STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

COLE'S BAYOU
MARSH RESTORATION PROJECT
TV-63
VERMILION PARISH

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LICENSURE CLASSIFICATION REQUIREMENTS
MAJOR CLASSIFICATION: HEAVY CONSTRUCTION
SUBCLASSIFICATION: DREDGING
GENERAL NOTES:
1. THE EQUIPMENT ACCESS TO THE PROJECT SITE SHALL BE THROUGH NAVIGABLE WATERWAYS AND SHALL NOT IMPACT EXISTING WATER BOTTOMS OR WETLANDS UNLESS OTHERWISE NOTED.
2. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY. WHAT IS REQUIRED BY ONE IS BINDING AS IF REQUIRED BY ALL. CLARIFICATIONS AND INTERPRETATIONS OF, OR NOTIFICATIONS OF MINOR VARIATIONS AND DEVIATIONS IN THE CONTRACT DOCUMENTS, WILL BE ISSUED BY THE ENGINEER.
3. THE CONTRACTOR SHALL MAINTAIN AIDS TO NAVIGATION DURING CONSTRUCTION AND HAVE ADEQUATE NAVIGATIONAL EQUIPMENT ON THE DREDGE TO AVOID DREDGING IN RESTRICTED AREAS. ANY DAMAGE TO EXISTING AIDS TO NAVIGATION SHALL BE REPAIRED BY THE CONTRACTOR TO U.S. COAST GUARD STANDARDS AT THE EXPENSE OF THE CONTRACTOR.
4. THE MARSH CREATION AREAS, BORROW AREAS, CONTAINMENT DIKES, AND WATER CONTROL STRUCTURES MAY BE REVISED BY THE ENGINEER THROUGHOUT THE WORK TO REFLECT CHANGES IN FIELD CONDITIONS.
5. THE CONTRACTOR SHALL PERFORM A MAGNETOMETER SURVEY OF THE DREDGE PIPELINE CORRIDOR, BORROW AREAS, WATER CONTROL STRUCTURES, ACCESS CHANNELS, AND MARSH CREATION AREAS PRIOR TO EXCAVATION OR DREDGING. DRAWINGS SHOWING THE TRACK LINES, COORDINATES, AMPLITUDE, SIGNATURE TYPE, AND DURATION OF ALL INFRASTRUCTURE AND ANOMALIES SHALL BE SUBMITTED TO THE ENGINEER IN THE PRECONSTRUCTION SURVEY.
6. THE CONTRACTOR IS RESPONSIBLE FOR CONTAINING THE HYDRAULICALLY DREDGED MATERIAL WITHIN THE BORDERS OF THE MARSH CREATION AREAS.
7. THE BACKGROUND IMAGERY WAS TAKEN IN 2012.
8. THE PIPLELINE AND UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL LOCATE AND MARK ALL PIPELINES AND UTILITIES LOCATED WITHIN 250 FT. OF THE WORK PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THESE MARKERS DURING VERIFICATION.
9. PIPELINES REFERENCING THE PIPELINE LOCATION (X, Y, Z) (DATA BASED IN THE DESIGN SURVEYS).

NOTIFICATIONS:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE FOLLOWING PIPELINE AND UTILITY OPERATORS AT LEAST FIVE (5) WORKING DAYS IN ADVANCE OF THE WORK CALL LOUISIANA ONE CALL AT 1-800-272-5020 5 DAYS PRIOR TO ANY EXCAVATION AND OR DREDGING TO LOCATE ALL PIPELINES OR UTILITIES.

ENTERPRISE PRODUCTS (FOR ACADIAN PIPELINE COMPANY)
CONTACT: LEONARD THURMOND
PHONE: (912) 857-3222

TRANSCANADA PIPELINE LIMITED
CONTACT: CHRIS MENECHE
PHONE: (613) 920-2480

2. THE CONTRACTOR SHALL NOTIFY THE LANDOWNERS LISTED BELOW AT LEAST FIVE (5) WORKING DAYS PRIOR TO PERFORMING THE WORK.

E.A. MCBRIN THOMPSON
CONTACT: RANDY MORT, EDWARD M. SIMMONS
PHONE: (337) 365-8173

VERMILLION CORPORATION
CONTACT: BILLY BOISCHARD
PHONE: (337) 404-0052

NATIONAL AUDUBON SOCIETY
CONTACT: TIM VINCENT
PHONE: (337) 893-8150

3. MODIFICATIONS TO THE DREDGE PIPELINE CORRIDOR AND EQUIPMENT ACCESS CORRIDOR SHALL REQUIRE APPROVAL BY THE ENGINEER.

DESIGN NOTES:

