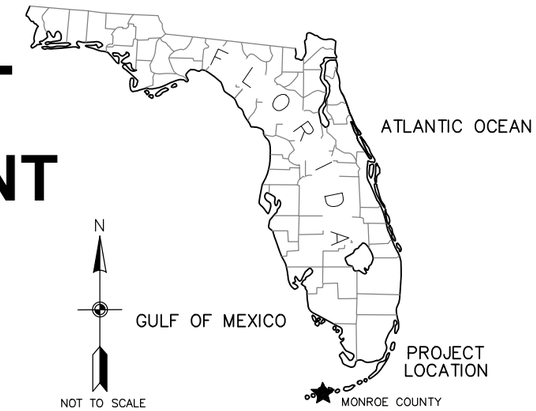
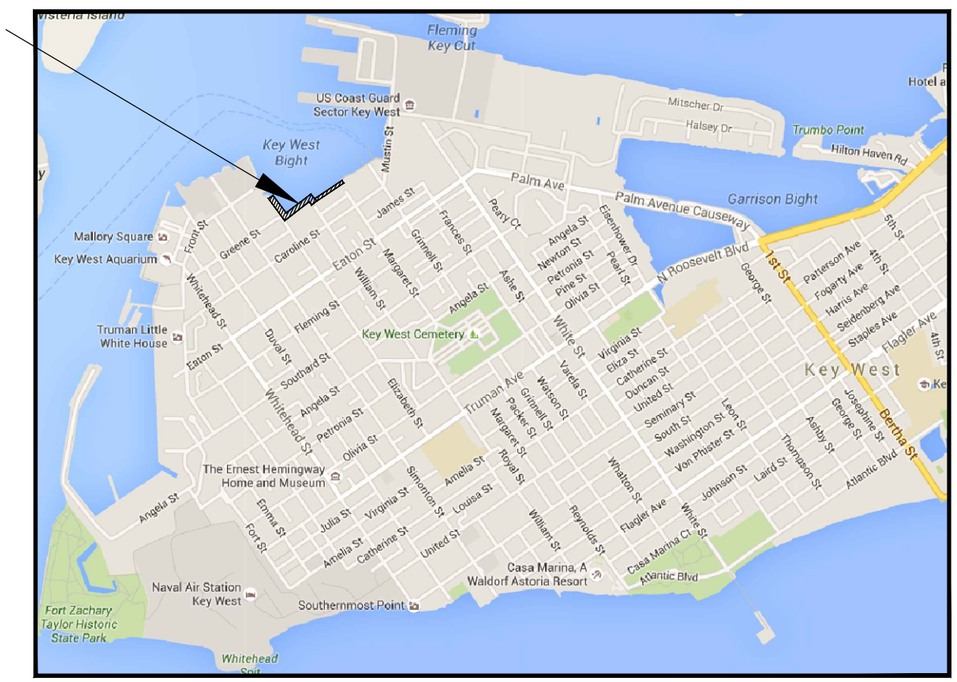
KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

BID DRAWINGS



PROJECT LOCATION



VICINITY MAP
KEY WEST BIGHT, KEY WEST, FLORIDA

PROJECT #: KB1509 ITB #: 19–017

KEY WEST CITY COMMISSION

TERI JOHNSON, MAYOR
CLAYTON LOPEZ, VICE–MAYOR
JIMMY WEEKLEY, COMMISSIONER
GREGORY DAVILA, COMMISSIONER
SAMUEL KAUFMAN, COMMISSIONER
MARY LOU HOOVER, COMMISSIONER
BILLY WARDLOW, COMMISSIONER

PERMITS:

FDEP:	0137939–018–EE, MONROE COUNTY
	0137939–021–EE, MONROE COUNTY
USACE:	SAJ–2017–01874–(NW–GGM)
	SAJ–2018–00288–(NW–GGM)
FKNMS–NOAA:	FKNMS–2017–097–A1
	FKNMS–2018–107

INDEX OF SHEETS

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DAVID W. FRODSHAM, STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 75507

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TETRA TECH INC.
759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994–2936
TEL: (772) 781–3400
FAX: (772) 781–3411
CERTIFICATE OF AUTHORIZATION NO. 2429

KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

COVER SHEET AND VICINITY MAP

KEY WEST, MONROE COUNTY, FLORIDA

P:\CITY OF KEY WEST\TASK 31: BIGHT SEAWALL FINAL ENGINEERING\DRAWINGS\CAD DESIGN\KWB SEAWALL_DESIGN_V5.0.DWG

Sheet Reference:
G-001
Sheet 1 of 19

DAVID W. FRODSHAM, STATE OF FLORIDA,
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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

KEY WEST BIGHT LOCATION AND ACCESS

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
G-002
Sheet 2 of 19

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GENERAL NOTES:

1. THIS DOCUMENT IDENTIFIES THE OWNER AS THE "CAROLINE STREET CORRIDOR AND BAHAMA VILLAGE COMMUNITY REDEVELOPMENT AGENCY," HEREINAFTER REFERRED TO AS "CRA."
2. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING ANY WORK UNDER THIS CONTRACT AND NOTIFY THE "CRA"/ENGINEER IN WRITING OF ANY DIFFERENCES BEFORE COMMENCING WITH CONSTRUCTION.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIMSELF/HERSELF WITH THE SITE, ACCESS CONSTRAINTS, LOCAL BOATING SCHEDULES, AND OTHER UNIQUE CONSIDERATIONS AS IDENTIFIED IN THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS AND, IN CASE OF ANY CONFLICT BETWEEN ANY PORTION OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REQUEST CLARIFICATION IN WRITING PRIOR TO BIDDING OR BASE HIS/HER BID ON THE MORE STRINGENT REQUIREMENTS.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MATERIALS USED TO THE "CRA"/ENGINEER FOR APPROVAL PRIOR TO ORDER, SHIPMENT, OR INSTALLATION. THE CONTRACTOR SHALL ALSO SUBMIT SHOP DRAWINGS FOR CLOSURE POURS AT EACH END OF THE PROPOSED SEAWALL.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL REQUIRED LOCAL PERMITS ARE OBTAINED AND IN HAND BEFORE BEGINNING ANY CONSTRUCTION. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PERMITS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. ANY PENALTIES, STOP WORK ORDERS OR ADDITIONAL WORK RESULTING FROM THE CONTRACTOR BEING IN VIOLATION OF THE REQUIREMENTS ABOVE SHALL BE FULLY BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF THE PERMITS, INCLUDING ALL APPLICABLE STANDARD CONDITIONS FOR IN-WATER WORK.
7. BEST MANAGEMENT PRACTICES FOR EROSION AND TURBIDITY CONTROL SHALL BE UTILIZED AT ALL TIMES, PER ENVIRONMENTAL PERMITS, DURING CONSTRUCTION. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE USE OF STAKED HAY/STRAW BALES, STAKED FILTER CLOTH, STAKED SILT FENCE, AND ANY OTHER SUITABLE METHOD AROUND DRAINAGE STRUCTURES AND AT ALL AREAS SUBJECT TO EROSION. FLOATING OR STAKED TURBIDITY BARRIERS SHALL BE USED IF APPROPRIATE. THE CONTRACTOR SHALL PROVIDE DAILY INSPECTION OF THE EROSION PROTECTION ITEMS AND MAINTAIN THEM DURING THE ENTIRE PERIOD OF CONSTRUCTION.
8. ALL SURFACE WATER DISCHARGES FROM THE SITE SHALL MEET STATE WATER QUALITY STANDARDS (LESS THAN 29 NTU ABOVE BACKGROUND) PRIOR TO REACHING ANY WATERS OF THE STATE.
9. THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS AND PERMITS ON THE JOB DURING ALL PHASES OF CONSTRUCTION.
10. ALL FIELD LAYOUT, SURVEYING, AND MATERIALS TESTING FOR CONSTRUCTION OF THE PROJECT SHALL BE PROVIDED BY THE CONTRACTOR AT HIS/HER EXPENSE.
11. AFTER CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL PROVIDE THE "CRA" WITH SIGNED & SEALED 'AS-BUILT' RECORD DRAWINGS OF HIS/HER WORK.

SURVEY:

12. ELEVATIONS SHOWN HEREON ARE IN FEET AND BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929). TO CONVERT NGVD 1929 ELEVATIONS TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) FOR THIS SITE, THE MODEL VALUE OF (-)1.34 MUST BE ADDED ALGEBRAICALLY TO THE NGVD 1929 HEIGHT.
13. THE GRID COORDINATES SHOWN HEREON ARE BASED ON THE NORTH AMERICAN DATUM OF 1927, OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (TRANSVERSE MERCATOR PROJECTION), EAST ZONE, ESTABLISHED BY A REAL-TIME KINEMATIC SURVEY (RTK) GPS CONTROL SURVEY WHICH IS CERTIFIED TO A 2 CENTIMETER LOCAL ACCURACY, RELATIVE TO THE NEAREST CONTROL POINT WITHIN THE NATIONAL GEODETIC SURVEY (NGS) GEODETIC CONTROL NETWORK.

    a. METHOD: WIDE AREA CONTINUOUSLY OPERATION GPS REFERENCE STATION NETWORK.

    b. EQUIPMENT USED: TRIMBLE R10 GNSS, SERIAL NUMBER 5413460373 (DUAL FREQUENCY RECEIVER)

    c. PROCESSING SOFTWARE: TRIMBLE BUSINESS CENTER, VERSION 3.51

13. BENCHMARK DESCRIPTION: NATIONAL GEODETIC SURVEY STATION DESIGNATION “872 4580 TIDAL 25” (PID AA0004), ELEVATION=5.11 (NGVD 1929), ELEVATION=3.77 (NAVD 1988).

UTILITIES:

14. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE FOR REPAIR OR REPLACEMENT OF UTILITIES AND OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE COMPLETION OF THIS WORK. THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF WORK PRIOR TO CONSTRUCTION. THE APPROPRIATE UTILITY COMPANY SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITIES SO THAT A UTILITY COMPANY REPRESENTATIVE CAN BE PRESENT.

CONTACT PERSON/UTILITY OWNER:

LEONARD MAXWELL-NEWBOLD	COMCAST CABLE	954-447-8405
ASHLEE TOWNSEND	KEYS ENERGY SERVICES	305-295-1047
MARNIE WALTERSON	FKAA	305-295-2154
KELLY KOENIG	OMII	305-292-5100
DINO FARRUGGIO	AT&T	561-997-0240
KAREN OLSON	KEY WEST BIGHT	305-809-3803

15. TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICE TO ALL DOCKS WITHIN THE KEY WEST BIGHT DURING CONSTRUCTION. IN THE EVENT THAT WATER, FIRE, SEWER OR ELECTRICAL SERVICE NEEDS TO BE INTERRUPTED FOR SEAWALL INSTALLATION OR REPAIR, THE CONTRACTOR SHALL PROVIDE TEMPORARY PUMPS OR OTHER FACILITIES TO PROVIDE SERVICE DURING PERIODS OF DISCONNECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND COMMUNICATION WITH THE ENGINEER, THE "CRA", AND BIGHT DOCK PATRONS AT LEAST 48 HOURS IN ADVANCE OF SERVICE INTERRUPTIONS.
16. THE ELECTRICAL CONDUIT BANKS AND OTHER UTILITIES SHOWN ON THE SURVEY HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR AND ENGINEER MAKE NO GUARANTIES THAT THE ELECTRICAL AND OTHER UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR AND ENGINEER FURTHER DO NOT WARRANT THAT THE ELECTRICAL AND OTHER UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. EVERY EFFORT HAS BEEN MADE TO OBTAIN UTILITIES PIPE TYPE AND SIZE, AS SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE INVERT AND PIPE SIZE DIMENSIONS PRIOR TO CONSTRUCTION.
17. THE CONTRACTOR SHALL BE ADVISED THAT CONDUITS AFFIXED TO THE DOCK AND ALONG THE SEAWALL ARE DEPICTED AS UNDERGROUND ELECTRICAL ON THE PLANS. THE PRESENCE OR ABSENCE OF UTILITIES WITHIN THESE CONDUITS HAS NOT BEEN VERIFIED IN ALL CASES, AND IN SOME CASES THESE CONDUITS CONTAIN WATER, SEWER, ELECTRICAL, OR OTHER UTILITY SERVICES. ALL UTILITIES SHALL BE MAINTAINED DURING CONSTRUCTION UNLESS OTHERWISE PERMITTED BY THE "CRA"/ENGINEER. ALL HANGERS WITHIN THE PROJECT LIMITS ARE TO BE REPAIRED/REPLACED AS REQUIRED. ALL VACANT CONDUITS OR SEAWALL PENETRATIONS SHALL BE MAINTAINED, PRESERVED, OR RE-INSTALLED.
18. UPLAND UNDERGROUND UTILITIES PRESENT ON THESE PLANS HAVE BEEN PROVIDED FROM PREVIOUS RECORD OR DESIGN DRAWINGS AND ARE NOT ENTIRELY REPRESENTATIVE OF ALL UNDERGROUND UTILITY LOCATIONS WITHIN THE PROJECT LIMITS NOR EXACT LOCATIONS, AND SHALL BE CONSIDERED APPROXIMATE ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING SIZE AND TYPE OF MATERIALS FOR CONNECTIONS, VALVES, SEAWALL PENETRATION EXTENSIONS OR APPERTAINING WORK ITEMS PRIOR TO CONSTRUCTION.

PROJECT PHASING:

19. THE PROJECT SHALL BE CONSTRUCTED IN THREE PHASES AS SCHEDULED BY THE "CRA". THE "CRA" SHALL DETERMINE, BASED UPON THEIR OWN SCHEDULE, THE ORDER AND TIMELINE IN WHICH PHASES WILL BE CONSTRUCTED TO ACCOMMODATE LOCAL MARINA PATRON USE. THE "CRA" SHALL AWARD ALL PHASES OR SEPARATE PHASES AT THE "CRA"'S DISCRETION.

PROJECT SUMMARY:

20. PHASE A OF THE PROJECT CONSISTS OF THE INSTALLATION OF APPROXIMATELY 174 LF (~31 CY) OF REINFORCED CONCRETE FOOTER ALONG THE BASE OF THE EXISTING SEAWALL AND PROJECTING NO MORE THAN 18 INCHES WATERWARD OF THE EXISTING SEAWALL. ADDITIONALLY SOME EPOXY REPAIRS AND VOID GROUTING AS SHOWN ON THE PLANS.
21. PHASE B OF THE PROJECT CONSISTS OF UTILITY HANGER REPAIRS, 60 LF OF SEAWALL CAP DEMOLITION & RECONSTRUCTION, EPOXY REPAIRS, VOID GROUTING, STUMP REMOVAL, AND OTHER ANCILLARY WORK ITEMS AS SHOWN ON THE PLANS.
22. PHASE C OF THE PROJECT CONSISTS OF THE INSTALLATION OF APPROXIMATELY 333 LF OF STEEL CANTILEVER SHEETPILE SEAWALL WITH APPROXIMATELY 333 LF (~45 CY OF REINFORCED CONCRETE CAP), UTILITY CONNECTIONS AND PENETRATION EXTENSIONS, AND ALL INCIDENTAL WORK NECESSARY TO PROVIDE A COMPLETE AND SERVICEABLE PROJECT. THE PROPOSED SEAWALL SHALL NOT EXCEED 18 IN WATERWARD OF THE EXISTING SEAWALL.
23. THE CONTRACTOR SHALL REMOVE, HAUL, AND APPROPRIATELY DISPOSE OF ALL SUBMERGED DEBRIS FOUND WITHIN 10 LF OF THE SEAWALL WHERE REPAIRS ARE MADE AS A CONDITION OF THE USACE PERMIT.
24. THE TOP OF THE CAP ELEVATION SHALL MATCH EXISTING WITHIN A TOLERANCE OF +/- 0.25 INCH. CAP SHALL PROVIDE TRANSITION WITH NO TRIP HAZARDS OR CHANGES IN ELEVATION GREATER THAN 0.25 INCHES.
25. ADDITIONAL WORK ITEMS THAT WILL BE REQUIRED AND ARE PART OF THE BID INCLUDE, BUT ARE NOT LIMITED TO: PRE-CONDITION AND POST-CONSTRUCTION VIDEO SURVEYS OF STRUCTURES WITHIN 50 LF OF PILE DRIVING OPERATIONS; VIBRATION MONITORING OF STRUCTURES WITHIN 50 LF OF THE PROJECT DURING PILE DRIVING ACTIVITY; UTILITY EXTENSIONS THROUGH THE NEW SEAWALL; WATER/FIRE VALVE REPLACEMENT; REMOVAL AND REPLACEMENT OF DECKING; PROVISION OF TEMPORARY ACCESS AT ALL BRIDGE/DOCK LOCATIONS (GANGWAYS); PROVISION OF TEMPORARY UTILITIES; EXTENSION OF UTILITY SERVICES; GRADING; RESTORATION.
26. THE "CRA" WILL MAKE A STAGING AREA AVAILABLE FOR USE BY THE CONTRACTOR AT NO COST. THE CONTRACTOR SHALL RESTORE THE STAGING AREAS AT THE COMPLETION OF CONSTRUCTION.
27. THE CONTRACTOR WILL PROVIDE TEMPORARY SITE SECURITY FENCING TO SECURE THE CONSTRUCTION SITE & STAGING AREA(S). THE CONTRACTOR SHALL NOT ALLOW PUBLIC ACCESS TO THE SITE DURING CONSTRUCTION, EXCEPT FOR BIGHT DOCK PATRONS.
28. THE CONTRACTOR WILL MAINTAIN PEDESTRIAN TRAFFIC DURING ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 102. CONSTRUCTION ACTIVITIES WILL NOT IMPEDE TRAFFIC UNLESS AUTHORIZED IN WRITING BY THE "CRA". THE CONTRACTOR SHALL MAINTAIN ALL BOAT TRAFFIC NECESSARY FOR MARINA PATRONS. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DOCKS FOR ALL MARINA PATRONS AT ALL TIMES UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE "CRA".

