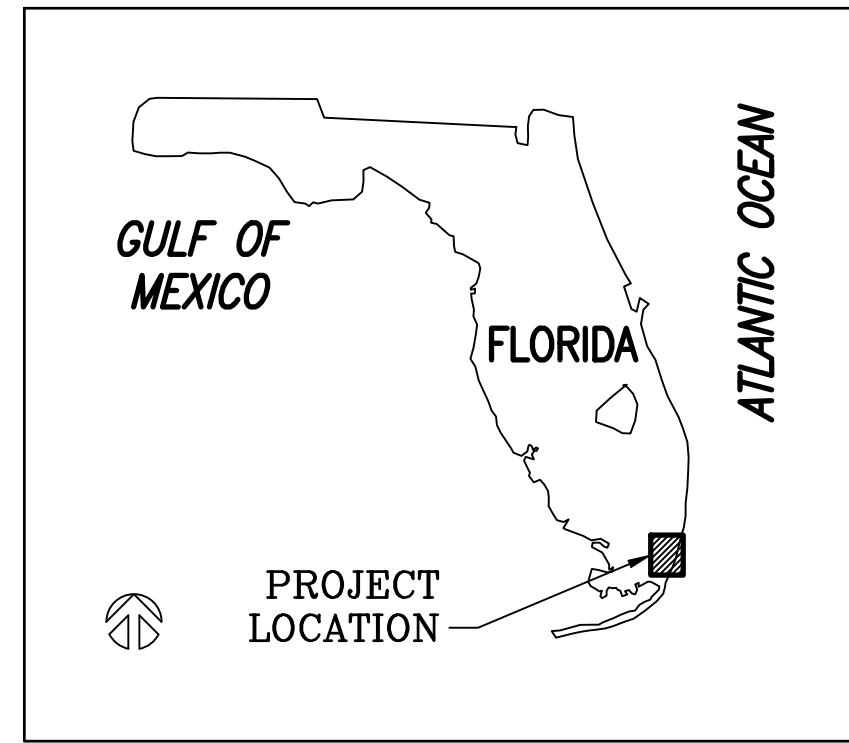


DINNER KEY

NORTH MOORING FIELD

CITY OF MIAMI

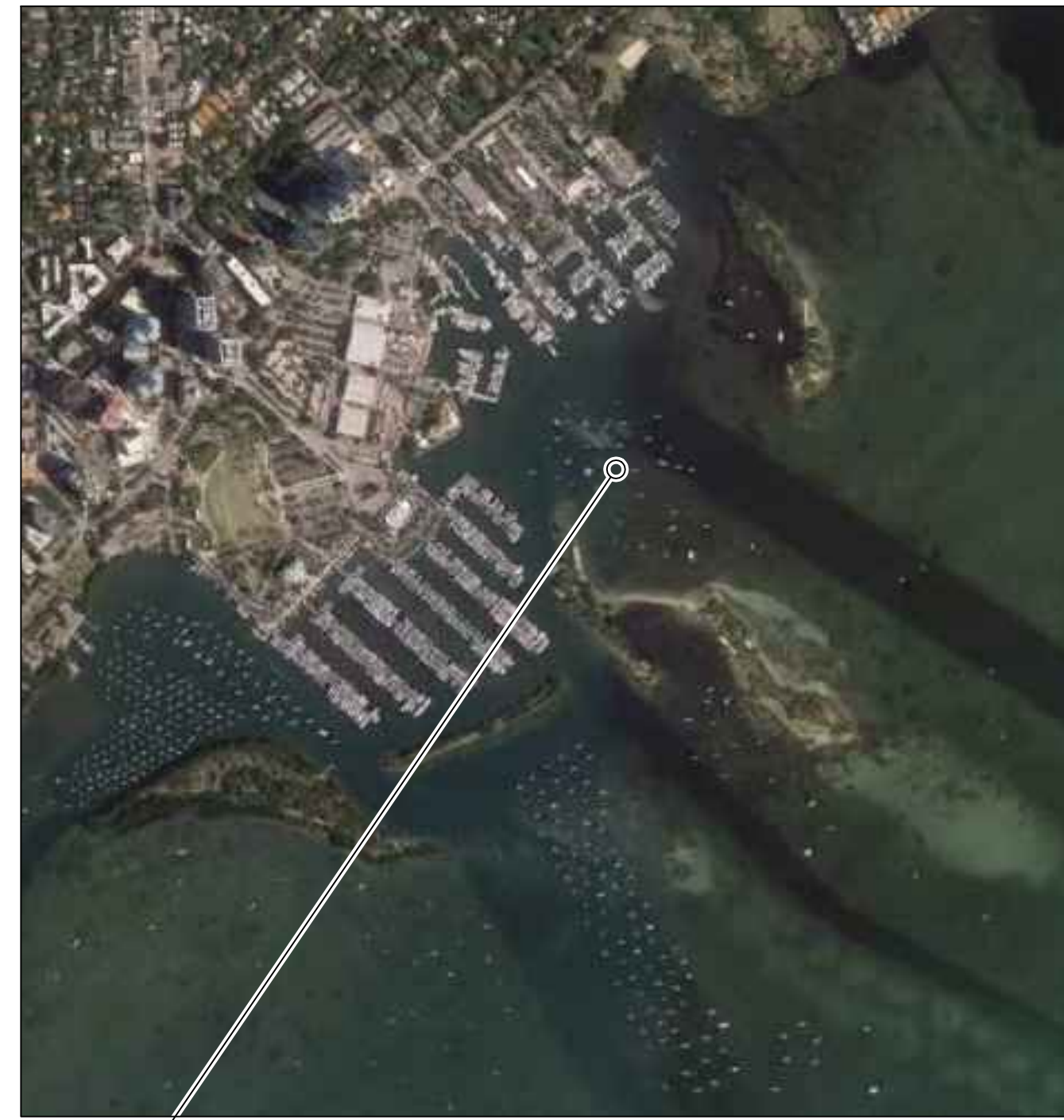
SECTION 22, TOWNSHIP 54S, RANGE 41E



VICINITY MAP
SCALE: NTS



LOCATION MAP
SCALE: NTS



LOCATION MAP
SCALE: NTS

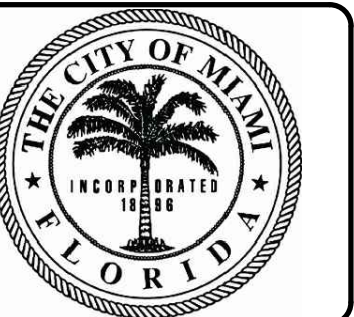


CITY COMMISSION

KEON HARDEMON, CHAIR
KEN RUSSELL, VICE CHAIR
WILFREDO (WILLY) GORT, COMMISSIONER, DISTRICT ONE
JOE CAROLLO, COMMISSIONER, DISTRICT THREE
MANOLO REYES, COMMISSIONER, DISTRICT FOUR
FRANCIS SUAREZ, MAYOR
EMILIO T. GONZALEZ, CITY MANAGER
VICTORIA MENDEZ, CITY ATTORNEY
TODD B. HANNON, CITY CLERK

PROJECT ADDRESS:
DINNER KEY MARINA
3400 PAN AMERICAN DRIVE
MIAMI, FL, 33133

SHEET INDEX		
INDEX #	SHEET REF #	SHEET TITLE
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4	G-004	GENERAL NOTES (3 OF 3)
5	V-101	EXISTING CONDITIONS, DEMOLITION, & DEBRIS REMOVAL PLAN
6	S-101	MOORING FIELD PLAN
7	S-102	MARINE RESOURCE PLAN
8	S-501	MOORING FIELD DETAILS



Mark	Description	Date	Appr.

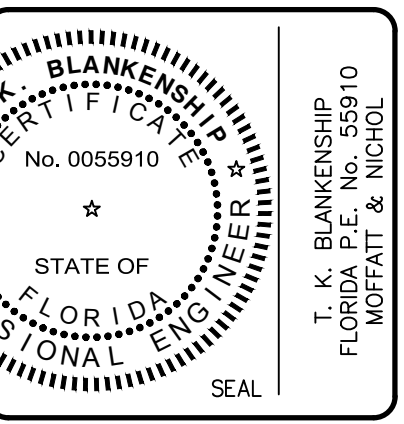
DINNER KEY NORTH
MOORING FIELD

COVER SHEET

Designed by: MGC	Date: 2018-08-08	Rev. 01
Dwn by: KS	M&N Project No. 9450-02	
Reviewed by: TKB	Drawing code:	Drawing Scale:
Submitted by: TIM BLANKENSHIP MOFFATT & NICHOL	Plot scale: 1:1 (D SHEET)	

