

February 16, 2024

Ms. Cindy Mulkey
Siting Coordination Office
2600 Blair Stone Road, MS 3500
Tallahassee, FL 32399-2400

Re: Site Certification Amendment Request for Water Sharing Project for
Gainesville Regional Utilities Deerhaven Renewables Generating Station PA 09-55B

Dear Ms. Mulkey,

Gainesville Regional Utilities (GRU) is proposing the construction of a pumping and piping system to share water burdens of both the Deerhaven (DH) and Deerhaven Renewables (DHR) generating facilities. These facilities are adjacent to each other with no interceding property. To facilitate this project we are requesting an amendment to the Site Certification for the Deerhaven Renewables Generating Station.

Project Description

As both facilities exist today, the water systems operate separately with no interconnections. The purpose of this project is to allow for exchange of process water between the two generating facilities, while still maintaining the Zero Liquid Discharge status for the overall combined site.

For cooling tower makeup, treated ground water from the DH Process Plant cold lime softening system will be supplied to the DHR cooling tower water system. This will provide an alternate source of cooling tower water supply with reduced scaling properties. Reduced scaling properties allow for increased cycles of concentration thereby reducing blowdown and chemical additive utilization. Additionally, water-cooled components experience reduced fouling and operate more efficiently, reducing the costs and environmental impacts associated with power production.

The process water reuse systems will be interconnected so that either site may treat process water and provide re-use water to the other. This provides flexibility when either plant is in a forced or maintenance outage to have a means to treat process water and allow for more efficient use of the containment systems. By interconnecting the systems, the available surge capacity is increased even though no additional containment ponds are being constructed. Since these ponds also receive storm water, the available capacity is impacted by the amount of rainfall. Having this flexibility reduces risk associated with extreme weather events. It also allows for optimization of brine concentrator processing capacity at both facilities meaning containment levels can be reduced faster by maximizing both system's throughput. A system may be taken out of service when water processing demand is low. Temporarily shutting down these systems when not needed for production will reduce chemical additive utilization, wear & tear on the equipment, and reduce resource consumption required to run the systems.

Project Notes

Construction:

Please see included design construction prints and layout.

Construction on the DHR site begins at the boundary crossing between the DH and the DHR at the South Gate of DHR. This will be a continuation of the 10" HDPE pipe whose source is the DH Cooling Tower Makeup Tank. This line will travel a maximum of 600 ft and terminate at the DHR Raw water tank to provide cooling tower makeup water. The CTMW will travel a maximum of 30 ft under the road by the DHR Raw Water Tank.

The PWW line carrying Used Process Water to the DHR Process Water Tank will be a maximum of 650 ft long with a maximum of 30 ft of underground piping. This pipe will be a continuation of the 6" HDPE pipe whose origin is the existing pipe (PVC) ASW 37 on the DH site. Directional flow of this pipe will be primarily from the ASW 37 to the DHR Process Water Tank.

A 'wye' off the PWW pipe (on the DHR property) in the direction of the Fly Ash Canal pump structure is to be constructed in 6" HDPE. The line will have minimal length on the DHR site; a maximum of 20 ft above ground before crossing to the DH site. The directional flow will be towards the Northern Drainage Ditch pump structure only. Please note from the 'wye' to the DHR Process Water Tank process water can flow in either direction according to operational need.

Environmental and Local Impacts:

GRU certifies that the following are true and verifiable:

Gopher Tortoise Habitat Impacts -The area where piping and support structures will be constructed has been thoroughly inspected and found to have no gopher tortoise burrows or tortoises.

Stormwater Impacts - Construction will have no impact on stormwater runoff, collection, conveyances or impoundments. No dewatering of any ponds or conveyances is required for construction.

Water Usage/Discharge Impacts - No liquid discharges as of result of construction or operation are anticipated. The new construction will maintain zero liquid discharge for each facility and the interconnecting piping. No additional ground water will be required as a result of new system operation.

Roadways Impacts - No impacts on federal, state or county roadways are anticipated as a result of construction or operation.

Business Impacts - No impacts on local business by construction or operation are anticipated.

Fish and Wildlife Impacts - No impacts on fisheries or land habitats are anticipated as a result of construction and operation.

Local Authority - No environmental impacts are anticipated by the construction or operation of the new system. No impacts to local citizenry, business, watersheds or greenspaces are anticipated.

If you have any questions or require additional information you reach me at (352) 538-7143, (352)-393-1299, and embryrg@gru.com. GRU appreciates your consideration of this request and look forward to your response.

Sincerely,



Regina Embry
Principal Engineer



HDPE PIPING INSTALLATION

WATER SHARE DEERHAVEN RENEWABLE ENERGY PLANT AND DEERHAVEN GENERATION PLANT GAINESVILLE, FLORIDA



VICINITY MAP

SCALE: 1"=2,000'

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- C-102 PLAN AND PROFILE
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- C-202 WASTEWATER TANK PLAN AND SECTION
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- E-101 ELECTRICAL DH CTMW PUMP STATION PLAN
- E-102 ELECTRICAL SINGLE LINE DIAGRAM AND PANEL SCHEDULE
- E-103 ELECTRICAL DETAILS
- E-104 ELECTRICAL DETAILS

Contacts:

OWNER:
ALLISON GRIFFIN
ENGINEER IV
MAJOR MAINTENANCE GROUP
GAINESVILLE REGIONAL UTILITIES
MAIL: PO BOX 147117
GAINESVILLE FL 32614
MAIL CODE 518
DELIVERY: 10001 NW 13 STREET,
GAINESVILLE, FL 32653
OFFICE: (352) 393-6178
CELL: (321) 591-0991
email: griffinaw@gro.com

ENGINEER:
DEWBERRY
REINARDO MALAVE P.E.
800 NORTH MAGNOLIA AVENUE
SUITE 1000
ORLANDO, FL 32803
PH: (321) 354-9656
rmalave@dewberry.com

SUBMITTAL	
☐ PRELIMINARY	
☐ APPROVAL	
☒ RECORD	
☐ CONSTRUCTION	
☐ REVISION	
☐ RECORD	
SET NUMBER	

SIGNATURE BLOCK	
DH OPS	
DH OPS	
LAB	
ELECTRICAL PLANT ENG	
MECHANICAL PLANT ENG	
ENV DSPT	
DOP	
DPAS	



Dewberry Engineers Inc.
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407.403.0100

WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT
DEERHAVEN GENERATION PLANT
GAINESVILLE, FLORIDA
32653



REVISION

SCALE
0' 2000' 4000'
SCALE: 1" = 2000'

