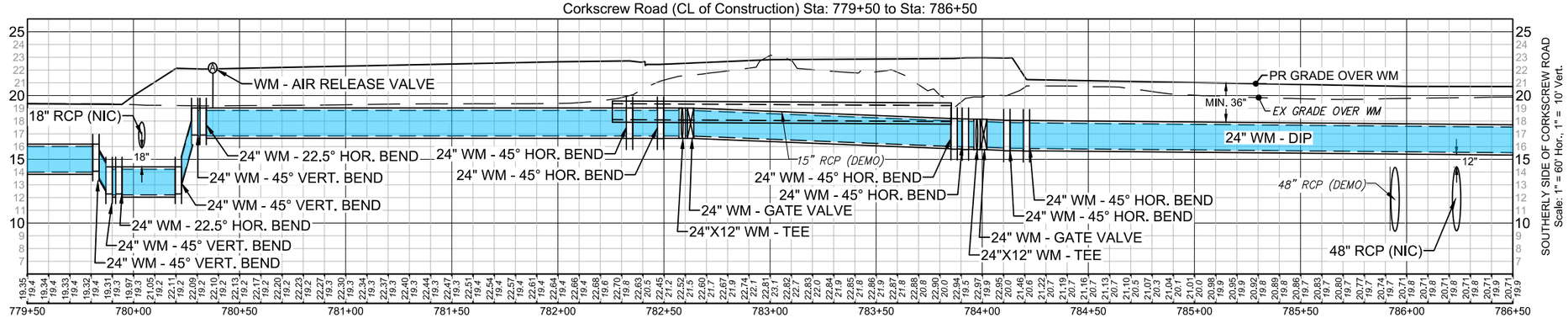
\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (25) MNT Dec 03, 2020 - 7:23pm



Corkscrew Road (CL of Construction) Sta: 779+50 to Sta: 786+50



Corkscrew Road (CL of Construction) Sta: 779+50 to Sta: 786+50



\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (26) MNT Dec 03, 2020 - 7:24pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

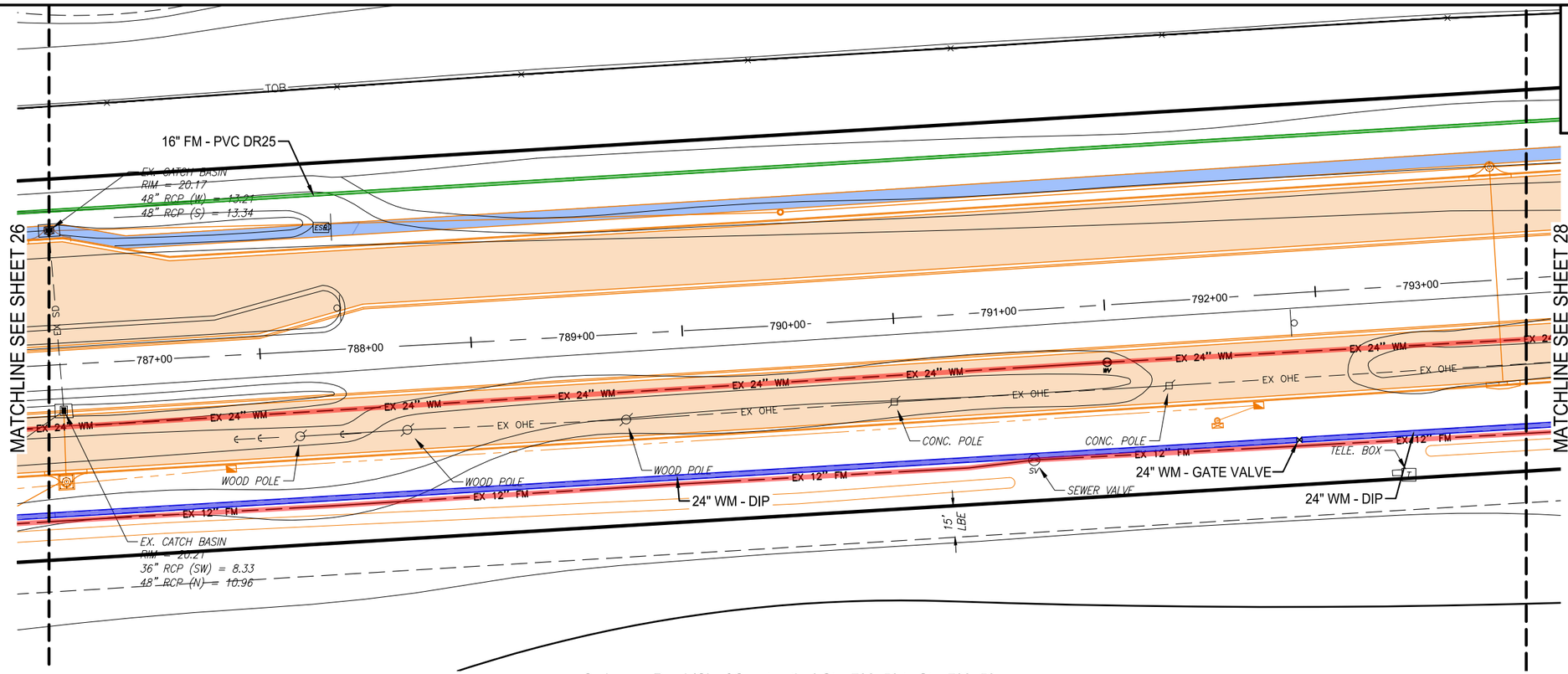
NO.	DESCRIPTION	DATE

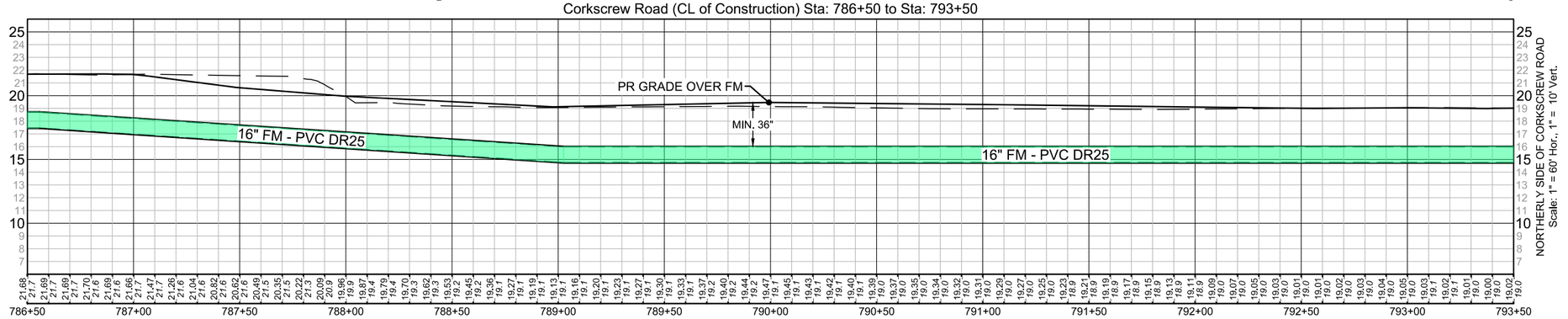
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

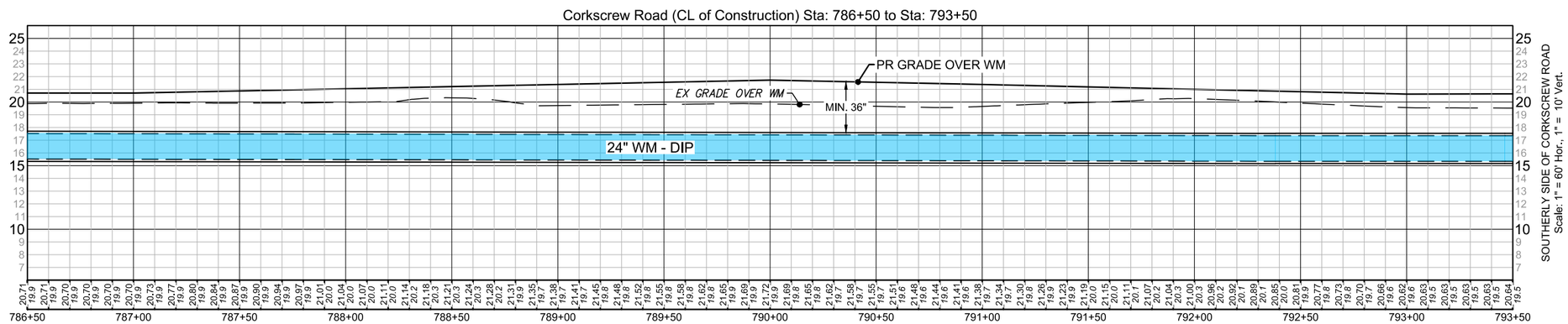
Sta 779+50 to 786+50

SHEET NUMBER

26







\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (27) MNT Dec 03, 2020 - 7:26pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

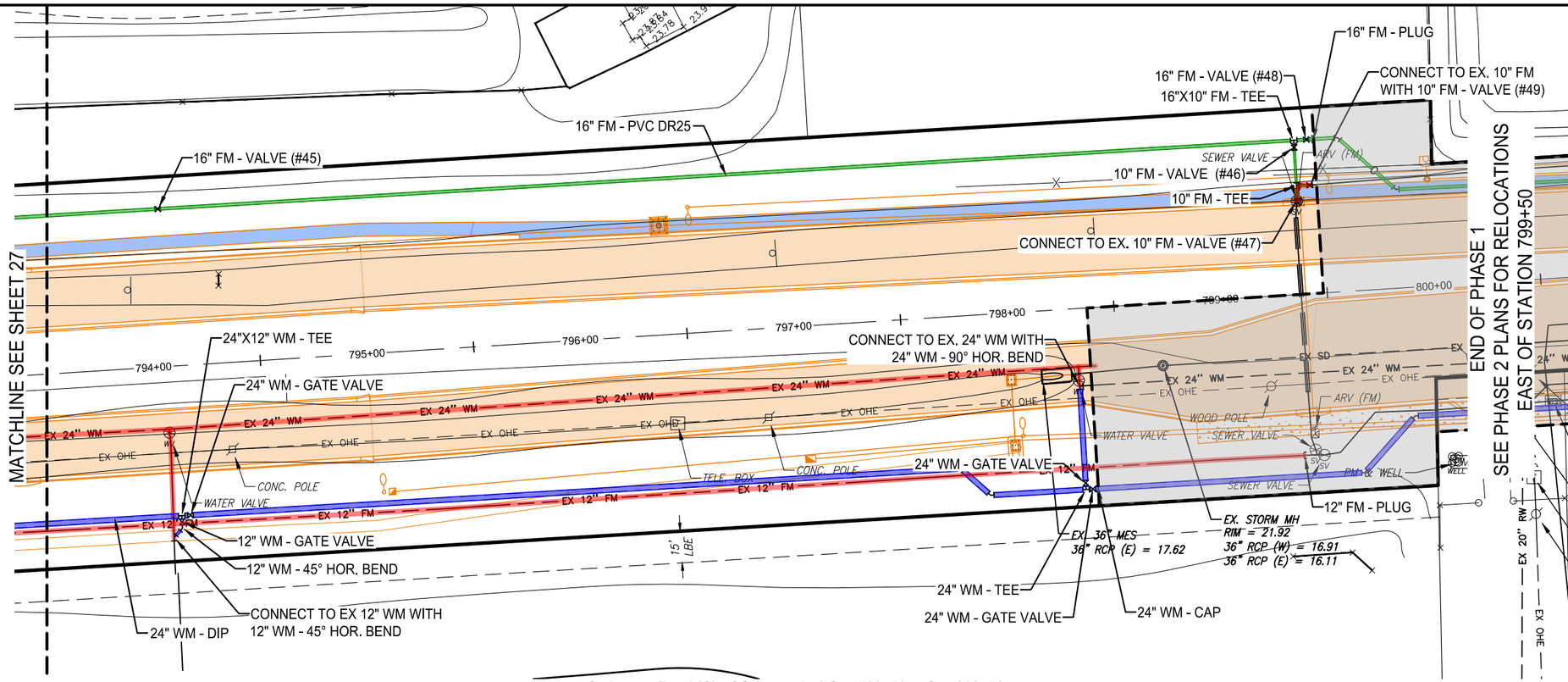
NO.	DESCRIPTION	DATE

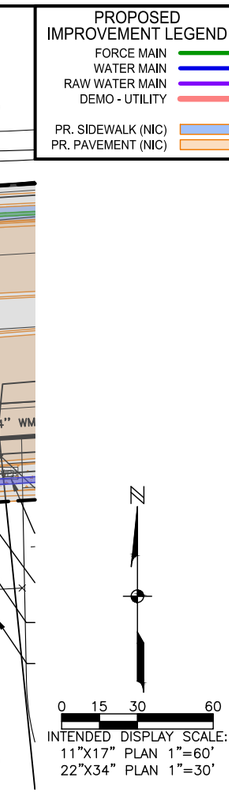
DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Sta 786+50 to 793+50