SECONDARY SURVEY MONUMENT
T/12-SM-01
ELEVATION
2.69
NORTHERN
400.9568
EASTING
3,009,295.33

2. THE EXISTING ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE DESIGN SURVEYS PERFORMED FROM APRIL 2013 THROUGH JUNE 2013 AND OCTOBER 2014 BY HYDRO-TERRA TECHNOLOGIES. THE DESIGN SURVEY REPORT IS PROVIDED IN THE SPECIFICATIONS.
3. DATA FROM STATION CM2804 WAS USED TO CALCULATE THE MHW AND MLW. ELEVATIONS ARE REFERENCED TO NAVD 88, US FEET, GESO 12A, MHW = 0.68 AND MLW = 0.46 WITHIN PROJECT AREA AND MHW = 1.86 AND MLW = 1.15 IN LITTLE VERMILION BAY AND MHW = 0.92 AND MLW = 0.12 IN OIL FIELD CANALS.
4. A GEOTECHNICAL INVESTIGATION WAS PERFORMED BY ARDMAN & ASSOCIATES ON FEBRUARY 2013 TO APRIL 2013. THE BORING LOGS ARE SHOWN ON THE PLANS. THE GEOTECHNICAL INVESTIGATION REPORT IS PROVIDED IN THE SPECIFICATIONS.

LEGEND - SECTION VIEWS

- NON-WOVEN GEOTEXTILE FABRIC AND ARTICULATED CONCRETE BLOCK MAT
- CONSTRUCTED MARSH AND IN-SITU FILL
- MARSH REHABILITATION AREA
- MARSH CREATION
- EXISTING WATER BOTTOM
- WETLAND AREA
- IN-LINE CHECK VALVE (TS-220)
- EACH
- BORROW AREA
- TEMPORARY SOIL
- WATER CONTROL STRUCTURE BORROW AREA AND CUT
- UNVERIFIED PIPELINE
- WATER CONTROL STRUCTURE

LEGEND - PLAN VIEWS

- ARMORED EARTHEN CONTAINMENT Dike
- IN-LINE CHECK VALVE (TS-220)
- EACH
- EARTHEN CONTAINMENT Dike
- EARTHEN PLUG
- EQUIPMENT ACCESS CORRIDOR
- GRADE STAKE
- INSTRUMENTED SETTLEMENT PLATE
- MANTICOMETER ANOMALY
- MARSH CREATION AREA
- MARSH CREATION BORROW AREA
- MARSH CREATION BORROW AREA
- MARSH NOURISHMENT AREA
- SETTLEMENT PLATE
- SOIL BORING
- SURVEY MONUMENT
- SURVEY TRANSIENT
- TEMPORARY SOIL
- VERIFIED PIPELINE
- WATER CONTROL STRUCTURE

ABBREVIATIONS:
AGS - ARTICULATED CONCRETE BLOCK
CMS - CONSTRUCTED MARSH FILL
CPT - CONE PENETRATION TEST
CY - CUBIC YARD
DPC - DREDGE PIPELINE CORRIDOR
EAC - EQUIPMENT ACCESS CORRIDOR
ECO - EQUIPMENT CONTAINMENT Dike
ECOBA - EQUIPMENT CONTAINMENT Dike
EP - EARTHEN PLUG
EL - ELEVATION
FT - FOOT
IS - INSTRUMENTED SETTLEMENT PLATE
LF - LINEAR FOOT
LS - LUMP SUM
MBR - THOUSAND BOARD FEET MEASURE
MCA - MARSH CREATION AREA
MCR - MARSH CREATION BORROW AREA
MNA - MARSH NOURISHMENT AREA
NTD - NOT TO SCALE
PL - PIPING
SM - SURVEY MONUMENT
SP - SETTLEMENT PLATE
ST - SURVEY TRANSIENT
SY - SQUARE YARD
TS - TEMPORARY SOIL
WCS - WATER CONTROL STRUCTURE

