

ABBREVIATIONS

A.F.F.

ABOVE FINISHED FLOOR

A.H.U.

AIR HANDLING UNIT

ALUM.

ALUMINUM

ALT.

ALTERNATE

APPROX.

APPROXIMATE

BD.

BOARD

BULD.

BUILDING

BLK.

BLOCK

BLG.

BLOCKING

BLT.

BUILT

BRK.

BRICK

BRKR.

BRICKER

BSMT.

BASEMENT

C.J.

CONTROL JOINT

C.G.

CESILING

CLR.

CLEAR

CMU.

CONCRETE MASONRY UNIT

C.O.

CLEAN OUT

CONC.

CONCRETE

CU.

COPPER

CU FT.

CUBIC FOOT

CU IN.

CUBIC INCH

CU YD.

CUBIC YARD

DIA.

DIAMETER

DRL.

DOUBLE

DBT.

DRY-BULB TEMPERATURE

DEG.

DEGREE

DEPT.

DEPARTMENT

DF.

DRINKING FONTAIN

DISC.

DISCONNECT

DL.

DEADLOAD

DN.

DOWN

D.S.

DOWN SPOT

DWG.

DRAWING

E.F.

EXHAUST FAN

EXH.

EXHAUST

EXP. JT.

EXPANSION JOINT

EXT.

EXTERIOR

FIN.

FINISH

FLOR.

FLOOR

FLUOR.

FLUORESCENT

FR.

FIRE RATING

FT.

FOOT/FEET

FTG.

FOOTING

GALV.

GALVANIZED

GFI.

GROUNDFULT

GOVT.

CIRCUIT INTERRUPT

GRFL.

GROUND FLOOR

GYP.

GYPSUM

H.C.

HOLLOW CORE

H.D.G.

HOT DIPPED GALVANIZED

HDR.

HEADER

HDR.

HARDWARE

H.P.

HORSEPOWER

HT.

HEIGHT

HTR.

HEATER

HV.

HIGH VOLTAGE

HVAC.

HEATING, VENTILATING AND AIR CONDITIONING

HWY.

HIGHWAY

ID.

INSIDE DIAMETER

IN.

INCH

INCAND.

INCANDESCENT

INCL.

INCLUDED

INSUL.

INSULATION

INT.

INTERIOR

INT. EL.

INVERT ELEVATION

JST.

JOIST

KD.

KILN DRIED

KW.

KILOWATT

KWH.

KILOWATT HOUR

LAM.

LAMINATED

LAV.

LAVATORY

LB.

POUND

LTD.

LIGHTING

LGTH.

LENGTH

LN.

LINEAR

LL.

LIVE LOAD

MANUF.

MANUFACTURE

MAX.

MAXIMUM

MF.

MILL FINISH

MIN.

MINIMUM

MOLD.

MOLDING

MHW.

MEAN HIGH WATER

MHHW.

MEAN HIGHER HIGH WATER

MLW.

MEAN LOW WATER

MLLW.

MEAN LOWER LOW WATER

MEL.

MEAN SEA LEVEL

MOD.

MODIFICATION

NTS.

NOT TO SCALE

NO. #.

NUMBER

OA.

OVERALL

O.C.

ON CENTER

O.D.

OUTSIDE DIAMETER

OFF.

OFFICE

OH.

OVER HEAD

OPP.

OPPOSITE

PARTN.

PARTITION

PC.

PORTLAND CEMENT

P.C.F.

POUNDS PER CUBIC FOOT

P.E.

PROFESSIONAL ENGINEER

PERP.

PERPENDICULAR

PL.

PLATE

PLG.

PLUNG

PLYWD.

PLYWOOD

PNL.

PANEL

PRFAB.

PREFABRICATED

PRELIM.

PRELIMINARY

PSF.

POUNDS PER SQUARE FOOT

PSI.

POUNDS PER SQUARE INCH

P.T.

PRESSURE TREATED

QS.

QUARTER SAWN

R.

RADIUS

RCPT.

RECEPTACLE

REBAR.

REINFORCING BAR

REFRIG.

REFRIGERATION

REINF.

REINFORCING

RFG.

ROOFING

RGH.

ROUGH

RM.

ROOM

R.O.

ROUGH OPENING

RS.

ROUGH SAWN

S.C.

SOLID CORE

SCH.

SCHEDULE

SDG.

SIDING

SECT.

SECTION

SFTWD.

SOFTWOOD

SGD.

SLIDING GLASS DOOR

SH.

SHINGLES

SHD.

SPECIFICATION

SPR.

SPRUCE

SG.

SQUARE

SG FT.

SQUARE FOOT

SG IN.

SQUARE INCH

SG YD.

SQUARE YARD

SS.

STAINLESS STEEL

SUB. FL.

SUBFLOOR

SUP.

SUPPLY

SW.

SWITCH

SYMM.

SYMMETRICAL

S.Y.P.

SOUTHERN YELLOW PINE

SYS.

SYSTEM

SAS.

SURFACED FOUR SIDES

TEL.

TELEPHONE

T&G.

TONGUE-AND-GROOVE

TYP.

TYPICAL

U.E.

UNDERGROUND ELECTRIC

U.G.

UNDER GROUND

UL.

UNDERWRITERS LABORATORIES, INC.

V.

VOLT

VENT.

VENTILATOR

VERT.

VERTICAL

VE.

VERIFY IN FIELD

VOL.

VOLUME

VP.

VENT PIPE

VTR.

VENT THRU ROOF

W.

WATER

WBT.

WET BULB TEMPERATURE

WC.

WATER CLOSET

WD.

WOOD

WWE.

WATERPROOF

WVE.

WELDED WIRE FABRIC

YD.

YARD

REFERENCE LEGEND

A

SECTION IDENTIFICATION

CM-3.1

SHEET NUMBER

1

DETAIL IDENTIFICATION

CM-2.1

SHEET NUMBER

DAGNY JOHNSON KEY LARGO HAMMOCK BOTANICAL STATE PARK

DISTRICT 5

FLORIDA KEYS

MONROE COUNTY

VALOIS CANAL

PLUG REPAIR

CN330

SCOPE OF PROJECT

REPAIRS FOR CANAL PLUG RECONSTRUCTION SUFFICIENT TO PREVENT DIRECT TIDAL WATER EXCHANGE IN THE CANAL.

INDEX OF DRAWINGS

INDEX OF DRAWINGS

COASTAL ENGINEER

LEONARD BARRERA ALLEN, P.E.

LIC# 90872

CM-1.0 COVER

CM-1.1 GENERAL NOTES

CM-1.2 EXISTING SITE PLAN

CM-1.3 EXISTING SECTIONS

CM-2.0 PROPOSED SITE PLAN

CM-2.1 PROPOSED SECTIONS

CM-2.2 PROPOSED DETAILS

CM-3.0 TOPOGRAPHIC SURVEY SHEET 1

CM-3.1 TOPOGRAPHIC SURVEY SHEET 2

100% DRAWINGS

CUMMINS | CEDERBERG

Coastal & Marine Engineering

DIVISION OF RECREATION AND PARKS

BUREAU OF DESIGN AND CONSTRUCTION

1. GENERAL

- 1.1. THE WORK CONSISTS OF PROVIDING ALL CONSTRUCTION, LABOR, EQUIPMENT, MATERIAL, AND OPERATIONS IN CONNECTION WITH THE MARINE WORKS AND RELATED IMPROVEMENTS AS SHOWN ON THESE DRAWINGS.
- 1.2. ANY DISCREPANCIES IN THE PLANS WITH THE FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. CONSTRUCTION SHALL NOT CONTINUE UNTIL THE ENGINEER HAS ADDRESSED THE DISCREPANCIES.
- 1.3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING STRUCTURES IN THE PROJECT VICINITY. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY WITHIN THE PROJECT VICINITY, INCLUDING STAGING SITES, WORK AND ACCESS AREAS SHALL BE REPAIRED PROMPTLY BY THE CONTRACTOR. ANY DAMAGE AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO COST TO THE OWNER. ALL ACCESS AND STAGING AREAS SHALL BE KEPT NEAT, ORDERLY AND IN A SAFE MANNER. ALL ACCESS AND STAGING AREAS SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITION UPON PROJECT COMPLETION AT THE COST OF THE CONTRACTOR. THE SITE SHALL BE RESTORED BY REMOVING AND FINISHING ALL EVIDENCE FOR CONSTRUCTION. IN THE EVENT INFRASTRUCTURE (SUCH AS WALKWAYS, SIDEWALKS, FENCES, VEGETATION, ETC.) IS TEMPORARILY REMOVED OR RELOCATED OR THERE IS UNAUTHORIZED DAMAGE TO VEGETATION AND/OR FACILITIES BY THE CONTRACTOR, THE CONTRACTOR SHALL RESTORE ALL DAMAGE TO STRUCTURES AND NATURAL FEATURES TO PRE-CONSTRUCTION CONDITIONS OR BETTER.
- 1.4. UTILITIES ARE NOT SHOWN IN THE PLANS. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PRESENT UTILITIES PRIOR TO CONSTRUCTION.
- 1.5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER CLEARANCE AND PROTECTION TO ALL OVERHEAD WIRES AND OBSTRUCTIONS.
- 1.6. THE CONTRACTOR SHALL EXCLUDE THE PUBLIC FROM THE WORK AREAS IN THE IMMEDIATE VICINITY OF OPERATIONS. CONTRACTOR SHALL PROVIDE APPROPRIATE SAFETY MEASURES TO PROTECT THE PUBLIC.
- 1.7. ALL NEW STRUCTURAL WORK INCLUDING CONCRETE AND REINFORCEMENT SHALL BE ACCURATELY FIELD MEASURED AND DIMENSIONS VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS. CONTRACTOR SHALL BE PREPARED TO MAKE FIELD ADJUSTMENTS TO ACCURATELY FIT THE NEW WORK TO EXISTING CONDITIONS.
- 1.8. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN SECURED AND THE CONTRACTOR HAS BEEN ISSUED NOTICE TO PROCEED.
- 1.9. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN CHANGED IN SIZE BY REPRODUCTION. THIS SHOULD BE CONSIDERED WHEN OBTAINING SCALED DATA.
- 1.10. CONSTRUCTION WORK SHALL BE EXECUTED IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL BUILDING CODES AND GOVERNING REGULATIONS INCLUDING SFWMD, USACE, AND MONROE COUNTY. CONTRACTOR SHALL ADHERE TO ALL CONDITIONS OF THE PERMITS AND EXEMPTIONS.
- 1.11. CONTRACTOR SHALL DEPLOY A FLOATING TURBIDITY BARRIER, PER PLANS, FOR THE DURATION OF THE WORK.

2. LAYOUT AND TESTING

- 2.1. ALL CONSTRUCTION STAKEOUT SHALL BE PERFORMED BY AND PAID FOR BY THE CONTRACTOR UNDER THE SUPERVISION OF A SURVEYOR REGISTERED IN THE STATE OF FLORIDA. ALL TESTING AND INSPECTION FOR CONCRETE MATERIALS SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS AND SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
- 2.2. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF AS-BUILT DRAWINGS IN SUFFICIENT DETAIL TO ILLUSTRATE THE HORIZONTAL AND VERTICAL COMPONENTS OF ABOVE AND BELOW GROUND STRUCTURES AND WALLS RELATIVE TO THE CONSTRUCTION BASELINE. DRAWINGS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED SURVEYOR.

