



# CONSTRUCTION PLANS



FOR:  
**CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT (CREST), PHASE 3**  
 CLIENT:  
**LEHIGH ACRES - MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**

**OWNER:**

**OFFICE**  
 LA-MSID  
 601 EAST COUNTY LANE  
 LEHIGH ACRES, FLORIDA 33936  
 (239) 368-0044  
 WEBSITE: WWW.LA-MSID.COM

**DISTRICT MANAGER:**  
 DAVID LINDSAY  
 (239) 368-0044 EXT. 11  
 dlindsay@la-msid.com

**PROJECT MANAGER:**  
 MICHAEL COOK  
 ASSISTANT DISTRICT MANAGER  
 (239) 368-0044 EXT. 16  
 mcook@la-msid.com

**LA-MSID BOARD OF COMMISSIONERS:**

JULIE HOLLINGSWORTH (SEAT 1)  
 JULIE CAMP, CDO (SEAT 2)  
 KEN THOMPSON (SEAT 3)  
 MIKE BONACOLTA (SEAT 4)  
 KATYNA HOOVER, CDO (SEAT 5)

**PROJECT CONSULTANTS:**

**ENGINEER / SURVEYOR:**  
 AIM ENGINEERING & SURVEYING, INC.  
 2161 FOWLER STREET  
 FORT MYERS, FLORIDA 33901  
 (239) 332-4569

**ENGINEER OF RECORD**  
 DANIEL W. SCHROEDER P.E.  
 (239) 823-8171

**UTILITY COMPANIES PROVIDING SERVICES:**

**ELECTRIC:**  
 FLORIDA POWER AND LIGHT  
 (239) 353-0645

**TELEPHONE:**  
 CENTURY LINK  
 (844) 420-6488

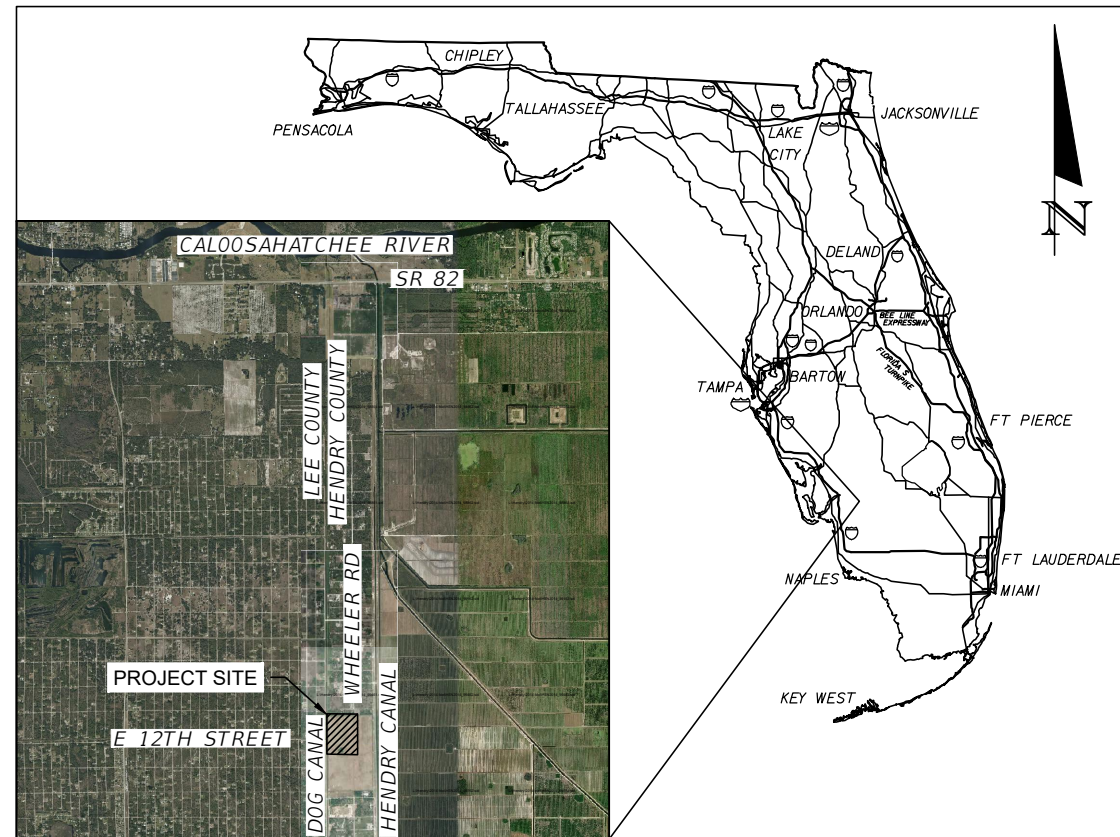
**FIRE AND RESCUE:**  
 LEHIGH ACRES FIRE CONTROL  
 AND RESCUE DISTRICT  
 (239) 303-5300

**WATER-SEWER:**  
 FLORIDA GOV, UTILITY  
 AUTHORITY  
 (239) 368-1615  
 OR BY OWNER

**GOVERNING STANDARD PLANS:**  
 Florida Department of Transportation, FY 2022-23  
 Standard Plans for Road and Bridge Construction and  
 applicable Interim Revisions (IRs).

Standard Plans for Road Construction and  
 associated IRs are available at the following  
 website:  
<http://www.fdot.gov/design/standardplans>

**GOVERNING STANDARD SPECIFICATIONS:**  
 Florida Department of Transportation, January, 2022  
 Standard Specifications for Road and Bridge Construction at  
 the following website:  
<http://www.fdot.gov/programmanagement/implemented/specbooks>



**LOCATION MAP**

(NOT TO SCALE)

**PROJECT LOCATION INFORMATION:**

SECTION 18+19, TOWNSHIP 44S, RANGE 28E  
 HENDRY COUNTY  
 LEHIGH ACRES, FLORIDA

PREPARED BY:

**AIM ENGINEERING & SURVEYING, INC.**



2161 FOWLER STREET  
 FORT MYERS, FLORIDA 33901  
 PHONE (239) 332-4569

CERTIFICATE OF AUTHORIZATION NO. 3114

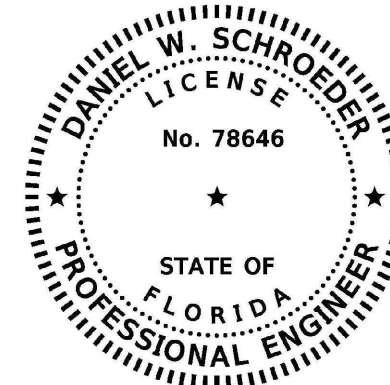
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E-02	ELECTRICAL NOTES
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E-12	ELECTRICAL DETAILS & KEY NOTES

NOTE: THE SCALE OF THESE PLANS MAY  
 HAVE CHANGED DUE TO REPRODUCTION

ELEVATIONS DEPICTED HEREIN ARE BASED ON THE NORTH  
 GEODETIC VERTICAL DATUM OF 1929 (NGVD29). THE  
 CONVERSION FACTOR FROM THE NGVD TO NAVD 15 -1.25'

THIS ITEM HAS BEEN DIGITALLY  
 SIGNED AND SEALED BY:



ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE  
 NOT CONSIDERED SIGNED AND SEALED  
 AND THE SIGNATURE MUST BE VERIFIED  
 ON ANY ELECTRONIC COPIES.

AIM ENGINEERING & SURVEYING, INC.  
 2161 FOWLER ST., STE. 100  
 FORT MYERS, FL. 33901  
 CERTIFICATE OF AUTHORIZATION NO.: 3114  
 DANIEL W. SCHROEDER, P.E. NO. 78646

SHEET C-01  
 MARCH 2024

CONTROL POINTS						
CONTROL POINT	TYPE	NORTHING	EASTING	ELEVATION (NGVD 29)	STATION	OFFSET
CP 4	SIRC 5/8" LB3114"	841,239.13'	800,409.26'	24.05'	29+08.9	49.5' R
CP 5	SIRC 5/8"	841,041.09'	800,437.36'	25.06'	27+10.5	75' R
CP 6	SIRC 5/8" LB3114"	840,881.33'	800,420.60'	23.91'	25+51	56.3' R
CP 8	SIRC 5/8" LB3114"	840,839.41'	800,349.12'	27.42'	25+10	15.7' L
CP 9	BM SH2 BRASS DISK	841,009.96'	800,439.82'	25.37'	26+79.4	77.1' R
CP 1005	FCM 4X4 FIR 0.5"	839,999.16'	800,665.54'	24.15'	16+63.5	290' R
CP 6270	FCM LB642	841,313.71'	800,304.59'	26.09'	29+84.9	52.3' L
CP 10005	FCM LB6594	839,944.36'	798,009.97'	24.95'	16+44.6	2366' L
CP 10007	FIRC 1/2"	841,267.54'	797,992.17'	25.08'	29+68.1	2367' L
CP 12101	FIRC 1/2"	839,281.95'	798,018.46'	24.77'	9+82	2366' L

**LEGEND**

- PHASE 3 PROJECT LIMITS
- PERIMETER BERM
- NATURAL GROUND (TO REMAIN) & MAINTENANCE ACCESS PATH
- SOD RESTORATION AREA
- PROPERTY BOUNDARY

ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)

NO	DATE	DESCRIPTION
4		
3		
2		
1		

**AIM Engineering & Surveying, Inc.**  
 CIVIL ENGINEERING \* LAND SURVEYING \* S.U.E. \* TRANSPORTATION \* UTILITIES  
 \* PROJECT MANAGEMENT \* CONSTRUCTION ENGINEERING & MANAGEMENT  
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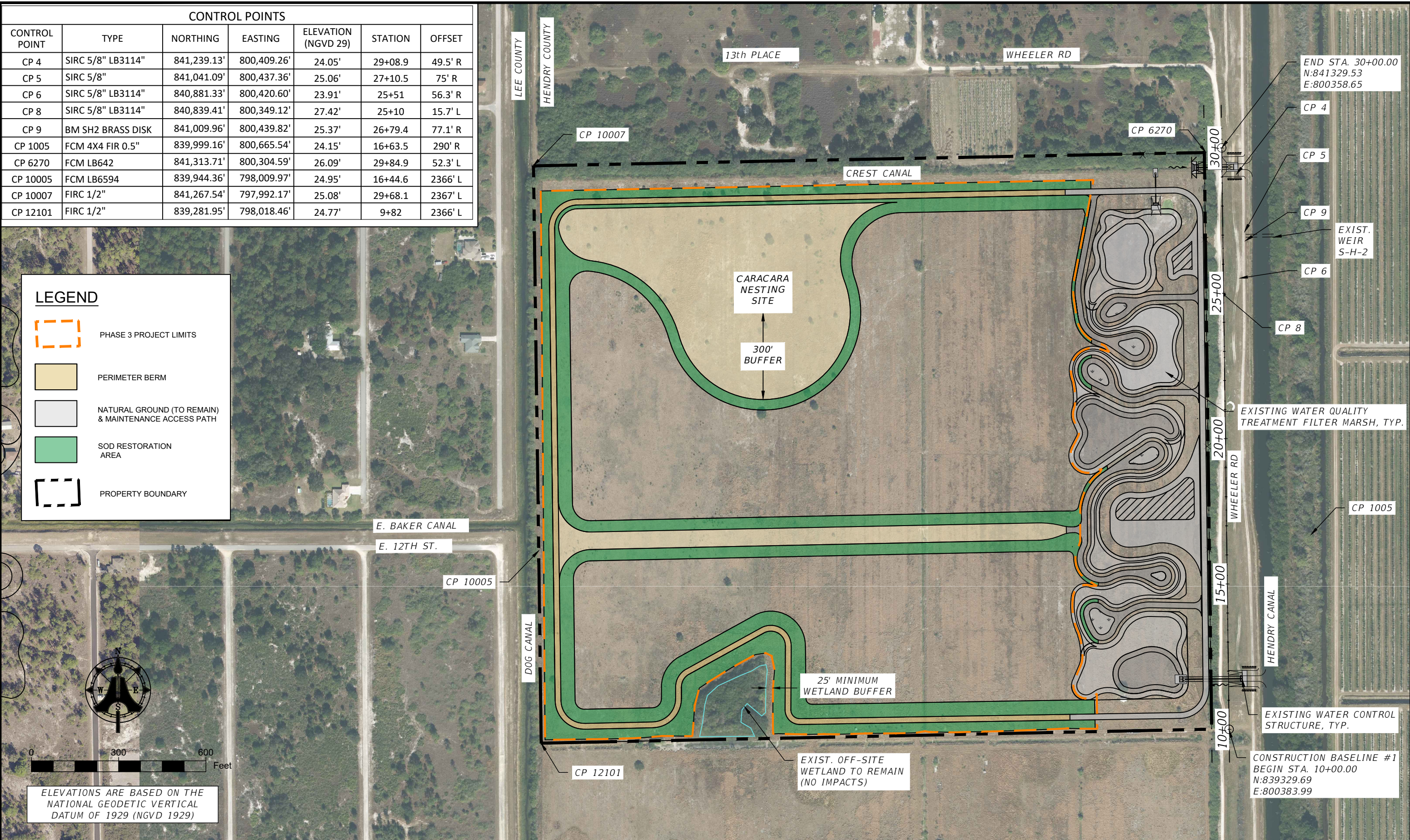
DATE: MAR 2024  
 DRAWN BY: AM  
 CHECKED BY: DS  
 DANIEL SCHROEDER  
 PROFESSIONAL ENGINEER  
 P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT, PHASE 3  
**AERIAL MAP \ KEY SHEET**

