CITY OF KEY WEST DOLPHIN PIER DOCK REPLACEMENT

CITY MARINA AT GARRISON BIGHT, ITB# 17-015

MONROE COUNTY, FLORIDA STANTEC PROJECT NO. 215613443

SECTION : 32 TOWNSHIP: 67S RANGE: 25E LATITUDE: 24°33'83" LONGITUDE: 81°47'04"



LOCATION MAP Scale: N.T.S.



901 Ponce de Leon Blvd. Suite Coral Gables, Florida, 33134 Tel. 305-445-2900 Fax. 305-445-3344 www.stantec.com

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SHEET NO.	SHEET DESCRIPTION
C01	COVER
C02	OVERALL AERIAL PLAN
C03	EXISTING CONDITIONS PLAN
C04	EXISTING CROSS SECTIONS
C05	DEMOLITION PLAN
C06	GEOMETRY PLAN
C07	DOCK DETAIL
C08	DOCK / RAMP CROSS SECTIONS
C09	UTILITY PLANS
C10	DEMOLITION / RELOCATION PLAN
E01-E08	ELECTRICAL PLANS
FP01-FP04	FIRE PROTECTION SPECIFICATIONS
P01-P04	PLUMBING PLANS
S01	STRUCTURAL PLANS

••••••APPROVALS•••••								
AGENCY	SUBMITTAL DATE	APPROVAL DATE	PERMIT NUMBER					



MAYOR & COMMISSION:

Craig Cates, Mayor Jimmy Weekley, Commissioner Samuel Kaufman, Commissioner Billy Wardlow, Commissioner Richard Payne, Commissioner Margaret Romero, Commissioner Clayton Lopez, Commissioner

City Manager: James Scholl

<u>100% SET</u> APRIL , 2017

APPROVED BY

CARLOS M. HERDOCIA REGISTERED ENGINEER NO. 47660 STATE OF FLORIDA





NOTE: WATER ELEVATION DATA WAS OBTAINED FROM THE LAND BOUNDARY INFORMATION SYSTEM WEBSITE (LABINS.ORG) AND IS REFERENCED TO TIED INTERPOLATION POINT #3262. MEAN HIGH WATER EL. =0.94' NGVD29 MEAN LOW WATER EL. =-0.09' NGVD29.

SITE SURVEY INFORMATION FROM: FLORIDA KEYS LAND SURVEYORS 19960 OVERSEAS HIGHWAY SUGARLOAF KEY, FL 33042 FIELD WORK DATE: 8/16/16 THRU 9/14/16 SIGNED AND SEALED BY: ERIC ISAACS LS 7847 OCTOBER 15, 2016



File Name:

ORIGINAL SHEET - ANSI D HORIZ

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 2017/04/20

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OVERALL PLAN

Project No. 215613443	Scale	SE	E PL	ANS	_
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CONSTRUCTION NOTE: Location of existing facilities as shown on construction drawings are from available records. The Engineer assumes no responsibility for the accuracy of the facilities shown or for any facility not shown. Verify the elevation, type of pipes and location of existing facilities prior to construction. If an existing facility is found to conflict with the proposed construction upon excavation the contractor shall immediately notify the engineer of record so that appropriate measures can be taken to resolve the problem. Contractor to notify Owner and Sunshine State One Call of Florida, Inc. © 811 at Least Forty Floht (48) Hours Prior to Excavating, Evidence of Forty Eight (48) Hours Prior to Excavating. Evidence of such notice shall be furnished to Stantec prior to excavating.

By Appd. YY.MM.DD

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Revision

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CARLOS M. HERDOCIA, P.E.

REGISTERED ENGINEER NO. 47660 STATE OF FLORIDA

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	·				Coral Gables, Florida 33134 www.stantec.com	Key West, Flori
1	By Appd. YY.MM.DD	Issued By Appd.	CARLOS M. HERDOCIA, P.E. YY.MM.DD REGISTERED ENGINEER NO. 47660 STATE OF FLORIDA		The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.	File Name:
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EXISTING CROSS SECTIONS

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DEMOLITION PLANS

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ORIGINAL SHEET - ANSI D HORIZ



TOTAL AREA OF DECKING OVER MEAN HIGH WATER= 2,800 sf TOTAL NUMBER OF PILES= 16 ALL INTERIOR AND END PILES TO BE HSS 20x0.5 WITH COAL TAR EPOXY COATING = 2.18 sf x (16) TOTAL PILE AREA = 34.88 sf

TOTAL NUMBER OF MOORING PILES= 16 ALL MOORING PILES TO BE HSS 14x0.5 WITH COAL TAR EPOXY $COATING = 1.07 \ sf \ x \ (16)$ MOORING PILES TOTAL AREA= 17.12 sf

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PROPOSED CONSTRUCTION PLANS

APPONING TO

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10'

Pile cap (Typ.)—





ORIGINAL SHEET - ANSI D HORIZ

Y WEST	UTILITY P	- PLAN				
IER DOCK REPLACEMENT	Project No. 215613443	Scale	SE	E PL/	ANS	_
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								Coral Gables, Florida 33134 www.stantec.com	Key West, Flo
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RELOCATION PLAN

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	AIRE TYPE DESIGNATION	к \$	KEY OPERATED, MTD 48" AFF UNO		SC CONNECTORS, 19" RACK MTD
		Р \$	PILOT LIGHT, MTD 48" AFF UNO		
	CIRCUIT NUMBER	Ψ	RECEPTACLE 20A SINGLE, MTD 18" AFF UNO	Ш	
(a)		æ	RECEPTACLE 20A DUPLEX, MTD 18" AFF UNO		CAT6 PATCH PANEL, 110 PUNCH BLOCKS,
	SWITCH REFERENCE	•	RECEPTACLE 20A SPLIT FEED, MTD 18" AFF UNO		19" RACK MTD
	1x4 FLUORESCENT TROFFER, SURFACE MTD	•	RECEPTACLE 20A FOURPLEX, MTD 18" AFF UNO		
			RECEPTACLE 20A DUPLEX, CLG MTD	FAA	FIRE ALARM ANNUNCIATOR
	2x4 FLUORESCENT TROFFER, SURFACE MID		RECEPTACLE 20A FOURPLEX, CLG MTD	FACP	FIRE ALARM CONTROL PANEL
			RECEPTACLE 20A DUPLEX, FLR MTD		FIRE ALARM EVACUATION COMBINATION
	2x2 FLUORESCENT TROFFER, SURFACE MTD		RECEPTACLE 20A FOURPLEX, FLR MTD		AUDIBLE AND VISIBLE APPLIANCE (HORN/STROBE), WALL MTD w/ LENS 80"
		⊕??	RECEPTACLE 20A DUPLEX, MTD 18" AFF UNO		MIN & 96" MAX AFF
	TAT TEORESCENT MOTTER, RECESSED		- IG: ISOLATED GROUND - SH: SHITTER SAFETY	¥	FIRE ALARM EVACUATION VISIBLE APPLIANCE
	2x4 FLUORESCENT TROFFER, RECESSED		- SP: SURGE PROTECTION	X	(STROBE), CLG MTD
		Ø	RECEPTACLE DECONTACTOR, MTD 18" AFF UNO	<u>ب</u>	(STROBE), WALL MTD w/ LENS 80" MIN &
		(th) 50A	RECEPTACIE SPECIAL LISE RATING NOTED	_	96" MAX AFF
	2X2 FLOURESCENT IROFFER, RECESSED	W JUA	RECEPTACE, SPECIAL USE, NATING NOTED	€x	FIRE ALARM HEAT DETECTOR
	GENERAL PURPOSE INDUSTRIAL FLUORESCENT,	Ŕ	RECEPTACLE 208V, MTD 18" AFF UNO	P	FIRE ALARM MANUAL PULL STATION, WALL
$\smile \neg \neg$	SIZE PER PLANS	٩₽	RECEPTACLE REEL CORD		MAX AFF
	IUMINAIRE W/ EMERGENCY RATTERY PACK	Ø	JUNCTION BOX, SURFACE MTD	⊘ -	FIRE ALARM SMOKE DETECTOR, DUCT MTD SAMPLE TUBES
	LOWING WY LWEINDENDT DATTENT FAOR	НØ	JUNCTION BOX, WALL MTD		
		J	JUNCTION BOX, FLR MTD	ΩX	FIRE ALARM SMOKE DETECTOR, CLG MTD
	UNSWITCHED LUMINAIRE		PANELBOARD, NORMAL POWER	ጸ	FIRE SPRINKLER RISER FLOW SWITCH, COORDINATE EXACT REQUIREMENTS PRIOR
		<u></u>	PANELBOARD, EMERGENCY POWER	[∨] FS	ROUGH-IN
•-Д	HID, POLE MTD w/ SINGLE SQUARE HEAD	б 5нр	MOTOR, HORSEPOWER NOTED	$\boldsymbol{\Diamond}^{TS}$	FIRE SPRINKLER RISER VALVE TAMPER SWITCH, COORDINTE EXACT REQUIREMENTS
		<u>ه</u>		I	PROIR TO ROUGH-IN
д•д	HID, POLE MTD w/ DOUBLE SQUARE HEAD	Ψ	DAMPER MOTOR	Ð	OCCUPANCY SENSOR, SURFACE MTD
		다 30A	RATING NOTED	_	
•A	HID, POLE MTD w/ SINGLE ROUND HEAD	L <u>30AT</u>	DISCONNECT SWITCH FUSED, BUSS (AF) AND	κŪ	OCCUPANCY SENSOR, WALL MTD
π - π			CONTACTOR NEWS SIZE NOTED		125kHz RFID PROXIMITY READER
	IND, FULE MID W/ DOUBLE KUUND HEAD	回 1 一	CUNTACTOR, NEMA SIZE NUTED	-	
¤	SURFACE MTD	I	SIARIER, NEMA SIZE NUIED	D	DOOR CONTACT
· •	PECESSED	Z h 1	COMBINATION MOTOR STARTER, NEMA SIZE NOTED	ילח	
Q	NEGESSED	ГТ	TRANSFORMER	K	SEGUKIIT KETPAD
нŬ	WALL MTD		PUSHBUTTON	Ð	EGRESS PIR FOR DOOR SHUNT
/		□нн	HAND HOLE		
۲	EXIT. SURFACE MTD		- AHH: ANALOG HAND HOLE 4-20ma SIGNAL ETHERNET FIRER/LIPT TE	ر ال	360° PIR/GLASS BREAK DETECTOR
-			- CHH: CONTROL HAND HOLE	- -	
H	EXIT, WALL MTD		- PHH: POWER HAND HOLE	× ۲	NEQUEST TO EATH FUSHEDUTION
		e	CONDUIT UP	P	PANIC/DURESS PUSHBUTTON
Ъ	EMERGENCY, WALL MTD	-			
4.00	EMERGENCY w/ FXIT AND EMERGENCY			MA	INTRUSION ALARM CONTACT
_	BATTERY PACK, WALL MTD	С	CONDUIT STUB	ESI	ELECTRIC DOOR STRIKE
\$	SINGLE POLE, MTD 48" AFF UNO)		لكحر	
\$	2-GANG, MTD 48" AFF UNO		CONDULT HUMERUN, EXPUSED	EL	ELECTRIC LOCK w/ INTERNAL RELAY
		~	CONDUIT HOMERUN, UNDERGROUND OR CONCEALED		
#	3-GANG, MTD 48" AFF UNO			S	SPEAKER, CONE IYPE (PUBLIC ADDRESS)
## F		⊲ 2T	TELEPHONE, MTD 18" AFF UNO	©⊲	SPEAKER, HORN TYPE WATTAGE NOTED
₽	4-GANG, MTD 48" AFF UNO	√ 11D	DATA MTD 18" ΔΕΕ ΠΝΟ	-	
, 2P			טאט אור דר סו שוא, אור סו שוא, אור סו		CCTV CAMERA, PTZ: PAN/TILT/ZOOM
φ	TWO POLE, MTD 48" AFF UNO	⊿2T			
_3(b)		<∎_1D	ILL/DAIA, MID IO AFF UNU		
\$	LETTER INDICATES SWITCH CONTROL LEG)	2 V	TELEPHONE, CLG MTD		
		-		NOT AL	L SYMBOLS AND
		◎ 1D	DATA, CLG MTD	ABBREVI	ATIONS ARE USED
		I ▼I ∠V	ILLIIIVINL, ILIX WIIV		