3. DEMOLITION

- 3.1. CONTRACTOR SHALL VERIFY THE EXTENTS, LOCATION AND QUANTITIES OF EXISTING ELEMENTS TO BE REMOVED.
- 3.2. ALL DEBRIS WITHIN THE LIMITS OF THE PROJECT SHALL BE HAULED OFF SITE BY THE CONTRACTOR, AS DIRECTED BY THE OWNER, AND DISPOSED OF AT AN APPROPRIATE FACILITY.
- 3.3. CONTRACTOR SHALL NOT DAMAGE ANY STRUCTURAL COMPONENTS BEYOND THE DEMOLITION REQUIREMENTS DEPICTED IN THESE DRAWINGS. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

4. CONCRETE

- 4.1. FORMS FOR THIS WORK SHALL BE MADE OF EITHER WOOD OR METAL. THEY SHALL BE STRAIGHT AND FREE OF WARP OR BENDS. THEY SHALL HAVE SUFFICIENT STRENGTH AND RIGIDITY, WHEN STAKED, TO RESIST THE PRESSURE OF THE CONCRETE WITHOUT SPRINGING. IF WOODEN FORMS ARE USED, THEY SHALL BE OF ADEQUATE SECTION AND SHALL HAVE A FLAT SURFACE ON TOP. FORMS SHALL HAVE A DEPTH AT LEAST EQUAL TO THE VERTICAL DIMENSIONS FOR THE DEPTH OF THE CONCRETE BEING DEPOSITED AGAINST THEM. WHEN READY FOR THE CONCRETE TO BE DEPOSITED, THEY SHALL NOT VARY FROM THE APPROVED LINE AND GRADE, AND SHALL BE KEPT SO UNTIL THE CONCRETE HAS SET.
- 4.2. JUST PRIOR TO PLACING THE CONCRETE ANY WOODEN FORMS SHALL BE MOISTENED AND ALL STEEL REINFORCING SHALL BE RINSED WITH FRESH WATER. THE CONCRETE SHALL BE PLACED IN THE FORMS AND TAMPED IN PLACE SO THAT ALL HONEYCOMBS WILL BE ELIMINATED AND SUFFICIENT MORTAR BROUGHT TO A SMOOTH EVEN FINISH BY MEANS OF A FLOAT.
- 4.3. NO CONCRETE SHALL BE POURED DURING UNFAVORABLE WEATHER OR SEA CONDITIONS.
- 4.4. ALL STEEL SHALL HAVE A MINIMUM OF 3 INCHES CONCRETE COVER, UNLESS OTHERWISE NOTED. NO CHAIRS OR OTHER METAL SHALL PROTRUDE FROM SURFACE OF CONCRETE.
- 4.5. CAST-IN-PLACE CONCRETE SHALL BE A MINIMUM OF 5,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. WATER CEMENT RATIO (W/C) SHALL BE LESS THAN OR EQUAL TO 0.4. PROVIDE MIX DESIGN FOR A CLASS IV CONCRETE FOR AN EXTREMELY AGGRESSIVE (MARINE) ENVIRONMENT IN ACCORDANCE WITH FDOT SPECIFICATIONS. PROVIDE SUFFICIENT AMOUNT OF FLY ASH AND SILICA FUME TO THE CEMENT CONTENT. CONTRACTOR SHALL PROVIDE MIX DESIGN TO ENGINEER FOR APPROVAL 10 DAYS PRIOR TO CONCRETE PLACEMENT.
- 4.6. NO WATER SHALL BE ADDED TO CONCRETE AT THE JOB SITE UNLESS AUTHORIZED BY THE ENGINEER OR SPECIAL INSPECTOR.
- 4.7. WHEN SURFACE FINISHING IS COMPLETED, THE STRUCTURE SHALL BE PROTECTED AGAINST WAVE SPLASH FOR TWO DAYS AND CURED PER APPLICABLE PARAGRAPHS OF SECTION 400-16 OF THE FDOT STANDARD SPECIFICATIONS. CURING SHALL OCCUR FOR AT LEAST 7 DAYS.
- 4.8. A SURFACE PENETRANT SEALER OF ALKYL-ALKOXY SILANE CLASSIFICATION, SUCH AS BASF ENVIROSEAL, OR APPROVED EQUAL SHALL BE APPLIED ALL EXPOSED CONCRETE.
- 4.9. COMPONENTS NOT CONSTRUCTED ACCORDING TO THESE SPECIFICATIONS SHALL BE REMOVED AND REPLACED PROPERLY AT THE EXPENSE OF THE CONTRACTOR.
- 4.10. THE FACES OF THE FINISHED STRUCTURES SHALL BE TRUE, STRAIGHT, AND OF UNIFORM WIDTH, FREE FROM HUMPS, SAGS, OR OTHER IRREGULARITIES EXCEPT AS SPECIFIED IN THE PLANS. THE CONTRACTOR SHALL REPLACE ANY DEFICIENT SEGMENTS.

- 4.11. CONCRETE FORMWORKERS AND FINISHERS:
THE CONTRACTOR SHALL SUPPLY A SUFFICIENT NUMBER OF EXPERIENCED CONCRETE FORMWORKERS AND FINISHERS IN ORDER TO COMPLETE THE WORK. A CONCRETE FOREMAN WHO HAS A THOROUGH UNDERSTANDING OF THE PLANS, SPECIFICATIONS, AND REFERENCED SPECIFICATIONS SHALL SUPERVISE ALL FORMWORKERS AND FINISHERS. NO SUB-STANDARD WORKMANSHIP WILL BE ACCEPTED.
- 4.12. CONCRETE TRANSPORTATION:
CONCRETE DELIVERED FROM A READY MIX PLANT SHALL BE TRANSPORTED IN ACCORDANCE TO FDOT SECTION 346-7. CONCRETE THAT IS NOT PLACED IN THE FORM WITHIN THE SPECIFIED TIME LIMITS WILL BE REJECTED AND NOT INCLUDED IN THE WORK. CONTRACTOR SHALL BEAR ALL COSTS FOR REJECTED CONCRETE. CONCRETE SHALL NOT BE PLACED IN THE FORMS UNTIL THE REINFORCING STEEL PLACEMENT HAS BEEN APPROVED BY THE ENGINEER.
- 4.13. REINFORCED CONCRETE MATERIALS TESTING:
THE CONTRACTOR SHALL HAVE AN INDEPENDENT TESTING LABORATORY TEST THE CONCRETE USED IN THE WORK. THE TEST SHALL INCLUDE 7, 14, AND 28 DAY COMPRESSIVE STRENGTH TESTS. THE RESULTS SHALL BE SUPPLIED TO THE ENGINEER. THE TESTS SHALL BE IN ACCORDANCE WITH ASTM C31, C39, AND C617.

5. STEEL

- 5.1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED BARS FREE FROM LOOSE RUST AND SCALE.
- 5.2. REINFORCING STEEL, SUPPORTS, AND TIE WIRE SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A767.
- 5.3. STEEL SHALL BE PLACED AS SHOWN IN THE PLANS. ALL ACCESSORIES SHALL BE PLASTIC ONLY TO SUPPORT REINFORCING EXPOSED TO WEATHER. ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED AND FIRMLY HELD IN PLACE BEFORE AND DURING THE PLACEMENT OF CONCRETE.
- 5.4. CONTRACTOR SHALL ADVISE ENGINEER OF THE REQUIRED REINFORCING STEEL SITE REVIEW AT LEAST 24 HOURS PRIOR TO PLACING OF CONCRETE.
- 5.5. CONTRACTOR TO ALLOW FOR 5% ADDITIONAL REINFORCING FOR ENGINEER TO USE AT HIS DISCRETION DURING CONSTRUCTION. ANY UNUSED PORTION SHALL BE CREDITED BACK TO OWNER UPON COMPLETION OF PROJECT.

6. ROCK

- 6.1. PROPOSED ROCK SOURCE(S) MUST BE APPROVED FOR USE BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF THE WORK. ONCE THE SOURCE(S) FOR ROCK ARE APPROVED, THE CONTRACTOR SHALL NOT USE MATERIAL FROM ANOTHER SOURCE WITHOUT REPEATING THE ACCEPTANCE AND TEST PROCEDURES TO QUALIFY THE OTHER SOURCE(S).
- 6.2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING QUARRY CERTIFICATIONS AND PERFORMING QUALITY TESTS ON ALL ROCK. ALL ROCK SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
 - 6.2.1. CLEAN, SOUND AND DURABLE, AND FREE FROM FRACTURES, INCLUSIONS, VOIDS, OR OTHER DEFECTS. FREE OF CLAY, REFUSE, OR ADHERENT COATINGS.
 - 6.2.2. MINIMUM SPECIFIC GRAVITY OF 2.25 (140 PCF).
 - 6.2.3. SOUNDNESS 15% MAX LOSS (ASTM C88)
 - 6.2.4. SUCH CHARACTER THAT IT WILL NOT DISINTEGRATE FROM THE ACTION OF AIR, WATER, OR THE CONDITIONS OF HANDLING AND PLACING. MAXIMUM ABRASION LOSS OF 50% (ASTM C131)
 - 6.2.5. ROUGH ANGULAR QUARRIED MATERIAL WITH A SHAPE THAT ASSURES INTERLOCKING WITH ADJACENT ROCK.
- 6.3. ALL ROCK WILL BE SUBJECT TO ON-SITE RANDOM SAMPLING AND TESTING (INCLUDING RANDOM DROP TESTS). ROCK THAT DOES NOT CONFORM IN SPECIFIC GRAVITY, STRUCTURE AND OTHER CHARACTERISTIC REQUIREMENTS WILL BE REJECTED. THE PRESENCE OF UNSATISFACTORY ROCK OR OBJECTIONABLE FOREIGN MATERIAL IN ANY OF CONTRACTOR PROVIDED ROCK WILL BE DEEMED SUFFICIENT REASON FOR REJECTION OF THE ENTIRE LOAD OF ROCK. ANY SUCH LOAD OF ROCK SHALL BE IMMEDIATELY REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE.
- 6.4. ROCK USED FOR THE REVETMENT CONSTRUCTION SHALL CONFORM TO THE FOLLOWING GRADATION:

PERCENT LESS THAN BY WEIGHT	MASS (LB)	NOMINAL SIZE (FT.)
100	6002.5	3.5
50	3760	3
0	2187.5	2.5

- 6.4.1. THE LEAST DIMENSION OF ANY ROCK SHALL NOT BE LESS THAN ONE-THIRD (1/3) OF THE GREATEST DIMENSION OF THAT ROCK. SQUARE OR FLAT ROCK SHALL NOT BE ACCEPTED. ROCK SIZE SHALL BE TAKEN AS THE AVERAGE OF THE ROCK'S MAXIMUM GIRTH MEASURED IN EACH OF THREE PERPENDICULAR AXES. THE IN-PLACE ROCK SHALL BE WELL GRADED AND REPRESENT THE RANGE OF SIZE SPECIFIED
- 6.5. THE CUBIC YARDAGE OF STONE IN THE BID ASSUMES THAT THERE ARE NO VOIDS. UNLESS CHANGED BY THE ENGINEER, THE BID TONNAGE IS THE MAXIMUM PAY TONNAGE. THE CONTRACTOR SHALL MAKE HIS OWN ESTIMATE PRIOR TO MAKING HIS BID. THE BID TONNAGE ASSUMES 140 PCF STONE IS USED TO FILL THE TEMPLATE. IF A HIGHER UNIT WEIGHT STONE IS USED, IT IS POSSIBLE THAT THE FINAL CROSS SECTION MAY VARY FROM THAT SHOWN ON THE PLANS. REGARDLESS OF THE STONE DENSITY, THE RIPRAP SHALL NOT EXTEND BEYOND THE CROSS SECTION SHOWN ON THE PLANS.