PROJECT NO. 19-1026  
 SHEET NO. C-02

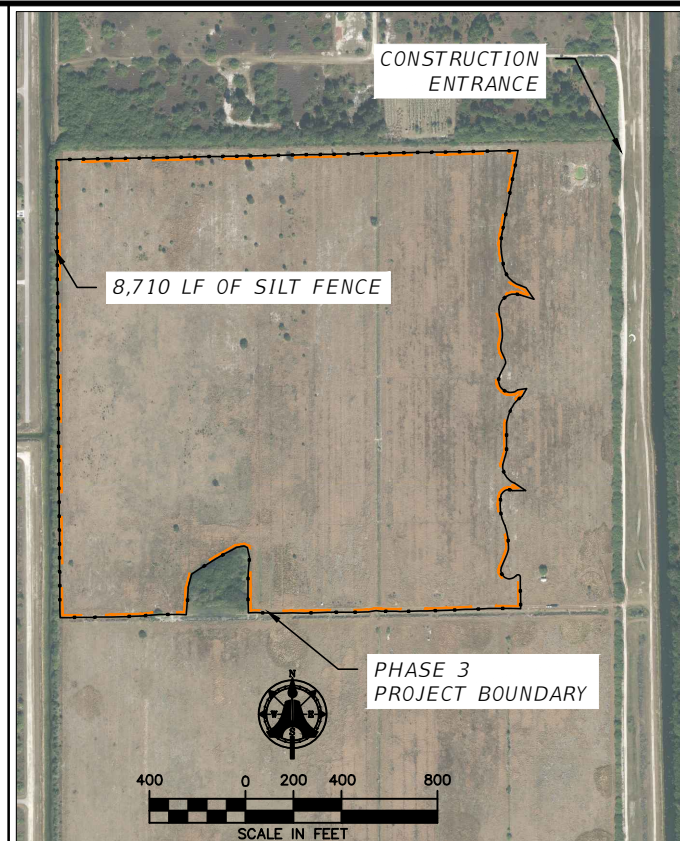
D:\JOBS\active\19-1026\_crest\CAD\PHASE 3\3-C-02\_AERIAL.dwg

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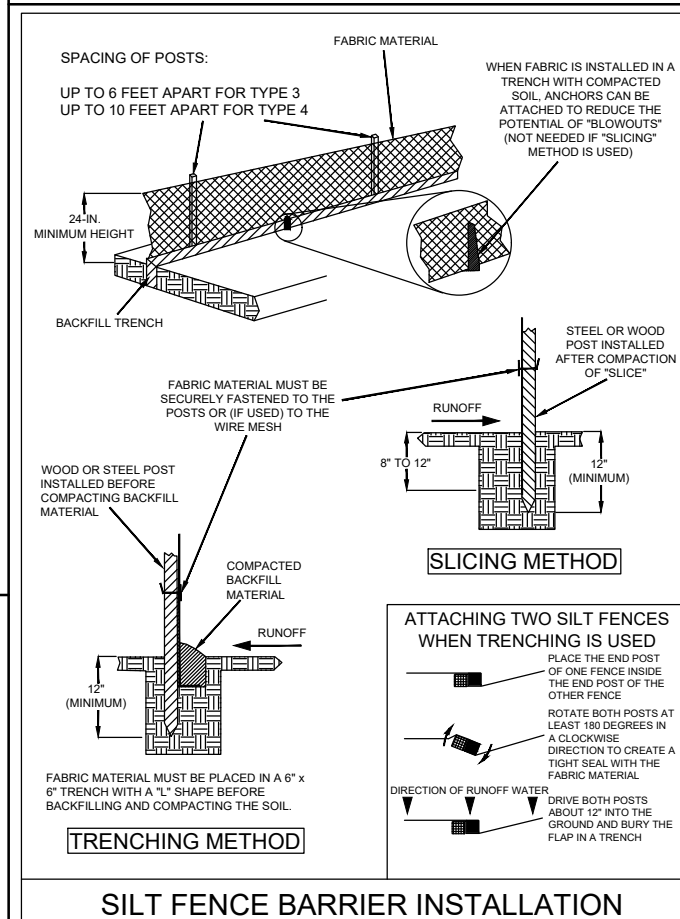


**GENERAL NOTES:**

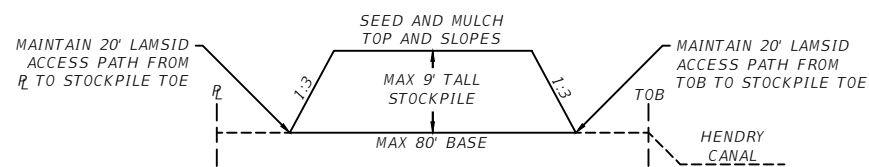
- ALL ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29). CONVERSION TO NAVD = NGVD - 1.25 FT ELEVATION.
- COMPENSATION FOR THE WORK AS SHOWN ON THE PLANS SHALL BE AT THE UNIT PRICE INCLUDED IN THE BID SCHEDULE. NO SEPARATE PAYMENT WILL BE MADE FOR TASKS (NOT ALL INCLUSIVE) INCLUDING SUCH ITEMS AS FIELD OFFICE, SANITARY FACILITIES, ROCK EXCAVATION, DEWATERING, MATERIAL DELIVERY AND STORAGE, TEMPORARY POWER, ETC. NECESSARY FOR THE COMPLETE EXECUTION OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND FOR ANY DAMAGE WHICH MAY OCCUR BY FAILING TO PRESERVE THEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED FEDERAL, STATE, COUNTY AND/OR LOCAL CONSTRUCTION PERMITS/APPROVALS PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES (INCLUDING A DEWATERING PERMIT, IF NEEDED).
- THE CONTRACTOR SHALL NOTIFY ALL REQUIRED UTILITIES AND GOVERNMENT AGENCIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION (48 HOURS BEFORE DIGGING CALL TOLL FREE 1-800-432-4770 SUNSHINE ONE CALL CENTER - PREVIOUSLY U.N.C.L.E.).
- ALL QUANTITIES SHOWN HEREIN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANS AND PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND IN THE QUANTITIES.
- THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL PROSPECTIVE CONTRACTORS ARE ENCOURAGED, PRIOR TO BIDDING, TO CONDUCT ANY SITE INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT MAY BE ENCOUNTERED, AND UPON WHICH THEIR BIDS SHALL BE BASED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH LOCAL, COUNTY, AND STATE REQUIREMENTS.
- TRENCH EXCAVATIONS SHALL COMPLY WITH ALL APPLICABLE TRENCH SAFETY STANDARDS SET FORTH IN THE STATE OF FLORIDA "TRENCH SAFETY ACT" BILL #PCS/HB 3183 AND SB 2626, ALONG WITH OSHA STANDARDS DEFINED IN 29 CFR 1926.650 PART "P".
- ALL MATERIALS, MEANS AND CONSTRUCTION METHODS SHALL CONFORM WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ANY SUPPLEMENTAL SPECIFICATIONS THEREOF.
- THE CONTRACTOR SHALL SECURE ANY TEMPORARY CONSTRUCTION EASEMENTS NECESSARY FOR CONSTRUCTION AND WILL BE RESPONSIBLE FOR RESTORATION OF ALL DISTURBED AREAS.
- ALL BACKFILLING SHALL BE IN LIFTS OF NOT MORE THAN 12" LOOSE MATERIAL AND COMPACTED TO 100% OF AASHTO T-99, METHOD "C". CONTRACTOR SHALL PROVIDE DENSITY REPORTS FOR ALL AREAS BACKFILLED (COPIES TO ENGINEER AND OWNER) AND SHALL BEAR ALL COSTS ASSOCIATED WITH TESTING AND/OR ANY RETESTING OF ANY AREAS THAT DO NOT MEET THE ABOVE STANDARDS. FILL MATERIAL IS AVAILABLE ON SITE AND MAY BE UTILIZED UPON COORDINATION WITH THE OWNER, IF REQUIRED.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS AND ALL PERMITS ON THE JOB SITE DURING ALL PHASES OF THE WORK. TWO (2) COMPLETE SETS OF "AS-BUILT" DRAWINGS MUST BE DELIVERED TO THE ENGINEER OF RECORD WITHIN FIFTEEN (15) DAYS OF COMPLETING CONSTRUCTION ALONG WITH ELECTRONIC FILES IN AUTOCAD FORMAT. CONTRACTOR SHALL OBTAIN THE SERVICES OF A REGISTERED LAND SURVEYOR TO PERFORM "AS-BUILT" VERIFICATION OF ANY CRITICAL ELEVATIONS ASSOCIATED WITH ANY STRUCTURES AND/OR CULVERTS BUILT AS PART OF THIS PROJECT.
- CONSTRUCTION DEWATERING FOR THE PROJECT HAS NOT BEEN APPROVED. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A WATER USE DEWATERING PERMIT FROM THE WATER MANAGEMENT DISTRICT AND/OR COMPLYING WITH CONSTRUCTION DEWATERING NO-NOTICE REQUIREMENTS.
- REMOVE AND STORE THE TOP 6" OF TOP SOIL WITHIN THE PHASE 3 EXCAVATION AREAS, WHICH WILL BE UTILIZED TO TOP THE MARSH AREA BOTTOM (EL. 19.0') TO PROMOTE MARSH PLANTING GROWTH AND NATURAL RECRUITMENT.
- ANY DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS/GRADE, INCLUDING THE CONTRACTOR-PREFERRED HAUL ROUTE.