2837 SW 27th Ave, STE 101A
COCONUT GROVE, FL 33133
305-230-1924
(FL EB 4877)

mo
moffatt & nichol



Sheet Reference No.
G-001
INDEX: 1 OF 8

GENERAL NOTES

1. GENERAL NOTES ARE NOT INTENDED TO REPLACE THE CONTRACT DOCUMENTS. SEE CONTRACT DOCUMENTS FOR REQUIREMENTS IN ADDITION TO THESE GENERAL NOTES. THE CONTRACT DOCUMENTS SHALL INCLUDE BUT ARE NOT LIMITED TO THE WORKING DRAWINGS GENERAL PROVISIONS, SPECIAL PROVISIONS AND ANY RELEVANT ADDENDA ITEMS. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE FDOT STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION (2016 EDITION).
2. THE WORKING DRAWINGS ARE NOT NECESSARILY COMPLETE IN EVERY DETAIL. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, SERVICES, LABOR, ETC. FOR A COMPLETE INSTALLATION INCLUDING WORK REASONABLY INFERRED FROM THE CONTRACT DOCUMENTS AS BEING NECESSARY TO PRODUCE THE INTENDED RESULTS, WHETHER SHOWN OR NOT ON THE DRAWINGS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. DO NOT SCALE PROJECT DRAWINGS. REPORT ANY DISCREPANCIES IN THE DRAWINGS TO THE ENGINEER FOR CLARIFICATIONS OR ADJUSTMENTS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL NOT BEGIN DEMOLITION/CONSTRUCTION IN ANY SUCH AFFECTED AREA UNTIL THE DISCREPANCY HAS BEEN RESOLVED.
4. SHOULD THERE BE A CONFLICT BETWEEN THESE GENERAL NOTES AND THE WORKING DRAWINGS THE MOST RESTRICTIVE INTERPRETATION SHALL PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FROM THE ENGINEER ANY CLARIFICATION OR INTERPRETATION OF THE GENERAL NOTES AND/OR WORKING DRAWINGS IN WRITING AND IN ADVANCE OF THE BEGINNING OF DEMOLITION/CONSTRUCTION. NUMERICAL DIMENSIONS AND ELEVATIONS SHOWN SHALL SUPERCEDE ANY DISCREPANCY IN THE DRAWINGS.
5. ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF DEMOLITION/CONSTRUCTION AND INSTALLATION OF MATERIAL IS THE CONTRACTOR'S RESPONSIBILITY.
6. THE CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ANY CHANGES MADE TO THE DRAWINGS ON A SEPARATE WHITE SET OF PLANS PROVIDED BY THE ENGINEER. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE AS-BUILT SURVEY OF THE COMPLETED WORK TO THE ENGINEER PRIOR TO APPROVAL OF THE FINAL PAYMENT APPLICATION.
7. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL, ON A DAILY BASIS, REMOVE FROM THE SITE ANY DEBRIS RESULTING FROM DEMOLITION/CONSTRUCTION. DISPOSAL OF MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL MATERIALS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED, AND SHALL BE DISPOSED OF AS SPECIFIED. ALL DEBRIS SHALL BE PROPERLY DISPOSED OF IN A PERMITTED LANDFILL. THE CONTRACTOR SHALL KEEP RECORDS OF ALL MATERIALS REMOVED FROM THE SITE, INCLUDING DESCRIPTION, QUANTITIES, AND DISPOSAL LOCATION.
8. EXISTING CONSTRUCTION, INCLUDING UTILITIES AND OTHER MISCELLANEOUS ITEMS WHICH ARE TO REMAIN, SHALL REMAIN UNDISTURBED AND BE PROTECTED, UNLESS NOTED OTHERWISE.
9. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING, AT HIS OWN EXPENSE, ANY AND ALL DAMAGES THAT MAY OCCUR OUTSIDE AND WITHIN THE LIMITS OF THIS PROJECT AS A RESULT OF DEMOLITION/CONSTRUCTION.
10. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION, AT NO EXPENSE TO THE CITY, UNLESS OTHERWISE NOTED.
11. THE PROJECT SITE IS ALONG AN ACTIVE NAVIGATION CHANNEL. THE CONTRACTOR SHALL CONSIDER AND PLAN FOR THE EFFECTS OF PASSING VESSELS. THE CHANNEL SHALL REMAIN OPEN AND ACCESSIBLE DURING CONSTRUCTION.
12. THE CONTRACTOR SHALL PLACE CONSTRUCTION DEBRIS CONTROL DEVICES, TURBIDITY CURTAINS, BOOMS, TARPULINS, FLOATS, STAGING, AND OTHER DEVICES AS NECESSARY TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING THE WATER AND AIRBORNE MATERIALS FROM LEAVING THE IMMEDIATE VICINITY OF THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ANY MATERIALS DEPOSITED OUTSIDE THE WORK AREA.
13. THE CITY SHALL HAVE THE SOLE AUTHORITY TO DESIGNATE AND/OR LIMIT AREAS OF CONSTRUCTION, STAGING, ACCESS, AND STORAGE.
14. THE CONTRACTOR SHALL STAKEOUT ALL BASELINES OF CONSTRUCTION, THE LOCATION OF ALL NEW CONSTRUCTION, AND VERIFY ALL SETBACKS, OFFSETS, AND CLEARANCES PRIOR TO THE START OF WORK.
15. THE CITY MAKES NO REPRESENTATIONS ABOUT SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED WITHIN THE LIMITS OF THE PROJECT.
16. A GEOTECHNICAL INVESTIGATION OF THE SITE WAS PERFORMED BY HP CONSULTANTS ON AUGUST 23, 2017. RESULTS OF INVESTIGATION ARE PROVIDED IN REPORT DATED NOVEMBER 8, 2017.
17. IF OTHER CONSTRUCTION PROJECTS EXIST IN THE IMMEDIATE VICINITY OF THE PROJECT SITE, CONTRACTOR SHALL COORDINATE WORK AS NECESSARY AT THE PROJECT SITE TO MINIMIZE IMPACTS TO OTHER CONTRACTORS. CONTRACTOR SHALL PROVIDE REASONABLE ACCESS THROUGH THE PROJECT SITE AT ALL TIMES.
18. SUBAQUEOUS UTILITIES MAY BE PRESENT AT THE PROJECT SITE. THE CONTRACTOR SHALL CONTACT SUNSHINE 811, 72 HOURS PRIOR TO THE START OF CONSTRUCTION TO VERIFY LOCATIONS OF SUBAQUEOUS UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES AND DEBRIS.
19. CONTRACTOR SHALL SUBMIT LOCAL NOTICE TO MARINERS PRIOR TO CONSTRUCTION.

SURVEY NOTES

1. HYDROGRAPHIC AND RESOURCE DATA DEPICTED ON THESE DRAWINGS ARE BASED ON SURVEYS PERFORMED BY OLIN HYDROGRAPHIC SOLUTIONS COMPLETED JULY 20, 2017 AND ARE ONLY INDICATIVE OF THE CONDITIONS EXISTING AT THAT TIME.
2. HORIZONTAL COORDINATES ARE IN FEET AND REFERENCED TO THE 1983 NORTH AMERICAN DATUM, FLORIDA STATE PLANE (NAD 83 EAST).
3. ALL ELEVATIONS PROVIDED ON THE DRAWINGS ARE REFERENCED IN FEET TO MLLW.
4. THE FOLLOWING DATA IS PROVIDED REGARDING TIDAL INFORMATION. TIDAL INFORMATION WAS OBTAINED FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), NATIONAL OCEAN SERVICE (NOS) STATION 8723214 (VIRGINIA KEY, FL). ELEVATIONS ARE GIVEN IN FEET AND REFERENCED ON THE 1983-2001 EPOCH.

MAXIMUM (HIGHEST OBSERVED WATER LEVEL)	+4.76' MLLW
MHHW (MEAN HIGHER HIGH WATER)	+2.19' MLLW
MHW (MEAN HIGH WATER)	+2.13' MLLW
MTL (MEAN TIDE LEVEL)	+1.12' MLLW
MSL (MEAN SEA LEVEL)	+1.10' MLLW
MLW (MEAN LOW WATER)	+0.11' MLLW
MLLW (MEAN LOWER LOW WATER)	+0.00' MLLW
MINIMUM (LOWEST OBSERVED WATER LEVEL)	-1.31' MLLW
5. TIDAL DATA IS PER NOAA AVERAGES BASED ON 1983-2001 TIDAL EPOCH AND NOT GUARANTEED TO REPRESENT CONDITIONS WHICH MAY OCCUR DURING CONSTRUCTION. ACTUAL WATER LEVELS MAY VARY FROM LEVELS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN ESTIMATES OF WATER LEVELS WHICH MAY OCCUR DURING CONSTRUCTION. VARIATION OF TIDAL LEVELS FROM THOSE INDICATED OR CONTRACTOR'S ESTIMATION OF TIDAL LEVELS SHALL NOT BE CONSIDERED AS A CLAIM FOR ADDITIONAL COMPENSATION OR DELAY OF WORK.
6. SUBAQUEOUS UTILITIES WERE NOT LOCATED AS PART OF THIS INVESTIGATION.
7. AERIAL PHOTOGRAPHY OBTAINED FROM GOOGLE EARTH DATED DECEMBER 2017.

ENVIRONMENTAL NOTES

1. CONTRACTOR SHALL ABIDE BY ENVIRONMENTAL PERMITS AND CONDITIONS FROM THE FOLLOWING AGENCIES:
 - U.S. ARMY CORPS OF ENGINEERS
 - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 - MIAMI-DADE COUNTY DERM
 - U.S. COAST GUARD
 - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION (FWC)
2. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL PROTECTION STANDARDS, LAWS, AND REGULATIONS.

DEBRIS REMOVAL

1. CONTRACTOR SHALL SWEEP SEABED AND INVESTIGATE DEBRIS SIGNATURES WITHIN THE PROPOSED MOORING FIELD AREA PRIOR TO CONSTRUCTION.
2. ALL DEBRIS SHALL BE RECOVERED AND DISPOSED OF AT AN APPROVED UPLAND DISPOSAL SITE PRIOR TO INSTALLATION OF MOORING ANCHORS.
3. CONTRACTOR SHALL SATISFY ALL DEBRIS REMOVAL REQUIREMENTS OUTLINED IN THE ENVIRONMENTAL PERMIT CONDITIONS.
4. SUBMIT DEBRIS REMOVAL REPORT WITH LOAD TICKETS AND REPRESENTATIVE PHOTOGRAPHS OF DEBRIS REMOVED. PROVIDE COORDINATES OF MAJOR DEBRIS ITEMS RECOVERED AND REMOVED.

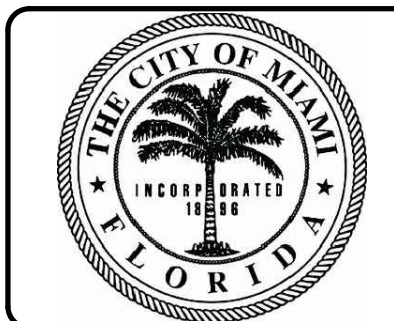
DESIGN LOADS

1. MOORING ANCHORS ARE DESIGNED TO RESIST UPLIFT AND LATERAL MOVEMENT DUE TO THE EFFECT OF WIND, WAVES, CURRENT AND WATER LEVELS ACTING SIMULTANEOUSLY ON THE DESIGN VESSELS.

WIND LOADS (OCCUPIED): V = 75 MPH
 DURATION = 3-SEC GUST
 COASTAL LOADS ASSOCIATED WITH TROPICAL STORM FORCE WINDS:
 WAVES (OCCUPIED): HS=5.2' AND T=3.4 SEC; AVG WATER DEPTH 7.0'
 TIDAL CURRENT (OCCUPIED): 1.7 FPS
 STORM SURGE (UNOCCUPIED): 8.34' (ABOVE MSL)

VESSEL RELOCATION

1. CONTRACTOR WILL COORDINATE WITH THE DINNER KEY MARINA MANAGEMENT TO IDENTIFY/NOTIFY VESSELS ANCHORED IN THE AREA OF THE MOORING FIELD THAT WILL INTERFERE WITH THE DEBRIS REMOVAL AND/OR ANCHOR INSTALLATION PRIOR TO CONSTRUCTION.
2. IF THE FWC AND/OR MANAGEMENT ARE NOT ABLE TO HAVE THE VESSELS RELOCATED, CONTRACTOR WILL TEMPORARILY RELOCATE THE VESSELS AS REQUIRED DURING CONSTRUCTION TO INSTALL THE ANCHOR AND MOORING SYSTEMS.



Description	Date	Appr

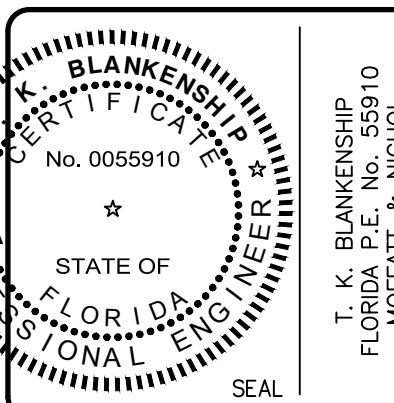
**DINNER KEY NORTH
MOORING FIELD**

GENERAL NOTES (1 OF 3)

Date:	2018-08-08	Rev.:	01	M&N Project No.:	9450-02	Drawing code:		Drawing Scale:		Plot scale: 1:1 (D SHEET)
Designed by:	MGC	Drawn by:	KS	Checked by:	NMP	Reviewed by:	TKB	Submitted by:	TIM BLANKENSHIP MOFFATT & NICHOL	

2837 SW 27th Ave, Ste 101A
COCONUT GROVE, FL 33133
305-230-1924
(FL EB 4877)

moffatt & nichol



Sheet
Reference No.
G-002
INDEX: 2 OF 8

**100% DRAWINGS
16 AUGUST 2018**

File: C:\MIA\9450-02\cadd\permisses\945002-G-002; Plotted: 8/16/2018 9:49 AM by DURAN, JESUS; Saved: 8/8/2018 1:10 PM by JDURAN

EMBEDMENT ANCHOR INSTALLATION AND PULL TEST

- 1. CONTRACTOR SHALL INSTALL EMBEDMENT ANCHORS FROM AN APPROPRIATE BARGE, SPUDED/MOORED IN POSITION.
2. ANCHOR INSTALLATION SHALL BE POSITIONED WITH MARINE DGPS POSITIONING EQUIPMENT CAPABLE OF HORIZONTAL ACCURACIES +/-3 FEET.
3. CONTRACTOR SHALL PULL TEST 10% OF EMBEDMENT ANCHORS FOR MOORING BUOYS AS DIRECTED BY THE ENGINEER.
4. CONDUCT PULL TEST UTILIZING A HYDRAULIC LOAD LOCKER ATTACHED TO ANCHOR HEAD ON THE SEA FLOOR TO MEASURE THE LOAD.
5. PROOF TEST THE ANCHOR TO A TEST LOAD OF 12,000 LBS.
6. ONCE PROOF TEST LOAD APPLIED, ALLOW LOAD LOCKER TO STABILIZE AND HOLD LOAD FOR 3 MINUTES.