REVISIONS	
NO.	DESCRIPTION
1	CTMW # 10 12' REVISION
2	ON SITE COMMENTS
3	FINAL REVIEW

DRAWN BY: TMSB
APPROVED BY: JMM
CHECKED BY: JMM
DATE: OCTOBER 21, 2022

TITLE: COVER SHEET

PROJECT NO: 8910648

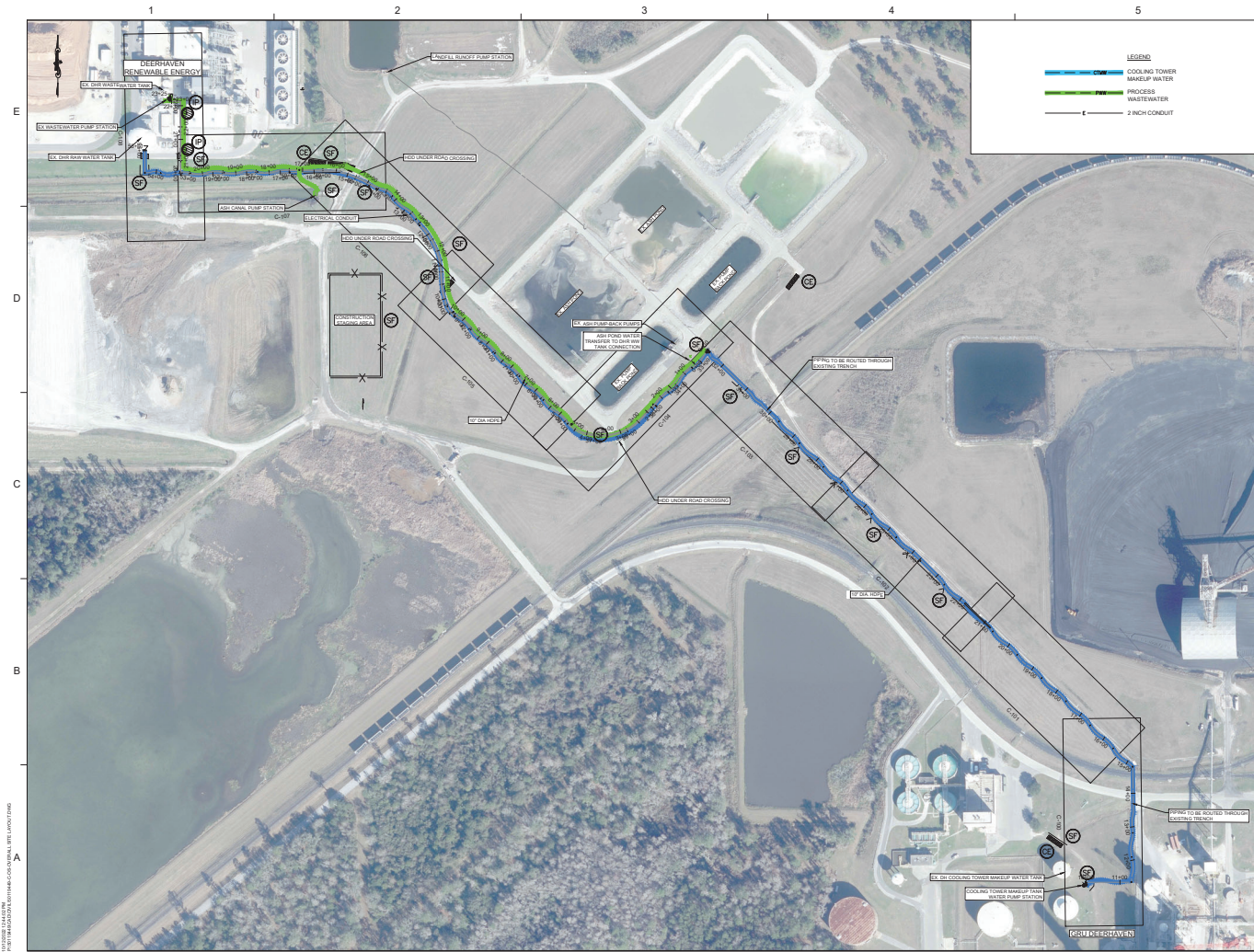
G-001

SHEET NO.

GENERAL NOTES

- [illegible]

[illegible]





Dewberry Engineers Inc.
10000 N. US Highway 1
Suite 100
Orlando, FL 32835
407.843.1100

**WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
OVERALL SITE LAYOUT**
32853

SEAL
I hereby certify that
I am a duly Licensed Professional Engineer
in the State of Florida, License No. 15000
and I am the author of the design shown on this
drawing.

REY PLAN

SCALE
1" = 100'

REVISIONS	DATE	DESCRIPTION
1	10/21/2022	FINAL REVIEW
2	10/21/2022	CLIENT COMMENTS
3	10/21/2022	CLIENT COMMENTS
4	10/21/2022	CLIENT COMMENTS
5	10/21/2022	CLIENT COMMENTS
6	10/21/2022	CLIENT COMMENTS
7	10/21/2022	CLIENT COMMENTS
8	10/21/2022	CLIENT COMMENTS
9	10/21/2022	CLIENT COMMENTS
10	10/21/2022	CLIENT COMMENTS

DRAWN BY: TSMC
APPROVED BY: JLM
CHECKED BY: JLM
DATE: OCTOBER 21, 2022

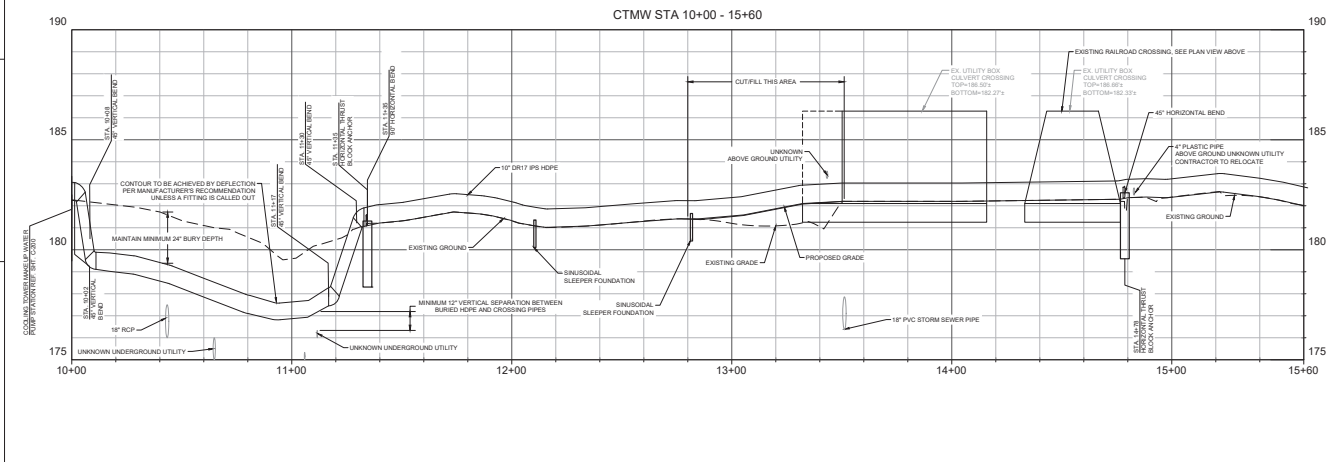
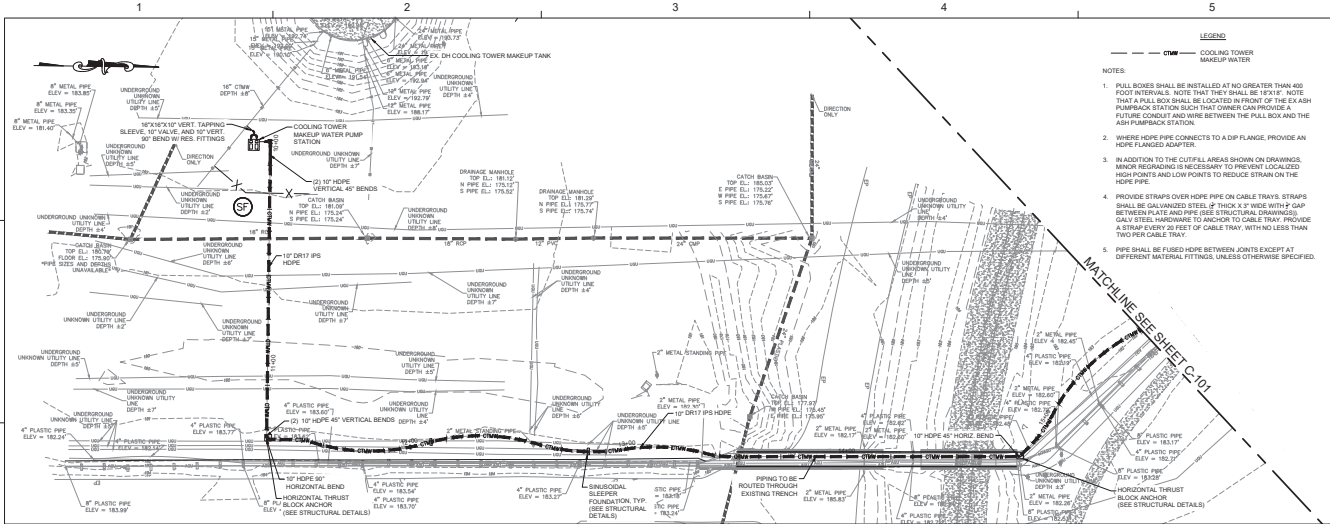
TITLE: OVERALL SITE LAYOUT

PROJECT NO.: 811048

G-003

SHEET NO.

10/21/2022 10:44:29 AM
PROJECT: WASHINGTON STATE WATER TREATMENT PLANT



Dewberry Engineers Inc.

