

June 17, 2016

Ms. Sarah Porter- Conservation Agent
New Bedford Conservation Commission
133 William Street, Room 301
New Bedford, MA 02740

**Re: Notice of Intent Application SE #049-0740: Grain Size Analysis & Compatibility Results
Clark Cove Public Access Facility
West Rodney French Boulevard
New Bedford, MA**

Dear Ms. Porter:

As requested at the public hearing on June 7th, attached please find the grain size analysis results for the Clark's Cove Boat Ramp dredge area and proposed beach nourishment location (north of the boat ramp) as shown on the previously submitted project plans. Also included is a summary of the results and comparison showing grain size compatibility for the dredging sediments and existing beach sediments. If you require any further information prior to the continued hearing date of June 21, 2016, please do not hesitate to contact me at (508) 748-0937 or at MCOUNT@CLEngineering.com.

Very truly yours,
CLE Engineering, Inc.



Michael E. Count
Project Manager

Enclosures

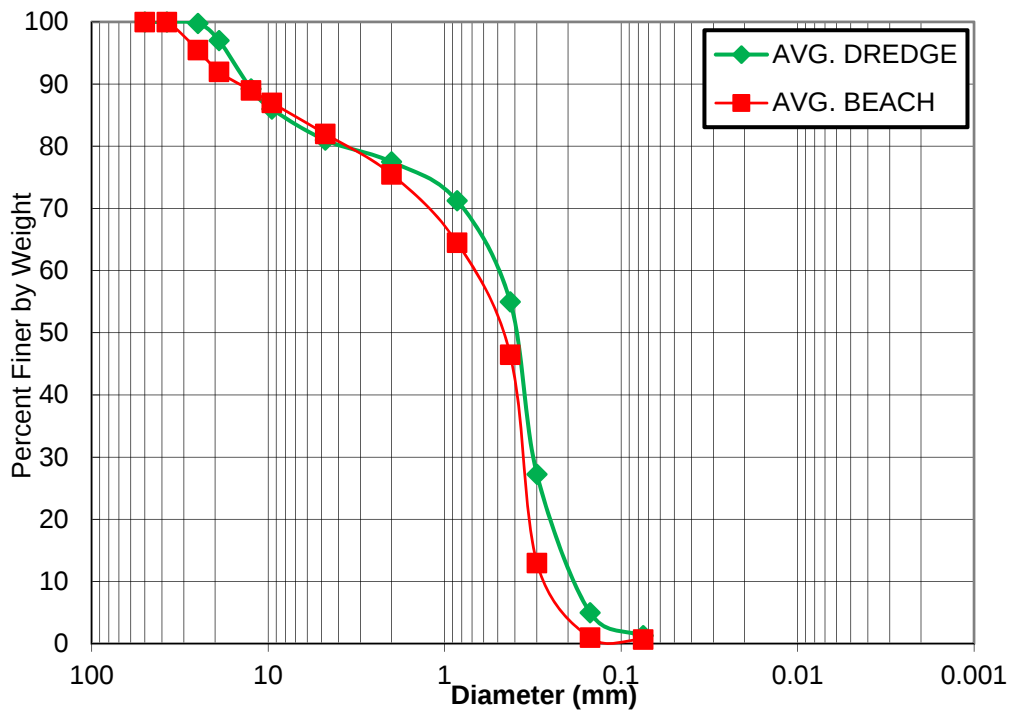
Cc: Douglas Cameron (Client OFBA)
David Condon (Client NB)
Susan E. Nilson, P.E. (CLE)

SUPPLEMENTAL INFORMATION: EVALUATION OF DREDGE & BEACH SEDIMENT COMPATIBILITY

To assess whether dredge sediments from the Clark's Cove Boat Ramp are likely to be compatible with the adjacent beach area North of the boat ramp, representative samples were collected and analyzed for grain size distribution. A total of (6) grab samples were collected on 06/02/2016, four (4) from the proposed dredge area and two (2) from the proposed beach nourishment area. All sampling locations are shown on the plans provided in **Exhibit C** in the previously submitted Notice of Intent package. Dredge sediments are characterized as predominantly medium to coarse sand, with a fines content (i.e. % passing #200 sieve) of 0.2 to 1.5%.