STANDARD MOORING UNIT

- 1. THE MAJOR COMPONENTS THAT COMPRISE A STANDARD MOORING UNIT ARE THE ANCHOR, DOWNLINE, BUOY AND PENNANT. THE GENERAL CONFIGURATION OF THE MOORING UNIT AFTER ASSEMBLY AND INSTALLATION SHALL BE AS SHOWN IN DETAIL C1 ON SHEET S-501.
2. THE SPECIFICATIONS FOR EACH OF THE COMPONENTS ARE DISCUSSED IN SEPARATE SECTIONS.
3. ANCHORS AND ALL MISCELLANEOUS METALS INCLUDING BOLTS, WASHERS, NUTS, SHACKLES, PLATES, ETC. SHALL BE ZINC-COATED OR GALVANIZED BY THE HOT-DIPPED PROCESS IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A 123 OR A 153, AS APPLICABLE AFTER FABRICATION.

MOORING UNIT EMBEDMENT AUGER ANCHOR

- 1. THE ANCHOR FOR THE MOORING BUOYS SHALL BE THE HELMKEN EMBEDMENT AUGER ANCHOR AS PROVIDED BY STORMSOFT MOORING SYSTEMS OR APPROVED EQUAL.
2. THE ANCHOR HEAD SHALL BE SECURED TO THE ANCHOR AND SHALL SECURELY RETAIN THE DOWNLINE WITH FREEDOM FOR THE SPECIFIED SWIVEL, DOWNLINE, BUOY AND MOORED VESSEL TO ROTATE AROUND THE VERTICAL AXIS OF THE ANCHOR.
3. ANCHOR MANUFACTURER TECHNICAL SPECIFICATIONS ARE AS FOLLOWS:

Table with 2 columns: Material Name and Specification. Includes CARBON (0.28 - 0.34), MANGANESE (1.4 - 1.6), VANADIUM (0.16 - 0.18), NIOBIUM (0.04 - 0.05), CHROMIUM (0.20 MAX), MOLYBDENUM (0.80 MAX).

b. WELD PROCESS: GMAW W/ ER 705-3 A 5.18 SOLID WIRE

c. CORROSION PROTECTION: HOT DIP GALVANIZING PER ASTM A153

- 4. TWO ANCHOR TYPES ARE LISTED FOR USE TWO APPLICATIONS AS DETERMINED FOR EACH SPECIFIC MOORING UNIT INSTALLATION SITE:

a. HELMKEN ROCK-CUTTING ANCHOR (OR EQUIVALENT) THE ANCHOR SHALL BE CAPABLE FOR PENETRATING THE ROCK UNDERLYNG THE SEABED.

Table with 2 columns: Component and Specification. Includes HUB (1-3/4" RCSQ X 120"), AUGER HELIX BLADE (3/8" X 6" WITH ROCK CUTTING CAPABILITY; 2 BLADES PER ANCHOR), BLADE MATERIAL (ASTM A36 MODIFIED).

b. SAND/MUD ANCHOR THE ANCHOR SHALL BE CAPABLE OF PROVIDING EXTRACTION LOADING RESISTANCE AS REQUIRED, USING THE EXISTING BOTTOM SOILS UNDERLYING THE SEABED.

Table with 2 columns: Component and Specification. Includes HUB (1-3/4" RCSQ X 84"), AUGER HELIX BLADE (TRIPLE BLADES 3/8" BY VARIOUS DIAMETERS - 8", 10" OR 12"; MINIMUM, AS REQUIRED BY SITE CONDITIONS), BLADE MATERIAL (ASTM A36 MODIFIED).

- 5. ANCHOR PENETRATION INTO THE SEABED SHALL BE A MINIMUM OF TEN (10) FEET BELOW EXISTING GRADE AND SHALL BE ADVANCED SUFFICIENTLY TO ACHIEVE THE REQUIRED EXTRACTION LOADING RESTRAINT WHETHER IN ROCK OR SAND/MUD. WHERE THE REQUIRED RESTRAINT HAS NOT BEEN ACHIEVED BY FULL PENETRATION OF THE BASIC ANCHOR UNIT, THE ANCHOR UNIT SHALL BE ADVANCED FURTHER INTO THE SOIL IN THREE (3) FOOT INCREMENTS UTILIZING ANCHOR EXTENSION UNITS. ANCHOR EXTENSION UNITS SHALL BE INSTALLED BY MATING FITTINGS AT THE UPPER AND LOWER ENDS TO ATTACH TO THE UPPER END OF THE ANCHOR AND LOWER END OF AN ADDITIONAL EXTENSION, OR IF SUFFICIENT RESTRAINT HAS BEEN ACHIEVED, THE HELMKEN (OR EQUIVALENT) MOORING ANCHOR TERMINATION FITTING. THE EXTENSION HUBS SHALL CONFORM TO THE SAME MANUFACTURING TECHNICAL SPECIFICATIONS AS THE ANCHOR UNIT REFERENCED IN NOTE 3 OF THIS SECTION.

DOWNLINE ASSEMBLY

- 1. EACH STANDARD MOORING UNIT, AS AVAILABLE FROM STORMSOFT (OR EQUIVALENT), SHALL BE PROVIDED WITH A DOWNLINE OF 1-1/4" BY 8' OR 10' OVERALL LENGTH AS DETERMINED BY THE MANUFACTURER FOR THE WATER DEPTH, BETWEEN TWO HEAVY DUTY, GALVANIZED STEEL INTEGRAL THIMBLES SPICED AS TERMINAL FITTINGS, A 5' STORMSOFT (OR EQUIVALENT) RUBBER SHOCK ABSORBER AND A HEAVY DUTY UNDERWATER FLOAT.
2. 1-1/4" DOWNLINE SHALL BE MINIMUM HIGH-STRENGTH POLYESTER THAT DOES NOT ABSORB WATER AND RETAINS 100% OF ITS DRY 18,000 LB (MINIMUM) BREAKING STRENGTH.
3. BRAIDED RUBBER SHOCK ABSORBER SHALL BE 5' IN LENGTH WITH RUBBER MULTI-STRAND CORDS THAT ALLOW LIMITED STRETCH TO ABSORB SHOCK LOADS CREATED BY STORM SURGE AND BOAT WAKES.
4. UNDERWATER FLOAT SHALL BE HEAVY DUTY TO KEEP DOWNLINE OFF THE SEAFLOOR.
5. CONTRACTOR SHALL PROVIDE CHAFE GEAR FOR ALL STANDARD FITTINGS.
6. SHACKLE SHALL BE 7/8" (MINIMUM) GALV SAFETY BOLT SHACKLE WITH 13 KIP SERVICE CAPACITY, UON.
7. THIMBLE SHALL BE 1" (MINIMUM) GALV STEEL THIMBLE, UON.
8. SWIVEL SHALL BE 1" (MINIMUM) GALV EYE-TO-EYE STEEL SWIVEL WITH 12.5 KIP SERVICE CAPACITY, UON.
9. COTTER PINS TO BE WRAPPED WITH HEAT SHRINK TUBING.

MOORING BUOY

- 1. MOORING BUOY SHALL BE SPHERICAL, WHITE PVC WITH BLUE REFLECTIVE STRIPE, BY CAROLINA WATERWORKS OR APPROVED EQUAL.
2. BUOY SHALL HAVE A THROUGH-BUOY ROD HANGER AFFIXED WITH A WASHER RING AND EYE-NUT.
3. BUOY SIZE SHALL BE 24" IN DIAMETER.
4. CONTRACTOR SHALL LABEL BUOYS WITH 4-INCH TALL ENGINEERING GRADE VINYL LETTERING. LABELING SYSTEM FOR BUOYS SHALL BE AS SHOWN ON SHEET S-501, DETAIL C1.

MOORING PENNANT

- 1. PENNANT SHALL BE 1" POLYESTER WITH 18,000 LBS ULTIMATE TENSILE STRENGTH (MIN).
2. THE VESSEL END SHALL BE EYE-SPLICED AROUND A 1" NYLON SEADOG THIMBLE. THE LOWER END OF THE PENNANT SHALL BE EYE-SPLICED AROUND A HEAVY DUTY GALVANIZED THIMBLE. THE ROPE EYE ON THE LOWER END SHALL BE COVERED WITH HEAVY DUTY BLACK CHAFING HOSE BEFORE SPLICING AROUND THE DEEP WELL GALV THIMBLE.
3. PENNANT SHALL BE COVERED THE ENTIRE LENGTH WITH 1-1/2" PVC FLEX HOSE TO GUARD AGAINST MARINE GROWTH AND CHAFING FROM SWIVELS AND SHACKLES.
4. PENNANT SHALL HAVE A FLOAT OF ADEQUATE SIZE NEAR THE PICK UP END TO PREVENT THE PENNANT FROM DROPPING TO THE SEAFLOOR.

