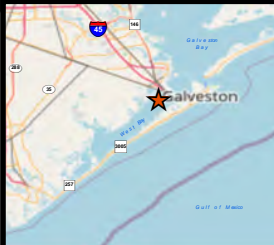






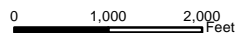
THE FOLLOWING PERMIT DRAWINGS ARE FOR PERMITTING/PLANNING PURPOSES ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION



Project Location is  
 29.297691 Latitude  
 -94.918112 Longitude  
 Virginia Point Quadrangle  
 NAD 83 State Plane Texas South Central

-  Project Location
-  Authorized BUDM Footprint

Datum: NAD 1983  
 Projection: State Plane Texas  
 South Central  
 Units: Feet  
 Basemap: ESRI Streets



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Sheet 1 of 22  
 Vicinity Map

Village of Tiki Island Maintenance Dredge, BUDM  
 and Breakwater Project

**Village of Tiki Island**  
 Galveston County, Texas

Job No.: 100072273

Scale: 1" = 2,000 feet

Prepared By: ATKINS/WHIT6392

Date: Jun 22, 2021

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— Shoreline/Bulkhead	— Authorized BUDM Footprint
- - - 20' Shoreline Offset	— Proposed BUDM Berm
▨ Proposed Sediment Basin	— Temporary Pipeline Corridor
□ Navigation and Perimeter Channels	

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial

0 400 800 Feet

**ATKINS**  
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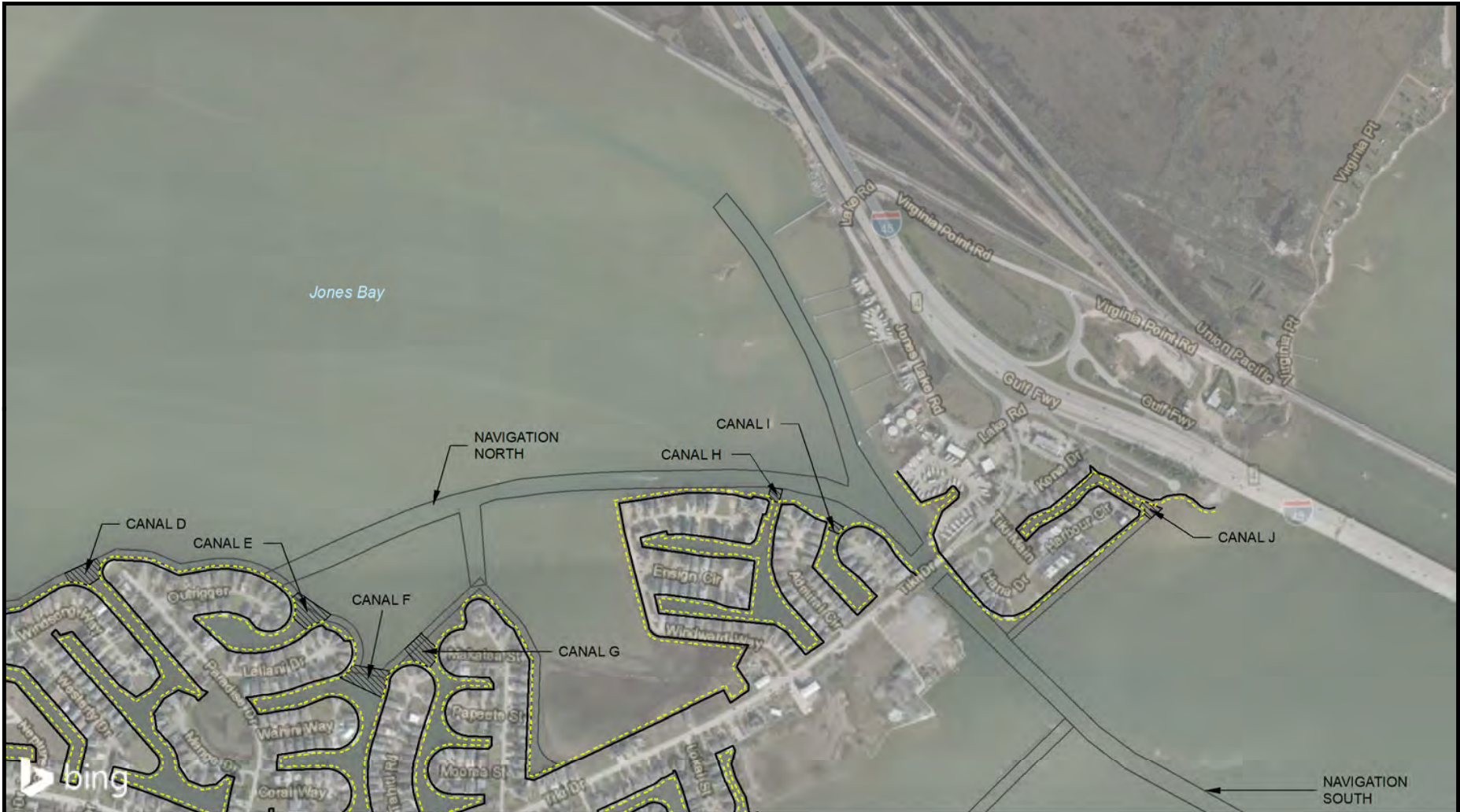
Sheet 2 of 22  
 Site Plan/Conditions

Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

**Village of Tiki Island**  
 Galveston County, Texas

Job No.: 100072273	Scale: 1" = 800 feet
Prepared By: Atkins/WHIT6392	Date: Jun 22, 2021

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<ul style="list-style-type: none"> <li> Shoreline/Bulkhead</li> <li> 20' Shoreline Offset</li> <li> Proposed Sediment Basin</li> <li> Navigation and Perimeter Channels</li> </ul>	<p>Datum: NAD 1983                  Projection: State Plane                  Texas South Central                  Units: Feet                  Basemap: Bing Maps Aerial</p>
--	--

0      400      800  
Feet

# ATKINS

Member of the SNC-Lavalin Group

Sheet 3 of 22  
 Site Plan/Conditions

Village of Tiki Island Maintenance Dredge, BUDM  
 and Breakwater Project

**Village of Tiki Island**  
 Galveston County, Texas

Job No.: 100072273	Scale: 1" = 800 feet
Prepared By: Atkins/WHIT6392	Date: Jun 23, 2021

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- Shoreline/Bulkhead
- 20' Shoreline Offset
- Proposed Sediment Basin
- Navigation and Perimeter Channels

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial

0 400 800 Feet

**ATKINS**  
 Member of the SNC-Lavalin Group

Sheet 4 of 22  
 Site Plan/Conditions

Village of Tiki Island Maintenance Dredge, BUDM  
 and Breakwater Project

**Village of Tiki Island**  
 Galveston County, Texas

Job No.: 100072273	Scale: 1" = 800 feet
Prepared By: Atkins/WHIT6392	Date: Jun 23, 2021

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Survey Source: T. Baker Smith LLC, Nov 2020

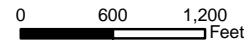


- Shoreline/Bulkhead
- - - 20' Shoreline Offset
- ▨ Proposed Sediment Basin
- Navigation and Perimeter Channels

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial

**Elevation (ft)**

- < -8.51 ft
- -8.50 ft to -8.01 ft
- -8.00 ft to -7.01 ft
- -7.00 ft to -6.51 ft
- -6.50 ft to -6.01 ft
- -6.00 ft to -5.51 ft
- -5.50 ft to -5.01 ft
- -5.00 ft to -4.51 ft
- -4.50 ft to -4.01 ft
- >= -4.00 ft



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Sheet 5 of 22  
Site Conditions and Bathymetric Survey

Village of Tiki Island Maintenance Dredge, BUDM  
and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273