8				Н				Seal
7				G				
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ل ۲) ^{MCB}	MOLDED-CASE CIRCUIT BREAKER IN
ل ۲) ^{MCP}	MOTOR CIRCUIT PROTECTOR IN
\downarrow T	MOTOR STARTER CONTACTOR
(VACUUM CONTACTOR
J Po∟	MOTOR STARTER OVERLOAD RELAY – OL = THERMAL – EOL= ELECTRONIC
€(MOTOR PROTECTION RELAY
	SOLID STATE REDUCED VOLTAGE STARTER
	FUSE, RATING NOTED
	TRANSFORMER, DELTA/WYE
±' 	GROUND
°,	AUTOMATIC TRANSFER SWITCH
°	DISCONNECT SWITCH
36	POTENTIAL TRANSFORMER
\bigtriangleup	3 PHASE, 3 WIRE, DELTA
Y	3 PHASE, 4 WIRE, WYE, GND
100 /5 5 3	CURRENT TRANSFORMER, RATIO AND NUMBER OF CT'S AS NOTED
₩	CURRENT TRANSFORMER, ZERO SEQUENCE TYPE
m.n.	BUSHING TYPE CURRENT TRANSFORMER
So-	ISOLATING FUSE SWITCH, HIGH VOLTAGE PRIMARY FUSE CUT OUT, DRY
+ Kro	ISOLATING FUSE SWITCH FOR ON-LOAD SWITCHING
⊷ •– ।	LIGHTNING ARRESTER
	CAPACITOR
~~~ >>>	DRAWOUT CIRCUIT BREAKER
52	POWER CIRCUIT BREAKER, FIXED TYPE, LOW OR MEDIUM VOLTAGE
<u> </u>	POWER CIRCUIT BREAKER, DRAWOUT TYPE, LOW OR MEDIUM VOLTAGE
	LOADBREAK ELBOW
°×°	DISCONNECT SWITCH, GROUP OPERATED
• •	DISCONNECT SWITCH, STICK OPERATED
0 9 0	DISCONNECT SWITCH, SELECTOR OR DOUBLE THROW
9 6	DISCONNECT SWITCH WITH ARCING HORNS, MANUALLY OPERATED
•	POTHEAD

DIAGRAM SYMBOLS

FEC	FIRE EXTINGUISHER CA PROTECTION PLANS.
FHC	FIRE HOSE CABINET, S PROTECTION PLANS.
GFMS	GROUND FAULT MONITO W/AUDIBLE AND VISIBL
PP	EXISTING POWER PEDES PEDESTALS ARE TO BE CONTRACTOR SHALL IN MAKE ALL CONNECTION
W	WATER BOX, SEE PLUM
	ELECTRICAL PANELBOAR 3R/SS WITH POWDERCO PANEL SCHEDULES FOR INFORMATION.
	PAD MOUNTED UTILITY COORDINATE WITH LOC/ COMPANY.
SPD	SURGE PROTECTION DE SPECIFICATIONS.

CITY OF KEY

N J. MARTINEZ, P.E. ED ENGINEER NO. 81692 TATE OF FLORIDA

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DOLPHIN PIE Key West, Florida

File Name:

ABINET, SEE FIRE
SEE FIRE
ORING SYSTEM DLE ALARM.
ESTAL POWER E REPLACED. NSTALL AND NS.
IMING PLANS.
ARD WITH NEMA COAT FINISH, SEE DR ADDITIONAL
′ TRANSFORMER CAL UTILITY
DEVICE - SEE

E	ABBREVIATIONS
Α	AMPERE
ABV	ABOVE
AC	ALTERNATING CURRENT
ADD AF	ADDENDUM AMDERE FRAME
AF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	ASYMMETRICAL INTERRUPTING CAPACITY
ARCH	ARCHITECT/ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AV	AUDIO/VISUAL
CHG	BATTERY CHARGER
	CABINET
CAT6	CATEGORY 6
СВ	CIRCUIT BREAKER, COMBINER BOX
	CHARGE CONTROLLER
	CEUSED CIRCUIT TELEVISION CEILING
COMB	COMBINATION
CONN	CONNECTION, OR CONNECT
CONTR	CONTRACTOR
COOD	COORDINATE CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT, CONVERTER
DET	DETAIL
DIST	DIVISION
DN	DOWN
DS	DISCONNECT SWITCH
DWG	DRAWING
EA FLECTELEC	
EMCS	ENERGY MANAGEMENT AND CONTROL SYSTEMS EQUIP
EQU	PMENT
EXPL	EXPLOSION PROOF
EWC F	ELEGTRIG WATER COULER FLISED
FA	FIRE ALARM
FD	FUSIBLE DISCONNECT
FIN	FINISHED FL FLOOR
FUT	
FVNR	FULL VOLTAGE NON-REVERSING
G	GENERATOR
GND	GROUND
	GROUND FAULT INTERRUPTER HAND - OFF - AUTO
HP	HORSEPOWER
HTG	HEATING
HTR	HEATER
HZ	
i/C	INTERCOM
ÍNV	INVERTER
JB	JUNCTION BOX
kw kVA	KILOVATTS KILOVOLT AMPERE
LP	LIGHTING PANEL
LTG	LIGHTING, LIGHT OR LIGHTS
MAX	LIQUIDTIGHT FLEXIBLE CONDUIT MAXIMUM
MCB	MOLDED CASE BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTION
MIN	MINIMUM
MFGR	MANUFACTURER
MTR	MOTOR
MSS MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
N.C.	NORMALLY CLOSED
NF	NON FUSED
Ø	NORMALLT OPEN PHASE
PB	PUSH BUTTON
PNL	PANEL
۲۲ PR	PUWER PEDESTAL PAIR
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
RECEPT	RECEPTACLE
RMC	RIGID METAL CONDUIT
SA	SUB ARRAY
SHT	SHEET
SPEC	SURGE PROTECTION DEVICE
SPP	SUB PLANT PANEL
SPR	SUB PLANT RACK
STR	
STP	SHIELDED TWISTED PAIR
SW	SWITCH
SWBD	SWITCHEEAR
Swer TC	
TDR	TIME DELAY RELAY
TEL	TELEPHONE
TERM	
XFMR	TRANSFORMER
TV	TELEVISION
TYP	
UNU	UNLESS NUTED UTHERWISE UNDERGROUND
V	VOLTS
VA	VOLT AMPERE
VED	VARIABLE EREQUENCY DRIVE
W	WATTS
W WP	WATTS WEATHERPROOF

YWEST	ELECTRICA	L LEGEND	
ER DOCK REPLACEMENT	Project No. 215613443	Scale NO SCALE	
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SECTION 16410 SPECIAL REQUIREMENTS

PART 1 – GENERAL

1.01 AUXILIARIES AND ACCESSORIES

- A.INCLUDE ALL AUXILIARIES AND ACCESSORIES FOR COMPLETE AND PROPERLY OPERATING SYSTEMS.
- B.PROVIDE AND INSTALL ALL ELECTRICAL SYSTEMS AND ANY NECESSARY ACCESSORIES AS PER THE NATIONAL ELECTRICAL CODE (NEC) EDITION AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION AND LOCAL CODES WHETHER OR NOT SPECIFIED HEREIN OR SHOWN ON DRAWINGS. THE CONTENT OF THESE SPECIFICATIONS (DIVISION 16) AND CONTRACT DOCUMENTS IN GENERAL ONLY REFERS TO WORK REQUIRED ABOVE AND BEYOND THE REQUIREMENTS OF THE NEC AND APPLICABLE LOCAL CODES.
- 1.02 LAYOUT OF WORK
- A. DRAWINGS ARE DIAGRAMMATIC, CORRELATE FINAL EQUIPMENT LOCATIONS WITH GOVERNING ARCHITECTURAL AND STRUCTURAL DRAWINGS. LAY OUT BEFORE INSTALLATION SO THAT ALL TRADES MAY INSTALL EQUIPMENT IN SPACES AVAILABLE. PROVIDE COORDINATION AS REQUIRED FOR INSTALLATION IN A NEAT AND WORKMANLIKE MANNER.
- 1.03 INVESTIGATION OF SITE

FOOT ABOVE BFE.

- A. CHECK SITE AND EXISTING CONDITIONS THOROUGHLY BEFORE BIDDING. ADVICE ENGINEER OF DISCREPANCIES OR QUESTIONS NOTED. B.ANY SHORE MOUNTED EQUIPMENT MUST BE ELEVATED TO A MINIMUNM OF 1
- 1.04 SUPERVISION OF THE WORK
- A. PROVIDE FIELD SUPERINTENDENT WHO HAS HAD A MINIMUM OF FOUR (4) YEARS PREVIOUS SUCCESSFUL EXPERIENCE ON PROJECTS OF COMPARABLE SIZE AND COMPLEXITY. SUPERINTENDENT SHALL BE PRESENT AT ALL TIMES THAT WORK UNDER THIS DIVISION IS BEING INSTALLED OR AFFECTED. SUPERINTENDENT SHALL HAVE PASSED A PROCTORED H.H. BLOCK JOURNEYMAN EXAM AND SHALL BE A LICENSED JOURNEYMAN. AT LEAST ONE MEMBER OF THE ELECTRICAL CONTRACTING FIRM SHALL HOLD A STATE MASTER CERTIFICATE OF COMPETENCY.
- 1.05 COORDINATION
- A. PROVIDE ALL REQUIRED COORDINATION AND SUPERVISION WHERE WORK CONNECTS TO OR IS AFFECTED BY WORK OF OTHERS, AND COMPLY WITH ALL REQUIREMENTS AFFECTING THIS DIVISION. WORK REQUIRED UNDER OTHER DIVISIONS, SPECIFICATIONS OR DRAWINGS TO BE PERFORMED BY THIS DIVISION SHALL BE COORDINATED WITH THE CONTRACTOR AND SUCH WORK PERFORMED AT NO ADDITIONAL COST TO OWNER.
- 1.06 BASIS FOR WIRING DESIGN
- A. THE DRAWINGS AND SPECIFICATIONS DESCRIBE SPECIFIC SIZES OF SWITCHES, BREAKERS, CONDUITS, CONDUCTORS, AND OTHER ITEMS OF WIRING EQUIPMENT. THESE SIZES ARE BASED ON SPECIFIC ITEMS OF POWER CONSUMING EQUIPMENT. WHEREVER THE CONTRACTOR PROVIDES POWER CONSUMING EQUIPMENT WHICH DIFFERS FROM DRAWINGS AND SPECIFICATIONS. THE WIRING AND ASSOCIATED CIRCUIT COMPONENTS FOR SUCH EQUIPMENT SHALL BE CHANGED TO MATCH AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 1.07 PROTECTION AND CLEAN UP
- A. SUITABLY PROTECT ALL EQUIPMENT FURNISHED UNDER THIS DIVISION DURING CONSTRUCTION. RESTORE ALL DAMAGED SURFACES AND ITEMS TO "LIKE NEW" CONDITION BEFORE A REQUEST FOR SUBSTANTIAL COMPLETION INSPECTION.
- 1.08 MATERIALS
- A.REFERENCE: "GENERAL CONDITIONS OF THE CONTRACT".
- B. WHERE A MANUFACTURER'S MODEL NUMBER IS LISTED, THIS MODEL SHALL SET THE STANDARD OF QUALITY AND PERFORMANCE REQUIRED. WHERE NO BRAND NAME IS SPECIFIED, THE SOURCE AND QUALITY SHALL BE SUBJECT TO ENGINEER'S REVIEW AND ACCEPTANCE.
- 1.09 SUBSTITUTIONS
- A.EACH BIDDER REPRESENTS THAT HIS BID IS BASED UPON THE EQUIPMENT AND MATERIALS DESCRIBED IN DIVISION 16 OF THE SPECIFICATIONS.
- B. SUBSTITUTION SUBMITTALS SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED. DRAWINGS. CUTS. PERFORMANCE AND TEST DATA AND ANY OTHER INFORMATION NECESSARY FOR THE ENGINEER TO DETERMINE THAT THE EQUIPMENT MEETS ALL SPECIFICATIONS AND REQUIREMENTS. PRE-APPROVAL OF PROPOSED SUBSTITUTION IS REQUIRED FOR EQUIPMENT SUPPLIED UNDER THIS DIVISION AND MUST BE SUBMITTED 10 DAYS PRIOR TO BID OPENING.
- C.SUBSTITUTED EQUIPMENT OR OPTIONAL EQUIPMENT WHERE PERMITTED AND APPROVED, MUST CONFORM TO SPACE REQUIREMENTS. ANY SUBSTITUTED EQUIPMENT THAT CANNOT MEET SPACE REQUIREMENTS, WHETHER APPROVED OR NOT. SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY MODIFICATIONS OF RELATED SYSTEMS AS A RESULT OF SUBSTITUTIONS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- 1.10 TECHNICAL INFORMATION BROCHURES AND SUBMITTALS
- A. SUBMIT TECHNICAL INFORMATION BROCHURES AT START OF CONSTRUCTION OR WITHIN 30 DAYS AFTER AWARD OF THE CONTRACT. EACH BROCHURE SHALL CONSIST OF AN ADEQUATELY SIZED, HARD-COVER, 3-RING BINDER FOR 8-1/2" X 11" SHEETS. PROVIDE CORRECT DESIGNATION ON OUTSIDE COVER AND ON END OF BROCHURE. WHEN, IN THE JUDGMENT OF THE ENGINEER, ONE BINDER IS NOT ENOUGH TO ADEQUATELY CATALOG ALL DATA, AN ADDITIONAL BINDER WILL BE REQUIRED AND DATA SPLIT AS DIRECTED BY THE ENGINEER.

- B. THE FIRST SHEET IN THE BROCHURE SHALL BE AN INDEX P EQUIPMENT CONTAINED IN THE BROCHURE WHICH PERTAINS THE SECOND SHEET SHALL BE PREPARED BY THE CONTRACTOR, MANUFACTURER'S AUTHORIZED REPRESENTATIVE FOR THIS PROJI SHEET SHALL LIST MANUFACTURER'S AUTHORIZED MAINTEN ADDRESSES FOR EQUIPMENT ON THIS PROJECT.
- C.PROVIDE REINFORCED SEPARATION SHEETS TABBED WITH TH SPECIFICATION REFERENCE NUMBER AND TYPED INDEX FOR EACH
- D. TECHNICAL INFORMATION CONSISTING OF MARKED CATALOG S DRAWINGS SHALL BE INSERTED IN THE BROCHURE IN PROPER ITEMS HEREIN SPECIFIED OR SHOWN ON DRAWINGS.
- E. THE GENERAL CONTRACTOR SHALL REVIEW THE BROCHURES BE TO THE ENGINEER. NO REQUEST FOR PAYMENT WILL BE CO THE BROCHURE HAS BEEN REVIEWED AND SUBMITTED FOR CHEC
- F. SHOP DRAWINGS
- 1. DRAWINGS SHALL INCLUDE IDENTIFICATION OF PROJECT ARCHITECT, ENGINEER, GENERAL CONTRACTOR, SUBCONTR SUPPLIER AS APPLICABLE. DATA SHALL BE NUMBERED SE INDICATE IN GENERAL.
- a. FABRICATION AND ERECTION DIMENSIONS.
- b. ARRANGEMENTS AND SECTIONAL VIEWS.
- c. NECESSARY DETAILS, INCLUDING COMPLETE INFORMATIC CONNECTIONS WITH OTHER WORK.
- d. KINDS OF MATERIAL AND FINISHES.
- e. DESCRIPTIVE NAMES OF EQUIPMENT.
- f. MODIFICATIONS AND OPTIONS TO STANDARD EQUIPMENT R CONTRACT.
- g. LEAVE BLANK AREA, SIZE APPROXIMATELY 4 BY 2-1/2 TITLE BLOCK (FOR ENGINEER'S STAMP IMPRINT).
- h. IN ORDER TO FACILITATE REVIEW OF DRAWINGS, INSOFAR THEY SHALL BE NOTED, INDICATING BY CROSS REFERENC DRAWINGS, NOTE, AND/OR SPECIFICATIONS PARAGRAPH ITEM(S) OCCUR IN THE CONTRACT DOCUMENTS.
- i. SEE SPECIFIC SECTIONS OF SPECIFICATIONS FOR FURTHER
- j. PRODUCT DATA
- 2. SUBMIT TECHNICAL DATA VERIFYING THAT THE ITEM SUBMITTED THE REQUIREMENTS OF THE SPECIFICATIONS. TECHNICAL DATA MANUFACTURER'S NAME AND MODEL NUMBER, DIMENS ELECTRICAL CHARACTERISTICS, AND CLEARANCES REQUIRED. OPTIONAL EQUIPMENT AND CHANGES FROM THE STANDARD FOR IN THE SPECIFICATIONS. FURNISH DRAWINGS, DIMENSIONED AND IN CORRECT SCALE. COVERING EQUIP ARRANGEMENT OF COMPONENTS AND OVERALL COORDINATION.
- 3. IN ORDER TO FACILITATE REVIEW OF PRODUCT DATA. INSOFAR THEY SHALL BE NOTED. INDICATING BY CROSS REFERENCE DRAWINGS, NOTE, AND/OR SPECIFICATION PARAGRAPH N ITEM(S) OCCUR IN THE CONTRACT DOCUMENTS.
- 4. SEE SPECIFIC SECTIONS OF SPECIFICATIONS FOR FURTHER RE
- G.PROCESSING SUBMITTALS
- 1. PRODUCT DATA: FOR STANDARD MANUFACTURED MATERIAL, ITEMS SUBMIT COPIES AS REQUIRED UNDER DIVISION 1 SPE SUBMITTAL IS REJECTED, RESUBMIT COPIES OF NEW DATA.
- 2. REFERENCE: "GENERAL CONDITIONS OF THE CONTRACT".
- 3. NOTE THAT THE REVIEW OF SHOP DRAWINGS, OR OTH SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED, DOES NOT ASSURE THAT THE ENGINEER, ARCI OTHER OWNER'S REPRESENTATIVE, ATTESTS TO THE DIMENS OR DIMENSIONAL SUITABILITY OF THE MATERIAL OR EQUIPMEN ABILITY TO THE MATERIAL OR EQUIPMENT INVOL MECHANICAL/ELECTRICAL PERFORMANCE OF EQUIPMENT. DRAWINGS DOES NOT INVALIDATE THE PLANS AND SPECI CONFLICT, UNLESS A LETTER REQUESTING SUCH CHANGE IS APPROVED ON THE ENGINEER'S LETTERHEAD.
- H.DELAYS
- 1. CONTRACTOR IS RESPONSIBLE FOR ANY DELAYS IN JOB PRO DIRECTLY OR INDIRECTLY FROM LATE SUBMISSIONS OR RE SHOP DRAWINGS, PRODUCT DATA, OR SAMPLES.
- 1.11 PROGRESS AND RECORD DRAWINGS
- A.KEEP TWO SETS OF BLACK OR BLUE ON WHITE PRINTS AT NEATLY MARKUP DESIGN DRAWINGS EACH DAY AS COMPONENTS TAKING CARE TO REFLECT ANY VARIATIONS. DIFFERENT CO SHALL BE USED FOR DIFFERENT SYSTEMS. ALL ITEMS ON PR SHALL BE SHOWN IN ACTUAL LOCATION INSTALLED. CHANGE SCHEDULES TO AGREE WITH ITEMS ACTUALLY FURNISHED.
- B. PRIOR TO REQUEST FOR FINAL PAYMENT FURNISH A SET