DEMOLITION

29. DEMOLITION ACTIVITIES FOR THIS PROJECT INCLUDE:

    29.1. DEMOLITION OF A PORTION OF 333 LF OF SEAWALL CAP IN PHASE C. EXISTING SHEETPILE TO REMAIN.

    29.2. DEMOLITION OF A PORTION OF 60 LF OF SEAWALL CAP IN PHASE B.

30. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL OBSTRUCTIONS ALONG THE STEEL SHEETPILE'S ALIGNMENT PRIOR TO CONSTRUCTION. THE QUANTITY OF ITEMS REQUIRING DEMOLITION AND REPLACEMENT MAY VARY DEPENDING UPON THE CONTRACTOR'S MEANS AND METHODS.
31. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES OR LOCAL AUTHORITIES FURNISHING GAS, WATER, ELECTRICAL, TELEPHONE, OR SEWER SERVICE SO THEY CAN REMOVE, RELOCATE, DISCONNECT, CAP OR PLUG THEIR EQUIPMENT IN ORDER TO FACILITATE DEMOLITION & INSTALLATION OF THE STEEL SHEETPILE.
32. THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS AND UTILITIES AND OTHER IMPROVEMENTS NOT SHOWN. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS OF UTILITIES AND OTHER IMPROVEMENTS DAMAGED DURING CONSTRUCTION AND SHALL MAINTAIN SUFFICIENT PROTECTION FOR ALL UTILITIES REQUIRED TO PROTECT THEM FROM DAMAGE AND TO PROTECT THE PUBLIC DURING CONSTRUCTION. CONTRACTOR SHALL ALSO SUPPORT EXISTING UTILITIES AS REQUIRED FOR INSTALLATION OF ALL PROPOSED IMPROVEMENTS. ALL COSTS ASSOCIATED WITH PROTECTING, SUPPORTING, REPAIRING, AND OTHER ACTIVITIES RESULTING FROM CONTRACTOR DAMAGING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY AT NO ADDITIONAL COST TO THE "CRA".
33. THE CONTRACTOR SHALL SAW-CUT A SMOOTH STRAIGHT EDGE ON ANY CONCRETE PROPOSED FOR DEMOLITION PRIOR TO ITS REMOVAL. ANY EXCAVATION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

STEEL SHEETPILE:

34. AN ESTIMATED TOTAL OF 333 LF OF SHEET PILINGS SHALL BE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT QUANTITY REQUIRED PRIOR TO BIDDING. STEEL SHEETPILE SHALL BE SKZ-31 OR ENGINEER-APPROVED EQUIVALENT AS IDENTIFIED IN THE PLANS, IN ALL CASES ASTM A690 GRADE 50 STEEL.
35. ALL STEEL SHEETPILE UTILIZED ON THIS PROJECT SHALL BE NEW.
36. INSTALLATION ACTIVITIES SHALL BE DONE IN SUCH A WAY AS TO NOT DISTURB SURROUNDING STRUCTURES.
37. VIBRATION MONITORING OF ADJACENT STRUCTURES SHALL BE CONDUCTED DURING ALL DRIVING ACTIVITIES.
38. SHEETPILES SHALL BE SET IN A STRAIGHT LINE BETWEEN INFLECTION POINTS.
39. STEEL SHEETS SHALL BE VIBRATED INTO PLACE FROM THE WATER AND WILL BE INTER-LOCKED PER MANUFACTURER'S SPECIFICATIONS.
40. DESIGN SURCHARGE LOAD FOR SHEET PILE = 250 PSF

CONCRETE:

41. CONCRETE CAP SHALL MEET SPECIFICATION SECTION 03 30 00 CAST-IN-PLACE CONCRETE EXCEPT AS AMENDED BELOW.

    41.1. ENVIRONMENT = EXTREMELY AGGRESSIVE

    41.2. CLASS IV, MINIMUM 28 DAY STRENGTH: f'c = 6,000 PSI

    41.3. MINIMUM COVER = 3 INCHES

    41.4. NO FLYASH OR SLAG WILL BE PERMITTED AS A SUBSTITUTE FOR CEMENT.

    41.5. MAXIMUM W/C RATIO = 0.40

42. CONTRACTOR SHALL PROVIDE MATERIALS TESTING FOR 7, 14, AND 28 DAY BREAKS TO CONFIRM CONCRETE STRENGTH.
43. ALL CONCRETE REINFORCEMENT SHALL BE CHROMX 9100.
44. TIES AND OTHER ACCESSORIES USED IN REINFORCEMENT SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED MATERIALS FOR USAGE WITH CHROMX 9100.
45. REINFORCEMENT SHALL BE CAREFULLY PLACED, RIGIDLY SUPPORTED, AND WELL TIED WITH BAR SUPPORTS AND SPACERS.
46. CONTRACTOR SHALL PROVIDE 1 INCH CHAMFERS ON ALL EDGES AND CORNERS.
47. CONTROL JOINTS TO BE 1/8" x 1" DEEP TOOLED JOINT @ 50'-0" O.C. (MAX.).

SEAWALL PENETRATIONS:

48. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE NUMBER AND LOCATIONS OF SEAWALL PENETRATIONS.
49. ALL EXISTING SEAWALL PENETRATIONS FOR DRAINAGE AND OTHER UTILITIES SHALL BE MADE THROUGH THE PROPOSED SEAWALL WITH SIMILAR MATERIALS AND INCLUDE WITH THE BID PRICE ALL COUPLINGS, CONNECTION HARDWARE, MATERIALS, AND LABOR IN ACCORDANCE WITH THE MATERIAL MANUFACTURER'S RECOMMENDATIONS.
50. CONTRACTOR SHALL REPLACE SIX (6) WATER/FIRE VALVES BEHIND THE PROPOSED PHASE C SEAWALL. CONTRACTOR SHALL PROVIDE DETAIL ON VALVES.
51. CONTRACTOR SHALL PROVIDE SLEEVING THROUGH THE CAP AROUND PROPOSED SEAWALL PENETRATIONS CONSISTENT WITH EXISTING MATERIAL TYPES AND SIZES, AND SEAL AROUND THE SLEEVE.

FILL MATERIAL:

52. CLEAN IMPORTED FILL WILL BE USED FOR BACKFILLING BETWEEN THE EXISTING CONCRETE SEAWALL AND THE NEW STEEL SHEETPILE SEAWALL, AS WELL AS FOR SURFACE GRADING TO ELEVATIONS AS DESIGNATED ON THE PLAN SET.

DECK WORK:

53. CONTRACTOR SHALL REMOVE PORTIONS OF EXISTING DECKING AND SUPPORTING DOCK TIMBER FROM DOCKS H1, H2 & H3, AS WELL AS THE BRIDGE TO THE NORTH OF CONCH REPUBLIC RESTAURANT TO CONSTRUCT THE PROJECT AND SHALL PROVIDE TEMPORARY ACCESS TO ALL DOCK PATRONS DURING CONSTRUCTION VIA GANGWAY OR OTHER "CRA"/ENGINEER APPROVED ALTERNATIVE. CONTRACTOR SHALL RESTORE DECKING AND SUPPORTING DOCK TIMBER UPON COMPLETION OF THE CAP IN THE DISTURBED AREA AND SHALL LEAVE NO TRIP HAZARDS.

FILTER FABRIC:

54. CONTRACTOR SHALL PROVIDE FILTER FABRIC LANDWARD OF THE PROPOSED SHEET PILING AND WATERWARD OF PROPOSED FILL.
55. FILTER FABRIC SHALL BE MIRAFI 700X OR ENGINEER APPROVED EQUIVALENT, CONTINUOUS ALONG UPLAND SIDE OF STEEL SHEETS. EXTEND TO MUDLINE AND WRAP BENEATH FILL AS SHOWN ON CROSS-SECTIONS.

BRICK:

56. ANY BRICK PAVERS REMOVED DURING CONSTRUCTION SHALL BE REPLACED, OR REUSED, WITH SIMILAR (P/B OLD BALTIMORE 2 ¼" X 4" X 8", TYPE I, CLEANING CODE “A".)

VALVES:

57. VALVES SMALLER THAN 3 INCHES SHALL BE BRONZE BALL VALVES AND CONFORM TO FEDERAL SPECIFICATION WW-V-35B, TYPE II, CLASS A. VALVE MUST BE RATED AT 600 PSI WOG.
58. VALVES UP TO AND INCLUDING 10 INCH SHALL BE IRON BODY, BRONZE MOUNTED, GATE VALVES CONFORMING TO AWWA C-500 (LATEST VERSION) BEING RESILIENT WEDGE, NON-RISING STEM TYPE AND APPROPRIATE ENDS FOR HORIZONTAL POSITION IN LINE, AND SHALL OPEN LEFT (COUNTERCLOCKWISE) WITH 2-INCH SQUARE OPERATING NUT. THE COATING ON RESILIENT WEDGES SHALL BE CHLORAMINE RESISTANT.
59. CONTRACTOR SHALL CONFIRM SIZE OF REQUIRED VALVES PRIOR TO PURCHASE/INSTALLATION.

HANGERS:

60. ALL HANGERS SHALL BE COMPOSITE FIBERGLASS (FRP) FROM LEE COMPOSITES, INC. WITH FRP HARDWARE.

TREES:

61. ONE FICUS STUMP SHALL BE REMOVED WITHIN THE VICINITY OF THE SCHOONER WHARF RESTAURANT.
62. ALL OTHER TREES WITHIN THE PROJECT LIMITS SHALL BE PROTECTED. IF ANY WORK IS TO OCCUR WITHIN THE DRIPLINE OF A TREE, SILT FENCING OR OTHER CRA APPROVED METHODS SHALL BE PROVIDED.

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SEAL OF THE CITY OF KEY WEST, FLORIDA

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

GENERAL NOTES

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
G-003

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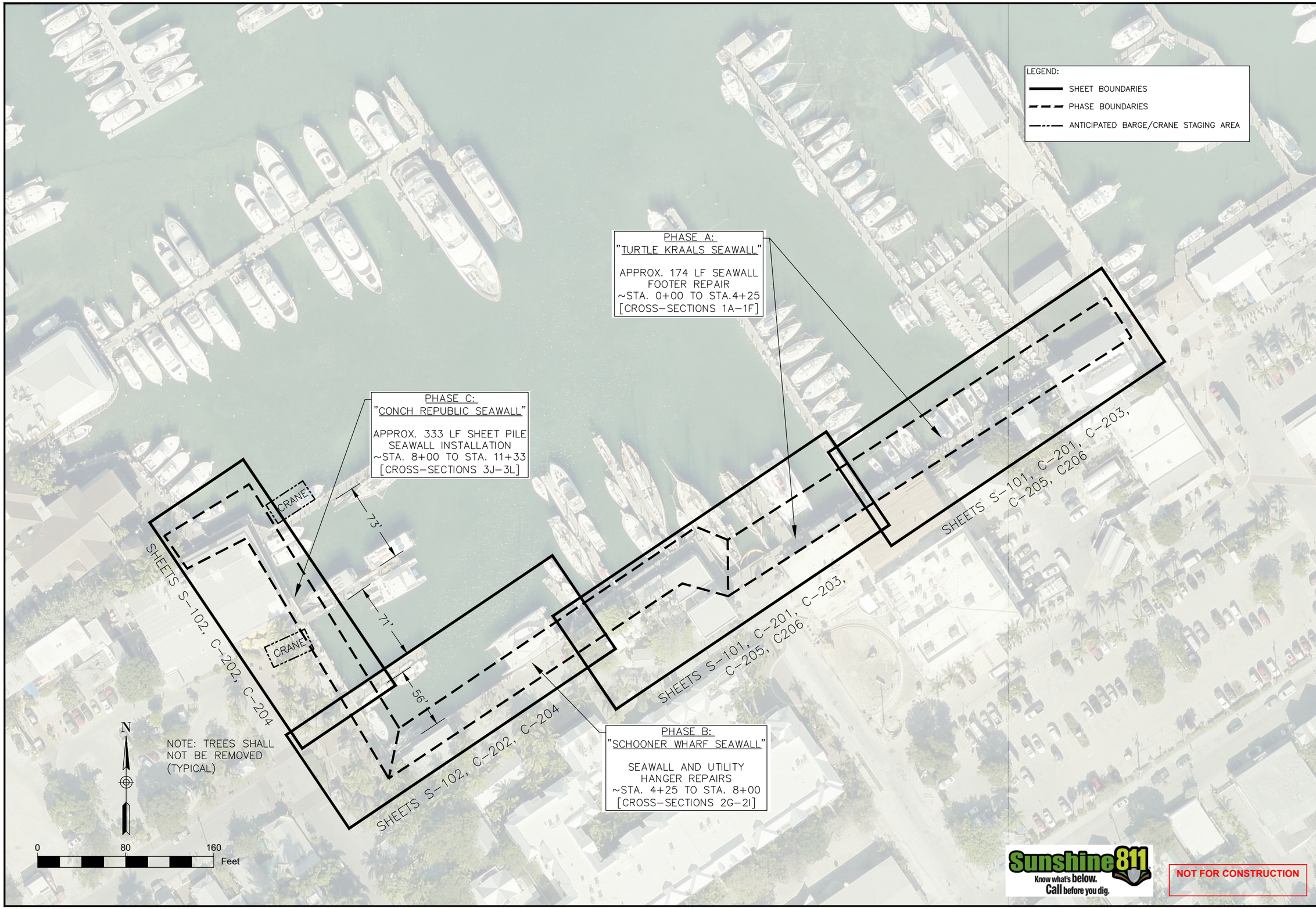

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

DESIGN PHASING PLUS KEY SHEET

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
G-004
Sheet 4 of 19

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759 SOUTH FEDERAL HWY
SUITE 314
STUART, FL 34994-2936
TEL: (772) 781-3400
FAX: (772) 781-3411
CERTIFICATE OF AUTHORIZATION NO. 2429

KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

SEAWALL SURVEY (EXISTING CONDITIONS)

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
S-101
Sheet 5 of 19

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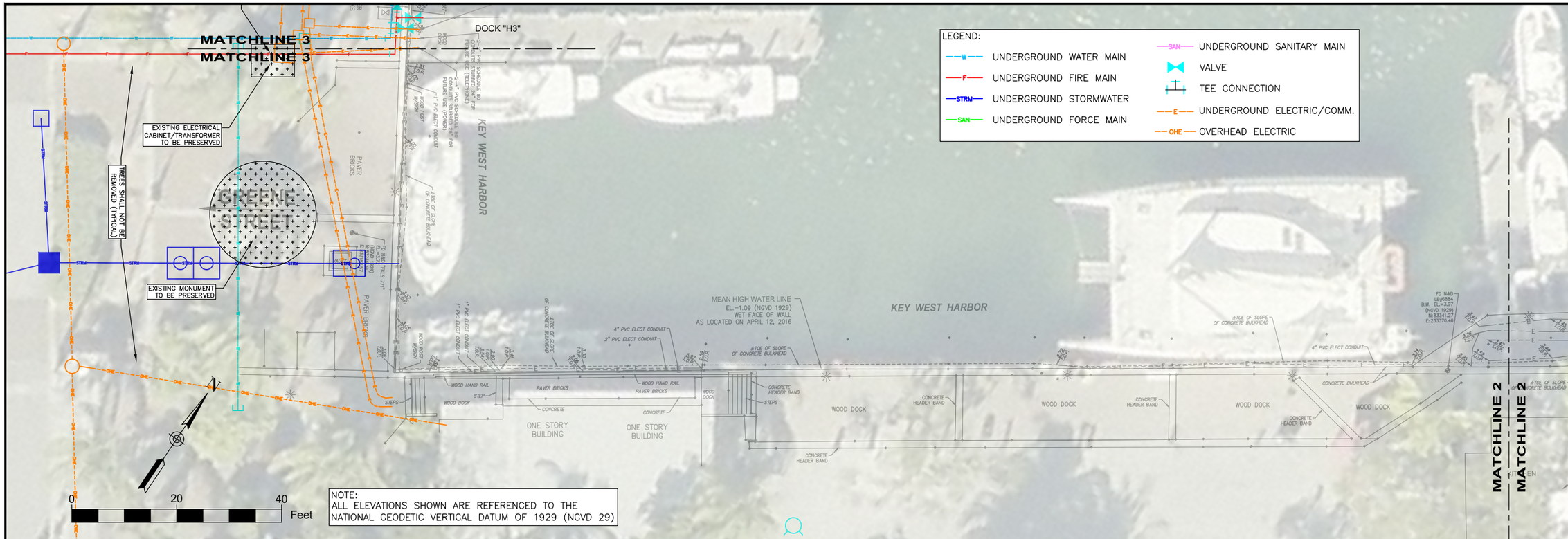