Scale: 1" = 1,200 feet

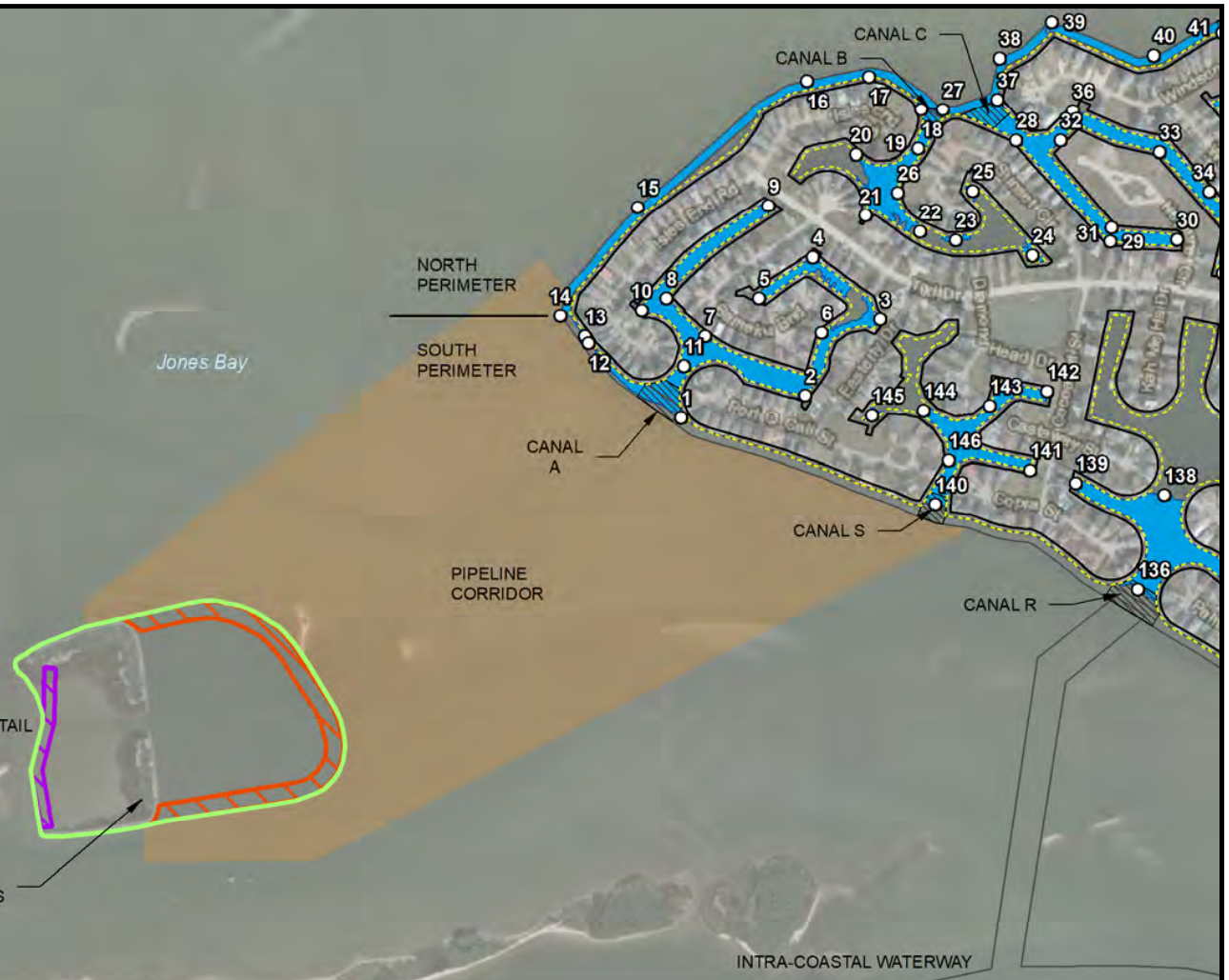
Prepared By: Atkins/WHIT6392

Date: Jun 22, 2021

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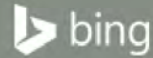
Canal	Dredge Depth (ft-NAVD88)	Approximate Toe to Toe Volume (CY)	Sediment Basin Volume -6 to -8 ft (CY)
A	-6	8,105	1,480
B	-6	1,403	408
C	-6	8,764	1,044
D	-6	1,816	1,277
E	-6	2,090	1,697
F	-6	3,423	2,058
G	-6	3,050	1,419
H	-6	3,065	0
I	-6	4,232	265
J	-6	9,743	372
K	-6	8,879	1,906
L	-6	8,155	2,031
M	-6	5,545	1,417
N	-6	3,114	891
O	-6	2,932	585
P	-6	4,157	1,484
Q	-6	3,170	33
R	-6	6,062	437
S	-6	4,544	418
Access	-6	2,845	-
North Perimeter	-6	17,309	-
South Perimeter	-6	11,984	-
Navigation North	-6	11,822	-
Navigation South	-6	10,450	-
<b>Volume</b>		<b>146,660</b>	<b>19,222</b>
<b>Total Project Volume</b>		<b>165,882</b>	

\*SUBJECT TO CHANGE UPON FINAL DESIGN



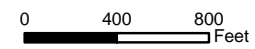
SEE SHEETS 13-17 FOR BUDM DETAIL

EXISTING BUDM BERMS



- Coordinate Point (See sheet 9 for coordinates)
- Shoreline/Bulkhead
- 20' Shoreline Offset
- Proposed Dredge Areas
- ▨ Proposed Sediment Basin
- Navigation and Perimeter Channels
- ▨ Proposed BUDM Berm A
- ▨ Proposed BUDM Berm B
- Temporary Pipeline Area
- ▭ Authorized BUDM Footprint

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial



Area Name	Acres
Canal A	4.42
Canal B	1.58
Canal C	3.43
Canal D	1.52
Canal E	1.44
Canal F	2.04
Canal G	1.59
Canal H	1.87
Canal I	1.39
Canal J	1.71
Canal K	2.82
Canal L	4.59
Canal M	3.34
Canal N	0.92
Canal O	0.84
Canal P	2.11
Canal Q	0.79
Canal R	3.04
Canal S	1.85
Perimeter	15.62



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Sheet 6 of 22  
 Proposed Maintenance Dredge Areas  
 Village of Tiki Island Maintenance Dredge, BUDM  
 and Breakwater Project

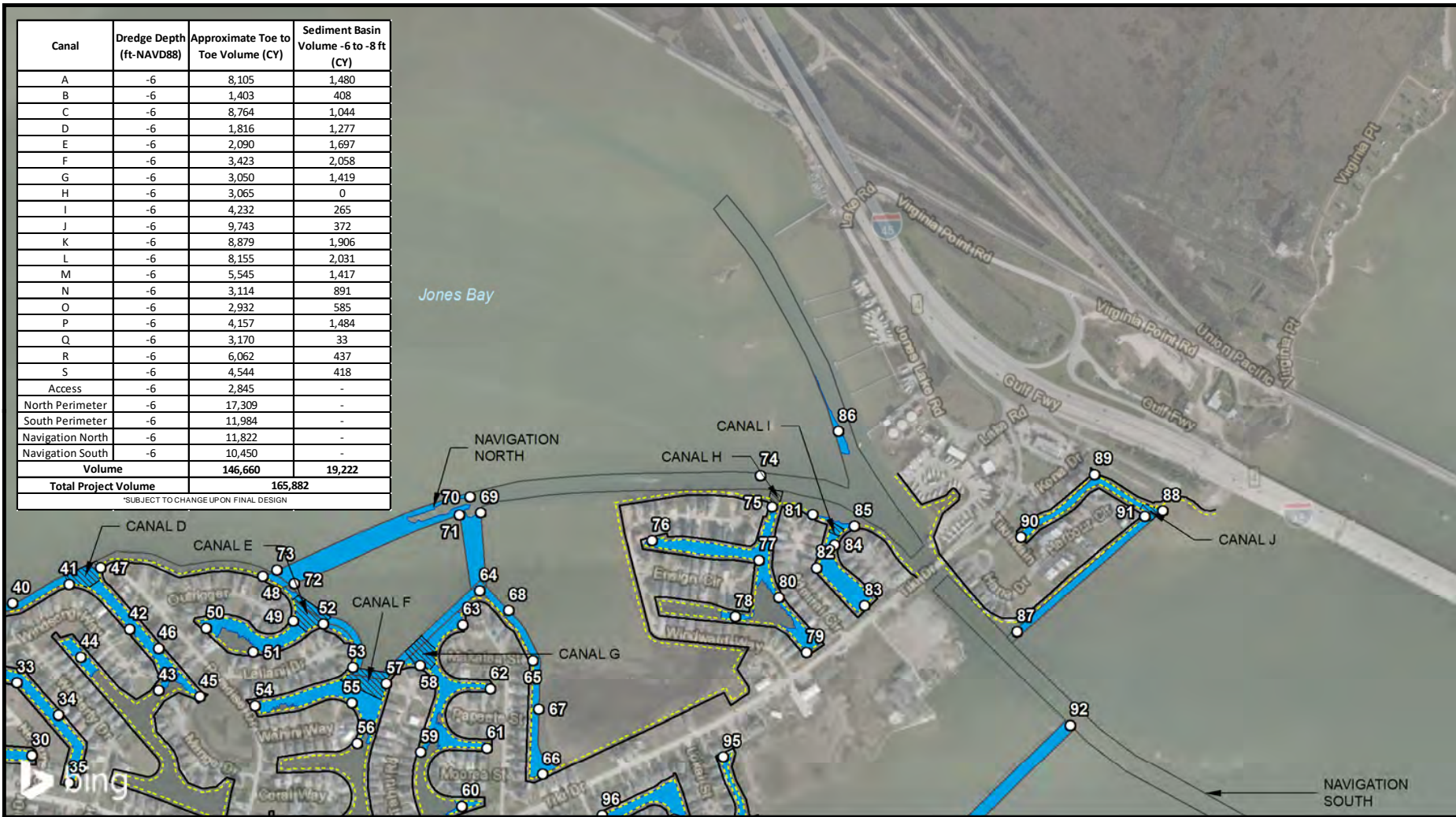
**Village of Tiki Island**  
 Galveston County, Texas

Job No.: 100072273	Scale: 1" = 800 feet
Prepared By: Atkins/WHIT6392	Date: Jun 22, 2021

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Canal	Dredge Depth (ft-NAVD88)	Approximate Toe to Toe Volume (CY)	Sediment Basin Volume -6 to -8 ft (CY)
A	-6	8,105	1,480
B	-6	1,403	408
C	-6	8,764	1,044
D	-6	1,816	1,277
E	-6	2,090	1,697
F	-6	3,423	2,058
G	-6	3,050	1,419
H	-6	3,065	0
I	-6	4,232	265
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North Perimeter	-6	17,309	-
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Navigation North	-6	11,822	-
Navigation South	-6	10,450	-
<b>Volume</b>		<b>146,660</b>	<b>19,222</b>
<b>Total Project Volume</b>		<b>165,882</b>	