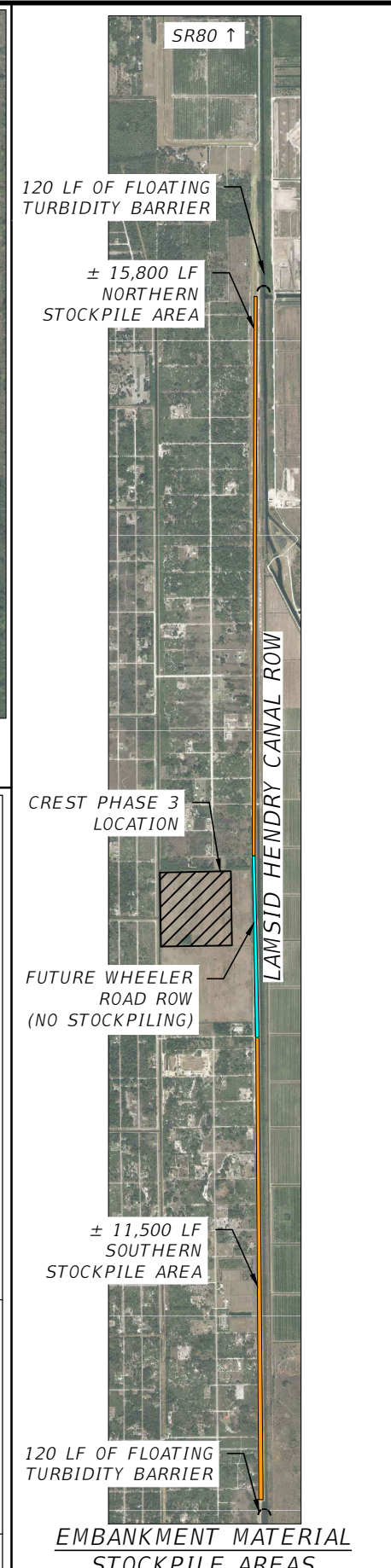
**CREST EROSION CONTROL PLAN**



**SILT FENCE BARRIER INSTALLATION**



**DETAIL FOR EMBANKMENT MATERIAL STOCKPILING ALONG THE LAMSID HENDRY CANAL ROW**  
N.T.S.



**EMBANKMENT MATERIAL STOCKPILE AREAS**

SUMMARY OF PAY ITEMS			
BASE BID			
NO	PAY ITEM DESCRIPTION	UNIT	QTY
1	Mobilization / Demobilization	LS	1
2	General Requirements (Including Dewatering Permit, Clearing, Erosion Control Program, and Demolition Items)	LS	1
3	Surveying (Including Construction Layout, Pre-Excavation, Earthwork Quantity Calculations, and Record Drawings)	LS	1
4	Silt Fencing	LF	8,710
5	Floating Turbidity Barrier	LF	240
6	Excavation / Embankment (Including Perimeter Berm, Slope Grading, and 6-inch Topsoil Removal, & Replacement) <b>Bid Item Requires Embankment Storage Within Adjacent LAMSID Hendry Canal ROW. LAMSID Maintains Ownership of the Embankment Material.</b>	CY	526,401
7	Stabilized Soil, 6" (LBR 40, 98% Density) for Perimeter Berm Only	SY	12,551
8	Concrete Maintenance Pad, 20' x 20', 8" Thick (with 6" Stabilized Subgrade 40 LBR)	SY	45
9	Restoration Sodding (Bahia for Berm to EL. 19.0' and Other Sloped/Disturbed Areas)	SY	73,572
10	Electric Actuator (Including Installation & Actuator Enclosure Box) Complete	EA	5
11	Electrical Service (Including Meters, Breakers, Telemetry Instrumentation, Water Level Monitoring Equipment & Equipment Boxes, Conduit, etc.) Complete	LS	1
12	Telemetry Components (Including Telemetry Instrumentation, Water Level Monitoring Equipment & Equipment Boxes, etc.) Complete	LS	1
12	I-Beam with Staff Gauge	EA	1

BID ALTERNATES			
NO	PAY ITEM DESCRIPTION	UNIT	QTY
A-1	Excavation / Embankment (Including Perimeter Berm, Slope Grading, and 6-inch Topsoil Removal, & Replacement) <b>Alternate Requires Removal of Embankment Storage for Contractor's Desired Use. Contractor Maintains Ownership of the Embankment Material for Off-Site Disposal.</b>	CY	526,401
A-2	Excavation of Caracara Buffer Area (Requires Permit Alteration & Owner Authorization) <b>Bid Item Requires Embankment Storage Within Adjacent LAMSID Hendry Canal ROW. LAMSID Maintains Ownership of the Embankment Material.</b>	CY	106,943
A-3	Excavation of Caracara Buffer Area (Requires Permit Alteration & Owner Authorization) <b>Alternate Requires Removal of Embankment Storage for Contractor's Desired Use. Contractor Maintains Ownership of the Embankment Material for Off-Site Disposal.</b>	CY	106,943
A-4	Planted Swale and Wide Swamp Area (Shrubs and Groundcover), 6' O.C.	EA	59,785
A-5	Planted Swale and Wide Swamp Area (Trees), 3 Gallon, 30' O.C.	EA	2,391
A-6	Stabilized Soil, 6" (LBR 40, 98% Density) for 60-foot-wide Maintenance Access Path	SY	11,845
A-7	Pea Gravel (No. 8 Stone), 1" Thick, 20' Wide, for the Perimeter Berm Around Entire CREST Boundary	SY	18,545
A-8	Seed and Mulch w/ Water and Fertilizer	SY	251,527

P:\JOBS\active\19-1026\_crest\CAD\PHASE 3\C-03\_03 Erosion Control.dwg

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NO	DATE	DESCRIPTION

**AIM Engineering & Surveying, Inc.**  
 CIVIL ENGINEERING \* LAND SURVEYING \* S.U.E. \* TRANSPORTATION \* UTILITIES  
 \* PROJECT MANAGEMENT \* CONSTRUCTION ENGINEERING & MANAGEMENT  
 2161 FOWLER ST. STE. 100 FORT MYERS, FL 33901 \* PHONE: 239-332-4569  
 EMAIL: ENGINEERING@AIMENGR.COM \* CERTIFICATE OF AUTHORIZATION No. 3114

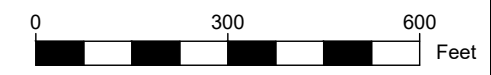
**LEHIGH ACRES-MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**  
 601 E. COUNTY LN. LEHIGH ACRES, FL. 33936  
 PHONE: (239) 368-0044

DATE: MAR 2024  
 DRAWN BY: AM  
 CHECKED BY: DS  
 DANIEL SCHROEDER  
 PROFESSIONAL ENGINEER  
 P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**GENERAL NOTES & EROSION CONTROL PLAN**

PROJECT NO. 19-1026  
 SHEET NO. C-03

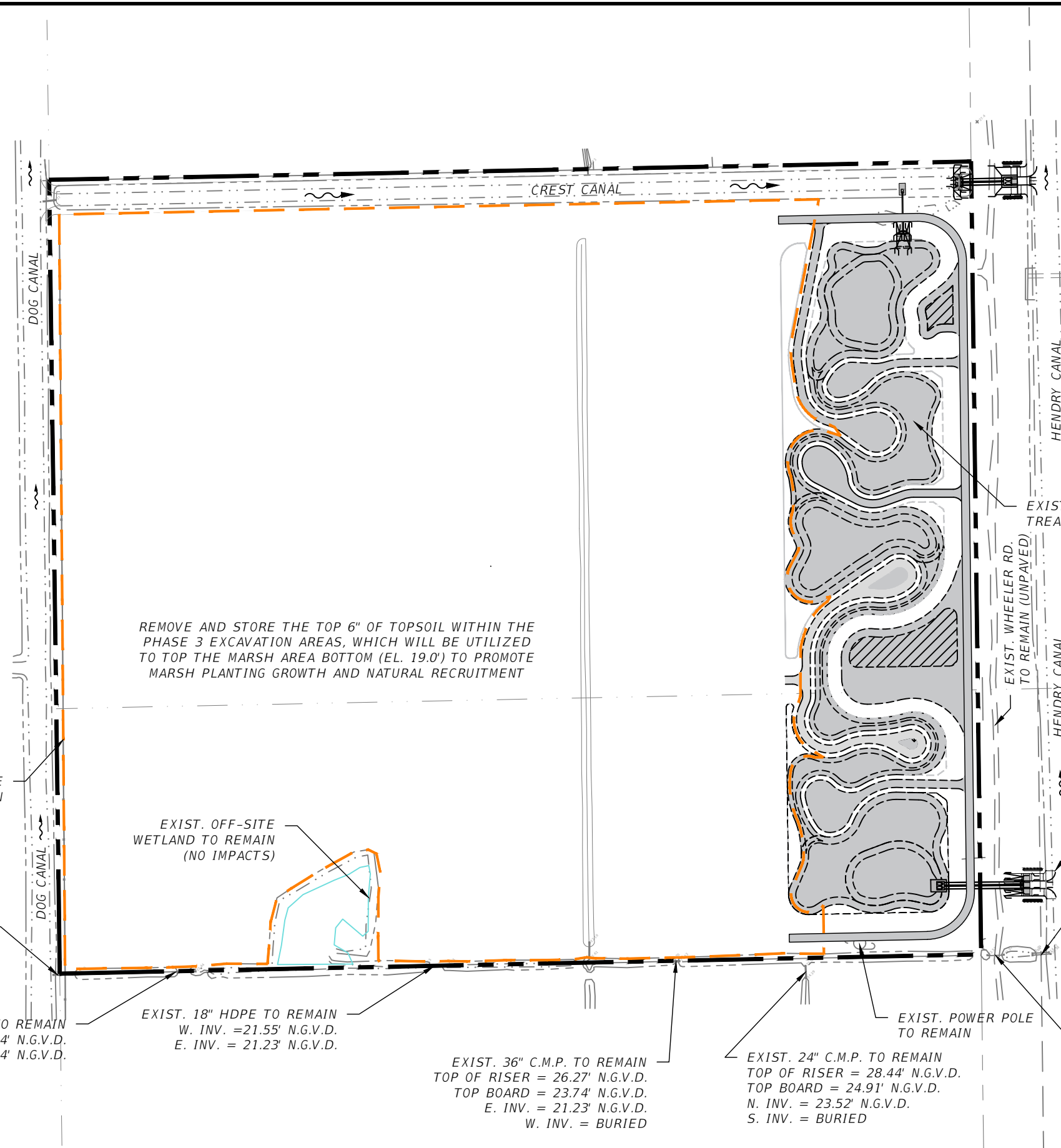
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**LEGEND**

PHASE 3 PROJECT LIMITS

PROPERTY BOUNDARY



ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)

P:\JOBS\Active\19-1026\_crest\CAD\PHASE 3\NC-04 Demolition Plan.dwg

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PHONE: (239) 368-0044

DATE:	MAR 2024
DRAWN BY:	AM
CHECKED BY:	DS
	DANIEL SCHROEDER PROFESSIONAL ENGINEER P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
PHASE 3  
**DEMOLITION PLAN**

PROJECT NO.	19-1026
SHEET NO.	C-04

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DOG CANAL INFO:  
SEASONAL HIGH WATER STAGE: 20.0'  
SEASONAL LOW WATER STAGE: 16.8'  
AVERAGE WATER STAGE: 18.2'


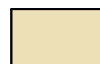
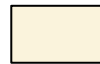
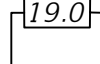


HENDRY CANAL INFO:  
(DOWNSTREAM OF S-H-2)  
SEASONAL HIGH WATER STAGE: 18.7'  
SEASONAL LOW WATER STAGE: 15.4'  
AVERAGE WATER STAGE: 16.7'