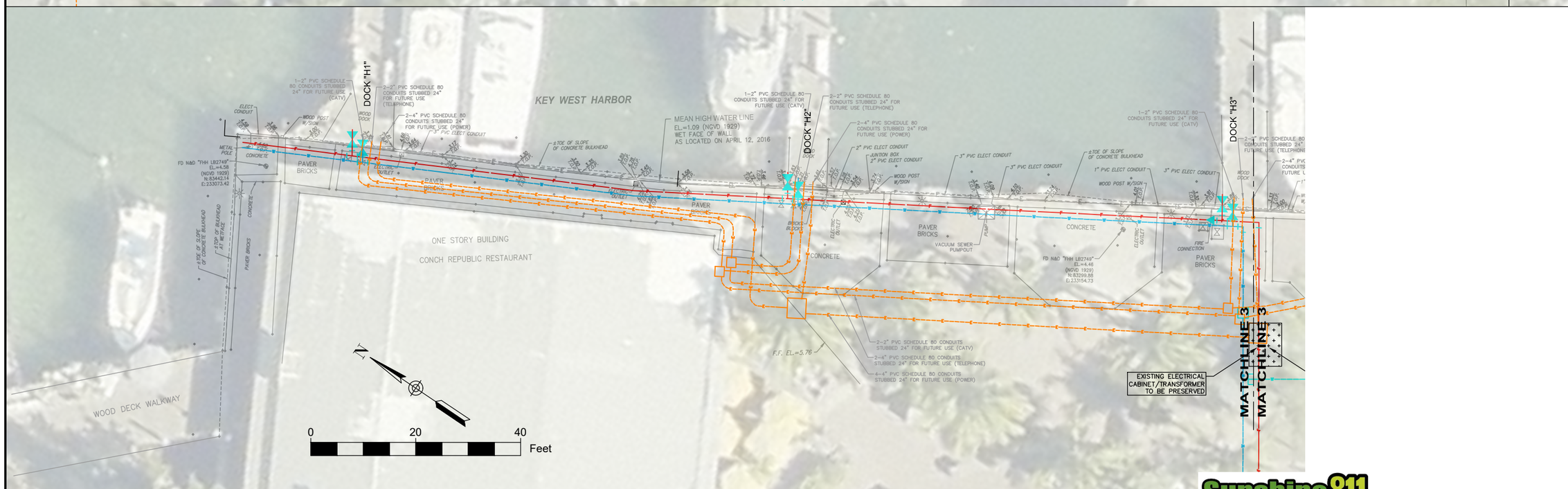

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SEAWALL REPAIR AND REPLACEMENT

SEAWALL SURVEY (EXISTING CONDITIONS)

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
S-102
Sheet 6 of 19

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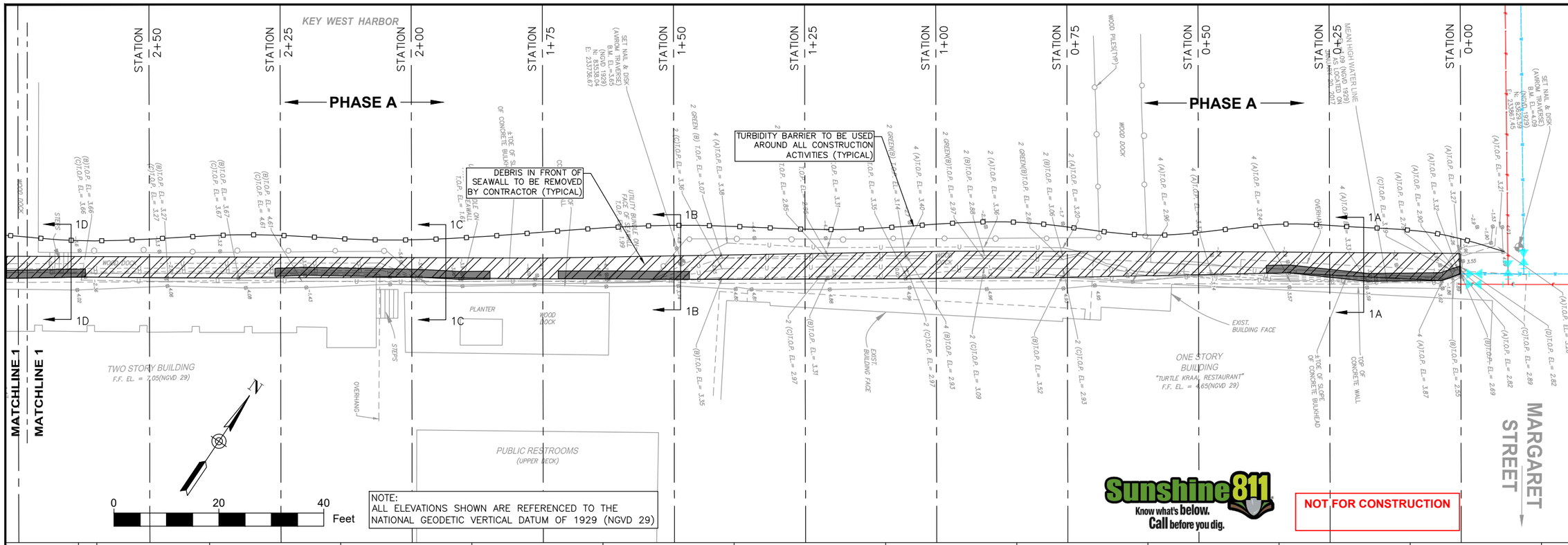

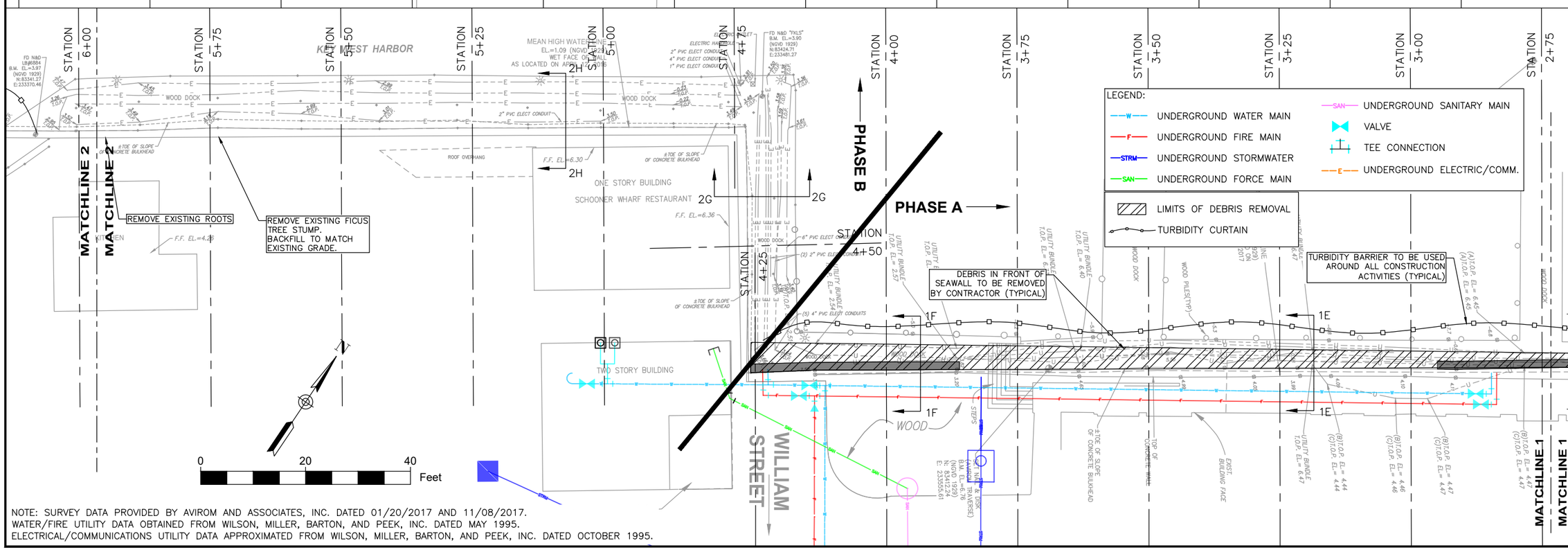

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

SEAWALL DEMO AND DEBRIS REMOVAL

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-201
Sheet 7 of 19

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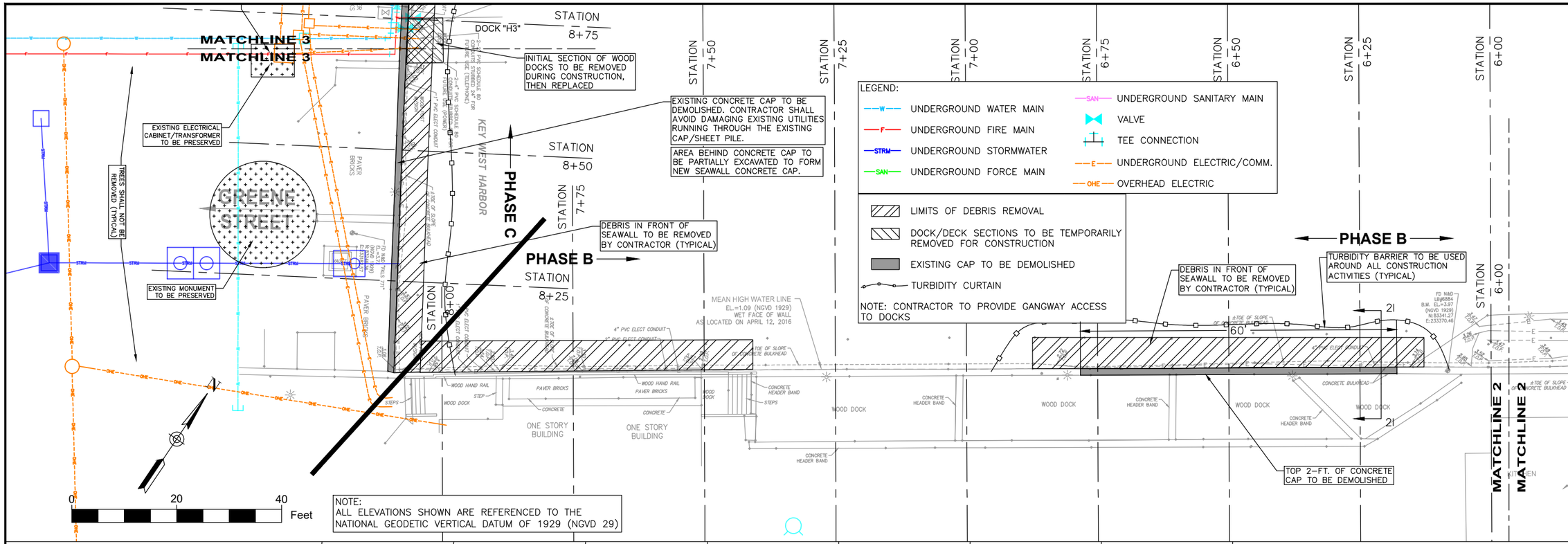

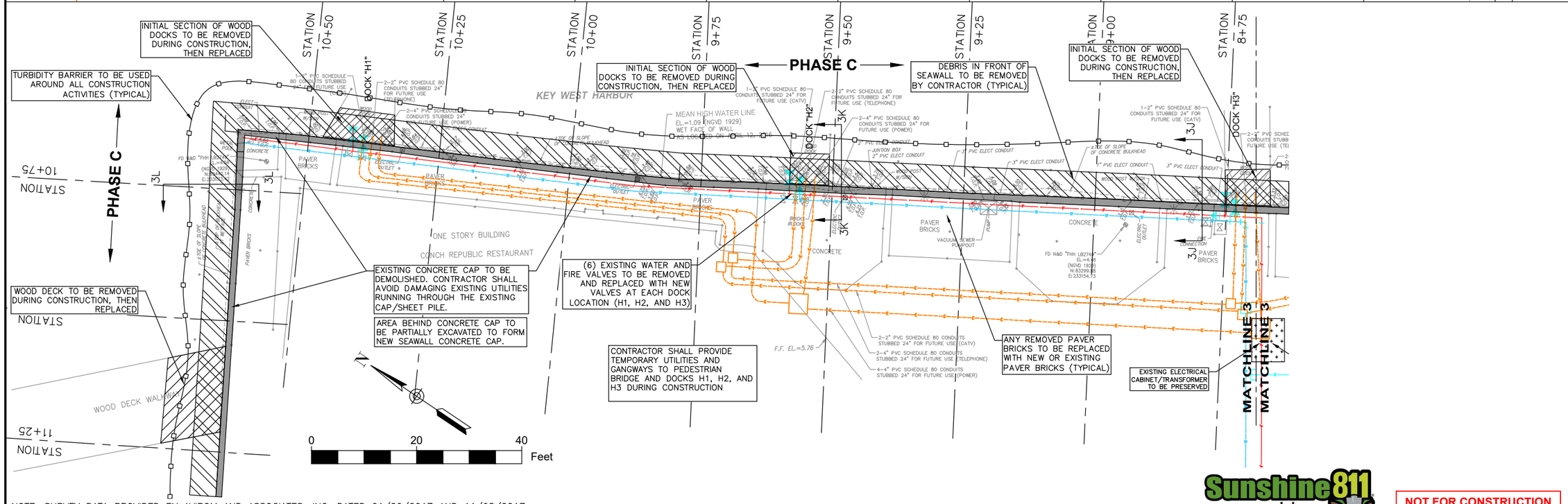

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SEAWALL DEMO AND DEBRIS REMOVAL

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-202
Sheet 8 of 19

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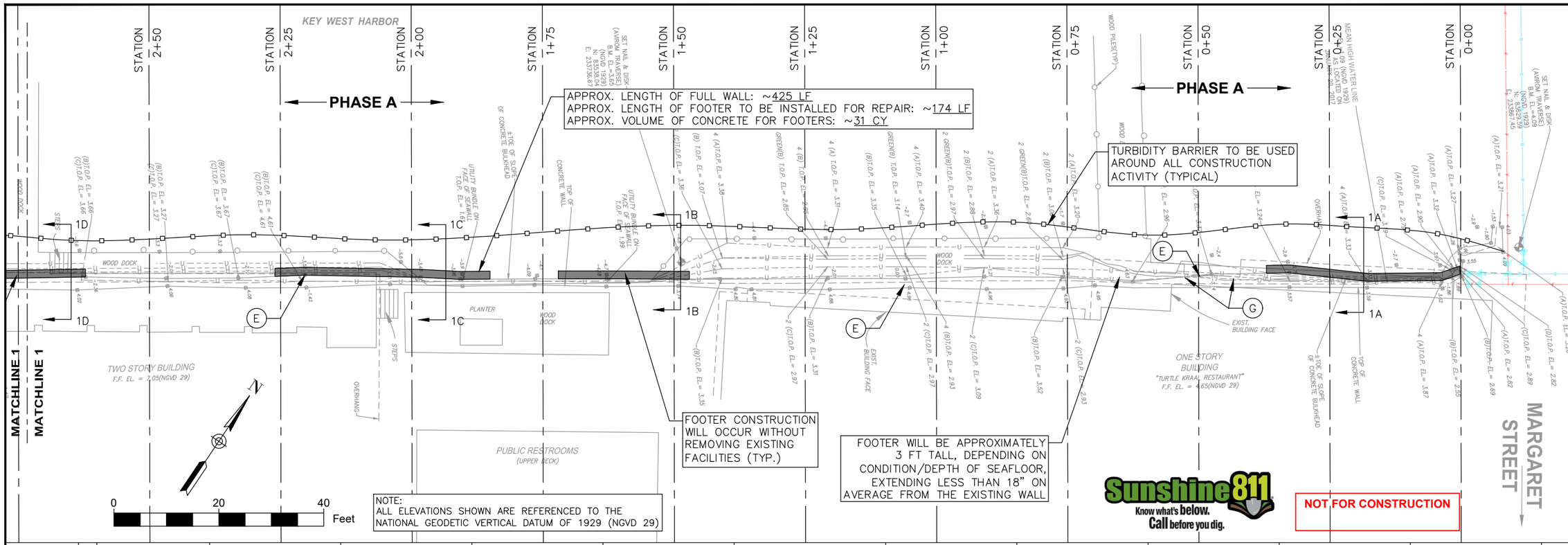

