COASTAL TEXAS PROTECTION AND RESTORATION FEASIBILITY STUDY

ECOSYSTEM RESTORATION CONCEPTUAL DRAWINGS

VICINITY MAP
(NOT TO SCALE)

<table>
<thead>
<tr>
<th>SHEET NO.</th>
<th>TITLE</th>
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<tbody>
<tr>
<td>1</td>
<td>COVER SHEET</td>
</tr>
<tr>
<td>2</td>
<td>B-2 FOLETS ISLAND GULF BEACH &amp; DUNE RESTORATION</td>
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<tr>
<td>3</td>
<td>G-26 BOLIVAR PENINSULA &amp; WEST BAY GIWW SHORELINE &amp; ISLAND PROTECTION (WEST)</td>
</tr>
<tr>
<td>4</td>
<td>G-26 BOLIVAR PENINSULA &amp; WEST BAY GIWW SHORELINE &amp; ISLAND PROTECTION (WEST)</td>
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<td>5</td>
<td>G-26 BOLIVAR PENINSULA &amp; WEST BAY GIWW SHORELINE &amp; ISLAND PROTECTION (WEST)</td>
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<tr>
<td>6</td>
<td>G-26 BOLIVAR PENINSULA &amp; WEST BAY GIWW SHORELINE &amp; ISLAND PROTECTION (EAST)</td>
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<tr>
<td>7</td>
<td>G-26 BOLIVAR PENINSULA &amp; WEST BAY GIWW SHORELINE &amp; ISLAND PROTECTION (EAST)</td>
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<tr>
<td>8</td>
<td>G-12 BASTROP BAY, OYSTER LACE, WEST BAY &amp; GIWW SHORELINE PROTECTION</td>
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<tr>
<td>9</td>
<td>M-8 EAST MATAGORDA BAY SHORELINE PROTECTION</td>
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<tr>
<td>10</td>
<td>M-8 EAST MATAGORDA BAY SHORELINE PROTECTION</td>
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<tr>
<td>11</td>
<td>M-8 EAST MATAGORDA BAY SHORELINE PROTECTION</td>
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<tr>
<td>12</td>
<td>CA-6 KILLER BAY RESTORATION</td>
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<td>13</td>
<td>CA-6 PONDERHORN SHORELINE PROTECTION &amp; INTERTIDAL RESTORATION</td>
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<tr>
<td>14</td>
<td>CA-6 PONDERHORN SHORELINE PROTECTION &amp; INTERTIDAL RESTORATION</td>
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<tr>
<td>15</td>
<td>SP-1 REDFISH BAY PROTECTION &amp; ENHANCEMENT</td>
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<td>16</td>
<td>SP-1 REDFISH BAY PROTECTION &amp; ENHANCEMENT</td>
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<tr>
<td>17</td>
<td>W-3 PORT MANSFIELD CHANNEL, ISLAND ROCKERY &amp; HYDROLOGIC RESTORATION</td>
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<td>18</td>
<td>W-3 PORT MANSFIELD CHANNEL, ISLAND ROCKERY &amp; HYDROLOGIC RESTORATION</td>
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<td>19</td>
<td>W-3 PORT MANSFIELD CHANNEL, ISLAND ROCKERY &amp; HYDROLOGIC RESTORATION</td>
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<tr>
<td>20</td>
<td>W-3 PORT MANSFIELD CHANNEL, ISLAND ROCKERY &amp; HYDROLOGIC RESTORATION</td>
</tr>
</tbody>
</table>
NOTES:

1. ALL ELEVATIONS IN FEET NAVD88.
2. DATUMS FROM NOAA GAGE 877486 GALVESTON RAILROAD BRIDGE, TX.
NOTES:
1. OYSTER CULCH TO BE PLACED WITHIN OYSTER REEF TEMPLATE. FINAL ELEVATION AND SLOPES OF OYSTER CULCH PLACEMENT TO BE DETERMINED DURING FINAL DESIGN.
2. ALL ELEVATIONS IN FEET NAVD88.
NOTES:
1. ALL ELEVATIONS IN FEET NAVD88.
2. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 8771486 GALVESTON RAILROAD BRIDGE, TX.
NOTES:
1. ALL ELEVATIONS IN FEET NAVD88.
2. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46'-WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 871448 GALVESTON RAILROAD BRIDGE, TX.
NOTES:

1. OYSTER CULT TO BE PLACED WITHIN OYSTER REEF TEMPLATE. FINAL ELEVATION AND SLOPES OF OYSTER CULT PLACEMENT TO BE DETERMINED DURING FINAL DESIGN.
2. ALL ELEVATIONS IN FEET NAVD88.
3. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
4. DATUMS FROM NOAA GAGE 8771972, SAN LUIS PASS, TX.
NOTES:
1. ALL ELEVATIONS IN FEET NAVD88.
2. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 8771972, SAN LUIS PASS, TX.

