

Deepwater Port License Application Blue Marlin Offshore Port (BMOP) Project

Volume IIb – Appendix B

Submitted to:



Maritime Administration
Office of Deepwater Ports and Offshore
Activities
1200 New Jersey Avenue SE, W21-309
Washington, DC 20590



United States Coast Guard
Commandant (CG-OES-2)
Stop 7509
2703 Martin Luther King Jr. Ave. SE
Washington, DC 20593-7509

Submitted by:

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Dallas, Texas 75225***

September 2020

Deepwater Port License Application Blue Marlin Offshore Port (BMOP) Project

- Volume I: General (Public), including Deepwater Port License Application and Appendices
(under separate cover)
- Volume IIa: Offshore Project Components Environmental Evaluation (Public)
(under separate cover)
- Volume IIb: Onshore Project Components, Environmental Evaluation (Public)**
(herein)
- Volume III: Technical Information
[Confidential]
(under separate cover)
- Volume IV: Company and Financial Information
[Confidential]
(under separate cover)

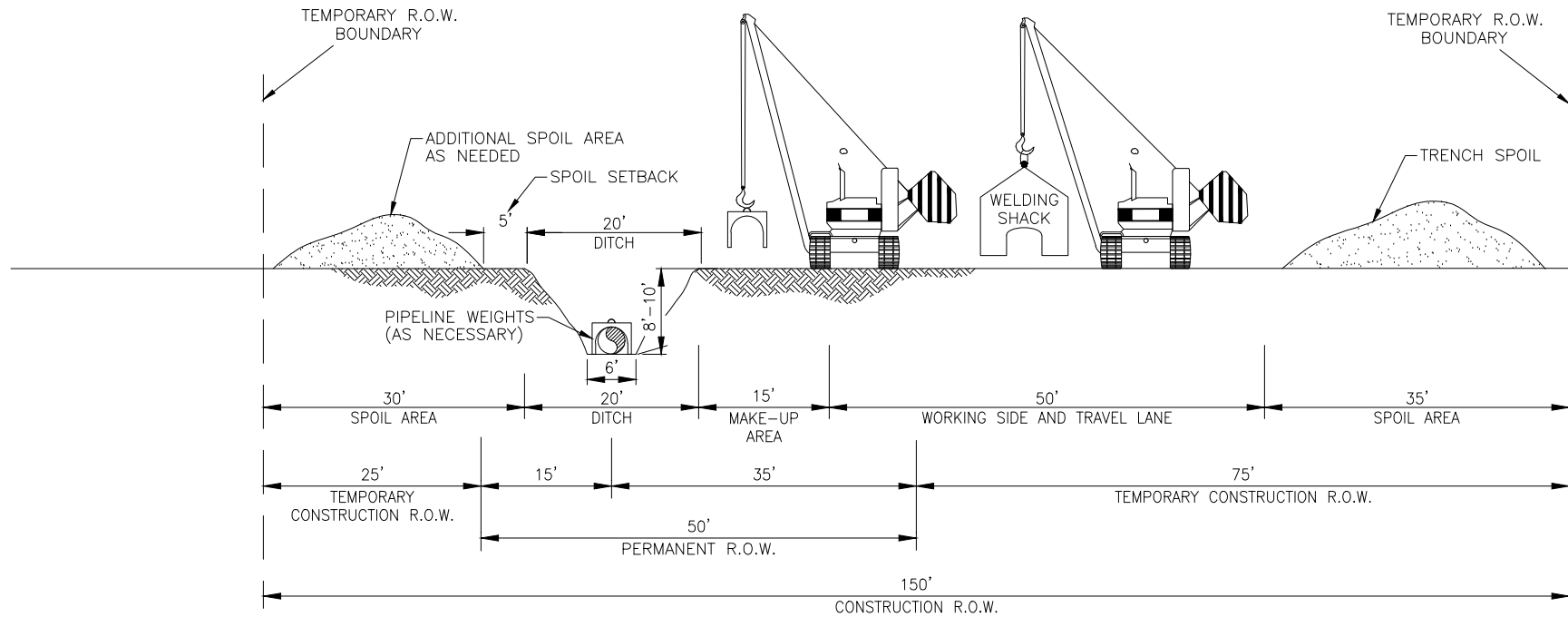
APPENDIX B

TYPICAL AND SITE-SPECIFIC DETAIL DRAWINGS

APPENDIX B1
TYPICAL DRAWINGS

APPENDIX B1-1

TYPICAL UPLAND CROSSING ROW CONFIGURATION



PROFILE

1"=20' HOR.
1"=20' VERT.

* DIMENSIONS ARE TYPICAL, SEE ALIGNMENT SHEETS FOR ACTUAL RIGHT-OF-WAY CONFIGURATIONS AND CLEARING LIMITS.

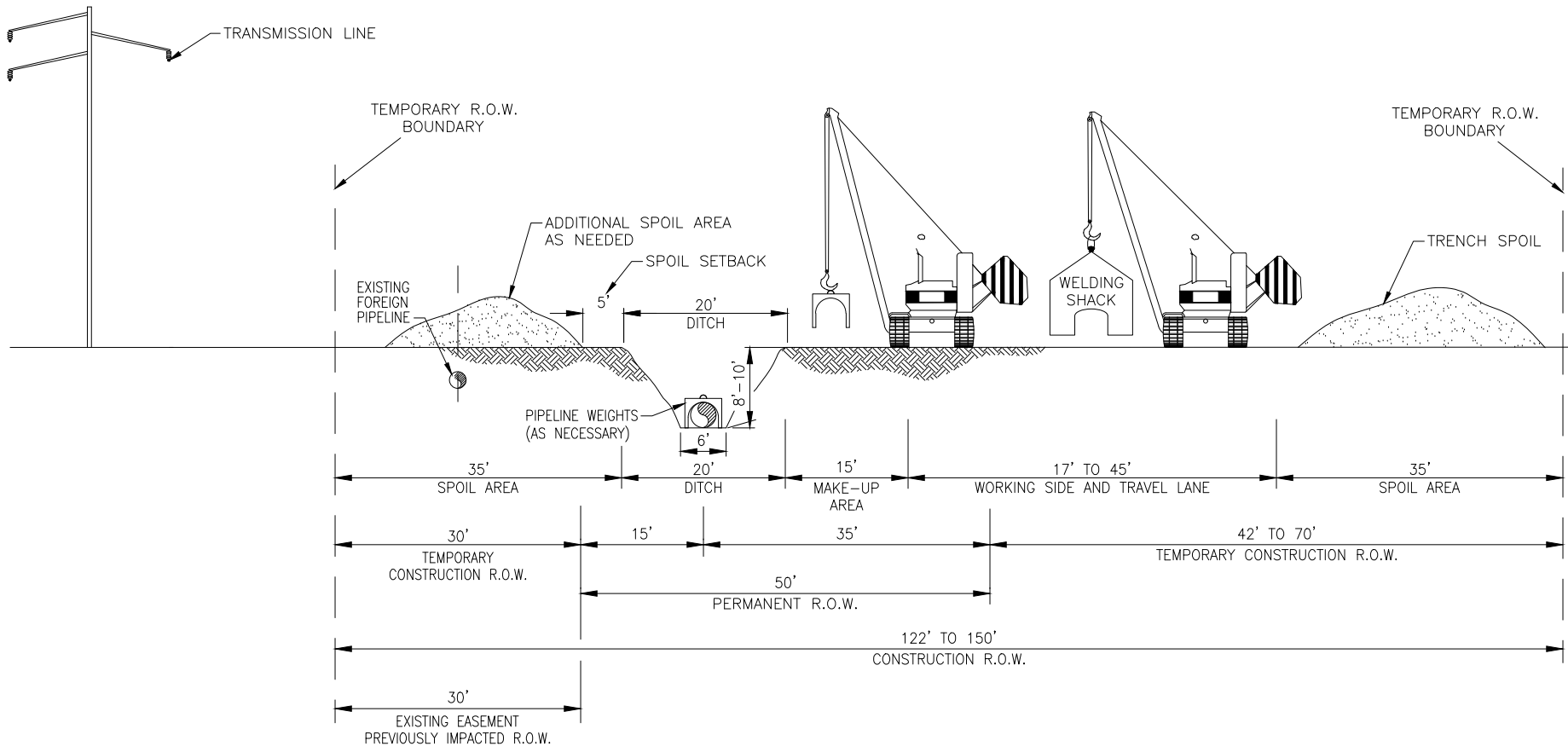
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 100 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. LEAVE GAPS IN SPOIL PILES WHERE APPLICABLE TO AVOID POTENTIAL DISRUPTION AND IMPEDIMENT TO NATURAL WATERCOURSES OR HYDROLOGIC EXCHANGE. DO NOT PUSH UPLAND SOILS INTO CANALS OR WETLANDS.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'		CONST. YR.		<h1>Appendix B1</h1>	PROJECT NO.	
FILENUMBER	CADD FILENAME	DRAWN KMA		DATE 5-6-20			PREVIOUS DWG. NO.	
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL UPLAND WORKSPACE CONSTRUCTION AREA			SHT. OF	
A ISSUED FOR REVIEW	KMA	5-6-20	JHR				DWG. NO.	
B ISSUED FOR REVIEW	NMS	5-28-20	JHR				Figure B1-1	
C ISSUED FOR REVIEW	NMS	6-10-20	JHR					
D ISSUED FOR PERMIT	NMS	6-29-20	JHR					

APPENDIX B1-2

**TYPICAL UPLAND WORKSPACE CONSTRUCTION AREA - PARALLEL
TRANSMISSION LINE & FOREIGN PIPELINE**



PROFILE

1"=20' HOR.
1"=20' VERT.

* DIMENSIONS ARE TYPICAL, SEE ALIGNMENT SHEETS FOR ACTUAL RIGHT-OF-WAY CONFIGURATIONS AND CLEARING LIMITS.

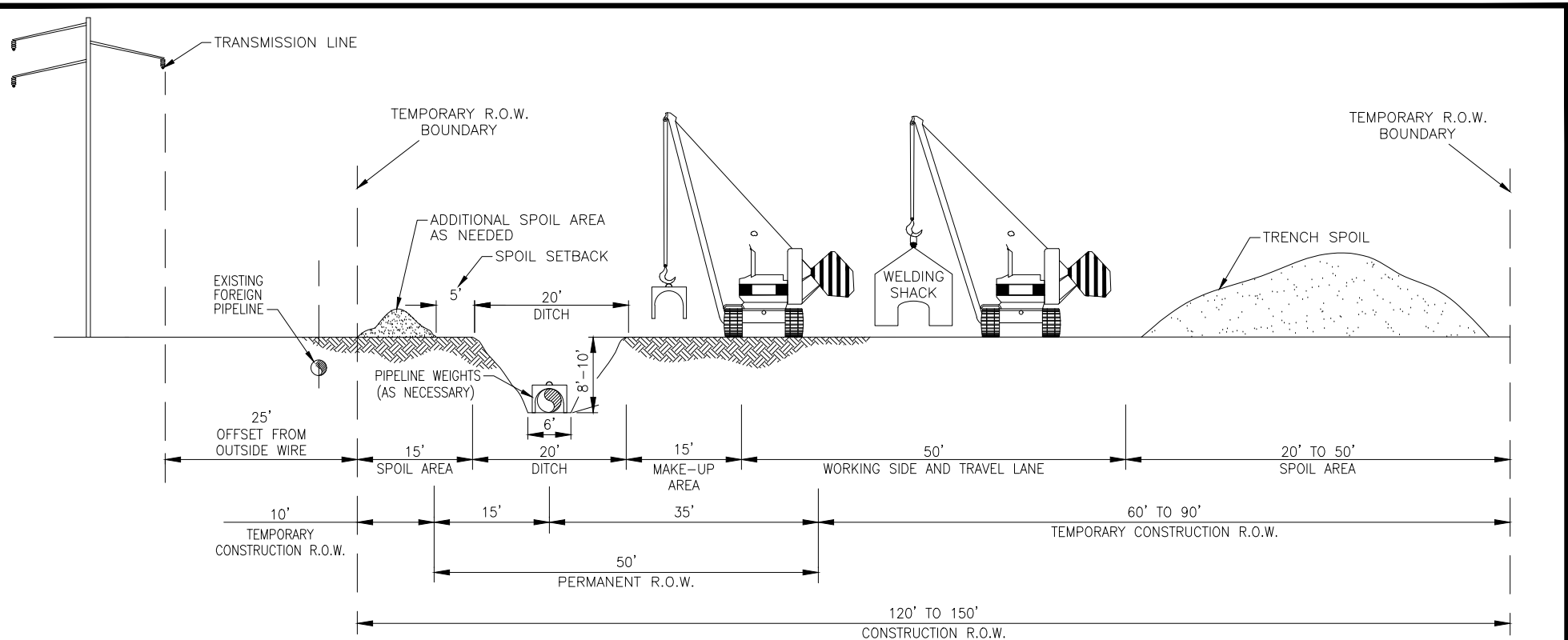
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 100 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. LEAVE GAPS IN SPOIL PILES WHERE APPLICABLE TO AVOID POTENTIAL DISRUPTION AND IMPEDIMENT TO NATURAL WATERCOURSES OR HYDROLOGIC EXCHANGE. DO NOT PUSH UPLAND SOILS INTO CANALS OR WETLANDS.
3. THE OFFSET FROM FOREIGN PIPELINES MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS OR THE FOREIGN PIPELINE/UTILITY TO BE PARALLELED.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'		CONST. YR.		<h1>Appendix B1</h1>		PROJECT NO.	
FILENUMBER	CADD FILENAME	DRAWN KMA	DATE 5-19-20						
REV. NO. - DESCRIPTION	BY	DATE	APP.			BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL UPLAND WORKSPACE CONSTRUCTION AREA PARALLEL TRANSMISSION LINE & FOREIGN PL		PREVIOUS DWG. NO.	
A ISSUED FOR REVIEW	NMS	5-19-20	JHR					SHT. OF	
B ISSUED FOR REVIEW	NMS	5-24-20	JHR					DWG. NO.	
C ISSUED FOR REVIEW	NMS	6-10-20	JHR					Figure B1-2	

APPENDIX B1-3

**TYPICAL UPLAND WORKSPACE CONSTRUCTION AREA - PARALLEL
TRANSMISSION LINE & FOREIGN PIPELINE**



PROFILE

1"=20' HOR.
1"=20' VERT.

* DIMENSIONS ARE TYPICAL, SEE ALIGNMENT SHEETS FOR ACTUAL RIGHT-OF-WAY CONFIGURATIONS AND CLEARING LIMITS.

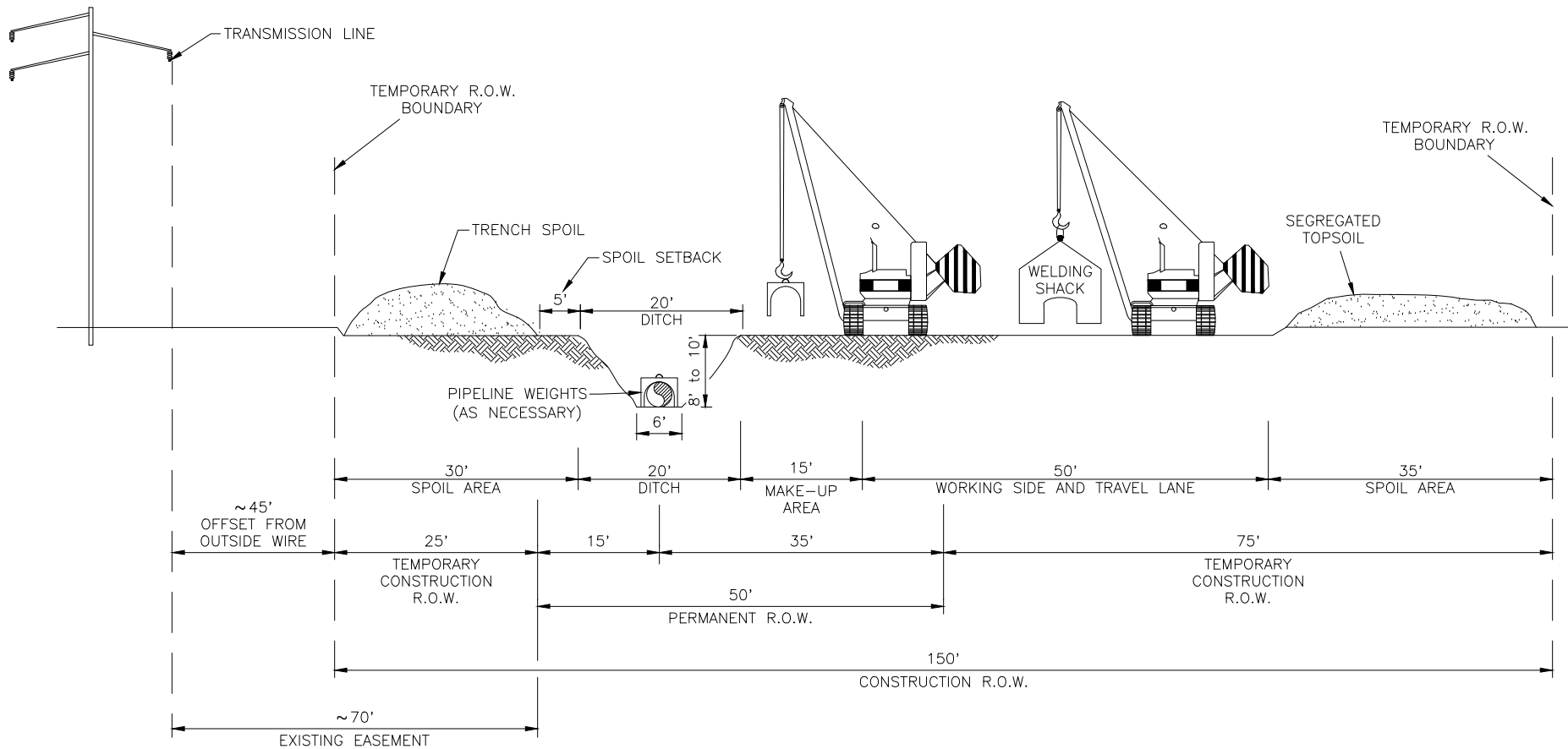
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 100 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. LEAVE GAPS IN SPOIL PILES WHERE APPLICABLE TO AVOID POTENTIAL DISRUPTION AND IMPEDIMENT TO NATURAL WATERCOURSES OR HYDROLOGIC EXCHANGE. DO NOT PUSH UPLAND SOILS INTO CANALS OR WETLANDS.
3. THE OFFSET FROM FOREIGN PIPELINES MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS OR THE FOREIGN PIPELINE/UTILITY TO BE PARALLELED.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'		CONST. YR.		<h1>Appendix B1</h1>		PROJECT NO.	
FILENUMBER	CADD FILENAME			DRAWN KMA	DATE 5-18-20			PREVIOUS DWG. NO.	
REV. NO. - DESCRIPTION	BY	DATE	APP.			BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL UPLAND WORKSPACE CONSTRUCTION AREA PARALLEL TRANSMISSION LINE & FOREIGN PL		SHT. OF	
A ISSUED FOR REVIEW	NMS	5-18-20	JHR					DWG. NO.	
B ISSUED FOR REVIEW	NMS	5-28-20	JHR					Figure B1-3	
C ISSUED FOR REVIEW NMS	NMS	6-10-20	JHR						

APPENDIX B1-4

TYPICAL AGRICULTURAL CROSSING ROW CONFIGURATION



PROFILE
 1"=20' HOR.
 1"=20' VERT.

- * FULL R.O.W. TOPSOIL SEGREGATION
- ** DIMENSIONS ARE TYPICAL, SEE ALIGNMENT SHEETS FOR ACTUAL RIGHT-OF-WAY CONFIGURATIONS AND CLEARING LIMITS.

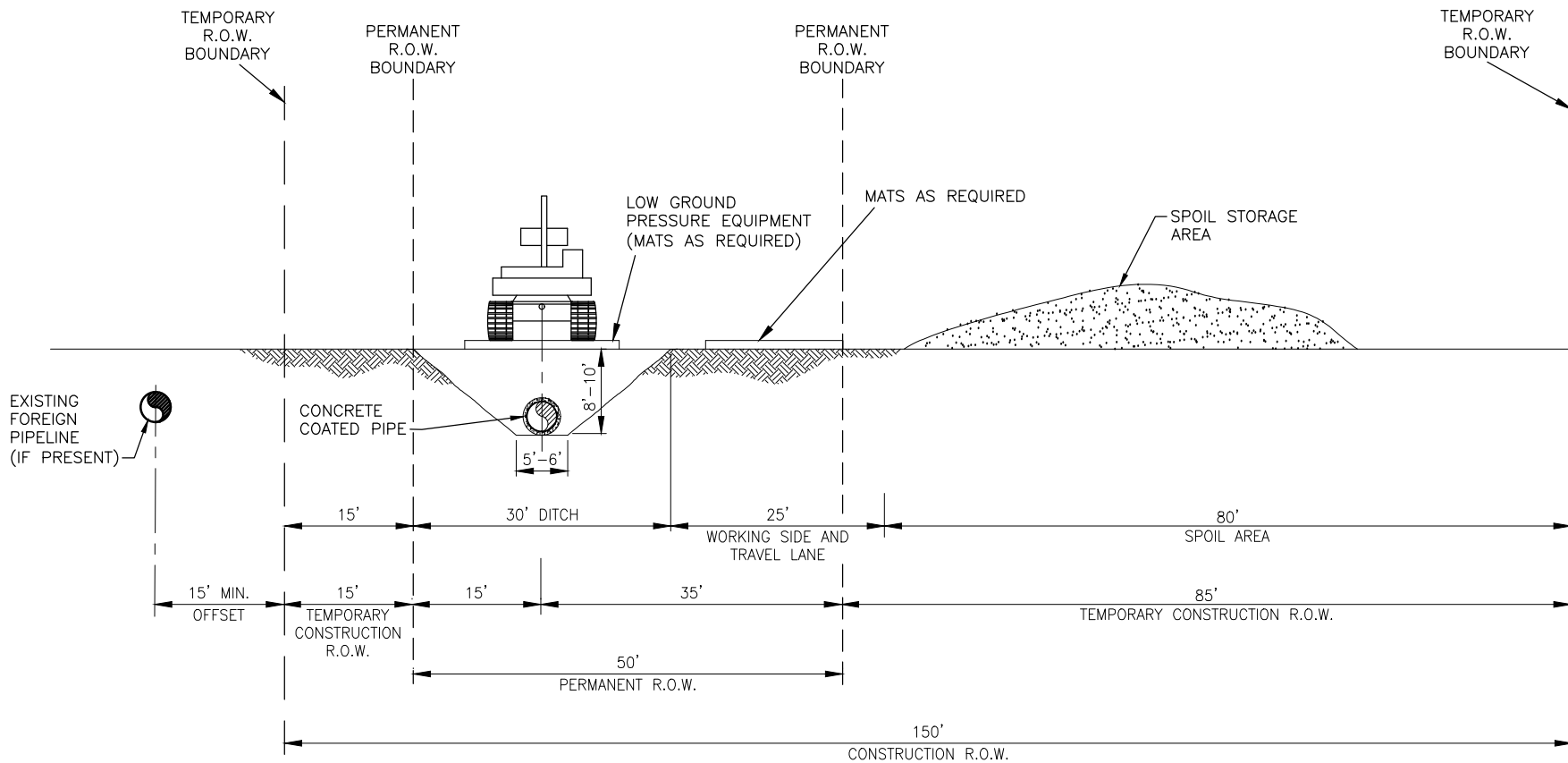
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 100 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. LEAVE GAPS IN SPOIL PILES WHERE APPLICABLE TO AVOID POTENTIAL DISRUPTION AND IMPEDIMENT TO NATURAL WATERCOURSES OR HYDROLOGIC EXCHANGE. DO NOT PUSH UPLAND SOILS INTO CANALS OR WETLANDS.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'			CONST. YR.	<h1>Appendix B1</h1>	PROJECT NO.
FILENUMBER	CADD FILENAME	DRAWN NMS		DATE 5-11-20	PREVIOUS DWG. NO.		
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL AGRICULTURAL CROSSING PARALLELING TRANSMISSION LINE		SHT. OF DWG. NO.	
A	ISSUED FOR REVIEW	NMS	5-11-20			JHR	Figure B1-4
B	ISSUED FOR REVIEW	KMA	5-28-20			JHR	
C	ISSUED FOR REVIEW	NMS	6-10-20			JHR	
D	ISSUED FOR PERMIT	NMS	6-29-20			JHR	