Grain size data was averaged for both the dredge sediments and beach nourishment sediments, and they are shown in **Figure 1** below. A summary of grain size analyses for all dredge sediment is provided herein. According to MA DEP's 2007 *Guide to Best Management Practices (BMP) for Beach Nourishment Projects in Massachusetts*, a sediment source is considered suitable for nourishment provided the material is clean and has a grain size distribution similar to or slightly coarser than the average grain size distribution of existing beach sediments. Based upon the average grain size distribution of dredge sediments shown in **Figure 1**, the dredge material should meet MADEP BMP guidelines for re-use of dredge sediments as a nourishment source.

**Figure 1: Grain Size Distribution - Clark's Cove
Comparison of Average Dredge vs. Average Beach Sediment**



Grain Size Analysis Summary
Clarks Cove Public Access Facility
New Bedford, MA

	Boat Ramp- Dredge Area				Beach- Nourishment			
Sample Location ID	S-1	S-2	S-3	S-4	B-1	B-2		
Percent Finer							AVG DREDGE	AVG BEACH
2"	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1-1/2"	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1"	99.00	100.00	100.00	100.00	95.00	96.00	99.75	95.50
3/4"	95.00	99.00	98.00	96.00	93.00	91.00	97.00	92.00
1/2"	84.00	93.00	94.00	86.00	91.00	87.00	89.25	89.00
3/8"	80.00	90.00	92.00	82.00	91.00	83.00	86.00	87.00
Sieve #4	74.00	86.00	89.00	75.00	91.00	73.00	81.00	82.00
Sieve #10	68.00	83.00	87.00	72.00	91.00	60.00	77.50	75.50
Sieve #20	59.00	78.00	81.00	67.00	90.00	39.00	71.25	64.50
Sieve #40	44.00	58.00	62.00	56.00	75.00	18.00	55.00	46.50
Sieve #60	25.00	27.00	29.00	28.00	18.00	8.00	27.25	13.00
Sieve #140	7.00	4.00	5.00	4.00	1.00	1.00	5.00	1.00
Sieve #200	1.50	1.30	1.50	0.90	.2	0.70	1.30	0.70

Sediment samples were collected by CLE Engineering, Inc. on 6/2/2016.



Briggs Engineering & Testing

A DIVISION OF PK ASSOCIATES, INC.

CLE Engineering
15 Creek Road
Marion, MA 02738
Attn: Mr. Jeff Oakes

Report Date: 6/17/16

Project: **Clark's Cove Boat Ramp**
Briggs #: 25284

Tested: 6/16/16
Received: 6/3/16

1. Sample No.	Description	Source of Material
M-27280	Existing Material	Onsite, S-4

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
90 mm	3-1/2"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	100	
19 mm	3/4"	96	
12.5 mm	1/2"	86	
9.5 mm	3/8"	82	
4.75 mm	#4	75	
2.00 mm	#10	72	
0.850 mm	#20	67	
0.425 mm	#40	56	
0.250 mm	#60	28	
0.150 mm	#100	4	
0.075 mm	#200	0.9	

BRIGGS ENGINEERING & TESTING
A Division of PK Associates, Inc.