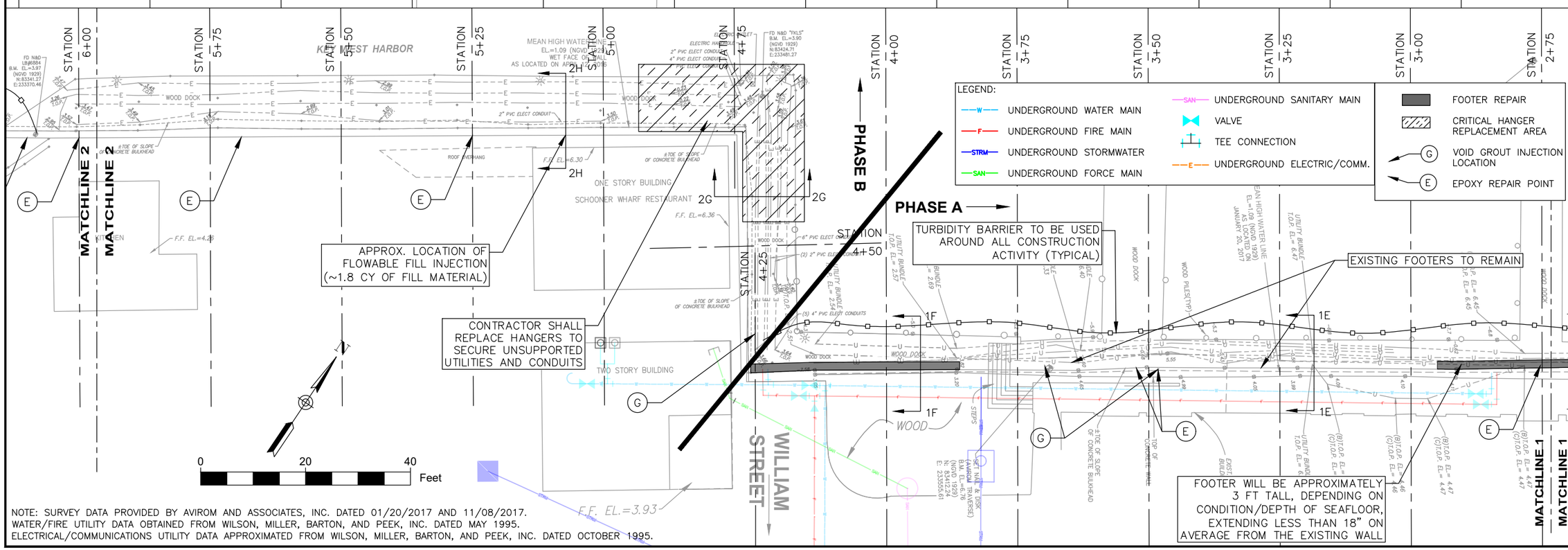

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SEAL OF THE CITY OF KEY WEST, FLORIDA

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

SEAWALL REPAIR DESIGN PLAN

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-203
Sheet 9 of 19

F:\CITY OF KEY WEST\TASK 31, BIGHT SEAWALL FINAL ENGINEERING\DRAWINGS\CAD DESIGN\WB SEAWALL_DESIGN_V5.0.DWG

LEGEND:

- UNDERGROUND WATER MAIN
- UNDERGROUND FIRE MAIN
- UNDERGROUND STORMWATER
- UNDERGROUND FORCE MAIN
- UNDERGROUND SANITARY MAIN
- VALVE
- TEE CONNECTION
- UNDERGROUND ELECTRIC/COMM.
- OVERHEAD ELECTRIC
- TEMPORARY WOOD DOCK REMOVAL
- SHEET PILE AND CAP

MATCHLINE 3

DOCK "H3"

STATION 8+75

STATION 8+50

STATION 8+25

STATION 8+00

STATION 7+75

STATION 7+50

STATION 7+25

STATION 6+25

STATION 6+00

EXISTING ELECTRICAL CABINET/TRANSFORMER TO BE PRESERVED

TREES SHALL NOT BE REMOVED (TYPICAL)

GREENE STREET

EXISTING MONUMENT TO BE PRESERVED

DRAINAGE PENETRATION THROUGH SHEET PILE TO MATCH EXISTING PIPE DIAMETER AND MATERIAL

CONTRACTOR TO PROVIDE CLOSURE POUR

PHASE C

PHASE B

KEY WEST HARBOR

MEAN HIGH WATER LINE EL.=1.09 (NGVD 1929) WET FACE OF WALL AS LOCATED ON APRIL 12, 2016

ONE STORY BUILDING

CONTRACTOR TO REMOVE AND REPLACE EXISTING TOP OF CONCRETE CAP – DIMENSIONS TO MATCH EXISTING

60'

EXPANSION JOINTS (TYP.)

TURBIDITY BARRIER TO BE USED AROUND ALL CONSTRUCTION ACTIVITY (TYPICAL)

APPROX. LOCATION OF FLOWABLE FILL INJECTION (~0.3 CY OF FILL MATERIAL)

MATCHLINE 2

0 20 40 Feet

NOTE:
ALL ELEVATIONS SHOWN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29)

STATION 10+50

STATION 10+25

STATION 10+00

STATION 9+75

STATION 9+50

STATION 9+25

STATION 9+00

STATION 8+75

86.9'

171.7'

TURBIDITY BARRIER TO BE USED AROUND ALL CONSTRUCTION ACTIVITY (TYPICAL)

DOCK "H1"

DOCK "H2"

APPROX. LENGTH OF SHEETPILE WALL: ~333 LF
APPROX. WIDTH OF SEAWALL CAP: 3 FT
CONSTRUCTION JOINTS SPACED AT 50' MAX.

WOOD DOCK SECTIONS TO BE TEMPORARILY REMOVED DURING CONSTRUCTION (TYP.) CONTRACTOR SHALL PROVIDE GANGWAY

EXPANSION JOINT (TYP.)

CONTRACTOR TO PRESERVE AND EXTEND EXISTING CONDUITS THROUGH NEW SEAWALL AT EACH DOCK LOCATION (TYP.) SLEEVE DETAIL ON SHEET C-209

(6) WATER AND FIRE VALVES TO BE INSTALLED AT EXISTING LOCATIONS OF VALVES AT EACH DOCK LOCATION (H1, H2, AND H3)

CONTRACTOR SHALL PROVIDE TEMPORARY UTILITIES AND GANGWAYS TO PEDESTRIAN BRIDGE AND DOCKS H1, H2, AND H3 DURING CONSTRUCTION

EXISTING ELECTRICAL CABINET/TRANSFORMER TO BE PRESERVED

MATCHLINE 3

PHASE C

STATION 10+75

STATION 11+00

STATION 11+25

72.0'

ONE STORY BUILDING

CONCH REPUBLIC RESTAURANT

WOOD DECK WALKWAY

CONTRACTOR TO PROVIDE CLOSURE POUR

0 20 40 Feet

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STUART, FL 34994-2936
TEL: (772) 781-3400
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CERTIFICATE OF AUTHORIZATION NO. 2429

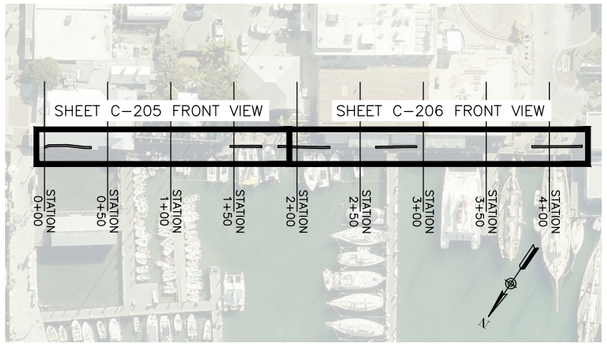
KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

SEAWALL REPAIR DESIGN PLAN

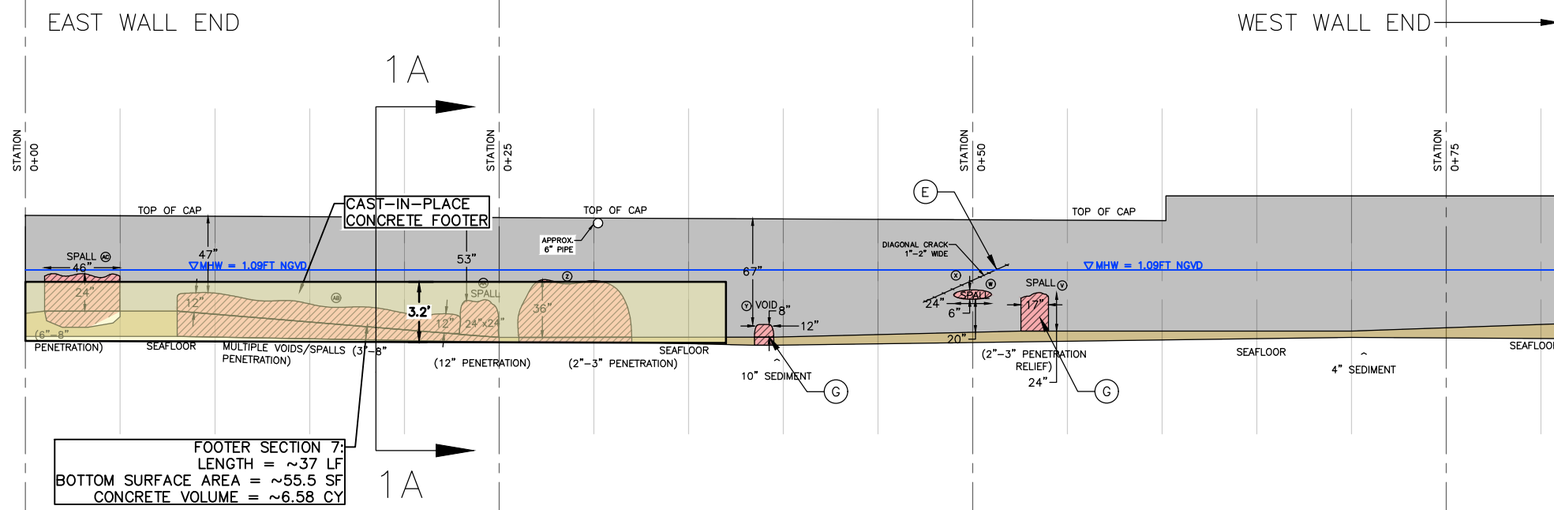
KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-204
Sheet 10 of 19

F:\CITY OF KEY WEST\TASK 31: BIGHT SEAWALL FINAL ENGINEERING\DRAWINGS\CAD DESIGN\KWB SEAWALL_DESIGN_V5.0.DWG



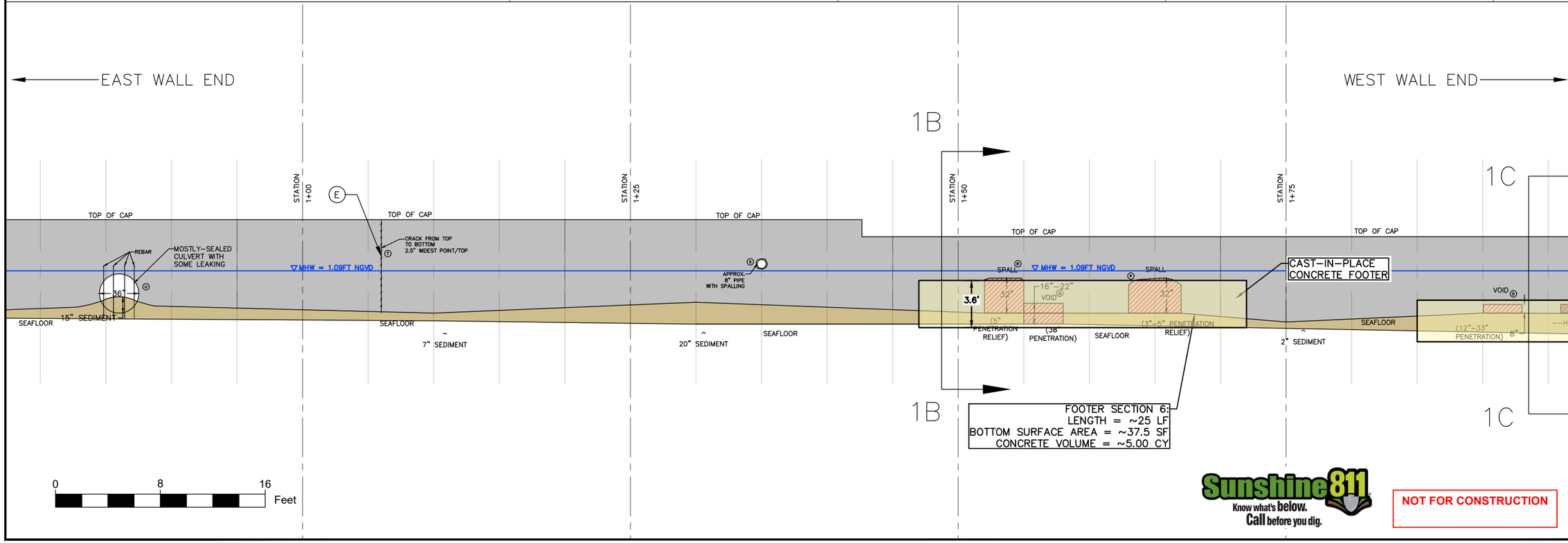
PHASE A: FOOTER REPAIR KEY SHEET (1"=120')



LEGEND:

- EXISTING SEAWALL
- DEPTH OF SEDIMENT
- EXISTING DAMAGE
- PROPOSED CAST-IN-PLACE FOOTER
- (E) EPOXY REPAIR LOCATION
- (G) GROUT INJECTION REPAIR LOCATION

0 8 16 Feet



0 8 16 Feet

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SEAL OF THE CITY OF KEY WEST, FLORIDA

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

PHASE A - FOOTER REPAIR FRONT

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-205
Sheet 11 of 19

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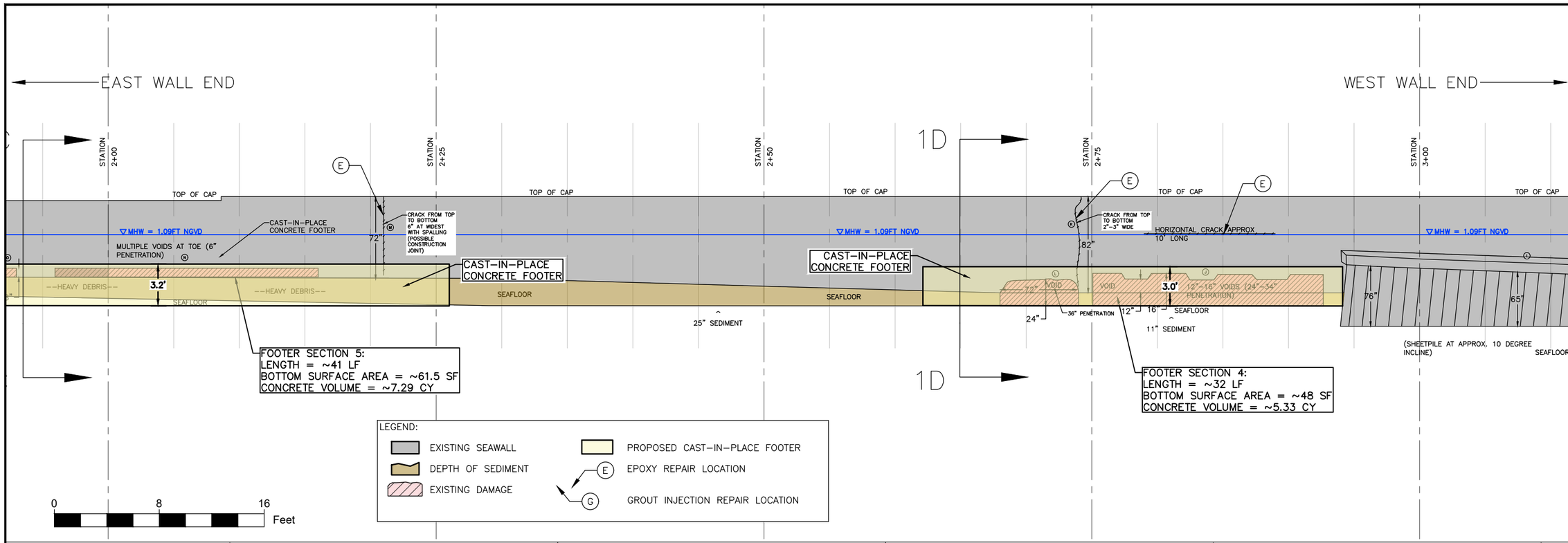