\*SUBJECT TO CHANGE UPON FINAL DESIGN



- Coordinate Point (See sheet 9 for coordinates)
- Shoreline/Bulkhead
- - - 20' Shoreline Offset
- Proposed Dredge Areas
- ▨ Proposed Sediment Basin
- Navigation and Perimeter Channels

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial

0 400 800 Feet

Area Name	Acres
Canal A	4.42
Canal B	1.58
Canal C	3.43
Canal D	1.52
Canal E	1.44
Canal F	2.04
Canal G	1.59
Canal H	1.87
Canal I	1.39
Canal J	1.71
Canal K	2.82
Canal L	4.59
Canal M	3.34
Canal N	0.92
Canal O	0.84
Canal P	2.11
Canal Q	0.79
Canal R	3.04
Canal S	1.85
Perimeter	15.62

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Sheet 7 of 22  
Proposed Maintenance Dredge Areas

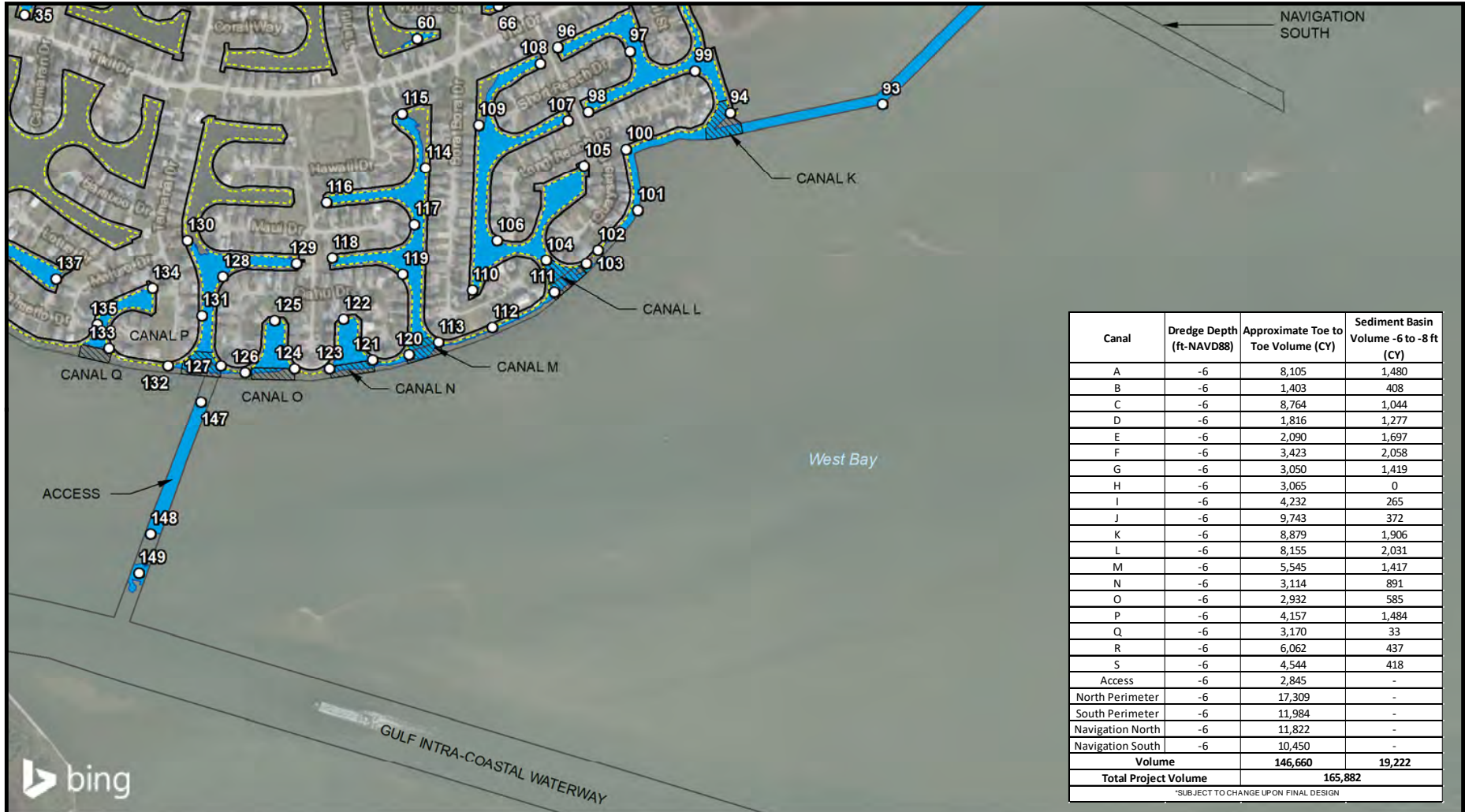
Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273	Scale: 1" = 800 feet
Prepared By: Atkins/WHIT6392	Date: Jun 23, 2021

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Microsoft Corporation, Earthstar Geographics LLC, GeoEye, Harris Corporation, NASA, and DigitalGlobe. Bing Maps Aerial. 2020. 1:9,600; generated by Atkins; using ArcMap. < http://www.bing.com/maps> (23 June 2021)



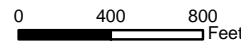
Canal	Dredge Depth (ft-NAVD88)	Approximate Toe to Toe Volume (CY)	Sediment Basin Volume -6 to -8 ft (CY)
A	-6	8,105	1,480
B	-6	1,403	408
C	-6	8,764	1,044
D	-6	1,816	1,277
E	-6	2,090	1,697
F	-6	3,423	2,058
G	-6	3,050	1,419
H	-6	3,065	0
I	-6	4,232	265
J	-6	9,743	372
K	-6	8,879	1,906
L	-6	8,155	2,031
M	-6	5,545	1,417
N	-6	3,114	891
O	-6	2,932	585
P	-6	4,157	1,484
Q	-6	3,170	33
R	-6	6,062	437
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Access	-6	2,845	-
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Navigation North	-6	11,822	-
Navigation South	-6	10,450	-
<b>Volume</b>		<b>146,660</b>	<b>19,222</b>
<b>Total Project Volume</b>			<b>165,882</b>

\*SUBJECT TO CHANGE UPON FINAL DESIGN



- Coordinate Point (See sheet 9 for coordinates)
- Shoreline/Bulkhead
- 20' Shoreline Offset
- Proposed Dredge Areas
- ▨ Proposed Sediment Basin
- Navigation and Perimeter Channels

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial



Area Name	Acres
Canal A	4.42
Canal B	1.58
Canal C	3.43
Canal D	1.52
Canal E	1.44
Canal F	2.04
Canal G	1.59
Canal H	1.87
Canal I	1.39
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Canal L	4.59
Canal M	3.34
Canal N	0.92
Canal O	0.84
Canal P	2.11
Canal Q	0.79
Canal R	3.04
Canal S	1.85
Perimeter	15.62

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Sheet 8 of 22  
 Proposed Maintenance Dredge Areas

Village of Tiki Island Maintenance Dredge, BUDM  
 and Breakwater Project

Village of Tiki Island  
 Galveston County, Texas

Job No.: 100072273      Scale: 1" = 800 feet

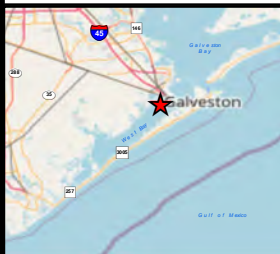
Prepared By: Atkins/WHIT6392      Date: Jun 23, 2021

N:\Clients\S\_T\Tiki\_Island\_Village\_of100072273\geoligs\permit\permit\_dredgearea\_v3.mxd



Area Name	Coordinate ID	Northing	Easting
Canal A	1	13678041.25	3266111.44
	2	13678140.71	3266676.56
	3	13678488.05	3267018.75
	4	13678771.42	3266712.14
	5	13678584.04	3266466.44
	6	13678426.45	3266752.34
	7	13678412.06	3266221.79
	8	13678585.67	3266046.48
	9	13679008.15	3266510.78
	10	13678529.27	3265932.72
	11	13678274.77	3266126.30
	12	13678379.81	3265690.08
Perimeter	13	13678409.88	3265675.96
	14	13678505.64	3265563.37
	15	13678999.79	3265915.32
	16	13679575.67	3266684.62
	17	13679595.74	3266967.16
	18	13679445.00	3267205.81
Canal B	19	13679267.41	3267191.65
	20	13679239.27	3266910.61
	21	13678962.63	3266950.90
	22	13678889.64	3267201.34
	23	13678848.70	3267362.49
	24	13678778.27	3267712.45
	25	13679076.35	3267439.72
	26	13679067.27	3267098.64
	27	13679446.69	3267303.52
Canal C	28	13679303.81	3267638.75
	29	13678843.10	3268066.83
	30	13678851.14	3268371.44
	31	13678907.38	3268070.98
	32	13679304.31	3267840.02
	33	13679251.05	3268289.61
	34	13679073.31	3268516.71
	35	13678698.27	3268577.70
	36	13679439.82	3267897.21
	37	13679490.10	3267551.82
Perimeter	38	13679677.12	3267562.31
	39	13679841.65	3267800.26
	40	13679690.29	3268264.11
	41	13679793.41	3268575.40
Canal D	42	13679544.72	3268809.44
	43	13679208.32	3269069.57
	44	13679392.85	3268639.54
	45	13679175.27	3269297.58
	46	13679442.37	3269068.88
47	13679886.20	3268749.50	
Canals E, F, G	48	13679837.59	3269643.42
	49	13679590.09	3269811.16
	50	13679551.70	3269331.03
	51	13679422.06	3269590.16
	52	13679573.69	3269977.07
	53	13679336.72	3270137.93
	54	13679123.58	3269601.47
	55	13679140.40	3270132.76
	56	13678919.38	3270162.34
	57	13679247.49	3270322.32
	58	13679348.37	3270509.30
	59	13678871.99	3270512.31
	60	13678568.20	3270739.36
	61	13678893.00	3270876.79
	62	13679217.82	3270895.36
	63	13679570.64	3270745.15
	64	13679759.73	3270839.08
	65	13679374.29	3271130.32
	66	13678745.91	3271185.51
	67	13679106.41	3271162.32
	68	13679648.98	3270997.30
	69	13680187.12	3270843.48
	70	13680276.01	3270784.54
	71	13680173.94	3270726.30
	72	13679797.61	3269816.94
	73	13679872.39	3269720.08