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ECT. THE THIRD NANCE COMPANY	ON EACH ITEM WHICH REQUIRE INSTRUCTIONS TO OPERATE. AFTER APPROVAL, PROVIDE ONE COPY FOR INSERTION IN EACH TECHNICAL INFORMATION BROCHURE.	UTILITY COMPANY. FEES FOR TEMPORARY CONTRACTOR'S BID PRICE. FEES FOR F THE OWNER.
HE APPROPRIATE H SECTION.	1.13 MAINTENANCE INSTRUCTIONS	END OF SE
HEETS OR SHOP R ORDER ON ALL	A. SUBMIT FOR APPROVAL MAINTENANCE INFORMATION CONSISTING OF MANUFACTURER'S PRINTED INSTRUCTIONS AND PARTS LISTS FOR EACH MAJOR ITEM OR EQUIPMENT. AFTER APPROVAL, INSERT INFORMATION IN EACH TECHNICAL INFORMATION BROCHURE.	SECTION 16 RACEWAYS AND (
FORE SUBMITTING	1.14SYSTEMS GUARANTEE	1.01 DESCRIPTION
ONSIDERED UNTIL CKING.	A. THE WORK REQUIRED UNDER THIS DIVISION SHALL INCLUDE A ONE-YEAR GUARANTEE. THIS GUARANTEE SHALL BE BY THE CONTRACTOR TO THE OWNER FOR ANY DEFECTIVE WORKMANSHIP OR MATERIAL WHICH HAS BEEN FURNISHED UNDER THIS CONTRACT AT NO COST TO THE OWNER FOR A PERIOD OF ONE	A. DESCRIPTION OF SYSTEM 1. THE ENTIRE INSTALLATION SHALL BE
AND NAMES OF RACTOR AND/OR EQUENTIALLY AND	YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE SYSTEM. THIS GUARANTEE SHALL NOT INCLUDE LIGHT BULBS IN SERVICE AFTER ONE MONTH FROM DATE OF SUBSTANTIAL COMPLETION OF THE SYSTEM. EXPLAIN THE PROVISIONS OF GUARANTEE TO THE OWNER AT THE "DEMONSTRATION OF COMPLETED SYSTEM". SUBMIT FOR CHECKING A SPECIFIC SET OF WRITTEN OPERATING INSTRUCTIONS ON EACH ITEM WHICH REQUIRE INSTRUCTIONS TO OPERATE. AFTER APPROVAL, PROVIDE ONE COPY FOR INSERTION IN EACH TECHNICAL INFORMATION BROCHURE.	SPECIFICALLY NOTED OTHERWISE. ONLY FOR ALL RACEWAYS TRAPPED UNDERGR MINIMUM CONDUIT SIZE SHALL BE DRAWINGS. ALL CONDUITS SHALL BE SIZES SHOWN ON THE DRAWINGS ARE ONLY. THE CONTRACTOR IS RESPONSIB BY NEC FILL TABLES.
ON FOR MAKING	1.15 FINAL INSPECTION	1.02 SUBMITTALS
	A. ALL WORK ON THE PROJECT SHALL BE COMPLETED, AND ALL FORMS AND OTHER INFORMATION SHALL BE SUBMITTED FOR APPROVAL ONE WEEK BEFORE THE REQUEST FOR FINAL INSPECTION.	A.PRODUCT DATA 1. PRODUCT DATA SHALL BE SUBMITTED PRODUCT DATA SHALL SHOW COMPLIA SDEGISION DATA SHALL SHOW COMPLIA
	1.16EQUIPMENT TO BE OF SINGLE MANUFACTURER	WRITTEN INSTALLATION INSTRUCTIONS.
REQUIRED BY THE	A.IN GENERAL, ALL LIKE EQUIPMENT SHALL BE SUPPLIED AND MANUFACTURED BY SAME MANUFACTURER.	PART 2 – PRODUCTS
2 INCHES, NEAR	1.17 GENERAL	2.01 PVC CONDUIT
AS PRACTICABLE, E THE CONTRACT NUMBERS WHERE	A. WHERE THE REQUIREMENTS OF ANOTHER DIVISION, SECTION OR PART OF THESE SPECIFICATIONS EXCEED THE REQUIREMENTS OF THIS DIVISION, THOSE REQUIREMENTS SHALL GOVERN. END OF SECTION	A. PVC CONDUIT SHALL BE COMPOSED OF HI C-200 COMPOUND) AND SHALL CONFORM LISTED IN ACCORDANCE WITH ARTICLE 352 UNDERGROUND AND EXPOSED USE. MATE OF 55 PSI, AT 70°F, FLEXURAL STREN
	SECTION 16020	PVC EXPERIENCE.
REQUIREMENTS.	WORK INCLUDED PART 1 – GENERAL	2.02 EXPANSION FITTINGS
d complies with	1.01 DESCRIPTION OF SYSTEM	A. CONDUIT EXPANSION FITTINGS SHALL BE EXPANSION CHAMBER TO ALLOW APPROXIM
A SHALL INCLUDE SIONS, WEIGHTS,	A. THE WORK REQUIRED UNDER THIS DIVISION SHALL INCLUDE ALL MATERIALS,	FACTORY-INSTALLED PACKING. EXPANSIO RECOMMENDED BY THE MANUFACTURER.
INDICATE ALL ITEM AS CALLED OR DIAGRAMS, PMENT, SHOWING	LABOR AND AUXILIARIES REQUIRED TO INSTALL A COMPLETE AND PROPERLY OPERATING ELECTRICAL SYSTEM. THE ELECTRICAL SYSTEM REQUIRED UNDER THIS DIVISION CONSISTS BASICALLY OF, BUT IS NOT LIMITED TO THE FOLLOWING:	PART 3 – EXECUTION
AS PRACTICABLE, THE CONTRACT	1. COMPLETE DISTRIBUTION SYSTEM FOR MARINE SHORE POWER INCLUDING FEEDERS FROM UTILITY COMPANY TRANSFORMER TO MAIN SWITCHGEAR AND CONNECTIONS TO POWER PEDESTALS.	3.01INSTALLATION A. ALL RACEWAYS SHALL BE RUN IN NEAT AN BE PROPERLY SUPPORTED IN ACCORDANCE
IUMBERS WHERE	2. A SECONDARY GROUNDING SYSTEM AS INDICATED AND SPECIFIED.	APPROVED STAINLESS STEEL CONDUIT CLAN FASTENERS.
QUIREMENTS.	3. POWER DISTRIBUTION PANELBOARDS.	B. ALL RACEWAY RUNS, WHETHER TERMINAT CAPPED DURING THE COURSE OF CONSTRU
	4. MAIN POWER/SURGE PROTECTION SYSTEMS.	IN, AND COVERS ARE IN PLACE. NO C RACEWAYS UNTIL CONSTRUCTION WORK W
PRODUCTS AND ECIFICATIONS. IF	END OF SECTION	HAS BEEN COMPLETED.
	SECTION 16025 CODES, FEES, AND STANDARDS PART 1 – GENERAL	C.ALL RACEWAYS SHALL HAVE AN INS CONDUCTOR THROUGHOUT THE ENTIRE LE CONDUIT IN STRICT ACCORDANCE WITH NEC INCLUDED IN TOTAL CONDUIT FILL DETERM
IER INFORMATION HEREINBEFORE	1.01 CODES AND FEES	FEEDERS SHALL BE BONDED TO PORTION APPROVED GROUND BUSHINGS.
HITECT, OR ANY SIONAL ACCURACY IT INVOLVED, THE VED OF THE	A.INSTALL IN ACCORDANCE WITH LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND THE REGULATIONS OF GOVERNING LOCAL, AND OTHER APPLICABLE CODES, INCLUDING THE UTILITY COMPANY, PAY FOR ALL REQUIRED LICENSES, FEES AND INSPECTIONS.	D. RACEWAYS WHICH DO NOT HAVE CONDUCTO OF THE SPECIFICATIONS SHALL BE LEFT W IN RACEWAY.
IFICATIONS IF IN SUBMITTED AND	B. ALL WORK AND EQUIPMENT UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE WITH THE APPLICABLE PROVISIONS OF THE LATEST EDITIONS OF THE FOLLOWING CODES AND STANDARDS IN FORCE AT THE TIME OF	END OF SE
		SECTION TO WIRES AND C PART 1 – GENERAL
OGRESS ACCRUING	2 NATIONAL ELECTRICAL CODE (NEC)	1.01 GENERAL PROVISIONS
	3. REQUIREMENTS OF LOCAL POWER COMPANY	A. CONDUCTORS
THE JOB SITE.	1.02 STANDARDS	1. ALL CONDUCTORS SHALL BE COPPER TY
S ARE INSTALLED OLORED PENCILS OGRESS DRAWING	A. ALL MATERIALS SHALL BE NEW AND FREE OF DEFECTS, AND SHALL BE UL	OR ITPE "DLO" AS INDICATED ON DRAWIN PERMITTED. ALL WIRE SHALL BE SIZED A
ANY EQUIPMENT	LISTED, GEAR THE UL LABEL OR BE LABELED OR LISTED WITH AN APPROVED, NATIONALLY RECOGNIZED ELECTRICAL TESTING AGENCY. WHERE NO LABELING OR LISTING SERVICE IS AVAILABLE FOR CERTAIN TYPES OF EQUIPMENT, TEST DATA SHALL BE SUBMITTED TO PROVE TO THE ENGINEER THAT EQUIPMENT MEETS OR	2. WIRING AT THE TRANSITION TO THE FLO DOCK(S) SHALL BE TYPE "DLO" OR "W CABLE MULTI—CONDUCTOR CABLE.
	EAGEDS AVAILADLE STAINDARDS.	

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File Name:

END OF SECTION

SECTION 16120

WIRES AND CABLES

ENGINEER NO. 81692 E OF FLORIDA

MARTINEZ, P.E.

IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE REQUIRED UTILITY MPANY TO DETERMINE IF ANY FEES, CHARGES OR COSTS WILL BE DUE THE ILITY COMPANY. FEES FOR TEMPORARY POWER SHALL BE INCLUDED IN THIS NTRACTOR'S BID PRICE. FEES FOR PERMANENT POWER WILL BE PAID BY

END OF SECTION

SECTION 16110

RACEWAYS AND CONDUITS

HE ENTIRE INSTALLATION SHALL BE IN PVC PLASTIC CONDUIT, UNLESS SPECIFICALLY NOTED OTHERWISE. ONLY SCHEDULE 40 PVC SHALL BE USED FOR ALL RACEWAYS TRAPPED UNDERGROUND OR UNDER DOCK STRUCTURE. IINIMUM CONDUIT SIZE SHALL BE ¾" UNLESS NOTED OTHERWISE ON DRAWINGS. ALL CONDUITS SHALL BE UL LISTED AND LABELED. CONDUIT SIZES SHOWN ON THE DRAWINGS ARE TO AID THE CONTRACTOR IN BIDDING ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CONDUIT SIZES AS REQUIRED

PRODUCT DATA SHALL BE SUBMITTED ON CONDUIT AND CONDUIT FITTINGS. PRODUCT DATA SHALL SHOW COMPLIANCE WITH THIS SECTION OF THE SPECIFICATIONS. INCLUDING UL LABEL. MANUFACTURER, AND MANUFACTURER'S

CONDUIT SHALL BE COMPOSED OF HIGH IMPACT PVC (POLYVINYL CHLORIDE -200 COMPOUND) AND SHALL CONFORM TO INDUSTRY STANDARDS, AND BE UL TED IN ACCORDANCE WITH ARTICLE 352 OF NATIONAL ELECTRICAL CODE FOR DERGROUND AND EXPOSED USE. MATERIALS MUST HAVE TENSILE STRENGTH 55 PSI, AT 70°F, FLEXURAL STRENGTH OF 11,000 PSI, COMPRESSION RENGTH OF 8600 PSI. MANUFACTURER SHALL HAVE FIVE YEARS' EXTRUDING

INDUIT EXPANSION FITTINGS SHALL BE SCHEDULE 40 PVC SHALL HAVE AN PANSION CHAMBER TO ALLOW APPROXIMATELY TWO-INCH MOVEMENT PARALLEL CONDUIT RUN IN EITHER DIRECTION FROM NORMAL. THEY SHALL HAVE CTORY-INSTALLED PACKING. EXPANSION FITTINGS SHALL BE SPACED AS

RACEWAYS SHALL BE RUN IN NEAT AND WORKMAN LIKE MANNER AND SHALL PROPERLY SUPPORTED IN ACCORDANCE WITH LATEST EDITION OF NEC WITH PROVED STAINLESS STEEL CONDUIT CLAMPS, HANGER RODS AND STRUCTURAL

RACEWAY RUNS, WHETHER TERMINATED IN BOXES OR NOT, SHALL BE PPED DURING THE COURSE OF CONSTRUCTION AND UNTIL WIRES ARE PULLED AND COVERS ARE IN PLACE. NO CONDUCTORS SHALL BE PULLED INTO CEWAYS UNTIL CONSTRUCTION WORK WHICH MIGHT DAMAGE THE RACEWAYS

RACEWAYS SHALL HAVE AN INSULATED COPPER SYSTEM GROUND INDUCTOR THROUGHOUT THE ENTIRE LENGTH OF CIRCUIT INSTALLED WITHIN INDUIT IN STRICT ACCORDANCE WITH NEC. GROUNDING CONDUCTOR SHALL BE LUDED IN TOTAL CONDUIT FILL DETERMINING CONDUIT SIZES, EVEN THOUGH INCLUDED OR SHOWN ON DRAWINGS. GROUNDING CONDUCTORS RUN WITH EDERS SHALL BE BONDED TO PORTIONS OF CONDUIT THAT ARE METAL BY

CEWAYS WHICH DO NOT HAVE CONDUCTORS FURNISHED UNDER THIS DIVISION THE SPECIFICATIONS SHALL BE LEFT WITH AN APPROVED NYLON PULL CORD 3. WIRING FROM THE DISTRIBUTION PANEL TO THE POWER PEDESTAL SHALL BE TYPE "G" CABLE MULTI-CONDUCTOR CABLE.

B. TAPS AND SPLICES

1. ALL TAPS AND SPLICES IN MANHOLES OR IN GROUND PULL BOXES SHALL BE SUBMERSIBLE TYPE CONNECTORS. BASIS OF DESIGN: CMC TYPE SSBC-S RUBBER INSULATED SECONDARY CONNECTIONS. INSTALL SLEEVE KITS AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

C.COLOR CODING

1. ALL POWER FEEDERS SHALL BE WIRED WITH INDUSTRY STANDARD COLOR-CODED WIRE OR SHALL HAVE BLACK INSULATION AND BE SIMILARLY COLOR-CODED WITH TAPE OR PAINT IN ALL JUNCTION BOXES AND PANELS. TAPE OR PAINT SHALL COMPLETELY COVER THE FULL LENGTH OF CONDUCTOR INSULATION WITHIN THE BOX OR PANEL.

1.02SUBMITTALS

A. SUBMIT MANUFACTURER'S DATA SHEETS ON ALL MAJOR TYPES OF WIRES AND CABLES INCLUDING SPLICING TAPE, AND TERMINATING/SPLICING LUGS OR CONNECTORS AND CABLE SLEEVES.

END OF SECTION

SECTION 16410 ELECTRIC SERVICE

PART 1 - GENERAL

1.01 DESCRIPTION

A. DESCRIPTION OF SYSTEM

- 1. THE ELECTRICAL UTILITY COMPANY WILL PROVIDE THE ELECTRICAL SERVICE OF THE CHARACTERISTICS AS SHOWN ON THE DRAWINGS. THE CONTRACTOR'S WORK WILL BEGIN WHERE THE UTILITY COMPANY'S WORK ENDS.
- 2. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, ETC., NECESSARY FOR A COMPLETE APPROVED ELECTRICAL SERVICE AS REQUIRED FOR THIS PROJECT, INCLUDING INSPECTION AND APPROVAL BY THE UTILITY AND LOCAL INSPECTION DEPARTMENTS.
- 3. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY IN WRITING, WITH TWO COPIES TO THE ENGINEER, NO LATER THAN TEN (10) DAYS AFTER SIGNING CONTRACTS AS TO WHEN THIS CONTRACTOR ANTICIPATES THE BUILDING POWER SERVICE WILL BE REQUIRED.

B. CONSTRUCTION FACILITIES

- 1. THE FACILITIES AND EQUIPMENT REQUIRED TO PROVIDE ALL ELECTRICAL POWER CONSUMED FOR CONSTRUCTION, LIGHTING AND BALANCING AND TESTING PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE PROVIDED UNDER THIS SECTION OF THE SPECIFICATIONS. ALL WIRING, OUTLETS AND OTHER WORK REQUIRED TO PROVIDE THIS POWER AT THE SITE AND WITHIN THE BUILDING FOR ALL TRADES SHALL BE ARRANGED FOR. FURNISHED AND INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS INCLUDING ANY FEE, CHARGE OR COST DUE THE UTILITY COMPANY FOR TEMPORARY POWER INSTALLATION OR HOOK-UPS.
- 2. FACILITIES SHALL BE FURNISHED IN A NEAT AND SAFE MANNER IN COMPLIANCE WITH GOVERNING CODES, GOOD WORKING PRACTICES AND OSHA **REGULATIONS.**

C.ELECTRICAL SERVICE

- 1. FURNISH AND INSTALL SECONDARY 120/240V, 1PH, 3W SERVICE FROM UTILITY XFMR AS INDICATED. TERMINATION AT THE UTILITY TRANSFORMER WILL BE BY UTILITY COMPANY.
- 2. FURNISH AND INSTALL ALL MISCELLANEOUS ELECTRICAL CONNECTIONS, DEVICES, SUPPORTING DEVICES, CONDUIT, ETC., AS REQUIRED BY UTILITY COMPANY FOR A COMPLETE ELECTRICAL SERVICE.
- D. SURGE PROTECTION
- 1. PROVIDE AND INSTALL SURGE SUPPRESSORS AS SPECIFIED IN SECTION 16610.

END OF SECTION

ALL CONDUCTORS SHALL BE COPPER TYPE THHN/THWN, TYPE "G", TYPE "W" OR TYPE "DLO" AS INDICATED ON DRAWINGS. NO ALUMINUM WIRING SHALL BE PERMITTED. ALL WIRE SHALL BE SIZED AS SHOWN ON THE DRAWINGS.

VIRING AT THE TRANSITION TO THE FLOATING DOCK(S) AND WITHIN FLOATING DOCK(S) SHALL BE TYPE "DLO" OR "W" CABLE SINGLE CONDUCTOR OR "O"

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SECTION 16450 SECONDARY GROUNDING

PART 1 – GENERAL 1.01 WORK INCLUDED

A. POWER SYSTEM GROUNDING.

B. COMMUNICATION SYSTEM GROUNDING

C.ELECTRICAL EQUIPMENT AND RACEWAY GROUNDING AND BONDING.

1.02 SYSTEM DESCRIPTION