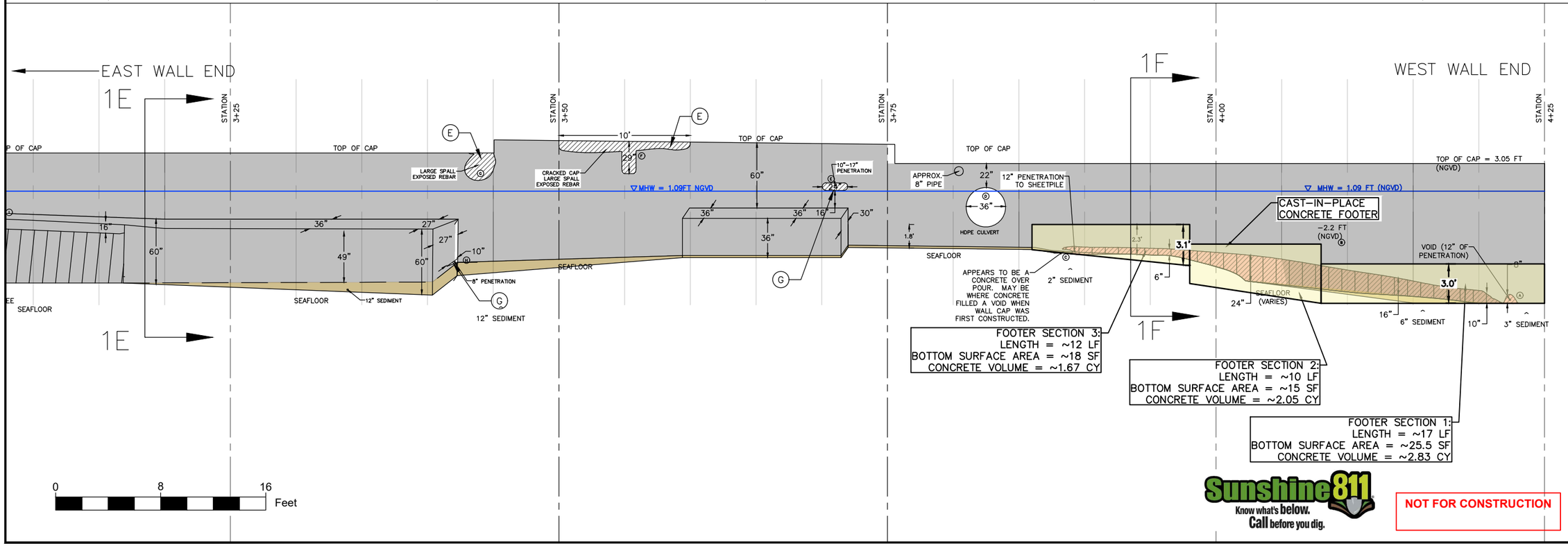

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SEAWALL REPAIR AND REPLACEMENT

PHASE A - FOOTER REPAIR FRONT

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-206
Sheet 12 of 19

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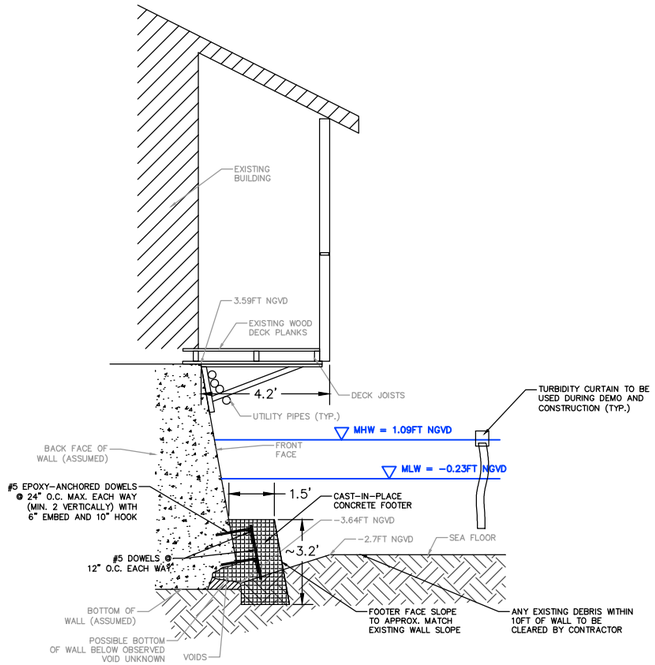
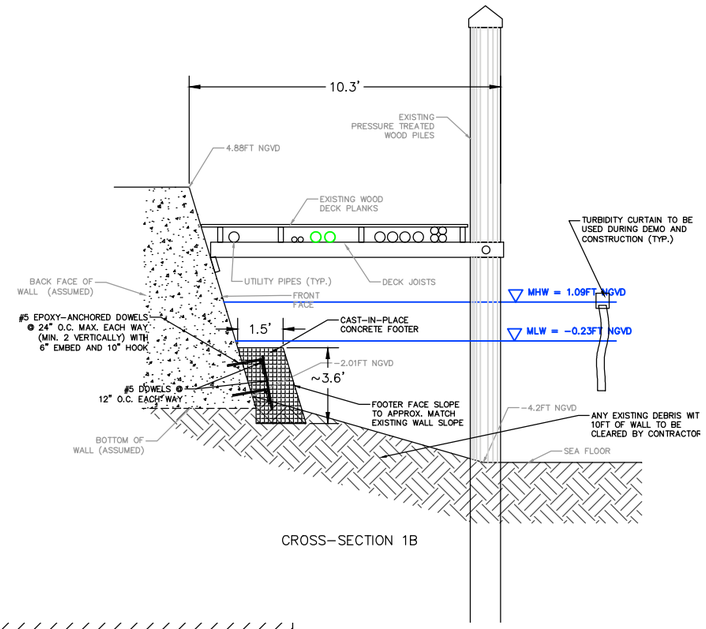


CROSS-SECTION 1A



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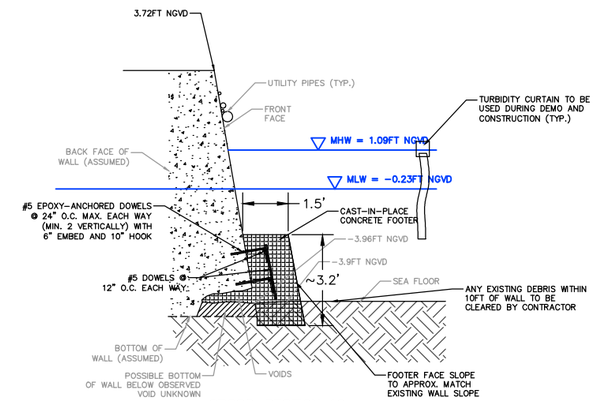

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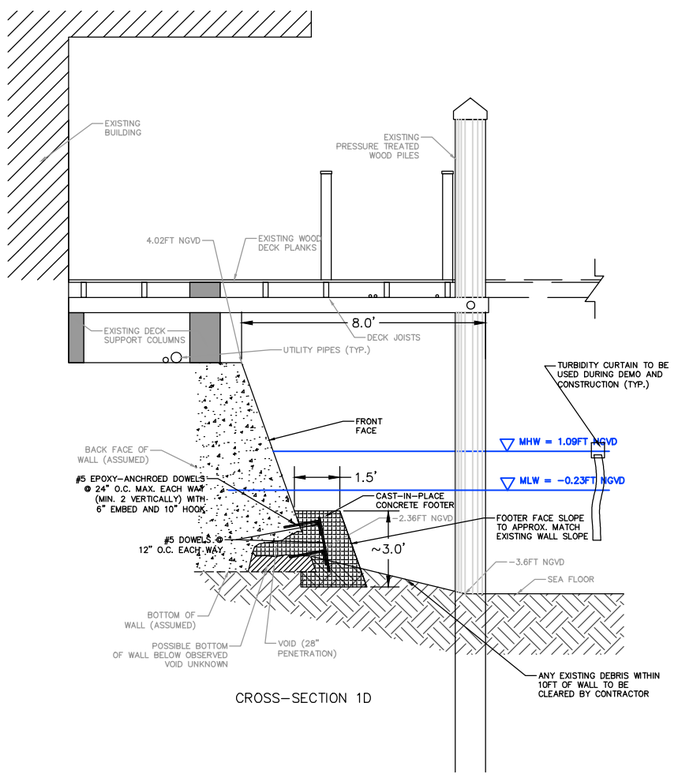

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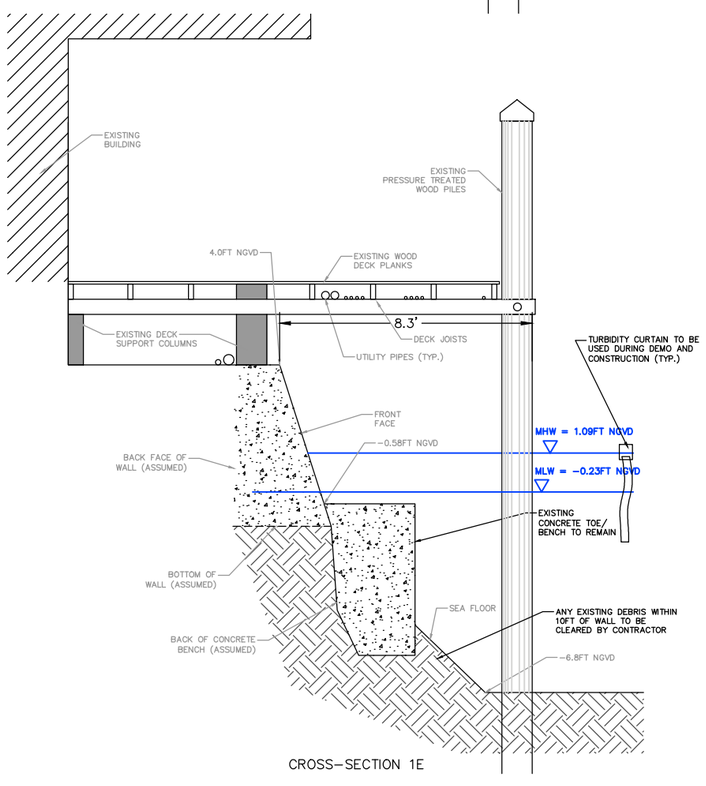

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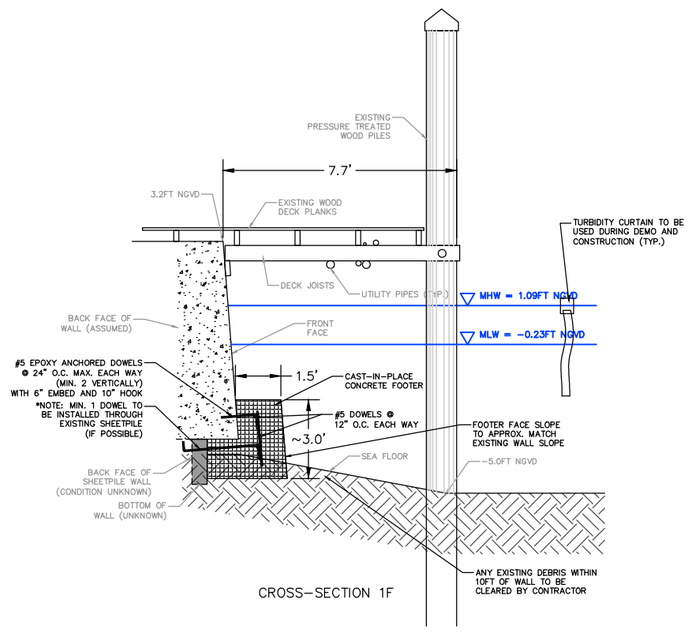

CROSS-SECTION 1F

0 5 10 Feet

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

SEAWALL REPAIR CROSS-SECTIONS (PHASE A)

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-207
Sheet 13 of 19

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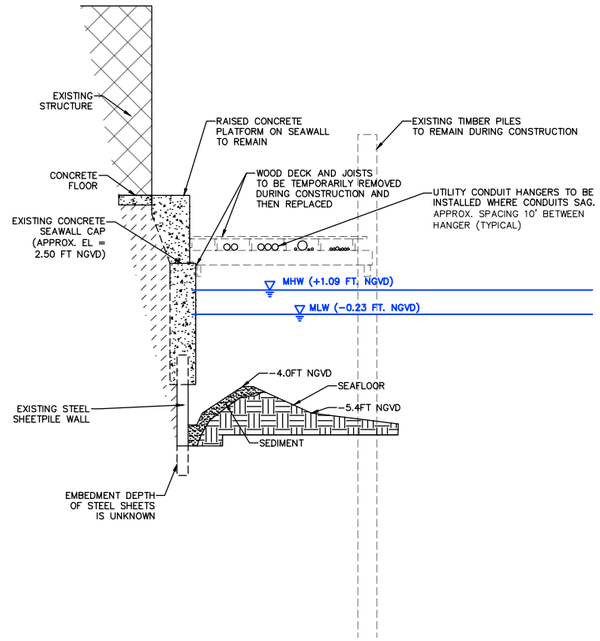

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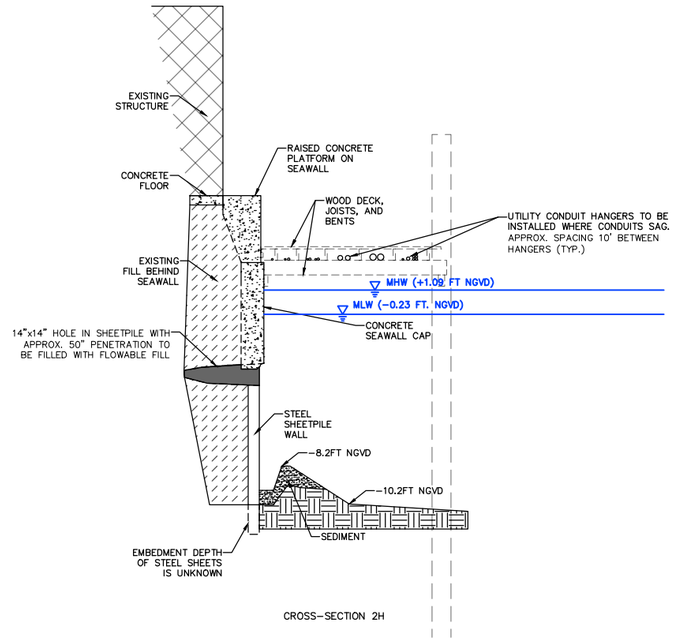

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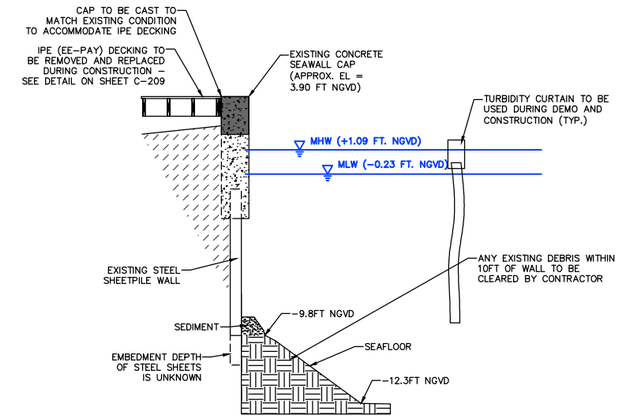
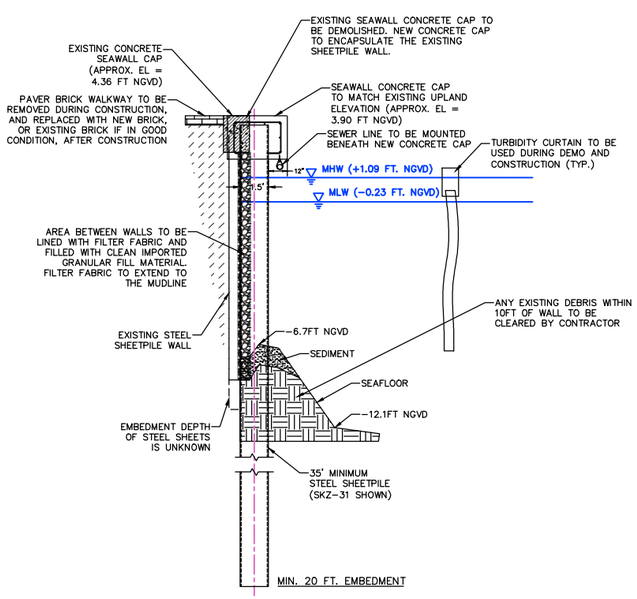
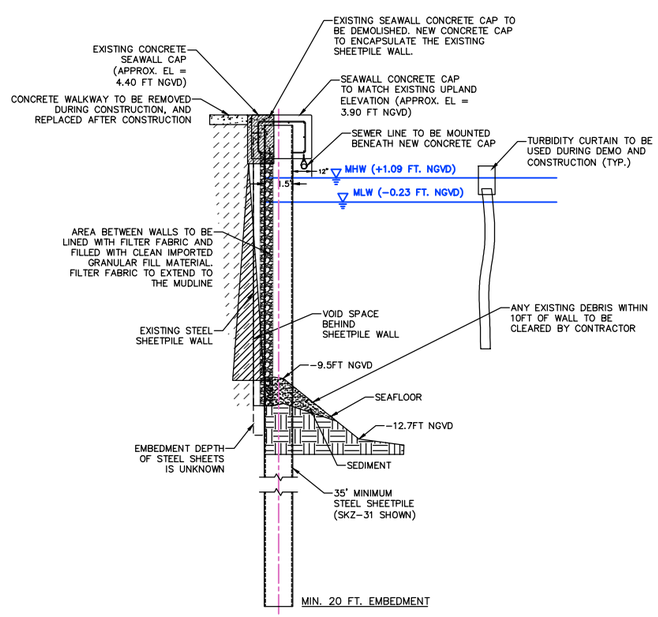