7. TIDAL DATA

- 7.1. CONTRACTOR MAY NEED TO ADJUST HIS WORK PLAN TO ACCOUNT FOR ACTUAL WATER LEVELS AND CHANGING WATER LEVELS. THE SITE MAY BE SUBJECT TO VARIABLE WAVE AND SURGE CONDITIONS AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE TEMPORARY SUPPORT FOR MARINE STRUCTURES AND SHORELINE DURING CONSTRUCTION. TIDAL DATA OBTAINED FROM FDEP HISTORICAL DATA FOR THE PROJECT AREA.

8. STEEL SHEET PILING

- 8.1. STEEL SHEET PILING SHALL BE OF THE SECTIONS INDICATED, AND SHALL BE ASTM A572 GRADE 60 OR HIGHER.
- 8.2. A THREE-COAT SHOP APPLIED SYSTEM COMPRISED OF AN INORGANIC ZINC PRIMER AND TWO COATS OF COAL TAR-EPOXY IN ACCORDANCE WITH FDOT STANDARD SECTION 560 SHALL BE APPLIED TO THE TOP 10' OF BOTH FACES OF STEEL SHEET PILE. FIRST COAT APPLICATION SHALL YIELD DRY FILM THICKNESS OF 8 TO 10 MILS. TOTAL DRY FILM THICKNESS OF THE TWO COATS SHALL BE MINIMUM 16 MILS. ANY DAMAGE TO COATING FROM SHIPPING, HANDLING, INSTALLATION OR OTHER REASONS SHALL BE REPAIRED AT NOT ADDITIONAL COST TO OWNER.

- 8.3. CONTRACTOR TO DRIVE SHEET PILING IN ACCORDANCE WITH FDOT 455-9.
- 8.4. ANY DAMAGED COATING DUE TO HANDLING, DRIVING, ETC, SHALL BE REPAIRED IN STRICT ACCORDANCE WITH COATING MANUFACTURER INSTRUCTIONS.
- 8.5. ALL PILES SHALL BE DRIVEN TO THE MINIMUM TIP ELEVATIONS INDICATED UNLESS OTHERWISE APPROVED BY ENGINEER.
- 8.6. CONTRACTOR SHALL BE PREPARED TO DRIVE SHEET PILING THROUGH LIMESTONE LAYERS; REFER TO GEOTECHNICAL REPORT.
- 8.7. INDEPENDENT TESTING LAB TO PERFORM VIBRATION MONITORING THROUGHOUT THE PILE INSTALLATION. MONITORING PLAN SHALL BE SUBMITTED FOR APPROVAL BY ENGINEER AND OWNER.

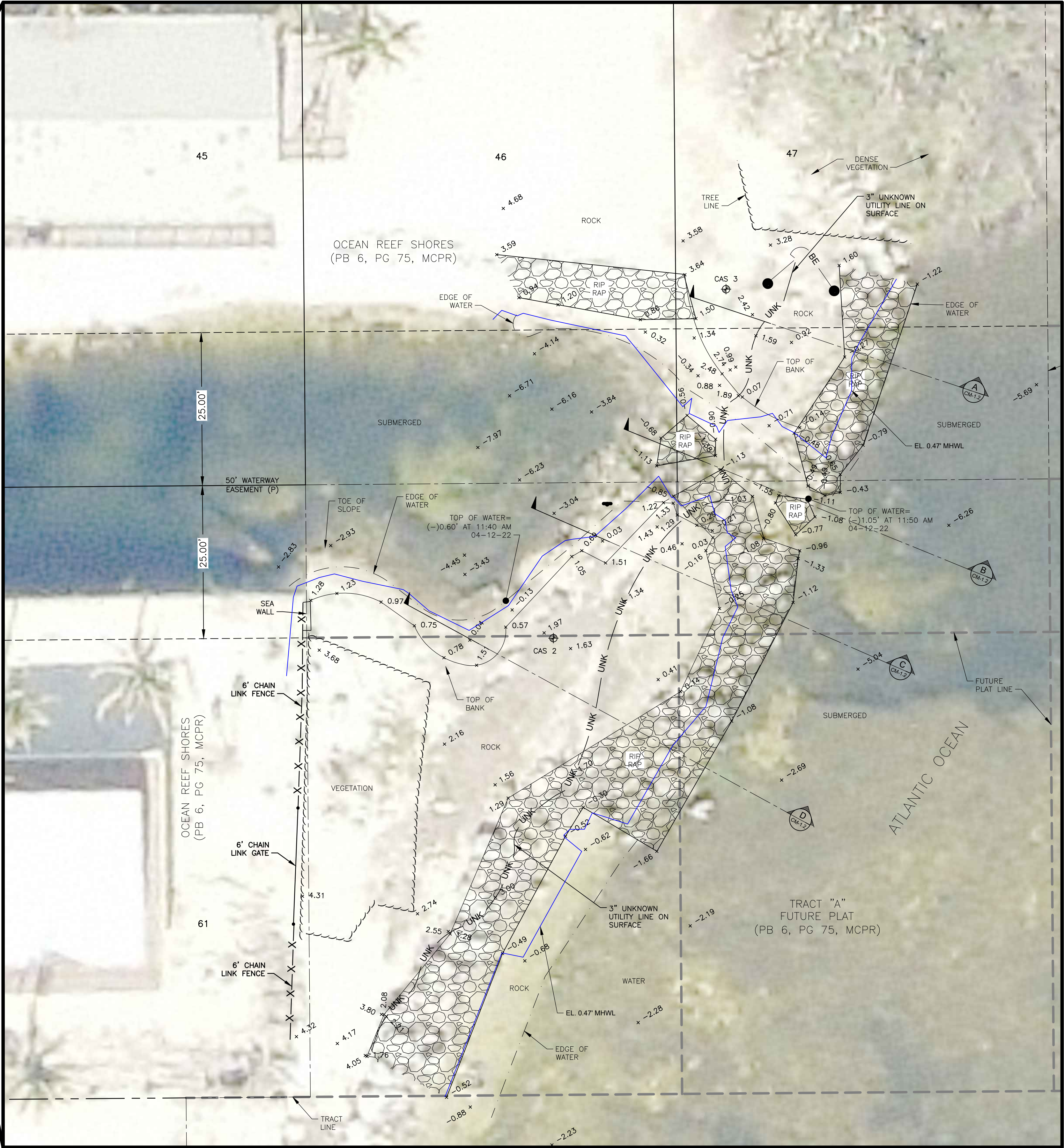
9. SUBMITTALS

- 9.1. REVIEW OF SUBMITTALS BY THE ENGINEER IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AS PRESENTED BY THE CONTRACT DOCUMENTS. NO DETAILED CHECK OF QUANTITIES OR DIMENSIONS WILL BE MADE.
- 9.2. ALL SHOP DRAWINGS MUST BEAR EVIDENCE OF THE CONTRACTOR'S APPROVAL PRIOR TO SUBMITTING TO THE ENGINEER.
- 9.3. THE FOLLOWING MINIMUM SUBMITTALS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO RELATED CONSTRUCTION ACTIVITY:
 - 9.3.1. SCHEDULE FOR COMPLETION OF WORK WITH TASKS AND DURATIONS DEFINED
 - 9.3.2. DEMOLITION METHODS & DISPOSAL PLAN
 - 9.3.3. CONCRETE MIX
 - 9.3.4. REINFORCING STEEL
 - 9.3.5. ROCK
 - 9.3.6. JOINT MATERIAL
 - 9.3.7. STEEL SHEET PILE
 - 9.3.8. CONCRETE SEALANT
 - 9.3.9. SHEET PILE HAMMER

[illegible]



LOCATION MAP
N.T.S.



EXISTING CONDITIONS PLAN

22" X 34" SCALE: 1" = 10'-0"
11" X 17" SCALE: 1" = 20'-0"



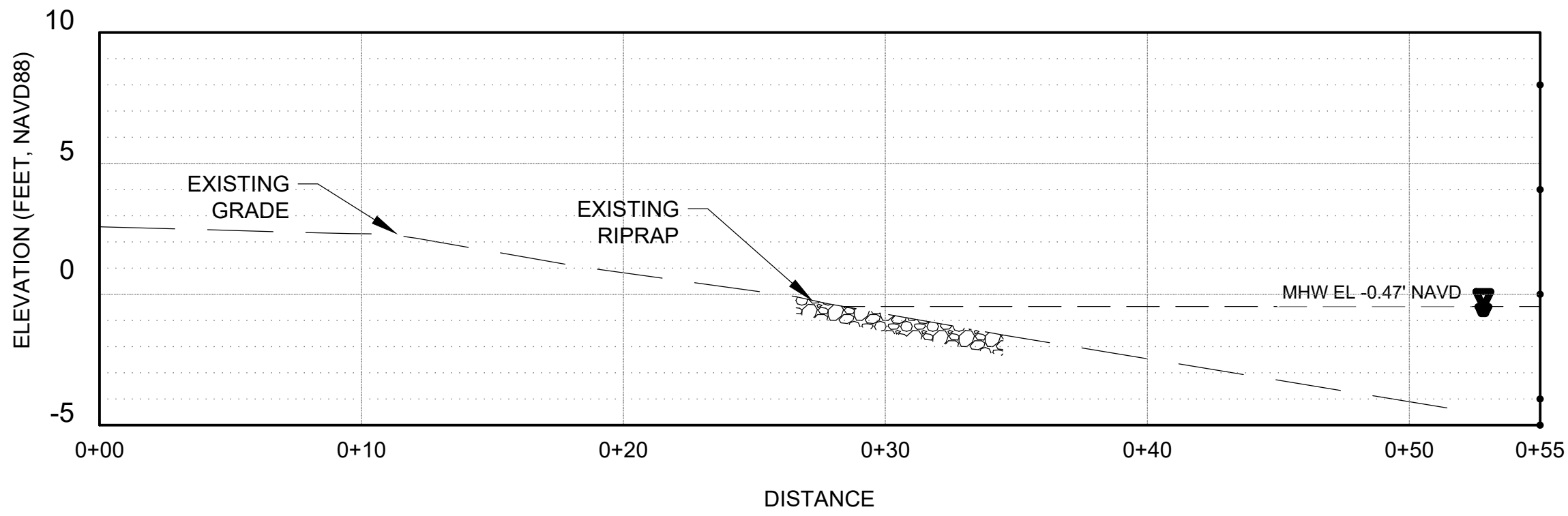
0 5 10 20
HORIZONTAL GRAPHIC SCALE
22" X 34" SCALE: 1" = 10'-0"
11" X 17" SCALE: 1" = 20'-0"