Sean Skorohod
Director of Testing Services
Construction Technology Division

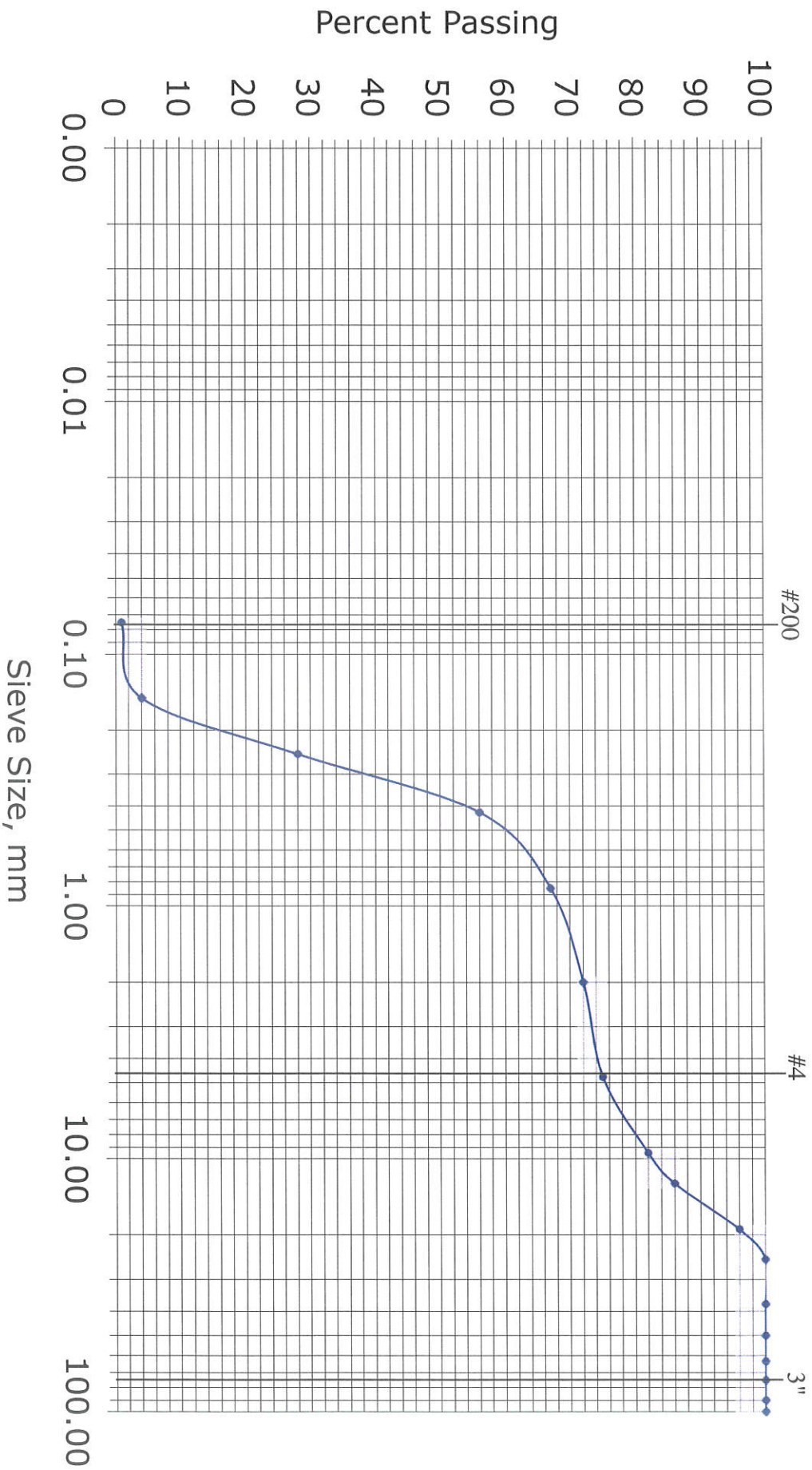
www.briggsengineering.com



Briggs Engineering & Testing
A Division of PK Associates, Inc.

Project:	Clark's Cove Boat Ramp
Date Tested:	6/16/16
Lab Ref. No.:	M-27280

Sieve Analysis





Briggs Engineering & Testing

A DIVISION OF PK ASSOCIATES, INC.