A. GROUND THE ELECTRICAL SERVICE SYSTEM NEUTRAL AT SERVICE ENTRANCE EQUIPMENT TO METALLIC WATER SERVICE, BUILDING STEEL, CONCRETE REINFORCING STEEL, AND TO SUPPLEMENTARY GROUNDING ELECTRODES.

- B.PROVIDE COMMUNICATIONS SYSTEM GROUNDING CONDUCTOR AT POINT OF SERVICE ENTRANCE AND CONNECT TO NEAREST EFFECTIVELY GROUNDED METALLIC WATER PIPE AND NEAREST EFFECTIVELY GROUNDED BUILDING STRUCTURAL STEEL MEMBER.
- C.BOND TOGETHER SYSTEM NEUTRALS, SERVICE EQUIPMENT ENCLOSURES, EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, METAL RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN RACEWAYS AND CABLES, RECEPTACLE GROUND CONNECTORS, AND PLUMBING SYSTEMS.

PART 2 - PRODUCTS

2.01 MATERIALS

A. GROUND RODS: COPPER-ENCASED STEEL, ³/₄ INCH DIAMETER, MINIMUM LENGTH 10 FEET.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. PROVIDE A SEPARATE, INSULATED EQUIPMENT GROUNDING CONDUCTOR WITH EACH FEEDER AND BRANCH CIRCUIT. TERMINATE EACH END ON A GROUNDING LUG, BUS, OR BUSHING.
- B. CONNECT GROUNDING ELECTRODE CONDUCTORS TO METAL WATER PIPE USING AN APPROVED GROUND CLAMP. MAKE CONNECTIONS TO FLANGED PIPING AT STREET SIDE OF FLANGE. PROVIDE BONDING JUMPER AROUND WATER METER.
- C.USE MINIMUM 6 AWG COPPER CONDUCTORS FOR COMMUNICATIONS SERVICE GROUNDING CONDUCTOR, LEAVE 10 FEET SLACK CONDUCTOR TERMINAL BOARD.
- D.ALL GROUND CONNECTIONS AT GROUND RODS, BUILDING STEEL, AND CONCRETE REINFORCING STEEL SHALL BE THERMOFUSION TYPE.
- 3.02 FIELD QUALITY CONTROL

A.INSPECT GROUNDING AND BONDING SYSTEM CONDUCTORS AND CONNECTIONS FOR RIGHTNESS AND PROPER INSTALLATION.

END OF SECTION

SECTION 16470 PANELBOARD

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. MAIN SERVICE, LIGHTING, AND APPLIANCE BRANCH CIRCUIT PANELBOARD WITH RATINGS AS INDICATED.
- 1.02SUBMITTALS
- A. SUBMIT SHOP DRAWINGS FOR EQUIPMENT AND COMPONENT DEVICES.
- B.INCLUDE OUTLINE AND SUPPORT POINT DIMENSIONS, VOLTAGE, MAIN BUS AMPACITY. INTEGRATED SHORT CIRCUIT AMPERE RATING, CIRCUIT BREAKER AND FUSIBLE SWITCH ARRANGEMENT AND SIZES.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - PANELBOARDS

- A. EATON
- B. SQUARE D
- C.G.E.
- D. SIEMENS
- E. OR EQUAL

2.02 PANELBOARDS

A. PANELBOARDS SHALL BE CIRCUIT BREAKER TYPE.

B.ENCLOSURE SHALL BE NEMA 3R STAINLESS STEEL W/WHITE POWDER COATED PAINT FINISH, RAINPROOF.

C.PROVIDE PANELBOARDS WITH BUS RATINGS AS SCHEDULED.

D. ALL PANELBOARDS SHALL BE FULLY RATED WITH MINIMUM INTEGRATED SHORT CIRCUIT RATING AS INDICATED ON DRAWINGS. E. MOLDED CASE CIRCUIT BREAKERS: BOLT-ON TYPE THERMAL/MAGNETIC TRIP CIRCUIT BREAKERS, WITH COMMON TRIP HANDLE FOR ALL PO CIRCUIT BREAKERS UL LISTED AS TYPE SWD FOR LIGHTING CIRCU

PART 3 - EXECUTION

3.01 INSTALLATION

A. INSTALL PANELBOARDS PLUMB AND FLUSH WITH SUPPORTING STR

B.HEIGHT: 6 FT. TO TOP.

C.PROVIDE FILLER PLATES FOR UNUSED SPACES IN PANELBOARDS.

D. PROVIDE TYPED CIRCUIT DIRECTORY FOR EACH BRANCH CIRCU REVISE DIRECTORY TO REFLECT CIRCUITING CHANGES REQUIRE PHASE LOADS.

3.02 FIELD QUALITY CONTROL

A. VISUAL AND MECHANICAL INSPECTION: INSPECT FOR PHYSICAL ALIGNMENT, ANCHORAGE, AND GROUNDING. CHECK PROPER I TIGHTNESS OF CONNECTIONS FOR CIRCUIT BREAKERS, FUSIBLE FUSES.

END OF SECTION

SECTION 16610 SURGE PROTECTIVE DEVICE (SPD)

1.01 DESCRIPTION

PART 1 – GENERAL

A. THIS SECTION DESCRIBES THE MATERIALS AND INSTALLATION REC SURGE PROTECTIVE DEVICES (SPD) FOR THE PROTECTION OF ALL CIRCUITS FROM THE EFFECTS OF LIGHTING INDUCED CURREN SWITCHING TRANSIENTS AND INTERNALLY GENERATED TRANSIE FROM INDUCTIVE AND/OR CAPACITIVE LOAD SWITCHING.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. GENERAL ELECTRICAL REQUIREMENTS.

B.RACEWAYS, BOXES, AND FITTINGS.

C. WIRE AND CABLE.

D. GROUNDING.

1.03 SUBMITTALS

A. SUBMIT SHOP DRAWINGS, PRODUCT DATA AND MANUFACTURER INSTRUCTIONS.

B. THE SURGE SUPPRESSION SUBMITTALS SHALL ALSO INCLUDE:

1. DIMENSIONAL DRAWING OF EACH SUPPRESSOR TYPE FOLLOWING:

a. SERVICE ENTRANCE SUPPRESSORS

- COOPER BUS BARS FOR INTERNAL CONNECTIONS. - REPLACEABLE MODULES ON EACH PHASE

- REPLACEABLE 200,000 AIC FUSES ON EACH MODULE.

b. DOWNSTREAM SUPPRESSORS

- LINE TO NEUTRAL, LINE TO GROUND, AND NEUTRA SUPPRESSION PATHS.

2.IEEE C62.41-1991 CATEGORY C3 (20 KV, 10 KA, 8/20 CLAMP VOLTAGE TEST RESULTS FROM AN INDEPENDENT TEST

1.04 MANUFACTURERS

A. ALL SUPPRESSORS FOR AC DISTRIBUTION AND BRANCH CIRC WITHIN A SINGLE FACILITY SHALL BE PROVIDED BY A SINGLE THE SAME MANUFACTURER WHO PROVIDES MAIN PANEL SUPP PROVIDE SUPPRESSORS FOR DISTRIBUTION AND BRANCH PANELS.

PART 2 - PRODUCTS

2.01 MAIN SERVICE SUPPRESSORS AT DISTRIBUTION PANEL.

- A. SUPPRESSORS SHALL BE LISTED IN ACCORDANCE WITH UL 1449, SAFETY, TRANSIENT VOLTAGE SURGE SUPPRESSORS, A ELECTROMAGNETIC INTERFERENCE FILTERS.
- B. THE UNIT SHALL PROVIDE THE FOLLOWING SUPPRESSION PAT GROUND, LINE TO NEUTRAL, AND NEUTRAL TO GROUND.
- C.SUPPRESSORS SHALL MEET OR EXCEED THE FOLLOWING CRITERI C.U.L.
- D. SUPPRESSORS SHALL BE MADE OF SOLID-STATE COMPONENTS BIDIRECTIONALLY.
- E. THE SUPPRESSOR SHALL HAVE A RESPONSE TIME NO GREA NANOSECONDS FOR ANY OF THE INDIVIDUAL PROTECTION MODES.
- F. SUPPRESSORS SHALL BE DESIGNED TO WITHSTAND A MAXIMU OPERATING VOLTAGE (MCOV) OF NOT LESS THAN 115% OF VOLTAGE.
- G. VISIBLE INDICATION OF PROPER SUPPRESSOR CONNECTION SHALL BE PROVIDED.
- H. THE SUPPRESSOR MANUFACTURER SHALL PROVIDE CERTIFI CONFIRMING A "FAIL-SHORT" FAILURE MODE.

8				H				Seal
				G				
6				F				
5		·		E				
4		·		D				
3				C				
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Revision	Ву	Appd.	YY.MM.DD	lssued	Ву	Appd.	YY.MM.DD	REGISTERED

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oles. Provide Uits.	I. SUPPRESSORS SHALL BE MANUFACTURED IN THE UNITED STATES. ALL MAJOR COMPONENTS SHALL ALSO BE OF AMERICAN MANUFACTURE.	J. GROUND LEAKAGE CURRENT SHALL BE INDICATED ON TH INDICATOR AND THE EXTERNAL METER IN PERCENT RELA SET-POINT VALUE.
	J. SUPPRESSOR SHALL HAVE A FIVE—YEAR WARRANTY, INCORPORATING UNLIMITED REPLACEMENTS OF SUPPRESSORS IF THEY ARE DESTROYED BY TRANSIENTS WITHIN THE WARRANTY PERIOD.	K. CONNECTION TO THE EXTERNAL CURRENT TRANSFO CONTINUOUSLY MONITORED. AN OPEN CIRCUIT WIT TRANSFORMER SHALL BE INDICATED BY FLASHING ALARM LET
RUCTURE.	K.SUPPRESSOR SHALL BE AN INTEGRAL PART OF THE MAIN POWER DISTRIBUTION PANEL AND SHALL BE AS MANUFACTURED BY ADVANCED PROTECTION TECHNOLOGIES, INC. XTE/XHP SERIES, OR APPROVED EQUAL BY SQUARE D, SIEMENS, OR G.E.	THE FUNCTION OF THE CURRENT TRANSFORMER AND ME WELL AS THE ALARM LED AND THE ALARM RELAY SHAL PUSHING THE TEST BUTTON.
	PART 3 – EXECUTION	L. MONITOR SHALL INDIVIDUALLY MONITOR EACH FEEDER C PANEL IN LIEU OF THE INCOMING MAIN. ALARM RELAY SI TO SHUNT TRIP OF ASSOCIATED CIRCUIT BREAKER
ED TO BALANCE	3.01 MAIN DISTRIBUTION PANEL	PART 3 - EXECUTION
	A. CONDUCTORS BETWEEN SUPPRESSOR AND POINT OF ATTACHMENT SHALL BE KEPT SHORT AND STRAIGHT.	3.01 MAIN DISTRIBUTION PANEL
DAMAGE, PROPER NSTALLATION AND SWITCHES, AND	B.NEUTRAL AND GROUND SHALL NOT BE BONDED TOGETHER AT SECONDARY PANELBOARD LOCATION. END OF SECTION	A. CONDUCTORS BETWEEN THE MONITOR AND POINT OF ATT KEPT SHORT AND STRAIGHT.
	SECTION 16620 GROUND MONITORING SYSTEM	END OF SECTION
	PART 1 – GENERAL	SECTION 16750 ENCLOSED CIRCUIT BREAKERS
	1.01 DESCRIPTION	PART 1 – GENERAL
QUIREMENTS FOR	A. THIS SECTION DESCRIBES THE MATERIALS AND INSTALLATION REQUIREMENTS FOR GROUND MONITORING EQUIPMENT TO MEASURE "LEAKAGE" CURRENT TO GROUND.	
L AC ELECTRICAL NTS, SUBSTATION	1.02 RELATED WORK SPECIFIED ELSEWHERE	BREAKERS:
ENTS RESULTING	A. GENERAL ELECTRICAL REQUIREMENTS	1. MOLDED-CASE CIRCUIT BREAKERS.
	B.RACEWAYS, BOXES, AND FITTINGS.	2. ENCLOSURES
	C.WIRE AND CABLE	1.02 SUBMITTALS
	D.MOTOR CONTROLS	A. PRODUCT DATA: FOR EACH TYPE OF ENCLOSED CIRCUIT B AND COMPONENT INDICATED.
	E. GROUNDING	B. SHOP DRAWINGS: DIAGRAM POWER, SIGNAL, AND CONTROL
	1.03 SUBMITTALS	C.FIELD QUALITY-CONTROL TEST REPORTS
	A. SUBMIT SHOP DRAWINGS, PRODUCT DATA AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.	D. OPERATION AND MAINTENANCE DATA.
R'S INSTALLATION	B. THE GROUND MONITOR SUBMITTALS SHALL ALSO INCLUDE:	1.03 QUALITY ASSURANCE
	1. DIMENSIONAL DRAWINGS OF EACH MONITOR TYPE.	A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES LIST DEFINED BY A TESTING AGENCY ACCEPTABLE TO /
INDICATING THE	2. PANELBOARD MOUNTING DETAIL.	PART 2 - PRODUCTS
	1.04 MANUFACTURERS	2 01MANUFACTURERS
	A. ALL MONITORS FOR AC DISTRIBUTION AND BRANCH CIRCUIT PROTECTION WITHIN A SINGLE FACILITY SHALL BE PROVIDED BY A SINGLE MANUFACTURER.	A.IN OTHER PART 2 ARTICLES WHERE TITLES BELOW INT FOLLOWING REQUIREMENTS APPLY TO PRODUCT SELECTION:
AL TO GROUND	PART 2 – PRODUCTS 2.0.1 MAIN SERVICE MONITORS AT DISTRIBUTION PANELS	1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE
	A MONITORS SHALL BE LISTED IN ACCORDANCE WITH 111 FILE #E173157	WORK INCLUDE, BUT ARE NOT LIMITED TO, MANUFACTURER
LAB.	B. THE GROUND FAULT MONITORS SHALL BE BENDER MODEL	2. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQ PRODUCTS BY ONE OF THE MANUFACTURERS SPECIFIED.
	RCM470LY-13-MA/RCMS460-D OR APPROVED EQUAL. THESE DEVICES SHALL MONITOR THE INSULATION LEVEL OF GROUNDED SINGLE PHASE MARINA POWER	2.02 MOLDED-CASE CIRCUIT BREAKERS AND SWITCHES
CUIT PROTECTION MANUFACTURER.	SYSTEM BY MEASURING THE GROUND FAULT LEAKAGE CURRENT.	A. MANUFACTURERS
	WITHOUT THE PROBLEMS ASSOCIATED WITH HIGH SENSITIVITY NUISANCE TRIPPING. THE MONITORS SHALL BE AN IEC755 TYPE A GROUND FAULT MONITOR THAT CAN DETECT SINUSOIDAL AC GROUND FAULT CURRENTS AND PULSATING DC GROUND FAULT CURRENTS.	1. EATON CORPORATION; CUTLER-HAMMER PRODUCTS. 2. GENERAL ELECTRIC CO.; ELECTRICAL DISTRIBUTION & CONT 3. MOELLER ELECTRIC CORPORATION 4. SIEMENS ENERGY & AUTOMATION, INC.
), STANDARD FOR	D. THE RESPONSE VALUE CURRENT SHALL BE STEPLESSLY ADJUSTABLE BETWEEN 10MA AND 10 A AND THE DELAY TIME SHALL BE ADJUSTABLE BETWEEN 0 AND 10 S. THE RELAY SHALL BE EQUIPPED WITH AN LED BAR GRAPH INDICATOR.	5. SQUARE D/GROUP SCHNEIDER B.MOLDED-CASE CIRCUIT BREAKER: 65 KAIC INTERRUPTING CA
ND UL 1283	AN EXTERNAL ANALOG METER SHALL BE CAPABLE OF BEING CONNECTED AND BY USING AND OPTIONAL EXTERNAL TRANSDUCER, A 4 TO 20MA SIGNAL SHALL BE	1. THERMAL-MAGNETIC CIRCUIT BREAKERS: INVERSE TIME
ATHS: LINE TO	AVAILABLE. METER INDICATION SHALL BE FROM 10 TO 100% WHERE 100% IS EQUAL TO THE ALARM SET—POINT VALUE.	FOR LOW-LEVEL OVERLOADS AND INSTANTANEOUS MAGN FOR SHORT CIRCUITS. ADJUSTABLE MAGNETIC TI CIRCUIT-BREAKER FRAME SIZES 250 A AND LARGER.
IA SET FORTH IN	E. THE RCM470LY-13-MA SHALL BE DESIGNED FOR USE WITH EXTERNAL SPECIAL U.L. LISTED CURRENT TRANSFORMERS DESIGNED TO PREVENT NUISANCE TRIPPING.	2. ADJUSTABLE INSTANTANEOUS-TRIP CIRCUIT BREAKERS: ELEMENT WITH FRONT-MOUNTED, FIELD-ADJUSTABLE TRIP
'S AND OPERATE	F. MONITORS SHALL BE SUITABLE FOR INSTALLATION INTO STANDARD DISTRIBUTION PANELS.	3.CURRENT-LIMITING CIRCUIT BREAKERS: FRAME SIZES 4 AND LET-THROUGH RATINGS LESS THAN NEMA FU 1, RK-
ATER THAN FIVE	G. GROUND FAULT CURRENT SHALL BE EVALUATED BY SPECIAL CURRENT TRANSFORMERS AND CONVERTED INTO MEASURING SIGNAL.	C.MOLDED-CASE CIRCUIT-BREAKERS FEATURES AND ACCESSOR
IUM CONTINUOUS	H. WHEN A GROUND FAULT CURRENT EXCEEDS THE ALARM SETUP POINT VALUE,	1. STANDARD FRAME SIZES, TRIP RATINGS, AND NUMBER OF
- NUMINAL RMS AND OPERATION	THE ALARM LED ILLUMINATES AND THE ALARM RELAY SWITCHES AFTER THE ADJUSTED TIME DELAY. THE ALARM RELAY SHALL BE SELECTABLE TO BE IN THE NORMALLY ENERGIZED OR NORMALLY DE-ENERGIZED MODE AND WITH OR WITHOUT LATCHING.	2. LUGS: MECHANICAL STYLE WITH COMPRESSION LUG NUMBER, SIZE, TRIP RATINGS, AND CONDUCTOR MATERIAL.
IED TEST DATA	I. THE FAULT MEMORY SHALL BE RESET BY PUSHING A TEST/RESET BUTTON LOCATED AT THE FRONT PLATE, PROVIDED THAT THE GROUND LEAKAGE CURRENT IS 25% BELOW THE ALARM SET—POINT VALUE.	2.03EINULUSURES 1. ENCLOSURE SHALL BE WEATHER RESISTANT, NEMA 3R.

Consultants	901 Ponce de Leon Blvd. Suite 900 Coral Gables, Florida 33134 www.stantec.com	CITY OF K DOLPHIN Key West, Flo
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ED ON THE LED BAR GRAPH CENT RELATED TO THE ALARM

TRANSFORMER SHALL BE RCUIT WITHIN THE CURRENT ALARM LED AND ALARM RELAY. AND MEASURING CIRCUIT AS RELAY SHALL BE CHECKED BY