10001 NW 13TH ST.
GAINESVILLE, FLORIDA 32653

WATER SHARE
DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
10001 NW 13TH ST.
GAINESVILLE, FLORIDA 32653



REVISION

SCALE:
HORIZ: 1"=20'
VERT: 1"=2'

NO.	DESCRIPTION	DATE
1	FINAL REVIEW	8/1/2021
2	CONTRACT COMMENTS	7/1/2021
3	CTMW #1 TO 10+00	6/1/2021

DRAWN BY: TBC

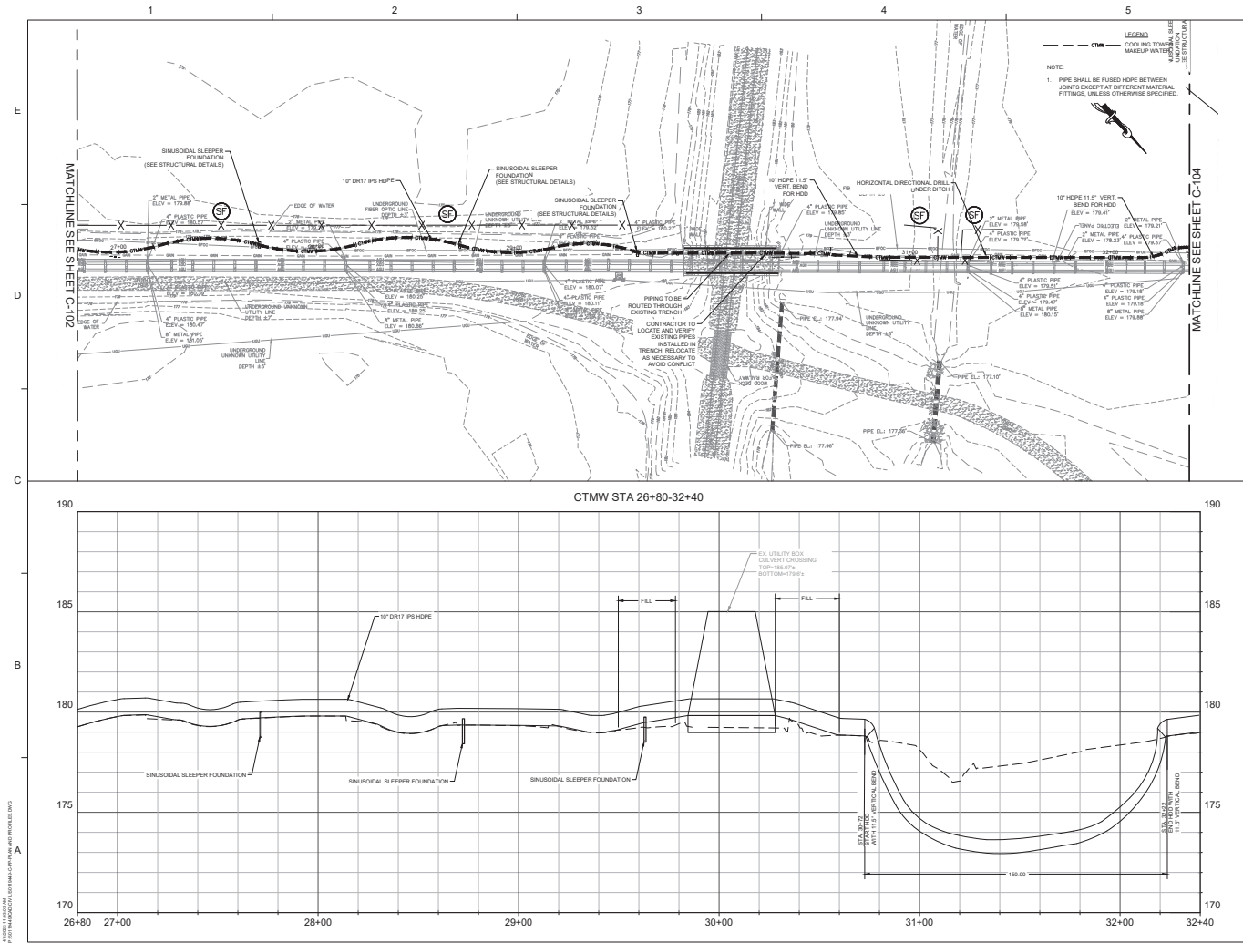
CHECKED BY: JLM

DATE: OCTOBER 21, 2022

TITLE: PLAN AND PROFILE

PROJECT NO.: 8910648

SHEET NO.: C-100



Dowberry Engineers Inc.
2000 NW 13th St.
Gainesville, FL 32653
Phone: 352.333.1100
Fax: 352.333.1101
www.dowberry.com

PROJECT NO. 0810640

C-103

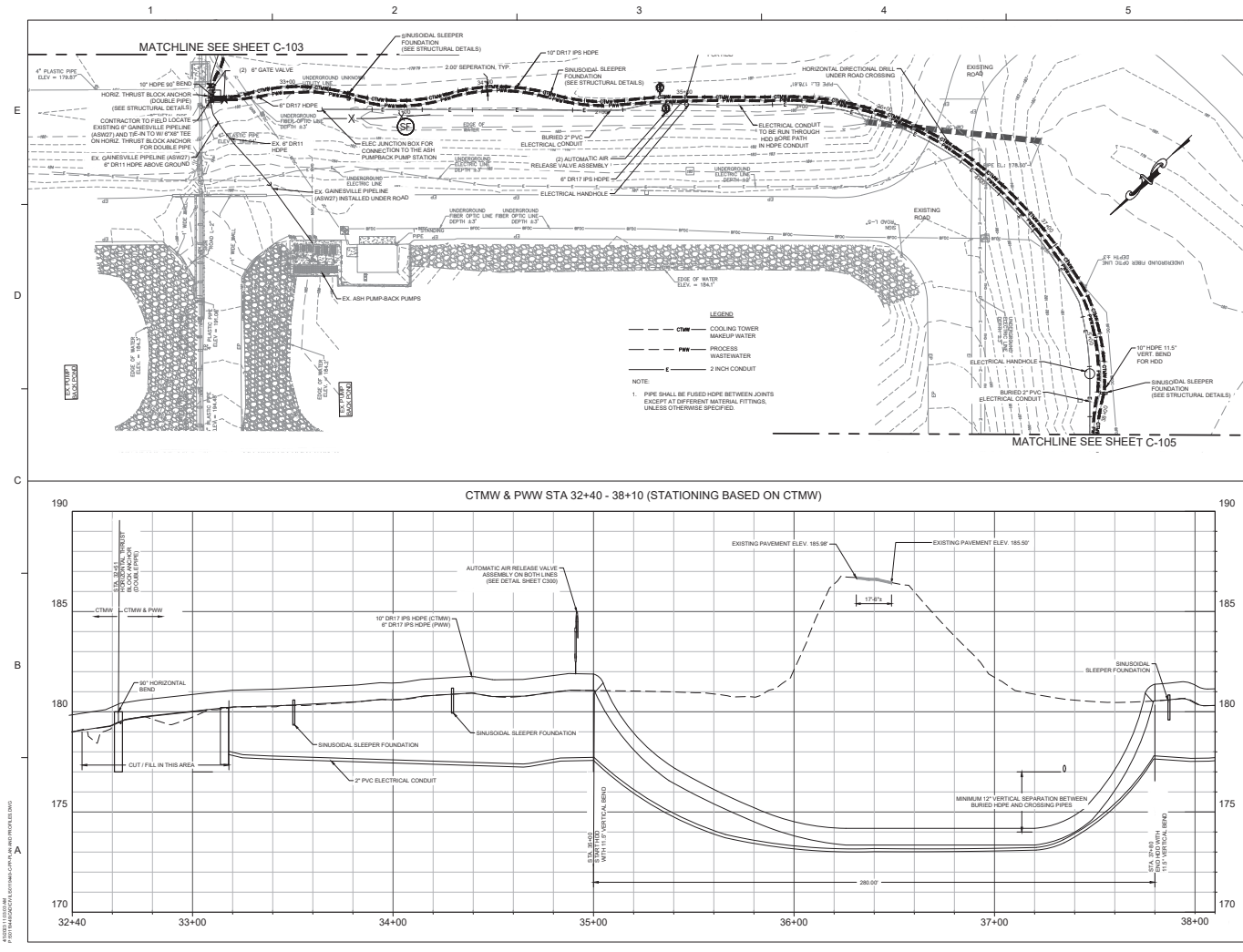
SHEET NO.

WATER SHARE
DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
10001 NW 13TH ST.
GAINESVILLE, FLORIDA 32653

REVISIONS

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	08/11/2011
2	ISSUED FOR CONSTRUCTION	09/01/2011
3	FINAL REVIEW	08/11/2011

DRAWN BY: TBC
CHECKED BY: JMW
DATE: OCTOBER 21, 2012



Dewberry Engineers Inc.
1000 NW 13th St.
Gainesville, FL 32653
Phone: 813.351.1000
Fax: 813.351.1001
www.dewberry.com

**WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT**
10001 NW 13TH ST.
GAINESVILLE, FLORIDA 32653

REAL

REVISION

NO.	DESCRIPTION	DATE
1	CTMW & PWW TO 12\"/>	08/03
2	ADD COMMENTS	09/03
3	FINAL REVIEW	01/03

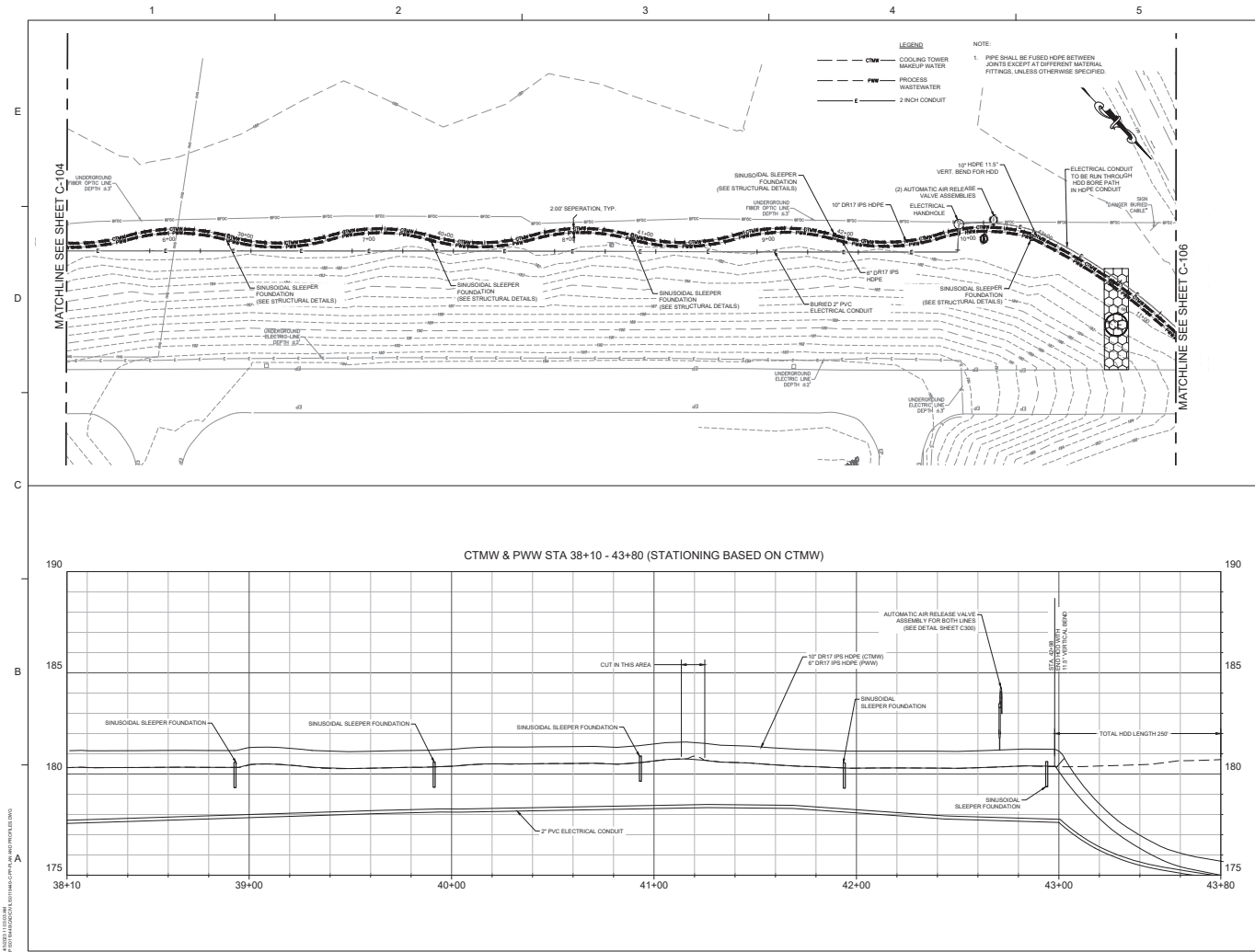
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APPROVED BY: JRM
CHECKED BY: JRM
DATE: OCTOBER 21, 2022

TITLE: **PLAN AND PROFILE**

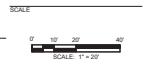
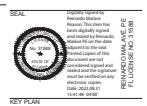
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C-104

SHEET NO.



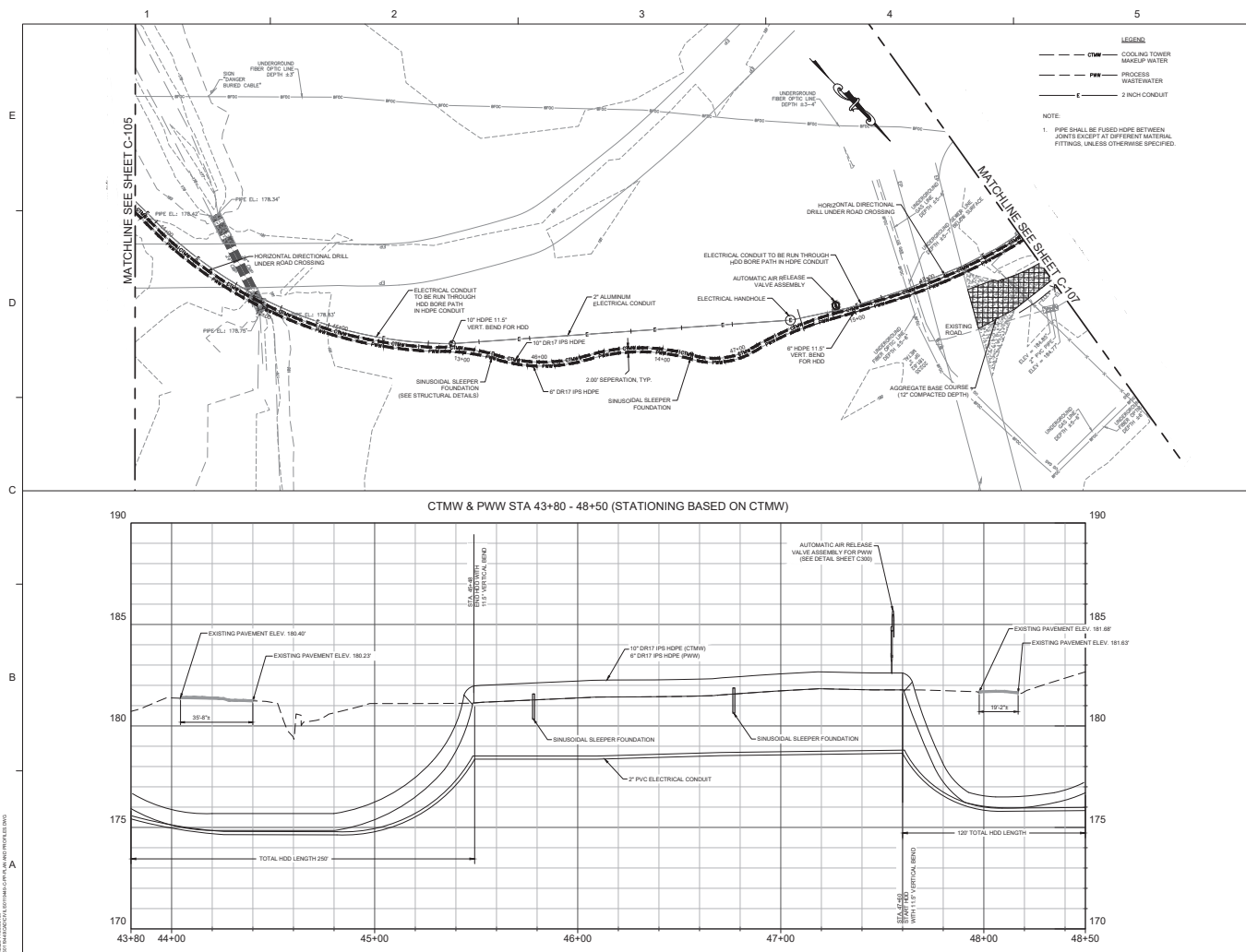
WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
10001 NW 13TH ST.
GAINESVILLE, FLORIDA 32653



REVISIONS		
NO.	DESCRIPTION	DATE
1	CTMW & PWW	8/11/2021
2	FINAL REVIEW	8/11/2021
3	FINAL REVIEW	8/11/2021

DRAWN BY: TSMC
APPROVED BY: JSM
CHECKED BY: JSM
DATE: OCTOBER 21, 2022
TITLE: PLAN AND PROFILE

PROJECT NO.: 8810648
C-105
SHEET NO.

