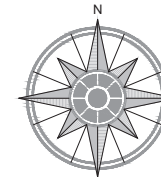
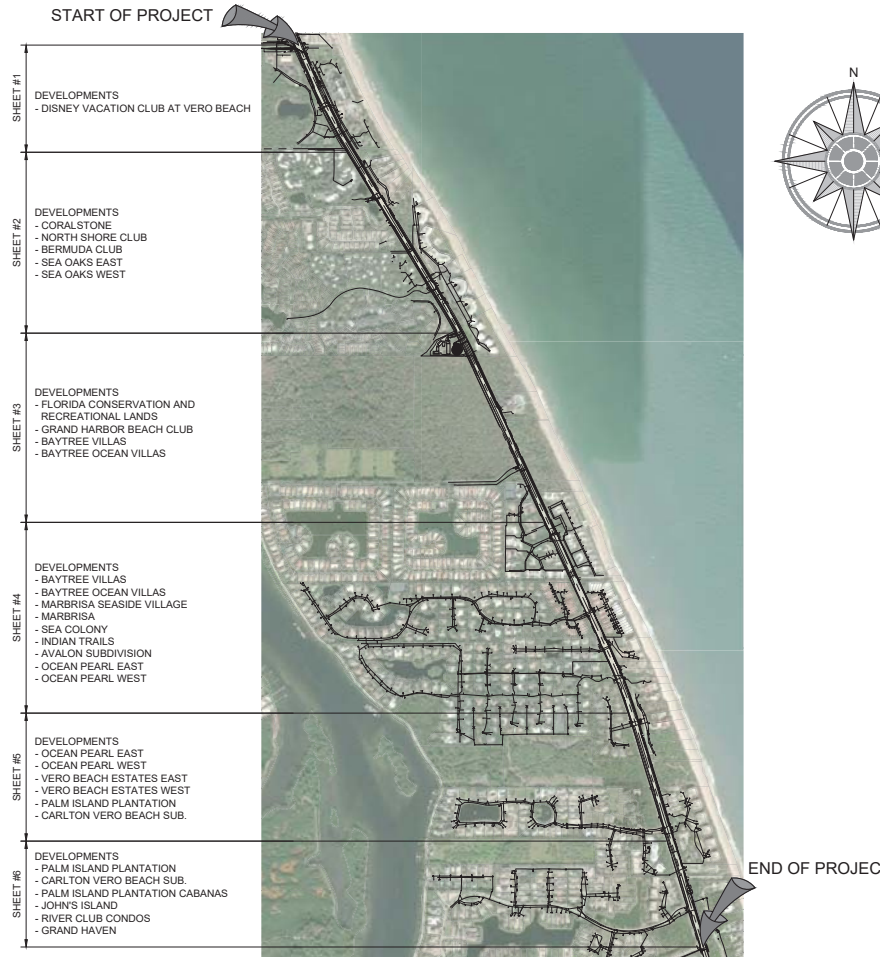


PLANS FOR NORTH COUNTY RE-USE WATER MAIN STUDY

A1A FROM C.R. 510 TO OLD WINTER BEACH ROAD, INDIAN RIVER COUNTY, FLORIDA



Sheet List Table	
Sheet Number	Sheet Title
C-000	COVER
1	FROM STATION 433+14.3 (C.R. 510) TO 417+84.6
1A	FROM STATION 433+14.3 (C.R. 510) TO 417+84.6
1B	"POT-HOLING" SECTIONS
2	FROM STATION 417+84.6 TO 390+88.3
2A	FROM STATION 417+84.6 TO 390+88.3
2B	"POT-HOLING" SECTIONS
3	FROM STATION 390+88.3 TO 364+19.8
3A	FROM STATION 390+88.3 TO 364+19.8
3B	"POT-HOLING" SECTIONS
4	FROM STATION 364+19.8 TO 337+52.7
4A	FROM STATION 364+19.8 TO 337+52.7
4B	"POT-HOLING" SECTIONS
5	FROM STATION 337+52.7 TO 320+41.3
5A	FROM STATION 337+52.7 TO 320+41.3
5B	"POT-HOLING" SECTIONS
6	FROM STATION 320+41.3 TO 306+27.7 (OLD WINTER BEACH ROAD)
6A	FROM STATION 320+41.3 TO 306+27.7 (OLD WINTER BEACH ROAD)
6B	"POT-HOLING" SECTIONS
7	SEA OAKS 3M TANK WASTE WATER TREATMENT PLANT
7A	SEA OAKS 3M TANK WASTE WATER TREATMENT PLANT
8	SOIL BORING REPORTS

LOCATION MAP

SCHULKE, BITTLE & STODDARD, L.L.C.

CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING

CERTIFICATION OF AUTHORIZATION NO.: 00008668

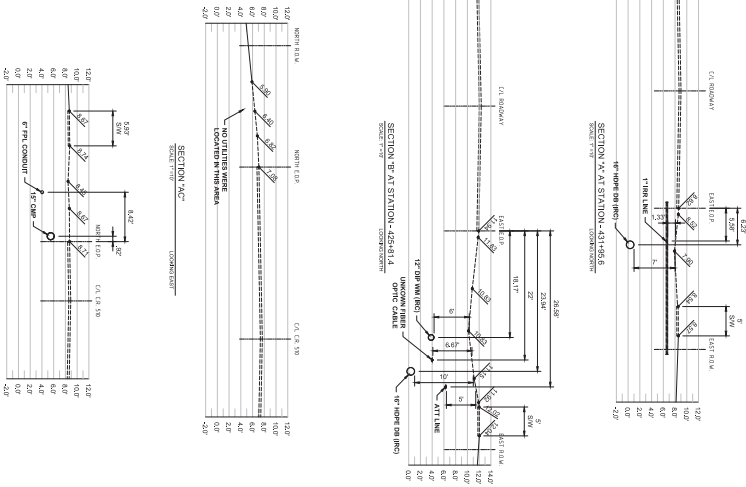
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com

MARK	REVISION	DATE

ENGINEER CERTIFICATION

DATE
 JOSEPH W. SCHULKE, P.E. REG. NO. 45948
 JOSEPH W. BITTLE, P.E. REG. NO. 21998
 WILLIAM P. STODDARD, Ph.D., P.E. REG. NO. 51605