SHEET NUMBER

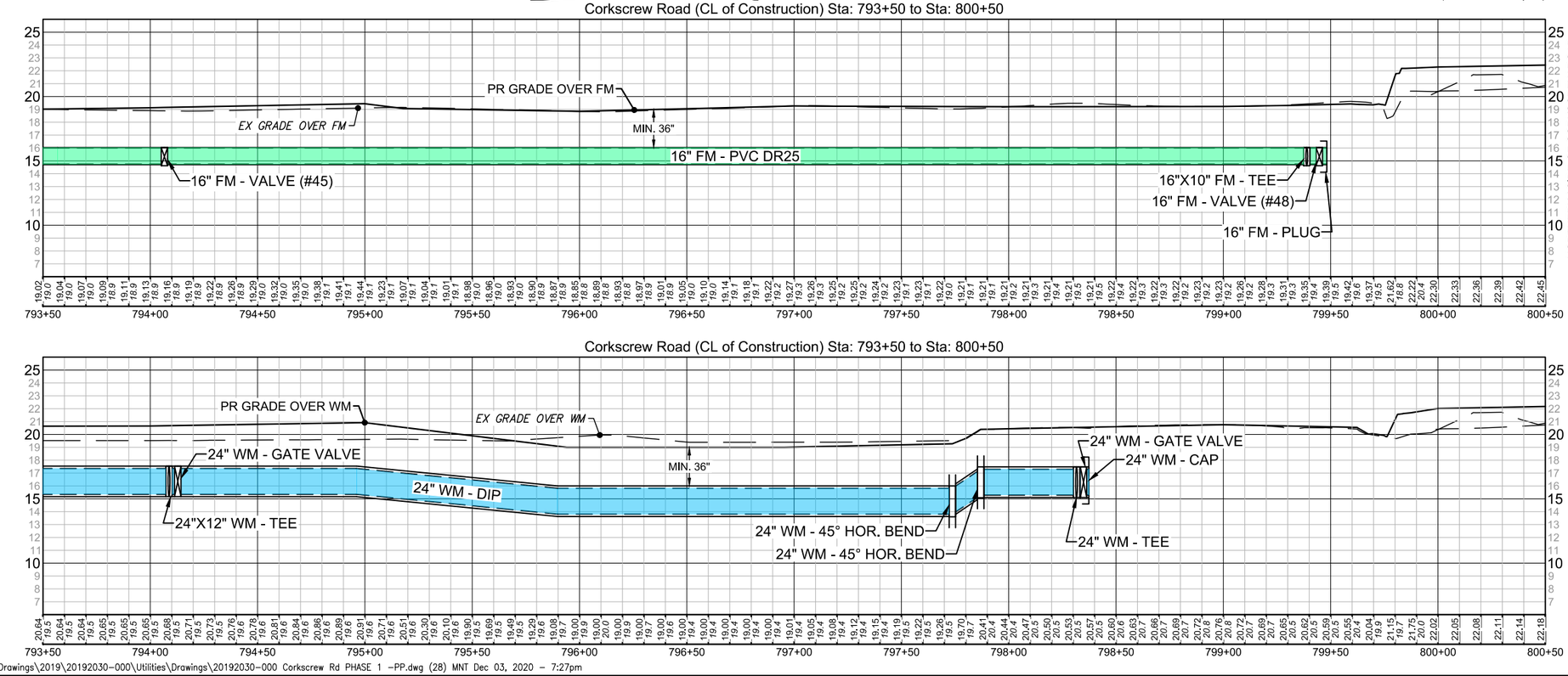
27





PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)



\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (28) MNT Dec 03, 2020 - 7:27pm

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2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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REVISIONS

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DATE:	December 4, 2020
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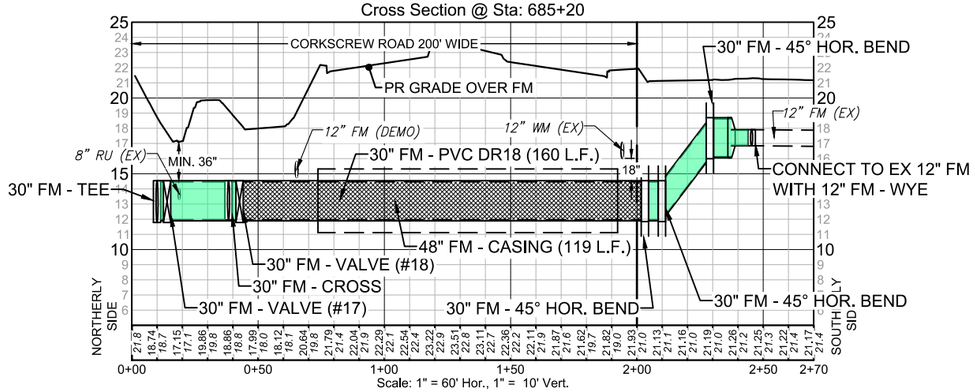
FILE NO.	25-46-25
SCALE:	As Shown

Sta 793+50 to 800+50

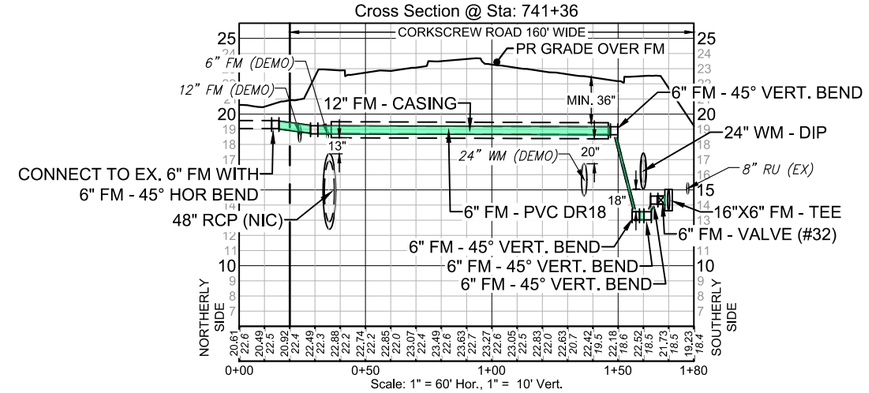
SHEET NUMBER

28

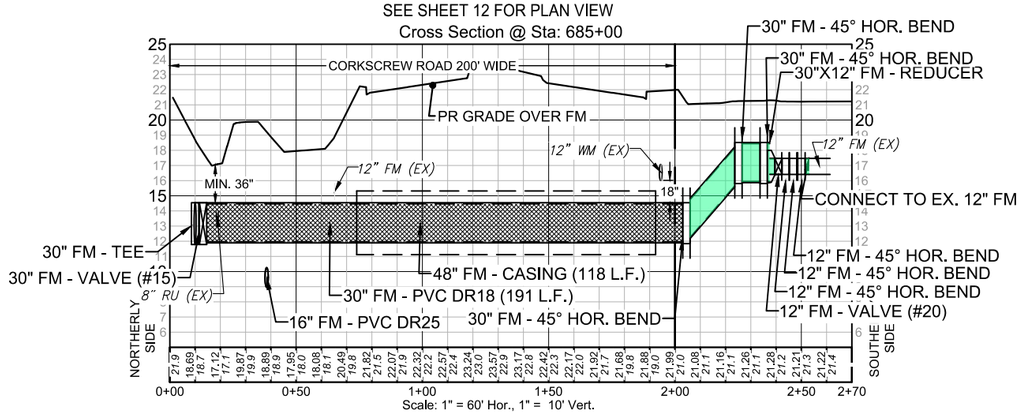
SEE SHEET 12 FOR PLAN VIEW
Cross Section @ Sta: 685+20



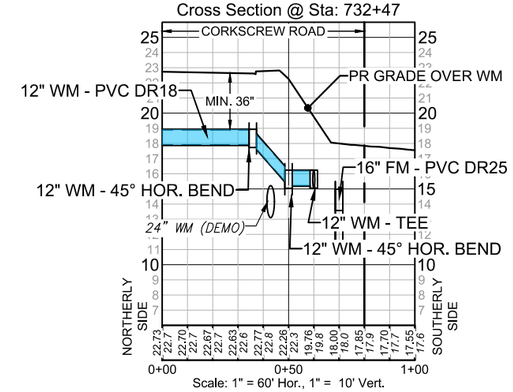
SEE SHEET 20 FOR PLAN VIEW
Cross Section @ Sta: 741+36



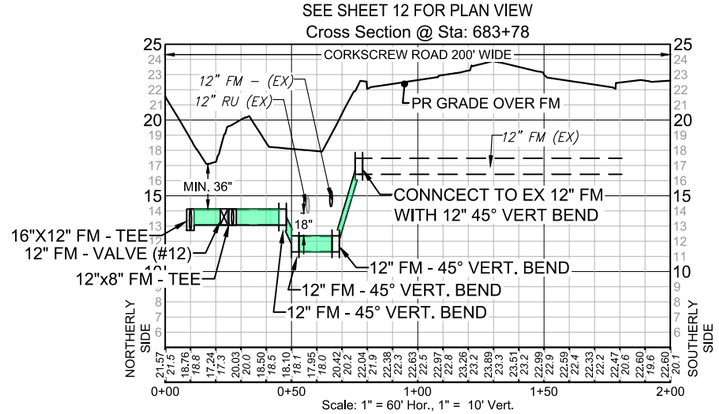
SEE SHEET 12 FOR PLAN VIEW
Cross Section @ Sta: 685+00



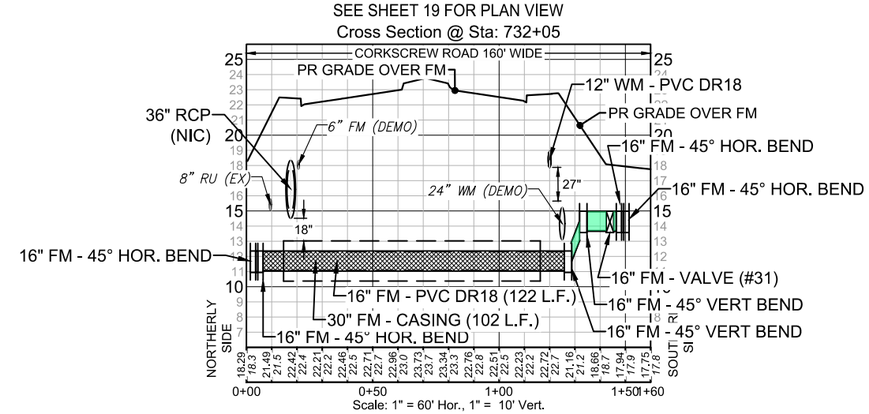
SEE SHEET 19 FOR PLAN VIEW
Cross Section @ Sta: 732+47



SEE SHEET 12 FOR PLAN VIEW
Cross Section @ Sta: 683+78



SEE SHEET 19 FOR PLAN VIEW
Cross Section @ Sta: 732+05



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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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FL License No. 69783

