Appendix D

Submittals

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-01

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

2/26/16

GLO/VLB Project Number, Name and Location — Date

One Copy – PreConstruction Submittals- Project Superintendent Resumes, List of Subcontractors & Major Material Supplies, Licensed Crafts

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: PreConstruction Submittal

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO — 2/26/16
By Contractor — Date

ARCHITECT/ENGINEER

- ☐ No Exceptions Taken
- ☒ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

2-29-16
By Architect/Engineer — Date
Christopher P. Lentz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

2-29-16
By Architect/Engineer — Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB — Date

COMMENTS Suncoast will be the fuel provider on the project

2-29-16
By — Date

PRECONSTRUCTION SUBMITTALS

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County

Project #CEPRA 1596
Contract No. 16-233-000-9717

PROJECT COORDINATORS-

Andy Elms	409-284-1645 taelms@apolloenvironmental.com
Tim Elms	469-964-7804 telms@apolloenviro.com
Tina Moore	469-964-7802 tmoore@apolloenviro.com

SUPERINTENDENT- On-site Competent person

Jose Loera	214-837-1567 jloera@apolloenviro.com
Steve Britton	409-299-2931 sbritton@apolloenviro.com
APOLLO corporate office	409-833-3330 - 24 hour answering

SUBCONTRACTORS AND MAJOR MATERIAL/EQUIPMENT SUPPLIERS –

Surveying:
Naismith Marine Services
Jim Naismith
Project Manager
3765 South Alameda, Suite 205
Corpus Christi, Texas 78411
(361) 334-5719

Stone Suppliers:
Gulf Coast Limestone
12901 Bay Area Blvd
Seabrook, TX
(281) 474-4124

Stone Quarry:
Oldcastle Materials
Marble Falls Quarry

LICENSED CRAFT
Naismith Marine Services
Jim Naismith License #4828

Geotextile Fabric:
Hill County Site Supply
1105 Brittmore Rd
Houston, Tx
(832) 545-4214

TIMOTHY J. ELMS
Vice President
Resume of Qualifications

APOLLO® Environmental Strategies, Inc. **October 2001 - Present**

Project Coordinator/Project Manager
Mr. Elms has been involved in many types and different aspects of environmental, marine, and wetland construction and remediation projects. His extensive experience in project management includes environmental/ecological remediation; wetland restoration, construction and mitigation; marsh restoration, construction, and mitigation; beach re-nourishment, levee and dune construction, geotextile tube installation, soil excavation and material transport and handling in marsh and wetland areas, soil stabilization, environmental assessment, environmental remediation, development of innovative environmental equipment and remediation methods. He has managed and supervised scientists, engineers, project managers, and environmental personnel in various phases of environmental consulting, engineering, and field investigation, remediation, and construction services.

Shamrock Island Breakwater – Corpus Christi, Texas
Mr. Elms was the Project Coordinator for the installation of over 3,000 linear feet of breakwater around Shamrock Island. The project involved alignment of various sections of breakwater within shallow water areas and multiple active and inactive utility pipelines. Construction activities included installation of geotextile materials, loading of riprap materials on shallow draft deck barges, construction of rock breakwaters to +2.5 ft elevation (NAVD '88) and site surveying. Mr. Elms was responsible for total project compliance and completion on schedule and under budget.

Oyster Cultch Deployment – Galveston Bay, Galveston, Texas
Mr. Elms was the Project Coordinator for the deployment of over 70,000 cubic yards of oyster cultch material over 174 acres of reef area. The project involved placing approved oyster cultch materials within 6 separate reef locations. Construction activities included loading of oyster cultch materials on shallow draft deck barges and deployment of materials in a 3 to 4 inch layer within designated reef locations in accordance with TPWD specifications. Mr. Elms was responsible for coordination of oyster cultch material delivery, daily reporting and interaction with TPWD representatives, quality control inspections and health and safety management.

Galveston Seawall Emergency Beach Nourishment – Galveston, Texas
Mr. Elms was the Project Coordinator for beach renourishment activities along the Galveston seawall required after Hurricane Ike. The project involved construction of a 30 acre Dredge Material Placement Area (DMPA) along east Galveston Island and hydraulic dredging of approximately 450,000 cubic yards of beach quality sand. In addition, sand was hauled from the DMPA to various areas along the seawall to renourish approximately 3.5 miles of beach. Mr. Elms was responsible for overseeing construction of the DMPA, hydraulic dredging operations and beach nourishment activities.

ENTACT, INC. September 1991 – October 2001

Co-Founder, Vice President, Shareholder
ENTACT Partners, LLC
Managing Partner

Responsibilities included business development, operations management and strategic planning for environmental consulting and remediation business resulting in over $ 150 million in revenue over the last five years. Developed marketing strategies, pricing models and internal cost tracking systems for various customers and remediation projects.

Project management experience includes a broad range of environmental areas concerning RCRA and CERCLA issues encompassing project design tasks, coordination of field remediation activities, quality assurance/quality control sampling, field production oversite, customer/regulatory relations, and maintaining health and safety objectives. Developed state and federal regulatory documentation for RCRA closures, NPL remedial actions and CERCLA emergency removal actions including work plans, quality assurance project plans, and project health and safety plans. These projects encompassed various tasks including soil remediation activities, facility decontamination and demolition, site investigation/verification sampling, hazardous waste management and disposal, underground storage tank removal, asbestos abatement, and construction design.

CERTIFICATIONS
• Certified Hazardous Materials Manager (CHMM) - Master Level, Institute of Hazardous Materials Management
• 29 CFR 1910.120 (e) Hazardous Waste Operations and Emergency Response Supervisor
• OSHA Compliance Strategies: OSHA's General Industry, 501 Course
• RCRA Fundamentals
• Advanced RCRA Topics
• RCRA Land Disposal Restrictions

PATENTS
Timothy J. Elms, U.S. Patent No. 5,588,947 – December 31, 1996; *Apparatus and Method for Treating Hazardous Waste Material*

Additional Professional Experience
ECCO, Inc. February 1985 - September 1991
Senior Project Manager/Assistant Sales Manager

Responsibilities included field supervision, project management and marketing for several environmental consulting and remediation projects. These included transportation and disposal of hazardous waste, site remediation, waste characterization sampling, asbestos abatement, underground storage tank closures, RCRA closures, coordination with state regulatory agencies, building decontamination and demolition and 24-hour emergency response activities.

EDUCATION
Bachelor of Science - Business Management, University of Texas – Arlington

Resume of
TINA L. MOORE, P.E.
APOLLO® Environmental Strategies, Inc.

PROFESSIONAL EXPERIENCE

APOLLO® Environmental Strategies, Inc. **October 2001 - Present**
Project Coordinator/Project Manager
Ms. Moore has developed and managed the technical, regulatory and financial aspects of construction projects for the last 24 years. She has extensive background in project design, planning, implementation, Quality Control, Quality Assurance and project management. She oversees marine and wetland construction, quality control, site development, erosion, drainage, and flood control projects. Ms. Moore also developed and designed site investigations, feasibility studies, construction work plans, quality assurance project plans, closure plans, sampling and analysis plans. She develops and coordinates regulatory interactions with the federal, state and local governing agencies.

ENTACT, Inc **February 1993 – October 2001**
Director of Engineering, Shareholder
ENTACT Partners, LLC
Partner
Developed and managed the technical and regulatory division responsible for $150 million of environmental remediation during the last five years. Assisted in the strategic planning, business development and marketing for the organization. Extensive background in remedial project design, planning, implementation and management. She oversees landfill design, cap analysis, hazardous waste management, remediation and environmental engineering. Developed and designed site investigations, feasibility studies, remedial action work plans, quality assurance project plans, closure plans, sampling and analysis plans. Extensive experience in hazardous soil and waste stabilization/solidification projects. Designed many stabilization/ solidification treatability studies and pilot programs for battery recycling and lead smelting facilities. Developed and coordinated regulatory interactions with the federal, state and local governing agencies.

ITEX Enterprises, Inc. **January 1990 - February 1993**
Previously employed by ITEX Enterprises, Inc. as a remedial design engineer. Responsible for the overall project management from remedial design, bid preparation and regulatory interface to field construction, project management and final project certification. Managed numerous multi-million dollar environmental remediation projects.

OVERALL DESIGN EXPERIENCE

• Served as a design and project engineer for the largest privately funded environmental remediation project in the United States.

• Designed numerous landfill impoundment cells, Minimum Technology Requirement (MTR) cells, leachate collection systems, retention basins, cap & cover systems, and grading plans for environmental sites throughout Texas and Louisiana.

• Designed a 5, 7 and 11 acre Minimum Technology Requirement (MTR) cell for a Texas refinery.

• Preformed slope stability analysis on separation levees, and MTR cells. Designed levee reinforcement using sheet pile walls and optimal levee configurations.

• Designed and managed the field installation of 16,000 linear feet of lined conveyance channel. This design consisted of a double liner with a leachate collection system.

• Designed and provided project interface for the remediation of over 190,000 cubic yards of flue dust and contaminated soil from a copper processing facility.

• Designed, provided the regulatory and client contact, and managed the closure of two hazardous waste impoundments at a major Texas oil refinery.

• Designed and constructed clay levees and cap systems.

• Prepared Remedial Action Plans, Project Work Plans, Construction Plans and Specifications.

• Managed numerous environmental remediation projects from initial site investigation, closure report preparation, field construction and final project closure.

EDUCATION & REGISTRATION

Graduated from Texas A & M University with a Bachelor Degree in Civil Engineering and is a registered Professional Engineer in the State of Texas.

PUBLICATIONS

T. Anguiano (Moore), D. Floyd, 1997, *Stabilization/Solidification of Battery Debris & Lead Impacted Material at Schuylkill Metals, Plant City, Florida*. International Containment Technology Conference Proceedings, February 9-12, 1997, St. Petersburg, Florida, USA, pp. 561-567.

RESUME OF
ANDREW ELMS
APOLLO® Environmental Strategies, Inc.

PROFESSIONAL EXPERIENCE

APOLLO® Environmental Strategies, Inc. 9/91 to present
Beaumont, Texas
VICE PRESIDENT, SENIOR PROJECT SCIENTIST
Extensive experience in environmental consulting, project management and coastal restoration. Mr. Elms is also responsible for the implementation of the corporate health and safety policies for the company as well as overall operation manager.

His project experience includes coastal construction, dredging, marsh creation, breakwater construction, environmental remediation project management, hazardous waste characterization and management, regulatory compliance consulting, permitting, environmental site investigations, environmental assessments and audits, risk assessments, environmental and health and safety training, and development of innovative environmental equipment and remediation methods.

Mr. Elms has extensive hands-on experience managing, coordinating and completing coastal restoration and construction projects from dredging marsh mounds for Estuary Construction, hydraulic excavation of 60 acres for a wetland construction to concrete mattress armoring along the Gulf Intercostal Waterway. Mr. Elms expertise in characterization and management of hazardous and non-hazardous wastes, laboratory wastes, on-site remediation for numerous and varied manufacturers has been employed by several Fortune 500 companies. As senior scientist and technical consultant at APOLLO®, responsibilities include directing the technical staff of scientists, project managers, and field personnel, permitting, managing site investigations, remediation projects, waste management projects, and remediation technology research and development.

PREVIOUS PROFESSIONAL EXPERIENCE:
Vice President 1/84 to 9/91
Environmental Consulting Company, Inc.
(ECCO, Inc.) 1217 Ira E. Woods Ave.
Grapevine, Texas 76051

Functioned as head of all environmental field and consulting operations including engineering, consulting, field services, and regulatory and technical research and development. Managed and supervised scientists, engineers, project managers, and environmental personnel in various phases of environmental consulting, engineering, and field investigation and remediation services. Developed new markets and researched and developed new technologies, services and products in the environmental services field.

ACADEMIC BACKGROUND:
Texas A & M University, 1979, Bachelor of Science Biology

MBA Program, Dallas Baptist University

PROFESSIONAL CERTIFICATIONS AND LICENSES:

Texas Professional Geoscientist No. 10373
Certified Hazardous Materials Manager, Masters Level (CHMM) No. 1239
Registered Environmental Professional, (REP) No. 04193
Registered Environmental Property Assessor, (REPA) No. 04193
Certified Environmental Auditor, (CEA) No. 5333
Texas UST On-Site Supervisor License No. ILP001503
Texas Corrective Action Project Manager License No. CAPM00337
Louisiana Licensed Hazardous Waste Contractor, Underground Storage Tank Removal Contractor, and Water Well Drilling Contractor No. 27839
California Licensed Class A General Engineering Contractor
No. 527959
California Licensed Hazardous Waste/UST Contractor No. 527959
California Licensed Asbestos Abatement Contractor No. 527959
40 Hour HAZWOPER Supervisor and Trainer
Texas Monitor Well Driller License No. 51497M
Louisiana Water Well Driller License No. 604
Arkansas Water Well Driller License No. 2738

PROJECT EXPERIENCE:

RCRA Facility Investigations (RFI), Remedial Investigations/Feasibility Studies (RIFS).
Hazardous waste site and surface impoundment closures.
Identification, characterization, profiling, packaging, transportation, and disposal of hazardous and non-hazardous wastes and lab packs.
UST closures and LPST investigations and corrective action.
Site remediation including in situ and ex situ bioremediation, solidification, stabilization, chemical fixation and oxidation, thermal treatment and de-watering.
Site assessments and investigations for property transfer, asset construction or relocation including development of statistically valid sampling plans, groundwater contamination assessments, wetlands determination, endangered species habitat determination, etc.
Facility environmental compliance auditing.
Specialized decontamination of surfaces and equipment, e.g. heavy metals, PCB's and other toxic contaminants removal.
Develop and/or review of closure plans, SPCC plans, pollution prevention, and other spill and contingency related plans.
Permitting, licensing, and registration.
SARA Title III chemical inventory and compliance reporting.
Development of waste minimization and recycling programs.
Emergency response coordinator.
NESHAPS sampling programs and compliance reporting.
Design and implementation of de-watering and wastewater treatment projects.
Subsurface soil and groundwater sampling and analysis projects.
UST and AST cleaning, testing, upgrade, removal and demolition.
Emergency spill response.

RESUME OF
JOSE LOERA
APOLLO® Environmental Strategies, Inc.

PROFESSIONAL EXPERIENCE

APOLLO® Environmental Strategies, Inc. September 2003 – Present

Project Superintendent & Quality Control Manager
Mr. Loera has exceled in many positions throughout his tenure with APOLLO® with his current positions as Project Superintendent or Quality Control Manager. In both positions his main focus is always successfully completing the project in accordance with the plans and specifications. He has completed the USACE Construction Quality Management for Contractors course. His responsibilities include project planning, coordination of project requirements with the field activities, personnel management and project task coordination with all aspects of projects located throughout the United States.

Project construction have included breakwater construction, rock revetments, oyster cultch placement, excavation of contaminated soil, management and treatment of environmentally impacted materials, decontamination and demolition of industrial structures or equipment, transportation and disposal of hazardous and non-hazardous materials, heavy equipment operation and project compliance with regulatory and technical requirements. Supervising and training field crews for maximum production and efficiency, while maintaining the quality requirements of the projects.

Shamrock Island Breakwater – Corpus Christi, Texas
Mr. Loera was the Project Superintendent managed the breakwater construction operations of over 3,000 linear feet of rock breakwater. He constructed the rock breakwaters to the lines and grades required in the specification utilizing long-reach excavators allowing access to the shallow breakwater area. Site responsibilities included breakwater construction to meet project design, management of rock transportation in and around the breakwater area, recordkeeping and shipment of loaded deck barges to the project location.

Texas Parks & Wildlife – Oyster Cultch Construction, Galveston Bay, Texas
Mr. Loera was the Project Quality Control Manager and managed the placement and construction of 174 acres of oyster cultch in various locations in Galveston Bay. Mr. Loera coordinated the quality testing, approval, transportation and placement of approximately 70,000 tons of river rock to within the grades and tolerances required by TPWD. Mr. Loera was responsible for the scheduling, production and Quality Control of the placement of the oyster clutch material.

Surfside Revetment Construction and Repair, Village of Surfside, Texas
Mr. Loera was the Project Superintendent and managed the rebuilding of the rock revetment along an active public road in Surfside, Texas. Mr. Loera managed the removal of the existing failing revetment, rebuilding of the subgrade and reconstruction of the 3,500 lf rock revetment wall. The rock placement was paramount and had extremely low gap tolerance requiring near jigsaw puzzle placement. Mr. Loera was

responsible for the Quality Control, production and scheduling of the construction activities.

Sabine Pass Port Authority, Sabine Pass Texas
Mr. Loera managed all aspects of this dredged material dewatering and off-site disposal project. Working within the constraints of a minimally funded project, Mr. Loera developed dewatering techniques that kept this project on budget and on schedule. Mr. Loera was responsible for project personnel, equipment and project production.

Surfside Beach Nourishment, Village of Surfside, Texas
Mr. Loera was responsible for the coordination and management of the sand placement for this beach nourishment project in Surfside Texas. Sand was transported to the Village of Surfside by barge and be truck transport. Mr. Loera managed personnel, equipment and coordinated the placement of over 167,000 tons of sand along a 4,000 foot section of beach. This project required significant coordination with surveying, barge transportation, trucking transportation, sand quality control all while maintaining public safety and access to the beach.

Arbor Woods, Dallas, Texas
Mr. Loera managed field aspects of the remediation of impacted soil from this TCEQ VCP site which had been a former fertilizer facility. Mr. Loera was responsible for meeting the project schedule, budget and for project personnel. Site activities included excavation of impacted soil, soil treatment, loadout, off-site disposal and backfilling to meet project specifications.

Texas GLO Beach Nourishment, Galveston, Texas
Mr. Loera managed all aspects of the field activities to nourish the beach in Galveston, Texas. Mr. Loera was responsible for meeting the project production rates, equipment operation, and for all project personnel. The project consisted of the following activities: site preparation activities, preparation of haul route and staging areas, placement and grading of beach quality sand. Mr. Loera was responsible for interpreting design specifications and help coordinate field implementation.

ENTACT, Inc. June 1996 – September 2003
Superintendent, Quality Control Technician, and Equipment Operator

CERTIFICATIONS AND OTHER QUALIFICATIONS
USACE Construction Quality Management for Contractors
Hazardous Waste Site Operations and Emergency Response - OSHA 29 CFR 1910.120
Bilingual Spanish & English

Resume of
Steve Britton
APOLLO® Environmental Strategies, Inc.

APOLLO® Environmental Strategies, Inc. 2009 - Present
Project Superintendent

Highly organized and detail oriented with 14 year's experience in all phases of the Construction Business catering to the industrial clients, including Petro-Chemical Plants, Oil Producers, Marine Construction, General Contractors, Mining and Government agencies. Mr. Britton is skilled in all aspects of marine construction, project management and health and safety.

Project Superintendent responsibilities involve dredging, marsh creation, breakwater construction, excavation of contaminated soil, management and treatment of environmentally impacted materials, decontamination and demolition of industrial structures or equipment, transportation and disposal of hazardous and non-hazardous materials, heavy equipment operation and project compliance with regulatory and technical requirements. Supervising and training field crews for maximum production and efficiency while maintaining health and safety initiatives.

SELECTED PROJECT EXPERIENCE

Terrebonne Levee Conservation District –Reach H Marsh Construction Project

Mr. Britton was the Project Manager for this 150 acre marsh construction project 30 miles south of Houma, La. This project involves the dredging of over 1,575,000 cy of sediment material from active areas of Bayou Terrebonne and Madison Bay and pumping this material over 3 miles to marsh creation areas. Mr. Britton was responsible for project scheduling, personnel, coordination and production.

Terrebonne Levee Conservation District –Reach F Marsh Construction Project

Mr. Britton was also the Project Manager for this 82 acre marsh construction project 30 miles south of Houma, La. This project involves the dredging of over 800,000 cy of sediment material from active Houma Navigational Channel and pumping this material over 5 miles to marsh creation areas. Mr. Britton was responsible for project scheduling, personnel, coordination and production.

Galveston Seawall Emergency Beach Re-Nourishment Project

Mr. Britton was also a Supervisor for this emergency beach re-nourishment construction project in on Galveston Island, Texas. This project involves the dredging of over 600,000 cy of beach quality sand material from a borrow source near the island and pumping this material into a constructed 30 acre containment from which it was trucked

and installed on the beach. Mr. Britton was responsible for coordination and production for specific phases of the project.

OTHER PROFESSIONAL EXPERIENCE

Steve the Irrigation Guy **2005 - 2009**
Owner

- Manager of all Irrigation System installation projects
- In charge of safety and OSHA training of employees
- Negotiated sub contract agreements and change orders
- Prepared payment and cost estimates

Aqua Well Drilling **1998 - 2005**
Co-Owner

- Manager of water well installation systems
- Manager of Irrigation System installation projects
- In charge of safety and OSHA training of employees
- Negotiated sub contract agreements and change orders
- Prepared payment and cost estimates

LICENSES & TRAINING

Commercial Driving License (CDL) Class A Tanker and HAZMAT endorsement
OSHA 40 hr HAZMAT Certified
OSHA 60hr Supervisor Certified
Licensed in several states as Certified Water Well Driller

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-02**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA ~~1569~~ 1596 Contract No. 16-233-000-9717	2/26/16
GLO/VLB Project Number, Name and Location 1 Copy – Schedule of Values	Date
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

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Spec: PreConstruction Submittal

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 2/26/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

2-29-16
By Architect/Engineer Date
Christopher P. Lewis, TX PE # 107494

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- ☒ GLO/VLB

2-29-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date

Schedule of Values

Virginia Point Wetland Protection Project CEPRA #1596

Pay Application No.: 27401615

Period from: _____ to: _____

A	B	C	D	E	F	G		H	I
Item No.	Description of Work	Scheduled Value	Work Completed: From Previous Application (D+E)	Work Completed: This Period	Materials Presently Stored (Not in	Total Completed and Stored to Date (D+E+F)	% (C-G)	Balance to Finish (C-G)	Retainage
1.0	Mobilization/Demobilization								
	Bonds and Insurance	$ 152,000		$ -		$ -	0%	$ 152,000.00	$ -
	Mobilization/Demobilization	$ 198,000		$ -		$ -	0%	$ 198,000.00	$ -
2.0	Breakwater "A" Construction								
	Stone Material for Breakwater (950 lf @ $ 210/lf)	$ 199,500		$ -		$ -	0%	$ 199,500.00	$ -
	Labor to Install Breakwater (950 lf @ $ 215/lf)	$ 204,250		$ -		$ -	0%	$ 204,250.00	$ -
3.0	Breakwater "B" Construction								
	Stone Material for Breakwater (5,035 lf @ $ 345/lf)	$ 1,737,075		$ -		$ -	0%	$ 1,737,075.00	$ -
	Labor to Install Breakwater (5,035 lf @ $ 133/lf)	$ 669,655		$ -		$ -	0%	$ 669,655.00	$ -
4.0	Sill Construction								
	Stone Material for Breakwater (765 lf @ $ 9/lf)	$ 6,885		$ -		$ -	0%	$ 6,885.00	$ -
	Labor to Install Breakwater (765 lf @ $ 66/lf)	$ 50,490		$ -		$ -	0%	$ 50,490.00	$ -
5.0	Pre and Post Construction Surveying	$ 110,000		$ -		$ -	0%	$ 110,000.00	$ -
6.0	Acceptance Aerial Photo	$ 11,000		$ -		$ -	0%	$ 11,000.00	$ -
7.0	Miscellaneous Items	$ 175,000		$ -		$ -	0%	$ 175,000.00	$ -
	OPTIONAL ADDITIVE 1 - REVETMENT								
1.0	Revetment Construction								
	Stone Material for Breakwater (355 lf @ $ 227/lf)	$ 80,585		$ -		$ -	0%	$ 80,585.00	$ -
	Labor to Install Breakwater (355 lf @ $473 /lf)	$ 167,915		$ -		$ -	0%	$ 167,915.00	$ -
2.0	Pre and Post Construction Surveying	$ 19,000		$ -		$ -	0%	$ 19,000.00	$ -
3.0	Miscellaneous Items	$ 15,000		$ -		$ -	0%	$ 15,000.00	$ -
	SUB TOTAL	**$ 3,796,355.00**		**$ -**	**$ -**	**$ -**	**0%**	**$ 3,796,355.00**	**$ -**

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-03

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

3/15/16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Project Schedule

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

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APOLLO 3/15/16
By Contractor Date

ARCHITECT/ENGINEER

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3-15-16
By Architect/Engineer Date
Christopher Levitz, TX PE #107494

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3-15-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

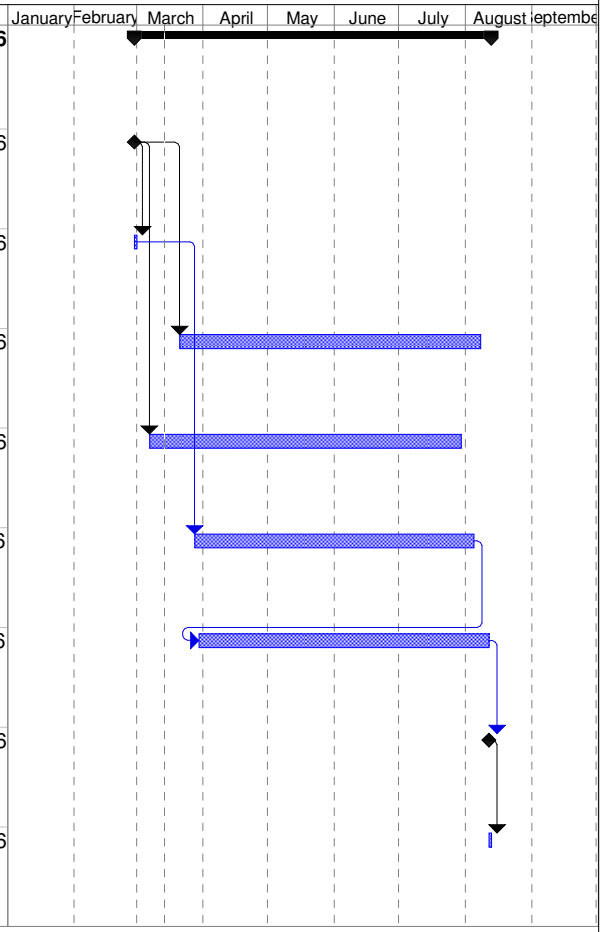
By GLO/VLB Date

COMMENTS

By Date

VIRGINIA POINT WETLAND PROTECTION PROJECT

ID	Task Name	Duration	Start	Finish
1	**VIRGINIA POINT WETLAND PROTECTION PROJECT**	**166 days**	**Mon 2/29/16**	**Fri 8/12/16**
2	Notice to Proceed	0 days	Mon 2/29/16	Mon 2/29/16
3	Mobilization	1 day	Mon 2/29/16	Mon 2/29/16
4	Construction Surveying	140 days	Mon 3/21/16	Sun 8/7/16
5	Material Gradation Testing	145 days	Mon 3/7/16	Fri 7/29/16
6	Rip Rap Delivery	130 days	Mon 3/28/16	Thu 8/4/16
7	Construction of Breakwaters	135 days	Wed 3/30/16	Thu 8/11/16
8	Substantial Completion	0 days	Fri 8/12/16	Fri 8/12/16
9	Demobilization	1 day	Fri 8/12/16	Fri 8/12/16



MARCH 14, 2016

Task		Split		Inactive Milestone		Start-only	
Milestone		External Tasks		Inactive Summary		Finish-only	
Summary		Project Summary		Manual Task		Progress	
Rolled Up Task		Group By Summary		Duration-only			
Rolled Up Milestone		Inactive Task		Manual Summary Rollup			
Rolled Up Progress		Inactive Task		Manual Summary			

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-04

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1589~~ 1596
Contract No. 16-233-000-9717

3/16/16
Date

GLO/VLB Project Number, Name and Location

1 Copy – Stone Workplan

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 35 31 00

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 3/16/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

3-17-16
By Architect/Engineer Date
Christopher Lentz, TX PE #107494

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- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

3-17-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date

WORK PLAN

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION

Virginia Point, Galveston County

Project #CEPRA 1596

Contract No. 16-233-000-9717

March 2016

Prepared by
APOLLO® Environmental Strategies, Inc.

TABLE OF CONTENTS

Introduction

Limestone Rip Rap and Toe Protection Stone

Geotextile Fabric

Construction Activities

Quality Control

Introduction

The following Work Plan describes the general procedures and timing for the Coastal Construction Services for Wetland Protection and Restoration at Virginia Point, Galveston County, Texas.

Scope of Work

The scope of work for the Project is as follows:

- Delivery of limestone rip rap and toe stone;
- Load and transport stone to project locations;
- Construction of the breakwater;
- Conduct quality control as required by the project specifications and plans.

The estimated time duration to complete the project is approximately 165 calendar days.

Limestone Rip Rap and Toe Protection Stone

The limestone rip rap will be provided by Gulf Coast Limestone from their quarry located at 8147 S Hwy 281, Marble Falls, Texas 78611. The limestone will be sized to meet gradation as specified in the plans and specifications for rip rap. The stone quality test results will be submitted to the Engineer for approval prior to stone shipment. Stone gradation test will be performed and provided to the Engineer for approval once for every 7,500 tons per stone type. The limestone will be shipped by rail to Baytown Texas. Once the rip rap arrives in Baytown each rail car will be counted and the stone loaded into trucks and transported to APOLLO's barging facility in San Leon, Texas.

The toe stone will be provided by Gulf Coast Limestone from the Snyder Quarry in Snyder, Okaloma. Toe stone gradation test will be performed and provided to the Engineer for approval once for every 500 tons per stone type. Toe stone will be shipped by truck directly to APOLLO's barging facility in San Leon, Texas.

Geotextile Fabric

APOLLO will use Tencate Mirafi FW700 for the required underlying geotextile for this project. The FW700 is a woven geotextile that is stronger than the non-woven specified and easier to handle in the water. The fabric

will be placed perpendicular to the length of the breakwater, the edges will be overlapped and fastened together with zip ties. The geotextile fabric will be delivered to the APOLLO barge facility in San Leon, Texas.

Construction Activities

Construction activities will begin with Naismith Marine surveying and staking the alignment locations of Breakwaters B31 thru B15. Alignment stakes will be placed along the centerline of the breakwater approximately every 50' and at PI locations. AECOM will review and approve the alignment staking locations prior to breakwater construction. Additional areas will be staked by Naismith as construction of the breakwater progresses. APOLLO will have a GPS surveying instrument present during the actual breakwater construction to place additional grade stakes as need for breakwater construction.

Depending on tide conditions, we anticipate starting construction at breakwater B30 and working towards B18. Personnel and equipment will be mobilized and stone will be loaded from APOLLO's San Leon facility. Rock barges will be loaded with the stockpiled rip rap, toe stone and the geotextile as needed. Spud barges with equipment and rock barges will be transferred via the ICWW to Virginia Point and near the breakwater area. At the staging area, a shallow draft tug will be used to transfer rock barges from the staging area to the equipment spud barge which will be placed at a location as close to the breakwater areas as possible. Depending on actual water depths, smaller push boats will be used as necessary to move rock barges to the breakwater areas.

Within the project area, long reach trackhoes will be used on a spud barge positioned along the breakwater template. Depending on water depths and tide conditions, long reach marsh hoes may be used to assist with transferring the rip rap from the rock barges to the breakwater template. Placed riprap stone will be in close contact, well graded and free from pockets of small stones or cluster of large stones. Care will be taken to construct as smooth slope as possible from the high and low crest elevations. The toe protection and sills will be constructed upon completion of each breakwater sections. Construction will start at the deepest breakwater location (approximately B 30) and progress to shallower areas. Based on site conditions, weather and tide events, work will generally progress to the north. There may be occasions when breakwater construction will be conducted at specific breakwater locations depending on weather and tide conditions.

Prior to placing any rip rap into the water, the geotextile fabric will be placed within approximate 50' long sections of each breakwater template. The geotextile fabric will be weighted with rocks to hold it in place and/or staked in place prior to the placement of the rip rap stone. The edges of the breakwater will be staked for alignment purposes. Rip rap and toe stone will be placed lightly into the breakwater template location to avoid damaging the geotextile. Rip rap will be gradually placed into the water from the trackhoe bucket. The rip rap will be placed to the lines and grades shown in the plans and will be lightly tamped to secure it in its final locations.

The revetment and near shore breakwaters, (Breakwater A), will be constructed from the water using the shallow water barges, shallow water boats and marsh excavators if necessary. Leapfrogging stone to get it to the shallow areas may be necessary for construction. A long reach trackhoe will be used to excavate and construct a gentle slope to the revetment area using the material of the existing bank. Compaction of the bank slope will be performed by tamping the slope with the underside of the trackhoe bucket. No compaction testing will be performed. The identified Oyster Reef Areas will be marked prior to constructing adjacent breakwaters and the revetment area and care will be taken to avoid accessing or impacting these areas.

Quality Control

Naismith Marine will provided construction surveying for the alignment staking of the breakwater ends, and deflection points along the template centerline. Naismith Marine will also perform the final surveying of the structure to confirm that it adheres to the project specifications. APOLLO will utilize a GPS survey instrument throughout the construction to provide daily staking assurance of elevations and tolerances. Elevation tolerances for the rip rap are +/-3", and for the toe and sill stone are 2" above the specified grade limit.

Additional gradation testing will be conducted for the rip rap at a frequency of 1 per 7,500 tons and for the toe stone 1 per every 500 tons. We would like to propose quality sampling be conducted at a rate of one per source/quarry.

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-05

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1569
Contract No. 16-233-000-9717

3/7/16
Date

GLO/VLB Project Number, Name and Location

1 Copy – Stone Graduation 2 Test Results

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: PreConstruction Submittal

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 3/7/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

3-8-16
By Architect/Engineer Date
Christopher P. Lentz, TX PE #107494

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- ☒ GLO/VLB

3-8-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date

Gulf Coast Limestone, Inc.
P. O. Box 66
Seabrook, TX 77586
(281) 474-4124

GRADATION TEST RESULTS FOR
Virginia Point Wetland
Protection Project

Date: January 4, 2016

Total weight of test stockpile: 28,635 Lbs.

This sample was taken from a stockpile produced at the Gulf Coast Limestone Facility, located in Old Castle Material's Marble Falls Quarry, Marble Falls, Texas. Results were analyzed for the Virginia Point Wetland Protection Project.

Weight. lbs	% Lighter	Results (Lbs)
366-915	100	910
183-275	50	224
57-137	15	80

Stone Weight	Accumulated Weight	Percentage
1		
3	4	
3	7	
3	10	
5	15	
5	20	
6	26	
8	34	
8	42	
9	51	
9	60	
10	70	
11	81	
14	95	
17	112	

20	132
22	154
23	177
23	200
26	226
26	252
26	278
27	305
27	332
28	360
28	388
32	420
32	452
34	486
37	523
38	561
38	599
40	639
40	679
40	719
41	760
41	801
41	842
42	884
43	927
43	970
45	1015
45	1060
46	1106
47	1153
48	1201
49	1250
51	1301
52	1353
52	1405
52	1457
52	1509
54	1563
54	1617
55	1672
56	1728
56	1784
56	1840

57	1897	
57	1954	
58	2012	
58	2070	
58	2128	
58	2186	
59	2245	
60	2305	
60	2365	
62	2427	
63	2490	
63	2553	
64	2617	
64	2681	
64	2745	
64	2809	
65	2874	
66	2940	
66	3006	
66	3072	
67	3139	
67	3206	
67	3273	
67	3340	
70	3410	
70	3480	
70	3550	
72	3622	
74	3696	
75	3771	
76	3847	
76	3923	
76	3999	
76	4075	
77	4152	
80	4232	15%
81	4313	
86	4399	
86	4485	
86	4571	
87	4658	
88	4746	
88	4834	

89	4923
89	5012
89	5101
91	5192
92	5284
92	5376
95	5471
96	5567
97	5664
98	5762
99	5861
99	5960
101	6061
103	6164
104	6268
104	6372
104	6476
105	6581
106	6687
107	6794
109	6903
111	7014
111	7125
114	7239
114	7353
115	7468
117	7585
119	7704
119	7823
122	7945
125	8070
133	8203
133	8336
134	8470
134	8604
134	8738
135	8873
136	9009
136	9145
137	9282
137	9419
138	9557
140	9697

140	9837	
141	9978	
147	10125	
147	10272	
151	10423	
153	10576	
154	10730	
157	10887	
160	11047	
160	11207	
163	11370	
167	11537	
171	11708	
175	11883	
175	12058	
177	12235	
178	12413	
178	12591	
190	12781	
205	12986	
206	13192	
207	13399	
214	13613	
218	13831	
224	14055	
224	14279	50%
234	14513	
238	14751	
238	14989	
244	15233	
250	15483	
250	15733	
257	15990	
265	16255	
265	16520	
265	16785	
271	17056	
273	17329	
279	17608	
286	17894	
300	18194	
307	18501	
323	18824	

343	19167	
354	19521	
374	19895	
402	20297	
431	20728	
436	21164	
479	21643	
480	22123	
493	22616	
511	23127	
518	23645	
598	24243	
616	24859	
620	25479	
681	26160	
683	26843	
882	27725	
910	28635	100%

Gulf Coast Limestone, Inc.
P. O. Box 66
Seabrook, TX 77586
(281) 474-4124

GRADATION TEST RESULTS FOR
Virginia Point Wetland
Protection Project

Date: February 2, 2016

Total weight of test stockpile: 24,512 Lbs.

This sample was taken from a stockpile produced at the Gulf Coast Limestone Facility, located in Old Castle Material's Marble Falls Quarry, Marble Falls, Texas. Results were analyzed for the Virginia Point Wetland Protection Project.

Weight. lbs	% Lighter	Results (Lbs)
366-915	100	854
183-275	50	265
57-137	15	126

Stone Weight	Accumulated Weight	Percentage
25		
31	56	
32	88	
33	121	
34	155	
37	192	
38	230	
43	273	
43	316	
44	360	
45	405	
48	453	
49	502	
50	552	
50	602	

57	659	
58	717	
58	775	
59	834	
60	894	
62	956	
64	1020	
66	1086	
70	1156	
72	1228	
72	1300	
74	1374	
76	1450	
76	1526	
81	1607	
83	1690	
87	1777	
91	1868	
95	1963	
96	2059	
99	2158	
104	2262	
105	2367	
106	2473	
110	2583	
114	2697	
116	2813	
118	2931	
118	3049	
121	3170	
121	3291	
126	3417	
126	3543	15%
134	3677	
134	3811	
135	3946	
138	4084	
141	4225	
154	4379	
154	4533	
157	4690	
159	4849	
161	5010	

162	5172	
164	5336	
173	5509	
174	5683	
175	5858	
176	6034	
180	6214	
182	6396	
184	6580	
185	6765	
187	6952	
189	7141	
191	7332	
195	7527	
196	7723	
202	7925	
208	8133	
211	8344	
215	8559	
226	8785	
229	9014	
230	9244	
231	9475	
234	9709	
240	9949	
241	10190	
249	10439	
250	10689	
252	10941	
257	11198	
262	11460	
264	11724	
265	11989	50%
269	12258	
271	12529	
279	12808	
280	13088	
289	13377	
291	13668	
302	13970	
306	14276	
308	14584	
331	14915	

333	15248	
336	15584	
340	15924	
340	16264	
341	16605	
346	16951	
350	17301	
358	17659	
368	18027	
395	18422	
411	18833	
422	19255	
494	19749	
530	20279	
549	20828	
620	21448	
686	22134	
722	22856	
802	23658	
854	24512	100%

Pine Bluff Sand & Gravel Company
W. SCOTT McGEORGE, PRES.
RIVER CONTRACTORS
REVETMENTS DREDGING PILE DIKES
POST OFFICE BOX 7008
PINE BLUFF, ARK. 71611-7008

MATERIAL DATA SHEET

CUMBERLAND RIVER QUARRY

RIPRAP

TECHNICAL DATA

Specific Gravity:

Bulk	2.66
SSD	2.68
Apparent	2.72
Absorption	0.8%

Abrasion Loss: 20.4%

Soundness Loss: 4.8%

Pine Bluff Sand & Gravel- CRQ

Quality Test Report

Plant 001-Pine Bluff Sand & Gravel- CRQ
Product 001-#1
Specification AASHTO 1

123034195

Sample Information

Sample No 123034195
Date Sampled 12/20/2013 13:08
Sampled By Mike Nelson
Type Investigative
Method Stockpile
Location
Process
Ledge
Other
Weather
Temp

Split Sample ☐
Resample ☐
Lot / Sublot
Quad / Quantity

Test Note

Sequence
Code

Gradation Results

Date Completed 12/20/2013 13:08
Tested By Mike Nelson

Unit	Moist Mass	Dry Mass	Wash Mass	Moisture %	Wash Loss %	Procedure
g		36820.00				

Sieve	Mass Retained	Cum Mass Retained	Ind % Retained	% Retained	% Passing	Target	Specification	Comment
4" (100mm)	0.0	0.0	0.0	0.0	100.0		100-100	
3 1/2" (90mm)	1750.0	1750.0	4.8	4.8	95.2		90-100	
2 1/2" (63mm)	19420.0	21170.0	52.7	57.5	42.5		25-60	
1 1/2" (37.5mm)	13670.0	34840.0	37.1	94.6	5.4		0-15	
3/4" (19mm)	1360.0	36200.0	3.7	98.3	1.7		0-5	
Pan	620.0	36820.0	1.68	100.00	0.00			

PINE BLUFF SAND and GRAVEL COMPANY
Cumberland River Quarry
Gradation Test Data Sheet

Quarry PBSGC - CUMBERLAND RIVER QUARRY Type of Stone Tested RR Spec 920

Date of Test 4/11/2016 Testing Rate

TEST REPRESENTS

Contract No.	District	Tons
PMC		
	TOTAL	

GRADATION

Stone Size (LB)	Weight Retained	Individual % Retained	Cummulative % Ret.	Cummulative % Pass	Specification % Finer by wt.
920 Plus	0	0.0	0.0	100.0	100
360-920	0	0.0	0.0	100.0	
280-360	8720	26.1	26.1	73.9	
180-280	8860	26.5	52.6	47.4	50
140-180	5700	17.1	69.7	30.3	
50-140	5420	16.2	85.9	14.1	15
0-50	4720	14.1	100.0	0.0	
Total Weight	33420				
Max Size Stone +	340 LBS				

Remarks:

I certify that the above stone sample is representative of the total tonnage covered by this test report.

Contractor Representative

Government Representative

PINE BLUFF SAND and GRAVEL COMPANY
Cumberland River Quarry
Gradation Test Data Sheet

Quarry PBSGC - CUMBERLAND RIVER QUARRY

Type of Stone Tested RR Spec 920

Date of Test 4/5/2016

Testing Rate

TEST REPRESENTS

Contract No.	District	Tons
PMC		
	TOTAL	

GRADATION

Stone Size (LB)	Weight Retained	Individual % Retained	Cummulative % Ret.	Cummulative % Pass	Specification % Finer by wt.
920 Plus	0	0.0	0.0	100.0	100
360-920	6880	21.7	21.7	78.3	
280-360	4680	14.8	36.5	63.5	
180-280	6800	21.5	58.0	42.0	50
140-180	5560	17.6	75.6	24.4	
50-140	3640	11.5	87.1	12.9	15
0-50	4080	12.9	100.0	0.0	
Total Weight	31640				
Max Size Stone +	900 LBS				

Remarks:

I certify that the above stone sample is representative of the total tonnage covered by this test report.

Contractor Representative

Government Representative

Nordstrom, Taylor

From: Levitz, Chris
Sent: Thursday, April 14, 2016 8:16 AM
To: Tina Moore; Nordstrom, Taylor
Cc: Andy Elms; Tim Elms
Subject: RE: Virginia Point Alternate Stone

Tina,

I'd prefer this one since it is more well graded, but as I noted, both are acceptable from what I can see.

Chris Levitz, PE, CFM
Coastal Engineering Manager, Water Resources, Houston
D +1-281-675-3518
M +1-281-384-7500
chris.levitz@aecom.com

AECOM
19219 Katy Freeway
Suite 100
Houston, TX 77094, United States
T +1-281-646-2400
aecom.com

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FORTUNE WORLD'S MOST ADMIRED COMPANIES 2016

From: Tina Moore [mailto:tmoore@apolloenviro.com]
Sent: Wednesday, April 13, 2016 5:39 PM
To: Nordstrom, Taylor; Levitz, Chris
Cc: Andy Elms; Tim Elms
Subject: RE: Virginia Point Alternate Stone

They also have this product, see attached.

Tina Moore, P.E.
APOLLO Environmental Strategies, Inc.
P.O. Box 12114
Beaumont, Texas 77726
409-833-3330

On Wed, 13 Apr 2016 20:34:34 +0000, "Levitz, Chris" <chris.levitz@aecom.com> wrote:

> Tina,

The specs look acceptable, although the rip rap doesn't have the larger stone like we have from the Central Texas quarry, so I'd have some concern it isn't as well-graded as we'd like. I wouldn't reject it, but we'd have to be more conscious of how we place the stone since it maxes out at 360 lbs instead of ~900 lb like the original quarry. Sound okay?

Chris Levitz, PE, CFM
Coastal Engineering Manager, Water Resources, Houston
D +1-281-675-3518
M +1-281-384-7500
chris.levitz@aecom.com

AECOM
19219 Katy Freeway
Suite 100
Houston, TX 77094, United States
T +1-281-646-2400
aecom.com

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FORTUNE WORLD'S MOST ADMIRED COMPANIES 2016

From: Tina Moore [mailto:tmoore@apolloenviro.com]
Sent: Wednesday, April 13, 2016 10:34 AM
To: Levitz, Chris; Nordstrom, Taylor
Cc: Andy Elms; Tim Elms
Subject: Virginia Point Alternate Stone

It looks like our current train is coming in this weekend, but we would like to get another rock source approved in case we run into more problems with train delivery. This way we can have two sources approved and can minimize any future delays. The quarry is Cumberland River Quarry (Formerly Smith Quarry) in Kentucky operated by Pine Bluff Sand and Gravel. I have attached the gradation and quality testing results. Please review and let us know asap if this material would also be acceptable to use.

Thanks

Tina Moore, P.E.

APOLLO Environmental Strategies, Inc.
P.O. Box 12114
Beaumont, Texas 77726
409-833-3330

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL VP-06

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1569
Contract No. 16-233-000-9717

3/9/16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Stone Quality Test Results

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 35 31 00

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 3/9/16
By Contractor Date

ARCHITECT/ENGINEER

- ☐ No Exceptions Taken
- ☒ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

3-11-16
By Architect/Engineer Date
Christopher Leritz, TX PE #107494

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- ☒ GLO/VLB

3-11-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS Wetting/Drying quality test to be submitted seperately

3-11-16
By Date

Oldcastle Materials Texas
Quality Control Laboratory
8147 Hwy 281
Burnet, Texas 78611
Phone: 830.693.2933
Fax: 830.798.8746

QC Lab Report

Source: Oldcastle Materials Texas
Marble Falls Quarry

Sample Number: Investigative
Report Date: 3/5/2106
Customer: Gulf Coast Limestone, Inc.
PO Box 66
Seabrook, Texas 77586
Phone: 281.474.4214
Fax: 281.474.2055

Product: Rip Rap Aggregate

Project Name: Virginia Point Wetland Protection Project

Project Number:

ASTM Test Method	Description Of Test Method	Test Results	Unit Of Measure	Project Specification
C-127	**Absorption**	0.9	%	3.0% Average
C-127	**Specific Gravity (Bulk Dry)**	2.796		Minimum 2.60
C-127	**Specific Gravity (SSD)**	2.816		Minimum 2.60
C-29	**Solid Weight (Unit Weight)**	173.9	pounds per cubic foot (lbs/ft3)	N/A
C-131	**Los Angeles Abrasion (500 revs)**	26	% loss	40% Max Loss
C-88	**Magnesium Sulfate Soundness (5 cycles)**	7	% loss	N/A

NOTE: *Tests performed on crushed Rip-Rap Aggregate.*

Christopher Haas
Quality Control Manager

Notice: All data in this report is proprietary to Oldcastle Materials Texas. and may not be reproduced without OMT's written consent. This report is intended for OMT's internal use only, and is provided to our customers as a courtesy without any representation or warranty, expressed or implied, including fitness of any product for customers intended use. This data pertains to sample actually tested. Results may vary among samples, even if taken from the same originating source, due to a variety of factors such as test method, individual technique, naturally occurring variations, etc. Customers needing information specific to materials purchased should have them independently tested.

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-07

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

3/14/16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Toe Stone Quality and Gradation Test Results

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 35 31 00

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 3/14/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

3-15-16
By Architect/Engineer Date
Christopher Lortz, Tx PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

3-15-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date

Basic Quality Statistical Summary Report

Plant	47108-Snyder
Product	3980-3" to 1 1\2"
Specification	3" x 1 1\2" Concrete Rock (COE)
Period	03/06/2013 - 03/11/2016

Sieve/Test	Tests	Average	St Dev	Target	Specification
4" (100mm)	48	100.0	0.00	100-100\100	100-100
3" (75mm)	51	98.3	2.29	92-100\95	90-100
2 1/2" (63mm)	51	80.4	10.64		
2" (50mm)	54	38.9	10.28	20-48\30	20-55
1 1/2" (37.5mm)	54	6.7	4.55	0-8\7	0-10
1" (25mm)	54	2.0	1.26	0-4\2	0-5
#200 (75µm)	6	0.48	0.234	0-0.7	0-2
Pan	54	0.00	0.000		
Clay Lumps/Friable Particles	1	0.0			
LA Abrasion (1,1000)	1	13.8			
Soundness (MgSO4)	1	0			
Flat/Elongated (3:1)	1	10.6			
Flat/Elongated (5:1)	1	0.0			
-#200 (75um)	2	0.5	0.14		
Wash Loss (#200/75um)	4	0.4	0.24		
Absorption	1	0.2			
SPGR (Dry,Gsb)	1	2.62			
SPGR (SSD)	1	2.63			
SPGR (Apparent,Gsa)	1	2.64			
Unit Wt (Loose)	1	89.0			
Unit Wt (Rodded)	1	89.1			
Voids (Loose)	1	46			
Voids (Rodded)	1	45			

Query

Query Selections
Date Created 03/11/2016
Date Range 03/06/2013 - 03/11/2016
Plant Snyder

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-08

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1569/1596
Contract No. 16-233-000-9717

GLO/VLB Project Number, Name and Location

3/26/16
4

Date

1 Copy – Geotextile Fabric Certifications

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 02 05 19.13 1.3

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 3/26/16
By Contractor Date

ARCHITECT/ENGINEER

- ☐ No Exceptions Taken
- ☒ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

4-26-16
By Architect/Engineer Date
Christopher Lovitz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

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- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

4-26-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS Approve use of woven instead of non-woven + lower CD trapezoidal tear strength

4-26-16
By Date

TENCATE GEOSYNTHETICS
Americas

Mirafi® FW700

Mirafi® FW700 geotextile is composed of high-tenacity monofilament polypropylene yarns, which are woven into a stable network such that the yarns retain their relative position. Mirafi® FW700 geotextile is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids. Mirafi® FW700 meets AASHTO M288-06 Class 2 and 3 for < 50% elongation and 15% to 50% and > 50% fines for Subsurface Drainage and Permanent Erosion Control.

