

CITY OF KEY WEST KEY WEST, FL

BULKHEAD 497 REPAIRS CONTRACT NO. TBD

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E-501	18 OF 18	10005814	ELECTRICAL AND TELECOMMUNICATIONS DETAILS

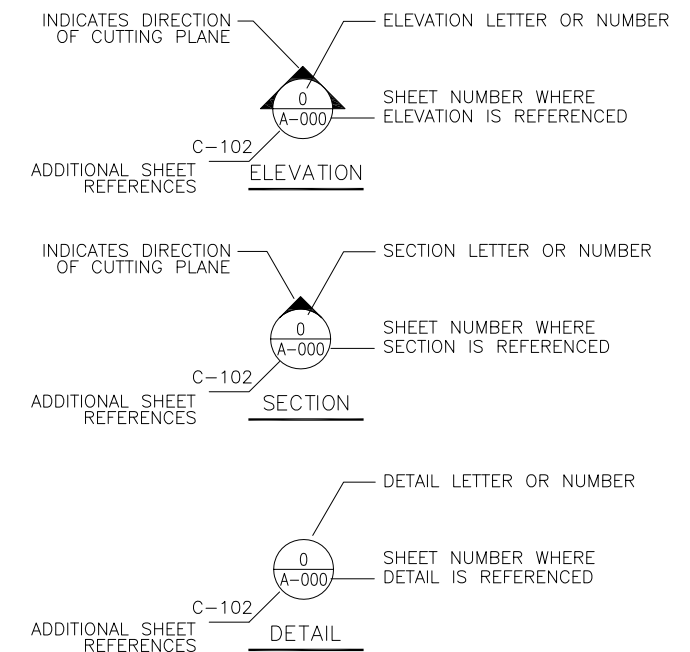
REFERENCE DRAWINGS

TRUMAN HARBOR REPAIRS BY URS GROUP, INC. DATED 3/05

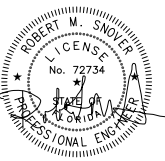
LEGEND

ALUM	ALUMINUM	ALUM	ALUMINUM
APPROX	APPROXIMATELY	APPROX	APPROXIMATELY
CF	CENTERLINE	CF	CENTERLINE
CONT.	CUBIC FEET	CONT.	CUBIC FEET
CY	CONTINUOUS	CY	CUBIC YARDS
DIA	CUBIC YARDS	DIA	DIAMETER
EQ.	DIAMETER	EQ.	EQUAL
GALV.	EQUAL	GALV.	GALVANIZED
HDG	GALVANIZED	HDG	HOT DIPPED GALVANIZED
LF	HOT DIPPED GALVANIZED	LF	LINEAR FEET
LOW	LINEAR FEET	LOW	LIMITS OF WORK
MAX	LIMITS OF WORK	MAX	MAXIMUM
MIN	MAXIMUM	MIN	MINIMUM
MISC	MINIMUM	MISC	MISCELLANEOUS
P	MISCELLANEOUS	P	PLATE
QTY	PLATE	QTY	QUANTITY
SP.	QUANTITY	SP.	SPACED
SSP	SPACED	SSP	STEEL SHEET PILE
TN	STEEL SHEET PILE	TN	TON
TBD	TON	TBD	TO BE DETERMINED
TYP	TO BE DETERMINED	TYP	TYPICAL

ELEVATION, SECTION OR DETAIL SYMBOLS



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A/E FROM Appledore Marine Engineering Inc.
NAME AND TITLE: Robert M. Smet, No. 72734
ADDRESS: Portsmouth, New Hampshire 03801
DSOR: JS/JG DRN: SNB CHK: RAG
SUBP:
PRMGR: CIV. STR.
MECH: ARCH.
ELEC:
SUBMITTED BY:
(SIGNED) PRES. 12/23/2011
(TITLE) (DATE) A/E INFO

APPROVED:
FOR COMMANDER NAVFAC / B.L.T.L.
ACTIVITY:
SATISFACTORY TO DATE:
DES - DRW - CHK -
PROJECT MANAGER:
PT TECH. BRANCH HEAD:
CHIEF ENG/ARCH (CORE):

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
OCEAN CONSTRUCTION DIVISION
NAVAL AIR STATION
KEY WEST, FLORIDA
BULKHEAD 497 REPAIRS
TITLE SHEET

SCALE: SCALE
PROJECT NO.:
CONSTR. CONTR. NO.: N62473-06-D-3004
NAVFAC DRAWING NO.: 10005478
SHEET 1 OF 18
G-001
DRAWFORM REVISION: 7 AUGUST 2009

FILE NAME: C:\302422 - USN Key West Central Mole Pier Const\US Supporting Documents\Drawings\G-001.dwg LAYOUT NAME: G-001 PLOTTED: Wednesday, January 04, 2012 - 8:27am USER: tsullivan

FILE NAME: O:\502422 - USN Key West Central Mole Pier Corral\05_Supporting Documents\Drawings\G-002.dwg LAYOUT NAME: G-002 PLOTTED: Thursday, December 22, 2011 - 11:37am USER: baullivan

DESIGN CRITERIA:

- THE BULKHEAD DESIGN IS BASED ON THE FOLLOWING:
- A. 600 PSF UNIFORMLY DISTRIBUTED LIVE LOAD
- B. AASHTO HS-20 VEHICULAR LOADING

GENERAL:

1. THE CONTRACTOR IS ADVISED THAT THE SPECIFICATIONS FORM A PART OF THE CONTRACT DOCUMENTS AND ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL KEEP A COPY OF THE DRAWINGS AND THE SPECIFICATIONS ON SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
2. ELEVATIONS ARE IN FEET BASED ON MEAN LOWER LOW WATER (MLLW) PROJECT DATUM FOR THE 1983-2001 TIDAL EPOCH.
3. ALL NORTH ARROWS SHOWN ARE GRID NORTH BASED ON FLORIDA EAST ZONE, NAD83.
4. DIMENSIONS AND DETAILS OF THE EXISTING ELEMENTS ARE BASED ON ARCHIVE DRAWINGS FURNISHED BY THE GOVERNMENT. WORK RELATED DIMENSIONS AND DETAILS OF THE EXISTING ELEMENTS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER AND OR ADJUSTED BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE WORK.
5. THE EXACT SIZE AND LOCATION OF ALL EXISTING UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION. ALL CONSTRUCTION SHALL BE COORDINATED WITH THE CONTRACTING OFFICER.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES. THE CONTRACTOR IS RESPONSIBLE TO ERECT, MAINTAIN AND REMOVE TEMPORARY ERECTION MATERIALS AND EQUIPMENT. ALL PROPOSED STAGING AREAS SHALL BE COORDINATED WITH THE CONTRACTING OFFICER BEFORE STARTING THE WORK.
7. CONTRACTOR SHALL MAINTAIN ADEQUATE SURVEY CONTROL AT ALL TIMES TO ESTABLISH AND MAINTAIN ALL LINES AND ELEVATIONS.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DONE TO STRUCTURES AND VESSELS OR INJURIES TO THE PUBLIC AS A RESULT OF PERFORMING THE WORK.
9. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT NOT BE LIMITED TO EROSION, TURBIDITY AND DUST.
10. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS, INCLUDING THE FEDERAL DEPARTMENT OF LABOR, SAFETY, HEALTH ACT, U.S. ARMY CORPS OF ENGINEERS, STATE/LOCAL WETLANDS CONTROL, AND PERMITS.
11. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL WORK, INCLUDING ALLOWABLE WORK WINDOWS, WITH FACILITY PERSONNEL, AND SHALL MAINTAIN THE WORK SITE TO THE SATISFACTION OF THE CONTRACTING OFFICER.
12. STORAGE, FUELING AND LUBRICATION OF EQUIPMENT AND MOTOR VEHICLES SHALL BE CONDUCTED IN A MANNER THAT AFFORDS THE MAXIMUM PROTECTION AGAINST SPILL AND EVAPORATION. FUEL, LUBRICANTS AND OIL SHALL BE MANAGED AND STORED IN ACCORDANCE WITH ALL FEDERAL, STATE, REGIONAL, AND LOCAL LAWS AND REGULATIONS. THERE SHALL BE NO STORAGE OF FUEL ON THE PROJECT SITE. FUEL MUST BE BROUGHT TO THE PROJECT SITE AS NEEDED. EQUIPMENT OPERATION, ACTIVITIES, OR PROCESSES PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ALL FEDERAL AND STATE AIR EMISSION AND PERFORMANCE LAWS AND STANDARDS.
13. CONTRACTOR SHALL MAINTAIN TRAFFIC ALONG ROADWAYS AND GATES AT ALL TIMES AND PROVIDE NECESSARY TRAFFIC CONTROL SIGNS AND BARRICADES WHEN WORKING WITHIN ROADWAYS.
14. THE USE OF EXPLOSIVES OR BLASTING SHALL NOT BE PERMITTED.
15. SILT BARRIERS SHALL BE PROVIDED AROUND ALL DEMOLITION OPERATIONS TAKING PLACE IN THE WATER AS NECESSARY TO MEET AND MAINTAIN STATE WATER QUALITY STANDARDS. WHERE DEMOLITION OPERATIONS ON SHORE WILL RESULT IN SURFACE RUNOFF OR HAZARDOUS SUBSTANCES ENTERING A BODY OF WATER. SILT BARRIERS SHALL BE PROVIDED TO ENCLOSE THE POINT OF ENTRY INTO THE BODY OF WATER TO PREVENT THE CONTAMINANTS FROM DISPERSING.
16. ALL ITEMS INDICATED TO BE DEMOLISHED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM GOVERNMENT PROPERTY, UNLESS OTHERWISE NOTED.
17. THE CONTRACTOR SHALL MAINTAIN AN ACCESS ROUTE FOR VEHICLES TO THE OUTER MOLE AT ALL TIMES.
18. EXITING MANHOLES WITHIN PROJECT AREA ARE LIKELY FILLED WITH WATER AND SHALL BE PUMPED DRY BY THE CONTRACTOR PRIOR TO UTILITY WORK.

SURVEY:

1. UTILITIES SHOWN ARE APPROXIMATE. CONSULT WITH THE PROPER AUTHORITIES FOR LOCATION AND INFORMATION. CONTRACTOR SHALL ASSUME THAT ACTIVE AND ABANDONED UTILITIES, ADDITIONAL TO THOSE SHOWN IN THE DRAWINGS, EXIST AND SHALL BE SUPPORTED OR CUT AND CAPPED AT THE DIRECTION OF THE CONTRACTING OFFICER.

DEMOLITION:

1. THE CONTRACTOR SHALL PROVIDE CONTROL MEASURES AS REQUIRED BY ENVIRONMENTAL REGULATIONS AND AS REQUIRED TO PREVENT DEBRIS FROM ENTERING THE WATER. UNDERWATER INSPECTIONS MAY BE CONDUCTED BY THE GOVERNMENT TO ENSURE THE CONTRACTOR HAS REMOVED ALL DEMOLITION AND CONSTRUCTION DEBRIS FROM THE WATER.
2. PREVENT THE SPREAD OF DUST AND DEBRIS AND AVOID THE CREATION OF A NUISANCE OR HAZARD IN THE SURROUNDING AREA. DO NOT USE WATER IF IT RESULTS IN HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS, BUT NOT LIMITED TO, FLOODING OR POLLUTION.
3. WHERE PEDESTRIAN AND DRIVER SAFETY IS ENDANGERED IN THE AREA OF REMOVAL WORK, USE TRAFFIC BARRICADES WITH FLASHING LIGHTS. ANCHOR BARRICADES IN A MANNER TO PREVENT DISPLACEMENT BY WIND. NOTIFY FACILITY PERSONNEL PRIOR TO BEGINNING SUCH WORK.
4. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE FACILITY EACH DAY BEFORE WELDING OR TORCH CUTTING WORK IS PERFORMED.
5. ALL MATERIAL REMOVED AND NOT REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED DAILY FROM THE GOVERNMENT'S PROPERTY OR PROPERLY STORED IN AN APPROVED LOCATION ON SITE. REMOVED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.
6. CONTRACTOR SHALL PROTECT EXISTING UTILITIES AND WORK WHICH ARE TO REMAIN IN PLACE, BE REUSED, OR REMAIN THE PROPERTY OF THE GOVERNMENT.
7. CONTRACTOR SHALL NOT OBSTRUCT ACCESS TO NAVY VESSELS/CRUISE SHIPS AND BUILDINGS DURING PERFORMANCE OF THE WORK.
8. WHERE REMOVALS LEAVE HOLES AND DAMAGED SURFACES EXPOSED IN THE FINISHED WORK, PATCH AND REPAIR THESE HOLES AND DAMAGED SURFACES TO MATCH ADJACENT FINISHED SURFACES. FINISHED SURFACES OF PATCHED AREA SHALL BE FLUSH WITH ADJACENT EXISTING SURFACE AND SHALL MATCH THE EXISTING ADJACENT SURFACE AS CLOSELY AS POSSIBLE AS TO TEXTURE AND FINISH. APPLY PATCHING MATERIAL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
9. REMOVE MARINE GROWTH AND OTHER BOND INHIBITING SUBSTANCES FROM ALL SURFACES IN CONTACT WITH REPAIR WORK USING HIGH PRESSURE WATER SPRAY OR OTHER APPROVED METHODS.

STEEL:

1. ALL STRUCTURAL STEEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) STEEL CONSTRUCTION MANUAL.
2. ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE ASTM A36 OR A-572, UNLESS OTHERWISE NOTED.
3. BOLTS SHALL CONFORM TO ASTM A-307 LATEST EDITION. NUTS SHALL CONFORM TO ASTM A-572, LATEST EDITION.
4. ALL WELDING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE, D1.1 AND D3.6 OF THE AWS. ELECTRODES SHALL BE E70XX LOW HYDROGEN IN ACCORDANCE WITH AWS SPECIFICATIONS.
5. ALL EXISTING STEEL SHEET PILING TO BE CONCRETE ENCAPSULATED AND STEEL SHEET PILING TO RECEIVE WELDING SHALL BE CLEANED TO REMOVE ALL LOOSE SCALE, RUST AND MARINE GROWTH DOWN TO BARE METAL.

TIDAL DATUMS

ESTIMATED 100-YEAR FLOOD ELEVATION (STILLWATER)	8.4'
HIGHEST OBSERVED WATER LEVEL (9/8/1965)	3.7'
MEAN HIGHER HIGH WATER (MHHW)	1.8'
NORTH AMERICAN VERTICAL DATUM - 1988 (NAVD)	1.8'
MEAN HIGH WATER (MHW)	1.5'
MEAN LOW WATER (MLW)	0.2'
MEAN LOWER LOW WATER (MLLW)	0.0'
LOWEST OBSERVED WATER LEVEL (2/19/1928)	-1.7'

REFERENCE:
NOAA/NOS STATION #8724580 KEY WEST, FLORIDA (1983-2001 TIDAL EPOCH)

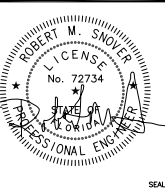
CONCRETE:

1. ALL CONCRETE CONSTRUCTION AND DETAILING SHALL CONFORM TO SECTION 03 31 29 MARINE CONCRETE.
2. MATERIALS SHALL CONFORM TO THE FOLLOWING:
28 DAY COMPRESSION STRENGTH OF 5,000 PSI
MAXIMUM WATER TO CEMENT RATIO OF 0.40
28 DAY PERMEABILITY VALUE OF BELOW 2,000 COULOMBS
3. EXPOSED CONCRETE EDGES SHALL HAVE A 1" CHAMFER.
4. CONCRETE SHALL BE MOIST CURED FOR A PERIOD OF 7 DAYS. CURING SHALL BEGIN IMMEDIATELY AFTER FINISHING.
5. REINFORCING STEEL SHALL BE EPOXY COATED AND CONFORM TO ASTM A615, GRADE 60 IN ACCORDANCE WITH THE SPECIFICATIONS.
6. MAINTAIN 3" OF CLEAR COVER TO ALL REINFORCING STEEL, UNLESS OTHERWISE NOTED.
7. ALL REINFORCING SHALL BE FULLY SUPPORTED ON APPROVED PLASTIC CHAIRS AND BARS.
8. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS. LAPS AND SPLICES SHALL BE CLASS A IN ACCORDANCE WITH ACI 318-08.
9. CONTRACTOR SHALL SUBMIT DETAILED REINFORCING DRAWINGS INCLUDING BAR AND BENDING SCHEDULES TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL PRIOR TO DELIVERY OF ANY REINFORCING STEEL.
10. WHERE "DRILL AND GROUT" IS CALLED FOR IN THE DRAWING SET, GROUT SHALL CONFORM TO THOSE LISTED ON THE FLORIDA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST FOR FAST SETTING GROUT FOR ANCHOR BOLTS OR APPROVED EQUIVALENT.
11. CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THE DRAWINGS MAY BE PROVIDED WITH WRITTEN APPROVAL FROM THE CONTRACTING OFFICER.
12. DETAILS OF CONCRETE NOT SHOWN SHALL CONFORM TO ACI 318-08.

STEEL SHEET PILES

1. ALL STEEL SHEET PILING SHALL CONFORM TO ASTM A572,
2. UNLESS OTHERWISE NOTED, ANY SUBSTITUTION OF STRUCTURAL SHAPES SHALL BE SUBMITTED FOR REVIEW AND ACCEPTANCE BY THE CONTRACTING OFFICER IN WRITING PRIOR TO USE.
3. THE CONTRACTOR SHALL PROVIDE DETAILS OF PILE DRIVING EQUIPMENT. THE DRIVING EQUIPMENT AND METHOD SHALL BE APPROVED BY THE CONTRACTING OFFICER. NO JETTING WILL BE PERMITTED, EXCEPT AS MAY BE NEEDED TO REMOVE OBSTRUCTIONS. JETTING SHALL BE APPROVED BY THE CONTRACTING OFFICER.
4. ALL SHEET PILES SHALL BE MARKED AT A GIVEN DISTANCE FROM THE BOTTOM, WHICH WILL SHOW ABOVE THE WATERLINE AFTER DRIVING, SO THAT THE BOTTOM ELEVATION OF EACH SHEET AND ITS RELATION WITH ADJACENT SHEETS CAN BE RECORDED.
5. SHEET PILES SPLICES SHALL NOT BE PERMITTED WITHOUT SPECIAL AUTHORIZATION FROM THE CONTRACTING OFFICER.
6. DO NOT DRIVE SHEETING WITHIN 50 FEET OF CONCRETE LESS THAN 72 HOURS OLD.
7. CUT OFF PORTIONS OF SHEET PILES SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
8. DRIVE SHEET PILES TO THE MINIMUM ELEVATIONS AS SHOWN ON THE DRAWINGS OR REFUSAL AT THE APPROVAL OF THE CONTRACTING OFFICER.
9. SHEET PILES SHALL BE DRIVEN PLUMB AND TRUE TO LINE. PILINGS SHALL BE PLACED PLUMB WITH OUT-OF-PLUMBNESS NOT EXCEEDING 1/4" PER FOOT OF LENGTH AND TRUE TO LINE. TOP OF PILE AT ELEVATION OF CUT-OFF SHALL BE WITHIN 1/2" HORIZONTALLY AND 1" VERTICALLY OF THE LOCATION INDICATED.
10. SQUARE CUT THE TOPS OF SHEET PILES AT THE ELEVATION SHOWN ON THE DRAWING.
11. SHEET PILES WHICH ARE DAMAGED, MISLOCATED, OR DRIVEN OUT OF VERTICAL ALIGNMENT SHALL BE WITHDRAWN AND REPLACED BY NEW PILES AT NO ADDITIONAL COST TO THE GOVERNMENT.
12. SHEET PILES SHALL BE DRIVEN WITHIN APPROVED FALSE WORK OR APPROVED TEMPLATES.
13. STEEL SHEET PILES SHALL BE COATED ON BOTH SIDES WITH A COAL TAR EPOXY POLYAMIDE WITH A MINIMUM DRY FILM THICKNESS OF 16 MILS IN ACCORDANCE WITH SPECIFICATION SECTION 09 97 13.26.

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A/E FIRM Appledore Marine Engineering Inc.	
NAME AND ADDRESS 600 State Street, Suite F Portsmouth, New Hampshire 03801	
DESIGN: JG/SG	DRW: SJB
CHK: RWS	
SUPV: _____	
FRMGR: _____	
MECH: _____	
ELEC: _____	
SUBMITTED BY: _____	
(SIGNED)	(TITLE)
PRES. 12/23/2011 (DATE)	
A/E INFO	

APPROVED

FOR COMMANDER NAVFAC / B.L.T.L.

ACTIVITY			
SATISFACTORY TO DATE			
DES	DRW	CHK	
PROJECT MANAGER			
PT TECH. BRANCH HEAD			
CHIEF ENG/ARCH (CORE)			

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
OCEAN CONSTRUCTION DIVISION
NAVAL AIR STATION
KEY WEST, FLORIDA

BULKHEAD 497 REPAIRS

GENERAL NOTES

SCALE: SCALE

PROJECT NO.:
CONSTR. CONTR. NO. N62473-06-D-3004

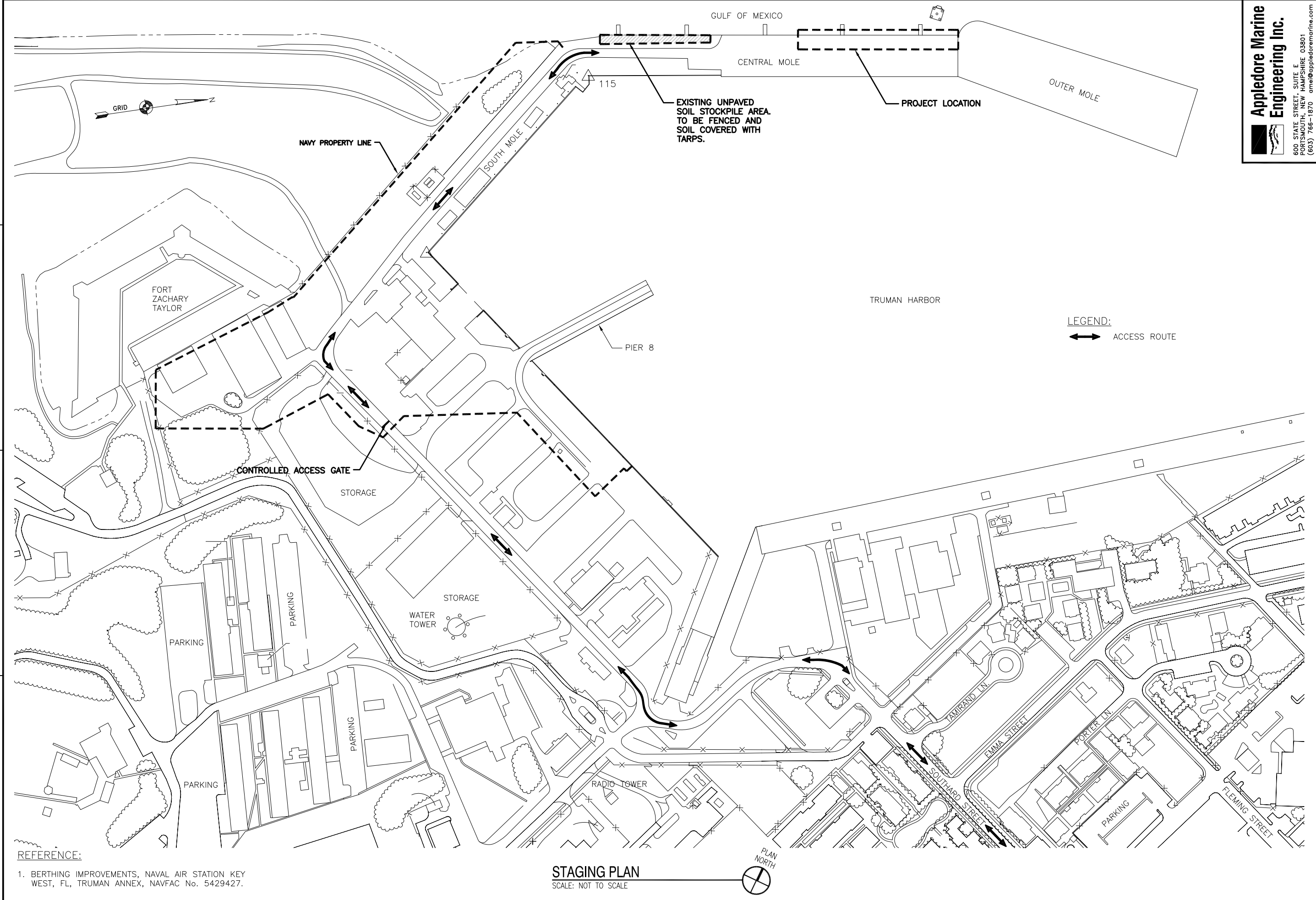
NAVFAC DRAWING NO. 10005479

SHEET 2 OF 18

G-002

DRAWING REVISION: 7 AUGUST 2009

FILE NAME: O:\502422 - USN Key West Central Mole Pier Coral\05 Supporting Documents\Drawings\G-101.dwg LAYOUT NAME: G-101 PLOTTED: Thursday, December 22, 2011 - 11:22am USER: bsullivan

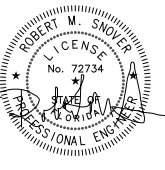
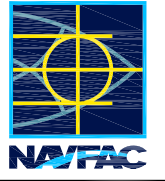


REFERENCE:
 1. BERTHING IMPROVEMENTS, NAVAL AIR STATION KEY WEST, FL, TRUMAN ANNEX, NAVFAC No. 5429427.

