

sewer main extension

EXP 11/9/15



PERMIT NO.

CITY OF NEW BEDFORD
SEWER AND/OR STORM DRAIN PERMIT

DATE 7/9/14

24391

This certifies that permission is granted to

United States Post Office 748 Mount Pleasant St 860-608-7120
Property Owner Address Tel.

To connect a sewer and/or storm drain located at 204 1/2 - 3 proposed manholes - 8 inch extension

Assessor's Plot 123+123A Lot to the sewer and/or storm drain in Downey Street Street

To be laid in accordance with the conditions in this application and the City of New Bedford ordinances.

TYPE OF USE: RESIDENTIAL COMMERCIAL INDUSTRIAL FLOW G.P.D.

If applicant other than actual property owner, attach Letter of Authorization from Property Owner.

Name Russell Ferdinand / Eric Smith Tel. 860-608-7120

Mailing Address 50 Holden St. Providence, RI 02908

The Bonded Contractor/Drain Layer authorized to perform this work is:

Name W.C. Smith Address 148 Westview St Tel. 508-995-1449

Type of Pipe Required: SDR 35 PVC

PERMIT EXPIRES ONE YEAR AFTER DATE OF ISSUE

- Requires separate connections for sewage and storm drain where applicable. Storm water cannot be discharged to a sanitary sewer.
- All work must be inspected and approved by a D.P.I. inspector before backfilling.
- If this connection is to be part of a private service shared jointly with other building owners, attach copy of Recorded Joint Maintenance Agreement.
- Permits can be issued to Industrial and/or Commercial Applicants only upon receipt and approval by the Commissioner of Public Infrastructure of required plans and supplemental information.
- In addition, a City-issued Industrial User Discharge Permit and/or a Sewer Extension/Connection Permit issued by the Commonwealth of Massachusetts D.E.P. shall be required by the City for Industrial Discharge into the sewer system.

Industrial User Discharge Permit No. Date

Comm. Mass. Sewer Conn./Ext. Permit No. 14-03 Date

A Filing and Inspection Fee of \$450.00 plus an Entrance Fee of \$2,810 where applicable, must accompany this application.

Bank# Sovereign Bank Check# 4650 Date 7-9-14 Receipt# 20313

Please call ahead 24 hr notice for inspection at 508-995-1535 ext 500

Other requirements: Must file with DEP-BEP WP 72 compliance certification for sewer extensions <1000 printed with sewer permits

Connection made to Sewer Part of jointly-shared private line YES NO
Storm Drain

Applicant agrees to abide by the above terms, as well as all pertinent ordinances of the City of New Bedford, and such other special rules as the Commissioner of Public Infrastructure and/or City Engineer may deem necessary

Manuel H. Silva
City Engineer
Supervising Civil Engineer

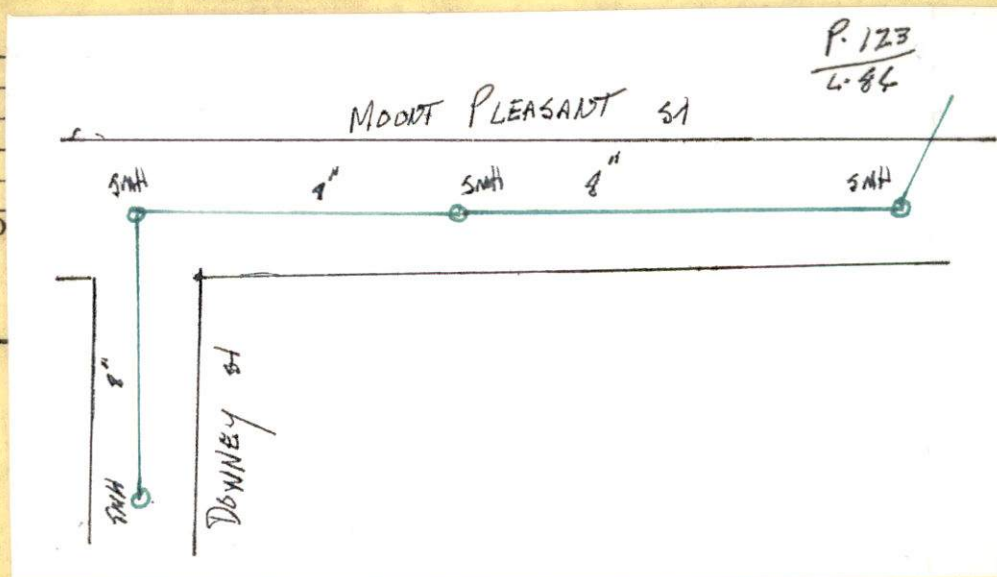
Eric W. Smith
Signature of Property Owner or Representative
(508) 736-4344

INSPECTOR'S REPORT

INSPECTED BY:
DATE:
COMMENTS:

APPROVED D

SIGNATURE



Sewer main extension

EXPIRES 7/7/15



PERMIT NO.
24391

CITY OF NEW BEDFORD
SEWER AND/OR STORM DRAIN PERMIT

DATE 7/9/14

This certifies that permission is granted to

United States Post office 748 Mount Pleasant St 860-608-7120
Property Owner Address Tel.