TenCate Geosynthetics Americas Laboratories are accredited by a2La (The American Association for Laboratory Accreditation) and Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). NTPEP Listed

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	370 (1647)	250 (1113)
Grab Tensile Elongation	ASTM D4632	%	15	15
Trapezoid Tear Strength	ASTM D4533	lbs (N)	100 (445)	60 (267)
CBR Puncture Strength	ASTM D6241	lbs (N)	950 (4228)	
			Minimum Roll Value	
Percent Open Area	COE-02215	%	4	
Permittivity	ASTM D4491	sec^{-1}	0.28	
Flow Rate	ASTM D4491	gal/min/ft² (l/min/m²)	18 (733)	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	70 (0.212)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	90	

Physical Properties	Unit	Roll Size
Roll Dimensions (width x length)	ft (m)	12 x 300 (3.7 x 91)
Roll Area	yd^2 (m^2)	400 (334)

Percent Open Area (COE-02215) is not covered by our current A2LA accreditation.

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365 South Holland Drive
Pendergrass, GA 30567

Tel 706 693 2226
Tel 888 795 0808

Fax 706 693 4400
www.tencate.com

FGS000054
ETQR35

GAI-LAP-25-97

Testing Lab 1291.01 & 1291.02

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-09

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION 1596
Virginia Point, Galveston County #CEPRA ~~1569~~
Contract No. 16-233-000-9717

3/28/16
4

GLO/VLB Project Number, Name and Location — Date

1 Copy – Toe Stone Gradation Test Results

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 35 31 00

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 3/28/16
By Contractor — Date

ARCHITECT/ENGINEER

- ☐ No Exceptions Taken
- ☒ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

4-28-16
By Architect/Engineer — Date
Christopher Levitz, TX PE #107464

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

4-28-16
By Architect/Engineer — Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB — Date

COMMENTS Approved as alternate only. Primary Toe Protection Stone should be as approved in Submittal VP-07. This stone is out of spec with gradation, but can be used as second option

4-28-16
By — Date

Marble Falls Quarry
8147 US Hwy 281
Burnet, TX 78611
(830) 693-2933

06/14/2013

890-6" Bedding Stone

Procedure	Sieve/Test	Average	Unit	6" Minus
	6" (150mm)	100.0	%	<100
	5" (125mm)	95.4	%	
	4" (100mm)	91.0	%	
	3" (75mm)	75.7	%	
	2" (50mm)	45.6	%	
	1" (25mm)	11.5	%	
	3/4" (19mm)	4.7	%	
	1/2" (12.5mm)	1.5	%	0-5
	Pan	0.00	%	

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Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-10

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1589~~ 1596
Contract No. 16-233-000-9717

5/23/16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Pre Construction Survey Breakwater B15-B31

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 5/23/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

5-24-16
By Architect/Engineer Date
Christopher Lavitz, TX PE #107009

COPIES DISTRIBUTED AS FOLLOWS:

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- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

5-24-16
By Architect/Engineer Date

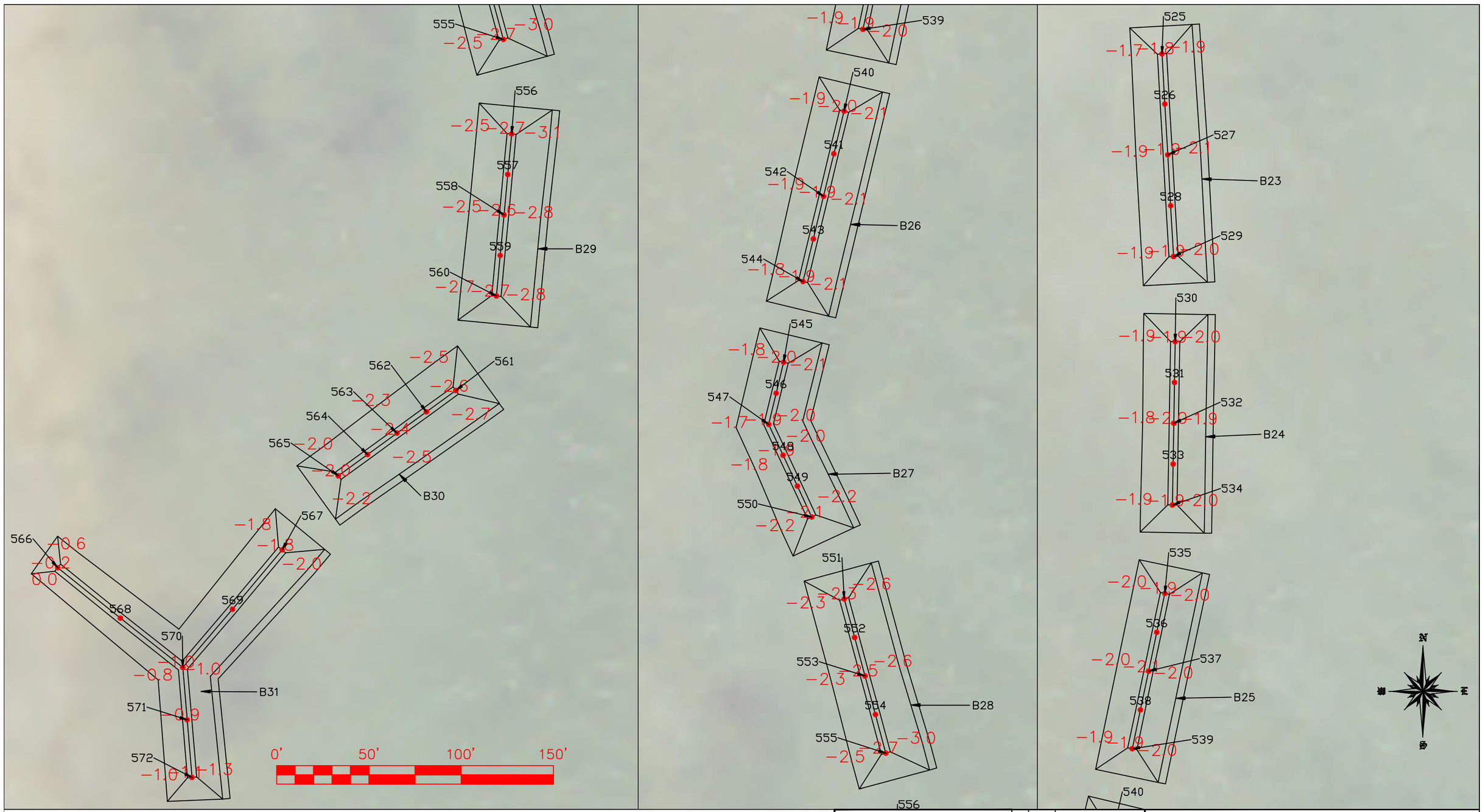
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON APRIL 22–23, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L 5800"
N: 13,680,977.18'	N:13,691,249.77'
E: 3,275,184.41'	E: 3,273,882.22'
ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16–233–000–9717

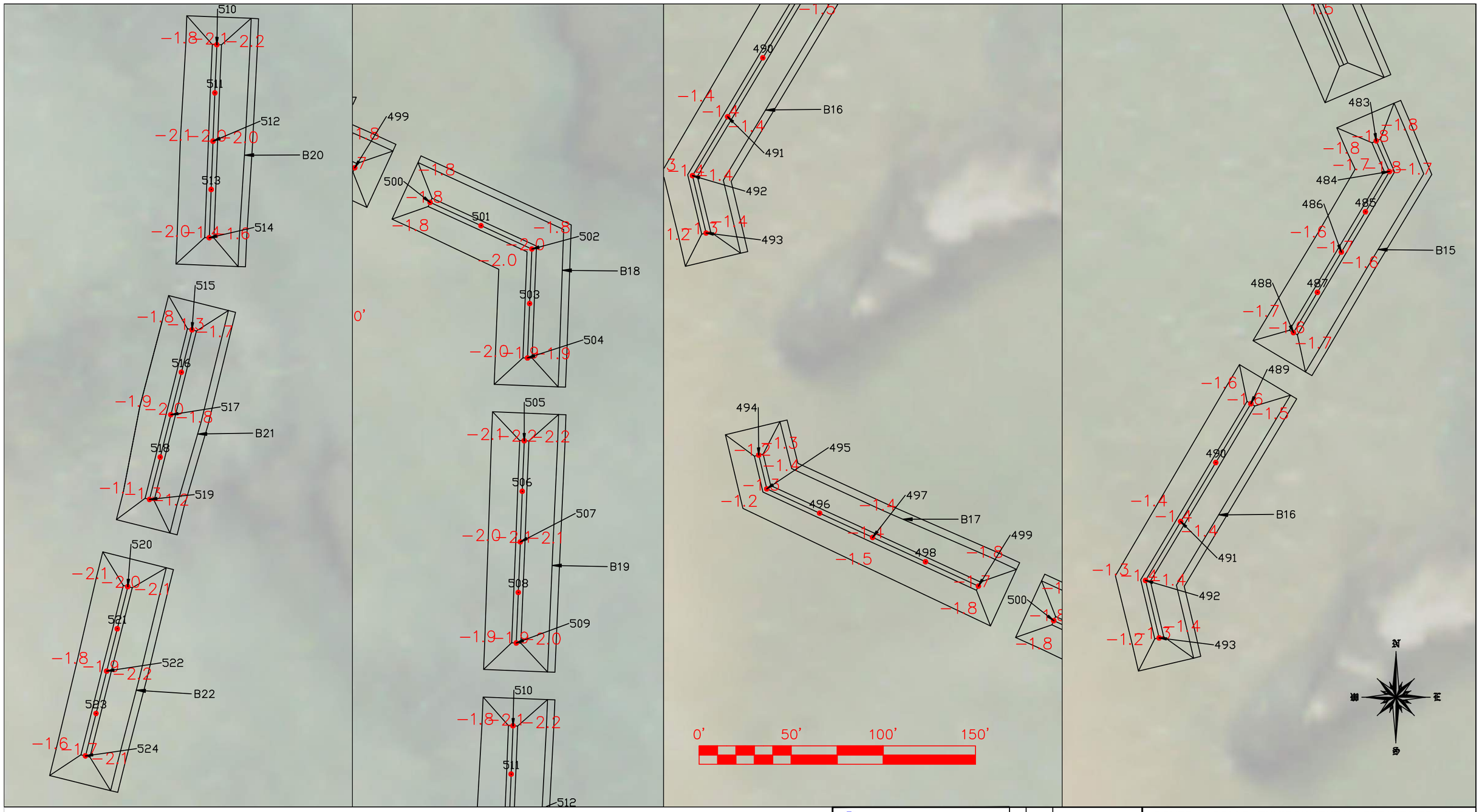
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE–CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: DPG
PLAN SHEET 1 OF 2
DATE: APR. 2016



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON APRIL 22–23, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS:	"1488 C 2012"	"3200 L 5800"
N:	13,680,977.18'	N:13,691,249.77'
E:	3,275,184.41'	E: 3,273,882.22'
ELEV:	11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16–233–000–9717

Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE–CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: DPG
PLAN SHEET 2 OF 2
DATE: APR. 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-11

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

5/23/16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Post Construction Survey Breakwater B29 & B30

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 5/23/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

5-24-16
By Architect/Engineer Date
Christopher Lowtz, TX PE #107494

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- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

5-24-16
By Architect/Engineer Date

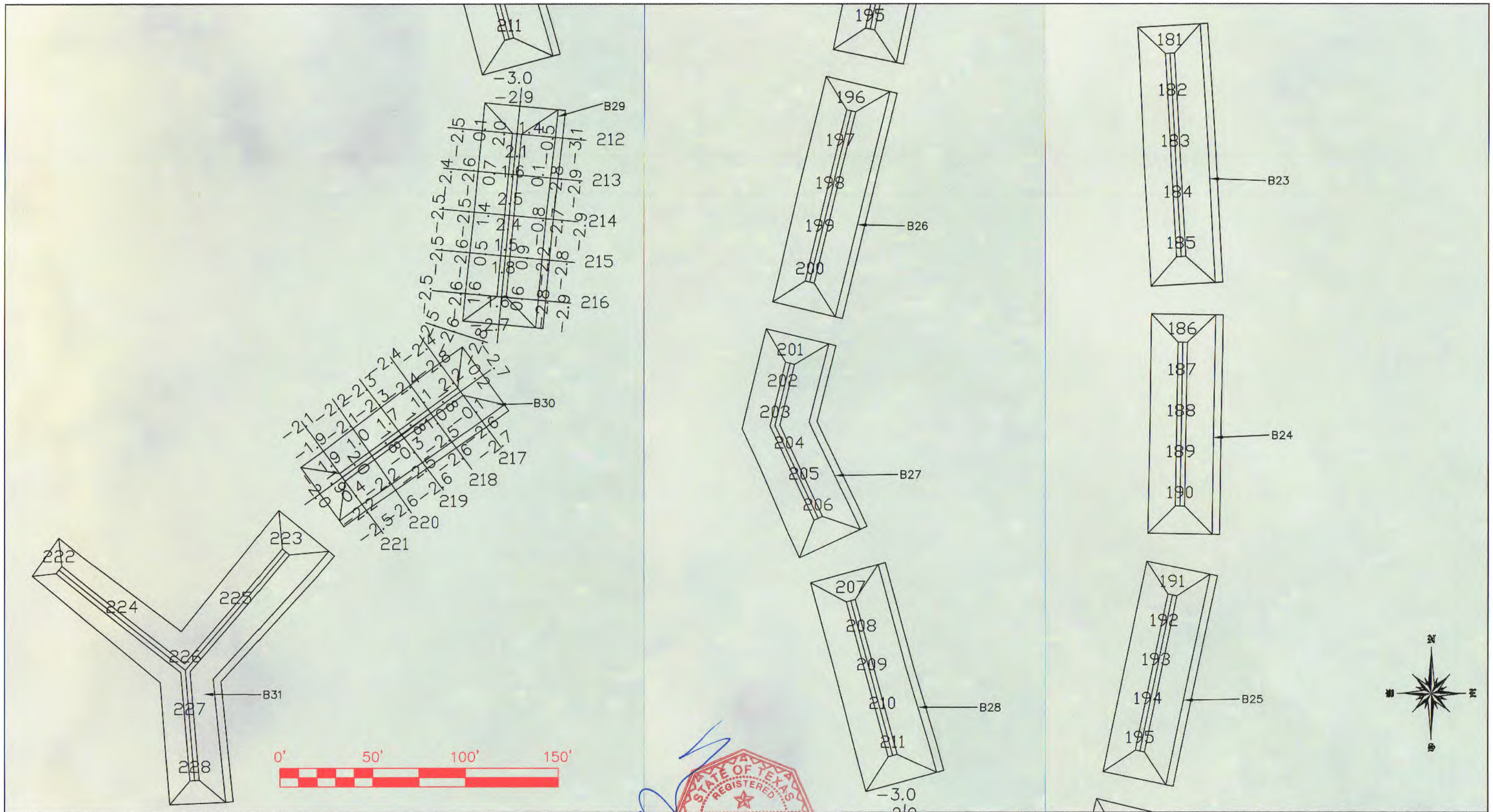
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON MAY 17, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L05800"
N: 13,680,977.18'	N:13,691,249.77'
E: 3,275,184.41'	E: 3,273,882.22'
ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16-233-000-9717

STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR
5/23/2016

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

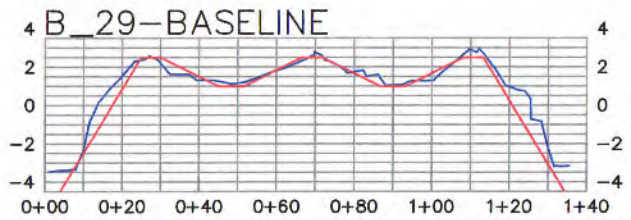
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

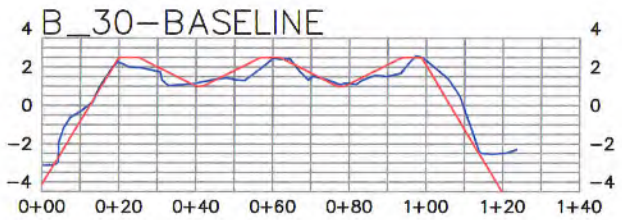
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

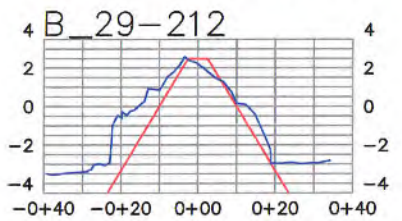
SCALE: 1"= 50'
DWN. BY: DPG

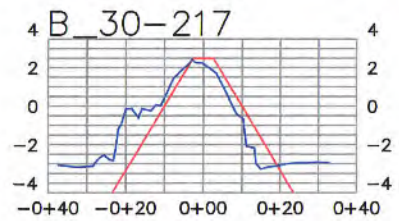
PLAN SHEET 1 OF 2

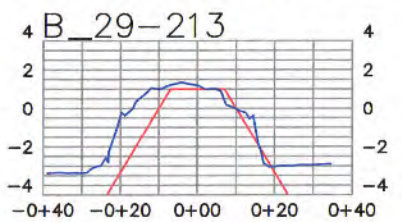
DATE: MAY 2016

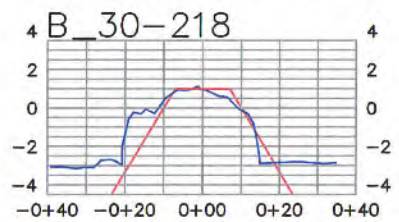


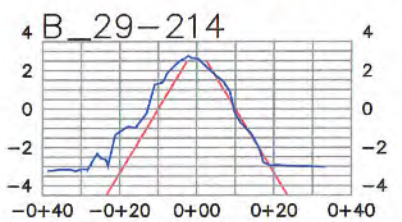


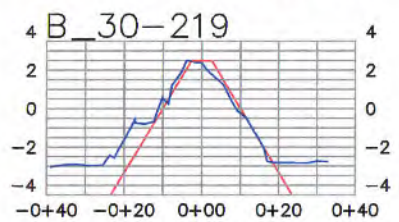


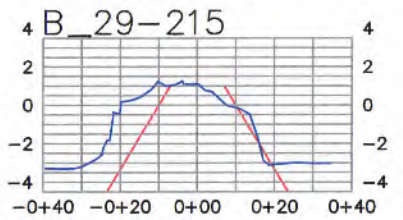


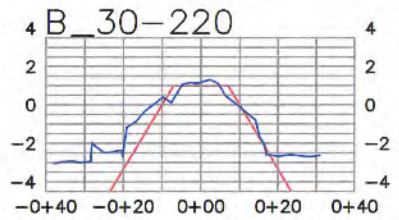


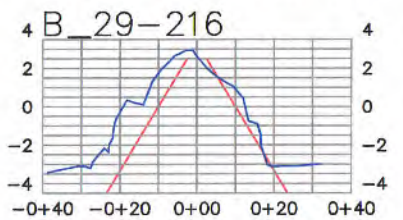


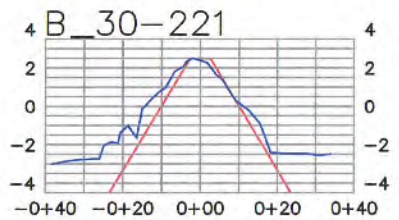


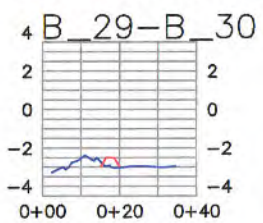












TEMPLATE PROFILES

INTERIM 5–17–2016 PROFILES

NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON MAY 17, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS:	"1488 C 2012"	"3200 L05800"
N:	13,680,977.18'	N:13,691,249.77'
E:	3,275,184.41'	E: 3,273,882.22'
ELEV:	11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
Contract # 16–233–000–9717

STATE OF TEXAS
REGISTERED
JAMES M. NAISMITH
4828
PROFESSIONAL
LAND SURVEYOR
5/23/2016

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: DPG

PLAN SHEET 2 OF 2

DATE: MAY 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-12

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

6/1/16

GLO/VLB Project Number, Name and Location — Date

1 Copy – Post Construction Survey Breakwater B25 - B28

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 6/1/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

6-1-16
By Architect/Engineer Date
Christopher Lewtz, TX PE # 107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

6-1-16
By Architect/Engineer Date

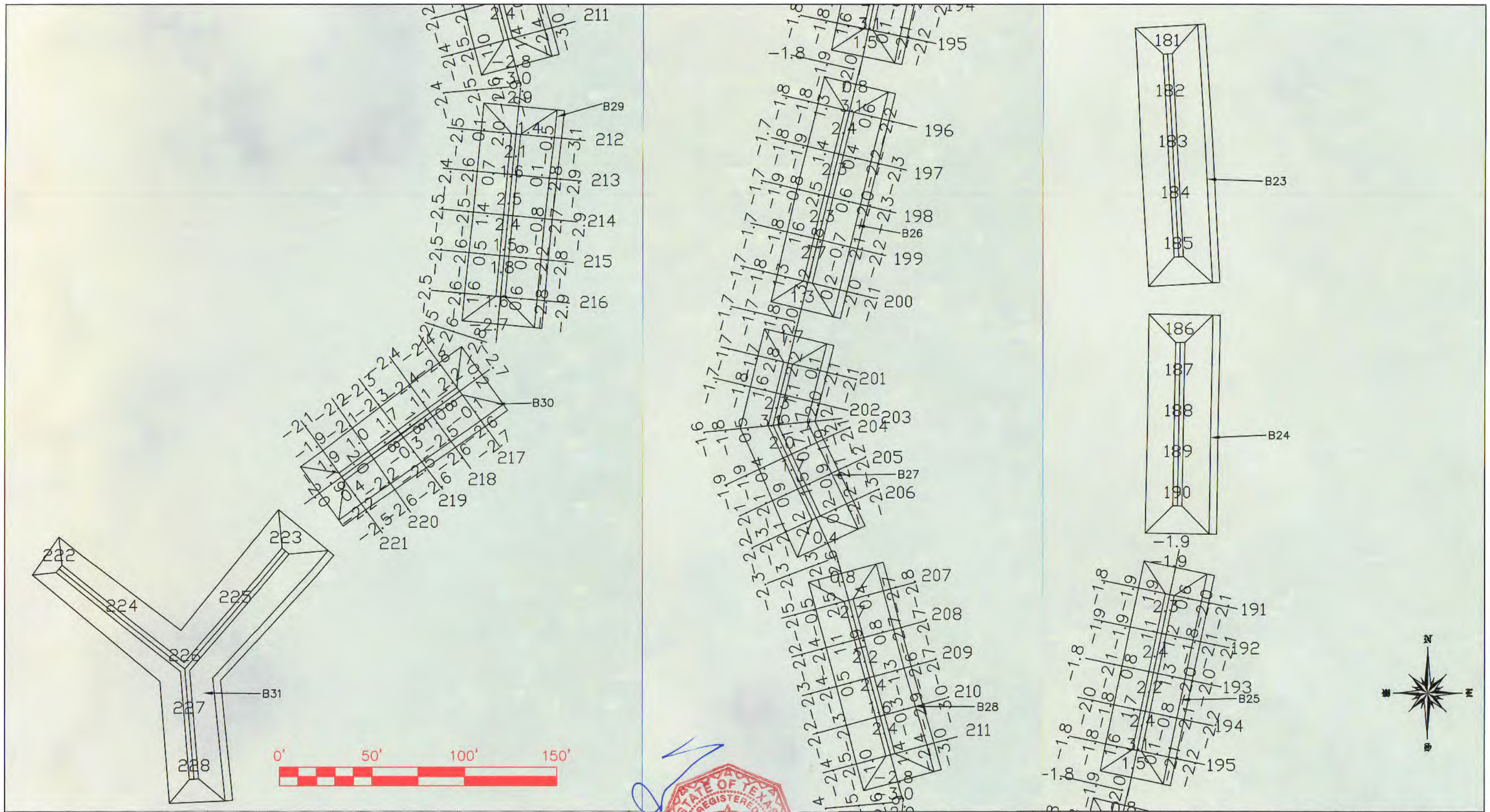
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



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CEPRA #1596
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5/31/2016

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NO.	DATE	REVISION

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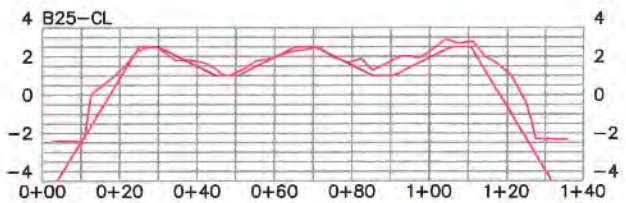
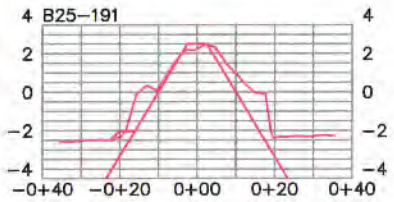
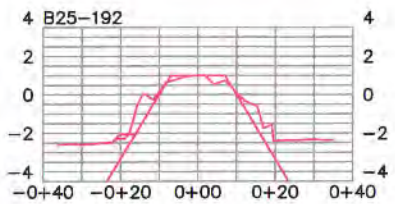
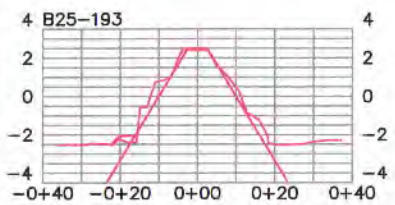
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

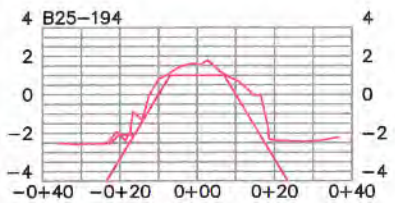
SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 3
DATE: MAY 2016

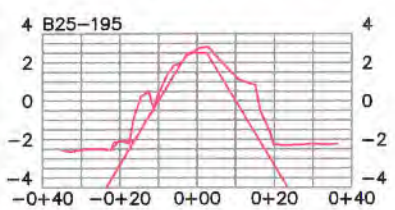


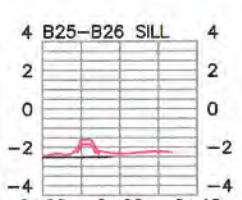


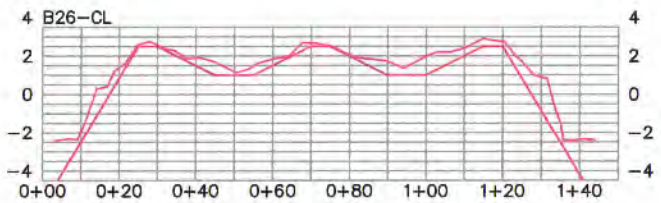


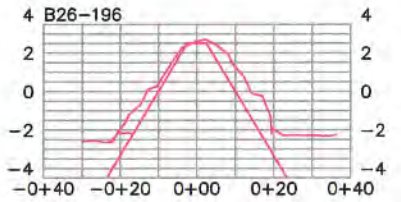


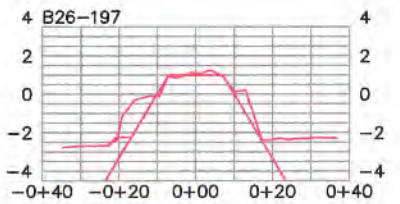


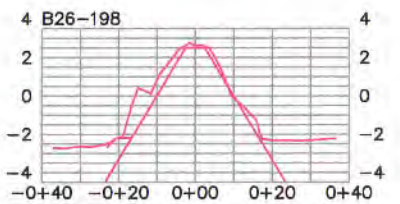


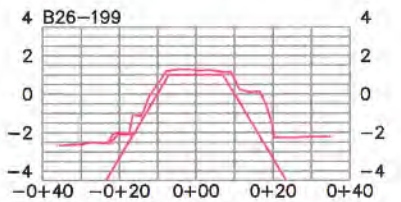


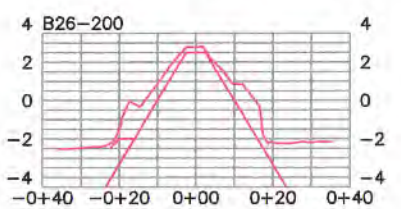


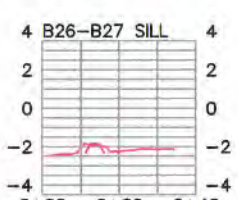


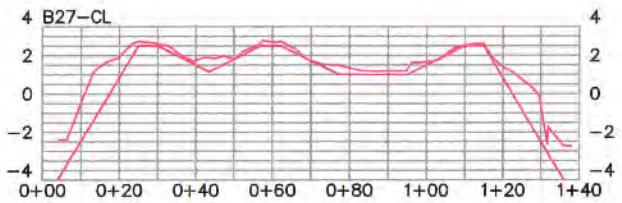


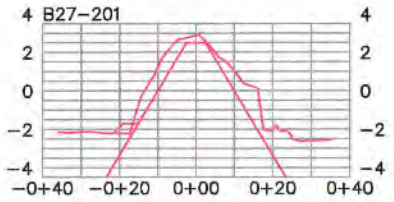


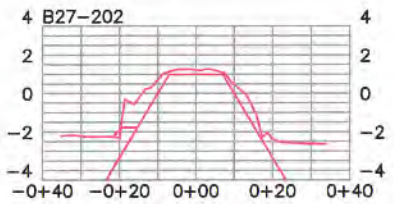


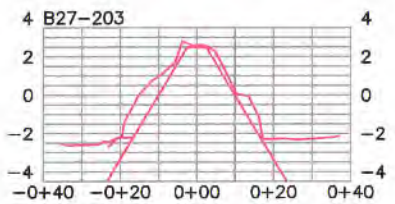


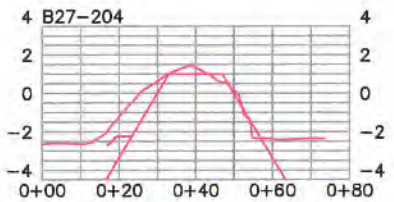


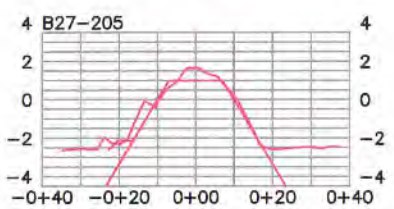


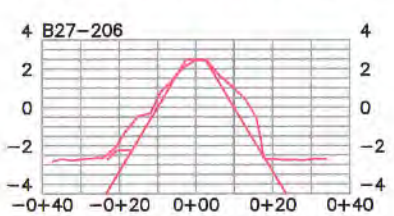


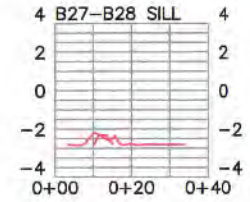


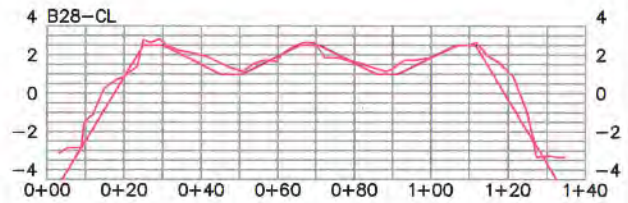


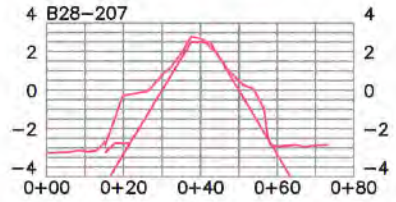


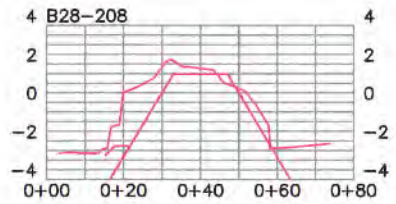


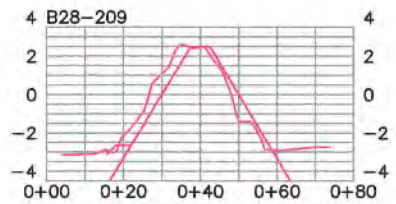


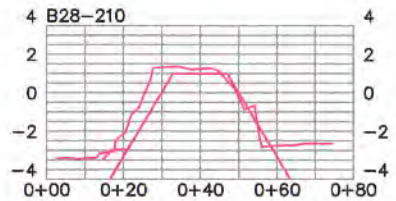


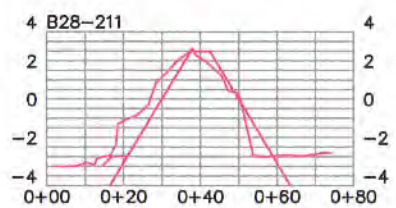


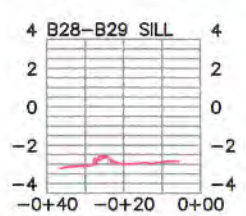












TEMPLATE PROFILES

INTERIM 5–26–2016 PROFILES

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STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR

5/31/2016

CEPRA #1596
TGLO Contract #16–233–000–9717

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NO.	DATE	REVISION

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SCALE: 1"= 50'
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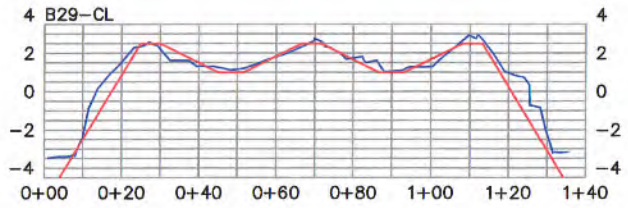
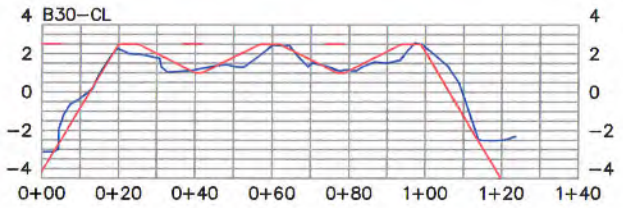
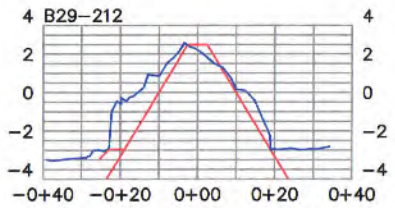
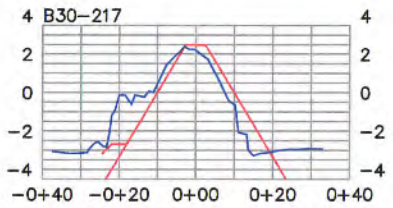
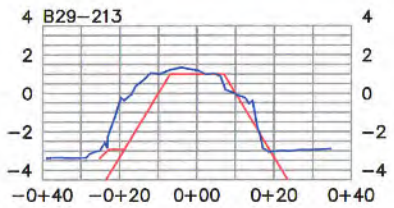
DATE: MAY 2016

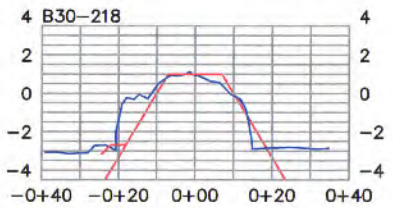


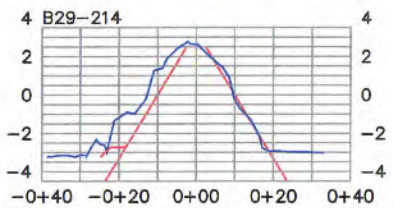


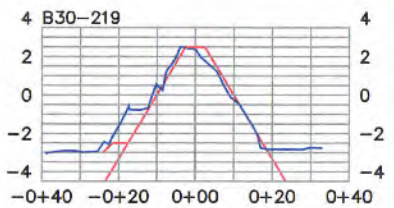


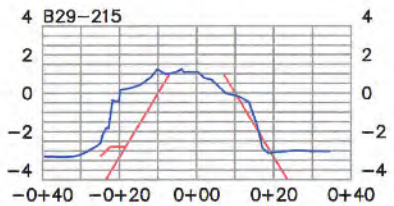


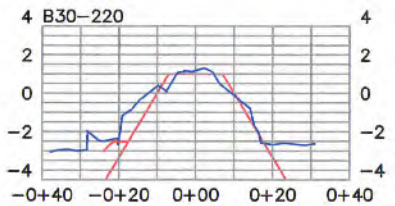


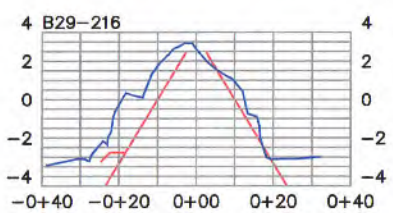


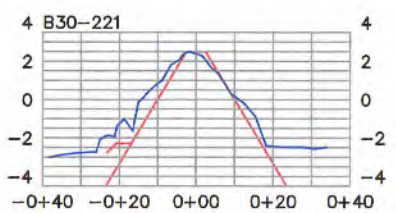


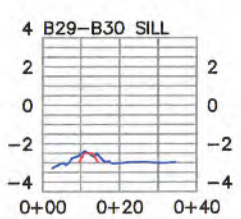












TEMPLATE PROFILES

INTERIM 5–17–2016 PROFILES

NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON MAY 17, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS:	"1488 C 2012"	"3200 L05800"
N:	13,680,977.18'	N:13,691,249.77'
E:	3,275,184.41'	E: 3,273,882.22'
ELEV:	11.93' NAVD88	ELEV: 7.33' NAVD88

STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR

5/31/2016

CEPRA #1596
Contract # 16–233–000–9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
PLAN SHEET 3 OF 3
DATE: MAY 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-13

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

6/6/16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Post Construction Survey Breakwater B20 - B24

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 6/6/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

6-7-16
By Architect/Engineer Date
Christopher Lantz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

6-7-16
By Architect/Engineer Date

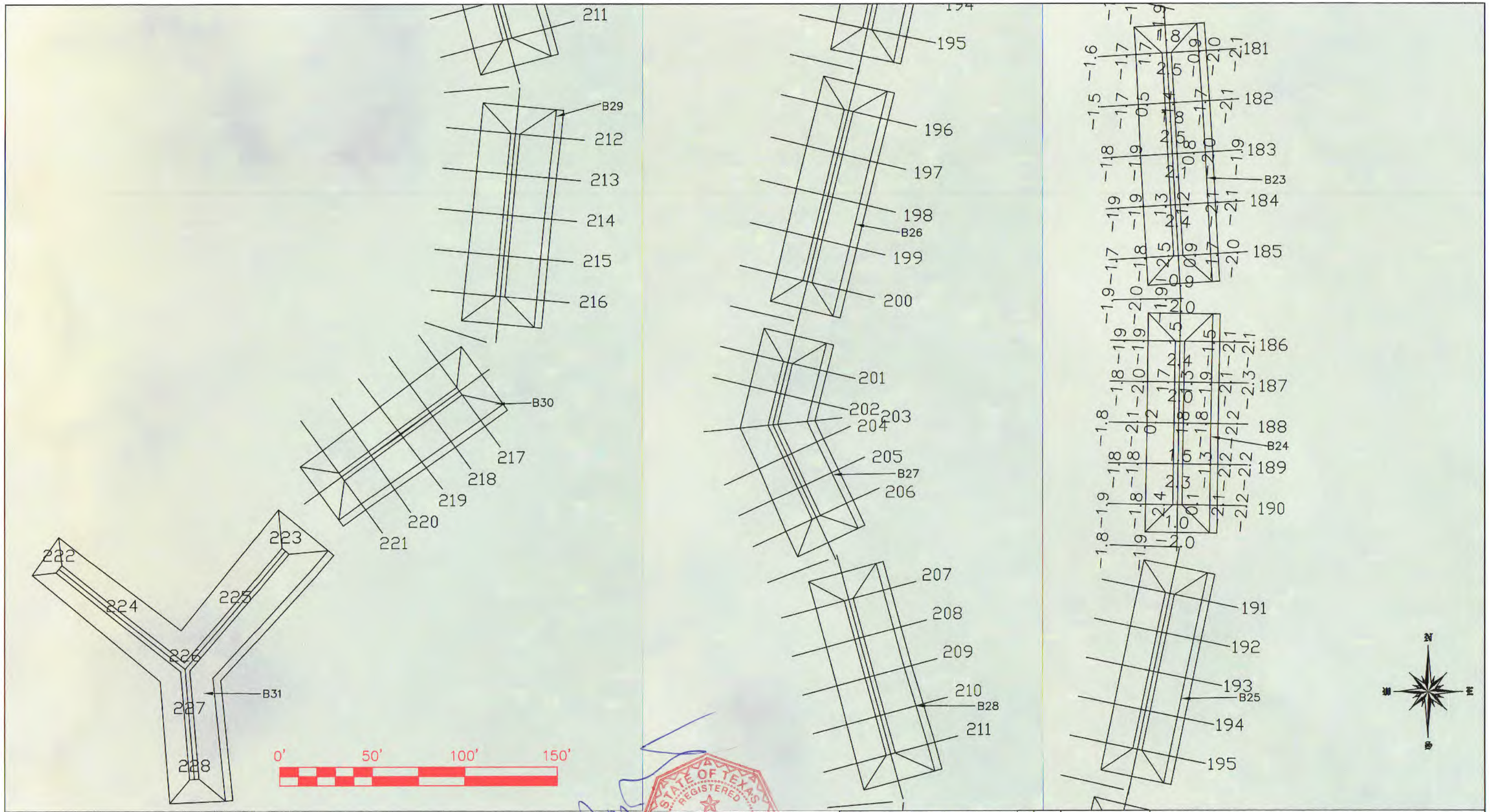
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



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CEPRA #1596
TGLO Contract #16-233-000-9717

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6/6/2016

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

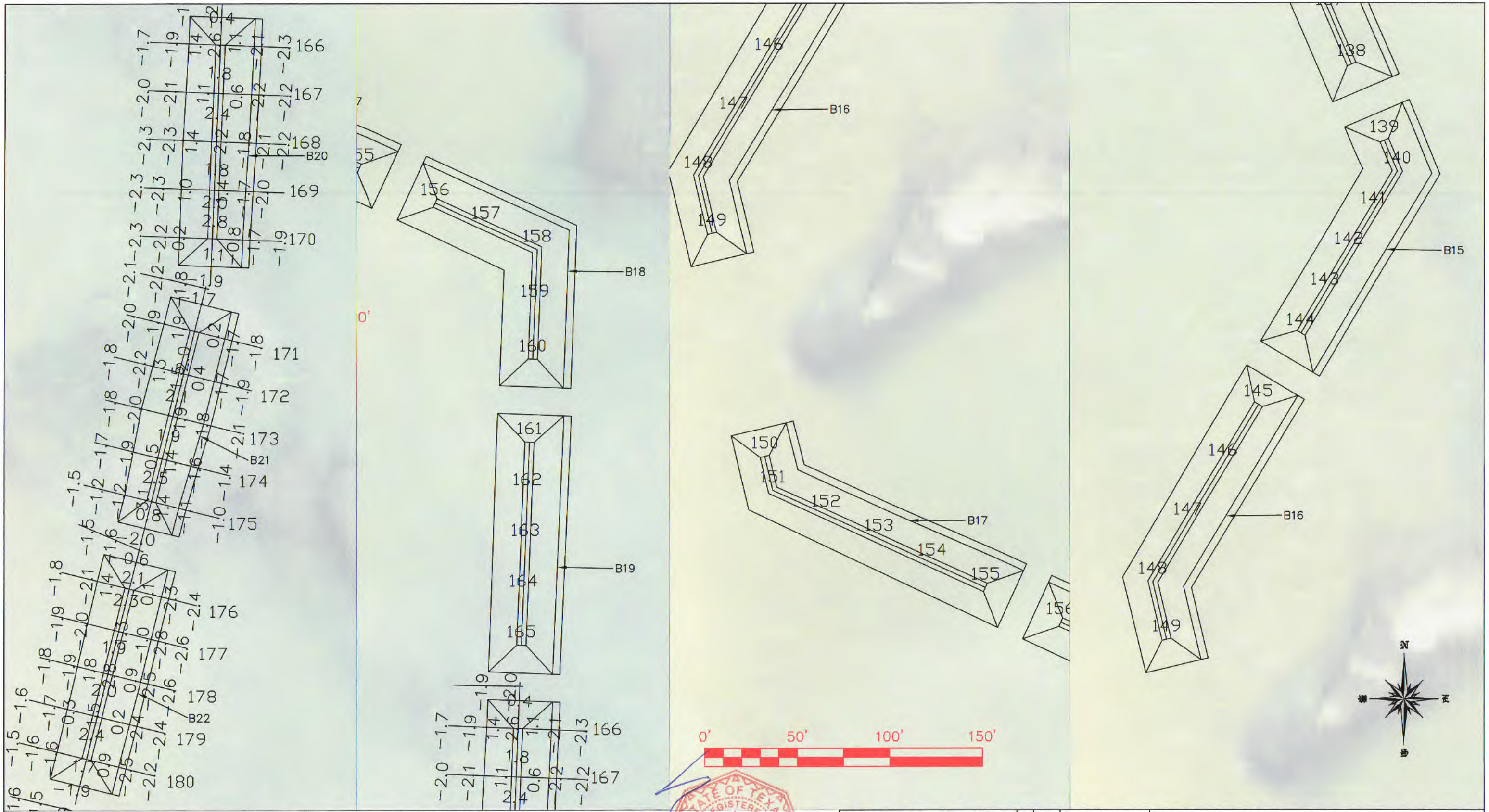
NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG

DATE: JUNE 2016



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CEPRA #1596
TGLO Contract #16-233-000-9717

STATE OF TEXAS
REGISTERED
JAMES M. NAISMITH
4828
PROFESSIONAL
LAND SURVEYOR
6/6/2016

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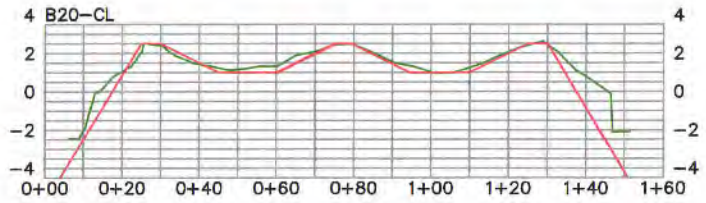
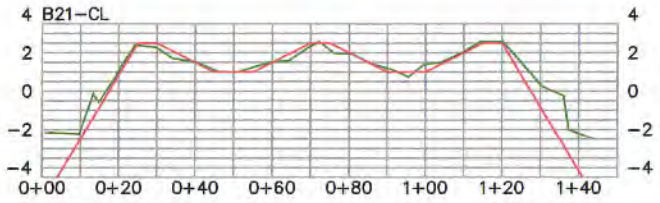
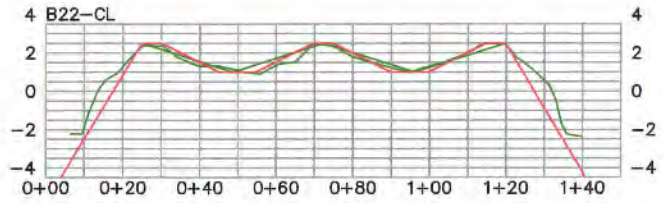
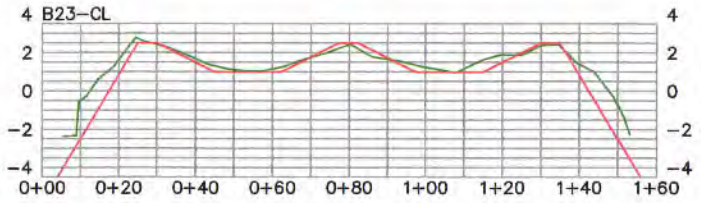
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

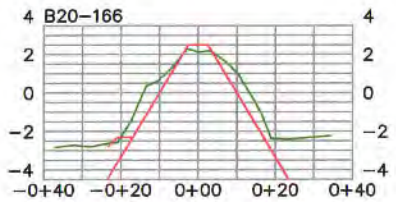
SCALE: 1"= 50'
DWN. BY: BSG
SHEET 2 OF 4
DATE: JUNE 2016