APPENDIX B1-5

TYPICAL PUSH/PULL WETLAND CROSSING ROW CONFIGURATION



PROFILE

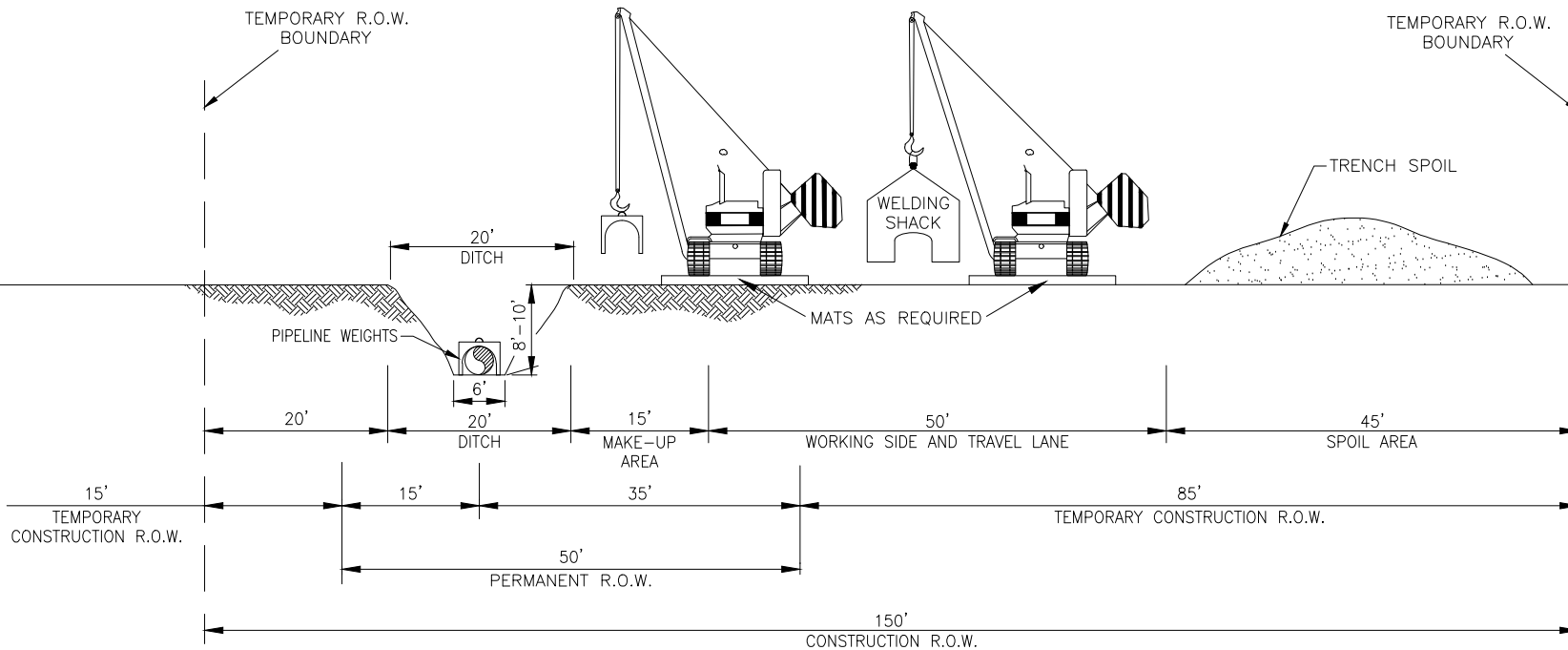
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 100 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. LEAVE GAPS IN SPOIL PILES WHERE APPLICABLE TO AVOID POTENTIAL DISRUPTION AND IMPEDIMENT TO NATURAL WATERCOURSES OR HYDROLOGIC EXCHANGE. DO NOT PUSH UPLAND SOILS INTO CANALS OR WETLANDS.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'			CONST. YR.	<h1>Appendix B1</h1>	PROJECT NO.
FILENUMBER	CADD FILENAME	DRAWN KMA		DATE 5-12-20	PREVIOUS DWG. NO.		
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL WETLAND CROSSING PUSH / PULL METHOD ADJACENT TO PIPELINE		SHT. OF	
A ISSUED FOR REVIEW	KMA	5-12-20	JHR			DWG. NO.	
B ISSUED FOR REVIEW	NMS	5-28-20	JHR			Figure B1-5	
C ISSUED FOR REVIEW	NMS	6-10-20	JHR				
D ISSUED FOR PERMIT	NMS	6-29-20	JHR				

APPENDIX B1-6

TYPICAL SATURATED WETLAND CROSSING ROW CONFIGURATION



PROFILE

1"=20' HOR.
1"=20' VERT.

* DIMENSIONS ARE TYPICAL, SEE ALIGNMENT SHEETS FOR ACTUAL RIGHT-OF-WAY CONFIGURATIONS AND CLEARING LIMITS.

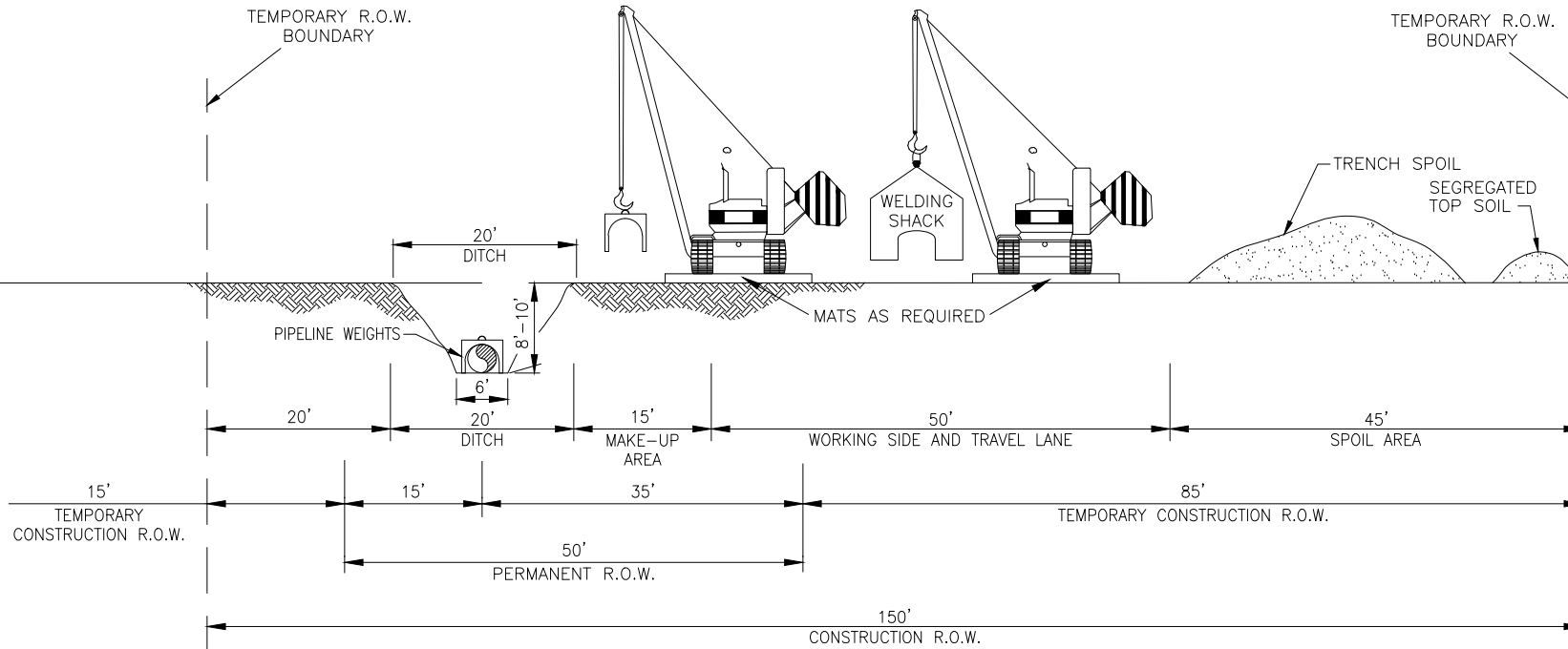
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 100 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. LEAVE GAPS IN SPOIL PILES WHERE APPLICABLE TO AVOID POTENTIAL DISRUPTION AND IMPEDIMENT TO NATURAL WATERCOURSES OR HYDROLOGIC EXCHANGE. DO NOT PUSH UPLAND SOILS INTO CANALS OR WETLANDS.
3. THE OFFSET FROM POWERLINES MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS OR THE FOREIGN PIPELINE/UTILITY TO BE PARALLELED.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'		CONST. YR.		Appendix B1	PROJECT NO.	
FILENUMBER	CADD FILENAME	DRAWN KMA	DATE 5-12-20					
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL SATURATED WETLAND WORKSPACE CONSTRUCTION AREA			PREVIOUS DWG. NO.	
A ISSUED FOR REVIEW	KMA	5-12-20	JHR				SHT. OF	
B ISSUED FOR REVIEW	NMS	5-28-20	JHR				DWG. NO.	
C ISSUED FOR REVIEW	NMS	6-10-20	JHR				Figure B1-6	
D ISSUED FOR PERMIT	NMS	6-29-20	JHR					

APPENDIX B1-7

TYPICAL UNSATURATED WETLAND CROSSING ROW CONFIGURATION



PROFILE

1"=20' HOR.
1"=20' VERT.

* DIMENSIONS ARE TYPICAL, SEE ALIGNMENT SHEETS FOR ACTUAL RIGHT-OF-WAY CONFIGURATIONS AND CLEARING LIMITS.

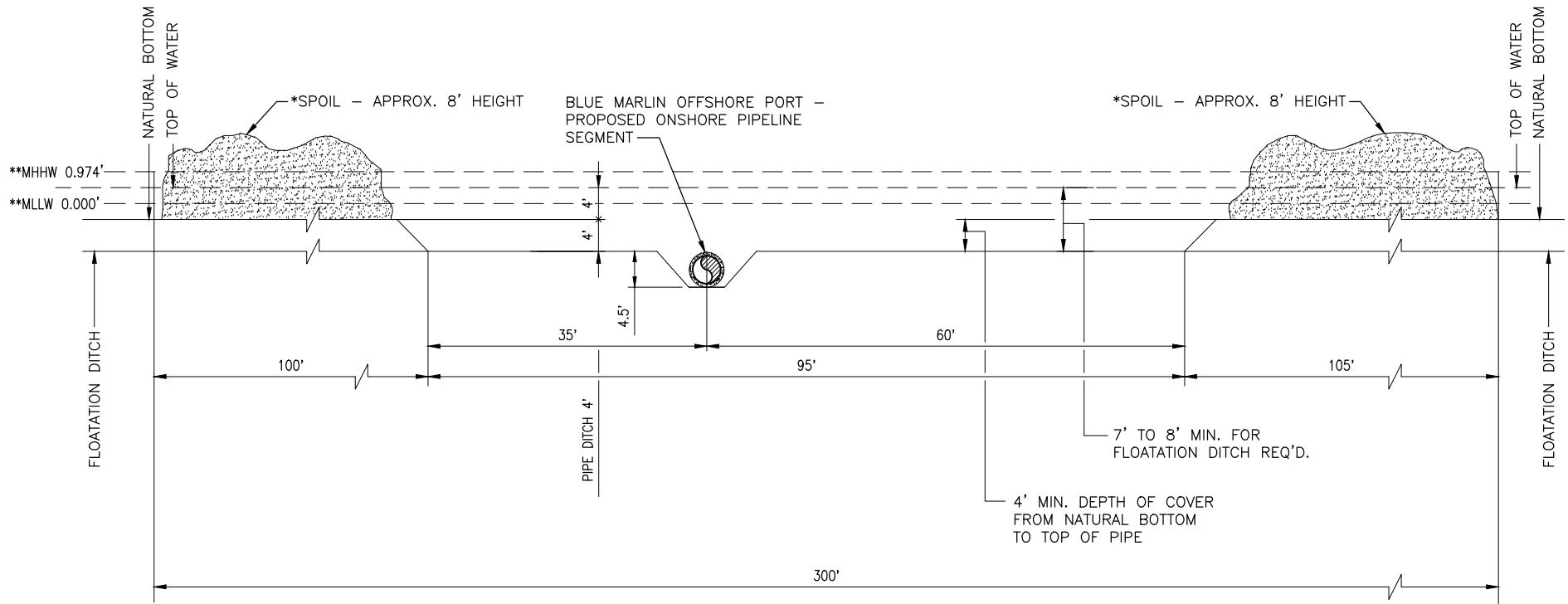
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 100 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
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3. THE OFFSET FROM POWERLINES MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS OR THE FOREIGN PIPELINE/UTILITY TO BE PARALLELED.


PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'		CONST. YR.		Appendix B1	PROJECT NO.
FILENUMBER	CADD FILENAME	DRAWN KMA	DATE 5-12-20				
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL UNSATURATED WETLAND WORKSPACE CONSTRUCTION AREA			PREVIOUS DWG. NO.
A ISSUED FOR REVIEW	KMA	5-12-20	JHR				SHT. OF
B ISSUED FOR REVIEW	NMS	5-28-20	JHR				DWG. NO.
C ISSUED FOR REVIEW	NMS	6-10-20	JHR				Figure B1-7
D ISSUED FOR PERMIT	NMS	6-29-20	JHR				D

APPENDIX B1-8

TYPICAL LAKE CONSTRUCTION ROW CONFIGURATION

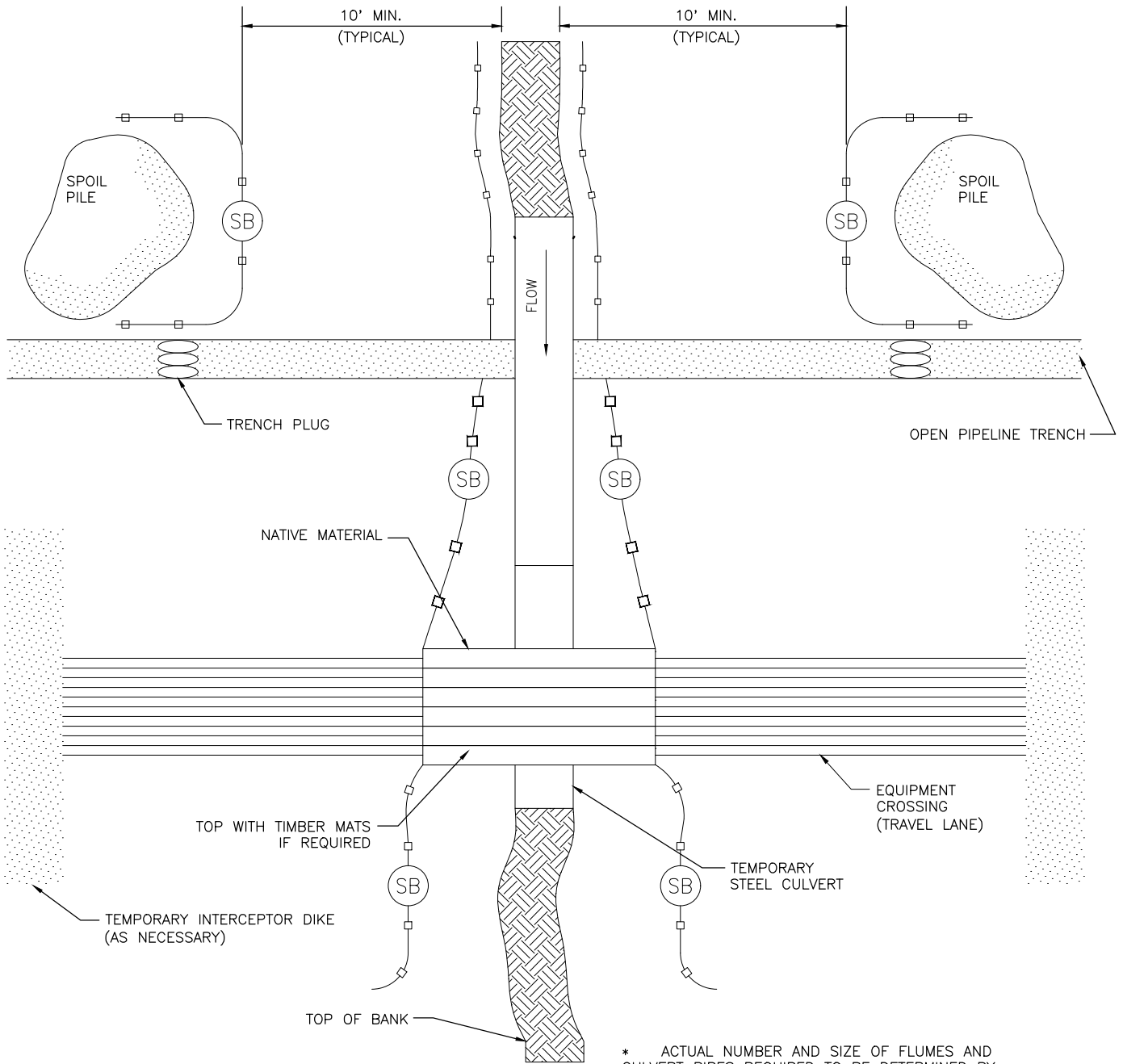


* EXCAVATED AND SIDE-CAST SPOIL MATERIAL WILL BE USED TO BACKFILL THE TRENCH.
 ** REFERENCE: NOAA TIDE STATION 8770570 SABINE PASS NORTH - NAVD88.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE 1"=20'			CONST. YR.	<h1>Appendix B1</h1>	PROJECT NO.
FILENUMBER	CADD FILENAME				DRAWN NMS		DATE 5-12-20
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE 300' LAKE CONSTRUCTION CORRIDOR			PREVIOUS DWG. NO.
A ISSUED FOR REVIEW	NMS	5-12-20	JHR				SHT. OF
B ISSUED FOR REVIEW	NMS	5-28-20	JHR				DWG. NO.
C ISSUED FOR REVIEW	NMS	6-10-20	JHR				
D ISSUED FOR PERMIT	NMS	6-29-20	JHR				
Figure B1-8							

APPENDIX B1-9

TYPICAL WATERBODY WET OPEN CUT CONSTRUCTION CONFIGURATION



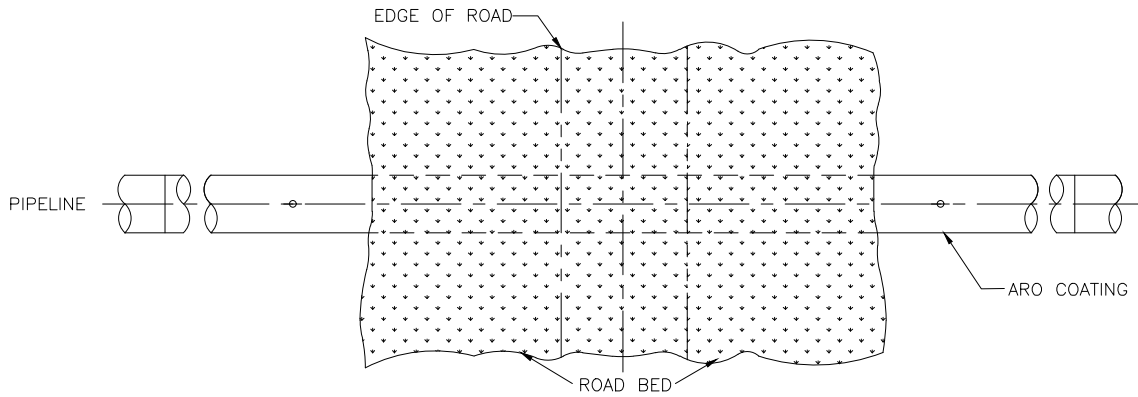
NOTES:

1. SB—TEMPORARY SEDIMENT BARRIER OF SILT FENCE AND/OR STRAW BALES, OR APPROPRIATE MATERIALS.
2. TRENCH EXCAVATION AND PIPE INSTALLATION SHALL BE CONDUCTED AS EXPEDITIOUSLY AS PRACTICAL TO REDUCE THE DURATION OF INSTREAM CONSTRUCTION ACTIVITIES.
3. STABILIZE STREAM BANKS AND INSTALL TEMPORARY SEDIMENT BARRIERS FOLLOWING COMPLETION OF INSTREAM CONSTRUCTION ACTIVITIES.

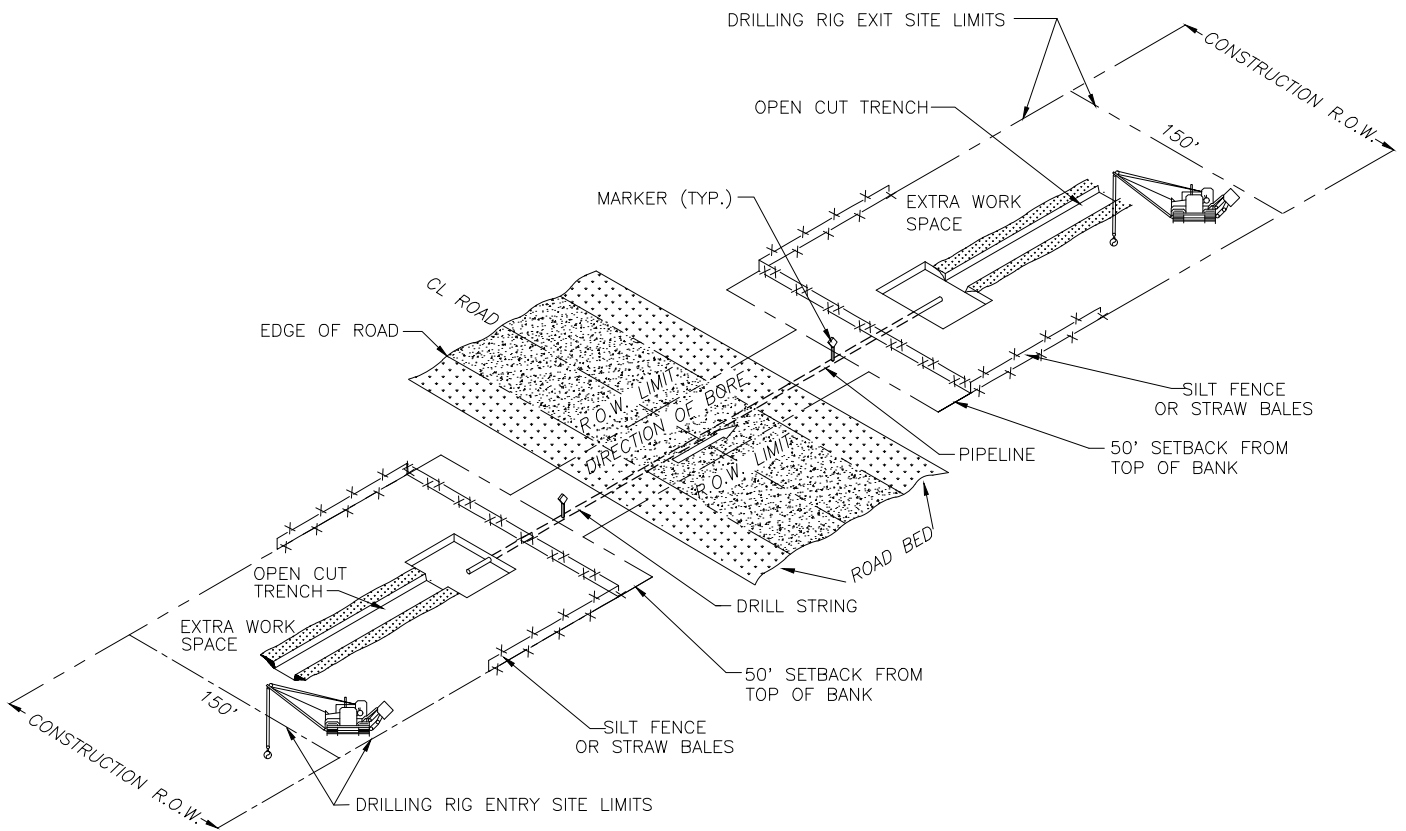
PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE NTS		CONST. YR.		Appendix B1		PROJECT NO.	
FILENUMBER	CADD FILENAME FIGURE B-9.dwg	DRAWN KMA	DATE 6-29-20						
REV. NO.	DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL CONSTRUCTION OPEN CUT WET CROSSING				PREVIOUS DWG. NO.
A	ISSUED FOR REVIEW	KMA	6-29-20	JHR					SHT. OF
B	ISSUED FOR REVIEW	NMS	7-8-20	JHR					DWG. NO.
C	ISSUED FOR PERMIT	NMS	7-9-20	JHR					Figure B1-9