FEEDER CIRCUIT LEAVING THE RELAY SHALL BE CONNECTED

PART 3 - EXECUTION

3.01 INSTALLATION

A. MOUNT INDIVIDUAL CIRCUIT BREAKERS WITH TOPS AT UNIFORM HEIGHT, UNLESS OTHERWISE INDICATED.

B. COMPLY WITH MOUNTING AND ANCHORING REQUIREMENTS SPECIFIED BY MANUFACTURER.

C. TEMPORARY LIFTING PROVISIONS: REMOVE TEMPORARY LIFTING EYES, CHANNELS, AND BRACKETS AND TEMPORARY BLOCKING OF MOVING PARTS FROM ENCLOSURES AND COMPONENTS.

D. IDENTIFY FIELD-INSTALLED CONDUCTORS, INTERCONNECTING WIRING, AND COMPONENTS; PROVIDE WARNING SIGNS AS REQUIRED.

3.02FIELD QUALITY CONTROL

A.INSPECT MECHANICAL AND ELECTRICAL CONNECTIONS.

END OF SECTION

INT OF ATTACHMENT SHALL BE

IDIVIDUALLY MOUNTED CIRCUIT

CIRCUIT BREAKER, ACCESSORY,

CONTROL WIRING.

ORIES LISTED AND LABELED AS BLE TO AUTHORITIES HAVING

BELOW INTRODUCE LISTS, THE

MPLIANCE WITH REQUIREMENTS, AY BE INCORPORATED INTO THE NUFACTURERS SPECIFIED.

WITH REQUIREMENTS, PROVIDE

ON & CONTROL DIVISION

RUPTING CAPACITY.

FRSE TIME-CURRENT FLEMENT EOUS MAGNETIC TRIP ELEMENT GNETIC TRIP SETTING FOR

BREAKERS: MAGNETIC TRIP ABLE TRIP SETTING.

SIZES 400 A AND SMALLER FU 1, RK-5.

ACCESSORIES:

NUMBER OF POLES.

SION LUG KITS SUITABLE FOR

ELECTRICAL SPECIFICATIONS KEY WEST PIER DOCK REPLACEMENT Project No. Scale NO SCALE 215613443 orida Drawing No. Sheet Revision _ ___ ___ DLSBCBBCB2017/04/20Dwn.Chkd.Dsgn.YY.MM.DD of **27** E03



7/04/

Revision

By Appd. YY.MM.DD

Issued

By Appd. YY.MM.DD

KEY NOTES ()

- 1. PROVIDE POWER CABLE TRAY UNDERSIDE OF DECK.
- PROVIDE TYPE G-GC CABLE (3 CONDUCTOR PLUS GROUND) IN CABLE TRAY FOR PEDESTAL ELECTRICAL POWER.
- 3. EXISTING ELECTRICAL DISTRIBUTION EQUIPMENT.
- 4. NEW COMBINATION TEL/CAT CABINET FOR EXISTING TEL/CATV EQUIPMENT RECONNECT EXISTING AND ESTABLISH NEW CONNECTIONS
- 5. NEW CONFIG. A POWER PEDESTAL, SEE SCHEDULE ON SHEET E08.

- 8. ANY SHORE MOUNTED EQUIPMENT TO BE 1 ft. ABOVE BFE.

CITY OF KEY DOLPHIN PI Key West, Florid The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. EDWIN J. MARTINEZ, P.E. File Name: REGISTERED ENGINEER NO. 81692 STATE OF FLORIDA The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

GENERAL NOTES

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- A. CONTRACTOR SHALL REPLACE EXISTING CONDUCTORS. NO SPLICING SHALL BE PERMITTED.
- B. CONTRACTOR SHALL VERIFY THE CONDITION AND SUITABILITY OF DISTRIBUTION EQUIPMENT INTENDED FOR RE-USE.
- C. REPLACE EXISTING 120/240V HOUSE PANEL (LOAD CENTER) TO SUPPORT PEDESTAL LIGHTING, TEL/CATV CABINET AND VACUUM SEWER PUMP. NEW HOUSE PANEL PB-H SHALL HAVE GFCI PROTECTION FOR ALL BRANCH CIRCUITS PER NEC.
- D. CABLE SHALL BE IN CONDUIT IN GROUND AND IN CABLE TRAY AT FLOATING DOCK. ROUTING OF CONDUIT, TRAY AND CONDUCTORS ON THIS DRAWING IS FOR INFORMATION ONLY, IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THE BEST ROUTING TO SUIT LOCAL CONDITIONS.
- THE POWER DISTRIBUTION LAYOUT IS DIAGRAMMATIC ONLY AND DOES NOT SHOW EVERY FITTING THAT MAY BE REQUIRED.
- F. COORDINATE THIS LAYOUT WITH OTHER EQUIPMENT AND STRUCTURES BEFORE ROUGHING IN!
- G. GROUNDING CONTINUITY SHALL BE MAINTAINED THROUGH THE ENTIRE RACEWAY SYSTEM.
- H. SEE PEDESTAL AND MDP SCHEDULES ON DRAWINGS E07 AND E08.
- I. PROVIDE PULL AND/OR JUNCTION BOXES WHERE REQUIRED BY NEC AND LOCAL CODES WHETHER OR NOT SHOWN ON DRAWINGS.
- J. TWO SEPARATE CIRCUITS FED FROM PB-H WILL SUPPORT LIGHTING. PROVIDE CABLE TYPE "SOOW" FOR THIS PURPOSE.
- K. CONTRACTOR TO COORDINATE METER REMOVAL/RE-INSTALLATION WITH KEYS ENERGY SYSTEM (KES) IF REQUIRED BY KES.

PP 5 P/A-308 P/B-301 P/A-401	
5 P/A-307 P/A-306 P/A-401	
Y WEST ER DOCK REPLACEMENT da <u>DLS BCB BCB 2017/04/20</u> Dwn. Chkd. Dsgn. 2 <u>17/04/20</u>	ELECTRICAL SITE PLAN-POWER Project No. 215613443 Drawing No. Scale 0' 5' 10' 15' 20' Sheet Revision E04 of 27



GENERAL NOTES

- A. CONTRACTOR SHALL REPLACE EXISTING CABLES. NO SPLICING SHALL BE PERMITTED.
- B. THIS TEL/CATV DISTRIBUTION LAYOUT IS DIAGRAMMATIC ONLY. DOES NOT SHOW EVERY FITTING THAT MAY BE REQUIRED.
- C. COORDINATE THIS LAYOUT WITH OTHER EQUIPMENT AND STRUCTURES PRIOR TO CONSTRUCTION.
- D. GROUNDING CONTINUITY SHALL BE MAINTAINED THROUGH THE ENTIRE RACEWAY SYSTEM.
- E. ALL PVC JOINTS SHALL BE STAGGERED AT LEAST 6 INCHES PROVIDE EXPANSION FITTINGS AS NEEDED.

KEY NOTES @

- 1. TEL/CATV IS INTEGRAL TO POWER PEDESTAL
- 2. (2) 2" CONDUITS FOR CATV AND TELEPHONE WIRING. SEE SHEET E06 FOR DETAILS.
- NEW COMBINATION TEL/CATV CABINET FOR EXISTING TEL/CATV EQUIPMENT. RECONNECT EXISTING AND ESTABLISH NEW CONNECTIONS AS NEEDED.
- 4-PAIRS 20 GAUGE GEL FILLED CABLES RUNNING IN SCH 40 CONDUIT. THIS CABLE SHALL BE APPROVED FOR WET LOCATION AND MARINE AMBIENT.
- 5. VIDEO RG-II GEL FILLED CABLE RUNNING IN SCH 40 CONDUIT APPROVED FOR WET LOCATION AND SUITABLE FOR MARINE AMBIENT SHALL BE USED AS BACKBONE CABLE. VIDEO RG-6U OF SIMILAR SPEC SHALL BE USED FOR EACH T-OFF.
- 6. ALL SHORE MOUNTED EQUIPMENT TO BE 1 ft. ABOVE BFE.

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EY WEST IER DOCK REPLACEMENT da <u>DLS</u> BCB BCB 2017/04/20 Dwn. Chkd. Dsgn. 2017/04/20 YY.MM.DD	ELECTRICAL SITE PLAN - CATVProject No.Scale2156134430' 5' 10' 15' 20'Drawing No.SheetRevisionE05of 27



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				POWE	R DISTR	IBUTIO	N VOLT [DROP SCH	EDULE			
									FEEDER			TOTAL VOL
CIRC. No. OR PANEL	SERVICING	VOLTAGE	PH	POWER FACTOR	LOAD IN AMPS.	AMBIENT TEMP(°C)	WIRE OP TEMP(°C)	NUMBER	SIZE	*LENGTH IN FT.	QTY. PER PH.	DROP IN %
TX-1	MB-A	120/240	1	.085	752	30	75	P/A-101	2[3#500 KCMIL]	35	2	0.5%
MB-A	MDP-A	120/240	1	0.85	720	30	75	P/A-201	2[3#500 KCMIL]	3	2	0.5%
MB-A	PB-H	120/240	1	0.85	29	30	75	P/A-202	3#3 + 1#8G	3	1	0.6%
MDP-A-1	P-1	120/240	1	0.85	100	30	75	P/A-301	3#1/0 + 1#6G	44	1	1.0%
MDP-A-2	P-2	120/240	1	0.85	100	30	75	P/A-302	3#1/0 + 1#6G	88	1	1.4%
MDP-A-3	P-2	120/240	1	0.85	100	30	75	P/A-303	3#1/0 + 1#6G	88	1	1.4%
MDP-A-4	P-3	120/240	1	0.85	100	30	75	P/A-304	3#1/0 + 1#6G	134	1	1.9%
MDP-A-5	P-3	120/240	1	0.85	100	30	75	P/A-305	3#1/0 + 1#6G	134	1	1.9%
MDP-A-6	P-4	120/240	1	0.85	100	30	75	P/A-306	3#1/0 + 1#6G	183	1	2.4%
MDP-A-7	P-4	120/240	1	0.85	100	30	75	P/A-307	3#1/0 + 1#6G	183	1	2.4%
MDP-A-8	P-5	120/240	1	0.85	100	30	75	P/A-308	3#1/0 + 1#6G	210	1	2.7%
TX-1	MB-B	120/240	1	0.85	720	30	75	P/B-101	2[3#500 KCMIL]	35	2	0.5%
MB-B	MDP-B	120/240	1	0.85	720	30	75	P/B-201	2[3#500 KCMIL]	3	2	0.5%
MDP-B-1	P-5	120/240	1	0.85	100	30	75	P/B-301	3#1/0 + 1#6G	210	1	2.6%
MDP-B-2	P-6	120/240	1	0.85	100	30	75	P/B-302	3#1/0 + 1#6G	183	1	2.4%
MDP-B-3	P-6	120/240	1	0.85	100	30	75	P/B-303	3#1/0 + 1#6G	183	1	2.4%
MDP-B-4	P-7	120/240	1	0.85	100	30	75	P/B-304	3#1/0 + 1#6G	134	1	1.9%
MDP-B-5	P-7	120/240	1	0.85	100	30	75	P/B-305	3#1/0 + 1#6G	134	1	1.9%
MDP-B-6	P-8	120/240	1	0.85	100	30	75	P/B-306	3#1/0 + 1#6G	88	1	1.4%
MDP-B-7	P-8	120/240	1	0.85	100	30	75	P/B-307	3#1/0 + 1#6G	88	1	1.4%
MDP-B-8	P-9	120/240	1	0.85	100	30	75	P/B-308	3#1/0 + 1#6G	44	1	1.0%
PB-H-1	P-1 - P-5	120	1	0.85	1	30	75	P/A-401	2#12 + 1#12G	210	1	1.7%
PB-H-2	P-6 - P-9	120	1	0.85	1	30	75	P/A-402	2#12 + 1#12G	210	1	1.7%
PB-H-3	TEL/CATV	120	1	0.85	125	30	75	P/A-403	2#12 + 1#12G	30	1	2.1%
PB-H-4	SWR. PUMP	120/240	1	0.85	16	30	75	P/A-404	2#10 + 1#10G	30	1	0.9%

POWER PEDESTAL SCHEDULE

MARINA POWER COMPANY CAT. NO. PCMFS 16-E(ST)DA(GFI)-E(ST)DA(GFI)-L-2TTV-RLF-TPL(LED) OR EQUAL AS APPROVED BY OWNER

MARINA POWER COMPANY CAT. NO.: PCMFS 16-E(ST)DA(GFI)-BLANK-L-1TTV-RLF-TPL(LED) OR EQUAL AS APPROVED BY OWNER

MANUFACTURER/ MODEL NO.

LOAD CALCULATION FOR MB-A

SERVICE VOLTAGE 120/240V-1PH-3W+G QUANTITY OF RECEPTACLES 8 DEMAND FACTOR PER NEC TABLE 555.12 IS 90%

CONNECTED LOAD 8 RECEPTACLES © 24,000VA EACH WITH 90% DEMAND FACTOR PANEL "H" LOADS

= 172,800VA <u>= 7,606VA</u> 180,406VA

<u>TOTAL MDP-A LOAD</u> 172,800VA © 240V = 720A

TOTAL SERVICE ENTRANCE LOAD 180,406VA @ 240V = 752A

LOAD CALCULATION FOR MB-B

SERVICE VOLTAGE 120/240V-1PH-3W+G QUANTITY OF RECEPTACLES 8 DEMAND FACTOR PER NEC TABLE 555.12 IS 90%

CONNECTED LOAD 8 RECEPTACLES © 24,000VA EACH WITH 90% DEMAND FACTOR= 172,800VA

TOTAL SERVICE ENTRANCE LOAD 172,800VA @ 240V = 720A

TYPE: SIEMEN	NS TYPE LOAD CENTER
VOLTAGE: 12	0/240V-1PH-3W
MAINS: 100A	. M.B. TYPE "QJ2H"
A.I.C.S.: 25K	
CIRC. No.	SERVICING
1	PEDESTAL LTG.
2	PEDESTAL LTG.
3	TEL/CATV SYSTEM
4	VACUUM SEWER PL
5	SPACE ONLY
6	SPACE ONLY
7	SPACE ONLY
8	SPACE ONLY
NOTES: THIS PANEL C/B ARE IN	. IS SUITABLE FOR SE SERIES SHORT CIRCL

11\workgroup\2156\active\ 3.45_pti_Bu: Moroles_Pool	8 7 6 5 4 3	H G F E D C		Seal	Consultants	O Stantec O Pol Ponce de Leon Blvd. Suite 900 Coral Gables, Florida 33134 www.stontec.com	CITY OF KEY DOLPHIN PIE Key West, Florida
VIs1231-fi	2 1 Revision	 DD Issued	By Appd. YY.MM.DD	EDWIN J. MARTINEZ, P.E. REGISTERED ENGINEER NO. 81692 STATE OF FLORIDA		The Contractor shall verify and be responsible for all dimensions, DO NOT scale the drawing - any errors or amissions shall be reported to Stantec, without delay. The Copyrights to all designs and drawings are the property of Stantec, Reproduction or use for any purpose other than that authorized by Stantacci is forbidden.	File Name:

QUANTITY

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ID

CONFIGURATION A

CONFIGURATION B

TYPE: SIEMENS POWER MOD VOLTAGE: 120/240V-1PH-3W A.I.C.S.: 22K				ENCLOSURE: SURFACE-NEMA 3R	
		EXISTING N	METER STACK	LOCATION: MARINA POWER CABINET	
		1	br-A	FED FROM: MB-A	
CIRC.		CIRCUIT BREA	AKER		
No. SERVICING	POLE	TRP	TYPE	SLIP NOMBER	
1	PEDESTAL P-1	2	150	QPPH	1
2	PEDESTAL P-2	2	150	QPPH	2
3	PEDESTAL P-2	2	150	QPPH	3
4	PEDESTAL P-3	2	150	QPPH	4
5	PEDESTAL P-3	2	150	QPPH	5
6	PEDESTAL P-4	2	150	QPPH	6
7	PEDESTAL P-4	2	150	QPPH	7
8	PEDESTAL P-5	2	150	QPPH	8

2. FOR FEEDER SIZE SEE VOLTAGE DROP SCHEDULE ON THIS SHEET

TYPE: SIEN	IENS POWER MOD			ENCLOSURE: SURFACE-NEMA 3R			
VOLTAGE:	VOLTAGE: 120/240V-1PH-3W			ETER STACK	LOCATION: MARINA POWER CABINET		
A.I.C.S.: 22	A.I.C.S.: 22K				FED FROM: MB-B		
CIRC. CERVICING		CIRCUIT BREA	KER				
No.	SERVICING	POLE	TRP	TYPE	SLIP NOWBER		
1	PEDESTAL P-5	2	150	QPPH	9		
2	PEDESTAL P-6	2	150	QPPH	10		
3	PEDESTAL P-6	2	150	QPPH	11		
4	PEDESTAL P-7	2	150	QPPH	12		
5	PEDESTAL P-7	2	150	QPPH	13		
6	PEDESTAL P-8	2	150	QPPH	14		
7	PEDESTAL P-8	2	150	QPPH	15		
8	PEDESTAL P-9	2	150	QPPH	16		
NOTES: 1. SEE LO 2. FOR FE	1. SEE LOAD CALCULATION ON THIS SHEET 2. FOR FEEDER SIZE SEE VOLTAGE DROP SCHEDULE ON THIS SHEET						

					MODIFICATION: GROUND BUS
					ENCLOSURE: SURFACE-NEMA 1
			INE W PAI	NEL PD-N	LOCATION: MARINA POWER Co. CABINET
		1			FED FROM: PAD TRANSFORMER
CIRCUIT BREAKER			ER		LOAD IN VA
	POLE	TRP	TYPE	ØA	Ø B
	1	20	QP	45	-
	1	20	QP	-	36
	1	20	QP	1500	-
JMP	2	20	QP	1920	1920
	1	20	QP	-	
	1	-	-	-	-
	1	-	-	-	-
	1	-	-	-	-
		TOTAL VA :		3465	1956
	тот	AL PHASE AN	ИPS:	28.9	16.3

SERVICE ENTRANCE AND EQUIPPED WITH INTEGRAL MAIN CIRCUIT BREAKER. THIS MAIN C/B AND BRANCH RCUIT CURRENT RATING.

—		
KEY WEST	ELECTRICAL SCHEDULES	
PIER DOCK REPLACEMENT	Project No. Scale	
lorida	215613443 NO SCALE	
	Drawing No. Sheet Revision	
DLSBCBBCB2017/04/2 Dwn. Chkd. Dsgn. YY.MM.DD	E08 of 27	

GENERAL NOTES:

- EXISTING FIRE PUMP HOUSE INCLUDES ONE PATTERSON PUMP CO. VERTICAL IN-LINE PUMP MODEL 5x3 500 gpm @ 162 Ft.TH (70 psi) WITH 30 hp MOTOR rpm.
- DEPTHS REFERENCE MEAN LOW WATER PER DEP TIDE STATION 872-4542. MEAN HIGH WATER EL. -0.23' NGVD29; MEAN LOW ☺ -1.24' NGVD29.

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7					G						Stantoc	CITY OF KEY WEST	
6					F						JLAIILEL		
5				_	E						901 Ponce de Leon Blvd. Suite 900	DOLPHIN PIER DOL	JK REPLACEMENT
4					D						Coral Gables Florida 33134	Kov Wost Florida	
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1				_	A			EDWARD J. DVORACK, P.E.		drawing - any errors or	iny and be responsible for all almensions, DO-NOI scale the prissions shall be reported to Stantec without delay.	File Name:	DLS BCB BCB 2017/04/20
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FIRE PROTECTION SITE PLAN

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FIRE HYDRANT FLOW TEST SUMMARY

DRAWING SYMBOLS

FIRE PROTECTION DESIGN

DOLPHIN PIER, GARRISON BIGHT MARINA KEY WEST, FL

A. GIVEN: CITY WATER PRESSURE IS 53 psig