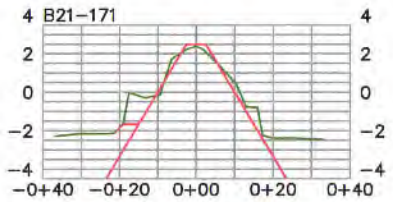


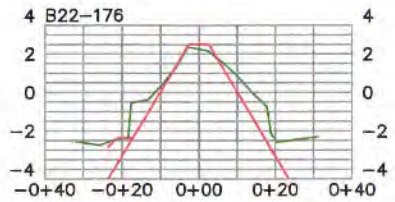


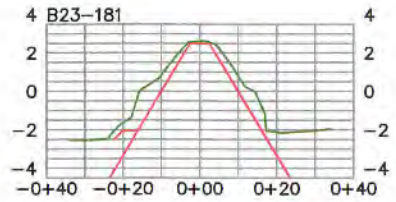


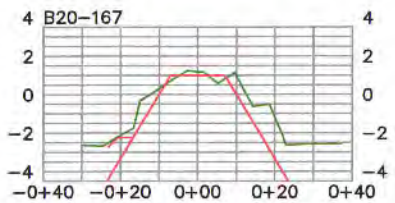


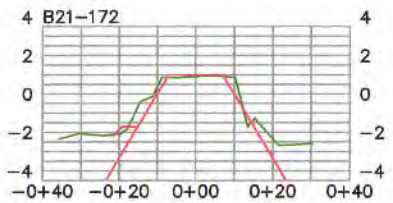


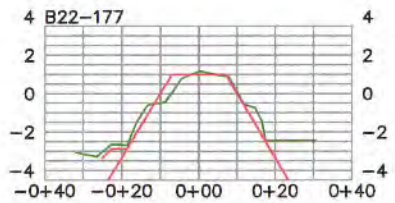


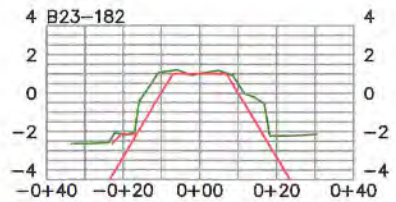


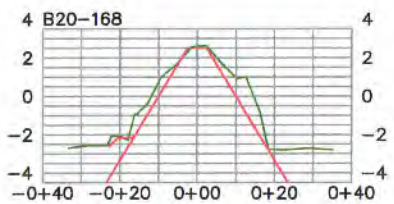


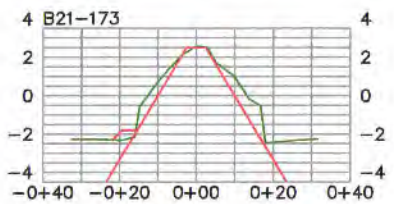


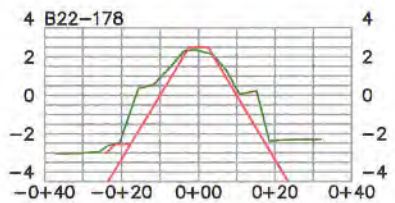


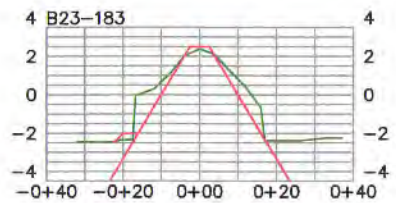


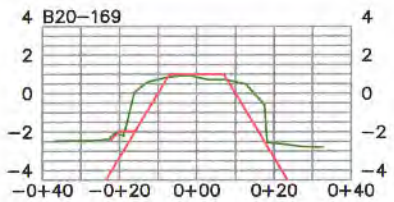


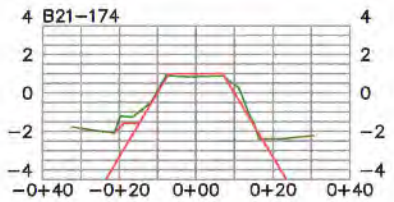


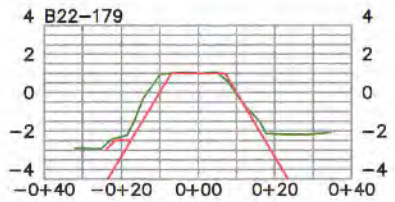


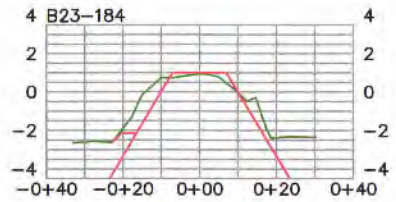


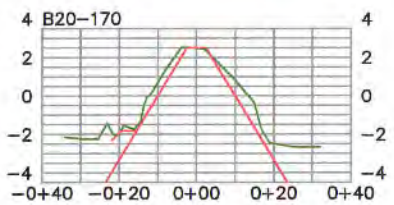


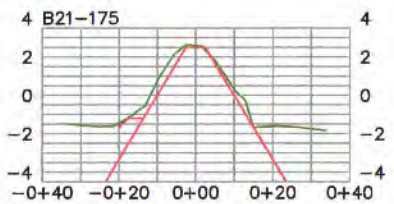


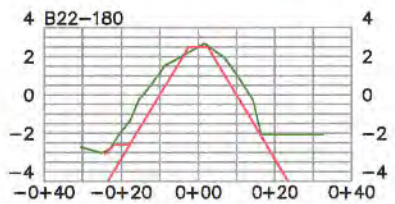


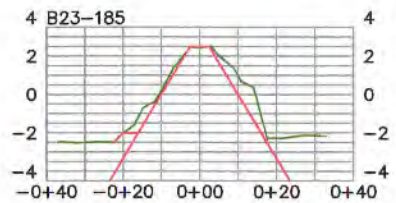


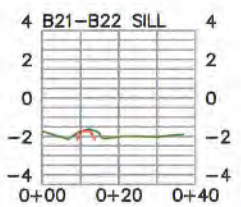


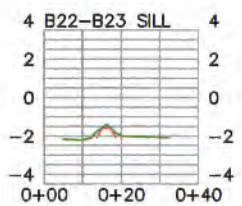


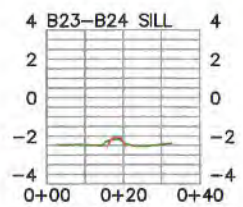












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STATE OF TEXAS
REGISTERED
JAMES M. NAISMITH II
4828
PROFESSIONAL
LAND SURVEYOR

6/6/2016

CEPRA #1596
TGLO Contract #16–233–000–9717

TBPLS #10078500
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Sea Floor Surveying
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Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

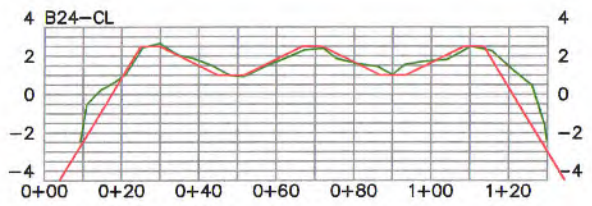
NO.	DATE	REVISION

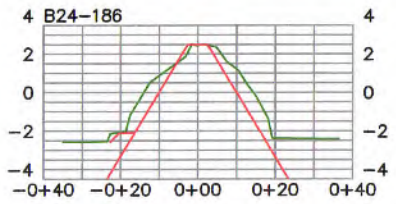
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

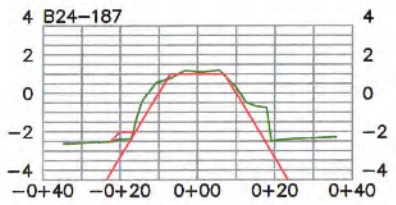
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

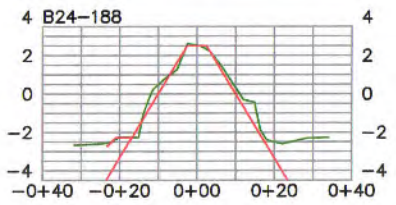
SCALE: 1"= 50'
DWN. BY: BSG

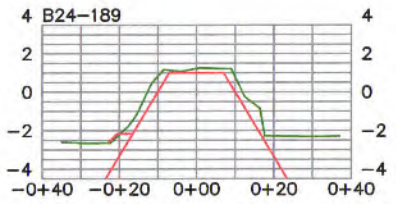
DATE: JUNE 2016

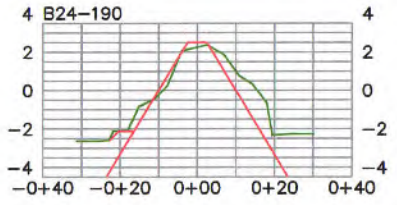












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CEPRA #1596
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INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1" = 50'
DWN. BY: BSG
SHEET 4 OF 4
DATE: JUNE 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-14

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

6/10/16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Pre Construction Survey Breakwater B11-B14

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 6/10/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

6-10-16
By Architect/Engineer Date
Christopher Levita, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

6-10-16
By Architect/Engineer Date

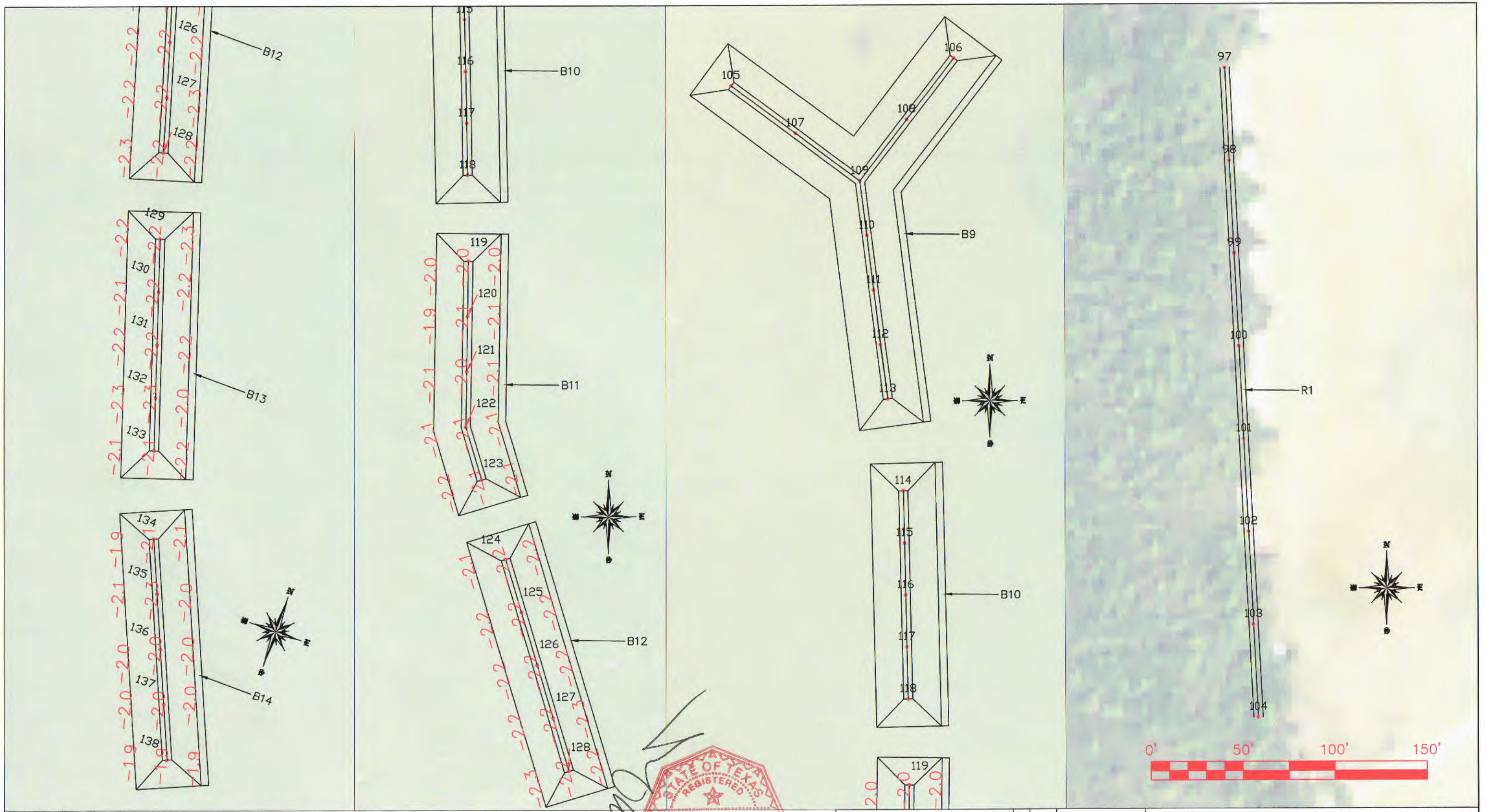
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON JUNE 1, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L 5800"
N: 13,680,977.18'	N:13,691,249.77'
E: 3,275,184.41'	E: 3,273,882.22'
ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR 6/9/2016

CEPRA #1596
TGLO Contract #16-233-000-9717

Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
PLAN SHEET 1 OF 1
DATE: JUNE 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-15

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

6/14/16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Riprap Stone Graduation Test

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:35 31 00 3.2

ROUTING AND ACTION

CONTRACTOR

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- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 6/14/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

6-16-16
By Architect/Engineer Date
Christopher Lentz, TXPE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

6-16-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date

PINE BLUFF SAND and GRAVEL COMPANY
Cumberland River Quarry
Gradation Test Data Sheet

Quarry: PBSGC - CUMBERLAND RIVER QUARRY
Type of Stone Tested: RR Spec 920
Date of Test: 5/9/2016
Testing Rate: Test 2

TEST REPRESENTS

Contract No.	District	Tons
PMC		
TOTAL		

GRADATION

Stone Size (LB)	Weight Retained	Individual % Retained	Cummulative % Ret.	Cummulative % Pass	Specification % Finer by wt.
920 Plus	0	0.0	0.0	100.0	100
360-920	6760	19.3	19.3	80.7	
280-360	5100	14.5	33.8	66.2	
180-280	6580	18.8	52.6	47.4	50
140-180	6540	18.6	71.2	28.8	
50-140	5120	14.6	85.8	14.2	15
0-50	4980	14.1	100.0	0.0	
Total Weight	35080				
Max Size Stone +	880 LBS				

Remarks:

I certify that the above stone sample is representative of the total tonnage covered by this test report.

Contractor Representative: Mike Nelson

Government Representative:

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-16

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

6/14/16
Date

GLO/VLB Project Number, Name and Location

1 Copy – Post Construction Survey Breakwater B16-B19

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

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Spec: 02 21 13

ROUTING AND ACTION

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APOLLO 6/14/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
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6-16-16
By Architect/Engineer Date
Christopher Leitz, TX PE #107494

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6-16-16
By Architect/Engineer Date

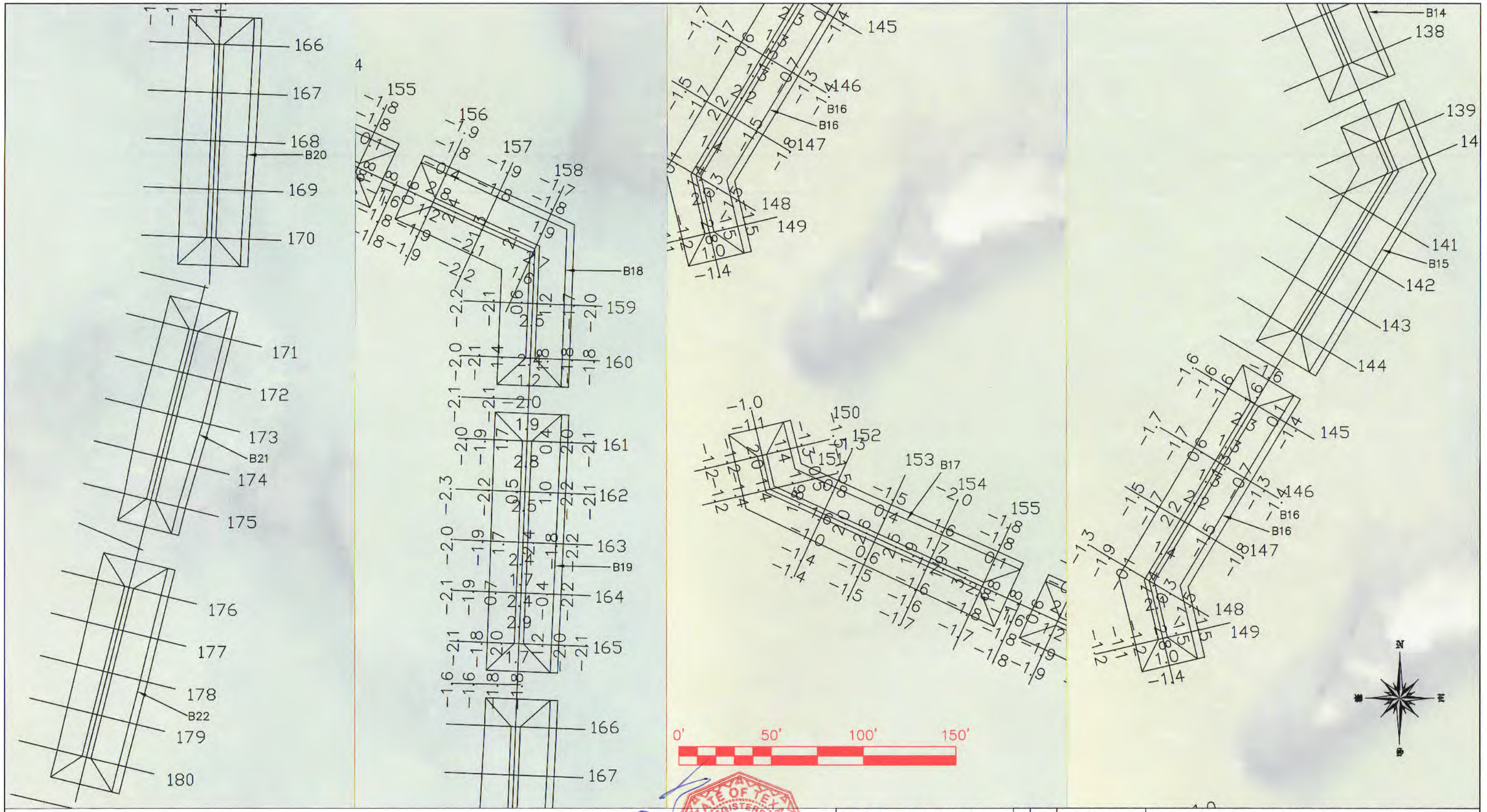
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



NOTES:
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3) VERTICAL DATUM: NAVD88

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CEPRA #1596
TGLO Contract #16-233-000-9717

STATE OF TEXAS
REGISTERED
JAMES M. NAISMITH
4828
PROFESSIONAL
LAND SURVEYOR
6/14/2016

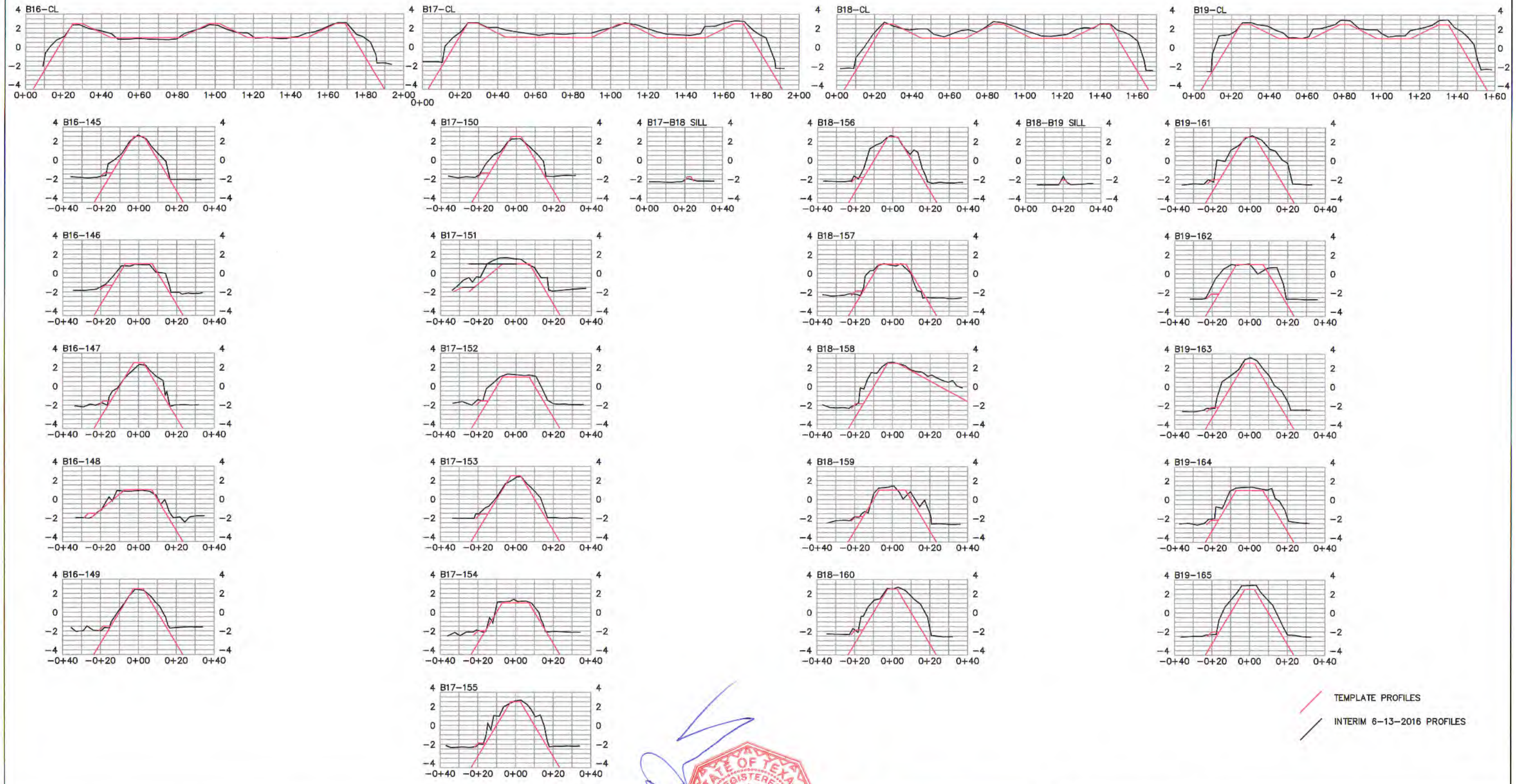
TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 2
DATE: JUNE 2016



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CEPRA #1596
TGLO Contract #16–233–000–9717

STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR
6/14/2016

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
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NO.	DATE	REVISION

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INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1" = 50'
DWN. BY: BSG
SHEET 2 OF 2
DATE: JUNE 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL VP-17

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1569 1596
Contract No. 16-233-000-9717

6/22/16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Pre Construction Survey Breakwater B9 – B10

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

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Spec: 02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 6/22/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

6-24-16
By Architect/Engineer Date
Christopher Lewitz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

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- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

6-24-16
By Architect/Engineer Date

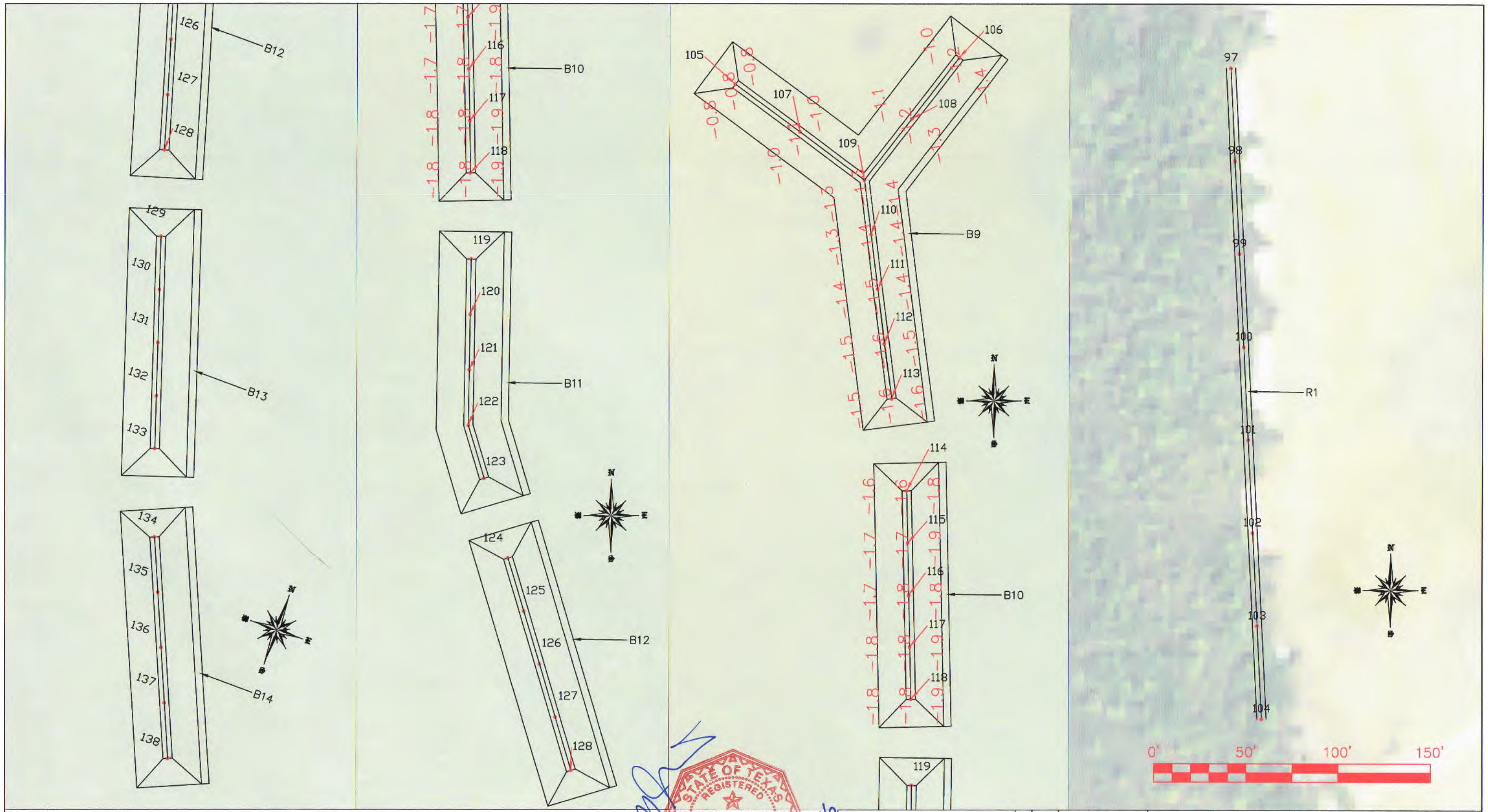
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



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STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR
6/16/2016

CEPRA #1596
TGLO Contract #16-233-000-9717

Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
PLAN SHEET 1 OF 1
DATE: JUNE 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-18

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

6/27/16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Breakwater Survey B13 – B15

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

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Spec:02 21 13

ROUTING AND ACTION

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- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 6/27/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

6-30-16
By Architect/Engineer Date
Christopher Lovitz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

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- ☒ GLO/VLB

6-30-16
By Architect/Engineer Date

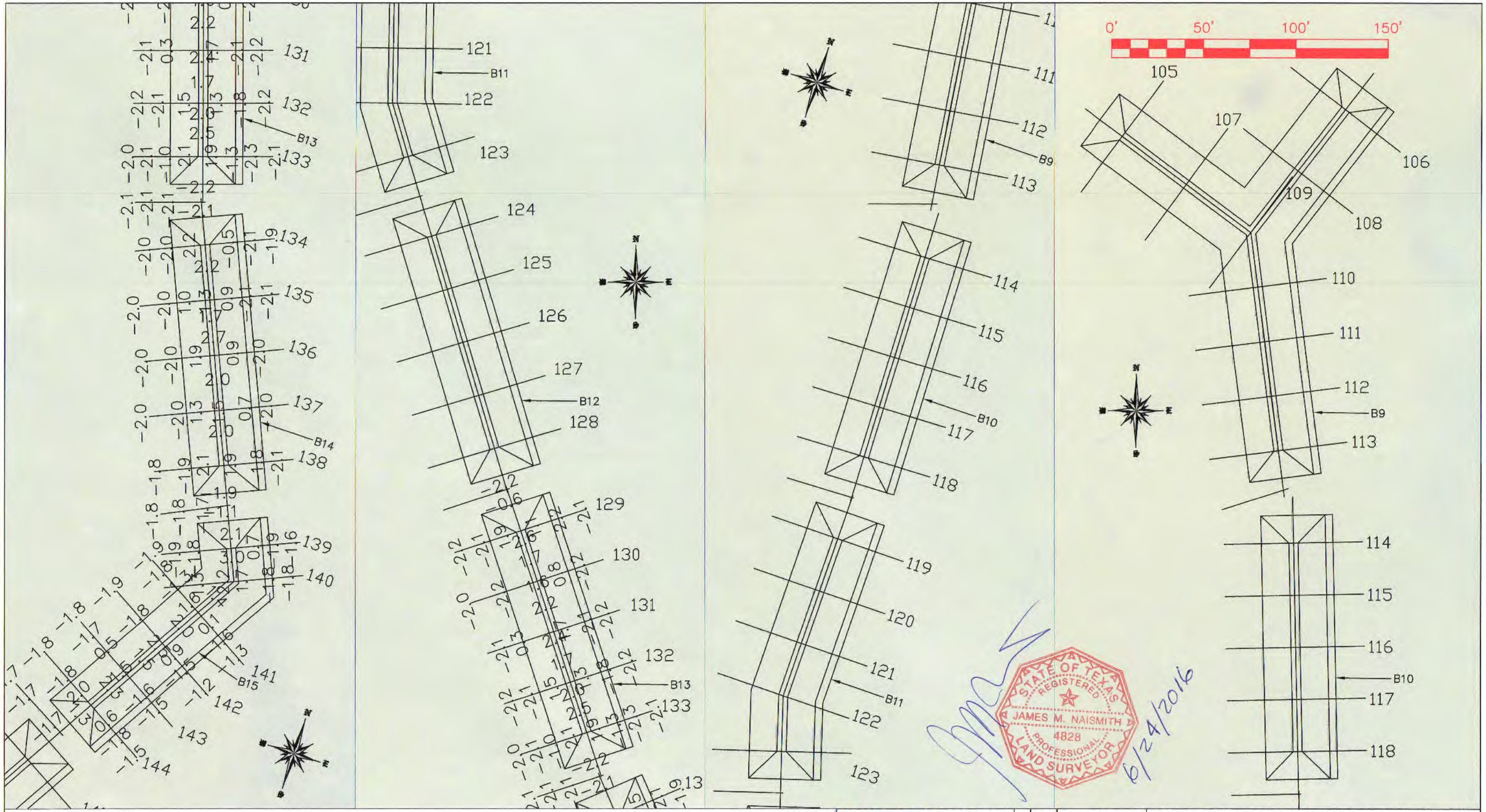
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON JUNE 16 & 23, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
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CEPRA #1596
TGLO Contract #16-233-000-9717

STATE OF TEXAS
REGISTERED
JAMES M. NAISMITH
4828
PROFESSIONAL
LAND SURVEYOR
6/24/2016

TBPLS #10078500
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NO.	DATE	REVISION

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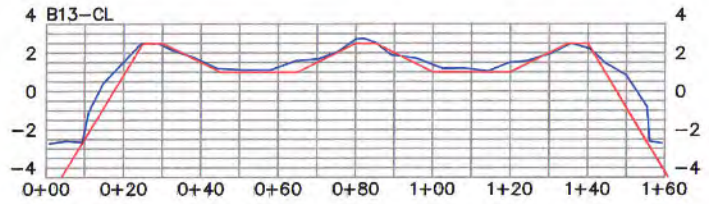
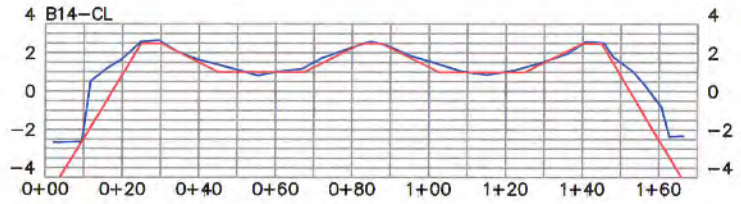
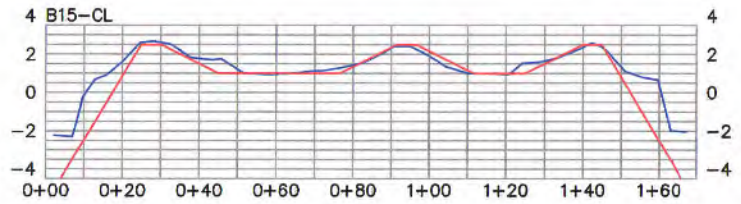
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

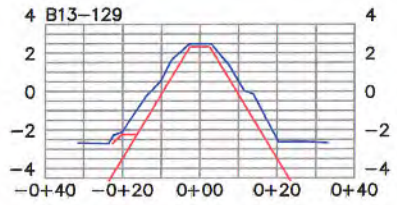
SCALE: 1"= 50'
DWN. BY: BSG

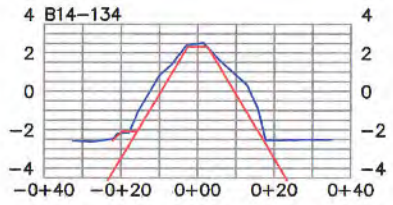
DATE: JUNE 2016

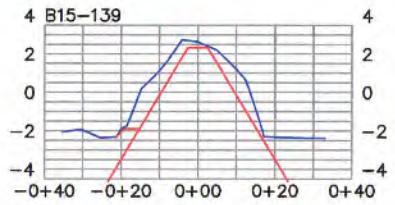


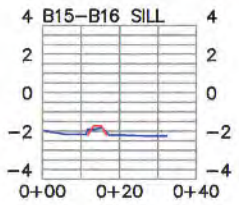


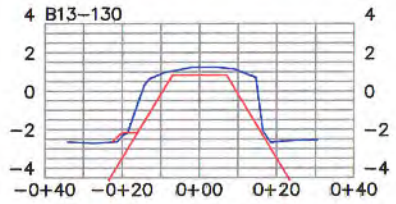


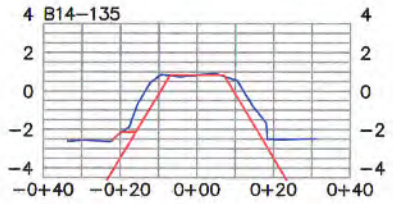


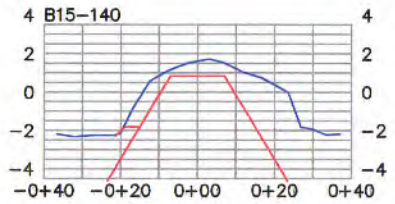


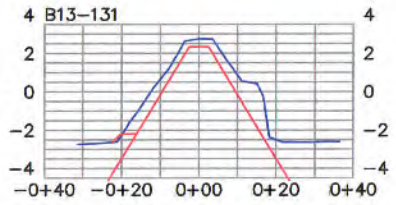


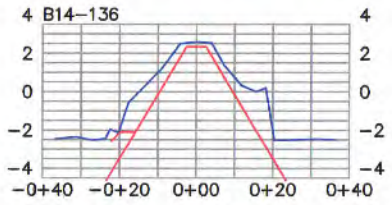


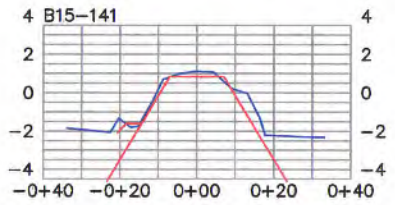


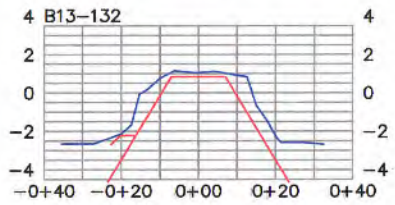


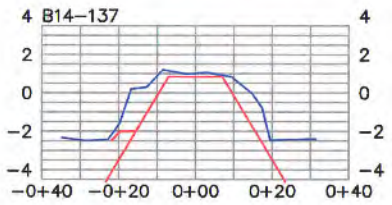


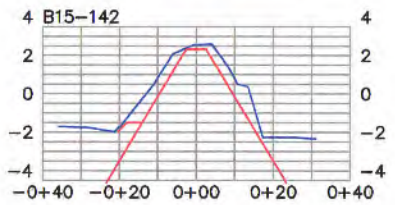


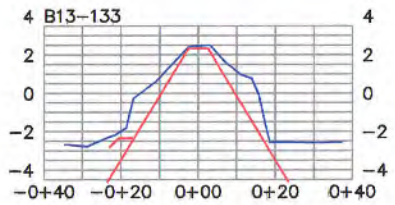


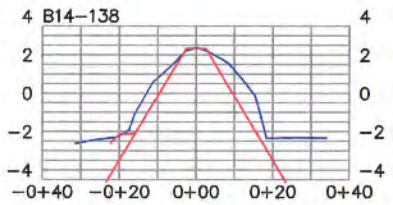


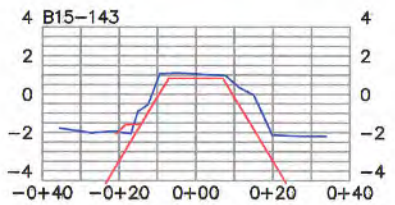


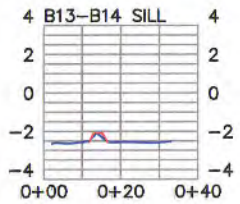


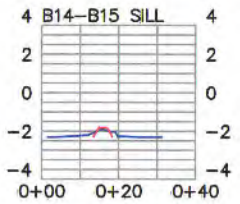


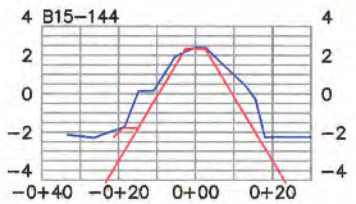












TEMPLATE PROFILES

INTERIM 6–23–2016 PROFILES

NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON JUNE 16 & 23, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L05800"
N: 13,680,977.18'	N:13,691,249.77'
E: 3,275,184.41'	E: 3,273,882.22'
ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR

6/24/2016

CEPRA #1596
TGLO Contract #16–233–000–9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1" = 50'
DWN. BY: BSG

SHEET 2 OF 2

DATE: JUNE 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-19

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1569 1596
Contract No. 16-233-000-9717

6-30-16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Stone Quality Test Results

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 35 31 00

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 6/30/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

7-6-16
By Architect/Engineer Date
Christopher Leutz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

7-6-16
By Architect/Engineer Date

RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date

PINE BLUFF SAND and GRAVEL COMPANY
Cumberland River Quarry
Gradation Test Data Sheet

Quarry: PBSGC - CUMBERLAND RIVER QUARRY

Type of Stone Tested: RR Spec 920

Date of Test: 6/28/2016

Testing Rate: Test 3

TEST REPRESENTS

Contract No.	District	Tons
PMC		
	TOTAL	

GRADATION

Stone Size (LB)	Weight Retained	Individual % Retained	Cummulative % Ret.	Cummulative % Pass	Specification % Finer by wt.
920 Plus	0	0.0	0.0	100.0	100
360-920	6020	18.1	18.1	81.9	
280-360	5460	16.4	34.5	65.5	
180-280	6680	20.1	54.6	45.4	50
140-180	6200	18.7	73.3	26.7	
50-140	4360	13.1	86.4	13.6	15
0-50	4520	13.6	100.0	0.0	
Total Weight	33240				
Max Size Stone +	900 LBS				

Remarks:

I certify that the above stone sample is representative of the total tonnage covered by this test report.

Contractor Representative: Mike Nelson

Government Representative:

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-20**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA 1596 Contract No. 16-233-000-9717	7-6-16 Date
GLO/VLB Project Number, Name and Location 1 Copy – Breakwater Survey B10-B12	
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

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- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 7/6/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

7-7-16
By Architect/Engineer Date
Christopher Lovitz, TX PE #107494

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- ☒ GLO/VLB

7-7-16
By Architect/Engineer Date

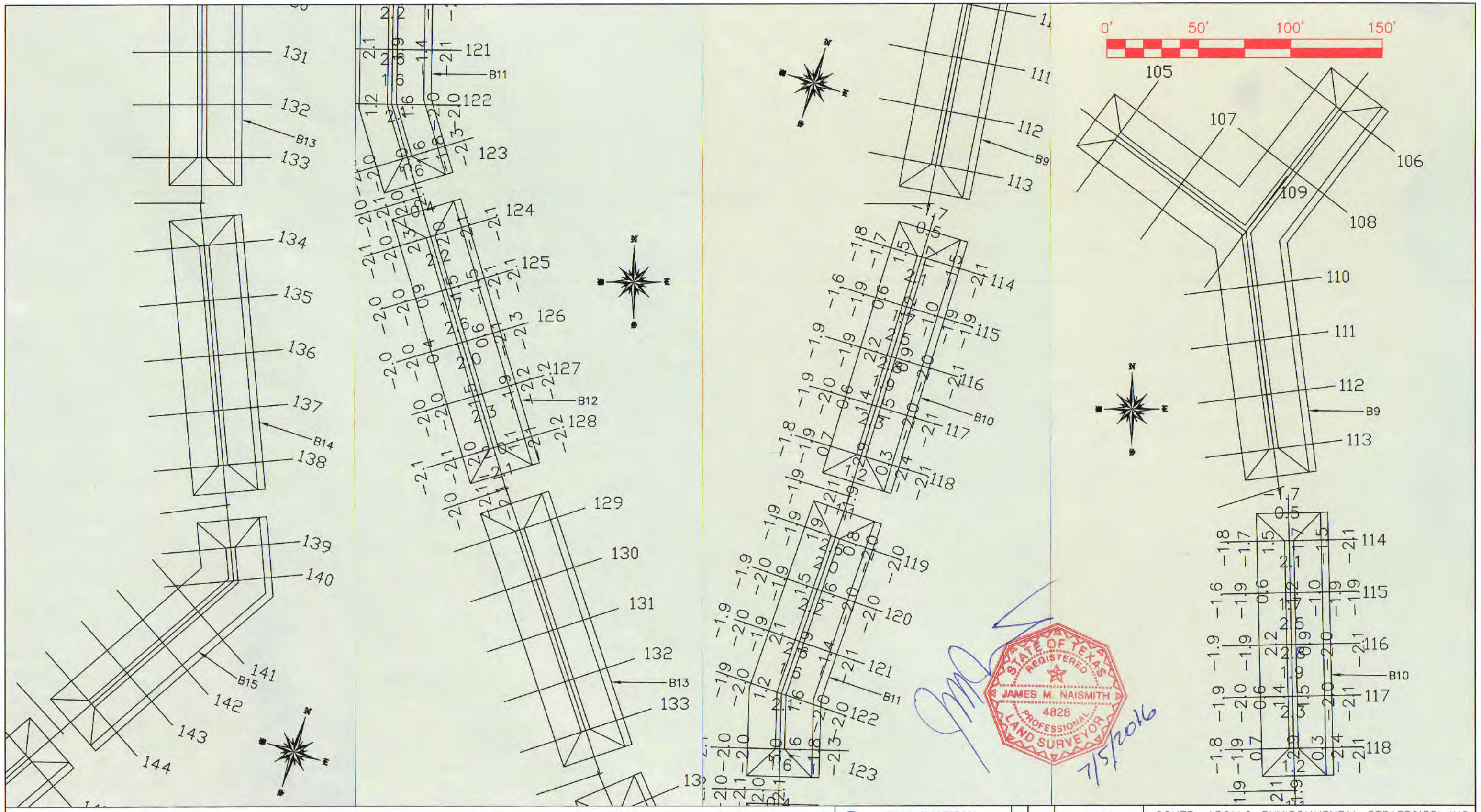
RECEIVED

- ☐ GLO/VLB Division File

By GLO/VLB Date

COMMENTS

By Date



NOTES:
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CEPRA #1596
TGLO Contract #16-233-000-9717

STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR
7/5/2016

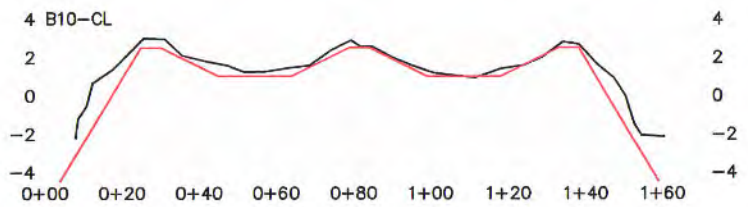
TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

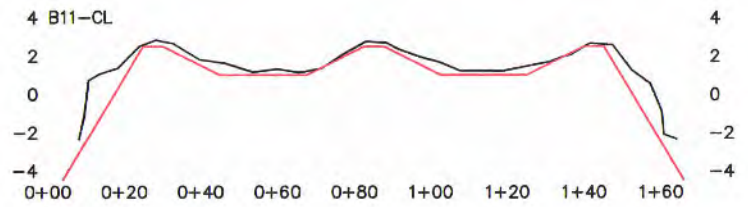
NO.	DATE	REVISION

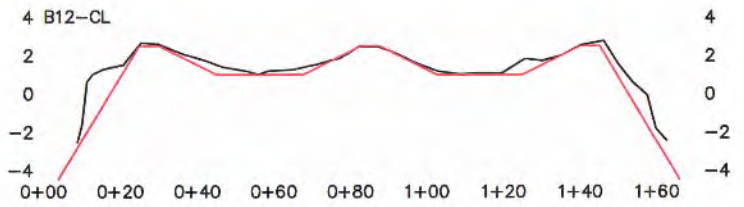
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

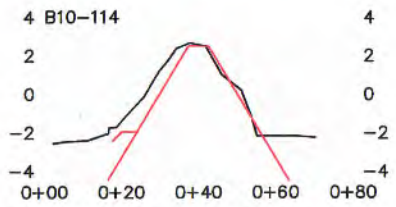
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

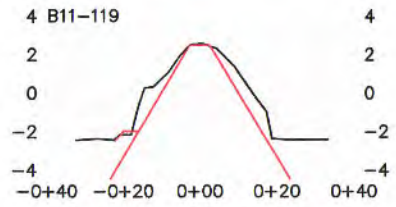
SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 2
DATE: JUNE 2016

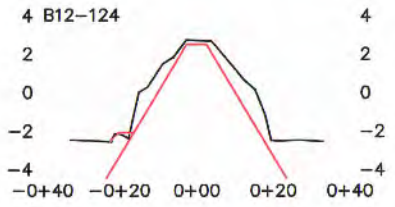


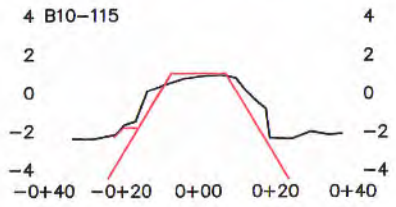


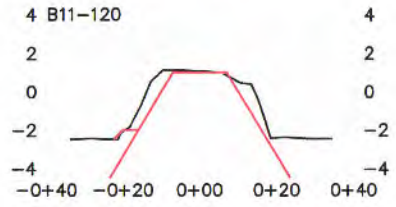


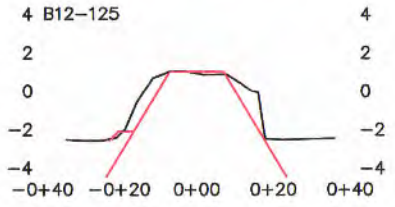


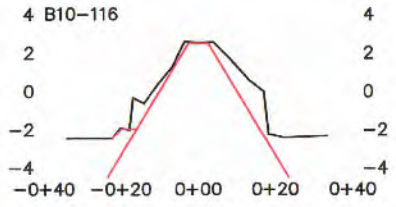


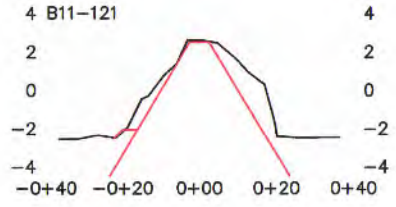


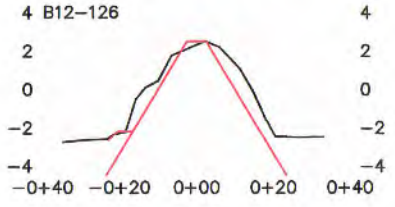


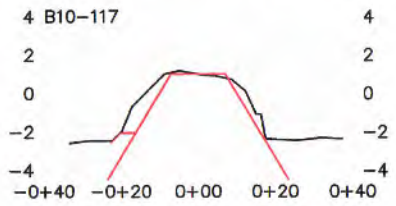


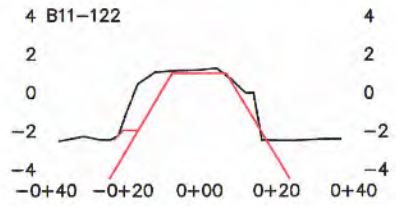


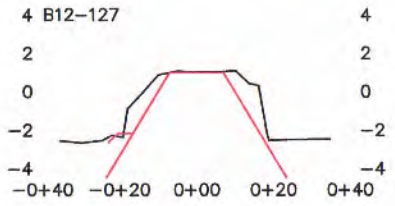


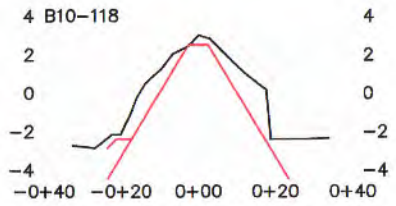


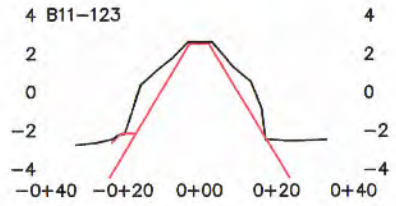


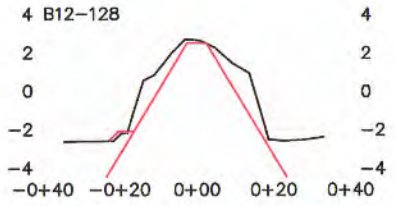


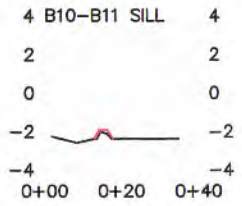


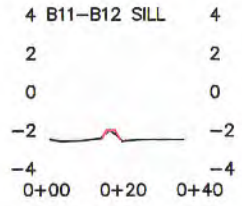


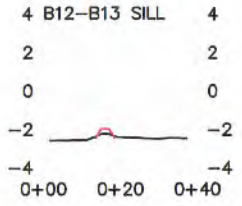












TEMPLATE PROFILES

INTERIM 6–30–2016 PROFILES

NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON JUNE 30, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
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3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L05800"
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ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR 7/5/2016

CEPRA #1596
TGLO Contract #16–233–000–9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG

SHEET 2 OF 2

DATE: JUNE 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-21

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA ~~1569~~ 1596
Contract No. 16-233-000-9717

7/7/16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Pre Construction Survey Breakwater B33-B38

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec: 02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 7/7/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

7-15-16
By Architect/Engineer Date

Christopher Lentz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

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- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