APPENDIX B1-10

TYPICAL CONSTRUCTION BORED ROAD CROSSING



PLAN VIEW
SCALE: NOT TO SCALE



PLAN VIEW 'A'
SCALE: NOT TO SCALE

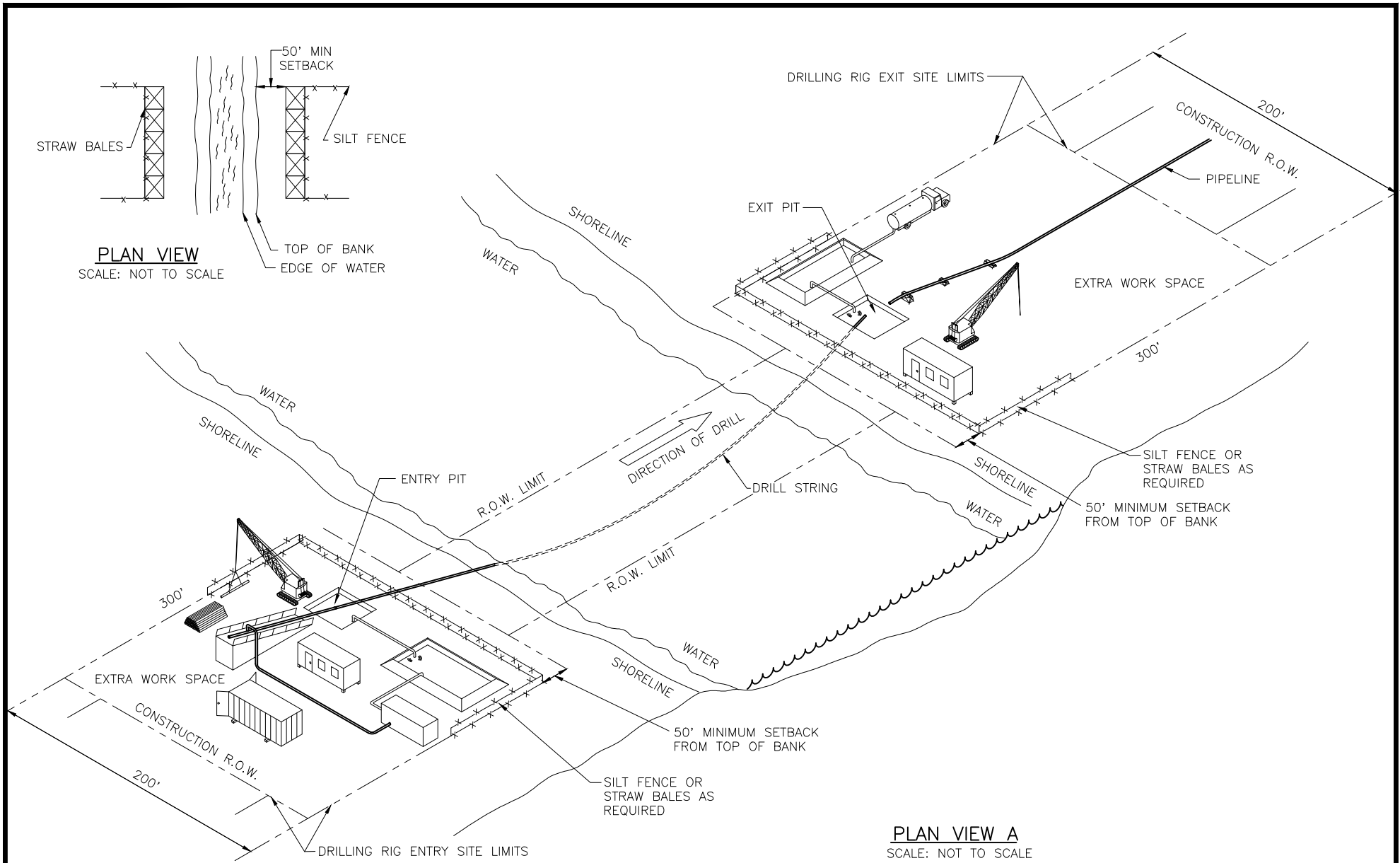
NOTES:

1. EXTRA WORK SPACE NOT LOCATED IN WETLAND WHEN POSSIBLE AND PRACTICAL.
2. RIGHT-OF-WAY LIMITS AS SHOWN ON ALIGNMENT SHEETS.
3. WORK AREA WILL BE TEMPORARILY MATTED WITHIN WETLANDS.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE NTS		CONST. YR.		<h1>Appendix B1</h1>	PROJECT NO.	
FILENUMBER	CADD FILENAME	DRAWN NMS		DATE 6-29			PREVIOUS DWG. NO.	
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL CONSTRUCTION BORED ROAD CROSSING			SHT. OF	
A ISSUED FOR REVIEW	NMS	6-29-20	JHR				DWG. NO.	
B ISSUED FOR REVIEW	NMS	7-8-20	JHR				Figure B1-10	
C ISSUED FOR PERMIT	NMS	7-9-20	JHR					

APPENDIX B1-11

TYPICAL CONSTRUCTION SHORE TO SHORE HDD



PLAN VIEW A
SCALE: NOT TO SCALE

NOTES:

1. EXTRA WORK SPACE NOT LOCATED IN WETLANDS WHEN POSSIBLE.
2. RIGHT-OF-WAY LIMITS AS SHOWN ON ALIGNMENT SHEETS.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE			CONST. YR.	
FILENUMBER	CADD FILENAME			DRAWN NMS	DATE 6-29-20	
REV. NO. - DESCRIPTION	BY	DATE	APP.			
A ISSUED FOR REVIEW	NMS	6-29-20	JHR			
B ISSUED FOR REVIEW	NMS	7-8-20	JHR			
C ISSUED FOR PERMIT	NMS	7-9-20	JHR			

Appendix B1

BLUE MARLIN OFFSHORE PORT
ONSHORE PIPELINE
TYPICAL CONSTRUCTION
SHORE TO SHORE HDD

PROJECT NO.

PREVIOUS DWG. NO.

SHT. OF

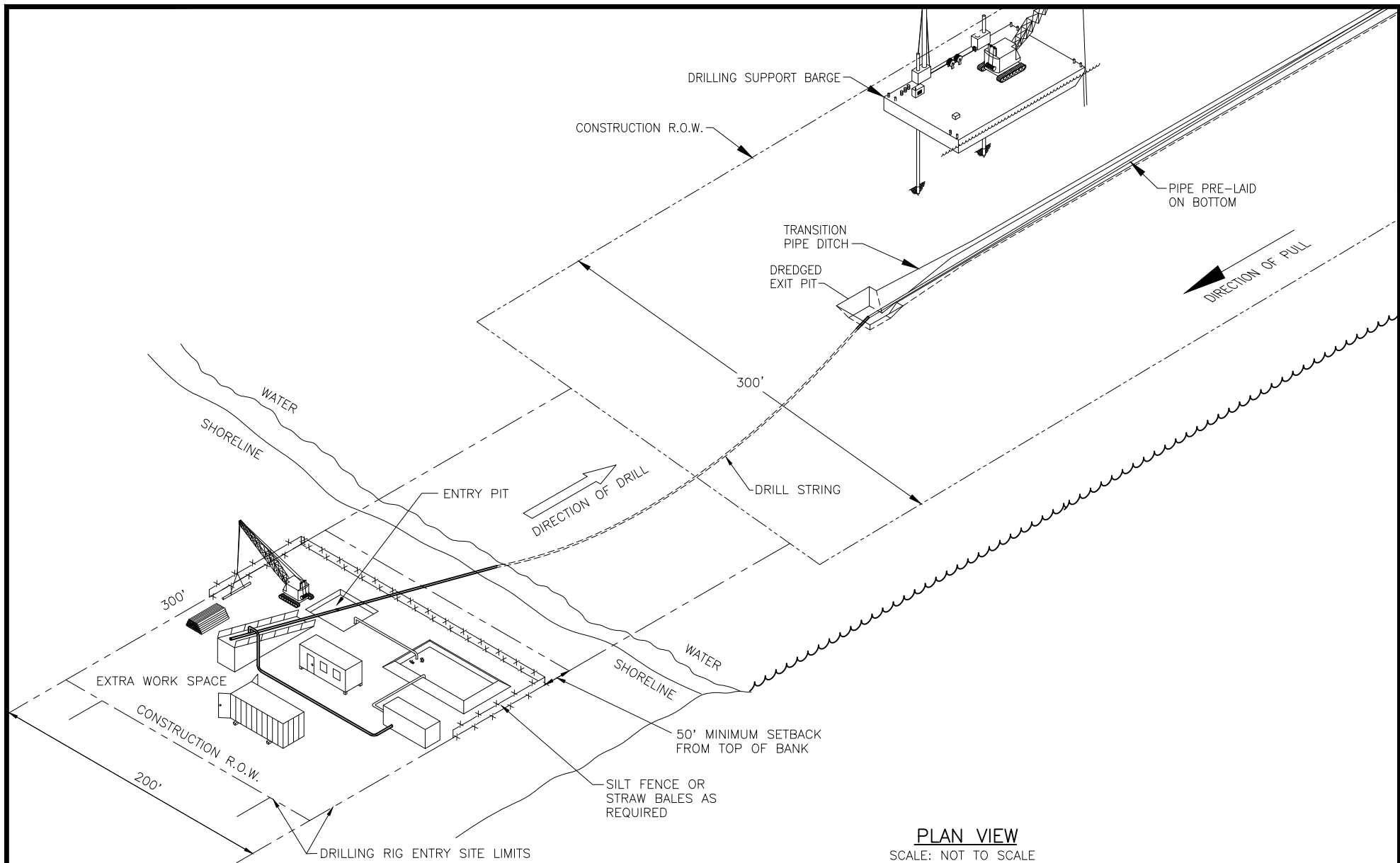
DWG. NO.

Figure B1-11



APPENDIX B1-12

TYPICAL SHORE TO WATER HDD CONSTRUCTION



NOTES:

1. EXTRA WORK SPACE NOT LOCATED IN WETLANDS WHEN POSSIBLE.
2. RIGHT-OF-WAY LIMITS AS SHOWN ON ALIGNMENT SHEETS.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE		CONST. YR.	
FILENUMBER	CADD FILENAME			DRAWN NMS	DATE 6-29-20
REV. NO. - DESCRIPTION	BY	DATE	APP.		
A ISSUED FOR REVIEW	NMS	7-20-20	JHR		
B ISSUED FOR PERMIT	NMS	7-21-20	JHR		

Appendix B1

BLUE MARLIN OFFSHORE PORT
ONSHORE PIPELINE
TYPICAL CONSTRUCTION
SHORE TO WATER HDD

PROJECT NO.

PREVIOUS DWG. NO.

SHT. OF

DWG. NO.

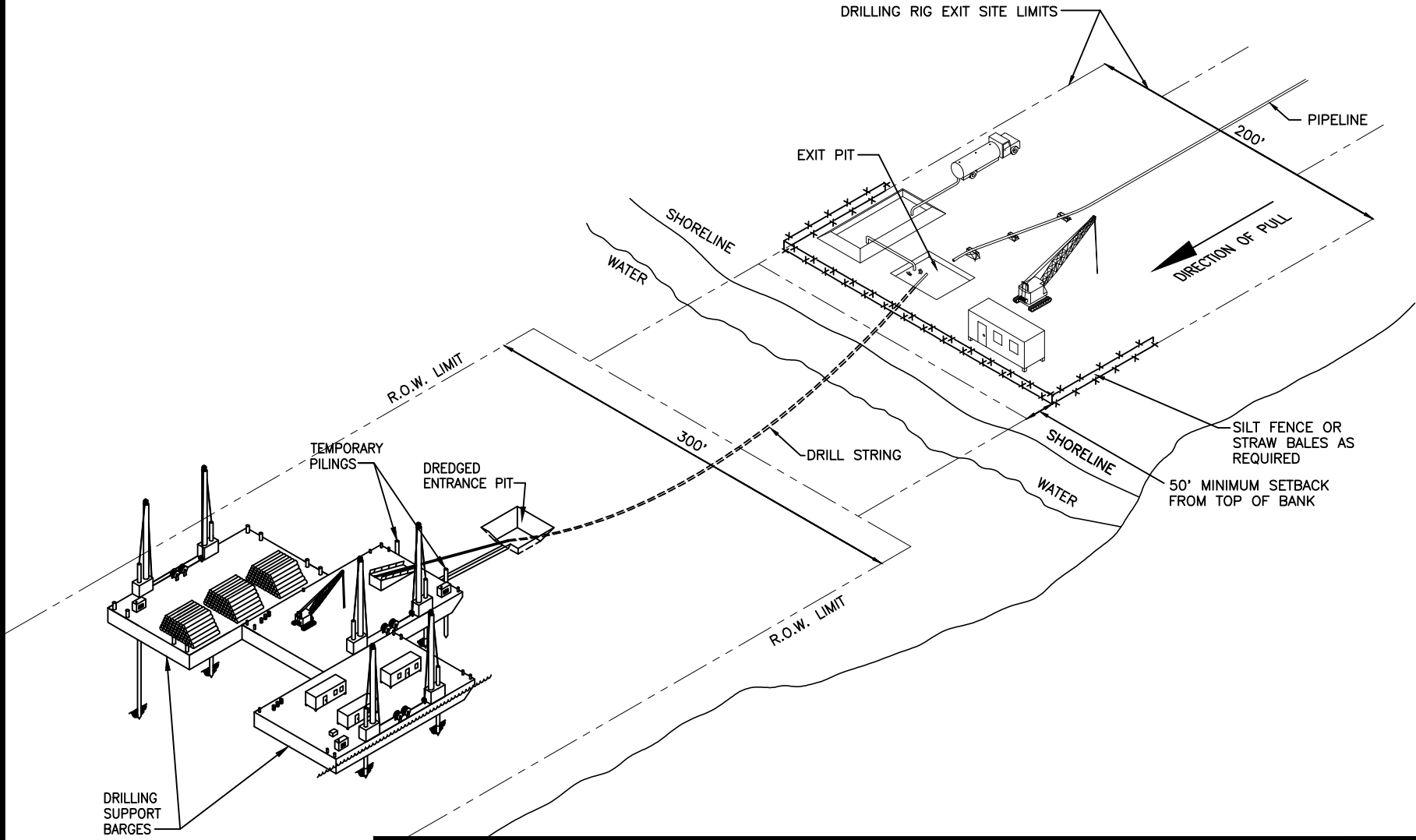
Figure B1-12

APPENDIX B1-13

TYPICAL CONSTRUCTION WATER TO SHORE HDD

HORIZONTAL DIRECTIONAL DRILL LAYOUT: WATER TO SHORE

NOT TO SCALE



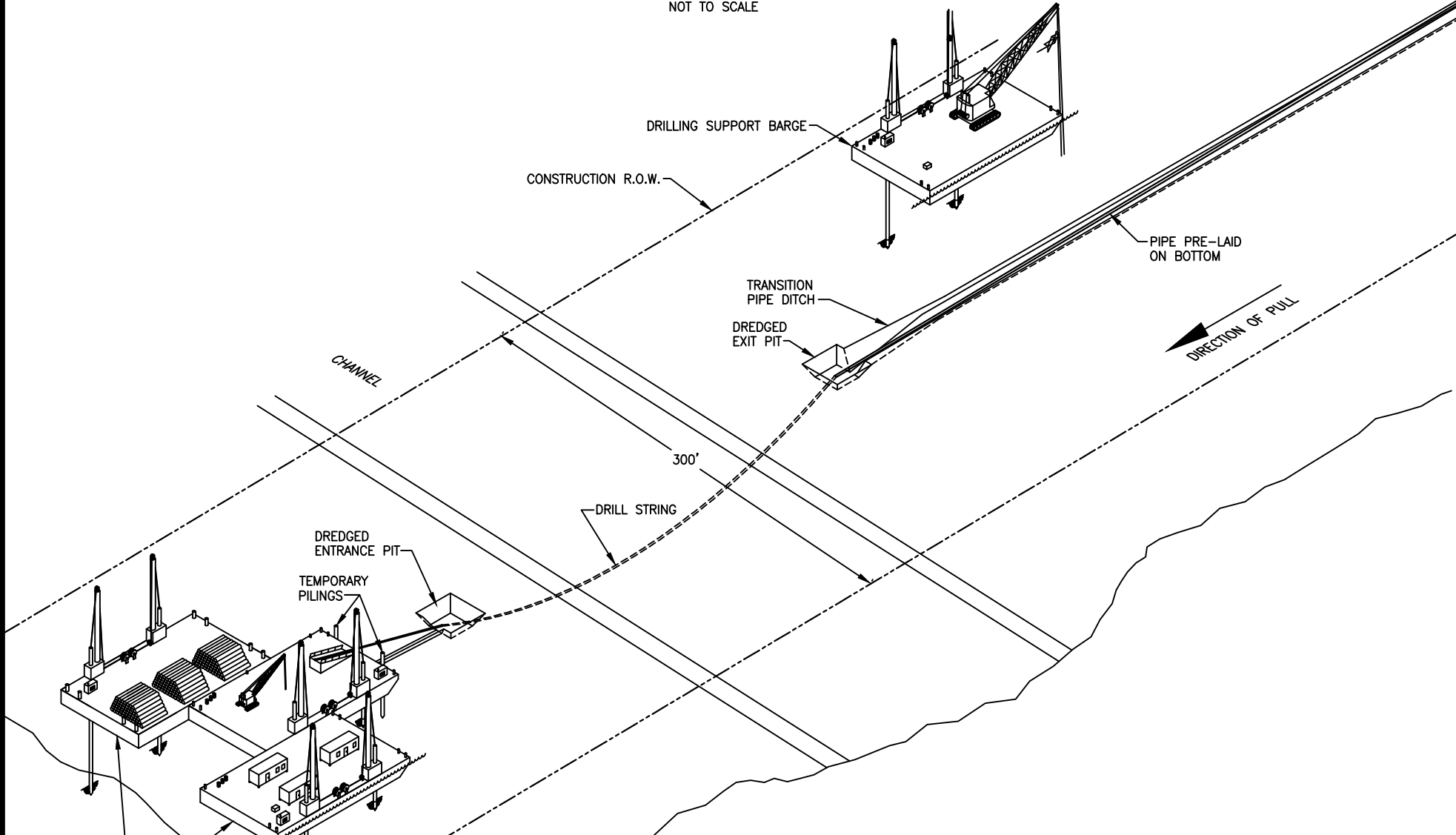
PIPELINE, STATION, OR ACCOUNT NUMBER			SCALE		CONST. YR.		<h2 style="margin: 0;">Appendix B1</h2>		PROJECT NO.	
FILENUMBER	CADD FILENAME			DRAWN NMS	DATE 6-29-20				PREVIOUS DWG. NO.	
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL CONSTRUCTION WATER TO SHORE HDD				SHT. OF		
A ISSUED FOR REVIEW	NMS	6-29-20	JHR					DWG. NO.		
B ISSUED FOR REVIEW	NMS	7-8-20	JHR					Figure B1-13 <div style="float: right; border: 1px solid black; padding: 2px; text-align: center; width: 20px; height: 20px; margin-left: 10px;">C</div>		
C ISSUED FOR PERMIT	NMS	7-9-20	JHR							

APPENDIX B1-14

TYPICAL WATER TO WATER HDD CONSTRUCTION

HORIZONTAL DIRECTIONAL DRILL LAYOUT: WATER TO WATER

NOT TO SCALE



PIPELINE, STATION, OR ACCOUNT NUMBER			SCALE		CONST. YR.	
FILENUMBER	CADD FILENAME			DRAWN NMS	DATE 6-29-20	
REV. NO. - DESCRIPTION	BY	DATE	APP.			
A ISSUED FOR REVIEW	NMS	6-29-20	JHR			
B ISSUED FOR PERMIT	NMS	7-9-20	JHR			

Appendix B1

BLUE MARLIN OFFSHORE PORT
ONSHORE PIPELINE
TYPICAL CONSTRUCTION
WATER TO WATER HDD

PROJECT NO.	
PREVIOUS DWG. NO.	
SHT. OF	
DWG. NO.	Figure B1-14

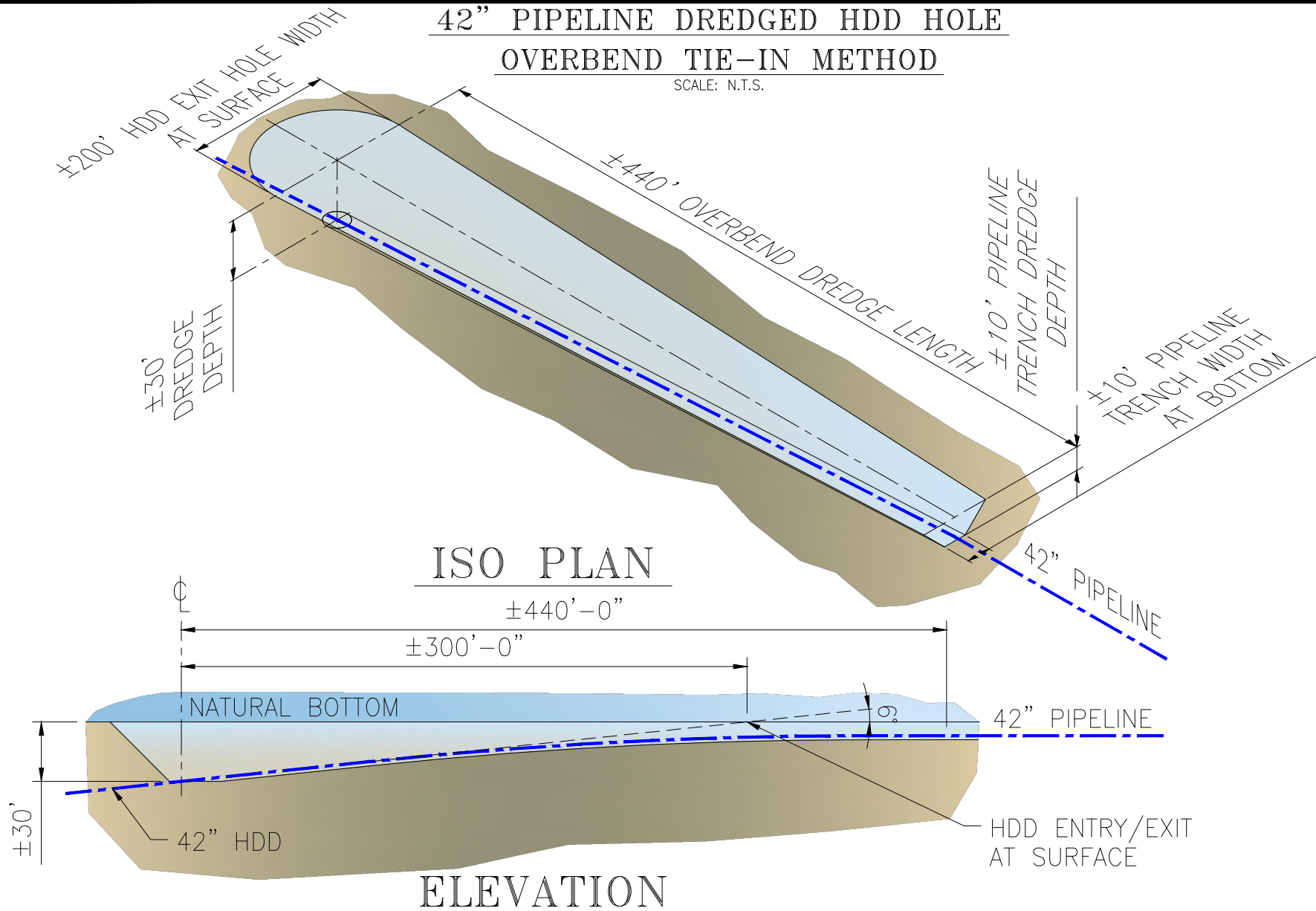


APPENDIX B1-15

TYPICAL 42-INCH PIPELINE DREDGED HDD HOLE OVERBEND TIE-IN METHOD

42" PIPELINE DREDGED HDD HOLE OVERBEND TIE-IN METHOD

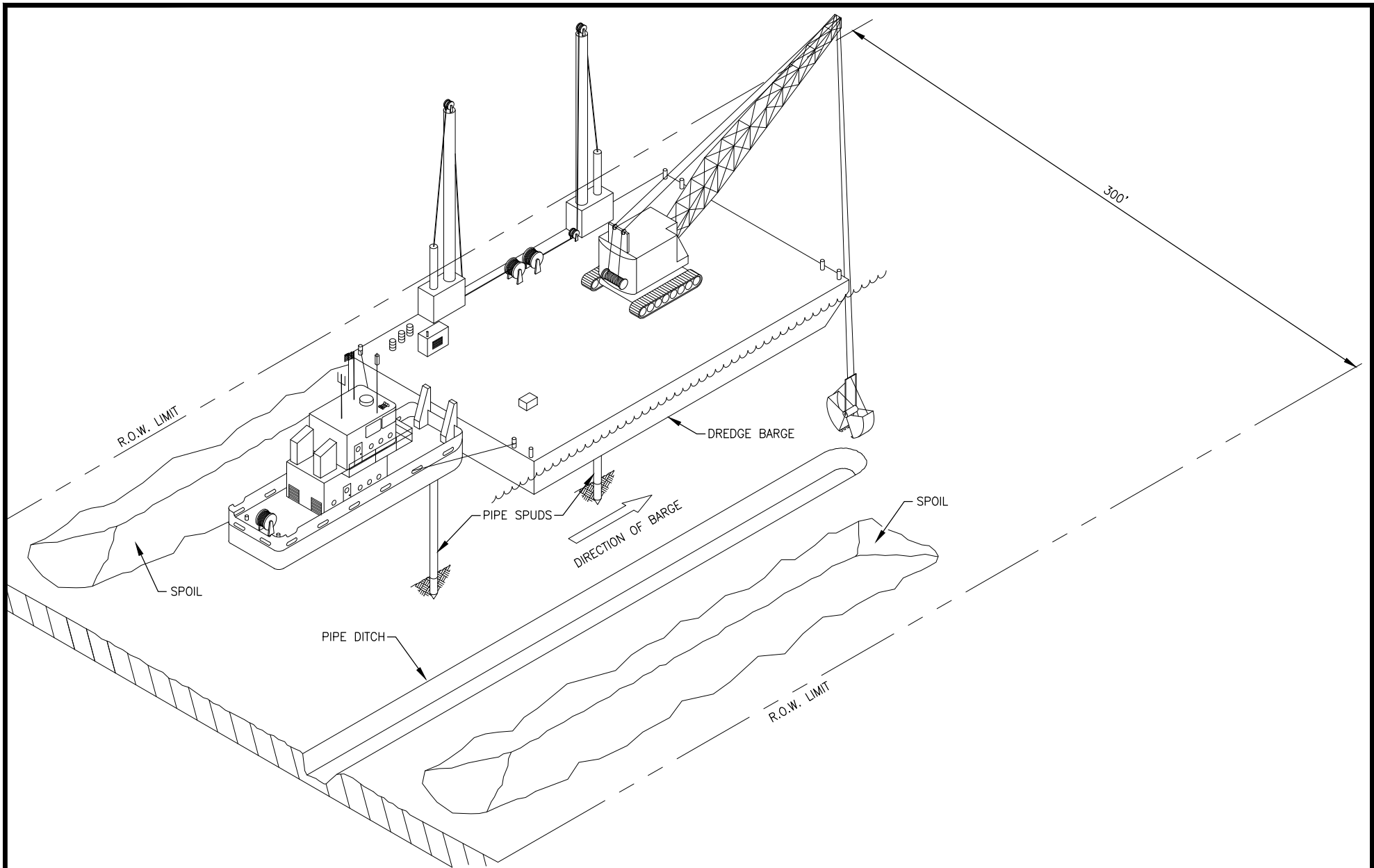
SCALE: N.T.S.



PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE N.T.S.		CONST. YR.		<h2>Appendix B1</h2>		PROJECT NO.	
FILENUMBER	CADD FILENAME	DRAWN NMS		DATE 7-9-20				PREVIOUS DWG. NO.	
REV. NO.	DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE 42" PIPELINE DREDGED HDD HOLE OVERBEND TIE-IN METHOD				SHT. OF
A	ISSUED FOR REVIEW	NMS	7-9-20	JHR					DWG. NO.
B	ISSUED FOR PERMIT	NMS	7-9-20	JHR					Figure B1-15



APPENDIX B1-16
TYPICAL LAKE BARGE DREDGING



PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE NTS		CONST. YR.	
FILENUMBER	CADD FILENAME FIGURE B-14	DRAWN KMA		DATE 6-29-20	
REV. NO. - DESCRIPTION	BY	DATE	APP.		
A ISSUED FOR REVIEW	KMA	6-29-20	JHR		
B ISSUED FOR REVIEW	NMS	7-8-20	JHR		
C ISSUED FOR PERMIT	NMS	7-9-20	JHR		

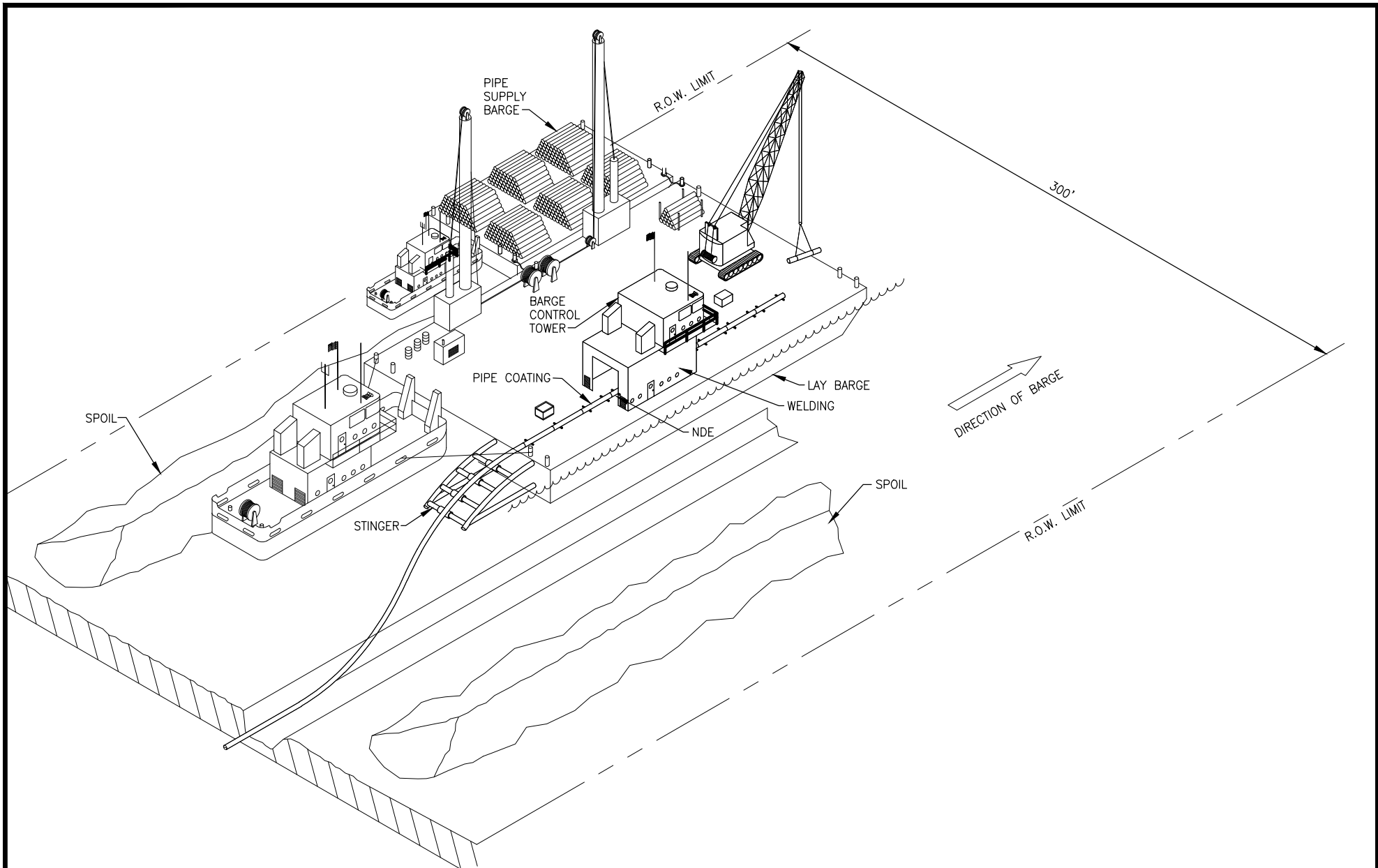
Appendix B1

BLUE MARLIN OFFSHORE PORT
ONSHORE PIPELINE
TYPICAL LAKE
BARGE DREDGING

PROJECT NO.
PREVIOUS DWG. NO.
SHT. OF
DWG. NO. Figure B1-16



APPENDIX B1-17
TYPICAL LAKE BARGE PIPE LAY



PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE		CONST. YR.	
		NTS			
FILENUMBER	CADD FILENAME	DRAWN		DATE	
	FIGURE B-15	KMA		6-29-20	
REV. NO. - DESCRIPTION	BY	DATE	APP.		
A ISSUED FOR REVIEW	KMA	6-29-20	JHR		
B ISSUED FOR PERMIT	NMS	7-9-20	JHR		

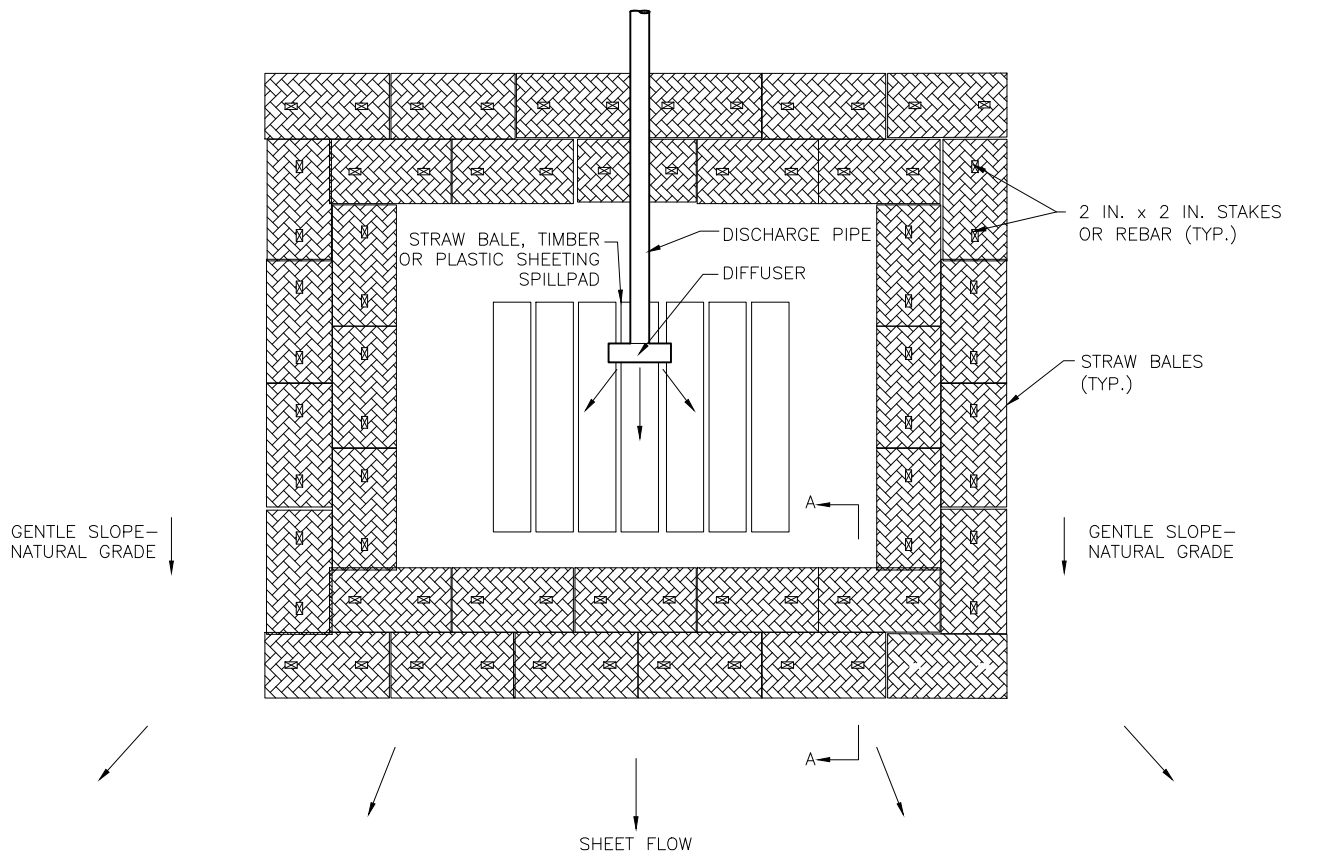
Appendix B1

BLUE MARLIN OFFSHORE PORT
ONSHORE PIPELINE
TYPICAL LAKE
BARGE PIPELAY

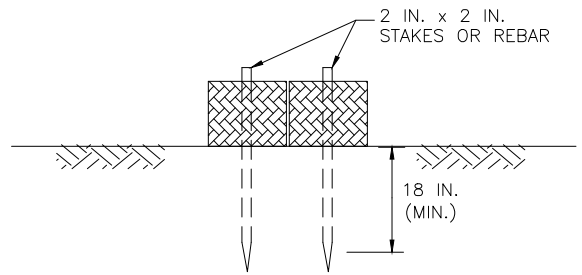
PROJECT NO.
PREVIOUS DWG. NO.
SHT. OF
DWG. NO.
Figure B1-17

APPENDIX B1-18

TYPICAL CONSTRUCTION STRAW BALE DEWATERING STRUCTURE



PLAN
SCALE: NOT TO SCALE



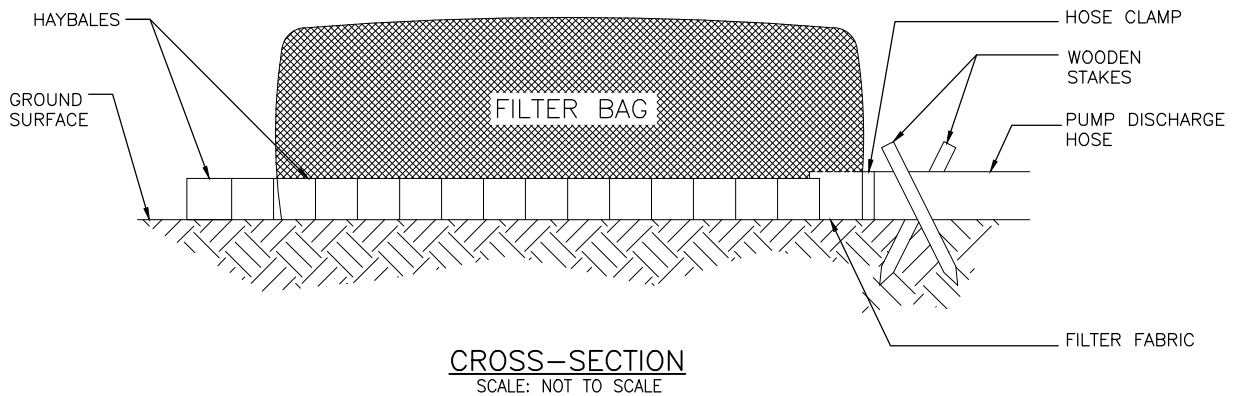
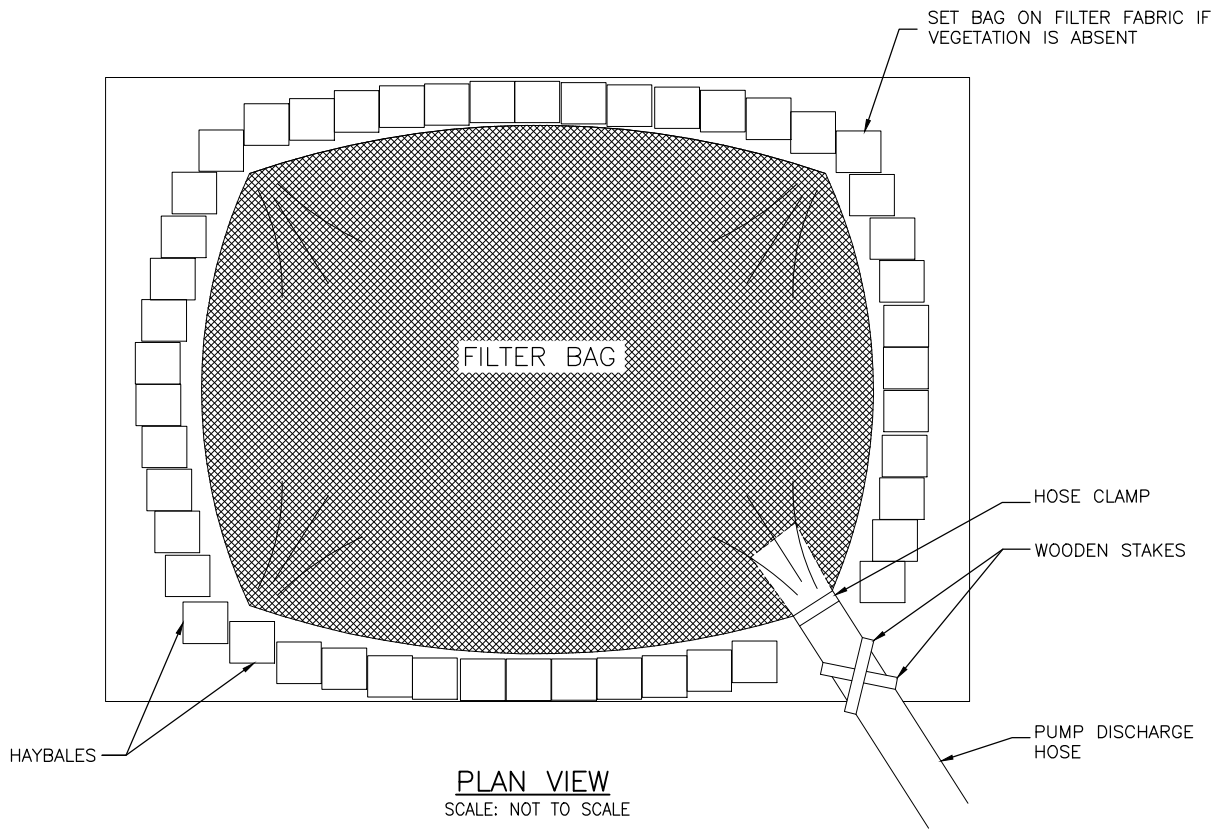
SECTION-"A"- "A"
SCALE: NOT TO SCALE

NOTES:

1. INSTALL A STRAW BALE DEWATERING STRUCTURE WHEREVER IT IS NECESSARY AND AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR TO PREVENT THE FLOW OF HEAVILY SILT LADEN WATER INTO WATER BODIES OR WETLANDS. ALL DEWATERING ACTIVITIES SHALL BE IN ACCORDANCE WITH ENVIRONMENTAL SPECIFICATION AND RELEVANT PERMITS.
2. DISCHARGE SITE SHOULD BE WELL VEGETATED AND LOCATED AT LEAST 50 FEET FROM ANY WATERCOURSE. THE TOPOGRAPHY OF THE SITE SHOULD BE SUCH THAT WATER WILL FLOW INTO THE DEWATERING STRUCTURE AND AWAY FROM ANY WORK AREAS. THE AREA DOWN SLOPE FROM THE DEWATERING SITE MUST BE REASONABLY FLAT OR STABILIZED BY VEGETATION OR OTHER MEANS TO ALLOW THE FILTERED WATER TO CONTINUE AS SHEET FLOW.
3. DIRECT THE PUMPED WATER ONTO A STABLE SPILL PAD.
4. DISCHARGE RATES SHOULD BE SUCH THAT THE CAPACITY OF THE STRUCTURE WILL NOT BE EXCEEDED.
5. MANUFACTURED FILTER BAGS ARE A SUITABLE ALTERNATIVE TO STRAW BALE STRUCTURES FOR TRENCH DEWATERING. FILTER BAGS SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER. DISPOSE OF FULL FILTER BAGS AT AN APPROVED OFF-SITE FACILITY.

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE NTS		CONST. YR.		<h1>Appendix B1</h1>	PROJECT NO.	
FILENUMBER	CADD FILENAME	DRAWN NMS		DATE 6-29			PREVIOUS DWG. NO.	
REV. NO. - DESCRIPTION	BY	DATE	APP.				SHT. OF	
A ISSUED FOR REVIEW	NMS	6-29-20	JHR				DWG. NO.	
B ISSUED FOR REVIEW	NMS	7-8-20	JHR				Figure B1-18	
C ISSUED FOR PERMIT	NMS	7-9-20	JHR					
				BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL CONSTRUCTION STRAW BALE DEWATERING STRUCTURE				

APPENDIX B1-19
TYPICAL CONSTRUCTION FILTER BAG

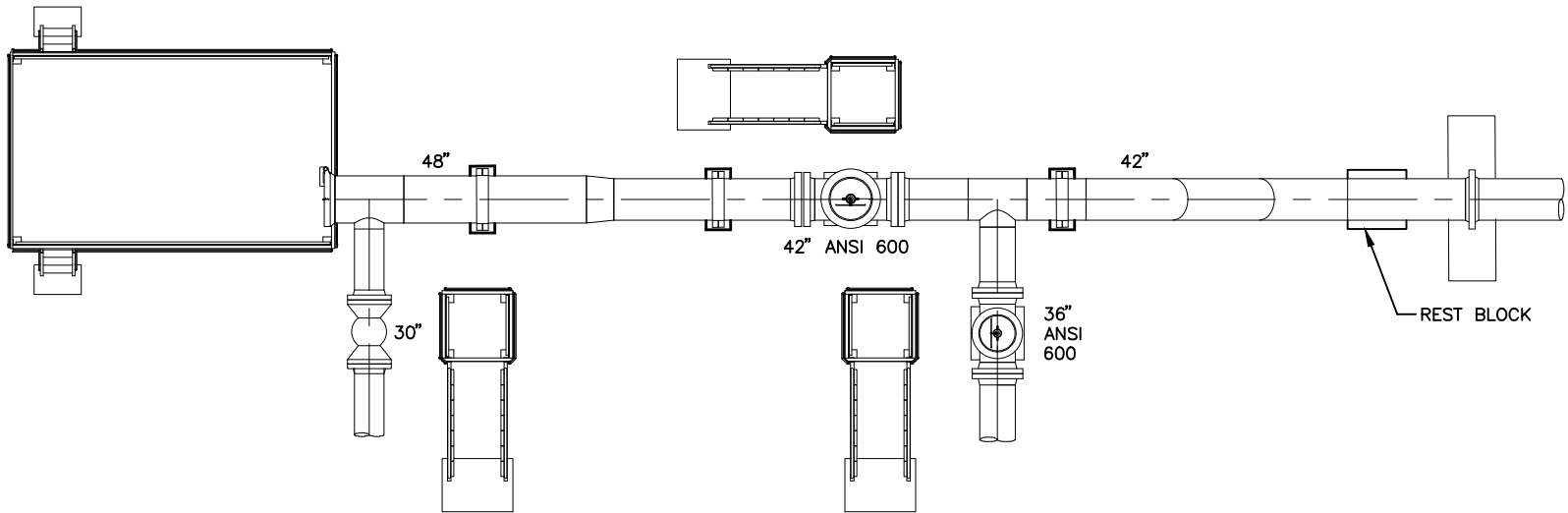


NOTES:

1. LIMIT ONE (1) DISCHARGE HOSE PER BAG.
2. REMOVE DEWATERING STRUCTURE AS SOON AS POSSIBLE AFTER COMPLETION OF DEWATERING ACTIVITIES.
3. FOR MAINTENANCE PURPOSES, ONCE THE FILTER BAG IS 50% FULL OF SEDIMENT, IT MUST BE REPLACED. ANY RIPS OR TEARS WILL ALSO REQUIRE REPLACING FILTER BAG.