DATE	REVISION	SYMBOL	DATE	REVISION	SYMBOL
		C			D
		A			B
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DRAWN BY: JDR	COMP. FILE NO.: 89340	A			B
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PROFESSIONAL REGISTRATION LEONARD BARRERA ALLEN P.E. #90872					
100% DRAWINGS					
SHEET TITLE	EXISTING SITE PLAN				
PROJECT TITLE	DAGNY JOHNSON KEY LARGO HAMMOCK BOTANICAL STATE PARK / VALOIS CANAL PLUG REPAIR				
SHEET NO.	CM-1.2				

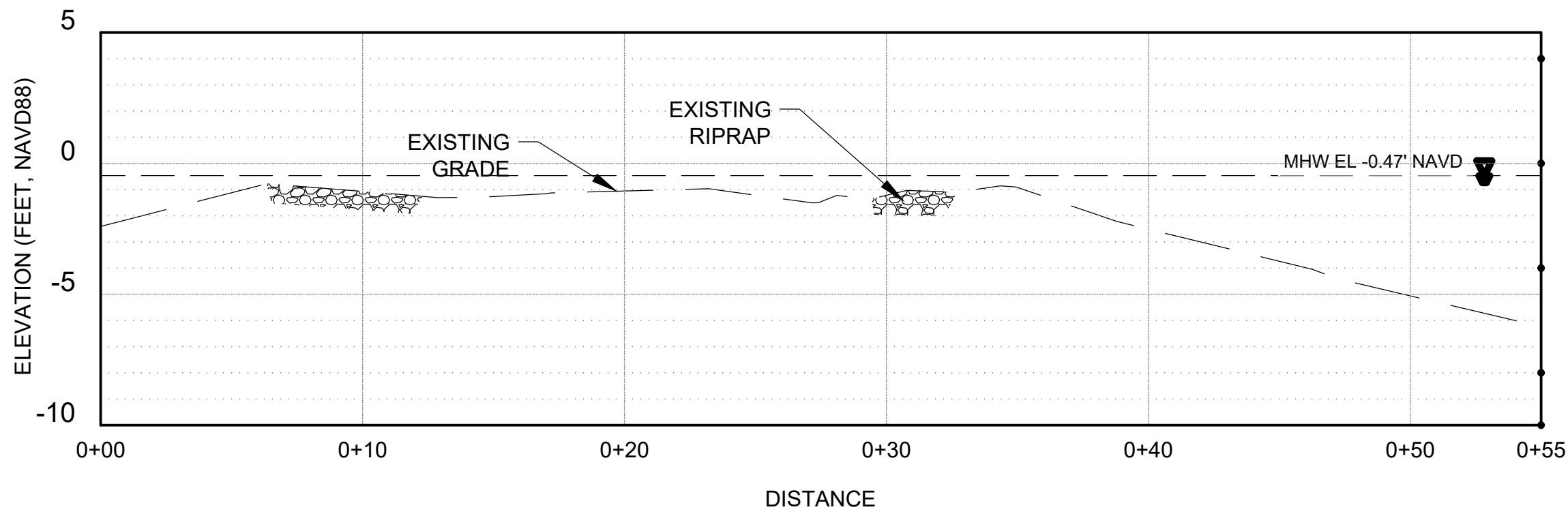
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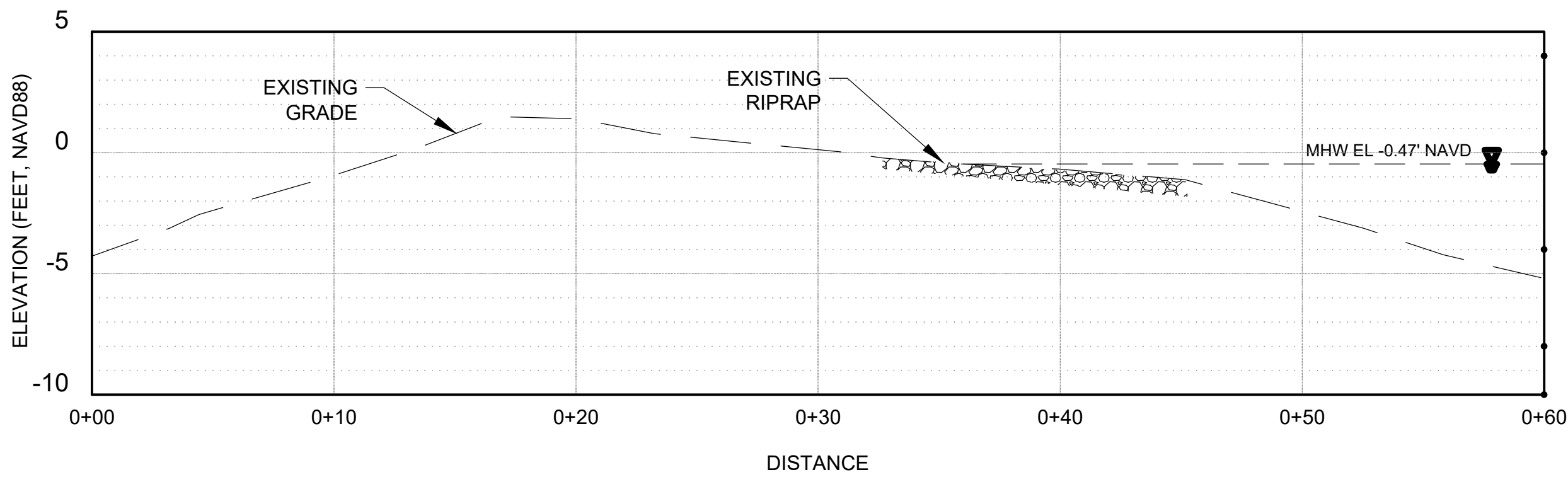
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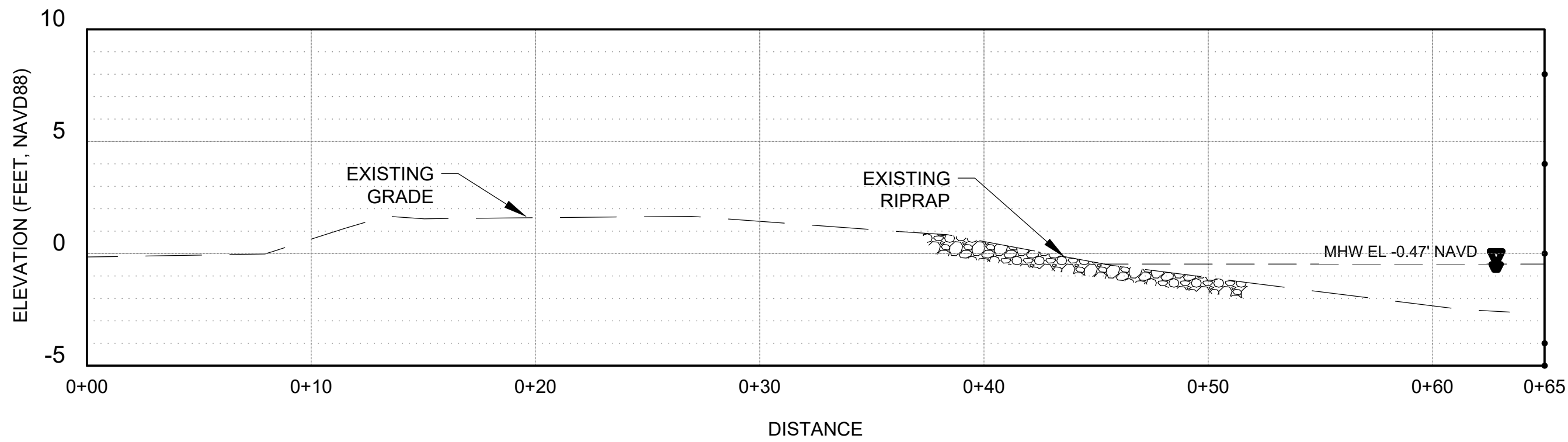
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CM-1.2



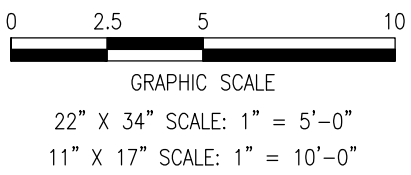
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CM-1.2