7-15-16
By Architect/Engineer Date

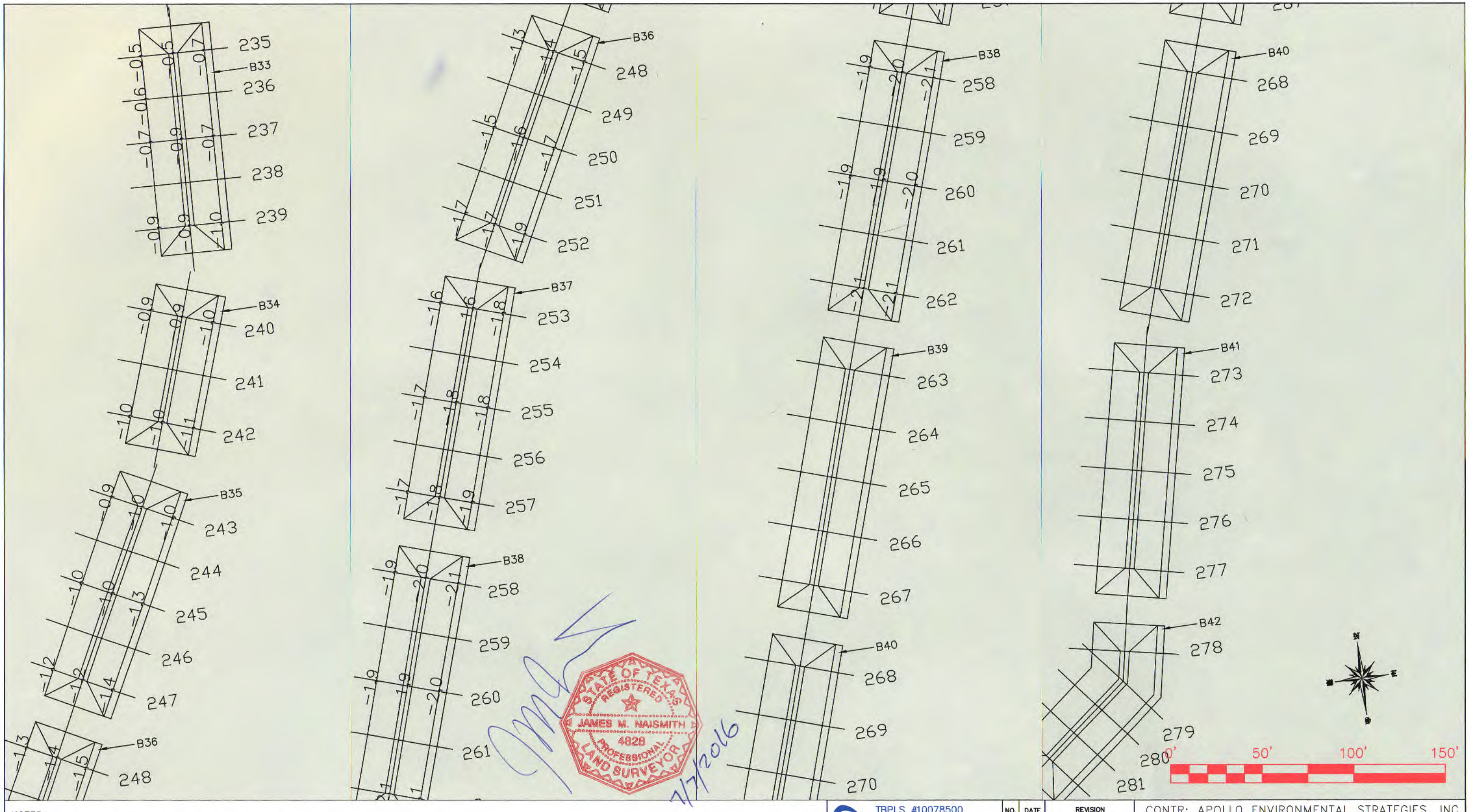
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR

7/7/2016

NOTES:
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CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 1
DATE: JUNE 2016

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-22**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA 1596 Contract No. 16-233-000-9717	7-12-16 Date
GLO/VLB Project Number, Name and Location 1 Copy – Breakwater Survey B9, B31 and B34	
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

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Spec:02 21 13

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APOLLO 7/12/16

By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

7-15-16

By Architect/Engineer Date

COPIES DISTRIBUTED AS FOLLOWS:

Christopher Leritz, TX PE #107494

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

7-15-16

By Architect/Engineer Date

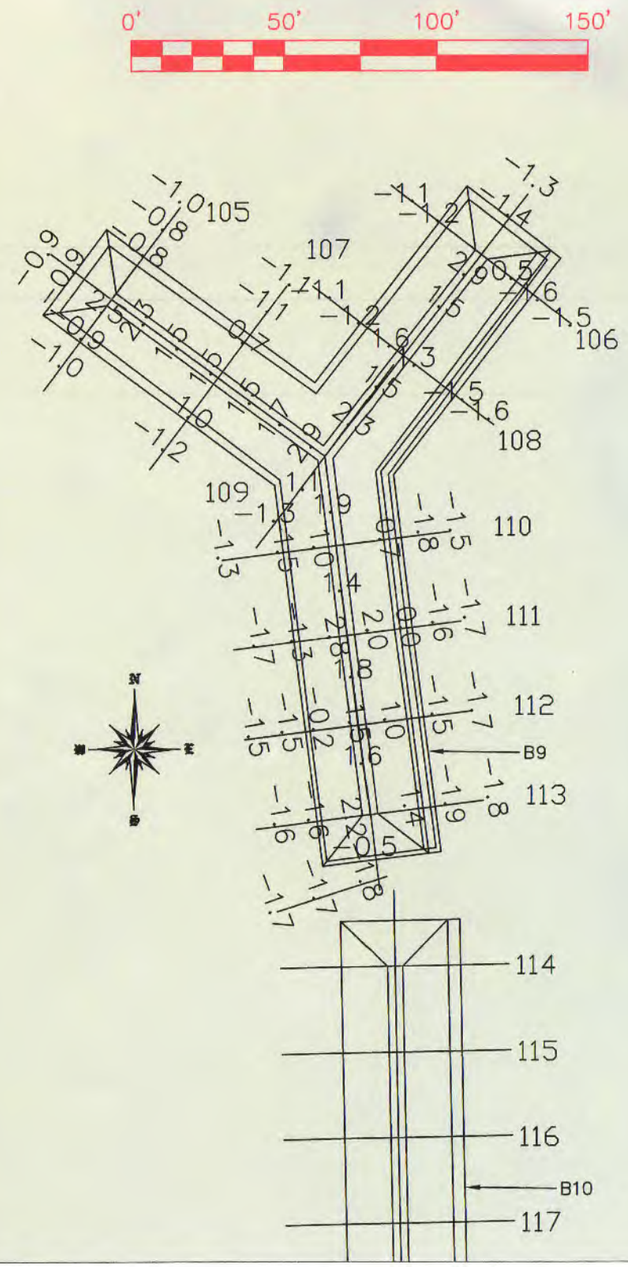
RECEIVED

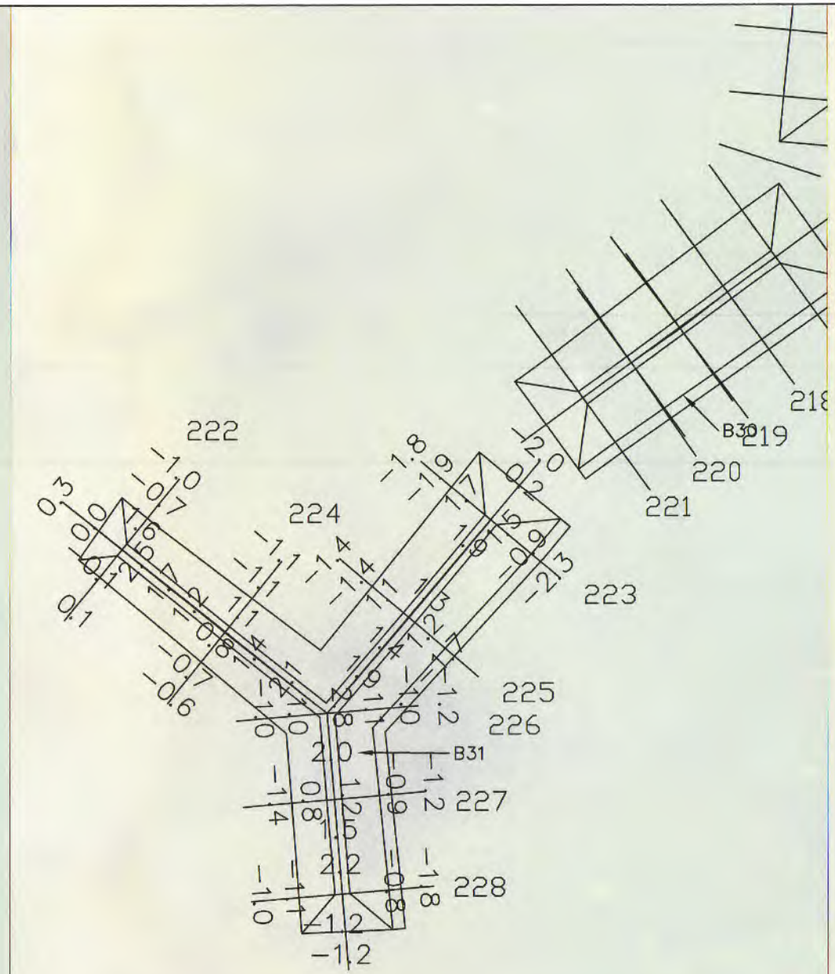
- ☐ GLO/VLB Division File
- ☐

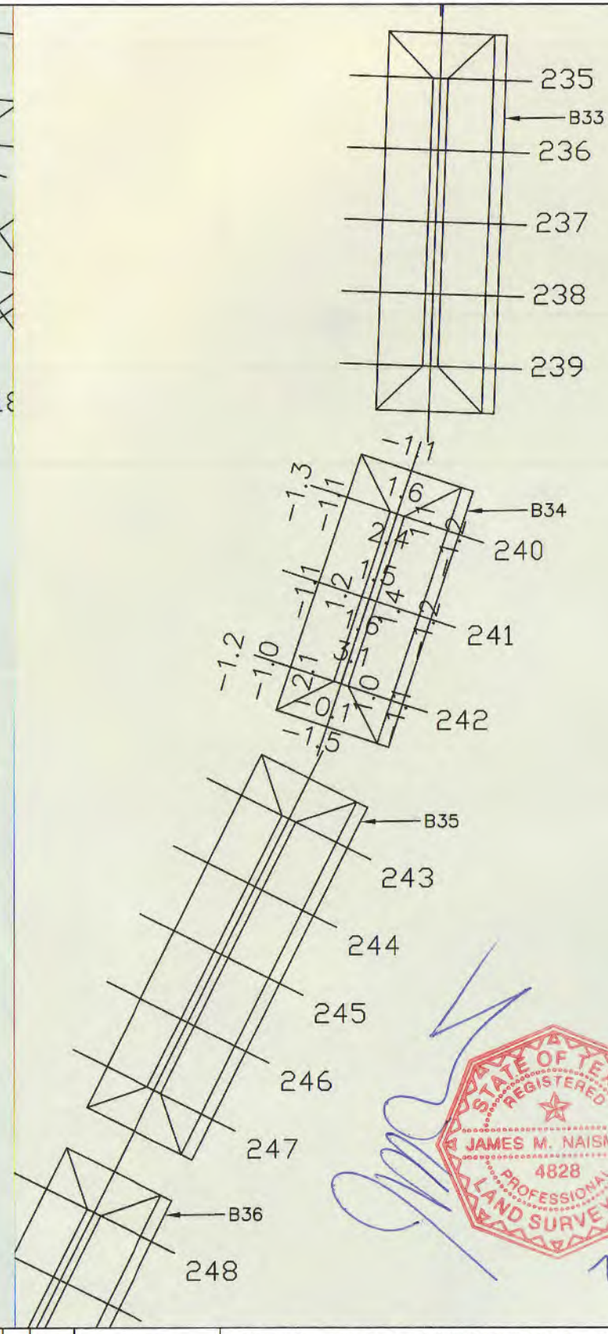
By GLO/VLB Date

COMMENTS

By Date







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CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

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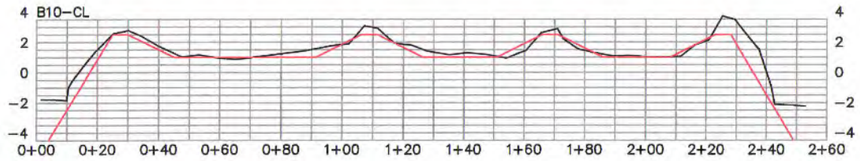
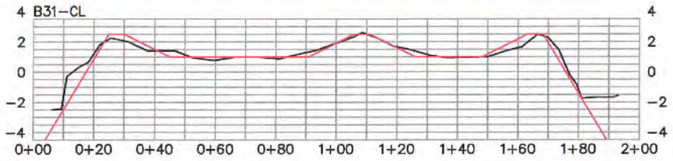
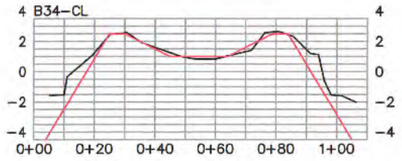
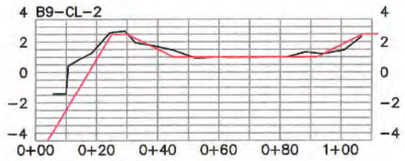
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

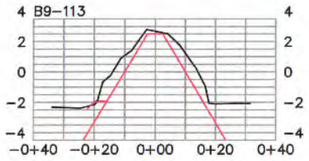
SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 2
DATE: JULY 2016

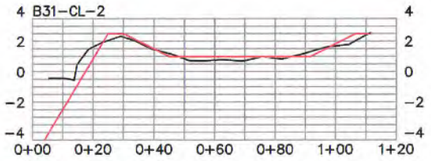


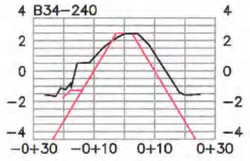


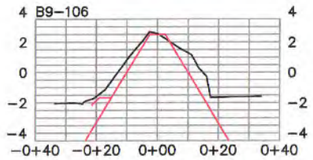


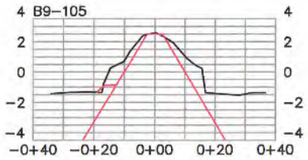


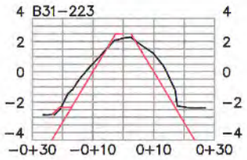


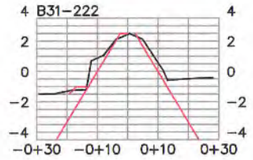


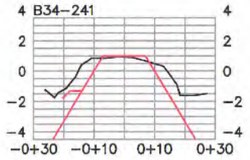


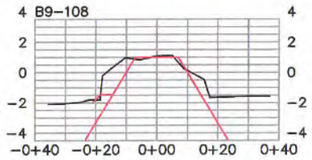


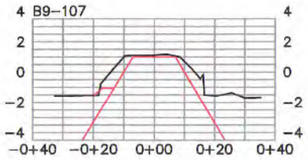


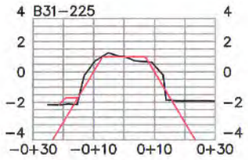


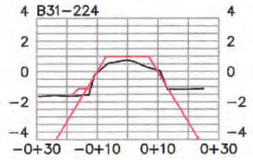


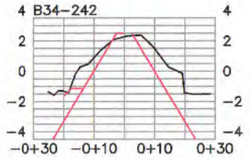


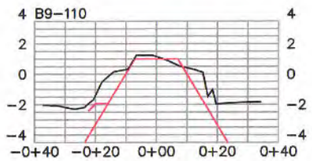


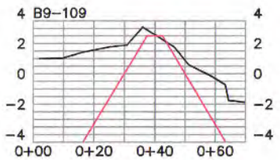


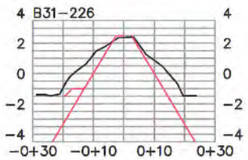


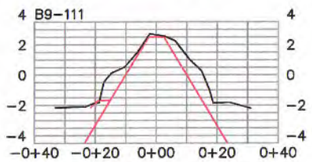


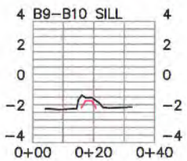


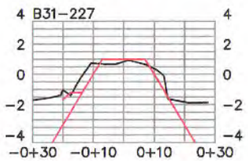


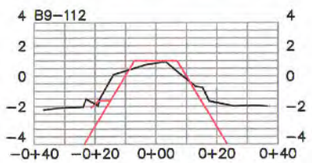


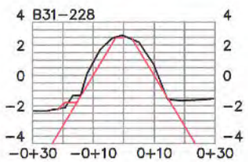












TEMPLATE PROFILES

INTERIM 7–6–2016 PROFILES

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NO.	DATE	REVISION

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INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG

SHEET 2 OF 2

DATE: JULY 2016

AECOM

VP-23 – Not Submitted

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-24**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA 1596 Contract No. 16-233-000-9717	8-02-16
GLO/VLB Project Number, Name and Location 1 Copy – Breakwater Survey B35-B37	Date
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 8/2/16

By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

8-3-16

By Architect/Engineer Date

Christopher Levitz, TXPE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

8-3-16

By Architect/Engineer Date

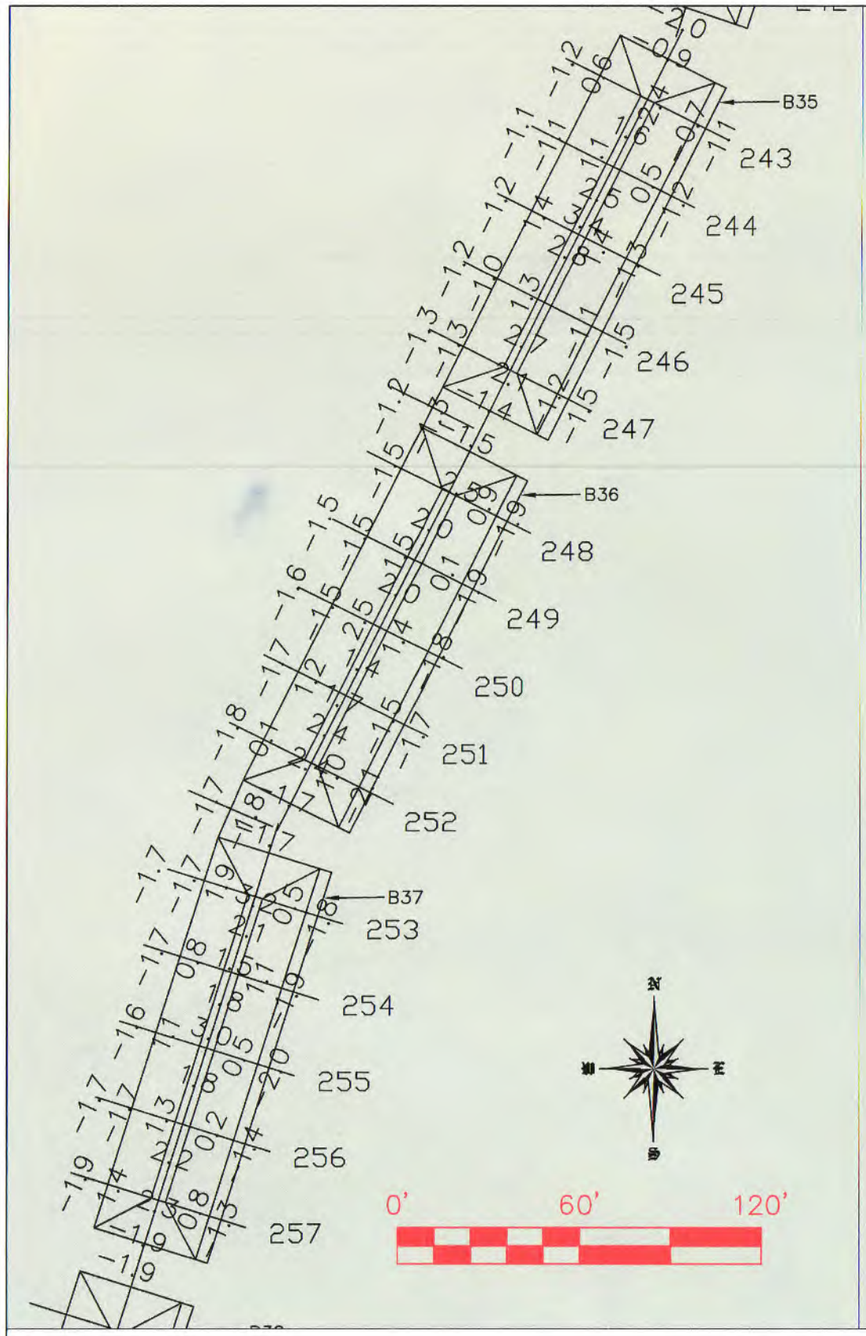
RECEIVED

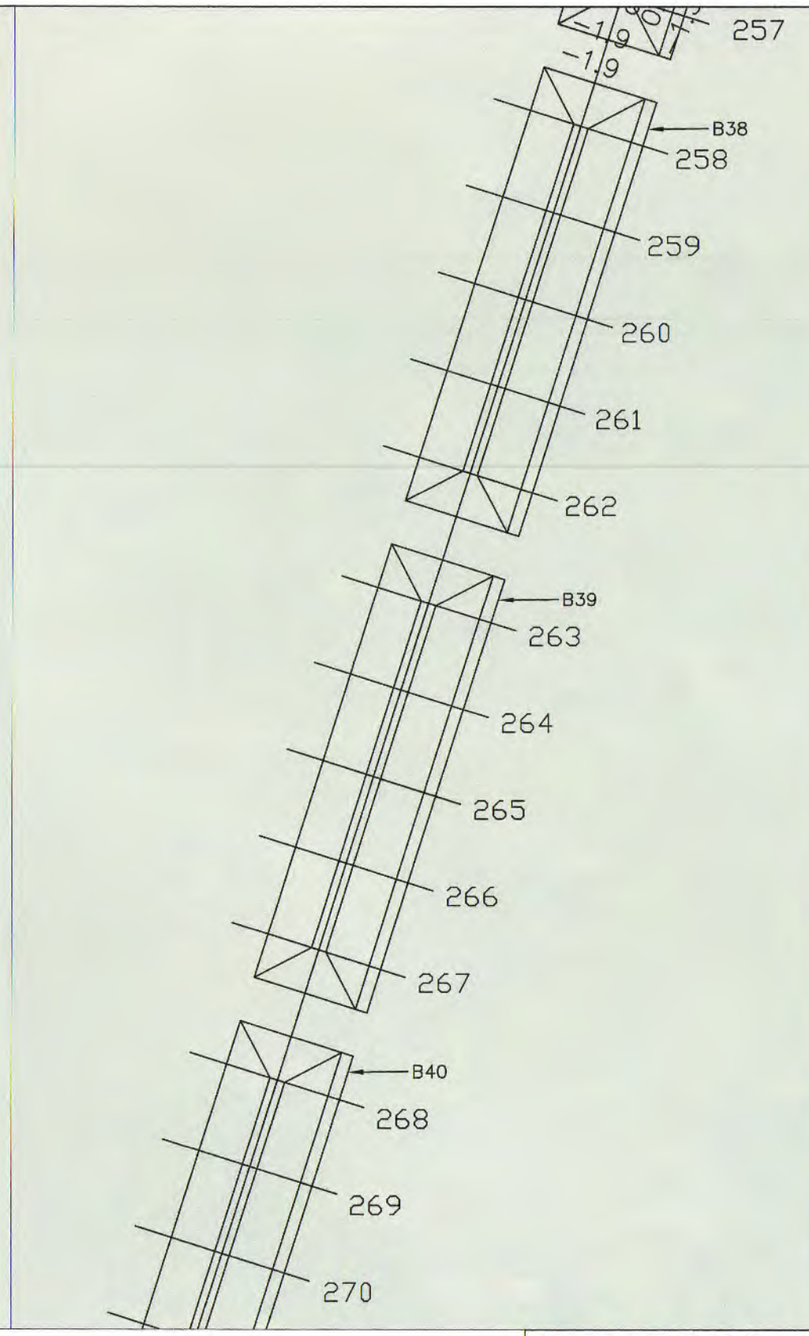
- ☐ GLO/VLB Division File
- ☐

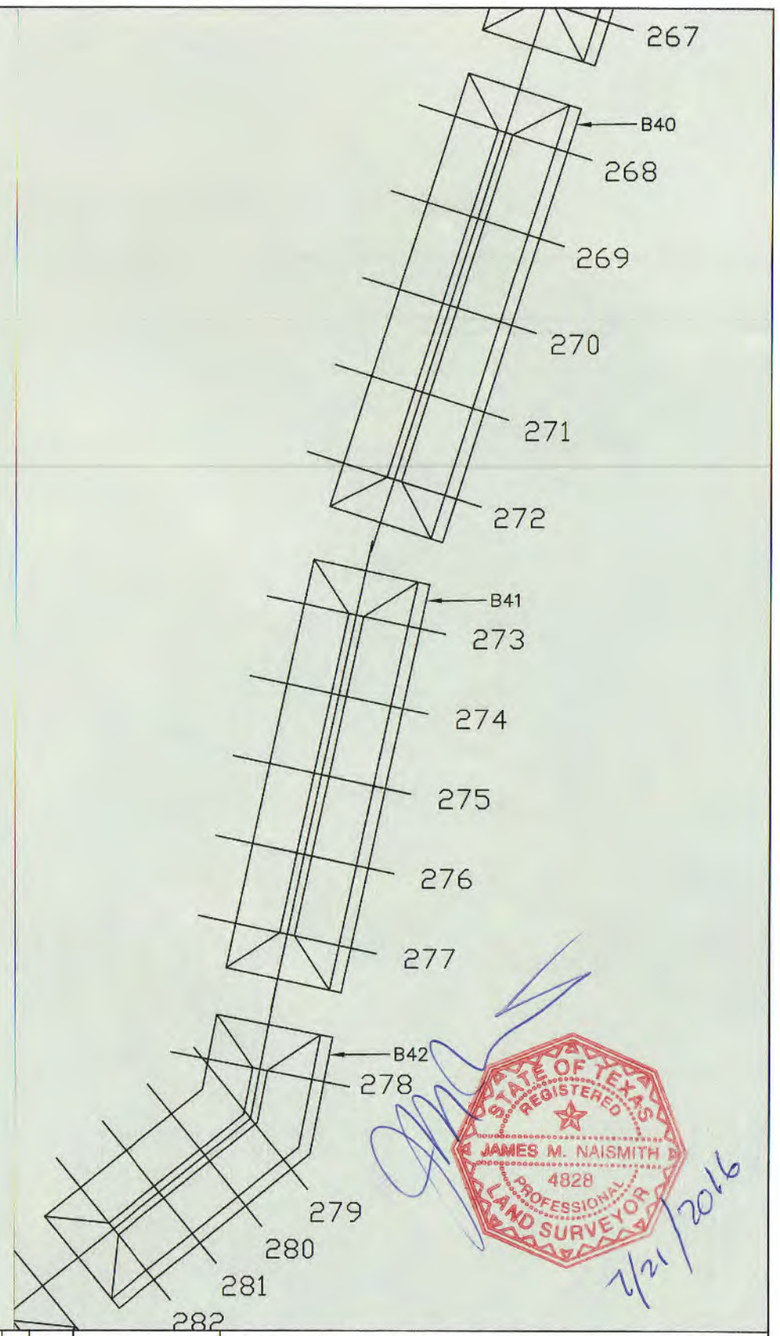
By GLO/VLB Date

COMMENTS

By Date







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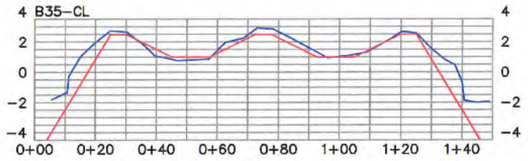
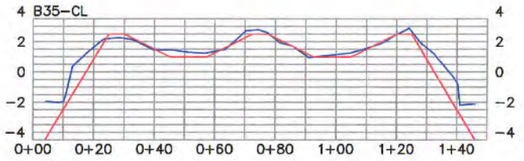
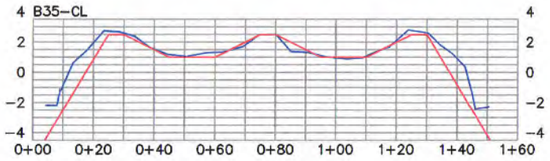
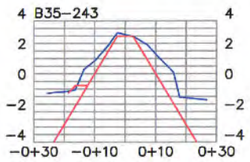
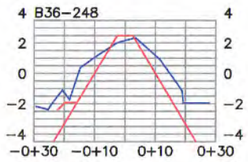
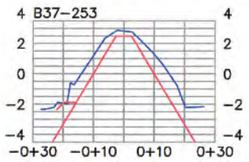


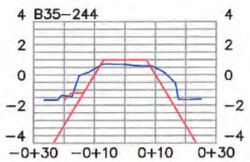


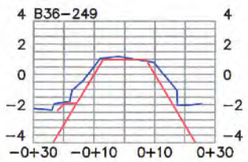


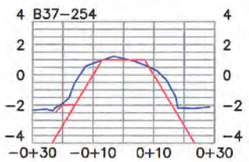


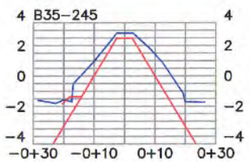


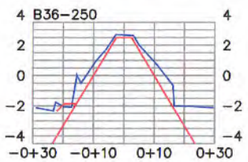


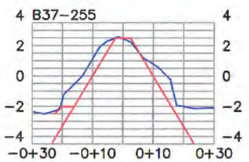


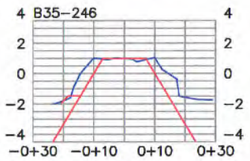


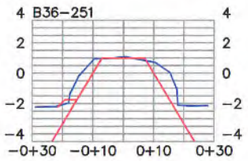


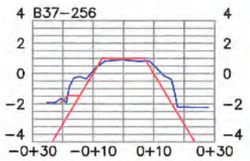


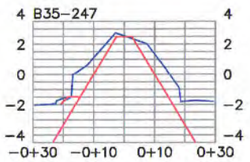


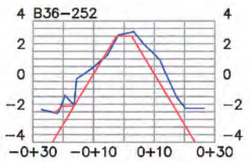


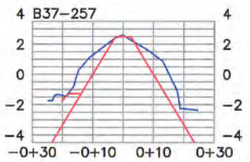


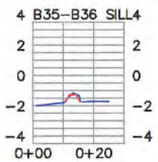


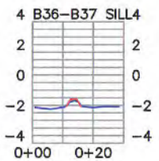












NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON JULY 14, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L05800"
N: 13,680,977.18'	N:13,691,249.77'
E: 3,275,184.41'	E: 3,273,882.22'
ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16–233–000–9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1" = 50'
DWN. BY: BSG
SHEET 2 OF 2
DATE: JULY 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-25

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

8-02-16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Breakwater Survey B38-B40, B44

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 8/2/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

8-3-16
By Architect/Engineer Date
Christopher Lewis, TX PE # 107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

8-3-16
By Architect/Engineer Date

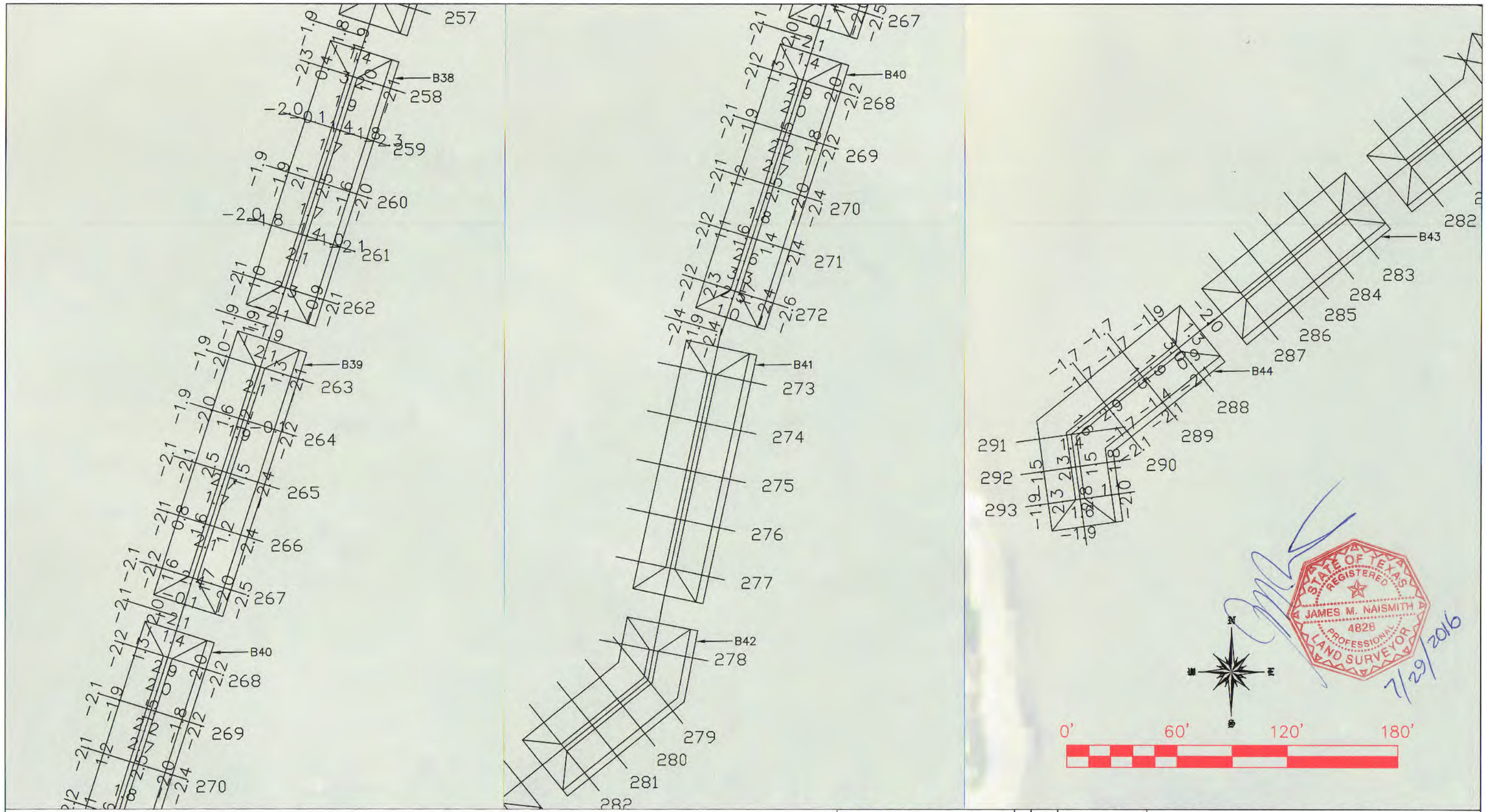
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



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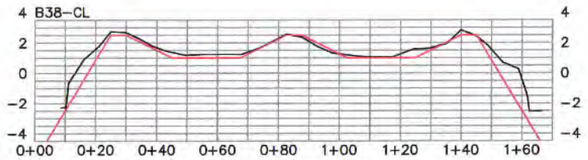
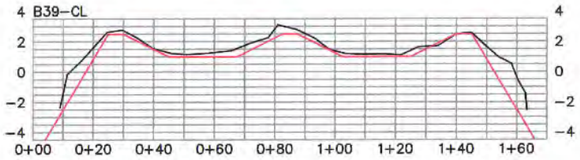
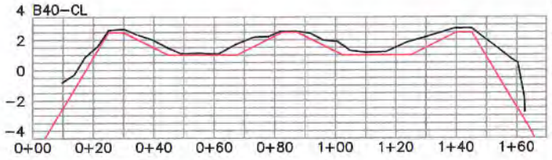
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

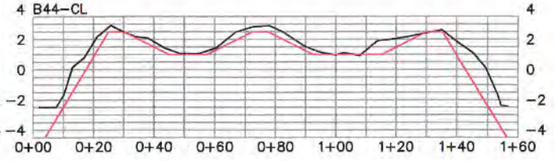
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

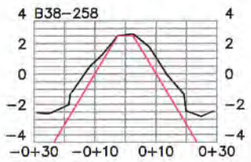
SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 2
DATE: JULY 2016

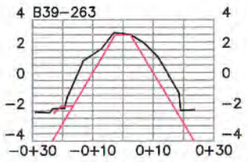


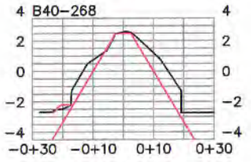


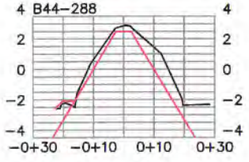


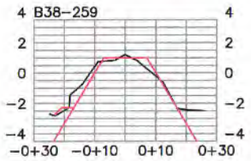


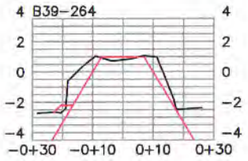


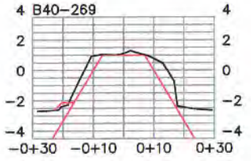


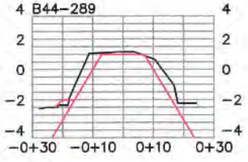


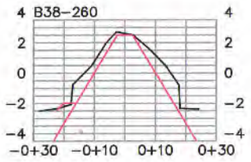


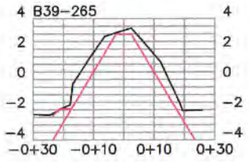


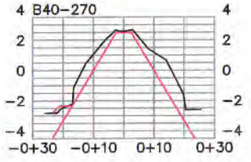


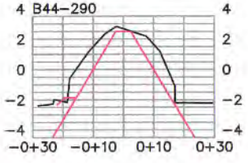


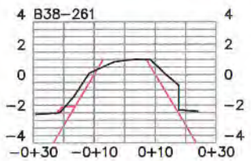


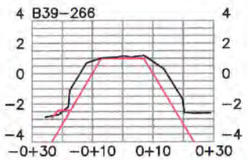


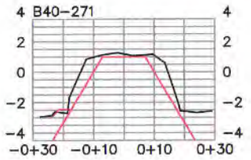


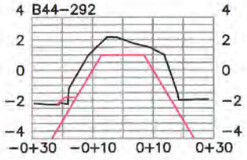


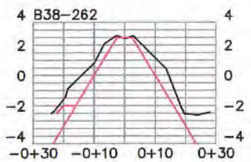


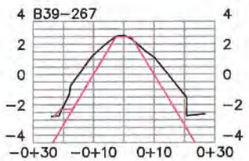


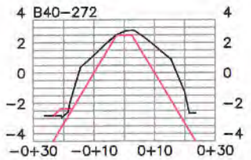


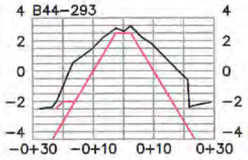


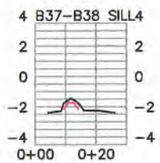


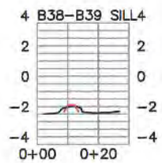


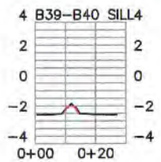


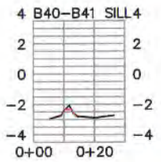


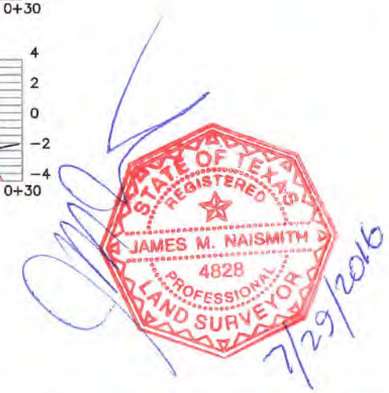












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NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 2 OF 2
DATE: JULY 2016

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-26**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA 1596 Contract No. 16-233-000-9717	8-31-16 Date
GLO/VLB Project Number, Name and Location 1 Copy – Initial Survey Breakwater Survey A1 – A12	
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

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Spec:02 21 13

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APOLLO 8/31/16

By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

B-31-16

By Architect/Engineer Date

CHRISTOPHER LEVITZ, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

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- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

B-31-16

By Architect/Engineer Date

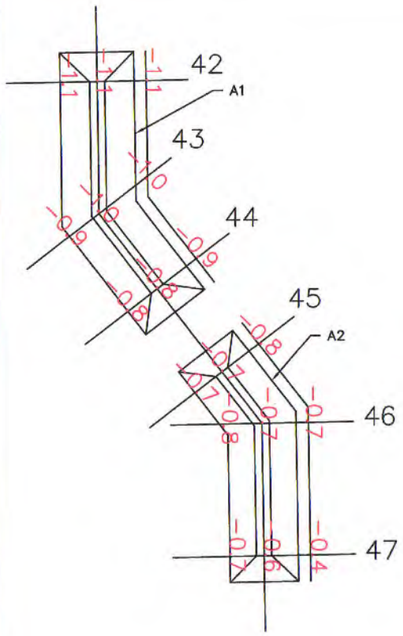
RECEIVED

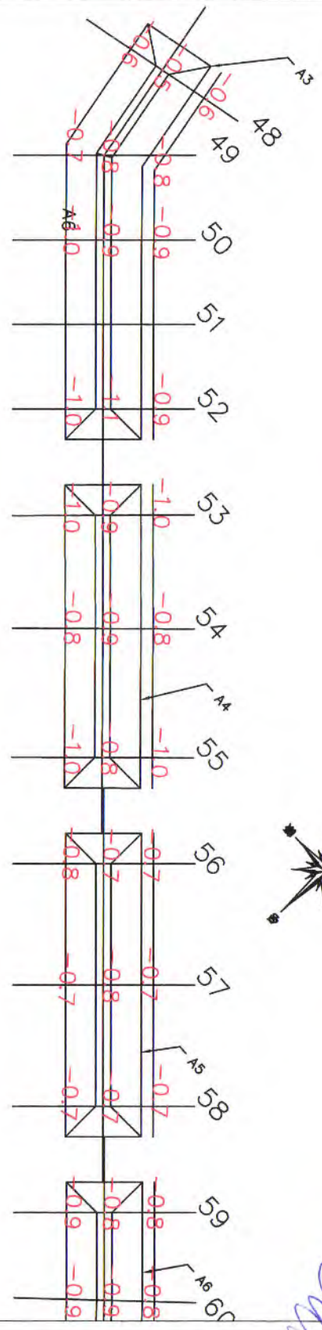
- ☐ GLO/VLB Division File
- ☐

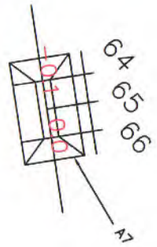
By GLO/VLB Date

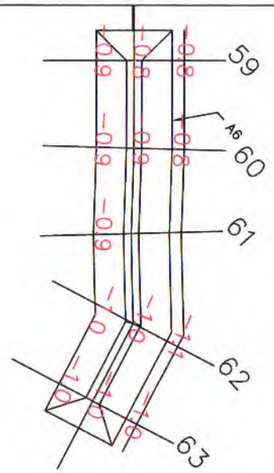
COMMENTS

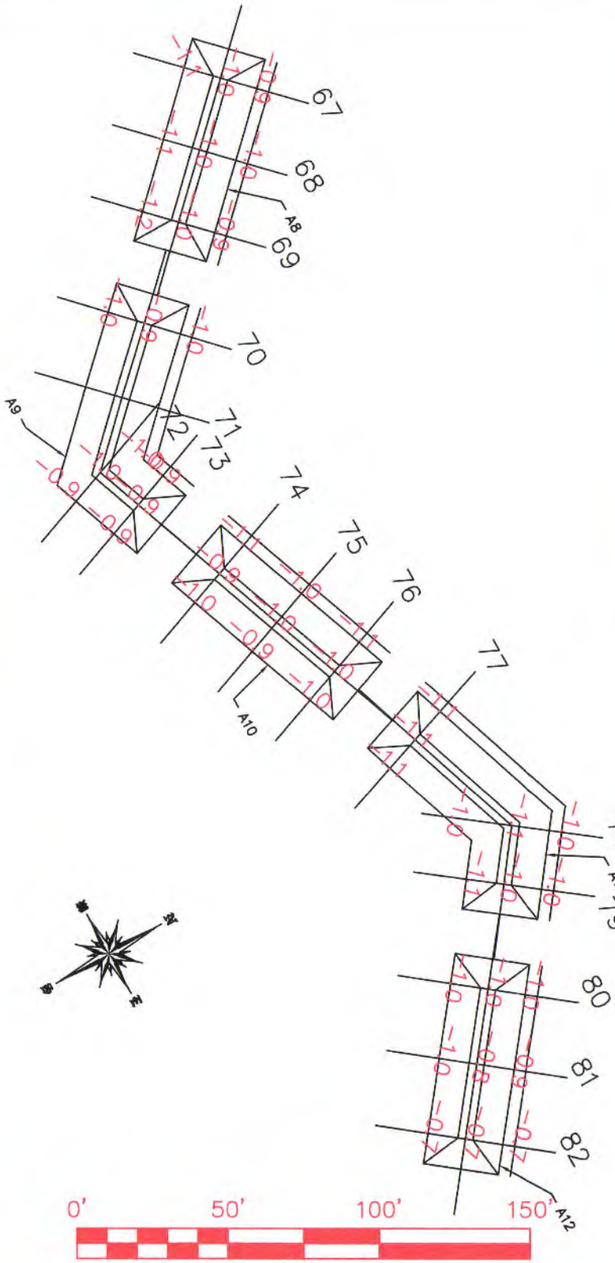
By Date

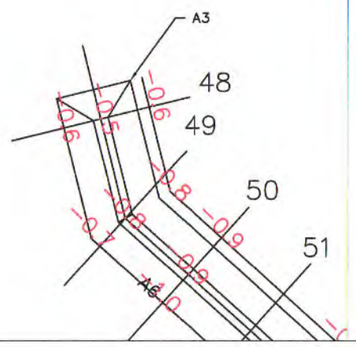


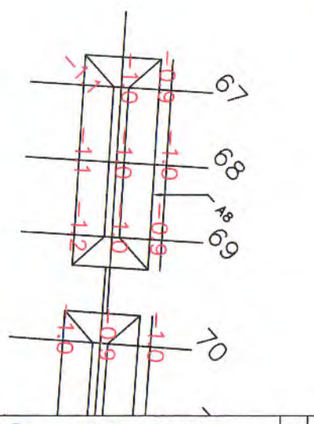












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STATE OF TEXAS
REGISTERED
JAMES M. NAISMITH
4828
PROFESSIONAL
LAND SURVEYOR

8/31/2016

CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 1
DATE: AUG. 2016

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-27**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA 1596 Contract No. 16-233-000-9717	8-31-16 Date
GLO/VLB Project Number, Name and Location 1 Copy – Breakwater Survey B1-B5 B32 B33 B41	
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 8/31/16

By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

8-31-16

By Architect/Engineer Date

CHRISTOPHER WITZ, TX PE # 107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

8-31-16

By Architect/Engineer Date

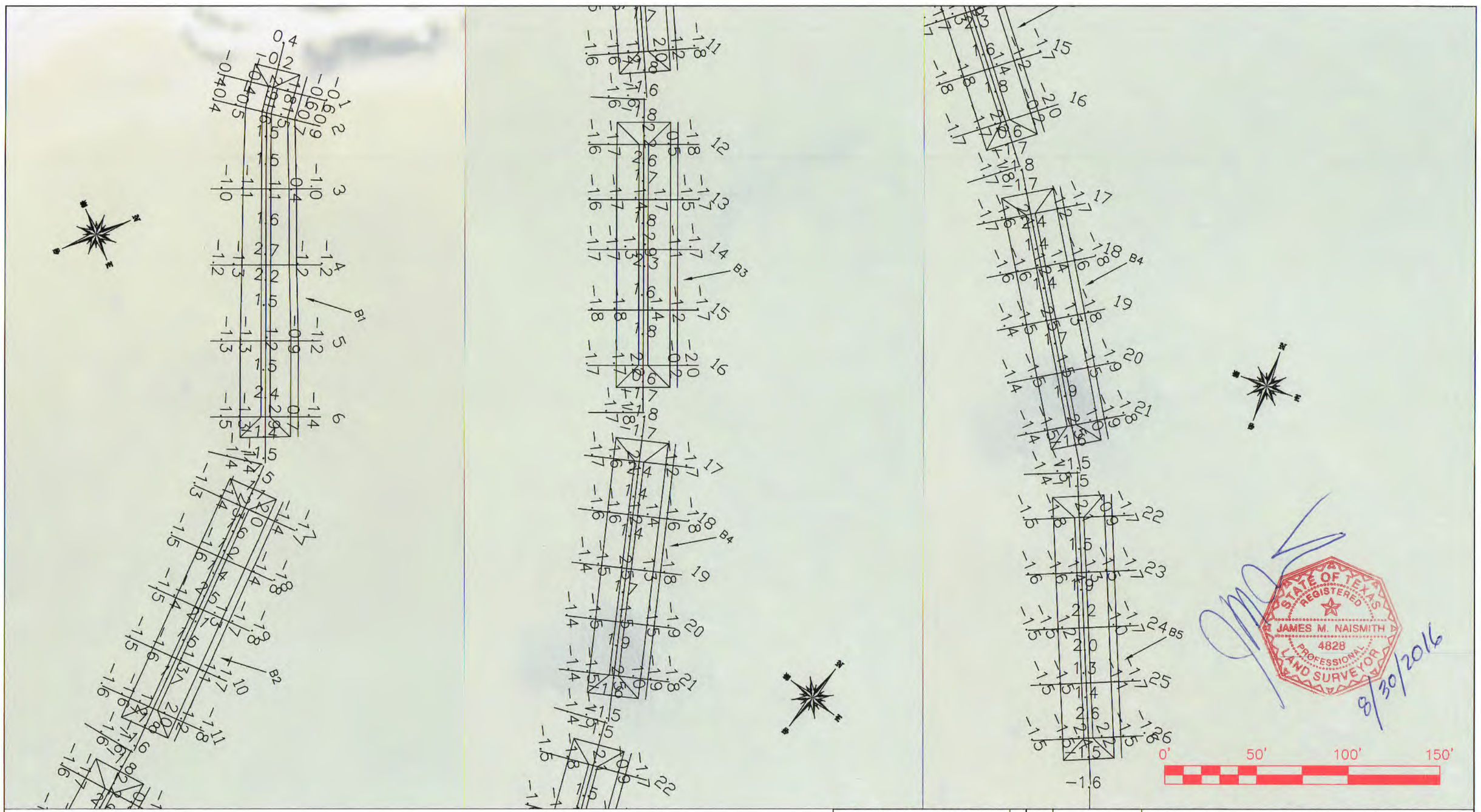
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