STAGING PLAN
 SCALE: NOT TO SCALE

Appledore Marine Engineering Inc.
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 (603) 766-1870 amei@appledoremarine.com

SYN	DESCRIPTION	DATE	APPR



A/E FIRM	Appledore Marine Engineering Inc.
NAME AND ADDRESS	600 State Street, Suite F, Portsmouth, New Hampshire 03801
DESIGN	US/CG
DRWING	SMB
CHK	RAJ
SUPV	
PRMGR	
MECH	
ELEC	
SUBMITTED BY:	
(SIGNED)	
(TITLE)	
(DATE)	12/23/2011
A/E INFO	

FOR COMMANDER NAVFAC / B.L.T.L.	
ACTIVITY	
SATISFACTORY TO DATE	
DES	
DRW	
CHK	
PROJECT MANAGER	
PT TECH. BRANCH HEAD	
CHIEF ENG/ARCH (CORE)	

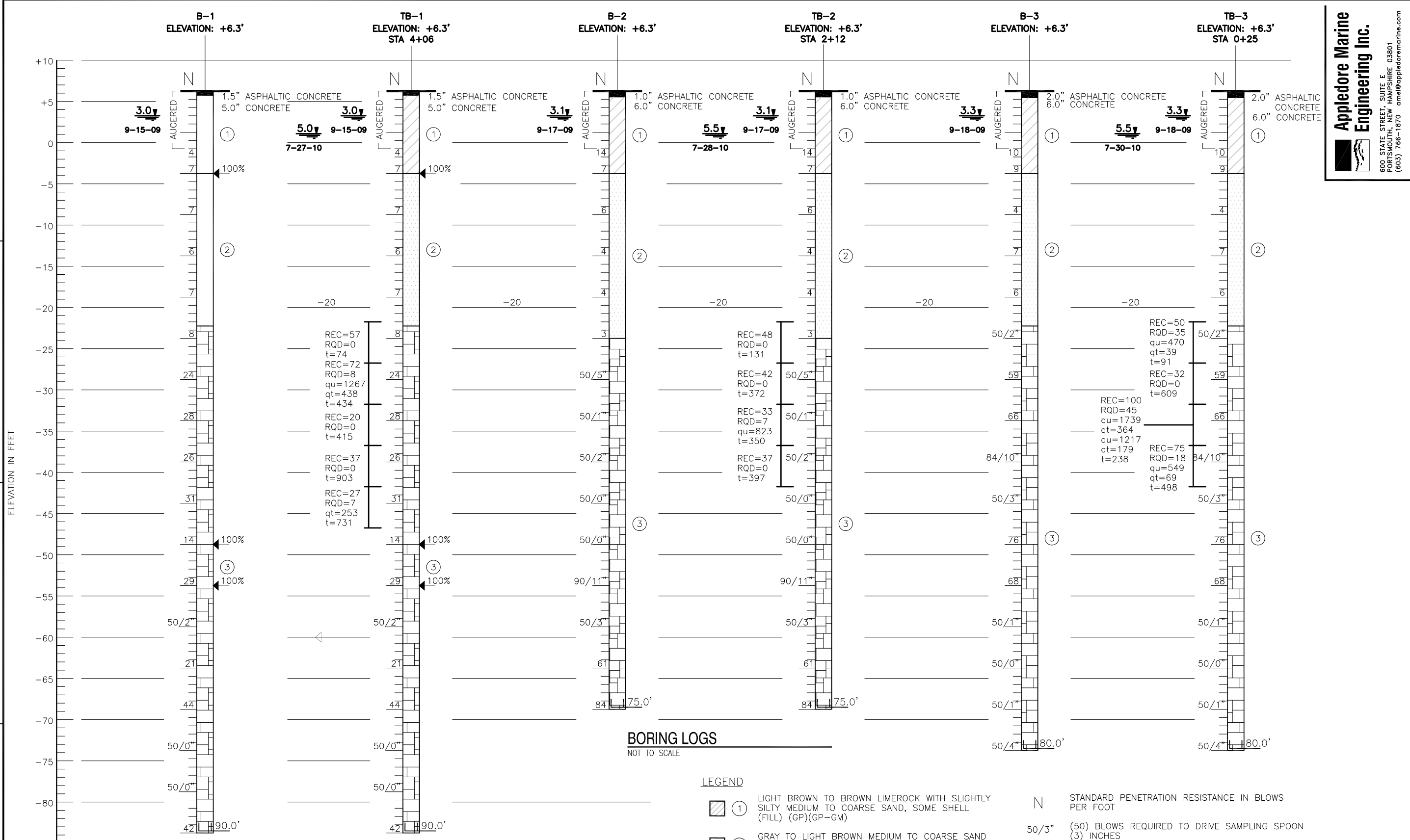
DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
 OCEAN CONSTRUCTION DIVISION
 NAVAL AIR STATION
 KEY WEST, FLORIDA

BULKHEAD 497 REPAIRS
 STAGING PLAN

SCALE: SCALE
 PROJECT NO.: N62473-06-D-3004
 CONSTR. CONTR. NO.: 10005480
 NAVFAC DRAWING NO.: 10005480
 SHEET 3 OF 18

G-101
 DRAWFORM REVISION: 7 AUGUST 2009

FILE NAME: O:\502422 - USN Key West Central Mole Pier Core\05 Supporting Documents\Drawings\B-001.dwg LAYOUT NAME: B-001 PLOTTED: Thursday, December 22, 2011 - 11:22am USER: baullion



BORING LOGS
NOT TO SCALE

NOTES:
 1. BORING ELEVATIONS WERE SCALED FROM DRAWINGS PROVIDED TO NODARSE AND ASSOCIATES, INC AND SHOULD BE CONSIDERED APPROXIMATE. ELEVATIONS ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM 1988. (NAVD).
 2. SEE SHEET C-101 FOR BORING LOCATIONS.
 3. FINAL REPORT OF GEOTECHNICAL ENGINEERING SERVICES BY NODARSE & ASSOCIATES, INC. DATED OCTOBER 6, 2010.

ROCK CORE INFORMATION:
 REC RECOVERY (%)
 RQD ROCK QUALITY DESIGNATION (%)
 qu UNCONFINED COMPRESSIVE STRENGTH (PSI)
 qt SPLIT TENSILE STRENGTH (PSI)
 t CORING TIME (SECONDS)

LEGEND

- ① LIGHT BROWN TO BROWN LIMEROCK WITH SLIGHTLY SILTY MEDIUM TO COARSE SAND, SOME SHELL (FILL) (GP)(GP-GM)
- ② GRAY TO LIGHT BROWN MEDIUM TO COARSE SAND WITH FEW TO SOME SHELL AND LIMESTONE FRAGMENTS (SP)
- ③ LIGHT BROWN LIMESTONE WITH SLIGHTLY SILTY FINE SAND
- (SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
- 3.3v DEPTH TO GROUNDWATER LEVEL IN FEET WITH DATE OF READING

- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3" (50) BLOWS REQUIRED TO DRIVE SAMPLING SPOON (3) INCHES
- 180.0' DEPTH TO WHICH NW CASING WAS DRIVEN IN FEET (NOTE: 3-INCH CASING)
- 100% CIRCULATION LOSS (%)

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DATE	APPR
DESCRIPTION	SYN
A/E FIRM Appledore Marine Engineering Inc. NAME AND ADDRESS 600 State Street, Suite E Portsmouth, New Hampshire 03801 DSON: JG/JG DRN: SSB CHK: RAG SUPV: _____ PRMGR: _____ CIV. STR. _____ MECH: _____ ARCH: _____ ELEC: _____ SUBMITTED BY: _____ (SIGNED) (TITLE) (DATE) 12/23/2011 APPROVED: _____ A/E INFO	
FOR COMMANDER NAVFAC / B.L.T.L. ACTIVITY:	
SATISFACTORY TO DATE DES - [] DRW - [] CHK - [] PROJECT MANAGER: _____ SPT TECH. BRANCH HEAD: _____ CHIEF ENGR/ARCH (CORE): _____	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST OCEAN CONSTRUCTION DIVISION KEY WEST, FLORIDA NAVAL AIR STATION BULKHEAD 497 REPAIRS BORING LOGS	
SCALE: SCALE PROJECT NO.: N62473-06-D-3004 CONSTR. CONTR. NO.: 10005481 NAVFAC DRAWING NO.: 10005481 SHEET 4 OF 18 B-001 DRAWFORM REVISION: 7 AUGUST 2009	

FILE NAME: O:\302422 - USN Key West Central Mole Pier Corral\05 Supporting Documents\Drawings\C-101.dwg LAYOUT NAME: C-101 PLOTTED: Thursday, December 22, 2011 - 11:23am USER: baullivan

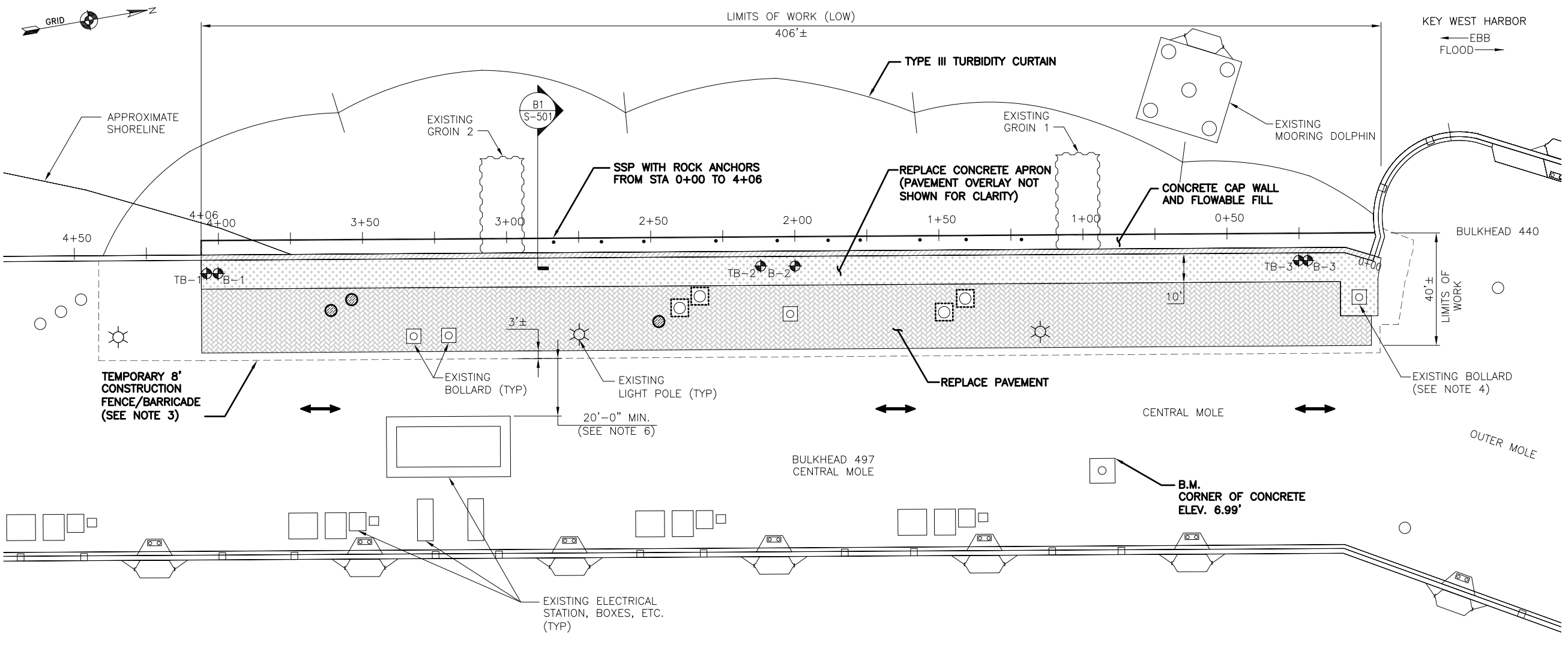
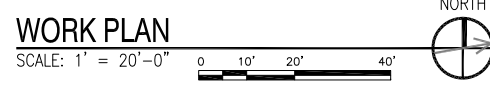


TABLE OF MATERIALS		
MATERIAL	*AMOUNT	UNIT
SSP	410	LF
SLAB CONCRETE	80	CY
BITUMINOUS PAVEMENT	285	TN
CAP WALL CONCRETE	550	CY
ROCK ANCHORS	31	EA
FLOWABLE FILL	750	CY

*NOTE: AMOUNTS INDICATED IN THE TABLE OF MATERIALS ABOVE IS INTENDED TO SHOW APPROXIMATE QUANTITIES AND SHOULD NOT BE USED BY THE CONTRACTOR FOR ESTIMATING PURPOSES.

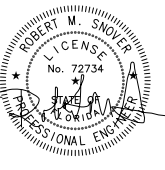
- LEGEND:**
- B-1 BORING LOCATIONS
 - PUBLIC ACCESS ROADWAY VEHICLE TRAVEL LANE
 - 6" CONC. SLAB WITH 2" BIT PAVEMENT OVERLAY
 - 4" BIT. PAVEMENT
 - EXISTING MANHOLE TO BE REPLACED
 - EXISTING 8" REMNANT FENDER PILE TO BE REMOVED, SEE NOTE 9
 - EXISTING UTILITY COVER TO BE CLEANED AND RECOATED (BITUMINOUS PAINT), SEE NOTE 8

- REFERENCE:**
- BERTHING IMPROVEMENTS, NAVAL AIR STATION KEY WEST, FL, TRUMAN ANNEX, NAVFAC No. 5115534.



- NOTES:**
- SEE SHEET B-001 FOR BORING LOGS.
 - CONTRACTOR SHALL ASSESS SUITABILITY OF WALL TO SUPPORT INTENDED CONSTRUCTION LOADS PRIOR TO CONSTRUCTION AND SAFEGUARD CONSTRUCTION OPERATIONS ACCORDINGLY.
 - THE CONTRACTOR SHALL ERECT AND MAINTAIN TEMPORARY CONSTRUCTION FENCING/BARRICADES ALONG THE WORK SITE TO CONTROL ACCESS BY UNAUTHORIZED PEOPLE AND TO SEPARATE WORK OPERATIONS FROM THE PUBLIC.
 - NAVY AND CRUISE SHIPS DOCK FREQUENTLY AT THE OUTER MOLE, WHICH REQUIRES THE USE OF THE NORTHERN MOST BOLLARD WITHIN THE LIMITS OF WORK. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OPERATIONS WITH THE CONTRACTING OFFICER AND LOCAL PORT OPERATIONS AND SCHEDULE CONSTRUCTION OPERATIONS SUCH THAT THIS BOLLARD IS AVAILABLE FOR USE AT ANY TIME BY AUTHORIZED PERSONNEL. THE DOCKING SCHEDULE WILL BE MADE AVAILABLE TO THE CONTRACTOR, BUT IS SUBJECT TO CHANGE.
 - CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH LOCAL PWD AND PORT OPERATIONS.
 - GOVERNMENT, CRUISE SHIPS, VENDORS, EMERGENCY AND SECURITY VEHICLES REQUIRE 24 HOUR ACCESS TO THE OUTER MOLE. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES A MINIMUM OF 20' TRAVEL LANE EXISTS BETWEEN THE WORK SITE AND ANY OBSTRUCTIONS ON THE CENTRAL MOLE TO ALLOW SAFE PASSAGE OF VEHICLES.
 - CONTRACTOR TO MINIMIZE POWER AND COMMUNICATION OUTAGES TO THE OUTER MOLE. COORDINATE WITH LOCAL PWD AND PORT OPERATIONS PRIOR TO OUTAGES.
 - SEE SHEETS C-102 AND C-301 FOR MAPPING OF ASSUMED UNDERGROUND UTILITIES BASED ON ARCHIVE DRAWINGS AND UNDERGROUND UTILITY LOCATION SERVICES PROVIDED BY CRAIG A. SMITH ASSOCIATES. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING AND MAINTAINING ALL ACTIVE UTILITIES, INCLUDING, BUT NOT LIMITED TO: ELECTRICAL, TELECOMMUNICATIONS, SANITARY SEWER, AND POTABLE WATER LINES THROUGHOUT THE DURATION OF CONSTRUCTION. CONTRACTOR SHALL ASSUME THAT ADDITIONAL ABANDONED AND ACTIVE UTILITIES EXIST IN THE WORK AREA THAT ARE NOT SHOWN. ABANDONED UTILITIES SHALL BE CUT AND CAPPED AS REQUIRED.
 - REMNANT TIMBER FENDER PILES ARE LOCATED AT THE MUDLINE AND EXTEND UP APPROXIMATELY 4 FEET. FENDER PILES SHALL BE REMOVED IN THEIR ENTIRETY.
 - SEE SHEET E-101 FOR ADDITIONAL ELECTRICAL AND TELECOMMUNICATION WORK PLAN.

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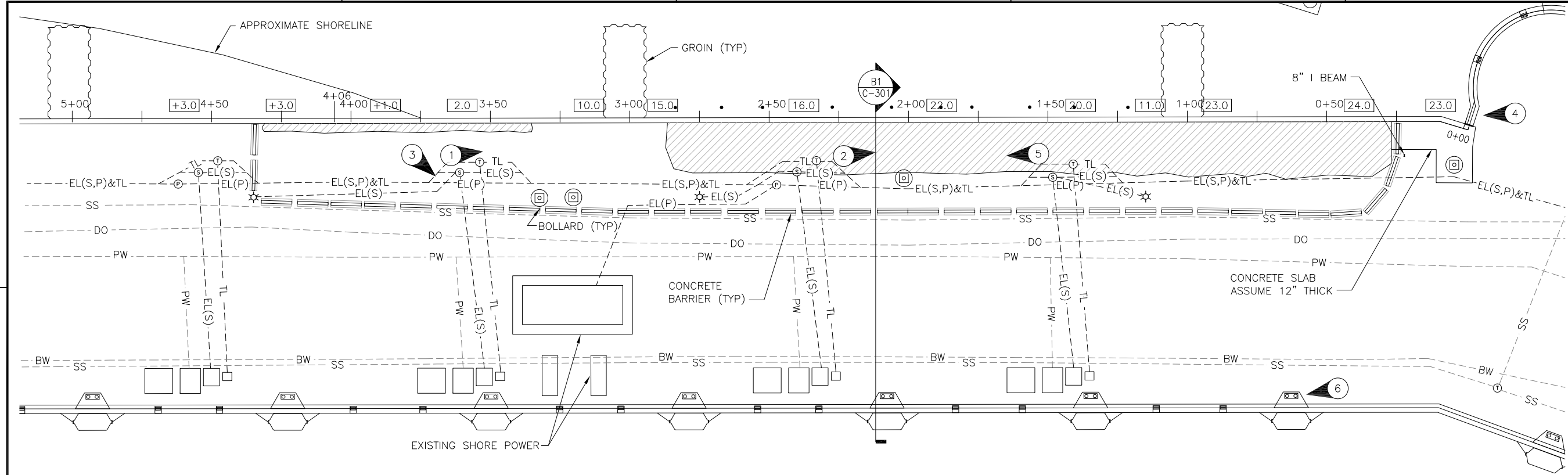
A/E FIRM	Appledore Marine Engineering Inc.
NAME AND ADDRESS	600 State Street, Suite F Portsmouth, New Hampshire 03801
DSOR	US/CG
DRWN	SMB
CHK	RMG
SUPV	
PRMGR	CVL STR
MECH	ARCH
ELEC	
SUBMITTED BY:	
(SIGNED)	PRES. 12/23/2011
(TITLE)	(DATE)
A/E INFO	

FOR COMMANDER NAVFAC / B.L.T.L.		
ACTIVITY		
SATISFACTORY TO DATE		
DES	DRW	CHK
PROJECT MANAGER		
PT TECH. BRANCH HEAD		
CHIEF ENG/ARCH (CORE)		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
OCEAN CONSTRUCTION DIVISION
NAVAL AIR STATION
KEY WEST, FLORIDA
BULKHEAD 497 REPAIRS
WORK PLAN

SCALE:	SCALE
PROJECT NO.:	
CONSTR. CONTR. NO.:	N62473-06-D-3004
NAVFAC DRAWING NO.:	10005482
SHEET	5 OF 18
C-101	
DRAWFORM REVISION: 7 AUGUST 2009	

FILE NAME: O:\502422 - USN Key West Central Mole Pier Coral\05 Supporting Documents\Drawings\C-102.dwg LAYOUT NAME: C-102 PLOTTED: Thursday, December 22, 2011 - 11:23am USER: baullivan



BULKHEAD 497 PARTIAL PLAN
SCALE: 1" = 20'-0"

- LEGEND:**
- 0+00 STATION DESIGNATION
 - ☆ EXISTING LIGHT POLE
 - EXISTING MANHOLE COVER
 - ▨ APPROXIMATE EXTENT OF SINKHOLE
 - BOLLARD
 - 0.00 SOUNDINGS IN FEET BELOW MLLW
 - ① PHOTOGRAPH NUMBER (ARROW INDICATES DIRECTION) (SEE SHEET C-901)
 - EXISTING 8" REMNANT FENDER PILE
 - EXISTING 8" BEAM
 - PW-- EXISTING POTABLE WATER
 - EL(P)-- EXISTING ELECTRICAL (PRIMARY)
 - EL(S)-- EXISTING ELECTRICAL (SECONDARY)
 - TL-- EXISTING TELECOMMUNICATIONS
 - SS-- EXISTING SANITARY SEWER
 - DO-- EXISTING DIESEL OIL
 - BW-- EXISTING BILGE OIL
 - ⊙ EXISTING TELECOMMUNICATIONS MANHOLE
 - ⊕ EXISTING ELECTRICAL MANHOLE (SECONDARY)
 - ⊖ EXISTING ELECTRICAL MANHOLE (PRIMARY)

BULKHEAD WALL HORIZONTAL DISPLACEMENT

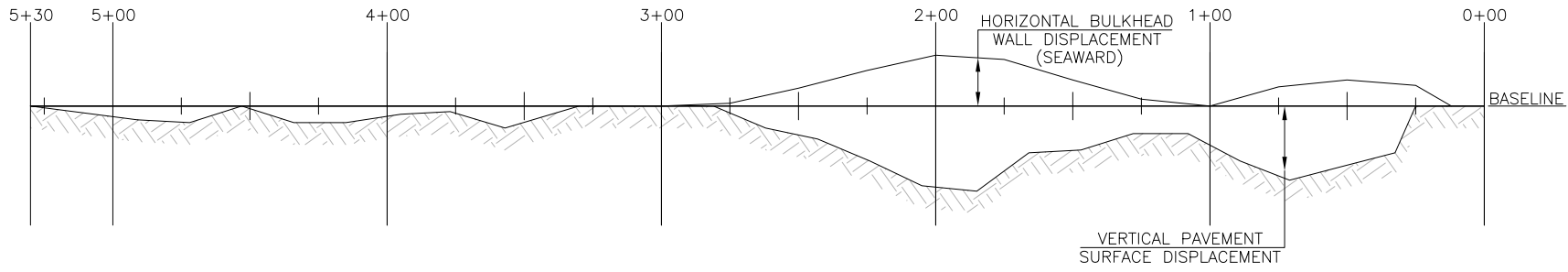
STATION (FT)	HORIZONTAL DISPLACEMENT SEAWARD (IN)
0+12	0
0+25	1.88
0+50	2.38
0+75	1.75
1+00 (GROIN)	0
1+25	0.63
1+50	2.38
1+75	4.25
2+00	4.63
2+25	3.25
2+50	1.63
2+75	0.25
3+00 (GROIN)	0
3+25 TO 4+06	0

PAVEMENT SURFACE VERTICAL DISPLACEMENT

STA (FT)	SUBSIDIENCE BELOW SCUPPER (IN)
0+00	0
0+25	0
0+32.5	2.25
0+52	5.5
0+71	6.75
0+89	5.00
1+08	2.5
1+28	2.5
1+47	4.00
1+66	4.25
1+85	7.75
2+05	7.75
2+24	5.00
2+43	3.00
2+62	2.00
2+81	0
3+00	0
3+19	0
3+30	0
3+57	2.00
3+77	0.50
3+95	0.75
4+15	1.50
4+34	1.50
4+53	0
4+72	1.50
4.91	1.25
5+10	0
5+30	0

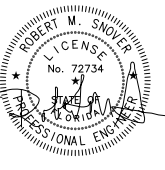
- NOTES:**
- EXISTING CONDITIONS BASED ON NAVFAC DWG NO. 5115585, 5115534, 5429451, 5429471, 5429488, 5429490, 5429506.
 - UTILITY LOCATIONS ARE APPROXIMATE.
 - DISPLACEMENTS WERE MEASURED IN OCTOBER 2011.

- REFERENCES:**
- ISLAND SURVEYORS INC., TOPOGRAPHICAL SURVEY, 09/09.
 - CRAIG A. SMITH & ASSOCIATES, GROUND PENETRATION RADAR AND MAGNETOMETER SERVICES, 10/11.



BULKHEAD WALL AND PAVEMENT DISPLACEMENT
NO SCALE. SEE TABLES FOR BASELINE MEASUREMENTS

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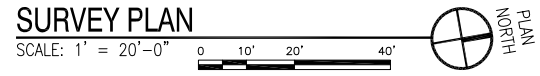
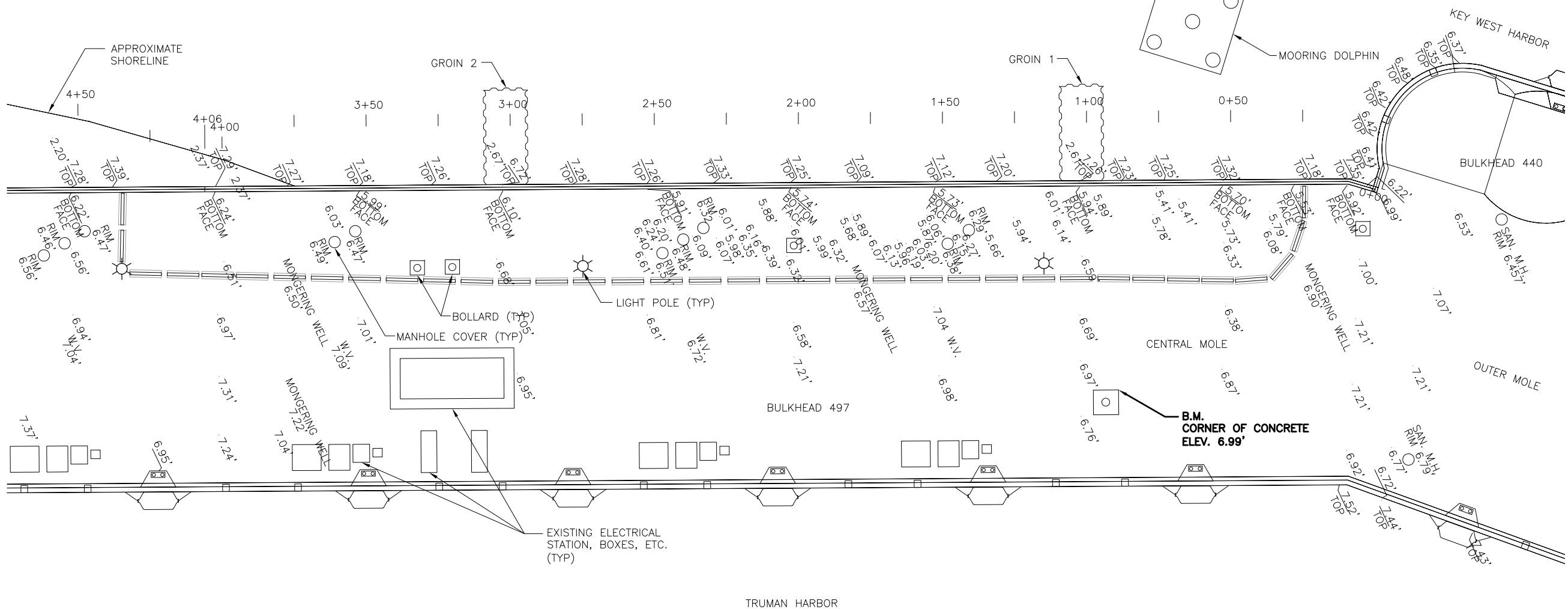
A/E FIRM Appledore Marine Engineering Inc.
NAME AND ADDRESS 600 State Street, Suite F
Portsmouth, New Hampshire 03801
DSOR: JG/GG DRINN: SNB CHK: RAG
SUBMITTED BY: [Signature]
PRES. 12/23/2011
(SIGNED) (TITLE) (DATE)

FOR COMMANDER NAVFAC / B.L.T.L.
ACTIVITY
SATISFACTORY TO DATE
DES - DRAW - CHK -
PROJECT MANAGER
PT TECH. BRANCH HEAD
CHIEF ENG/ARCH (CORE)

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
OCEAN CONSTRUCTION DIVISION
NAVAL AIR STATION
KEY WEST, FLORIDA
BULKHEAD 497 REPAIRS
EXISTING CONDITIONS PLAN

SCALE: SCALE
PROJECT NO.:
CONSTR. CONTR. NO. N62473-06-D-3004
NAVFAC DRAWING NO. 10005483
SHEET 6 OF 18
C-102
DRAWING REVISION: 7 AUGUST 2009

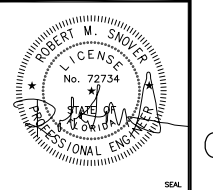
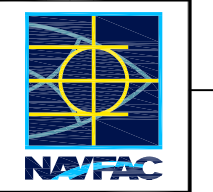
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REFERENCE:
 1. SURVEY COMPLETED BY ISLAND SURVEYING INC. IN SEPTEMBER 2009.