SUBMITTALS

SUBMIT THE FOLLOWING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS:

- 1. TURBIDITY CONTROL AND MONITORING
2. ENDANGERED SPECIES MONITORING PLAN
3. DEBRIS SWEEP, REMOVAL AND DISPOSAL PLAN
4. DEBRIS REMOVAL SUMMARY, INCLUDING REPRESENTATIVE PHOTOGRAPHS, AND DISPOSAL TICKETS
5. CONSTRUCTION SCHEDULE
6. HELICAL ANCHOR SHOP DRAWINGS AND SPECIFICATIONS - FOR MOORING AND REGULATORY ANCHORS
7. MOORING DOWNLINE SHOP DRAWINGS INCLUDING ALL APPURTENANCES AND MANUFACTURER TECHNICAL INFORMATION
8. LOAD TEST APPARATUS AND METHODOLOGY
9. HELICAL INSTALLER QUALIFICATIONS/CERTIFICATIONS
10. ADCI COMMERCIAL DIVER CERTIFICATIONS
11. MARINE POSITIONING METHODS AND EQUIPMENT

- 12. BARGE EQUIPMENT AND INSTALLATION METHODOLOGY
13. LOAD LOCKER AND CALIBRATION
14. LOAD TEST RESULTS
15. BUOYS - MOORING, REGULATORY AND CHANNEL MARKER; AND LETTERING
16. AS-BUILT DRAWINGS WITH COORDINATES OF ANCHOR, REGULATORY, AND CHANNEL MARKER ANCHORS

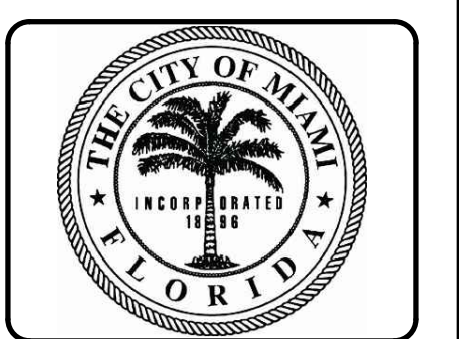
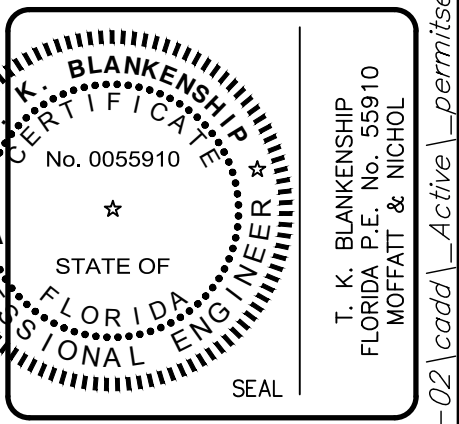


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DINNER KEY NORTH MOORING FIELD
GENERAL NOTES (2 OF 3)

Table with 4 columns: Date, M&N Project No., Drawing code, Drawing Scale. Includes fields for Designer, Dwn by, Reviewed by, and Submitted by.

Address: 2837 SW 27th Ave, Ste 101A, Coconut Grove, FL 33133. Logo for moffatt & nichol.



100% DRAWINGS
16 AUGUST 2018

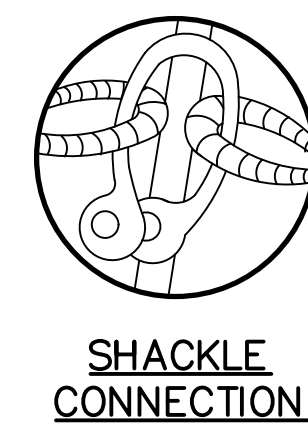
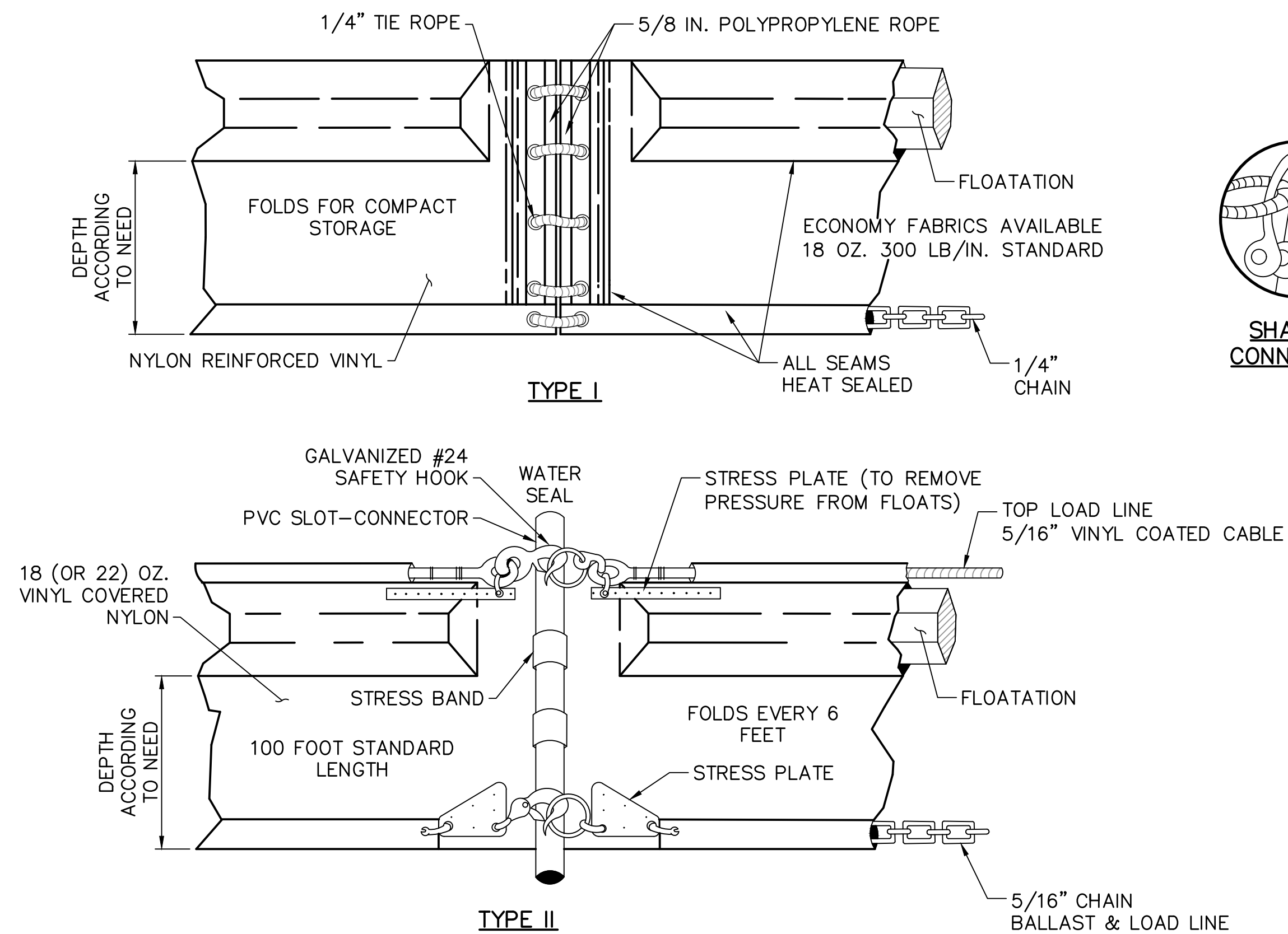
Sheet Reference No. G-003
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ABBREVIATIONS

AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MAX	MAXIMUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MECH	MECHANICAL
APPROX	APPROXIMATE	MHW	MEAN HIGH WATER
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	MHHW	MEAN HIGHER HIGH WATER
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	MILS	THOUSANDS OF AN INCH
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MIN	MINIMUM
AWS	AMERICAN WELDING SOCIETY	MISC	MISCELLANEOUS
B	BASELINE	MLW	MEAN LOW WATER
BKHD	BULKHEAD	MLLW	MEAN LOWER LOW WATER
BLDG	BUILDING	MSL	MEAN SEA LEVEL
B	BEAM OR VESSEL WIDTH	MTL	MEAN TIDE LEVEL
BOTT	BOTTOM	N	NORTH
B.O.C.	BOTTOM OF CONCRETE	NAD	NORTH AMERICAN DATUM
CF	CUBIC FEET	NAVD	NORTH AMERICAN VERTICAL DATUM
CL	CENTERLINE	NIC	NOT IN CONTRACT
CLR	CLEAR	NO.	NUMBER
COMM	COMMUNICATIONS	NOAA	NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
COMP	COMPOSITE	NOS	NATIONAL OCEAN SERVICE
CONC	CONCRETE	NTS	NOT TO SCALE
CONST	CONSTRUCTION	O	OUTFALL
CONT	CONTINUOUS	OC	ON CENTER
CON'T	CONTINUED	OD	OUTSIDE DIAMETER
CTS	CENTERS	PI	POINT OF INTERSECTION
CVR	COVER	PT	POINT OF TANGENCY
CY	CUBIC YARDS	PL	PLATE
DBL	DOUBLE	PROP	PROPOSED
DEG	DEGREE	PSF	POUNDS PER SQUARE FOOT
DERM	DIVISION OF ENVIRONMENTAL RESOURCES MANAGEMENT	PSI	POUNDS PER SQUARE INCH
DET	DETAIL	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER	QTY	QUANTITY
DN	DOWN	R	RADIUS
DWG	DRAWING	REV	REVISION
E	EAST	REQD	REQUIRED
EA	EACH	RT	RIGHT
EF	EACH FACE	S	SOUTH
EL/ELEV	ELEVATION	SCH	SCHEDULE
EMBED	EMBEDMENT	SF	SQUARE FOOT
ETC	ET CETERA	SHT	SHEET
EQ	EQUAL	SNL	SOLAR NAVIGATION LIGHT
EW	EACH WAY	SPA	SPACES
EXIST	EXISTING	SQ	SQUARE
EXP	EXPANSION	SS	STAINLESS STEEL
F	FAHRENHEIT	STA	STATION
FC	FIELD CONNECTION	STD	STANDARD
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	STL	STEEL
FPS	FEET PER SECOND	SWM	STORM WATER MANAGEMENT
FT	FEET	T	TON (2,000 LB)
GALV	GALVANIZED	TBR	TO BE REMOVED
GMAW	GAS METAL ARC WELDING	THK	THICK
GR	GRADE	TOS	TOP OF STEEL
HORIZ	HORIZONTAL	TYP	TYPICAL
IN	INCHES	UFC	UNIFIED FACILITIES CRITERIA
INC	INCORPORATED	UHMW	ULTRA HIGH MOLECULAR WEIGHT
INFO	INFORMATION	UON	UNLESS OTHERWISE NOTED
INV	INVERT ELEVATION	U/G	UNDERGROUND
JT	JOINT	VERT	VERTICAL
KIP	1000 LB	VLF	VERTICAL LINEAR FEET
KSI	KIPS PER SQUARE INCH	VPP	VESSEL POWER POINT
L	ANGLE	W	WEST
LB	POUND	W/	WITH
LF	LINEAR FEET	WP	WORK POINT
LG	LONG	"	SECONDS OR INCH
LOA	LENGTH OVERALL	'	MINUTES OR FEET
LT	LEFT	∅	SQUARE
		#	NUMBER OR POUNDS
		%	PERCENT
		&	AND
		@	AT
		∅	DIAMETER
		°	DEGREES

TURBIDITY CONTROL MONITORING NOTES

- BEST MANAGEMENT PRACTICES FOR TURBIDITY CONTROL SHALL BE IMPLEMENTED BY THE CONTRACTOR IN ACCORDANCE WITH THE ENVIRONMENTAL PERMIT CONDITIONS.
- FLOATING TURBIDITY CURTAINS SHALL BE DEPLOYED IMMEDIATELY AROUND THE EMBEDMENT ANCHOR INSTALLATION AND BE MAINTAINED TO ENSURE TURBIDITY LEVELS OUTSIDE THE CONSTRUCTION AREA DO NOT DEGRADE AMBIENT WATER QUALITY. CURTAINS SHALL BE MAINTAINED TO AVOID MANATEE ENTRAPMENT.
- TURBIDITY LEVELS IN WATER COLUMN SHALL BE MONITORED IN ACCORDANCE WITH THE PERMITS. IF TURBIDITY LEVES EXCEED AMBIENT WATER QUALITY LEVELS, CONTRACTOR SHALL FOLLOW PROCEDURES OUTLINED IN FDEP PERMIT CONDITIONS.
- CONTRACTOR SHALL COMPILE AND DISTRIBUTE TURBIDITY MONITORING REPORTS TO OWNER AND TO THE AGENCIES, AS REQUIRED IN THE ENVIRONMENTAL PERMITS.