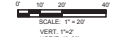


Dowberry

WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
10001 NW 13TH ST.
GAINESVILLE, FLORIDA 32653

KEY PLAY

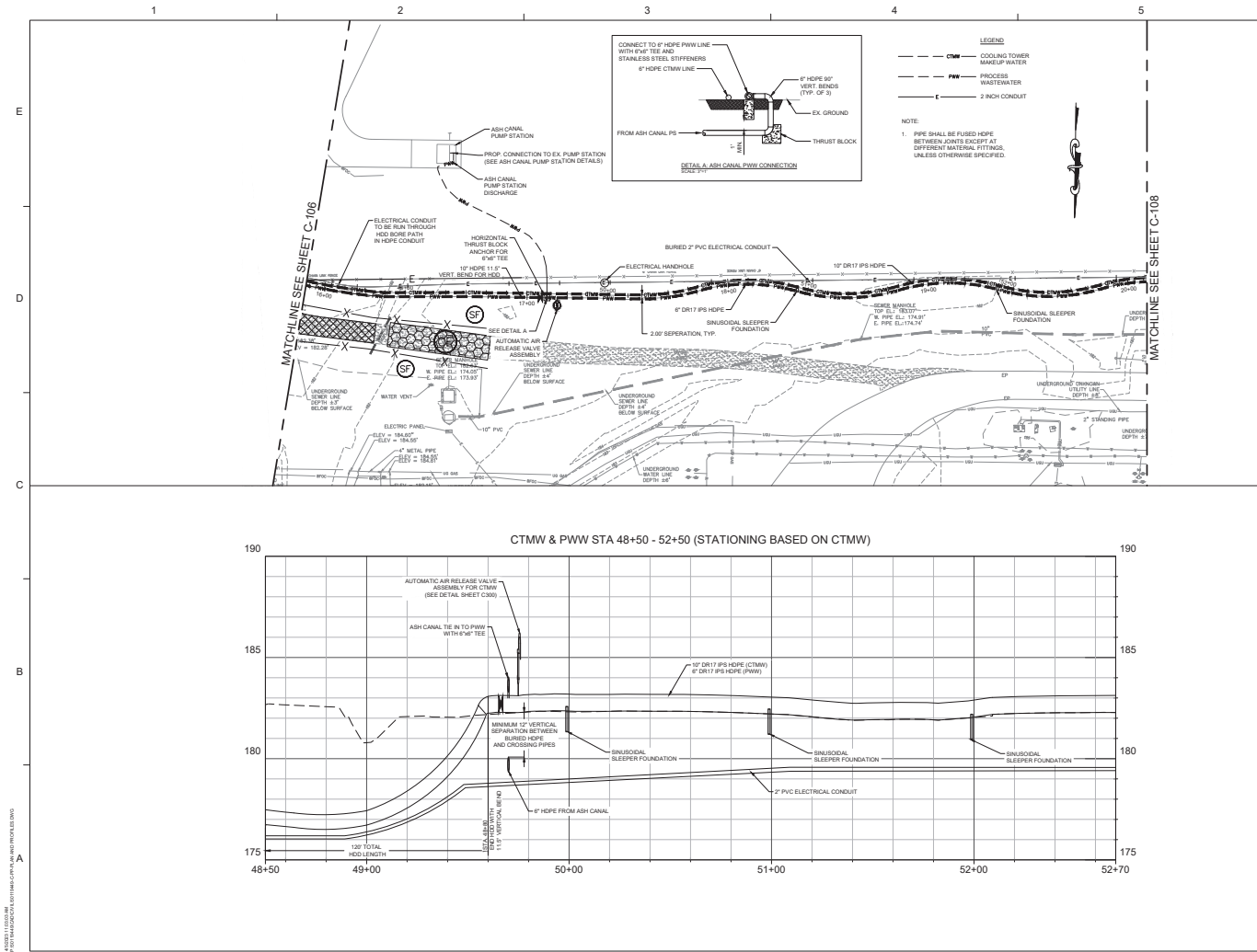
1997



REVISIONS		
3	FINAL REVIEW	8/11/07
2	CLIENT COMMENTS	7/17/07
1	CTMW 6" TO 10" RE/SIZE	4/6/07

PLAN AND PROFILE

C-106



Dowberry Engineers Inc.
1000 NW 13th St.
Gainesville, FL 32653

WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
10001 NW 13TH ST.
GAINESVILLE, FLORIDA 32653

SEAL

REVISIONS

NO.	DESCRIPTION	DATE
1	CTMW # TO 12" PWW	08/01/22
2	CLIENT COMMENTS	08/01/22
3	FINAL REVIEW	08/01/22

DRAWN BY: TSC
APPROVED BY: JMM
CHECKED BY: JMM
DATE: OCTOBER 21, 2022

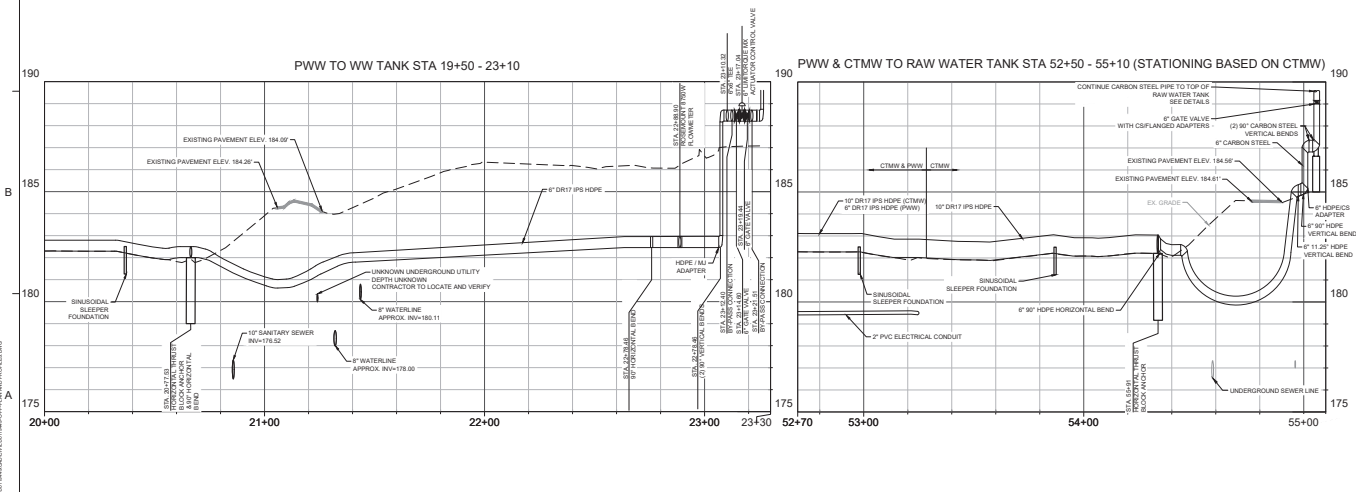
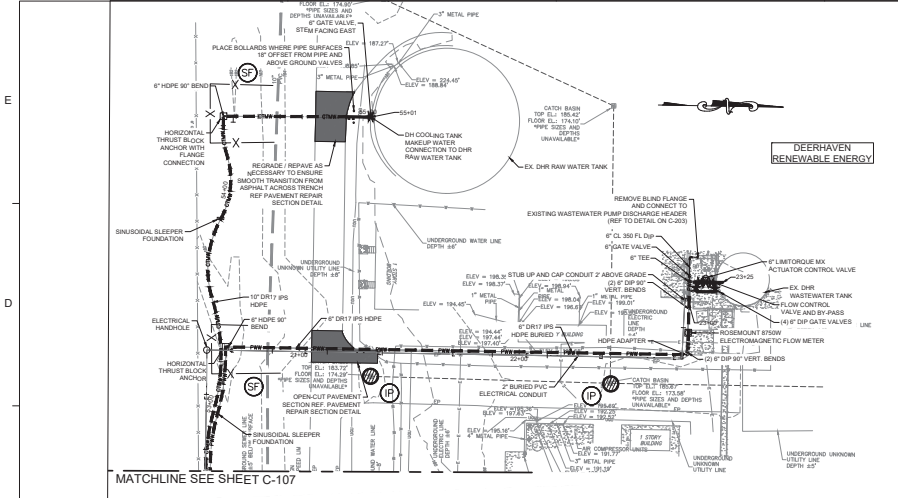
PLAN AND PROFILE