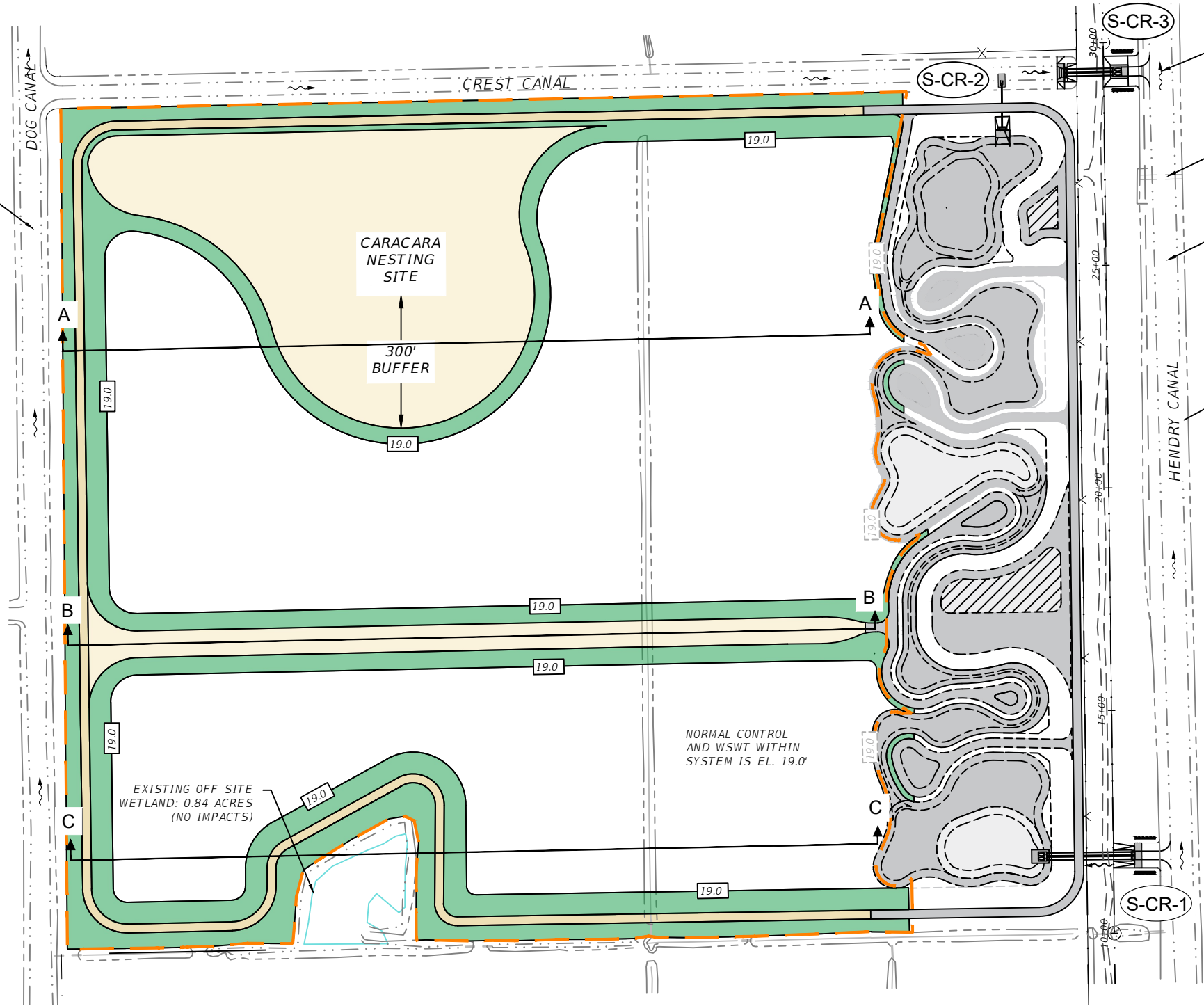
EXIST. WEIR S-H-2 INFO:  
(DOWNSTREAM OF S-H-2)  
WEIR CREST EL.: 21.0'  
DROP DOWN GATE INV. EL.: 17.5'  
LIFT UP GATE INV. EL.: 14.25'

HENDRY CANAL INFO:  
(UPSTREAM OF S-H-2)  
SEASONAL HIGH WATER STAGE: 21.3'  
SEASONAL LOW WATER STAGE: 18.0'  
AVERAGE WATER STAGE: 19.2'

DIRECTION OF FLOW  
ARROWS (TYP.)

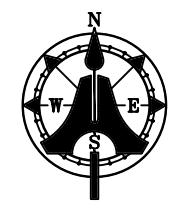
**LEGEND**

-  PHASE 3 PROJECT LIMITS
-  PERIMETER BERM
-  NATURAL GROUND (TO REMAIN) & MAINTENANCE ACCESS PATH
-  MARSH AND STORMWATER STORAGE
-  SOD RESTORATION AREA
-  EXIST. PHASE 2 STRUCTURES



NORMAL CONTROL AND WSWT WITHIN SYSTEM IS EL. 19.0'

ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)



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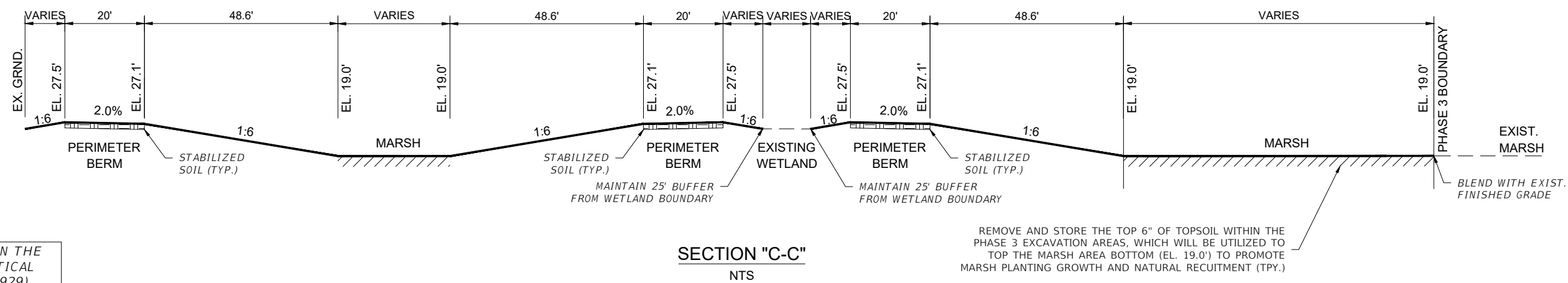
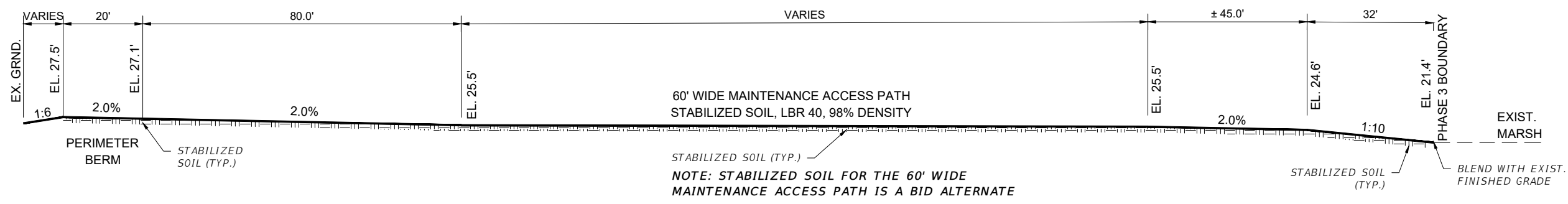
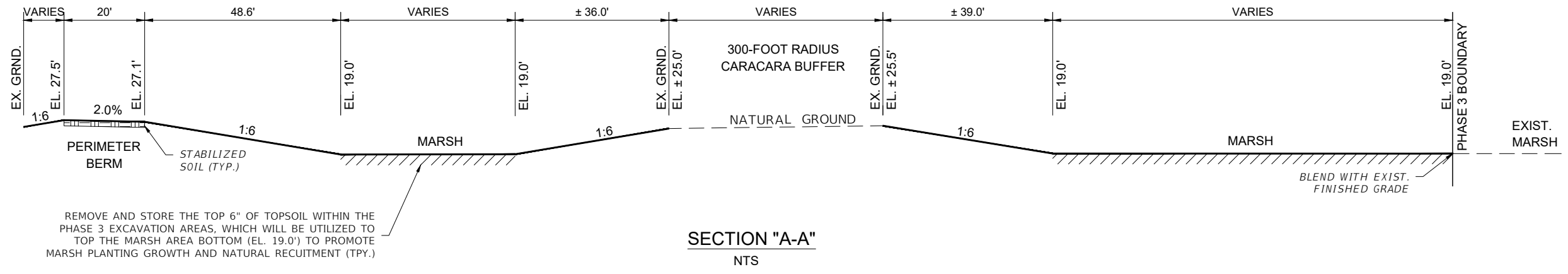
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 P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**MASTER PLAN**

PROJECT NO. 19-1026  
 SHEET NO. C-05

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ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)

P:\JOBS\Active\19-1026 crest\CAD\PHASE 3\C-05 - C-06 Master Plan - Typ.Sections.dwg

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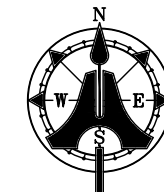
**AIM Engineering & Surveying, Inc.**  
 CIVIL ENGINEERING \* LAND SURVEYING \* S.U.E. \* TRANSPORTATION \* UTILITIES  
 \* PROJECT MANAGEMENT \* CONSTRUCTION ENGINEERING & MANAGEMENT  
 2161 FOWLER ST. STE. 100 FORT MYERS, FL 33901 \* PHONE: 239-332-4569  
 EMAIL: ENGINEERING@AIMENGR.COM \* CERTIFICATE OF AUTHORIZATION No. 3114

**LEHIGH ACRES-MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**  
 601 E. COUNTY LN. LEHIGH ACRES, FL. 33936  
 PHONE: (239) 368-0044

DATE: MAR 2024  
 DRAWN BY: AM  
 CHECKED BY: DS  
 DANIEL SCHROEDER  
 PROFESSIONAL ENGINEER  
 P.E. No. 78646

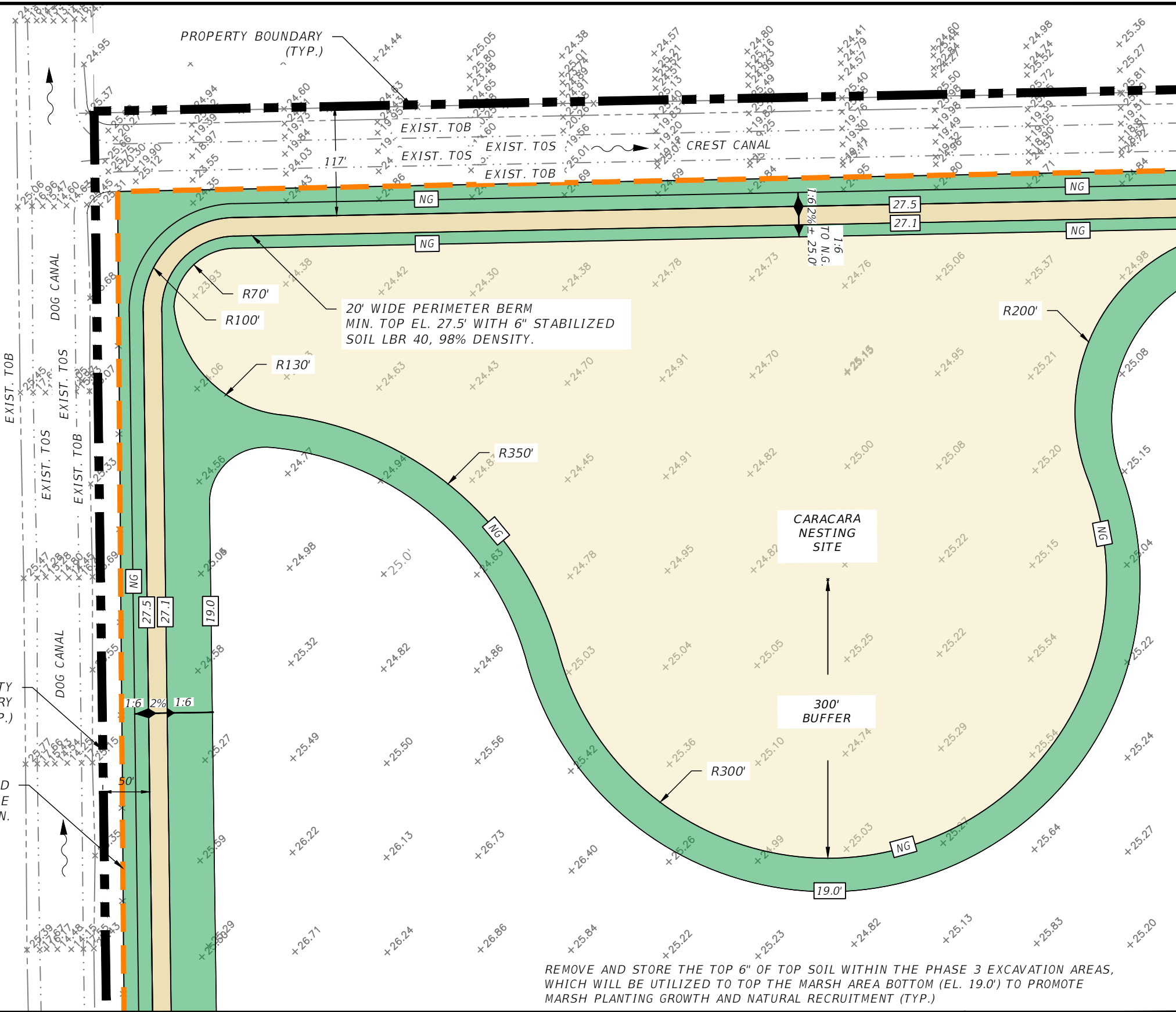
CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**TYPICAL SECTIONS**