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Corkscrew Utilities Relocation (Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

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FILE NO.	25-46-25
SCALE:	As Shown

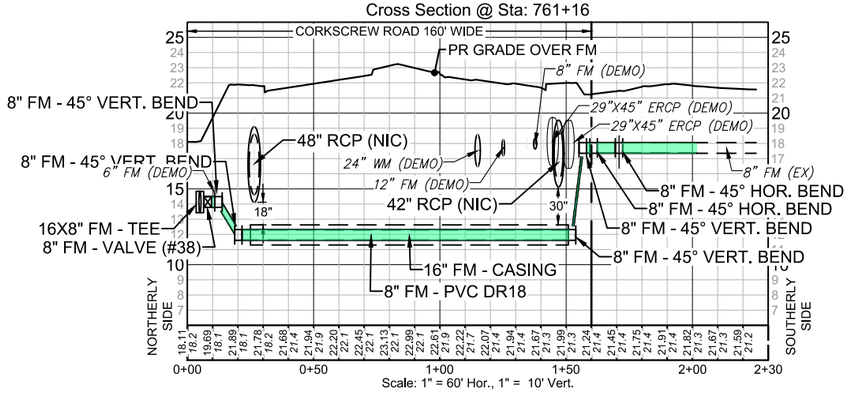
Cross Sections 1 of 3

SHEET NUMBER

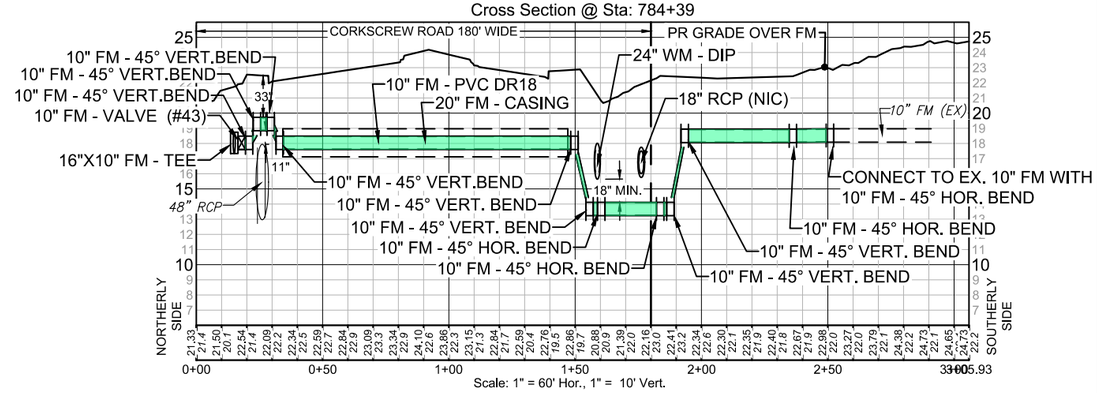
29

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (29) MNT Dec 03, 2020 - 7:28pm

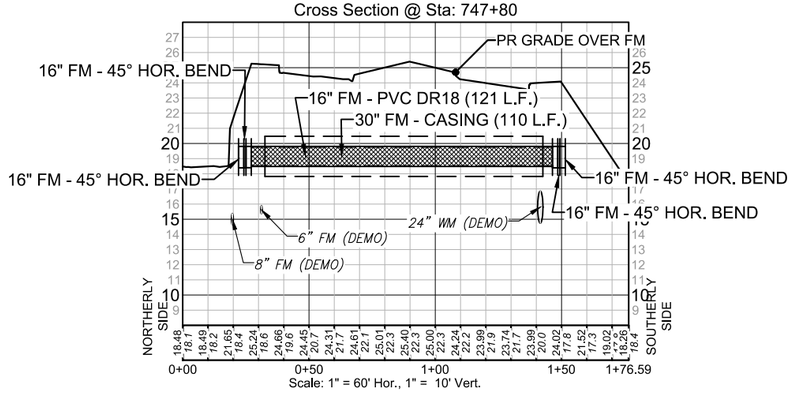
SEE SHEET 23 FOR PLAN VIEW
Cross Section @ Sta: 761+16



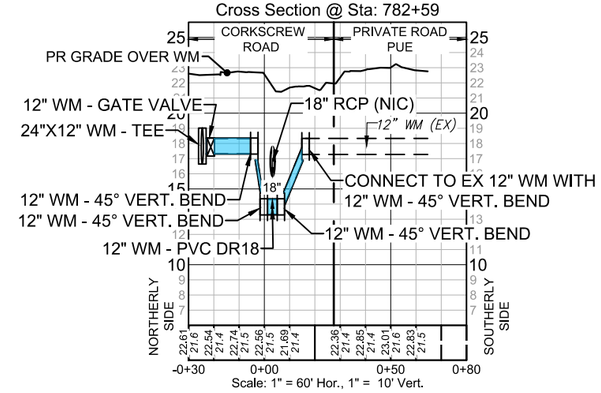
SEE SHEET 26 FOR PLAN VIEW
Cross Section @ Sta: 784+39



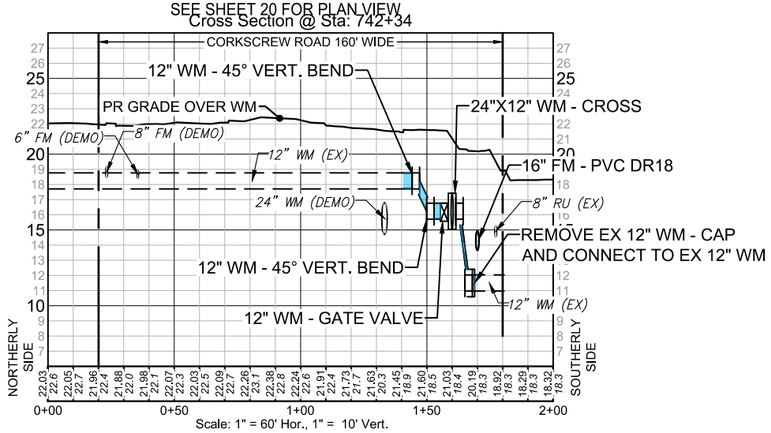
SEE SHEET 21 FOR PLAN VIEW
Cross Section @ Sta: 747+80



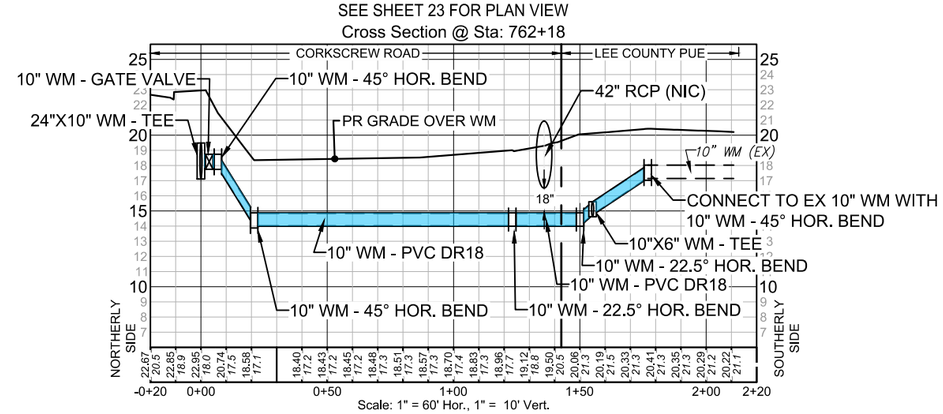
SEE SHEET 26 FOR PLAN VIEW
Cross Section @ Sta: 782+59



SEE SHEET 20 FOR PLAN VIEW
Cross Section @ Sta: 742+34



SEE SHEET 23 FOR PLAN VIEW
Cross Section @ Sta: 762+18



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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

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Corkscrew Utilities Relocation (Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
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FILE NO.	25-46-25
SCALE:	As Shown

Cross Sections 2 of 3

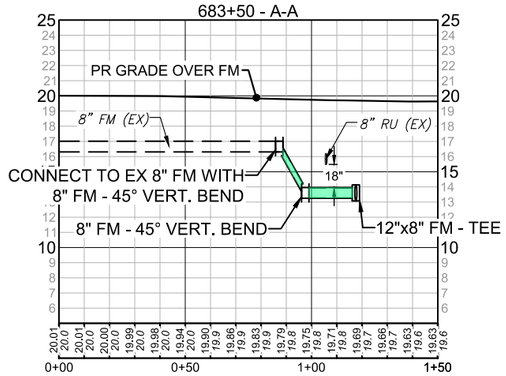
SHEET NUMBER

30

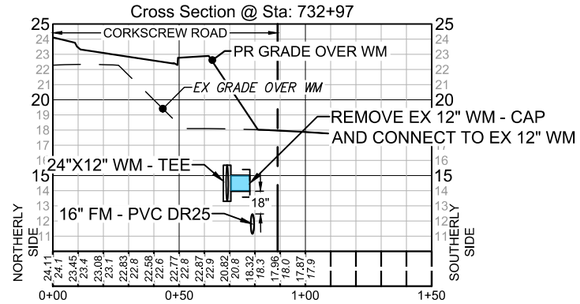
\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (30) MNT Dec 03, 2020 - 7:28pm

SEE SHEET 12 & 31 FOR PLAN VIEW

683+50 - A-A



Cross Section @ Sta: 732+97



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LEE COUNTY, FLORIDA

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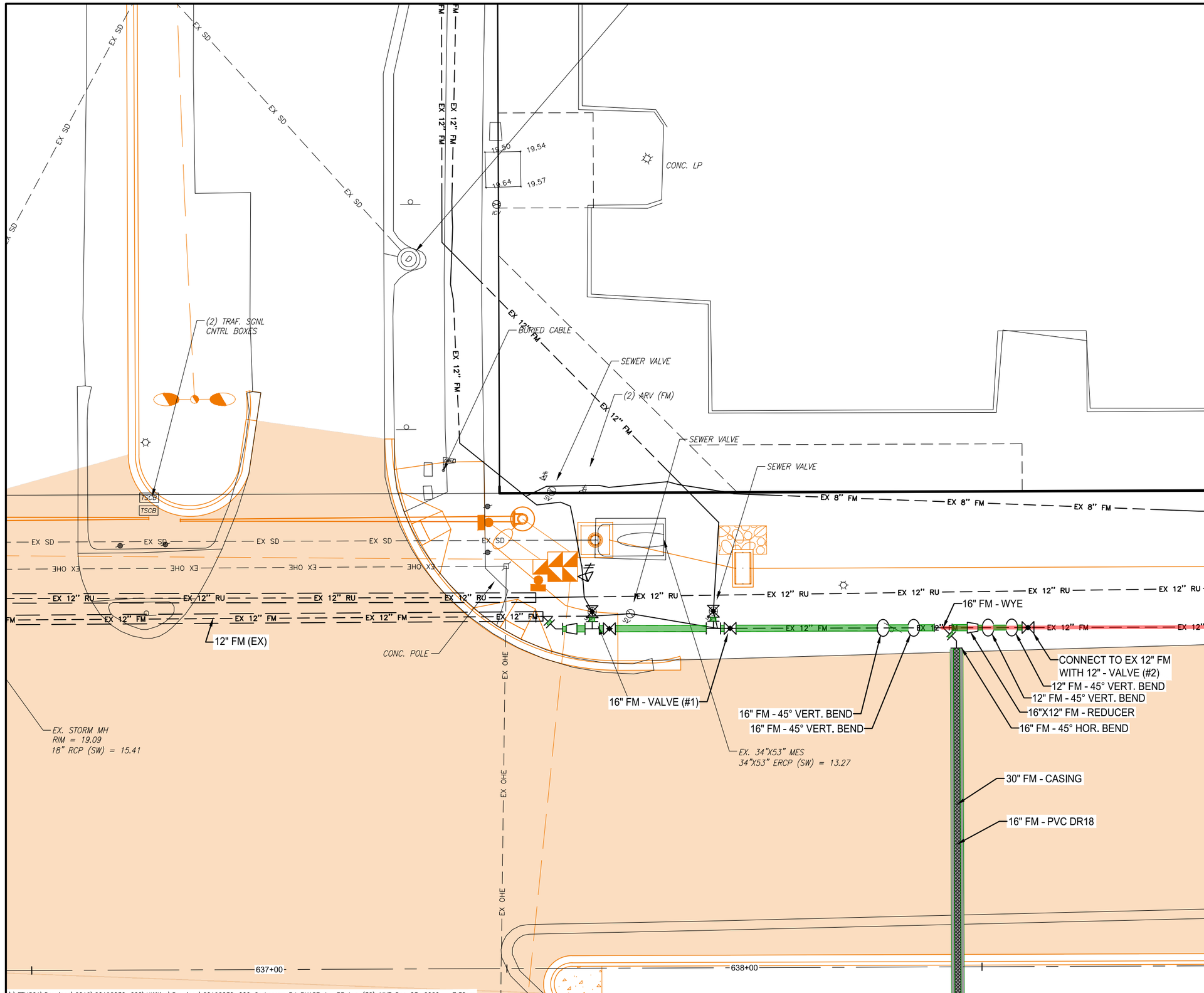
FILE NO.	25-46-25
SCALE:	As Shown