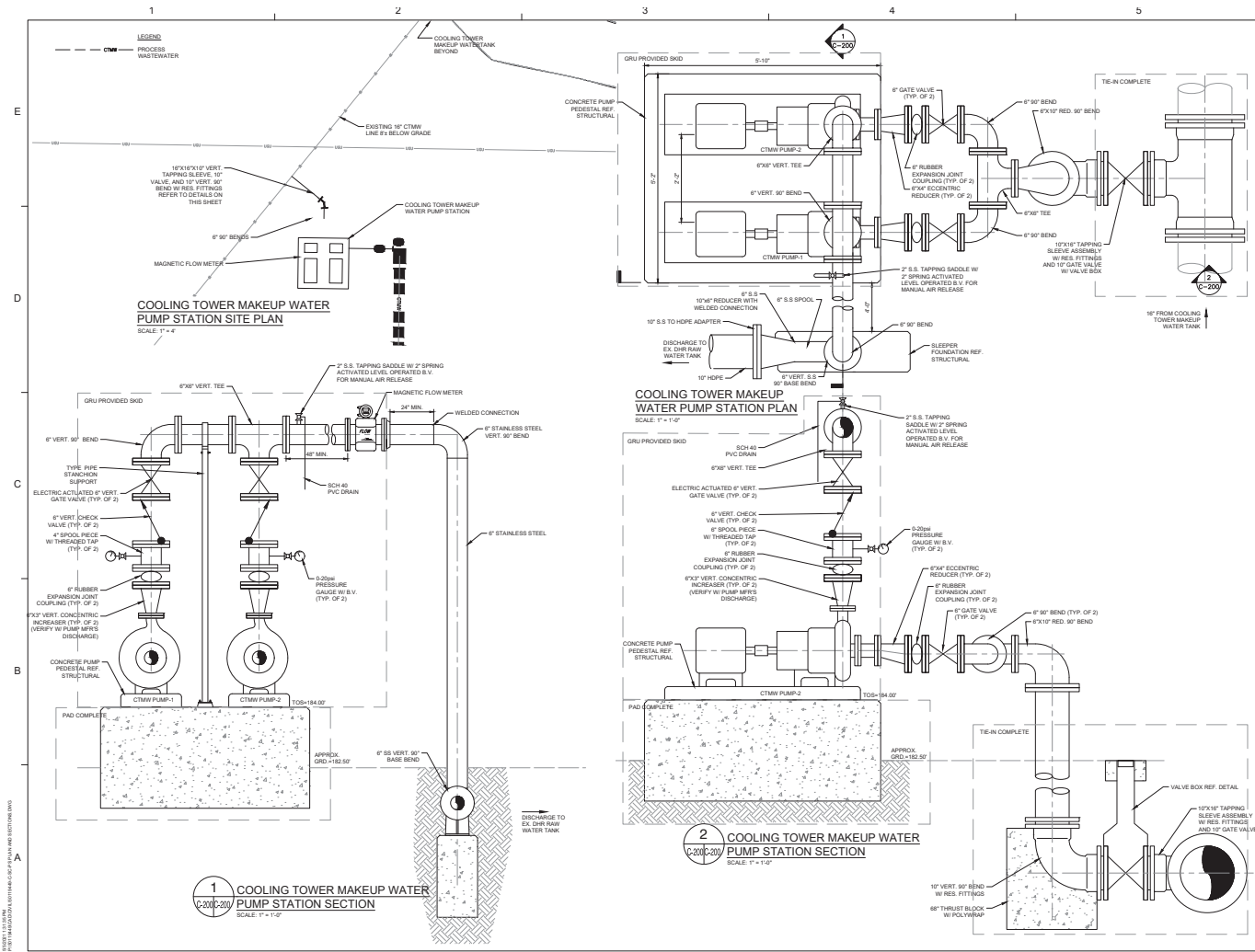
PROJECT NO. 5810648

C-107

SHEET NO.

1 2 3 4 5





Dewberry Engineers Inc.
800 N. Main Street
Suite 100
Gainesville, FL 32601
817.261.1100

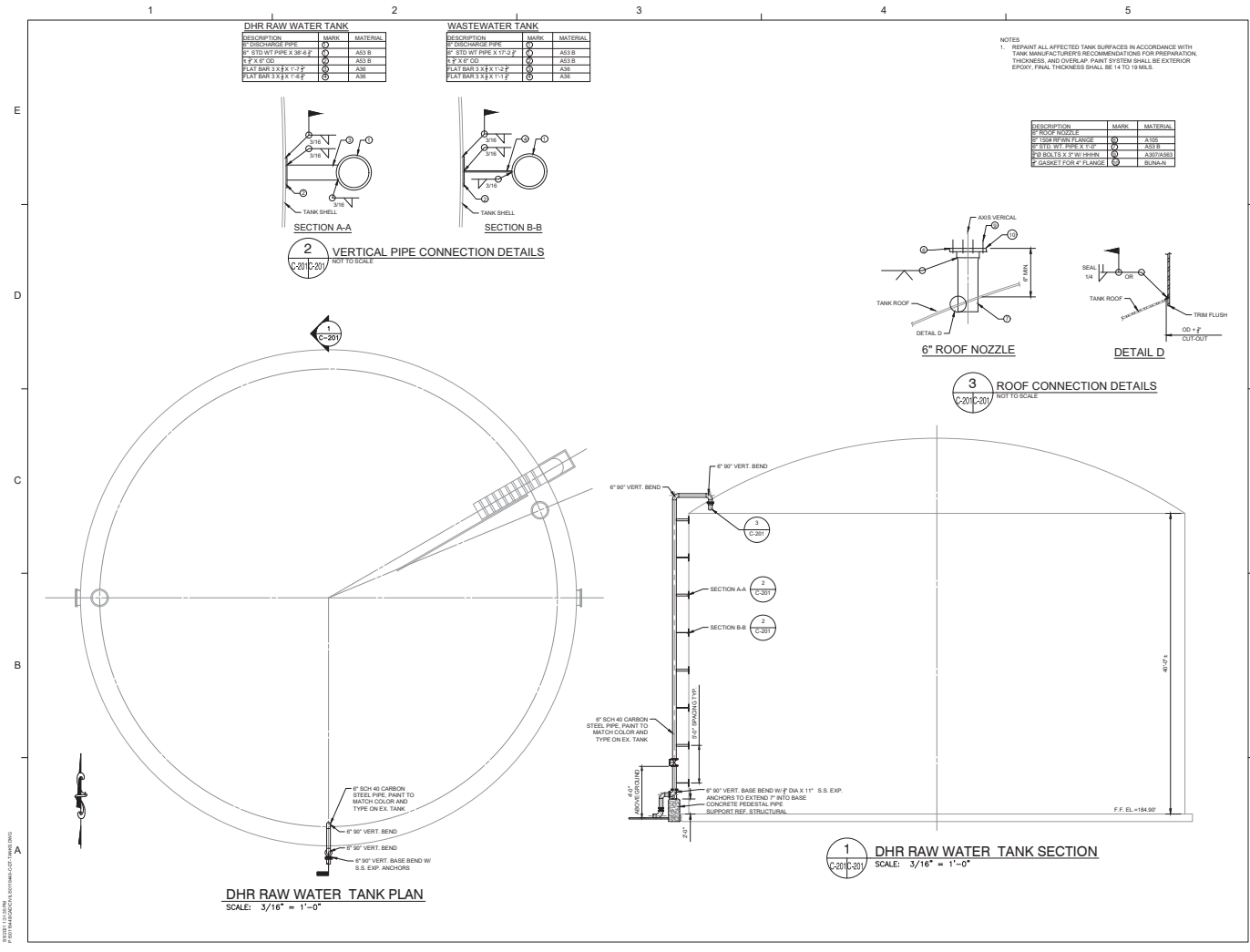
WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
GAINESVILLE, FLORIDA
32653

REVISIONS

NO.	DESCRIPTION	DATE
1	FINAL REVIEW	8/1/2021
2	CLIENT COMMENTS	7/1/2021
3	CTMW # 1 TO 12 RESIZES	6/20/21

APPROVED BY **TYPE**
CHECKED BY
DATE
TITLE **COOLING TOWER MAKEUP WATER PUMP STATION DETAILS**
PROJECT NO. **SSI 10446**

C-200



Dowberry Engineers Inc.
1000 N. Highway 100
Suite 100
Gainesville, Texas 76748
817.241.1100

WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
DEERHAVEN, FLORIDA 32653

SEAL
[Signature]
[Stamp]
RET PLAN

SCALE
0' 4' 8' 12'
SCALE: 3/16" = 1'-0"