19-1026  
 SHEET NO.:  
**C-06**



**LEGEND**

- PHASE 3 PROJECT LIMITS
- PERIMETER BERM
- NATURAL GROUND (TO REMAIN) & MAINTENANCE ACCESS PATH
- MARSH AND STORMWATER STORAGE
- SOD RESTORATION AREA
- PROPERTY BOUNDARY



MATCHLINE SEE SHEET C-08

MATCHLINE SEE SHEET C-09

ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)

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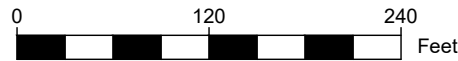
**LEHIGH ACRES MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSD)**  
 601 E. COUNTY LN. LEHIGH ACRES, FL. 33936  
 PHONE: (239) 368-0044

DATE: MAR 2024  
 DRAWN BY: AM  
 CHECKED BY: DS  
 DANIEL SCHROEDER  
 PROFESSIONAL ENGINEER  
 P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**SITE PLAN 1 OF 4 (NW)**

PROJECT NO. 19-1026  
 SHEET NO. C-07

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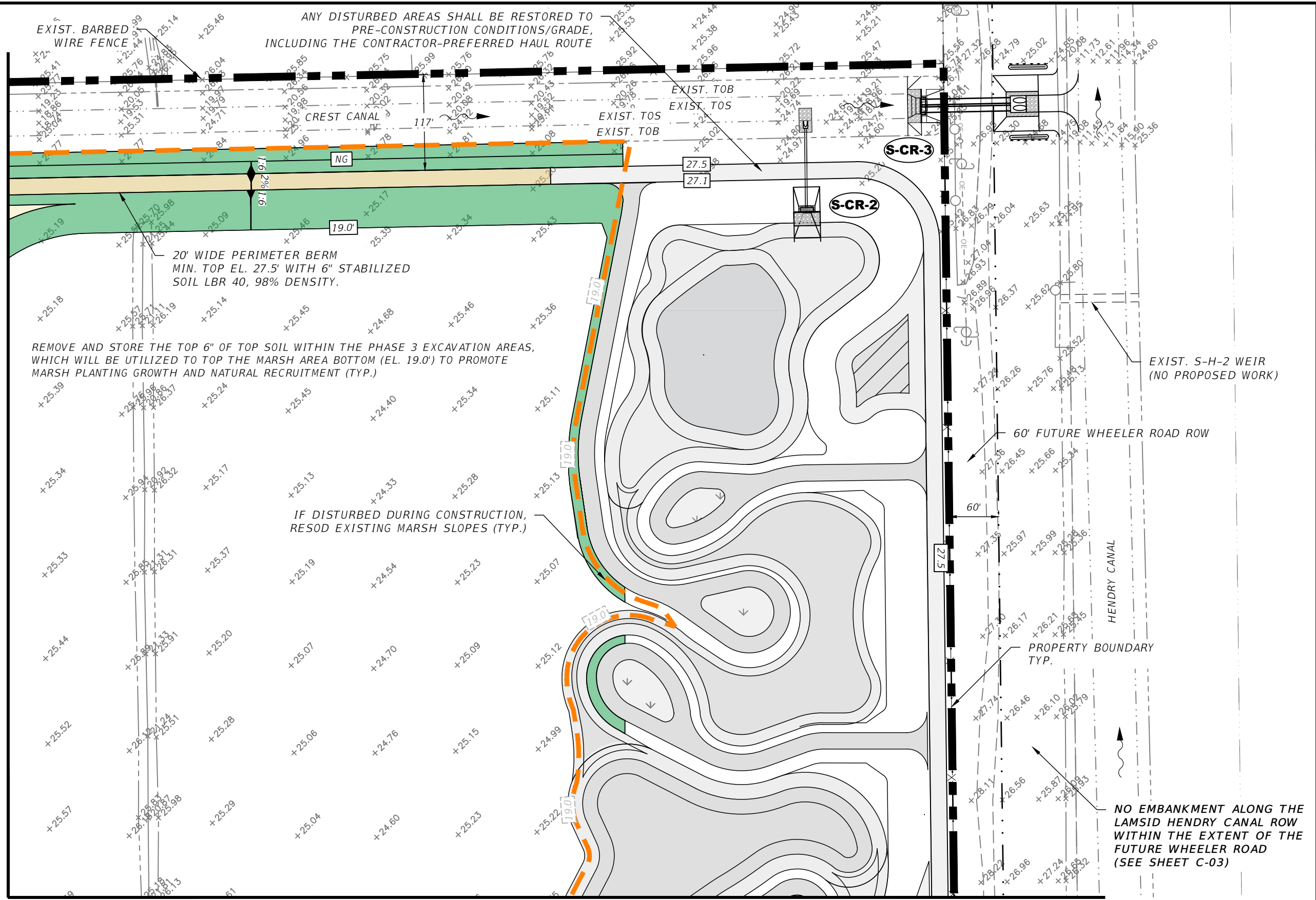


ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)

**LEGEND**

- PHASE 3 PROJECT LIMITS
- PERIMETER BERM
- NATURAL GROUND (TO REMAIN) & MAINTENANCE ACCESS PATH
- MARSH AND STORMWATER STORAGE
- SOD RESTORATION AREA
- PROPERTY BOUNDARY

MATCHLINE SEE SHEET C-07



REMOVE AND STORE THE TOP 6" OF TOP SOIL WITHIN THE PHASE 3 EXCAVATION AREAS, WHICH WILL BE UTILIZED TO TOP THE MARSH AREA BOTTOM (EL. 19.0') TO PROMOTE MARSH PLANTING GROWTH AND NATURAL RECRUITMENT (TYP.)

IF DISTURBED DURING CONSTRUCTION, RESOD EXISTING MARSH SLOPES (TYP.)

ANY DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS/GRADE, INCLUDING THE CONTRACTOR-PREFERRED HAUL ROUTE

NO EMBANKMENT ALONG THE LAMSID HENDRY CANAL ROW WITHIN THE EXTENT OF THE FUTURE WHEELER ROAD (SEE SHEET C-03)

MATCHLINE SEE SHEET C-10

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**LEHIGH ACRES MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**  
 601 E. COUNTY LN. LEHIGH ACRES, FL. 33936  
 PHONE: (239) 368-0044

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 DANIEL SCHROEDER  
 PROFESSIONAL ENGINEER  
 P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**SITE PLAN 2 OF 4 (NE)**

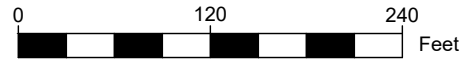
PROJECT NO. 19-1026  
 SHEET NO. C-08

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MATCHLINE SEE SHEET C-08

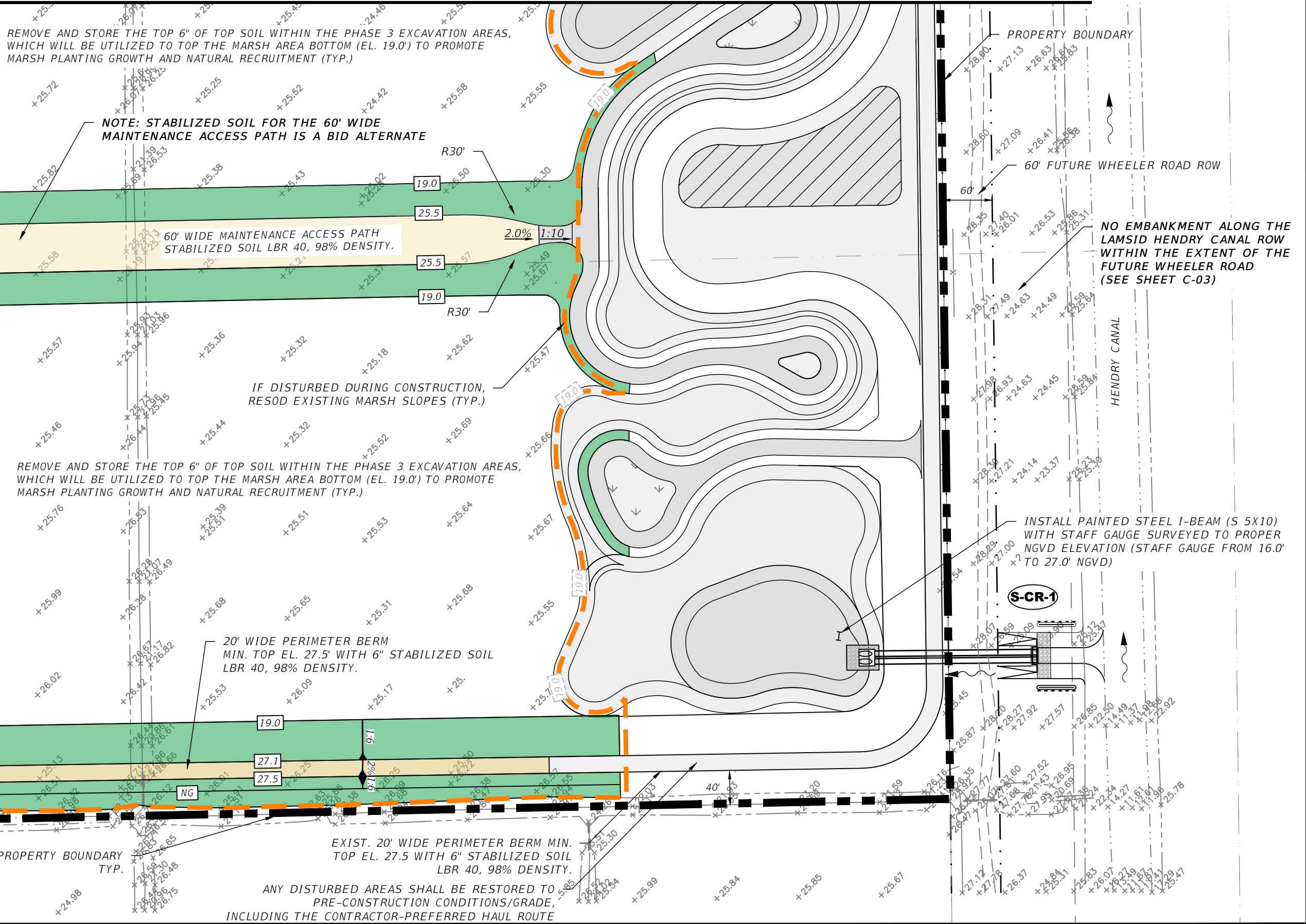


ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929)

**LEGEND**

- PHASE 3 PROJECT LIMITS
- PERIMETER BERM
- NATURAL GROUND (TO REMAIN) & MAINTENANCE ACCESS PATH
- MARSH AND STORMWATER STORAGE
- SOD RESTORATION AREA
- PROPERTY BOUNDARY

MATCHLINE SEE SHEET C-09



**S-CR-1**  
 FURNISH & INSTALL ELECTRICAL SERVICE, TELEMETRY, AND TWO (2) AUMA MODEL SA 14.2/AC01.2 ELECTRIC ACTUATORS FOR EXISTING 48"x76" SLIDE GATES. SEE DETAILS SHEETS C-11 THRU C-16.