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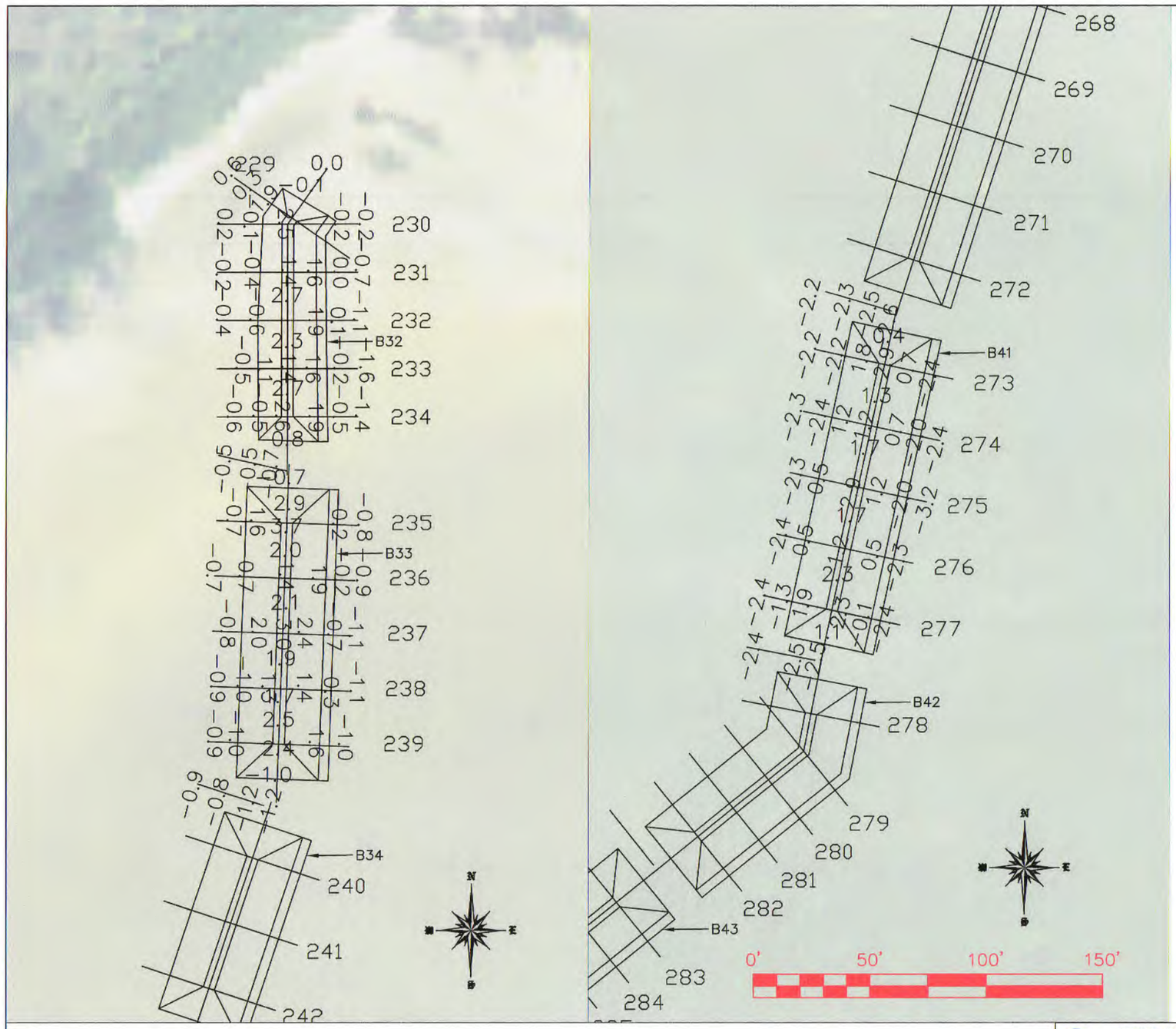
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG

SHEET 1 OF 4

DATE: AUG. 2016



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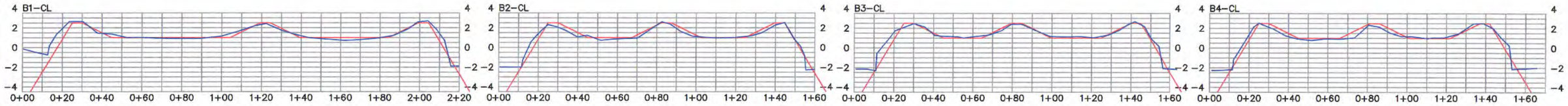
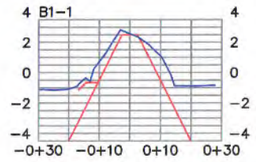
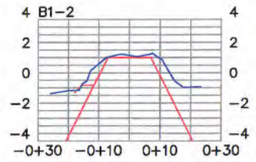
SHEET 2 OF 4

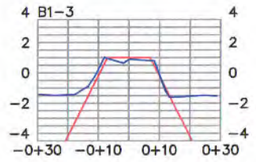
DATE: AUG. 2016

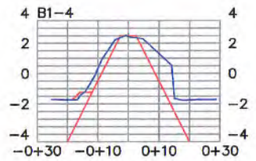
STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR
8/30/2016

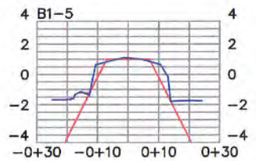


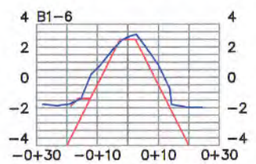


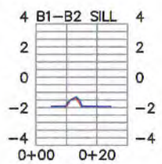


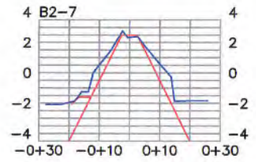


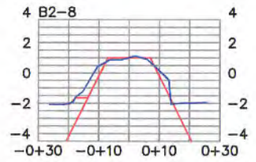


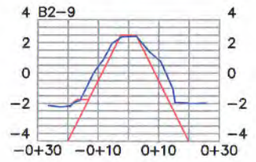


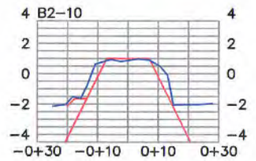


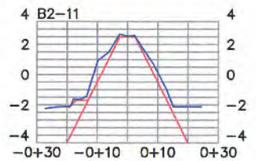


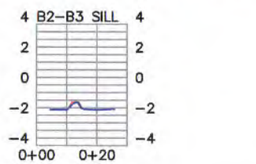


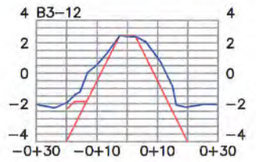


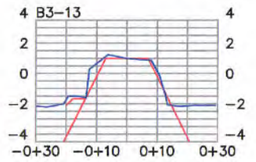


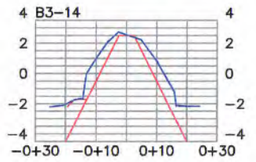


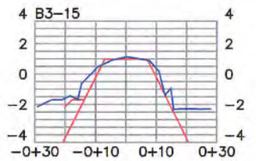


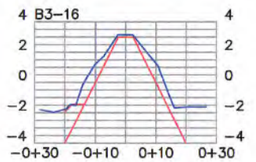


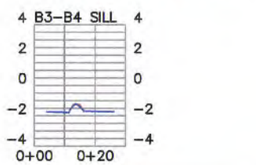


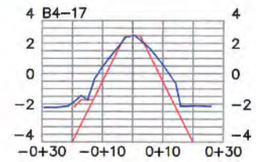


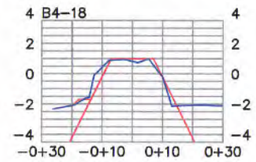


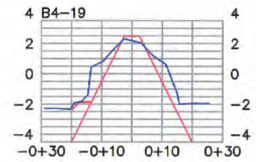


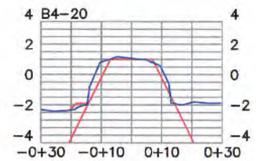


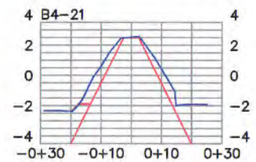


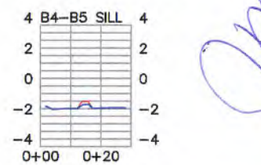


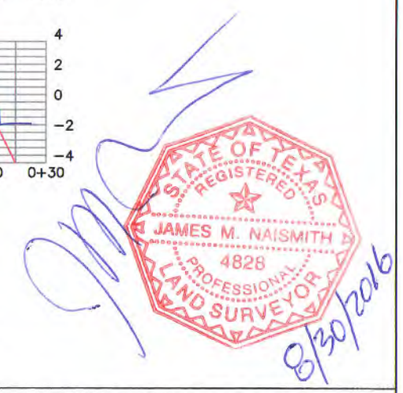












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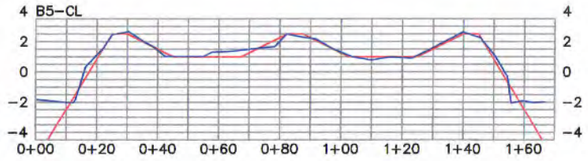
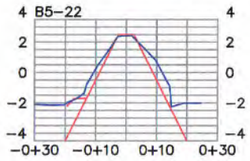
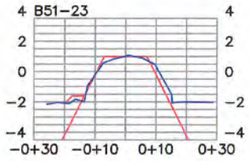
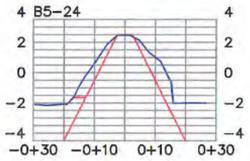
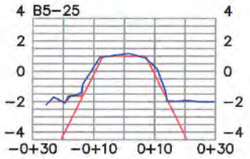
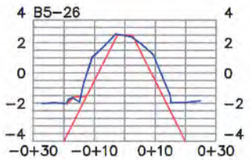


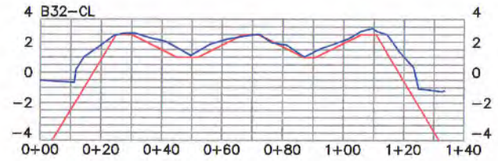


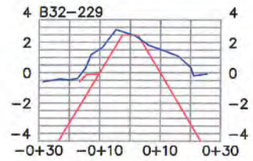


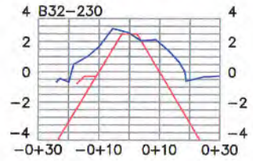


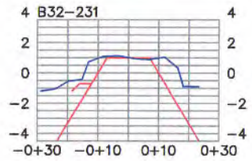


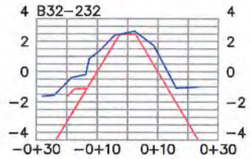


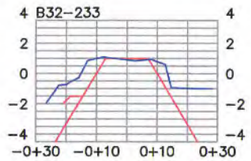


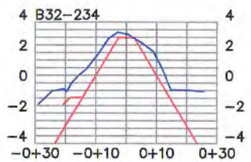


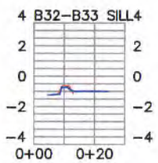


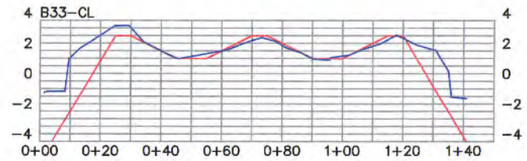


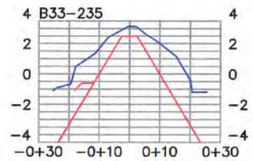


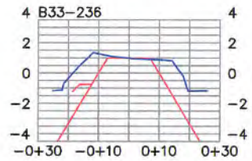


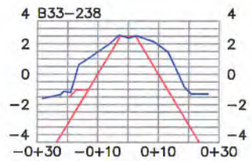


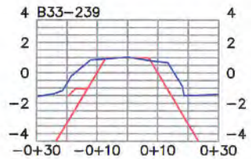


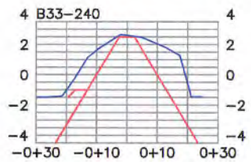


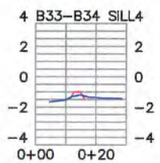


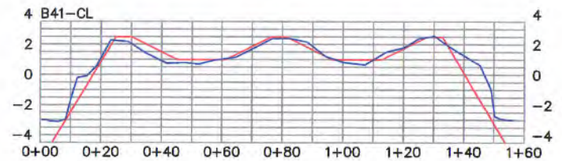


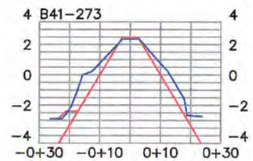


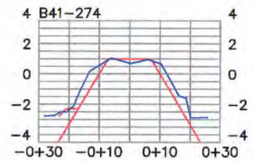


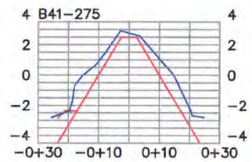


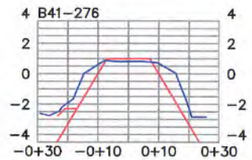


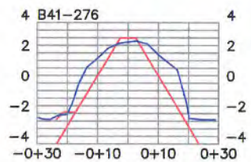


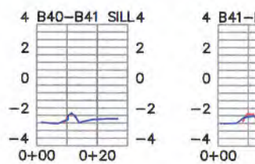


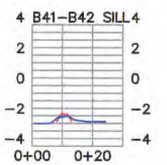












NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON AUGUST 24, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS:	"1488 C 2012"	"3200 L05800"
N:	13,680,977.18'	N:13,691,249.77'
E:	3,275,184.41'	E: 3,273,882.22'
ELEV:	11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 4 OF 4
DATE: AUG. 2016

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-28**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA 1596 Contract No. 16-233-000-9717	8-31-16 Date
GLO/VLB Project Number, Name and Location 1 Copy – Breakwater Survey B42 - B43	
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 8/31/16

By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

B J 8-31-16

By Architect/Engineer Date

CHRISTOPHER LEVITZ, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

B J 8-31-16

By Architect/Engineer Date

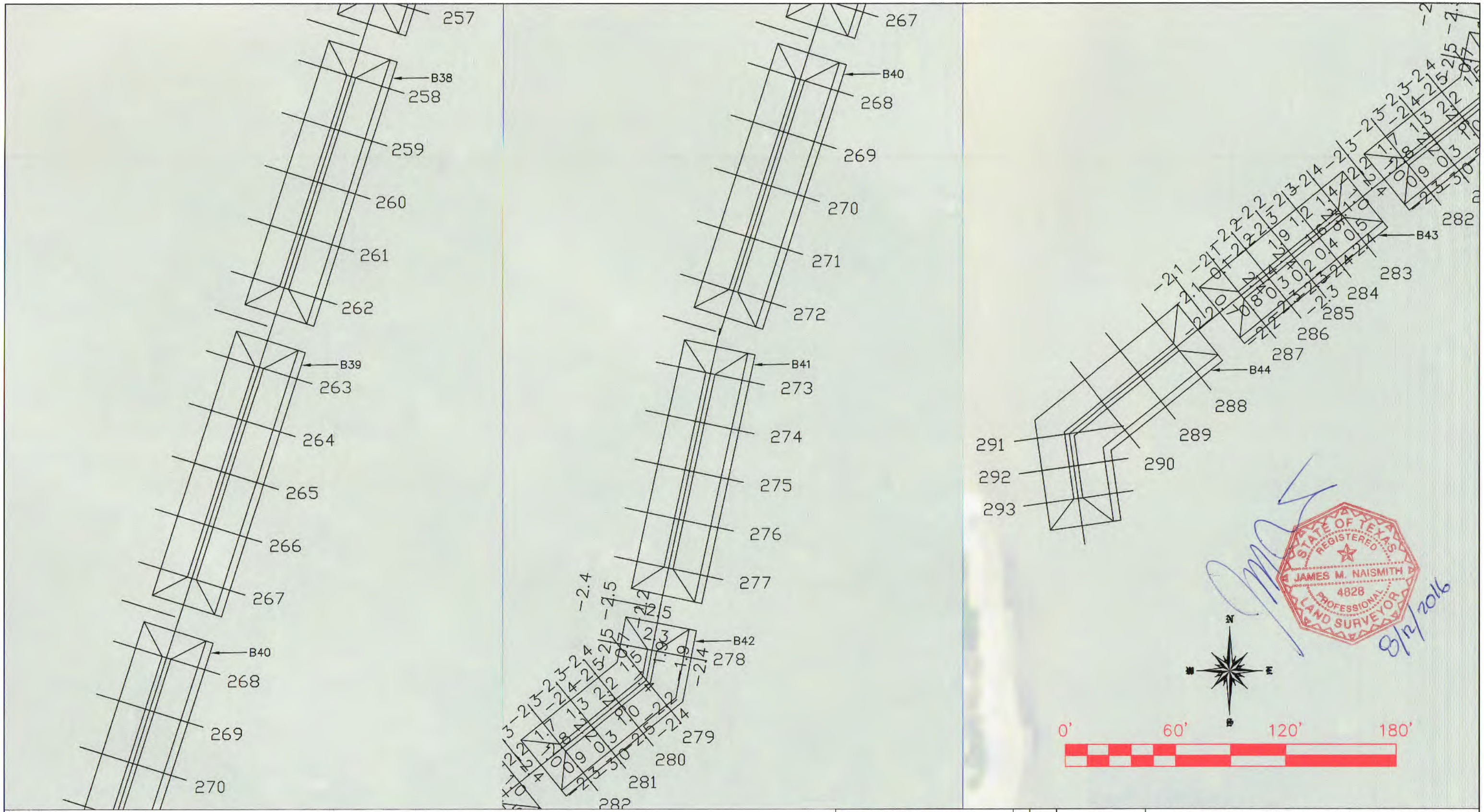
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



NOTES:
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CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

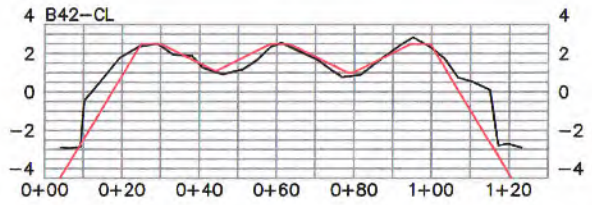
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

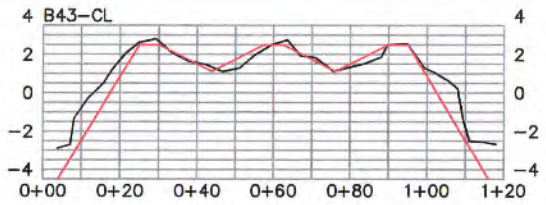
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

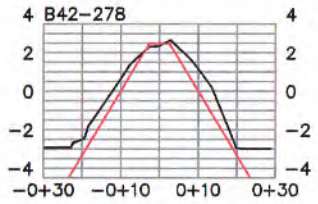
SCALE: 1"= 50'
DWN. BY: BSG

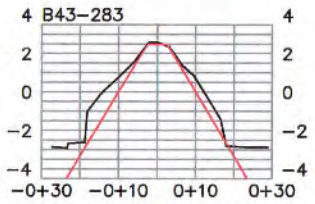
SHEET 1 OF 2

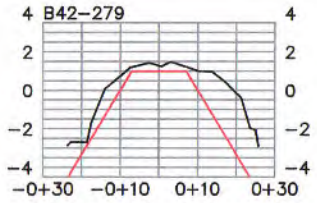
DATE: AUG. 2016

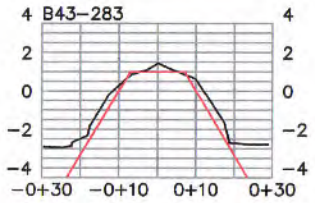


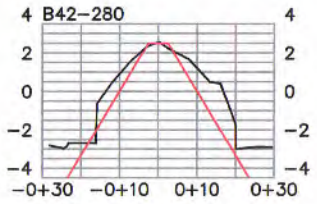


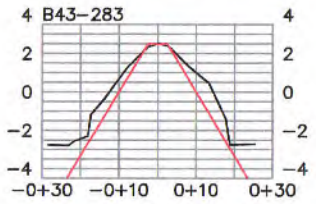


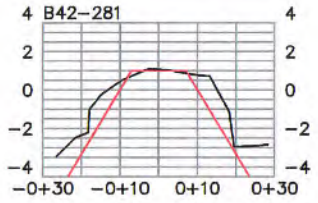


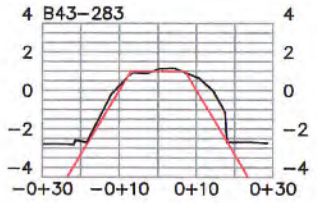


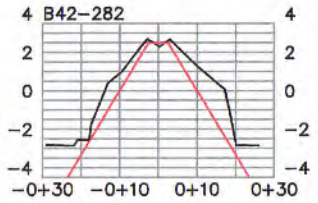


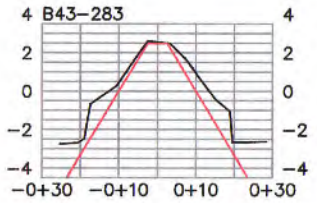


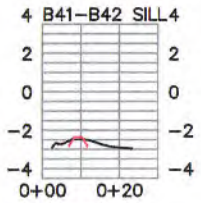


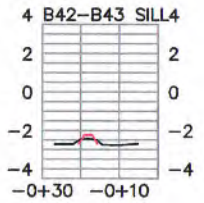


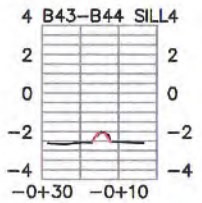












NOTES:
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2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

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CEPRA #1596
TGLO Contract #16–233–000–9717

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Naismith Marine Services
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2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1" = 50'
DWN. BY: BSG
SHEET 2 OF 2
DATE: AUG. 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-29

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

9-14-16
Date

GLO/VLB Project Number, Name and Location

1 Copy – Initial Breakwater Survey R1 to R2

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 9/14/16
By Contractor Date

ARCHITECT/ENGINEER

- ☐ No Exceptions Taken
- ☒ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

9-15-16
By Architect/Engineer Date
Christopher Lentz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☐ Architect/Engineer
- ☐ Contractor (1 copy to be held for Owner close-out documents)
- ☐ GLO/VLB

By Architect/Engineer Date

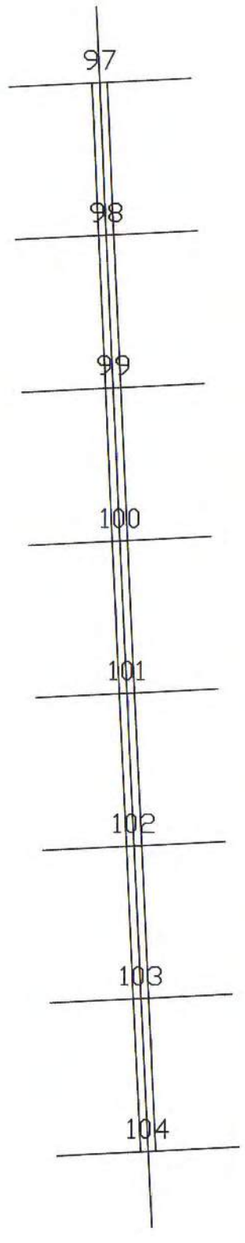
RECEIVED

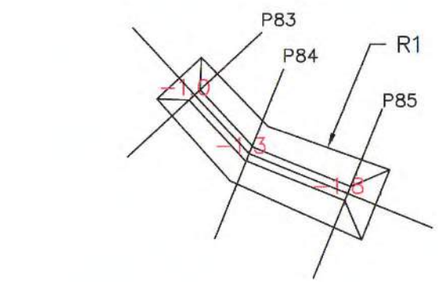
- ☐ GLO/VLB Division File
- ☐

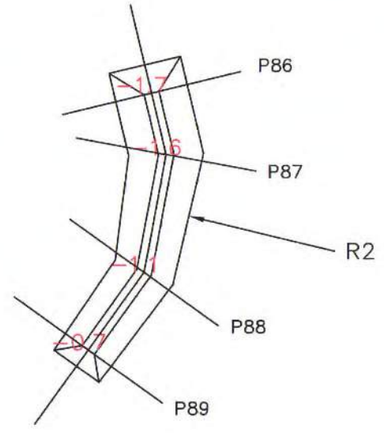
By GLO/VLB Date

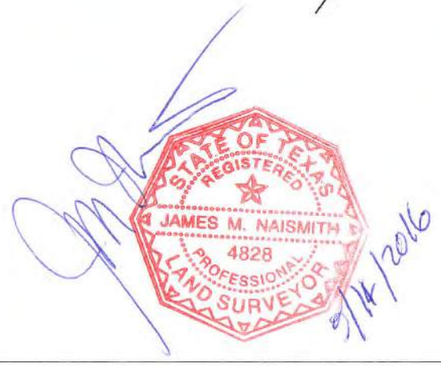
COMMENTS

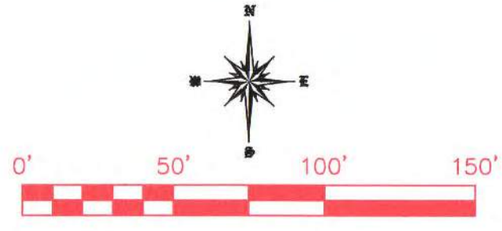
By Date











NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON SEPTEMBER 8, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

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CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 1
DATE: SEPT. 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-30

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

9-14-16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Post Construction Breakwater B6-B8 & A1-A7

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 9/14/16
By Contractor Date

ARCHITECT/ENGINEER

- ☐ No Exceptions Taken
- ☒ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

9-15-16
By Architect/Engineer Date
Christopher Lewitz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

9-15-16
By Architect/Engineer Date

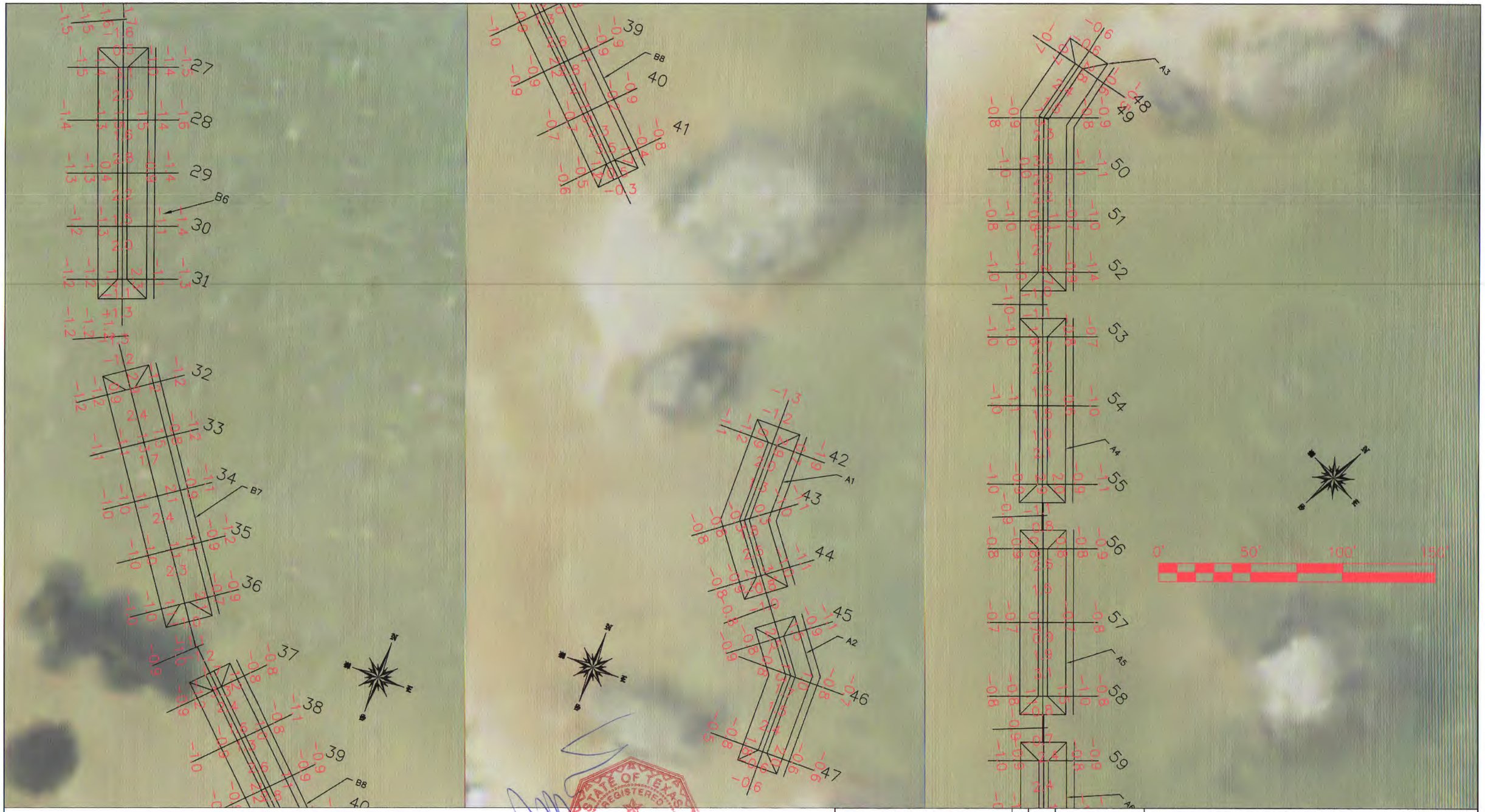
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS Noted that some sections (Primarily A5 & A6) appear out of spec. Field inspected and approved as is in meeting the minimum specs

By 9-15-16
Date



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STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR

9/14/2016

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TGLO Contract #16-233-000-9717

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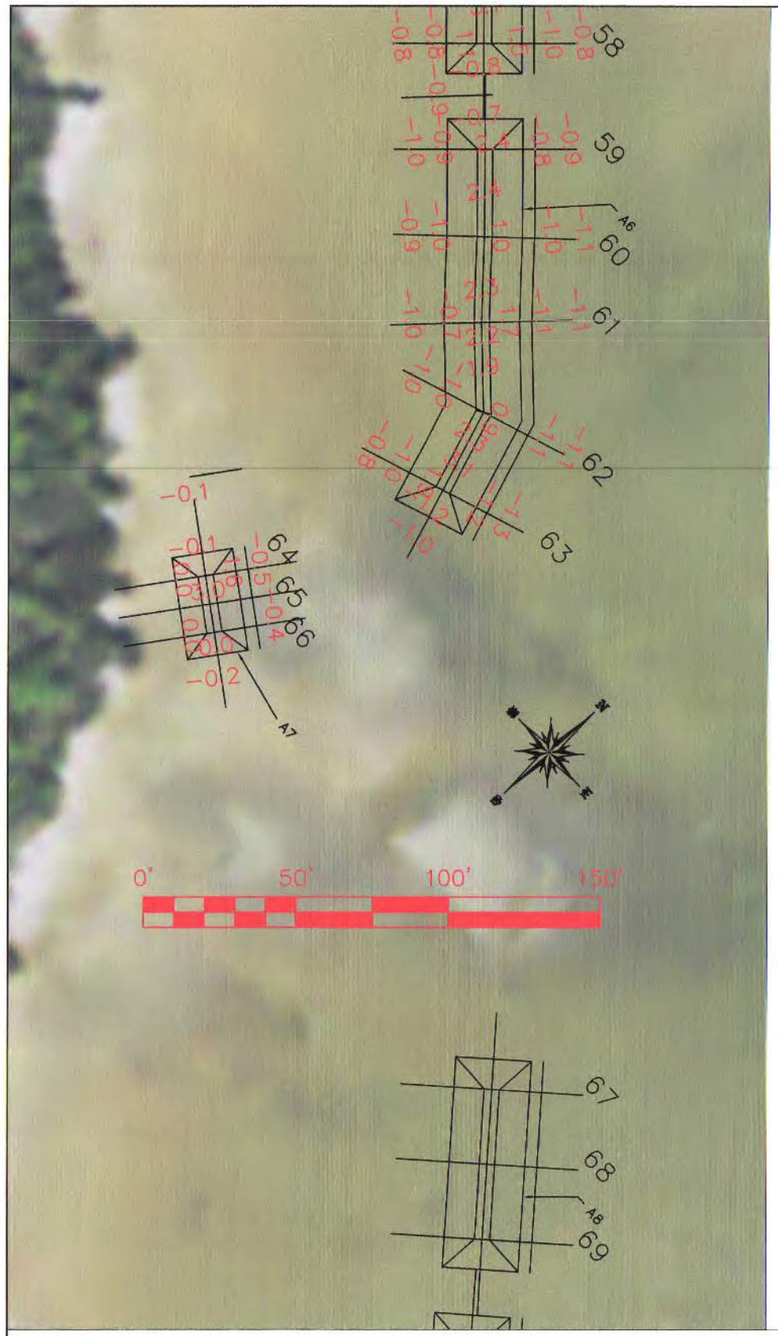
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG

SHEET 1 OF 5

DATE: SEPT. 2016



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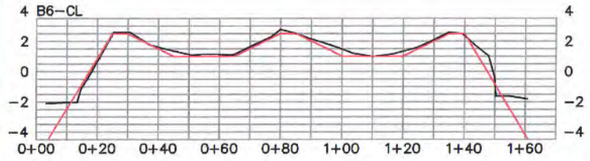

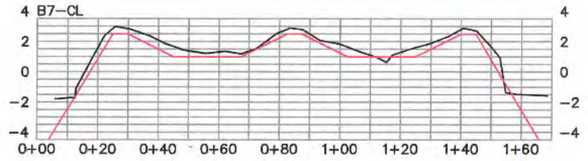

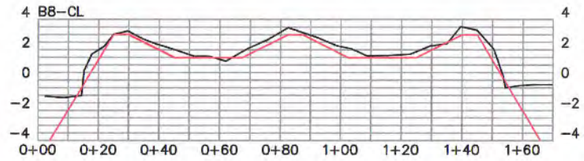

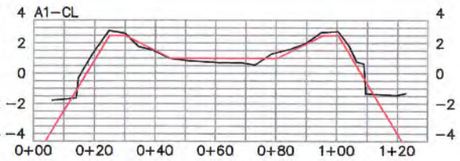

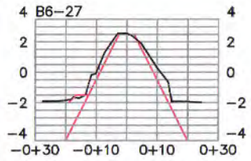

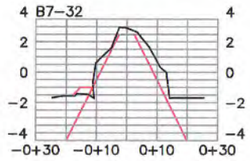

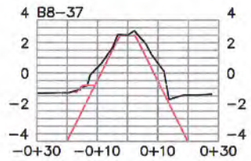

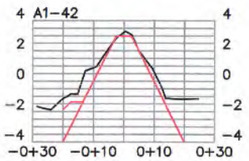

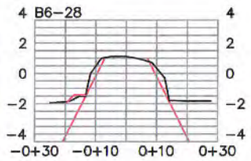

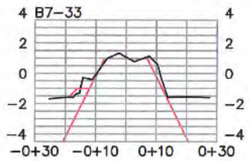

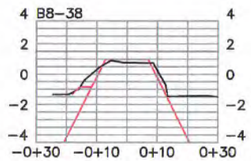

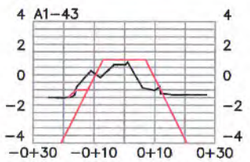

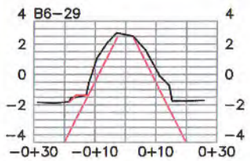

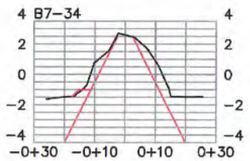

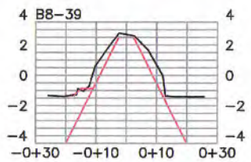

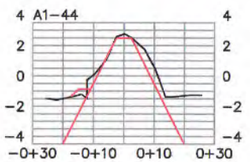

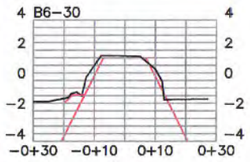

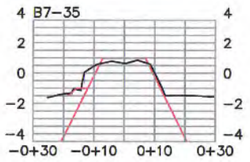

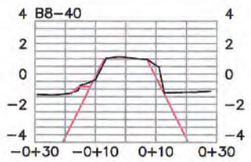

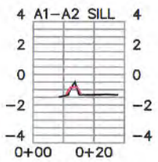

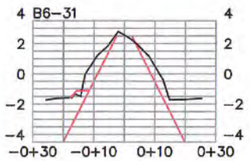

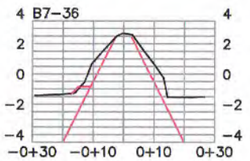

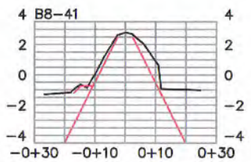

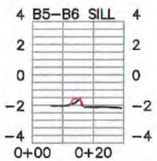

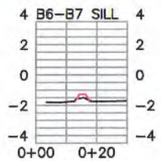

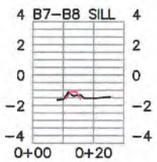

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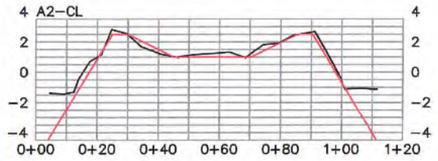

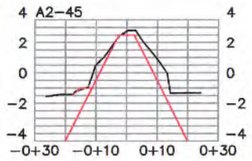

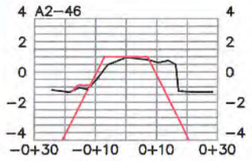

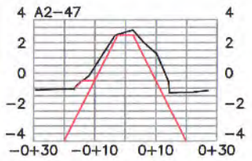

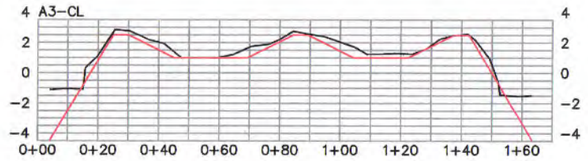

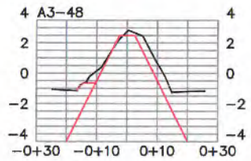

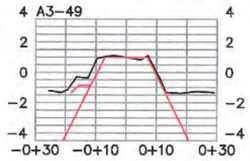

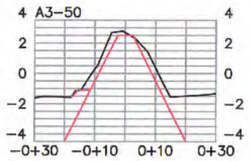

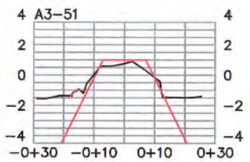

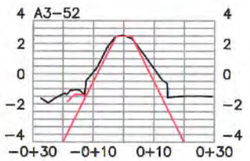

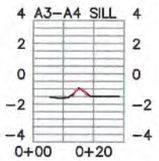

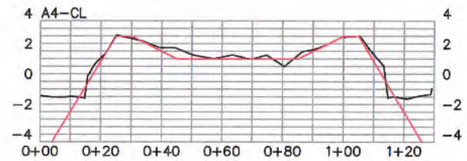

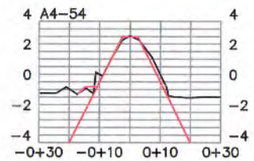

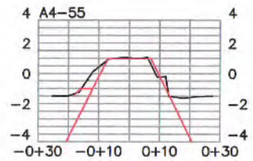

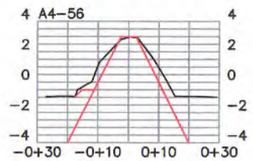

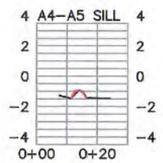

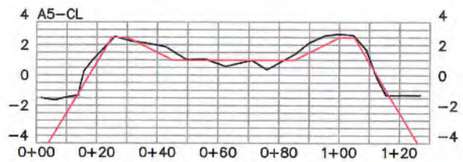

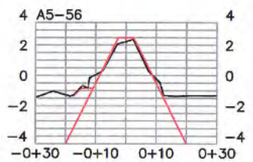

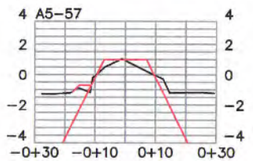

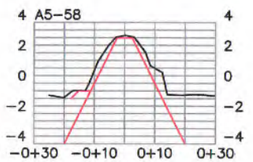

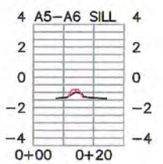

NOTES:
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2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

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CEPRA #1596
TGLO Contract #16–233–000–9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

NO.	DATE	REVISION

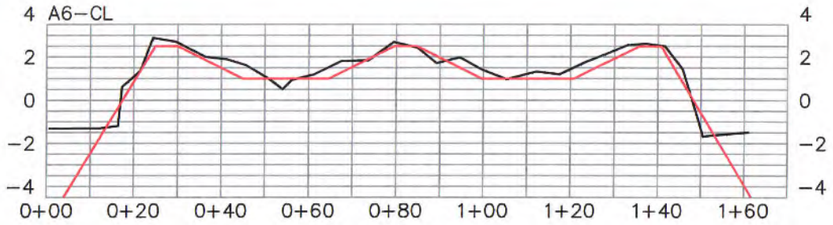
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

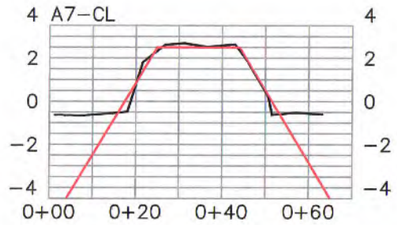
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

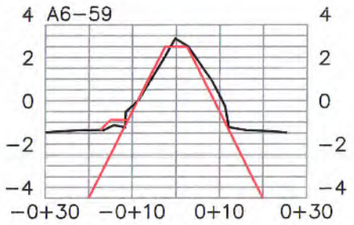
SCALE: 1"= 50'
DWN. BY: BSG

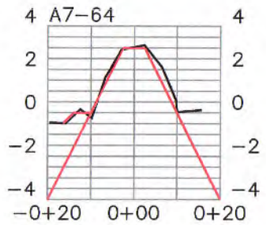
SHEET 4 OF 5

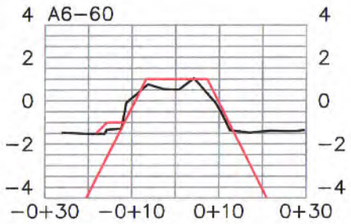
DATE: SEPT. 2016

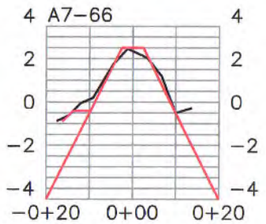


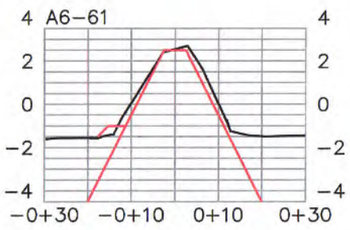


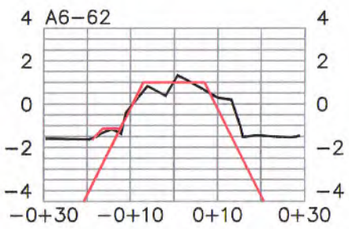












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CEPRA #1596
TGLO Contract #16–233–000–9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 5 OF 5
DATE: SEPT. 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-31

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

9-20-16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Initial Breakwater Survey B1 –B8

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 9/20/16
By Contractor Date

ARCHITECT/ENGINEER

- ☐ No Exceptions Taken
- ☒ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

9-26-16
By Architect/Engineer Date
Christopher Levitz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☐ GLO/VLB

9-26-16
By Architect/Engineer Date

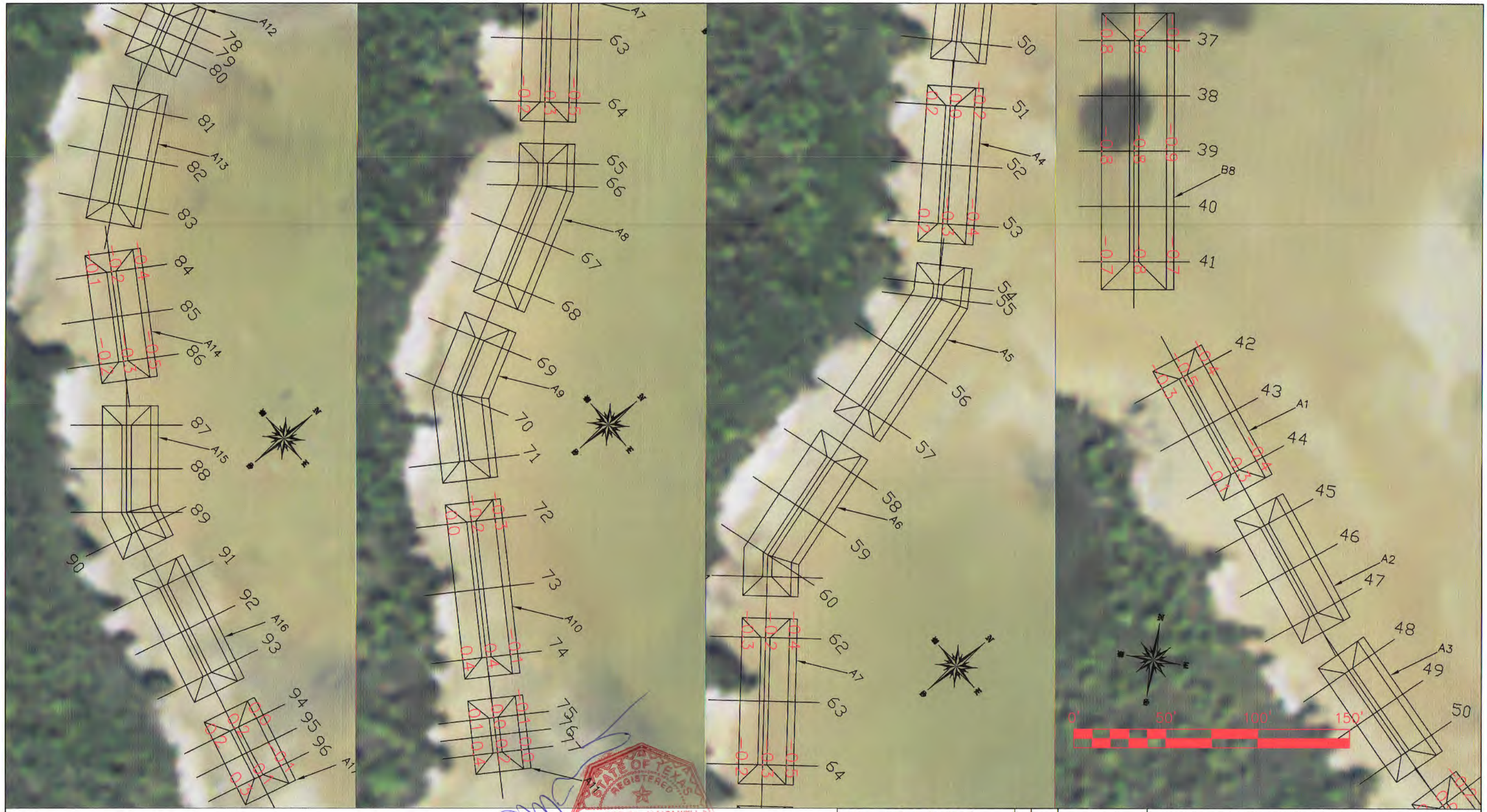
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS Submittal approved, but noted that B7 & B8 locations were revised under ESI #2 and those revisions are not captured in this submittal. Locations of B7 & B8 were field verified.