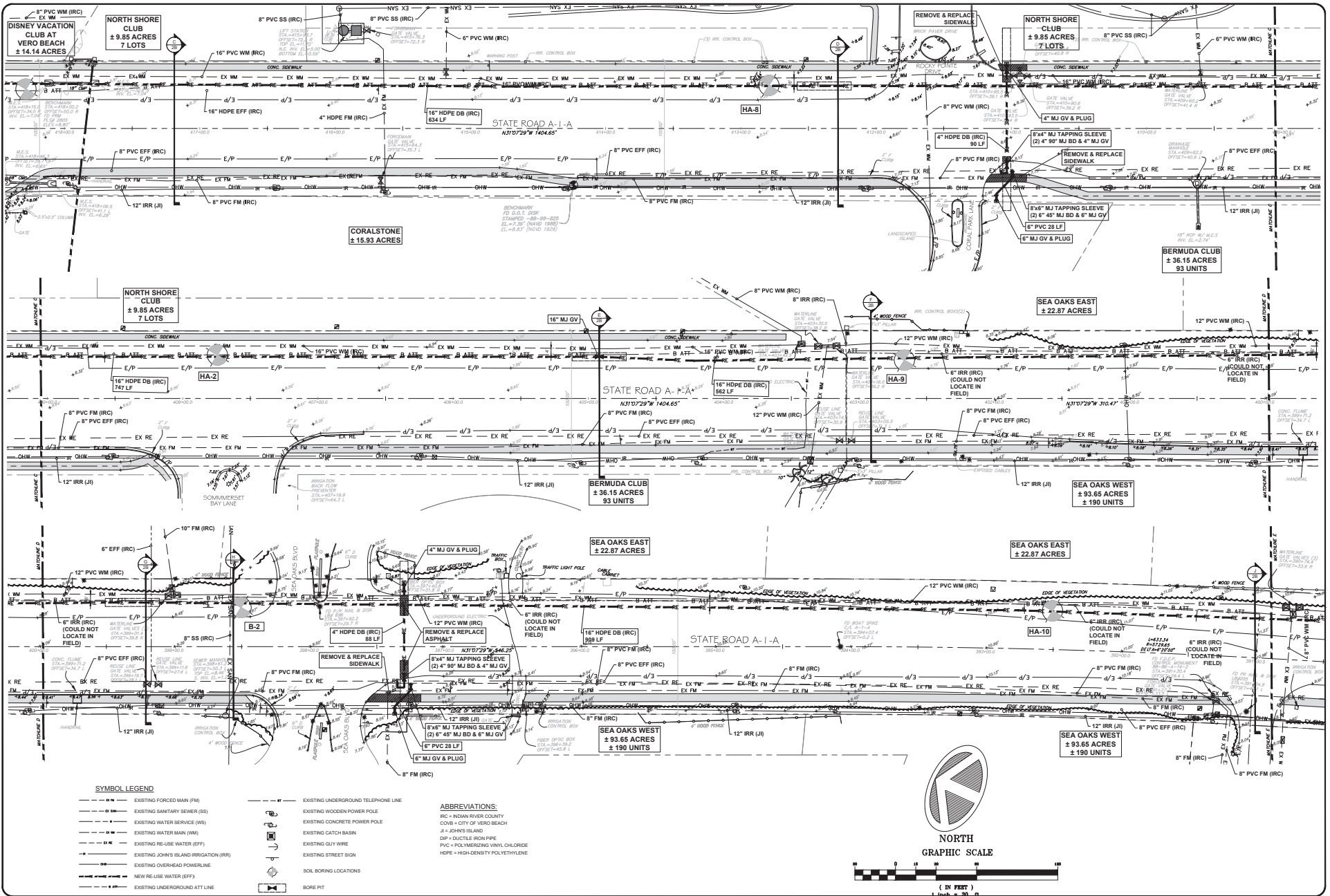




NO.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED FOR PERMITTING	04/12/2019	J. B. STODDARD	J. B. STODDARD
2	ISSUED FOR CONSTRUCTION	04/12/2019	J. B. STODDARD	J. B. STODDARD
3	AS BUILT	04/12/2019	J. B. STODDARD	J. B. STODDARD

NO.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED FOR PERMITTING	04/12/2019	J. B. STODDARD	J. B. STODDARD
2	ISSUED FOR CONSTRUCTION	04/12/2019	J. B. STODDARD	J. B. STODDARD
3	AS BUILT	04/12/2019	J. B. STODDARD	J. B. STODDARD

NO.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED FOR PERMITTING	04/12/2019	J. B. STODDARD	J. B. STODDARD
2	ISSUED FOR CONSTRUCTION	04/12/2019	J. B. STODDARD	J. B. STODDARD
3	AS BUILT	04/12/2019	J. B. STODDARD	J. B. STODDARD



PROJECT NO. 17-0000000000
 SHEET NO. 17-0000000000
 DATE: 11/15/2017
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 APPROVED BY: [Name]

SCHULKE BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 CERTIFICATION NO. 00000000
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32980
 TEL: 772.773.9622 FAX: 772.773.9646 EMAIL: info@schulkebittle.com