CLE Engineering
15 Creek Road
Marion, MA 02738
Attn: Mr. Jeff Oakes

Report Date: 6/17/16

Project: **Clark's Cove Boat Ramp**
Briggs #: 25284

Tested: 6/16/16
Received: 6/3/16

1. Sample No.	Description	Source of Material
M-27279	Existing Material	Onsite, S-3

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
90 mm	3-1/2"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	100	
19 mm	3/4"	98	
12.5 mm	1/2"	94	
9.5 mm	3/8"	92	
4.75 mm	#4	89	
2.00 mm	#10	87	
0.850 mm	#20	81	
0.425 mm	#40	62	
0.250 mm	#60	29	
0.150 mm	#100	5	
0.075 mm	#200	1.5	

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Sean Skorohod
Director of Testing Services
Construction Technology Division

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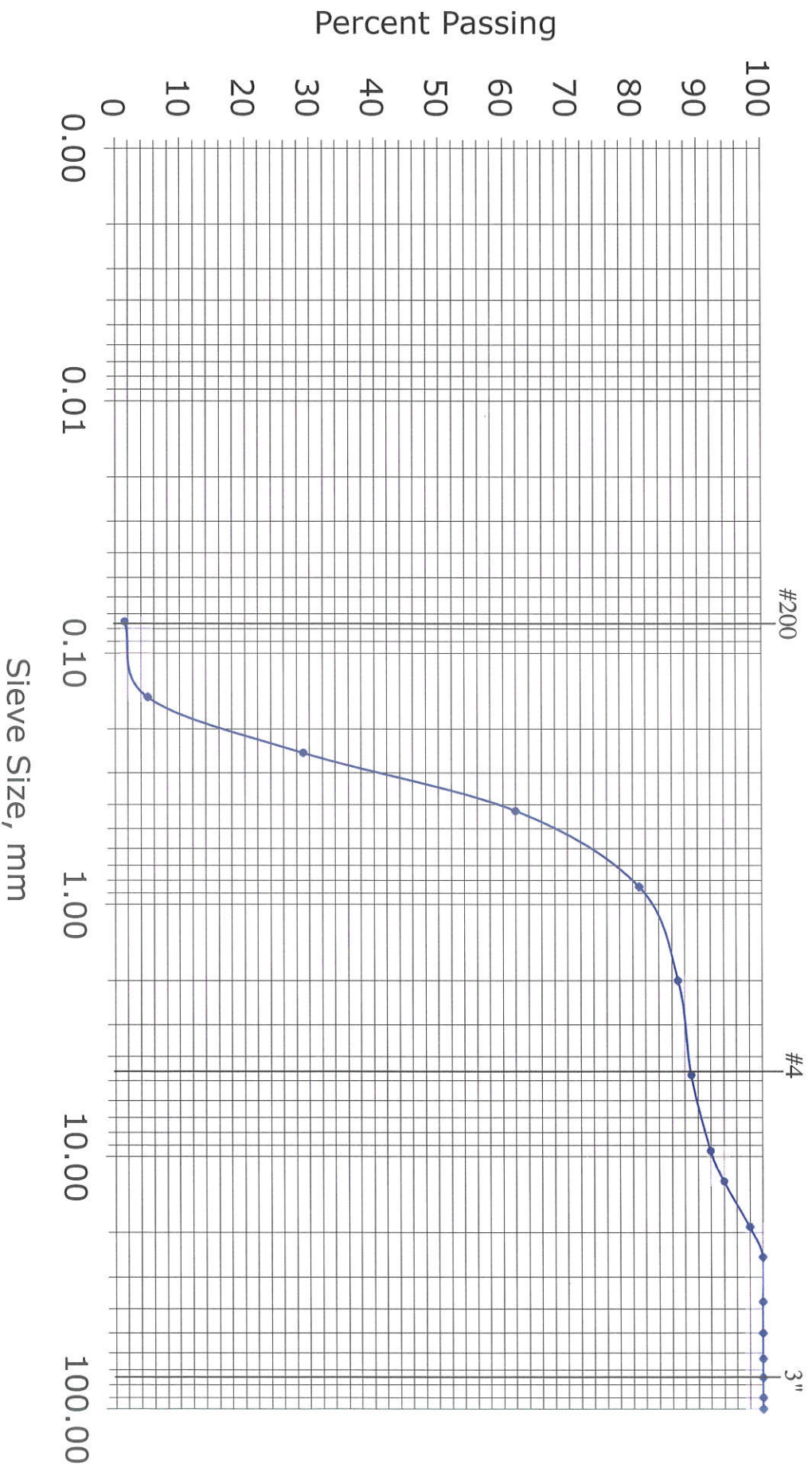
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Briggs Engineering & Testing
A Division of PK Associates, Inc.