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REV	DESCRIPTION	DATE	APPR

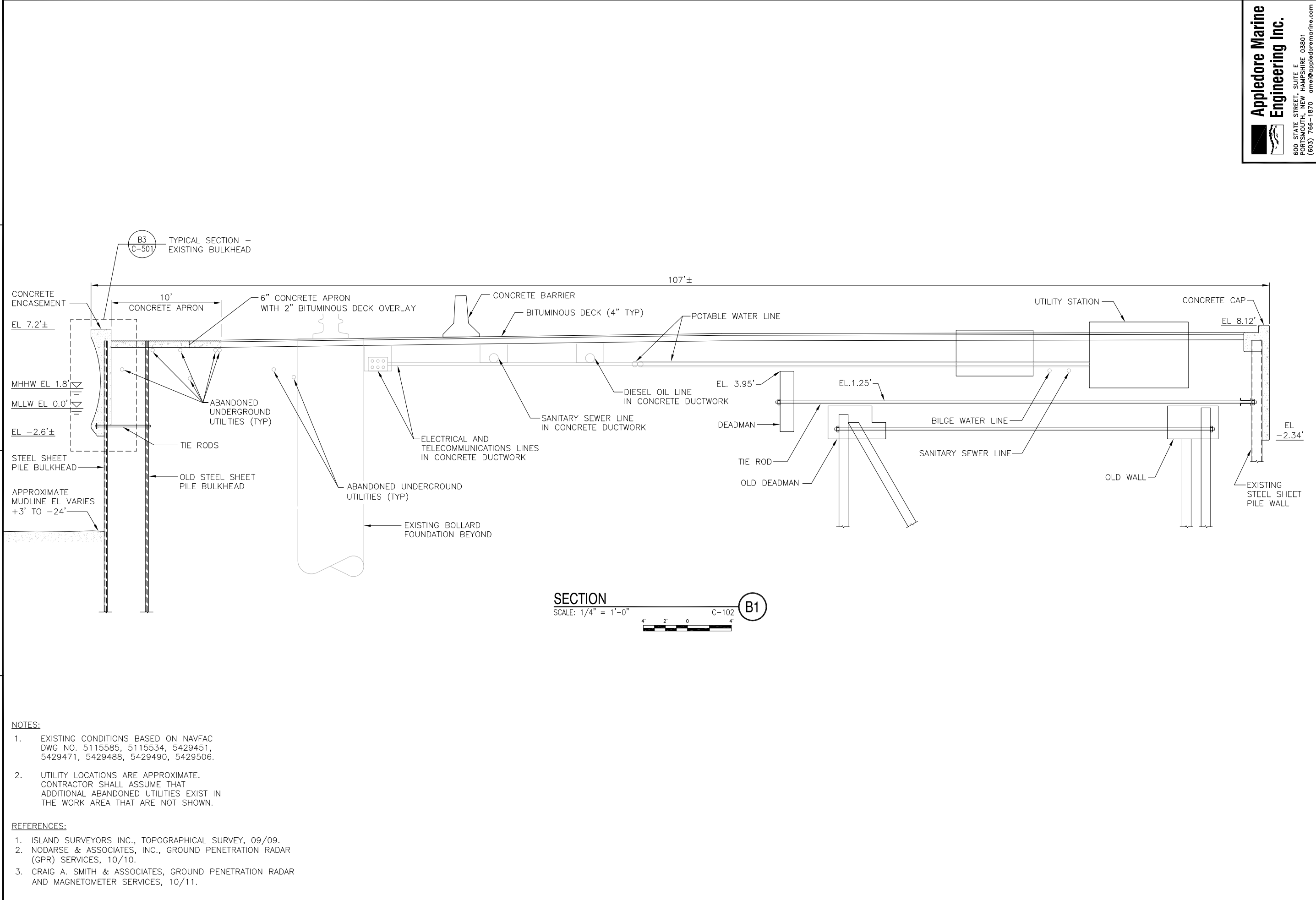


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SUBMITTED BY:		DATE:
FOR COMMANDER NAVFAC / B.L.T.L.		
ACTIVITY:		
SATISFACTORY TO DATE		
DES -	DRW -	CHK -
PROJECT MANAGER:		
PT. TECH. BRANCH HEAD:		
CHIEF ENG/ARCH (CORE):		

DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST	
OCEAN CONSTRUCTION DIVISION	
NAVAL AIR STATION	
KEY WEST, FLORIDA	
BULKHEAD 497 REPAIRS	
SURVEY PLAN	

SCALE: SCALE	
EPROJCT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO.:	
SHEET 7 OF 18	
C-103	
DRAWING REVISION: 7 AUGUST 2009	

FILE NAME: O:\502422 - USN Key West Central Mole Pier Coral\05 Supporting Documents\Drawings\C-301.dwg LAYOUT NAME: C-301 PLOTTED: Thursday, December 22, 2011 - 11:23am USER: bsullivan



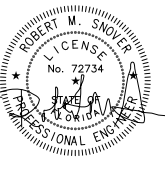
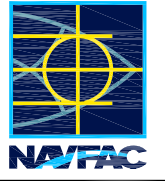
SECTION
SCALE: 1/4" = 1'-0"
C-102

- NOTES:**
- EXISTING CONDITIONS BASED ON NAVFAC DWG NO. 5115585, 5115534, 5429451, 5429471, 5429488, 5429490, 5429506.
 - UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL ASSUME THAT ADDITIONAL ABANDONED UTILITIES EXIST IN THE WORK AREA THAT ARE NOT SHOWN.

- REFERENCES:**
- ISLAND SURVEYORS INC., TOPOGRAPHICAL SURVEY, 09/09.
 - NODARSE & ASSOCIATES, INC., GROUND PENETRATION RADAR (GPR) SERVICES, 10/10.
 - CRAIG A. SMITH & ASSOCIATES, GROUND PENETRATION RADAR AND MAGNETOMETER SERVICES, 10/11.

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REV	DESCRIPTION	DATE	APPR



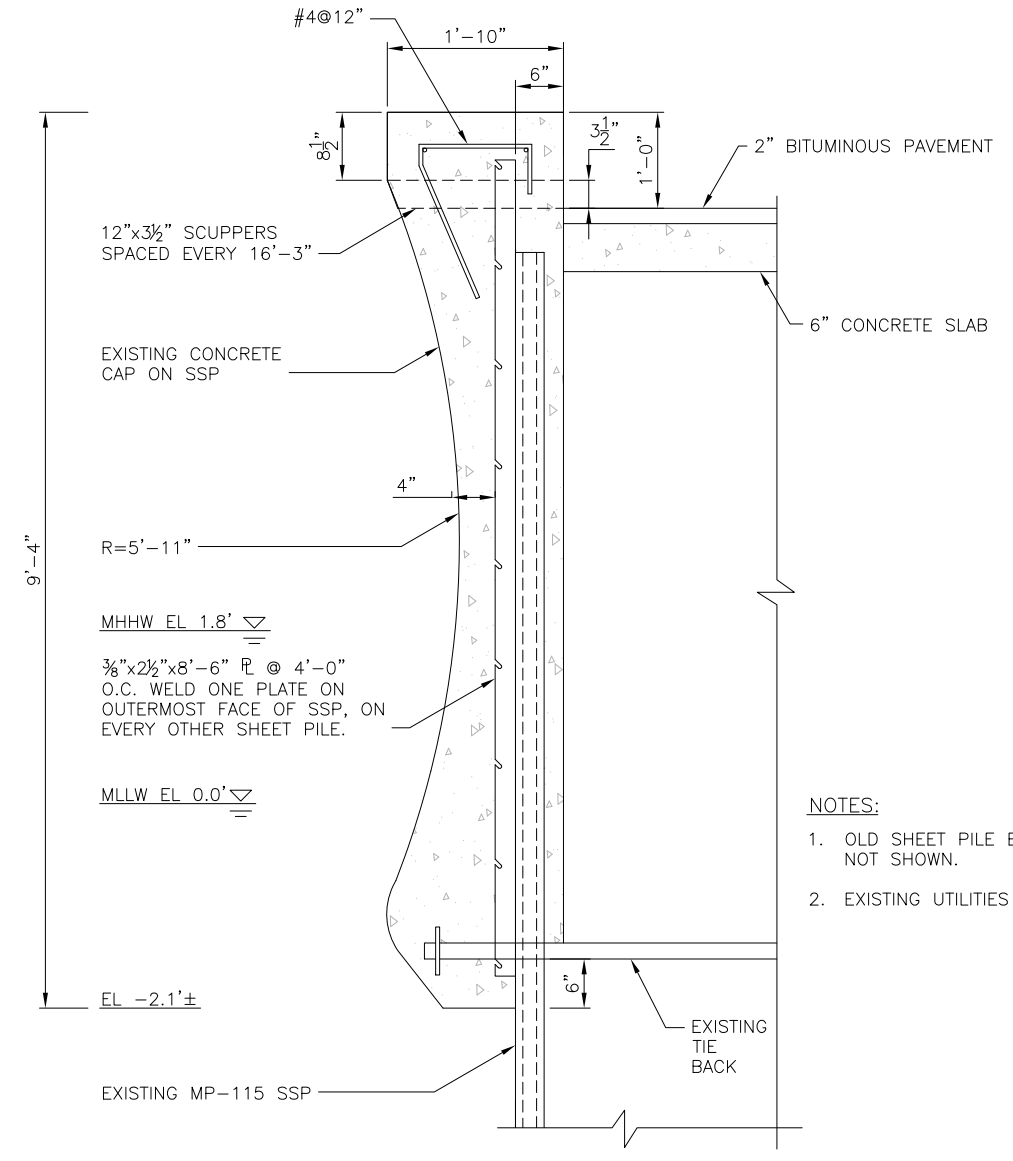
A/E FIRM: Appledore Marine Engineering Inc.	
NAME AND ADDRESS: 600 State Street, Suite F, Portsmouth, New Hampshire 03801	
DESIGN: JG/JG	DRINK: SBN
CHECK: RAJ	
DATE: 12/23/2011	
SIGNATURE: [Signature]	TITLE: [Title]
FOR COMMANDER NAVFAC / B.L.T.L.	
ACTIVITY: .	
SATISFACTORY TO DATE	
DES -	DRW -
CHK -	
PROJECT MANAGER	
PT TECH. BRANCH HEAD	
CHIEF ENG/ARCH (CORE)	

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BULKHEAD 497 REPAIRS
EXISTING CONDITIONS SECTION

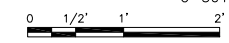
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PROJECT NO.:
CONSTR. CONTR. NO.: N62473-06-D-3004
NAVFAC DRAWING NO.: 10005485
SHEET B OF 18
C-301
DRAWFORM REVISION: 7 AUGUST 2009

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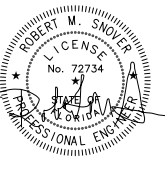
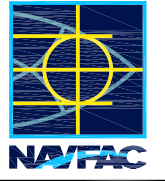
- NOTES:**
1. OLD SHEET PILE BULKHEAD WALL NOT SHOWN.
 2. EXISTING UTILITIES NOT SHOWN.

TYPICAL SECTION-EXISTING BULKHEAD
 SCALE: 1" = 1'-0"
 C-301 (B3)



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DESIGN: JG/OG	DRINK: SNB
CHK: RAG	
SUPV:	
PRMGR:	
MECH:	
ELEC:	
SUBMITTED BY: <i>[Signature]</i>	
(SIGNED)	12/23/2011
(TITLE)	(DATE)
A/E INFO	

APPROVED		
FOR COMMANDER NAVFAC / B.L.T.L.		
ACTIVITY		
SATISFACTORY TO DATE		
DES -	DRW -	CHK -
PROJECT MANAGER		
PT TECH. BRANCH HEAD		
CHIEF ENG/ARCH (CORE)		

DEPARTMENT OF THE NAVY
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 OCEAN CONSTRUCTION DIVISION
 NAVAL AIR STATION
 KEY WEST, FLORIDA

BULKHEAD 497 REPAIRS
 EXISTING PILE CAP DETAILS

SCALE: SCALE
 PROJECT NO.:
 CONSTR. CONTR. NO. N62473-06-D-3004
 NAVFAC DRAWING NO. 10005486
 SHEET 9 OF 18
C-501
 DRAWFORM REVISION: 7 AUGUST 2009

FILE NAME: O:\502422 - USN Key West Central Mole Pier Coral\05 Supporting Documents\Drawings\C-901.dwg LAYOUT NAME: C-901 PLOTTED: Thursday, December 22, 2011 - 11:23am USER: bsullivan



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4

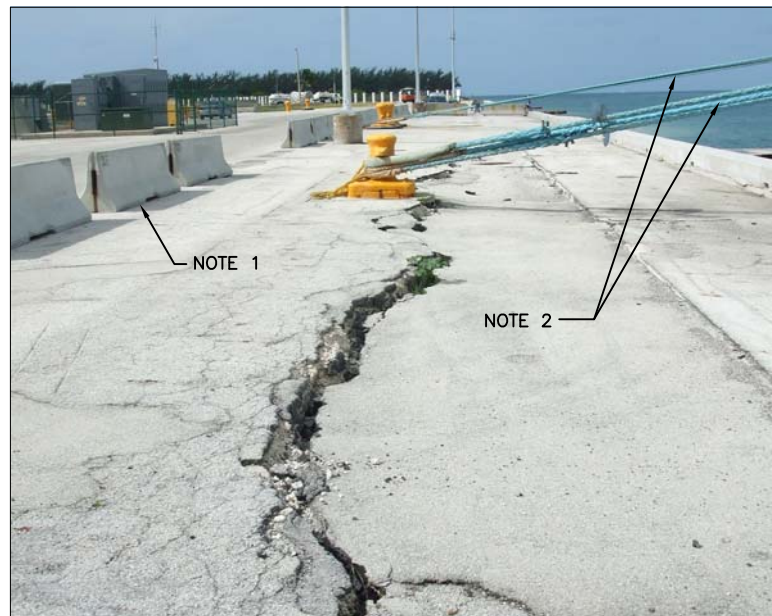


PHOTO 5



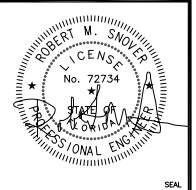
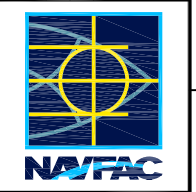
PHOTO 6

NOTES:

1. JERSEY BARRIERS WILL NOT BE AVAILABLE FOR CONTRACTOR USE (TYP). CONTRACTOR SHALL REMOVE AND STOCKPILE THE JERSEY BARRIERS AT THE LOCATION DETERMINED BY THE CONTRACTING OFFICER. STOCKPILE SITE WILL BE LOCATED WITHIN THE TRUMAN ANNEX.
2. CRUISE SHIPS DOCK FREQUENTLY AT THE OUTER MOLE, WHICH REQUIRES THE USE OF ALL BOLLARDS WITHIN THE LIMITS OF WORK. THE CONTRACTOR SHALL FACILITATE AND SCHEDULE CONSTRUCTION OPERATIONS SUCH THAT THE BOLLARDS ARE AVAILABLE FOR USE AT ANY TIME BY AUTHORIZED PERSONNEL. THE DOCKING SCHEDULE WILL BE MADE AVAILABLE TO THE CONTRACTOR, BUT IS SUBJECT TO CHANGE.

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SYN	DESCRIPTION	DATE	APPR



A/E FIRM: Appledore Marine Engineering Inc.
 NAME AND ADDRESS: 600 State Street, Suite F, Portsmouth, New Hampshire 03801
 DSO: JS/OG DRN: SNB CHK: RWS
 SUPV: CIV. STR.
 PRMGR: MECH. ARCH.
 ELEC.
 SUBMITTED BY: *[Signature]* PRES. 12/23/2011
 (SIGNED) (TITLE) (DATE)
 A/E INFO

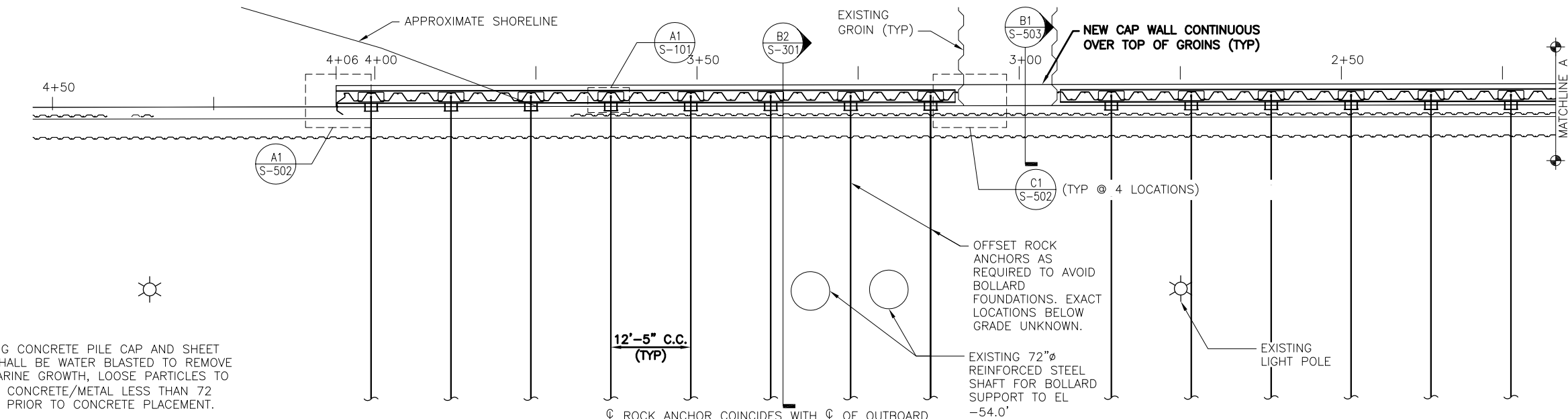
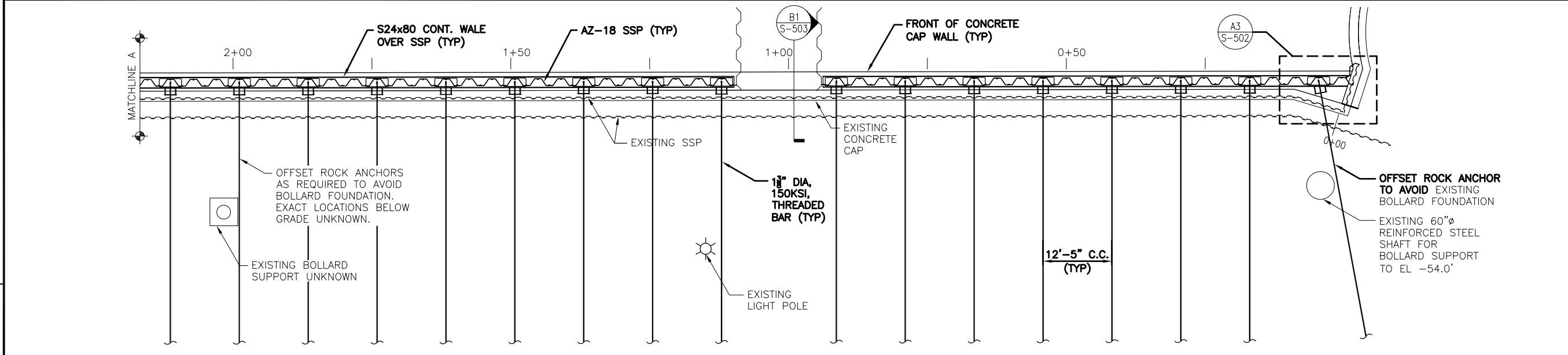
APPROVED
 FOR COMMANDER NAVFAC / B.L.T.L.
 ACTIVITY
 SATISFACTORY TO DATE
 DES -
 PROJECT MANAGER
 IPT TECH. BRANCH HEAD
 CHIEF ENG/ARCH (CORE)

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
 OCEAN CONSTRUCTION DIVISION
 KEY WEST, FLORIDA
 NAVAL AIR STATION
BULKHEAD 497 REPAIRS
 PHOTOGRAPHS

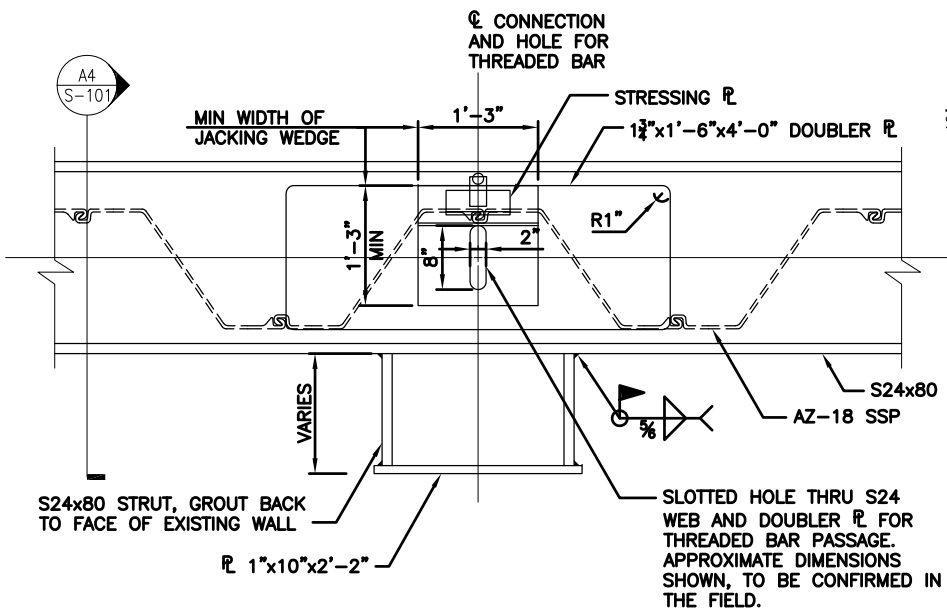
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 CONSTR. CONTR. NO.: N62473-06-D-3004
 NAVFAC DRAWING NO.: 10005487
 SHEET 10 OF 18

C-901
 DRAWFORM REVISION: 7 AUGUST 2009

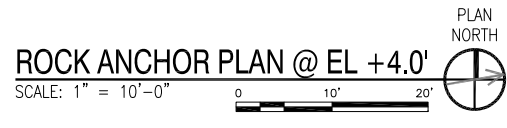
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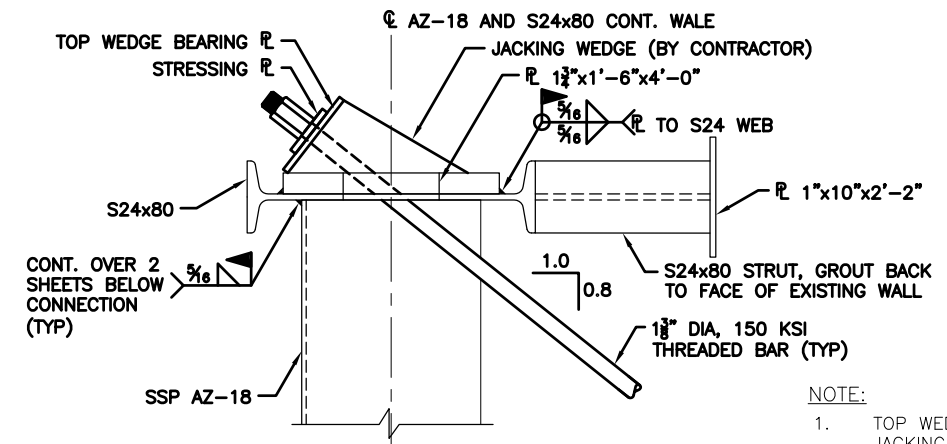
- NOTES:**
- EXISTING CONCRETE PILE CAP AND SHEET PILE SHALL BE WATER BLASTED TO REMOVE ALL MARINE GROWTH, LOOSE PARTICLES TO SOUND CONCRETE/METAL LESS THAN 72 HOURS PRIOR TO CONCRETE PLACEMENT.



ROCK ANCHOR TOP CONNECTION
SCALE: 1" = 1'-0"
S-101 A1



ROCK ANCHOR PLAN @ EL +4.0'
SCALE: 1" = 10'-0"
PLAN NORTH

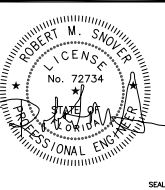


ROCK ANCHOR TOP CONNECTION
SCALE: 1 1/2" = 1'-0"
S-101 A4

- NOTE:**
- TOP WEDGE BEARING PLATE AND JACKING WEDGE DESIGNED AND DETAILED BY CONTRACTOR. SEE S-301 FOR ROCK ANCHOR LOADS.

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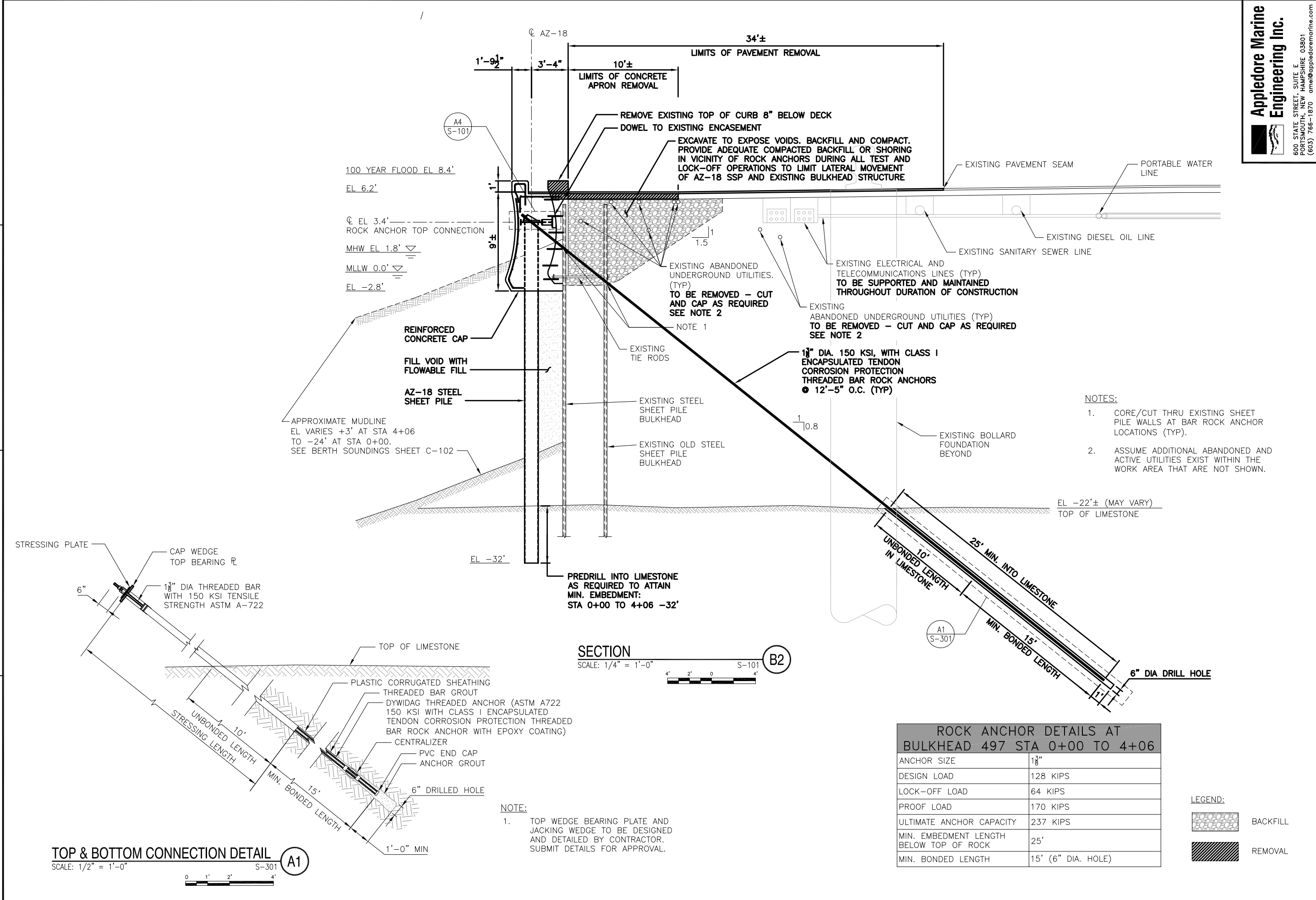
NO.	DESCRIPTION	DATE	APPR.