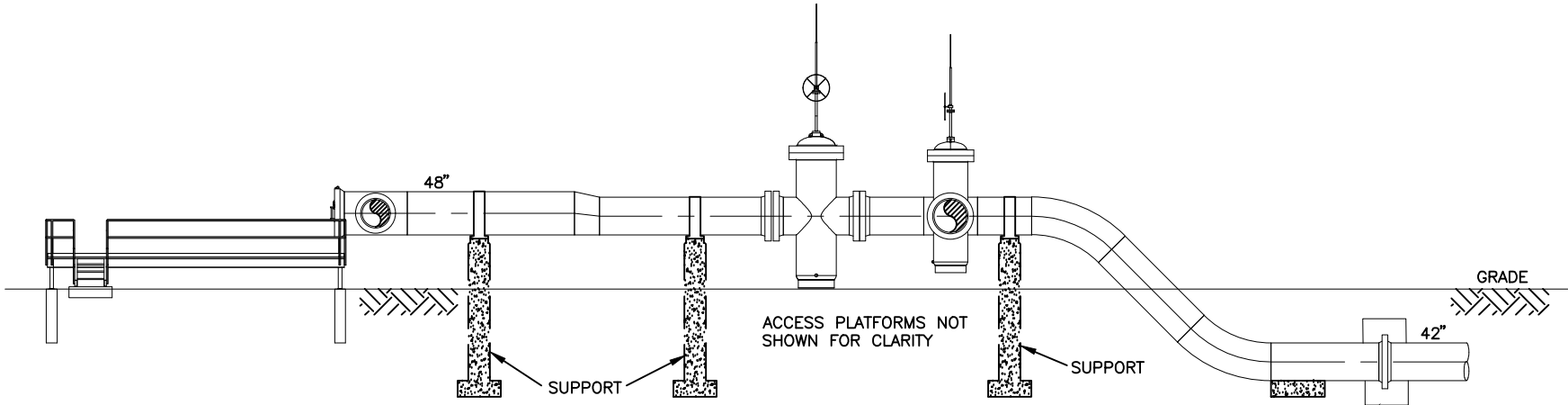
PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE NTS		CONST. YR.		<h1>Appendix B1</h1>	PROJECT NO.	
FILENUMBER	CADD FILENAME FIGURE B-17.dwg	DRAWN KMA		DATE 6-29-20			PREVIOUS DWG. NO.	
REV. NO. - DESCRIPTION	BY	DATE	APP.	BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL CONSTRUCTION FILTER BAG			SHT. OF	
A ISSUED FOR REVIEW	KMA	6-29-20	JHR				DWG. NO.	
B ISSUED FOR PERMIT	NMS	7-9-20	JHR				Figure B1-19	

APPENDIX B1-20
TYPICAL ONSHORE PIPELINE LAUNCHER



PLAN

NOT TO SCALE



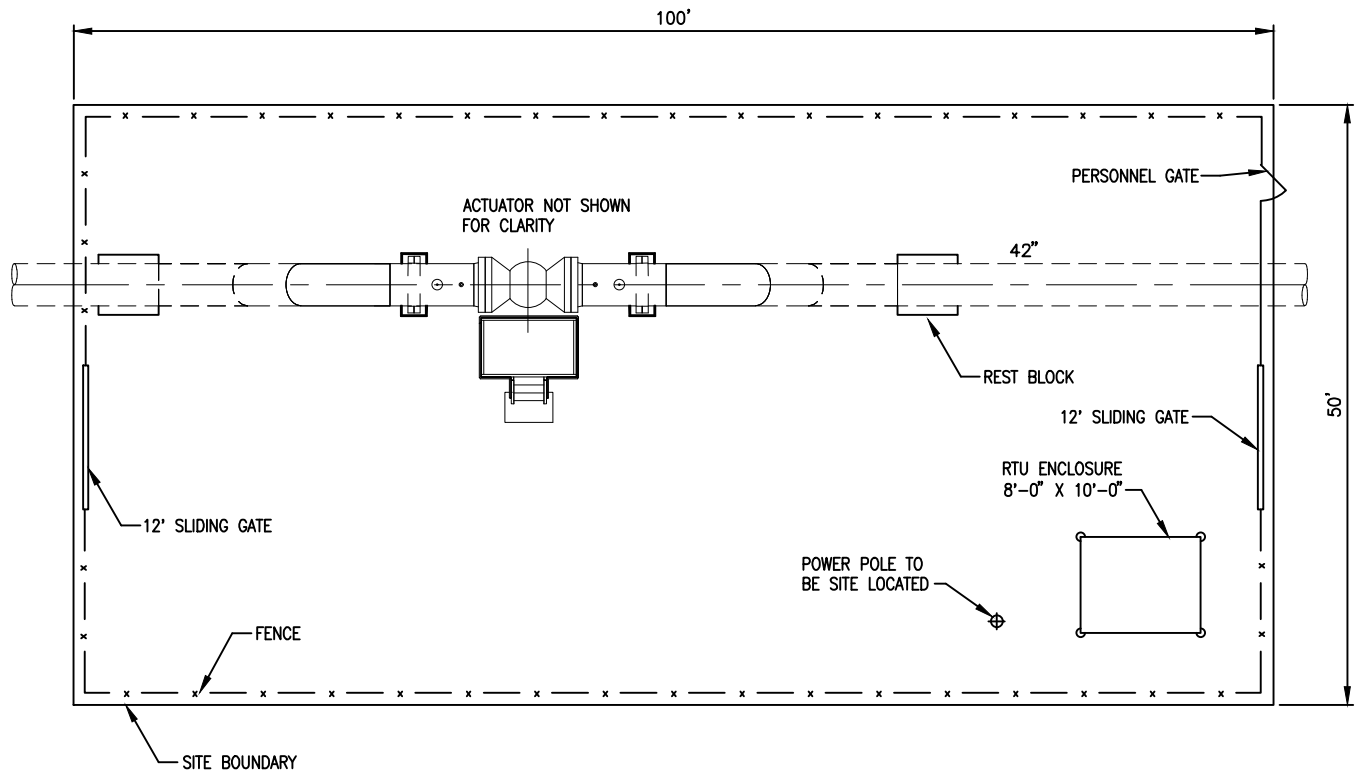
ELEVATION

NOT TO SCALE

PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE		CONST. YR.		Appendix B1	PROJECT NO.
FILENUMBER	CADD FILENAME	DRAWN		DATE			
	FIGURE B-18.dwg	kma		7-6-20		BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE LAUNCHER	PREVIOUS DWG. NO.
REV. NO. - DESCRIPTION	BY	DATE	APP.				
A ISSUED FOR REVIEW	kma	7-6-20	JHR				
B ISSUED FOR PERMIT	NMS	7-9-20	JHR				SHT. OF
							DWG. NO.
							Figure B1-20

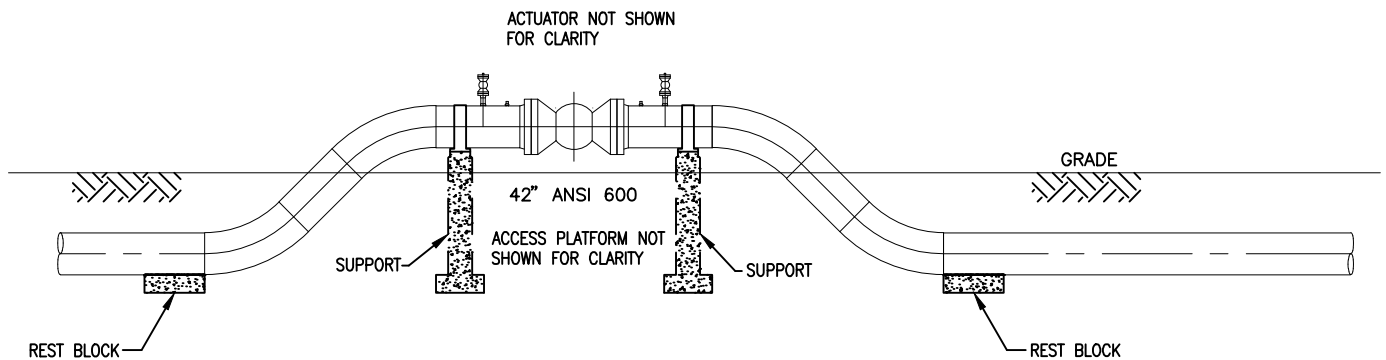


APPENDIX B1-21
TYPICAL MAINLINE VALVE





PLAN

NOT TO SCALE

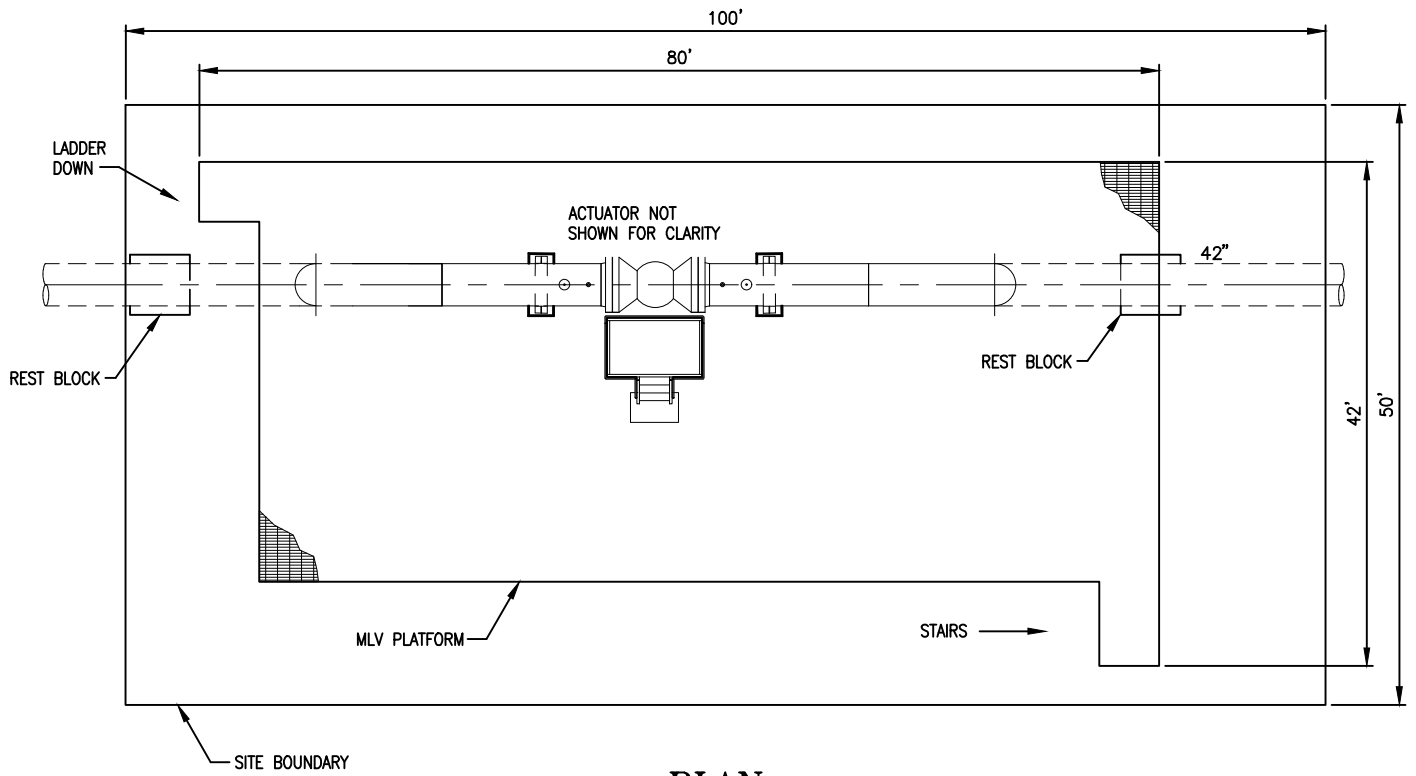


ELEVATION

NOT TO SCALE

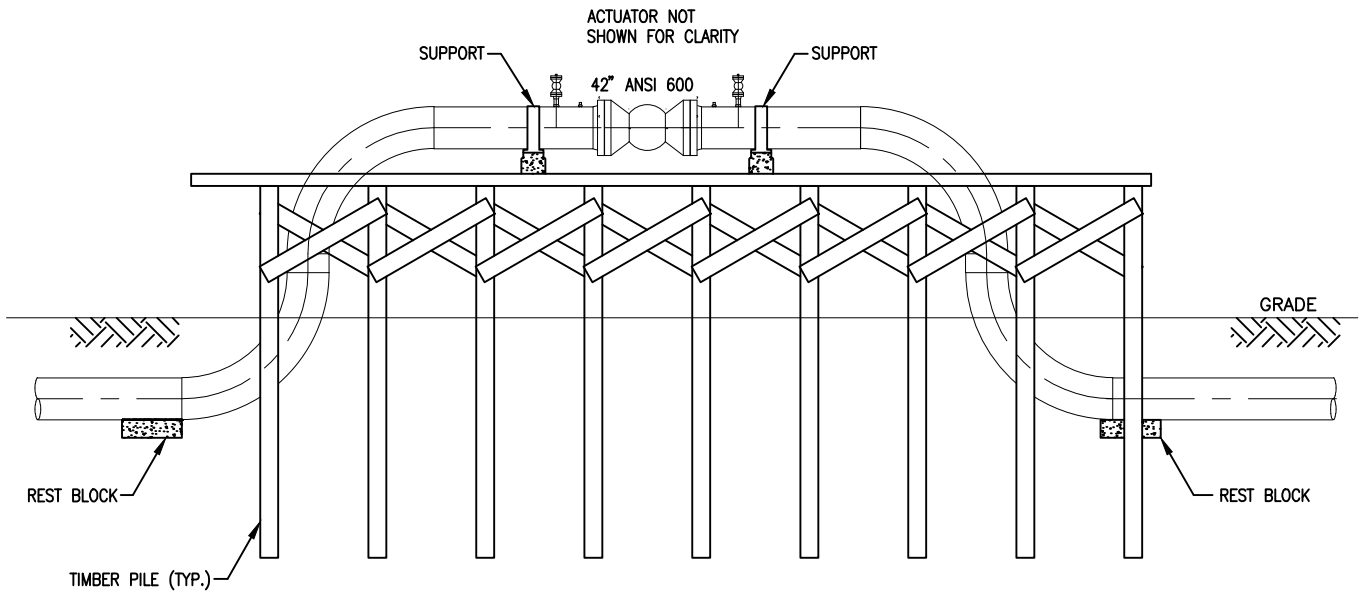
PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE NTS		CONST. YR.		Appendix B1		PROJECT NO.	
FILENUMBER	CADD FILENAME FIGURE B-19.dwg	DRAWN KMA		DATE 7-6-20				PREVIOUS DWG. NO.	
REV. NO. - DESCRIPTION	BY	DATE	APP.			BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL MAINLINE VALVE		SHT. OF	
A ISSUED FOR REVIEW	KMA	7-6-20	JHR					DWG. NO.	
B ISSUED FOR PERMIT	NMS	7-9-20	JHR					Figure B1-21	
									

APPENDIX B1-22
TYPICAL MAINLINE VALVE ON PLATFORM



PLAN

NOT TO SCALE



ELEVATION

NOT TO SCALE

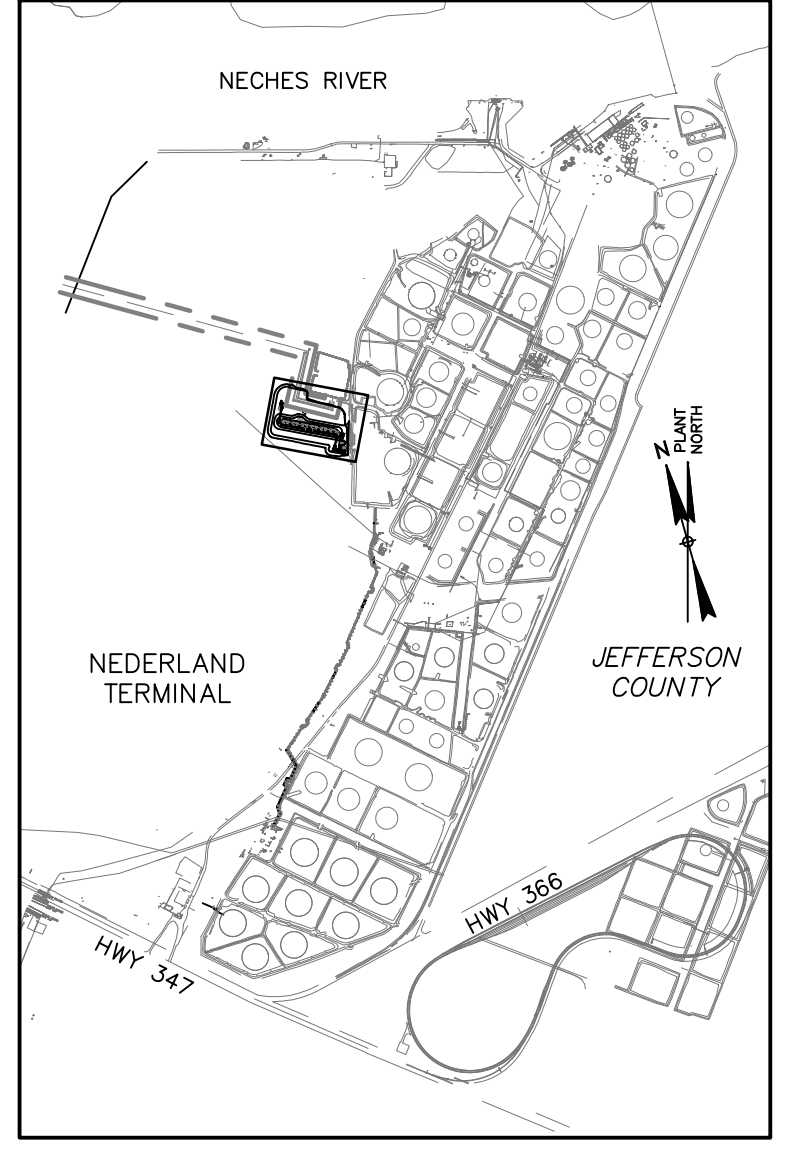
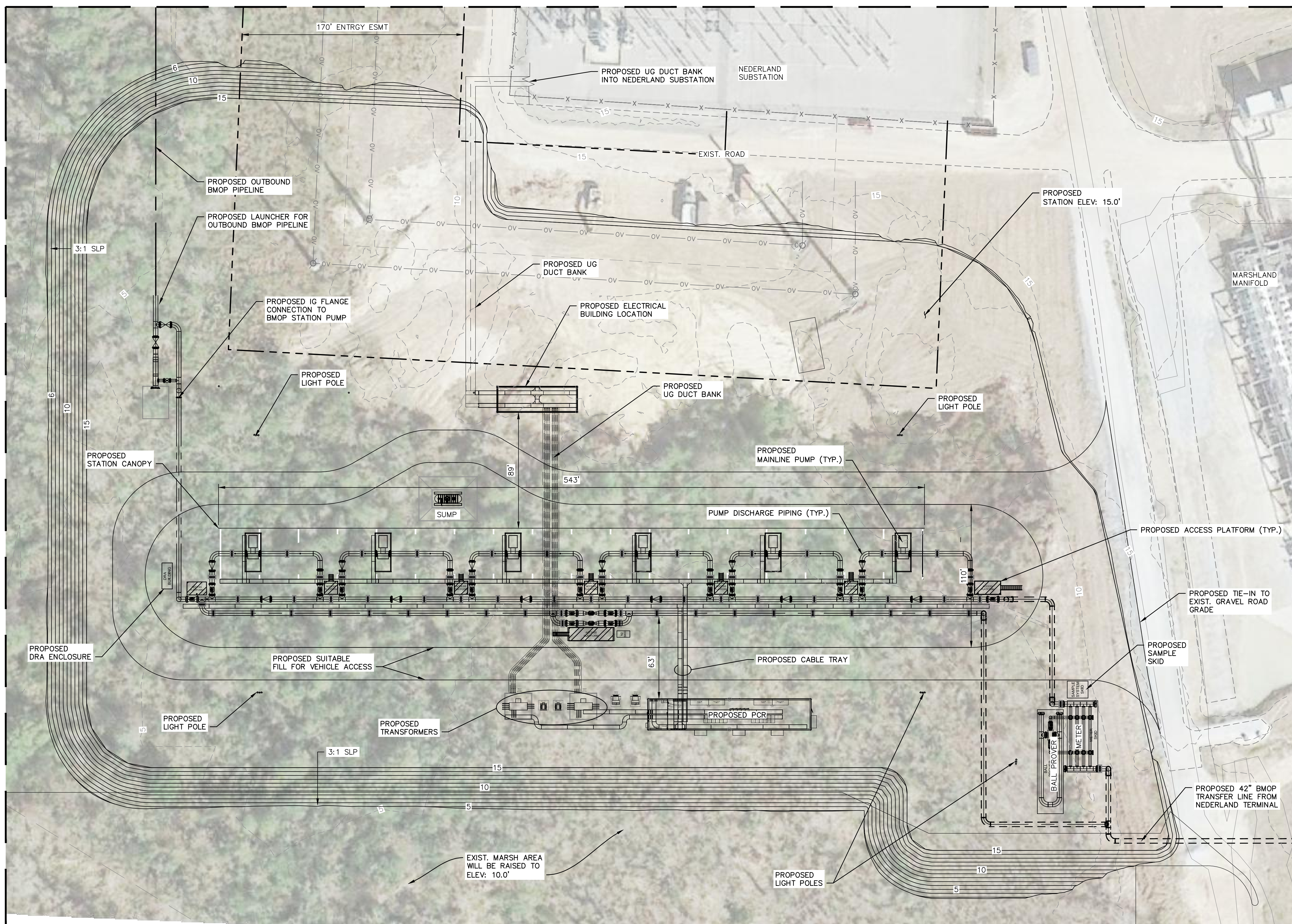
PIPELINE, STATION, OR ACCOUNT NUMBER		SCALE NTS		CONST. YR.		Appendix B1		PROJECT NO.	
FILENUMBER	CADD FILENAME FIGURE B-20.dwg	DRAWN KMA	DATE 7-6-20						
REV. NO. - DESCRIPTION	BY	DATE	APP.			BLUE MARLIN OFFSHORE PORT ONSHORE PIPELINE TYPICAL MAINLINE VALVE ON PLATFORM		PREVIOUS DWG. NO.	
A ISSUED FOR REVIEW	KMA	7-6-20	JHR					SHT. OF	
B ISSUED FOR PERMIT	NMS	7-9-20	JHR					DWG. NO.	
								Figure B1-22	

APPENDIX B2

SITE-SPECIFIC DRAWINGS OF ONSHORE FACILITY COMPONENTS

APPENDIX B2-1

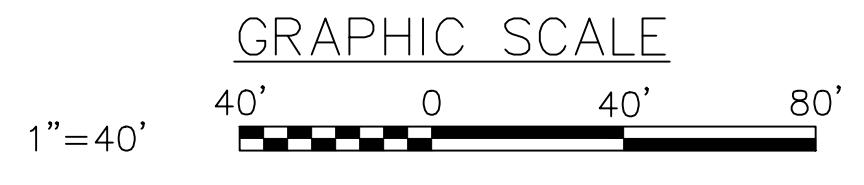
SITE-SPECIFIC DRAWING – BMOP PUMP STATION



VICINITY MAP
SCALE: 1" = 2000'

LEGEND

- ABOVE GROUND PIPING
- UNDERGROUND PIPING
- EXISTING CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR



FILENAME: I:\Projects\3202315_0001\90_CAD Models And Sheets\04_Civil\OPT 1 ONTF Feed\N_MCC_OPT-GA-105.dwg
 PLOTTED BY:
 PLOTTED: 6/17/2020 11:16:50 AM

NOTES/REFERENCE DRAWINGS

NOTES:
 1. AERIAL IMAGERY IS FOR REFERENCE ONLY.
 2. ELEVATIONS SHOWN ARE REFERENCED TO NAVD 88 DATUM.

STV
 Baltimore, MD Bismarck, ND Denver, CO Douglasville, PA Houston, TX
 Pittsburgh, PA Williamsport, PA

THE LOCATION OF FACILITY SUBSURFACE STRUCTURES, EQUIPMENT, UTILITIES OR PIPING MAY NOT BE SHOWN HEREON. IF SHOWN, LOCATION MUST BE CONSIDERED AS APPROXIMATE ONLY. FOLLOW REQUIRED ONE-CALL OR FACILITY PROCEDURES PRIOR TO EXCAVATING OR PROBING TO DETERMINE ACTUAL CONDITIONS.