Rev.	Date	By	Description

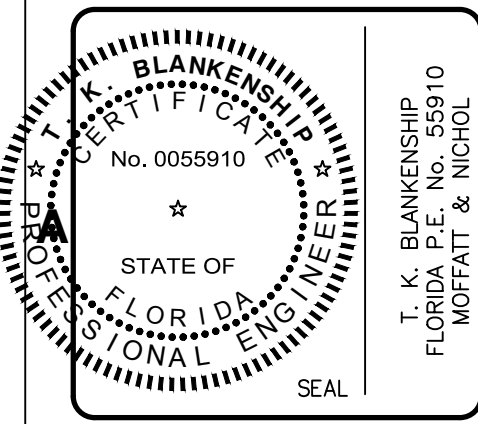
DINNER KEY NORTH MOORING FIELD

GENERAL NOTES (3 OF 3)

Designed by:	MGC	Drawn by:	KS	Reviewed by:	TKB	Submitted by:	TIM BLANKENSHIP MOFFATT & NICHOL
Date:	2018-08-08	M&N Project No.:	9450-02	Drawing code:		Plot scale:	1:1 (B SHEET)

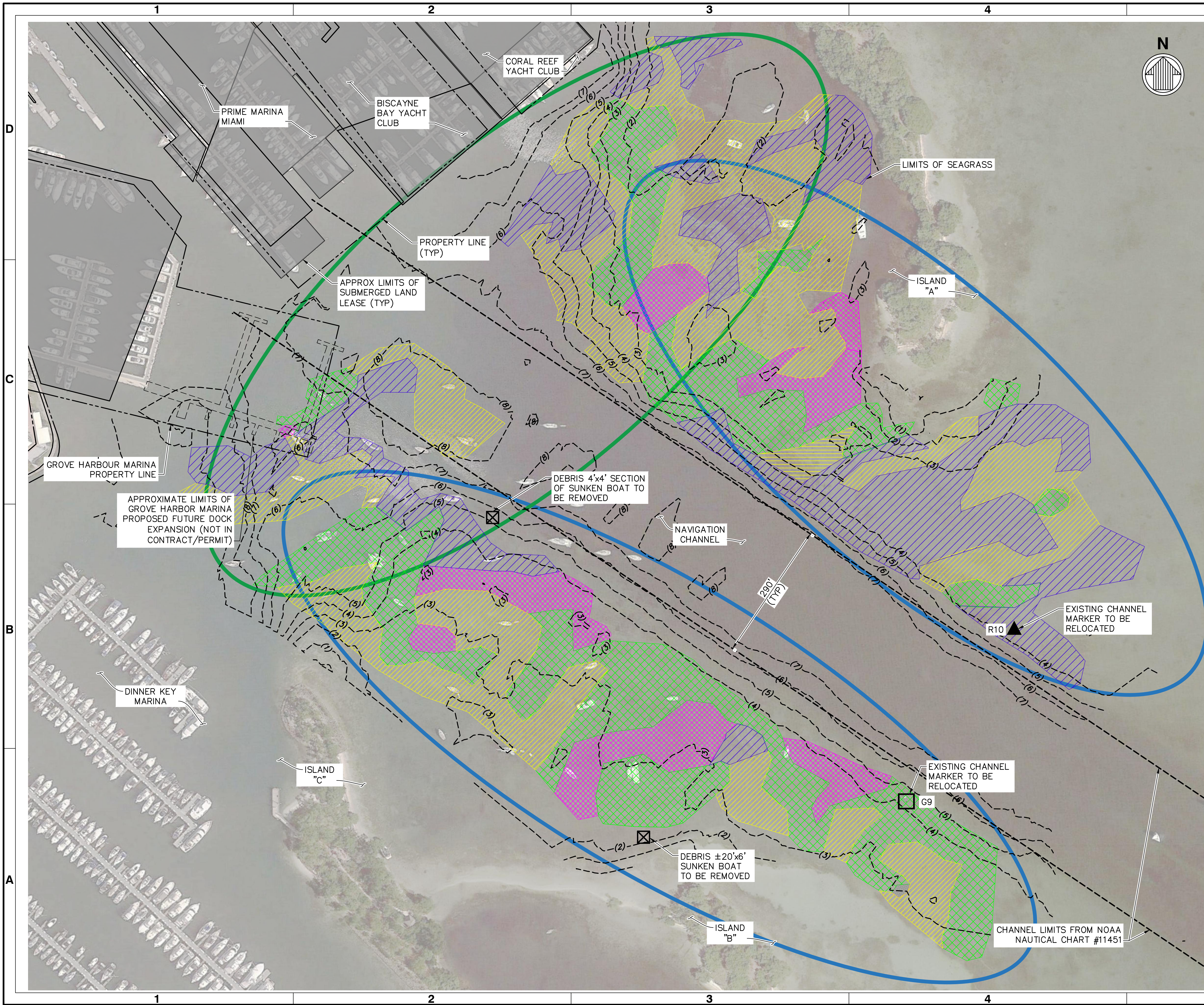
2837 SW 27th Ave, Ste 101A
COCONUT GROVE, FL 33133
305-230-1924
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16 AUGUST 2018

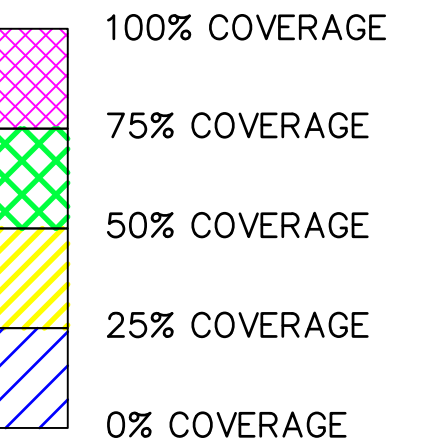
Sheet Reference No.
G-004
INDEX: 4 OF 8



LEGEND

- NAVIGATION CHANEL
- PROPERTY LINE
- SUBMERGED LAND LEASE LIMITS
- PORT CHANNEL MARKER (GREEN)
- ▲ STARBOARD CHANNEL MARKER (RED)
- (3) CONTOUR (FT)

SEA GRASS COVERAGE DENSITY SCALE



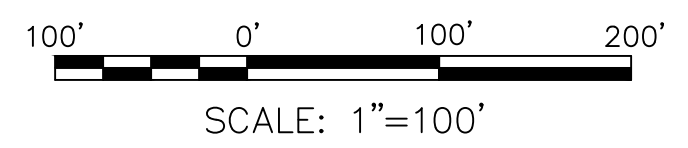
- LIMITS OF SYRINGODIUM FILIFORMA, THALASSIA TESTUDINUM AND HALODULE WRIGHTII
- LIMITS OF HALOPHILIA DECIPIENS

EXISTING MARKERS TO BE RELOCATED

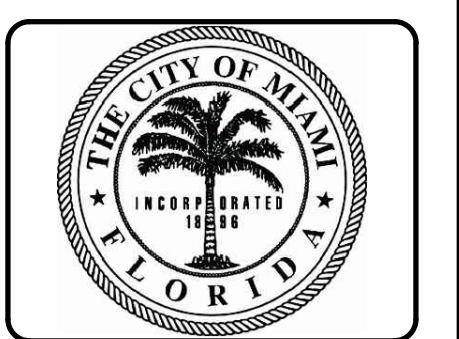
MARKER	NORTHING (FT)	EASTING (FT)
R10	507542.92	910758.92
G9	507184.90	910533.29

NOTES:

1. REFER TO SHEET G-002 FOR DEBRIS REMOVAL NOTES.



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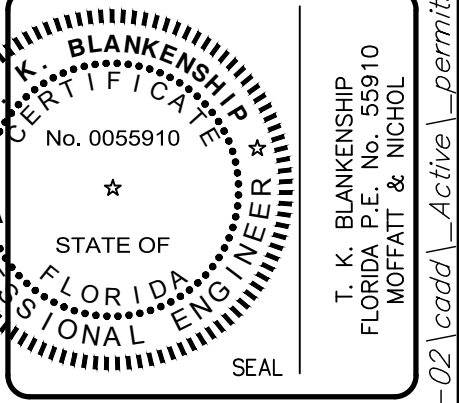


Date	Rev.
	01

**DINNER KEY NORTH
MOORING FIELD**
**EXISTING CONDITIONS,
DEMOLITION, & DEBRIS
REMOVAL PLAN**

Designed by: MGC	Date: 2018-08-08	Rev. 01
Dwn by: JAD	M&N Project No. 9450-02	
Reviewed by: TKB	Drawing code:	
Submitted by: TIM BLANKENSHIP MOFFATT & NICHOL	Drawing Scale: Plot scale: 1:1 (0 SHEET)	

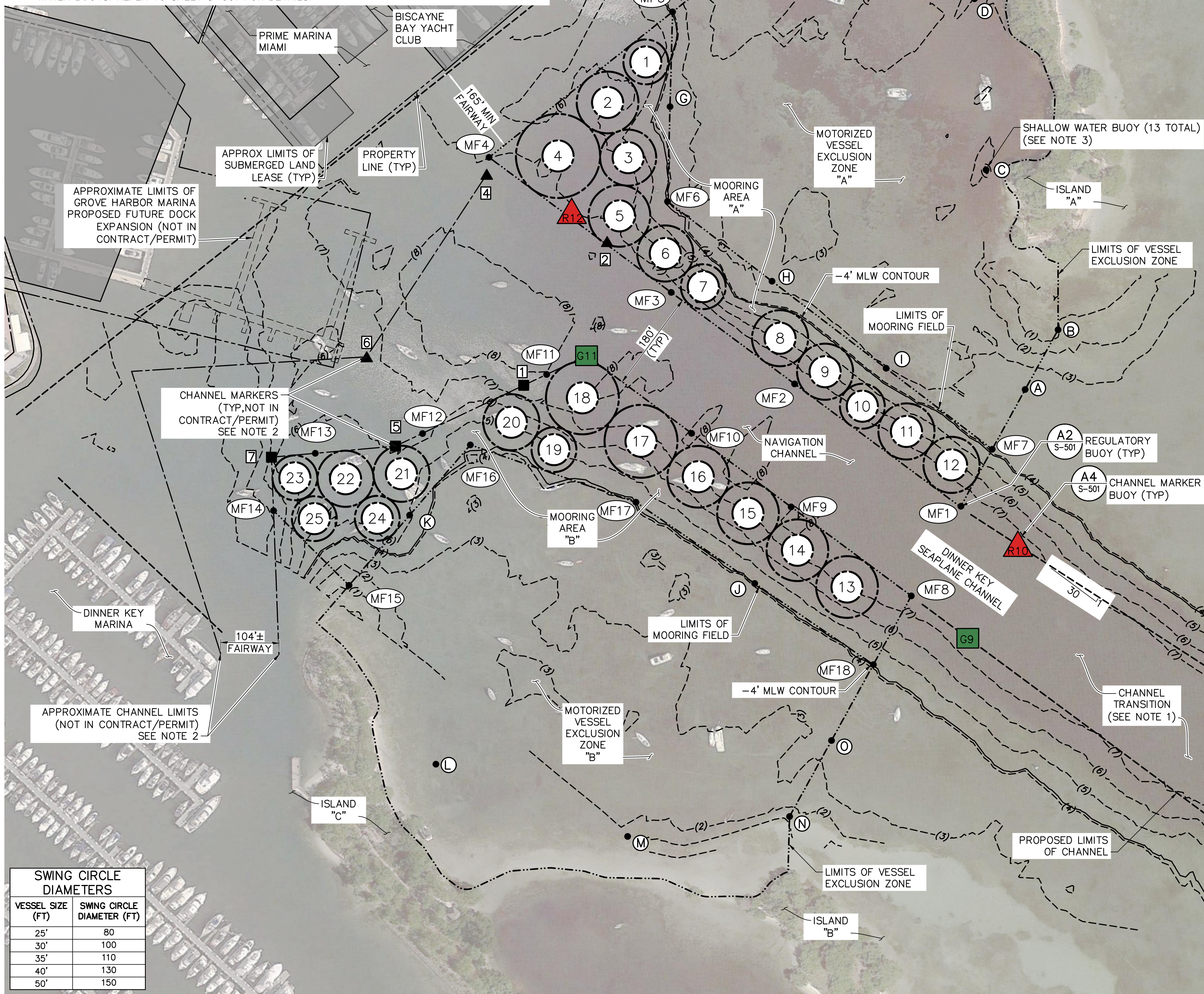
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Sheet Reference No.
V-101
INDEX: 5 OF 8