A/E FIRM: Appledore Marine Engineering Inc.	
NAME AND ADDRESS: 600 State Street, Suite F, Portsmouth, New Hampshire 03801	
DESIGN: JG/GG	DRAIN: SJB
CHECK: RMB	
DATE: 12/23/2011	
SUBMITTED BY: [Signature]	
APPROVED: [Signature]	
FOR COMMANDER NAVFAC / B.L.T.L.	
ACTIVITY: BULKHEAD 497 REPAIRS	
SATISFACTORY TO DATE: []	
DESIGNER: []	CHECKER: []
PROJECT MANAGER: []	
SITING TECH. BRANCH HEAD: []	
CHIEF ENG/ARCH (CORE): []	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
OCEAN CONSTRUCTION DIVISION
KEY WEST, FLORIDA
NAVAL AIR STATION
BULKHEAD 497 REPAIRS
ROCK ANCHOR PLAN

SCALE: SCALE
PROJECT NO.: N62473-06-D-3004
CONSTR. CONTR. NO.: 10005488
NAVFAC DRAWING NO.: 10005488
SHEET 11 OF 18
S-101
DRAWING REVISION: 7 AUGUST 2009



- NOTES:**
- CORE/CUT THRU EXISTING SHEET PILE WALLS AT BAR ROCK ANCHOR LOCATIONS (TYP).
 - ASSUME ADDITIONAL ABANDONED AND ACTIVE UTILITIES EXIST WITHIN THE WORK AREA THAT ARE NOT SHOWN.

ROCK ANCHOR DETAILS AT BULKHEAD 497 STA 0+00 TO 4+06

ANCHOR SIZE	1 1/8"
DESIGN LOAD	128 KIPS
LOCK-OFF LOAD	64 KIPS
PROOF LOAD	170 KIPS
ULTIMATE ANCHOR CAPACITY	237 KIPS
MIN. EMBEDMENT LENGTH BELOW TOP OF ROCK	25'
MIN. BONDED LENGTH	15' (6" DIA. HOLE)

LEGEND:

BACKFILL

REMOVAL

Appledore Marine Engineering Inc.
 600 STATE STREET, SUITE F
 PORTSMOUTH, NEW HAMPSHIRE 03801
 (603) 766-1870 amei@appledoremarine.com

NAVFAC
 NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
 EAST COAST DISTRICT
 OCEAN CONSTRUCTION DIVISION
 NAVAL AIR STATION
 KEY WEST, FLORIDA

BULKHEAD 497 REPAIRS
 TYPICAL REPAIR SECTION

PROFESSIONAL ENGINEER
 ROBERT M. SNOVER
 LICENSE No. 72734
 STATE OF FLORIDA

DATE: _____
 APPR: _____

SCALE: SCALE
 PROJECT NO.: N62473-06-D-3004
 CONSTR. CONTR. NO.: 10005489
 NAVFAC DRAWING NO.: 10005489
 SHEET 12 OF 18
S-301
 DRAWN/REVISION: 7 AUGUST 2009

FILE NAME: 0:\502422 - USN Key West Central Mole Pier Corral\05 Supporting Documents\Drawings\S-301.dwg LAYOUT NAME: S-301 PLOTTED: Thursday, December 22, 2011 - 11:23am USER: baullvon

FILE NAME: O:\502422 - USN Key West Central Mole Pier Coral\05 Supporting Documents\Drawings\S-501.dwg LAYOUT NAME: S-501 PLOTTED: Thursday, December 22, 2011 - 1:10pm USER: baullivan

1 2 3 4 5

D

C

B

A

1 2 3 4 5

EL 7.2'
TOP OF CURB

EL 6.2'
SCUPPER INVERT
& TOP OF PAVEMENT

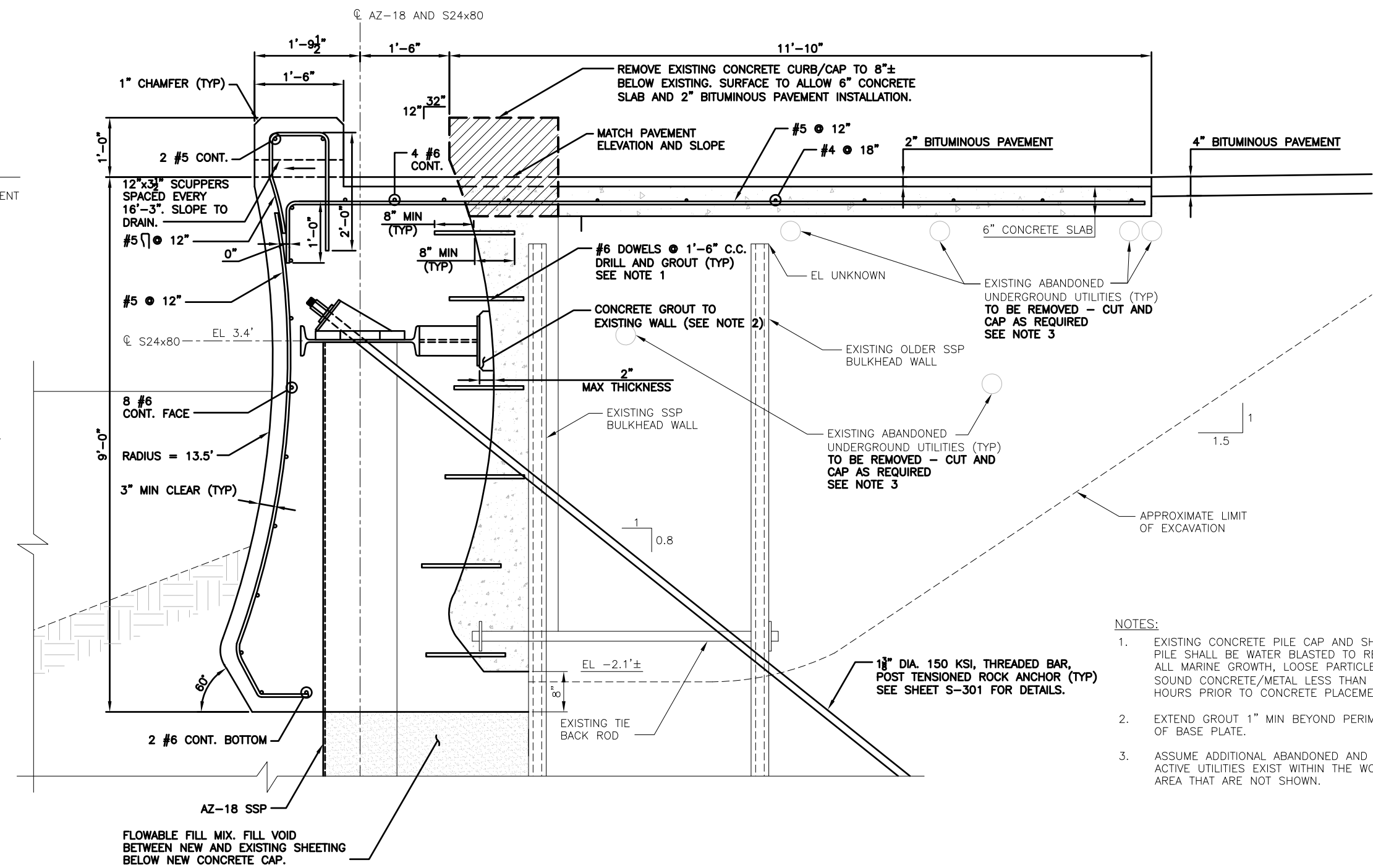
EXISTING GROIN
(BEYOND)
EL 2.6'±

MHHW EL 1.8'▽

MLLW EL 0.0'▽

EL -2.1'±

EL -2.8'
BOTTOM NEW
CONCRETE CAP



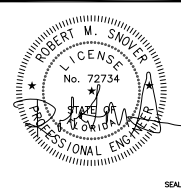
FLOWABLE FILL MIX. FILL VOID BETWEEN NEW AND EXISTING SHEETING BELOW NEW CONCRETE CAP.

SECTION
SCALE: 1" = 1'-0"
C-101
B1

- NOTES:
- EXISTING CONCRETE PILE CAP AND SHEET PILE SHALL BE WATER BLASTED TO REMOVE ALL MARINE GROWTH, LOOSE PARTICLES TO SOUND CONCRETE/METAL LESS THAN 72 HOURS PRIOR TO CONCRETE PLACEMENT.
 - EXTEND GROUT 1" MIN BEYOND PERIMETER OF BASE PLATE.
 - ASSUME ADDITIONAL ABANDONED AND ACTIVE UTILITIES EXIST WITHIN THE WORK AREA THAT ARE NOT SHOWN.

Appledore Marine Engineering Inc.
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SYN	DESCRIPTION	DATE	APPR



A/E FIRM: Appledore Marine Engineering Inc.	
NAME AND ADDRESS: 600 State Street, Suite F, Portsmouth, New Hampshire 03801	
DESIGN: JG/JG	DRINK: SNB
CHK: RAJ	
SUPPLY:	
PRMGR:	CON. STR:
MECH:	ARCH:
ELEC:	
SUBMITTED BY: [Signature]	
(SIGNED)	PRES. 12/23/2011
(TITLE)	(DATE)
A/E INFO	
APPROVED	
FOR COMMANDER NAVFAC / B.L.T.L.	
ACTIVITY	
SATISFACTORY TO DATE	
DES	DRW
CHK	
PROJECT MANAGER	
PT TECH. BRANCH HEAD	
CHIEF ENG/ARCH (CORE)	

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	NAVFAC
OCEAN CONSTRUCTION DIVISION	NAVAL AIR STATION	KEY WEST, FLORIDA
BULKHEAD 497 REPAIRS		CONCRETE PILE CAP DETAILS
SCALE: SCALE		
PROJECT NO.: N62473-06-D-3004		
NAVFAC DRAWING NO.: 10005490		
SHEET 13 OF 18		
S-501		
DRAWING REVISION: 7 AUGUST 2009		

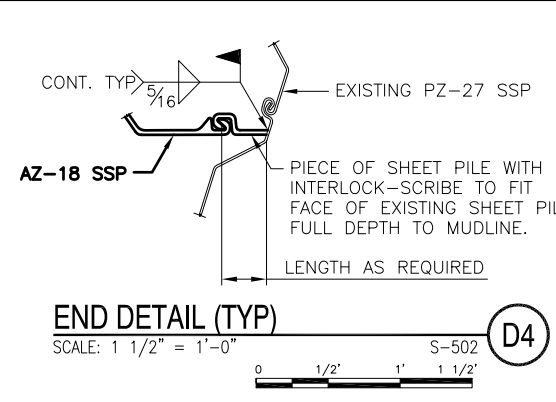
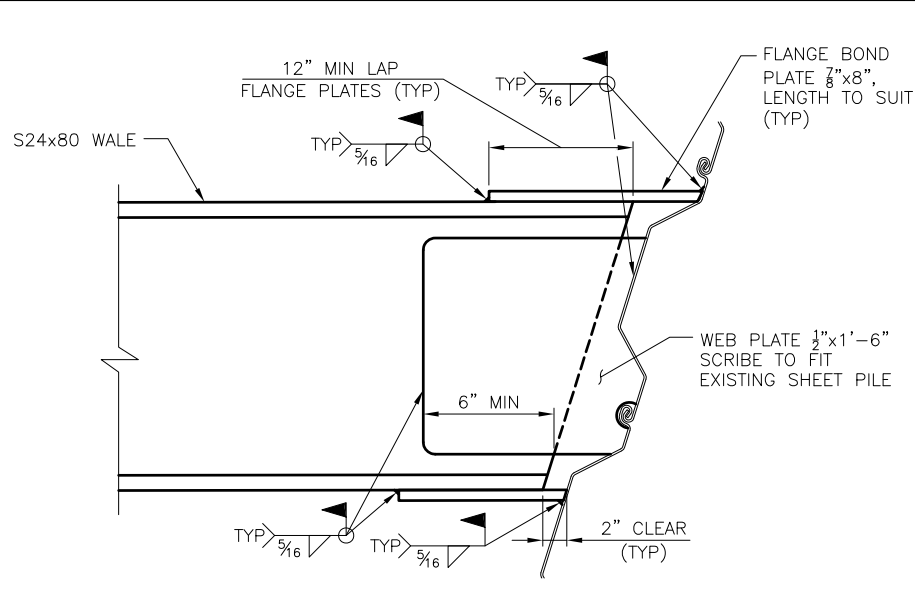
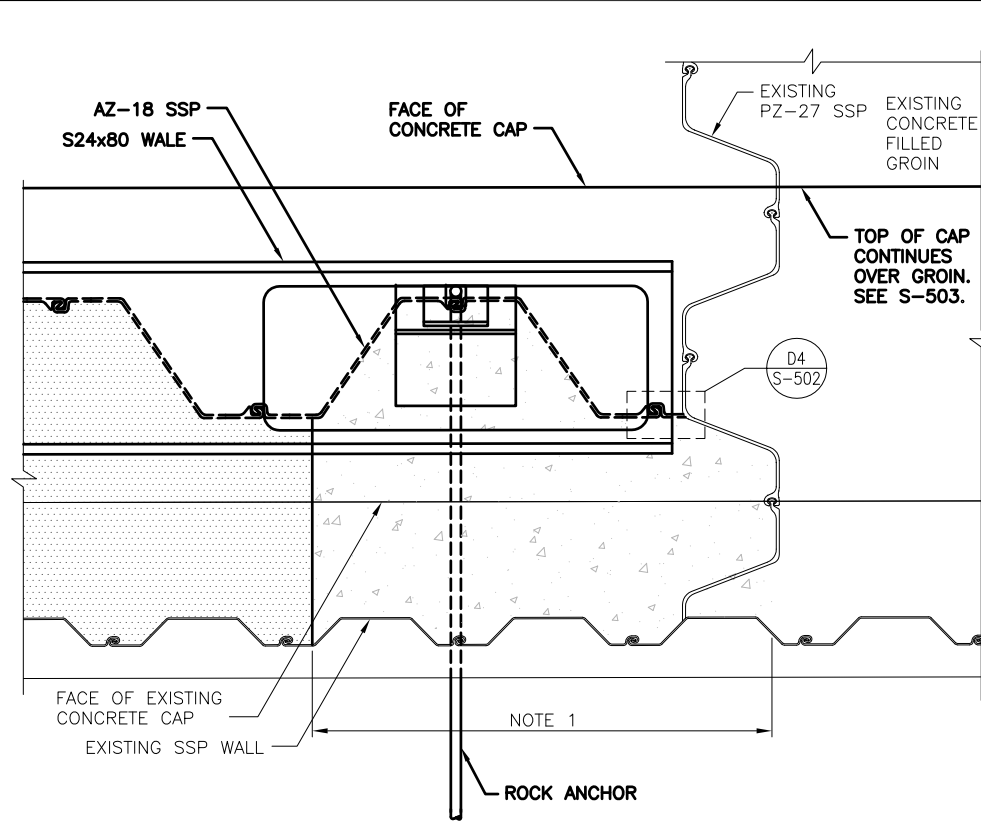
D

C

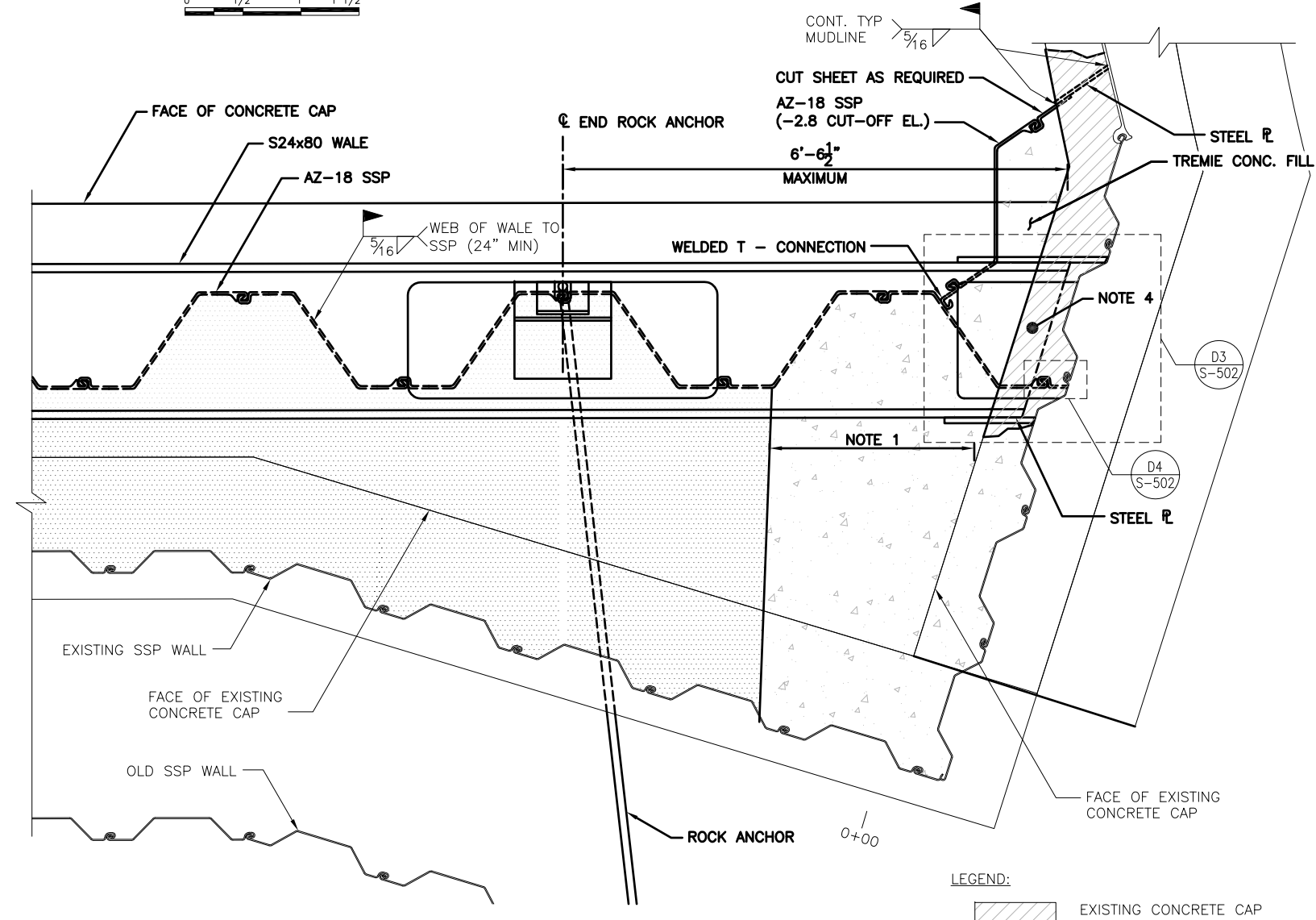
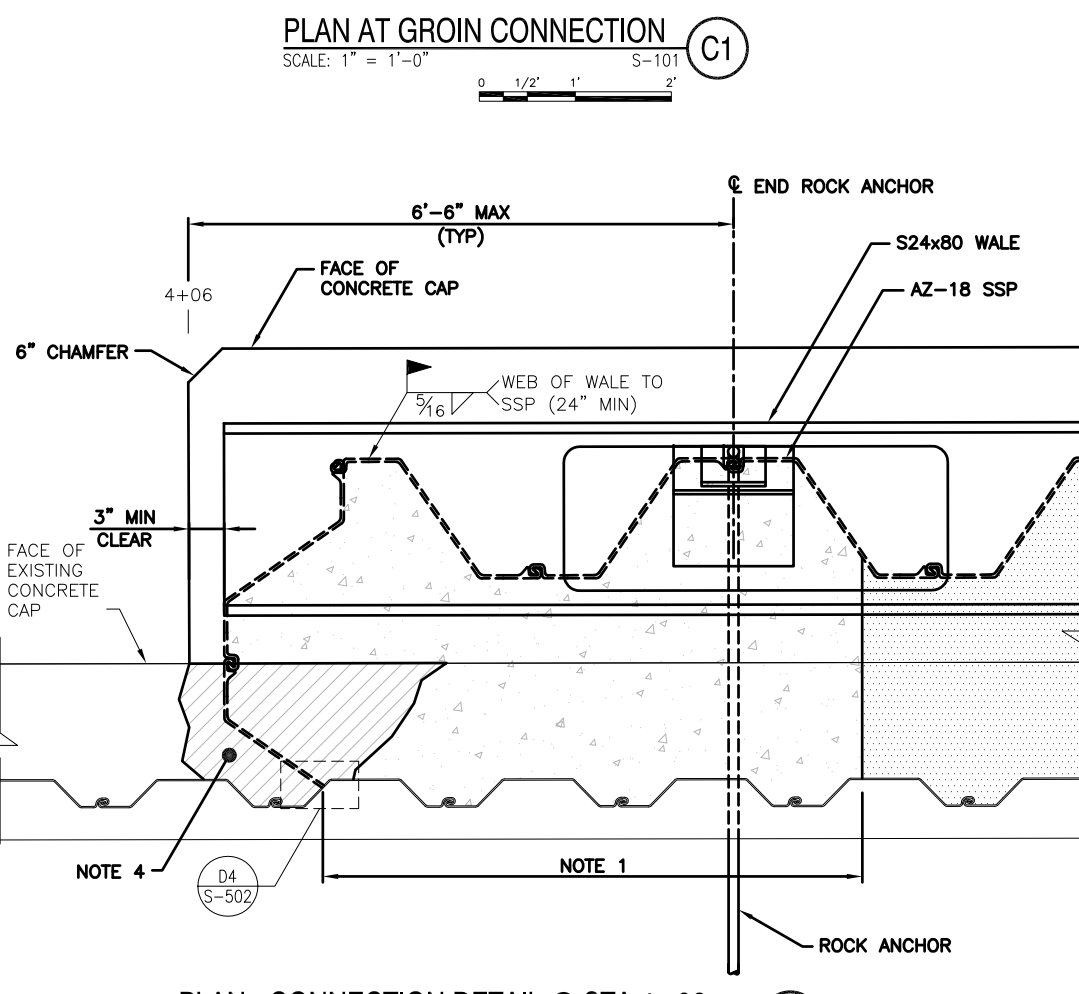
B

A

FILE NAME: 0:\502422 - USN Key West Central Mole Pier Corral\05 Supporting Documents\Drawings\S-502.dwg LAYOUT NAME: S-502 PLOTTED: Thursday, December 22, 2011 - 11:23am USER: baullivon



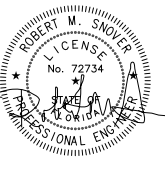
- NOTES:**
1. CONCRETE SEAL WIDTH SHALL BE 4' MINIMUM.
 2. SYMMETRICAL ABOUT CENTERLINE OF GROIN.
 3. GROIN 1 AND 2 SIMILAR.
 4. CUT BACK EXISTING CAP IN ORDER TO WELD TO EXISTING SSP. REPLACE CONCRETE REMOVED DURING SHEET PILE PLACEMENT.