B. FIRE PUMP DELIVERS ≈ 100 gpm @ 81 psig TH [booster PS] ADD PRESSURES 53+81= 134 psig AVAILABLE

C. STSTEM HEAD LUSSES:

1. 640 FT 4" PIPE [h _f = 0.21 psi/100 ft]	= 1.35 psi
2. 170 FT 3" + 3" = 4" PIPE* $[h_{f} = 0.21 \text{ psi}/100 \text{ ft}]$	= 0.36 psi
3. 75 FT 1.5" HOSE	= 18.75 psi
4. BRASS NOZZLE	= 2.0 psi
5. ACCESSORIES	= 2.0 psi
TOTAL HEAD LOSS	= 25 psi

D. SUMMATION 134psi - 25 psig = 109psig > 100psig OKAY

*TWO 3"Ø PIPES ARE EQUAL TO ONE 4" PIPE HYDRAULICALLY.

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3 2 1		_		C				www.stanlec.com The Contractor shall verify and be responsible for all dimensions. DO NOT scale the	Key West, F
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1 [•] =10 [•]	GRAPHIC SCALE
\bigotimes	KEYED NOTE
\bigtriangleup	REVISION NUMBER
	CONNECT TO EXISTING
W	POTABLE WATER AND SANITARY SEWER DOCK BOX
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
Ρ	ELECTRICAL POWER PEDESTAL
EDP	ELECTRICAL DISTRIBUTION PANEL
EX	EXISTING
HB	HOSE BIBB

F KEY WEST N PIER DOCK REPLACEMENT Florida

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FIRE PROTECTION LEGEND

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FIRE EXTINGUISHMENT SYSTEMS SPECIFICATIONS

PART 1 - GENERAL REQUIREMENTS

1.1 SYSTEM DESCRIPTION

A DOLPHIN PIER FIRE EXTINGUISHMENT SYSTEMS SHALL CONSIST OF A FIXED-IN-PLACE, AUTOMATIC, CLASS I WET STANDPIPE RELYING UPON AN EXISTING FIRE PUMP TO SUPPLY THE WATER DEMAND AND SHALL INCLUDE CLASS II HOSE STATIONS AND PORTABLE TYPE ABC FIRE EXTINGUISHERS

B. SYSTEM DESIGN SHALL BE BASED UPON A FLOW RATE FOR THE HYDRAULICALLY MOST REMOTE HOSE NOZZLE OF 100 GPM AND A MINIMUM DESIGN PRESSURE OF 100 PSI. FIRE WATER SOURCE IS FROM A PUBLIC WATERWORKS SYSTEM. FLOW AND PRESSURE TEST DATA ARE AS FOLLOWS:

DATE OF TEST: 16 FEB. 2012 PERFORMED BY: FIRE DEPT STATIC PRESSURE: 52 PSI RESIDUAL PRESSURE: 50 PSI FLOW: 880 GPM

1.2 SUMMARY OF WORK

A. NEW CONSTRUCTION WORK SHALL INCLUDE BUT IS NOT LIMITED TO PROVIDING COMPLETE NEW FIRE EXTINGUISHMENT PIPING SYSTEMS AND PORTABLE FIRE EXTINGUISHERS WITH CABINETS AS DESCRIBED IN THESE SPECIFICATIONS AND DRAWINGS FOR THE PROPOSED PIER. WORK SHALL INCLUDE PREPARING MINOR MODIFICATIONS TO THE EXISTING FIRE WATER SUPPLY MAIN AT THE PROPOSED PIER AND SEAWALL INTERFACE.

B.BIDS SHALL INCLUDE AS A MINIMUM ALL LABOR, TOOLS, MATERIALS, PLANT, TRANSPORTATION, TAXES, RELATED ITEMS, ETC., ESSENTIAL FOR DEMOLISHING EXISTING WORK AND FURNISHING, INSTALLING, OPERATING, THE PROPOSED NEW WORK.

1.3 EXAMINATION OF DOCUMENTS

A THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO ESTABLISH TYPE AND QUALITY OF MATERIALS AND A GENERAL LAYOUT AND LOCATION TYPE AND QUALITY OF MATERIALS AND A GENERAL LAYOUT AND LOCATION OF THE MAJOR COMPONENTS THAT COMPRISE THE FIRE EXTINGUISHMENT SYSTEMS. THEY ARE NOT INTENDED TO SHOW IN MINUTE DETAIL EVERY OR ALL ACCESSORIES INTENDED FOR THE PURPOSES OF EXECUTING THE BUT IT IS UNDERSTOOD THAT SUCH DETAILS ARE PART OF THE PROJECT SCOPE.

B. WHERE CONFLICTS EXIST BETWEEN DRAWINGS AND SPECIFICATIONS THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

1.4 CODES AND STANDARDS

A.FURNISH AND INSTALL FIRE EXTINGUISHMENT SYSTEMS TO MEET ALL CURRENT REQUIREMENTS OF NATIONAL, STATE AND MUNICIPAL CODES, RULES, REGULATIONS, LAWS, AND STANDARDS AS THEY ARE ADOPTED BY THE GOVERNING AGENCY AND AS THEY MAY APPLY.

NEPA 10 STANDARD FOR PORTABLE FIRE EXTINGUISHERS 2007 EDITION NFPA 14 STANDARDS FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS 2013 EDITION

NFPA 303 FIRE PROTECTION STANDARDS FOR MARINAS AND BOATYARDS 2016 EDITION

FLORIDA FIRE PREVENTION CODE 2014 EDITION

FLORIDA BUILDING CODE 2014 EDITION FACTORY MUTUAL

UNDERWRITERS LABORATORIES

1.5 PERMITS AND INSPECTIONS

A. SECURE AND PAY FOR ALL PERMITS AND LICENSES BEFORE ACTUAL WORK IS STARTED AND OBSERVE ALL REQUIREMENTS STIPULATED THEREON

B. COORDINATE WITH AND GIVE ALL NECESSARY NOTICES TO THE AUTHORITY HAVING JURISDICTION FOR INSPECTION AND TESTING OF THE FIRE EXTINGUISHMENT SYSTEMS REQUIRED TO BE WITNESSED BY THEIR AGENT.

SHOP DRAWING SUBMITTALS AND PRE-INSTALLATION COORDINATION 1.6

A. PRIOR TO ORDERING MATERIALS SUBMIT SHOP DRAWINGS INCLUDING MANUFACTURER'S CATALOG CUTS, BROCHURES AND PERFORMANCE DATA OF PIPE AND FITTING MATERIALS, HOSES, VALVES, SUPPORTS, PIPE MARKERS, FIRE EXTINGUISHERS, CABINETS, AND OTHER APPURTENANCES AS MAY BE REQUIRED. UNLESS SPECIFIED ELSEWHERE, PROVIDE A MINIMUM OF SIX COPIES FOR ENGINEER AND OWNER REVIEW. B. AFTER OWNER ACCEPTANCE OF SHOP DRAWINGS, SUBMIT THE APPROVED ADCUMENTS TO THE AUTHORITY HAVING JURISDICTION FOR THEIR APPROVAL. SUBMIT IN QUANTITIES AS DIRECTED BY THE AUTHORITY HAVING JURISDICTION.

C.COORDINATE WITH ALL TRADES IN SUBMITTAL OF SHOP DRAWINGS AND FOR SPACE REQUIREMENTS. IF WORK IS INSTALLED PRIOR TO COORDINATION WITH OTHER TRADES WHICH INTERFERES WITH RELATED WORK, MAKE ALL NECESSARY CHANGES TO CORRECT THE CONDITION AT NO ADDITIONAL COST TO THE OWNER.

D. COORDINATE WITH FLOATING DOCK SUPPLIER FOR PIPE SUPPORT SPACING REQUIREMENTS INTEGRAL WITH STRUCTURAL FRAMING.

1.7 PRODUCTS AND WORKMANSHIP

A ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND UNUSED AS MANUFACTURED BY COMPANIES REGULARLY ENGAGED IN THE FABRICATION OF THE TYPE SPECIFIED EXCEPT AS OTHERWISE NOTED HEREIN. USE PRODUCTS OF A SINGLE MANUFACTURER FOR SIMILAR TYPE EQUIPMENT. MODIFIED OR RE-BUILT EQUIPMENT OR MATERIALS ARE NOT ACCEPTABLE.

B.PROVIDE STANDPIPE COMPONENTS AND PIPING SYSTEM INSTALLATION CAPABLE OF SUSTAINING 175 PSIG MINIMUM WORKING PRESSURE RATING.

C.INSTALL FIRE EXTINGUISHMENT SYSTEMS IN A NEAT AND WORKMANLIKE MANNER UTILIZING PERSONNEL LICENSED AND SKILLED IN THE TRADES.

1.8 WARRANT

> A.PROVIDE AN UNCONDITIONAL WARRANTY FROM FAILURE AND/OR DEFECTS ON ALL PRODUCTS AND WORKMANSHIP PROVIDED FOR THIS PROJECT FOR A MINIMUM OF ONE (1) YEAR FROM DATE OF SUBSTANTIAL COMPLETION EXCEPT AS NOTED HEREIN.

B.PROVIDE SIX (6) YEAR PRODUCT WARRANTY FOR FIRE EXTINGUISHERS.

C.WARRANTY FOR PRODUCTS REMOVED AND REINSTALLED AS INDICATED ON THE PLANS SHALL BE PROVIDED FOR INSTALLATION WORKMANSHIP AND NEW COMPONENTS AS MAY BE PROVIDED.

A.HANDLE, STORE AND PROTECT EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REPLACE DAMAGED OR DEFECTIVE ITEMS WITH NEW ITEMS.

1.10 DEMOLITION, CUTTING AND PATCHING

A.PROTECT ALL EXISTING ACTIVE SERVICES AGAINST DAMAGE INCLUDING WATER, ELECTRIC, SEWER, ETC., IN AREAS OF PROPOSED CONSTRUCTION. IF ACTIVE SERVICES ARE ENCOUNTERED THAT REQUIRE RELOCATION, MAKE REQUEST TO OWNER FOR DETERMINATION OF PROCEDURES.

B.REMOVE AND DISPOSE OF PROPERLY OFF-SITE, ALL ABANDONED FIRE EXTINGUISHMENT PIPING, VALVES, PIPE SUPPORTS, EQUIPMENT, ETC., RENDERED OBSOLETE BY WORK OF THIS PROJECT.

C.PROVIDE ALL NECESSARY CUTTING AND PATCHING REQUIRED IN CONNECTON WITH FIRE EXTINCULATION OF THE MARKET WORK. COORDINATE WITH AND OBTAIN WRITTEN APPROVAL FROM THE MARINE CONTRACTOR FOR ALL PROPOSED CUTTING AND PATCHING PRIOR TO COMMENCEMENT OF WORK.

1.11 CLEANING

A.CLEAR AWAY ALL DEBRIS, SURPLUS MATERIALS, ETC., RESULTING FROM FIRE EXTINGUISHMENT SYSTEM INSTALLATION WORK AND OPERATIONS. LEAVE THE JOB AND EQUIPMENT PROVIDED UNDER CONTRACT IN A CLEAN AND FIRST-CLASS CONDITION

1.12 TEST AND DEMONSTRATIONS

A. PERFORM TESTS OF THE FIRE EXTINGUISHMENT SYSTEMS AS SPECIFIED HEREIN. REPEAT AS REQUIRED UNTIL PROVEN ACCEPTABLE TO THE ENGINEER, OWNER AND AUTHORITY HAVING JURISDICTION. PROVIDE ALL GAUGES, TOOLS, PUMPS, GAS, AIR OR OTHER REQUIRED EQUIPMENT OR MATERIALS

B.UPON COMPLETION OF TESTING, DEMONSTRATE MAINTENANCE, OPERATION AND ADJUSTMENT PROCEDURES TO OWNER FOR ALL INSTALLED SYSTEMS AND EQUIPMENT.

1.13 RECORD DOCUMENTS

A.MAINTAIN AT THE JOB SITE ONE SET OF PRINTS ON WHICH ARE RECORDED ALL FIELD CHANCES AND OTHER PORTIONS OF THE FIRE EXTINGUISHMENT SYSTEM WORK THAT VARY FROM THE CONTRACT DOUMENTS. INDICATE ACTUAL PIPE SYSTEM ROUTING AND INSTALLED ACCESSORIES AND DEVICES.

B.PROVIDE AS-BUILT RECORD DRAWINGS TO THE OWNER AT THE COMPLETION OF THE PROJECT.

PART 2 - PRODUCT REQUIREMENTS

- 2.1 PIPING, FITTINGS, AND JOINING MATERIAL
- A. HIGH DENSITY POLYETHYLENE (HDPE) PIPE SHALL BE ASTM D 3350, SDR 11, CELL CLASSIFICATION OF PE 3454344C WITH BUTT-USED JOINTS. ALL FITTINGS SHALL BE OF COMPATIBLE HDPE MATERIAL AND SHALL BE BUTT-FUSED. PROVIDE IPF, DRISCOPIPE OR EQUIVALENT.
- B.NON SANITARY PRESSURE HOSE SHALL BE #2710 RATED FOR MINIMUM 150 PISG WORKING PRESSURE. HOSE SHALL BE AS SUPPLIED BY THE FOLLOWING:

CROUCH SUPPLY CO, INC.; 305 S. MAIN STREET; FORT WORTH, TEXAS 76104

ATTN .: MARVIN CARR 1-800-825-1110

AN EQUIVALENT HOSE PRODUCT BY ALTERNATIVE MANUFACTURERS SHALL BE ACCEPTABLE

- C.ELBOWS, FLANGES AND ACCESSORIES SHALL BE 316 STAINLESS STEEL CONSTRUCTION INCLUDING PLATES, BOLTS, WASHERS, NUTS AND OTHER COMPONENTS AS MAY BE REQUIRED.
- D.PIPING IDENTIFICATION SHALL BE SETON SNAP-AROUND PIPE MARKERS OR EQUIVALENT TYPE OF LABELS. PROVIDE RED COLOR BAND WITH GREEN LEGEND BAND. WHITE LETTERING ON THE LEGEND BAND SHALL READ "FIRE WATER"

2.2 FIRE HOSE CABINETS AND ACCESSORIES

A. NEW FIRE SUPRESSION CABINET TO BE INSTALLED BY CONTRACTOR.

2.3 FIRE EXTINGUISHERS AND ACCESSORIES

- A.FIRE EXTINGUISHERS SHALL BE FIVE POUND CAPACITY, 2A:10B:C WILTI-PURPOSE AGENT (MONO-AMMONIUM PHOSPHATE) TYPE UNITS. CYLINDERS SHALL BE ALUMINUM CONSTRUCTION WITH EPOXY POWDER OR BAKED ENAMEL FINISH. VALVES SHALL BE CHROME PLATED BRASS. HANDLES AND LEVERS SHALL BE STAINLESS STEEL. EXTINCUISHER SHALL BE US COAST GUARD APPROVED. INCLUDE STAINLESS STEEL MOUNTING BRACKET.
- B.FIRE EXTINGUISHER CABINETS SHALL BE POWDER-COATED ALUMINUM CONSTRUCTION, DECK MOUNTED TYPE OF A SIZE TO ACCOMMODATE THE FIRE EXTINGUISHER SPECIFIED ABOVE. PROVIDE CABINET COMPLETE WITH BREAKAWAY GLASS, STAINLESS STEEL LOCKABLE HANDLE, STAINLESS STEEL HINGES AND FINISH COLOR TO MATCH EXISTING FIRE HOSE CABINETS. PROVIDE SIGNAGE ON BOTH SIDES OF THE CABINET INDICATING IN LARGE RED LETTERS, "FIRE EXTINGUISHER". CONTRACTOR TO INSTALL NEW EXTINGUISHER PEDESTALS.

2.4 PIPE SUPPORTS

A FIRE EXTINGUISHMENT SYSTEM SUPPORTS SHALL BE IN ACCORDANCE WITH NFPA 14 AND SHALL BE AS PROVIDED BY THE FRAME AND STRUCTURE OF THE FLOATING DOCK. NO PIPE HANGERS ARE PERMITTED. SECUREMENT DEVICES SHALL BE STRAP ANCHORS OR RELATED PRODUCTS BY GRINNELL, MODERN HANGER OR BLINE. ALL ANCHORS AND ACCESSORIES SUCH AS MECHANICAL FASTENERS, WASHERS, ETC. SHALL BE 316 STAINLESS STEEL CONSTRUCTION.

PART 3 - EXECUTION REQUIREMENTS

3.1 EXAMINATION

- A.EXAMINE ROUGH-INS FOR PIPING, EQUIPMENT AND SUPPORTS AND VERIFY ACTUAL LOCATIONS, SIZES AND OTHER CONDITIONS AFFECTING SYSTEM PERFORMANCE, MAINTENANCE, AND OPERATIONS PRIOR TO EXAMINE UNDERWICE UNDERWICE AND OPERATIONS PRIOR TO EQUIPMENT INSTALLATION
- B.PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 INSTALLATION OF PIPING

- A.SELECT HDPE PIPE WITH BUTT FUSED JOINTS AND FITTINGS FOR ALL FIRE WATER PIPING EXCEPT AS NOTED OTHERWISE.
- B.SELECT NON-SANITARY PRESSURE HOSE #2612 FOR FLEXIBLE CONNECTION BETWEEN LANDSIDE PIPE AND PIER SIDE PIPE.
- C.INSTALL PIPING AT RIGHT ANGLES OR PARALLEL TO SEAWALLS AND JOISTS.

D.INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH

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CONNECTIONS.

- E. INSTALL PIPING AND HOSES IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
- 3.3 INSTALLATION OF PIPE SUPPORTS
- A.INSTALL SUPPORTS, ANCHORS AND FASTENERS FOR FIRE EXTINGUISHMENT SYSTEMS IN ACCORDANCE WITH THE NFPA 14 AND PIPE MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS. MINIMUM SUPPORT REQUIREMENTS SHALL BE AS INDICATED IN THE FOLLOWING SCHEDULE: PIPE SIZE SUPPORT SPACING 2-1/2 INCH DIAMETER AND LARGER

B.PIPE SUPPORT SPACING SHALL BE AS LISTED ABOVE EXCEPT THAT HORIZONTAL RUNS OF PIPING SHALL BE SUPPORTED AT LEAST ONCE FOR EACH PIPE SECTION AND AT EACH JOINT. PROVIDE MINIMUM OF ONE SUPPORT FOR EACH ELBOW.

3.4 INSTALLATION OF FIRE HOSE CABINETS AND ACCESSORIES

- A.INSTALL FIRE HOSE CABINETS AND ACCESSORIES AT LOCATIONS INDICATED ON THE PLANS AND AS DIRECTED BY THE AUTHORITY HAVING JURISDICTION.
- B.MOUNT EQUIPMENT SECURELY TO DECKING WITH MECHANICAL FASTENERS. INSTALL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.