Cross Sections 3 of 3

SHEET NUMBER

31



\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (32) MNT Dec 03, 2020 - 7:30pm

PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

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FL License No. 69783

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Corkscrew Utilities Relocation (Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

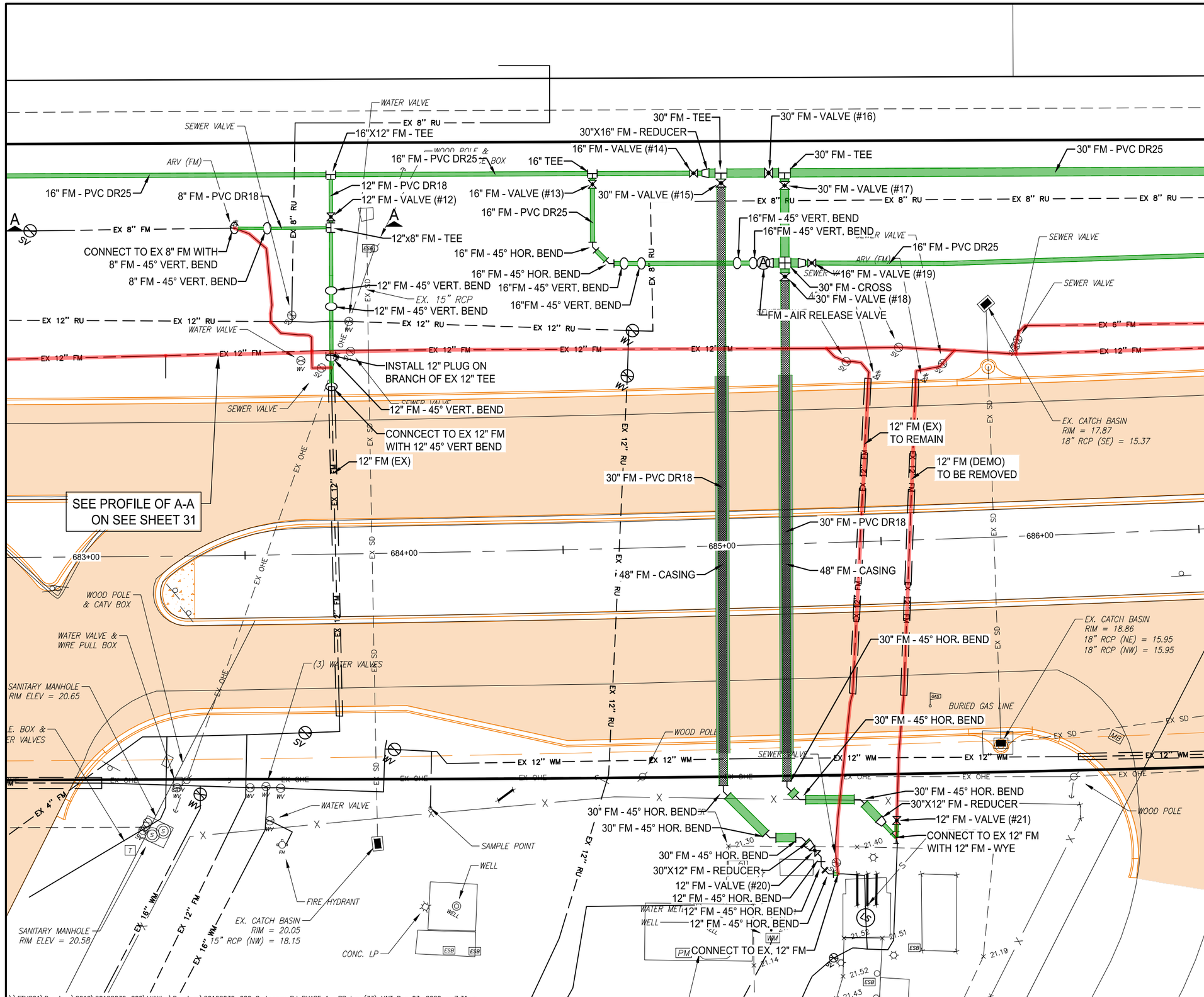
NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Plan Detail 1 of 5

SHEET NUMBER

32



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

0 7.5 15 30

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=30'
22"X34" PLAN 1"=15'

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
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LEE COUNTY, FLORIDA

REVISIONS

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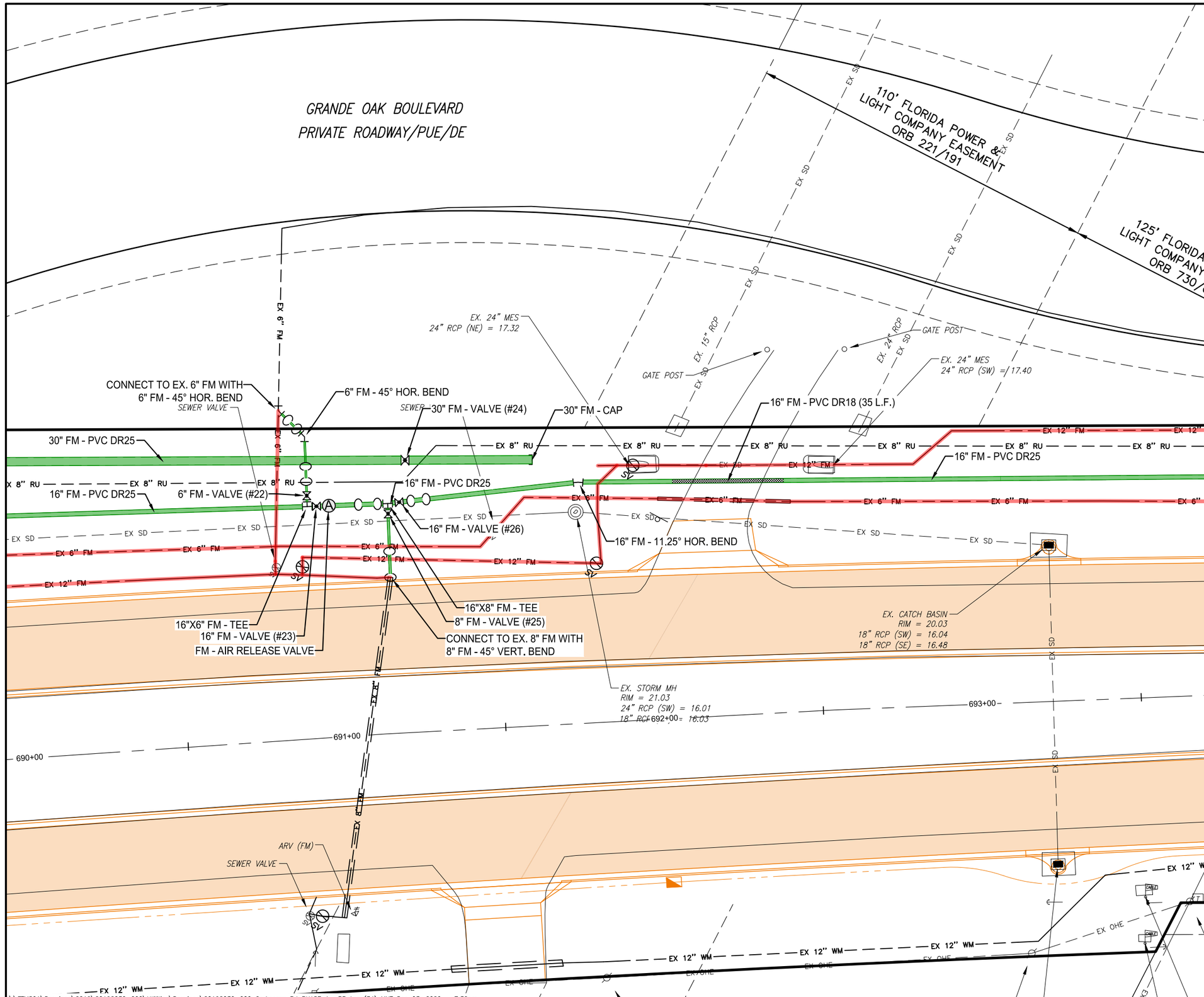
FILE NO.	25-46-25
SCALE:	As Shown

Plan Detail 2 of 5

SHEET NUMBER

33



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(Phase 1)
LEE COUNTY, FLORIDA

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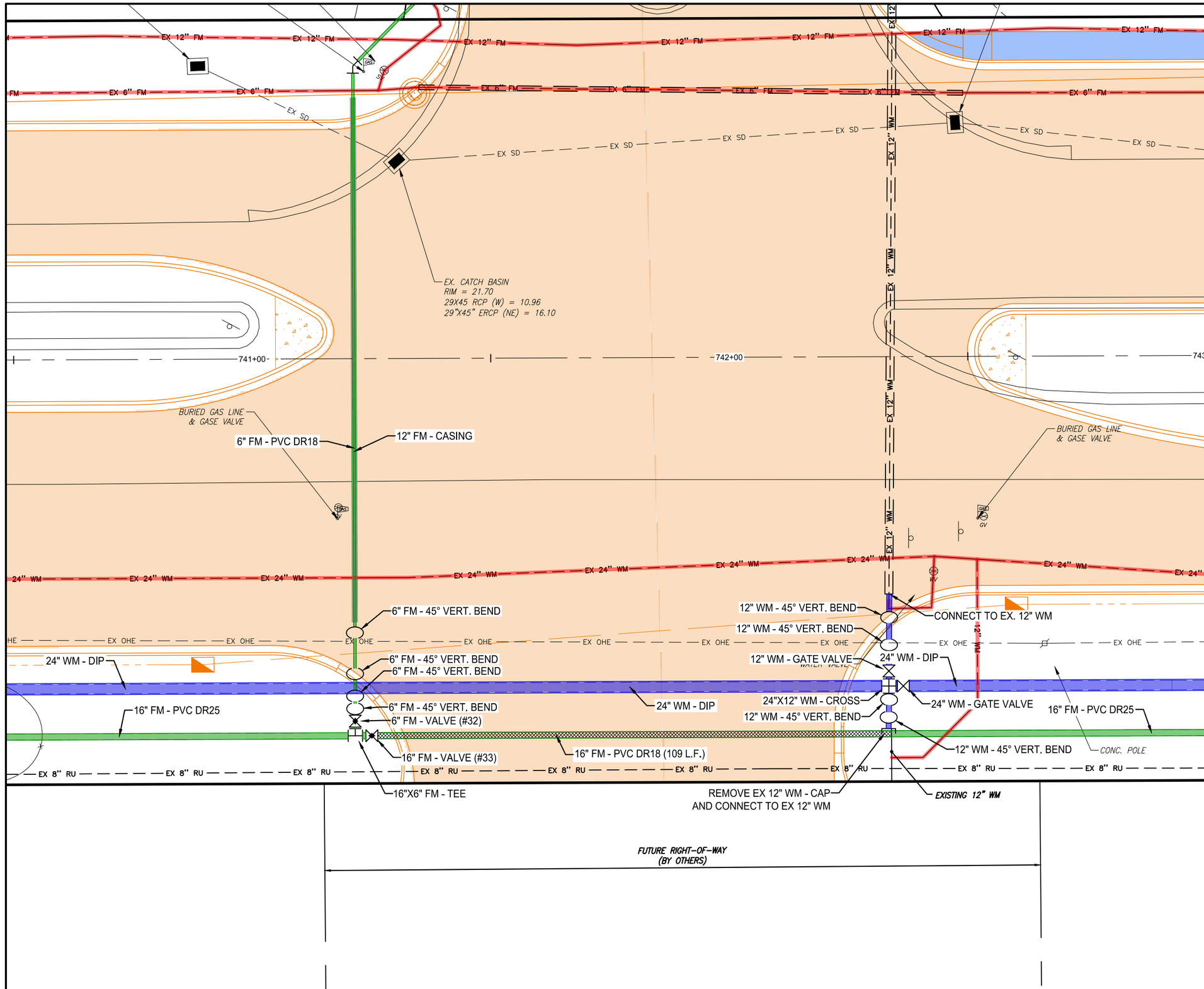
FILE NO.	25-46-25
SCALE:	As Shown