LEGEND
- REVIETMENT / BREAKWATER
- GIWW INTRACOASTAL WATERWAY (GIWW)

B-12: COMBINED BREAKWATER & MARSH RESTORATION
TYPICAL SECTION

- MATCH EXISTING GRADE
- T.O. BERM EL +2'
- CONFINEMENT BERM
- MATCH EXISTING GRADE
- ARMOR LAYER
- 1' THICK BEDDING LAYER
- GI WW
- T.O. BREAKWATER EL +7'
- EL +1'
- 2H:1V SLOPE VARIES, SEE NOTE 1
- GEOTEXTILE

B-12: BASTROP BAY, OYSTER LAKE, WEST BAY, & GIWW SHORELINE PROTECTION
COASTAL TEXAS PROTECTION AND RESTORATION FEASIBILITY STUDY
U.S. ARMY ENGINEER DISTRICT, GALVESTON, TEXAS

ENGINEERING APPENDIX
DATED: JULY 28, 2020
MOTT MACDONALD

SHEET 9
NOTES:
1. OYSTER CULTIVATION TO BE PLACED WITHIN OYSTER REEF TEMPLATE. FINAL ELEVATION AND SLOPES OF OYSTER CULTIVATION TO BE DETERMINED DURING FINAL DESIGN.
2. ALL ELEVATIONS IN FEET NAVD88.
3. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
4. DATUMS FROM NOAA GAGE 8773037 SEADRIFT, TX

ENGINEERING APPENDIX:
DATED:
JULY 28, 2020
WATT MACDONALD
NOTES:
1. OYSTER CULCH TO BE PLACED WITHIN OYSTER REEF TEMPLATE. FINAL ELEVATION AND SLOPES OF OYSTER CULCH PLACEMENT TO BE DETERMINED DURING FINAL DESIGN.
2. ALL ELEVATIONS IN NAVD88.
3. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
4. DATUMS FROM NOAA GAGE 8773037 SEADRIFT, TX
M-8: EAST MATAGORDA BAY SHORELINE PROTECTION

NOTES:
1. ALL ELEVATIONS IN FEET NAVD88.
2. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 8773037 SEADRIFT, TX

LEGEND
- WETLAND MARSH RESTORATION
- REVETMENT / BREAKWATER
- GULF INTRACOASTAL WATERWAY (GIWW)

ENGINEERING APPENDIX
DATED: JULY 28, 2020
MOTT MACDONALD
NOTES:
1. OYSTER CULTCH TO BE PLACED WITHIN OYSTER REEF TEMPLATE. FINAL ELEVATION AND SLOPES OF OYSTER CULTCH PLACEMENT TO BE DETERMINED DURING FINAL DESIGN.
2. VARY SLOPES OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 8773037 SEADRIFT, TX.
NOTES:

1. ALL ELEVATIONS IN FEET NAVD88.
2. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 8773037 SEADRIFT, TX.
NOTES:
1. ALL ELEVATIONS IN FEET NAVD88.
2. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 8773037 SEADRIFT, TX.
NOTES:
1. OYSTER CULCH TO BE PLACED WITHIN OYSTER REEF TEMPLATE. FINAL ELEVATION AND SLOPES OF OYSTER CULCH PLACEMENT TO BE DETERMINED DURING FINAL DESIGN.
2. ALL ELEVATIONS IN NAVD88.
3. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
4. DATUMS FROM NOAA GAGE 0775237, PORT ARANSAS TX

LEGEND
- ISLAND RESTORATION
- REVETMENT / BREAKWATER
- OYSTER REEF
- GULF INTRACOASTAL WATERWAY (GIWW)
NOTES:
1. OYSTER CULCH TO BE PLACED WITHIN OYSTER REEF TEMPLATE. FINAL ELEVATION AND SLOPES OF OYSTER CULCH PLACEMENT TO BE DETERMINED DURING FINAL DESIGN.
2. ALL ELEVATIONS IN FEET NAVD88.
3. VARY SLOPE OF BREAKWATER TO ELEVATION OF OYSTER REEF TEMPLATE.
4. DATUMS FROM NOAA GAGE 8715237, PORT ARANSAS TX
NOTES:
1. ALL ELEVATIONS IN FEET NAVD88.
2. DATUMS FROM NOAA GAGE 8775237, PORT ARANSAS TX.
NOTES:
1. ALL ELEVATIONS IN FEET NAVD88.
2. VARY SLOPE OF BREAKWATER TOE SO THAT STONE IS PLACED WITHIN THE 46.0' WIDE BREAKWATER TEMPLATE.
3. DATUMS FROM NOAA GAGE 8779770, PORT ISABEL, TX

LEGEND
- ISLAND RESTORATION
- REVETMENT / BREAKWATER
- PORT MANSFIELD CHANNEL

W-3: PORT MANSFIELD CHANNEL, ISLAND ROOKERY & HYDROLOGIC RESTORATION
COASTAL TEXAS PROTECTION AND RESTORATION FEASIBILITY STUDY
ENGINEERING APPENDIX
DATED: JULY 28, 2020
MOTT MACDONALD