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**LEHIGH ACRES MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**  
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 PHONE: (239) 368-0044

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 PROFESSIONAL ENGINEER  
 P.E. No. 78646

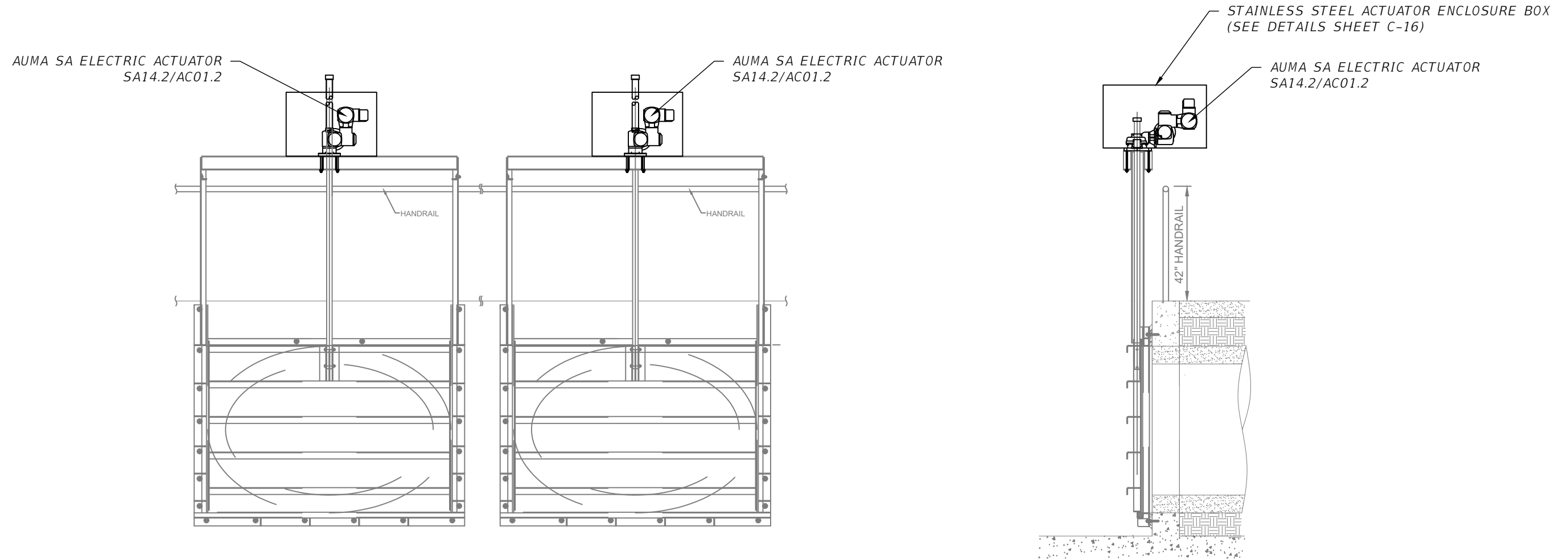
CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT, PHASE 3  
**SITE PLAN 4 OF 4 (SE)**

PROJECT NO. 19-1026  
 SHEET NO. C-10

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**NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS OF ELECTRIC ACTUATORS AND ENCLOSURE BOXES FOR ENGINEER REVIEW PRIOR TO ORDERING:**

**ELECTRIC ACTUATORS:** AUMA SA MODEL NO. SA14.2/AC01.2  
**ACTUATOR ENCLOSURE BOXES:** CONTRACTOR TO SUPPLY (PROVIDE SHOP DRAWINGS)



ADDITION OF 2 ELECTRIC ACTUATORS & 2 ACTUATOR ENCLOSURE BOXES TO THE EXISTING 89"x61" SLIDE GATES AT STRUCTURES S-CR-1 & S-CR-3  
 N.T.S.

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NO	DATE	DESCRIPTION

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**LEHIGH ACRES MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**  
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 PHONE: (239) 368-0044

DATE:	MAR 2024
DRAWN BY:	GA
CHECKED BY:	DS
	DANIEL SCHROEDER PROFESSIONAL ENGINEER P.E. No. 78646

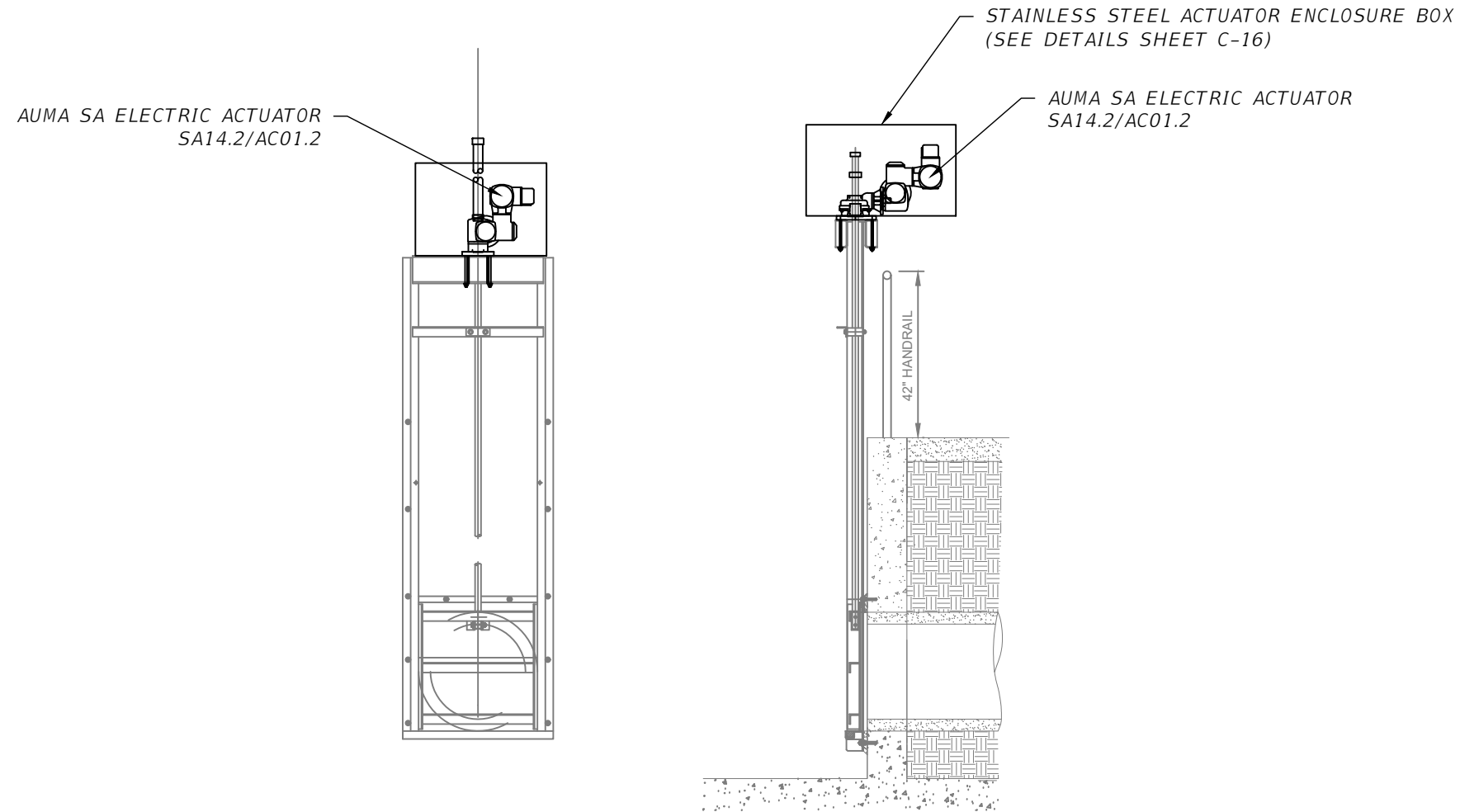
CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**SLIDE GATE**  
**ACTUATOR DETAILS (1 OF 2)**

PROJECT NO.	19-1026
SHEET NO.:	C-11

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NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS OF ELECTRIC ACTUATORS AND ENCLOSURE BOXES FOR ENGINEER REVIEW PRIOR TO ORDERING:

ELECTRIC ACTUATORS: AUMA SA MODEL NO. SA14.2/AC01.2  
 ACTUATOR ENCLOSURE BOXES: CONTRACTOR TO SUPPLY (PROVIDE SHOP DRAWINGS)



ADDITION OF 1 ELECTRIC ACTUATOR & 1 ACTUATOR ENCLOSURE BOX  
TO THE EXISTING 30"x30" SLIDE GATE AT STRUCTURE S-CR-2  
 N.T.S.

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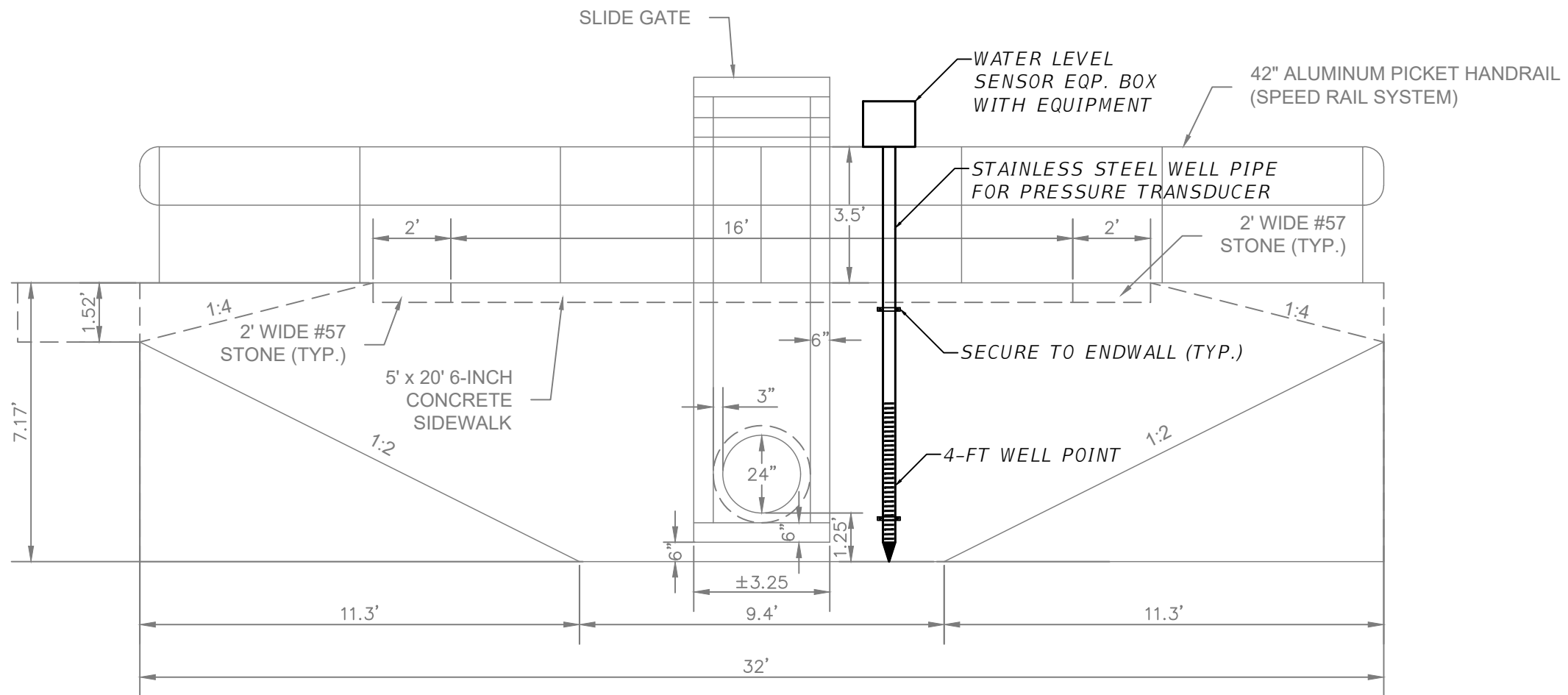
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CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**SLIDE GATE**  
**ACTUATOR DETAILS (2 OF 2)**

PROJECT NO.	19-1026
SHEET NO.:	C-12

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ADDITION OF A WATER LEVEL MONITORING STATION  
TO THE EXISTING STRUCTURE S-CR-2  
 N.T.S.