LEGEND:

	EXISTING CONCRETE CAP REMOVAL (AS REQUIRED)
	CONCRETE SEAL EL. -2.2' TO TOE OF SSP
	FLOWABLE CONCRETE FILL EL. -2.2' TO TOE OF SSP

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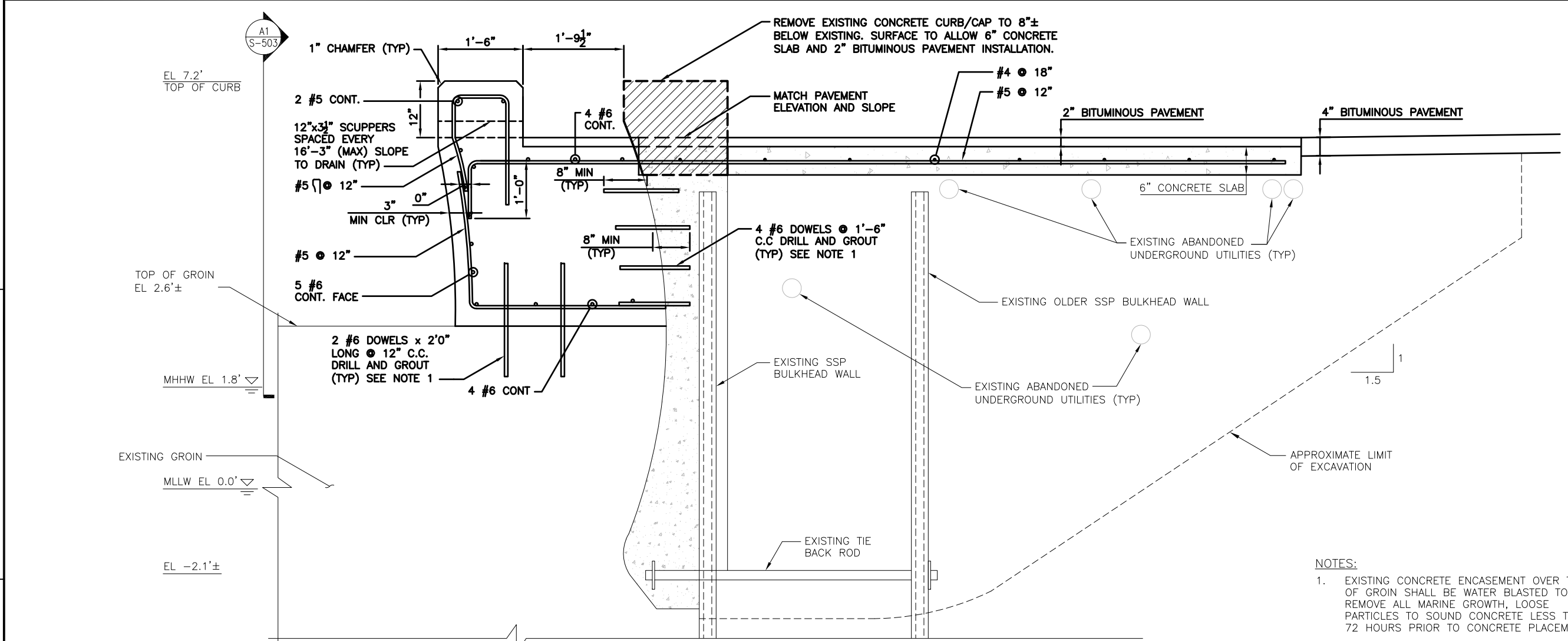


A/E FIRM: Appledore Marine Engineering Inc.	
NAME AND ADDRESS: 600 State Street, Suite F, Portsmouth, New Hampshire 03801	
DESIGN: JG/OG	DRINK: SNB
CHK: RAG	
SUPPLY:	
FRAMGR:	CON. STR.
MECH:	ARCH.
ELEC:	
SUBMITTED BY: [Signature]	
(SIGNED)	PREP. 12/23/2011
(TITLE)	(DATE)
APPROVED:	
FOR COMMANDER NAVFAC / B.L.T.L.	
ACTIVITY:	
SATISFACTORY TO DATE:	
DES -	DRW -
CHK -	
PROJECT MANAGER:	
PT TECH. BRANCH HEAD:	
CHIEF ENG/ARCH (CORE):	

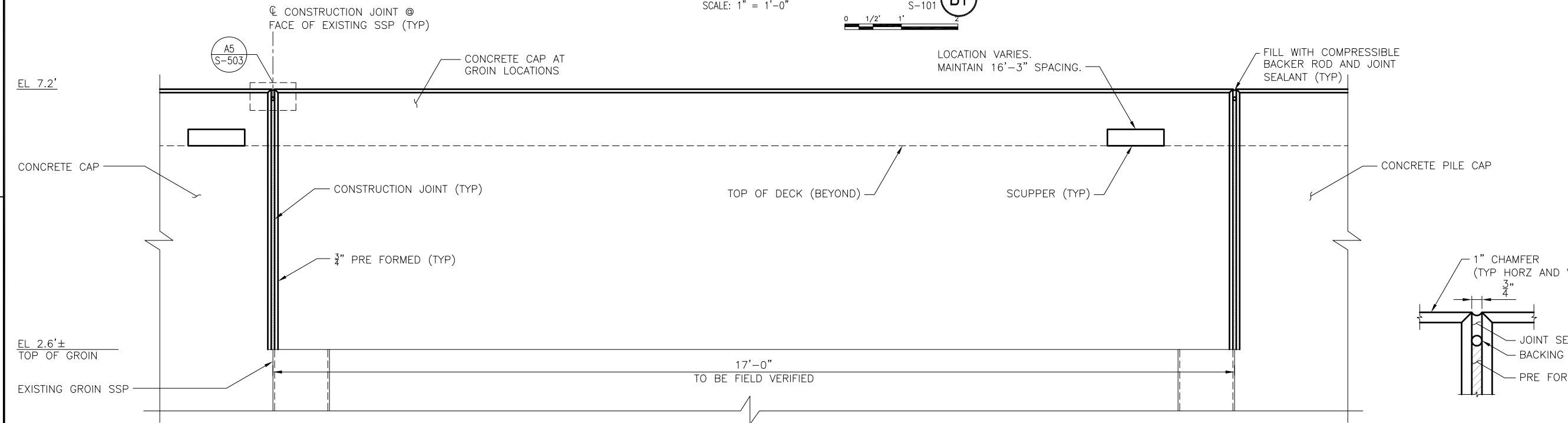
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
OCEAN CONSTRUCTION DIVISION
NAVAL AIR STATION
KEY WEST, FLORIDA
BULKHEAD 497 REPAIRS
SHEET PILE CONNECTION DETAILS

SCALE: SCALE
PROJECT NO.:
CONSTR. CONTR. NO.: N62473-06-D-3004
NAVFAC DRAWING NO.: 10005491
SHEET 14 OF 18
S-502
DRAWING REVISION: 7 AUGUST 2009

FILE NAME: O:\302422 - USN Key West Central Male Pier Corral\US Supporting Documents\Drawings\S-503.dwg LAYOUT NAME: S-503 PLOTTED: Thursday, December 22, 2011 - 12:04pm USER: baullivan



SECTION
SCALE: 1" = 1'-0"
S-101 B1



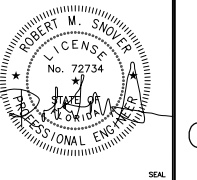
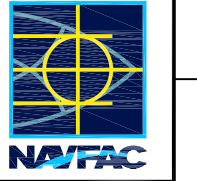
FRONT ELEVATION OVER GROINS
SCALE: 1" = 1'-0"
S-503 A1

CONSTRUCTION JOINT (TYP)
SCALE: 3" = 1'-0"
S-503 A5

- NOTES:**
- EXISTING CONCRETE ENCASEMENT OVER TOP OF GROIN SHALL BE WATER BLASTED TO REMOVE ALL MARINE GROWTH, LOOSE PARTICLES TO SOUND CONCRETE LESS THAN 72 HOURS PRIOR TO CONCRETE PLACEMENT.

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NO.	DESCRIPTION	DATE	APPR.

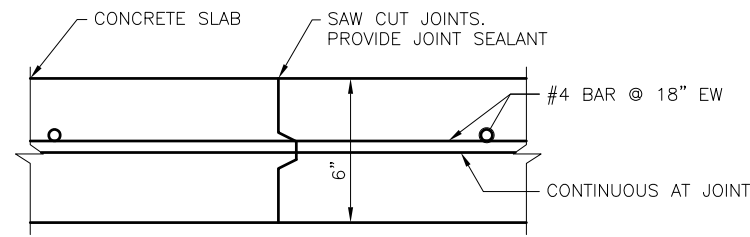


A/E FIRM: Appledore Marine Engineering Inc.	
NAME AND ADDRESS: 600 State Street, Suite 1E Portsmouth, New Hampshire 03801	
DESIGN: JG/OG	DRINK: SNB
CHK: RAG	
SUPV:	
PRMGR:	
MECH:	
ELEC:	
SUBMITTED BY: [Signature]	
(SIGNED)	
PRES: 12/23/2011	(DATE)
A/E INFO	

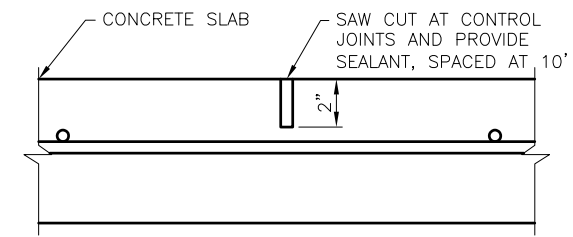
FOR COMMANDER NAVFAC / B.L.T.L.		
ACTIVITY		
SATISFACTORY TO DATE		
DES -	DRW -	CHK -
PROJECT MANAGER		
PT TECH. BRANCH HEAD		
CHIEF ENG/ARCH (CORE)		

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST	OCEAN CONSTRUCTION DIVISION	KEY WEST, FLORIDA	NAVAL AIR STATION	BULKHEAD 497 REPAIRS	GROIN DETAILS
SCALE: SCALE							
PROJECT NO.: N62473-06-D-3004							
CONSTR. CONTR. NO. 10005492							
NAVFAC DRAWING NO. S-503							
SHEET 15 OF 18							
DRAWING REVISION: 7 AUGUST 2009							

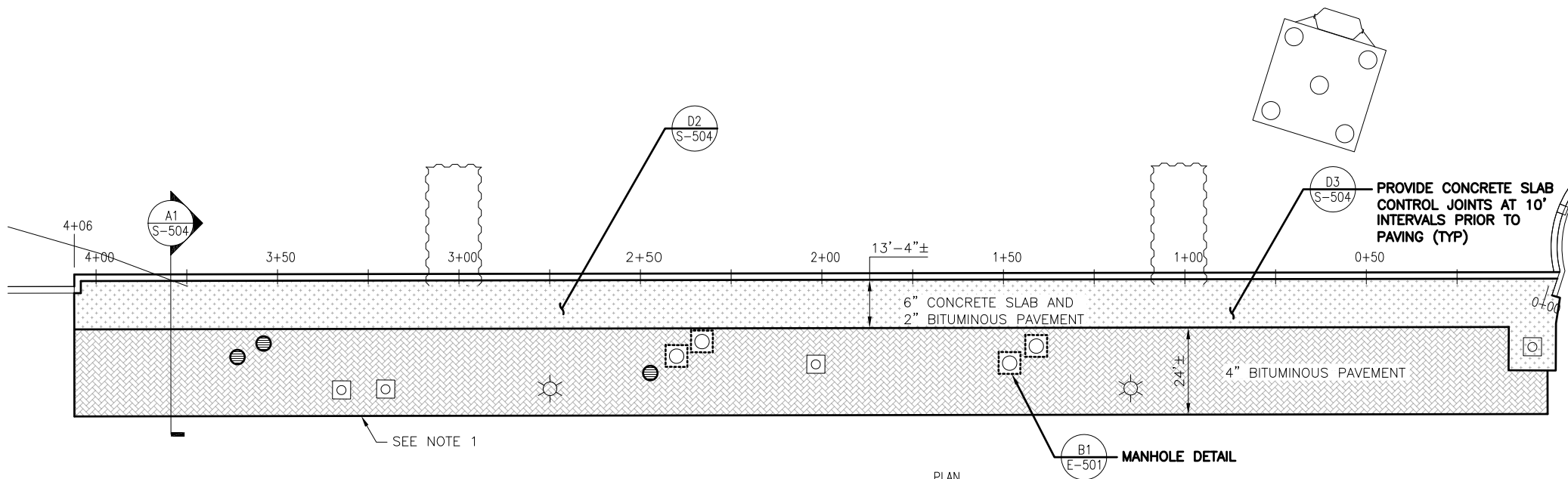
FILE NAME: O:\502422 - USN Key West Central Mole Pier Corral\05 Supporting Documents\Drawings\S-504.dwg LAYOUT NAME: S-504 PLOTTED: Thursday, December 22, 2011 - 11:23am USER: baullivon



CONSTRUCTION JOINT
SCALE: 3" = 1'-0"
S-504 D2

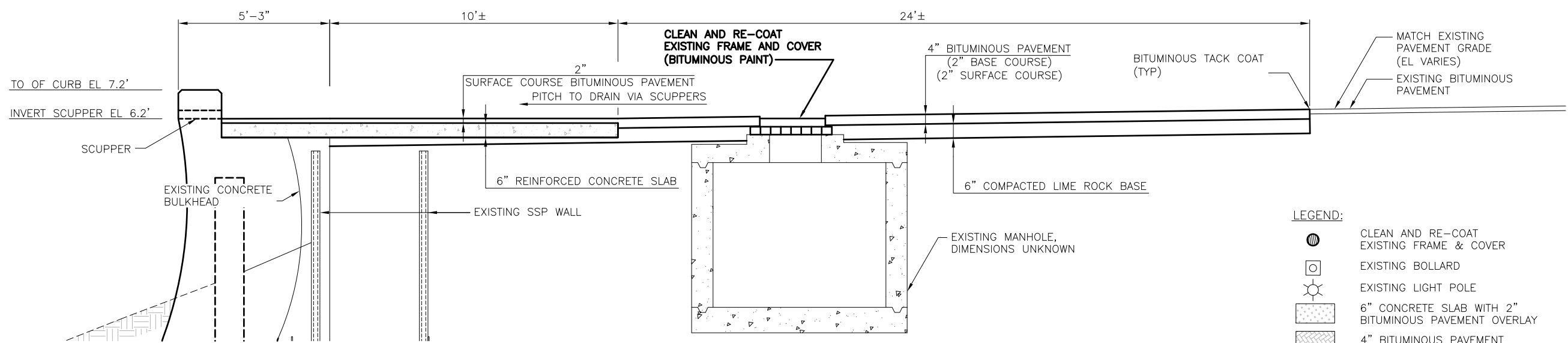


CONTROL JOINT
SCALE: 3" = 1'-0"
S-504 D3



PAVING PLAN
SCALE: 1" = 20'-0"
PLAN NORTH

NOTE:
1. CUT PAVEMENT FULL DEPTH WITH NEAT, CLEAN, PARALLEL, STRAIGHT LINES WITHIN LIMITS OF WORK.



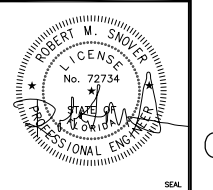
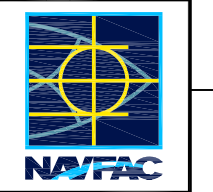
PAVEMENT DETAIL
SCALE: 1/2" = 1'-0"
S-504 A1

LEGEND:

- CLEAN AND RE-COAT EXISTING FRAME & COVER
- EXISTING BOLLARD
- EXISTING LIGHT POLE
- 6" CONCRETE SLAB WITH 2" BITUMINOUS PAVEMENT OVERLAY
- 4" BITUMINOUS PAVEMENT
- EXISTING MANHOLE TO BE REPLACED

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SYN	DESCRIPTION	DATE	APPR

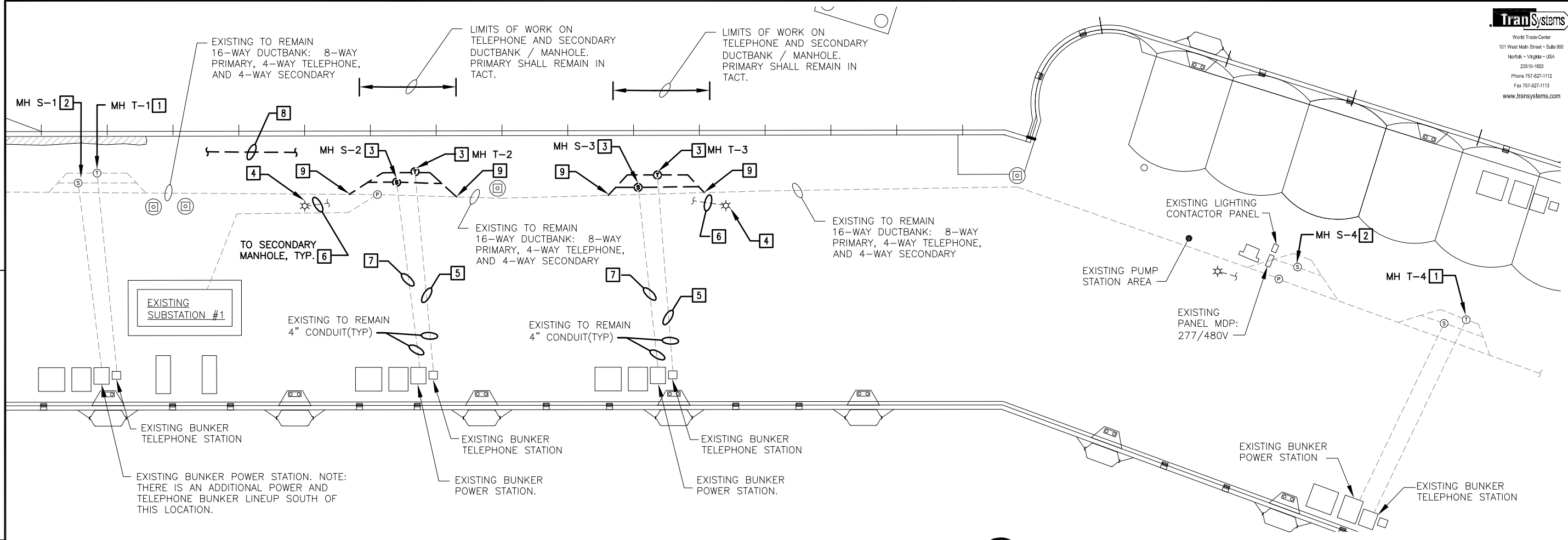


A/E FIRM	Appledore Marine Engineering Inc.
NAME AND ADDRESS	600 State Street, Suite F, Portsmouth, New Hampshire 03801
DSOR: JG/OG	DRN: SNB
CHK: RAS	
SUPV:	
PRMGR:	CV. STR.
MECH:	ARCH.
ELEC:	
SUBMITTED BY:	
(SIGNED)	(TITLE)
	12/23/2011
	(DATE)
	A/E INFO

FOR COMMANDER NAVFAC / B.L.T.L.	
ACTIVITY	
SATISFACTORY TO DATE	
DES -	DRW -
CHK -	
PROJECT MANAGER	
PT TECH. BRANCH HEAD	
CHIEF ENG/ARCH (CORE)	

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
OCEAN CONSTRUCTION DIVISION	SOUTHEAST
NAVAL AIR STATION	EAST COAST DET
	KEY WEST, FLORIDA
BULKHEAD 497 REPAIRS	
PAVING DETAILS	
SCALE:	SCALE
PROJECT NO.:	
CONSTR. CONTR. NO.:	N62473-06-D-3004
NAVFAC DRAWING NO.:	10005493
SHEET 16	OF 18
S-504	
DRAWING REVISION: 7 AUGUST 2009	

FILE NAME: G:\NF1\0148\EA\Drawings\E-101.dwg LAYOUT NAME: E-101 PLOTTED: Thursday, December 22, 2011 1:38pm USER: jirobinson



TranSystems
 World Trade Center
 101 West Main Street - Suite 900
 Norfolk - Virginia - USA
 23510-1853
 Phone 757-627-1112
 Fax 757-627-1113
 www.transystems.com

APPR	DATE
SYN	DESCRIPTION



A/E/Architect	
APP/Inspector	
CHECK	
DATE	
SUBMITTED BY:	
(SIGNED)	(TITLE)

FOR COMMANDER NAVFAC / B.L.L.L.			
ACTIVITY	SATISFACTORY TO DATE	DES JMR	DRW JMR
		CHK GAP	
		PROJECT MANAGER	
		PT TECH. BRANCH HEAD	
		CHIEF ENGR/ARCH (CORE)	

BULKHEAD 497 PARTIAL PLAN - ELECTRICAL

SCALE: 1" = 20'-0"



GENERAL NOTES

- REFER TO THE SHEET C-101 FOR LIMITS OF CONSTRUCTION, IN PARTICULAR, THE 20' ROADWAY THAT MUST BE KEPT CLEAR FOR VEHICLE TRAFFIC. COORDINATE WITH THE GOVERNMENT WHEN CRANE USE IS PLANNED AND/OR OTHER PROCESSES THAT MAY IMPEDE THE ROADWAY.
- MANHOLE NUMBERS SHOWN ON THIS SHEET ARE FOR INSTRUCTION PURPOSES ONLY.
- AT&T WILL PERFORM ALL WORK ASSOCIATED WITH CUTTING AND REPLACING OF THEIR TELECOMMUNICATIONS CABLING. THE CONTRACTOR SHALL PROVIDE ALL MANHOLES AND DUCTBANK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK EFFORTS WITH AT&T, AND SHALL PAY ALL FEES ASSOCIATED WITH AT&T REPLACING THE INDICATED SECTIONS OF CABLES. AT&T CONTACT IS HERB BRADSHAW, 305-296-9077.
- CONTRACTOR SHALL TRACE OUT AND LABEL ALL 277/480V BRANCH CIRCUITS IN MANHOLES S1 THROUGH S4.
- MAINTAIN SERVICE TO PIER LIGHTING FIXTURES NORTH OF MANHOLE S-4 WHEN SOUTH HEADING CIRCUITS ARE TEMPORARILY CUT TO PERFORM MANHOLE AND DUCTBANK WORK. ALL PIER LIGHTING FIXTURES ARE SERVED BY A SINGLE LIGHTING CONTACTOR IN THE ENCLOSURE ADJACENT TO PANEL MDP (#6 CONDUCTORS).
- EACH OF THE POWER BUNKER STATIONS IS SERVED BY A 25A, 2-POLE CIRCUIT BREAKER IN PANEL MDP (#8 CONDUCTORS TO EACH STATION).
- COORDINATE WITH THE COAST GUARD AND THE CITY OF KEY WEST FOR OUTAGES ASSOCIATED WITH THEIR INDIVIDUAL LIGHT POLE MOUNTED CAMERA SYSTEMS. THE CONTRACTOR SHALL DISCONNECT AND RECONNECT CAMERA SYSTEM(S) CABLING DURING MANHOLE AND DUCTBANK REPLACEMENT. THE GOVERNMENT SHALL PROVIDE DETAILED INFORMATION ABOUT THE COAST GUARD AND CITY OF KEY WEST'S CAMERA SYSTEMS PRIOR TO BID. THE INFORMATION SHALL INCLUDE POWER REQUIREMENTS AND CONNECTION LOCATIONS, AND SIGNAL TRANSMISSION REQUIREMENTS.

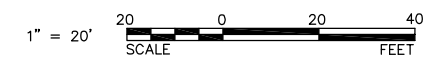
[X] DRAWING NOTES

- COORDINATE WITH AT&T FOR THE CUTTING OF THE EXISTING TELECOMMUNICATIONS CABLING IN THIS MANHOLE. EXISTING TELECOMMUNICATIONS CABLING BETWEEN MANHOLES T-1 TO T-4 TO BE REMOVED AND REPLACED BY AT&T (SEE GENERAL NOTE #3).
- AFTER TRACING AND LABELING ALL BRANCH CIRCUITS, CUT ALL SECONDARY CABLES IN MANHOLE. EXISTING SECONDARY CABLES BETWEEN MANHOLES S-1 TO S-4 TO BE REMOVED AND REPLACED WITH #8 RWH ELECTRICAL WIRE.
- EXISTING TELEPHONE OR SECONDARY MANHOLE TO BE REMOVED AND REPLACED. ADDITIONALLY, REMOVE AND REPLACE EXISTING SECTIONS OF DUCTBANK BACK TO THE EXISTING 16-WAY DUCTBANK (PORTION TO BE REMOVED SHOWN IN BOLD). REFER TO SHEET E-501 FOR MANHOLE AND DUCTBANK DETAIL.
- PROVIDE PORTABLE GENERATOR POLE LIGHT FOR THIS LOCATION DURING SECONDARY SERVICE INTERRUPTION. MINIMUM POLE HEIGHT SHALL BE 20'-0". NOTE: THERE ARE (2) ADDITIONAL LIGHT POLES SOUTH OF THE PROJECT AREA THAT WILL REQUIRE PORTABLE GENERATOR POLE LIGHTS (TOTAL OF 4).
- COORDINATE WITH AT&T FOR THE REMOVAL AND REPLACEMENT OF THE EXISTING TELECOMMUNICATIONS CABLING BETWEEN MANHOLES T-2 AND THE EXISTING BUNKER TELEPHONE STATION, AND FOR T-3 AND ITS CORRESPONDING BUNKER TELEPHONE STATION. THE EXISTING CONDUIT FOR THESE TELECOMMUNICATION CABLES SHALL BE REUSED. EXTEND THE EXISTING CONDUIT AS NEEDED TO CONNECT TO THE REPLACEMENT MANHOLES.
- REMOVE THE EXISTING SECONDARY CABLES SERVING THE EXISTING LIGHT POLE FIXTURES. EXISTING CONDUITS SHALL BE REUSED. EXTEND THE EXISTING CONDUIT AS NEEDED TO CONNECT TO THE REPLACEMENT MANHOLES. PROVIDE #6 RWH ELECTRICAL WIRE AND CONNECT LIGHTING FIXTURE TO OPERATE AS BEFORE.
- REMOVE THE EXISTING SECONDARY CABLES SERVING THE EXISTING BUNKER POWER STATION. EXISTING CONDUITS SHALL BE REUSED. EXTEND THE EXISTING CONDUIT AS NEEDED TO CONNECT TO THE REPLACEMENT MANHOLES. PROVIDE #8 RWH ELECTRICAL WIRE AND CONNECT BUNKER TO OPERATE AS BEFORE.
- REMOVE DIRECT BURIED (IN CONDUIT) COMMUNICATIONS LINE WITHIN THE LIMITS OF CONSTRUCTION. THE GOVERNMENT INDICATED THAT THE LINE IS ABANDONED, BUT THE CONTRACTOR SHALL VERIFY ITS STATUS AND INFORM THE GOVERNMENT IF IT IS NOT ABANDONED AND INACTIVE.
- COORDINATE WITH NAVFAC TO TEMPORARILY DE-ENERGIZE 13.8KV MEDIUM VOLTAGE FEEDERS WHEN THE DEMOLITION OF THE SECONDARY AND TELEPHONE DUCTBANKS APPROACHES THE MEDIUM VOLTAGE RUNS, IN ORDER TO PREVENT ACCIDENTAL INTRUSION INTO THE MEDIUM VOLTAGE CONDUITS. CAREFULLY EXCAVATE SECONDARY AND TELEPHONE DUCTBANKS AND MANHOLES.