Project:	Clark's Cove Boat Ramp
Date Tested:	6/16/16
Lab Ref. No.:	M-27279

Sieve Analysis





Briggs Engineering & Testing

A DIVISION OF PK ASSOCIATES, INC.

CLE Engineering
15 Creek Road
Marion, MA 02738
Attn: Mr. Jeff Oakes

Report Date: 6/17/16

Project: **Clark's Cove Boat Ramp**
Briggs #: 25284

Tested: 6/16/16
Received: 6/3/16

1. Sample No.	Description	Source of Material
M-27278	Existing Material	Onsite, S-2

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
90 mm	3-1/2"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	100	
19 mm	3/4"	99	
12.5 mm	1/2"	93	
9.5 mm	3/8"	90	
4.75 mm	#4	86	
2.00 mm	#10	83	
0.850 mm	#20	78	
0.425 mm	#40	58	
0.250 mm	#60	27	
0.150 mm	#100	4	
0.075 mm	#200	1.3	

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Sean Skorohod
Director of Testing Services
Construction Technology Division

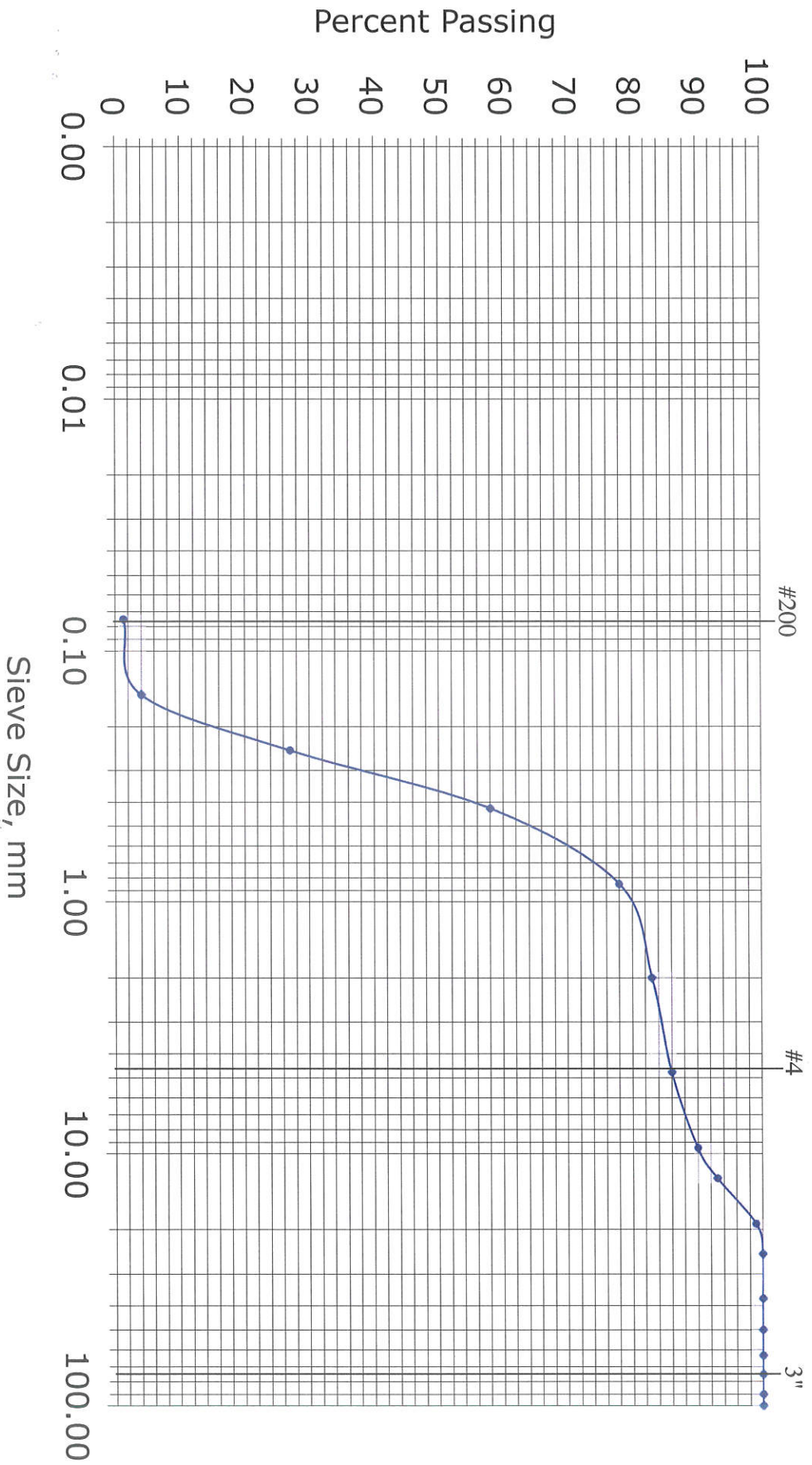
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A Division of PK Associates, Inc.