Plan Detail 3 of 5

SHEET NUMBER

34



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

0 5 10 20

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=20'
22"X34" PLAN 1"=10'

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2122 JOHNSON STREET
P.O. BOX 1550
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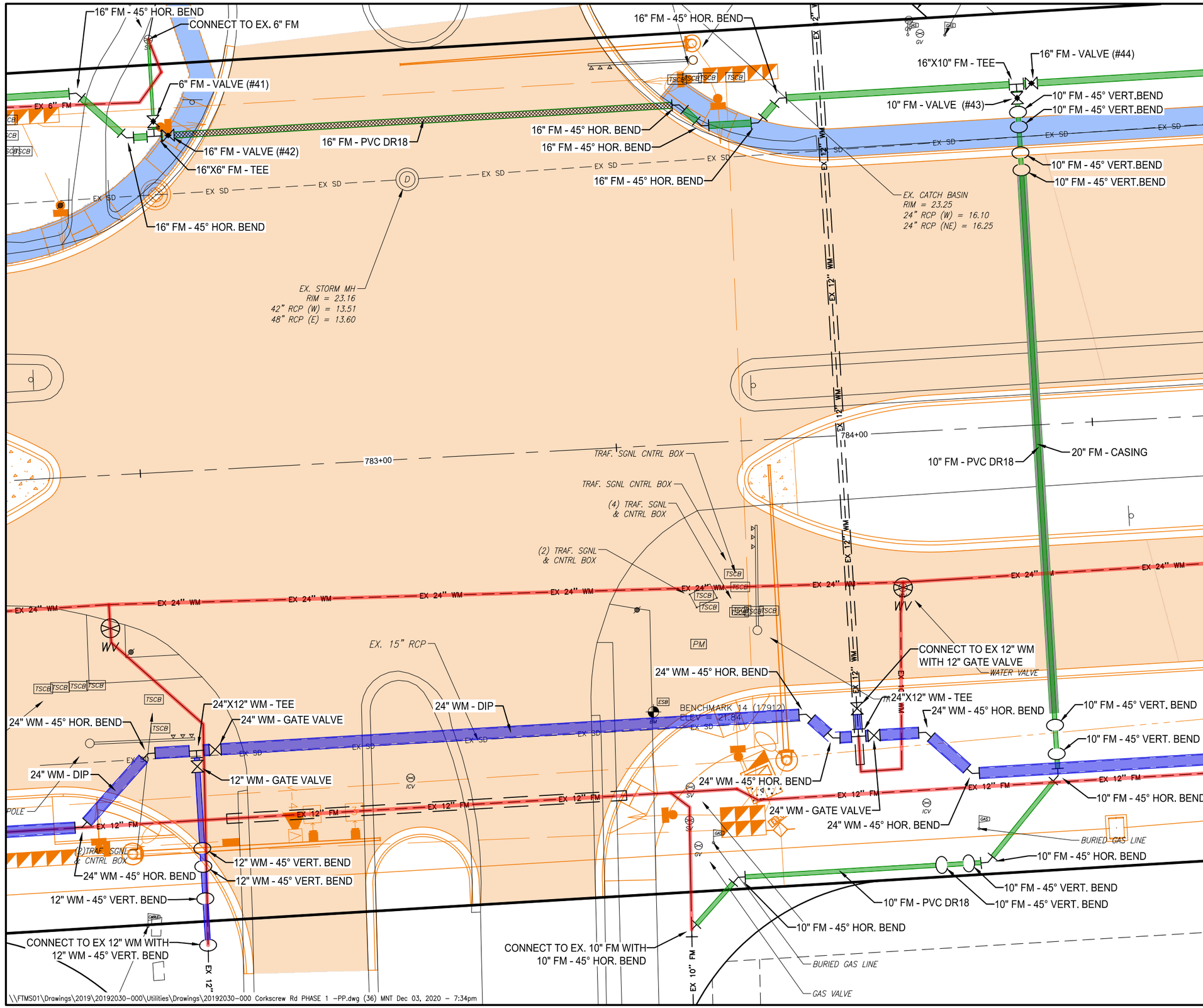
FILE NO.	25-46-25
SCALE:	As Shown

Plan Detail 4 of 5

SHEET NUMBER

35

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (35) MNT Dec 03, 2020 - 7:33pm



PROPOSED IMPROVEMENT LEGEND

- FORCE MAIN
- WATER MAIN
- RAW WATER MAIN
- DEMO - UTILITY
- PR. SIDEWALK (NIC)
- PR. PAVEMENT (NIC)

N

0 5 10 20

INTENDED DISPLAY SCALE:
11"X17" PLAN 1"=20'
22"X34" PLAN 1"=10'

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
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FORT MYERS, FLORIDA 33902-1550
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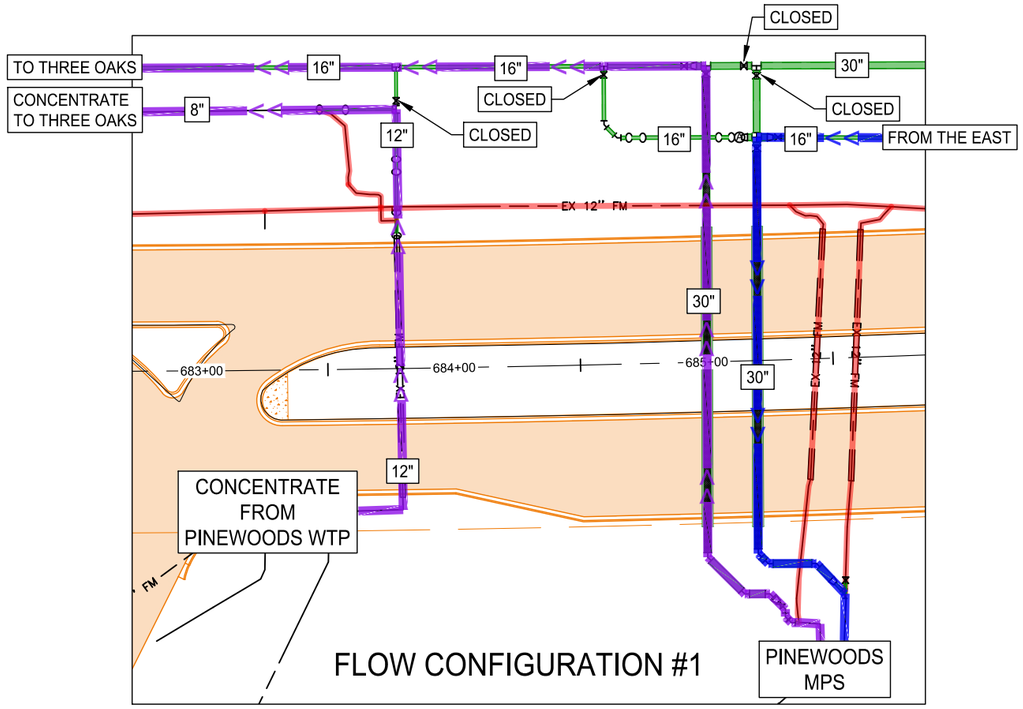
SCALE:	As Shown

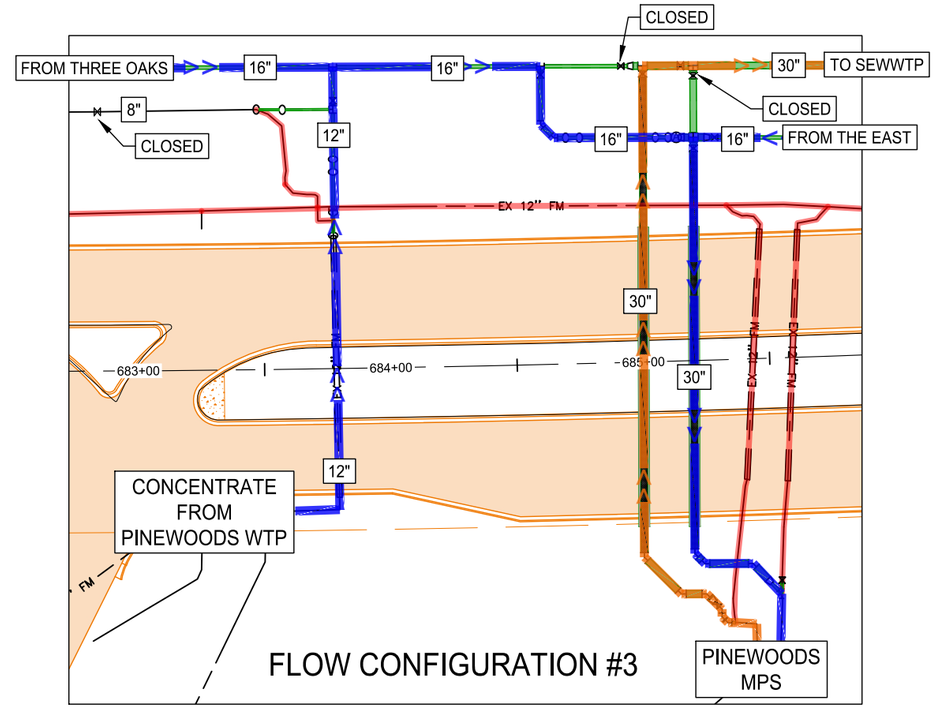
Plan Detail 5 of 5

SHEET NUMBER

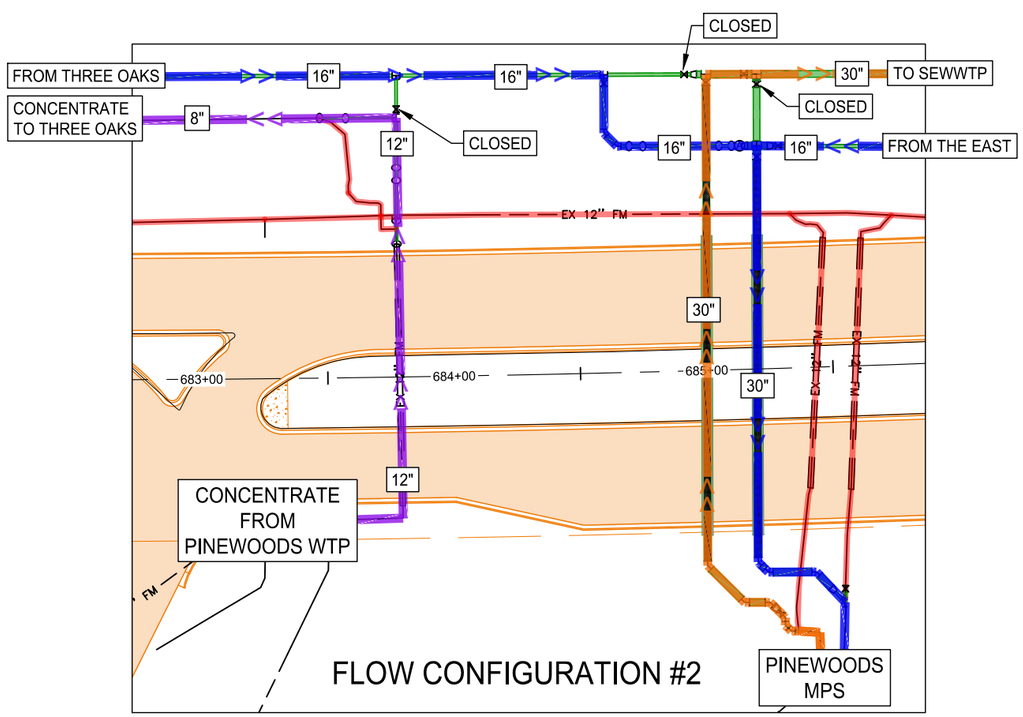
36



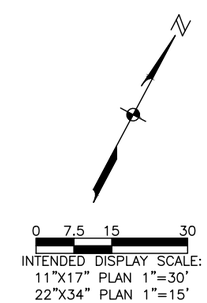
FLOW CONFIGURATION #1



FLOW CONFIGURATION #3



FLOW CONFIGURATION #2



FLOW LEGEND

- FLOW TO THREE OAKS
- FLOW TO PINEWOODS MPS
- FLOW TO SEWWTP
- EX. LINE TO BE REMOVED

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
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Pinewoods Flow Configuration Exhibit