Area Name	Coordinate ID	Northing	Easting	
Canal H	74	13680393.37	3272384.33	
	75	13680219.90	3272449.24	
	76	13680032.70	3271786.44	
	77	13679927.33	3272375.74	
	78	13679615.51	3272245.44	
	79	13679420.22	3272636.74	
Canal I	80	13679720.80	3272485.31	
	81	13680178.26	3272671.42	
	82	13679883.09	3272692.75	
	83	13679676.22	3272958.63	
	84	13680010.52	3272792.20	
	85	13680114.64	3272901.82	
Canal J	86	13680635.04	3272813.58	
	87	13679532.46	3273798.92	
	88	13680199.19	3274600.04	
	89	13680398.27	3274224.85	
Perimeter	90	13680051.96	3273818.88	
	91	13680166.53	3274501.67	
	92	13679018.26	3274090.80	
Canal K	93	13678207.56	3273297.87	
	94	13678160.13	3272460.23	
	95	13678844.76	3272179.48	
	96	13678522.50	3271512.46	
	97	13678499.63	3271909.39	
	98	13678165.44	3271679.32	
Perimeter	99	13678394.26	3272266.10	
	100	13677962.60	3271887.35	
	101	13677624.15	3271952.15	
Canal L	102	13677403.71	3271733.42	
	103	13677330.56	3271668.73	
	104	13677347.81	3271447.02	
	105	13677872.26	3271654.29	
	106	13677458.71	3271178.58	
	107	13678116.87	3271566.44	
	108	13678432.66	3271416.51	
	109	13678091.92	3271077.36	
	110	13677182.46	3271041.57	
	111	13677171.35	3271493.78	
Perimeter	112	13676980.79	3271152.13	
Canal M	113	13676898.87	3270855.56	
	114	13677859.42	3270784.76	
	115	13678155.01	3270654.89	
	116	13677665.15	3270240.47	
	117	13677546.21	3270722.91	
	118	13677360.97	3270271.61	
Canal N	119	13677271.55	3270658.24	
	120	13676828.25	3270692.34	
	121	13676798.66	3270493.65	
	122	13677026.32	3270332.29	
	123	13676751.36	3270255.04	
	124	13676752.32	3270064.19	
	125	13677016.48	3269954.19	
	126	13676730.80	3269792.55	
	Canal P	127	13676767.94	3269658.06
		128	13677256.77	3269668.64
		129	13677329.25	3270074.92
		130	13677458.21	3269473.15
131		13677045.01	3269554.88	
132		13676765.98	3269367.86	
Canal Q	133	13676861.75	3269042.14	
	134	13677193.04	3269281.48	
	135	13676996.00	3268977.14	
	136	13677258.53	3268192.00	
	137	13677245.32	3268752.78	
Canal R	138	13677689.09	3268312.72	
	139	13677741.45	3267908.73	
	140	13677644.93	3267270.46	
	141	13677800.21	3267702.34	
	142	13678160.28	3267778.64	
	143	13678092.92	3267518.15	
Canal S	144	13678072.46	3267215.67	
	145	13678049.82	3266981.12	
	146	13677844.69	3267331.44	
	147	13676569.60	3269549.83	
	148	13675840.87	3269271.32	
	149	13675627.40	3269206.29	



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Sheet 9 of 22  
Maintenance Dredge Coordinates

Village of Tiki Island Maintenance Dredge, BUDM  
and Breakwater Project

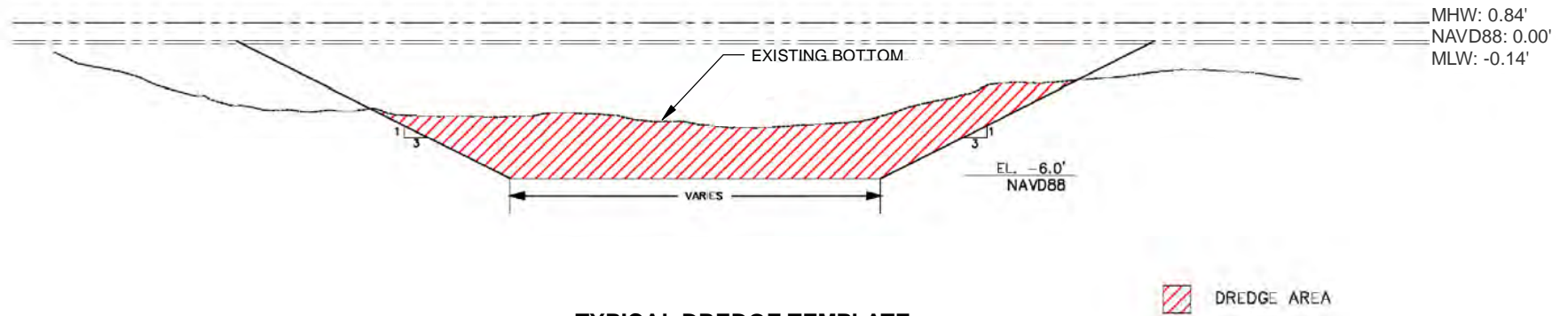
Village of Tiki Island  
Galveston County, Texas

Job No.: 100072273

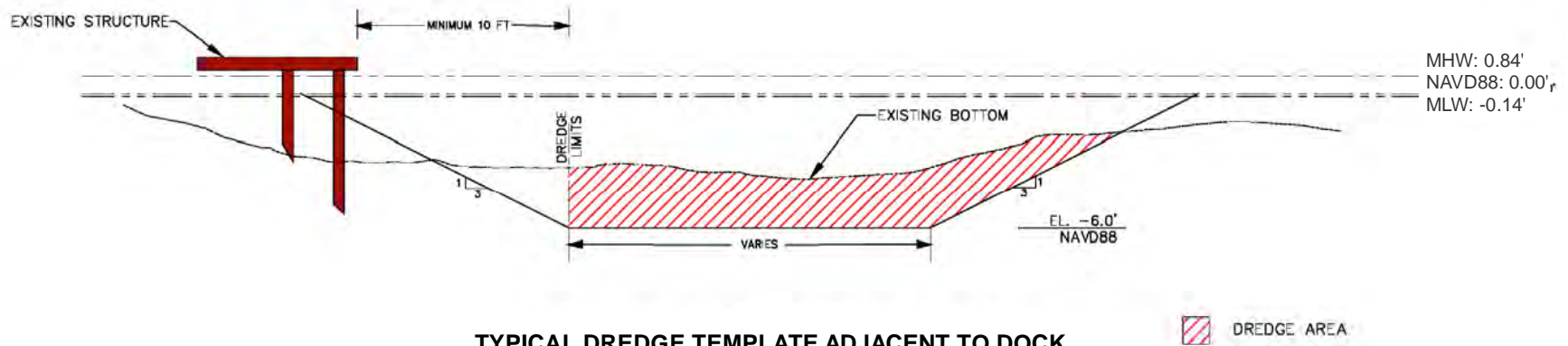
Scale:

Prepared By: ATKINS/WHIT6392

Date: Jun 22, 2021



**TYPICAL DREDGE TEMPLATE**  
NTS



**TYPICAL DREDGE TEMPLATE ADJACENT TO DOCK**  
NTS



**NOTES:**

1. TIDAL DATUMS ARE REFERENCED TO NAVD88 USING NOAA'S TIDE GAUGE STATION 8771486, 1983-2001 EPOCH, AT THE GALVESTON RAILROAD BRIDGE.
2. DREDGE TEMPLATE TO MAINTAIN A MINIMUM 20 FEET FROM BULKHEAD/SHORELINE OR MINIMUM 10 FEET FROM EXISTING STRUCTURE, WHICHEVER IS GREATER.

