Addendum 1: Meeting Minutes and Questions/Responses

Delaware Department of Natural Resources and Environmental Control (DNREC)
National Fish & Wildlife Foundation Contracts

Mispillion Complex Project

Pre-Bid Meeting
April 21, 2016

Meeting Minutes

1) See attached attendance list
2) Purpose of project to prevent breach behind existing stone dike at north end and provide habitat for horseshoe crab and red knot shorebirds
3) Major project components presented
    a. Construction of a north and south rock terminal groins
    b. Placement of rock to raise existing stone dike
    c. Placement of sand behind stone dike, west of Back Beach and to fill in tidal channel (Greckos Canal)
    d. After sand placement, construct groins A, B and C on sand by excavating sand. Top elevation of groins will be the same as the sand.
    e. Groins D, E and F are optional and would be awarded at DNREC discretion
4) Discussed importance of placing rock on top of stone dike and for north terminal groin in a manner to provide good contact between rocks to ensure stability against wave action
5) Sequence of Construction discussed and need to protect work during construction by constructing North Terminal Groin as first item
6) Discussed that methods of placing sand could be mechanical in addition to hydraulic
7) DNREC provided boat trip to view project site and identify existing conditions and features pertinent to the project

Questions and Responses

Questions from Coastal:

Specifications

Section 01 71 13 – Mobilization/Demobilization
Para 1.4.A – Field Offices
We would not anticipate needing a field office for our operations. Is one needed for others?

Response: No Field Offices will be needed.

Section 31 23 23 – Sand Fill
Para 3.1.A – Placement
Based on discussion at the Pre-bid conference it is our understanding that the placement of sand by hydraulic method was suggested as one method that could be used but that mechanical or a combination of mechanical/hydraulic methods would be acceptable for sand placement. Please confirm that this is correct.

Response: Mechanical methods may be used to place the sand fill at the Contractor's discretion.

Section 31 34 19 – Geotextiles
Para 2.2.C
Our supplier is having difficulty identifying a product that meets the specification. Is there a manufacturer or product that can be used for comparison?

Response: See attached cut sheets for two product examples of acceptable geotextile.

Section 35 31 23 – Stone Dike & Groins
Para 1.04.A
The petrography and soundness testing in a quarry with ongoing production is generally conducted once every few years. Would this be acceptable in lieu of the 90 day requirement?

Response: Yes.

Para 2.03.A
Please clarify the statement that tests in 2.01 are to be performed every 500 tons. This is an unusual requirement and would be very expensive and time consuming. Would this requirement be required for new or unused/reopened quarries and not quarries that have been in continuous operation producing the products that will be used on this project?

Response: This requirement would be for new or unused/reopened quarries only.
It would be feasible to have gradations done at the 500 ton interval however these are usually done in larger lots (at least 2,500 tons or more depending on the quantity of stone required for a particular project).

Response: Gradation tests shall be performed for every 1,000 tons. This equates to 2 tests for R-4, 2 tests for R-6 and 8 tests for R-7.

Plans
The Typical Cross Section for Groins A – F show rock 4' high (from -1.0 to 3.0) however the Profiles for the Groins call out 3' thick rock (from 0.00 to 3.0). Please clarify.

Response: The groins shown in the typical cross-section are correct for a 4 foot height. The profiles are not correct and should show a 4 ft thick height.

Carthage Mills

50 Years of Geosynthetics History

To: **Coastal Design & Construction**

Proj: Masonville Dredged Material Containment Facility
Phase I Dike Construction
MES Contract # 09-07-10

Re: **Certification of Compliance**

Carthage Mills hereby certifies **FX-230M** as a woven geotextile composed of 100% polypropylene Monofilament yarns. The values listed below are minimum average roll values and are shown in the weakest principal direction.

Property	Test Method	Result/Value
Tensile Strength, lbs	ASTM D-4632	400 x 315
Elongation @ Break, %	ASTM D-4632	15
Mullen Burst, psi	ASTM D-3786	800
Puncture, lbs	ASTM D-4833	150
Trapezoidal Tear, lbs	ASTM D-4533	150 x 165
Water Flow Rate, gpm/sq.ft	ASTM D-4491	70
Permittivity, sec^{-1}	ASTM D-4491	0.90
AOS, max mm	ASTM D-4751	0.425 mm
UV Degradation, % retained at 500 hours of exposure	ASTM D-4355	90

Carthage Mills

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PRODUCT DATA SHEET

WINFAB 4x4HF

WINFAB 4x4HF is manufactured using high tenacity polypropylene yarns that are woven to form a dimensionally stable network, which allows the yarns to maintain their relative position. **WINFAB 4x4HF** resists ultraviolet deterioration, rotting and biological degradation and is inert to commonly encountered soil chemicals.

PROPERTY	TEST METHOD	MARV ENGLISH	MARV METRIC
Tensile Strength (Grab)	ASTM D-4632	475 x 440 lbs	2113 x 1957 N
Elongation	ASTM D-4632	12 x 6%	12 x 6%
Wide Width Tensile	ASTM D-4595	4800 x 4800 lbs/ft	70 x 70 kN/m
Wide Width Elongation	ASTM D-4595	9 x 9%	9 x 9%
Wide Width Tensile Strength at 5% Strain	ASTM D-4595	2400 x 2700 lbs/ft	35 x 39.4 kN/m
Puncture	ASTM D-4833	200 lbs	890 N
Mullen Burst	ASTM D-3786	1200 psi	8270 kPa
Trapezoidal Tear	ASTM D-4533	180 x 180 lbs	801 x 801 N
UV Resistance (at 500 hrs)	ASTM D-4355	80%	80%
Apparent Opening Size (AOS)*	ASTM D-4751	30 US Std. Sieve	0.60 mm
Permittivity	ASTM D-4491	.40 sec^{-1}	.40 sec^{-1}
Water Flow Rate	ASTM D-4491	30 gpm/ft^2	1222 $l/min/m^2$
Roll Sizes		15' x 300'	4.57 m x 91.5 m

*Maximum average roll value.

Willacoochee Industrial Fabrics

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