SHEET NUMBER

37

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd PHASE 1 -PP.dwg (37) MNT Dec 03, 2020 - 7:36pm

CP-UT-FM (PH1)			
VALVE NUMBER	PLAN DESCRIPTION	STATION / OFFSET	NORTHING EASTING
PV-1	16" FM - VALVE (#1)	637+97.26 -71.39	764403.03 731440.87
PV-2	CONNECT TO EX 12" FM WITH 12" - VALVE (#2)	638+59.96 -71.33	764432.62 731496.14
PV-3	4" FM - VALVE (#3)	643+82.04 75.35	764550.30 732025.52
PV-4	16" FM - VALVE (#4)	643+85.31 90.00	764538.94 732035.33
PV-5	16" FM - VALVE (#5)	648+50.28 -93.88	764918.39 732361.67
PV-6	16" FM - VALVE (#6)	655+52.42 -116.57	765250.44 732980.32
PV-7	8" FM - VALVE (#7)	663+44.21 -117.07	765621.17 733677.19
PV-8	16" FM - VALVE (#8)	663+47.05 -120.00	765625.09 733678.31
PV-9	6" FM - VALVE (#9)	672+56.84 -123.25	766058.22 734478.39
PV-10	16" FM - VALVE (#10)	672+59.92 -120.00	766056.81 734482.64
PV-11	16" FM - VALVE (#11)	679+14.40 -120.00	766366.33 735059.30
PV-12	12" FM - VALVE (#12)	683+78.61 -106.05	766573.58 735473.53
PV-13	16" FM - VALVE (#13)	684+61.92 -114.70	766621.23 735541.30
PV-14	16" FM - VALVE (#14)	684+94.17 -117.39	766639.24 735567.74
PV-15	30" FM - VALVE (#15)	685+02.82 -114.05	766640.55 735576.83
PV-16	30" FM - VALVE (#16)	685+18.07 -116.81	766650.41 735588.56
PV-17	30" FM - VALVE (#17)	685+23.02 -112.71	766649.27 735594.85
PV-18	30" FM - VALVE (#18)	685+22.27 -84.04	766624.00 735608.41
PV-19	16" FM - VALVE (#19)	685+30.90 -88.09	766631.76 735613.83
PV-20	12" FM - VALVE (#20)	685+26.26 96.68	766469.03 735701.45
PV-21	12" FM - VALVE (#21)	685+52.07 87.99	766489.51 735719.74
PV-22	6" FM - VALVE (#22)	690+92.08 -76.26	766911.02 736097.53
PV-23	16" FM - VALVE (#23)	690+94.89 -72.77	766909.52 736101.77
PV-24	30" FM - VALVE (#24)	691+23.33 -85.53	766935.37 736119.55
PV-25	8" FM - VALVE (#25)	691+17.06 -69.03	766918.00 736122.76
PV-26	16" FM - VALVE (#26)	691+20.74 -72.45	766922.85 736124.14

CP-UT-FM (PH1)			
VALVE NUMBER	PLAN DESCRIPTION	STATION / OFFSET	NORTHING EASTING
PV-27	16" FM - VALVE (#27)	699+91.96 -66.72	767345.30 736890.44
PV-28	16" FM - VALVE (#28)	709+28.54 -66.99	767788.37 737715.59
PV-29	16" FM - VALVE (#29)	718+98.71 -63.05	768243.61 738572.33
PV-30	16" FM - VALVE (#30)	729+13.32 -50.50	768704.62 739476.86
PV-31	16" FM - VALVE (#31)	732+04.88 72.91	768731.68 739792.71
PV-32	6" FM - VALVE (#32)	741+21.32 75.93	769162.32 740601.67
PV-33	16" FM - VALVE (#33)	741+24.78 79.00	769161.25 740606.17
PV-36	16" FM - VALVE (#36)	748+22.48 -64.34	769617.60 741154.54
PV-37	16" FM - VALVE (#37)	758+72.38 -65.00	769895.07 742186.53
PV-38	8" FM - VALVE (#38)	761+16.47 -71.91	769916.68 742429.75
PV-39	16" FM - VALVE (#39)	761+19.71 -75.00	769919.96 742432.80
PV-40	16" FM - VALVE (#40)	771+06.77 -75.00	769979.46 743418.07
PV-41	6" FM - VALVE (#41)	782+56.71 -73.59	770041.93 744566.76
PV-42	16" FM - VALVE (#42)	782+59.66 -70.50	770039.00 744569.88
PV-43	10" FM - VALVE (#43)	784+37.93 -68.67	770046.84 744747.98
PV-44	16" FM - VALVE (#44)	784+41.08 -71.60	770049.94 744750.97
PV-45	16" FM - VALVE (#45)	794+06.58 -73.73	770108.09 745714.04
PV-46	10" FM - VALVE (#46)	799+38.84 -68.69	770136.81 746245.54
PV-47	CONNECT TO EX. 10" FM - VALVE (#47)	799+38.52 -43.64	770111.79 746246.81
PV-48	16" FM - VALVE (#48)	799+44.68 -72.05	770140.53 746251.16
PV-49	CONNECT TO EX. 10" FM WITH 10" FM - VALVE (#49)	799+44.96 -50.70	770119.24 746252.79
PV-50	16" FM - VALVE (#50)	637+71.85 -71.42	764391.04 731418.47
PV-51	CONNECT TO EX. 12" FM WITH 12" FM - VALVE (#51)	637+68.24 -75.00	764392.48 731413.59
PV-52	CONNECT TO EX. 12" FM WITH 12" FM - VALVE (#52)	637+93.75 -75.01	764404.56 731436.07

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JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation (Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

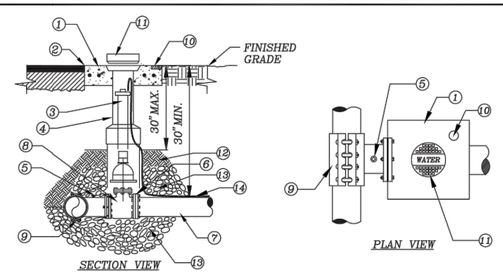
Force Main Valves

SHEET NUMBER

T-01

STANDARD DETAIL NO. 6.1
LEE COUNTY UTILITIES
TAPPING SLEEVE AND VALVE

N.T.S.

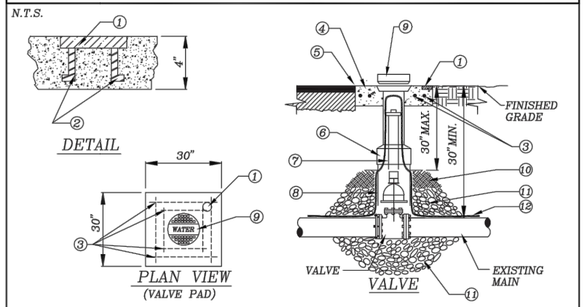


1. CONCRETE PAD (SEE VALVE INSTALLATION DETAIL)
2. SET TOP OF BOX FLUSH WITH FINISHED GRADE
3. EXTENSION STEM IF TOP OF OPERATING NUT IS MORE THAN 30" BELOW FINISH GRADE
4. VALVE BOX (SEE VALVE INSTALLATION DETAIL)
5. OUTLET FOR TESTING
6. MJ RESTRAINED
7. MAIN SIZE VARIES
8. TAPPING VALVE (SEE VALVE INSTALLATION DETAIL)
9. LCU APPROVED ALL STAINLESS STEEL PRESSURE RATED TAPPING SLEEVE. FOR SIZE ON SIZE TAPS A FLANGED TAPPING SLEEVE IS REQUIRED. SPRING LOADED TAPPING SLEEVE IS REQUIRED WHEN CONNECTING TO HDPE (SEE APPROVED MATERIAL LIST).
10. BRASS PLATE (SEE VALVE INSTALLATION DETAIL)
11. CAST IRON DROP COVER MARKED "WATER","SEWER", OR "REUSE"
12. COMPACTED SUITABLE EARTH BACKFILL
13. 3/4" GRANULAR MATERIAL #57 STONE
14. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.2
LEE COUNTY UTILITIES
VALVE INSTALLATION

N.T.S.

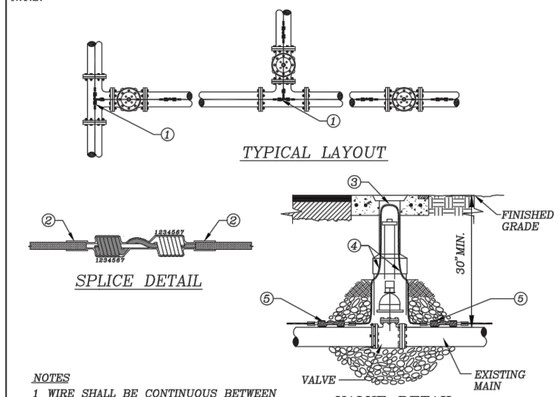


1. BRASS PLATE: SIZE OF VALVE, VALVE TYPE No. OF TURNS & DIRECTION TO OPEN VALVE M.F.G. & YEAR INSTALL SYSTEM "WATER" OR "SEWER" OR "REUSE" OR "FIRE"
2. ANCHOR
3. EIGHT (8) #4 BARS OVERLAP EACH CORNER BY 2"
4. 30"SQ X 4" THK.CONC.PAD SURROUNDING BOX, MIN. 3,000 P.S.I. POURED IN PLACE
5. SET TOP OF BOX FLUSH WITH FINISHED GRADE
6. HEAVY DUTY TRAFFIC BEARING CAST IRON VALVE BOX, ADJUSTABLE SCREW TYPE, 5 1/4" DIAMETER SHAFT THAT IS LCU APPROVED
7. EXTENSION STEM WITH 2" OPERATING NUT AS REQUIRED, IF NUT IS MORE THAN 30" BELOW FINISH GRADE
8. RISER NOT TO BEAR ON VALVE OR PIPE
9. CAST IRON DROP COVER MARKED "WATER" OR "SEWER" OR "REUSE OR "FIRE"
10. COMPACTED SUITABLE EARTH BACKFILL
11. 3/4" GRANULAR MATERIAL #57 STONE
12. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.3
LEE COUNTY UTILITIES
LOCATING WIRE FOR PRESSURE MAINS

N.T.S.