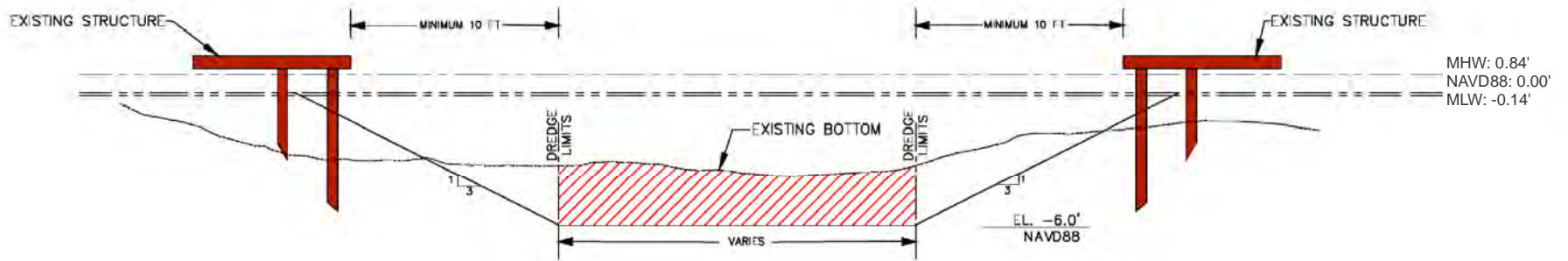
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Sheet 10 of 22  
Typical Canal and Access Channel Sections  
Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273	Scale: Not to Scale
Prepared By: Atkins/WHIT6392	Date: Jun 22, 2021



**TYPICAL DREDGE TEMPLATE ADJACENT TO DOCKS**  
NTS

DREDGE AREA



**NOTES:**

1. TIDAL DATUMS ARE REFERENCED TO NAVD88 USING NOAA'S TIDE GAUGE STATION 8771486, 1983-2001 EPOCH, AT THE GALVESTON RAILROAD BRIDGE.
2. DREDGE TEMPLATE TO MAINTAIN A MINIMUM 20 FEET FROM BULKHEAD/SHORELINE OR MINIMUM 10 FEET FROM EXISTING STRUCTURE, WHICHEVER IS GREATER.

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Sheet 11 of 22  
Typical Canal and Access Channel Sections  
Village of Tiki Island Maintenance Dredge, BUDM  
and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

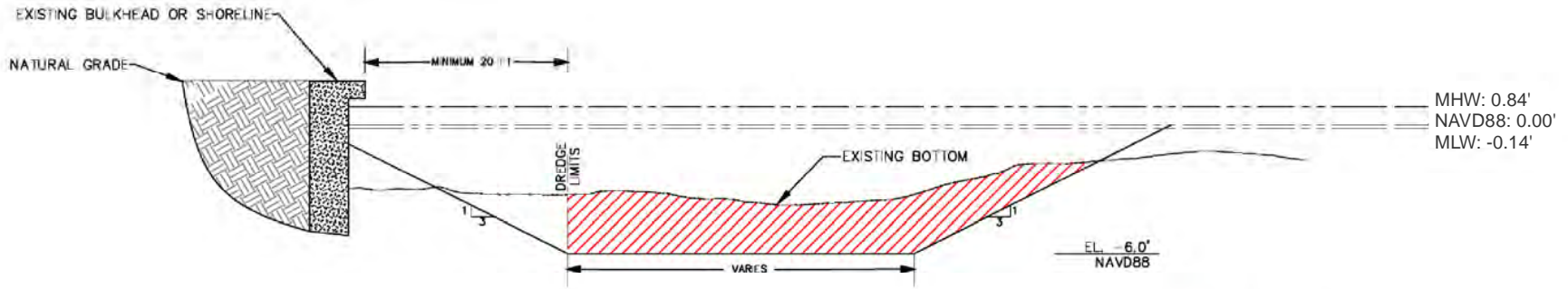
Job No.: 100072273

Scale: Not to Scale

Prepared By: Atkins/WHIT6392

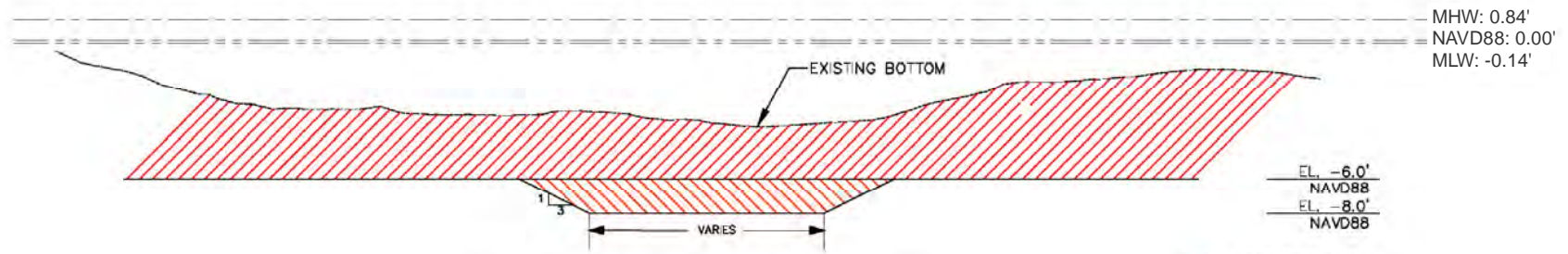
Date: Jun 22, 2021

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**TYPICAL DREDGE TEMPLATE ADJACENT TO SEAWALL**  
NTS

DREDGE AREA



**TYPICAL SEDIMENT BASIN DREDGE TEMPLATE**  
NTS

SEDIMENT BASIN DREDGE AREA  
 CANAL DREDGE AREA



**NOTES:**

1. TIDAL DATUMS ARE REFERENCED TO NAVD88 USING NOAA'S TIDE GAUGE STATION 8771486, 1983-2001 EPOCH, AT THE GALVESTON RAILROAD BRIDGE.
2. DREDGE TEMPLATE TO MAINTAIN A MINIMUM 20 FEET FROM BULKHEAD/SHORELINE OR MINIMUM 10 FEET FROM EXISTING STRUCTURE, WHICHEVER IS GREATER.

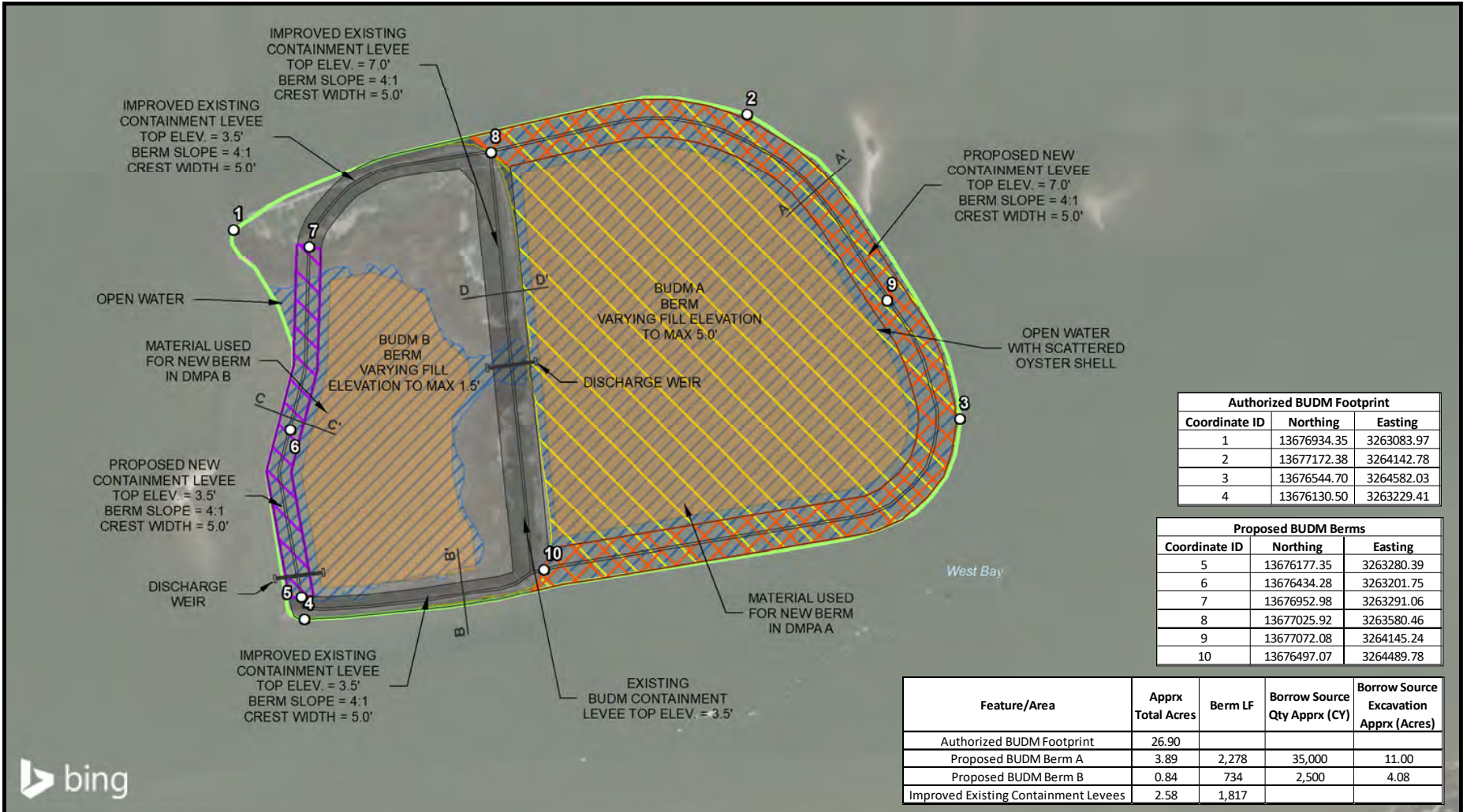
**ATKINS**

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Sheet 12 of 22  
Typical Canal and Access Channel Sections  
Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273	Scale: Not to Scale
Prepared By: Atkins/WHIT6392	Date: Jun 22, 2021