SUMMARY OF ESTIMATED QUANTITIES

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<th>DESCRIPTION</th>
<th>UNIT</th>
<th>ESTIMATED QUANTITY</th>
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<td>HYDRAULIC DREDGE MOBILIZATION/DEMOBILIZATION (TS-100)</td>
<td>LS</td>
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<td>2</td>
<td>DREDGE PIPELINE MOBILIZATION, INSTALLATION &amp; DEMOBILIZATION (TS-101)</td>
<td>LS</td>
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<td>3</td>
<td>GENERAL MOBILIZATION/DEMOBILIZATION (TS-102)</td>
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<tr>
<td>4</td>
<td>SURVEYS (TS-210)</td>
<td>LS</td>
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<td>5</td>
<td>GRADE STAKES (TS-220)</td>
<td>EACH</td>
<td>87</td>
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<td>6</td>
<td>SETTLEMENT PLATES (TS-250)</td>
<td>EACH</td>
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<td>7</td>
<td>INSTRUMENTED SETTLEMENT PLATES (TS-251)</td>
<td>LS</td>
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<td>8</td>
<td>EARTHEN CONTAINMENT Dikes (TS-300)</td>
<td>LF</td>
<td>41.571</td>
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<td>9</td>
<td>EARTH WORK (TS-310)</td>
<td>LS</td>
<td>1</td>
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<td>10</td>
<td>MARSH CREATION BORROW AREA ACCESS CORRIDOR (TS-330)</td>
<td>LS</td>
<td>1</td>
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<tr>
<td>11</td>
<td>HYDRAULIC DREDGING AND MARSH FILL (TS-400)</td>
<td>CY</td>
<td>1,190,689</td>
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<td>12</td>
<td>CORRUGATED METAL PIPE (TS-510)</td>
<td>LF</td>
<td>1,200</td>
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<td>13</td>
<td>IN-LINE CHECK VALVE (TS-220)</td>
<td>EACH</td>
<td>21</td>
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<td>14</td>
<td>NON-WOVEN GEOTEXTILE (TS-640)</td>
<td>SY</td>
<td>8,120</td>
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<td>15</td>
<td>ARTIFICIAL CONCRETE BLOCK MAT (TS-700)</td>
<td>SY</td>
<td>7,390</td>
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<td>TREATED TIMBER PILES (TS-950)</td>
<td>EACH</td>
<td>220</td>
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<td>17</td>
<td>TREATED TIMBER (TS-855)</td>
<td>MFTM</td>
<td>7,8</td>
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1. THE QUANTITIES SHOWN WERE CALCULATED FROM THE DESIGN SURVEY. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES 25% HIGHER OR LOWER WITHOUT ADJUSTMENT OF THE UNIT PRICE.
2. QUANTITY IS BASED ON THE BORROW AREA CUT VOLUMES. PAYMENT QUANTITY WILL BE BASED ON PROCESS SURVEYS OF THE MARSH CREATION BORROW AREA.
NOTES:
1. DECANTED WATER FROM THE MARSH CREATION AREAS SHALL BE DISCHARGED INTO THE ADJACENT MARSH NUTRITION AREAS.
2. NO EQUIPMENT SHALL BE ALLOWED TO CROSS THE ACADIAN PIPELINE OVER LAND. EQUIPMENT SHALL REMAIN FLOATING AT ALL TIMES WHEN CROSSING ACADIAN PIPELINE OVER WATER.

ESTIMATED QUANTITIES

<table>
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<tr>
<th>MCA</th>
<th>VOLUME (CY)</th>
<th>AREA (ACRES)</th>
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<tr>
<td>MCA 1</td>
<td>46.304</td>
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<td>MCA 2</td>
<td>229.528</td>
<td>109</td>
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<tr>
<td>ECD</td>
<td></td>
<td></td>
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<tr>
<td>MCA 1 (ARMORED)</td>
<td>2.641</td>
<td>805</td>
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<tr>
<td>MCA 1</td>
<td>6.491</td>
<td>5.073</td>
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CONCRETE MATS/FABRIC AREA (SQ FT)
- NON-WOVEN GEOTEXTILE FABRIC: 4,260
- ARTICULATED CONCRETE BLOCK MAT: 4,444
MCBA ACCESS CORRIDOR

TYPICAL SECTION

NOTES:
1. THE CONTRACTOR IS NOT REQUIRED TO EXCAVATE MCBA ACCESS CORRIDOR TO THE FULL WIDTH OR DEPTH SHOWN.
2. PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
3. TEMPORARY AIDS TO NAVIGATION SHALL BE INSTALLED ALONG TS PLACEMENT AREAS PER UNITED STATES COAST GUARD REQUIREMENTS.
4. TS SHALL BE BACKFILLED PRIOR TO GENERAL DEMOBILIZATION.
PLAN VIEW

SECTION VIEW

DP CROSSING AT UNKNOWN AND ACADIAN PL

NOTE:
PIPELINE INFORMATION SHOWN ON PLANS IS APPROXIMATE.
THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS PRIOR TO
BEGINNING CONSTRUCTION.
### ECD AND BORROW AREA GEOMETRIES