9-26-16
By Date



NOTES:
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STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR
8/4/2016

CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

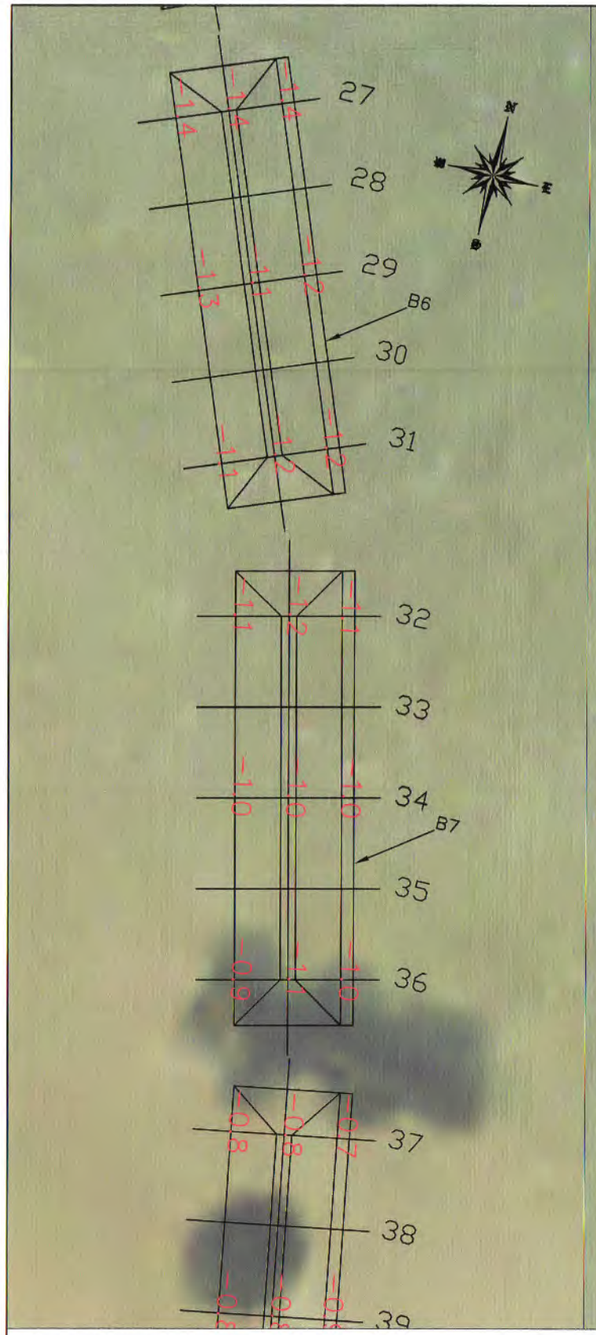
NO.	DATE	REVISION

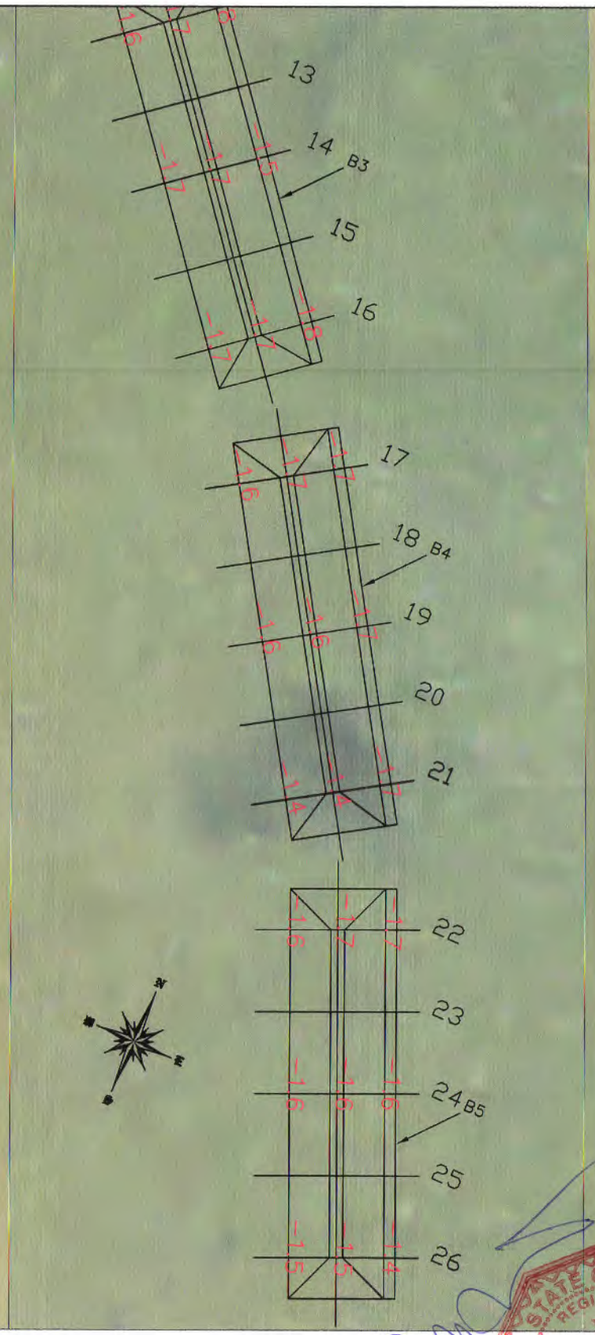
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

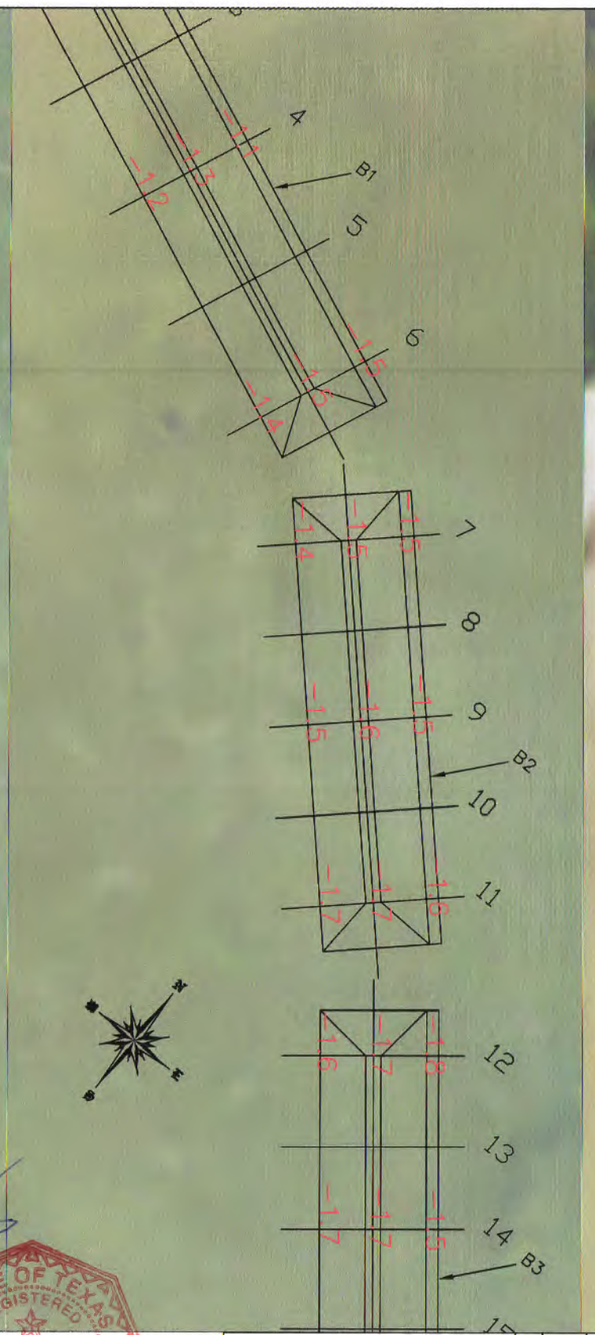
PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

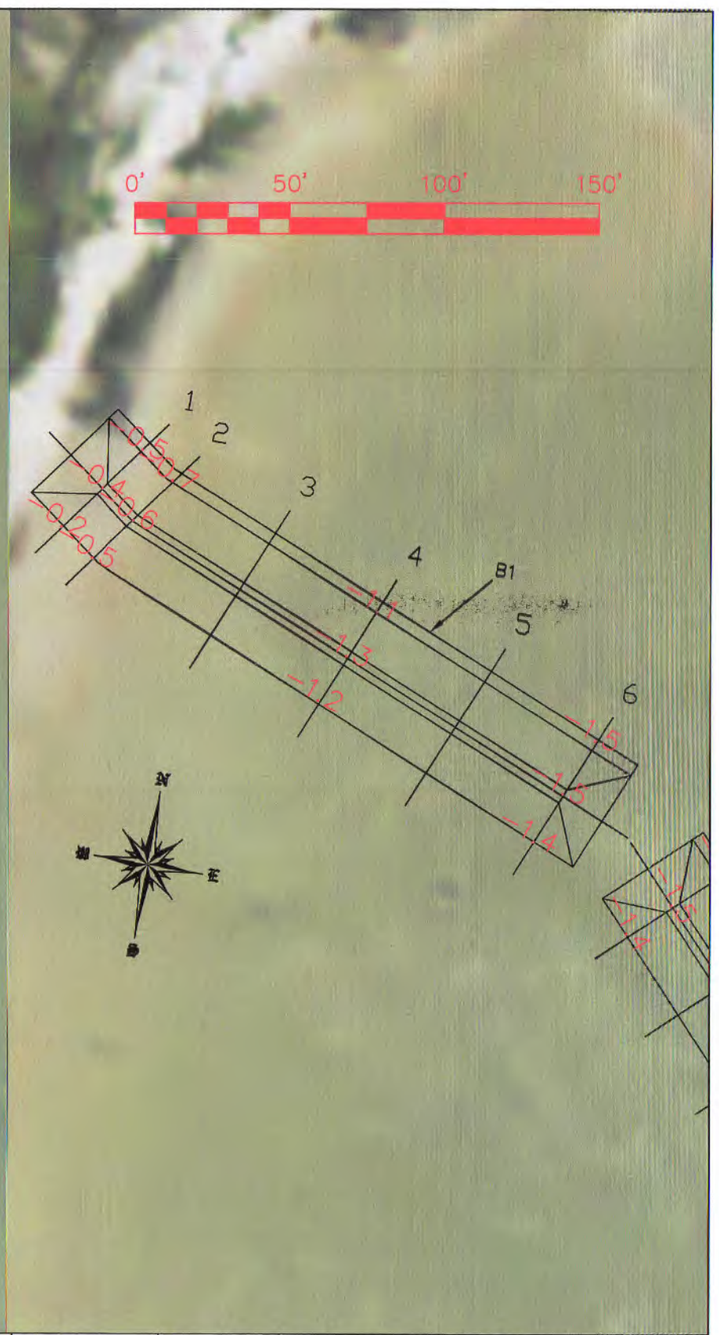
SCALE: 1"= 50'
DWN. BY: BSG

DATE: JULY 2016









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STATE OF TEXAS REGISTERED JAMES M. NAISMITH 4828 PROFESSIONAL LAND SURVEYOR 08/4/2016

CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 2 OF 2
DATE: JULY 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-32

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

9-21-16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Breakwater Survey for A8-A12 and R1-R2

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 9/21/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

9-21-16
By Architect/Engineer Date
Christopher Levitz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

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- ☐ Contractor (1 copy to be held for Owner close-out documents)
- ☐ GLO/VLB

By Architect/Engineer Date

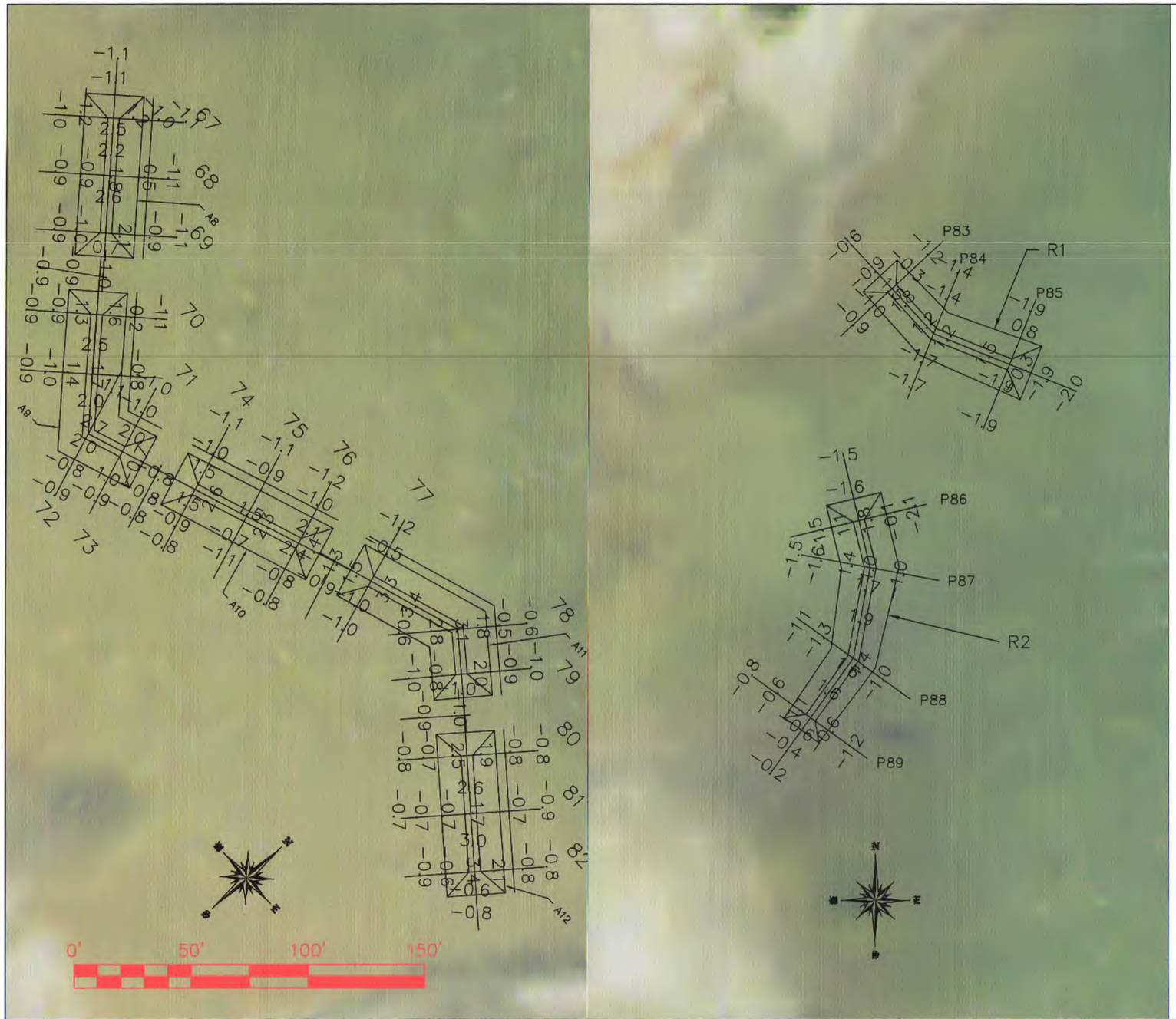
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



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TGLO Contract #16-233-000-9717

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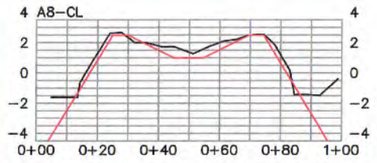
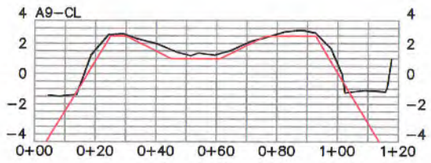
NO.	DATE	REVISION

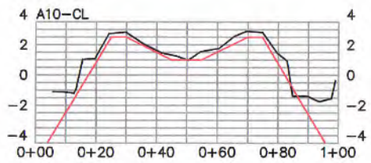
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

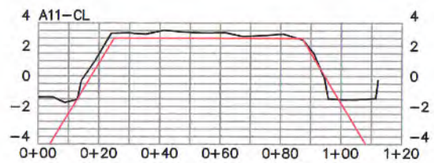
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

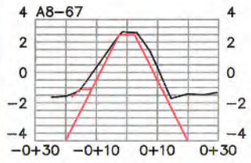
SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 3
DATE: SEPT. 2016

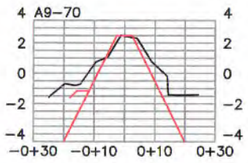


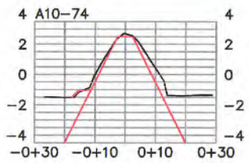


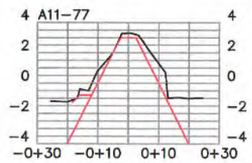


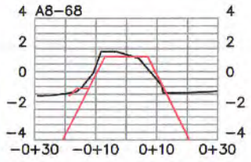


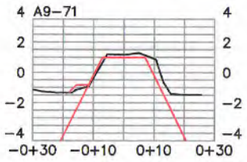


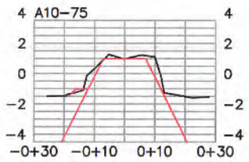


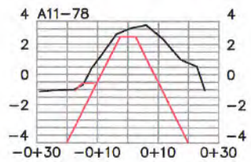


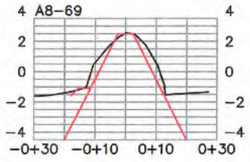


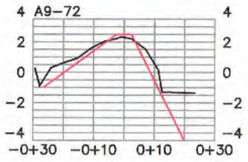


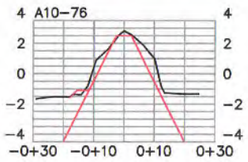


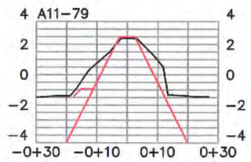


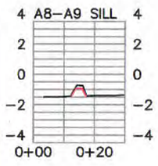


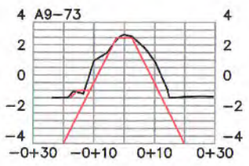


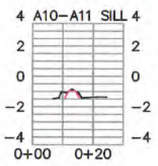


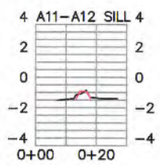


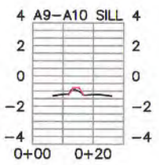












NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON SEPTEMBER 16, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L05800"
N: 13,680,977.18'	N:13,691,249.77'
E: 3,275,184.41'	E: 3,273,882.22'
ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16–233–000–9717

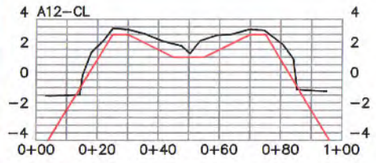
TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

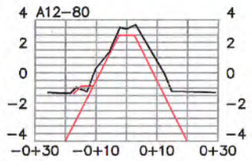
NO.	DATE	REVISION

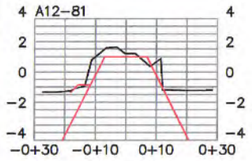
CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

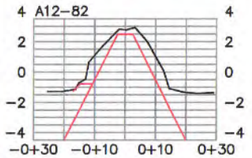
INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

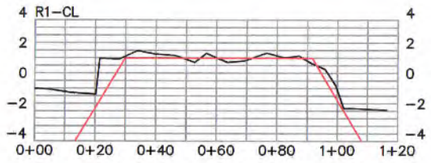
SCALE: 1" = 50'
DWN. BY: BSG
SHEET 2 OF 3
DATE: SEPT. 2016

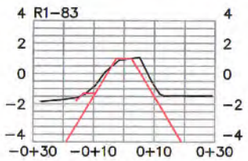


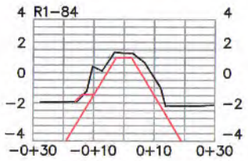


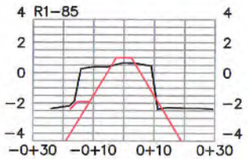


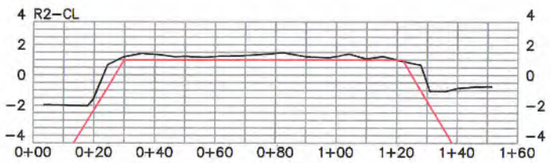


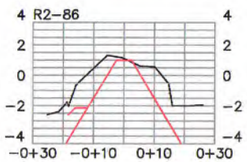


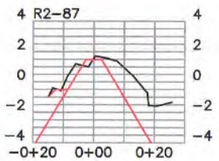


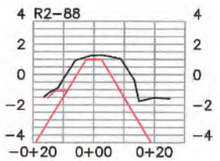


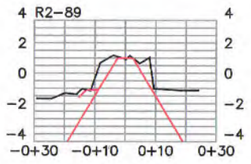












NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON SEPTEMBER 16, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS: "1488 C 2012"	"3200 L05800"
N: 13,680,977.18'	N:13,691,249.77'
E: 3,275,184.41'	E: 3,273,882.22'
ELEV: 11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16–233–000–9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945–0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

INTERIM CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 3 OF 3
DATE: SEPT. 2016

Texas General Land Office/Veterans Land Board Construction Services, Suite 700 1700 N. Congress Ave. Austin, Texas 78701 Phone: (512) 936-2239	**SUBMITTAL** **VP-33**
COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION Virginia Point, Galveston County #CEPRA 1596 Contract No. 16-233-000-9717	9-21-16
GLO/VLB Project Number, Name and Location 1 Copy – Initial Breakwater Survey B32	Date
No. of copies and description of submittal APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726	
Contractor and address with zip code: AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094	
Architect/Engineer and address with zip code:	

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 9/21/16

By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

9-21-16

By Architect/Engineer Date

Christopher Lentz, PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

9-21-16

By Architect/Engineer Date

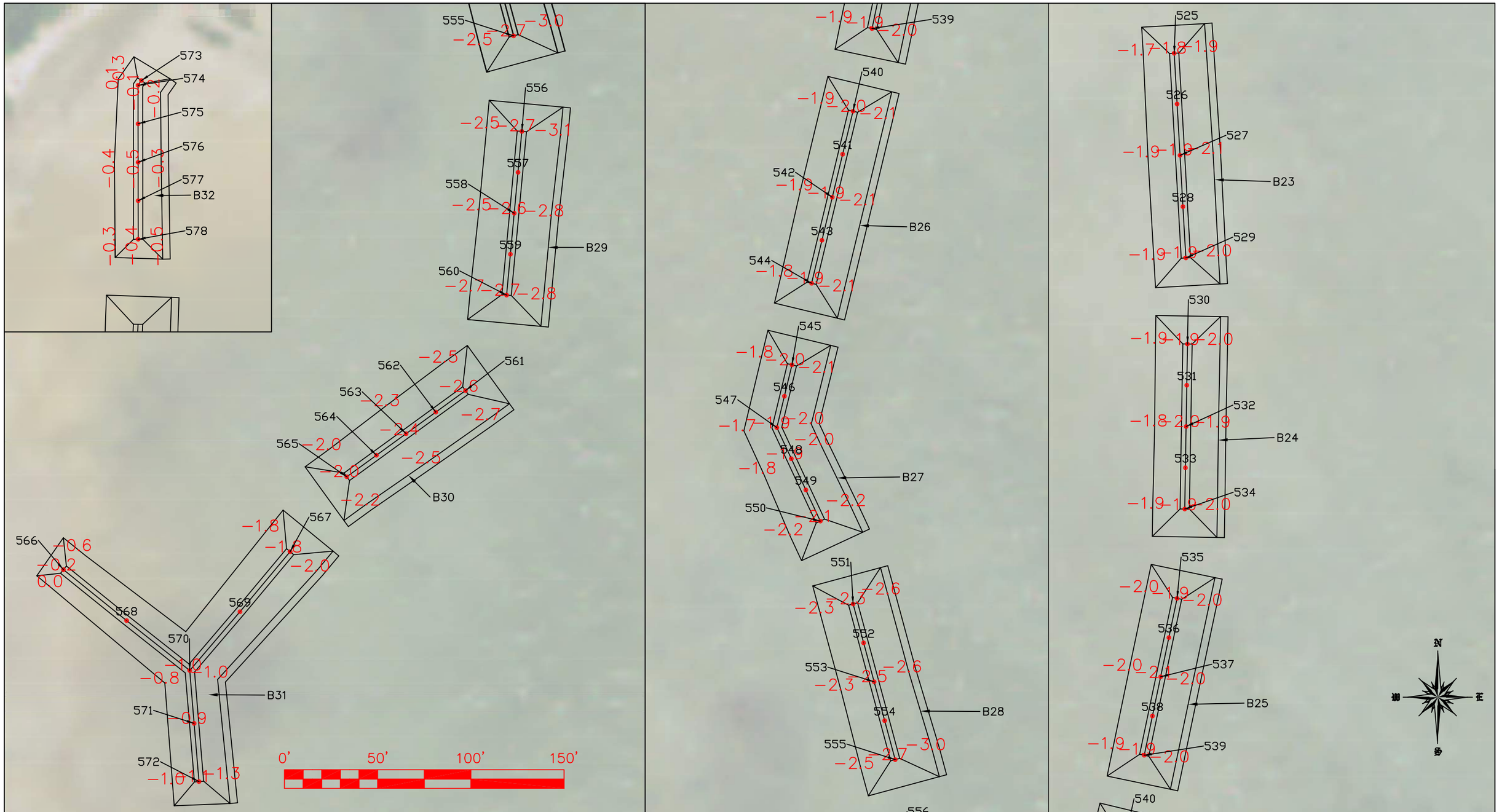
RECEIVED

- ☐ GLO/VLB Division File

By GLO/VLB Date

COMMENTS

By Date



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON APRIL 22–23, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS:	"1488 C 2012"	"3200 L 5800"
N:	13,680,977.18'	N:13,691,249.77'
E:	3,275,184.41'	E: 3,273,882.22'
ELEV:	11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16–233–000–9717

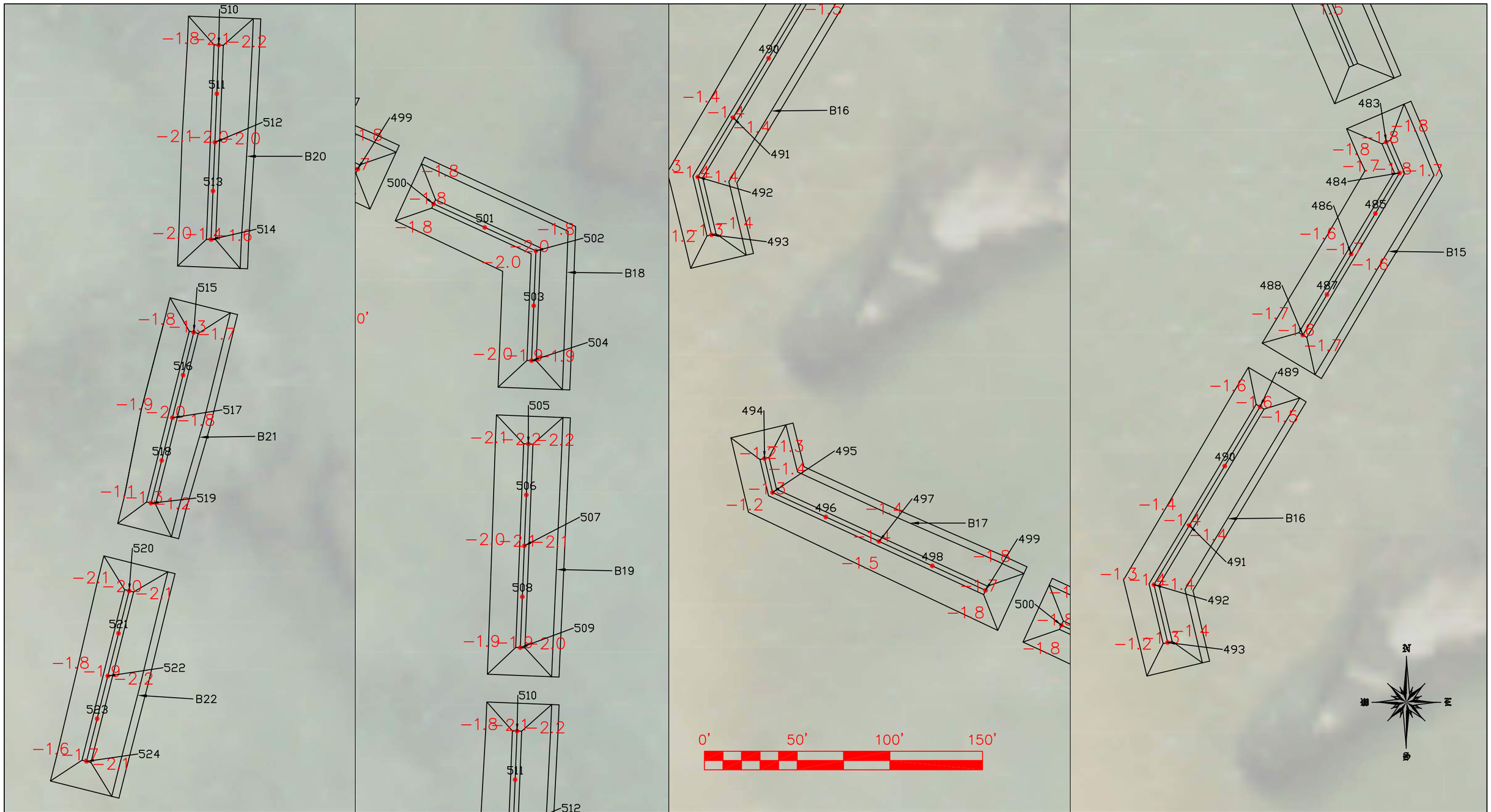
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE–CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY:
PLAN SHEET 1 OF 2
DATE: APR 2016



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON APRIL 22–23, 2016. SEA FLOOR CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS:	"1488 C 2012"	"3200 L 5800"
N:	13,680,977.18’	N:13,691,249.77’
E:	3,275,184.41’	E: 3,273,882.22’
ELEV:	11.93’ NAVD88	ELEV: 7.33’ NAVD88

CEPRA #1596
TGLO Contract #16–233–000–9717

Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE–CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50’
DWN. BY:
PLAN SHEET 2 OF 2
DATE: APR 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-34

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

9-21-16
Date

GLO/VLB Project Number, Name and Location
1 Copy – Initial Breakwater Survey B39-B44

No. of copies and description of submittal
APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:
AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

- ☐ Submittals checked for compliance
- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 9/21/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

9-21-16
By Architect/Engineer Date
Christopher Levitz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

9-21-16
By Architect/Engineer Date

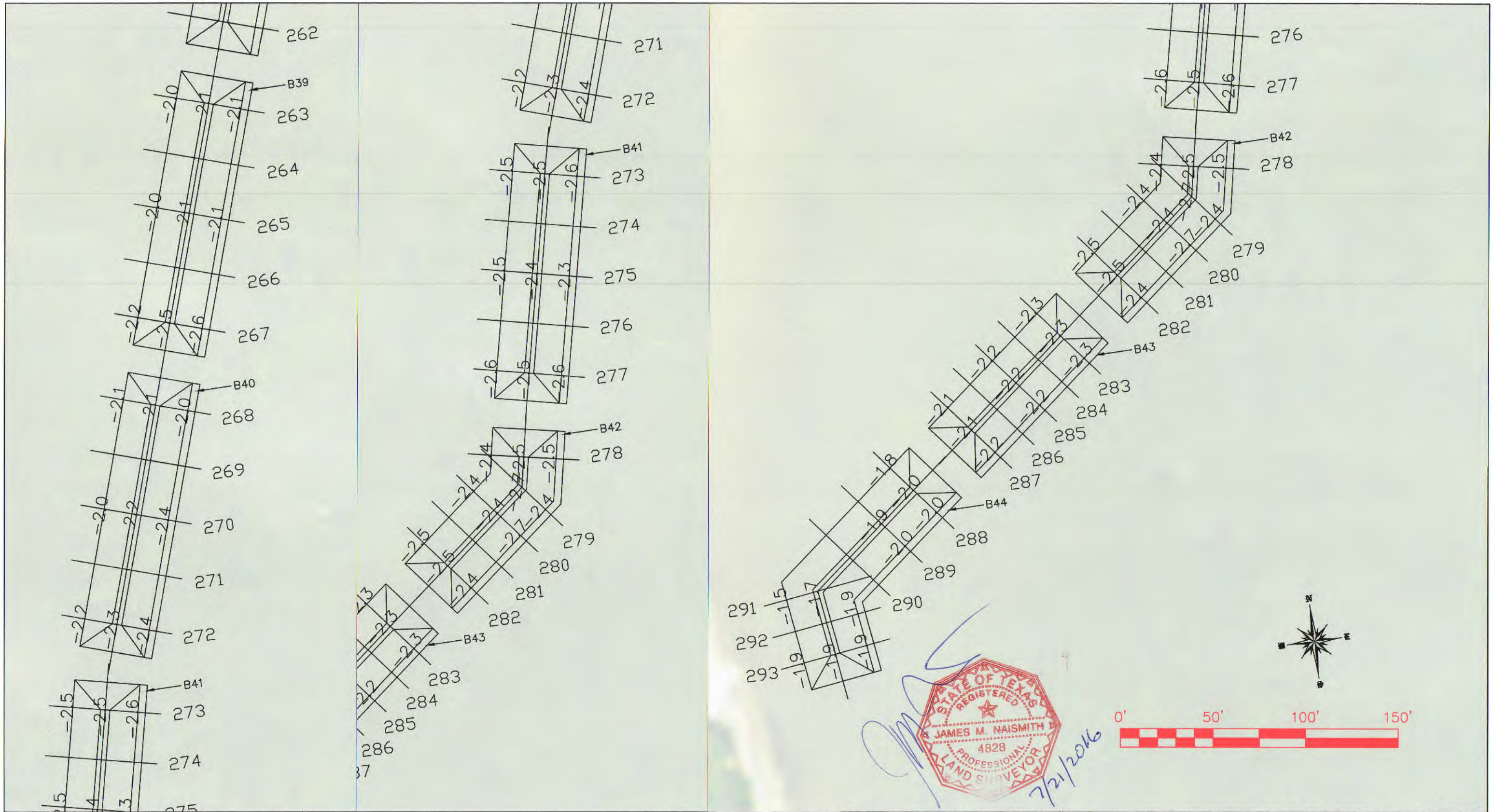
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS

By Date



NOTES:
1) ELEVATIONS WERE RECORDED BY NAISMITH MARINE SERVICES ON JULY 14, 2016. SEA FLOOR & TOPOGRAPHIC CONDITIONS ARE SUBJECT TO CHANGE.
2) HORIZONTAL DATUM: NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET.
3) VERTICAL DATUM: NAVD88

REFERENCE MONUMENTS:	"1488 C 2012"	"3200 L05800"
N:	13,680,977.18'	N:13,691,249.77'
E:	3,275,184.41'	E: 3,273,882.22'
ELEV:	11.93' NAVD88	ELEV: 7.33' NAVD88

CEPRA #1596
TGLO Contract #16-233-000-9717

TBPLS #10078500
Naismith Marine Services
Sea Floor Surveying
2007 F.M. 3036
Rockport, Texas 78382
WWW.NAISMITHMARINE.COM
(361) 945-0248

NO.	DATE	REVISION

CONTR: APOLLO ENVIRONMENTAL STRATEGIES, INC.

PRE-CONSTRUCTION SURVEY
VIRGINIA POINT WETLAND PROTECTION
GALVESTON COUNTY, TEXAS

SCALE: 1"= 50'
DWN. BY: BSG
SHEET 1 OF 1
DATE: JULY 2016

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave.
Austin, Texas 78701
Phone: (512) 936-2239

SUBMITTAL
VP-35

COASTAL CONSTRUCTION SERVICES FOR WETLAND PROTECTION AND RESTORATION
Virginia Point, Galveston County #CEPRA 1596
Contract No. 16-233-000-9717

9-27-16

GLO/VLB Project Number, Name and Location

Date

1 Copy – Aerial Photography

No. of copies and description of submittal

APOLLO Environmental Strategies, Inc. P.O. Box 12114 Beaumont, Texas 77726

Contractor and address with zip code:

AECOM 19219 Katy Freeway, Suite 100 Houston, TX 77094

Architect/Engineer and address with zip code:

Note: Approval does not relieve Contractor from responsibility for errors on submittals and for deviations from drawings and specifications unless he notifies A/E in writing and receives written approval. Drawing and specification changes are NOT authorized by approval of submittals.

Spec:02 21 13

ROUTING AND ACTION

CONTRACTOR

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- ☒ Submittals sent to Architect/Engineer
- ☐ Status Copy of Submittal Cover Sheet only sent to GLO

APOLLO 9/27/16
By Contractor Date

ARCHITECT/ENGINEER

- ☒ No Exceptions Taken
- ☐ Approved as noted
- ☐ Revise and Resubmit (returned to the Contractor)

9-27-16
By Architect/Engineer Date
Christopher Leritz, TX PE #107494

COPIES DISTRIBUTED AS FOLLOWS:

- ☒ Architect/Engineer
- ☒ Contractor (1 copy to be held for Owner close-out documents)
- ☒ GLO/VLB

9-27-16
By Architect/Engineer Date

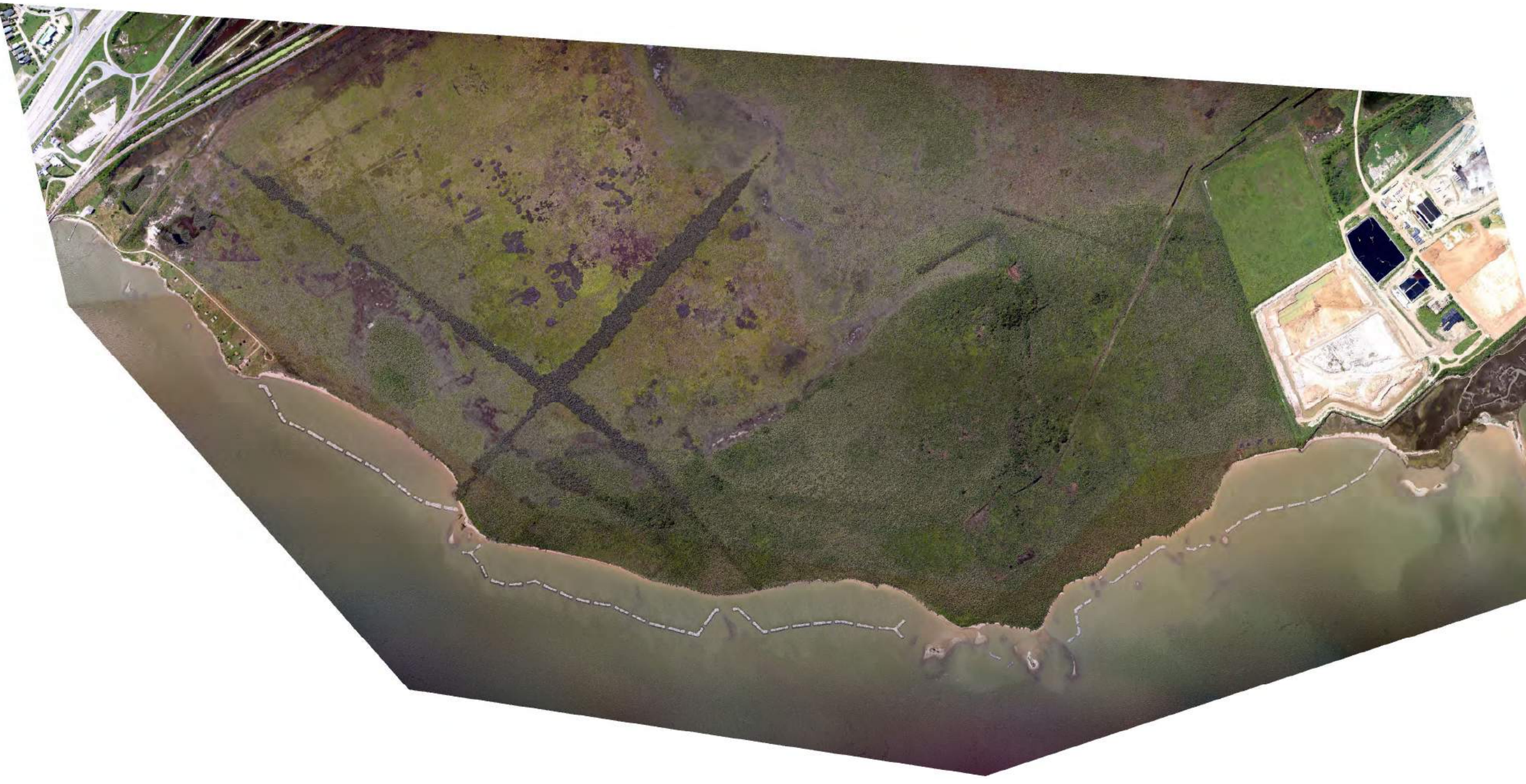
RECEIVED

- ☐ GLO/VLB Division File
- ☐

By GLO/VLB Date

COMMENTS **Here is a link to the aerials. A hard copy will be delivered directly to AECOM from Naismith.**
https://www.dropbox.com/sh/v58d2daqectz82c/AADH5_65d9ubaCKgTNaMoimda?dl=0

Tina Moore 9-27-16



Appendix E

Revision Documents

AECOM

Change Orders

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Avenue
Austin, Texas 78701
Phone: (512) 936-3512

TIME CHANGE ORDER
FOR TIME EXTENSIONS ONLY

GLO CONTRACT NO. 16-233-000-9717
GLO/VLB PROJECT NO. CEPRA 1596

ARCHITECT/ENGINEER	CONTRACTOR	
AECOM (Firm Name)	APOLLO Environmental Strategies (Firm Name)	Virginia Point Wetland Protection Project (Project Title)
19219 Katy Freeway Suite 100 (Address)	P.O. Box 12114 (Address)	Galveston County (Project Site)
Houston, TX 77094 (City & State)	Beaumont, TX 77726 (City & State)	TGLO (Agency)
2/10/2016 (Contract Date) 2/29/2016 (Work Order Date)	165 days (Original Contract Period)	8/12/2016 (Original Completion Date)

NOTE TO CONTRACTOR: List all time periods for which the request is being made. Give the month and days in each period and the reason this period was lost. If necessary, in order to document loss, use additional sheets or attach substantiating evidence.

Change Request No. (Architect/Engineer) Change Order No. (By GLO/VLB) **T-01**

Texas General Land Office/Veterans Land Board:

The following time was lost due for reasons beyond the control of this Contract: (Indicate losses resulting from?)

41 days

3/21/16 to 4/24/16 Train seized by Union Pacific for flooding in LA; Flooding in Houston Texas
5/16/16 Excessive hign winds and thunderstorms
5/19/16 Excessive hign winds and thunderstorms
5/22/16 Excessive hign winds and thunderstorms
5/27/16 Very high winds and wave conditions, unsafe working conditions
6/2/16 Thunderstorms and lightning throughout the day prevented work
6/3/16 Thunderstorms and lightning throughout the day prevented work
6/4/16 Thunderstorms and lightning throughout the day prevented work

Signed [signature] Contractor — 7/11/2016 Date

Texas General Land Office/Veterans Land Board:	Calendar days
Original contract period	165
Previous extensions	0
Current contract period	165
Amount of this request	41
NEW CONTRACT PERIOD	206
Original completion date	8-12-16
Current completion date	8-12-16
NEW COMPLETION DATE	9-22-16

EXTENSION RECOMMENDED

[signature] 7-13-16

Architect/Engineer [signature] Jocelyn Barclay — Date 7-13-16

Project Manager [signature] — Date 7.13.16

Director, Construction Services [signature] — Date 7.13.16

Director, Asset Enhancement ← ? [signature] — Date 7/14/16

Director, Coastal Resources [signature] — Date 7

APPROVED

[signature] 7/15/16

Chief Clerk, GLO — Date

Revised 11/2015

Texas General Land Office/Veterans Land Board
Construction Services, Suite 700
1700 N. Congress Ave., Austin, Texas 78701
Telephone: (512) 936-3512

CHANGE ORDER

D

GLO/VLB PROJECT NO. CEPRA 1596
GLO CONTRACT NO. 16-233-000-9717

ARCHITECT/ENGINEER	CONTRACTOR	
AECOM (Firm Name)	APOLLO Env Strategies, Inc. (Firm Name)	Virginia Point Wetland Protection (Project Title)
19219 Katy Freeway, Ste 100	P O Box 12114 (Address)	Galveston County (Project Site)
Houston TX 77094 (City & State)	Beaumont TX 77726 (City & State)	TGLO (Agency)

Contract Date	NTP	Original Contract Period	Original Completion Date	Change Request No.
2/10/2016	2/29/2016	165 CD	8/12/2016	2

TO APOLLO Env Strategies, Inc. (Contractor)

Change Order Number **CO-2**

Your CONTRACTOR'S CHANGE PROPOSAL on the subject describes in brief as

Installation of 4 project signs

has been reviewed by the persons whose signatures are affixed hereon and is hereby approved effective immediately for incorporation into the work. Accordingly, this approval validates your CONTRACTOR'S CHANGE PROPOSAL which is attached hereto and together form the CHANGE ORDER. Pursuant to the change being accomplished, the total sum will be altered as shown hereon.

8/11/16
Date

Anne L. Idsal
Chief Clerk, GLO

ORIGINAL CONTRACT		3,796,355.00
Previous Additions	0.00	
This Change Add	4,800.00	
TOTAL ADDITIONS		4,800.00
Previous Deductions	0.00	
This Change Deduct	0.00	
TOTAL DEDUCTIONS		0.00
TOTAL NET CONTRACT		3,801,155.00

0 The Contract Period is extended calendar days.

41 Total Inclusive approved extensions calendar days.

Amended Completion Date **9/22/2016**

Texas General Land Office/Veterans Land Board Review:

All documents of this change have been reviewed by the undersigned and are recommended for approval.

Construction Services - Deputy Director
Katelyn Cassidy for N. Flores 8-4-16
Budget Director
Joelyn Barclay 8-4-16
Construction Services - Project Manager
Attorney - Contracts 8/4/2016

For GLO Coastal projects only:

Reviewed by program area and approval is recommended (please initial):

CK CEPRA Project Manager
Carla Kartman
MP CEPRA Manager
~~Kevin Frenzel~~ Melissa Porter
Coastal Resources Deputy Director
David ~~Land~~ Green

TO : Texas General Land Office/Veterans Land Board

08-02-16
Date

ARCHITECT'S or ENGINEER's REASON & JUSTIFICATION	C

REF: See form D

CEPRA 1598
GLO/VLB PROJECT NO.

02
CHANGE REQUEST NO.

The Change Order Documents are presented for your consideration and approval The Contractor's Change Proposal has been reviewed and approved by the under - signed. Acceptance of this change is recommended for the following REASON and JUSTIFICATION.

Owner has requested a change order for the addition of 3' x 3' project signs along the project footprint (4 locations).

Based on the evaluation performed using material and labor hour estimates from internal and external sources, the A/E has found the contractor pricing to be within the expected range.

Respectfully submitted

by

Architect / Engineer

Christopher Levitz, TX PE #107494

ROUTING INFORMATION

1. Architect / Engineer prepare form A, ARCHITECT'S or ENGINEER's CHANGE ORDER REQUEST, and fill in project information on form D. Assign Change Request Number. Transmit to Contractor.

2. Contractor prepare form B, CONTRACTOR'S CHANGE ORDER PROPOSAL EVALUATION. Transmit to Architect / Engineer.

3. Architect / Engineer review form B, CONTRACTOR'S CHANGE ORDER PROPOSAL EVALUATION, prepare form C, ARCHITECT'S or ENGINEER's REASON & JUSTIFICATION. Transmit to the Texas General Land Office/Veterans Land Board.

4. GLO Project Manager will review all documents, fill in amounts on form D, CHANGE ORDER, assign CHANGE ORDER NUMBER, and endorse. Transmit to GLO Chief Clerk.

5. Chief Clerk will review all documents and sign form D, CHANGE ORDER.

6. GLO Project Manager will transmit copies of executed documents to all parties.

TO: Architect / Engineer 08/01/2016
Date

REF: SEE form D

CONTRACTOR'S CHANGE ORDER PROPOSAL EVALUATION

B

The following is a detailed cost breakdown, including both materials and labor for all additions to and/or deductions from the contract sum if the change described in the form A of the project referenced on form D is accepted: (Additional data necessary to support itemized figures is attached and identified below.)

CEPRA 1596
GLO/VLB Project No.

02
Change Request No.

APOLLO will provide the necessary labor , equipment and materials for installation of a total of four (4) project signs , with necessary sets of hardware and four (4) treated pilings approximately10 to 12 inches in diameter . Each sign will be installed at the designated locations noted for $1,200 per each sign for a total amount of $ 4,800 . AECOM to provide the desired height and/ orelevation of each sign as previously discussed .

Total (Addition) (Deduction) to CONTRACT SUM if accepted . . . . . $ 4,800.00

REQUEST IS MADE FOR ADDITION OF 0 CALENDAR DAYS TO THE CONTRACT PERIOD.

The above proposal is submitted for your consideration. The undersigned contractor understands and agrees that this proposal is validated only by the approved CHANGE ORDER (form D) attached hereto

Authorized Signature

APOLLO Environmental Strategies,Inc.

Name of Contracting Firm

ARCHITECT'S or ENGINEER'S CHANGE ORDER REQUEST

A

TO: Contractor

07-15-16
Date

REF: See form D

CEPRA 1596
GLO/VLB PROJECT NO.

02
CHANGE REQUEST NO.

Please prepare a CONTRACTOR'S CHANGE ORDER PROPOSAL EVALUATION on the following proposed change: (Additional documents necessary to completely describe the change, identified below, are attached.)

Change Order #2 is the installation of four (4) 3' x 3' project signs along the project footprint at the location identified on the Drawings. The elevation of the bottom of the signs shall be +5.0' NAVD88. Attached are the revised Drawings G100-G103, G105-G106, C100-C101, C103-C104, and C107 which include the sign detail and locations.

Please prepare a CONTRACTOR'S CHANGE ORDER PROPOSAL EVALUATION on the attached proposed changes.

This request was initiated

by

Your early response is solicited

by Chris Levitz, TX PE #107494

Architect / Engineer

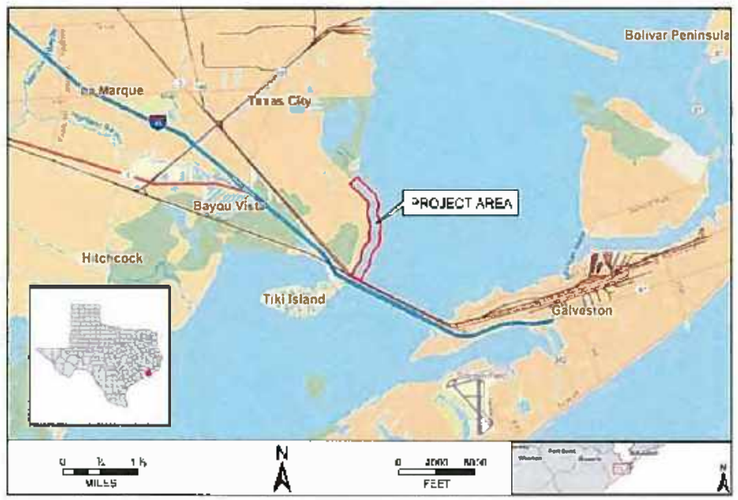
TEXAS GENERAL LAND OFFICE

IN PARTNERSHIP WITH SCENIC GALVESTON, INC.

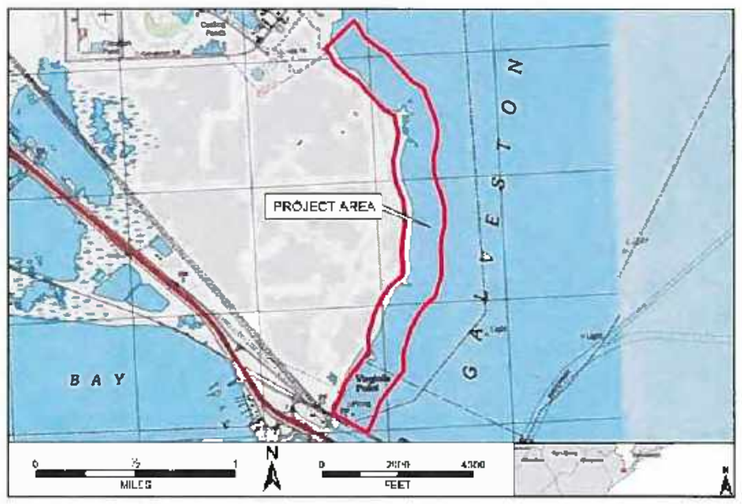
VIRGINIA POINT WETLAND PROTECTION PROJECT

GALVESTON COUNTY, TEXAS

PROJECT No. 1596 OCTOBER 2015



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

COMMISSIONER
GEORGE P. BUSH

THIS PROJECT IS FUNDED IN PART BY A FINANCIAL ASSISTANCE AWARD FROM THE U.S. DEPARTMENT OF THE INTERIOR, U.S. FISH AND WILDLIFE SERVICE, COASTAL IMPACT ASSISTANCE PROGRAM.