Authorized BUDM Footprint		
Coordinate ID	Northing	Easting
1	13676934.35	3263083.97
2	13677172.38	3264142.78
3	13676544.70	3264582.03
4	13676130.50	3263229.41

Proposed BUDM Berms		
Coordinate ID	Northing	Easting
5	13676177.35	3263280.39
6	13676434.28	3263201.75
7	13676952.98	3263291.06
8	13677025.92	3263580.46
9	13677072.08	3264145.24
10	13676497.07	3264489.78

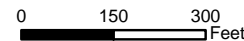
Feature/Area	Apprx Total Acres	Berm LF	Borrow Source Qty Apprx (CY)	Borrow Source Excavation Apprx (Acres)
Authorized BUDM Footprint	26.90			
Proposed BUDM Berm A	3.89	2,278	35,000	11.00
Proposed BUDM Berm B	0.84	734	2,500	4.08
Improved Existing Containment Levees	2.58	1,817		



- Proposed BUDM Berm A
- Proposed BUDM Berm B
- Proposed Excavation for New Berm
- Existing Levee
- Scattered Oysters
- Open Water (22.1 acres)
- Authorized BUDM Footprint (26.90 acres)

Approx. Total Quantity of Revetment Stone = 9,200 CY  
Includes both armor and bedding stone quantities for berm A and B

Datum: NAD 1983  
Projection: State Plane  
Texas South Central  
Units: Feet  
Basemap: Bing Maps Aerial



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Sheet 13 of 22  
BUDM Pre-Dredge Initial Conditions

Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

Village of Tiki Island  
Galveston County, Texas

Job No.: 100072273 Scale: 1" = 300 feet

Prepared By: Atkins/WHIT6392 Date: Jun 22, 2021

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	Proposed Dewatering Channel		Existing Levee
	Proposed Tidal Exchange Opening		Authorized BUDM Footprint
	Proposed BUDM Filled Areas		
	Proposed BUDM Berm A		
	Proposed BUDM Berm B		

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial

0 150 300 Feet

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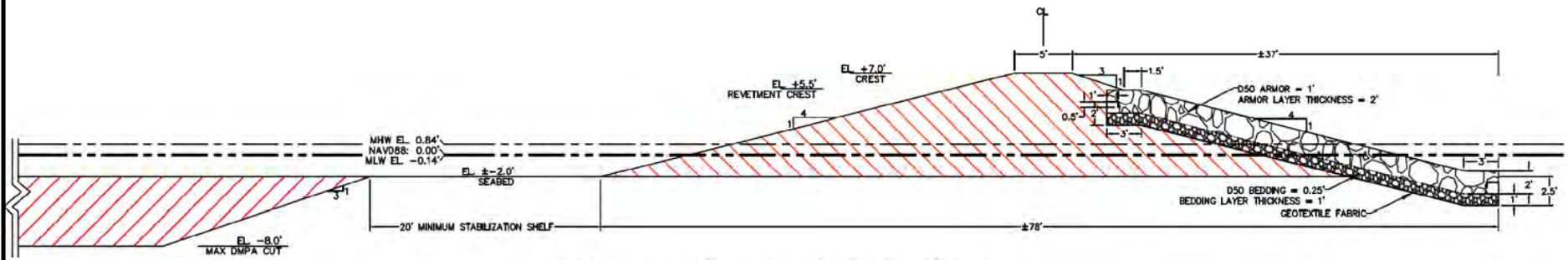
Sheet 14 of 22  
 BUDM Post-Construction Conditions

Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

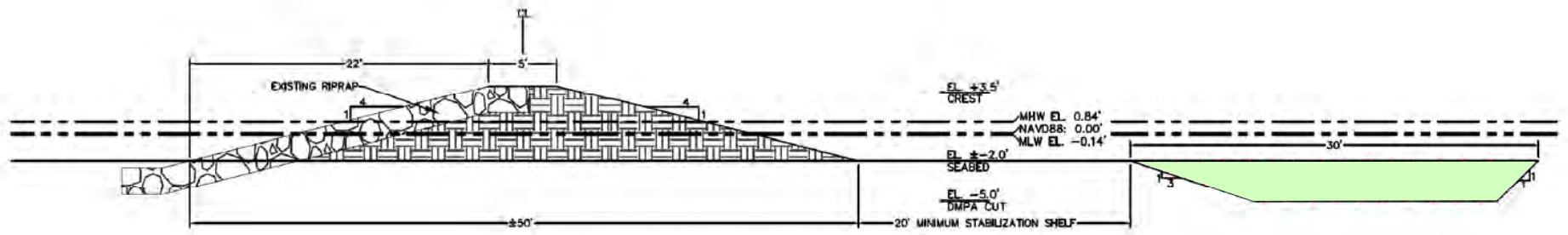
**Village of Tiki Island**  
 Galveston County, Texas

Job No.: 100072273	Scale: 1" = 300 feet
Prepared By: Atkins/WHIT6392	Date: Jun 22, 2021

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TYPICAL BUDM A EXTERIOR TEMPLATE A-A'  
NTS



TYPICAL EXISTING BUDM B BERM TEMPLATE B-B'  
NTS



-  Berm Fill Material
-  Excavated BUDM Berm Material
-  Existing Berm
-  Excavated as Needed to Construct BUDM Berm

- NOTES:
- TIDAL DATUMS ARE REFERENCED TO NAVD88 USING NOAA'S TIDE GAUGE STATION 8771486, 1983-2001 EPOCH, AT THE GALVESTON RAILROAD BRIDGE
  - ALL ELEVATIONS ARE IN FEET AND REFERENCE NAVD88.
  - STONE MATERIAL SPECIFIED IN THESE PLANS IS LIMESTONE WITH A MINIMUM UNIT WEIGHT OF 135 POUNDS PER CUBIC FOOT
  - GEOTEXTILE FABRIC SHALL BE PERVIOUS, WOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS, WHICH ARE FORMED INTO A STABLE NETWORK SUCH THAT THE FIBERS RETAIN THEIR RELATIVE POSITION. GEOTEXTILE FABRIC SHALL MEET OR EXCEED THE REQUIREMENTS OF AASHTO M288-92 MIRAFL FW 404 GEOTEXTILE FABRIC (OR ENGINEER-APPROVED EQUAL).
  - TIE IN OF GEOTEXTILE MATERIAL AT TOE TO MATCH DIMENSIONS AT CREST.
  - LEVEE WILL BE REDUCED TO NATURAL GRADE AFTER CONSTRUCTION IN SPECIFIED AREAS FOR TIDAL EXCHANGE.

**ATKINS**

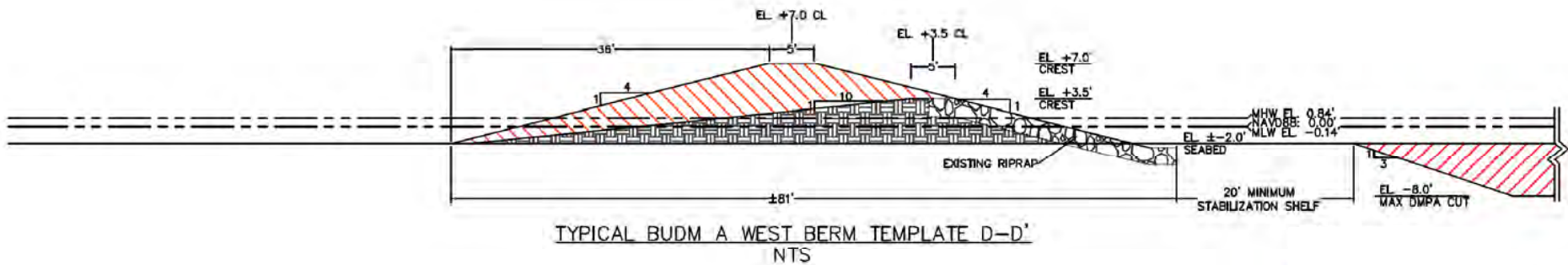
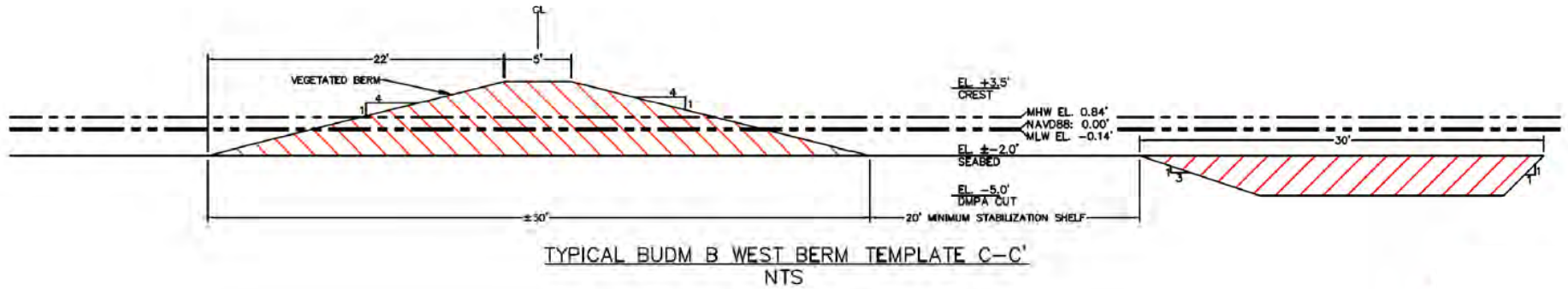
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Sheet 15 of 22  
Typical Section BUDM

Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

Village of Tiki Island  
Galveston County, Texas

Job No.: 100072273	Scale: Not to Scale
Prepared By: Atkins/WHIT6392	Date: Jun 22, 2021



-  Berm Fill Material
-  Excavated BUDM Berm Material
-  Existing Berm

- NOTES:
- TIDAL DATUMS ARE REFERENCED TO NAVD88 USING NOAA'S TIDE GAUGE STATION 8771486, 1983-2001 EPOCH, AT THE GALVESTON RAILROAD BRIDGE
  - ALL ELEVATIONS ARE IN FEET AND REFERENCE NAVD88.
  - STONE MATERIAL SPECIFIED IN THESE PLANS IS LIMESTONE WITH A MINIMUM UNIT WEIGHT OF 135 POUNDS PER CUBIC FOOT
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  - TIE IN OF GEOTEXTILE MATERIAL AT TOE TO MATCH DIMENSIONS AT CREST.
  - LEVEE WILL BE REDUCED TO NATURAL GRADE AFTER CONSTRUCTION IN SPECIFIED AREAS FOR TIDAL EXCHANGE.

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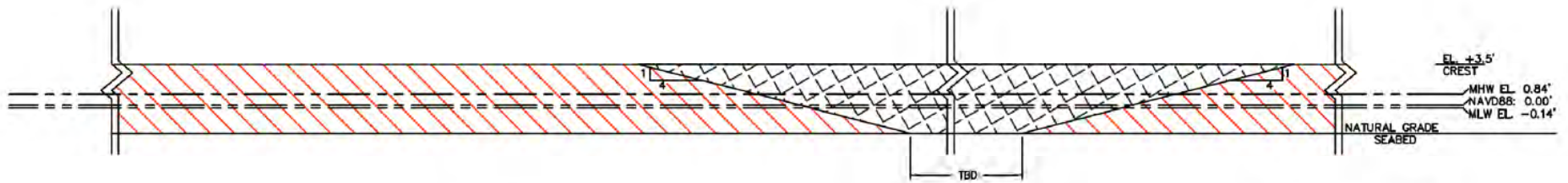
Sheet 16 of 22  
Typical Section BUDM

Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

Village of Tiki Island  
Galveston County, Texas

Job No.: 100072273	Scale: Not to Scale
Prepared By: Atkins/WHIT6392	Date: Jun 22, 2021





TYPICAL POST-CONSTRUCTED BUDM & WEST BERM TEMPLATE E-E'  
NTS



Constructed Berm



Removed Material Upon Project Completion

NOTES:

1. TIDAL DATUMS ARE REFERENCED TO NAVD88 USING NOAA'S TIDE GAUGE STATION 8771486, 1983-2001 EPOCH, AT THE GALVESTON RAILROAD BRIDGE
2. ALL ELEVATIONS ARE IN FEET AND REFERENCE NAVD88.
3. STONE MATERIAL SPECIFIED IN THESE PLANS IS LIMESTONE WITH A MINIMUM UNIT WEIGHT OF 135 POUNDS PER CUBIC FOOT
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5. TIE IN OF GEOTEXTILE MATERIAL AT TOE TO MATCH DIMENSIONS AT CREST.
6. LEVEE WILL BE REDUCED TO NATURAL GRADE AFTER CONSTRUCTION IN SPECIFIED AREAS FOR TIDAL EXCHANGE.

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Sheet 17 of 22  
Typical Section BUDM

Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273

Scale: Not to Scale

Prepared By: Atkins/WHIT6392

Date: Jun 22, 2021

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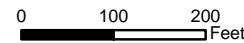
Timber Pilings		
# of Pilings	Diameter	Length
Approx 354	15"	45'

Breakwaters		
Coordinate ID	Northing	Easting
1	13680244.42	3274541.61
2	13680106.95	3274529.16
3	13679510.35	3273822.53
4	13679396.47	3274144.27



- Existing Shoreline
- - - Existing Bulkhead
- Navigation Channel
- Proposed Timber Breakwaters (1,415 LF)
- Proposed Timber Piling

Datum: NAD 1983  
 Projection: State Plane  
 Texas South Central  
 Units: Feet  
 Basemap: Bing Maps Aerial



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Sheet 18 of 22  
 Breakwater Site Plan

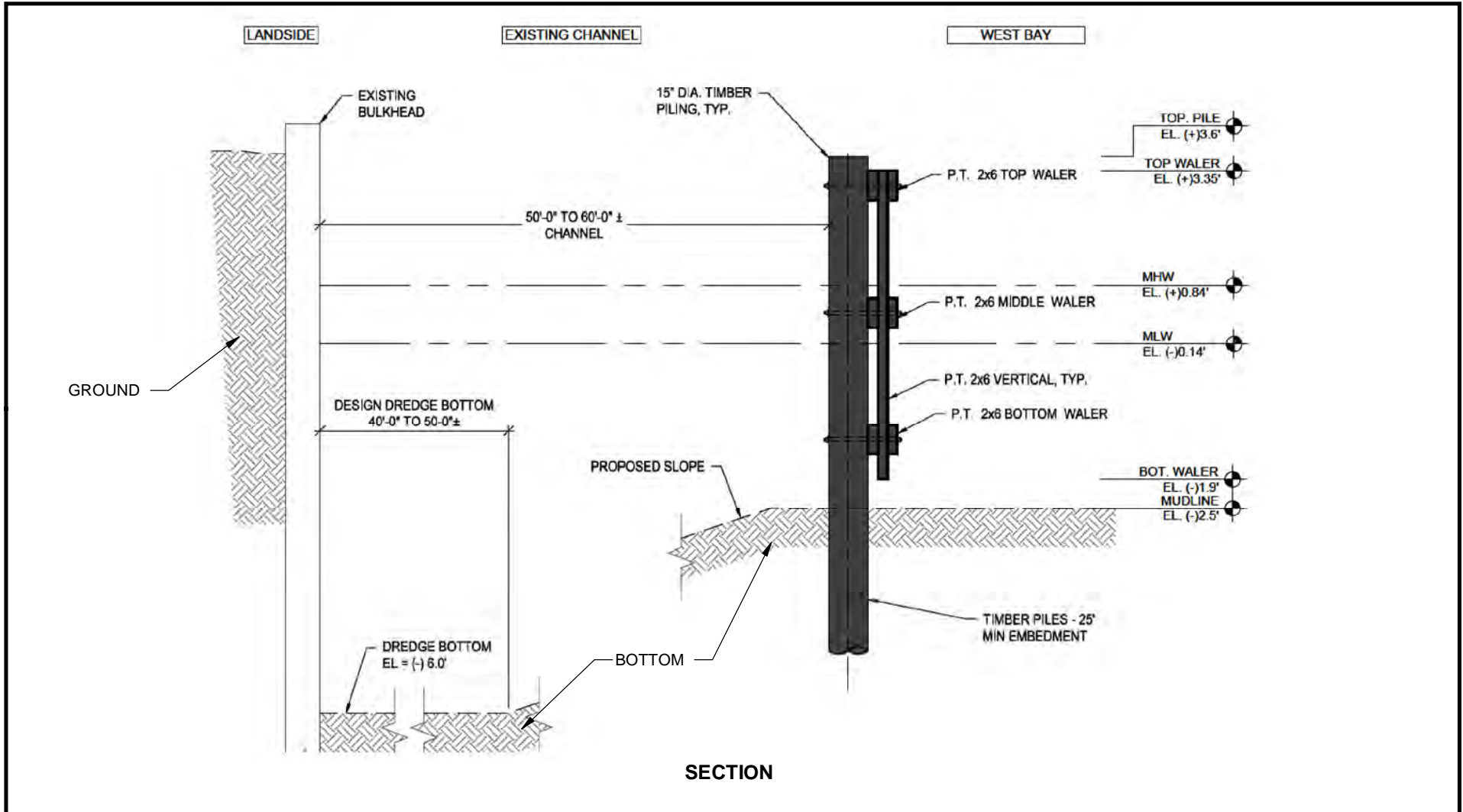
Village of Tiki Island Maintenance Dredge, BUDM  
 and Breakwater Project

Village of Tiki Island  
 Galveston County, Texas

Job No.: 100072273      Scale: 1" = 200 feet

Prepared By: Atkins/WHIT6392      Date: Jun 22, 2021

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Sheet 19 of 22  
Breakwater Typical Section

Village of Tiki Island Maintenance Dredge, BUDM  
and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273