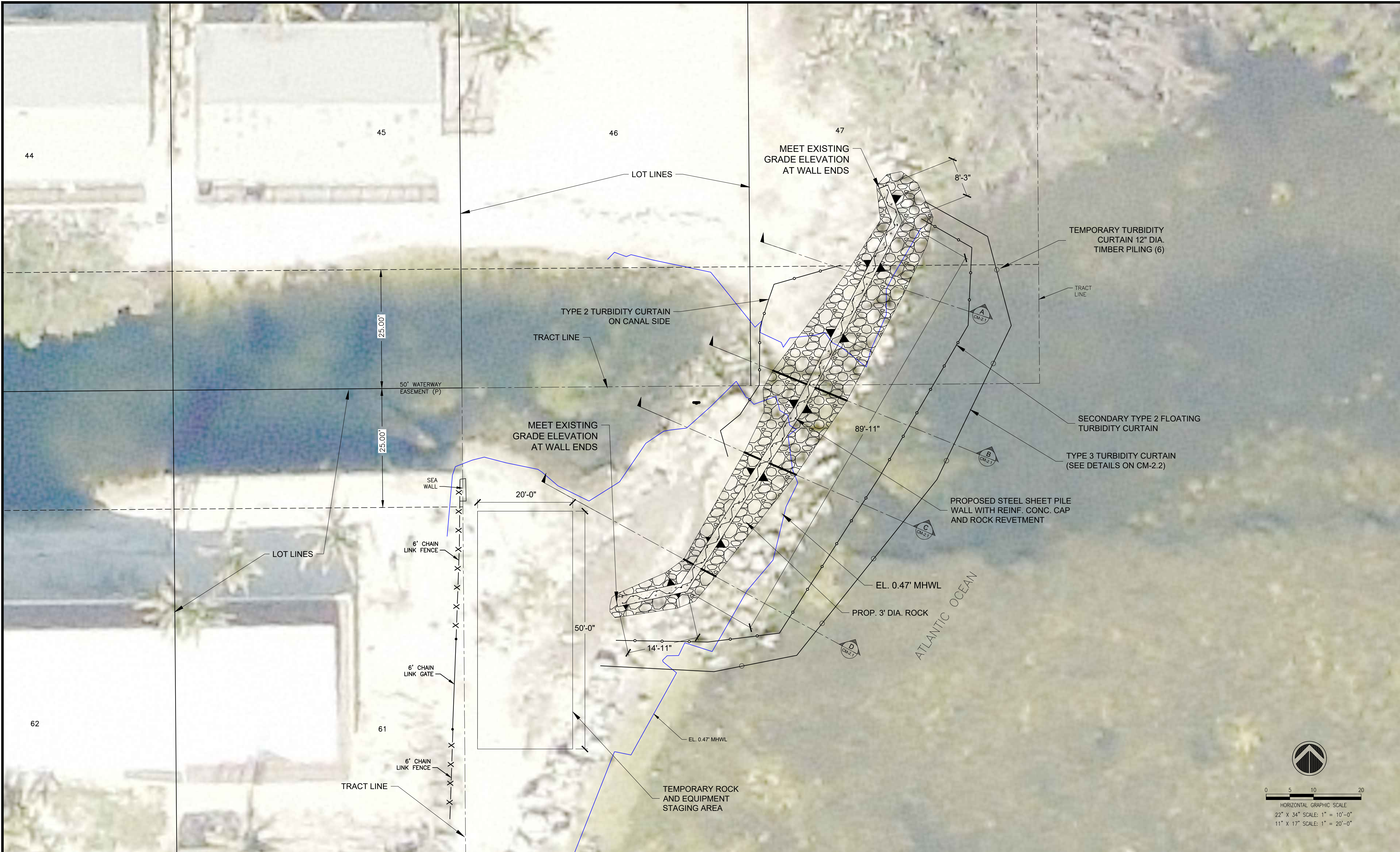
CROSS SECTION C
CM-1.2



CROSS SECTION D
CM-1.2



SHEET NO.	EXISTING SECTIONS	PROFESSIONAL REGISTRATION LEONARD BARRERA ALLEN P.E. #90872	DESIGNER : LBA DRAWN BY: JDR REVIEWED BY: LBA	ISSUE DATE: 03/22/2024 COMP. FILE No.: 89340 STATE PROJECT No.: 50441	SYMBOL A B C D	REVISION	DATE
PROJECT TITLE DAGNY JOHNSON KEY LARGO HAMMOCK BOTANICAL STATE PARK / VALOIS CANAL PLUG REPAIR		CUMMINS CEDERBERG Coastal & Marine Engineering MIAMI • FORT LAUDERDALE • JUPITER • TALLAHASSEE • FT. WORTH TEL: 1-888-744-9105 FAX: 305-994-1866 WWW.CUMMINSCEDERBERG.COM					
Department of Environmental Protection Division of Recreation and Parks Bureau of Design and Construction 3800 Commonwealth Blvd., Tallahassee, FL 32399 (850) 245-2157							



SUMMARY OF QUANTITIES

TYPE	QUANTITY
STEEL SHEET PILE	111 LF
RIP RAP	60 CY (1,060 SF)

PROPOSED SITE PLAN

22" X 34" SCALE: 1" = 10'-0"
11" X 17" SCALE: 1" = 20'-0"

DESIGNER : LBA	ISSUE DATE: 03/22/2024	SYMBOL	REVISION	DATE
DRAWN BY: JDR	COMP. FILE No.: 89340	A		
REVIEWED BY: LBA	STATE PROJECT No.: 50441	B		
Consultant :		C		
		D		

100% DRAWINGS

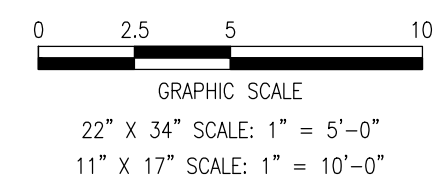
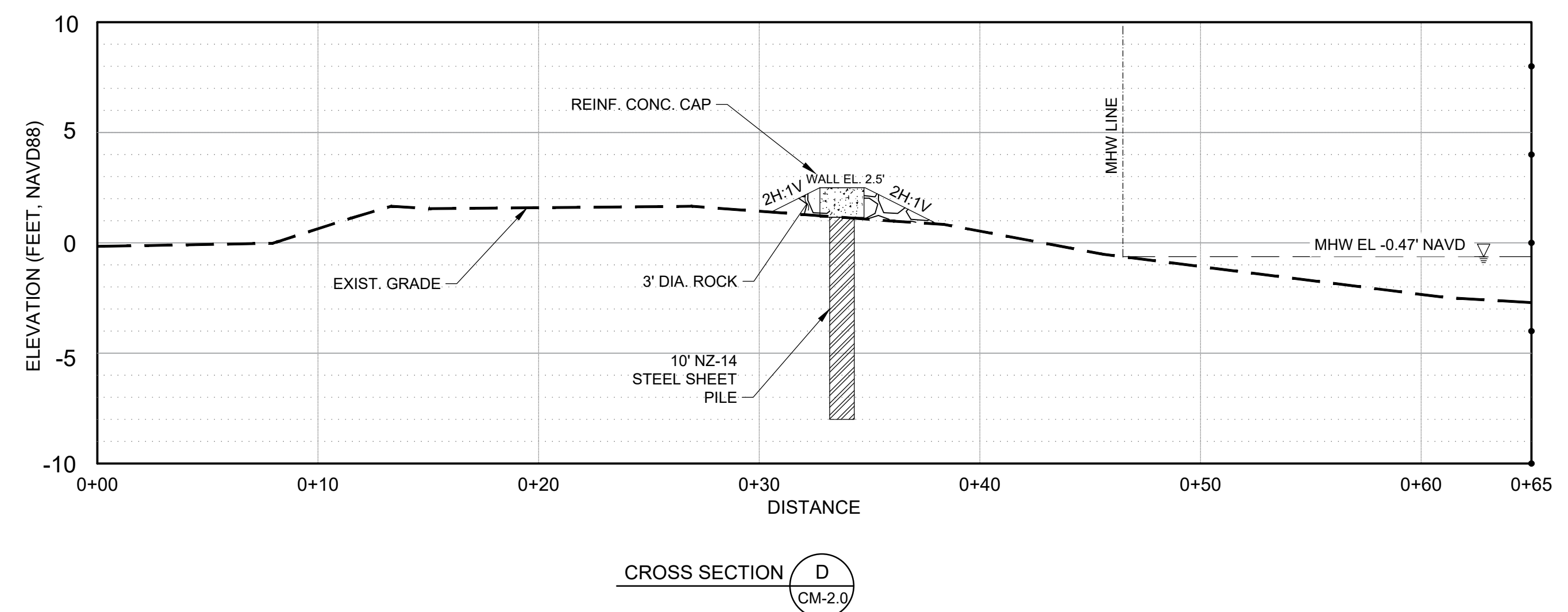
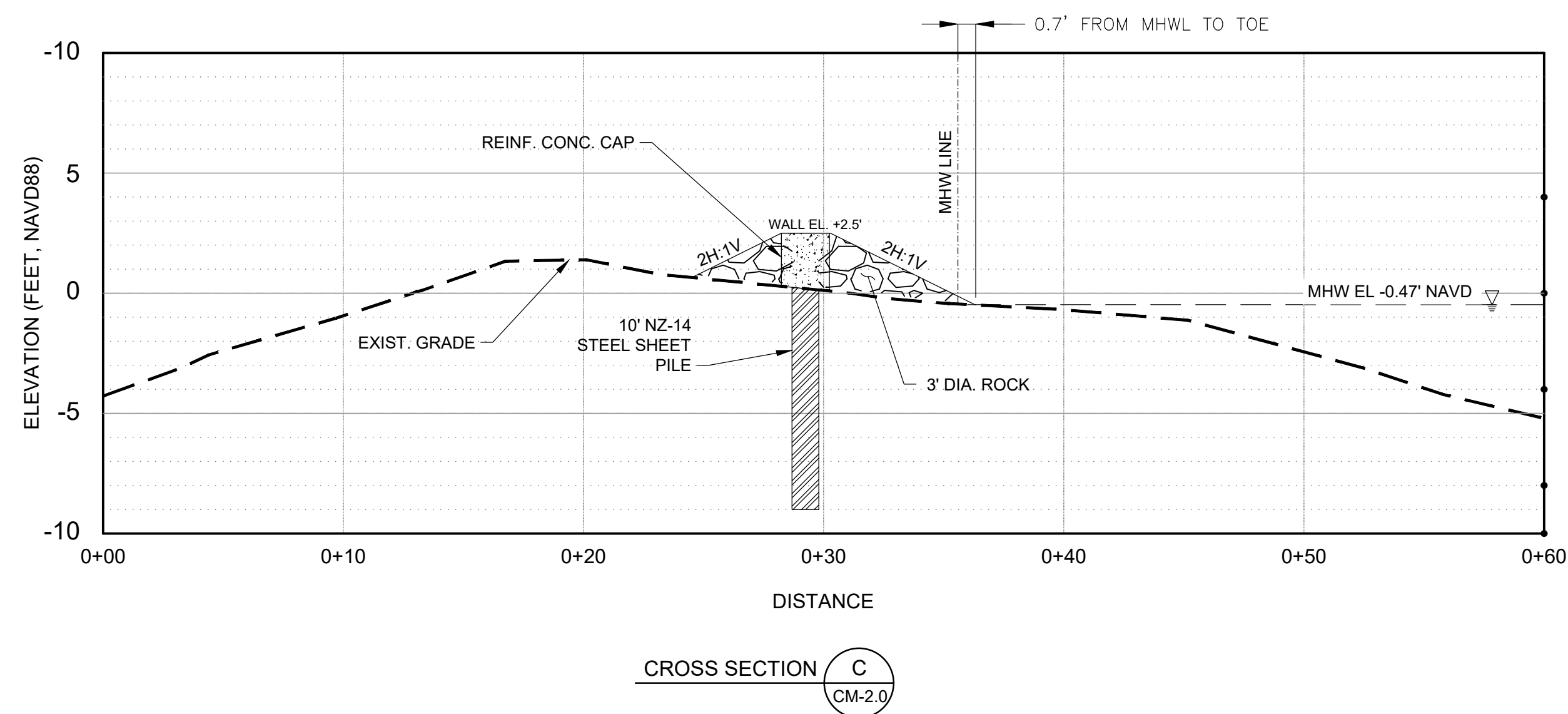
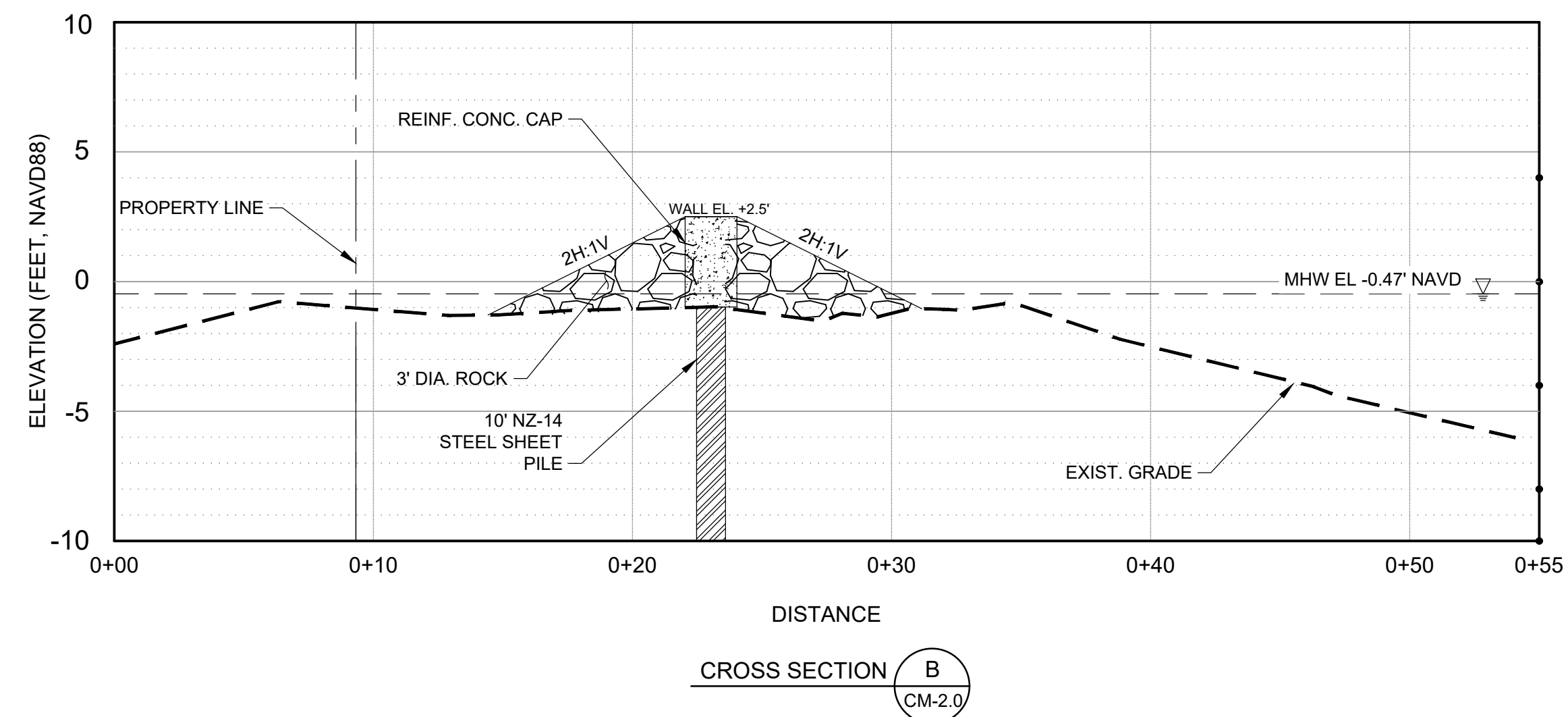
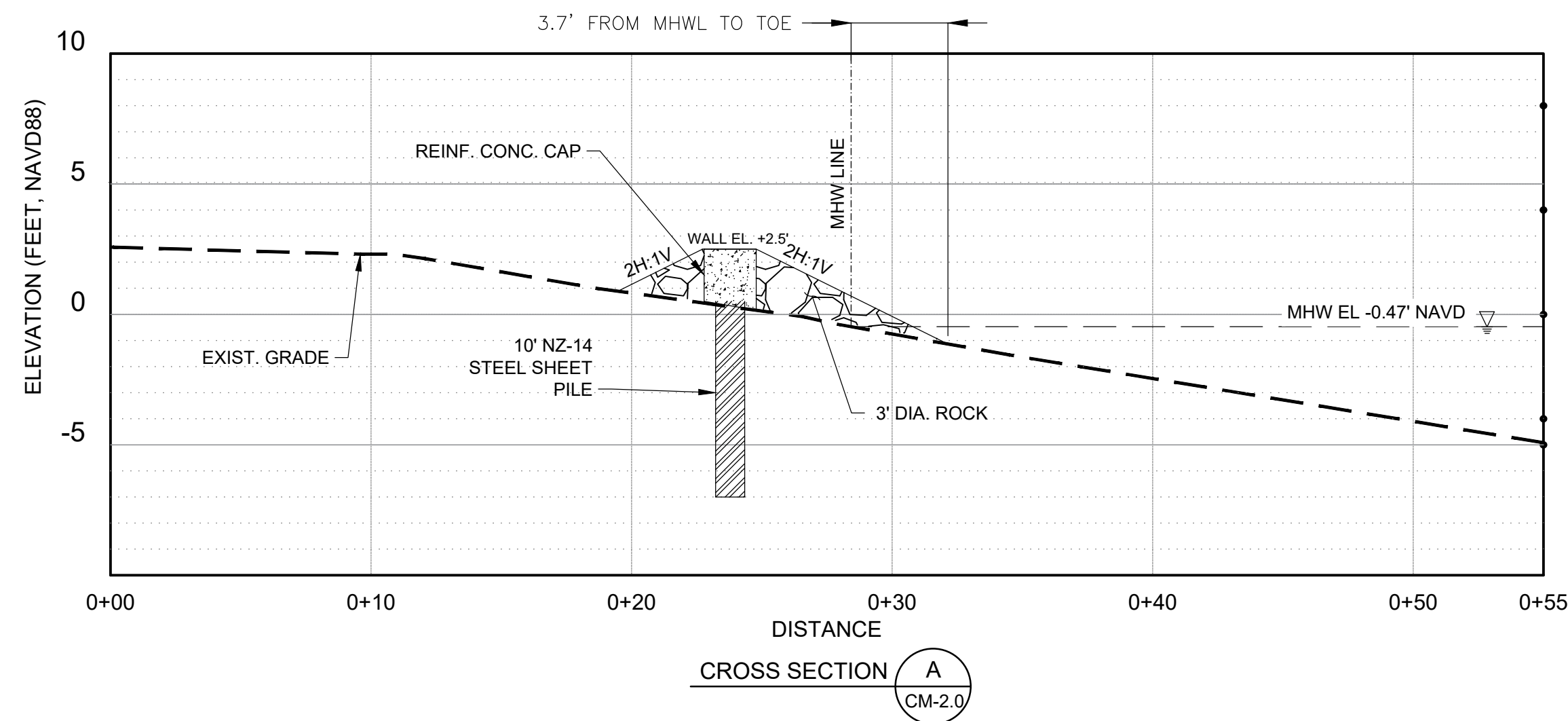
PROPOSED SITE PLAN