3.5 INSTALLATION OF FIRE EXTINGUISHERS AND CABINETS

- A.INSTALL FIRE EXTINGUISHERS AND CABINETS AT LOCATIONS INDICATED ON THE PLANS AND AS DIRECTED BY THE AUTHORITY HAVING JURISDICTION.
- B.MOUNT CABINET SECURELY TO DECKING WITH MECHANICAL FASTENERS. INSTALL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS

3.6 INSTALLATION OF IDENTIFICATION SIGNAGE

A. ATTACH PIPE MARKERS ON FIRE EXTINGUISHMENT SYSTEM PIPING. SPACE MARKERS AT NO GREATER THAN 25 FEET ON CENTER.

- 3.7 FIRE EXTINGUISHMENT SYSTEM ACCEPTANCE TESTING
- A.FLUSH, TEST AND INSPECT STANDPIPE SYSTEMS ACCORDING TO NFPA 14. PROVIDE COMPLETED CONTRACTOR'S MATERIAL AND TEST CERTIFICATE. FIGURE 11.13 (A), FOR STANDPIPE SYSTEMS TO THE ENGINEER AND TO THE OWNER.
- B.PREPARE AND INSTALL INSPECTION TAGS FOR EACH EXTINGUISHER IN ACCORDANCE WITH NFPA 10. INSPECT ALL EXTINGUISHERS AND REPLACE DEFECTIVE OR DISCHARGED UNITS DISCOVERED AT FINAL ACCEPTANCE

48 INCHES MAXIMUM

DOLPHIN PIER DOCK REPLACEMENT

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FIRE PROTECTION SPECIFICATIONS

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DELIVERY AND STORAGE 1.9

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<u>PLUMBING DESIGN</u>

SAILFISH PIER, GARRISON BIGHT MARINA KEY WEST, FL

- A. GIVEN: 16 SLIPS, ASSUME 8@ 2-2 AND 8@ 2-1
- B. USE HUNTER'S METHOD = CURVE [PLUMBING DESIGN]

HOUSE BOAT 2 BED 2 BATH	<u>FU</u>
K. SINK 1	2
LAV. 2	2
WATER CLOSET (TANK) 2	6
SHOWER 2	4
	14

C. TOTAL FU: 8 SLIPS X 14= 112 FU 8 SLIPS X 8= <u>64 FU</u> 176 FU

PER HUNTER CURVE= 60 gpm (DEMAND) TOTAL

D. PER HYDRAULIC TABLES

FOR 60 gpm USE 2" PE PIPE VELOCITY= 5.7 < 8fps OKAY.

E. SERVICE SIZING= DUAL= 28 FU 20 gpm PROVIDE 1" DIA. SERVICE PIPE SINGLE= 14 FU= 11 gpm PROVIDE 3/4" DIA. SERVICE PIPE

HOUSE BOAT 2 BED 1 BATH K. SINK 1	<u>FU</u> 2
LAV. 1	1
WATER CLOSET (TANK) 1	3
SHOWER 1	2
	8

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DRAWING SYMBOLS

---- DRAWING NUMBER WHERE DRAWN

- SECTION DESIGNATION

PO4 /---- DRAWING NUMBER WHERE DRAWN

——FW——	FIRE WATER PIPE
	POTABLE WATER PIPE
	POTABLE WATER PIPE
—SW	SANITARY VACUUM PIPE
—0	PIPE TURN UP
`	PIPE TURN DOWN
	RISE OR DROP IN PIPE
	SIDE CONNECTION
<u> </u>	BOTTOM CONNECTION
U	TOP CONNECTION
<u> </u>	CROSS BOTTOM CONNECTION
	CHECK VALVE
—-IŌI—	BALL VALVE
IICO	SEWER CLEANOUT

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0' 5' 10' 15' 20' 1"=10'	GRAPHIC SCALE
\bigotimes	KEYED NOTE
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	CONNECT TO EXISTING
W	POTABLE WATER AND SANITARY SEWER DOCK BOX
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
P	ELECTRICAL POWER PEDESTAL
EDP	ELECTRICAL DISTRIBUTION PANEL
EX	EXISTING
HB	HOSE BIBB

YWEST	PLUMBING LEGEND				
ER DOCK REPLACEMENT	Project No. 215613443	Scale NTS			
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PLUMBING SYSTEM SPECIFICATIONS

PART 1 – GENERAL REQUIREMENTS 1.1 SYSTEM DESCRIPTION

- A. DOLPHIN PIER PLUMBING SYSTEMS SHALL CONSIST OF POTABLE WATER DISTRIBUTION AND SANITARY VACUUM EXTENDED FROM EXISTING LANDSIDE UTILITIES AND SHALL INCLUDE POTABLE WATER AND SANITARY SEWER DOCK CABINETS.
- 1.2 SUMMARY OF WORK
- A.NEW CONSTRUCTION WORK SHALL INCLUDE BUT IS NOT LIMITED TO PROVIDING COMPLETE NEW POTABLE WATER DISTRIBUTION SYSTEMS AND SANITARY VACUUM SYSTEMS AS DESCRIBED IN THESE SPECIFICATIONS AND DRAWINGS FOR THE PROPOSED PIER.
- B.BIDS SHALL INCLUDE AS A MINIMUM ALL LABOR, TOOLS, MATERIALS, PLANT, TRANSPORTATION, TAXES, RELATED ITEMS, ETC., ESSENTIAL FOR DEMOLISHING EXISTING WORK AND FURNISHING, INSTALLING, OPERATING AND TESTING OF THE PROPOSED NEW WORK.
- 1.3 EXAMINATION OF DOCUMENTS
- A. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO ESTABLISH TYPE AND QUALITY OF MATERIALS AND A GENERAL LAYOUT AND LOCATION OF COMPONENTS THAT COMPRISE THE PLUMBING SYSTEMS. THEY ARE NOT INTENDED TO SHOW IN MINUTE DETAIL EVERY OR ALL ACCESSORIES INTENDED FOR THE PURPOSES OF EXECUTING THE WORK. BUT IT IS UNDERSTOOD THAT SUCH DETAILS ARE PART OF THE PROJECT SCOPE.
- B. WHERE CONFLICTS EXIST BETWEEN DRAWINGS AND SPECIFICATIONS THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
- 1.4 CODES AND STANDARDS
- A.FURNISH AND INSTALL PLUMBING SYSTEMS TO MEET ALL CURRENT REQUIREMENTS OF NATIONAL, STATE AND MUNICIPAL CODES, RULES, REGULATIONS, LAWS, AND STANDARDS AS THEY ARE ADOPTED BY THE GOVERNING AGENCY AND AS THEY MAY APPLY.
- FLORIDA BUILDING CODE, BUILDING 2014EDITION FLORIDA BUILDING CODE, PLUMBING 2014 EDITION UNDERWRITERS LABORATORIES
- 1.5 PERMITS AND INSPECTIONS
- A. SECURE AND PAY FOR ALL PERMITS AND LICENSES BEFORE ACTUAL WORK IS STARTED AND OBSERVE ALL REQUIREMENTS STIPULATED THEREON.
- B. COORDINATE WITH AND GIVE ALL NECESSARY NOTICES TO THE AUTHORITY HAVING JURISDICTION FOR INSPECTION AND TESTING OF THE PLUMBING SYSTEMS REQUIRED TO BE WITNESSED BY THEIR AGENT.
- 1.6 SHOP DRAWING SUBMITTALS AND PRE-INSTALLATION COORDINATION
- A. PRIOR TO ORDERING MATERIALS SUBMIT SHOP DRAWINGS INCLUDING MANUFACTURER'S CATALOG CUTS, BROCHURES AND PERFORMANCE DATA OF PIPE AND FITTING MATERIALS. HOSES. VALVES. SUPPORTS. PIPE MARKERS. DOCK BOXES. AND OTHER APPURTENANCES AS MAY BE REQUIRED. UNLESS SPECIFIED ELSEWHERE, PROVIDE A MINIMUM OF SIX COPIES FOR REVIEW BY ENGINEER AND OWNER.
- B. COORDINATE WITH ALL TRADES IN SUBMITTAL OF SHOP DRAWINGS AND FOR SPACE REQUIREMENTS. IF WORK IS INSTALLED PRIOR TO COORDINATION WITH OTHER TRADES WHICH INTERFERES WITH RELATED WORK, MAKE ALL NECESSARY CHANGES TO CORRECT THE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- C.COORDINATE WITH FLOATING DOCK SUPPLIER FOR PIPE SUPPORT SPACING REQUIREMENTS INTEGRAL WITH STRUCTURAL FRAMING.
- 1.7 PRODUCTS AND WORKMANSHIP
- A. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND UNUSED AS MANUFACTURED BY COMPANIES REGULARLY ENGAGED IN THE FABRICATION OF THE TYPE SPECIFIED EXCEPT AS OTHERWISE NOTED HEREIN. USE PRODUCTS OF A SINGLE MANUFACTURER FOR SIMILAR TYPE EQUIPMENT. MODIFIED OR RE-BUILT EQUIPMENT OR MATERIALS ARE NOT ACCEPTABLE.
- B. PROVIDE PLUMBING COMPONENTS AND SYSTEM INSTALLATION CAPABLE OF SUSTAINING THE FOLLOWING MINIMUM WORKING

PRESSURE RATINGS:

WATER DISTRIBUTION SYSTEMS: 125 PSIG. SANITARY SYSTEMS: 29 INCHES OF HG VACUUM.

- C.INSTALL PLUMBING SYSTEMS IN A NEAT AND WORKMANLIKE MANNER UTILIZING PERSONNEL LICENSED AND SKILLED IN THE TRADES.
- 1.8 WARRANTY
- A. PROVIDE AN UNCONDITIONAL WARRANTY FROM FAILURE AND/OR DEFECTS ON ALL PRODUCTS AND WORKMANSHIP PROVIDED FOR THIS PROJECT FOR A MINIMUM OF ONE (1) YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
- 1.9 DELIVERY AND STORAGE
- A. HANDLE, STORE AND PROTECT EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REPLACE DAMAGED OR DEFECTIVE ITEMS WITH NEW ITEMS.
- 1.10 DEMOLITION, CUTTING AND PATCHING
- A. PROTECT ALL EXISTING ACTIVE SERVICES AGAINST DAMAGE INCLUDING WATER, ELECTRIC, SEWER, ETC., IN AREAS OF PROPOSED CONSTRUCTION. IF ACTIVE SERVICES ARE ENCOUNTERED THAT REQUIRE RELOCATION, MAKE REQUEST TO OWNER FOR DETERMINATION OF PROCEDURES.
- B. REMOVE AND DISPOSE OF PROPERLY OFF-SITE, ALL ABANDONED PLUMBING PIPING, VALVES, PIPE SUPPORTS, EQUIPMENT, ETC., RENDERED OBSOLETE BY WORK OF THIS PROJECT
- C.PROVIDE ALL NECESSARY CUTTING AND PATCHING REQUIRED IN CONNECTION WITH PLUMBING WORK. COORDINATE WITH AND OBTAIN WRITTEN APPROVAL FROM THE MARINE CONTRACTOR FOR ALL PROPOSED CUTTING AND PATCHING PRIOR TO COMMENCEMENT OF WORK. SAWCUT EXISTING PAVEMENT OR CONCRETE AND EXCAVATE AS REQUIRED FOR INSTALLATION OF UNDERGROUND PIPING. BACKFILL AND COMPACT SOIL AND PROVIDE FINISHED SURFACES TO MATCH ADJACENT MATERIALS AND CONSTRUCTION.
- 1.11 CLEANING
- A. CLEAR AWAY ALL DEBRIS, SURPLUS MATERIALS, ETC., RESULTING FROM PLUMBING SYSTEM INSTALLATION WORK AND OPERATIONS. LEAVE THE JOB AND EQUIPMENT PROVIDED UNDER CONTRACT IN A CLEAN AND FIRST-CLASS CONDITION.
- 1.12 TEST AND DEMONSTRATIONS
- A. PERFORM TESTS OF THE PLUMBING SYSTEMS AS SPECIFIED HEREIN. REPEAT AS REQUIRED UNTIL PROVEN ACCEPTABLE TO THE ENGINEER. OWNER AND AUTHORITY HAVING JURISDICTION. PROVIDE ALL GAUGES, TOOLS, PUMPS, GAS, AIR OR OTHER REQUIRED EQUIPMENT OR MATERIALS.

1.13 RECORD DOCUMENTS

- A. MAINTAIN AT THE JOB SITE ONE SET OF PRINTS ON WHICH ARE RECORDED ALL FIELD CHANGES AND OTHER PORTIONS OF THE PLUMBING SYSTEM WORK THAT VARY FROM THE CONTRACT DOCUMENTS. INDICATE ACTUAL PIPE SYSTEM ROUTING AND INSTALLED ACCESSORIES AND DEVICES.
- B. PROVIDE AS-BUILT RECORD DRAWINGS TO THE OWNER AT THE COMPLETION OF THE PROJECT.
- PART 2 PRODUCT REQUIREMENTS
- 2.1 PIPING, FITTINGS, AND JOINING MATERIAL
- A. DOCK PIPING SHALL BE HIGH DENSITY POLYETHYLENE (HDPE). HDPE PIPE SHALL BE ASTM D 3350, SDR 11, CELL CLASSIFICATION OF PE 3454344C WITH BUTT-USED JOINTS. ALL FITTINGS SHALL BE OF COMPATIBLE HDPE MATERIAL AND SHALL BE BUTT-FUSED. PROVIDE PIPE AND FITTINGS AS MANUFACTURED BY IPF, DRISCOPIPE OR EQUIVALENT.
- B.POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPE: ASTM D 2665, SCHEDULE 40, PLAIN ENDS, SOCKET TYPE FITTINGS AND ASTM D 2564 SOLVENT CEMENT.
- C.POLY (VINYL CHLORIDE) (PVC) PLASTIC, PRESSURE PIPE: ASTM D 1785, SDR 21, PLAIN ENDS, ASTM D 2467 SOCKET TYPE FITTINGS. SOLVENT CEMENT SHALL BE ASTM D 2564 WITH ASTM F 656 PRIMER. PLASTIC PIPE-FLANGES AND GASKETS SHALL BE OF TYPE AND MATERIAL RECOMMENDED BY THE PIPING SYSTEM MANUFACTURER. BOLTS, WASHERS AND NUTS SHALL BE TYPE 316 STAINLESS STEEL.
- A. SANITARY HOSE SHALL BE #2710 AS SUPPLIED BY THE FOLLOWING:

CROUCH	SUPPLY	CO.,	INC.;	305	S.	MAIN	STREET;	FORT	
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2.2 HOSES

A. PLUMBING SYSTEM SUPPORTS SHALL BE AS PROVIDED BY THE FRAME AND STRUCTURE OF THE FLOATING DOCK. NO PIPE HANGERS ARE PERMITTED. SECUREMENT DEVICES SHALL BE STRAP ANCHORS OR RELATED PRODUCTS BY GRINNELL, MODERN HANGER OR B-LINE. ALL ANCHORS AND ACCESSORIES SUCH AS MECHANICAL FASTENERS, WASHERS, ETC., SHALL BE 316 STAINLESS STEEL CONSTRUCTION.

AN EQUIVALENT HOSE PRODUCT BY ALTERNATIVE MANUFACTURERS SHALL BE ACCEPTABLE.

B. ELBOWS, FLANGES AND ACCESSORIES SHALL BE 316 STAINLESS STEEL CONSTRUCTION INCLUDING PLATES. BOLTS. WASHERS. NUTS AND OTHER COMPONENTS AS MAY BE REQUIRED.

2.3 PLUMBING VALVES AND ACCESSORIES

- A. MANUAL BALL VALVES SHALL BE CPVC BODY WITH STAINLESS STEEL BALL, TFE SEATS AND SEALS, THREADED UNION OR FLANGED ENDS, LEVER HANDLE, CONVENTIONAL PORT, 400 PSIG W.O.G. PRESSURE AT MAXIMUM WORKING TEMPERATURE OF 150 DEGREES F.
- B. POTABLE WATER CHECK VALVES SHALL BE MARINE GRADE. BRONZE BODY DUAL CHECK TYPE, COMPLYING WITH ASSE 1024, AND COMPLETE WITH TWO COMPACT REPLACEABLE CHECK MODULES.
- C. HOSE BIBBS SHALL BE MARINE GRADE, BRONZE BODY WITH INTEGRAL VACUUM BREAKER, COMPLYING WITH ASSE 1011, AND PLASTIC HANDLE.
- D. SANITARY VACUUM CABINET SHALL BE SIMILAR TO AND COMPATIBLE WITH EXISTING ASSEMBLIES OF THE MARINA. INLET CONNECTION SHALL MATE WITH EXISTING SLIP TO HOUSEBOAT HOSES. ASSEMBLY SHALL INCLUDE CAMLOCK AND CLOSER CAP, MARINE GRADE BRONZE LIFT CHECK VALVE AND MANUAL BALL VALVE.

2.4 POTABLE WATER AND SANITARY SEWER CABINET

- A. DOCK BOX SHALL BE DESIGNED AND CONSTRUCTED SPECIFICALLY FOR MARINE APPLICATIONS. CABINET SHALL BE AS MINIMUM TYPE 5052, 090 GAUGE, MARINE GRADE ALUMINUM CONSTRUCTION WITH WELDED JOINTS AND POWDER COATED GLOSS WHITE FINISH INSIDE AND OUTSIDE. CABINET SIZE SHALL BE DESIGNED TO ACCOMMODATE TWO WATER SUPPLY ASSEMBLIES AND TWO SANITARY VACUUM ASSEMBLIES EXCEPT WHERE SERVING A SINGLE SLIP AS INDICATED ON THE PLANS. PRODUCT SHALL BE SIMILAR TO EXISTING CABINETS ON THE KINGFISH PIER AND TARPON PIER AND SHALL BE AS MANUFACTURED BY MARINA POWER COMPANY, MIAMI, FLORIDA OR EQUIVALENT OWNER APPROVED PRODUCT.
- B. CABINETS SHALL BE COMPLETE WITH A TAPERED ALUMINUM TOP AND SHALL INCLUDE TYPE 316 STAINLESS STEEL HINGES AND LATCH. THE TWO SIDE FACES OF THE CABINET SHALL EACH HAVE ALUMINUM HOSE HANGERS. ALUMINUM COMPONENTS SHALL BE CONSTRUCTED AND FINISHED AS DESCRIBED ABOVE. CABINET SHALL HAVE FLANGES OR MOUNTING PLATES AS SUITABLE FOR MECHANICALLY FASTENING THE UNIT TO THE SURFACE OF THE DECK.