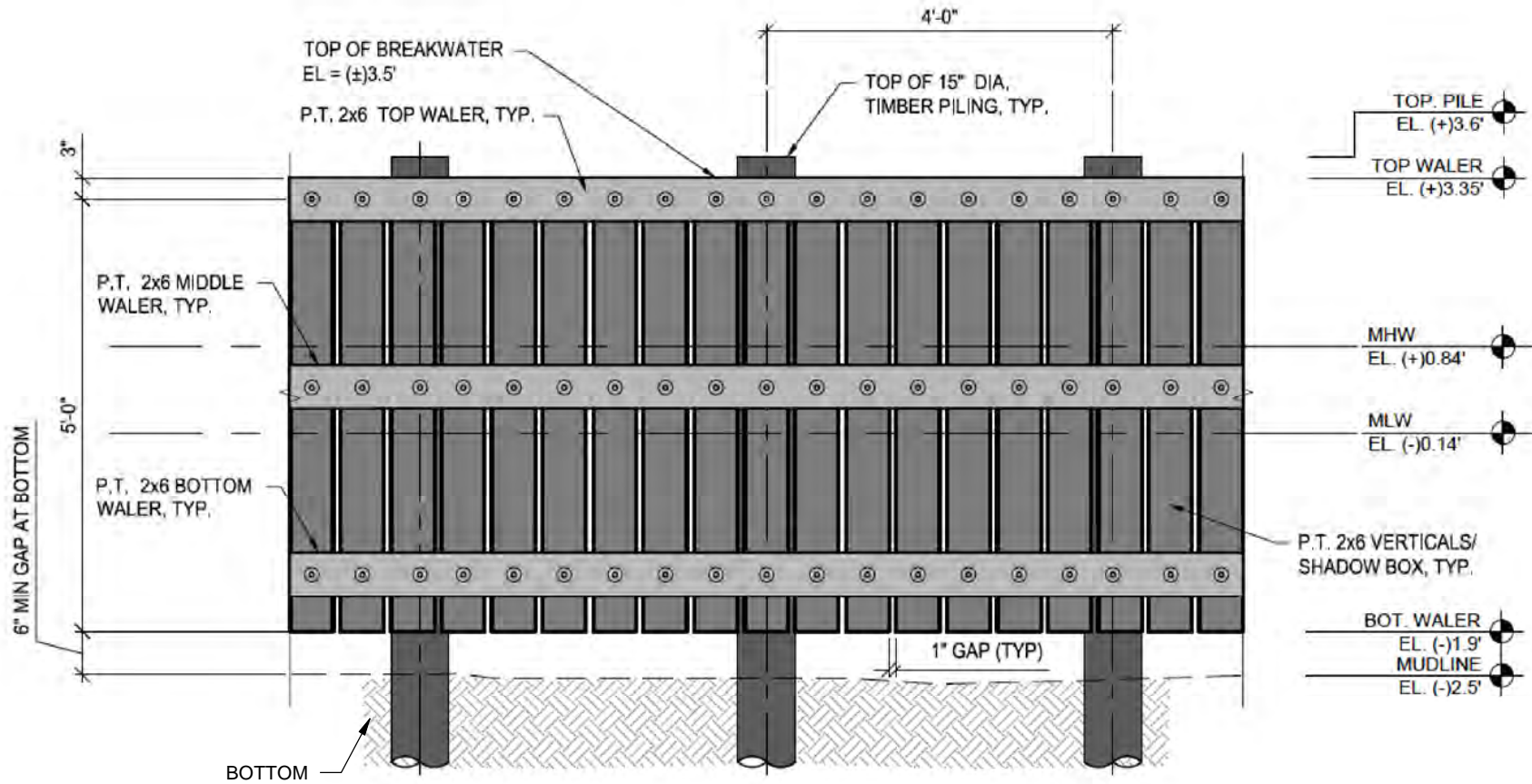
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Prepared By: Atkins/WHIT6392

Date: Jun 23, 2021

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ELEVATION VIEW



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Sheet 20 of 22  
Breakwater Elevation View

Village of Tiki Island Maintenance Dredge, BUDM and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273

Scale: Not to Scale

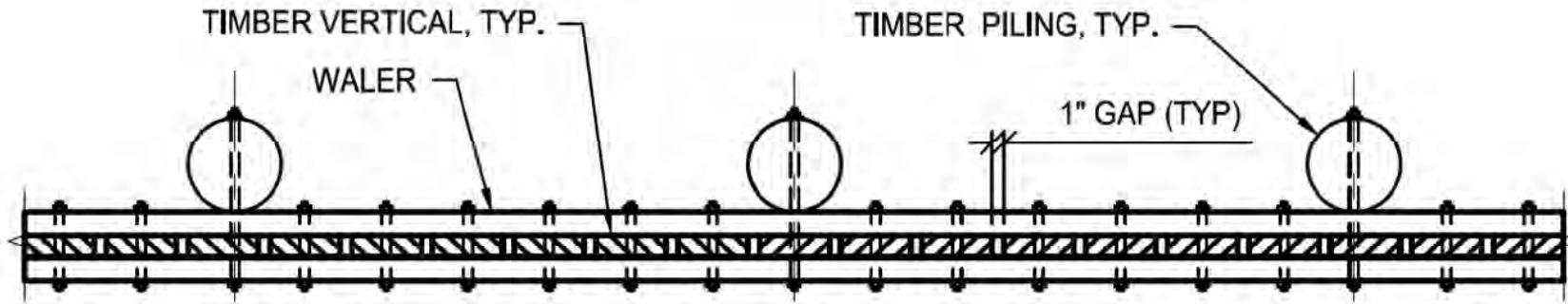
Prepared By: Atkins/WHIT6392

Date: Jun 23, 2021

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PARTIAL PLAN VIEW

LANDSIDE



WEST BAY



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Sheet 21 of 22  
Breakwater Partial Plan View

Village of Tiki Island Maintenance Dredge, BUDM  
and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

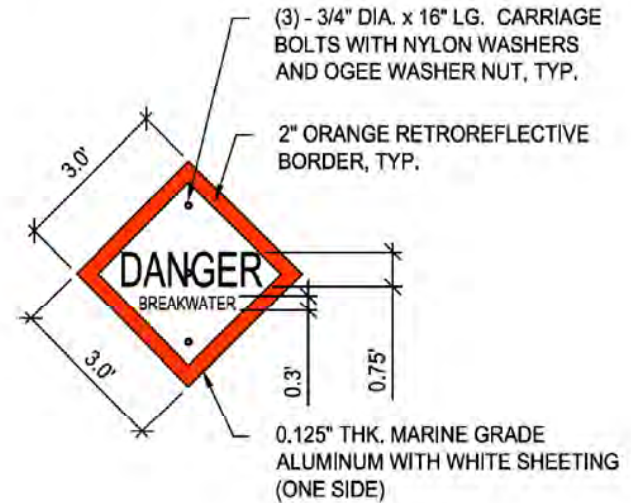
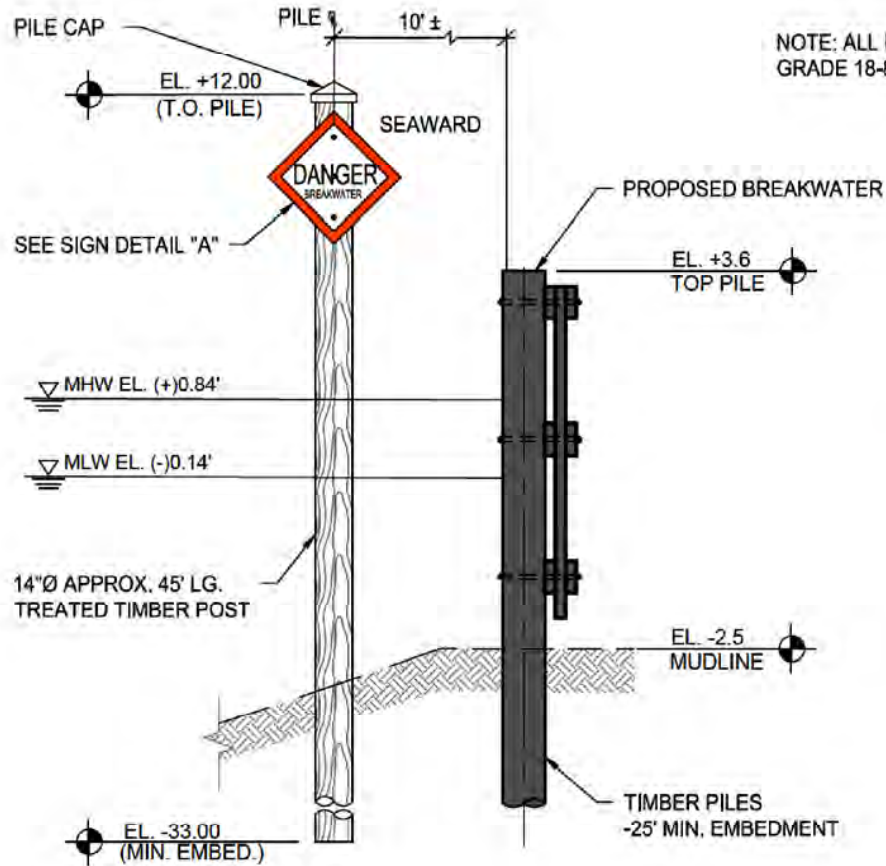
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Prepared By: Atkins/WHIT6392

Date: Jun 22, 2021

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**SIGN DETAIL "A"**  
NTS

**BREAKWATER WARNING SIGN**  
NTS



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Sheet 22 of 22  
Breakwater Warning Signage

Village of Tiki Island Maintenance Dredge, BUDM  
and Breakwater Project

**Village of Tiki Island**  
Galveston County, Texas

Job No.: 100072273

Scale: Not to Scale

Prepared By: Atkins/WHIT6392

Date: Jun 22, 2021

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