NOTE

- CHANNEL BEGINS TRANSITION FROM EXISTING NAVIGATION CHANNEL TO PROPOSED NAVIGATION CHANNEL AT THE FOLLOWING EXISTING CHANNEL MARKERS:
 - 506785.62N, 911886.46E (RED)
 - 506449.87N, 911656.98E (GREEN)
- APPROXIMATE CHANNEL LIMITS AND CHANNEL MARKERS 1, 2, 4, 5, 6 AND 7 FROM GROVE HARBOUR MARINA IMPROVEMENT PROJECT DRAWINGS BY LEAF ENGINEERING DATED DECEMBER 4, 2013.
- REGULATORY BUOYS LOCATED IN LESS THAN 4' OF WATER (EL -4' MLLW) SHALL BE SHALLOW WATER BUOYS. REFER TO SHEET S-501 FOR DETAILS.



SWING CIRCLE DIAMETERS	
VESSEL SIZE (FT)	SWING CIRCLE DIAMETER (FT)
25'	80
30'	100
35'	110
40'	130
50'	150

REGULATORY EXCLUSION BUOYS

ID	NORTHING	EASTING
A	507868.63	910510.17
B	507975.07	910568.90
C	508260.17	910440.52
D	508565.05	910419.79
E	508803.59	910212.24
F	508672.61	910047.00
G	508372.72	909877.27
H	508061.65	910059.05
I	507906.47	910262.39
J	507523.12	910028.12
K	507644.84	909413.26
L	507201.00	909460.03
M	507072.28	909801.74
N	507107.84	910090.36
O	507243.14	910165.02

LEGEND

- NAVIGATION CHANNEL
- MOORING FIELD LIMITS
- PROPERTY LINE
- APPROXIMATE CHANNEL LIMITS FOR GROVE HARBOUR MARINA IMPROVEMENT PROJECT (NOT IN CONTRACT/PERMIT)
- (3) CONTOUR
- MOORING #
- LIMITS OF SWING CIRCLE
- ▲ R10 STARBOARD CHANNEL MARKER (RED)
- G9 PORT CHANNEL MARKER (GREEN)
- ▲ 1 CHANNEL MARKER (NOT IN CONTRACT/PERMIT)
- 2 CHANNEL MARKER (NOT IN CONTRACT/PERMIT)
- SUBMERGED LAND LEASE LIMITS
- A REGULATORY BUOY
- MF1 PERIMETER BUOY

CHANNEL MARKER BUOYS

BUOYS ID	NORTHING (FT)	EASTING (FT)
G9	507425.76	910408.10
G11	507929.30	909728.58
R10	507591.61	910497.36
R12	508184.89	909702.11

MOORING FIELD PERIMETER BUOYS

BUOYS ID	NORTHING (FT)	EASTING (FT)
MF1	507660.62	910395.68
MF2	507878.71	910099.28
MF3	508041.74	909879.40
MF4	508282.43	909554.77
MF5	508541.63	909881.77
MF6	508203.80	909872.78
MF7	507762.20	910451.44
MF8	507500.95	910307.28
MF9	507659.47	910093.12
MF10	507790.61	909915.70
MF11	507895.53	909657.37
MF12	507790.16	909436.24
MF13	507754.97	909245.06
MF14	507652.79	909170.63
MF15	507519.63	909305.13
MF16	507770.04	909521.40
MF17	507667.80	909816.56
MF18	507378.45	910239.68

MOORING BUOYS

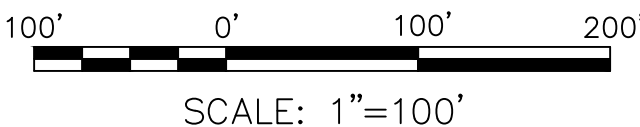
ID	VESSEL SIZE (FT)	NORTHING (FT)	EASTING (FT)
1	25'	508452.49	909834.18
2	35'	508380.25	909766.05
3	30'	508281.85	909802.69
4	50'	508284.93	909677.72
5	35'	508178.20	909787.13
6	30'	508111.11	909868.85
7	25'	508051.98	909936.59
8	30'	507960.13	910073.44
9	30'	507900.44	910153.67
10	25'	507838.94	910220.08
11	30'	507793.99	910298.72
12	30'	507734.43	910379.05
13	35'	507516.79	910192.80
14	35'	507582.29	910104.42
15	35'	507648.10	910016.28
16	35'	507713.28	909927.67
17	40'	507776.45	909825.65
18	40'	507853.86	909721.20
19	25'	507761.56	909670.50
20	30'	507810.38	909594.52
21	30'	507718.60	909398.65
22	30'	507709.70	909299.05
23	25'	507711.36	909208.76
24	25'	507639.24	909355.55
25	25'	507638.56	909243.41

AREAS

LOCATION	AREA
MOORING AREA "A"	3.73 ACRE
MOORING AREA "B"	4.27 ACRE
MOTORIZED VESSEL EXCLUSION AREA "A"	10.96 ACRE
MOTORIZED VESSEL EXCLUSION AREA "B"	11.86 ACRE

NOTE:

BUOY COORDINATES REPRESENT ANCHOR LOCATION.



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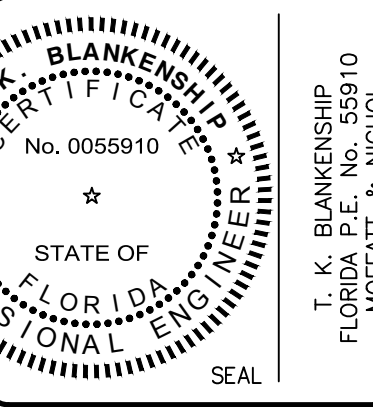
Rev.	Date	Description

DINNER KEY NORTH MOORING FIELD

MOORING FIELD PLAN

Designed by: MGC	Dwn by: JAD	Rev. by: TKB	Submitted by: TIM BLANKENSHIP MOFFATT & NICHOL
Date: 2018-08-08	M&N Project No: 9450-02	Drawing code: 	Drawing Scale: Plot scale: 1" = () SHEET

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305-230-1924
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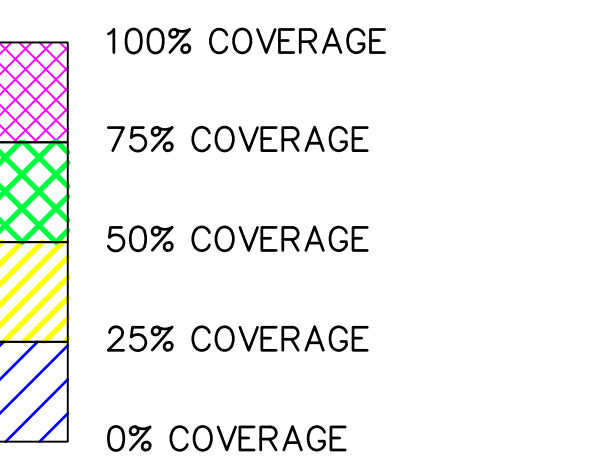
DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



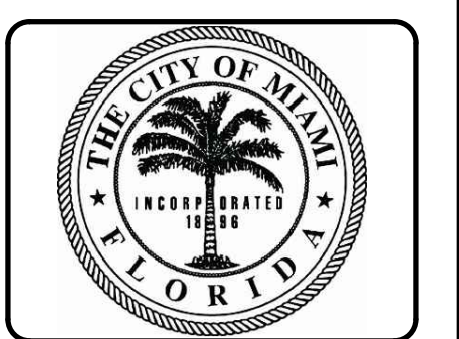
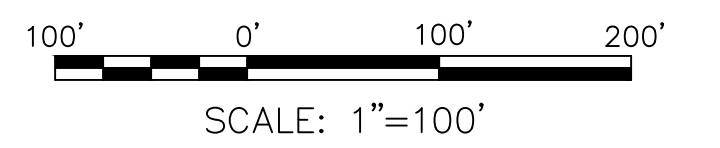
LEGEND

- NAVIGATION CHANEL
- MOORING FIELD LIMITS
- APPROXIMATE CHANNEL LIMITS FOR GROVE HARBOUR MARINA IMPROVEMENT PROJECT (NOT IN CONTRACT/PERMIT)
- (3) CONTOUR
- MOORING #
- LIMITS OF SWING CIRCLE
- ▲ R10 STARBOARD CHANNEL MARKER (RED)
- G9 PORT CHANNEL MARKER (GREEN)
- ▲ 1 CHANNEL MARKER (NOT IN CONTRACT/PERMIT)
- 2 CHANNEL MARKER (NOT IN CONTRACT/PERMIT)
- SUBMERGED LAND LEASE LIMITS
- (A) REGULATORY BUOY
- (MF1) PERIMETER BUOY

SEA GRASS COVERAGE DENSITY SCALE



- LIMITS OF SYRINGODIUM FILIFORMA, THALASSIA TESTUDINUM AND HALODULE WRIGHTII
- LIMITS OF HALOPHILIA DECIPIENS



Rev.	Date	Description

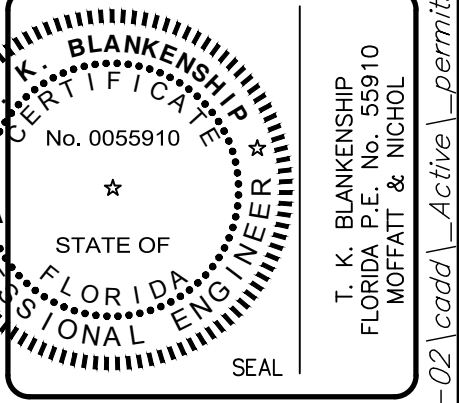
DINNER KEY NORTH MOORING FIELD

MARINE RESOURCE PLAN

Designed by: MGC	Date: 2018-08-08	Rev: 01
Dwn by: JAD/KS	M&N Project No: 9450-02	
Reviewed by: TKB	Drawing code:	
Submitted by: TIM BLANKENSHIP MOFFATT & NICHOL	Drawing Scale:	Plot scale: 1:1 (D SHEET)

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Sheet Reference No.
S-102
 INDEX: 7 OF 8