REVISIONS

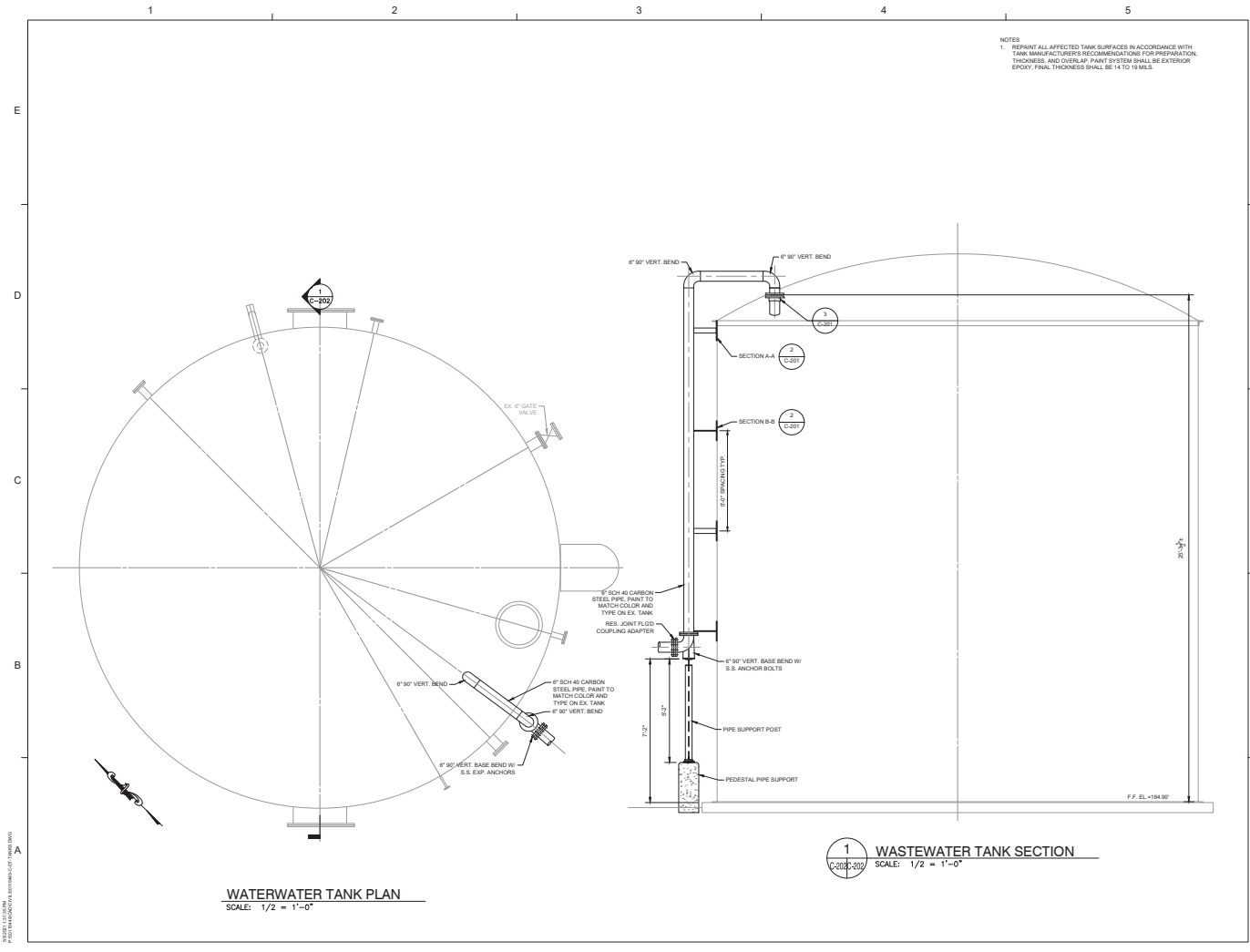
NO.	DESCRIPTION	DATE
1	FINAL REVIEW	8/1/2021
2	ON SITE COMMENTS	7/1/2021
3	CLIMATE TO 10' HEIGHT	6/1/2021

DRAWN BY: JMC
APPROVED BY: JMM
CHECKED BY: JMM
DATE: OCTOBER 21, 2022

TITLE: CTMW TO RAW WATER TANK PLAN AND SECTION
PROJECT NO.: 5910648

C-201

SHEET NO.



NOTES
1. REPAINT ALL AFFECTED TANK SURFACES IN ACCORDANCE WITH TANK MANUFACTURER'S RECOMMENDATIONS FOR PREPARATION, THICKNESS, AND OVERLAP. PAINT SYSTEM SHALL BE EXTERIOR EPOXY. PAINT THICKNESS SHALL BE 14 TO 19 MILS.

Dowberry Engineers Inc.
1800 N. Magnolia Avenue
Suite 100
Ocala, FL 32665
352.235.1100

**WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
WASTEWATER TANK PLAN AND
SECTION**
GAINESVILLE, FLORIDA
32653

SEAL

REV. PLAN

SCALE

SCALE: 1/2" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DATE
1	FINAL REVIEW	8/1/2021
2	CLIENT COMMENTS	7/1/2021
3	CLIENT #1 TO 10' RESIZE	6/20/21

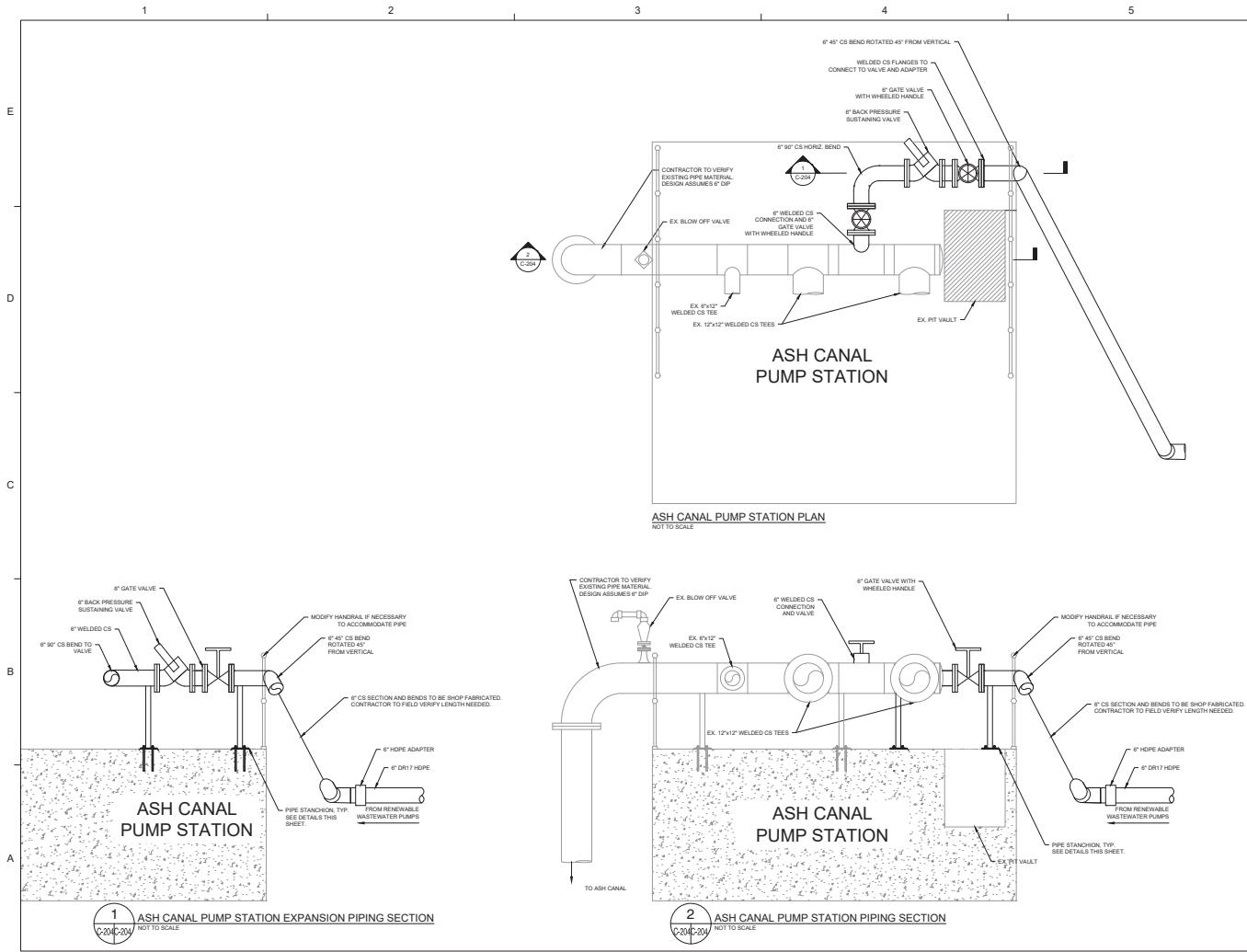
DRAWN BY: JMC
APPROVED BY: JMM
CHECKED BY: JMM
DATE: OCTOBER 21, 2022

TITLE: **WASTEWATER
TANK PLAN AND
SECTION**

PROJECT NO.: 59110449

C-202

SHEET NO.



Dewberry
Dewberry Engineers Inc.
1000 N. Highway 100
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Ocala, FL 32668
352.236.1100

**WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
WATER MAINS AND VALVES
GAINESVILLE, FLORIDA
32653**

SEAL
I, the undersigned, being a duly qualified Professional Engineer in the State of Florida, do hereby certify that I am the author of the foregoing drawings and specifications, and that I am a duly licensed Professional Engineer in the State of Florida.
Date: 10/21/2022
FL License No. 154853

REV PLAN

SCALE
AS NOTED

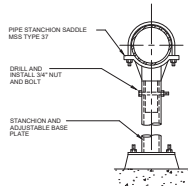
NO.	REVISIONS	DATE
1	FINAL REVIEW	8/11/21
2	CLIENT COMMENTS	9/1/21
3	CLIENT COMMENTS	9/1/21
4	CLIENT COMMENTS	9/1/21
5	CLIENT COMMENTS	9/1/21
6	CLIENT COMMENTS	9/1/21
7	CLIENT COMMENTS	9/1/21
8	CLIENT COMMENTS	9/1/21
9	CLIENT COMMENTS	9/1/21
10	CLIENT COMMENTS	9/1/21

TITLE
ASH CANAL PUMP STATION DETAILS

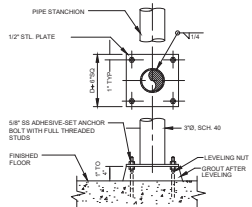
PROJECT NO. 5910448

C-204

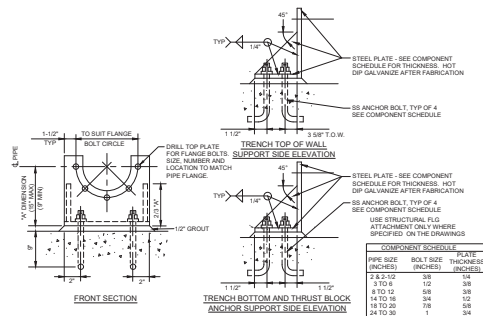
SHEET NO.