CROSS−SECTION 2I

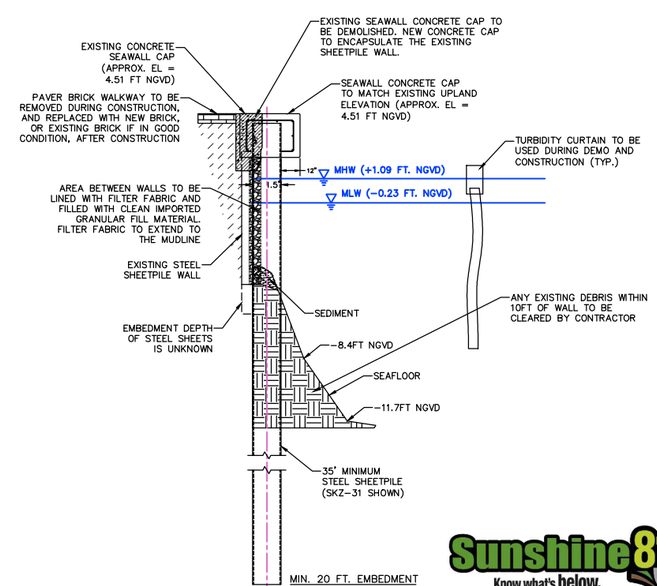
0 8 16 Feet



CROSS−SECTION 3J



CROSS−SECTION 3K



CROSS−SECTION 3L

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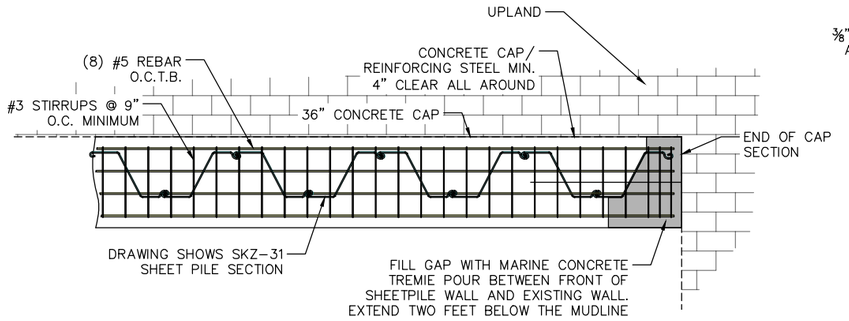
KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

SEAWALL REPAIR CROSS-SECTIONS
(PHASE B AND C)

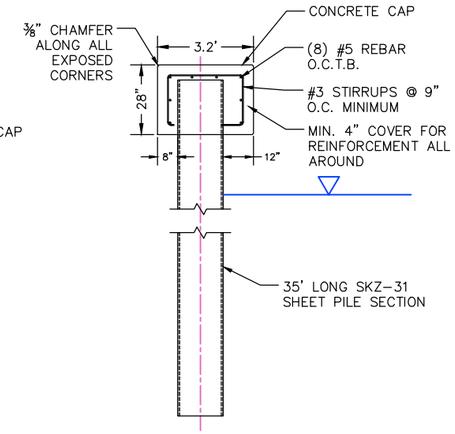
KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-208

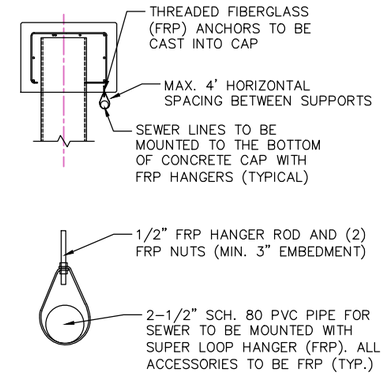
P:\CITY OF KEY WEST\TASK 3L BIGHT SEAWALL FINAL ENGINEERING\DRAWINGS\CAD DESIGN\KWB SEAWALL_DESIGN_V5.0.DWG



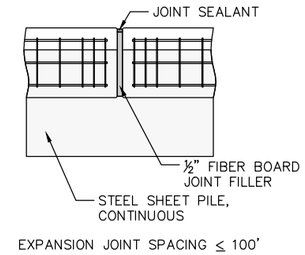
TYPICAL END REINFORCEMENT DETAIL



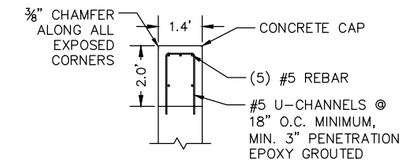
SHEETPILE CAP LAYOUT



EXTERIOR SEWER DETAIL



EXPANSION/CONTRACTION JOINT DETAIL



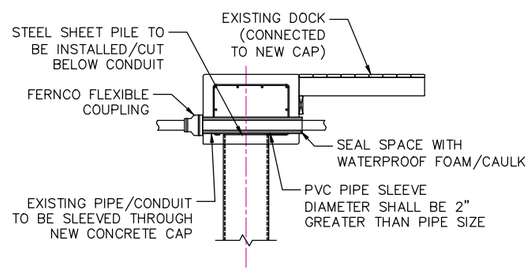
PHASE B: CAP REPAIR DETAIL

TYPICAL STEEL SHEETPILE SEAWALL:

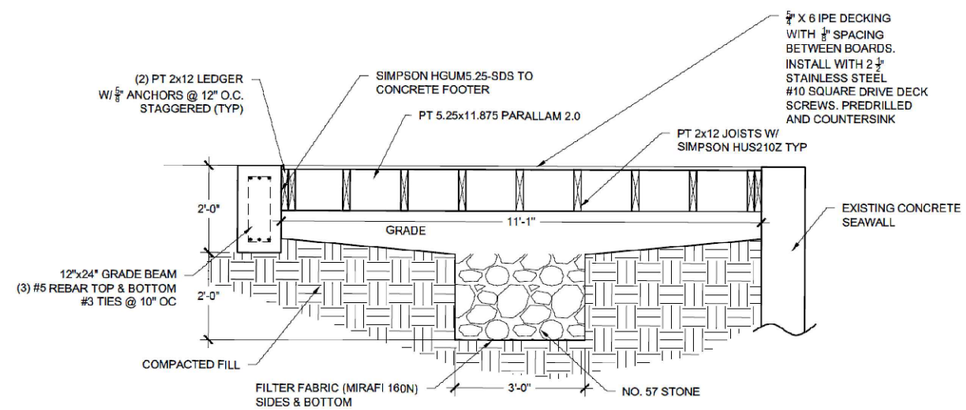
CONCRETE CAP
- CONCRETE f'c = 6,000 PSI IN 28-DAYS
- 1" CHAMFER ALL EXPOSED EDGES

SKZ-31 STEEL SHEET PILE SPECIFICATIONS

- WIDTH	28.50 IN.
- HEIGHT	18.00 IN.
- THICKNESS	0.450 IN.
- SECTIONAL AREA	9.07 SQ. IN. PER LIN. FT.
- WEIGHT OF PILE	73.82 LB. PER LIN. FT.
- WEIGHT OF WALL	31.08 LB. PER SQ. FT.
- SECTION MODULUS	51.56 IN.^3 PER LIN. FT.
- MOMENT OF INERTIA	464.05 IN.^4 PER LIN. FT.
- COATING AREA BOTH SIDES	8.06 SQ. FT. PER LIN. FT.



TYPICAL UTILITY SLEEVE DETAIL



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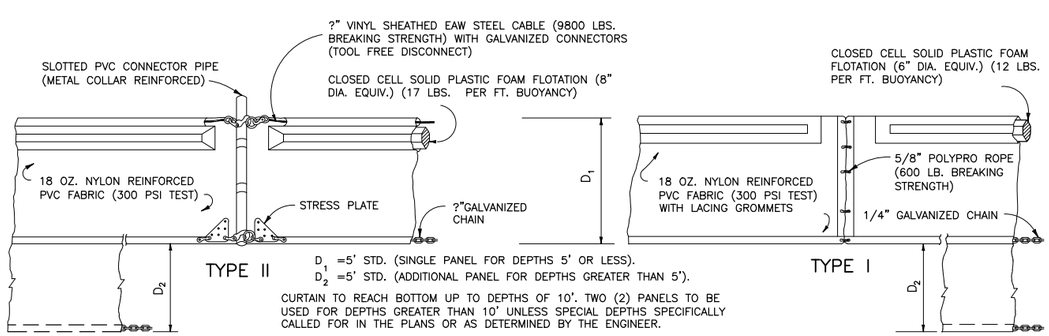
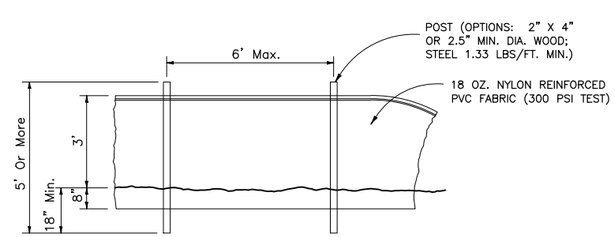


FLOATING TURBIDITY BARRIERS



STAKED TURBIDITY BARRIER

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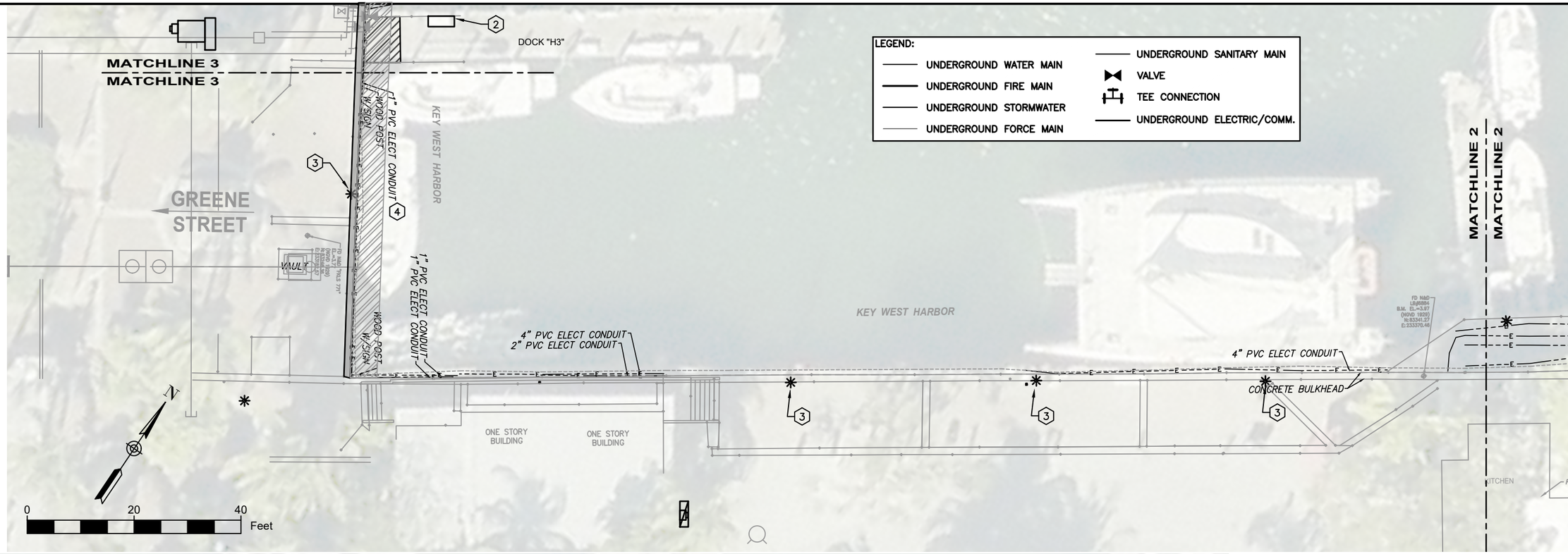
KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

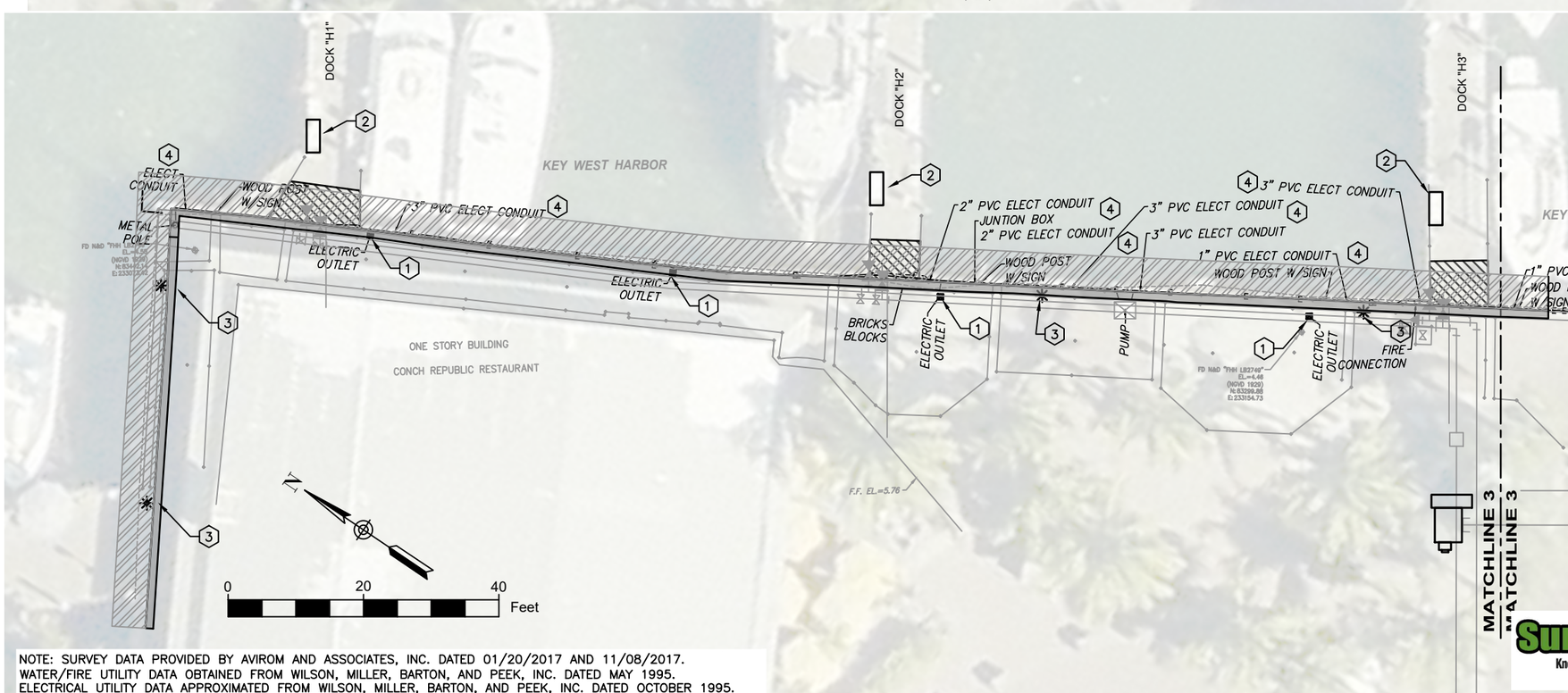
DETAILS

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
C-209
Sheet 15 of 19

P:\CITY OF KEY WEST\TASK 31, RIGHT SEAWALL FINAL ENGINEERING\DRAWINGS\CAD DESIGN\KWB SEAWALL_DESIGN_V5.0.DWG





NOTE: SURVEY DATA PROVIDED BY AVIROM AND ASSOCIATES, INC. DATED 01/20/2017 AND 11/08/2017.
WATER/FIRE UTILITY DATA OBTAINED FROM WILSON, MILLER, BARTON, AND PEEK, INC. DATED MAY 1995.
ELECTRICAL UTILITY DATA APPROXIMATED FROM WILSON, MILLER, BARTON, AND PEEK, INC. DATED OCTOBER 1995.