File: C:\MIA\9450-02\cad\permisset\945002_5-102_Plot.dwg; Plotted: 8/16/2018 9:51 AM by DURAN, JESUS; Saved: 8/8/2018 2:07 PM by JDURAN



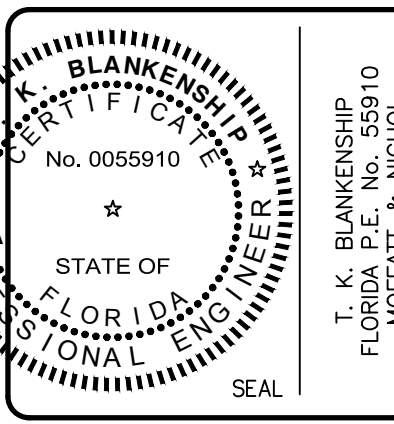
Rev.	Date	Description	Mark

DINNER KEY NORTH
MOORING FIELD

MOORING FIELD DETAILS

Rev:	01	Date:	2018-08-08
Desig. by:	MGC	Dwn. by:	JAD
Subm. by:	TKB	Rev. by:	TKB
Project No.:	9450-02	Drawing Code:	
M&N Project No.:	9450-02	Drawing Scale:	
Submitted by:	TIM BLANKENSHIP MOFFATT & NICHOL	Plot scale: 1:1 (D SHEET)	

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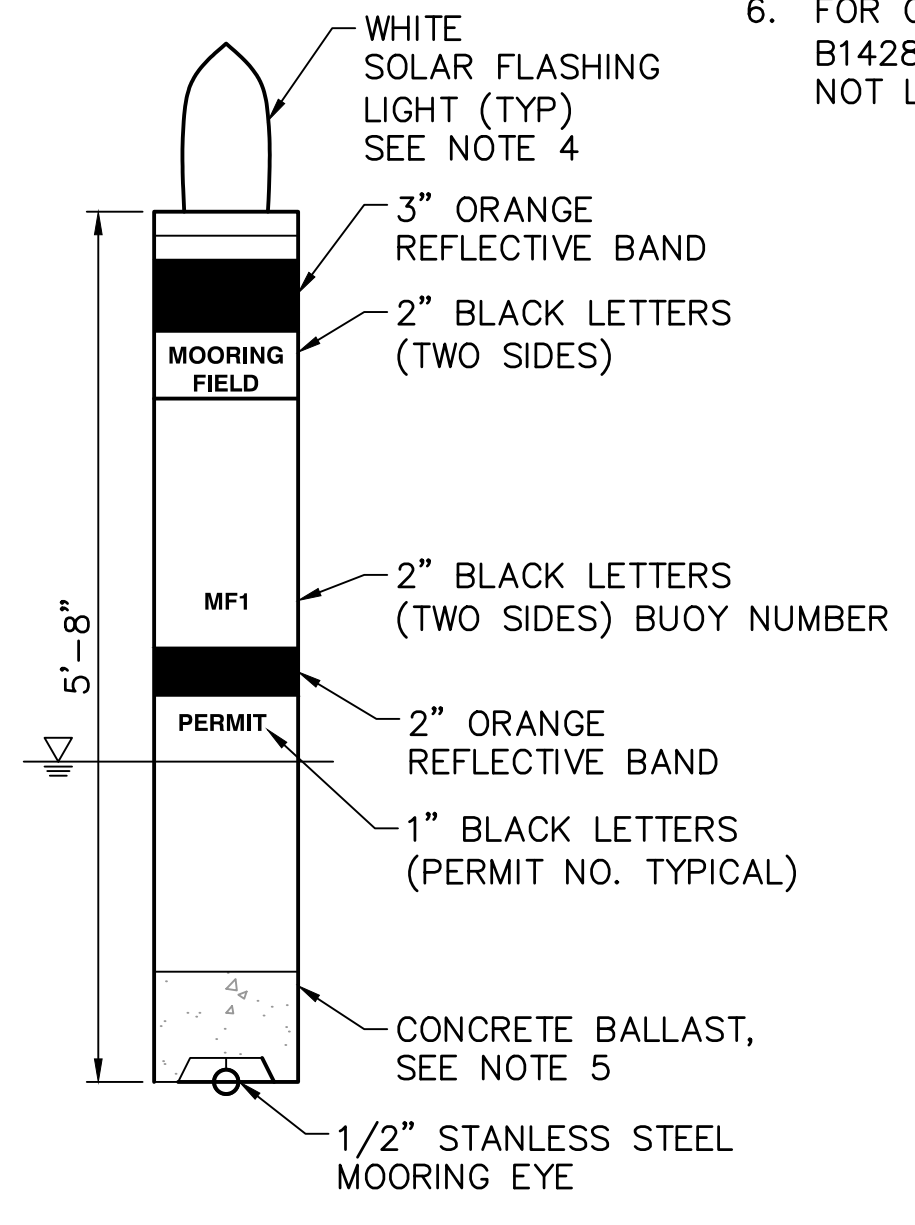
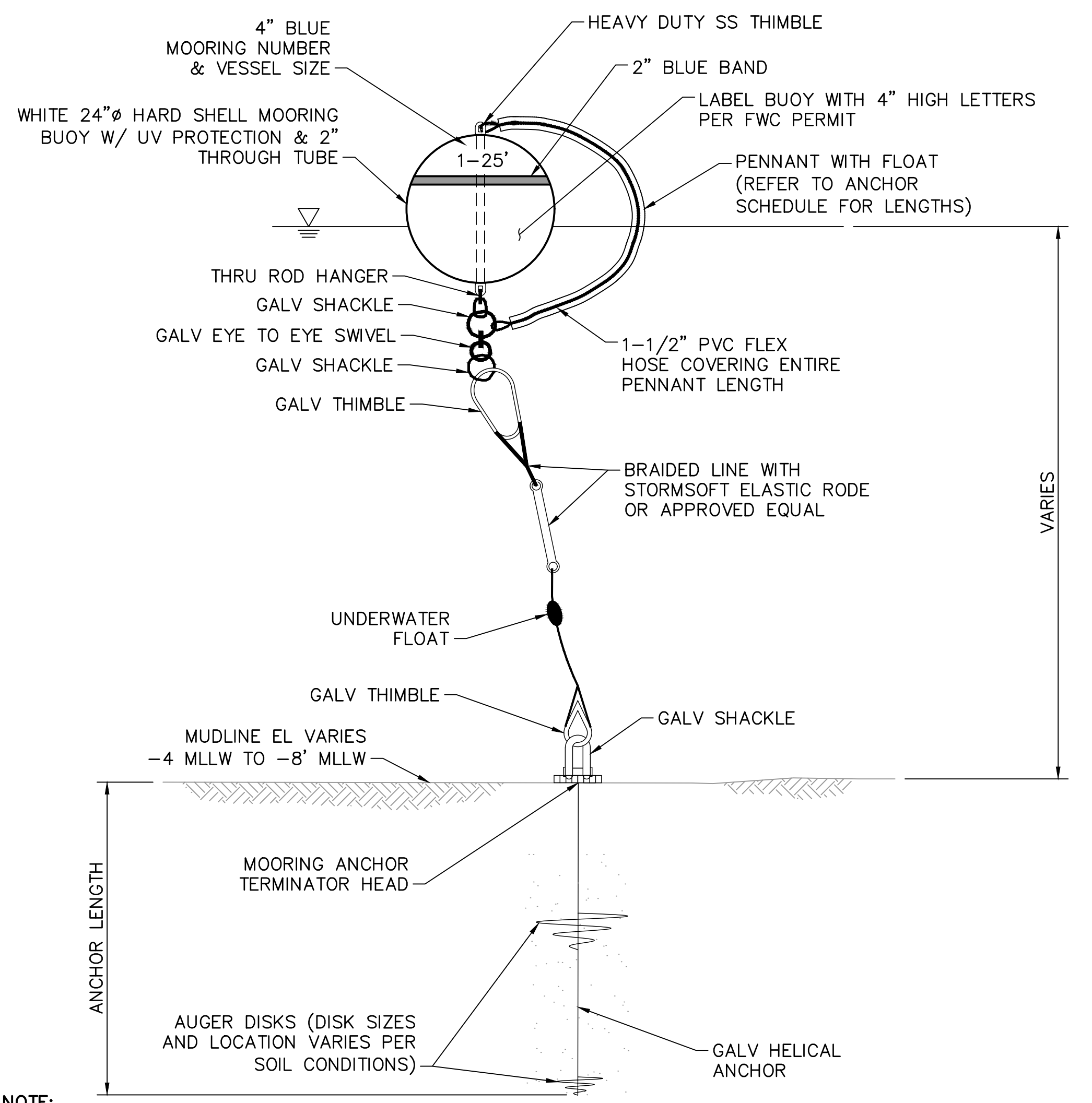
Sheet Reference No.
S-501
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REGULATORY AND CHANNEL BUOY NOTES