**16" AND 12" RE-USE
 INDIAN RIVER COUNTY
 UTILITIES DEPARTMENT**

A1A RE-USE MAIN
 INDIAN RIVER COUNTY
 UTILITIES DEPARTMENT

18-122

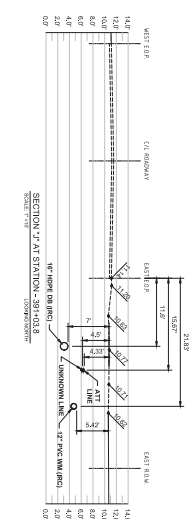
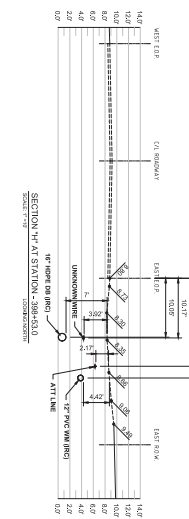
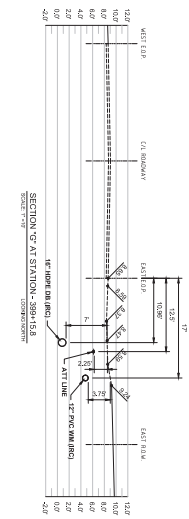
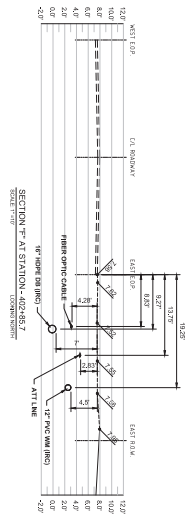
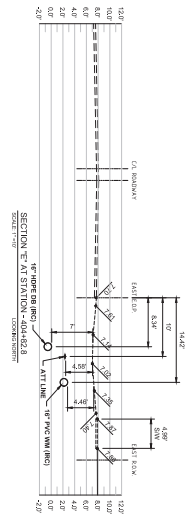
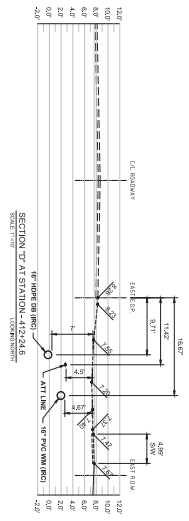
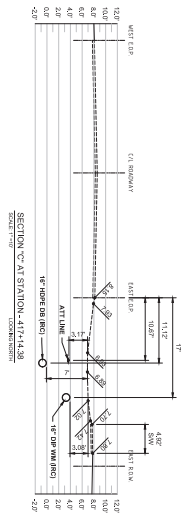
- SYMBOL LEGEND**
- EXISTING FORCED MAIN (FM)
 - EXISTING SANITARY SEWER (SS)
 - EXISTING WATER SERVICE (WS)
 - EXISTING WATER MAIN (WM)
 - EXISTING RE-USE WATER (EFF)
 - EXISTING JOHN'S ISLAND IRRIGATION (IRR)
 - EXISTING OVERHEAD POWERLINE
 - NEW RE-USE WATER (EFF)
 - EXISTING UNDERGROUND ATT LINE
 - EXISTING UNDERGROUND TELEPHONE LINE
 - EXISTING WOODEN POWER POLE
 - EXISTING CONCRETE POWER POLE
 - EXISTING CATCH BASIN
 - EXISTING GUY WIRE
 - EXISTING STREET SIGN
 - SOL BORING LOCATIONS
 - BORE PIT

ABBREVIATIONS:

- IRC = INDIAN RIVER COUNTY
- COB = CITY OF VERO BEACH
- J = JOHN'S ISLAND
- DP = DUCTILE IRON PIPE
- PVC = POLYMERIZED VINYL CHLORIDE
- HDPE = HIGH-DENSITY POLYETHYLENE



NORTH
 GRAPHIC SCALE
 (IN FEET)
 1 inch = 30.0'



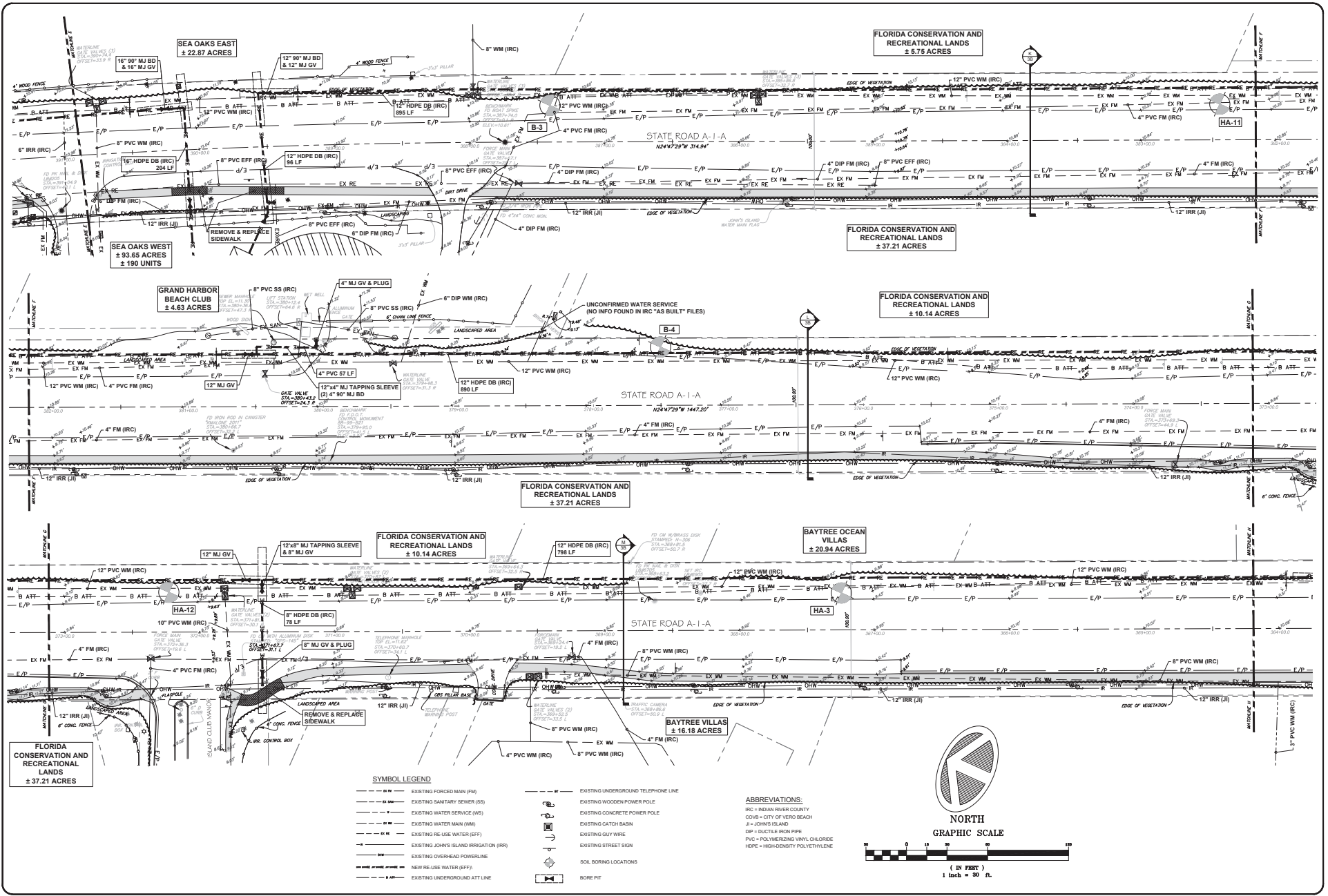
DATE	DESCRIPTION	BY	CHKD
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS

DATE	DESCRIPTION	BY	CHKD
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS

DATE	DESCRIPTION	BY	CHKD
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS

DATE	DESCRIPTION	BY	CHKD
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS

DATE	DESCRIPTION	BY	CHKD
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS
11/14/19	ISSUED FOR PERMITTING	CS	CS



SYMBOL LEGEND

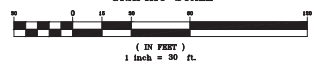
- | | | | |
|--|---|--|-------------------------------------|
| | EXISTING FORCED MAIN (FM) | | EXISTING UNDERGROUND TELEPHONE LINE |
| | EXISTING SANITARY SEWER (SS) | | EXISTING WOODEN POWER POLE |
| | EXISTING WATER SERVICE (WS) | | EXISTING CONCRETE POWER POLE |
| | EXISTING WATER MAIN (WM) | | EXISTING CATCH BASIN |
| | EXISTING RE-USE WATER (EWF) | | EXISTING GUY WIRE |
| | EXISTING JOHN'S ISLAND IRRIGATION (IRI) | | EXISTING STREET SIGN |
| | EXISTING OVERHEAD POWERLINE | | SOIL BORING LOCATIONS |
| | NEW RE-USE WATER (EWF) | | BORE PIT |
| | EXISTING UNDERGROUND ATT LINE | | |

ABBREVIATIONS:

- IRC = INDIAN RIVER COUNTY
- COVB = CITY OF VERO BEACH
- J = JOHN'S ISLAND
- DIP = DUCTILE IRON PIPE
- PVC = POLYMERIZING VINYL CHLORIDE
- HDPE = HIGH-DENSITY POLYETHYLENE



NORTH
GRAPHIC SCALE

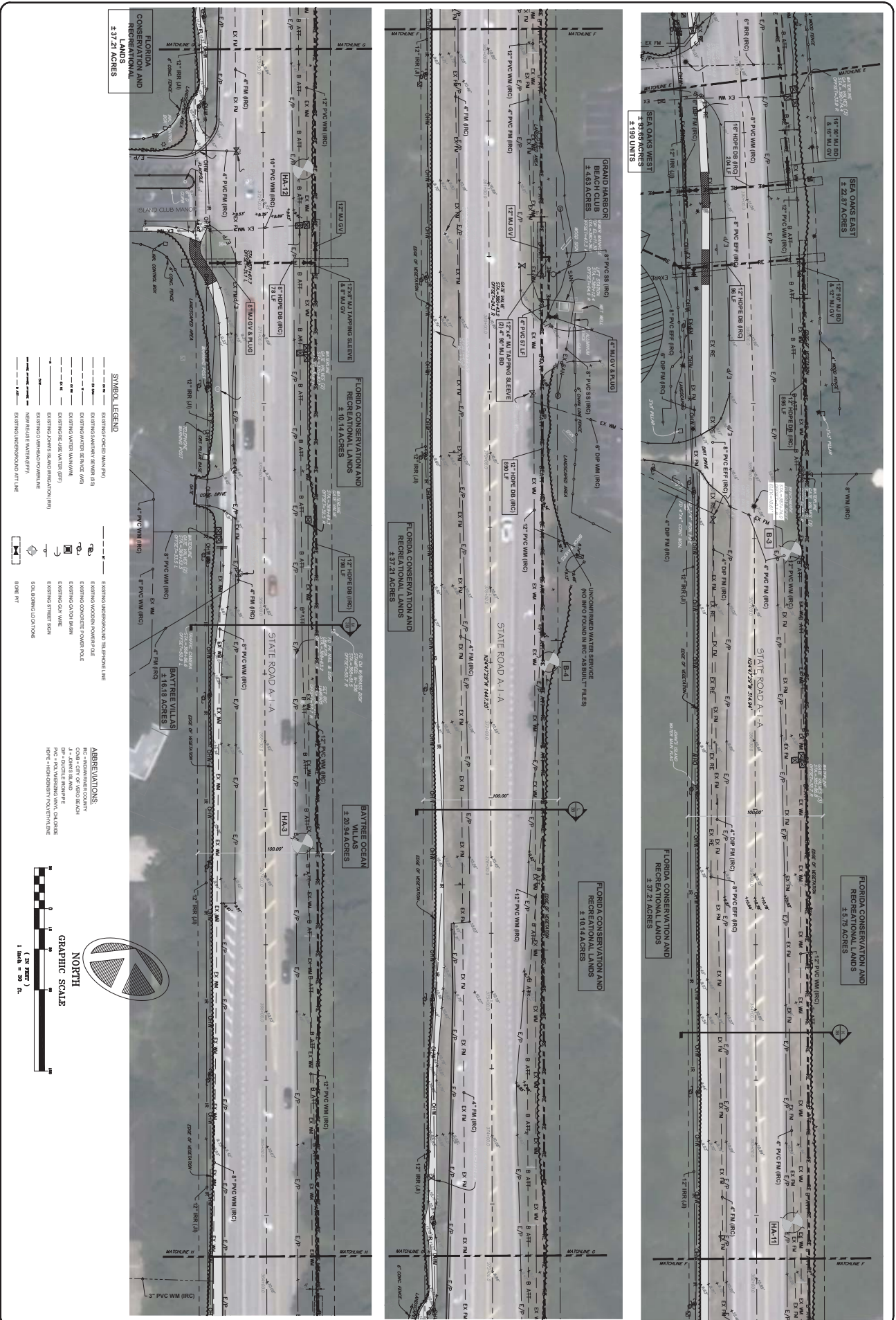


DATE	DESCRIPTION

SCHULKE BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 CERTIFICATION NO. 0000868
 1777 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32980
 TEL: 772.773.9622 FAX: 772.773.9646 EMAIL: info@schulkebittle.com

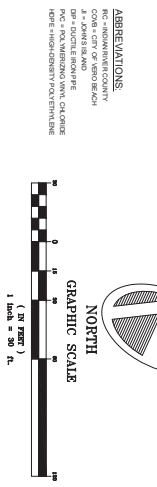
16" AND 12" RE-USE MAIN
INDIAN RIVER COUNTY
UTILITIES DEPARTMENT

A1A RE-USE MAIN
INDIAN RIVER COUNTY
UTILITIES DEPARTMENT



- SYMBOL LEGEND**
- EXISTING CONCRETE MAIN WITH WRAP
 - EXISTING CONCRETE MAIN WITHOUT WRAP
 - EXISTING WATER MAIN WITH WRAP
 - EXISTING WATER MAIN WITHOUT WRAP
 - EXISTING GAS MAIN WITH WRAP
 - EXISTING GAS MAIN WITHOUT WRAP
 - EXISTING SANITARY SEWER MAIN WITH WRAP
 - EXISTING SANITARY SEWER MAIN WITHOUT WRAP
 - EXISTING OVERHEAD UTILITY LINE
 - EXISTING UNDERGROUND UTILITY LINE
 - EXISTING WATER TOWER
 - EXISTING POWER POLE
 - EXISTING CATCH BASIN
 - EXISTING MANHOLE
 - EXISTING STRUCTURE
 - EXISTING BUILDING LOCATION
 - ROAD PIN