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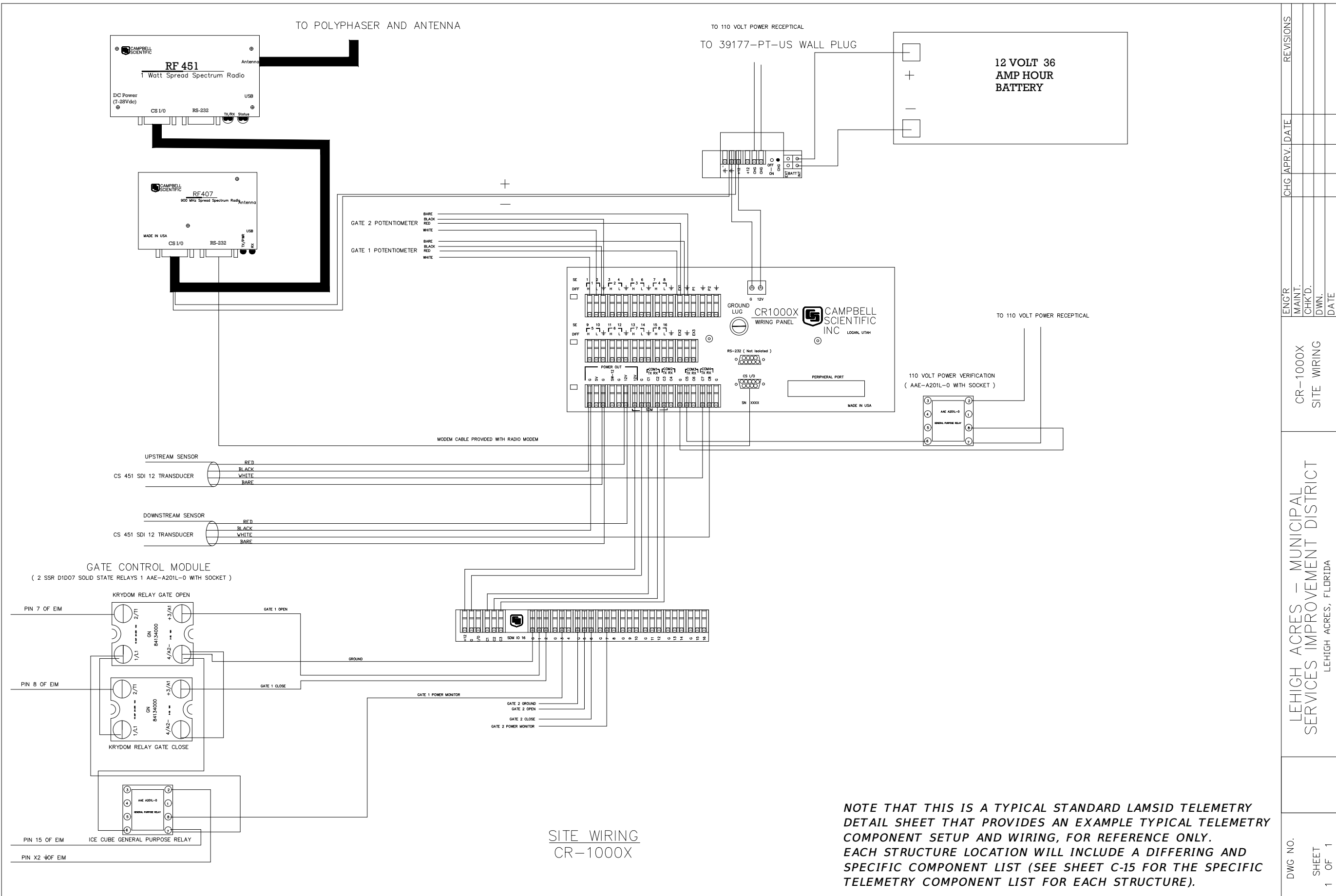
**LEHIGH ACRES-MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**  
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CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**WATER LEVEL SENSOR EQUIPMENT DETAILS (S-CR-2)**

PROJECT NO.	19-1026
SHEET NO.	C-13

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**SITE WIRING**  
CR-1000X

**NOTE THAT THIS IS A TYPICAL STANDARD LAMSID TELEMETRY DETAIL SHEET THAT PROVIDES AN EXAMPLE TYPICAL TELEMETRY COMPONENT SETUP AND WIRING, FOR REFERENCE ONLY. EACH STRUCTURE LOCATION WILL INCLUDE A DIFFERING AND SPECIFIC COMPONENT LIST (SEE SHEET C-15 FOR THE SPECIFIC TELEMETRY COMPONENT LIST FOR EACH STRUCTURE).**

DWG NO.	LEHIGH ACRES - MUNICIPAL SERVICES IMPROVEMENT DISTRICT		ENGR	CHG APPRV. DATE	REVISIONS
	LEHIGH ACRES, FLORIDA				
SHEET	CR-1000X SITE WIRING		MAINT.		
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**LEHIGH ACRES-MSID**  
 LEHIGH ACRES-MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)  
 601 E. COUNTY LN. LEHIGH ACRES, FL. 33936  
 PHONE: (239) 368-0044

DATE: MAR 2024  
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 DANIEL SCHROEDER  
 PROFESSIONAL ENGINEER  
 P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT, PHASE 3  
**TELEMETRY DETAILS (1 OF 2)**

PROJECT NO. 19-1026  
 SHEET NO. C-14

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Lehigh Acres - Municipal Services District				
Telemetry Component List				
" S-CR-1 "				
Manufacturer Part #	Item Description	Manufacturer	Structure Total	Comments
CR1000X	Measurement and control module with 4 meg flash memory	Campbell Scientific	1	
SDM I/O 16	16 channel control port expansion module	Campbell Scientific	1	Required for sites with multiple gates
RF-407	Telemetry radio 900 MHz Spread-Spectrum Radio	Campbell Scientific	1	To communicate with S-CR-2
* BNC/M-LMR 195	18" cable assembly terminates BNC/M to N/M	High Sights Inc	1	
	Antenna		1	Antenna Connector Reverse Polarity SMA (RPSMA) jack
ENC16/18	Nema Sealed Enclosure	Campbell Scientific	1	16"x18"x10"
CH150 / 39177-PT-US	12V charger / regulator with 120 volt ac transformer	Campbell Scientific	1	
DURDC12-35J	Battery 12V sealed AGM	Duracell Ultra	1	12 volt dc 35 amp hour battery with hardware
AUMA MODEL SA 14.2/AC01.2	AUMA Actuator - p/n based on specific gate torque and thrust. Internal 10K gate position potentiometer, local visual gate position indicator, local front panel selectable manual/ auto operator, manual flywheel with socket adapter for manual control	Auma	2	
* GCM	Gate control Module Panel for remote control of gate structure. Consists of SSR D1D07 ( 2 10 amp 24-230 VAC to 3-32 VDC Solid State relay and 1 AAE-A201L-0, socket)	High Sights Inc	2	
* PGM	Gate AC power Monitor consisting of AAE-A201L-0, Socket)	High Sights Inc	2	
* MPM	Main AC power Monitor consisting of AAE-A201L-0, Socket)	High Sights Inc	1	
* Program Intergration	Program to monitor water level ,rain, flow, and gate control	High Sights Inc		
SP20	20 Watt Solar Panel with Power Connector for ET Station	Campbell Scientific	1	
	Equipment Box		1	Stainless Steel Box to Protect Lock & Latch (Open Top & Bottom)
	Actuator Box		2	Stainless Steel Box to Protect Lock & Latch (Clam Shell)
	I-Beam and Staff Gauge		1	Staff Gauge in Feet (10ths of a foot )
* These items are custom made and the above part numbers are for reference from High Sights Inc. If a contractor so chooses to make his own they must perform the above stated tasks.				

Lehigh Acres - Municipal Services District				
Telemetry Component List				
" S-CR-2 "				
Manufacturer Part #	Item Description	Manufacturer	Structure Total	Comments
CR1000X	Measurement and control module with 4 meg flash memory	Campbell Scientific	1	
SDM I/O 16	16 channel control port expansion module	Campbell Scientific	1	Required for sites with multiple gates
RF-451	Telemetry radio 1 Watt Spread-Spectrum Radio	Campbell Scientific	1	To communicate with Base Station
RF-407	Telemetry radio 900 MHz Spread-Spectrum Radio	Campbell Scientific	1	To communicate with S-CR-1 and S-CR-3
* BNC/M-LMR 195	18" cable assembly terminates BNC/M to N/M	High Sights Inc	1	
DSXL-1.5F	Polyphaser surge protector	Tessco	1	
MYA9153	902-928 MHz 8.1 dBi Fiberglass Omni Antenna		1	
ENC16/18	Nema Sealed Enclosure	Campbell Scientific	1	16"x18"x10"
CH150 / 39177-PT-US	12V charger / regulator with 120 volt ac transformer	Campbell Scientific	1	
DURDC12-35J	Battery 12V sealed AGM	Duracell Ultra	1	12 volt dc 35 amp hour battery with hardware
CS451	Water Level Sensor - CS451 pressure transducer standard open face screen 0.05% accuracy, CR1000 interface with SDI-12 Output cable length 30'	Campbell Scientific	1	
BBP-125-4	48" Long 1 1/2" dia. PVC Well Point	Brady Blue Points	1	2 Each - 48" Long
AUMA MODEL SA 14.2/AC01.2	AUMA Actuator - p/n based on specific gate torque and thrust. Internal 10K gate position potentiometer, local visual gate position indicator, local front panel selectable manual/ auto operator, manual flywheel with socket adapter for manual control	Auma	1	
* GCM	Gate control Module Panel for remote control of gate structure. Consists of SSR D1D07 ( 2 10 amp 24-230 VAC to 3-32 VDC Solid State relay and 1 AAE-A201L-0, socket)	High Sights Inc	1	
* PGM	Gate AC power Monitor consisting of AAE-A201L-0, Socket)	High Sights Inc	1	
* MPM	Main AC power Monitor consisting of AAE-A201L-0, Socket)	High Sights Inc	1	
* Program Intergration	Program to monitor water level ,rain, flow, and gate control	High Sights Inc		
SP20	20 Watt Solar Panel with Power Connector for ET Station	Campbell Scientific	1	
	Equipment Box		1	Stainless Steel Box to Protect Lock & Latch (Open Top & Bottom)
	Actuator Box		1	Stainless Steel Box to Protect Lock & Latch (Clam Shell)
	Water Level Sensor Box		1	Stainless Steel Box to Protect Lock & Latch (Open Top & Bottom)
* These items are custom made and the above part numbers are for reference from High Sights Inc. If a contractor so chooses to make his own they must perform the above stated tasks.				

Lehigh Acres - Municipal Services District				
Telemetry Component List				
" S-CR-3 "				
Manufacturer Part #	Item Description	Manufacturer	Structure Total	Comments
CR1000X	Measurement and control module with 4 meg flash memory	Campbell Scientific	1	
SDM I/O 16	16 channel control port expansion module	Campbell Scientific	1	Required for sites with multiple gates
RF-407	Telemetry radio 900 MHz Spread-Spectrum Radio	Campbell Scientific	1	
* BNC/M-LMR 195	18" cable assembly terminates BNC/M to N/M	High Sights Inc	1	
	Antenna		1	Antenna Connector Reverse Polarity SMA (RPSMA) jack
ENC16/18	NEMA Sealed Enclosure	Campbell Scientific	1	16"x18"x10"
CH150 / 39177-PT-US	12V charger / regulator with 120 volt ac transformer	Campbell Scientific	1	
DURDC12-35J	Battery 12V sealed AGM	Duracell Ultra	1	12 volt dc 35 amp hour battery with hardware
AUMA MODEL SA 14.2/AC01.2	AUMA Actuator - p/n based on specific gate torque and thrust. Internal 10K gate position potentiometer, local visual gate position indicator, local front panel selectable manual/ auto operator, manual flywheel with socket adapter for manual control	Auma	2	
* GCM	Gate control Module Panel for remote control of gate structure. Consists of SSR D1D07 ( 2 10 amp 24-230 VAC to 3-32 VDC Solid State relay and 1 AAE-A201L-0, socket)	High Sights Inc	2	
* PGM	Gate AC power Monitor consisting of AAE-A201L-0, Socket)	High Sights Inc	2	
* MPM	Main AC power Monitor consisting of AAE-A201L-0, Socket)	High Sights Inc	1	
* Program Intergration	Program to monitor water level ,rain, flow, and gate control	High Sights Inc		
SP20	20 Watt Solar Panel with Power Connector for ET Station	Campbell Scientific	1	
	Equipment Box		1	Stainless Steel Box to Protect Lock & Latch (Open Top & Bottom)
	Actuator Box		2	Stainless Steel Box to Protect Lock & Latch (Clam Shell)
* These items are custom made and the above part numbers are for reference from High Sights Inc. If a contractor so chooses to make his own they must perform the above stated tasks.				