STV PROJECT No.: 38-20315

REV	DESCRIPTION	BY	DATE	CHK'D	APP'D	SCALE: 1" = 40'
B	REVISED PER CLIENT COMMENTS	CR	01/21/2020	JH	ETP	
A	ISSUED FOR CLIENT MARAD PERMIT REVIEW	CR	01/13/2020	JH	ETP	

FACILITY CODE OR ACCOUNT NO.: NEDE	
CONSTRUCTION YEAR: -	
BY	DATE
CR	12/18/2019
CHECK	KM
12/18/2019	
APPROVED	ETP



NERLAND TERMINAL
 SITE LAYOUT PLAN
 BMOP ORIGATION PUMP STATION
 MARAD PERMIT

JEFFERSON COUNTY, TEXAS

AFE NO. C-19153-CT-25100001 - BMOP	REV. NO. A
OLD DRAWING NO.	
DRAWING NO. N_BMOP_GA-C-001	

APPENDIX B2-2

SITE-SPECIFIC DRAWING – STATION 501



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DWG. NO.	REFERENCE DRAWING TITLE	NO.	REVISION - DESCRIPTION	BY	DATE	CHK'D	APP'D
		B	ISSUED FOR PERMIT	NMS	6-30-20	JHR	JHR
		A	ISSUED FOR REVIEW	NMS	6-25-20	JHR	JHR

IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION



DWG. STATUS	CHECKED		APPROVED				P.L./STA. ACCOUNT NO.
	BY	DATE	BY	DATE	BY	DATE	
PREL'Y							CONSTRUCTION YEAR
BID							DESIGN BY DATE
CONSTR.							DRAWN NMS 6-25-20
CADDS							ASBUILT
	PLOT DATE:		FILE NO.				FILE NO.
	FILE NAME:		SCALE: 1" = 30'				

BLUE MARLIN OFFSHORE PORT PROJECT
 42" CRUDE OIL PIPELINE
 STATION 501 SITE PLAN
 MP 37
 CAMERON, LOUISIANA

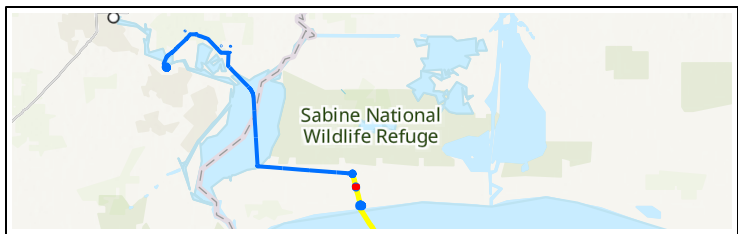
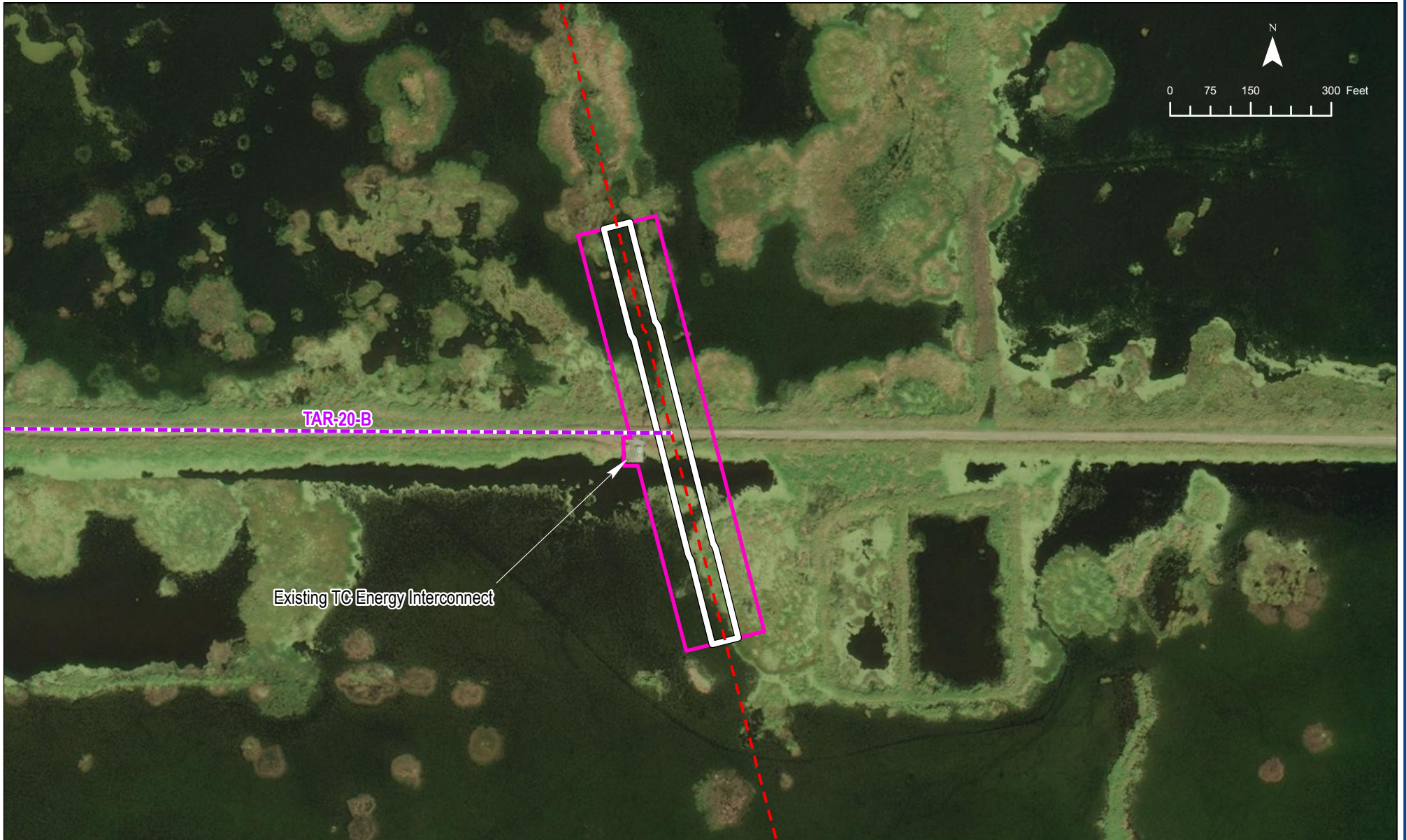
PROJECT NO.
19187_501 SITE PLAN.DWG
PREVIOUS DWG. NO.
SHEET 1 OF 1
DWG. NO.
501 SITE PLAN
SHEET 1 OF 1

19187_501 SITE PLAN.DWG 5 NMS 07-10-20 14:57

APPENDIX B2-3

SITE-SPECIFIC DRAWING – STINGRAY TAP REMOVAL SITE

BMOP PROJECT - STINGRAY TAP REMOVAL SITE



LEGEND

- - - Access Road
- - - Existing Stingray Mainline
- Existing Permanent Easement
- ATWS

BLUE MARLIN OFFSHORE PORT PROJECT
STINGRAY TAP REMOVAL SITE

COUNTY/PARISH: CAMERON	DRAWN BY: CW	
STATE: LOUISIANA	CHECKED BY: MA	
REV. NO.:	REVISION	DATE
A	ISSUE FOR REVIEW	2020/08/13
DATE:	2020/08/13	PROJECTION: NAD 1983 UTM Zone 18N

PREPARED BY

EXP Energy Services Inc.
 T: +1 850 385 5441
 F: +1 850 385 5523
 1800 WEST LOOP SOUTH, SUITE 850
 HOUSTON, TX 77027, USA

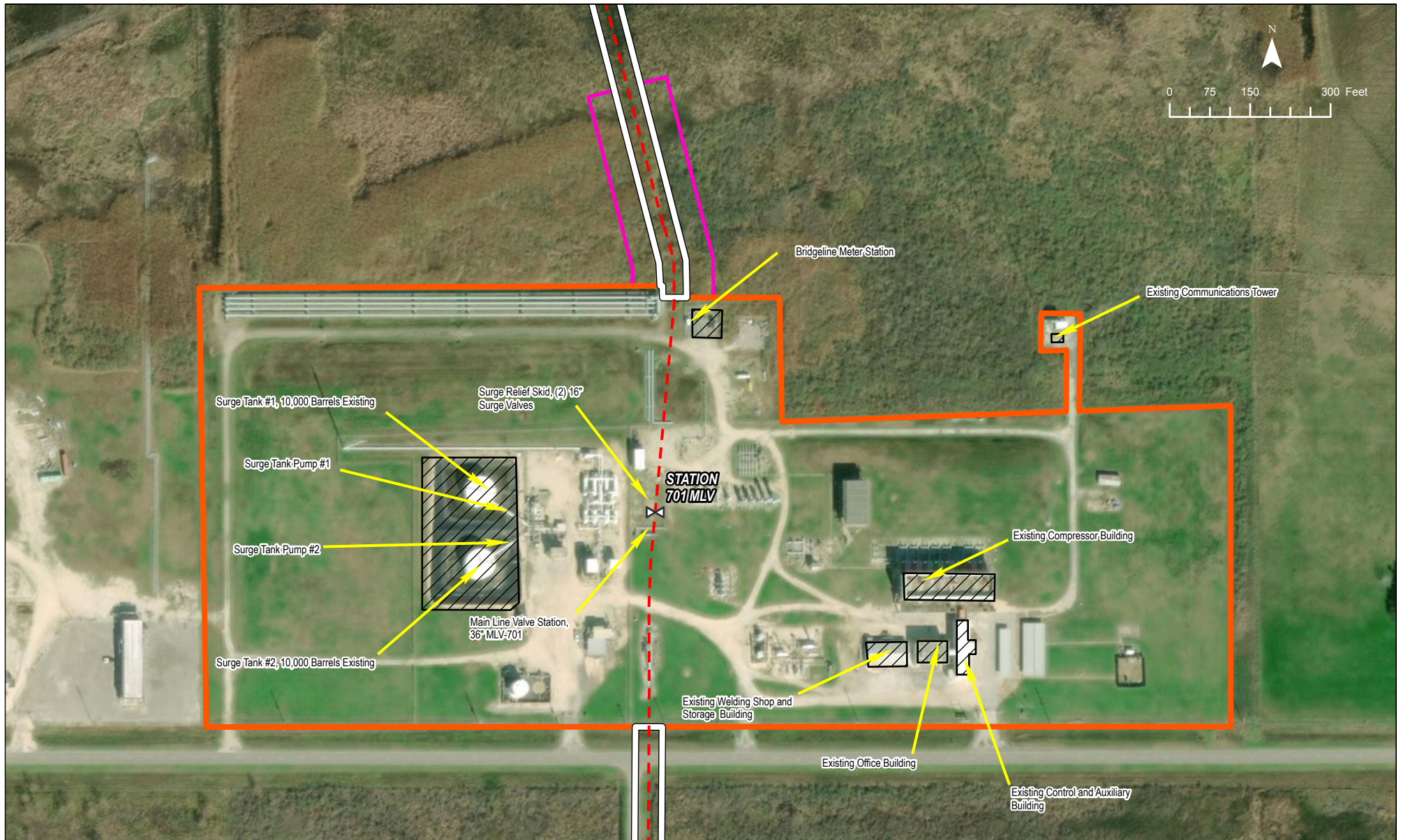


BLUE MARLIN OFFSHORE PORT PROJECT
Stingray Tap Removal Site

APPENDIX B2-4

SITE-SPECIFIC DRAWING - STATION 701

BMOP PROJECT - STATION 701 SITE PLAN



LEGEND

- Existing Stingray Mainline
- Station 701 Property Line
- Existing Permanent Easement
- ATWS
- Facilities to be Retained

BLUE MARLIN OFFSHORE PORT PROJECT
STATION 701 SITE PLAN

COUNTY/PARISH: CAMERON	DRAWN BY: CW	
STATE: LOUISIANA	CHECKED BY: KR	
REV. NO.:	REVISION	DATE
A	ISSUE FOR REVIEW	2020/08/19
DATE:	2020/08/19	PROJECTION: NAD 1983 UTM Zone 18N

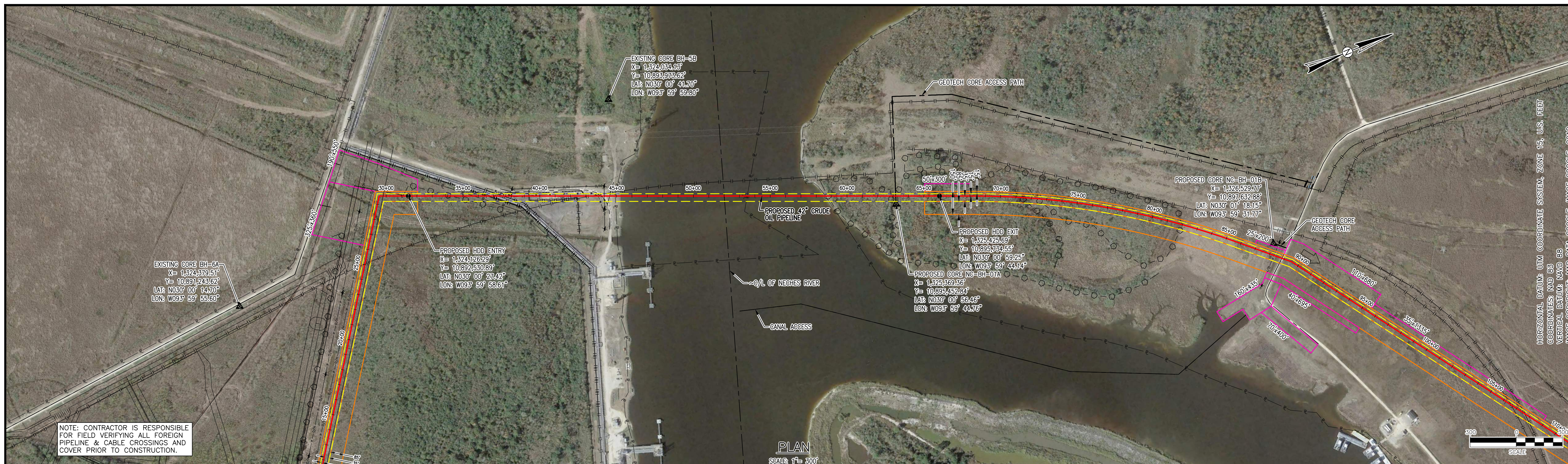
PREPARED BY

EXP Energy Services Inc.
 T: +1 850 385 5441
 F: +1 850 385 5523
 1800 WEST LOOP SOUTH, SUITE 850
 HOUSTON, TX 77027, USA

BLUE MARLIN OFFSHORE PORT PROJECT
Station 701 Site Plan

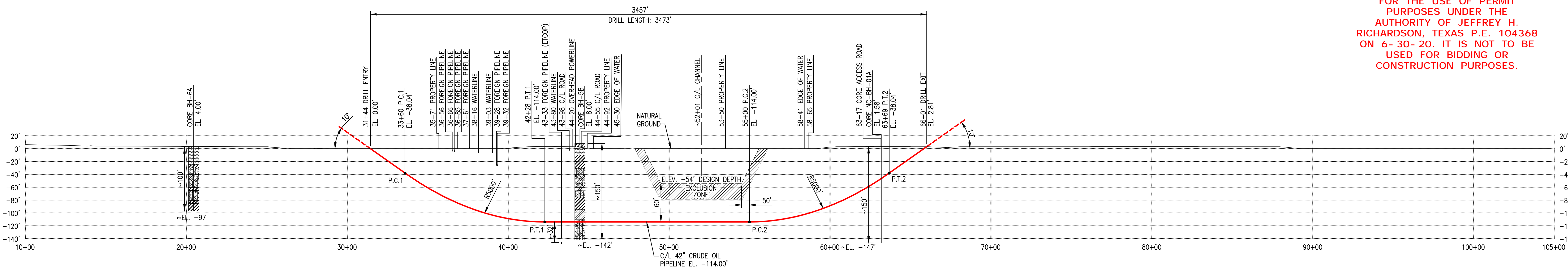
DWG: 0802-01-068 SHEET: 1 OF 1

APPENDIX B3
SITE-SPECIFIC HDD DRAWINGS



NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE & CABLE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.

HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 COORDINATES: NAD 83
 VERTICAL DATUM: NAD 83
 IMAGE COPYRIGHT: MAP DATA: GOOGLE, IMAGE: GOOGLE, 2018



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PROFILE

HORIZONTAL SCALE: 1" = 300'
 VERTICAL SCALE: 1" = 75'

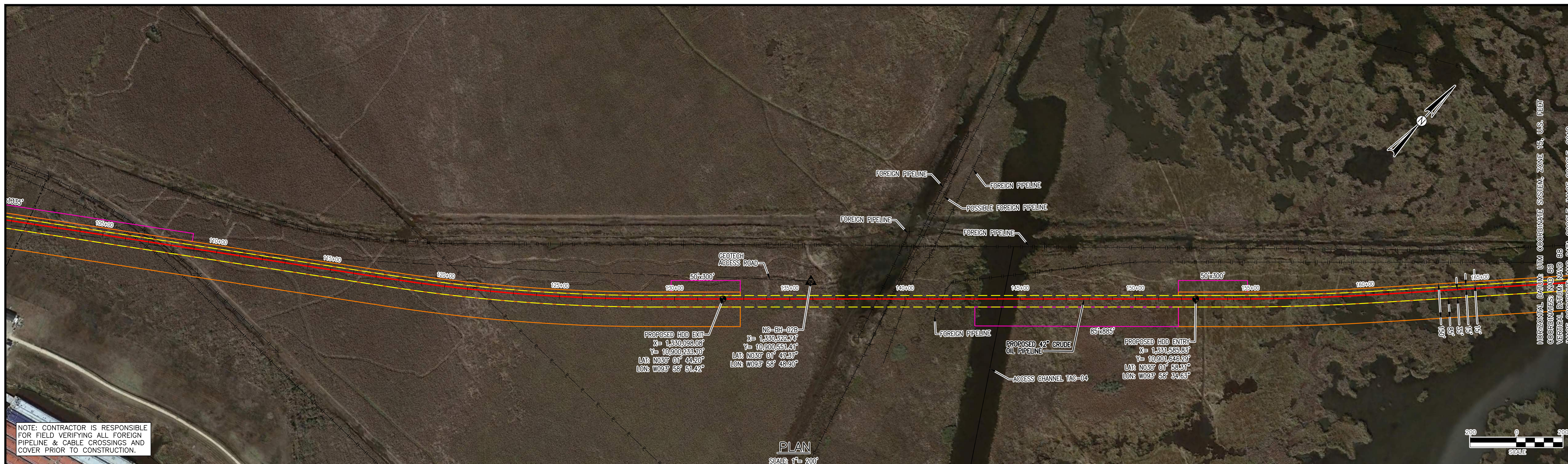
SPECIFICATIONS:		GENERAL NOTES:		CONTRACTOR HDD PLAN NOTES:		ENVIRONMENTAL NOTES:	
CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX DESIGN PRESSURE: MAOP 1480 PSIG DESIGN FACTOR: 0.507		1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN. 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION. 3) CONTRACTOR TO PROVIDE PILOT HOLE INFORMATION TO COMPANY FOR APPROVAL PRIOR TO COMMENCEMENT OF REAMING. 4) CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM: • CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE • TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS 4) REFERENCE THE TOLUNAY-WONG ENGINEERS, INC. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - HDD-ETCOP-NATCHES RIVER-14.23.122 REPORT NO. 69566. REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.		CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT A MINIMUM: • CONTRACTORS' SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS • CONTRACTORS EQUIPMENT AND SITE LAYOUT • DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES • DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE) • BREAKDOWN PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING • WATER SOURCE TO BE USED		1) EROSION/SEDIMENTATION CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES. 2) ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES. 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE. 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.	

LEGEND:

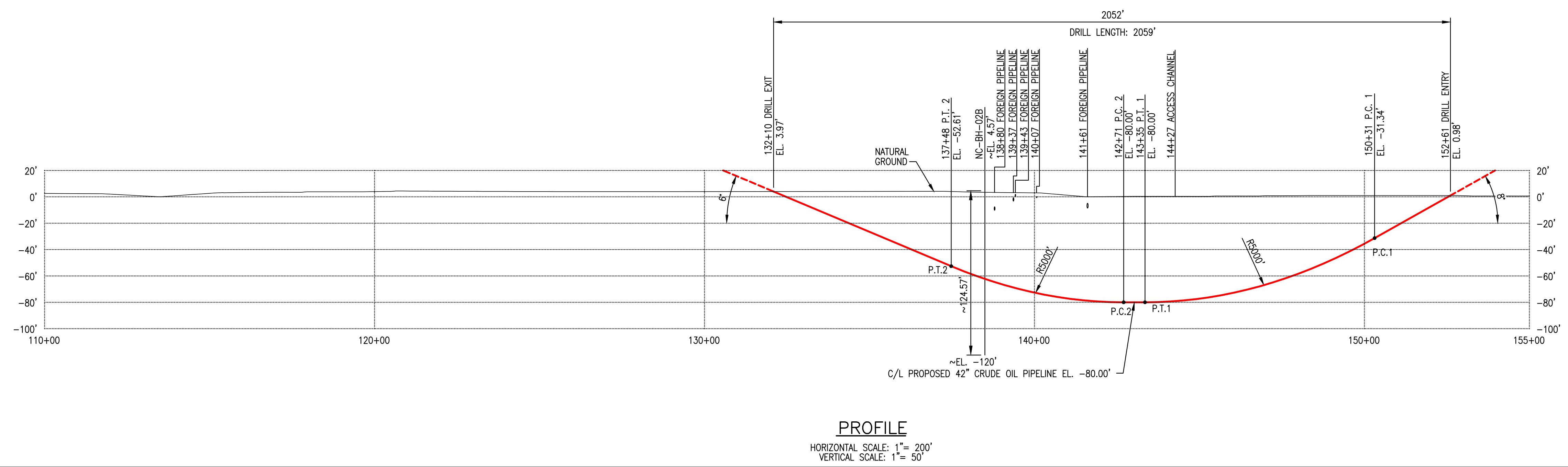
- PROPOSED PIPELINE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- FOREIGN PIPELINE
- GEOTECH ACCESS PATH
- ▲ GEOTECH CORE

DWG. NO. REFERENCE DRAWING TITLE		NO. REVISION - DESCRIPTION		BY DATE		CHK'D APP'D		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION				DWG. STATUS PREL'Y CONSTR. CADD'S		CHECKED BY DATE		APPROVED BY DATE		P.L./STA. NO. ACCOUNT NO. CONSTRUCTION YEAR		Appendix B3 Figure B3-1		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE NECHES RIVER HDD M.P. 1.0 ORANGE & JEFFERSON COUNTIES, TEXAS		PROJECT NO. PREVIOUS DWG. NO. SHEET 1 OF 1 DWG. NO. HDD-01 SHEET 1 OF 1	
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07-09-20 14:09 8 NMS 19187_HDD-01.DWG



HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 COORDINATES: NAD 83
 VERTICAL DATUM: NAD 83
 IMAGE COPYRIGHT: MAP DATA: GOOGLE, IMAGE: GOOGLE, 2018



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SPECIFICATIONS:
 CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70
 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO
 HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX
 DESIGN PRESSURE: MAOP 1480 PSIG
 DESIGN FACTOR: 0.507

GENERAL NOTES:
 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 3) CONTRACTOR TO PROVIDE PILOT HOLE INFORMATION TO COMPANY FOR APPROVAL PRIOR TO COMMENCEMENT OF REAMING.
 4) CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 • CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 • TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
 5) REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.