PROJECT TITLE
DAGNY JOHNSON KEY LARGO HAMMOCK BOTANICAL
STATE PARK / VALOIS CANAL PLUG REPAIR

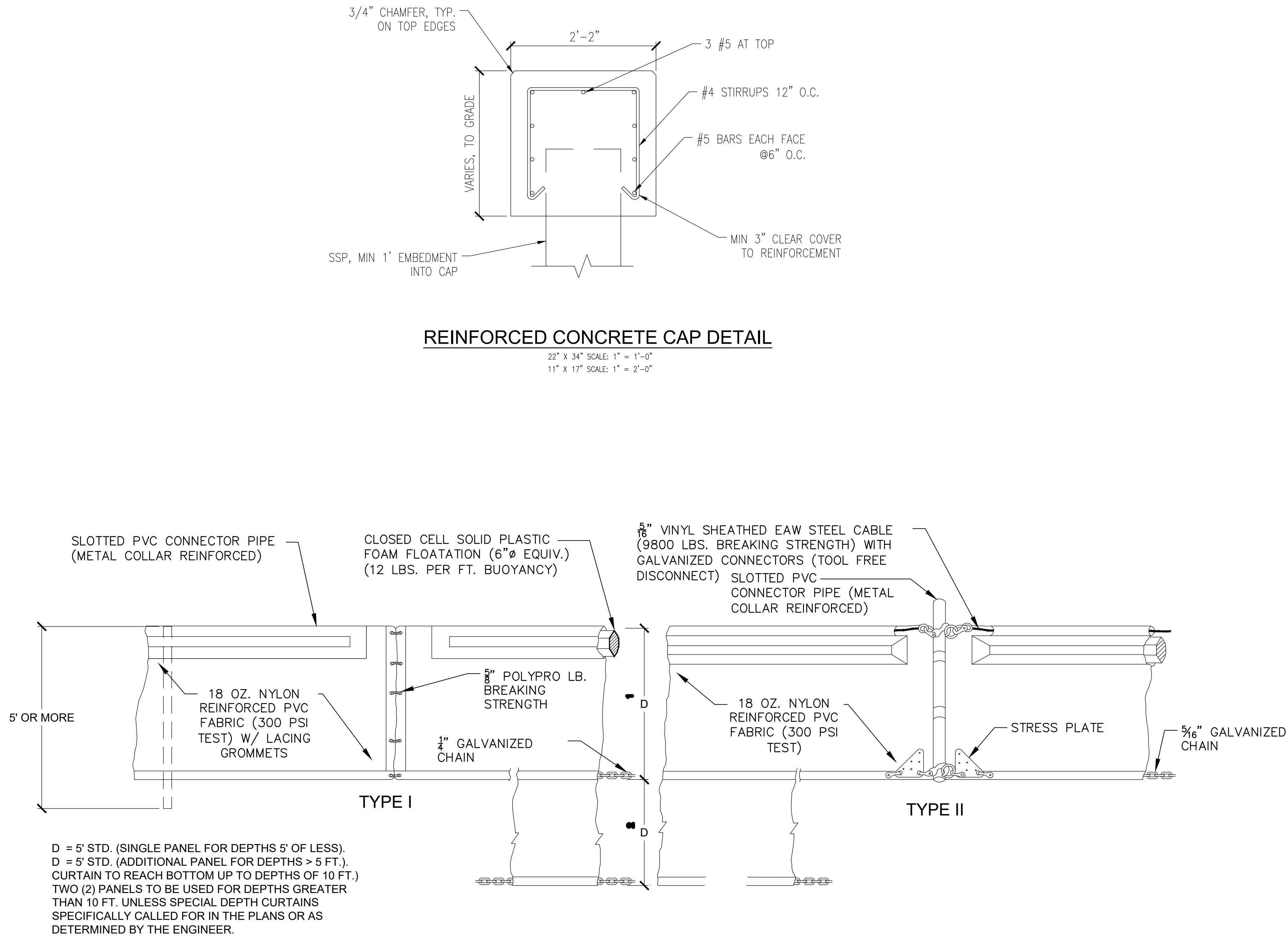
CM-2.0

Department of Environmental Protection
Division of Recreation and Parks
Bureau of Design and Construction
3800 Commonwealth Blvd., Tallahassee, FL 32399 (850) 245-2157

CUMMINS | CEDERBERG
Coastal & Marine Engineering
MIAMI • FORT LAUDERDALE • JUPITER • TALLAHASSEE • ATLANTA
TEL: 1-800-744-9105 FAX: 904-994-1868 WWW.CUMMINSCEDERBERG.COM