NOTES

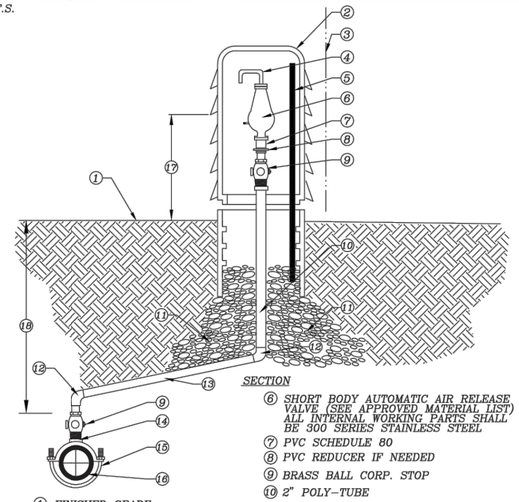
1. WIRE SHALL BE CONTINUOUS BETWEEN VALVE BOXES. THE PVC RISER PIPE SHALL BE NOTCHED AND THE WIRE ATTACHED TO THE RISER PIPE TO ALLOW FOR THE WIRE TO FIT INSIDE THE CAST IRON VALVE BOX WITHOUT SHEARING THE WIRE.
2. LOCATING WIRE SHALL BE LAID ON TOP OF THE MAIN, AND SHALL BE TAPED TO IT AT 10' INTERVALS AND TAPED AT ALL FITTINGS. TAPE SHALL BE 10 MIL POLYETHYLENE.
3. CONTRACTOR SHALL CONDUCT A CONTINUITY TEST ON ALL LOCATING WIRE SPLICES. PRIOR TO SCHEDULING THE OFFICIAL FINAL INSPECTION WITH LCU.
4. ALL SPLICES SHALL UTILIZE A DIRECT BURY WATERPROOF SPLICE KIT. (SEE APPROVED MATERIAL LIST)

1. SPLICE RUN TOGETHER, KEEP CLEAR OF FITTING, TYPICAL
2. COVER SPLICE WITH 2 WRAPS OF 10 MIL. POLYETHYLENE TAPE
3. 6" LOOP OF BARE WIRE, 9" MAX. DEPTH TO TOP OF BARE WIRE
4. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE
5. SPLICE (SEE DETAIL THIS SHEET)

REV: 12/10/2015

STANDARD DETAIL NO. 6.4
LEE COUNTY UTILITIES
AUTOMATIC AIR RELEASE VALVE

N.T.S.

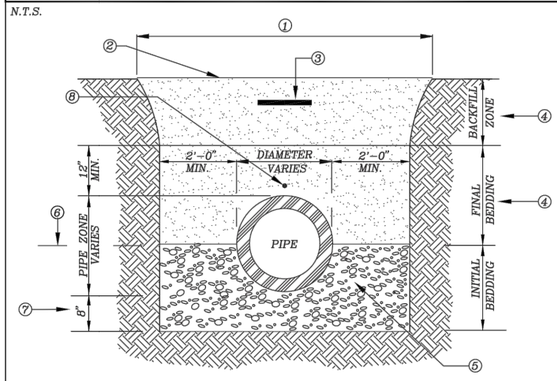


1. FINISHED GRADE
2. PEDESTAL HOUSING (SEE APPROVED MATERIAL LIST) COLORS: BLUE–WATER, GREEN–SEWER, PANTONE–REUSE
3. EDGE OF RIGHT–OF–WAY
4. PVC STREET ELL
5. S.S. POST WITH S.S. HARDWARE AND S.S. LOCKING HASP WITH BRASS LOCK
6. SHORT BODY AUTOMATIC AIR RELEASE VALVE (SEE APPROVED MATERIAL LIST) ALL INTERNAL WORKING PARTS SHALL BE 300 SERIES STAINLESS STEEL
7. PVC SCHEDULE 80
8. PVC REDUCER IF NEEDED
9. BRASS BALL CORP. STOP
10. 2" POLY–TUBE
11. 3/4" GRANULAR MATERIAL, #57 STONE
12. 2" BRASS FITTING IF NECESSARY
13. 1% MIN. SLOPE UP, 2" POLY–TUBE
14. TAP AT CROWN OF PIPE
15. 2" DOUBLE STRAP TAPPING SADDLE (SEE APPROVED MATERIAL LIST)
16. EXISTING PRESSURE MAIN
17. 24"
18. 30" MIN.

REV: 12/10/2015

STANDARD DETAIL NO. 6.5
LEE COUNTY UTILITIES
TRENCH CROSS SECTION

N.T.S.

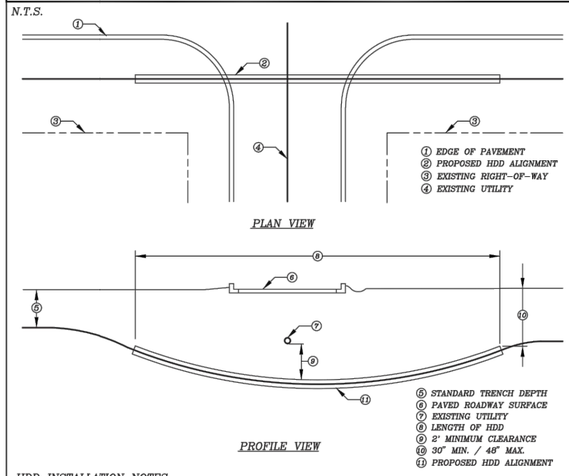


1. EXCAVATED TRENCH
2. FINISHED GRADE
3. MARKING TAPE 12" DEPTH MAX.
4. MATERIALS CLEAN DRY SAND, FINE LIME ROCK OR PIT SHELL MECHANICALLY COMPACTED IN 6" LIFTS TO AT LEAST 95% OF MAX. DENSITY, OR 98% IF UNDER PAVED AREA OF ROADWAY.
5. #57 STONE LOCATED UNDER PIPE OR EXISTING UNDISTURBED SUITABLE MATERIAL
6. SPRING LINE
7. STANDARD 8" MIN TRENCH UNDERCUT AND BACKFILL WITH #57 STONE COMPACTED IN 6" LIFTS ADDITIONAL UNDERCUT AND CRUSHED ROCK BEDDING FOUNDATION WHEN DIRECTED BY L.C.U. THE CONTRACTOR IS TO REMOVE UNSTABLE MATERIAL FROM THE TRENCH FOUNDATION. THEN INSTALL STABILIZED CRUSHED ROCK BACKFILL WITH #57 STONE COMPACTED IN 6" LIFTS
8. LOCATING WIRE IS REQUIRED FOR ALL PRESSURIZED PIPELINES.

REV: 12/10/2015

STANDARD DETAIL NO. 6.7
LEE COUNTY UTILITIES
HORIZONTAL DIRECTIONAL DRILL UNDER A ROADWAY

N.T.S.



1. EDGE OF PAVEMENT
2. PROPOSED HDD ALIGNMENT
3. EXISTING RIGHT–OF–WAY
4. EXISTING UTILITY

5. STANDARD TRENCH DEPTH
6. PAVED ROADWAY SURFACE
7. EXISTING UTILITY
8. LENGTH OF HDD
9. 2' MINIMUM CLEARANCE
10. 30" MIN. / 48" MAX.
11. PROPOSED HDD ALIGNMENT

HDD INSTALLATION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LEE COUNTY UTILITIES DESIGN MANUAL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF AFFECTED AGENCIES AND COORDINATION WITH ALL UTILITIES PRIOR TO CONSTRUCTION.
3. ALL CONSTRUCTION MATERIALS, INCLUDING DRILLING FLUID, SHALL BE REMOVED FROM THE SITE PRIOR TO RESTORATION OF DISTURBED AREAS.
4. ALL RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE LCU DESIGN MANUAL.
5. CASING DIAMETER SHALL BE IN ACCORDANCE WITH THE LCU DESIGN MANUAL.
6. NO CASING SPACERS REQUIRED.
7. WHEN CASING IS REQUIRED INSTALL 1" HDPE PIPE ATTACHED TO THE CARRIER PIPE WITH 12 GAUGE DOUBLE INSULATED COPPER WIRE INSIDE THE HDPE PIPE.

REV: 12/10/2015

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Details 1 of 3

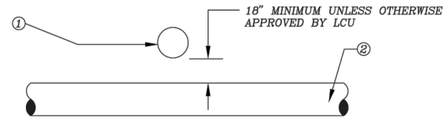
SHEET NUMBER

D-01

\\FTMS01\Drawings\2019\20192030-000\Utilities\Drawings\20192030-000 Corkscrew Rd-PHASE 1 - Cover.dwg (Details) MNT Dec 03, 2020 - 7:37pm

STANDARD DETAIL NO. 6.8
LEE COUNTY UTILITIES
WATER AND SEWER CROSSING DETAIL

N.T.S.

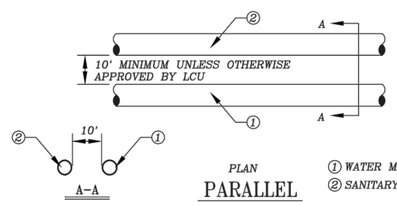


SECTION
CROSSINGS

1. WATER MAIN
2. SANITARY SEWER MAIN

NOTE: IF LESS THAN 18" CLEARANCE ENCASE WATER MAIN IN STEEL CASING

N.T.S.



PLAN
PARALLEL

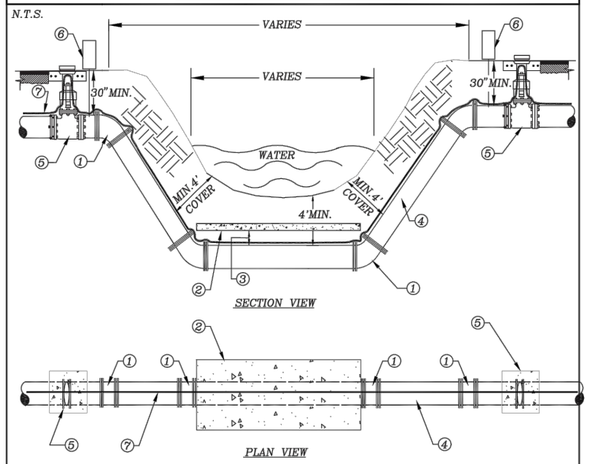
1. WATER MAIN
2. SANITARY SEWER MAIN

NOTE: IF LESS THAN 10' CLEARANCE ENCASE WATER MAIN IN STEEL CASING

REV: 12/10/2015

STANDARD DETAIL NO. 6.9
LEE COUNTY UTILITIES
SUBAQUEOUS CROSSING

N.T.S.

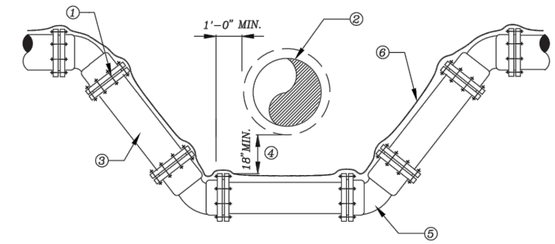


1. 45° M.J. ELBOW RESTRAINED
2. 2,500 MIN. P.S.I. CONCRETE PROTECTIVE PAD 4' WIDE MIN. X 4" THICK X OVERALL LENGTH OF PIPELINE CROSSING
3. 6" MIN. COMPACTED MATERIAL OR #57 STONE
4. USE PVC C–900 DR 14 MIN. FOR ALL SEWAGE FORCE MAINS. USE PRESSURE CLASS 350 DIP FOR ALL WATER MAINS
5. GATE VALVE OR PLUG VALVE INSTALLATION PER LCU STANDARD DETAIL
6. AIR RELEASE VALVE (SEE APPROVED MATERIAL LIST)
7. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.10
LEE COUNTY UTILITIES
WATER PRESSURE LINE VERTICAL OFFSET W/ DUCTILE IRON MJ FITTINGS & PIPE

N.T.S.