ELECTRICAL DEMOLITION KEYED NOTES:

1. EXISTING POWER PEDESTALS FEEDING DOCK SPACE IN SCOPE OF RETROFIT, SHALL BE TEMPORARILY REMOVED DURING CONSTRUCTION. STORE PEDESTAL IN SAFE LOCATION FOR REINSTALLATION. BACK PULL ALL WIRING AND REMOVE CONDUIT IN LOCATION OF CONSTRUCTION
2. EXISTING POWER DISTRIBUTION BOX FEEDING ALL POWER AND LIGHTING PEDESTALS ON THIS DOCK TO REMAIN AS IS.
3. EXISTING DOCK LIGHTING POLES AND FIXTURES SHALL BE TEMPORARILY REMOVED FOR NEW DOCK CONSTRUCTION RETROFIT. BACK PULL ALL WIRING AND REMOVE CONDUIT IN LOCATION OF CONSTRUCTION. STORE LIGHT POLES AND LIGHT FIXTURES IN SAFE LOCATION FOR REINSTALLATION AFTER RETROFIT WORK IS COMPLETE.
4. REMOVE ALL WIRING AND CONDUIT RUNNING ALONG SIDE OF DOCK SPACE BEING RETROFITTED. BACK PULL WIRING TO NEAREST EXISTING PULL BOX LOCATED OUTSIDE THE WORK AREA.

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SEAL OF THE CITY OF KEY WEST, FLORIDA

LARRY M. SMITH
Florida PE No. 45997

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Drawn By: FR
Checked By: LMS
Date: 2/26/2019
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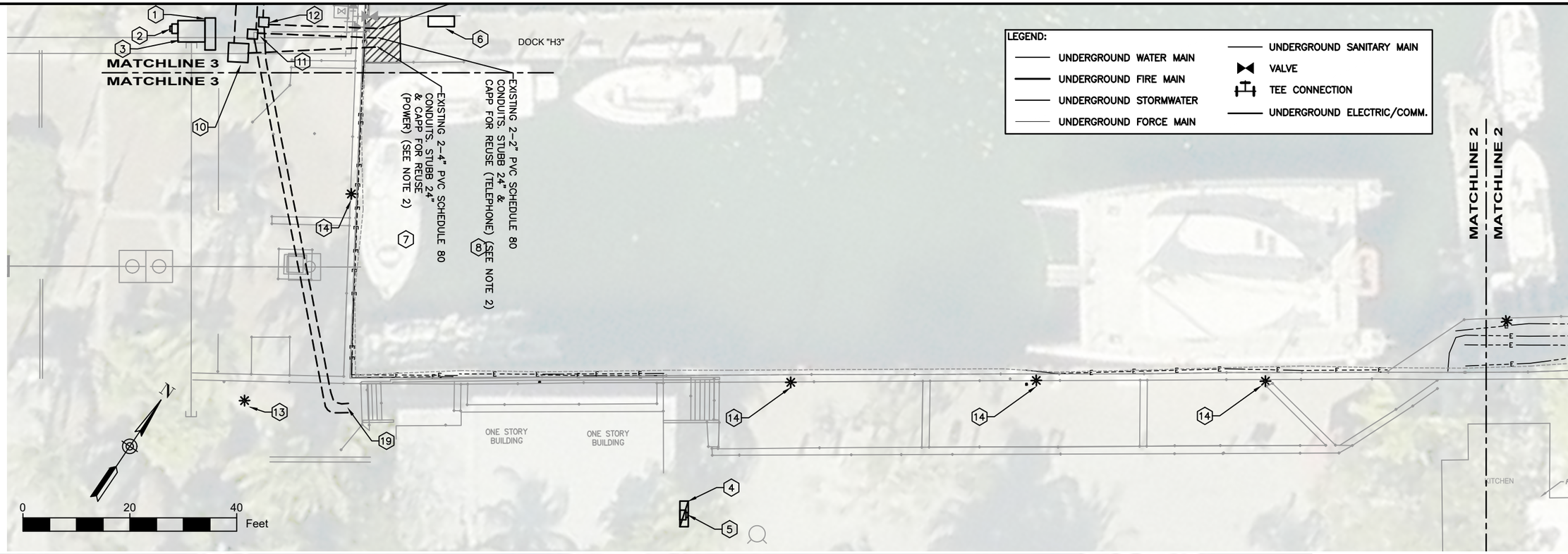
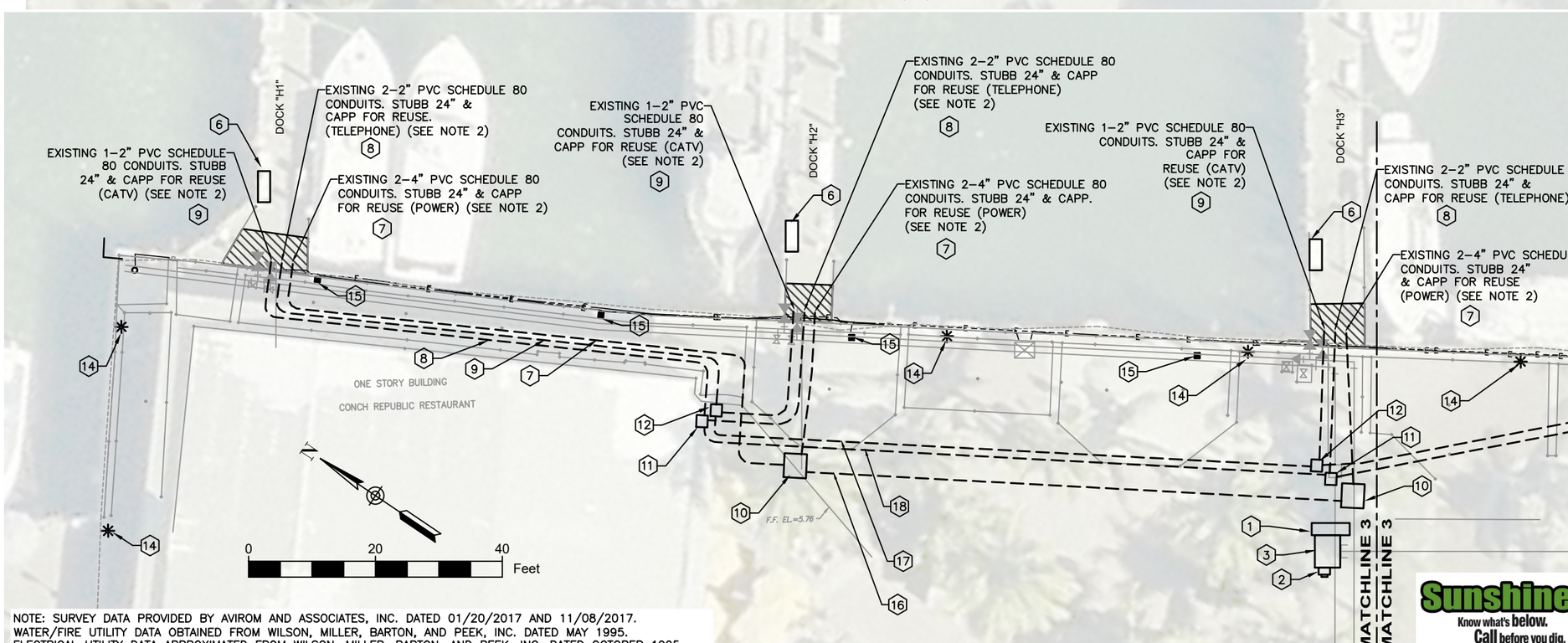
KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

ELECTRICAL DEMOLITION PLANS

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
E-101
Sheet 16 of 19





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ELECTRICAL UTILITY DATA APPROXIMATED FROM WILSON, MILLER, BARTON, AND PEEK, INC. DATED OCTOBER 1995.

NOTE:
SEE DRAWING E-103 FOR KEYED NOTES

ELECTRICAL GENERAL NOTES:

1- CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING DURING CONSTRUCTION UNTIL COMPLETION AND REINSTALLATION OF EXISTING LIGHT POLE FIXTURES.

2- PROVIDE AND INSTALL A FERNCO FLEXIBLE COUPLING ON THE BACKSIDE OF THE SEAWALL WHERE UTILITIES RUN THROUGH SLEEVE PENETRATIONS TO PREVENT SOIL FROM MIGRATING THROUGH THE SLEEVE. COUPLING SHALL TIE THE SLEEVE TO THE PENETRATING CONDUIT AND SEAL THE ANNULAR SPACE.

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Florida P.E. No. 45997

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

ELECTRICAL PLANS

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
E-102
Sheet 17 of 19

ELECTRICAL KEYED NOTES:

1. EXISTING HOFFMANN BOX CONTAINING EXISTING DISTRIBUTION PANEL (3 SUB MAINS) 480/277VAC, 3ø, 4W, 400AMPS THAT FEEDS EXISTING DOCKS 'H1', 'H2' AND 'H3' POWER BOXES TO REMAIN.
2. EXISTING KEYES METER TO REMAIN.
3. EXISTING KEYES TRANSFORMER TO REMAIN.
4. EXISTING DOCK LIGHTING AND PEDESTAL PANEL (MAIN 1 OF 1), 120/240VAC, 1ø, 250AMPS FEEDING DOCK LIGHTS TO REMAIN.
5. EXISTING KEYES METER ABOVE PANEL TO REMAIN.
6. EXISTING POWER BOX TO REMAIN. BEFORE COMMENCING CONSTRUCTION WORK, INTERCEPT EXISTING POWER, LIGHTING, TELEPHONE AND CATV CIRCUITS AT LOCATIONS OUTSIDE OF WORK AREA TO PROVIDE UNINTERRUPTED UTILITY SERVICE TO THIS EXISTING POWER BOX FEEDING EXISTING POWER PEDESTALS, LIGHTING, CATV AND TELEPHONE SERVICES ON DOCKS 'H1', 'H2' AND 'H3'.
7. EXISTING 2–4" PVC SCHEDULE 80 CONDUITS STUBBED UP FOR POWER AND LIGHTING SERVICE DURING CONSTRUCTION PHASE. WHEN CONDUITS ARE INSTALLED, INTERCEPT EXISTING CONDUIT CONNECTED TO EXISTING POWER BOX AND REMOVE TEMPORARY CONNECTION AS MENTION IN KEY NOTE #6 ABOVE. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
8. EXISTING 2–2" PVC SCHEDULE 80 CONDUITS STUBBED UP FOR TELEPHONE SERVICE DURING CONSTRUCTION PHASE. WHEN CONDUITS ARE INSTALLED, INTERCEPT EXISTING CONDUIT CONNECTED TO EXISTING POWER BOX AND REMOVE TEMPORARY CONNECTION AS MENTION IN KEY NOTE #6 ABOVE. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
9. EXISTING 1–2" PVC SCHEDULE 80 CONDUITS STUBBED UP FOR CATV SERVICE DURING CONSTRUCTION PHASE. WHEN CONDUITS ARE INSTALLED, INTERCEPT EXISTING CONDUIT CONNECTED TO EXISTING POWER BOX AND REMOVE TEMPORARY CONNECTION AS MENTION IN KEY NOTE #6 ABOVE. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
10. EXISTING IN GROUND MANHOLE BOX 36"X36"X36", TRAFFIC RATED FOR POWER AND LIGHTING SERVICE. CONTRACTOR SHALL REPAIR/REPLACE METAL FRAMING SUPPORTING LIDS ON BOXES AND RAISE TO GRADE LEVEL.
11. EXISTING IN GROUND HAND HOLE BOX 16"X24"X24", TRAFFIC RATED FOR TELEPHONE SERVICE. CONTRACTOR SHALL REPAIR/REPLACE METAL FRAMING SUPPORTING LIDS ON BOXES AND RAISE TO GRADE LEVEL.
12. EXISTING IN GROUND HAND HOLE BOX 16"X24"X24", TRAFFIC RATED FOR CATV SERVICE. CONTRACTOR SHALL REPAIR/REPLACE METAL FRAMING SUPPORTING LIDS ON BOXES AND RAISE TO GRADE LEVEL.
13. EXISTING LIGHT POLE AND LIGHT FIXTURE TO BE REINSTALLED DURING FINALIZATION OF DOCK WORK. INTERCEPT EXISTING LIGHT CONDUIT AND CIRCUIT OUTSIDE OF DOCK WORK AREA AND INSTALL NEW CONDUIT TO SAME EXISTING LIGHTING PANEL. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
14. EXISTING LIGHT POLE AND LIGHT FIXTURE TO BE REINSTALLED DURING FINALIZATION OF DOCK WORK. INTERCEPT EXISTING LIGHT CONDUIT AND CIRCUIT OUTSIDE OF DOCK WORK AREA. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
15. EXISTING POWER PEDESTALS TO BE REINSTALLED DURING FINALIZATION OF DOCK WORK. INTERCEPT EXISTING POWER CONDUIT AND CIRCUIT OUTSIDE OF DOCK WORK AREA. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
16. EXISTING 4–4" PVC SCHEDULE 80 CONDUITS STUBBED UP FOR POWER AND LIGHTING SERVICE DURING CONSTRUCTION PHASE. WHEN CONDUITS ARE INSTALLED, INTERCEPT EXISTING CONDUIT CONNECTED TO EXISTING POWER BOX AND REMOVE TEMPORARY CONNECTION AS MENTION IN KEY NOTE #6 ABOVE. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
17. EXISTING 2–4" PVC SCHEDULE 80 CONDUITS STUBBED UP FOR TELEPHONE SERVICE DURING CONSTRUCTION PHASE. WHEN CONDUITS ARE INSTALLED, INTERCEPT EXISTING CONDUIT CONNECTED TO EXISTING POWER BOX AND REMOVE TEMPORARY CONNECTION AS MENTION IN KEY NOTE #6 ABOVE. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
18. EXISTING 2–2" PVC SCHEDULE 80 CONDUITS STUBBED UP FOR CATV SERVICE DURING CONSTRUCTION PHASE. WHEN CONDUITS ARE INSTALLED, INTERCEPT EXISTING CONDUIT CONNECTED TO EXISTING POWER BOX AND REMOVE TEMPORARY CONNECTION AS MENTION IN KEY NOTE #6 ABOVE. MAKE ALL CONNECTIONS NECESSARY FOR COMPLETE WORKING SYSTEM IN PLACE.
19. CONDUITS CONTINUE TO PULL BOXES NO. 7 AND 8, WHICH ARE NOT IN SCOPE OF THIS PROJECT.