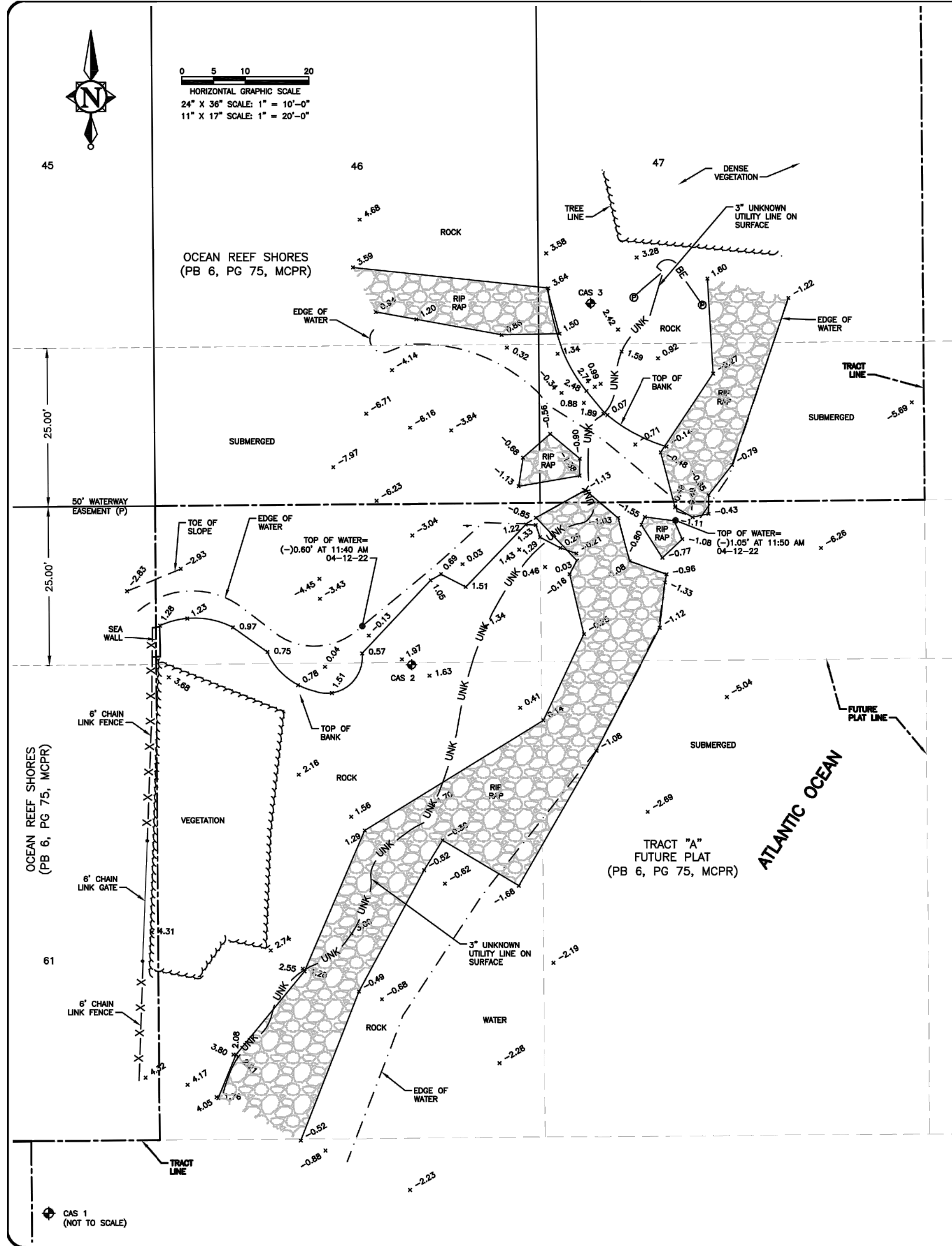


SHEET NO.		PROPOSED SECTIONS		PROFESSIONAL REGISTRATION LEONARD G. ALLEN P.E. #90872		DESIGNER :		ISSUE DATE:		SYMBOL		REVISION		DATE	
						LBA		03/22/2024							
SHEET TITLE		DAGNY JOHNSON KEY LARGO HAMMOCK BOTANICAL STATE PARK / VALOIS CANAL PLUG REPAIR		100% DRAWINGS		DRAWN BY:		COMP. FILE No.:		SYMBOL					
						JDR		89340		A		C			
						REVIEWED BY:		STATE PROJECT No.:		B					
						JRC		50441							
						Consultant :		CUMMINS CEDERBERG Coastal & Marine Engineering							
														Department of Environmental Protection Division of Recreation and Parks Bureau of Design and Construction 3800 Commonwealth Blvd., Tallahassee, FL 32399 (850) 245-2157	
														MAMI • FORT LAUDERDALE • JUPITER • TALLAHASSEE • ST. PETERSBURG TEL: 1-800-474-1133 FAX: 305-974-1166 WWW.CUMMINSCEDERBERG.COM	



SHEET NO.		SYMBOL		REVISION		DATE	
CM-2.2		A		B		C	
PROJECT TITLE		SYMBOL		REVISION		DATE	
DAGNY JOHNSON KEY LARGO HAMMOCK BOTANICAL STATE PARK / VALOIS CANAL PLUG REPAIR		A		B		C	
SHEET TITLE		SYMBOL		REVISION		DATE	
PROPOSED DETAILS		A		B		C	
PROFESSIONAL REGISTRATION		DESIGNER :		ISSUE DATE:		DATE	
LEONARD BARRERA ALLEN P.E. #90872		LBA		03/22/2024		03/22/2024	
100% DRAWINGS		DRAWN BY:		COMP. FILE No.:		89340	
		JDR		LBA		50441	
		REVIEWED BY:		STATE PROJECT No.:			
		Consultant :					
		CUMMINS CEDERBERG		Department of Environmental Protection			
		Coastal & Marine Engineering		Division of Recreation and Parks			
		MIAMI • FORT LAUDERDALE • MIAMI BEACH • TALLAHASSEE • TAMPA • WINTER GARDEN		Bureau of Design and Construction			
		TEL: 1-888-744-9135 FAX: 352-394-1858 WWW.CUMMINSCEDERBERG.COM		3800 Commonwealth Blvd., Tallahassee, FL 32399		(850) 245-2157	

P:\Private\Clients\Cummins\22-2269-215-Valois-Plat\PLANS\20-2269-V-01-SRVY.dwg, 4/19/2022 5:22:56 PM, mnavella, 1,2



SURVEYOR'S NOTES:

- REPRODUCTIONS OF THIS SURVEY ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
- NO SEARCH OF THE PUBLIC RECORDS WAS PERFORMED BY THIS FIRM IN THE MAKING OF THIS SURVEY. THERE MAY BE EASEMENTS, RESERVATIONS, RESTRICTIONS, JURISDICTIONAL LINES, RIGHTS OF WAY LINES, RECORDED OR UNRECORDED AGREEMENTS ETC., NOT SHOWN HEREON.
- UNDERGROUND IMPROVEMENTS I.E. FOOTINGS, DRAINAGE, UTILITIES, ETC. HAVE NOT BEEN INVESTIGATED BY THE SURVEYOR. SUBSURFACE UTILITY MARKINGS SHOWN HEREON, IF ANY, ARE PER THE CRAIG A. SMITH & ASSOCIATES UTILITY LOCATING DEPARTMENT, UNLESS OTHERWISE NOTED.
- HORIZONTAL COORDINATE INFORMATION FOR CRAIG A. SMITH & ASSOCIATES CONTROL POINTS (CP) AND BENCHMARKS (BM) SHOWN IN THE TABLE BELOW ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE GRID SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD '83) WITH THE 2011 ADJUSTMENT. VERTICAL DATA SHOWN HEREON IS RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AND IS BASED ON NATIONAL GEODETIC SURVEY BENCHMARK 'KNOWLSON RESET' HAVING A PUBLISHED ELEVATION OF 11.64'.

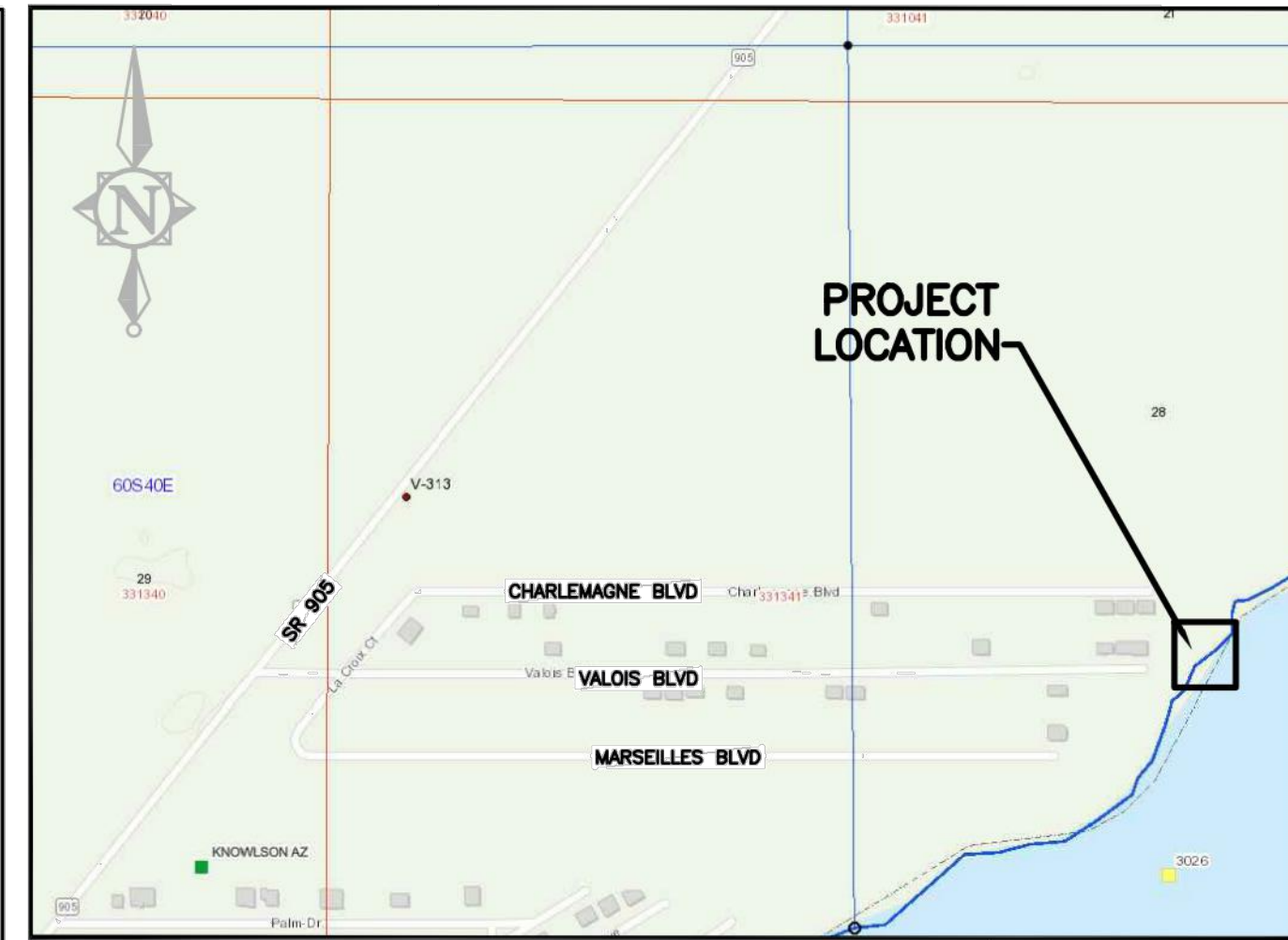
PRIMARY CONTROL POINTS:

