

## Section 02391 – BEACH FILL

- Appendix A - X-Y-Z data in FDEP format,

APPENDIX A

DEPsvy\_format

Explanation of format for each xyz file

The following illustrates the format required by Florida's Department of Environmental Protection for each XYZ file:

	1	2	3	4	5
	1234567890	1234567890	1234567890	1234567890	123456789
DNR-1	MAR1997	00	1165473.800	259662.300	27.00 4.10
	01FEB97	05FEB97	235 0	9226	
259655.0	1165461.0	3.6			
259661.8	1165474.3	3.7			
259673.2	1165496.6	3.9			
259684.5	1165518.9	3.7			
259695.9	1165541.1	4.0			
259701.8	1165552.7	4.4			
259707.2	1165563.4	2.5			
259710.4	1165569.7	1.9			
259718.6	1165585.7	-0.6			
259729.9	1165608.0	-2.1			

The numbers at the top illustrate columns in an ASCII File.

Two lines of information are required for each individual XYZ file. The information are as follow:

LINE 1:

- Column 1 - 8: Monument name (DNR-1)
- Column 9 - 16: Monument set date (MAR1997)
- Column 17 - 18: Reset Code (00 for all DEP lines)
- Column 19 - 30: Northings (1165473.800 decimal point MUST be at Column 27)
- Column 31 - 42: Eastings (259662.300 decimal point MUST be on Column 39)
- Column 43 - 49: Azimuths (27.00 decimal point MUST be on Column 47)  
(Note: Azimuths measured 0 from North)
- Column 50 - 54: Monument elevation (4.10 in NGVD, decimal point MUST be on Column 52)

LINE 2:

- Column 9 - 16: Date of beach points (01FEB97)
- Column 17 - 24: Date of offshore points (05FEB97)
- Column 25 - 27: Total number of points (235)
- Column 28 - 30: Total number of DOT points (0)
- Column 31 - 33: Total number of beach points (9)
- Column 34 - 36: Total number of offshore points (226)

LINE 3: Blank

LINE 4 - END:

XYZ data must be separated by at least one space.

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If you have questions or need additional information, please call Mr. Son Vu at (904) 232-1606.

## APPENDIX B

### CALCULATION OF MOMENT METHOD FOR MEAN GRAIN SIZE AND PHI STANDARD DEVIATION

The equations for calculating the Mean Grain Size and Phi Standard Deviation using the moment method are as follows:

$$\text{Mean Grain Size } M = \frac{\sum fx}{n}$$

$$\text{Phi Standard Deviation } \sigma = \sqrt{\frac{\sum (x-M)^2}{n}}$$

Use of these equations to calculate the moment method values is illustrated in the following table and text.

CALCULATION OF MOMENT METHOD FOR MEAN GRAIN SIZE AND PHI STANDARD DEVIATION								
A	B	C	D	E	F	G	H	I
U.S. STANDARD SIEVE	GRAIN SIZE		CUMULATIVE PERCENT RETAINED*	* Cumulative Percent Retained is example results of laboratory sieving of a sand sample.				
	mm	PHI		x	f	fx	(x-M) <sup>2</sup>	f(x-M) <sup>2</sup>
3/4	19.00	-4.25		-3.75	0.9%	-0.034	28.084	0.253
3/8	9.51	-3.25		-2.75	3.8%	-0.105	18.498	0.703
4	4.76	-2.25		-1.75	4.7%	-0.082	10.901	0.512
8	2.38	-1.25		-0.75	9.5%	-0.071	5.298	0.503
16	1.19	-0.25		0.25	10.5%	0.026	1.694	0.178
30	0.595	0.75		1.00	4.5%	0.045	0.303	0.014
40	0.420	1.25		1.50	5.3%	0.080	0.002	0.000
50	0.297	1.75		2.00	9.0%	0.180	0.203	0.018
70	0.210	2.25		2.50	12.3%	0.307	0.899	0.111
100	0.149	2.75		3.00	24.8%	0.744	2.098	0.520
140	0.105	3.25		3.50	10.6%	0.371	3.815	0.404
200	0.074	3.75		3.88	1.1%	0.043	5.417	0.060
230	0.063	4.00						
SUM				n=	97.0%			
SUM				Σ=	1.50		3.276	
MEAN GRAIN SIZE (PHI)				M(phi) =	1.55			
MEAN GRAIN SIZE (mm)				M(mm) =	0.34			
PHI STANDARD DEVIATION				σ			1.84	

02391-B2

Column A is the sieve size used; Column B is the corresponding sieve opening in millimeters; and, Column C is the sieve opening in Phi. The Phi values are used in the calculation.

Sieve analysis measures the percent retained on each sieve size by weight (Column D). Column E (x) is the midpoint value in Phi between adjacent sieves. Column F (f) is the percent retained by the smaller of adjacent sieves. Column G is the product of Column E and F (x \* f). The sum of the values in Column F is n, sum of the percent retained on the smallest sieve used. This value will generally be less than 100%, as some fine material passes through all the screens. The sum of the values in Column G is  $\sum fx$ , and its division by n produces the mean grain size in Phi units of measure. The millimeter (mm) value is calculated as follows:

$$2^{-\phi} = \text{mm} \qquad \text{Example: } 2^{-1.25 \phi} = 0.42 \text{ mm}$$

Columns H and J are used to calculate the Phi Standard Deviation ( $\sigma$ ) value of the material. If a sieve size is not used in the testing process it should be completely eliminated from the calculation table.