CONTRACTOR HDD PLAN NOTES:
 CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:
 • CONTRACTORS' SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS
 • CONTRACTORS EQUIPMENT AND SITE LAYOUT
 • DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
 • DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
 • BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
 • WATER SOURCE TO BE USED

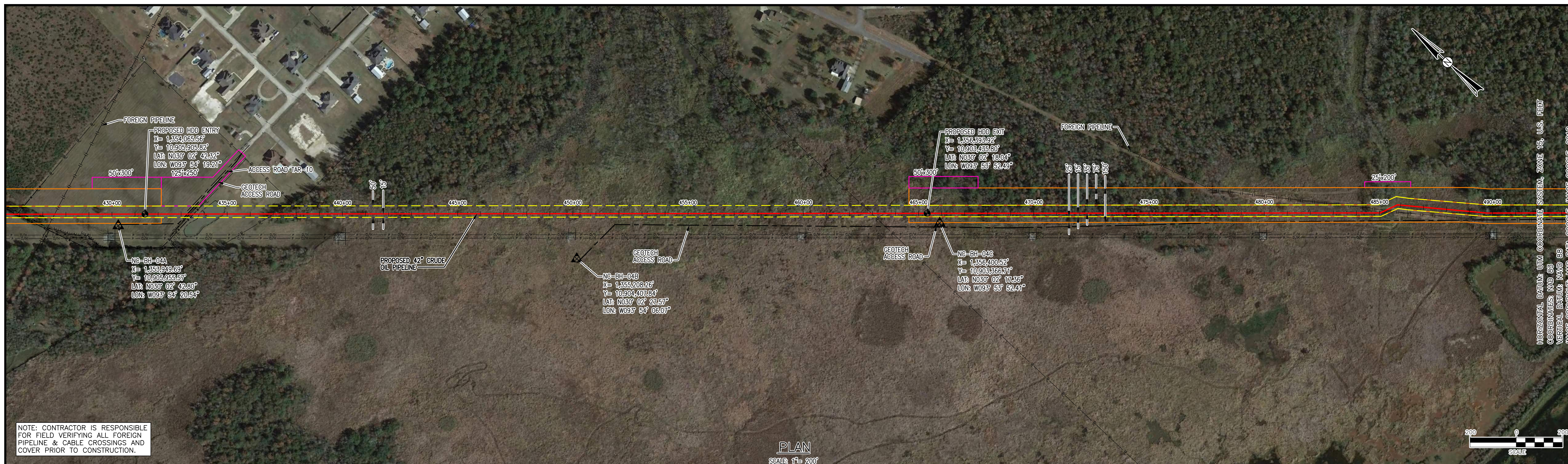
ENVIRONMENTAL NOTES:
 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 2) ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

LEGEND:
 - - - PROPOSED PIPELINE
 --- PERMANENT EASEMENT
 --- TEMPORARY WORK SPACE
 --- ADDITIONAL TEMPORARY WORK SPACE
 ▲ GEOTECH CORE

ENVIRONMENTAL LEGEND:
 --- PERENNIAL STREAM
 --- EPHEMERAL STREAM
 --- INTERMITTENT STREAM
 --- NATURAL DRAINAGE
 --- WATERBODY
 --- WETLAND EMERGENT
 --- WETLAND FORESTED
 --- WETLAND SCRUB SHRUB

DWG. NO. XXX ALIGNMENT SHEET REFERENCE DRAWING TITLE		NO. B ISSUED FOR PERMIT A PRELIMINARY, NOT FOR CONSTRUCTION REVISION - DESCRIPTION		BY NMS DATE 6-30-20 CHK'D JHR APP'D JHR		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION		PRODUCT CONSULTING SERVICES, INC. 3300 WEBB SPANARD AVE., SUITE 500 HOUSTON, TX 77058-1048 (504) 832-5222 • Fax (504) 832-4940 www.productconsulting.com		DWG. STATUS: PREL.Y BID CONSTR. CADD'S CHECKED BY: [] DATE: [] APPROVED BY: [] DATE: [] FILE NO.: [] SCALE: 1" = 400'		PL/STA. NO. ACCOUNT NO. CONSTRUCTION YEAR DESIGN BY: [] DATE: [] DRAWN BY: KMA DATE: 11-7-19 ASBUILT FILE NO.: [] SCALE: 1" = 400'		Appendix B3 Figure B3-2		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE CANAL CROSSING HDD M.P. xx.xx ORANGE COUNTY, TEXAS		PROJECT NO. PREVIOUS DWG. NO. SHEET 1 OF 1 DWG. NO. HDD-02 SHEET 1 OF 1	
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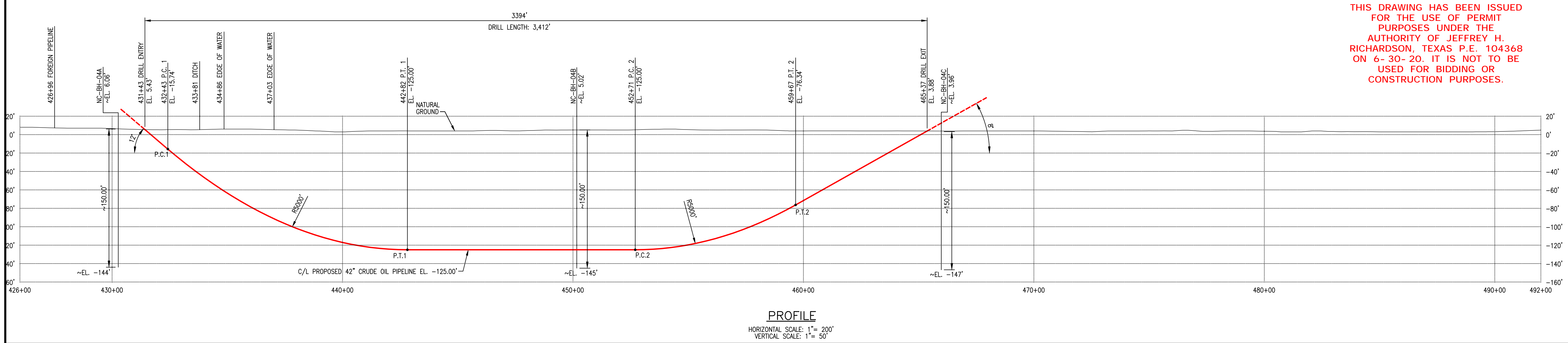
19187_HDD-02.DWG 7 NMS 07-07-20 11:25



NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE & CABLE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.

HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 VERTICAL DATUM: NAVD 83
 IMAGE COPYRIGHT: MAP DATA © GOOGLE, IMAGE © GOOGLE, 2016

PLAN
 SCALE: 1" = 200'



PROFILE
 HORIZONTAL SCALE: 1" = 200'
 VERTICAL SCALE: 1" = 50'

THIS DRAWING HAS BEEN ISSUED FOR THE USE OF PERMIT PURPOSES UNDER THE AUTHORITY OF JEFFREY H. RICHARDSON, TEXAS P.E. 104368 ON 6-30-20. IT IS NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

SPECIFICATIONS:
 CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70
 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO
 HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX
 DESIGN PRESSURE: MAOP 1480 PSIG
 DESIGN FACTOR: 0.507

GENERAL NOTES:

- GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
- CONTRACTOR TO PROVIDE PILOT HOLE INFORMATION TO COMPANY FOR APPROVAL PRIOR TO COMMENCEMENT OF REAMING.
- CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 - CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 - TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
 - REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.

CONTRACTOR HDD PLAN NOTES:

CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:

- CONTRACTORS' SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS CONTRACTORS EQUIPMENT AND SITE LAYOUT
- DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
- DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
- BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
- WATER SOURCE TO BE USED

ENVIRONMENTAL NOTES:

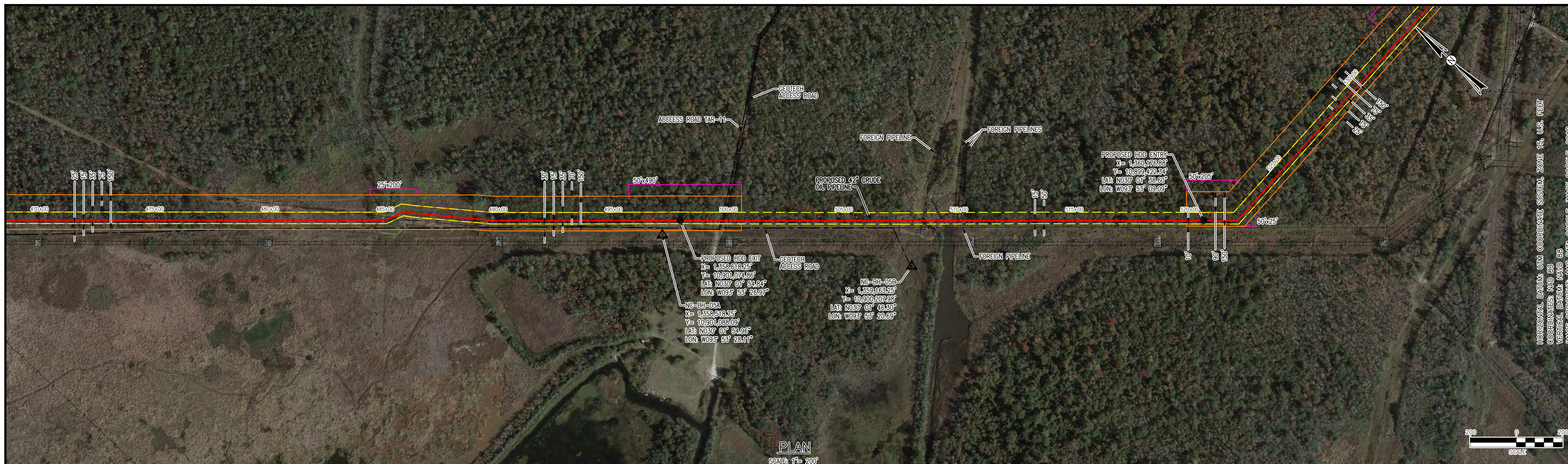
- EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
- ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
- PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
- EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

LEGEND:

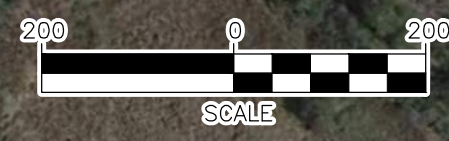
- PROPOSED PIPELINE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- FOREIGN PIPELINE
- GEOTECH ACCESS PATH
- GEOTECH CORE

DWG. NO. _____ REFERENCE DRAWING TITLE _____		NO. _____ REVISION - DESCRIPTION _____		BY _____ DATE _____ CHK'D _____ APP'D _____		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION	PRODUCT CONSULTING SERVICES, INC. 3300 WEST SPANARD AVE., SUITE 500 WILSON, CA 92093-7442 (949) 832-5252 FAX (949) 832-4940 www.productconsulting.com	DWG. STATUS _____ PREL.Y _____ BID _____ CONSTR. _____ CADD'S _____		CHECKED BY _____ DATE _____ APPROVED BY _____ DATE _____		P.L./STA. NO. _____ ACCOUNT NO. _____ CONSTRUCTION YEAR _____ DESIGN BY _____ DATE _____ DRAWN KMA 11-7-19 ASBUILT _____ FILE NO. _____ SCALE: 1" = 200'		Appendix B3 Figure B3-3		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE TPWD HDD M.P. 8.5 ORANGE COUNTY, TEXAS		PROJECT NO. _____ PREVIOUS DWG. NO. _____ SHEET 1 OF 1 DWG. NO. HDD-03 SHEET 1 OF 1	
XXX ALIGNMENT SHEET		C ISSUED FOR PERMIT B FOR GEOTECHNICAL CORE ACQUISITION, NOT FOR CONSTRUCTION A PRELIMINARY, NOT FOR CONSTRUCTION		NMS 6-30-20 JHR JHR NMS 2-20-20 JHR JHR KMA 12-17-19 JHR JHR															

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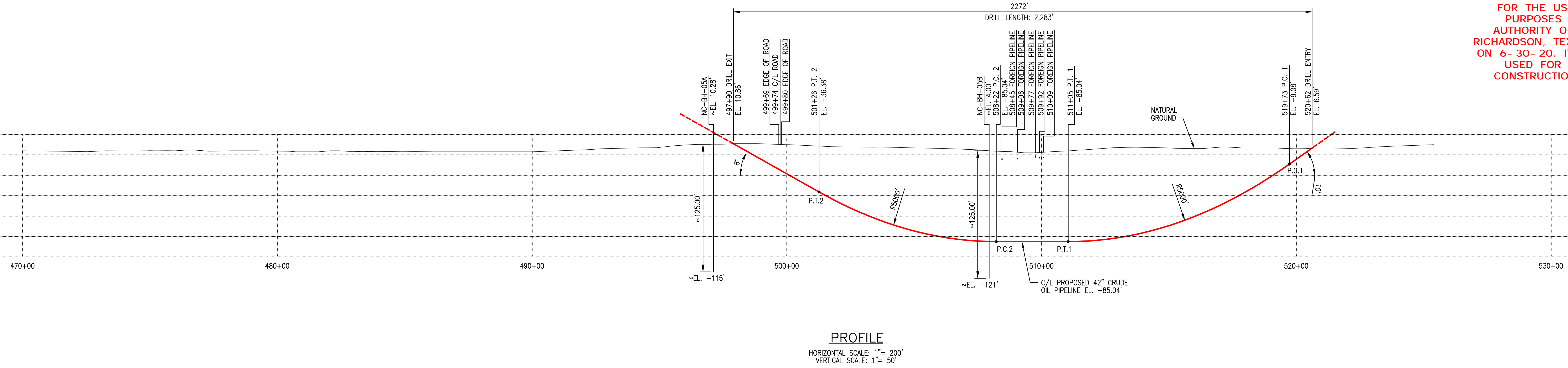


HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 COORDINATES: NAD 83
 VERTICAL DATUM: NAD 83
 IMAGE COPYRIGHT: MAP DATA: GOOGLE, IMAGE: GOOGLE, 2018



PLAN
 SCALE: 1" = 200'

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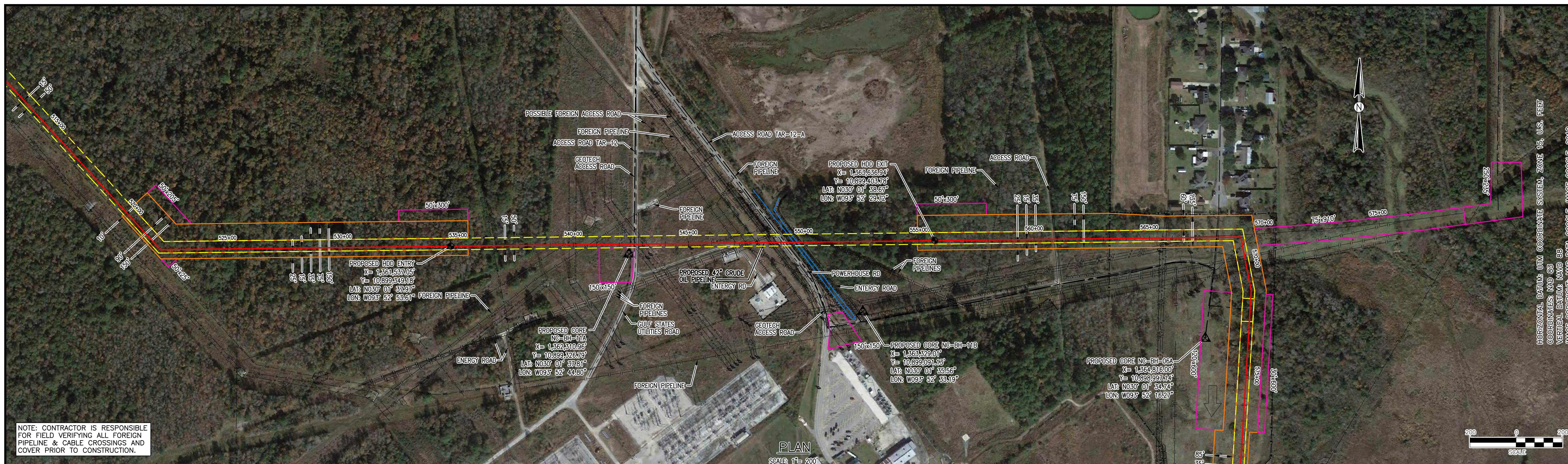


PROFILE
 HORIZONTAL SCALE: 1" = 200'
 VERTICAL SCALE: 1" = 50'

- SPECIFICATIONS:**
 CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70
 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO
 HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX
 DESIGN PRESSURE: MAOP 1480 PSIG
 DESIGN FACTOR: 0.507
- GENERAL NOTES:**
 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 3) CONTRACTOR TO PROVIDE PILOT HOLE INFORMATION TO COMPANY FOR APPROVAL PRIOR TO COMMENCEMENT OF REAMING.
 4) CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 • CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 • TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
 5) REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.
- CONTRACTOR HDD PLAN NOTES:**
 CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:
 • CONTRACTORS' SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS
 • CONTRACTORS EQUIPMENT AND SITE LAYOUT
 • DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
 • DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
 • BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
 • WATER SOURCE TO BE USED
- ENVIRONMENTAL NOTES:**
 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 2) ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.
- LEGEND:**
 - - - PROPOSED PIPELINE
 - - - PERMANENT EASEMENT
 - - - TEMPORARY WORK SPACE
 - - - ADDITIONAL TEMPORARY WORK SPACE
 - - - FOREIGN PIPELINE
 - - - GEOTECH ACCESS PATH
 ▲ GEOTECH CORE

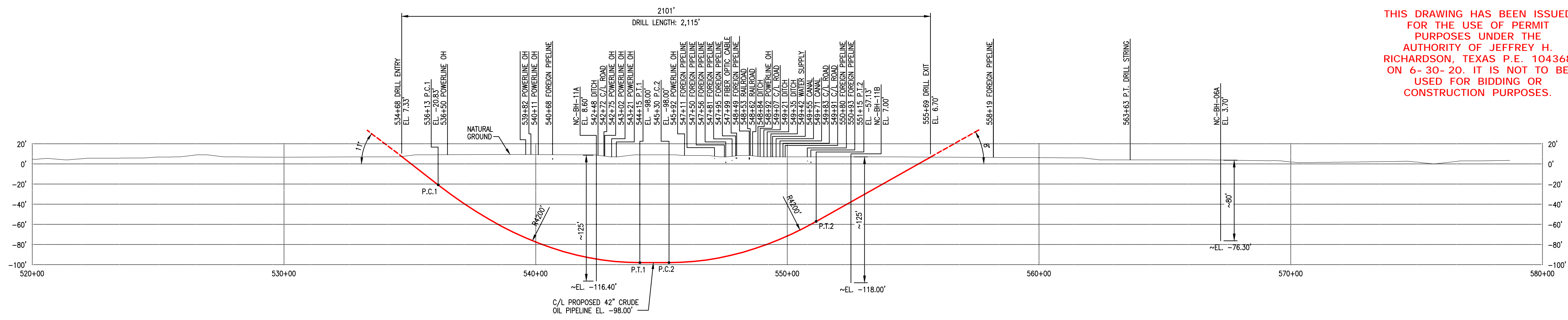
MEH-P3- ALIGNMENT SHEET		C ISSUED FOR PERMIT		NMS 6-30-20		JHR JHR		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION 	DWG. STATUS: PREL.Y CHECKED: BY DATE APPROVED: BY DATE FILE NO.: SCALE: 1" = 200'		PL/STA. NO. ACCOUNT NO. CONSTRUCTION YEAR: DESIGN BY DATE DRAWN KMA 11-7-19 ASBUILT FILE NO.: SCALE: 1" = 200'		PROJECT NO. PREVIOUS DWG. NO. SHEET 1 OF 1 DWG. NO. HDD-04 SHEET 1 OF 1	
A PRELIMINARY, NOT FOR CONSTRUCTION		B FOR GEOTECHNICAL CORE ACQUISITION, NOT FOR CONSTRUCTION		NMS 2-20-20		JHR JHR			Appendix B3 Figure B3-4		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE FOREIGN PIPELINE CORRIDOR HDD M.P. 9.8 ORANGE COUNTY, TEXAS		SHEET 1 OF 1 DWG. NO. HDD-04 SHEET 1 OF 1	
NO. REVISION - DESCRIPTION		BY DATE		CHK'D		APP'D								

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NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE & CABLE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.

HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 VERTICAL DATUM: NAVD 83
 IMAGE COPYRIGHT: MAP DATA © GOOGLE, IMAGE © GOOGLE, 2018



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PROFILE
 HORIZONTAL SCALE: 1" = 200'
 VERTICAL SCALE: 1" = 50'

- SPECIFICATIONS:**
- CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX DESIGN PRESSURE: MAOP 1480 PSIG DESIGN FACTOR: 0.507
- GENERAL NOTES:**
- GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 - CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO PROVIDE PILOT HOLE INFORMATION TO COMPANY FOR APPROVAL PRIOR TO COMMENCEMENT OF REAMING.
 - CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 - CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 - TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
 - REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.
- CONTRACTOR HDD PLAN NOTES:**
- CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:
- CONTRACTORS' SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS
 - CONTRACTORS EQUIPMENT AND SITE LAYOUT
 - DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
 - DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
 - BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
 - WATER SOURCE TO BE USED
- ENVIRONMENTAL NOTES:**
- EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES
 - PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

LEGEND:

- PROPOSED PIPELINE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- FOREIGN PIPELINE
- GEOTECH ACCESS PATH
- GEOTECH CORE

DWG. NO. _____ REFERENCE DRAWING TITLE _____		NO. _____ REVISION - DESCRIPTION _____		BY _____ DATE _____ CHK'D _____ APP'D _____		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION				DWG. STATUS: _____ PREL.Y: _____ BID: _____ CONSTR.: _____ CADD: _____		CHECKED: _____ BY _____ DATE _____ APPROVED: _____ BY _____ DATE _____		P.L./STA. NO. _____ ACCOUNT NO. _____ CONSTRUCTION YEAR: _____ DESIGN: _____ BY _____ DATE _____ DRAWN: KMA 2-18-20 ASBUILT: _____ FILE NO. _____ SCALE: 1" = 200'		Appendix B3 Figure B3-5		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE POWER PLANT RD & CANAL HDD M.P. 10.5 ORANGE COUNTY, TEXAS		PROJECT NO. _____ PREVIOUS DWG. NO. _____ SHEET 1 OF 1 DWG. NO. HDD-5 SHEET 1 OF 1	
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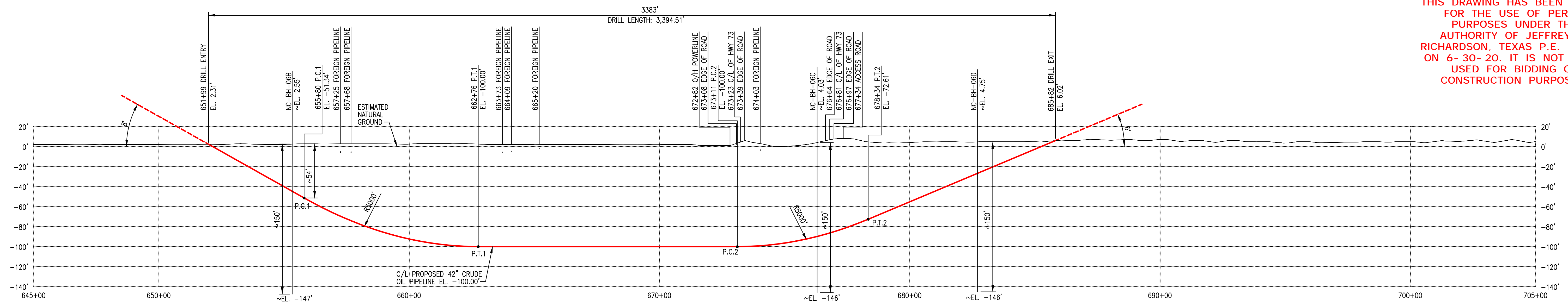
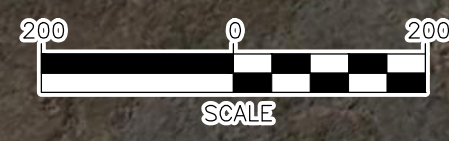
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HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 VERTICAL DATUM: NAVD 83
 IMAGE COPYRIGHT: MAP DATA © GOOGLE, IMAGE © GOOGLE, 2018

NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE & CABLE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.