CP	NORTHING	EASTING	ELEVATION	DESCRIPTION
CAS 1 (CP)	313325.85	872429.14	4.17	PKD (LB 3110)
CAS 2 (BM)	313427.58	872495.43	2.22	PKD (LB 3110)
CAS 3 (BM)	313484.58	872523.61	3.47	PKD (LB 3110)

- ALL SYMBOLS SHOWN ARE FOR REPRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE.
- THE GENERAL AREA OF INTEREST FOR THE TOPOGRAPHY WAS REQUESTED BY THE CLIENT.
- THE INTENT OF THIS 'MAP OF TOPOGRAPHIC SURVEY' IS TO AID IN THE DESIGN OF EARTHWORK IMPROVEMENTS WITHIN THE CORRIDORS SHOWN HEREON. THIS IS NOT A BOUNDARY SURVEY.
- THE ACCURACY OF THIS SURVEY IS PREMISED ON THE EXPECTED USE OF THE SURVEY. THE EXPECTED USE/PREMISE OF THIS SURVEY IS TO FACILITATE THE DESIGN OF EARTHEN PLUG REPAIRS. A TRIMBLE R8 GNSS INSTRUMENT WITH TRIMBLE TSC-3 DATA COLLECTION WAS UTILIZED TO ESTABLISH HORIZONTAL CONTROL AND LOCATE MISC. FEATURES HORIZONTALLY. A TOPCON ES-102 INSTRUMENT WITH RANGER (TDS) DATA COLLECTION WAS UTILIZED TO COLLECT DATA IN BOTH THE HORIZONTAL AND VERTICAL PLANES. A CLOSED LEVEL LOOP WAS PERFORMED USING A TOPCON GTS 2 LEVEL TO TRANSFER ELEVATIONS FROM THE KNOWN BENCHMARK LISTED ABOVE AND THROUGHOUT THE PROJECT, TOGETHER WITH STATIC OBSERVATIONS ON CONTROL POINT 1, WHICH WAS ADJUSTED BASED ON THE FLORIDA DEPARTMENT OF TRANSPORTATION FPRN NETWORK.
- THE AERIAL BACKGROUND SHOWN HEREON WAS OBTAINED BY CRAIG A. SMITH & ASSOCIATES USING AN UNMANNED AERIAL VEHICLE (UAV) ON THE DATE OF THIS FIELD SURVEY. THE AERIAL IS SHOWN FOR INFORMATIONAL PURPOSES ONLY.
- THE DIGITAL DATA PROVIDED IS INTENDED TO BE VIEWED AT A SCALE OF 1" = 10' ON A STANDARD 24" X 36" SHEET.
- ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN ACCORD WITH THE UNITED STATES STANDARD USING FEET AND DECIMALS THEREOF.

LOCATION MAP

SCALE: N.T.S.



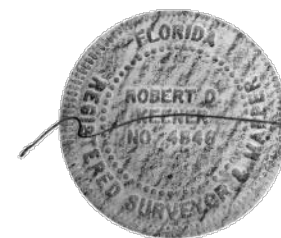
STANDARD LINETYPES

SYMBOL	DESCRIPTION
---	LOT LINE
---	LANDSCAPE/TREE LINE
---	EDGE OF WATER
---	EASEMENT LINE
---	RIGHT OF WAY LINE
---	UNKNOWN 3" UTILITY
---	ELECTRIC LINE
---	TRACT LINE
---	FUTURE PLAT LINE

LEGEND

ABRV	DESCRIPTION
PB	PLAT BOOK
PG	PAGE
MCPR	MONROE COUNTY PUBLIC RECORDS
□	COLUMN
⊕	BENCH MARK

Digitally
signed by
Robert D.
Keener
Date:
2022.05.05
10:01:56
-04'00'



SURVEYORS CERTIFICATE:

I HEREBY CERTIFY THAT THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND MEETS APPLICABLE SECTIONS OF THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES, SUBJECT TO QUALIFICATIONS NOTED HEREON.

FOR THE FIRM BY:

ROBERT D. KEENER
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA REGISTRATION NO. 4846

FIELD DATE: 04/12/22

SIGNATURE DATE:

NO.	DATE	FB / PG	DWN	REVISION	CKD
1	04/19/22	1929/42	MRL	MAP OF TOPOGRAPHIC SURVEY	RDK

PREPARED FOR
**CUMMINS/CEDERBURG COASTAL
AND MARINE ENGINEERING**

CRAIG A. SMITH & ASSOCIATES
CONSULTING ENGINEERS-PLANNERS-SURVEYORS
21045 COMMERCIAL TRAIL
BOCA RATON, FLORIDA 33486
(561) 314-4445
CERTIFICATE NO. L50003110

**MAP OF
TOPOGRAPHIC
SURVEY**

**VALOIS CANAL PLUG REPAIR
MONROE COUNTY, FLORIDA**

FILE NAME: 20-2269-V-01-SRVY.dwg
LAST SAVED: 04/19/22 - 2:52pm

CAS PROJECT NUMBER
22-2269

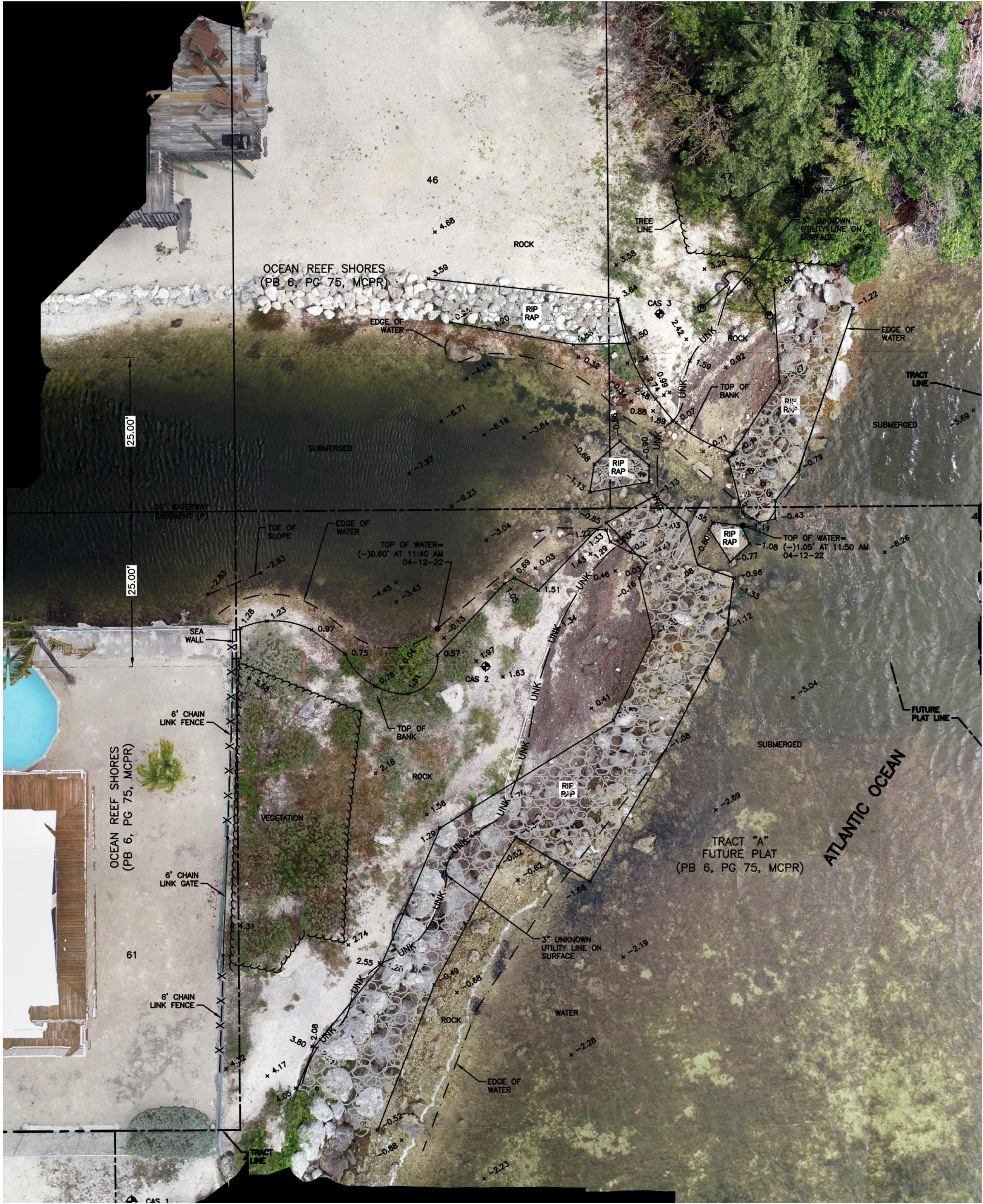
SHEET
V-01
OF
02

DESIGNER : LBA	ISSUE DATE: 03/22/2024	SYMBOL	REVISION	DATE
DRAWN BY: JDR	COMP. FILE NO.: 89340	A	C	
REVIEWED BY: LBA	STATE PROJECT NO.: 50441	B	D	
Consultant:				
PROFESSIONAL REGISTRATION LEONARD BARRERA ALLEN P.E. #90872				
TOPOGRAPHIC SURVEY SHEET 1				
PROJECT TITLE DAGNY JOHNSON KEY LARGO HAMMOCK BOTANICAL STATE PARK / VALOIS CANAL PLUG REPAIR				
Department of Environmental Protection Division of Recreation and Parks Bureau of Design and Construction 3800 Commonwealth Blvd., Tallahassee, FL 32399 (850) 245-2157				
SHEET NO. CM-3.0				

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0 5 10 20
HORIZONTAL GRAPHIC SCALE
24" X 36" SCALE: 1" = 10'-0"
11" X 17" SCALE: 1" = 20'-0"



NO.	DATE	FB / PG	DWN	REVISION	CKD
1	04/19/22	1929/42	MRL	MAP OF TOPOGRAPHIC SURVEY	RDK

PREPARED FOR
**CUMMINS/CEDERBURG COASTAL
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21045 COMMERCIAL TRAIL
BOCA RATON, FLORIDA 33486
(561) 314-4445
CERTIFICATE NO. LB0003110

**MAP OF
TOPOGRAPHIC
SURVEY**

**VALOIS CANAL PLUG REPAIR
MONROE COUNTY, FLORIDA
AERIAL VIEW**

FILE NAME: 20-2269-V-02-SRVY.dwg
LAST SAVED: 04/19/22 - 2:44pm
CAS PROJECT NUMBER
22-2269

SHEET
V-02
OF
02

SHEET NO.										SHEET TITLE										TOPOGRAPHIC SURVEY SHEET 2										DESIGNER : LBA PROFESSIONAL REGISTRATION LEONARD BARRERA ALLEN P.E. #90872										100% DRAWINGS										CONSULTANT : CUMMINS CEDERBERG Coastal & Marine Engineering MIAMI • FORT LAUDERDALE • JUPITER • TALLAHASSEE • ST. PETERSBURG TEL: +1 305-741-6155 FAX: 305-594-1965 WWW.CUMMINS-CEDERBERG.COM										REVIEWED BY: LBA										STATE PROJECT NO.: 50441										COMPILED BY: JDR										ISSUE DATE: 03/22/2024										SYMBOL										REVISION										DATE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														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