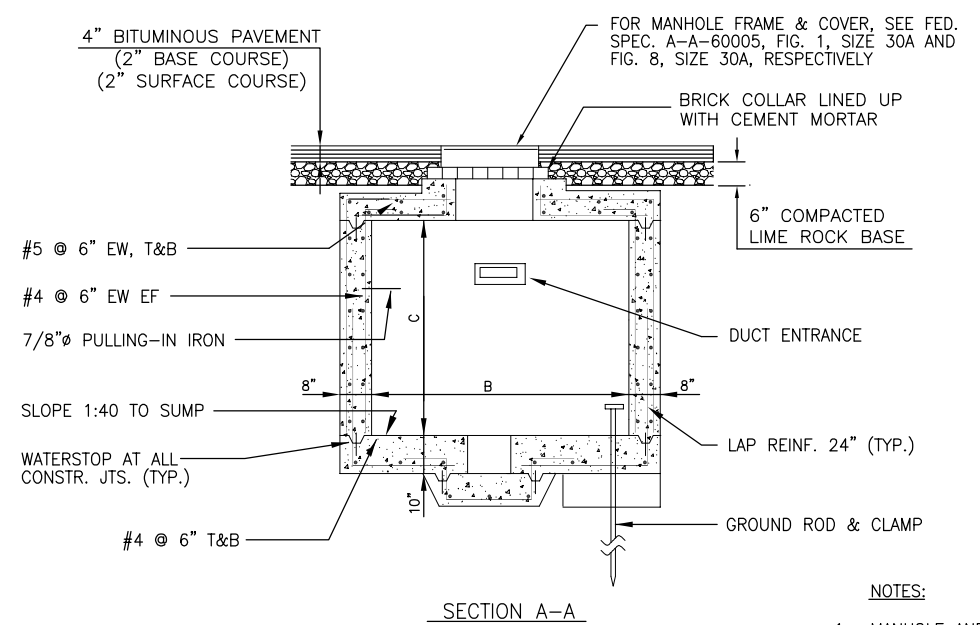
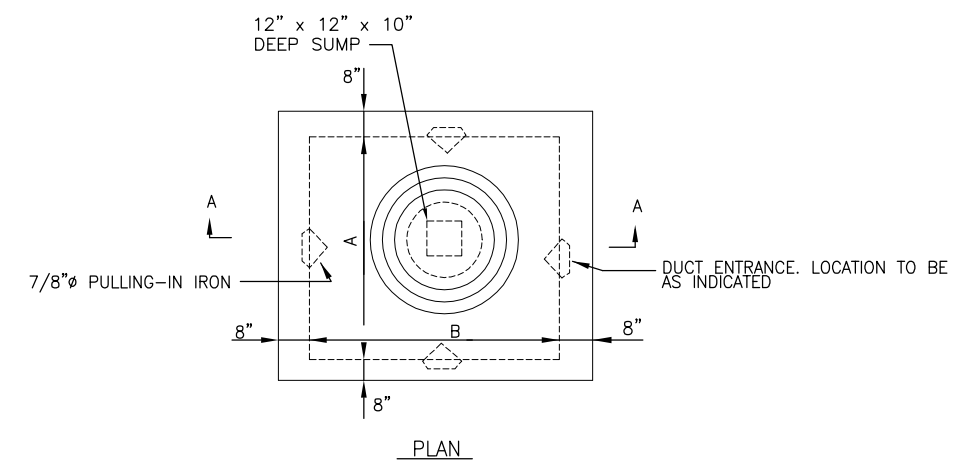
LEGEND:

- ☼ EXISTING LIGHT POLES.
- ⊙ EXISTING TELEPHONE MANHOLE (AT&T CABLING)
- ⊕ EXISTING SECONDARY MANHOLE (277/480V CIRCUITS)
- ⊖ EXISTING PRIMARY MANHOLE (13.8KV CIRCUITS)
- ⊔ EXISTING BOLLARD
- ⊖⊖ EXISTING DOUBLE BITT
- 4-WAY (AND SECTIONS OF 8-WAY) DUCTBANK, SEE DETAIL
- ⊙⊙ MANHOLE SEE DETAIL B1 E-501

GRAPHIC SCALE:



DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
 OCEAN CONSTRUCTION DIVISION
 NAVAL AIR STATION
 KEY WEST, FLORIDA
BULKHEAD 497 REPAIRS
 ELECTRICAL AND TELECOMMUNICATIONS PLAN
 E-101
 SHEET 17 OF 18
 NAVFAC DRAWING NO. 10005813
 PROJECT NO. N62473-06-D-3004
 SCALE: SCALE
 EPROJCT NO.:
 CONSR. CONTR. NO. N62473-06-D-3004
 NAVFAC DRAWING NO. 10005813
 SHEET 17 OF 18
 E-101
 DRAWFORM REVISION: 7 AUGUST 2009

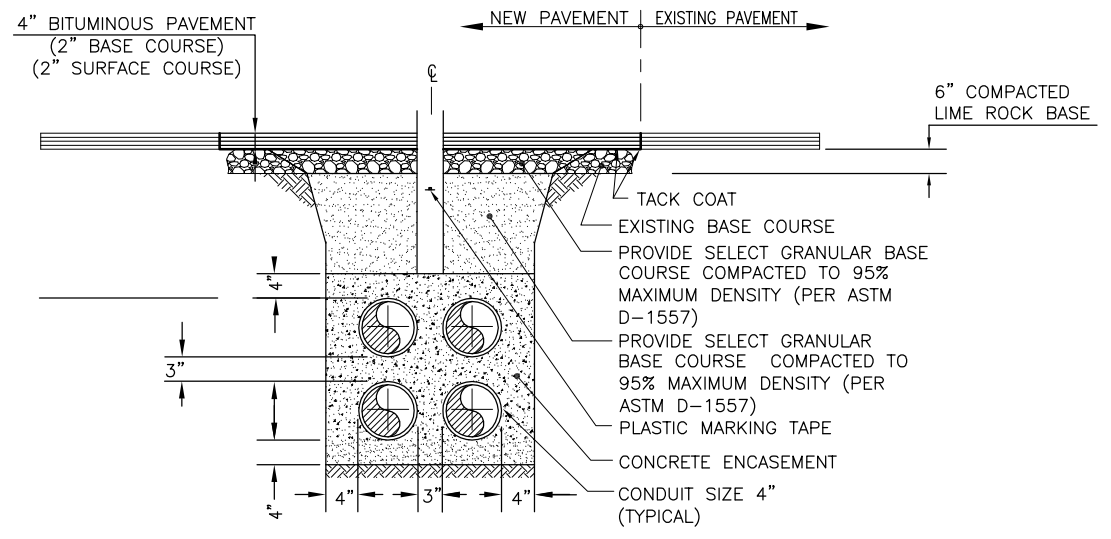


MANHOLE DIMENSIONS			
TYPE	A	B	C (AT HIGH PT.)
3	6'-0"	6'-0"	6'-6"

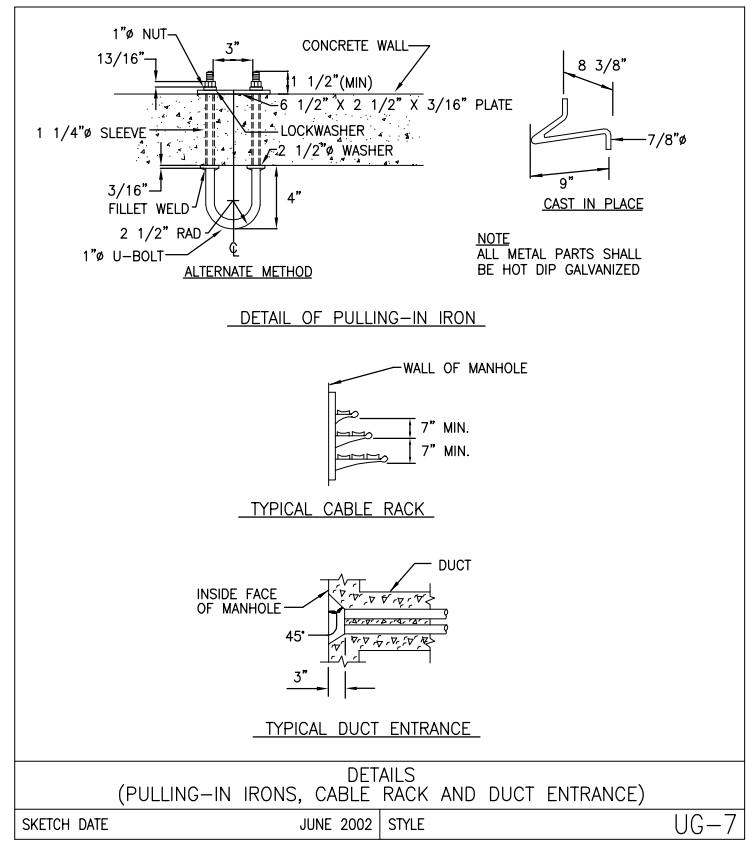
STANDARD ELECTRICAL MANHOLE (TRAFFIC)
 TYPES 3 & 4

MANHOLE DETAIL
 SCALE: NTS E-101 (B1)

- NOTES:**
1. MANHOLE AND COVERS SHALL BE DESIGNED FOR MAXIMUM WHEEL LOAD IN ACCORDANCE WITH AASHTO HS20-44.
 2. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE PLATE UG-7.
 3. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI.



4-WAY DUCTBANK DETAIL
 SCALE: NTS E-101 (C3)



DETAILS (PULLING-IN IRONS, CABLE RACK AND DUCT ENTRANCE)
 SKETCH DATE: JUNE 2002 STYLE: UG-7

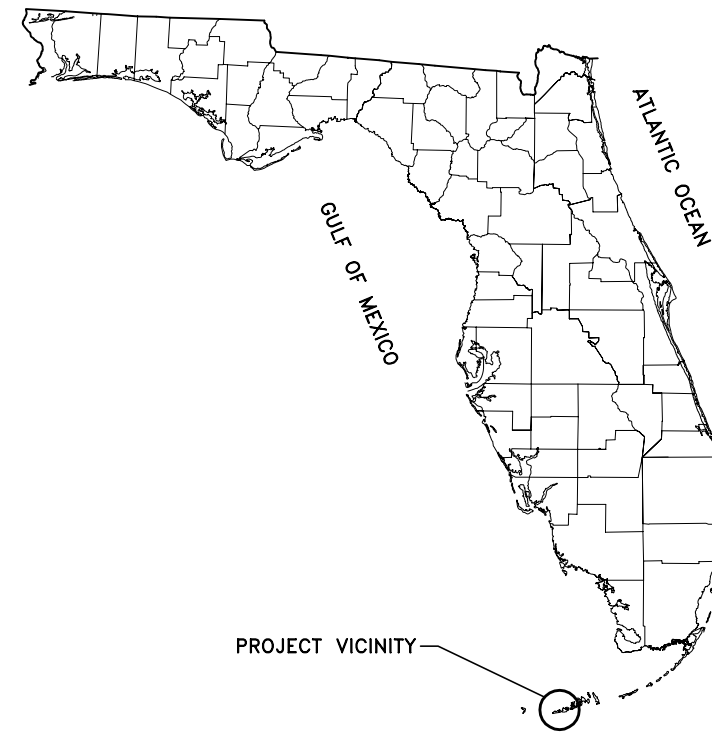
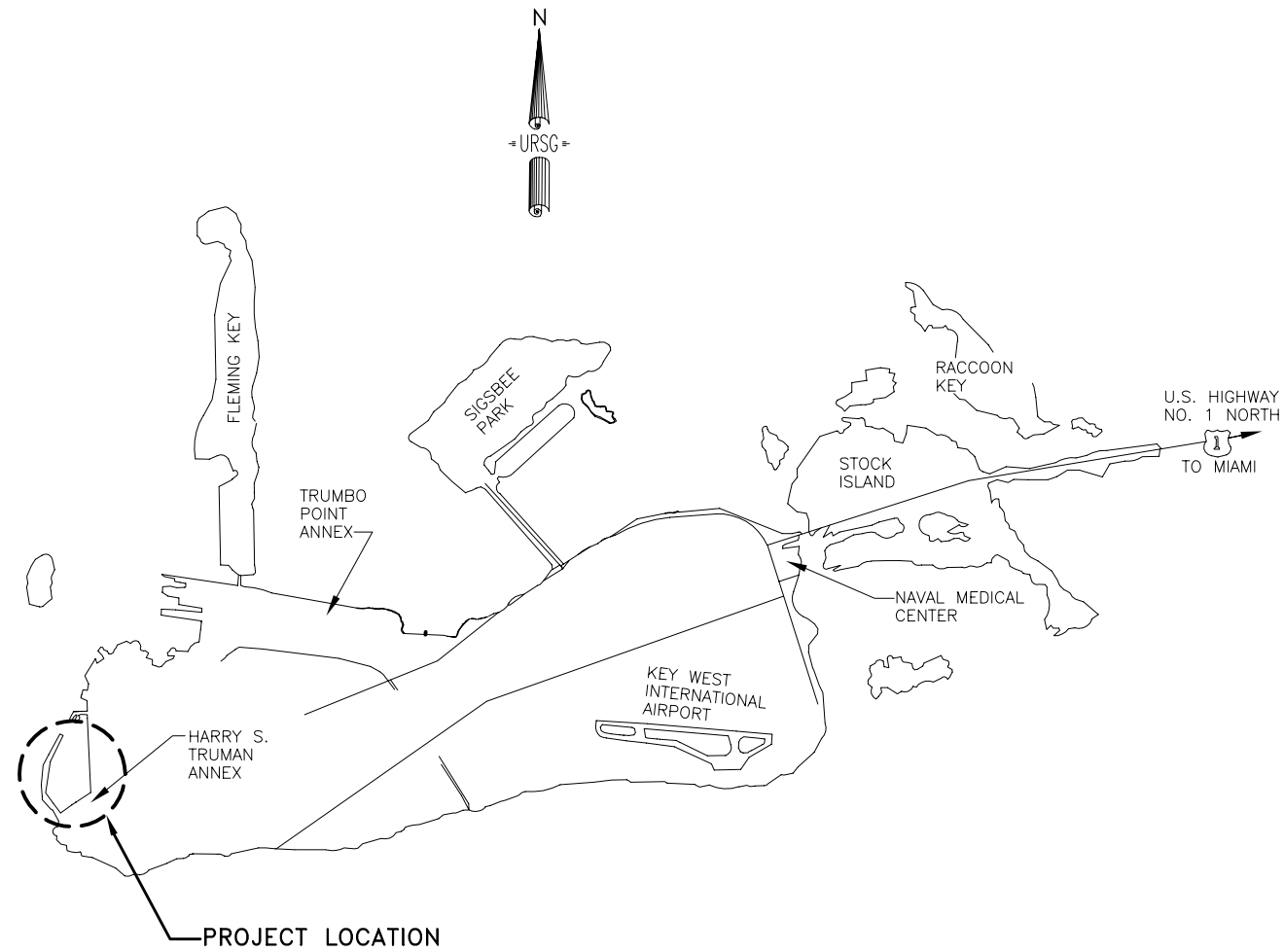
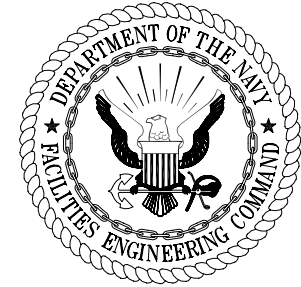
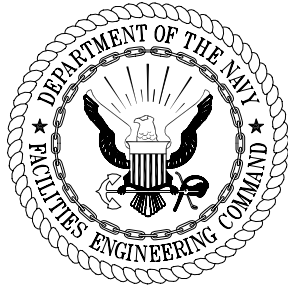
DATE	
DESCRIPTION	
SYN	
A/E FIRM: Applications Marine Engineering Inc. NAME AND ADDRESS: 800 State Street, Suite 500, Portsmouth, New Hampshire 03801 DSOH: JG/JG DRWN: SHB CHK: RAS SUPP: PRNGR: CVL STR: MECH: ARCH: ELEC: SUBMITTED BY: (SIGNED) (TITLE) (DATE) A/E INFO APPROVED: FOR COMMANDER NAVFAC / B.L.T.L. ACTIVITY: SATISFACTORY TO DATE: DES: JMR DRW: JMR CHK: GAP PROJECT MANAGER: BT TECH. BRANCH HEAD: CHIEF ENG/ARCH (CORE):	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND OCEAN CONSTRUCTION DIVISION EAST COAST DIST KEY WEST, FLORIDA NAVAL AIR STATION BULKHEAD 497 REPAIRS ELECTRICAL AND TELECOMMUNICATIONS DETAILS	
SCALE:	SCALE
EPROJCT NO.:	
CONSTR. CONTR. NO.:	N62473-06-D-3004
NAVFAC DRAWING NO.:	10005814
SHEET	18 OF 18
E-501	
DRAWFORM REVISION: 7 AUGUST 2009	

TRUMAN HARBOR REPAIRS

NAVAL AIR FACILITY KEY WEST, FLORIDA

CONSTRUCTION CONTRACT NO. N62467-03-C-0154

SPECIFICATION NO. 06-03-0154



URS Group, Inc.
7650 West Courtney Campbell Causeway
Tampa, FL 33607
DSSN ZICHUN DR ZICHUN CHK WALKER
SUPV WALKER CH ENR WALKER
SUBMITTED BY :
TECHNICAL BRANCH
DATE
PFE

Rev.	Description	Prep By	Date	Apprvd.
AS-BUILT, NO CORRECTIONS		FKW	03/01/05	CFS

KEY WEST, FLORIDA
NAVAL AIR FACILITY
TRUMAN HARBOR REPAIRS
COVER SHEET
DATE
ETD FOR COMMANDER, NAVFAC

Naval Facilities Engineering Command
Southern Division
Charleston, South Carolina

RECORD DRAWING

RECORD DRAWING DATE
1 MARCH 2005
CODE I.D. NO. 80091
DRAWING SIZE: D
SPEC. NO. 06-03-0154
CONSTR. CONTR. NO. N62467-03-C-0154
NAVFAC DRAWING NO. 5429422
SHEET 1 OF 140

G-1

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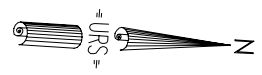
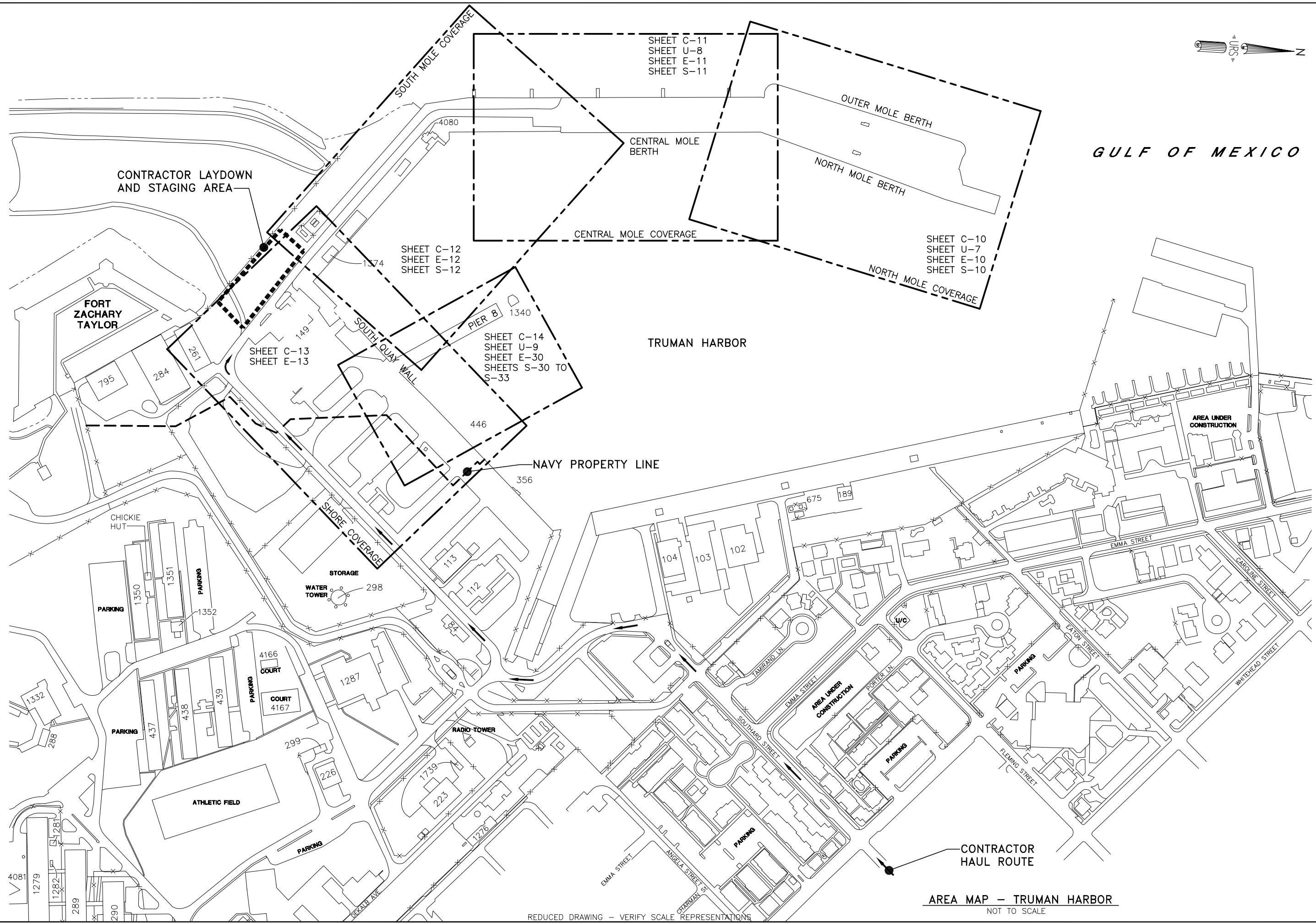
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5429536	XG-1	SOUTH QUAY WALL LOCATION PLAN
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 URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607 DR ZICHLIN CHK WALKER CH ENR WALKER SUBMITTED BY : DATE	DRAWING REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Rev.</th> <th>Description</th> <th>Prep By</th> <th>Date</th> <th>Appr'd</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>REVISED PER AMENDMENT 0003</td> <td>FKW</td> <td>04/04/03</td> <td>CRS</td> </tr> <tr> <td>2</td> <td>CORRECTED TO AS-BUILT</td> <td>FKW</td> <td>03/01/05</td> <td>CRS</td> </tr> </tbody> </table>	Rev.	Description	Prep By	Date	Appr'd	1	REVISED PER AMENDMENT 0003	FKW	04/04/03	CRS	2	CORRECTED TO AS-BUILT	FKW	03/01/05	CRS	KEY WEST, FLORIDA TRUMAN HARBOR REPAIRS INDEX OF DRAWINGS DATE	NAVAL AIR FACILITY Naval Facilities Engineering Command Southern Division Charleston, South Carolina APPROVED EFD FOR COMMANDER, NAVFAC	RECORD DRAWING DATE 1 MARCH 2005 CODE I.D. NO. 80091 DRAWING SIZE: D SPEC. NO. 06-03-0154 CONSTR. CONTR. NO. N62467-03-C-0154 NAVFAC DRAWING NO. 5429423 SHEET 2 OF
Rev.	Description	Prep By	Date	Appr'd															
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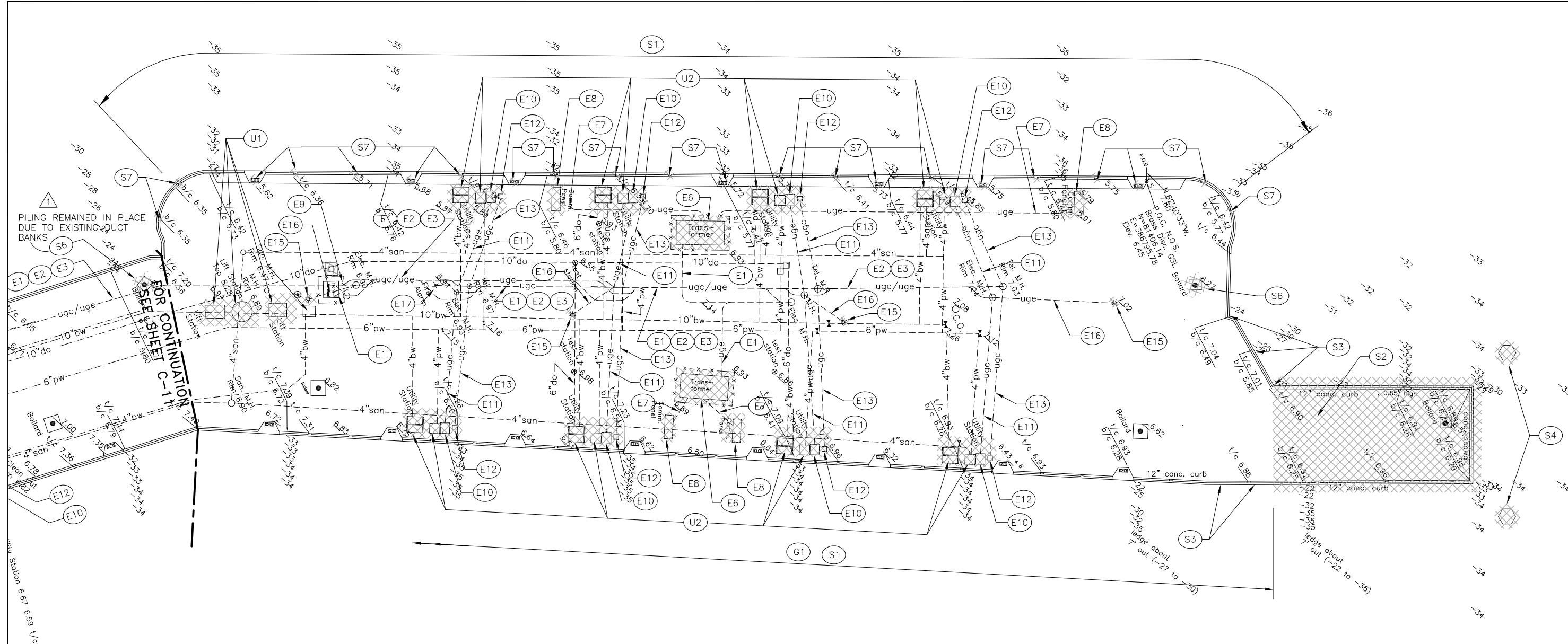
TRUMAN HARBOR

CONTRACTOR HAUL ROUTE

AREA MAP - TRUMAN HARBOR
NOT TO SCALE

REDUCED DRAWING - VERIFY SCALE REPRESENTATIONS

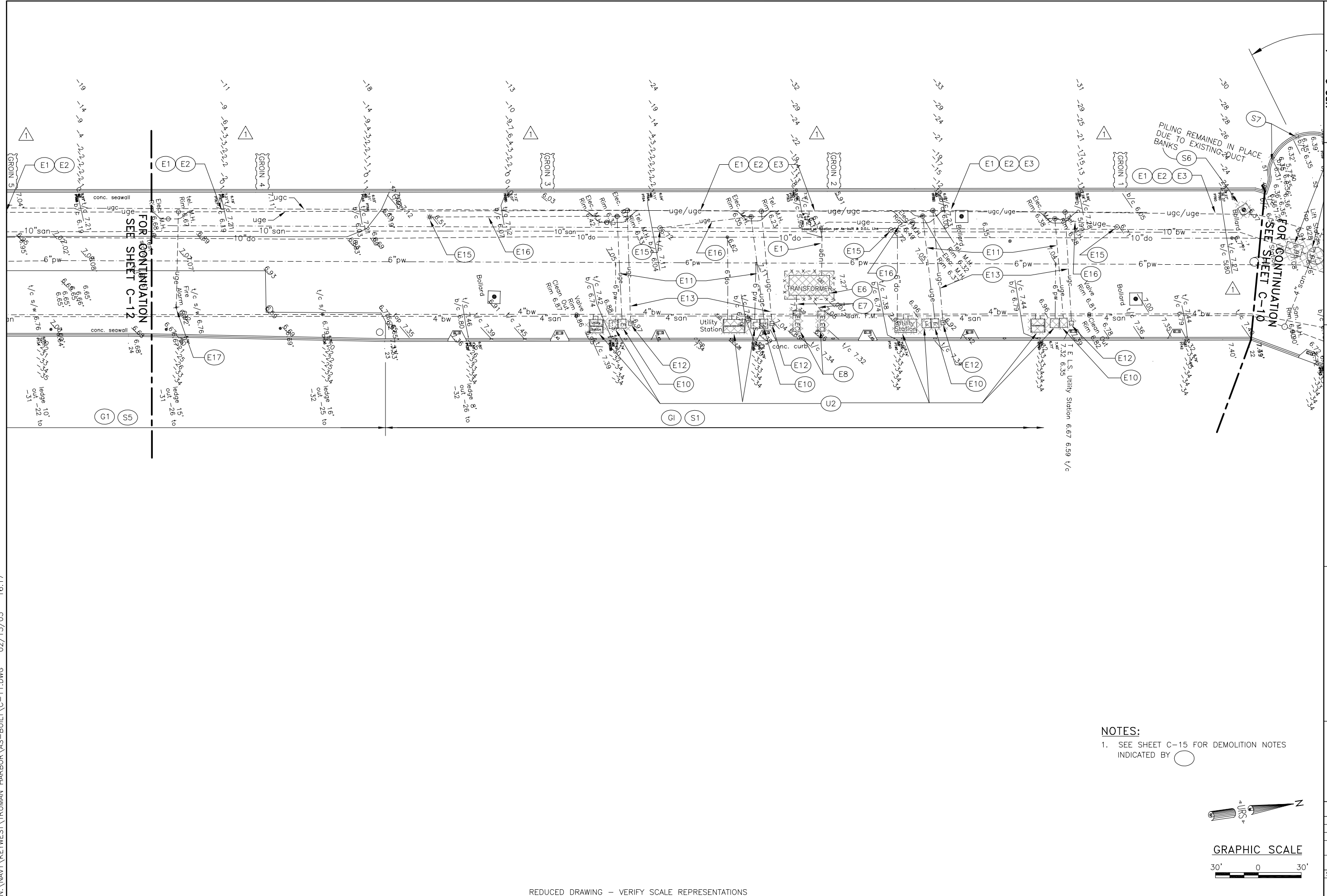
<p>URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607 DR ZICHLIN DR ZICHLIN CHK WALKER SUPPLY WALKER CH ENR WALKER</p>															
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<p>Naval Facilities Engineering Command Southern Division Charleston, South Carolina</p>	<p>DATE</p>														
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<p>G-6</p>	<p>G-6</p>														