TEXAS GENERAL LAND OFFICE CONTACT

CARLA KARTMAN
PROJECT MANAGER
1700 NORTH CONGRESS AVENUE
AUSTIN, TEXAS 78701
PHONE: (512) 463-8753
FAX: (512) 475-0680

SCENIC GALVESTON CONTACT

LALISE MASON
VICE PRESIDENT & HABITAT RESTORATION CHAIRMAN
20 COLONY PARK CIRCLE
GALVESTON, TEXAS 77551
PHONE: (713) 725-8101

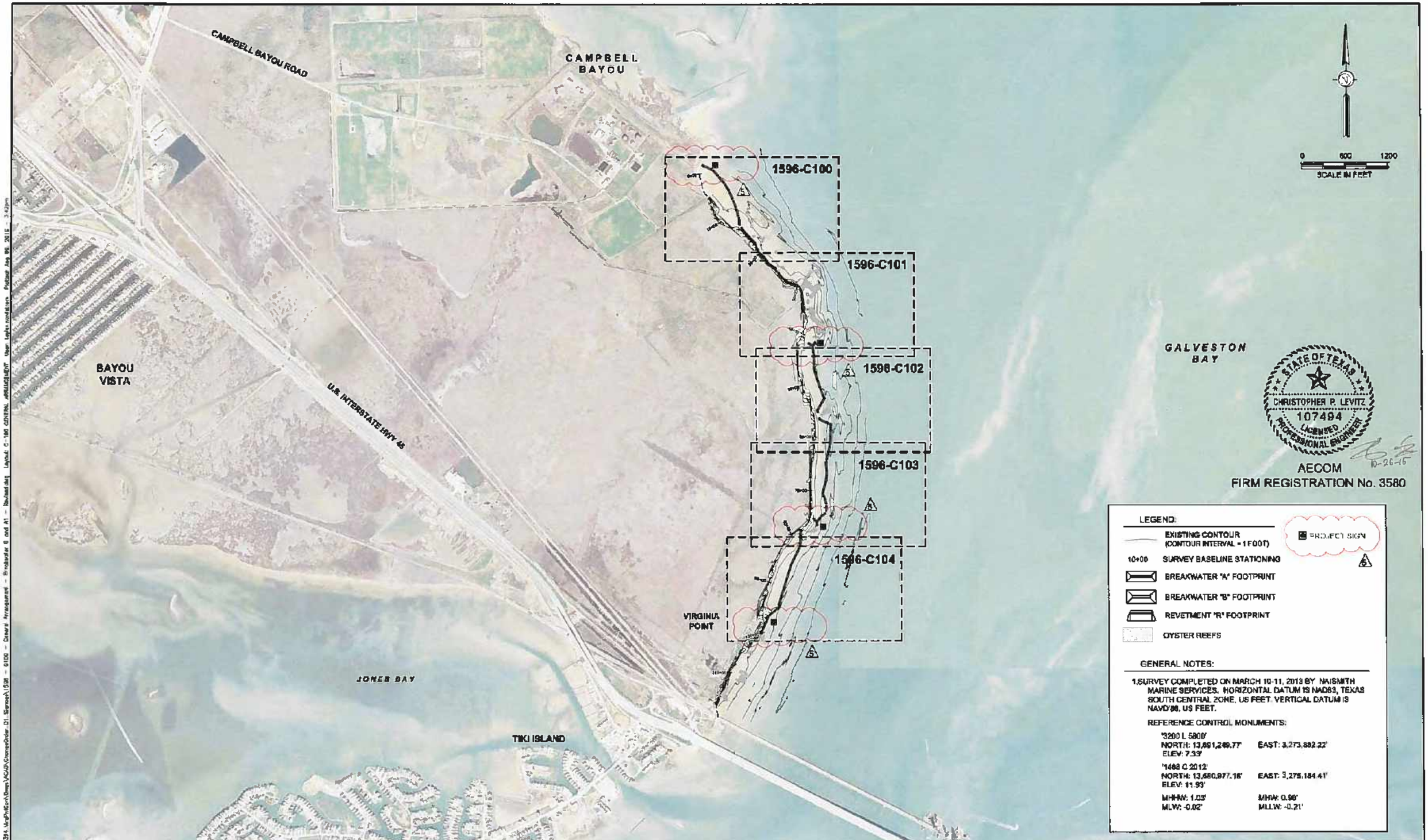
DRAWING NO.	DRAWING INDEX
1596-T100	TITLE SHEET
1596-G100	GENERAL ARRANGEMENT
1596-G101	CONSTRUCTION ACCESS & HAUL ROUTES
1596-G102	BREAKWATER COORDINATES - STA. 0+00 TO 20+73
1596-G103	BREAKWATER COORDINATES - STA. 20+73 TO 43+60
1596-G104	BREAKWATER COORDINATES - STA. 43+60 TO 61+93
1596-G105	BREAKWATER COORDINATES - STA. 61+93 TO 81+91
1596-G106	BREAKWATER COORDINATES - STA. 81+91 TO 102+00
1596-C100	SITE PLAN - STA. 0+00 TO STA. 20+73
1596-C101	SITE PLAN - STA. 20+73 TO STA. 43+60
1596-C102	SITE PLAN - STA. 43+60 TO STA. 61+93
1596-C103	SITE PLAN - STA. 61+93 TO STA. 81+91
1596-C104	SITE PLAN - STA. 81+91 TO STA. 102+00
1596-C105	BREAKWATER "A" DETAILS
1596-C106	BREAKWATER "B" DETAILS 4
1596-C107	REVETMENT "B" AND SIGNAGE DETAILS

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

AECOM
16219 KATY FREEWAY, SUITE 100
HOUSTON, TEXAS 77094
PHONE: (281) 646-2400
FAX: (281) 646-2401

PROJECT No. 60433394
GLO DWG. No: 1596 - T100
SHEET No. 1 OF 15 SHEETS



REV	DESCRIPTION	CHECKED BY	DATE
5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
4	RE-ISSUE FOR BID	CL	10/26/15
3	ISSUE FOR REVIEW	CL	9/29/15
2	ISSUE FOR CONSTRUCTION	EL	8/4/14
1	95 % DESIGN	EL	7/1/14
0	70 % DESIGN	EL	6/13/13

DRAWING SCALE	1" = 1200'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	8/4/14
DRAWN BY:	NAB	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

GENERAL ARRANGEMENT

JOB NO. 60433394
REVISION 5
DRAWING NO. 1596-G100

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- 10+00 SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- PROJECT SIGN

GENERAL NOTES:

1. CONSTRUCTION AND SITE ACCESS SHALL BE BY WATER. LAND-BASED ACCESS TO BE COORDINATED AS NEEDED WITH SITE OWNER.
2. CONTRACTOR IS RESPONSIBLE FOR RESTORING CONSTRUCTION ENTRANCE AND HAUL ROUTES TO ORIGINAL CONDITION OR BETTER AFTER THE COMPLETION OF THE PROJECT.
3. ACCESS IS RESTRICTED AT THE SOUTHERNMOST ENTRANCE DUE TO RAILROAD OVERPASS AND TIDAL FLOODING.
4. ACCESS IS RESTRICTED AT THE NORTHERNMOST ENTRANCE DUE TO EXISTING SENSITIVE MARSH AREA.
5. UNMAINTAINED CHANNEL AT THE NORTHERNMOST ENTRANCE MAY BE USED TO PROVIDE NEARSHORE ACCESS TO THE SITE. CONTRACTOR TO PROVIDE MATTING AS NECESSARY.
6. CONTOURS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR TO VERIFY ALL BATHYMETRY TO SUPPORT SITE ACCESS BY SHALLOW DRAFT BARGES.

REFERENCES	REV	DESCRIPTION	ORIGINATED BY	DATE
	5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
	4	RE-ISSUE FOR BID	CL	10/26/15
	3	ISSUE FOR REVIEW	CL	9/25/15
	2	ISSUE FOR CONSTRUCTION	EL	6/8/14
	1	95 % DESIGN	EL	7/7/14
	0	70 % DESIGN	EL	6/15/13

REV	DESCRIPTION	CHECKED BY	DATE
5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
4	RE-ISSUE FOR BID	CL	10/26/15
3	ISSUE FOR REVIEW	CL	9/25/15
2	ISSUE FOR CONSTRUCTION	EL	6/8/14
1	95 % DESIGN	EL	7/7/14
0	70 % DESIGN	EL	6/15/13

DRAWING SCALE	1" = 1200'
DESIGNED BY:	TH 6/4/14
DRAWN BY:	NAB 6/4/14
CHECKED BY:	CL 10/26/15
APPROVED BY:	CL 10/26/15

AECOM

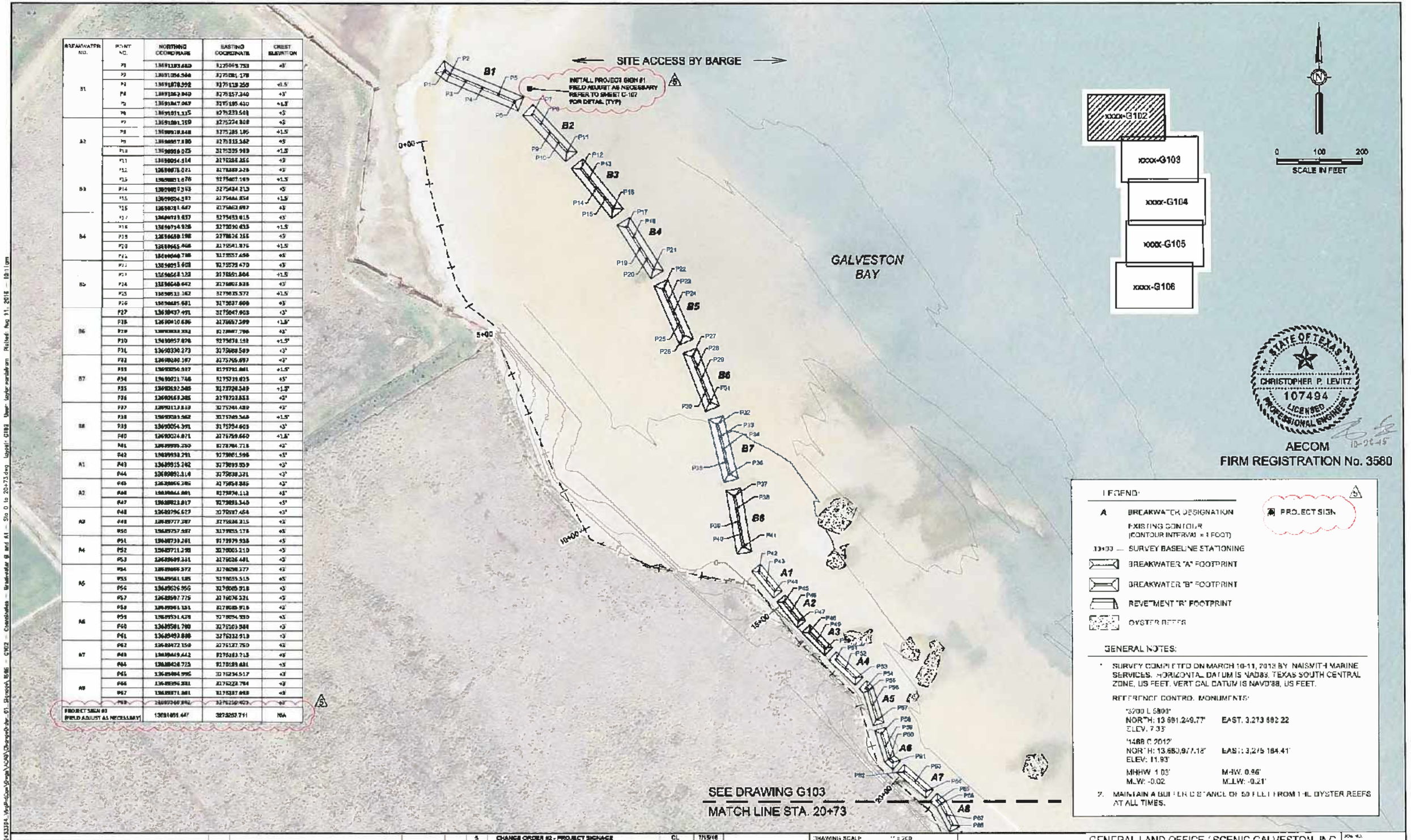
GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

CONSTRUCTION ACCESS & HAUL ROUTES

JOB NO. 60453394
REVISION 5
DRAWING NO. 1596-G101

File: O:\Projects\WIFA_60453394_VirginiaPoint\Drawings\Plan Sheets\Base_01_Spaces\1596 - G101 - Construction Access and Haul Routes.dwg Layout: G-101 CONST ACCESS AND HAUL ROUTES User: taylor.wendt Plotted: Aug 06, 2015 - 2:44pm

BREAKWATER NO.	POINT NO.	NORTHING COORDINATE	EASTING COORDINATE	CREST ELEVATION
B1	P1	13691193.880	3275061.753	+8'
	P2	13691054.566	3275081.178	
	P3	13691078.992	3275139.258	+6.5'
	P4	13691062.940	3275157.340	+3'
	P5	13691047.067	3275195.430	+4.5'
	P6	13691031.115	3275233.501	+3'
B2	P7	13691001.359	3275274.808	+3'
	P8	13690918.848	3275285.196	+4.5'
	P9	13690897.886	3275315.562	+3'
	P10	13690880.075	3275335.989	+4.5'
	P11	13690854.414	3275386.356	+3'
	P12	13690875.021	3275469.226	+3'
B3	P13	13690851.676	3275497.169	+4.5'
	P14	13690827.963	3275434.213	+3'
	P15	13690804.583	3275444.854	+4.5'
	P16	13690781.667	3275453.697	+3'
B4	P17	13690713.837	3275493.615	+3'
	P18	13690734.926	3275510.635	+4.5'
	P19	13690659.198	3275526.256	+3'
	P20	13690665.468	3275541.876	+4.5'
	P21	13690640.788	3275557.496	+3'
B5	P22	13690615.608	3275573.470	+3'
	P23	13690568.133	3275591.864	+4.5'
	P24	13690548.642	3275607.838	+3'
	P25	13690533.162	3275625.572	+4.5'
	P26	13690485.681	3275637.606	+3'
B6	P27	13690437.491	3275647.603	+3'
	P28	13690410.686	3275657.599	+4.5'
	P29	13690388.382	3275667.796	+3'
	P30	13690357.076	3275678.192	+4.5'
	P31	13690330.273	3275688.589	+3'
B7	P32	13690280.187	3275705.697	+2'
	P33	13690256.987	3275721.681	+4.5'
	P34	13690221.746	3275739.625	+3'
	P35	13690192.586	3275750.549	+4.5'
	P36	13690169.385	3275763.553	+2'
B8	P37	13690113.839	3275744.439	+2'
	P38	13690089.962	3275749.568	+4.5'
	P39	13690054.391	3275754.603	+3'
	P40	13690024.971	3275759.660	+4.5'
	P41	13689995.230	3275764.716	+2'
A1	P42	13689958.291	3275801.596	+3'
	P43	13689915.102	3275899.559	+3'
	P44	13689892.814	3275838.321	+3'
A2	P45	13689856.385	3275858.885	+2'
	P46	13689844.881	3275874.113	+3'
	P47	13689823.017	3275891.345	+3'
A3	P48	13689796.627	3275907.464	+3'
	P49	13689777.287	3275926.315	+2'
	P50	13689757.587	3275955.176	+3'
A4	P51	13689739.261	3275979.938	+3'
	P52	13689711.298	3276005.210	+3'
	P53	13689689.331	3276026.481	+2'
A5	P54	13689668.372	3276058.377	+2'
	P55	13689661.185	3276055.515	+3'
	P56	13689626.956	3276065.918	+3'
	P57	13689597.725	3276076.321	+2'
A6	P58	13689561.131	3276088.918	+2'
	P59	13689531.479	3276094.930	+3'
	P60	13689501.780	3276103.584	+3'
	P61	13689493.888	3276332.913	+3'
A7	P62	13689472.150	3276137.750	+2'
	P63	13689449.442	3276383.715	+3'
	P64	13689428.715	3276189.681	+3'
A8	P65	13689404.995	3276234.517	+3'
	P66	13689396.281	3276222.784	+2'
	P67	13689371.881	3276287.668	+3'
	P68	13689348.892	3276250.403	+2'
PROJECT SIGN #3 (FIELD ADJUST AS NECESSARY)		13691491.447	3275257.791	N/A



STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2015 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERT CAL DATUM IS NAVD'88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   "5200 L 5800"
   NORTH: 13,691,249.77' EAST: 3,273,882.22
   ELEV: 7.33'

   "1488 C 2012"
   NORTH: 13,680,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02 MLLW: -0.21'

2. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE
	5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
	4	RE-ISSUE FOR BID	CL	10/26/15
	3	ISSUE FOR REVIEW	CL	9/25/15
	2	ISSUE FOR CONSTRUCTION	EL	8/4/14
	1	95 % DESIGN	EL	7/1/14
	0	70 % DESIGN	EL	6/13/13

DRAWING SCALE	1" = 200'	
REFERENCE NAMES		DATE
DESIGNED BY:	CN	8/4/14
DRAWN BY:	NAB	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER COORDINATES
STA. 0+00 TO STA. 20+73

JOB NO. 60433384
REVISION 5
1596-G102

File: G:\Projects\WR\60433384_VirginiaPoint\Design\ACAD\Drawings\Sta. 0 to 20+73.dwg Layout: G102 User: taylor.wardaforum Plotted: Aug 11, 2016 - 10:11pm

BREAKWATER NO.	POINT NO.	NORTHING COORDINATE		CREST ELEVATION
A8	P66	13688404.096	3276214.517	+3'
	P68	13688386.841	3276223.784	+3'
	P67	13688371.841	3276237.099	+3'
	P68	13688348.842	3276250.493	+3'
A9	P69	13688317.706	3276266.898	+3'
	P70	13688299.089	3276281.159	+3'
	P71	13688286.987	3276311.680	+3'
A10	P72	13688260.084	3276339.279	+3'
	P73	13688230.616	3276370.222	+3'
	P74	13688210.332	3276401.165	+3'
A11	P75	13688192.384	3276428.844	+3'
	P76	13688187.162	3276438.764	+3'
	P77	13688181.960	3276444.743	+3'
A12	P78	13688182.068	3276493.002	+3'
	P79	13688083.544	3276497.196	+3'
	P80	13688068.048	3276501.445	+3'
A13	P81	13688058.388	3276518.677	+3'
	P82	13688034.008	3276539.236	+3'
	P83	13688013.871	3276552.799	+3'
A14	P84	13688008.158	3276560.491	+3'
	P85	13687976.177	3276601.252	+3'
	P86	13687963.168	3276622.013	+3'
A15	P87	13687942.547	3276648.764	+3'
	P88	13687927.196	3276667.584	+3'
	P89	13687912.043	3276686.142	+3'
	P90	13687899.343	3276697.483	+3'
A16	P91	13687901.736	3276729.592	+3'
	P92	13687885.581	3276765.038	+3'
	P93	13687868.384	3276781.880	+3'
A17	P94	13687861.708	3276813.769	+3'
	P95	13687879.422	3276827.696	+3'
	P96	13687875.038	3276842.067	+3'
R1	P97	13687731.143	3276918.417	NG
	P98	13687680.788	3276921.883	NG
	P99	13687630.417	3276924.369	NG
	P100	13687580.055	3276926.845	NG
	P101	13687529.692	3276929.322	NG
	P102	13687479.336	3276931.798	NG
	P103	13687428.967	3276934.275	NG
	P104	13687378.605	3276936.751	NG
B9	P105	13687787.050	3277050.912	+3'
	P106	13687801.848	3277175.859	+5'
	P107	13687781.066	3277085.895	+1.5'
	P108	13687788.384	3277148.465	+1.5'
	P109	13687785.142	3277120.879	+3'
B10	P110	13687785.570	3277124.633	+1.5'
	P111	13687676.984	3277126.275	+3'
	P112	13687646.389	3277131.918	+1.5'
	P113	13687618.855	3277135.695	+3'
	P114	13687566.932	3277144.149	+3'
	P115	13687538.579	3277144.740	+1.5'
	P116	13687516.381	3277145.328	+3'
	P117	13687482.185	3277145.917	+1.5'
	P118	13687453.986	3277148.595	+3'
PROJECT SIGN #2 (FIELD ADJUST AS NECESSARY)		13687902.804	3277218.190	N/A

SEE DRAWING G102
MATCH LINE STA. 20+73

SITE ACCESS BY BARGE

BASE BID

OPTIONAL ADDITIVE I

LAND-BASED ACCESS MAY BE COORDINATED AS NEEDED WITH THE SITE OWNER

OPTIONAL ADDITIVE I

BASE BID

SEE DRAWING G104
MATCH LINE STA. 43+60

GALVESTON BAY

P106 INSTALL PROJECT SIGN #2 FIELD ADJUST AS NECESSARY

xxxx-G102
xxxx-G103
xxxx-G104
xxxx-G105
xxxx G106

0 100 200
SCALE IN FEET

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- 5 — PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD'88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   '3200 L 5600'
   NORTH: 13,691,249.77' EAST: 3,273,882.22'
   ELEV: 7.33'

   '1498 C 2012'
   NORTH: 13,690,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.98'
   MLW: -0.02' MLLW: -0.21'

2. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE
	5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	10/26/15
	4	RE-ISSUE FOR BID	CL	10/26/15
	3	ISSUE FOR REVIEW	CL	8/25/15
	2	ISSUE FOR CONSTRUCTION	EL	8/4/14
	1	95 % DESIGN	EL	7/1/14
	0	75 % DESIGN	EL	5/13/14

DRAWING SCALE	1" = 200	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	8/4/14
DRAWN BY:	NAS	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER COORDINATES
STA. 20+73 TO STA. 43+60

JOB NO. 60403394
REVISION 5
DRAWING NO. 1596-G103

File: G:\Projects\VPWP\60403394_LandDesign\Drawings\ACAD\CreateOrder_01_Sheets\1596 - G103 - CreateOrder - Breakwater B and A1 - Sta 20+73 to 43+60.dwg Layout: G103 User: tgalvan Plotted: Aug 11, 2015 - 10:16am

BREAKWATER NO	POINT NO	NORTHING COORDINATE	EASTING COORDINATE	CREST ELEVATION
B20	P170	13685809.839	3277444.239	+3'
B21	P171	13685859.775	3277454.879	+3'
	P172	13685835.734	3277429.115	+1.5'
	P173	13685813.695	3277423.256	+3'
	P174	13685788.651	3277417.897	+1.5'
	P175	13685767.610	3277411.889	+3'
B22	P176	13685729.277	3277403.908	+3'
	P177	13685697.684	3277394.299	+1.5'
	P178	13685674.388	3277388.852	+3'
	P179	13685661.321	3277382.773	+1.5'
	P180	13685626.280	3277377.814	+3'
B23	P181	13685576.389	3277368.579	+3'
	P182	13685549.182	3277370.137	+1.5'
	P183	13685521.563	3277371.711	+3'
	P184	13685494.115	3277373.284	+1.5'
	P185	13685466.578	3277374.857	+3'
B24	P186	13685438.368	3277376.789	+3'
	P187	13685398.249	3277376.345	+1.5'
	P188	13685378.113	3277374.851	+3'
	P189	13685353.877	3277374.617	+1.5'
	P190	13685331.949	3277374.293	+3'
B25	P191	13685283.864	3277370.190	+3'
	P192	13685262.915	3277365.737	+1.5'
	P193	13685241.767	3277361.554	+3'
	P194	13685220.719	3277356.811	+1.5'
	P195	13685198.570	3277352.499	+3'
B26	P196	13685185.918	3277342.368	+3'
	P197	13685182.226	3277336.732	+1.5'
	P198	13685168.137	3277331.178	+3'
	P199	13685666.046	3277326.620	+1.5'
	P200	13685062.069	3277320.084	+3'
B27	P201	13685019.204	3277306.638	+3'
	P202	13685062.358	3277305.482	+1.5'
	P203	13684965.509	3277301.428	+3'
	P204	13684949.760	3277309.205	+1.5'
	P205	13684942.062	3277316.982	
B28	P206	13684935.323	3277324.756	+3'
	P207	13684890.829	3277342.544	+3'
	P208	13684869.945	3277347.889	+1.5'
	P209	13684849.061	3277353.235	+3'
	P210	13684829.177	3277358.580	+1.5'
	P211	13684807.293	3277364.025	+3'
B29	P212	13684756.606	3277369.396	+3'
	P213	13684734.033	3277367.980	+1.5'
	P214	13684712.057	3277365.234	+3'
	P215	13684690.101	3277360.188	+1.5'
	P216	13684668.139	3277361.142	+3'
B30	P217	13684615.912	3277339.085	+3'
	P218	13684696.242	3277323.168	+1.5'
	P219	13684693.773	3277307.230	+3'
	P220	13684582.203	3277291.293	+1.5'
	P221	13684570.633	3277275.376	+3'
B31	P222	13684520.751	3277123.264	+3'
	P223	13684530.446	3277244.687	+3'
	P224	13684493.428	3277157.258	+1.5'
	P225	13684495.216	3277218.079	+1.5'
	P226	13684465.685	3277191.924	+3'
	P227	13684438.299	3277183.468	+1.5'
	P228	13684407.646	3277166.097	+3'
B32	P229	13684295.697	3276888.987	+3'
	P230	13684285.629	3276867.301	
	P231	13684272.561	3276860.329	+1.5'
	P232	13684251.702	3276857.334	+3'
	P233	13684231.843	3276857.397	+1.5'
	P234	13684210.984	3276857.376	+3'
B33	P235	13684164.786	3276857.362	+3'
	P236	13684141.529	3276856.453	+1.5'
	P237	13684117.291	3276856.824	+3'
	P238	13684093.554	3276854.765	+1.5'
	P239	13684069.817	3276853.945	+3'
B34	P240	13684021.036	3276872.918	+3'
	P241	13683983.045	3276880.901	+1.5'
	P242	13683965.008	3276854.255	+3'
PROJECT SIGN #3 (FIELD ADJUST AS NECESSARY)		13684389.662	3277239.486	N/A

SEE DRAWING G104
MATCH LINE STA. 61+93

SEE DRAWING G106
MATCH LINE STA. 81+91

65+00
70+00
75+00
80+00

GALVESTON BAY

← SITE ACCESS BY BARGE →

INSTALL PROJECT SIGN #3 FIELD ADJUST AS NECESSARY

xxxx-G102
xxxx-G103
xxxx-G104
xxxx-G105
xxxx-G106

N

0 100 200
SCALE IN FEET

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   '3200 L 5800'
   NORTH: 13,691,249.77' EAST: 3,275,882.22'
   ELEV: 7.33'

   '1486 C 2012'
   NORTH: 13,680,977.16' EAST: 3,276,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02' MLLW: -0.21'

2. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REV	DESCRIPTION	CHECKED BY	DATE
5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/15
4	RE-ISSUE FOR BID	CL	10/26/15
3	ISSUE FOR REVIEW	CL	8/28/15
2	ISSUE FOR CONSTRUCTION	EL	6/6/14
1	95 % DESIGN	EL	7/1/14
0	70 % DESIGN	EL	9/13/13

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE

DRAWING SCALE 1" = 200'		
REFERENCE NAMES		DATE
DESIGNED BY:	TN	6/4/14
DRAWN BY:	NAB	6/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER COORDINATES
STA. 61+93 TO STA. 81+91

JOB NO. 60433594
REVISION 5
DRAWING NO. 1596-G105

File: G:\Projects\WETLAND\60433594_VirginiaPoint_Layout_Maps_Cad\Drawings\1596 - G105 - Coordinates - Breakwater B and A1 - Rev 81+91 to 84+91.dwg Layout: G105 User: kgalvan-mendoza PltMark: Aug 11, 2015 - 10:16am

BREAKWATER NO	POINT NO	NORTHING COORDINATE	EASTING COORDINATE	GRID ELEVATION
B33	P236	13684164.768	3276887.332	+3'
	P236	13684141.029	3276866.480	+1.5'
	P237	13684177.291	3276845.624	+3'
	P238	13684193.554	3276824.786	+1.5'
	P238	13684060.817	3276803.948	+3'
B34	P240	13684024.035	3276872.916	+3'
	P241	13683983.045	3276843.801	+1.5'
	P242	13683965.055	3276814.288	+3'
B35	P243	13683920.451	3276838.887	+3'
	P244	13683898.095	3276823.932	+1.5'
	P245	13683878.748	3276814.807	+3'
	P246	13683853.391	3276803.412	+1.5'
	P247	13683836.035	3276792.217	+3'
B36	P248	13683790.802	3276773.086	+3'
	P249	13683768.449	3276758.870	+1.5'
	P250	13683748.095	3276749.675	+3'
	P251	13683725.742	3276738.480	+1.5'
	P252	13683707.389	3276727.286	+3'
B37	P253	13683667.422	3276709.934	+3'
	P254	13683632.365	3276704.047	+1.5'
	P255	13683607.348	3276693.181	+3'
	P256	13683582.311	3276686.274	+1.5'
	P257	13683557.275	3276677.368	+3'
B38	P258	13683514.392	3276669.858	+3'
	P259	13683486.728	3276664.688	+1.5'
	P260	13683457.124	3276646.842	+3'
	P261	13683428.519	3276638.826	+1.5'
	P262	13683398.895	3276627.698	+3'
B39	P263	13683369.976	3276614.298	+3'
	P264	13683329.261	3276606.293	+1.5'
	P265	13683299.747	3276598.270	+3'
	P266	13683274.133	3276587.257	+1.5'
	P267	13683242.519	3276578.244	+3'
B40	P268	13683188.596	3276594.724	+3'
	P269	13683171.056	3276585.736	+1.5'
	P270	13683142.422	3276549.652	+3'
	P271	13683113.698	3276537.598	+1.5'
	P272	13683085.162	3276526.466	+3'
B41	P273	13683040.296	3276518.088	+3'
	P274	13682913.696	3276518.453	+1.5'
	P275	13682887.532	3276504.806	+3'
	P276	13682861.145	3276499.153	+1.5'
	P277	13682834.758	3276493.518	+3'
B42	P278	13682808.322	3276484.926	+3'
	P279	13682874.182	3276461.516	+1.5'
	P280	13682851.994	3276468.412	+3'
	P281	13682849.806	3276451.308	+1.5'
	P282	13682837.618	3276438.204	+3'
B43	P283	13682809.392	3276401.157	+3'
	P284	13682798.394	3276387.544	+1.5'
	P285	13682787.396	3276378.932	+3'
	P286	13682776.399	3276368.320	+1.5'
	P287	13682766.401	3276349.709	+3'
B44	P288	13682737.366	3276311.508	+3'
	P289	13682721.710	3276292.046	+1.5'
	P290	13682706.054	3276272.581	
	P291	13682690.398	3276253.123	+3'
	P292	13682672.668	3276233.665	+1.5'
	P293	13682655.338	3276214.209	+3'
PROJECT SIGN #6 (FIELD ADJUST AS NECESSARY)		13682644.326	3276201.310	N/A

SEE DRAWING G105
MATCH LINE STA. 81+91

B33 B34 B35 B36 B37 B38 B39 B40 B41 B42 B43 B44

85+00 90+00 95+00 100+00

GALVESTON BAY

VIRGINIA POINT

INSTALL PROJECT SIGN #6 FIELD ADJUST AS NECESSARY

SITE ACCESS BY BARGE

xxxx-G102
xxxx-G103
xxxx-G104
xxxx-G105
xxxx-G106

0 100 200
SCALE IN FEET

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- 5 — PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD'88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   '9200 L 8600'
   NORTH: 13,681,249.77' EAST: 3,273,862.22'
   ELEV: 7.33'

   '1488 C 2012'
   NORTH: 13,680,977.15' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02' MLLW: -0.21'

2. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REFERENCES	REV	DESCRIPTION	SHECKED BY	DATE
	5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	10/26/15
	4	RE-ISSUE FOR BID	CL	10/26/15
	3	ISSUE FOR REVIEW	CL	9/25/15
	2	ISSUE FOR CONSTRUCTION	EL	8/4/14
	1	95 % DESIGN	EL	7/1/14
	0	70 % DESIGN	EL	6/18/14

DRAWING SCALE 1" = 200'		
REFERENCE NAMES		DATE
DESIGNED BY:	TV	8/4/14
DRAWN BY:	NAS	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER COORDINATES
STA. 81+91 TO STA. 102+00

JOB NO. 60433384
REVISION 5
DRAWING NO. 1596-G106

File: G:\Projects\VPWPP\60433384_VirginiaPoint\Civil\CAD\Construction_01_Breakwater\1596 - G106 - Coordinates - Breakwater B and A1 - Sta 81+91 to 102+00.dwg
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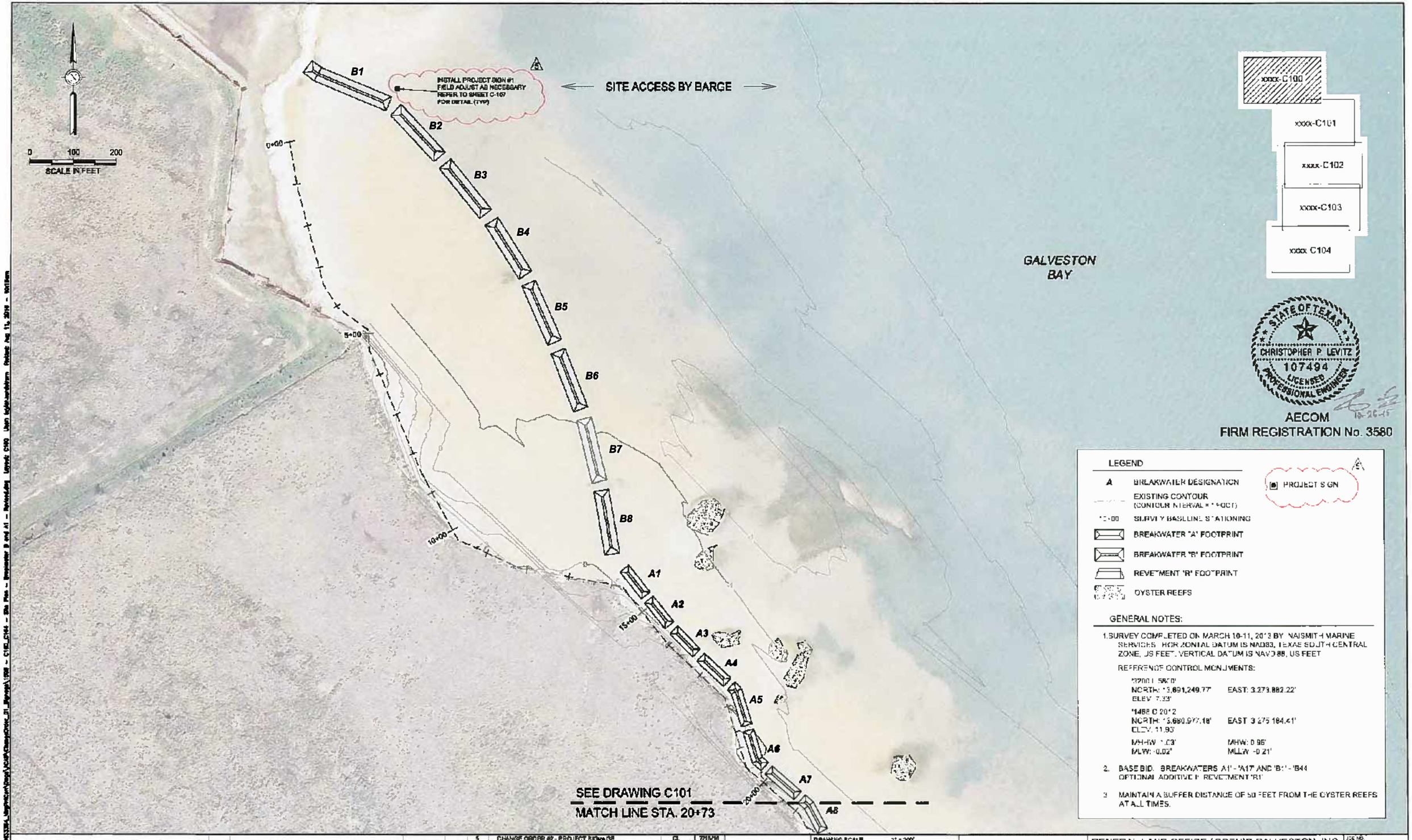


STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER

AECOM
FIRM REGISTRATION No. 3580

LEGEND

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 0+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD 88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   "2700 L 5807"
   NORTH: 13,691,249.77' EAST: 3,273,882.22'
   ELEV: 7.33'

   "1488 C 2012"
   NORTH: 13,680,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02' MLLW: -0.21'

2. BASE BID: BREAKWATERS A1' - "A17" AND "B1' - "B44
   OPTIONAL ADDITIVE F: REVETMENT "R1"

3. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE
	5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
	4	RE-ISSUE FOR BID	CL	10/26/15
	3	ISSUE FOR REVIEW	CL	6/25/15
	2	ISSUE FOR CONSTRUCTION	EL	6/9/14
	1	95 % DESIGN	EL	7/1/14
	0	70 % DESIGN	EL	5/13/13

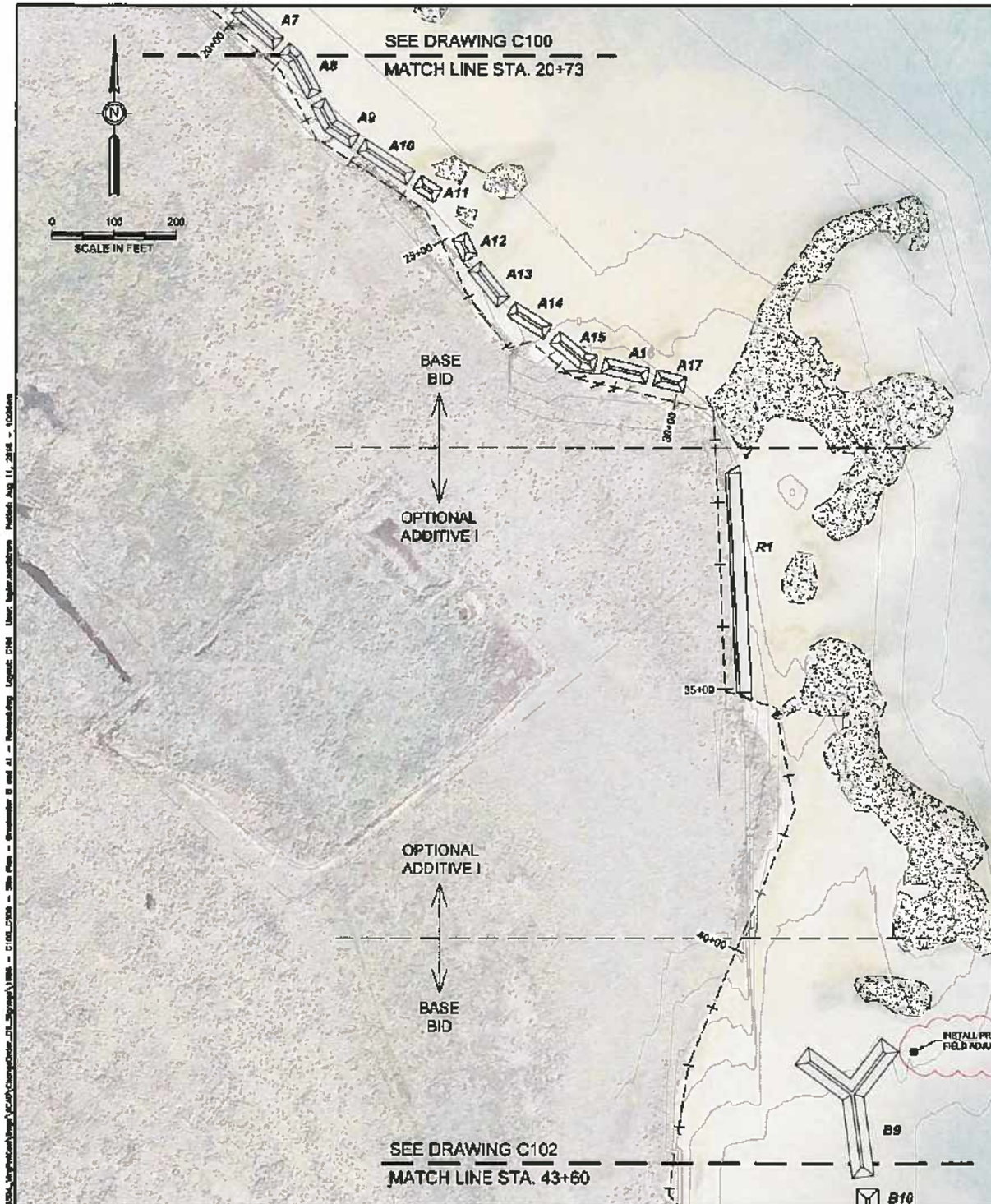
DRAWING SCALE	1" = 200'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	6/4/14
DRAWN BY:	NAB	6/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

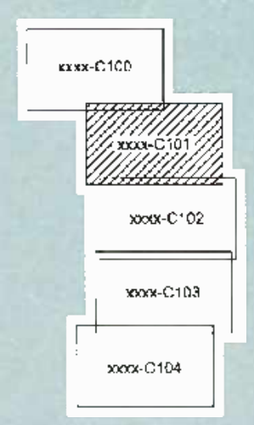
AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

SITE PLAN - STA. 0+00 TO STA. 20+73

JOB NO.	60433384
REVISION	5
DRAWING NO.	1596-C100





AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   '3200 L 5800'
   NORTH: 13,691,249.77' EAST: 3,273,882.22'
   ELEV: 7.33'

   '1488 C 2012'
   NORTH: 13,690,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02' MLLW: -0.21'

2. BASE BID: BREAKWATERS 'A1' - 'A17' AND 'B1' - 'B44'
   OPTIONAL ADDITIVE I: REVETMENT 'R1'
3. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REVISIONS								
					6	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
					4	RE-ISSUE FOR BID	CL	10/26/15
					3	ISSUE FOR REVIEW	CL	9/25/15
					2	ISSUE FOR CONSTRUCTION	EL	8/8/14
					1	95 % DESIGN	EL	7/1/14
					0	70 % DESIGN	EL	6/13/13

DRAWING SCALE	1" = 200'
REFERENCE NAMES	DATE
DESIGNED BY: TM	6/4/14
DRAWN BY: NAB	6/4/14
CHECKED BY: CL	10/26/15
APPROVED BY: CL	10/26/15
FILE:	

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

SITE PLAN - STA. 20+73 TO STA. 43+60

JOB NO. 60433394
REVISION 5
DRAWING NO. 1596-C101

SEE DRAWING C102
MATCH LINE STA. 61+93

0 100 200
SCALE IN FEET

65+00

70+00

75+00

80+00

B20
B21
B22
B23
B24
B25
B26
B27
B28
B29
B30
B31
B32
B33
B34

INSTALL PROJECT SIGN #5
FIELD ADJUST AS NECESSARY

GALVESTON
BAY

SITE ACCESS BY BARGE

SEE DRAWING C104
MATCH LINE STA. 81+91

xxxx C100
xxxx C101
xxxx-C102
xxxx-C103
xxxx-C104

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 30+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- 5 — PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD'88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   "3200 L 5800"
   NORTH: 13,691,249.77' EAST: 3,273,882.22'
   ELEV: 7.33'

   "1488 C 2012"
   NORTH: 13,680,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.86'
   MLW: -0.02' MLLW: -0.21'

2. BASE BID: BREAKWATERS 'A1' - 'A17' AND 'B1' - 'B44'
   OPTIONAL ADDITIVE I: REVETMENT 'R1'
3. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE

REV	DESCRIPTION	CHECKED BY	DATE
5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
4	RE-ISSUE FOR BID	CL	10/26/15
3	ISSUE FOR REVIEW	CL	9/25/15
2	ISSUE FOR CONSTRUCTION	EL	9/8/14
1	95 % DESIGN	EL	7/8/14
0	70 % DESIGN	EL	5/13/14

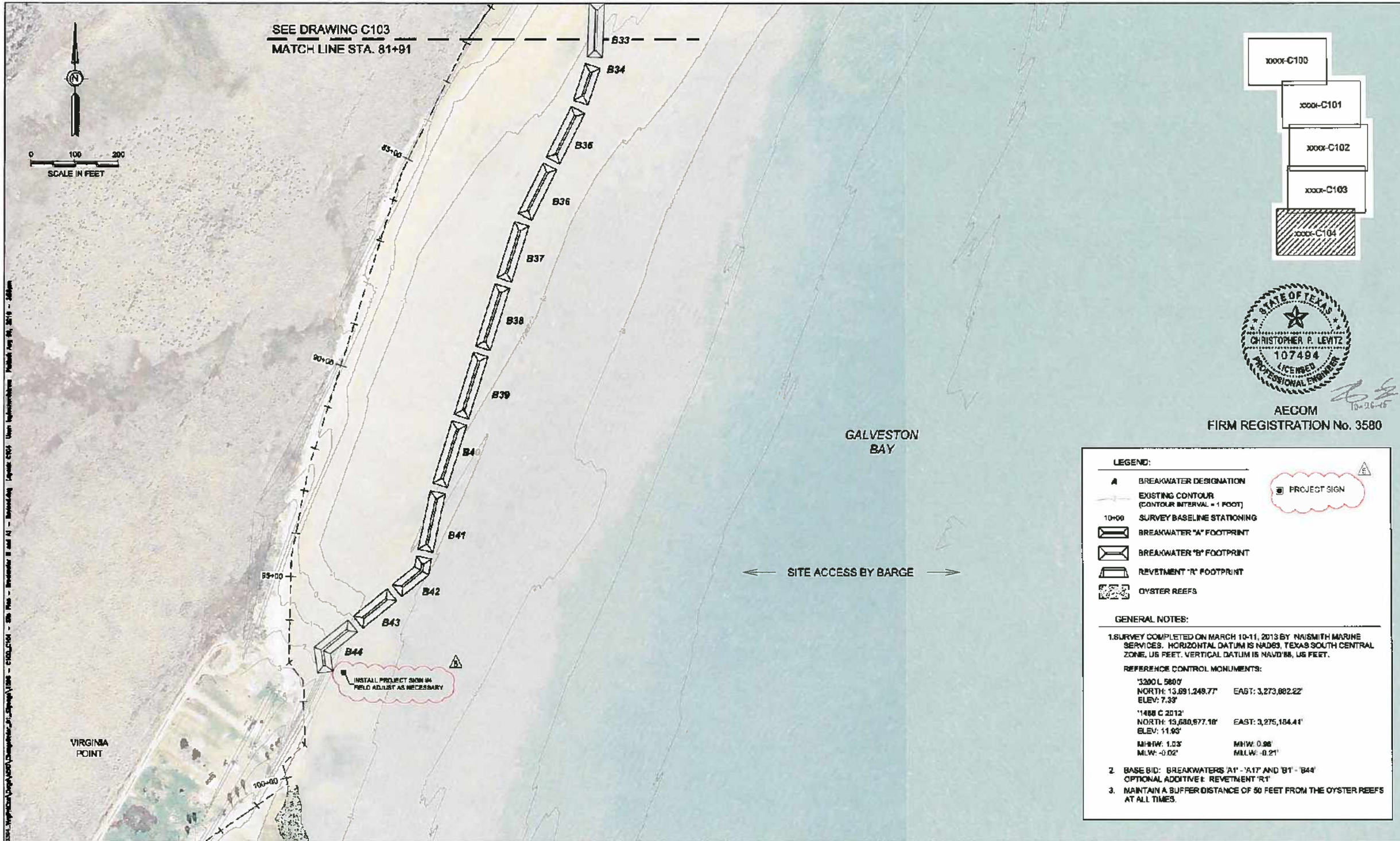
DRAWING SCALE	1" = 200'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	9/4/14
DRAWN BY:	NAS	9/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

SITE PLAN - STA. 61+93 TO STA. 81+91

JOB NO. 60433594
REVISION 5
DRAWING NO. 1596-C103



STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- REVETMENT "R" FOOTPRINT
- OYSTER REEFS
- 6 — PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD'88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   '3200 L 5800'
   NORTH: 13,691,249.77' EAST: 3,273,882.22'
   ELEV: 7.33'

   '1488 C 2012'
   NORTH: 13,680,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02' MLLW: -0.21'

2. BASE BID: BREAKWATERS 'A1' - 'A17' AND 'B1' - 'B44'
   OPTIONAL ADDITIVE I: REVETMENT 'R1'
3. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REV	DESCRIPTION	ORIGINATED BY	DATE
5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
4	RE-ISSUE FOR BID	CL	10/26/15
3	ISSUE FOR REVIEW	CL	9/25/15
2	ISSUE FOR CONSTRUCTION	EL	8/8/14
1	95 % DESIGN	EL	7/1/14
0	70 % DESIGN	EL	6/12/13

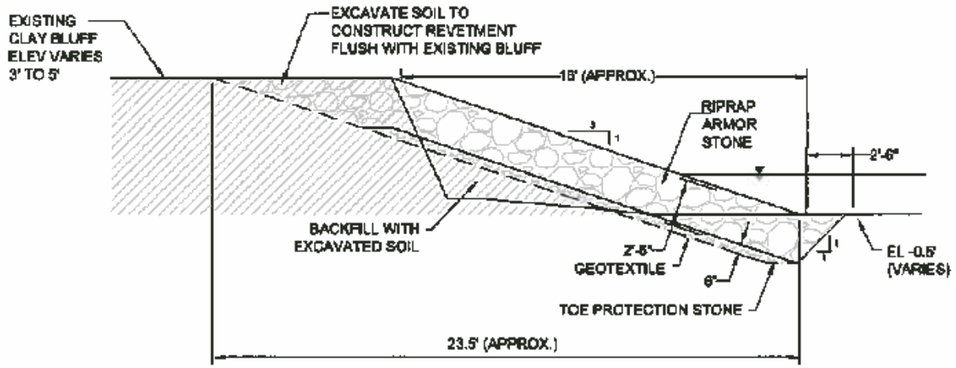
REFERENCES

REFERENCE NAMES	DATE
DESIGNED BY: TN	6/4/14
DRAWN BY: NAB	6/4/14
CHECKED BY: CL	10/26/15
APPROVED BY: CL	10/26/15

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

SITE PLAN - STA. 81+91 TO STA. 102+00

JOB NO. 60453354
REVISION 5
DRAWING NO. 1596-C104

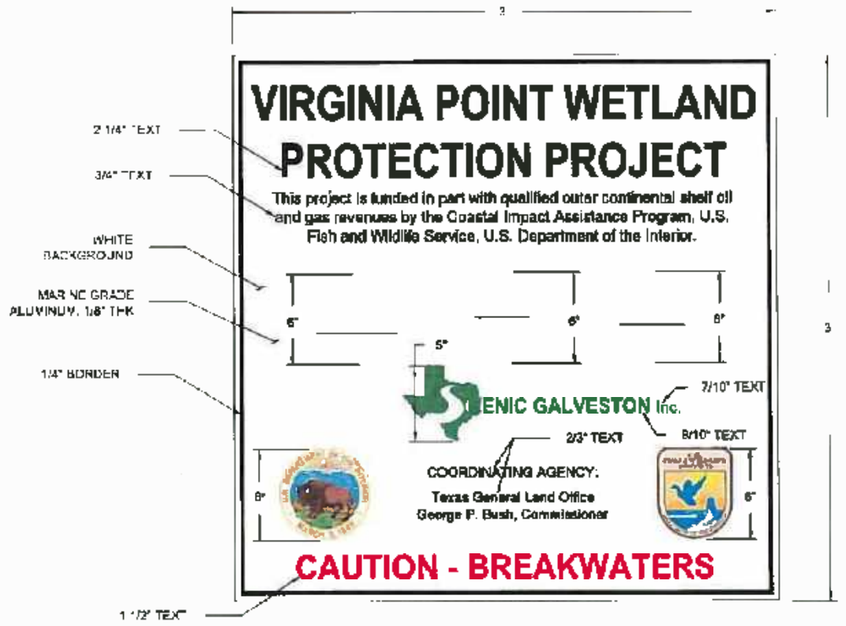


REVETMENT TYPICAL SECTION

N.T.S

GENERAL NOTES:

1. ALL ELEVATIONS ARE IN REFERENCE TO NAVD88 (FT).
2. THE NORTHERNMOST AND SOUTHERNMOST ENDS OF THE REVETMENT SHALL BE TRANSITIONED TO THE NATURAL TOE OF SLOPE AT APPROXIMATELY 3H:1V SIDE SLOPES.
3. TRANSITION LOCATIONS AS SHOWN ON PLANS ARE APPROXIMATE AND SHALL BE FIELD IDENTIFIED.
4. TRANSITION LOCATIONS ARE SUBJECT TO RELOCATION BY THE SITE OWNER AND/OR ENGINEER BASED ON SITE EROSION CONDITIONS AT THE TIME OF CONSTRUCTION.
5. THE AMOUNT OF EXCAVATED SOIL SHALL EQUAL THE AMOUNT OF BACKFILLED AND COMPACTED SOIL SUCH THAT NO IMPORTED SOIL FILL IS REQUIRED.
6. IT IS ANTICIPATED THAT EXCAVATED SOIL WILL BE OF ADEQUATE QUALITY TO PROVIDE BACKFILL FOR REVETMENT AS SHOWN. SOIL FILL MAY BE IMPORTED IN THE EVENT THAT BACKFILL MATERIAL DOES NOT MEET QUALITY REQUIREMENTS.



