



**AGGREGATE SUBMITTAL**  
**Report of Physical Properties**

**GRP Material Description:** Rip Rap, 9" D 50 **Report Date:** January 30, 2024  
**GRP Material Code:** RIPR9 **Reviewed by:** Dan McDaniel  
**Source Location/Code:** Pelican Point / 520 **Report No.:** RIPR9D50000124

TEST RESULTS					SIEVE ANALYSIS		
Standard	PHYSICAL PROPERTIES		Result	Test Source	ASTM C136	AASHTO T27	
ASTM C 29 AASHTO T19	<b>Unit Weight</b>	Unit Weight, lbs./cu.ft. =			<b>Sieve Size</b>	<b>% Passing</b>	<b>Spec.</b>
	<b>Weight</b>	Voids, % = <input type="checkbox"/> Jig <input type="checkbox"/> Ld <input type="checkbox"/> Rodd			36"		
ASTM D1557 AASHTO T180	<b>Modified Proctor</b>	Max. density, lbs./cu.ft. =			30"		
		Optimum Moisture, % =			24"		
ASTM D698 AASHTO T99	<b>Standard Proctor</b>	Max. density, lbs./cu.ft. =			18"		
		Optimum Moisture, % =			12"	<b>100</b>	
ASTM D4318 AASHTO T89/90	<b>Liquid Limit Plastic Limit Plasticity Index</b>	Liquid Limit =			230 mm (9")	<b>55</b>	
		Plastic Limit =			150 mm (6")	<b>4</b>	
		Plasticity Index =			125 mm (5")		
ASTM C131 AASHTO T96	<b>L.A. Abrasion</b>	Small Coarse Loss, % =			100 mm (4")		
		Grading/Revolutions, =			75.0 mm (3")	<b>1</b>	
ASTM C535	<b>L.A. Abrasion</b>	Large Coarse Loss, % =	<b>21.0</b>		63.0 mm (2-1/2")		
		Grading/Revolutions, =	<b>1000</b>		50.0 mm (2")		
ASTM C 128 AASHTO T84	<b>Fine Specific Gravity &amp; Absorption</b>	Bulk Specific Gravity (dry) =			37.5 mm (1-1/2")		
		Bulk Specific Gravity, SSD =			25.0 mm (1")		
		Apparent Specific Gravity =			19.0 mm (3/4")		
		Absorption, % =			12.5 mm (1/2")		
ASTM C 127 AASHTO T85	<b>Coarse Specific Gravity &amp; Absorption</b>	Bulk Specific Gravity (dry) =	<b>2.633</b>		9.5 mm (3/8")		
		Bulk Specific Gravity, SSD =	<b>2.655</b>		6.3 mm (1/4")		
		Apparent Specific Gravity =	<b>2.692</b>		4.75 mm (No.4)		
		Absorption, % =	<b>0.80</b>		2.36 mm (No.8)		
ASTM D2419 AASHTO T176	<b>Sand Equivalent</b>	Sand Equivalent, % =			2.00 mm (No.10)		
ASTM C 88 AASHTO T104	<b>Soundness</b>	Coarse Soundness Loss, % =	<b>0.5</b>		1.18 mm (No.16)		
		Magnesium No. of Cycles =	<b>5</b>		0.600 mm (No.30)		
	<b>Soundness</b>	Fine Soundness Loss, % =			0.425 mm (No.40)		
		Magnesium No. of Cycles =			0.300 mm (No.50)		
ASTM C 1252 AASHTO T304	<b>Fine Aggregate Angularity</b>	Uncompacted Voids, % =			0.180 mm (No.80)		
		Method C (as received material)			0.150 mm (No.100)		
ASTM C40 AASHTO T21	<b>Organic Impurities</b>	Coarse Aggregate, % =			0.075 mm (No.200)		
		Fine Aggregate, % =			ASTM D422		
ASTM C142 AASHTO T112	<b>Clay / Friable Particles</b>	Coarse Aggregate, % =			<b>Hydrometer</b> =		
		Fine Aggregate, % =			ASTM C566 AASHTO T255		
ASTM C123 AASHTO T113	<b>Lightweight Pieces</b>	Coarse Aggregate, % =			<b>Moisture Content, %</b> =		
		Fine Aggregate, % =			ASTM C136 AASHTO T27		
ASTM D1883 AASHTO T193	<b>CBR</b>	Surcharge = 10 lbs CBR @ 0.1" =			<b>Fineness Modulus (FM)</b> =		
		Swell% = 0.0% CBR @ 0.2" =			AASHTO M145		
ASTM D5821	<b>Fractured Face</b>	1 or 2 Faces =	<b>2</b>		<b>Classification of Soils</b> =		
		Fractured Face, % =	<b>100</b>		ASTM D4791		
ASTM D2487	<b>Soil Classification</b>	Group Symbol =			Ratio =		
		Group Name =			<b>Flat &amp; Elongated</b> =		
ASTM D2488	<b>Soil Description &amp; Identification</b>	Group Symbol =					
		Group Name =					