PIPE STANCHION SADDLE DETAIL
NOT TO SCALE
4\"/>



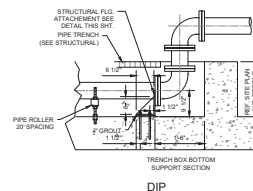
PIPE STANCHION FLOOR ATTACHMENT DETAIL
NOT TO SCALE



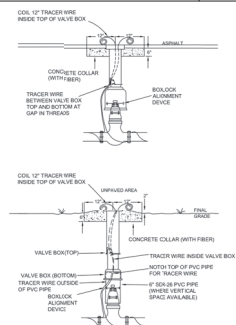
STRUCTURAL FLG. ATTACHMENT DETAIL
NOT TO SCALE

NOTE: FOR EXISTING CONCRETE, NEW PRECAST CONCRETE OR NEW CONCRETE MASONRY UNITS, USE SURFACE MOUNT CHANNEL, UNISTRUT P-1000, SUPER STRUT A-1200, ELCON 800 OR EQUAL. FOR ALL POURED-IN-PLACE CONCRETE PLACE UNDER THIS CONTRACT, USE EMBEDDED CONCRETE INSERT CHANNEL, UNISTRUT P-3200 SERIES WITH END CAPS, OR EQUAL, AND DELETE THE SURFACE MOUNT ANCHOR BOLTS.

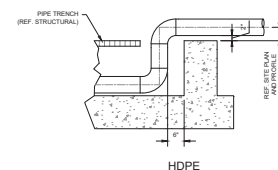
COMPONENT SCHEDULE			
PIPE SIZE (INCHES)	BOLT SIZE (INCHES)	PLATE THICKNESS (INCHES)	
2 & 3/4 TO 3	3/8	1/4	
3 TO 4	1/2	3/8	
4 TO 6	5/8	3/8	
6 TO 8	3/4	1/2	
8 TO 12	5/8	3/8	
12 TO 16	3/4	1/2	
16 TO 20	7/8	5/8	
20 TO 36	1	3/4	



PIPE ATTACHMENT - TYPE B PIPE TRENCH DETAIL
NOT TO SCALE



VALVE BOX DETAIL FROM GAINESVILLE REGIONAL UTILITIES STANDARD DETAILS, DETAIL WW-4.3
NOT TO SCALE

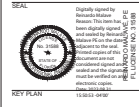


HOPE



Dewberry Engineers Inc.
2000 N. University Avenue
Suite 100
Gainesville, FL 32601
817.401.1100

WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
GAINESVILLE, FLORIDA
32653



SCALE: AS NOTED

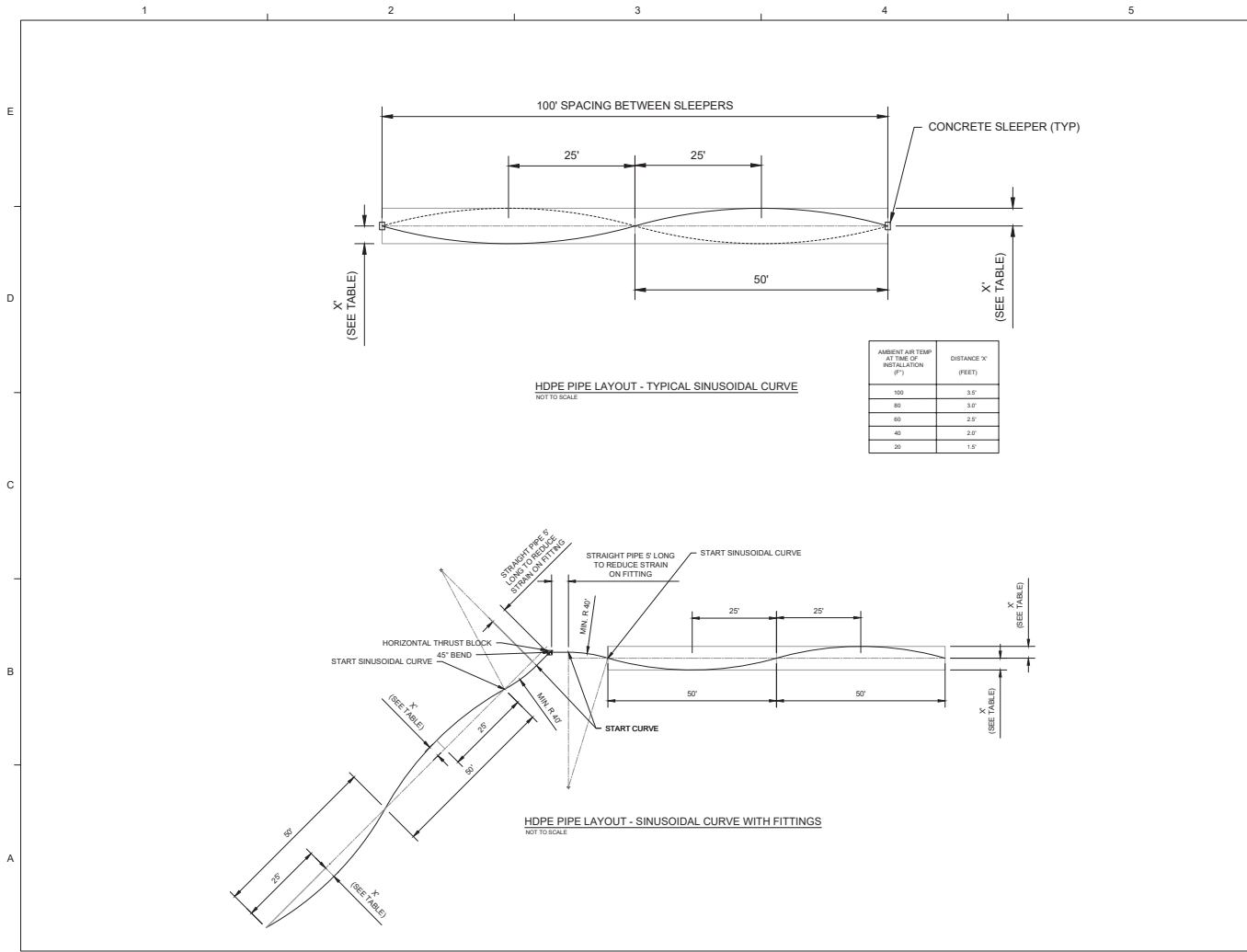
REVISIONS		
3	FINAL REVIEW	8/11/21
2	CLIENT COMMENTS	7/7/21
1	CTMIV 6" TO 1 1/2" RESIZE	4/8/21

DRAWN BY: JMC
APPROVED BY: JMM
CHECKED BY: JMM
DATE: OCTOBER 21, 2022
TITLE: DETAILS

PROJECT NO.: 59110440

C-301

SHEET NO.



Dowberry Engineers Inc.
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Suite 100
Ocala, FL 32665
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WATER SHARE
WATER SHARE DEERHAVEN
RENEWABLE ENERGY PLANT AND
DEERHAVEN GENERATION PLANT
DEERHAVEN, FLORIDA
GAINESVILLE, FLORIDA
32653

SEAL

David L. Smith
Professional Engineer
State of Florida
License No. 12588

REV PLAN

SCALE

AS NOTED

REVISIONS

NO.	DESCRIPTION	DATE
1	FINAL REVIEW	8/11/21
2	CLIENT COMMENTS	7/15/21
3	CLIENT COMMENTS	7/15/21
4	CLIENT COMMENTS	7/15/21
5	CLIENT COMMENTS	7/15/21
6	CLIENT COMMENTS	7/15/21
7	CLIENT COMMENTS	7/15/21
8	CLIENT COMMENTS	7/15/21
9	CLIENT COMMENTS	7/15/21
10	CLIENT COMMENTS	7/15/21

DRAWN BY: TNSC

APPROVED BY: JLM

CHECKED BY: JLM

DATE: OCTOBER 21, 2022

TITLE: DETAILS

PROJECT NO.: 8110448

C-302

SHEET NO.