- ABBREVIATIONS:**
- REC - RECREATION
 - CONV - CONVERSION
 - COIN - CITY OF VERO BEACH
 - SP - STATE OF FLORIDA
 - PVC - POLYETHYLENE GLYCOL
 - HDPE - HIGH DENSITY POLYETHYLENE



18-122
3A

A1A RE-USE MAIN
INDIAN RIVER COUNTY
UTILITIES DEPARTMENT

16" AND 12" RE-USE
WATER MAIN ROUTE

SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
CERTIFICATION OF AUTHORIZATION NO. 00006646
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbengineers.com

DATE	DESCRIPTION	BY	CHK

DATE	DESCRIPTION	BY	CHECKED

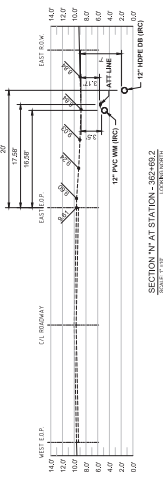
PROJECT NO. 18-1122
 DRAWING NO. 4B
 SHEET NO. 1 OF 1
 DATE: 07/20/18

SCHULKE, BITTLE & STODARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO. 00006668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32909
 TEL 772.770.9222 FAX 772.770.9496 EMAIL info@sbsengineers.com

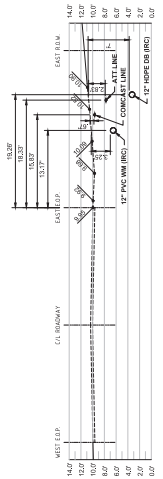
"POT-HOLING"
 SECTIONS

A1A RE-USE MAIN
 INDIAN RIVER COUNTY
 UTILITIES DEPARTMENT

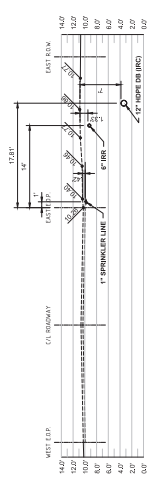
4B
 18-1122



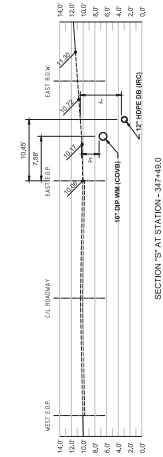
SECTION 'N' AT STATION -382+48.2
LOOKING NORTH



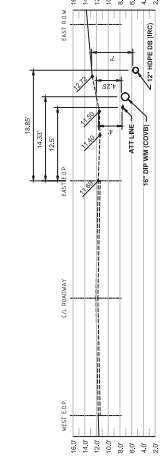
SECTION 'P' AT STATION -382+48.3
LOOKING NORTH



SECTION 'R' AT STATION -382+48.8
LOOKING NORTH



SECTION 'S' AT STATION -377+48.0
LOOKING NORTH



SECTION 'T' AT STATION -340+48.5
LOOKING NORTH

KSM Kiewit Construction Company 1415 S. Orange Avenue, Suite 100 West Palm Beach, FL 33411 TEL: 561.833.1111 FAX: 561.833.1112 WWW.KIEWIT.COM	
PROJECT NO. 18-1122 DRAWING NO. 4B SHEET NO. 1 OF 1 DATE: 07/20/18	
PROJECT TITLE: A1A RE-USE MAIN LOCATION: INDIAN RIVER COUNTY, FLORIDA	
PROJECT DESCRIPTION: POT-HOLING SECTIONS	
DESIGNER: SCHULKE, BITTLE & STODARD, L.L.C.	
CHECKED BY: [Name]	
DATE: 07/20/18	

KSM Kiewit Construction Company 1415 S. Orange Avenue, Suite 100 West Palm Beach, FL 33411 TEL: 561.833.1111 FAX: 561.833.1112 WWW.KIEWIT.COM	
PROJECT NO. 18-1122 DRAWING NO. 4B SHEET NO. 1 OF 1 DATE: 07/20/18	
PROJECT TITLE: A1A RE-USE MAIN LOCATION: INDIAN RIVER COUNTY, FLORIDA	
PROJECT DESCRIPTION: POT-HOLING SECTIONS	
DESIGNER: SCHULKE, BITTLE & STODARD, L.L.C.	
CHECKED BY: [Name]	
DATE: 07/20/18	

KSM Kiewit Construction Company 1415 S. Orange Avenue, Suite 100 West Palm Beach, FL 33411 TEL: 561.833.1111 FAX: 561.833.1112 WWW.KIEWIT.COM	
PROJECT NO. 18-1122 DRAWING NO. 4B SHEET NO. 1 OF 1 DATE: 07/20/18	
PROJECT TITLE: A1A RE-USE MAIN LOCATION: INDIAN RIVER COUNTY, FLORIDA	
PROJECT DESCRIPTION: POT-HOLING SECTIONS	
DESIGNER: SCHULKE, BITTLE & STODARD, L.L.C.	
CHECKED BY: [Name]	
DATE: 07/20/18	

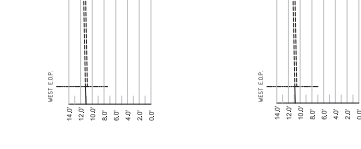
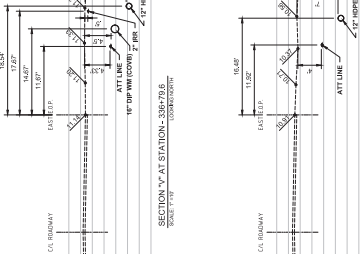
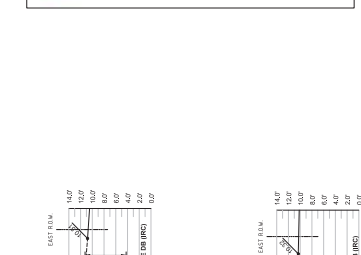
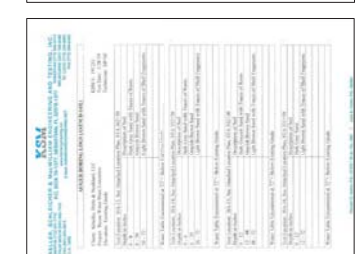
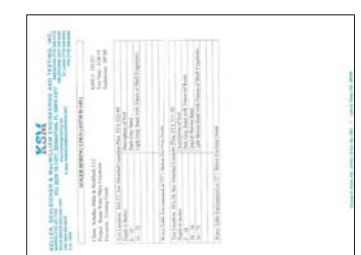
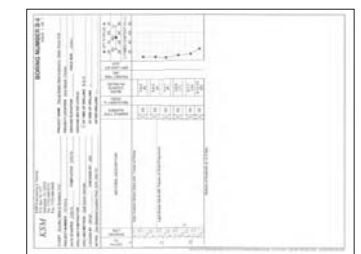
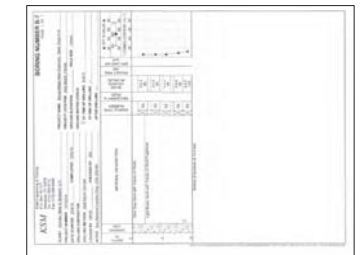
DATE	DESCRIPTION	BY	CHECKED