PLAN
 SCALE: 1" = 200'



PROFILE
 HORIZONTAL SCALE: 1" = 200'
 VERTICAL SCALE: 1" = 50'

THIS DRAWING HAS BEEN ISSUED FOR THE USE OF PERMIT PURPOSES UNDER THE AUTHORITY OF JEFFREY H. RICHARDSON, TEXAS P.E. 104368 ON 6-30-20. IT IS NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

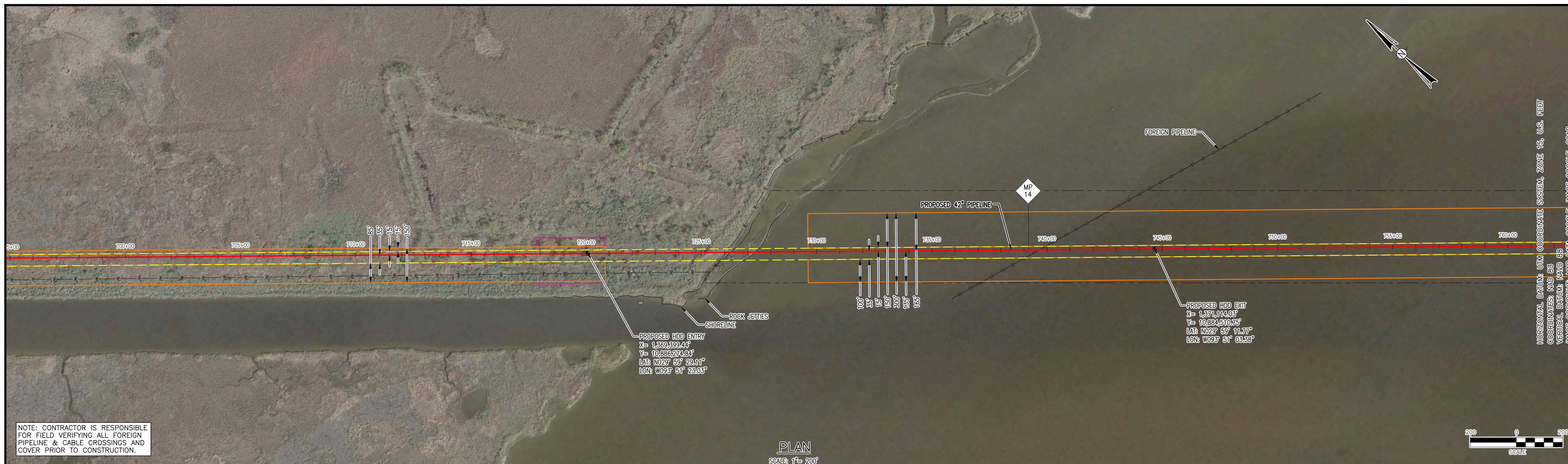
- SPECIFICATIONS:**
- CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX DESIGN PRESSURE: MAOP 1480 PSIG DESIGN FACTOR: 0.507
- GENERAL NOTES:**
- GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 - CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
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 - CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 - CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 - TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
 - REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.
- CONTRACTOR HDD PLAN NOTES:**
- CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:
- CONTRACTORS' SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS CONTRACTORS EQUIPMENT AND SITE LAYOUT
 - DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
 - DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
 - BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
 - WATER SOURCE TO BE USED
- ENVIRONMENTAL NOTES:**
- EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

LEGEND:

- PROPOSED PIPELINE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- FOREIGN PIPELINE
- GEOTECH ACCESS PATH
- GEOTECH CORE

DWG. NO.	ALIGNMENT SHEET	REFERENCE DRAWING TITLE	NO.	REVISION - DESCRIPTION	BY	DATE	CHK'D	APP'D	IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION 	DWG. STATUS PREL.Y BID CONSTR. CADD'S	CHECKED BY DATE BY DATE	APPROVED BY DATE BY DATE BY DATE	P.L./STA. NO. ACCOUNT NO. CONSTRUCTION YEAR DESIGN BY DATE DRAWN KMA 11-7-19 ASBUILT FILE NO. SCALE: 1" = 200'	Appendix B3 Figure B3-6	BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE HWY 73/87 CANAL HDD M.P. 12.8 ORANGE COUNTY, TEXAS	PROJECT NO.	
																PREVIOUS DWG. NO.	
XXX	ALIGNMENT SHEET																SHEET 1 OF 1 DWG. NO. HDD-06 SHEET 1 OF 1

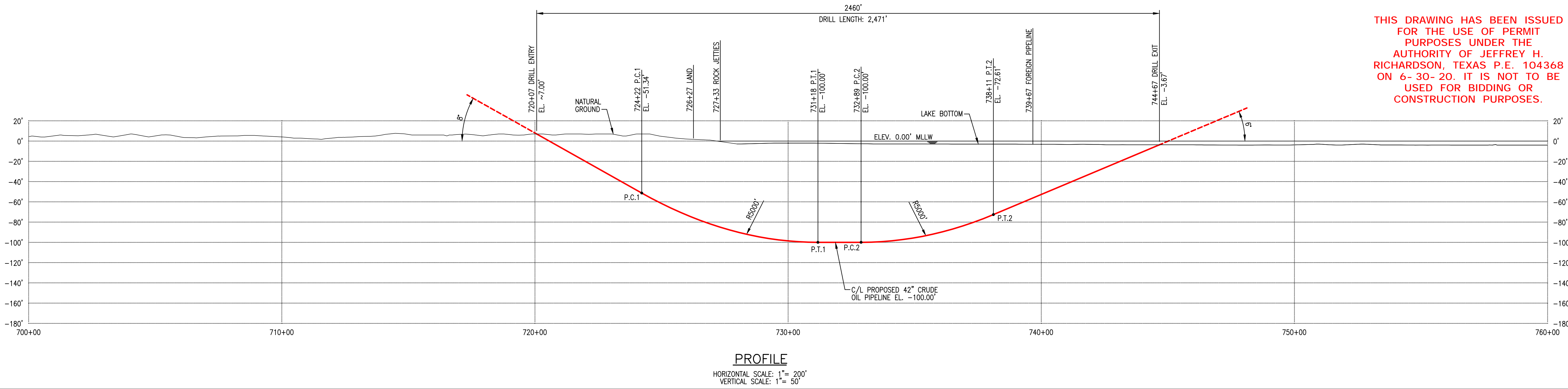
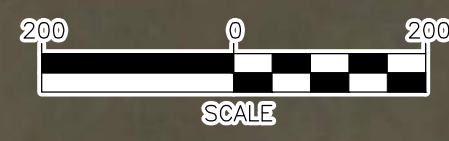
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HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 COORDINATES: NAD 83
 VERTICAL DATUM: NAD 83
 IMAGE COPYRIGHT: MAP DATA © GOOGLE, IMAGE © GOOGLE, 2018

NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE & CABLE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.

PLAN
 SCALE: 1" = 200'



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PROFILE
 HORIZONTAL SCALE: 1" = 200'
 VERTICAL SCALE: 1" = 50'

SPECIFICATIONS:
 CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70
 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO
 HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX
 DESIGN PRESSURE: MAOP 1480 PSIG
 DESIGN FACTOR: 0.507

GENERAL NOTES:

- GRID PROJECTION BASED UPON UTM CED COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
- CONTRACTOR TO PROVIDE PILOT HOLE INFORMATION TO COMPANY FOR APPROVAL PRIOR TO COMMENCEMENT OF REAMING.
- CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 - CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 - TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
- REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOIL REPORT - TBD.

CONTRACTOR HDD PLAN NOTES:

CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:

- CONTRACTOR'S SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS
- CONTRACTOR'S EQUIPMENT AND SITE LAYOUT
- DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
- DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
- BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
- WATER SOURCE TO BE USED

ENVIRONMENTAL NOTES:

- EROSION/SEDIMENTATION CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
- ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
- PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
- EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

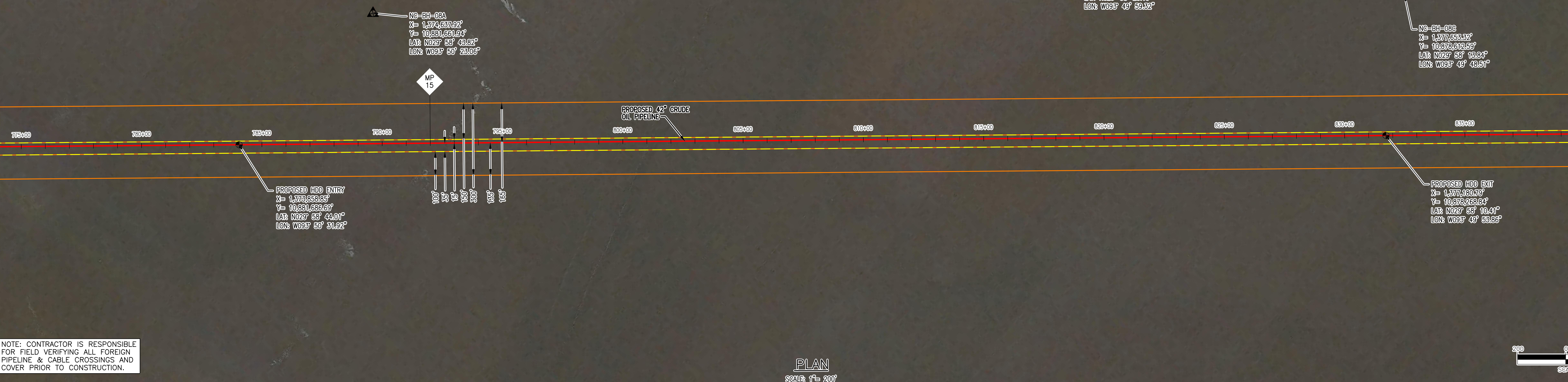
LEGEND:

- PROPOSED PIPELINE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- FOREIGN PIPELINE
- GEOTECH ACCESS PATH
- GEOTECH CORE

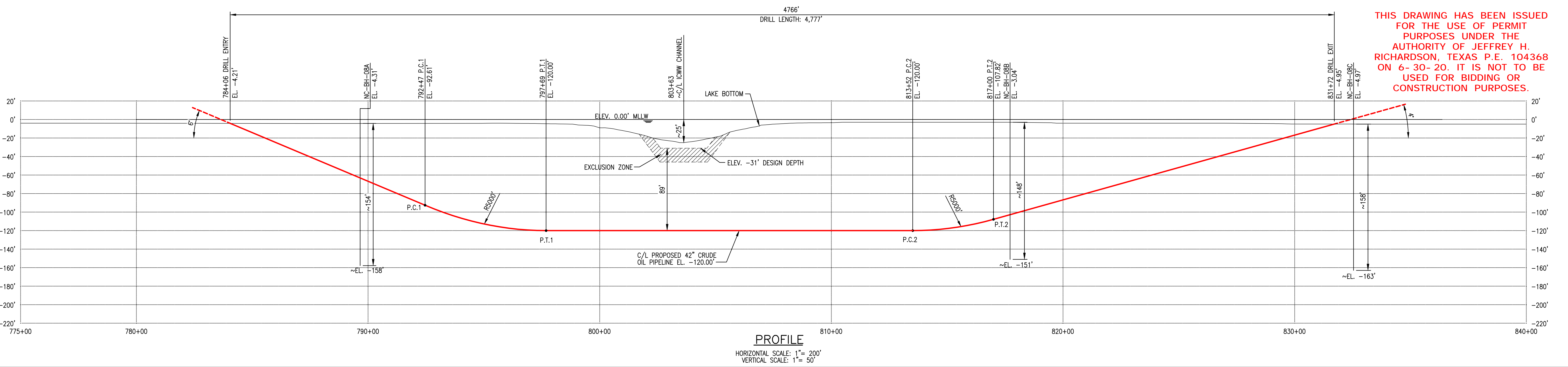
DWG. NO. XXX ALIGNMENT SHEET REFERENCE DRAWING TITLE		NO. B ISSUED FOR PERMIT A PRELIMINARY, NOT FOR CONSTRUCTION		BY KMA DATE 6-30-20 CHK'D JHR APP'D JHR		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION		PRODUCT CONSULTING SERVICES, INC. 3300 WEST SPANARD AVE., SUITE 500 BEAUNE, LA 70302-7400 (504) 833-5325 • FAX (504) 833-4940 www.productconsulting.com		DWG. STATUS: PREL.Y BID CONSTR. CADD'S		CHECKED BY: [] DATE: [] APPROVED BY: [] DATE: []		P.L./STA. NO. ACCOUNT NO. CONSTRUCTION YEAR: DESIGN BY: [] DATE: [] DRAWN: KMA 6-16-20 ASBUILT: [] FILE NO.: [] SCALE: 1" = 200'		Appendix B3 Figure B3-7		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE NORTH SABINE LAKE SHORE APPROACH M.P. 13.5 ORANGE COUNTY, TEXAS		PROJECT NO. PREVIOUS DWG. NO. SHEET 1 OF 1 DWG. NO. HDD-07 SHEET 1 OF 1	
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HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 VERTICAL DATUM: NAVD 83
 IMAGE COPYRIGHT: MAP DATA © GOOGLE, IMAGE © GOOGLE, 2016



NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE & CABLE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.



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SPECIFICATIONS:
 CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX DESIGN PRESSURE: MAOP 1480 PSIG DESIGN FACTOR: 0.507

GENERAL NOTES:
 1) GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 2) CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
 3) CONTRACTOR TO PROVIDE PILOT HOLE INFORMATION TO COMPANY FOR APPROVAL PRIOR TO COMMENCEMENT OF REAMING.
 4) CONTRACTOR TO PROVIDE AS-BUILT DRAWING AND INFORMATION WITHIN 10 DAYS FROM BOREHOLE COMPLETION AND SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 • CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 • TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
 5) REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.

CONTRACTOR HDD PLAN NOTES:
 CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:
 • CONTRACTORS' SITE SPECIFIC BORE PLAN AND PROFILE, SHOWING FOREIGN PIPELINES AND UTILITIES WITH FIELD VERIFIED ELEVATIONS, TOP OF BORE SEPARATION FROM UNDERGROUND UTILITIES, ROADS AND OTHER FEATURES, PLANNED MINIMUM DRILL RADIUS WITH PC AND PT POINTS CONTRACTORS EQUIPMENT AND SITE LAYOUT
 • DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
 • DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
 • BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
 • WATER SOURCE TO BE USED

ENVIRONMENTAL NOTES:
 1) EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 2) ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 3) PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 4) EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

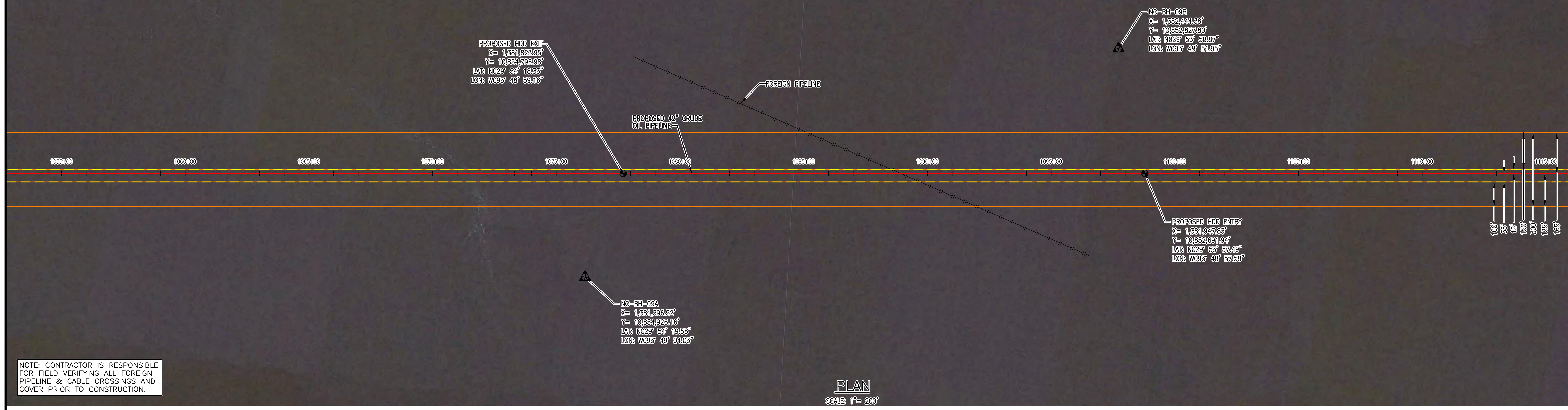
LEGEND:
 - - - PROPOSED PIPELINE
 - - - PERMANENT EASEMENT
 - - - TEMPORARY WORK SPACE
 - - - ADDITIONAL TEMPORARY WORK SPACE
 - - - FOREIGN PIPELINE
 - - - GEOTECH ACCESS PATH
 ▲ GEOTECH CORE

DWG. NO. _____ REFERENCE DRAWING TITLE _____		NO. _____ REVISION - DESCRIPTION _____		BY _____ DATE _____ CHK'D _____ APP'D _____		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION	PRODUCT CONSULTING SERVICES, INC. 3300 WEST SPANARD AVE., SUITE 500 WILSON, CA 95605-1000 (530) 833-5252 FAX (530) 833-4940 www.productconsulting.com	DWG. STATUS _____ PREL.Y _____ BID _____ CONSTR. _____ CADD'S _____		CHECKED BY _____ DATE _____ APPROVED BY _____ DATE _____		PL/STA. NO. _____ ACCOUNT NO. _____ CONSTRUCTION YEAR _____ DESIGN BY _____ DATE _____ DRAWN KMA 11-7-19 ASBUILT _____ FILE NO. _____ SCALE: 1" = 200'		Appendix B3 Figure B3-8		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE ICWW HDD M.P. 15.5 ORANGE COUNTY, TEXAS		PROJECT NO. _____ PREVIOUS DWG. NO. _____ SHEET 1 OF 1 DWG. NO. HDD-08 SHEET 1 OF 1	
XXX ALIGNMENT SHEET		C ISSUED FOR PERMIT B FOR GEOTECHNICAL CORE ACQUISITION, NOT FOR CONSTRUCTION A PRELIMINARY, NOT FOR CONSTRUCTION		KMA 6-30-20 JHR JHR NMS 2-19-20 JHR JHR KMA 12-23-19 JHR JHR															

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HORIZONTAL DATUM: UTM COORDINATE SYSTEM, ZONE 15, U.S. FEET
 VERTICAL DATUM: MGD 83
 IMAGE COPYRIGHT: MAP DATA © GOOGLE, IMAGE © GOOGLE, 2016

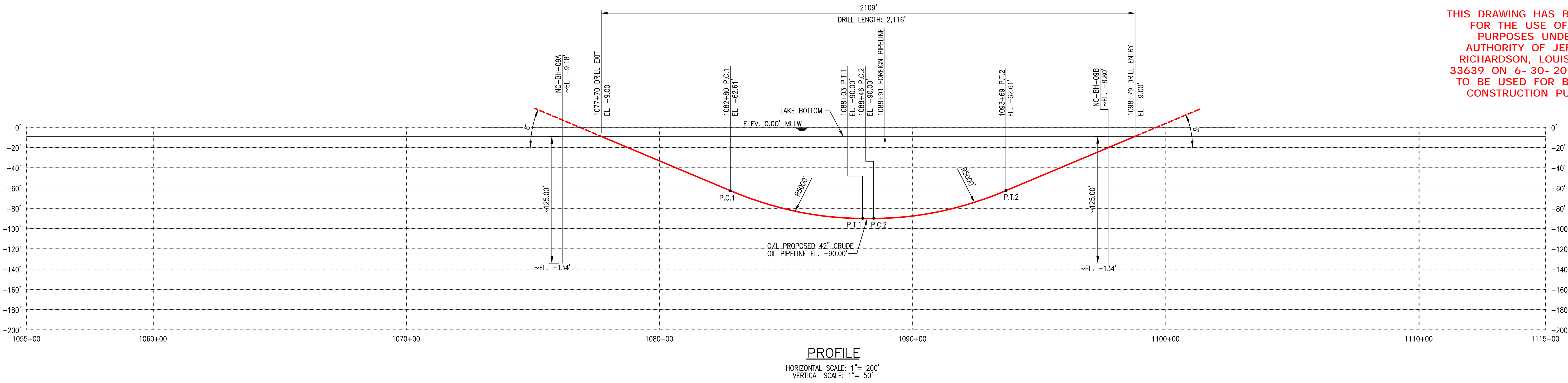


NOTE: CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE & CABLE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.

PLAN
 SCALE: 1" = 200'



THIS DRAWING HAS BEEN ISSUED FOR THE USE OF PERMIT PURPOSES UNDER THE AUTHORITY OF JEFFREY H. RICHARDSON, LOUISIANA P.E. 33639 ON 6-30-20. IT IS NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.



PROFILE
 HORIZONTAL SCALE: 1" = 200'
 VERTICAL SCALE: 1" = 50'

- SPECIFICATIONS:**
 CARRIER PIPE: 42.000" O.D. X 0.875" W.T. X-70 A.P.I. 5L PSL 2, LSAW, W/ 14-16 MILS FBE AND 30 MILS ARO HYDROSTATIC PRE-TEST PRESSURE: 1850 PSIG MIN - 2220 PSIG MAX DESIGN PRESSURE: MAOP 1480 PSIG DESIGN FACTOR: 0.507
- GENERAL NOTES:**
- GRID PROJECTION BASED UPON UTM COORDINATE SYSTEM, ZONE 15 (GRID UNITS IN FEET) GEODETIC DATUM: NAD 1983, CENTRAL MERIDIAN.
 - CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL FOREIGN PIPELINE CROSSINGS AND COVER PRIOR TO CONSTRUCTION.
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 - CAD (2017 OR HIGHER) AND PDF FILE OF PIPING PLAN AND PROFILE
 - TABLE OF PILOT HOLE DATA USED TO CREATE PLAN AND PROFILE DRAWINGS
 - REFERENCE THE EUSTIS ENGINEERING L.L.C. GEOTECHNICAL REPORT FOR DETAILS, SOILS REPORT - TBD.
- CONTRACTOR HDD PLAN NOTES:**
- CONTRACTOR'S PROPOSED HDD PLAN AND ANY OF ITS SUBCONTRACTORS, VENDORS, OR SUPPLIERS UTILIZED TO PERFORM HORIZONTAL DIRECTIONAL DRILLS SHALL BE SUBMITTED TO COMPANY FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO START OF DRILLING OPERATIONS. PLAN SHALL INCLUDE AT MINIMUM:
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 - CONTRACTORS EQUIPMENT AND SITE LAYOUT
 - DRILLING PLAN AT A MINIMUM TO INCLUDE THE FOLLOWING: PILOT HOLE DRILL TOLERANCES, ANTICIPATED DOWN HOLE PRESSURE RANGE, EXPECTED PILOT AND REAMING PROCESS, EXPECTED PULL LOADS, SAFETY, GUIDANCE SYSTEM, CONTINGENCY PLANS, INADVERTENT RETURNS PLAN WITH NOTIFICATION PROCEDURES
 - DRILLING FLUID AND POTENTIAL ADDITIVES (PROVIDE MSDS), AUTHORIZED DISPOSAL LOCATION (COMPANY TO APPROVE)
 - BREAKOVER PROFILE WITH MINIMUM RADIUS, PIPE SUPPORT EQUIPMENT LOCATION WITH PIPE ELEVATION (COMPANY WILL EVALUATE PIPE STRESS) AND MAXIMUM ROLLER SPACING
 - WATER SOURCE TO BE USED
- ENVIRONMENTAL NOTES:**
- EROSION/SEDIMENT CONTROL STRUCTURES TO BE INSTALLED AND MAINTAINED TO MINIMIZE IMPACTS TO WETLANDS OR WATERBODIES.
 - ANY ON-LAND TRENCH DEWATERING TO BE DIRECTED TO WETLAND FILTER BAG AND/OR DEWATERING STRUCTURE IN AN UPLAND AREA TO MINIMIZE EROSION OF SEDIMENTATION TO WETLANDS/WATERBODIES.
 - PRE-CONSTRUCTION CONTOURS TO BE RE-ESTABLISHED FOR ALL DISTURBED AREAS. ALL DISTURBED AREAS TO BE RESTORED AND/OR REVEGETATED AS APPLICABLE.
 - EROSION/SEDIMENTATION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL RESTORATION AND REVEGETATION ARE DEEMED SUCCESSFUL.

LEGEND:

- PROPOSED PIPELINE
- PERMANENT EASEMENT
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- FOREIGN PIPELINE
- GEOTECH ACCESS PATH
- GEOTECH CORE

DWG. NO. _____ REFERENCE DRAWING TITLE _____		NO. _____ REVISION - DESCRIPTION _____		BY _____ DATE _____ CHK'D _____ APP'D _____		IF THE P.E. SEAL IS NOT VISIBLE, THIS DRAWING IS PRELIMINARY AND NOT AUTHORIZED FOR CONSTRUCTION	<p>PRODUCT CONSULTING SERVICES, INC. 3300 WEST EPLANDER AVE., SUITE 500 MEMPHIS, TN 38117-2424 (901) 832-5222 FAX (901) 832-4940 www.productconsulting.com</p>	DWG. STATUS PREL.Y _____ BID _____ CONSTR. _____ CADD'S _____		CHECKED BY _____ DATE _____ APPROVED BY _____ DATE _____		P.L./STA. NO. _____ ACCOUNT NO. _____ CONSTRUCTION YEAR _____ DESIGN BY _____ DATE _____ DRAWN KMA 11-7-19 ASBUILT _____ FILE NO. _____ SCALE: 1" = 200'		Appendix B3 Figure B3-9		BLUE MARLIN OFFSHORE PORT PROJECT 42" CRUDE OIL PIPELINE LAKE PIPELINE CROSSING HDD M.P. 20.6 CAMERON, LOUISIANA		PROJECT NO. _____ PREVIOUS DWG. NO. _____ SHEET 1 OF 1 DWG. NO. _____ HDD-09 SHEET 1 OF 1	
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