PROJECT SIGN DETAIL

N.T.S

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

REV	DESCRIPTION	DESIGNED BY	DATE
5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/15
4	REASSUE FOR BID	CL	10/26/15
3	ISSUE FOR REVIEW	CL	8/25/15
2	ISSUE FOR CONSTRUCTION	EL	6/8/15
1	95 % DESIGN	EL	7/7/14
0	70 % DESIGN	EL	6/13/13

REFERENCES	DESCRIPTION	CHECKED BY	DATE

DRAWING SCALE	AS NOTED	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	6/6/14
DRAWN BY:	NAB	6/6/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15
FILE:		

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

REVETMENT "R" AND PROJECT SIGNAGE DETAILS

JOB NO. 60439384
REVISION 5
DRAWING NO. 1596-C107

AECOM

Engineer's Supplemental Instructions

AECOM

ENGINEER'S SUPPLEMENTAL INSTRUCTIONS (ESI) # 1

Date:	08/16/16	Project Name:	Virginia Point Wetland Protection Project, Galveston County, Texas
To:	Apollo Environmental Strategies, Inc.	GLO Project No.:	CEPRA 1596
Attn:	Tim Elms and Tina Moore	GLO Contract No.:	16-233-000-9717
		AECOM Project No.:	60433394
From:	Chris Levitz, AECOM	AECOM File No.	
Subject:	**Side Slopes on Breakwaters B1 – B8**	Cc:	Joelynn Barclay, GLO

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Fee or Contract Time. Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Engineer and Joelynn Barclay with GLO.

Description:

The Contractor may use side slopes of 2.5 horizontal feet to 1 vertical foot (2.5H:1V) for the construction of Breakwaters B1 through B8. This is a steepening of the 3H:1V side slopes shown on the Contract Drawings. The centerline of the breakwater footprints and the crest elevations and locations as shown on the Contract Drawings will remain the same. No adjustment to project quantities will be needed; there will be adequate amounts of rip rap available to complete the Work.

Attachments:

ISSUED:

By: _____ 8-16-16
Engineer Date

Christopher Levitz
TX PE #107494

ACCEPTED:

By: _____ 8-17-16
Contractor Date

AECOM

ENGINEER'S SUPPLEMENTAL INSTRUCTIONS (ESI) # 2

Date:		Project Name:	Virginia Point Wetland Protection Project, Galveston County, Texas
To:	Apollo Environmental Strategies, Inc.	GLO Project No.:	CEPRA 1596
Attn:	Tim Elms and Tina Moore	GLO Contract No.:	16-233-000-9717
		AECOM Project No.:	60433394
From:	Chris Levitz, AECOM	AECOM File No.	
Subject:	**Breakwater Relocations**	Cc:	Joelynn Barclay, GLO

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Fee or Contract Time. Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Engineer and Joelynn Barclay with GLO.

Description:

The Contractor will revise the placement of the nearshore "A" breakwater footprints to meet the locations and elevations indicated on the revised Contract Drawings G100 – G103 and C100 – C101 (attached). The side slopes of the nearshore breakwaters shall be 2.5 horizontal feet to 1 vertical foot (2.5H:1V) and the crests have alternating low and high crests of +1.5' NAVD 88 and +3.0' NAVD 88 per the Breakwater "A" Details on the attached, revised Contract Drawing C105. The Contractor will also revise the placement of Breakwaters B7 and B8 to meet the locations and elevations indicated on the revised Contract Drawings. No adjustment to project quantities will be needed; there will be adequate amounts of geotextile, rip rap, and toe stone available to complete the Work.

Attachments: Revised Contract Drawings G100 – G103, C100 – C101, and C105

ISSUED:

By: _____ 8-18-16
Engineer Date
Christopher Levitz
TX PE #107494

ACCEPTED:

By: _____ 8-23-16
Contractor Date

REV	DESCRIPTION	CHECKED	DATE
4	75% DESIGN	CL	11/2013

REV	DESCRIPTION	CHECKED	DATE
6	ENGINEERS SUPPLEMENTAL INSTRUCTIONS #2	CL	[illegible]
5	CHANGE ORDER #2 - PROJECT DRAWINGS	CL	[illegible]
4	REISSUE FOR BID	CL	[illegible]
3	ISSUE FOR REVIEW	CL	[illegible]
2	ISSUE FOR CONSTRUCTION	CL	[illegible]
1	95% DESIGN	CL	[illegible]

DRAWING SCALE	1" = 1000'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	[illegible]
DRAWN BY:	NAB	[illegible]
CHECKED BY:	CL	[illegible]
APPROVED BY:	CL	[illegible]

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

GENERAL ARRANGEMENT

SHEET NO. 6

DRAWING NO. 1596-G100

REFERENCES	REV	DESCRIPTION	ENGINEER	DATE
	0	75% DESIGN	CL	8/11/15

REV	DESCRIPTION	ENGINEER	DATE
6	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #2	CL	8/11/15
5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	5/15/15
4	RELEASE FOR BID	CL	10/20/12
3	ISSUE FOR REVIEW	CL	9/25/15
2	ISSUE FOR CONSTRUCTION	CL	8/8/14
1	95% DESIGN	CL	7/1/14

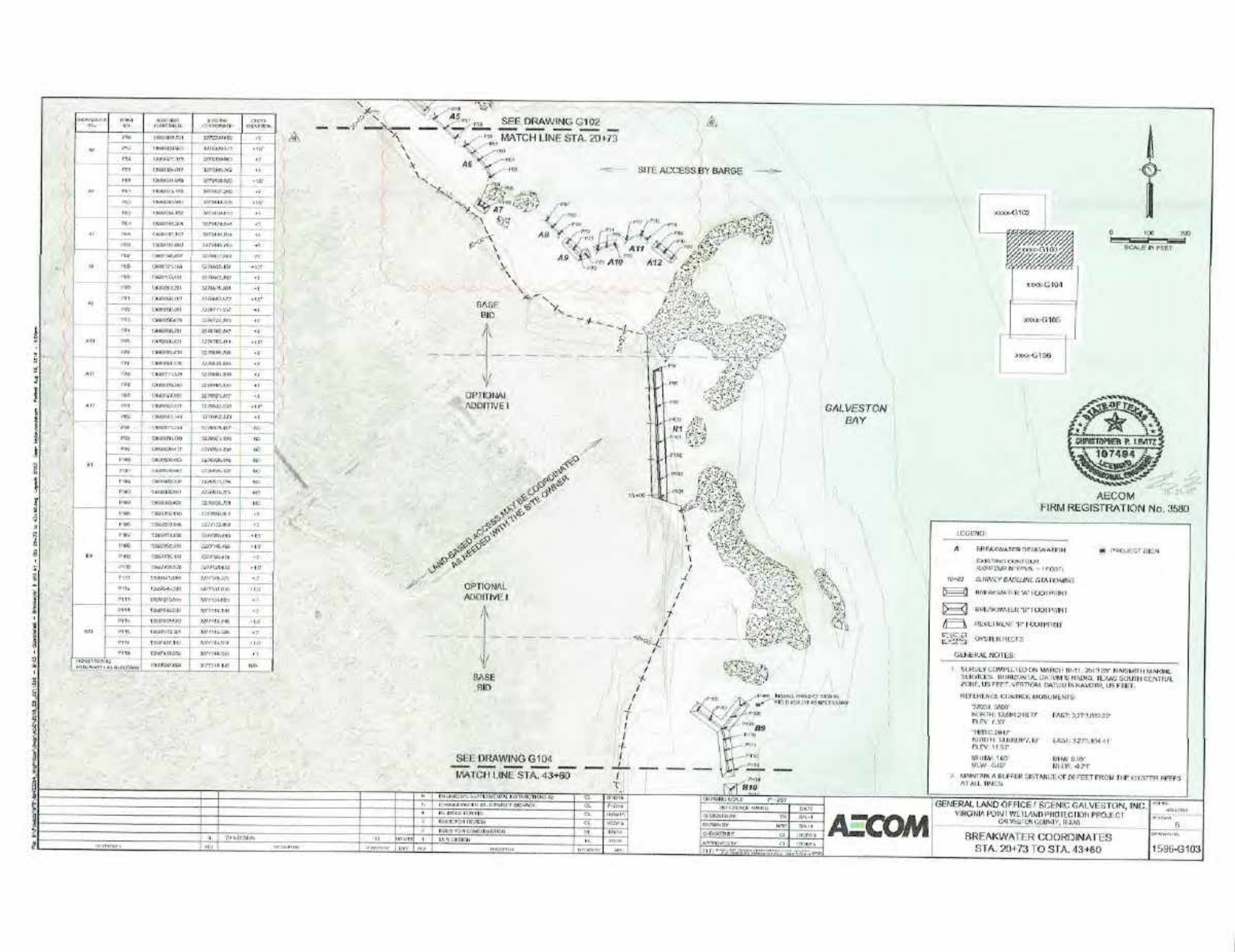
DRAWING SCALE: 1" = 1200'		
REFERENCE NAMES		DATE
DESIGNED BY:	TM	5/4/15
DRAWN BY:	BAB	5/4/15
CHECKED BY:	CL	10/20/12
APPROVED BY:	CL	10/20/12
FILE:		

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

CONSTRUCTION ACCESS & HAUL ROUTES

JOB NO. 60222000
REVISION 6
DRAWING NO. 1596-G101



						4	ENGINEER'S SUPPLEMENTAL INSTRUCTION #2	CL
						3	CONSTRUCTION ASSISTANCE SCOPE	CL
						2	RE-ISSUED FOR BID	CL
						1	ISSUED FOR BID	CL
						0	ISSUED FOR CONSTRUCTION	CL
		5	7/15/2015	CL	BRUNS	1	ESA COMMENTS	CL
		NO.						

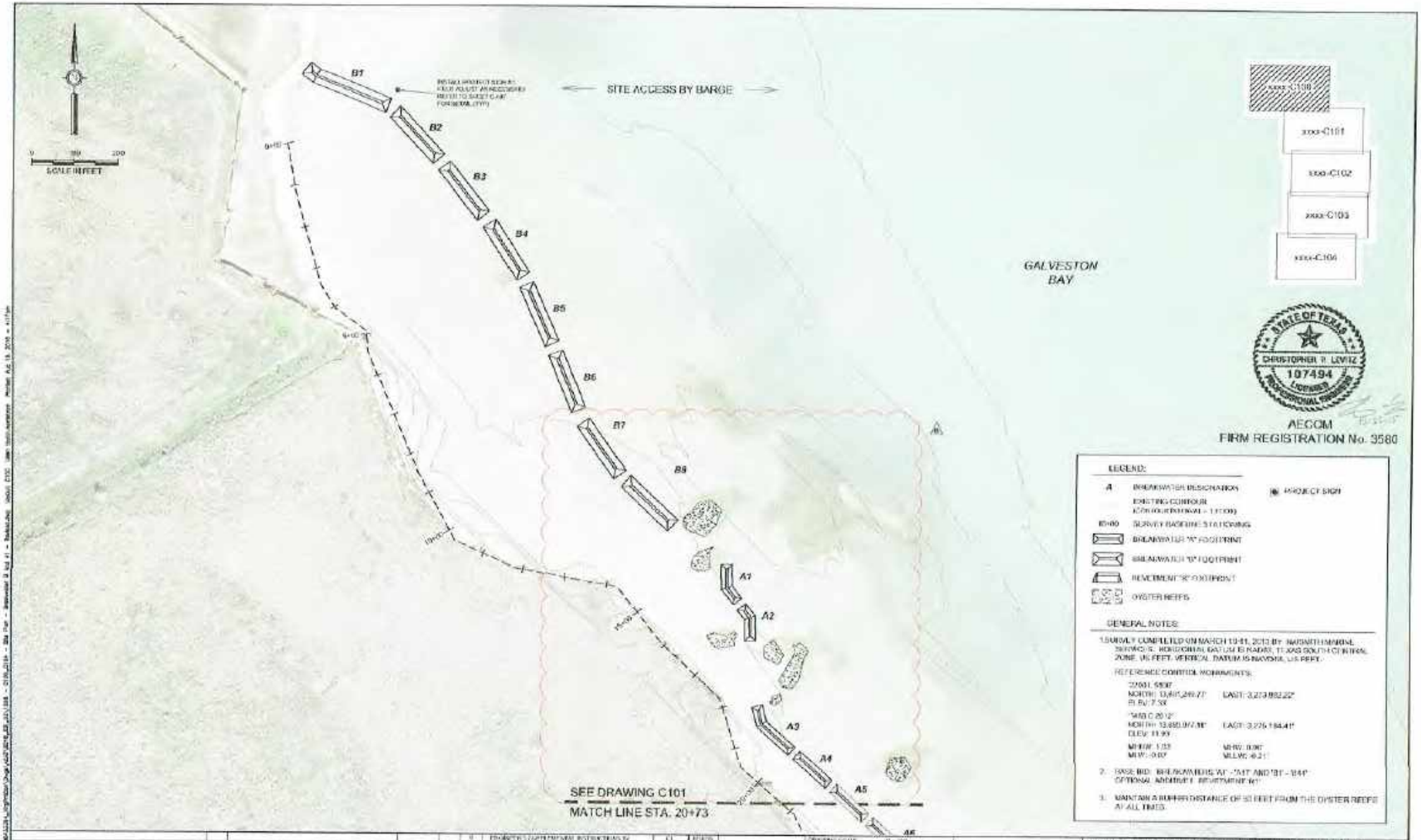
DESIGNED	CL
DRAWN	BRUNS
CHECKED	CL
APPROVED	CL
DATE	7/15/2015

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER COORDINATES
STA. 20+73 TO STA. 43+60

SHEET NO.	6
DRAWING NO.	1596-G103



					6	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS IV	CL	[illegible]
					5	COMMENTS ON 60 - PROJECT DESIGN	CL	[illegible]
					4	REVISIONS FOR BID	CL	[illegible]
					3	ISSUE FOR REVIEW	CL	[illegible]
					2	ISSUE FOR CONSTRUCTION	CL	[illegible]
	9	DIMENSION	CL	[illegible]	1	[illegible]	CL	[illegible]
REFERENCE	NO.	REQUESTED	DESIGNER	DATE	NO.	REQUESTED	DESIGNER	DATE

DRAWING SCALE	1" = 200'	
REFERENCE NAME		DATE
DESIGNED BY	TB	[illegible]
DRAWN BY	[illegible]	[illegible]
CHECKED BY	CL	[illegible]
APPROVED BY	CL	[illegible]
FILE		

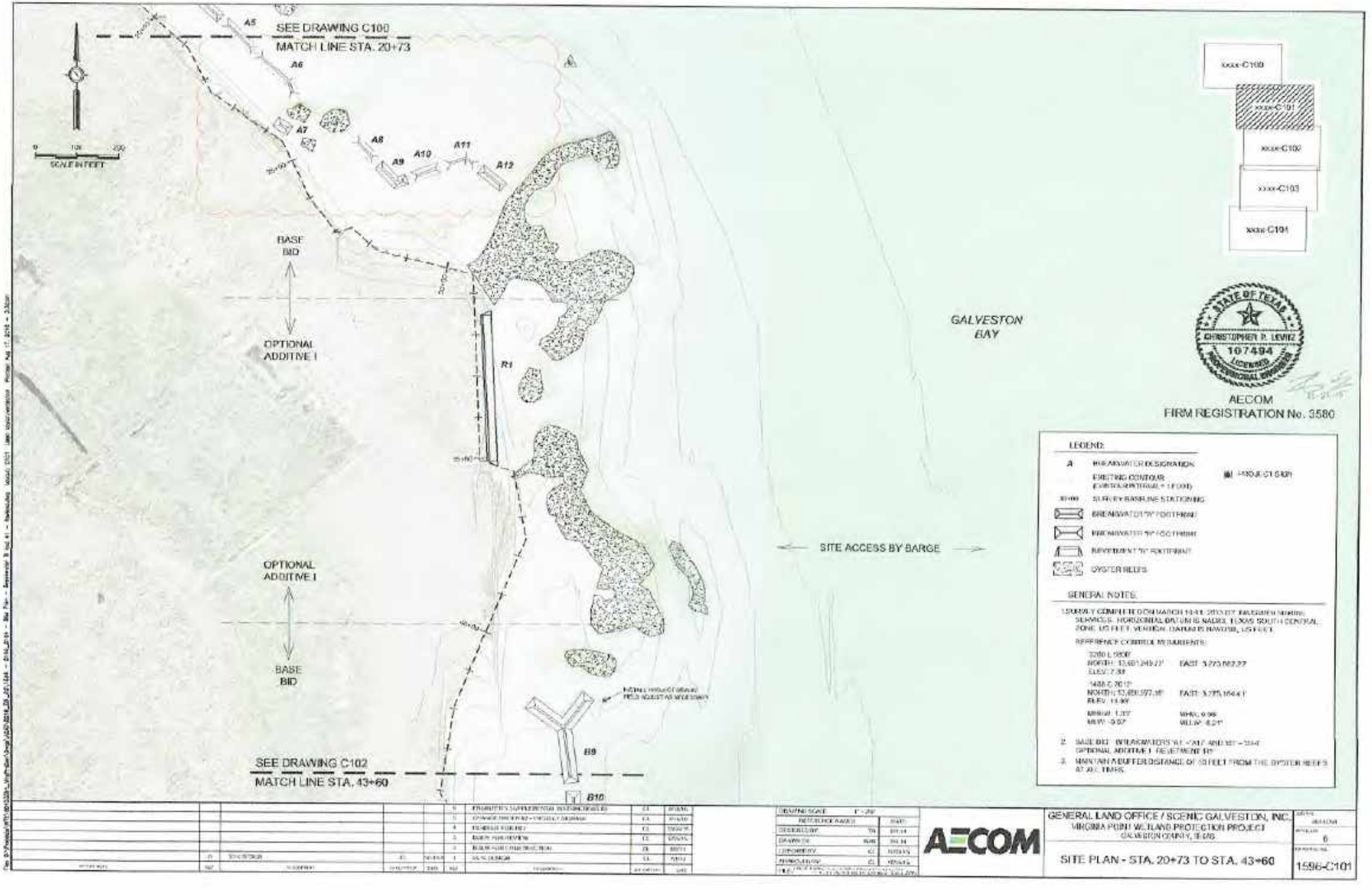
AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

SITE PLAN - STA. 0+00 TO STA. 20+73

6

1596-C100



AECOM
FIRM REGISTRATION No. 3580

LEGEND:

A BREAKWATER DESIGNATION

EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)

SURVEY BASELINE STATIONING

BREAKWATER "R" FOOTPRINT

BREAKWATER "B" FOOTPRINT

REVETMENT "R" FOOTPRINT

OYSTER REEFS

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 19-21, 2013 BY TAYLOR NORTH SURVEYS. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD88, US FEET.

REFERENCE CONTROL MONUMENTS:

3200 L 9508
NORTH: 13,661,249.27' EAST: 3,775,662.22'
ELEV: 7.38'

1488 C 2012
NORTH: 13,658,997.98' EAST: 3,775,164.41'
ELEV: 13.99'

MHHW: 1.33' MHW: 0.96'
MLW: -9.50' MLLW: -9.21'

2. BASE BID: BREAKWATERS "A" (-)417' AND "B" (-)334'
OPTIONAL ADDITIVE I: REVETMENT "R"

3. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

					5	PERMITTEE'S SUPPLEMENTAL INFORMATION (2)	CS
					4	CHANGE PER RFI 82 - PROJECT DATUM	CS
					3	ISSUED FOR BID	CS
					2	ISSUED FOR REVIEW	CS
					1	ISSUED FOR CONSTRUCTION	CS
D	30% DESIGN	CS	10/18/13		0	30% DESIGN	CS
NO.	DESCRIPTION	BY	DATE	APP'D	NO.	DESCRIPTION	BY

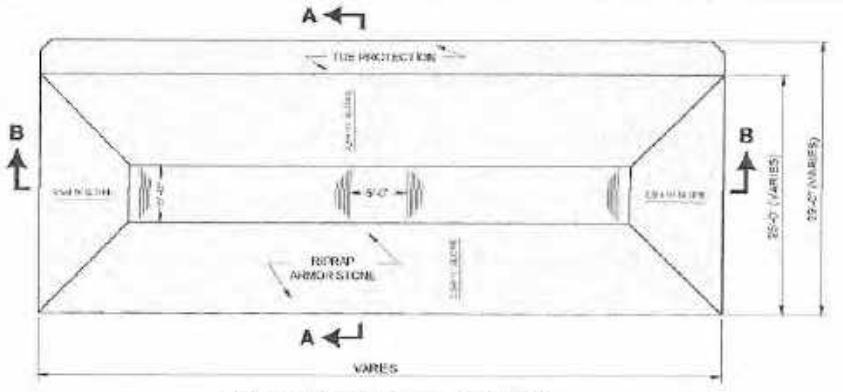
DRAWING SCALE	1" = 200'
REFERENCE AXIS	PART
DESIGNED BY	TH
DRAWN BY	MJB
CHECKED BY	CS
APPROVED BY	CS
FILE	

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

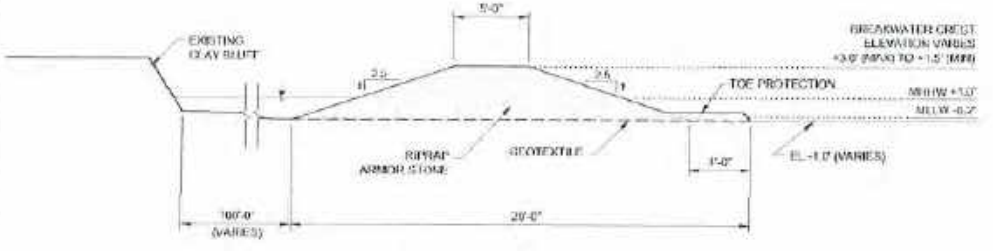
SITE PLAN - STA. 20+73 TO STA. 43+60

CONTRACT NO.	13-xxxxxx
APPLICATION NO.	6
DRAWING NO.	1596-C101



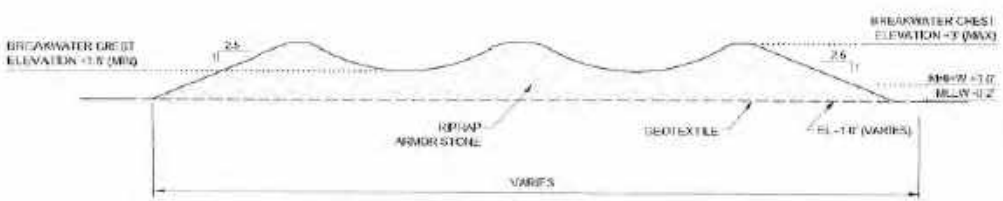
TYPICAL BREAKWATER A - PLAN VIEW

N.T.S.



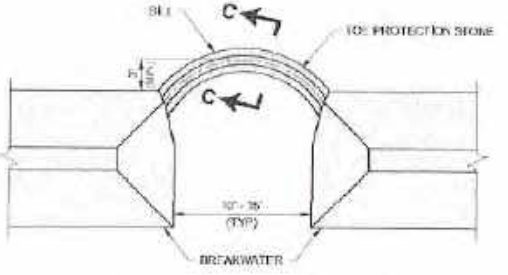
TYPICAL SECTION A-A - BREAKWATER A

N.T.S.



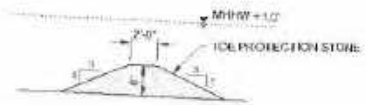
TYPICAL SECTION B-B - FINAL BREAKWATER A

N.T.S.



TYPICAL SILL DETAIL - PLAN VIEW

N.T.S.



SILL SECTION C-C

N.T.S.

GENERAL NOTES

1. ALL ELEVATIONS ARE IN REFERENCE TO NAVD88 (FT).
2. SILLS WILL BE CONSTRUCTED IN ALL BREAKWATER GAPS FOR BREAKWATERS "A" AND "B."
3. SILL SHALL BE PLACED SUCH THAT SILL IS FLUSH WITH ADJACENT BREAKWATERS AND EXTENDS FROM INLAND CORNER OF BREAKWATER TO INLAND CORNER OF NEXT BREAKWATER.
4. IN LOCATIONS WHERE THERE IS NOT AN ADJACENT BREAKWATER, NO SILL SHALL BE PLACED.
5. SILL TO BE CONSTRUCTED AFTER THE ADJACENT BREAKWATER IS CONSTRUCTED.
6. SLOPE FROM LOW CREST ELEVATION TO HIGH CREST ELEVATION ON FINAL BREAKWATER A SHALL BE GRADUAL. SLOPE IS NOT TO EXCEED 10:1.
7. SEE BREAKWATER COORDINATE TABLES FOR HIGH CREST AND LOW CREST ELEVATIONS.

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER

AECOM
FIRM REGISTRATION No. 3580

					1	ENGINEER'S SUPPLEMENTAL INSTRUCTION(S)	CL	[illegible]
					2	PROJECT FOR RIA	CL	[illegible]
					3	ISSUE FOR REVIEW	CL	[illegible]
					4	ISSUE FOR CONSTRUCTION	CL	[illegible]
					5	75 % DESIGN	CL	[illegible]
					6	75 % DESIGN	CL	[illegible]

DRAWING SCALE	NO NOTES	
REFERENCE NAMES		DATE
DESIGN DIV	TB	[illegible]
DRAWN BY	[illegible]	[illegible]
CHECKED BY	CL	[illegible]
APPROVED BY	CL	[illegible]
FILE	[illegible]	[illegible]

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER "A" DETAILS

SHEET 5

DRAWING NO. 1596-C105

AECOM

ENGINEER'S SUPPLEMENTAL INSTRUCTIONS (ESI) # 3

Date:	September 6, 2016	Project Name:	Virginia Point Wetland Protection Project, Galveston County, Texas
To: Attn:	Apollo Environmental Strategies, Inc. Tim Elms and Tina Moore	GLO Project No.: GLO Contract No.:	CEPRA 1596 16-233-000-9717
From:	Chris Levitz, AECOM	AECOM Project No.: AECOM File No.	60433394
Subject:	**Optional Additive Breakwater Relocation**	Cc:	Joelynn Barclay, GLO

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Fee or Contract Time. Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Engineer and Joelynn Barclay with GLO.

Description:

The Contractor will revise the placement of the Optional Additive revetment, R1, with two nearshore breakwaters, R1 and R2, to meet the locations and elevations on the revised Contract Drawings G100-G101, G103, and C101 (attached). The side slopes of the nearshore breakwaters shall be 3 horizontal feet to 1 vertical foot (3H:1V) and the crests shall be constructed to an elevation of +1.5' NAVD 88 per the Breakwater "R" Details on the attached, revised Contract Drawing C107. No adjustment to project quantities will be needed; there will be adequate amounts of geotextile, rip rap, and toe stone available to complete the Work.

Attachments: Revised Contract Drawings G100 – G101, G103, C101, and C107

ISSUED:

By: _____ 9/6/16
Engineer Date

ACCEPTED:

By: _____ 9/8/16
Contractor Date

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- PROJECT SIGN
- 10+00 SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- BREAKWATER "R" FOOTPRINT
- OYSTER REEFS

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD'88, US FEET.

REFERENCE CONTROL MONUMENTS:

'3200 L 5800'
NORTH: 13,691,249.77' EAST: 3,273,882.22'
ELEV: 7.33'

'1488 C 2012'
NORTH: 13,680,977.18' EAST: 3,275,184.41'
ELEV: 11.93'

MHHW: 1.03' MHW: 0.96'
MLW: -0.02' MLLW: -0.21'

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE	REV	DESCRIPTION	CHECKED BY	DATE
					7	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #3	CL	9/6/16
					6	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #2	CL	8/18/16
					5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
					4	RE-ISSUE FOR BID	CL	10/26/15
	1	95 % DESIGN	EL	7/1/14	3	ISSUE FOR REVIEW	CL	9/25/15
	0	70 % DESIGN	EL	9/13/13	2	ISSUE FOR CONSTRUCTION	EL	8/4/14

DRAWING SCALE	1" = 1200'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	8/4/14
DRAWN BY:	NAB	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15

FILE: G:\PROJECTS\WTR\60433394_VIRGINIT\CONDWGS\ACAD\2016_ESI_03\1596 - G100 - GENERAL ARRANGEMENT - BREAKWATER B AND A1 - REVISED .DWG

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

GENERAL ARRANGEMENT

JOB NO. 60433394
REVISION 7
DRAWING NO. 1596-G100

File: O:\Projects\WTR\60433394_VirgPntCon\Dwgs\ACAD\2016_ESI_03\1596 - G100 - General Arrangement - Breakwater B and A1 - Revised.dwg Layout: G-100 GENERAL ARRANGEMENT User: taylor.nordstrom Plotted: Sep. 06, 2016 - 2:35pm

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- 10+00 SURVEY BASELINE STATIONING
- PROJECT SIGN
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- BREAKWATER "R" FOOTPRINT (7)
- OYSTER REEFS

GENERAL NOTES:

1. CONSTRUCTION AND SITE ACCESS SHALL BE BY WATER. LAND-BASED ACCESS TO BE COORDINATED AS NEEDED WITH SITE OWNER.
2. CONTRACTOR IS RESPONSIBLE FOR RESTORING CONSTRUCTION ENTRANCE AND HAUL ROUTES TO ORIGINAL CONDITION OR BETTER AFTER THE COMPLETION OF THE PROJECT.
3. ACCESS IS RESTRICTED AT THE SOUTHERNMOST ENTRANCE DUE TO RAILROAD OVERPASS AND TIDAL FLOODING.
4. ACCESS IS RESTRICTED AT THE NORTHERNMOST ENTRANCE DUE TO EXISTING SENSITIVE MARSH AREA.
5. UNMAINTAINED CHANNEL AT THE NORTHERNMOST ENTRANCE MAY BE USED TO PROVIDE NEARSHORE ACCESS TO THE SITE. CONTRACTOR TO PROVIDE MATTING AS NECESSARY.
6. CONTOURS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR TO VERIFY ALL BATHYMETRY TO SUPPORT SITE ACCESS BY SHALLOW DRAFT BARGES.

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE	REV	DESCRIPTION	CHECKED BY	DATE
					7	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #3	CL	9/6/16
					6	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #2	CL	8/18/16
					5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
					4	RE-ISSUE FOR BID	CL	10/26/15
	1	95 % DESIGN	EL	7/1/14	3	ISSUE FOR REVIEW	CL	9/25/15
	0	70 % DESIGN	EL	9/13/13	2	ISSUE FOR CONSTRUCTION	EL	8/6/14

DRAWING SCALE	1" = 1200'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	8/4/14
DRAWN BY:	NAB	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15
FILE:	G:\PROJECTS\WTR\60433394_VIRGPNTCONDWGS\ACAD\2016_ESI_03\1596 - G101 - CONSTRUCTION ACCESS AND HAUL ROUTES .DWG	

AECOM

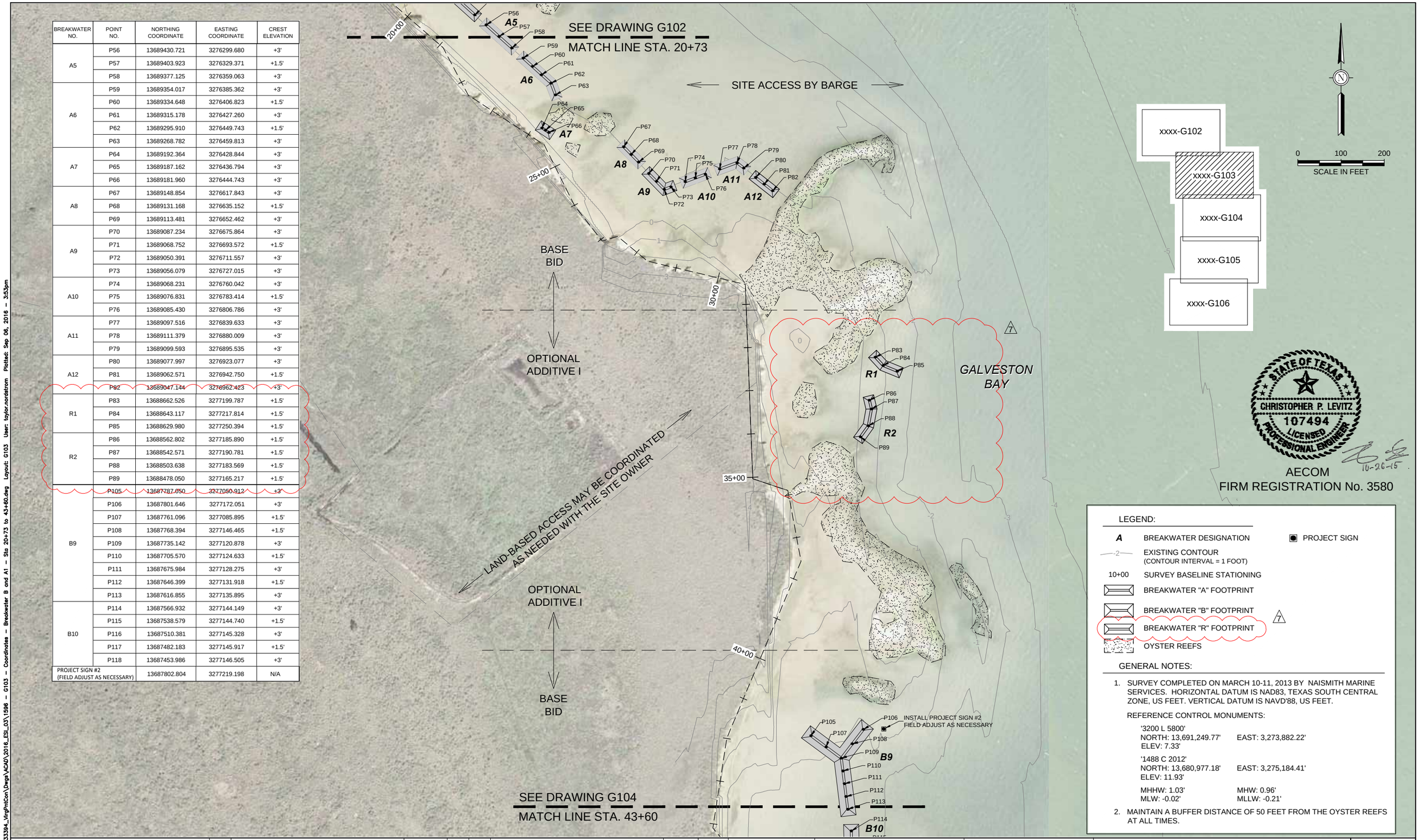
GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

CONSTRUCTION ACCESS & HAUL ROUTES

JOB NO. 60433394
REVISION 7
DRAWING NO. 1596-G101

File: O:\Projects\WTR\60433394_VirgPntCon\Dwgs\ACAD\2016_ESI_03\1596 – G101 – Construction Access and Haul Routes.dwg Layout: G--101 CONST ACCESS AND HAUL ROUTES User: taylor.nordstrom Plotted: Sep 06, 2016 – 2:46pm

BREAKWATER NO.	POINT NO.	NORTHING COORDINATE	EASTING COORDINATE	CREST ELEVATION
A5	P56	13689430.721	3276299.680	+3'
	P57	13689403.923	3276329.371	+1.5'
	P58	13689377.125	3276359.063	+3'
A6	P59	13689354.017	3276385.362	+3'
	P60	13689334.648	3276406.823	+1.5'
	P61	13689315.178	3276427.260	+3'
	P62	13689295.910	3276449.743	+1.5'
	P63	13689268.782	3276459.813	+3'
A7	P64	13689192.364	3276428.844	+3'
	P65	13689187.162	3276436.794	+3'
	P66	13689181.960	3276444.743	+3'
A8	P67	13689148.854	3276617.843	+3'
	P68	13689131.168	3276635.152	+1.5'
	P69	13689113.481	3276652.462	+3'
A9	P70	13689087.234	3276675.864	+3'
	P71	13689068.752	3276693.572	+1.5'
	P72	13689050.391	3276711.557	+3'
	P73	13689056.079	3276727.015	+3'
A10	P74	13689068.231	3276760.042	+3'
	P75	13689076.831	3276783.414	+1.5'
	P76	13689085.430	3276806.786	+3'
A11	P77	13689097.516	3276839.633	+3'
	P78	13689111.379	3276880.009	+3'
	P79	13689099.593	3276895.535	+3'
A12	P80	13689077.997	3276923.077	+3'
	P81	13689062.571	3276942.750	+1.5'
	P82	13689047.144	3276962.423	+3'
R1	P83	13688662.526	3277199.787	+1.5'
	P84	13688643.117	3277217.814	+1.5'
	P85	13688629.980	3277250.394	+1.5'
R2	P86	13688562.802	3277185.890	+1.5'
	P87	13688542.571	3277190.781	+1.5'
	P88	13688503.638	3277183.569	+1.5'
	P89	13688478.050	3277165.217	+1.5'
B9	P105	13687787.050	3277050.912	+3'
	P106	13687801.646	3277172.051	+3'
	P107	13687761.096	3277085.895	+1.5'
	P108	13687768.394	3277146.465	+1.5'
	P109	13687735.142	3277120.878	+3'
	P110	13687705.570	3277124.633	+1.5'
	P111	13687675.984	3277128.275	+3'
	P112	13687646.399	3277131.918	+1.5'
	P113	13687616.855	3277135.895	+3'
B10	P114	13687566.932	3277144.149	+3'
	P115	13687538.579	3277144.740	+1.5'
	P116	13687510.381	3277145.328	+3'
	P117	13687482.183	3277145.917	+1.5'
	P118	13687453.986	3277146.505	+3'
PROJECT SIGN #2 (FIELD ADJUST AS NECESSARY)		13687802.804	3277219.198	N/A



STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- PROJECT SIGN
- -2- EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- BREAKWATER "R" FOOTPRINT
- OYSTER REEFS

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD'88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   '3200 L 5800'
   NORTH: 13,691,249.77' EAST: 3,273,882.22'
   ELEV: 7.33'

   '1488 C 2012'
   NORTH: 13,680,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02' MLLW: -0.21'

2. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE	REV	DESCRIPTION	CHECKED BY	DATE
					7	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #3	CL	9/6/16
					6	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #2	CL	8/18/16
					5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
					4	RE-ISSUE FOR BID	CL	10/26/15
	1	95 % DESIGN	EL	7/1/14	3	ISSUE FOR REVIEW	CL	9/25/15
	0	70 % DESIGN	EL	9/13/13	2	ISSUE FOR CONSTRUCTION	EL	8/4/14

DRAWING SCALE	1" = 200'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	8/4/14
DRAWN BY:	NAB	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15
FILE:	O:\PROJECTS\WTR\60433394_VIRGPNTCONDWGS\ACAD\2016_ESI_G3\1596 - G103 - COORDINATES - BREAKWATER B AND A1 - STA 20+73 TO 43+60.DWG	

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER COORDINATES
STA. 20+73 TO STA. 43+60

JOB NO. 60433394
REVISION 7
DRAWING NO. 1596-G103

File: O:\Projects\WTR\60433394_VirginiaPntCon\Dwgs\ACAD\2016_ESI_G3\1596 - G103 - Coordinates - Breakwater B and A1 - Sta. 20+73 to 43+60.dwg Layout: G103 User: taylor.nordstrom Plotted: Sep. 06, 2016 - 3:53pm

xxxx-C100
xxxx-C101
xxxx-C102
xxxx-C103
xxxx-C104

STATE OF TEXAS
CHRISTOPHER P. LEVITZ
107494
LICENSED
PROFESSIONAL ENGINEER
10-26-15

AECOM
FIRM REGISTRATION No. 3580

LEGEND:

- A — BREAKWATER DESIGNATION
- -2- — EXISTING CONTOUR (CONTOUR INTERVAL = 1 FOOT)
- 10+00 — SURVEY BASELINE STATIONING
- BREAKWATER "A" FOOTPRINT
- BREAKWATER "B" FOOTPRINT
- BREAKWATER "R" FOOTPRINT △7
- OYSTER REEFS
- PROJECT SIGN

GENERAL NOTES:

1. SURVEY COMPLETED ON MARCH 10-11, 2013 BY NAISMITH MARINE SERVICES. HORIZONTAL DATUM IS NAD83, TEXAS SOUTH CENTRAL ZONE, US FEET. VERTICAL DATUM IS NAVD'88, US FEET.

   REFERENCE CONTROL MONUMENTS:

   '3200 L 5800'
   NORTH: 13,691,249.77' EAST: 3,273,882.22'
   ELEV: 7.33'

   '1488 C 2012'
   NORTH: 13,680,977.18' EAST: 3,275,184.41'
   ELEV: 11.93'

   MHHW: 1.03' MHW: 0.96'
   MLW: -0.02' MLLW: -0.21'

2. BASE BID: BREAKWATERS 'A1' - 'A17' AND 'B1' - 'B44'
   OPTIONAL ADDITIVE I: REVETMENT 'R1'
3. MAINTAIN A BUFFER DISTANCE OF 50 FEET FROM THE OYSTER REEFS AT ALL TIMES.

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE	REV	DESCRIPTION	CHECKED BY	DATE
					7	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #3	CL	9/6/16
					6	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #2	CL	8/18/16
					5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
					4	RE-ISSUE FOR BID	CL	10/26/15
	1	95 % DESIGN	EL	7/1/14	3	ISSUE FOR REVIEW	CL	9/25/15
	0	70 % DESIGN	EL	9/13/13	2	ISSUE FOR CONSTRUCTION	EL	8/6/14

DRAWING SCALE	1" = 200'	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	8/4/14
DRAWN BY:	NAB	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15
FILE:	O:\PROJECTS\WTR\60433394_VIRGPNTCONDWGS\ACAD\2016_ESI_03\1596 - C100_C104 - SITE PLAN - BREAKWATER B AND A1 - REVISED .DWG	

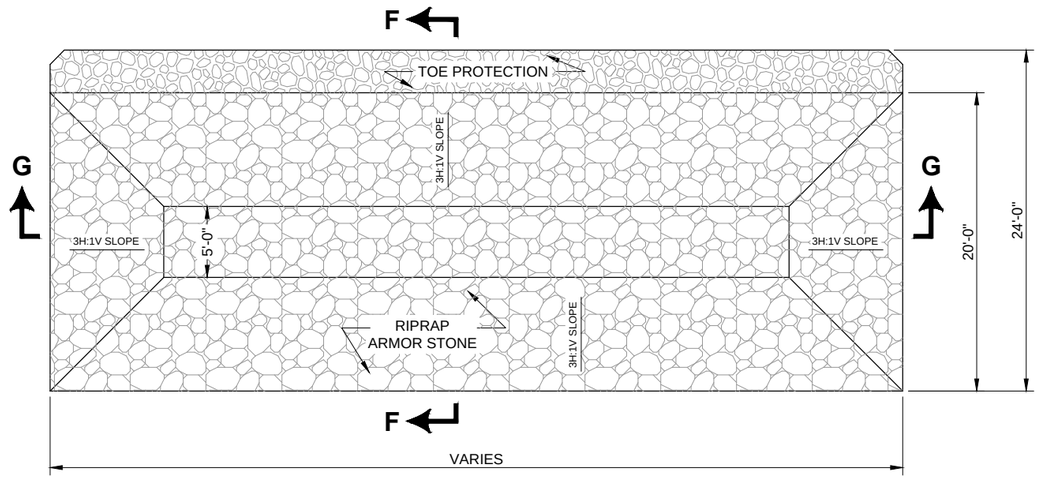
AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

SITE PLAN - STA. 20+73 TO STA. 43+60

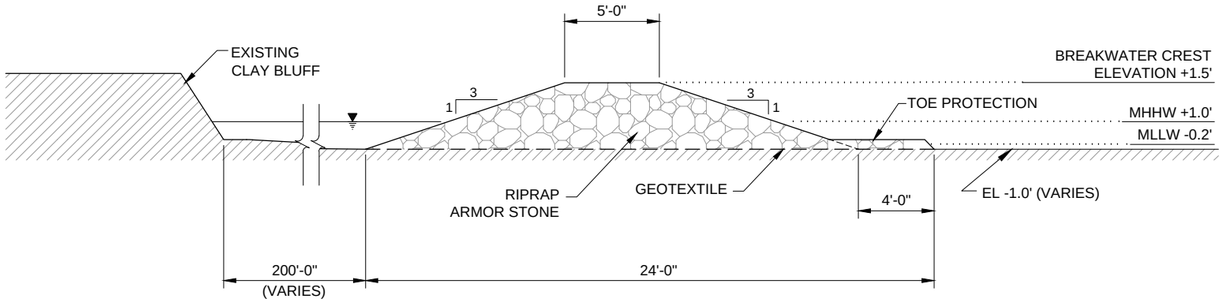
JOB NO. 60433394
REVISION 7
DRAWING NO. 1596-C101

File: O:\Projects\WTR\60433394_VirgPntCon\Dwgs\ACAD\2016_ESI_03\1596 - C100_C104 - Site Plan - Breakwater B and A1 - Revised.dwg Layout: C101 User: taylor.nordstrom Plotted: Sep 06, 2016 - 4:38pm



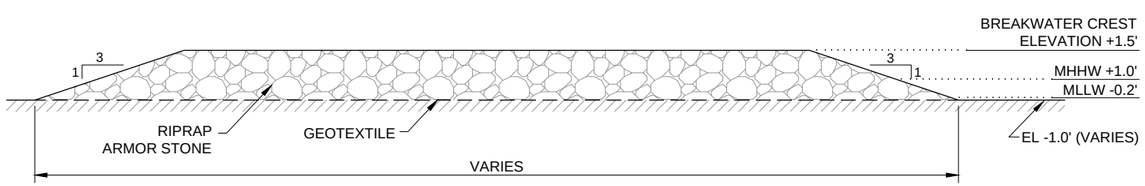
TYPICAL BREAKWATER R - PLAN VIEW

N.T.S



TYPICAL SECTION F-F - BREAKWATER R

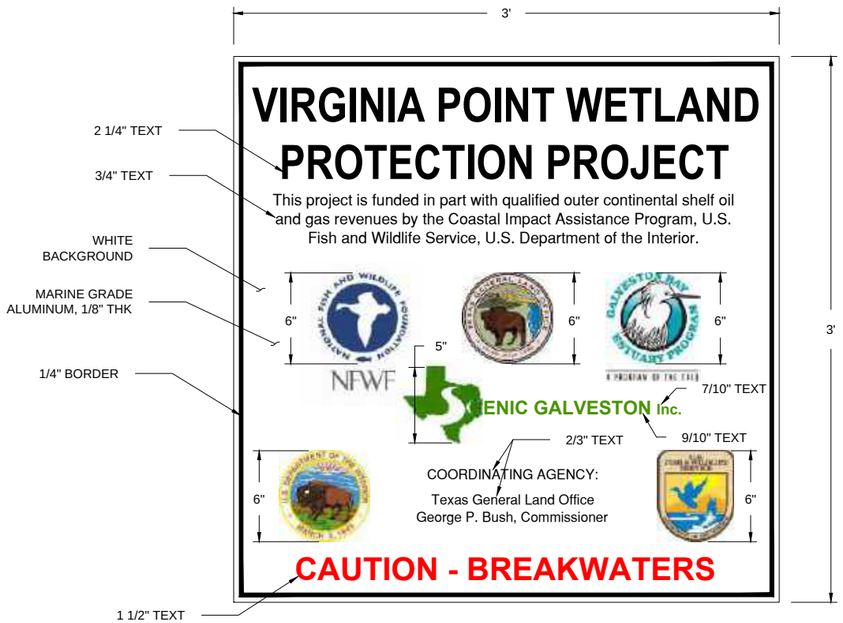
N.T.S



TYPICAL SECTION G-G - BREAKWATER R

N.T.S

6



PROJECT SIGN DETAIL

N.T.S

6

GENERAL NOTES:

1. ALL ELEVATIONS ARE IN REFERENCE TO NAVD88 (FT).
2. IN LOCATIONS WHERE THERE IS NOT AN ADJACENT BREAKWATER, NO SILL SHALL BE PLACED.

AECOM
FIRM REGISTRATION No. 3580

REFERENCES	REV	DESCRIPTION	CHECKED BY	DATE	REV	DESCRIPTION	CHECKED BY	DATE
					6	ENGINEER'S SUPPLEMENTAL INSTRUCTIONS #3	CL	9/6/16
					5	CHANGE ORDER #2 - PROJECT SIGNAGE	CL	7/15/16
					4	RE-ISSUE FOR BID	CL	10/26/15
					3	ISSUE FOR REVIEW	CL	9/25/15
					2	ISSUE FOR CONSTRUCTION	EL	8/4/14
	0	70 % DESIGN	EL	9/13/13	1	95 % DESIGN	EL	7/1/14

DRAWING SCALE	AS NOTED	
REFERENCE NAMES		DATE
DESIGNED BY:	TN	8/4/14
DRAWN BY:	NAB	8/4/14
CHECKED BY:	CL	10/26/15
APPROVED BY:	CL	10/26/15
FILE:	D:\PROJECTS\WTR\60433394_VIRGPNTCONDWGS\ACAD2016_ES_03\1596 - C105 AND C106 - BREAKWATER DETAILS - BREAKWATER B AND A1 - REVISED	.DWG

AECOM

GENERAL LAND OFFICE / SCENIC GALVESTON, INC.
VIRGINIA POINT WETLAND PROTECTION PROJECT
GALVESTON COUNTY, TEXAS

BREAKWATER "R" AND PROJECT SIGNAGE DETAILS

JOB NO.	60433394
REVISION	6
DRAWING NO.	1596-C107

File: G:\Projects\WTR\60433394_VirgPntCon\Dwgs\ACAD\2016_ES_03\1596 – C105 and C106 – Breakwater Details – Breakwater B and A1 – Revised.dwg Layout: C-107 Revetment R AND SIGN DETAILS User: taylor.nordstrom Plotted: Sep. 06, 2016 – 2:48pm