- C.POTABLE WATER SUPPLY ASSEMBLIES LOCATED INSIDE THE CABINET SHALL INCLUDE RF TRANSMITTER AND WATER METER, ³/₄" BRASS CHECK VALVE, ³/₄" MANUAL BALL VALVE AND INTERCONNECTING PIPING. THE RF TRANSMITTER AND WATER METER SHALL BE FURNISHED BY THE KEY WEST UTILITY DEPARTMENT AND INSTALLED WITHIN THE CABINET BY THE PLUMBING CONTRACTOR. THE RF TRANSMITTERS SHALL BE MOUNTED ON THE INBOARD (DECK SIDE) FACE OF THE CABINET. DOCK BOX MANUFACTURER SHALL COORDINATE WITH THE UTILITY FOR SPACE AND MOUNTING REQUIREMENTS. EACH ASSEMBLY SHALL BE CONNECTED TO AN EXTERNALLY MOUNTED BRASS HOSE BIBB WITH VACUUM BREAKER MOUNTED ON THE OUTBOARD (SLIP SIDE) FACE OF THE CABINET. A 1" WATER SUPPLY PIPE SHALL FEED THROUGH THE BOTTOM OF THE CABINET. WITHIN THE CABINET THE 1" LINE SHALL TEE OFF TO SUPPLY TWO 3/4" LINES AND EXTEND TO THE WATER METERS.
- D. SANITARY SEWER VACUUM ASSEMBLIES LOCATED INSIDE THE CABINET SHALL INCLUDE 1-1/2" BRASS CHECK VALVE. 1-1/2" MANUAL BALL VALVE AND INTERCONNECTING PIPING. EACH ASSEMBLY SHALL BE CONNECTED TO AN EXTERNALLY MOUNTED 1-1/2" VACUUM SEWER 90 DEGREES CAMLOCK AND CLOSER CAP LOCATED ON THE OUTBOARD (SLIP SIDE) FACE OF THE CABINET BELOW THE POTABLE WATER HOSE BIBBBS. A 1-1/2" SANITARY VACUUM PIPE SHALL FEED THROUGH THE BOTTOM OF THE CABINET. WITHIN THE CABINET THE PIPE SHALL BRANCH OFF WITH A Y OR LATERAL FITTING TO CONNECT TO THE TWO 1-1/2" VACUUM INLETS.

2.5 PIPE SUPPORTS

2.6 PIPE IDENTIFICATION

A. PIPING IDENTIFICATION SHALL BE SETON SNAP-AROUND PIPE MARKERS OR EQUIVALENT TYPE OF LABELS. FOR POTABLE WATER PIPING PROVIDE BLUE COLOR BAND WITH GREEN LEGEND BAND. WHITE LETTERING ON THE LEGEND BAND SHALL READ "POTABLE WATER". FOR SANITARY VACUUM PIPING PROVIDE YELLOW COLOR BAND WITH BLACK LEGEND BAND. WHITE LETTERING ON THE LEGEND BAND SHALL READ "SANITARY SEWER".

PART 3 – EXECUTION

3.1 EXAMINATION

A. EXAMINE ROUGH-INS FOR PIPING. EQUIPMENT AND SUPPORTS AND VERIFY ACTUAL LOCATIONS, SIZES AND OTHER CONDITIONS AFFECTING SYSTEM PERFORMANCE, MAINTENANCE,

AND OPERATIONS PRIOR TO EQUIPMENT INSTALLATION. B. IDENTIFY EXACT LOCATIONS OF EXISTING SERVICES TO BE REUSED.

3.2 EXCAVATION, BACKFILL, COMPACTION AND SURFACE FINISHING

3.3 INSTALLATION OF PIPING

- A. USE PIPE, FITTINGS AND JOINING METHODS FOR PIPING SYSTEMS ACCORDING TO THE FOLLOWING APPLICATIONS: WATER DISTRIBUTION MAINS LARGER THAN 1 INCH DIAMETER
- SHALL BE HDPE WATER DISTRIBUTION LANDSIDE TO PIER SIDE FLEXIBLE CONNECTIONS SHALL BE SANITARY HOSE #2710 WATER DISTRIBUTION BRANCHES LESS THAN OR EQUAL TO 1 INCH DIAMETER SHALL BE PVC SDR 21
- SANITARY VACUUM MAINS SHALL BE HDPE SANITARY VACUUM LANDSIDE TO PIER SIDE FLEXIBLE CONNECTIONS SHALL BE SANITARY HOSE #2710 SANITARY VACUUM BRANCH LINES TO HYDRANTS SHALL BE PVC SCHEDULE 40
- B.INSTALL PIPING AT RIGHT ANGLES OR PARALLEL TO SEAWALLS AND FRAMING MEMBERS.
- C.INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. USE LONG SWEEP FITTINGS FOR SANITARY VACUUM PIPING.
- D. INSTALL PIPING AND HOSES IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
- 3.4 INSTALLATION OF PIPE SUPPORTS

2¹/₂" DIAMETER AND LARGER

- A. INSTALL SUPPORTS, ANCHORS AND FASTENERS FOR PLUMBING SYSTEMS IN ACCORDANCE WITH THE FLORIDA PLUMBING CODE AND PIPE MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS. SEE PLANS FOR ADDITIONAL REQUIREMENTS. MINIMUM SUPPORT REQUIREMENTS SHALL BE AS INDICATED IN THE FOLLOWING SCHEDULE: SUPPORT SPACING PIPE SIZE 2" DIAMETER AND SMALLER 36" MAXIMUM
- B. PIPE SUPPORT SPACING SHALL BE AS LISTED ABOVE EXCEPT THAT HORIZONTAL RUNS OF PIPING SHALL BE SUPPORTED AT LEAST ONCE FOR EACH PIPE SECTION AND AT EACH JOINT. PROVIDE MINIMUM OF ONE SUPPORT FOR EACH ELBOW.

48" MAXIMUM

- 3.5 INSTALLATION OF CABINETS AND ACCESSORIES
- A. INSTALL CABINETS AT LOCATIONS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER AND THE OWNER.
- B. MOUNT EQUIPMENT SECURELY TO FRAMING AND/OR DECKING WITH MECHANICAL FASTENERS. INSTALL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
- C.INSTALL POTABLE WATER RF METERS THAT ARE FURNISHED BY THE WATER UTILITY COMPANY. COORDINATE SPACE REQUIREMENTS. SEE NOTE AND DETAILS ON SHEET P03.
- 3.6 INSTALLATION OF IDENTIFICATION LABELS
- A. ATTACH PIPE MARKERS ON PLUMBING SYSTEM PIPING MAINS. SPACE MARKERS AT NO GREATER THAN 25 FEET ON CENTER.
- 3.7 TESTING OF POTABLE WATER DISTRIBUTION SYSTEMS
- A. PERFORM A HYDRO-STATIC PRESSURE TEST FOR LEAKS AND DEFECTS IN NEW WATER DISTRIBUTION PIPING SYSTEMS. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF SYSTEM TESTED.
- B.CAP AND SUBJECT THE PIPING SYSTEM TO A STATIC WATER PRESSURE OF 125 PSIG OR 50 PSIG ABOVE THE OPERATING PRESSURE WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR 4 HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
- C.REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST SYSTEM OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.
- D.PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION.
- 3.8 TESTING OF SANITARY PIPING SYSTEMS
- A. PERFORM A STATIC VACUUM TEST FOR LEAKS AND DEFECTS IN SANITARY PIPING SYSTEMS. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT A SEPARATE REPORT FOR EACH TEST, COMPLETE WITH A DIAGRAM OF THE PORTION OF THE SYSTEM TESTED.
- B. CAP AND SUBJECT THE PIPING SYSTEM TO A STATIC VACUUM PRESSURE OF 12 INCHES OF HG. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR 4 HOURS. LEAKS AND LOSS OF TEST PRESSURE . CONSTITUTE DEFECTS THAT MUST BE REPAIRED.

C.REPAIR LEAKS AND DEFECTS USING NEW MATERIALS AND

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RETEST SYSTEM OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED

D. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION.

3.9 CLEANING

- A. PURGE NEW POTABLE WATER DISTRIBUTION PIPING SYSTEMS PRIOR TO USE.
- B.USE PURGING AND DISINFECTING PROCEDURE PRESCRIBED BY AUTHORITY HAVING JURISDICTION OR, IF A METHOD IS NOT PRESCRIBED BY THAT AUTHORITY. THE PROCEDURE DESCRIBED IN EITHER AWWA C651 OR AWWA C652 OR AS DESCRIBED BELOW:
- FLUSH PIPING SYSTEM WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT OUTLETS. FILL SYSTEM OR PART THEREOF WITH WATER/CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION OF CHLORINE ISOLATE (VALVE OFF) AND ALLOW TO STAND FOR 24 HOURS. PROVIDE PROPER SIGNAGE TO PREVENT ACCIDENTAL USE DURING DISINFECTION. DRAIN SYSTEM OR PART THEREOF OF PREVIOUS SOLUTION AND REFILL WITH WATER/CHLORINE SOLUTION CONTAINING AT LEAST 200 PARTS PER MILLION OF CHLORINE. ISOLATE AND ALLOW TO STAND FOR 3 HOURS. FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL CHLORINE DOES NOT REMAIN IN WATER COMING FROM SYSTEM FOLLOWING ALLOWED STANDING TIME.
- C.SUBMIT WATER SAMPLES IN STERILE BOTTLES TO AUTHORITY HAVING JURISDICTION. REPEAT PROCEDURE IF BIOLOGICAL EXAMINATION MADE BY THE AUTHORITY SHOWS EVIDENCE OF CONTAMINATION. PROVIDE 2 CONSECUTIVE DAYS OF APPROVED BACTEROLOGICAL TEST.

D. PREPARE AND SUBMIT REPORTS FOR PURGING AND DISINFECTING ACTIVITIES.

File Name:

RD J. DVORACK, P.E. ED ENGINEER NO. 40961 TATE OF FLORIDA

- Consultants

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SINGLE SLIP POTABLE WATER & SANITARY SEWER CABINET. INSTALL DOCK BOX NEAR OUTBOARD EDGE OF PIER SO AS TO OPTIMIZE AVAILABLE SPACE FOR PEDESTRIAN TRAFFIC IN THE CENTER OF THE PIER. ORIENT CABINET WITH HOSE BIBBS TO THE OUTBOARD SIDE AND RF METER READER DEVICES TO THE INBOARD SIDE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND WORK ITEMS.

SECURE CABINET TO DECK WITH MINIMUM OF FOUR STAINLESS STEEL FASTENERS OR AS RECOMMENDED BY CABINET MANUFACTURER.

3. CORE DRILL DECK FOR POTABLE WATER AND SANTARY SEWER PIPE INSTALLATION, MAKE THE OPENING A MINIMUM OF 1 INCH LARGER THAN OUTSIDE DIAMETER OF PIPE. PROVIDE SHRINK WRAP ON THE PIPE AT THE DECK PENETRATION TO PROTECT AGAINST ABRASION.

4. EXTEND PVC PRESSURE PIPE FOR POTABLE WATER SUPPLY TO DOCK CABINET AND TIE INTO SINGLE POINT CONNECTION FOR PW SUPPLY.

5. TYPICAL PIPE SUPPORT STRUT BETWEEN CROSS MEMBERS AT 3-FOOT O.C. SECURE PIPE TO STRUCTURE WITH CLAMP OR EQUIVALENT STRAPPING METHOD.

PROVIDE FERNCO OR EQUIVALENT RUBBER BOOT CONNECTOR WITH 316 STAINLESS STEEL HARDWARE TO CONNECT HDPE BRANCH TEE TO PVC-DWV SANITARY CABINET BRANCH PIPE.

ROUTE HDPE POTABLE WATER SUPPLY MAIN IN TRAY BETWEEN PIER FRAMING MEMBERS. PROVIDE HDPE TEE FITTING AT EACH PAIR OF PROPOSED POTABLE WATER CABINETS. TRANSITION TO PVC PRESSURE PIPE AFTER BRANCH TEE.

ROUTE HDPE SANITARY VACUUM PIPE MAIN IN TRAY BETWEEN PIER FRAMING MEMBERS. PROVIDE HDPE TEE FITTING AT EACH PIER OF PROPOSED CABINETS. USE LONG SWEEP FITTINGS.

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GENERAL NOTES

- 1. CONTRACTOR TO FOLLOW ALL DETAILS, SECTIONS, AND PLANS SHOWN IN THE FOLLOWING SHEETS. IF ANY CONFLICTS ARISE OR ALTERNATIVES ARE DESIRED, THE CONTRACTOR MUST NOTIFY THE EOR AND SUPPLY SHOP DRAWINGS PRIOR TO PURCHASING OR INSTALLING MATERIALS.
- 2. ANALYSIS OR ASSESSMENT OF THE EXISTING SEAWALL AND UPLANDS ARE NOT WITHIN THIS SCOPE OF WORK.
- 3. ALL DIMENSIONS ON PLANS ARE SUBJECT TO VERIFICATION IN THE FIELD.
- 4. IT IS THE INTENT OF THESE PLANS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE PLANS AND APPLICABLE CODES SHALL BE IMMEDIATELY BROUGHTTO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH WORK.
- 5. IT IS THE INTENT OF THESE PLANS AND THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PERMITS ISSUED FOR THIS PROJECT. DESIGN COMPLIES WITH FLORIDA BUILDING CODE 2014.
- OWNER TO NOTIFY THE ENGINEER IF THERE IS A SUBSTANTIAL MODIFICATION TO THE BOTTOM ELEVATION OF THE HARBOR IN THE FUTURE. THIS DESIGN ACCOUNTS FOR A 14' MAX DISTANCE FROM THE MUDLINE TO THE TOP OF DECK.
- 7. CONTRACTOR TO TAKE PRECAUTIONS TO PREVENT DEBRIS FROM FALLING INTO WATER DURING DEMOLITION.

DESIGN:

- 1. PILES DESIGNED FOR FOLLOWING ASD LOADS, RESULTANT FROM DESIGN CRITERIA IN NOTE 2. A. END & INTERIOR PILE: 16.8K LOAD AT TIP OF 14' CANTILEVER. [ASD]
- B. MOORING PILE: 11.2K LOAD AT TIP OF 14' CANTILEVER [ASD]
- 2. PILES HAVE BEEN DESIGNED FOR THE FOLLOWING LOAD CRITERIA. FLOATING DOCK MANUFACTURER TO DESIGN DOCKS TO ADHERE TO THE FOLLOWING CRITERIA AS WELL.
 - A. 120 MPH FASTEST MILE WIND FULLY OCCUPIED.
 - B. 150 MPH FASTEST MILE NO MORE THAN ONE BOAT BETWEEN EACH FINGER PIER ON EACH SIDE (30% OCCUPIED). C. FLOATING DOCK MANUFACTURER TO NOTIFY EOR IMMEDIATLEY IF THE PILE LOADS IN NOTE 1 ABOVE ARE

3.4"

8.4"

- EXCEEDED IN ANY WAY. D. DECK LIVE LOAD = 100PSF
- E. DECK MISC DEAD LOAD = 20 PSF
- 3. NO CLEATS TO BE INSTALLED ON PILES.
- 4. THE FOLLOWING PILE QUANTITIES & LATERAL DEFLECTIONS ARE TO BE EXPECTED DURING LOADS IN NOTE 1 ABOVE, PER GEOTECH REPORT.
- A. END PILE & INTERIOR PILES: HSS 20 X 0.5 [20 TOTAL]
- B. MOORING PILE: HSS 14 X 0.5 [16 TOTAL]

PILES:

- 1. PILES MUST BE DRIVEN TO DEPTH IN ACCORDANCE WITH GEOTECH REPORT.
- 2. PILES USED AS GUIDES FOR THE FLOATING DOCK TO BE ATTACHED TO THE DOCKS USING SIDE PILE GUIDE. 2.1. CONNECTION OF GUIDES TO DOCKS TO CONFORM TO REQUIREMENTS OF MANUFACTURER.
- 3. ALL PILES TO BE COATED WITH EPOXY SEE TECHNICAL SPECIFICATIONS TS-6.0 PER MANUFACTURERS SPECIFICATIONS.COATING SHOULD BE APPLIED ON INTERIOR AND EXTERIOR OF HSS PILE, AND MUST EXTEND A MINIMUM OF 2' INTO THE SOIL GRADE WITH 16 MIL THICKNESS.
- 4. HSS PILES TO BE ASTM A500 Gr. B (Fy = 42ksi)

FLOATING DOCK:

- 1. FLOATING DOCK TO BE DESIGNED TO RIGIDLY DISTRIBUTE LATERAL FORCES TO PILES AS A GROUP.
- 2. SUBMIT SHOP DRAWINGS TO EOR FOR APPROVAL FOR DESIGN LOADS.
- 3. FLOATING DOCK SHOP DRAWINGS MUST BE APPROVED BY EOR AND MEET ALL REQUIREMENTS OF THESE PLANS. REPORT
- DISCREPANCIES IN DIMENSIONS TO EOR IMMEDIATELY. 4. PILE GUIDE CONNECTION TO RESIST ASD LOADS SHOWN IN DESIGN NOTE #1 AND DEFLECTIONS IN DESIGN NOTE #4.

GEOTECH NOTES:

1. SEE GEOTECH REPORT BY NUTTING ENGINEERS DATED 7/16/15 AND UPDATED OCTOBER 1, 2015.

DELEGATED DESIGNS:

1. CONTRACTOR IS REQUIRED TO SUBMIT ALL DELEGATED DESIGNS TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL THE SIGNED AND SEALED DRAWINGS AND CALCULATIONS BY A LICENSED FLORIDA PROFESSIONAL ENGINEER.

2. ITEMS TO BE DELEGATED

- A. FLOATING DOCKS AND CONNECTIONS. B. ALL ITEMS NOT SHOWN ON PLANS.
- C. ANY ITEM MODIFIED FROM EOR PLANS.

CITY OF KEY WEST

DOLPHIN PIER DOCK REPLACEMENT

Key West, Florida

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