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32909
 TEL 772.770.9022 FAX 772.770.9496 EMAIL info@sbsengineers.com

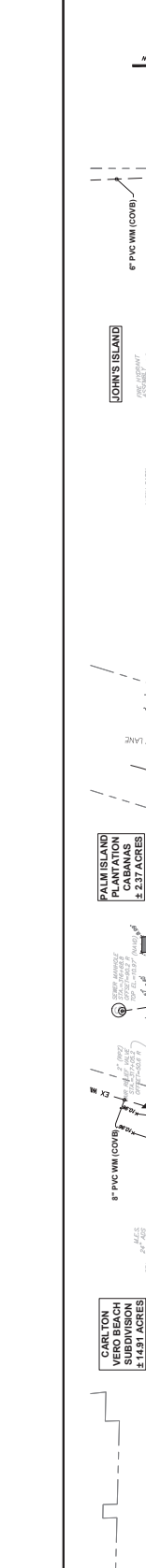
"POT-HOLING"
 SECTIONS

A1A RE-USE MAIN
 INDIAN RIVER COUNTY
 UTILITIES DEPARTMENT

5B
 18.7.12



SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
CERTIFICATION OF AUTHORIZATION NO. 00089469
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32909
TEL 772.770.9222 FAX 772.770-9298 EMAIL info@sbengineers.com



SYMBOL LEGEND

- EXISTING FORCED MAIN (FM)
- EXISTING SANITARY SEWER (SS)
- EXISTING WATER SERVICE BRANCH (WSB)
- EXISTING WATER MAIN (WM)
- EXISTING FIRE WATER (FW)
- EXISTING JOHNS ISLAND IRRIGATION (IRI)
- EXISTING OVERHEAD PO WIRELINE
- NEW RELEASE WATER (RF)
- EXISTING UNDERGROUND ATT LINE

ABBREVIATIONS:

- COB = CITY OF VERO BEACH
- J = JOHN'S ISLAND
- P = PALM ISLAND PLANTATION
- H = HIGH BURNETT POLYETHYLENE

NOTE: R/T



REMOVE & REINSTALL METER
16" PVC REUSE MAIN (R/C)
(APPROX. LOCATION)

2" HOPE WS (COVB)

15' UTILITY EASEMENT

12" RR (U)

12" HOPE DB (RC)

12" M.O.V. & PLUG

12" M.O.V.

12" HOPE DB (RC)

12" M.O.V. & PLUG

12" M.O.V.

12" HOPE DB (RC)

12" M.O.V. & PLUG

12" M.O.V.

12" HOPE DB (RC)

12" M.O.V. & PLUG

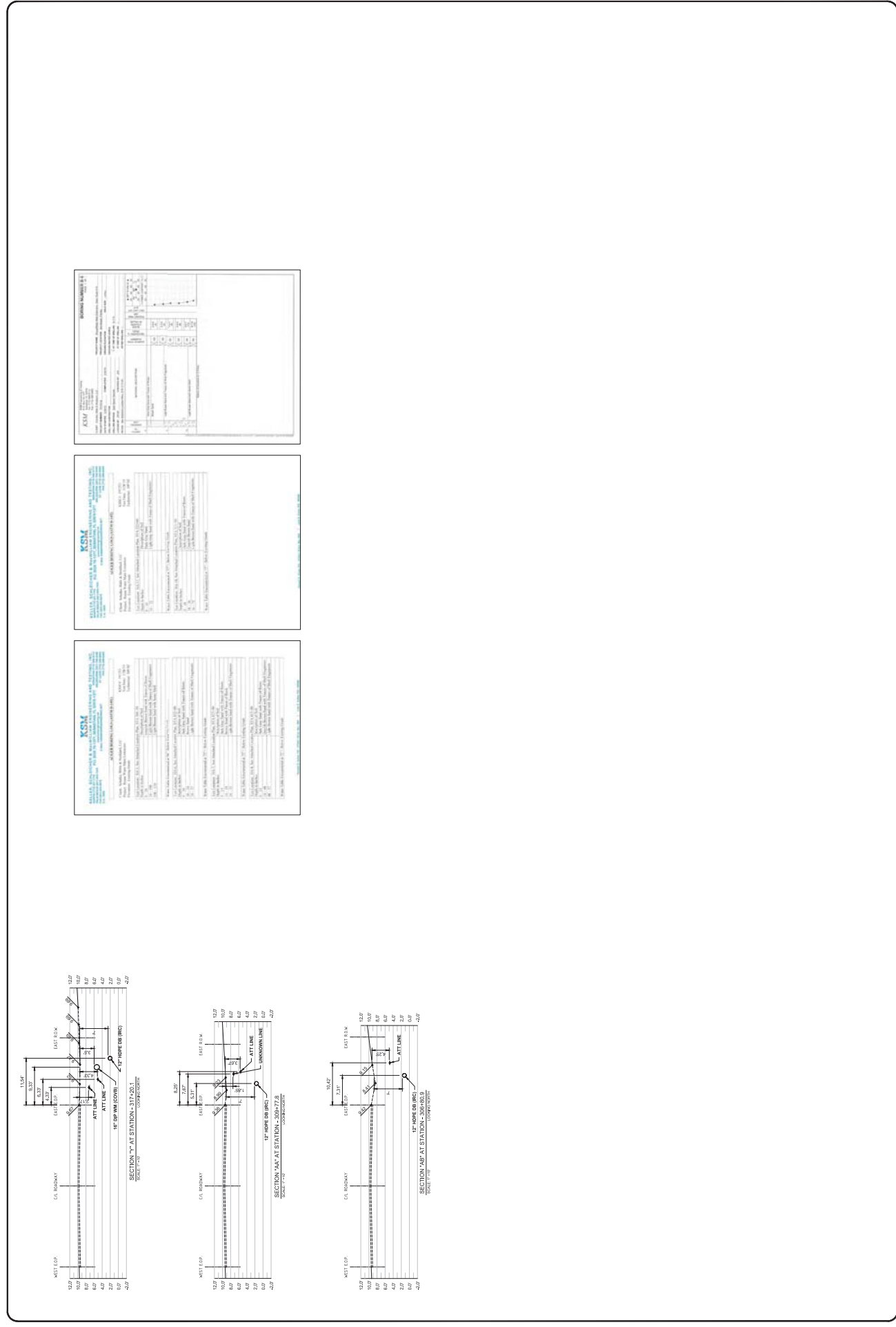
12" M.O.V.