Project:	Clark's Cove Boat Ramp
Date Tested:	6/16/16
Lab Ref. No.:	M-27278

Sieve Analysis





Briggs Engineering & Testing

A DIVISION OF PK ASSOCIATES, INC.

CLE Engineering
15 Creek Road
Marion, MA 02738
Attn: Mr. Jeff Oakes

Report Date: 6/17/16

Project: **Clark's Cove Boat Ramp**
Briggs #: 25284

Tested: 6/16/16
Received: 6/3/16

1. Sample No.	Description	Source of Material
M-27277	Existing Material	Onsite, S-1

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
90 mm	3-1/2"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	99	
19 mm	3/4"	95	
12.5 mm	1/2"	84	
9.5 mm	3/8"	80	
4.75 mm	#4	74	
2.00 mm	#10	68	
0.850 mm	#20	59	
0.425 mm	#40	44	
0.250 mm	#60	25	
0.150 mm	#100	7	
0.075 mm	#200	1.5	

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A Division of PK Associates, Inc.

Sean Skorohod
Director of Testing Services
Construction Technology Division

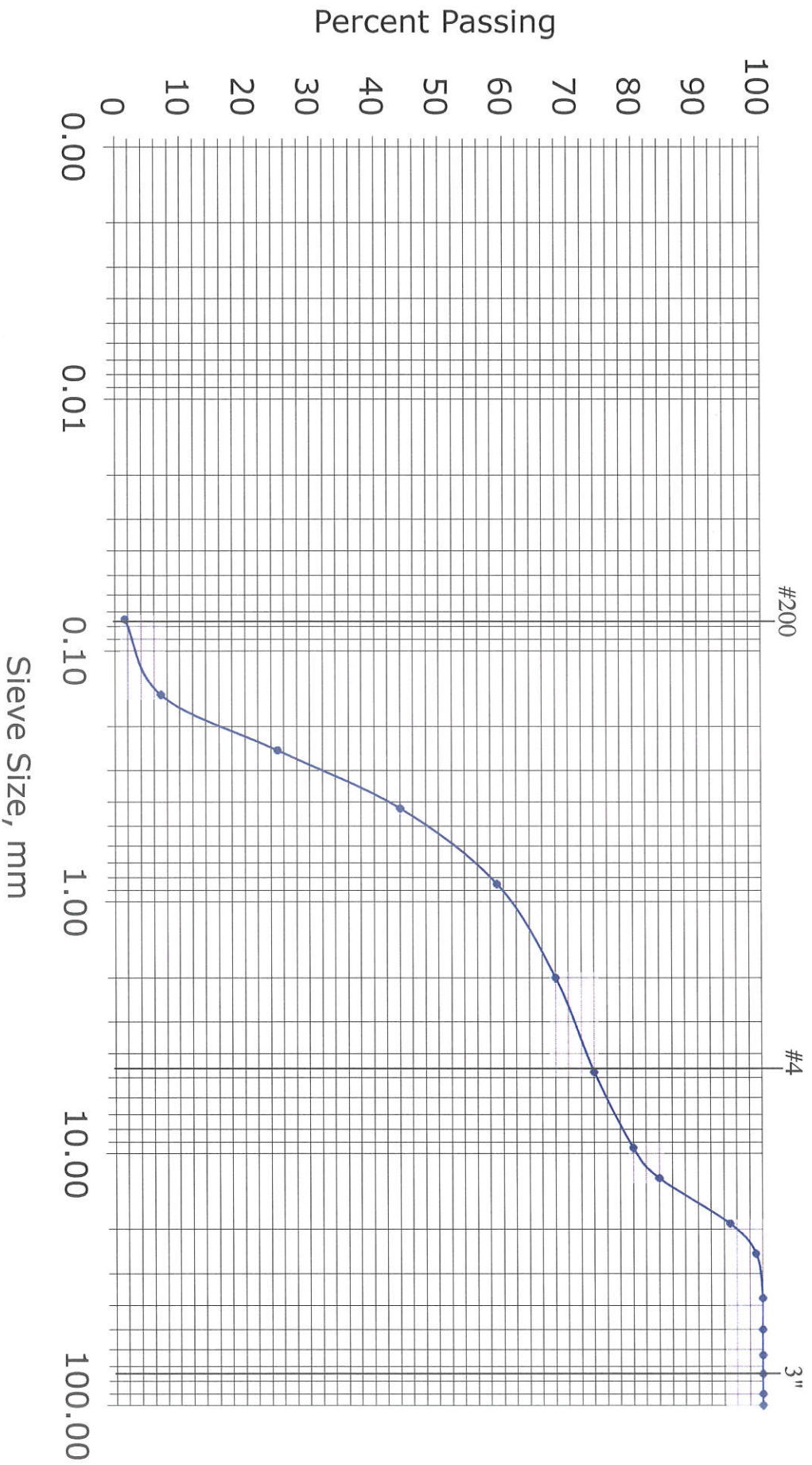
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A Division of PK Associates, Inc.

Project:	Clark's Cove Boat Ramp
Date Tested:	6/16/16
Lab Ref. No.:	M-27277

Sieve Analysis





Briggs Engineering & Testing

A DIVISION OF PK ASSOCIATES, INC.

CLE Engineering
15 Creek Road
Marion, MA 02738
Attn: Mr. Jeff Oakes

Report Date: 6/17/16

Project: **Clark's Cove Boat Ramp**
Briggs #: 25284

Tested: 6/16/16
Received: 6/3/16

1. Sample No.	Description	Source of Material
M-27276	Existing Material	Onsite, B-2

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
90 mm	3-1/2"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	96	
19 mm	3/4"	91	
12.5 mm	1/2"	87	
9.5 mm	3/8"	83	
4.75 mm	#4	73	
2.00 mm	#10	60	
0.850 mm	#20	39	
0.425 mm	#40	18	
0.250 mm	#60	8	
0.150 mm	#100	1	
0.075 mm	#200	0.7	

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Sean Skorohod
Director of Testing Services
Construction Technology Division