NOTES:
 1. SEE SHEET C-15 FOR DEMOLITION NOTES INDICATED BY

REDUCED DRAWING - VERIFY SCALE REPRESENTATIONS

<p>URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607 DSSN WALKER DR ZICHLIN CHK WALKER SUPPLY WALKER CH ENGR WALKER</p>											
<p>NAVAL AIR FACILITY KEY WEST, FLORIDA</p>	<p>TRUMAN HARBOR REPAIRS NORTH MOLE DEMOLITION</p>										
<p>Naval Facilities Engineering Command Southern Division Charleston, South Carolina</p>	<p>RECORD DRAWING</p>										
<p>RECORD DRAWING DATE 1 MARCH 2005 CODE I.D. NO. 80091 DRAWING SIZE: D SPEC. NO. 06-03-0154 CONSTR. CONTR. NO. N62467-03-C-0154 NAVFAC DRAWING NO. 5429436</p>	<p>SHEET 15 OF C-10</p>										
<p>DRAWING REVISIONS</p> <table border="1"> <thead> <tr> <th>Rev.</th> <th>Description</th> <th>Prep By</th> <th>Date</th> <th>Apprvd.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CORRECTED TO AS-BUILT</td> <td>FKW</td> <td>03/01/05</td> <td>CRS</td> </tr> </tbody> </table>	Rev.	Description	Prep By	Date	Apprvd.	1	CORRECTED TO AS-BUILT	FKW	03/01/05	CRS	<p>APPROVED</p> <p>DATE</p> <p>EDT FOR COMMANDER, NAVFAC</p> <p>TECHNICAL BRANCH</p> <p>FFE</p>
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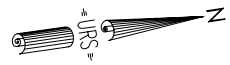
PILING REMAINED IN PLACE
DUE TO EXISTING DUCT

FOR CONTINUATION
SEE SHEET C-10

FOR CONTINUATION
SEE SHEET C-12

NOTES:

- SEE SHEET C-15 FOR DEMOLITION NOTES INDICATED BY



GRAPHIC SCALE



REDUCED DRAWING - VERIFY SCALE REPRESENTATIONS

<p>TRUMAN HARBOR REPAIRS CENTRAL MOLE DEMOLITION</p>		<p>KEY WEST, FLORIDA</p>
<p>NAVAL AIR FACILITY</p>		<p>EDD FOR COMMANDER, NAVFAC</p>
<p>Naval Facilities Engineering Command Southern Division Charleston, South Carolina</p>		<p>APPROVED</p>
<p>RECORD DRAWING</p>		<p>DATE</p>
<p>RECORD DRAWING DATE 1 MARCH 2005</p>		<p>DATE</p>
<p>CODE I.D. NO. 80091</p>		<p>DATE</p>
<p>DRAWING SIZE: D</p>		<p>DATE</p>
<p>SPEC. NO. 06-03-0154</p>		<p>DATE</p>
<p>CONSTR. CONTR. NO. N62467-03-C-0154</p>		<p>DATE</p>
<p>NAVFAC DRAWING NO. 5429437</p>		<p>DATE</p>
<p>SHEET 16 OF</p>		<p>DATE</p>
<p>C-11</p>		<p>DATE</p>

DRAWING REVISIONS	
Rev.	Description
1	REVISED PER AMENDMENT 0003
	AS-BUILT, NO CORRECTIONS

Prep By	Date	Appr'd.
SSSN WALKER	04/04/03	CRS
DR ZICHLIN		CHK WALKER
CHK ENGR		WALKER
CH ENGR		WALKER
SUBMITTED BY:		TECHNICAL BRANCH
		FFE

<p>URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607</p>	
<p>NO. 00000002</p>	

DEMOLITION NOTES

(LOCATIONS INDICATED ON SHEETS C-10 THROUGH C-14)

GENERAL DEMOLITION

- G1 SEE STRUCTURAL DRAWINGS FOR REMOVAL LIMITS ASSOCIATED WITH SOUTH AND CENTRAL MOLE CONCRETE BULKHEAD ENCAPSULATION AND CAP AND PIER 8 STRUCTURE REPAIRS. SEE SOUTH QUAY WALL DRAWINGS (X-SERIES) FOR REMOVAL LIMITS ASSOCIATED WITH SOUTH QUAY WALL.
- G2 KNOWN CONCRETE PAVEMENT AREAS BEHIND SOUTH MOLE WALL ARE INDICATED ON DRAWINGS. CONTRACTOR SHALL ANTICIPATE ENCOUNTERING ASPHALT PAVEMENT, STRUCTURES, OR ASPHALT MIXED WITH LIMEROCK OR SOIL IN ALL OTHER AREAS TO BE DEMOLISHED OR EXCAVATED DURING WALL REPAIR.

UTILITY DEMOLITION

- U1 REMOVE ALL LIFT STATION COMPONENTS INCLUDING WET WELL, LIFT STATION VALVE VAULT, OIL WATER SEPARATOR, BILGE WATER VALVE PIT, BURIED 4000 GALLON CAPACITY FIBERGLASS WASTE OIL TANK AND ASSOCIATED APPURTENANCES INCLUDING ALL FOUNDATIONS, STRUCTURES, PIPING, TANKS AND SUPPORT ITEMS. CAP AND PROTECT HORIZONTAL UNDERGROUND UTILITIES FOR REUSE TO SUPPORT NEW CONSTRUCTION (COORDINATE UTILITY DEMOLITION WITH U-DRAWINGS).
- U2 CUT AND REMOVE SANITARY, BILGE, DIESEL OIL AND POTABLE WATER UTILITY STATION COMPONENTS INCLUDING ALL FOUNDATIONS, STRUCTURES, PIPING, AND SUPPORT ITEMS. CAP AND PROTECT HORIZONTAL UNDERGROUND UTILITIES FOR REUSE TO SUPPORT NEW CONSTRUCTION (COORDINATE UTILITY CUTS AND DEMOLITION WITH U-DRAWINGS).
- U3 REMOVE ALL EXISTING SANITARY, BILGE AND POTABLE WATER COMPONENTS ABOVE AND BELOW DECK. COMPONENTS INCLUDE FRP, PVC AND CS PIPING, VALVES, METERS, SUPPORTS, COUPLINGS, AND ASSOCIATED APPURTENANCES. CAP AND PROTECT HORIZONTAL PIPING TO REMAIN. MODIFY EXISTING CURBING AND FOUNDATIONS AS REQUIRED. COORDINATE UTILITY REMOVAL AND NEW WORK WITH U-DRAWINGS.

AMENDMENT 0005

1.ADD THE FOLLOWING AT THE ENDS OF ELECTRICAL DEMOLITION NOTES E6 AND E14: "THE BASE PUBLIC WORKS DEPARTMENT HAS REPORTED THAT THE UNIT SUBSTATION AND PAD MOUNT STYLE OIL FILLED TRANSFORMERS HAVE BEEN TESTED FOR PCB'S AND HAVE BEEN FOUND TO QUALIFY AS NON-PCB CONTAMINATED. HOWEVER, ALL TRANSFORMERS SPECIFIED TO BE HANDLED AND/OR DISPOSED OF MUST HAVE RECENT CERTIFICATION AS NON-PCB CONTAMINATED AND THEREFORE MUST BE RETESTED. PROVIDE FOR RETESTING AND RECERTIFICATION OF TRANSFORMERS AS NON-PCB CONTAMINATED PRIOR TO HANDLING AND/OR DISPOSAL."

2.ADD THE FOLLOWING AT THE ENDS OF ELECTRICAL DEMOLITION NOTES E1, E4, E5 AND E18: "THE CONTRACTOR SHALL ASSUME THAT THE MEDIUM-VOLTAGE CABLES ASSOCIATED WITH EACH PRIMARY CIRCUIT MAKE ONE COMPLETE LOOP AROUND THE INSIDE OF EACH PRIMARY MANHOLE, AND THAT THE PORTIONS OF EACH MEDIUM-VOLTAGE CABLE EXPOSED INSIDE EACH PRIMARY MANHOLE ARE INDIVIDUALLY WRAPPED ALONG THEIR ENTIRE LENGTHS WITH ASBESTOS CONTAINING FIREPROOFING TAPE. PROVIDE FOR THE PROPER HANDLING, TESTING, AND DISPOSAL OF THE SEGMENTS OF MEDIUM-VOLTAGE CABLE WRAPPED WITH ASBESTOS CONTAINING FIREPROOFING TAPE."

3.ADD THE FOLLOWING AT THE ENDS OF ELECTRICAL DEMOLITION NOTES E15, E28 AND E29: "THE CONTRACTOR SHALL ASSUME THAT LUMINAIRE BALLASTS ARE PCB CONTAMINATED. PROVIDE FOR THE PROPER HANDLING AND DISPOSAL OF THESE BALLASTS."

ELECTRICAL DEMOLITION

- E1 DE-ENERGIZE, DISCONNECT AND REMOVE 3-350kcmil MEDIUM VOLTAGE CABLES FROM 4" PVC CONDUIT.
- E2 DE-ENERGIZE, DISCONNECT AND REMOVE SECONDARY WIRING SERVING EACH MINIPOWER ZONE COMBINATION TRANSFORMER/PANELBOARD INSTALLATION.
- E3 DISCONNECT AND REMOVE COMMUNICATIONS CABLING SERVING EACH COMMUNICATIONS PEDESTAL FROM 2-4" PVC CONDUITS. DO NOT REMOVE TELEPHONE TRUNK LINE IF TELEPHONE SERVICE PROVIDER DETERMINES IT CAN BE REUSED. COORDINATE WORK WITH TELEPHONE SERVICE PROVIDER.
- E4 DE-ENERGIZE, DISCONNECT AND REMOVE 3-350kcmil MEDIUM VOLTAGE CABLES BACK THROUGH MANHOLE NOS. 56, 55, 21, 20 AND 22, TO UPSTREAM MEDIUM VOLTAGE CIRCUIT BREAKER IN EXISTING MEDIUM VOLTAGE SUBSTATION.
- E5 DE-ENERGIZE, DISCONNECT AND REMOVE 3-250kcmil MEDIUM VOLTAGE CABLES BACK TO UPSTREAM SPLICE IN MANHOLE NO. 56.
- E6 DE-ENERGIZE AND REMOVE UNIT SUBSTATION CONSISTING OF A 15KV MEDIUM VOLTAGE METAL ENCLOSED LOAD INTERRUPTER SWITCH, A 3,000kVA OA / 4,200kVA FFA RATED, 13.8KV DELTA PRI., 480V DELTA SEC., 3PH. OIL FILLED SUBSTATION STYLE TRANSFORMER; AND A 5,000A, 480V, 3PH. SWITCHBOARD CONTAINING FOUR (4) 1600A AND ONE 200A DRAWOUT CIRCUIT BREAKERS, METERING COMPARTMENT, BATTERY CHARGER SYSTEM COMPARTMENT AND APPURTENANCES. REMOVE CONCRETE PAD. PROTECT HORIZONTAL PORTIONS OF UNDERGROUND CONDUITS FOR EXTENSION UP INTO NEW CONCRETE PAD.
- E7 DE-ENERGIZE, DISCONNECT AND REMOVE 3-500kcmil PH. AND 1-#3 GND FROM EACH OF 4-4" PVC CONDUITS. TWO (2) OF THE 4" PVC CONDUITS ALSO CONTAIN A 9C/#12 CONTROL CABLE IN ADDITION TO THE FEEDER WIRES.
- E8 DE-ENERGIZE, DISCONNECT AND REMOVE IGLOO CONSISTING OF EIGHT (8) 500A, 480V, 3PH. RECEPTACLES, TWO (2) CONTROL PANELS, REINFORCED CONCRETE STRUCTURE, STEEL STRUCTURAL MEMBERS AND STEEL MOUNTING PLATES.
- E9 DE-ENERGIZE, DISCONNECT AND REMOVE MOLE SECONDARY POWER DISTRIBUTION EQUIPMENT CONSISTING OF A 225A, 480/277V, 3PH., 4W. PANELBOARD, 60A, 480V, 3P SEWAGE LIFT STATION DISCONNECT SWITCH, 60A, 480V, 3P ENCLOSED LIGHTING CONTACTOR AND STRUCTURAL STEEL RACK. DE-ENERGIZE, DISCONNECT AND REMOVE 3-4/0 PH., 1-4/0 NEUT. AND 1-#2 GND FROM 3" PVC CONDUIT BETWEEN 150kVA, 480/277V, 3 PH., OIL FILLED PAD MOUNTED TRANSFORMER AND MOLE SECONDARY POWER DISTRIBUTION EQUIPMENT. DE-ENERGIZE AND DISCONNECT 150kVA, 480/277V, 3 PH., OIL FILLED PAD MOUNTED TRANSFORMER, SECURE AND PROTECT TRANSFORMER WHICH IS TO BE RE-ENERGIZED UNDER THE NEW ELECTRICAL WORK PORTION OF THIS PROJECT.
- E10 DE-ENERGIZE, DISCONNECT AND REMOVE EXISTING 15kVA, 480V 1PH. PRI., 120/240V 1PH. 3W. SEC. MINIPOWER ZONE COMBINATION TRANSFORMER/LOAD CENTER, FIBER GLASS HOUSING AND CONCRETE FOUNDATION. PROTECT HORIZONTAL PORTIONS OF UNDERGROUND CONDUITS FOR EXTENSION UP INTO NEW LC/TELECOMM. OUTLET ASSEMBLY.
- E11 DE-ENERGIZE, DISCONNECT AND REMOVE 2-#6 PH. AND 1-#10 GND FROM 2" PVC CONDUIT. REMOVE FEEDER WIRES BACK TO MOLE SECONDARY POWER DISTRIBUTION PANELBOARD.
- E12 DISCONNECT AND REMOVE COMMUNICATIONS PEDESTAL CONSISTING OF A TWO (2) 30"H. x 30"W. x 8" D. NEMA TYPE 3R CABINETS, TWO (2) VERTICAL STRUCTURAL STEEL SUPPORT POSTS AND CONCRETE FOUNDATION. PROTECT HORIZONTAL PORTIONS OF UNDERGROUND CONDUIT FOR EXTENSION UP INTO NEW LC/TELECOMM. OUTLET ASSEMBLY.
- E13 DISCONNECT AND REMOVE COMMUNICATIONS CABLING FROM 4" PVC CONDUIT. DO NOT REMOVE TELEPHONE TRUNK LINE IF TELEPHONE SERVICE PROVIDER DETERMINES IT CAN BE REUSED. COORDINATE WORK WITH TELEPHONE SERVICE PROVIDER.
- E14 DE-ENERGIZE AND REMOVE UNIT SUBSTATION CONSISTING OF A 15KV MEDIUM VOLTAGE METAL ENCLOSED LOAD INTERRUPTER SWITCH, A 750kVA, 13.8KV DELTA PRI., 480V DELTA SEC., 3PH. OIL FILLED SUBSTATION STYLE TRANSFORMER; AND A 2,000A, 480V, 3PH. SWITCHBOARD CONTAINING SEVEN (7) 400A DRAWOUT CIRCUIT BREAKERS, METERING COMPARTMENT, BATTERY CHARGER SYSTEM COMPARTMENT AND APPURTENANCES. REMOVE CONCRETE PAD. PROTECT HORIZONTAL PORTIONS OF UNDERGROUND CONDUITS FOR EXTENSION UP INTO NEW CONCRETE PAD. DE-ENERGIZE, DISCONNECT AND REMOVE 300kVA, 208/120V, 3 PH., OIL FILLED PAD MOUNTED TRANSFORMER, AND DELIVER TO NAVFW ELECTRICAL DEPARTMENT MATERIAL STORAGE YARD ON BOCA CHICA.
- E15 DE-ENERGIZE, DISCONNECT AND REMOVE 40'-0" TALL GALVANIZED STEEL LIGHT POLE AND FLOOD LIGHT TYPE LUMINAIRES INSTALLED THEREON.
- E16 DE-ENERGIZE, DISCONNECT AND REMOVE 3-#8 PH., 1-#8 NEUT. AND 1-#6 GND FROM 2" CRGS CONDUIT. CONCRETE FOUNDATION AND CONDUIT IS TO REMAIN INTACT FOR REUSE UNDER THE NEW ELECTRICAL WORK PORTION OF THIS PROJECT. REMOVE LIGHTING CIRCUIT WIRES BACK TO MOLE SECONDARY POWER DISTRIBUTION LIGHTING CONTACTOR.
- E17 REMOVE RADIO REPORTING TYPE MANUAL FIRE ALARM PULL STATION POLE, CONCRETE FOUNDATION AND FOUR (4) CONCRETE FILLED PIPE BOLLARDS.
- E18 DE-ENERGIZE, DISCONNECT AND REMOVE 3-250kcmil MEDIUM VOLTAGE CABLES FROM 4" PVC CONDUIT.
- E19 DE-ENERGIZE, DISCONNECT AND REMOVE 3-600kcmil PH. AND 1-#1 GND FROM EACH OF 6-4" PVC CONDUITS. DE-ENERGIZE, DISCONNECT AND REMOVE SIX (6) SETS OF MULTIPLE #12 CONTROL WIRES FROM A 4" PVC CONDUIT.
- E20 DISCONNECT AND REMOVE COMMUNICATIONS CABLING FROM 2-2" PVC CONDUITS. DO NOT REMOVE TELEPHONE TRUNK LINE IF TELEPHONE SERVICE PROVIDER DETERMINES IT CAN BE REUSED. COORDINATE WORK WITH TELEPHONE SERVICE PROVIDER.

ELECTRICAL DEMOLITION (CONTINUED)

- E21 DE-ENERGIZE, DISCONNECT AND REMOVE PIER POWER STATION CONSISTING OF A 500A, 480V, 3PH. RECEPTACLE, CONTROL PANEL AND HEAVY DUTY A GALVANIZED STEEL ENCLOSURE.
- E22 DE-ENERGIZE, DISCONNECT AND REMOVE 3-600kcmil PH. AND 1-#1 GND FROM 4" PVC CONDUITS. DE-ENERGIZE, DISCONNECT AND REMOVE MULTIPLE #12 CONTROL WIRES FROM A 2" PVC CONDUIT.
- E23 DE-ENERGIZE, DISCONNECT AND REMOVE 3-600kcmil PH. AND 1-#1 GND FROM EACH OF 4-4" PVC CONDUITS. DE-ENERGIZE, DISCONNECT AND REMOVE FOUR (4) SETS OF MULTIPLE #12 CONTROL WIRES FROM A 4" PVC CONDUIT.
- E24 DE-ENERGIZE, DISCONNECT AND REMOVE PIER POWER STATION CONSISTING OF TWO (2) 500A, 480V, 3PH. RECEPTACLES, TWO (2) CONTROL PANELS AND A HEAVY DUTY GALVANIZED STEEL ENCLOSURE.
- E25 DE-ENERGIZE, DISCONNECT AND REMOVE 3-600kcmil PH. AND 1-#1 GND FROM EACH OF 2-4" PVC CONDUITS. DE-ENERGIZE, DISCONNECT AND REMOVE TWO (2) SETS OF MULTIPLE #12 CONTROL WIRES FROM A 2" PVC CONDUIT.
- E26 DE-ENERGIZE, DISCONNECT AND REMOVE ALL CABLING/WIRING FROM MANHOLE. PREPARE CONDUITS FOR DEMOLITION OF MANHOLE, AND EXTENSION AND TERMINATION TO NEW MANHOLE TO BE CONSTRUCTED UNDER THE NEW WORK PORTION OF THIS PROJECT.
- E27 DE-ENERGIZE, DISCONNECT AND REMOVE TIME SWITCH FROM MANHOLE.
- E28 DE-ENERGIZE, DISCONNECT AND REMOVE 30'-0" TALL CONCRETE LIGHT POLE AND FLOOD LIGHT TYPE LUMINAIRE INSTALLED THEREON.
- E29 DE-ENERGIZE, DISCONNECT AND REMOVE 30'-0" TALL GALVANIZED STEEL LIGHT POLE AND FLOOD LIGHT TYPE LUMINAIRE INSTALLED THEREON.
- E30 DE-ENERGIZE, DISCONNECT AND REMOVE 2-#10 PH. AND 1-#10 GND FROM 1 1/4" PVC CONDUIT. REMOVE LIGHTING CIRCUIT WIRES BACK TO TIME SWITCH.

STRUCTURAL DEMOLITION

- S1 REMOVE ALL ARCH FENDERS ALONG OUTER MOLE BERTH, NORTH AND CENTRAL MOLE BERTH AND PIER 8. RETAIN FASTENERS. LEAVE BOLTS IN PLACE.
- S2 REMOVE NORTH END OF OUTER MOLE BEYOND LOCATION OF NEW BULKHEAD WALL FROM EXISTING GROUND SURFACE TO ELEVATION -33.7 MSL, PLUS 2'-0" OVERDREDGE. REMOVAL TO INCLUDE EXISTING STRUCTURES, BOLLARD AND 5' Ø DRILLED SHAFT BOLLARD FOUNDATION, DEBRIS, PAVEMENT, UTILITIES, EARTH AND ROCK.
- S3 REMOVE PORTIONS OF EXISTING BULKHEAD WALLS AS INDICATED TO ALLOW CONSTRUCTION OF NEW BULKHEAD WALL.
- S4 REMOVE SUBMERGED REMAINS OF FOUR TIMBER (19) PILE DOLPHIN CLUSTERS.
- S5 REMOVE SOUTH MOLE AND PORTIONS OF THE CENTRAL MOLE CONCRETE SHEET PILE CAP AND ATTACHMENTS TO WALL AS INDICATED.
- S6 REMOVE BOLLARD AND PILE CAP TO ACCOMODATE NEW BOLLARD AND FOUNDATION. PILING TO REMAIN IN PLACE DUE TO EXISTING ELECTRICAL DUCT BANK.
- S7 REMOVE AND DISPOSE OF ALL LOW DOUBLE BITTS AND CLEATS FROM OUTER MOLE BERTH.
- S8 REMOVE COMPLETELY 2 SUBMERGED 14 IN. CONCRETE PILING STUBS - DO NOT CUT PILING.
- S9 REMOVE COMPLETELY 1 SUBMERGED 14 IN. CONCRETE PILING STUB - DO NOT CUT PILE.
- S10 REMOVE CONCRETE SLAB 38'X4'X5" AND PAVEMENT - PROTECT BUILDING FOUNDATION DURING WALL REPAIRS.
- S11 REMOVE 12" STEEL CRANE RAIL 12' LONG 3" FROM BUILDING FACE. REMOVE 6" STEEL COLUMNS 8' LONG ATTACHED TO SEAWALL. REMOVE 6" STEEL BEAM 8' LONG.
- S12 REMOVE 24" CLEAT ATTACHED TO SEAWALL.
- S13 REMOVE 24" CLEAT AND CONCRETE SUPPORT ADJOINING SEAWALL.
- S14 REMOVE REMAINS OF 2' WOOD WALKWAY ATTACHED TO SEAWALL INCLUDING 12"X12" TIMBER BEAM, 2' WOOD WALKWAY, LADDERS AND MISC. ATTACHMENTS.
- S15 REMOVE 20" DIAMETER TREE.
- S16 REMOVE WOOD DECK.
- S17 REMOVE ABANDONED 2" PVC CONDUIT AND WIRING.
- S18 REMOVE END OF FENCE TEMPORARILY TO CONSTRUCT WALL REPAIR AND RESTORE AFTER COMPLETION OF WALL REPAIR.
- S19 REMOVE ABANDONED CONCRETE 2'X3.5' UTILITY STRUCTURE.
- S20 REMOVE BY SAW CUTTING IN NEAT STRAIGHT LINES CONCRETE SLAB AS NECESSARY TO CONSTRUCT NEW CLEATS AND FOUNDATIONS SHOWN ON SHEET S-12. ASSUME EXISTING SLAB IS 8" THICK.