DATE	11/11/2019
BY	W. J. BROWN
CHECKED BY	W. J. BROWN
SCALE	AS SHOWN
PROJECT	INDIAN RIVER COUNTY UTILITIES DEPARTMENT
DRAWING NO.	18-1122
SHEET NO.	6B
TITLE	"POT-HOLING" SECTIONS

SCHULKE, BITTLE & STODARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO. 00004648
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32909
 TEL 772.770.9022 FAX 772.770.9496 EMAIL info@sbenjenners.com

A1A RE-USE MAIN
 INDIAN RIVER COUNTY
 UTILITIES DEPARTMENT

6B
 18-1122



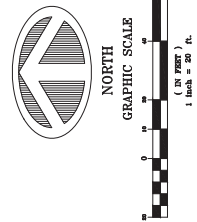
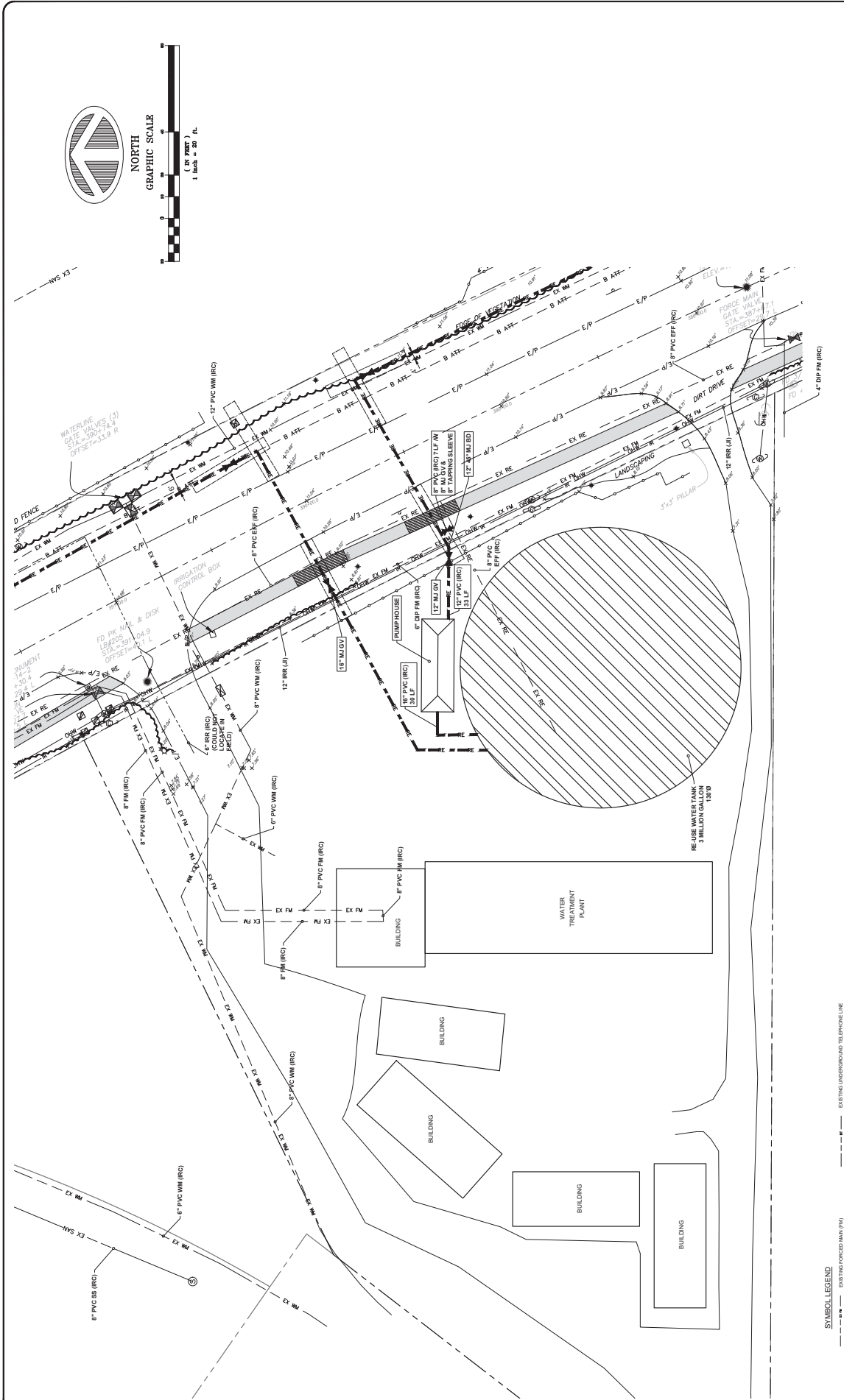
DATE	DESCRIPTION

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO. 00008688
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL: 772.770.9522 FAX: 772.770.9496 EMAIL: info@sbsengineers.com

SEA OAKS
 3M WASTE WATER
 TREATMENT PLANT

A1A RE-USE MAIN
 INDIAN RIVER COUNTY
 UTILITIES DEPARTMENT

DATE	7
SCALE	1" = 50'
PROJECT NO.	18-1122



- SYMBOL LEGEND**
- EXISTING FORCED MAIN (FM)
 - EXISTING SANITARY SEWER (SS)
 - EXISTING WATER SERVICE (WS)
 - EXISTING WATER MAIN (WM)
 - EXISTING USE WATER (UW)
 - EXISTING OVERHEAD POWERLINE
 - NEW/RE-USE WATER (EFF)
 - EXISTING UNDERGROUND ATT LINE
 - EXISTING UNDERGROUND TELEPHONE LINE
 - EXISTING WOODEN POWER POLE
 - EXISTING CONCRETE POWER POLE
 - EXISTING CATCH BASIN
 - EXISTING GUY WIRE
 - EXISTING STREET SIGN
 - SOIL BORING LOCATIONS
 - BORE PIT

- ABBREVIATIONS:**
- CONC. - CONCRETE
 - COV. - COVER
 - CSA - COVER SAND ANCHOR
 - J - J-BOX ISLAND
 - PCV - POLYETHYLENE VINYL CHLORIDE
 - HDR - HIGH DENSITY POLYETHYLENE