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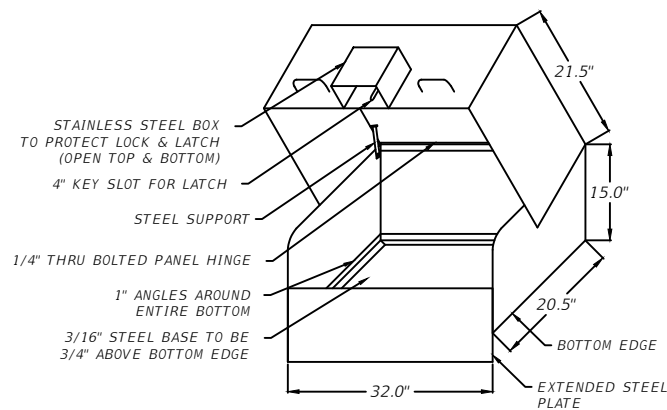
LEHIGH ACRES-MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)  
 601 E. COUNTY LN. LEHIGH ACRES, FL. 33936  
 PHONE: (239) 368-0044

DATE:	MAR 2024
DRAWN BY:	JW
CHECKED BY:	DS
	DANIEL SCHROEDER PROFESSIONAL ENGINEER P.E. No. 78646

CALOOSA HATCHEE RIVER ESTUARY STORAGE & TREATMENT, PHASE 3  
**TELEMETRY DETAILS (2 OF 2)**

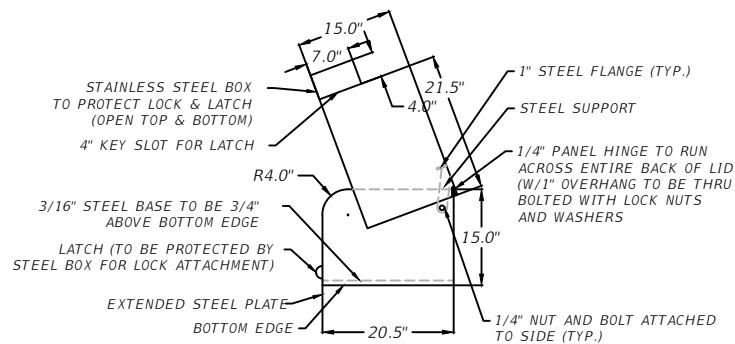
PROJECT NO.	19-1026
SHEET NO.	C-15

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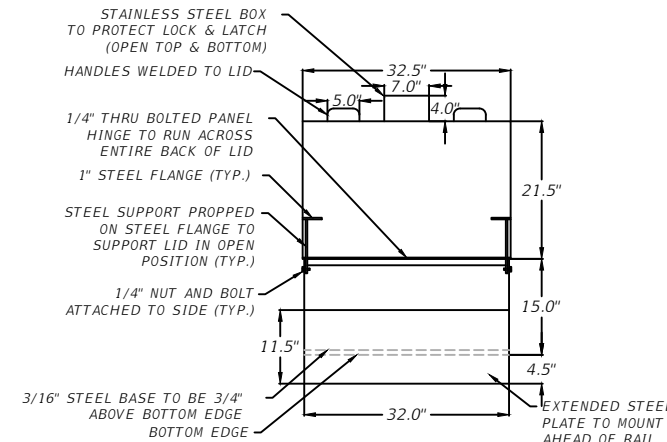
ISOMETRIC VIEW

- NOTES:  
 1. ALL STEEL TO BE 14 GAUGE STAINLESS STEEL EXCEPT WHERE NOTED.  
 2. LID IS SHOWN PARTIALLY OPEN.



SIDE VIEW

- NOTES:  
 1. ALL STEEL TO BE 14 STAINLESS STEEL GAUGE EXCEPT WHERE NOTED.  
 2. LID IS SHOWN PARTIALLY OPEN.



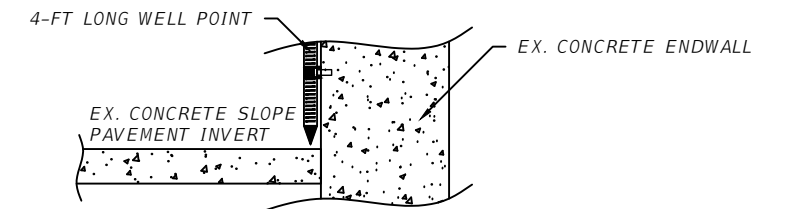
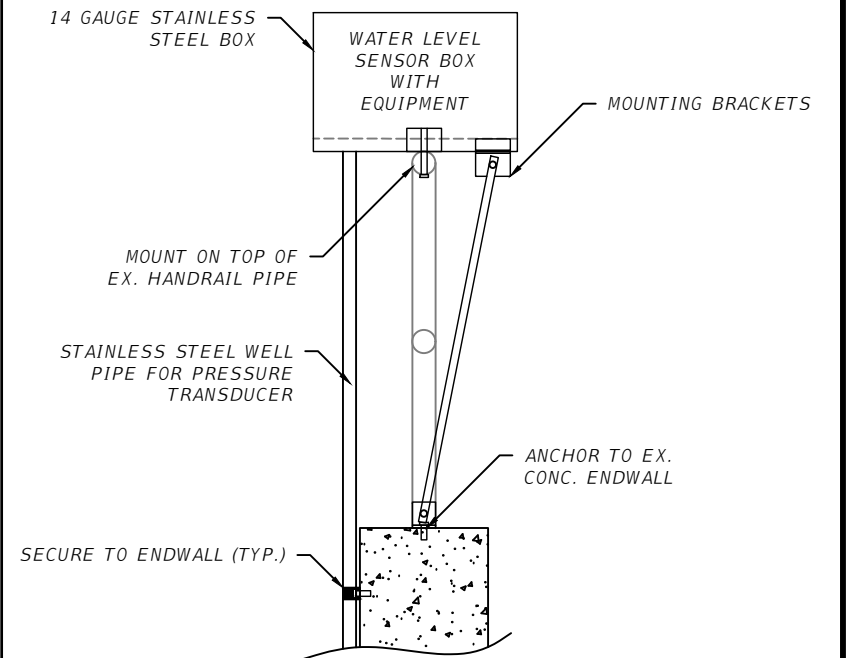
FRONT VIEW

- NOTES:  
 1. ALL STEEL TO BE 14 GAUGE STAINLESS STEEL EXCEPT WHERE NOTED.  
 2. LID IS IN SHOWN FULLY OPEN POSITION

**STAINLESS STEEL EQUIPMENT BOX DETAIL**

STRUCTURE S-CR-1 (1 BOX), S-CR-2 (1 BOX), & S-CR-3 (1 BOX)

**HANDRAIL POST CONNECTION**

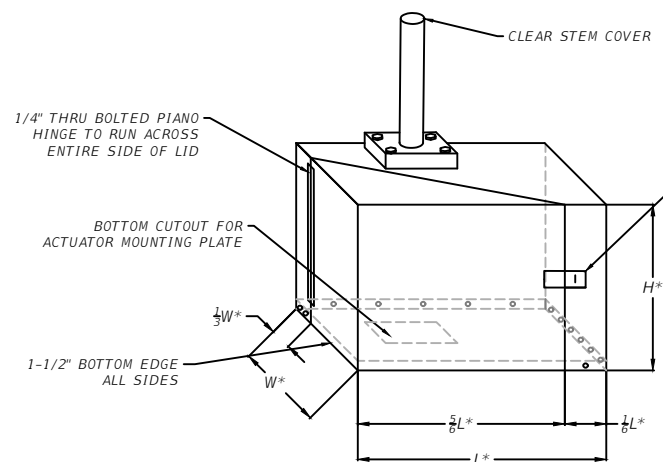


NOTES:

1. MAXIMUM WEIGHT OF EQUIPMENT BOX WITH EQUIPMENT INSTALLED, SHALL BE 150 LBS. BRACKETS SHOULD BE APPROPRIATELY RATED TO ACCOMMODATE MAXIMUM WEIGHT.
2. ALL HARDWARE ASSOCIATED WITH THE EQUIPMENT BOX INCLUDING THE EQUIPMENT BOX, EQUIPMENT TO BE INSTALLED AND MOUNTING BRACKET SHALL BE STAINLESS STEEL.

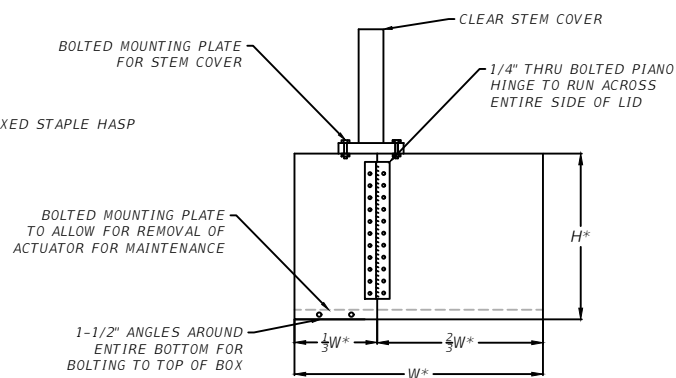
**WATER LEVEL SENSOR EQUIPMENT BOX MOUNT TO RAILING SCHEMATIC**

STRUCTURE S-CR-2 (1 BOX)



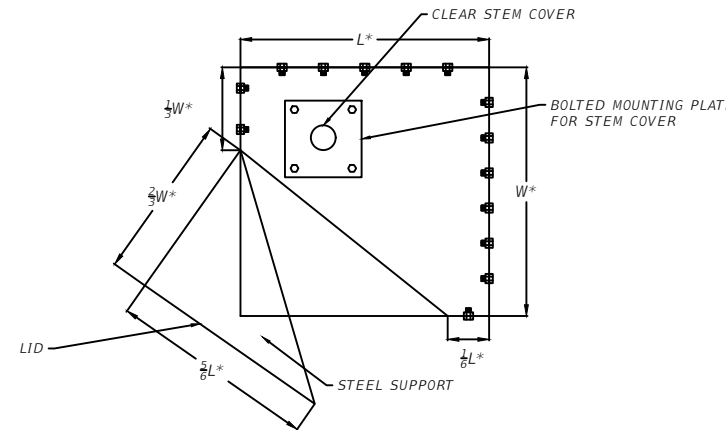
ISOMETRIC VIEW

- NOTES:  
 1. ALL STEEL TO BE 14 GAUGE STAINLESS STEEL EXCEPT WHERE NOTED.  
 2. LID IS SHOWN IN CLOSED POSITION.  
 3. BOX NEEDS TO BE REMOVABLE FROM BOTTOM FOR ACTUATOR MAINTENANCE.



SIDE VIEW

- NOTES:  
 1. ALL STEEL TO BE 14 GAUGE STAINLESS STEEL EXCEPT WHERE NOTED.  
 2. LID IS SHOWN IN CLOSED POSITION.



TOP VIEW

- NOTES:  
 1. ALL STEEL TO BE 14 GAUGE STAINLESS STEEL EXCEPT WHERE NOTED.  
 2. LID IS SHOWN IN FULLY OPEN POSITION

**STAINLESS STEEL ACTUATOR BOX DETAIL**

STRUCTURE S-CR-1 (2 BOXES), S-CR-2 (1 BOX), & S-CR-3 (2 BOXES)

\*NOTE:  
 CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION TO ENSURE BOX DIMENSIONS FIT THE SPECIFIC ACTUATOR MODEL SELECTED FOR PROPER GATE OPERATION.

P:\JOBS\active\19-1026 crest\CAD\PHASE 3\C-16 EQUIPMENT ENCLOSURE.dwg

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4		
3		
2		
1		
NO	DATE	DESCRIPTION

**AIM Engineering & Surveying, Inc.**  
 CIVIL ENGINEERING \* LAND SURVEYING \* S.U.E. \* TRANSPORTATION \* UTILITIES  
 \* PROJECT MANAGEMENT \* CONSTRUCTION ENGINEERING & MANAGEMENT  
 2161 FOWLER ST. STE. 100 FORT MYERS, FL 33901 \* PHONE: 239-332-4569  
 EMAIL: ENGINEERING@AIMENGR.COM \* CERTIFICATE OF AUTHORIZATION No. 3114

**LEHIGH ACRES-MUNICIPAL SERVICES IMPROVEMENT DISTRICT (LA-MSID)**  
 601 E. COUNTY LN. LEHIGH ACRES, FL. 33936  
 PHONE: (239) 368-0044

DATE:	MAR 2024
DRAWN BY:	GA
CHECKED BY:	DS
	DANIEL SCHROEDER PROFESSIONAL ENGINEER P.E. No. 78646

CALOOSAHATCHEE RIVER ESTUARY STORAGE & TREATMENT,  
 PHASE 3  
**EQUIPMENT / ACTUATOR BOX**  
**DETAILS**

PROJECT NO.	19-1026
SHEET NO.	C-16