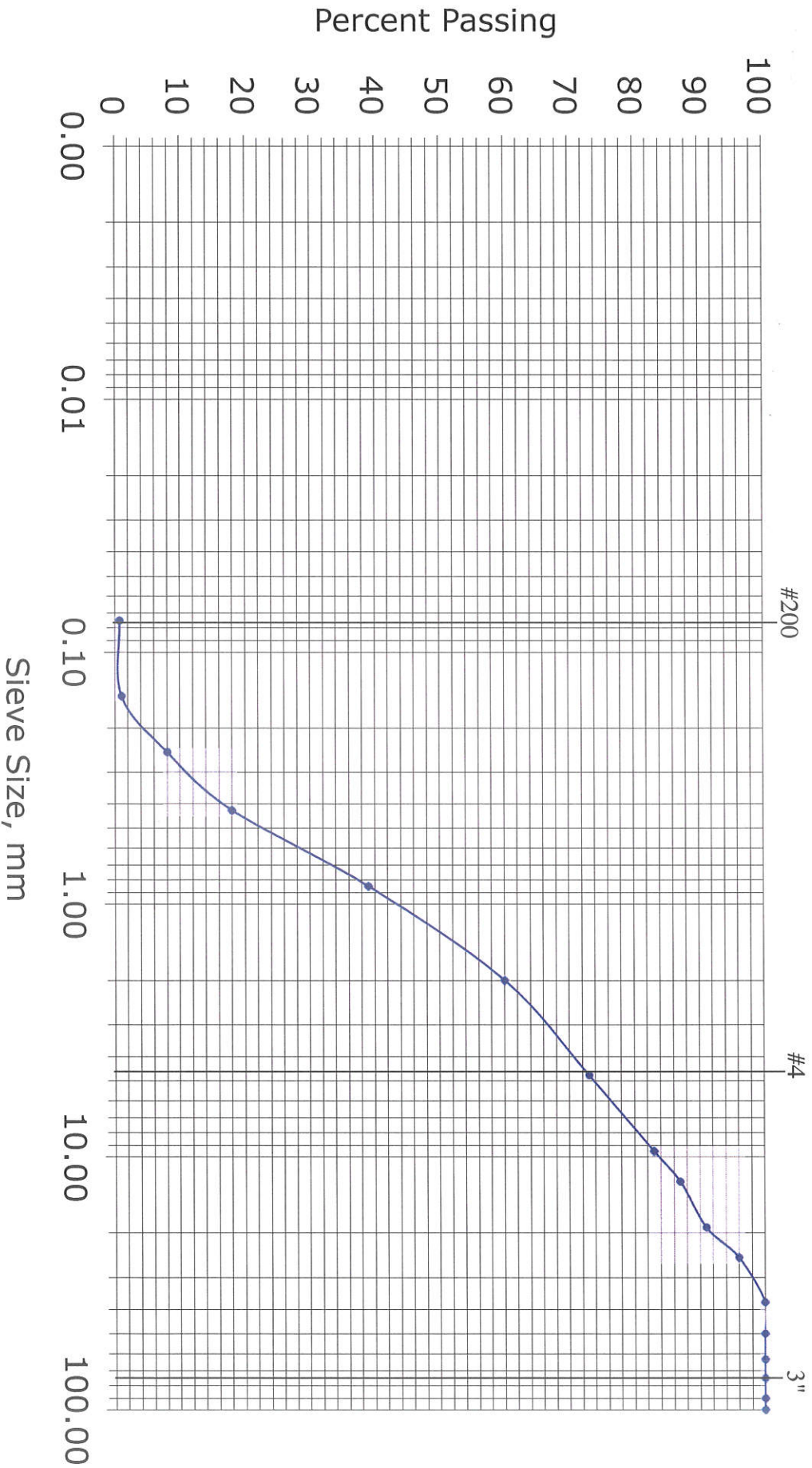
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A Division of P.K. Associates, Inc.

Project:	Clark's Cove Boat Ramp
Date Tested:	6/16/16
Lab Ref. No.:	M-27276

Sieve Analysis





Briggs Engineering & Testing

A DIVISION OF PK ASSOCIATES, INC.

CLE Engineering
15 Creek Road
Marion, MA 02738
Attn: Mr. Jeff Oakes

Report Date: 6/17/16

Project: **Clark's Cove Boat Ramp**
Briggs #: 25284

Tested: 6/16/16
Received: 6/3/16

1. Sample No.	Description	Source of Material
M-27275	Existing Material	Onsite, B-1

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
90 mm	3-1/2"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	95	
19 mm	3/4"	93	
12.5 mm	1/2"	91	
9.5 mm	3/8"	91	
4.75 mm	#4	91	
2.00 mm	#10	91	
0.850 mm	#20	90	
0.425 mm	#40	75	
0.250 mm	#60	18	
0.150 mm	#100	1	
0.075 mm	#200	0.2	

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Briggs Engineering & Testing
A Division of PK Associates, Inc.

Project:	Clark's Cove Boat Ramp
Date Tested:	6/16/16
Lab Ref. No.:	M-27275

Sieve Analysis