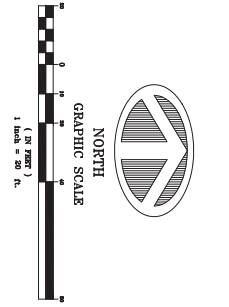
SYMBOL LEGEND

--- EXISTING OVERHEAD POWERLINE
 --- EXISTING UNDERGROUND TELEPHONE LINE
 --- EXISTING UNDERGROUND CABLE TV
 --- EXISTING UNDERGROUND FIBER OPTIC
 --- EXISTING UNDERGROUND CABLE TV
 --- EXISTING UNDERGROUND CABLE TV

--- EXISTING UNDERGROUND TELEPHONE LINE
 --- EXISTING WOODEN POWER POLE
 --- EXISTING CONCRETE POWER POLE
 --- EXISTING NO CATCHWATER
 --- EXISTING NO CATCHWATER
 --- EXISTING NO CATCHWATER
 --- EXISTING STREET SIGN
 --- EXISTING STREET SIGN
 --- EXISTING STREET SIGN
 --- EXISTING STREET SIGN

--- EXISTING UNDERGROUND TITILLINE
 --- EXISTING UNDERGROUND TITILLINE
 --- EXISTING UNDERGROUND TITILLINE
 --- EXISTING UNDERGROUND TITILLINE

ABBREVIATIONS:
 RIC = INDIAN RIVER COUNTY
 J = JACOBI ISLAND
 DWP = LOCAL DISTRICT PUBLIC WORKS DEPARTMENT
 HPT = HIGH-RESOLUTION PHOTOGRAPHY



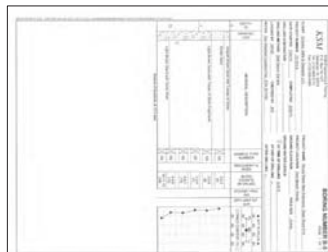
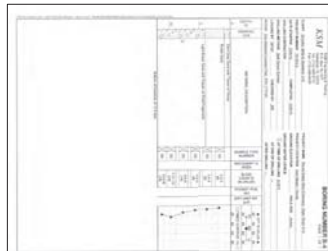
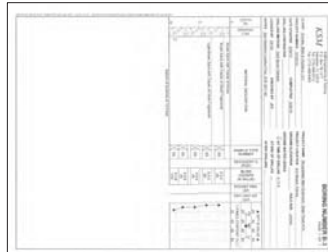
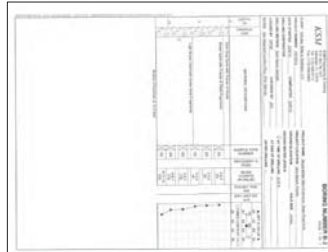
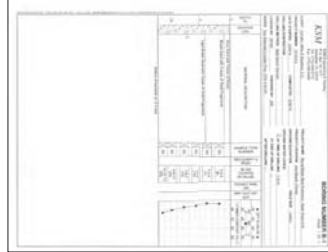
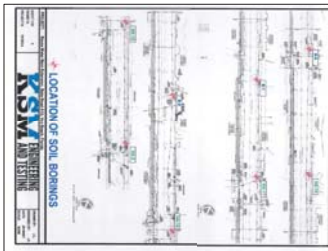
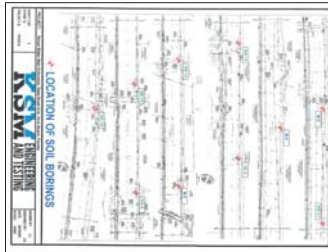
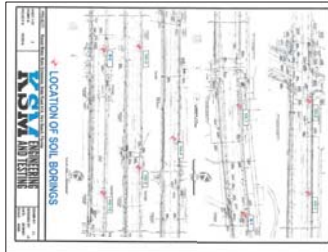
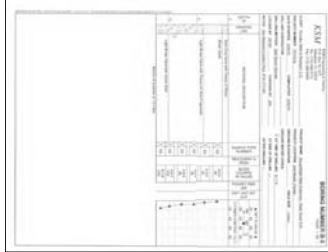
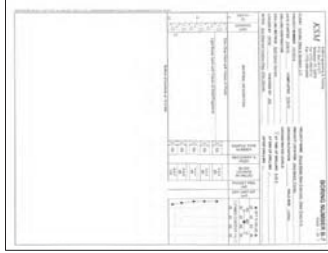
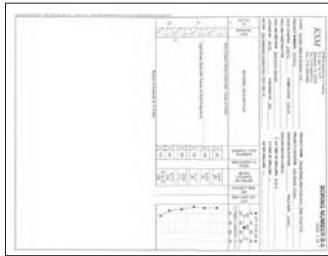
7A
18-122

A1A RE-USE MAIN INDIAN RIVER COUNTY UTILITIES DEPARTMENT

SEA OAKS 3M WASTE WATER TREATMENT PLANT

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO. 00006668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbeengineers.com

DATE	DESCRIPTION



18-122-01
 18-122-02
 18-122-03
 18-122-04
 18-122-05
 18-122-06
 18-122-07
 18-122-08
 18-122-09
 18-122-10
 18-122-11
 18-122-12
 18-122-13
 18-122-14
 18-122-15
 18-122-16

18-122-17
 18-122-18
 18-122-19
 18-122-20
 18-122-21
 18-122-22
 18-122-23
 18-122-24
 18-122-25
 18-122-26
 18-122-27
 18-122-28
 18-122-29
 18-122-30

18-122-31
 18-122-32
 18-122-33
 18-122-34
 18-122-35
 18-122-36
 18-122-37
 18-122-38
 18-122-39
 18-122-40
 18-122-41
 18-122-42
 18-122-43
 18-122-44

18-122-45
 18-122-46
 18-122-47
 18-122-48
 18-122-49
 18-122-50
 18-122-51
 18-122-52
 18-122-53
 18-122-54
 18-122-55
 18-122-56
 18-122-57
 18-122-58

18-122-59
 18-122-60
 18-122-61
 18-122-62
 18-122-63
 18-122-64
 18-122-65
 18-122-66
 18-122-67
 18-122-68
 18-122-69
 18-122-70
 18-122-71
 18-122-72

18-122-73
 18-122-74
 18-122-75
 18-122-76
 18-122-77
 18-122-78
 18-122-79
 18-122-80
 18-122-81
 18-122-82
 18-122-83
 18-122-84
 18-122-85
 18-122-86

18-122-87
 18-122-88
 18-122-89
 18-122-90
 18-122-91
 18-122-92
 18-122-93
 18-122-94
 18-122-95
 18-122-96
 18-122-97
 18-122-98
 18-122-99
 18-122-100