REDUCED DRAWING - VERIFY SCALE REPRESENTATIONS

URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607 CH. WALKER DR. ZICHUN CH. ENR. WALKER DATE	
DRAWING REVISIONS Description 1 REVISED PER AMENDMENT 0003 2 REVISED PER AMENDMENT 0005 3 CORRECTED TO AS-BUILT	Apprd. Date 04/04/03 04/11/03 03/01/05
KEY WEST, FLORIDA NAVAL AIR FACILITY TRUMAN HARBOR REPAIRS DEMOLITION NOTES	EPI FOR COMMANDER, NAVFAC DATE
Naval Facilities Engineering Command Southern Division Charleston, South Carolina	RECORD DRAWING
RECORD DRAWING DATE 1 MARCH 2005 CODE I.D. NO. 80091 DRAWING SIZE: D SPEC. NO. 06-03-0154 CONSTR. CONTR. NO. N62467-03-C-0154 NAVFAC DRAWING NO. 5429441 SHEET 20 OF	C-15

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GENERAL NOTES:

- THE GENERAL AND KEY NOTES ON THIS DRAWING APPLY TO DRAWINGS E-10 THROUGH E-13. SEE DRAWING C-15 FOR NOTES GOVERNING ELECTRICAL DEMOLITION WORK.
- EXACT LOCATIONS OF UTILITY POLES PROVIDED BY ELECTRICAL POWER SERVICE PROVIDER, SHALL BE DETERMINED BY THE ELECTRICAL POWER SERVICE PROVIDER BASED SYSTEMS ENGINEERING PERFORMED BY THE UTILITY SERVICE PROVIDER.
- PREPARE EXISTING AND NEW DUCTS/CONDUITS AND MANHOLES SPECIFIED TO RECEIVE NEW PRIMARY CABLES. DE-WATER AND CLEAN EXISTING MANHOLES IDENTIFIED TO RECEIVE NEW PRIMARY CABLES, OF DIRT, DEBRIS, AND ABANDONED CABLES/WIRES. CLEAN EXISTING DUCTS/CONDUITS IDENTIFIED TO RECEIVE NEW PRIMARY CABLES, BY PULLING A MANDREL THROUGH EACH DUCT/CONDUIT IN EACH DIRECTION, AND THEREAFTER PULLING A STIFF BRISTLE BRUSH WITH SWAB THROUGH THE DUCT/CONDUIT UNTIL DUCT/CONDUIT IS CLEAR OF EARTH, SAND, AND GRAVEL. PROVIDE FOR DE-WATERING OF MANHOLES AS REQUIRED TO COMPLETE INSTALLATION OF NEW PRIMARY CABLES.
- PREPARE EXISTING AND NEW DUCTS/CONDUITS AND MANHOLES SPECIFIED TO RECEIVE NEW SECONDARY WIRES. DE-WATER AND CLEAN EXISTING MANHOLES IDENTIFIED TO RECEIVE NEW SECONDARY WIRES, OF DIRT, DEBRIS, AND ABANDONED CABLES/WIRES. CLEAN EXISTING DUCTS/CONDUITS IDENTIFIED TO RECEIVE NEW SECONDARY WIRES, BY PULLING A MANDREL THROUGH EACH DUCT/CONDUIT IN EACH DIRECTION, AND THEREAFTER PULLING A STIFF BRISTLE BRUSH WITH SWAB THROUGH THE DUCT/CONDUIT UNTIL DUCT/CONDUIT IS CLEAR OF EARTH, SAND, AND GRAVEL. PROVIDE FOR DE-WATERING OF MANHOLES AS REQUIRED TO COMPLETE INSTALLATION OF NEW SECONDARY WIRES.
- PREPARE EXISTING AND NEW DUCTS/CONDUITS AND MANHOLES FOR USE BY TELEPHONE AND CATV SERVICE PROVIDERS. DE-WATER AND CLEAN EXISTING COMMUNICATIONS MANHOLES IDENTIFIED FOR TELEPHONE AND CATV SERVICE PROVIDER USE, OF DIRT, DEBRIS, AND ABANDONED CABLES. EXISTING DUCTS/CONDUITS AND MANHOLES MAY CONTAIN ACTIVE TELEPHONE CABLES. COORDINATE CLEANING ACTIVITIES WITH TELEPHONE SERVICE PROVIDER SO THAT ACTIVE TELEPHONE CABLES ARE IDENTIFIED, PROTECTED, REMAIN UNDAMAGED, AND REMAIN IN SERVICE. CLEAN EXISTING DUCTS/CONDUITS IDENTIFIED FOR TELEPHONE AND CATV SERVICE PROVIDER USE BY PULLING A MANDREL THROUGH EACH DUCT/CONDUIT IN EACH DIRECTION, AND THEREAFTER PULLING A STIFF BRISTLE BRUSH WITH SWAB THROUGH THE DUCT/CONDUIT UNTIL DUCT IS CLEAR OF EARTH, SAND, AND GRAVEL. PROVIDE FOR DE-WATERING OF MANHOLES AS REQUIRED FOR TELEPHONE AND CATV SERVICE PROVIDERS TO COMPLETE THEIR WORK INSIDE THE MANHOLE. PROVIDE PULL ROPES FOR TELEPHONE AND CATV PROVIDER USE, IN EACH DUCT/CONDUIT IDENTIFIED FOR TELEPHONE AND CATV SERVICE PROVIDER USE. WHERE CABLE ROUTING HAS BEEN LEFT TO THE DISCRETION OF THE TELEPHONE AND CATV SERVICE PROVIDERS, COORDINATE FINAL CABLE ROUTING IN THE FIELD WITH THE TELEPHONE AND CATV SERVICE PROVIDERS.

KEY NOTES:

- UTILITY EASEMENT SHOWN MAY BE USED BY TELEPHONE AND CATV SERVICE PROVIDERS TO BRING TELEPHONE AND CATV SERVICES TO SITE.
- EXISTING UNDERGROUND UTILITY DUCT BANK CONTAINING COMMUNICATIONS CONDUITS. UTILITY SERVICE PROVIDERS MAY, AT THEIR OPTION AND RISK, USE THESE CONDUITS TO BRING TELEPHONE AND CATV SERVICES TO THE SITE.
- PROPOSED OVERHEAD PRIMARY ELECTRICAL POWER DISTRIBUTION TO BE PROVIDED BY ELECTRICAL POWER UTILITY SERVICE PROVIDER.
- PROPOSED LOCATION FOR UTILITY POLE WITH GUYS AS REQUIRED TO BE PROVIDED BY ELECTRICAL POWER UTILITY SERVICE PROVIDER.
- PROPOSED LOCATION FOR UTILITY POLE WITH PRIMARY METERING, TO BE PROVIDED BY ELECTRICAL POWER UTILITY SERVICE PROVIDER.
- PROPOSED LOCATION FOR UTILITY POLES WITH SERVICE DROPS, TO BE PROVIDED BY ELECTRICAL POWER UTILITY SERVICE PROVIDER.
- PROVIDE DUCT BANK, ONE ACTIVE AND ONE SPARE CONDUIT, BETWEEN UTILITY POLE AND PRIMARY MANHOLE FOR PRIMARY SWITCH "A" SERVICE DROP. PROVIDE PRIMARY SERVICE CABLES IN ACTIVE CONDUIT. STUB ACTIVE CONDUIT UP POLE TO HEIGHT SPECIFIED BY ELECTRIC POWER SERVICE PROVIDER. STUB SPARE CONDUIT UP 6" ABOVE FINAL GRADE, ADJACENT TO UTILITY POLE AND CAP FOR FUTURE USE.
- PROVIDE DUCT BANK, ONE ACTIVE AND ONE SPARE CONDUIT, BETWEEN UTILITY POLE AND PRIMARY MANHOLE FOR PRIMARY SWITCH "B" SERVICE DROP. PROVIDE PRIMARY SERVICE CABLES IN ACTIVE CONDUIT. STUB ACTIVE CONDUIT UP POLE TO HEIGHT SPECIFIED BY ELECTRIC POWER SERVICE PROVIDER. STUB SPARE CONDUIT UP 6" ABOVE FINAL GRADE, ADJACENT TO UTILITY POLE AND CAP FOR FUTURE USE.
- PROVIDE PRIMARY SWITCHES AS DETAILED.
- PROVIDE SUBSTATION AS DETAILED.
- PROVIDE 8'-0" LONG BY 6'-0" WIDE BY 6'-0" HIGH (INSIDE DIMENSIONS) PRECAST CONCRETE MANHOLE WITH 42" CLEAR OPENING DIAMETER HS-20 TRAFFIC LOAD RATED DUCTILE IRON LID/LID FRAME.
- PROVIDE 5'-0" LONG BY 5'-0" WIDE BY 6'-0" HIGH (INSIDE DIMENSIONS) PRECAST CONCRETE MANHOLE WITH 42" CLEAR OPENING DIAMETER HS-20 TRAFFIC LOAD RATED DUCTILE IRON LID/LID FRAME.
- PROVIDE DUCT BANK AS DETAILED. PROVIDE CABLES AND WIRES IN THESE CONDUITS AS SPECIFIED.
- PROVIDE TWO 4" SCH. 40 PVC CONDUITS BETWEEN UTILITY POLE AND COMMUNICATIONS MANHOLE FOR POSSIBLE USE BY TELEPHONE AND CATV SERVICE PROVIDERS. CONDUITS SHALL BE DIRECT BURIED BELOW GRADE WITH MINIMUM 36" EARTH COVER. STUB CONDUITS UP 6" ABOVE FINAL GRADE ADJACENT TO UTILITY POLE AND CAP.
- EXISTING UTILITY DUCT BANK CONTAINING VARIOUS COMBINATIONS OF SECONDARY ELECTRICAL POWER AND COMMUNICATIONS CONDUITS. TELEPHONE AND CATV SERVICE PROVIDERS MAY USE THESE CONDUITS TO BRING TELEPHONE AND CATV SERVICES TO PIER COMMUNICATION OUTLET ASSEMBLIES.
- EXISTING UTILITY DUCT BANK CONTAINING VARIOUS COMBINATIONS OF PRIMARY ELECTRICAL POWER, SECONDARY ELECTRICAL POWER AND COMMUNICATIONS CONDUITS. PROVIDE PRIMARY AND SECONDARY ELECTRICAL POWER DISTRIBUTION CABLES AND WIRES IN THESE CONDUITS AS SPECIFIED. TELEPHONE AND CATV SERVICE PROVIDERS SHALL USE THESE CONDUITS TO BRING TELEPHONE AND CATV SERVICES TO PIER COMMUNICATIONS OUTLET ASSEMBLIES.
- EXISTING DUCT BANK CONTAINING TWO 4" PVC CONDUITS, ONE ACTIVE AND ONE SPARE. REWORK EXISTING CONDUITS UP INTO NEW PRIMARY SWITCH AT NEW SUBSTATION. PROVIDE PRIMARY CABLES IN ACTIVE CONDUIT AS SPECIFIED.
- PROVIDE NEW CONCRETE CAP, DIMENSIONS TO MATCH OUTSIDE DIMENSIONS OF EXISTING MANHOLE, AND 42" CLEAR OPENING DIAMETER HS-20 TRAFFIC LOAD RATED DUCTILE IRON LID/LID FRAME ON EXISTING MANHOLE.
- <NOT USED>
- PROVIDE NEW PIER POWER OUTLET IGL00 AS DETAILED TO REPLACE EXISTING IN EXISTING LOCATION.
- EXISTING DUCT BANK CONTAINING EIGHT 4" PVC CONDUITS. REWORK EXISTING CONDUITS UP INTO RECESS BELOW NEW SUBSTATION SECONDARY DISTRIBUTION SECTION AND UP INTO NEW PIER POWER OUTLET IGL00. PROVIDE SECONDARY WIRES IN EACH CONDUIT AS SPECIFIED.
- PROVIDE NEW PIER POWER OUTLET IGL00 AS DETAILED IN NEW LOCATION.
- <NOT USED>
- <NOT USED>
- EXISTING 4" PVC COATED RGS CONDUIT UNDERGROUND. REWORK EXISTING CONDUIT UP INTO NEW LOAD CENTER. EXTEND IN KIND WITH NEW AS REQUIRED. PROVIDE SECONDARY WIRES IN THIS CONDUIT TO SERVE LOAD CENTER AS SPECIFIED.
- PROVIDE NEW PIER LOAD CENTER/TELECOMMUNICATIONS OUTLET ASSEMBLY AS DETAILED TO REPLACE EXISTING.

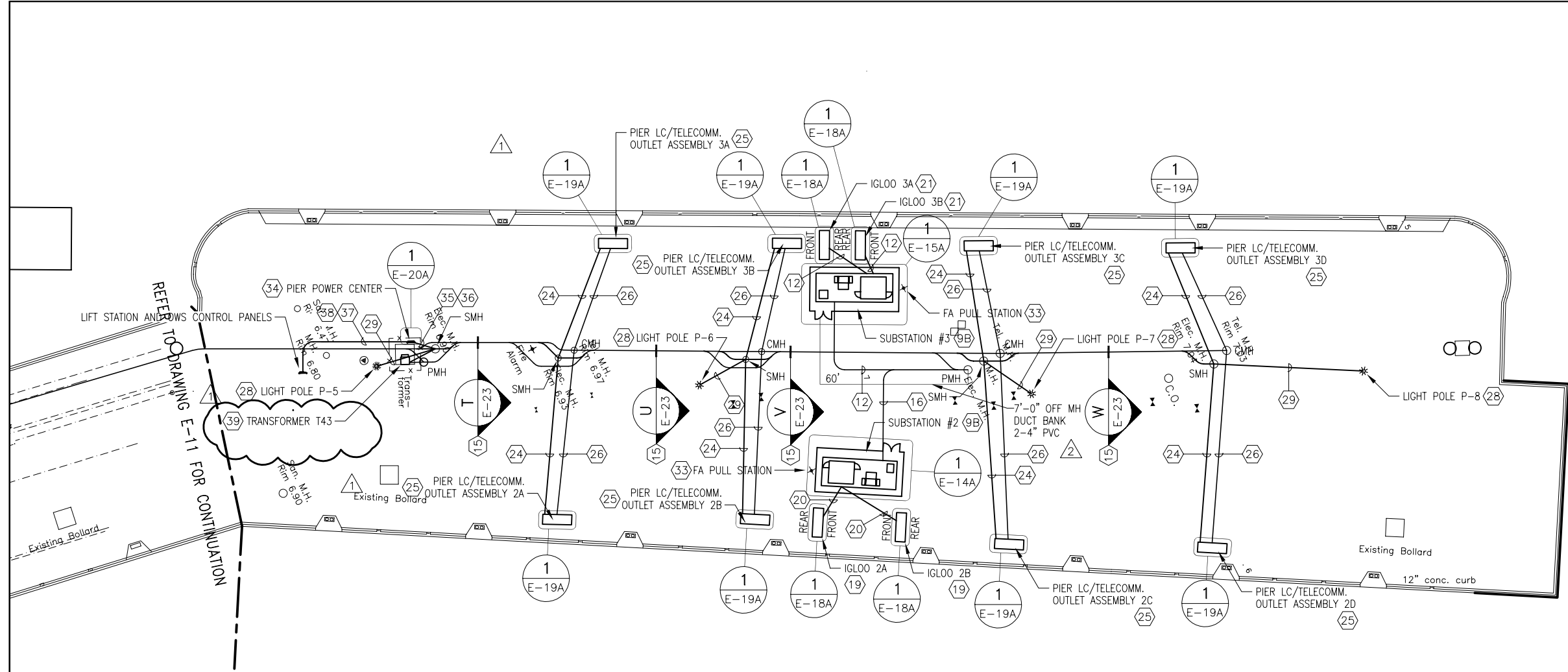
KEY NOTES CONT. . .

- EXISTING 4" PVC COATED RGS CONDUIT UNDERGROUND. REWORK EXISTING CONDUIT UP INTO NEW PIER COMMUNICATIONS OUTLET ASSEMBLY. EXTEND EXISTING IN KIND WITH NEW AS REQUIRED. PROVIDE THREE 1/4" OUTDOOR RATED ORANGE INNERDUCT IN THIS CONDUIT, ONE FOR TELEPHONE SERVICE PROVIDER CABLE, ONE FOR CATV SERVICE CABLE, AND ONE FOR BASE COMMUNICATIONS CABLE. EXTEND INNERDUCT UP INTO PIER LC/ TELECOMMUNICATIONS OUTLET ASSEMBLY TO THE RESPECTIVE SERVICE TERMINATION COMPARTMENT. INNERDUCT SHALL BE CONTINUOUS FROM END TO END WITHOUT SPLICE.
- <NOT USED>
- PROVIDE NEW LIGHT POLE ON EXISTING CONCRETE FOUNDATION AS SPECIFIED. FIELD VERIFY BOLT PATTERN BEFORE PLACING ORDER FOR LIGHT POLE.
- EXISTING 2" PVC COATED RGS CONDUIT UNDERGROUND. PROVIDE LIGHTING CIRCUIT WIRES IN THIS CONDUIT AS SPECIFIED.
- <NOT USED>
- PROVIDE CATV PEDESTAL AS DETAILED. CATV PEDESTAL SHALL INCLUDE AN ENCLOSURE WITH BACKPANEL, MOUNTING RACK, FOUNDATIONS AND PROTECTIVE PIPE BOLLARDS. CATV SERVICE PROVIDER SHALL USE THIS PEDESTAL TO HOUSE AN AMPLIFIER.
- PROVIDE TWO 3" PVC COATED RGS CONDUIT UNDERGROUND BETWEEN EXISTING COMMUNICATIONS MANHOLE AND CATV PEDESTAL. CATV SERVICE PROVIDER SHALL USE THIS CONDUIT TO ROUTE CATV CABLES TO/FROM AMPLIFIER.
- PROVIDE RADIO REPORTING TYPE FIRE ALARM MANUAL PULL STATION AS DETAILED.
- PROVIDE MOLE PIER POWER CENTER AS DETAILED.
- PROVIDE PVC COATED RGS CONDUIT UNDERGROUND BETWEEN MOLE PIER POWER CENTER PANEL AND SECONDARY MANHOLE AS FOLLOWS:
 2 1/2" FOR SECONDARY WIRES FROM TRANSFORMER T43 AS SPECIFIED.
 2" FOR SECONDARY WIRES TO PIER LOAD CENTERS 1A THROUGH 1D AS SPECIFIED.
 2" FOR SECONDARY WIRES TO PIER LOAD CENTERS 2A THROUGH 2D AS SPECIFIED.
 2" FOR SECONDARY WIRES TO PIER LOAD CENTERS 3A THROUGH 3D AS SPECIFIED.
 2" FOR SPARE.
- PROVIDE 1 1/2" PVC COATED RGS CONDUIT UNDERGROUND BETWEEN MOLE PIER POWER CENTER LIGHTING CONTACTOR AND SECONDARY MANHOLE FOR LIGHTING CIRCUIT WIRES AS SPECIFIED.
- PROVIDE 1 1/2" PVC COATED RGS CONDUIT UNDERGROUND BETWEEN MOLE PIER POWER CENTER PANEL AND MOLE LIFT STATION CONTROL PANEL FOR SECONDARY CIRCUIT WIRES.
- PROVIDE 1" PVC COATED RGS CONDUIT UNDERGROUND BETWEEN MOLE PIER POWER CENTER PANEL AND MOLE OWS CONTROL PANEL FOR UNSPECIFIED FUTURE USE. CAP END OF CONDUIT STUBBED UP ABOVE GRADE AT OWS CONTROL PANEL END.
- PROVIDE KWH METER, INCLUDING METER SOCKET, BUSHING MOUNTED CTs, STAINLESS STEEL CT MOUNTING BRACKETS, WIRING AND APPURTENANCES, ON EXISTING TRANSFORMER T43.
- PROVIDE 1" PVC CONDUIT DIRECT BURIED UNDERGROUND FOR SEWER METER POWER. PROVIDE (1) #12 PH., (1) #12 NEUT. AND (1) #12 GND IN CONDUIT FROM SEWER METER BACK TO PANEL "P8PCP".
- PROVIDE 17.25" LONG BY 10.5" WIDE BY 12" HIGH (INSIDE DIMENSIONS) PRECAST CONCRETE HANDHOLE WITH H-10 TRAFFIC LOAD RATED CAST IRON LID. LID LEGEND SHALL READ "ELECTRIC".
- PROVIDE 3" RGS CONDUIT SLEEVE THROUGH WHICH TO INSTALL SEWER METER BRANCH CIRCUIT CONDUIT. INSTALL SLEEVE VIA JACKING METHOD. OPEN SAWCUTTING OR OTHER CONDUIT INSTALLATION METHODS THAT DAMAGE EXISTING PAVEMENT ARE NOT ACCEPTABLE. EXTEND SLEEVE A MINIMUM OF 48" BEYOND EDGE OF PAVEMENT ON EACH SIDE.
- MAKE BRANCH CIRCUIT CONNECTION TO WATER METER.

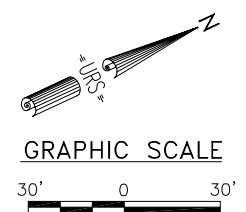
ADENDUM 0005

- ADD THE FOLLOWING AT THE END OF KEY NOTE 14: "REMOVE ALL ABANDONED SECONDARY POWER DISTRIBUTION WIRES AND COMMUNICATIONS CABLES FROM CONDUITS CONTAINED WITHIN THIS DUCT BANK. THE CONTRACTOR IS CAUTIONED THAT THERE ARE ACTIVE TELEPHONE CABLES PRESENT THAT THE TELEPHONE SERVICE PROVIDER MAY WISH TO KEEP IN SERVICE. COORDINATE THIS WORK WITH THE TELEPHONE SERVICE PROVIDER."

<p>URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607 DR. KERLY CHK. GIANG DT. ENR. WALKER</p>	
<p>7650 West Courtney Campbell Causeway Tampa, FL 33607 DR. KERLY CHK. GIANG DT. ENR. WALKER</p>	<p>DATE</p>
<p>DESCRIPTION</p>	<p>DATE</p>
<p>1 REVISED PER AMENDMENT 0003</p>	<p>04/04/03</p>
<p>2 REVISED PER AMENDMENT 0009</p>	<p>03/19/04</p>
<p>3 REVISED PER AMENDMENT 0005</p>	<p>04/11/03</p>
<p>4 CORRECTED TO AS-BUILT</p>	<p>03/01/05</p>
<p>KEY WEST, FLORIDA</p>	
<p>NAVAL AIR FACILITY</p>	
<p>TRUMAN HARBOR REPAIRS</p>	
<p>KEY NOTES FOR DRAWINGS E-10 THROUGH E-13</p>	
<p>EDT FOR COMMANDER, NAVFAC</p>	
<p>DATE</p>	
<p>APPROVED</p>	
<p>Naval Facilities Engineering Command Southern Division Charleston, South Carolina</p>	
<p>RECORD DRAWING</p>	
<p>RECORD DRAWING DATE 1 MARCH 2005</p>	
<p>CODE I.D. NO. 80091</p>	
<p>DRAWING SIZE: D</p>	
<p>SPEC. NO. 06-03-0154</p>	
<p>CONSTR. CONTR. NO. N62467-03-C-0154</p>	
<p>NAVFAC DRAWING NO. 5429469</p>	
<p>SHEET 48 OF</p>	
<p>E-9</p>	



REFER TO DRAWING E-11 FOR CONTINUATION



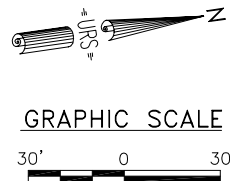
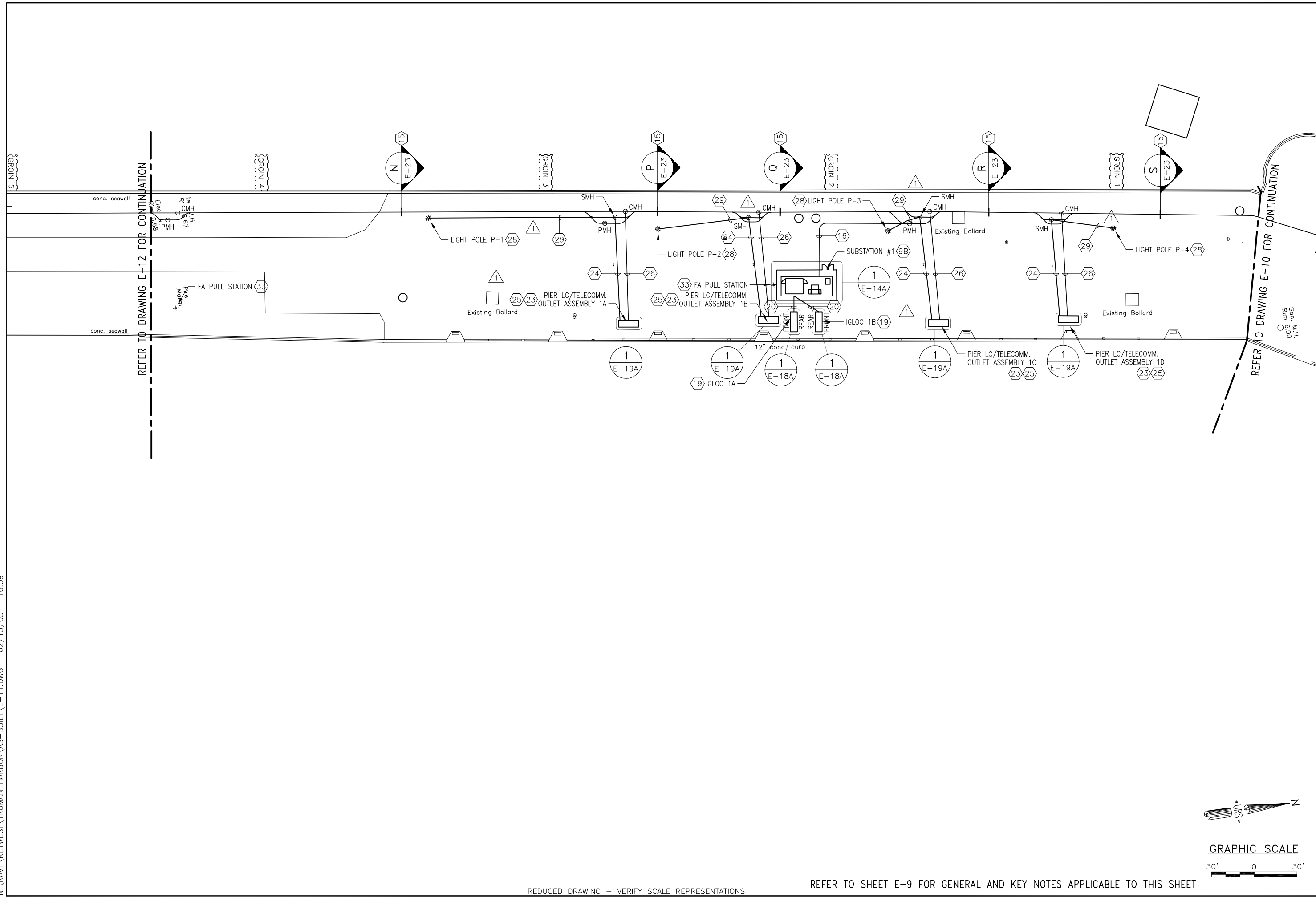
REDUCED DRAWING - VERIFY SCALE REPRESENTATIONS

REFER TO DRAWING E-9 FOR GENERAL AND KEY NOTES APPLICABLE TO THIS DRAWING

<p>URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607 DR. ZICHLIN CHK. WALKER CH. ENGR. WALKER SUBMITTED BY: _____ DATE: _____</p>	
<p>NAVY AIR FACILITY KEY WEST, FLORIDA TRUMAN HARBOR REPAIRS ELECTRICAL PLAN NORTH MOLE EDD FOR COMMANDER, NAVFAC</p>	
<p>Naval Facilities Engineering Command Southern Division Charleston, South Carolina</p>	
<p>RECORD DRAWING</p>	
<p>RECORD DRAWING DATE: 1 MARCH 2005 CODE I.D. NO.: 80091 DRAWING SIZE: D SPEC. NO.: 06-03-0154 CONSTR. CONTR. NO.: N62467-03-C-0154 NAVFAC DRAWING NO.: 5429470 SHEET 49 OF _____</p>	
<p>E-10</p>	

Rev.	Description	Prep By	Date	Appr'd.
1	REVISED PER AMENDMENT 0003	FKW	04/04/03	CRS
2	CORRECTED TO AS-BUILT	FKW	03/01/05	CRS

DRAWING REVISIONS	
Rev.	Description
1	REVISED PER AMENDMENT 0003
2	CORRECTED TO AS-BUILT



REDUCED DRAWING - VERIFY SCALE REPRESENTATIONS

REFER TO SHEET E-9 FOR GENERAL AND KEY NOTES APPLICABLE TO THIS SHEET

<p>URS Group, Inc. 7650 West Courtney Campbell Causeway Tampa, FL 33607 DR. ZICHLIN CHK. WALKER CH. ENR. WALKER DATE</p>	
<p>NAVAL AIR FACILITY KEY WEST, FLORIDA</p>	<p>TRUMAN HARBOR REPAIRS ELECTRICAL PLAN CENTRAL MOLE</p>
<p>Naval Facilities Engineering Command Southern Division Charleston, South Carolina</p>	<p>ED FOR COMMANDER, NAVFAC</p>
<p>RECORD DRAWING</p>	<p>APPROVED</p>
<p>RECORD DRAWING DATE 1 MARCH 2005</p>	<p>DATE</p>
<p>CODE I.D. NO. 80091</p>	<p>DATE</p>
<p>DRAWING SIZE: D</p>	<p>DATE</p>
<p>SPEC. NO. 06-03-0154</p>	<p>DATE</p>
<p>CONSTR. CONTR. NO. N62467-03-C-0154</p>	<p>DATE</p>
<p>NAVFAC DRAWING NO. 5429471</p>	<p>DATE</p>
<p>SHEET 50 OF</p>	<p>DATE</p>
<p>E-11</p>	<p>DATE</p>