PANEL "MDP" HOFFMAN (1)(2)

(EXISTING)

MOUNTING: SURFACE
SHORT CIRCUIT RATING: 42K AIC
POLES: 65
FED FROM PANEL: KEYES UTILITY TRANSFORMER

VOLT: 480/277V,3Ø,4W
MAIN BUS AMPS: 400 A
MAIN BREAKER AMPS: MLO A
MANUFACTURER/TYPE: SIEMENS

CKT	LOAD SERVED	POLE	TRIP	WIRE	COND	AMPS 'A'	AMPS 'B'	AMPS 'C'	AMPS 'A'	AMPS 'B'	AMPS 'C'	COND	WIRE	TRIP	POLE	LOAD SERVED	CKT
1	DOCK 'H3' POWER BOX	3	125	1	4"	30.0			30.0			4"	1	125	3	DOCK 'H2' POWER BOX	2
3	↓						30.0			30.0						↓	4
5								30.0			30.0						6
7	SPACE								52.0			4"	4/0	225	3	DOCK 'H1' POWER BOX	8
9	SPACE									52.0						↓	10
11	SPACE										52.0						12
					CONNECTED AMPS =	30.0	30.0	30.0	82.0	82.0	82.0						

TOTAL CONNECTED AMPS = 112.0 | 112.0 | 112.0 93.07 KVA

Note: (1) MAX 3% VD ON BRANCH CIRCUITS AS PER FBC
(2) NEMA 4X ENCLOSURE

PANEL "DOCK LIGHTS" (1)(2)

(EXISTING)

MOUNTING: SURFACE
SHORT CIRCUIT RATING: 42K AIC
POLES: 42
FED FROM PANEL: KEYES UTILITY TRANSFORMER

VOLT: 120/240V,1Ø,3W
MAIN BUS AMPS: 225 A
MAIN BREAKER AMPS: 125 A MCB
MANUFACTURER/TYPE: SIEMENS, SQ-D, GE

CKT	LOAD SERVED	POLE	TRIP	WIRE	COND	AMPS 'A'	AMPS 'B'	AMPS 'A'	AMPS 'B'	COND	WIRE	TRIP	POLE	LOAD SERVED	CKT
1	LAZY LANE LIGHTING	2	20	12	1"	7.0				1 1/2"	1	125	2	MAIN DISCONNECT	2
3	(EXISTING)						7.0							(EXISTING)	4
5	PEDESTAL/LIGHT	2	40	8	1"	14.0		14.0		1"	8	40	2	SEABASE PEDESTAL	6
7	(EXISTING)						14.0		14.0					(EXISTING)	8
9	LIGHTING CONTACTOR	2	20	12	1"	8.0		8.0		1"	10	20	2	DOCK LIGHTS	10
11	(EXISTING)						8.0		8.0					(EXISTING)	12
13	SPACE							8.0		1"	10	20	2	DOCK LIGHTS	14
15	SPACE								8					(EXISTING)	16
17	SPACE							12.0		1"	10	30	2	SHORE POWER/PLUG	18
19	SPACE								12.0					(EXISTING)	20
21	SPACE													SPACE	22
23	SPACE													SPACE	24
25	SPACE													SPACE	26
27	SPACE													SPACE	28
29	SPACE													SPACE	30
					CONNECTED AMPS =	29.0	29.0	42.0	42.0						

TOTAL CONNECTED AMPS = 71.0 | 71.0 17.0 KVA

Note: (1) MAX 3% VD ON BRANCH CIRCUITS AS PER FBC
(2) NEMA 3X ENCLOSURE

Voltage Drop Calculation Three Phase"

Input Wire Size 4/0

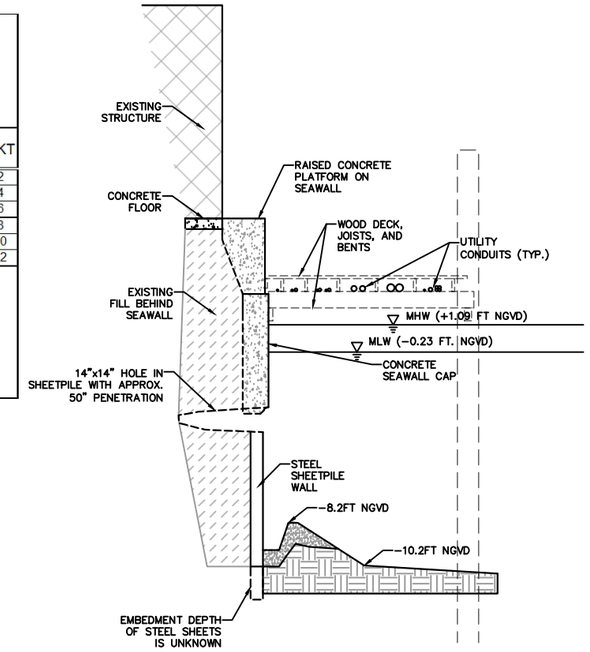
Length (L)	Amps (I)	Constant (K)	CM (D)	Volts Dropped
200	225	12.90	211600	4.75

Input Volts	# of Sets (S)
480	1

475.25 *Adjusted Voltage*

0.99% %Volts Dropped

Panel 'MDP' to Power Box 'H1'



CONDUIT UNDER DOCK DECK LAYOUT DETAIL

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Florida PE No. 45997

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KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT

ELECTRICAL NOTES AND DETAILS

KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
E-103

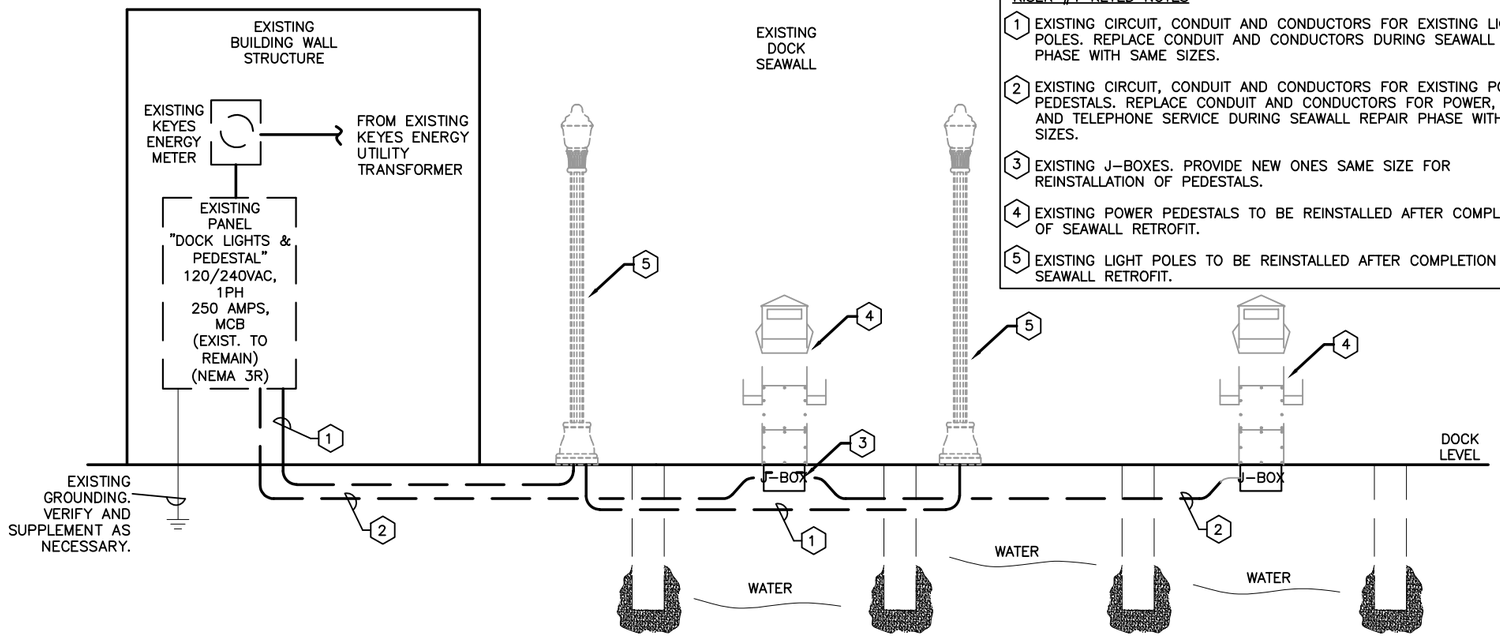
GENERAL NOTES AND SPECIFICATIONS:

1. THE SCOPE OF WORK SHALL CONSIST PRIMARILY OF THE FOLLOWING:

   A. REMOVE AND RE–INSTALL EXISTING DOCK LIGHTS AND DOCK POWER PEDESTALS WHERE INDICATED ON PLANS DURING COMPLETION OF DOCK STRUCTURAL RETROFIT PROCESS.

   B. PROVIDE AND INSTALL NEW CONDUIT, PULL BOXES AND WIRING COMPLETE IN PLACE WHERE SHOWN.

2. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
3. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2014 NATIONAL ELECTRICAL CODE, 2017, 6TH EDITION FLORIDA BUILDING CODE AND ALL LOCAL CODES.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS AND TO INCLUDE ALL FEES AS PART OF HIS BID IF NOT OTHERWISE NOTED. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ENGINEER AND OWNER.
5. THE CONTRACTOR SHALL, BEFORE SUBMITTING HIS BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.
6. GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH NEC, ARTICLE 250. THE GROUNDING SYSTEM TEST SHALL NOT EXCEED A 48 HOUR SPAN DRY RESISTANCE OF 10 OHMS. ADDITIONAL GROUNDING TO MEET THIS REQUIREMENT SHALL BE INSTALLED AT NO EXTRA COST. GROUNDING AND BONDING CONNECTIONS SHALL NOT BE PAINTED. ALL GROUNDING CONNECTIONS SHALL BE EXOTHERMIC UNLESS SPECIFICALLY INDICATED OTHERWISE. AN EQUIPMENT GROUND WIRE SIZED PER NEC SHALL BE PULLED IN ALL ELECTRICAL CONDUITS, POWER AND CONTROL, WHETHER OR NOT INDICATED ON THE PLANS.
7. ALL EQUIPMENT AND MATERIAL SHALL BE NEW AND UNUSED AND U.L. LISTED.
8. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS INSTALLED OR MODIFIED UNDER THIS PROJECT AND REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER.
9. ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.
10. COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS AND VERIFY ALL OBSTRUCTIONS WITH ALL SUBCONTRACTORS AND EQUIPMENT SUPPLIERS PRIOR TO ANY INSTALLATION.
11. ALL EXCAVATIONS FOR CONDUITS AND PULL BOXES, NEAR EXISTING CONDUIT AND EQUIPMENT SHALL BE HAND EXCAVATED.
12. MINIMUM DEPTH FROM TOP OF DUCTBANKS OR CONDUITS TO FINISHED GRADE SHALL BE 24" UNLESS OTHERWISE NOTED.
13. CONDUCTOR PULLING TENSIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL INSTALL PULL BOXES TO MEET MANUFACTURER'S REQUIREMENTS.
14. PROVIDE CONDUIT DUCT SEAL AT ALL CONDUIT ENDS.
15. ALL CONDUCTORS SHALL BE COPPER, XHHW, 600 VOLT RATED. NO ALUMINUM ALLOWED UNLESS SPECIFICALLY INDICATED ON DRAWINGS.
16. COLORED WARNING TAPE 6" WIDE SHALL BE INSTALLED 8" BELOW FINISHED GRADE DIRECTLY ABOVE ALL UNDERGROUND YARD CONDUITS ACCORDING TO THE FOLLOWING SCHEDULE:
    POWER: RED
    ALL OTHER CONDUITS: GREEN
17. CONTRACTOR SHALL RESTORE SIDEWALKS, ROADWAYS, SOD AND SPRINKLER SYSTEM PIPING TO MATCH EXISTING, AFTER THE COMPLETION OF THE CONDUIT AND PULLBOX INSTALLATION.
18. ALL INSTALLATION AND MOUNTING HARDWARE SHALL BE 316 STAINLESS STEEL.
19. MINIMUM TRADE SIZE CONDUIT PERMITTED SHALL BE 3/4 INCH UNLESS OTHERWISE NOTED.
20. ALL ABOVE GRADE CONDUIT SHALL BE SCHEDULE 80 PVC. SCHEDULE 40 P.V.C. SHALL BE USED UNDERGROUND.
21. ALL CONDUITS SHALL HAVE A SEPARATE GREEN GROUND CONDUCTOR INSTALLED FOR GROUNDING, WHETHER OR NOT INDICATED ON THE PLANS.
22. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING EQUIPMENT: CONDUIT, WIRE, CIRCUIT BREAKERS, LIGHT POLES/FIXTURES, PULL BOXES, GROUNDING, PANELS, POWER PEDESTALS.
23. CONTRACTOR SHALL PROVIDE AS–BUILT RECORD DRAWINGS TO THE OWNER AS PER FBC 13–413.1.ABC.2.17, WITHIN 30 DAYS AFTER SYSTEM ACCEPTANCE.
24. CONTRACTOR SHALL PROVIDE (3) THREE SETS OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT OWNER AS PER FBC 13–413.1.ABC.2.2.
25. CONTRACTOR SHALL RUN A MANDREL IN ALL CONDUIT PRIOR TO PULLING NEW WIRE.



RISER #1 KEYED NOTES

1. EXISTING CIRCUIT, CONDUIT AND CONDUCTORS FOR EXISTING LIGHT POLES. REPLACE CONDUIT AND CONDUCTORS DURING SEAWALL REPAIR PHASE WITH SAME SIZES.
2. EXISTING CIRCUIT, CONDUIT AND CONDUCTORS FOR EXISTING POWER PEDESTALS. REPLACE CONDUIT AND CONDUCTORS FOR POWER, CABLE AND TELEPHONE SERVICE DURING SEAWALL REPAIR PHASE WITH SAME SIZES.
3. EXISTING J–BOXES. PROVIDE NEW ONES SAME SIZE FOR REINSTALLATION OF PEDESTALS.
4. EXISTING POWER PEDESTALS TO BE REINSTALLED AFTER COMPLETION OF SEAWALL RETROFIT.
5. EXISTING LIGHT POLES TO BE REINSTALLED AFTER COMPLETION OF SEAWALL RETROFIT.

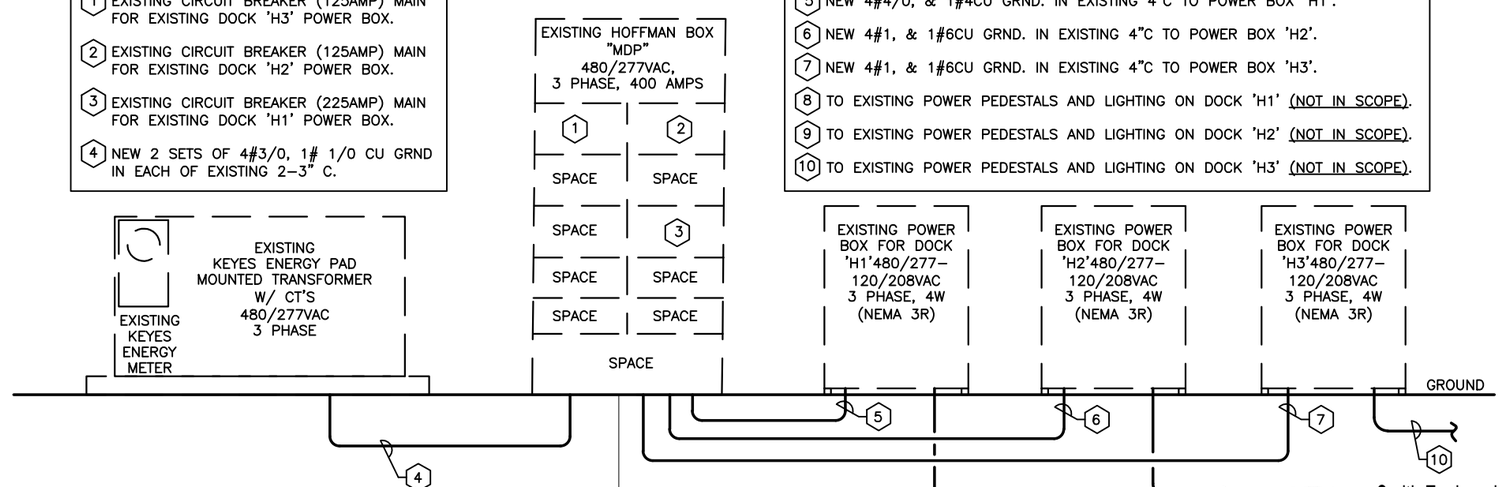
RISER #1 DOCK LIGHTING AND PEDESTAL PANEL SERVICE ALONG MAIN DOCK FEEDING DOCKS 'H1', 'H2' & 'H3' SERVICE POINT RISER DIAGRAM (EXISTING)

RISER #2 KEYED NOTES

1. EXISTING CIRCUIT BREAKER (125AMP) MAIN FOR EXISTING DOCK 'H3' POWER BOX.
2. EXISTING CIRCUIT BREAKER (125AMP) MAIN FOR EXISTING DOCK 'H2' POWER BOX.
3. EXISTING CIRCUIT BREAKER (225AMP) MAIN FOR EXISTING DOCK 'H1' POWER BOX.
4. NEW 2 SETS OF 4#3/0, 1# 1/0 CU GRND IN EACH OF EXISTING 2–3" C.

RISER #2 KEYED NOTES (CONT.)

5. NEW 4#4/0, & 1#4CU GRND. IN EXISTING 4"C TO POWER BOX 'H1'.
6. NEW 4#1, & 1#6CU GRND. IN EXISTING 4"C TO POWER BOX 'H2'.
7. NEW 4#1, & 1#6CU GRND. IN EXISTING 4"C TO POWER BOX 'H3'.
8. TO EXISTING POWER PEDESTALS AND LIGHTING ON DOCK 'H1' (NOT IN SCOPE).
9. TO EXISTING POWER PEDESTALS AND LIGHTING ON DOCK 'H2' (NOT IN SCOPE).
10. TO EXISTING POWER PEDESTALS AND LIGHTING ON DOCK 'H3' (NOT IN SCOPE).



SERVICE LOAD CALCULATIONS:

THERE ARE NO CHANGES TO THE EXISTING LOADS IN THE SCOPE OF THIS PROJECT. NO NEW LOADS ARE BEING ADDED AND THEREFORE ALL SERVICES WILL REMAIN UNCHANGED.

RISER #2 DOCKS 'H1','H2' & 'H3' SERVICE POINT RISER DIAGRAM (EXISTING)

Sunshine811 Know what's below. Call before you dig.

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PRELIMINARY NOT FOR CONSTRUCTION

SEAL OF THE CITY OF KEY WEST, FLORIDA

LARRY M. SMITH
Florida PE No. 45997

Mark	Description	Date	Appr.

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Drawn By: FR
Checked By: LMS
Date: 2/26/2019
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TETRA TECH INC.
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CERTIFICATE OF AUTHORIZATION NO. 2429

KEY WEST HISTORIC SEAPORT
SEAWALL REPAIR AND REPLACEMENT
ELECTRICAL SPECS AND RISER DIAGRAMS
KEY WEST, MONROE COUNTY, FLORIDA

Sheet Reference:
E-104
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