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<th>MARSH CREATION AREA</th>
<th>DIKE</th>
<th>BORROW</th>
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<tbody>
<tr>
<td></td>
<td>CREST WIDTH (FT)</td>
<td>CREST HEIGHT (FT)</td>
<td>SIDE SLOPES (RISE:RUN)</td>
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<tr>
<td>MCA 3 (EXTERIOR DIKE BORROW)</td>
<td>3</td>
<td>5</td>
<td>4.5 (MAX)</td>
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<tr>
<td>MCA 3 (INTERIOR DIKE BORROW)</td>
<td>3</td>
<td>5</td>
<td>4.5 (MAX)</td>
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#### MCA 3 - EXTERIOR DIKE BORROW
**TYPICAL SECTION**

- **South**
  - EL = +3.5' + 1:0
  - ECD
  - 25.0' (MIN)
  - CMF EL = +2.5 (MAX) - 0.5
  - MHW = +0.88
  - MLW = -0.88
  - Existing Water Bottom

- **North**
  - EL = +3.5' + 1:0
  - ECD
  - 25.0' MIN
  - CMF EL = +2.5 (MAX) - 0.5
  - MHW = +0.88
  - MLW = -0.88
  - Existing Water Bottom

#### MCA 3 - INTERIOR DIKE BORROW
**TYPICAL SECTION**

- **South**
  - EL = -5.0' (MAX)
  - ECD
  - Varies

- **North**
  - EL = -5.0' (MAX)
  - ECD
  - Varies

---

**HORIZONTAL GRAPHIC SCALE**

- 100' - 50' - 10' - 5' - 2.5' - 0' - 100' - 50' - 2.5' - 5' - 10'

**VERTICAL GRAPHIC SCALE**

- -6' - -4' - -2' - 0' - 2' - 4' - 6'
**NOTES:**
1. THE INLINE CHECK VALVE SHALL BE PLACED INSIDE THE CMP A MINIMUM OF 6" FROM THE EDGE OF PIPE.
2. INTAKE AND OUTFALL COORDINATES DENOTE CENTERLINE OF PIPE.
3. ACB MAT DIMENSIONS SHALL BE 8' X 20'.
4. ACB MATS TO BE FIT/CUT AT EACH CMP INTAKE/OUTFALL.
5. SEE SHEET 24 FOR TIMBER PILE AND TIMBER JOIST DETAILS.
NOTES:
1. THE INLINE CHECK VALVE SHALL BE PLACED INSIDE THE CMP A MINIMUM OF 6' FROM THE EDGE OF PIPE.
2. INTAKE AND OUTFALL COORDINATES DENOTE CENTERLINE OF PIPE.
3. ACB MAT DIMENSIONS SHALL BE 5' X 20'.
4. ACB MATS TO BE FIT/CUT AT EACH CMP INTAKE/OUTFALL.
5. SEE SHEET 24 FOR TIMBER PILE AND TIMBER JOIST DETAILS.
NOTES:
1. THE INLINE CHECK VALVE SHALL BE PLACED INSIDE THE CMP A MINIMUM OF 6" FROM THE EDGE OF PIPE.
2. INTAKE AND OUTFALL COORDINATES DENOTE CENTRLINE OF PIPE.
3. ACR MAT DIMENSIONS SHALL BE 8" X 20".
4. ACR MATS TO BE FIT/CUT AT EACH CMP INTAKE/OUTFALL.
5. SEE SHEET 24 FOR TIMBER PILE AND TIMBER JOIST DETAILS.
NOTES:
1. ALL CROSSES SHALL BE RECESSED 2" AT THE LOCATION OF THE PIPE.

PROFILE OF PIPE
N.T.S
GRADE STAKE

2" X 4" X 12" UNTREATED TIMBER

BACKGROUND SHADING: RED
CMF ELEVATION
LOWER TOLERANCE

BACKGROUND SHADING: GREEN
0.5"

4" X 36" X 0.12" GAUGE RIGID SUBSTRATE WITH ENGINEER-GRADE REFLECTIVE SHEETING

NOTE:
CONTRACTOR TO COORDINATE WITH IN-LINE VALVE MANUFACTURER PRIOR TO PROCUREMENT.

4" IN-LINE CHECK VALVE
NTS

CLAMPS (MIN. 2)
80.0" (MAX.)
6" (MIN.)
41.5" I.D.
42" Dia. 12 GAUGE CORRUGATED METAL PIPE

GRADE STAKES

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<tr>
<th>GSC</th>
<th>CMF ELEVATION (NAVDBS)</th>
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<tr>
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<tr>
<td>2</td>
<td>+2.0</td>
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<tr>
<td>3</td>
<td>+2.5</td>
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