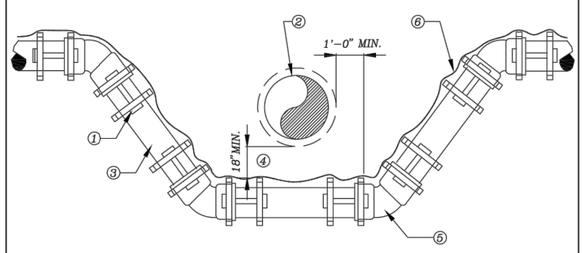


1. LCU APPROVED JOINT RESTRAINT FOR D.I., M.J. PIPE AND FITTINGS PLACED IN ACCORDANCE WITH JOINT RESTRAINT SCHEDULE. (SEE DETAIL 6.12)
2. CONFLICT PIPE
3. LCU APPROVED DUCTILE IRON PIPING PRESSURE CLASS 350
4. 18" MIN. UNLESS OTHERWISE APPROVED BY LCU
5. 45° MECHANICAL JOINT FITTING, TYPICAL
6. 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.11
LEE COUNTY UTILITIES
WASTE WATER FORCE MAIN VERTICAL OFFSET WITH FITTINGS, (P.V.C.)

N.T.S.



WASTE WATER FORCE MAIN

1. LCU APPROVED JOINT RESTRAINT FOR P.V.C., M.J. PIPE AND FITTINGS PLACED IN ACCORDANCE WITH JOINT RESTRAINT SCHEDULE. (SEE DETAIL 6.12)
2. CONFLICT PIPE
3. LCU APPROVED C–900 PVC DR 14
4. 18" MIN. UNLESS OTHERWISE APPROVED BY LCU
5. 45° MECHANICAL JOINT FITTING, TYPICAL
6. 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

STANDARD DETAIL NO. 6.12
LEE COUNTY UTILITIES
RESTRAINED LENGTH SCHEDULE

N.T.S.

DUCTILE IRON PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)					
	HORIZONTAL BENDS				DEAD END	HORIZONTAL TEE
	90°	45°	22–1/2°	11–1/4°		
4	17	7	4	2	29	6
6	23	10	5	2	40	17
8	29	12	6	3	53	29
10	35	14	7	4	63	38
12	41	17	8	4	74	49
16	51	21	11	5	94	68
24	69	29	14	7	131	105
30	81	34	17	8	156	129

PVC PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)					
	HORIZONTAL BENDS				DEAD END	HORIZONTAL TEE
	90°	45°	22–1/2°	11–1/4°		
4	20	8	4	2	45	8
6	29	12	6	3	63	25
8	36	15	8	4	83	43
10	44	18	9	5	99	58
12	51	21	11	5	116	74
16	63	26	13	7	149	103
24	87	36	18	9	208	158
30	102	42	21	10	248	194

A COMPLETE JOINT RESTRAINING SCHEDULE FOR ALL ENCOUNTERED VERTICAL & HORIZONTAL BENDS, VERTICAL OFFSETS, TEES, AND DEAD ENDS SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER.

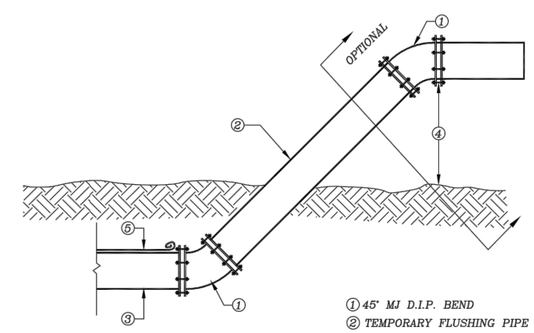
LENGTH FIGURES BASED ON FOLLOWING:

Pressure = 150 psi, FS = 1.5, trench type = 3, 30" cover on Bare pipe, Soil type = GP & SP

REV: 12/10/2015

STANDARD DETAIL NO. 6.13
LEE COUNTY UTILITIES
WATER MAIN FLUSHING DETAIL

N.T.S.



1. 45° MJ D.I.P. BEND
2. TEMPORARY FLUSHING PIPE
3. END OF WATER MAIN
4. 24" MIN.

NOTES:

1. FLUSHING DETAIL TO BE USED ON WATER LINES 8" DIAMETER OR GREATER.
2. FLUSHING PIPE SHALL BE THE SAME DIAMETER AS WATER MAIN.
3. CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE FOR FLUSHED WATER.
4. PROVIDE M.J. CAP IF ASSEMBLY IS LEFT IN PLACE UNATTENDED.
5. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

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PHONE: (239) 334-0046
FAX: (239) 334-3661
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FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

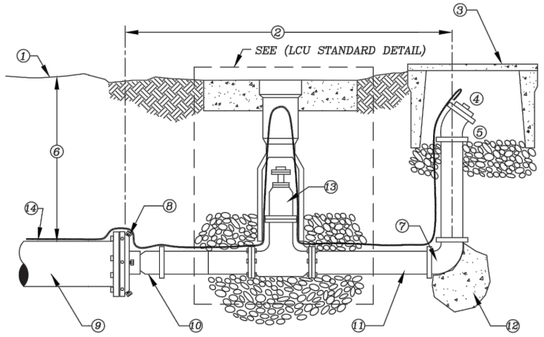
Details 2 of 3

SHEET NUMBER

D-02

STANDARD DETAIL NO. 6.14
LEE COUNTY UTILITIES
BLOW OFF DETAIL

N.T.S.



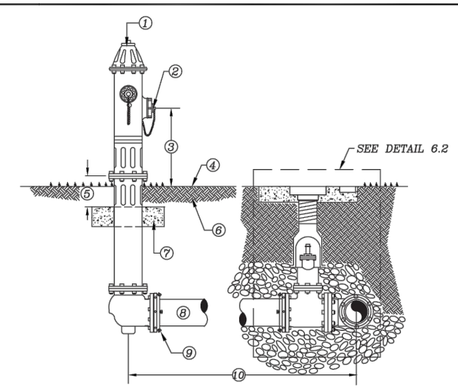
1. FINISHED GRADE
2. 5'–0" MAX.
3. WATER METER BOX W/GRAVEL BOTTOM (SEE APPROVED MATERIAL LIST)
4. 2" THREADED PLUG
5. 2"–45° BEND
6. 30" MIN.
7. 2"–90° BEND
8. M.J. CAP WITH 2" TAP
9. END OF WATER MAIN, R.J. PER SCHEDULE
10. 2" THREADED
11. 2" P.V.C.(SCH 80) P.V.C. MALE ADAPTER
12. POURED IN PLACE THRUST BLOCKING (SEE DETAIL 9.20)
13. 2" DIAMETER GATE VALVE
14. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

NOTE:
ALL PIPING TO BE 2" P.V.C. (SCH 80) THREADED FITTINGS OR SOLVENT WELDED FITTINGS

REV: 12/10/2015

STANDARD DETAIL NO. 6.24
LEE COUNTY UTILITIES
FIRE HYDRANT ASSEMBLY

N.T.S.

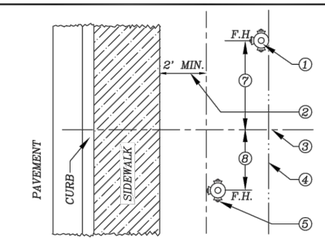


1. FIRE HYDRANT: STANDARD A.W.W.A. SAFETY YELLOW (SEE APPROVED MATERIAL LIST)
2. PUMPER CONNECTION FACING AS PER FIRE DISTRICT RECOMMENDATION
3. 18" MIN. – 24" MAX.
4. FINISHED GRADE
5. 6" MIN. CLEARANCE
6. COMPACTED FILL
7. 30" X 30" X 4" CONCRETE BREAK AWAY CONCRETE PAD, 3000 P.S.I.
8. PIPE TO BE D.I.P., PRESSURE CLASS 350
9. RESTRAINED JOINTS, FROM HYDRANT TO WATER MAIN
10. VARIABLE DISTANCE, IF GREATER THAN 100' A VALVE SHALL BE INSTALLED AT HYDRANT BASE

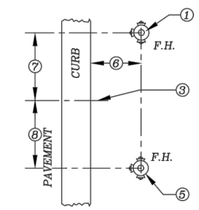
REV: 12/10/2015

STANDARD DETAIL NO. 6.25
LEE COUNTY UTILITIES
FIRE HYDRANT LOCATIONS/CLEARANCE

N.T.S.

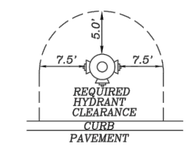


PARKWAY AREA WITH SIDEWALK
(PLAN VIEW)



PARKWAY AREA OR NO SIDEWALK
(PLAN VIEW)

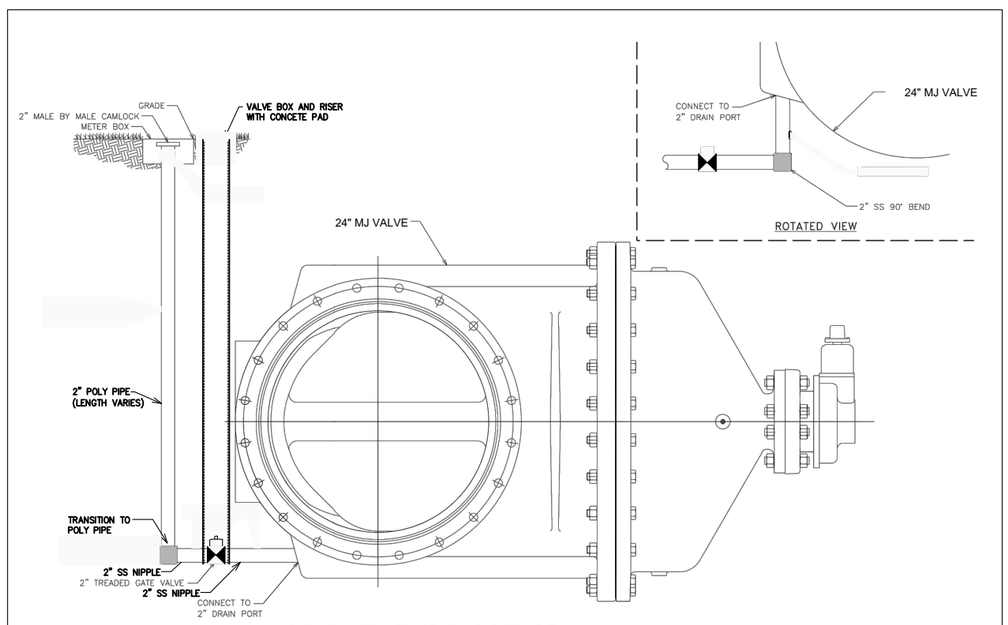
1. PREFERRED LOCATION
2. F.H. TO BE LOCATED 2' MINIMUM FROM EDGE OF SIDEWALK
3. P.T. OR P.C. OF CURB RETURN
4. PROPERTY LINE RIGHT–OF–WAY OR LIMIT OF EASEMENT
5. ACCEPTABLE LOCATION WITH CURB RADIUS OF 20' OR MORE
6. BETWEEN 2'–0" MIN. AND 6'–0" MAX.
7. 6'–0"
8. 4'–0"



(PLAN VIEW)

NOTES
1. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, ETC. SHALL NOT BE PLACED BETWEEN CURB AND HYDRANT.
2. SOME LOCATIONS APPLY AT EITHER END OF CURB RETURNS.
3. DIMENSION SHOWN ON CONSTRUCTION DRAWINGS SUPERCEDE LOCATIONS SHOWN HERE.

REV: 12/10/2015



24" VALVE - FLUSHING DEVICE

JOHNSON ENGINEERING
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE: (239) 334-0046
FAX: (239) 334-3661
E.B. #642 & L.B. #642

DAVID BRICE TROUTEAUD, PE
FL License No. 69783

LEE COUNTY

Corkscrew Utilities Relocation
(Phase 1)
LEE COUNTY, FLORIDA

REVISIONS

NO.	DESCRIPTION	DATE

DATE:	December 4, 2020
PROJECT NO.	20192030-000
FILE NO.	25-46-25
SCALE:	As Shown

Details 3 of 3

SHEET NUMBER

D-03