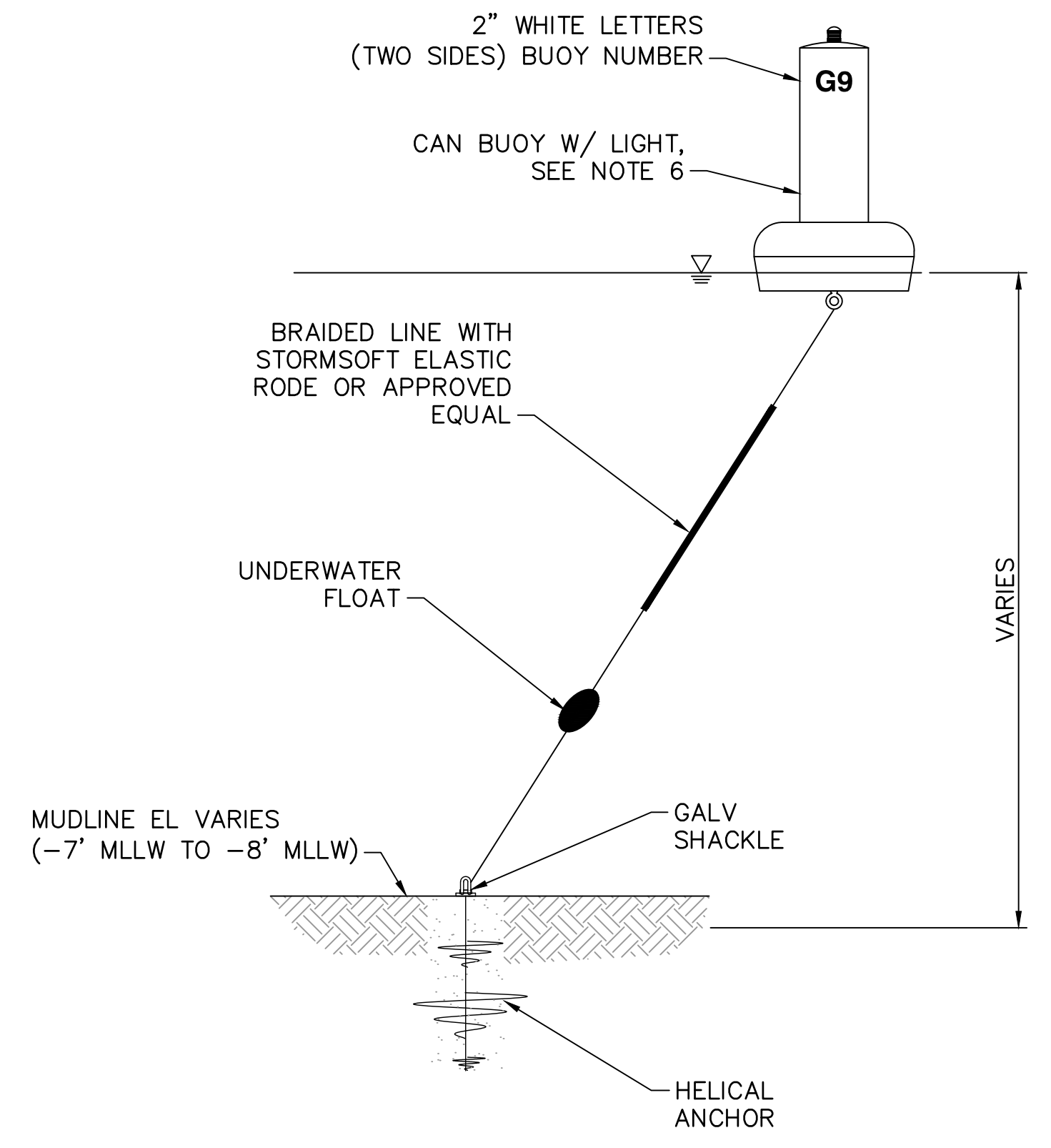
- REGULATORY BUOYS LOCATED IN MORE THAN 4 FEET OF WATER SHALL BE 9"x80" OCEAN SPAR BY ROLYAN, MODEL #B980R OR APPROVED EQUAL, WITH STAINLESS STEEL EYE AND MARKINGS AS REQUIRED.
- DOWNLINE SHALL BE 5/8" STORMSOFT RUBBER SHOCK ABSORBER OR APPROVED EQUAL. LENGTH SHALL BE WATER DEPTH PLUS THREE FEET, BUOY SHACKLE TO BE (MINIMUM) 1/2" STAINLESS STEEL. ANCHOR SHACKLE TO BE (MINIMUM) 5/8" GALV.
- ANCHOR SHALL BE GALV HELICAL ANCHOR, MIN 1 1/4" ROUND SHAFT WITH A MINIMUM DISK OF 6". LENGTH OF ANCHOR SHALL BE MINIMUM 6'. EXTENSIONS TO BE ADDED AS REQUIRED TO ACHIEVE MINIMUM HOLDING CAPACITY OF 500 LBS.
- SOLAR LIGHT SHALL BE ONE MILE AMBER OR WHITE LIGHT AS MANUFACTURED BY ROLYAN (OR APPROVED EQUAL). FLASH PATTERN SHALL BE VARIED FROM BUOY TO BUOY AROUND THE FIELD.
- IN WATER DEPTHS LESS THAN 4' MLLW, UTILIZE MODEL B5CPRSW BUOY FROM ROLYAN (OR EQUIVALENT). PROVIDE LABELING AND SOLAR LGHTS AS REFERENCED IN DETAILS THIS SHEET.
- FOR CHANNEL MARKER BUOYS, UTILIZE MODEL B1428NSW (FOR RED) AND MODEL B1428SWG (FOR RED) BUOYS FROM ROLYAN (OR EQUIVALENT). CHANNEL MARKERS ARE NOT LIGHTED, BUT SHALL MEET REQUIREMENTS FOR DAY BEACONS.

ANCHOR SCHEDULE

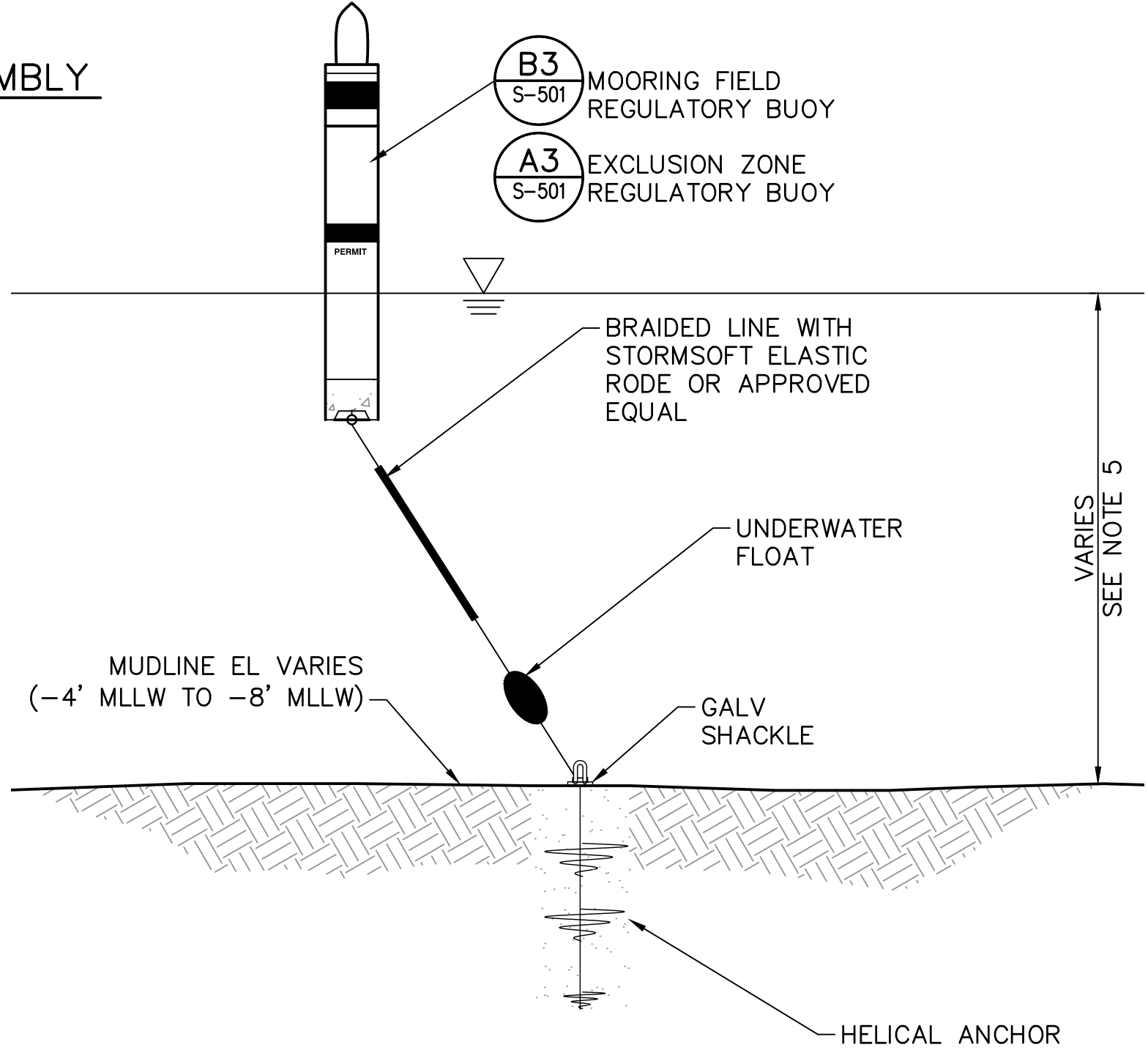
VESSEL LENGTH (FT)	PENNANT LENGTH (FT)
25	10
30	10
35	10
40	15
50	15



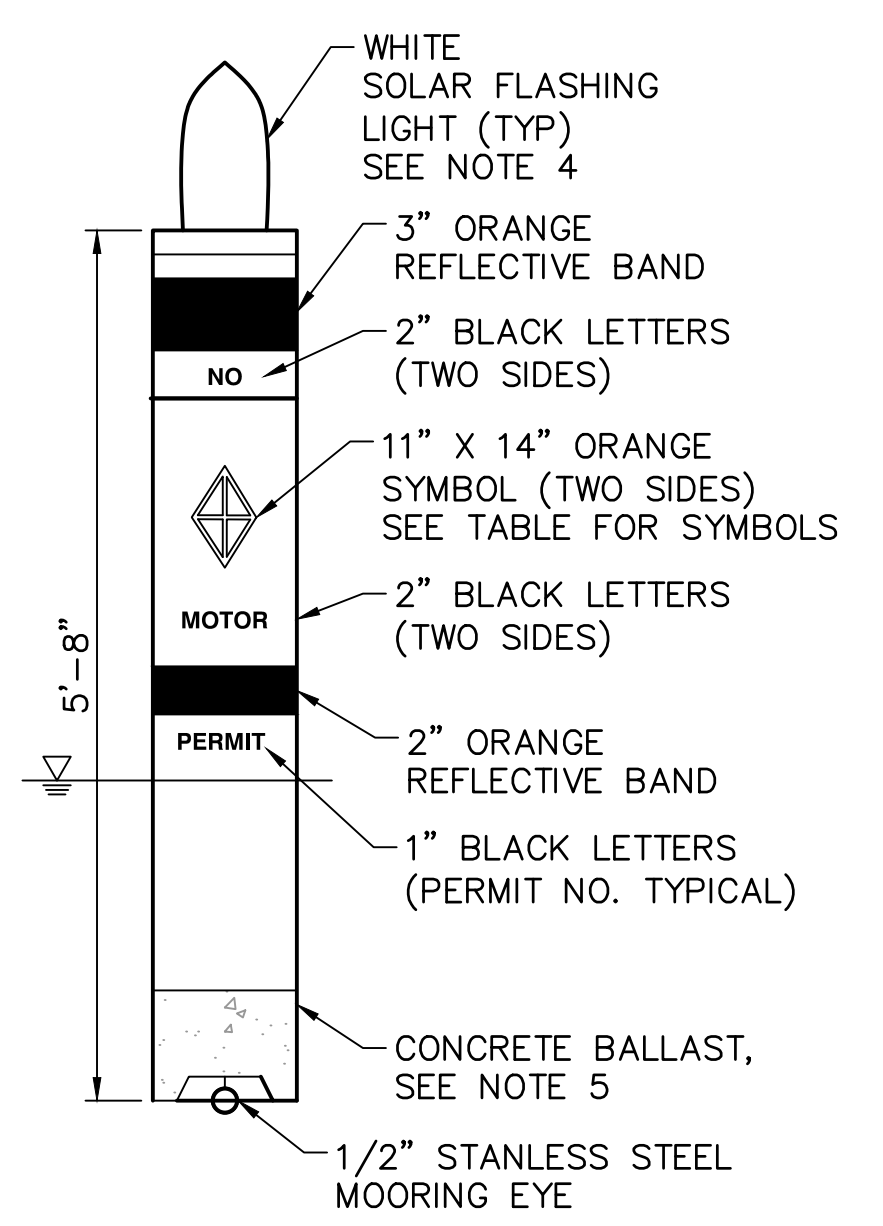
B3 MOORING FIELD REGULATORY BUOY
S-501 NOT TO SCALE



A4 CHANNEL MARKER BUOY
S-101 NOT TO SCALE



A2 DETAIL - REGULATORY BUOY
S-101 NOT TO SCALE



A3 EXCLUSION ZONE REGULATORY BUOY
S-101 NOT TO SCALE

BUOY TABLE

BUOY ID	BUOY COLOR	BUOY SYMBOL	TEXT
A-0	WHITE		NO MOTOR
MF1-MF18	YELLOW	N/A	MOORING FIELD
9,11	GREEN	N/A	N/A
10,12	RED	N/A	N/A

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16 AUGUST 2018**