To connect a sewer and/or storm drain located at 201 +/- Downey St * Mt. Pleasant St 386 +/- extension total
Assessor's Plot 123+ 123A Lot....., to the sewer and/or storm drain in Downey Street - 8 inch Street

To be laid in accordance with the conditions in this application and the City of New Bedford ordinances.
TYPE OF USE: RESIDENTIAL COMMERCIAL INDUSTRIAL FLOW G.P.D.

If applicant other than actual property owner, attach Letter of Authorization from Property Owner.
Name Russell Ferland / Eric Smith Tel. 860-608-7120
Mailing Address 50 Holden St. Providence, RI 02908
The Bonded Contractor/Drain Layer authorized to perform this work is:

Name W.C. Smith, Address 148 Washington St. Tel. 508-995-1449
Type of Pipe Required: SDR 35 PVC

PERMIT EXPIRES ONE YEAR AFTER DATE OF ISSUE

- Requires separate connections for sewage and storm drain where applicable. Storm water cannot be discharged to a sanitary sewer.
 - All work must be inspected and approved by a D.P.I. inspector before backfilling.
 - If this connection is to be part of a private service shared jointly with other building owners, attach copy of Recorded Joint Maintenance Agreement.
 - Permits can be issued to Industrial and/or Commercial Applicants only upon receipt and approval by the Commissioner of Public Infrastructure of required plans and supplemental information.
 - In addition, a City-issued Industrial User Discharge Permit and/or a Sewer Extension/Connection Permit issued by the Commonwealth of Massachusetts D.E.P. shall be required by the City for Industrial Discharge into the sewer system.
- Industrial User Discharge Permit No. Date

Comm. Mass. Sewer Conn./Ext. Permit No. 14-03 Date

A Filing and Inspection Fee of \$450.00, plus an Entrance Fee of \$2340 where applicable, must accompany this application.

Bank# Sovereign Bank Check# 4650 Date 7-9-14 Receipt# 20313
Please call ahead 24 hr notice for inspection @ 508 977-1550 ext 506
Other requirements: Must file with DEP-BEP WP 72 compliance certification for sewer extensions <1000 printed with sewer permits

Connection made to Sewer Part of jointly-shared private line YES NO
Storm Drain

Applicant agrees to abide by the above terms, as well as all pertinent ordinances of the City of New Bedford, and such other special rules as the Commissioner of Public Infrastructure and/or City Engineer may deem necessary

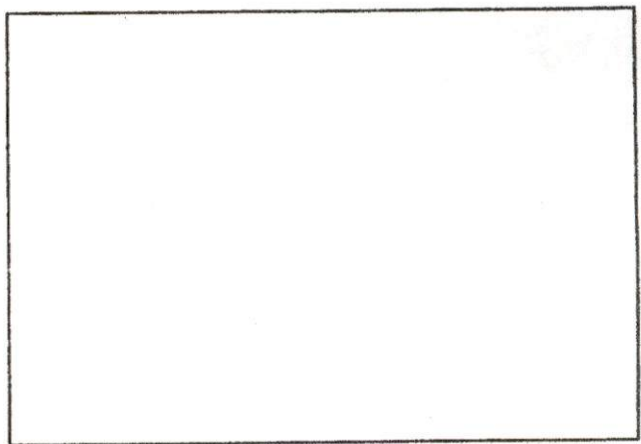
Manuel H. Silva
City Engineer
Supervising Civil Engineer

X. Eric W. Smith
Signature of Property Owner or Representative
(508) 726-4344

INSPECTOR'S REPORT

INSPECTED BY: _____
DATE: _____
COMMENTS: _____
APPROVED DISAPPROVED

SIGNATURE



SKETCH PLAN



Cheveli A. Torres

From: Sarah Porter
Sent: Thursday, July 10, 2014 11:41 AM
To: Cheveli A. Torres
Subject: RE: Abandonment of Septic

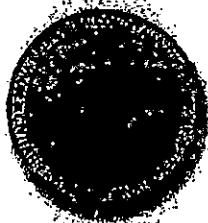
Cheveli, they are good to go

From: Cheveli A. Torres
Sent: Thursday, July 10, 2014 11:37 AM
To: Sarah Porter
Subject: Abandonment of Septic

Hello, Sarah

I have a gentleman here with his abandonment of septic form, for 748 Mt.Pleasant St (Post Office). Are they good to go?

Thanks,
Cheveli



Department of Public Infrastructure

Ronald H. Labelle
Commissioner

CITY OF NEW BEDFORD

Jonathan Mitchell, Mayor

Water
Wastewater
Highways
Engineering
Cemeteries
Park Maintenance

To Whom It May Concern:

I Jeremy J. Merlo, Contracting Officer - USPS - 6 Griffin Road North - Windsor, CT 06006, being
(Name) (Mailing Address)

Owner of property located at

United States Post Office - 748 Mount Pleasant Street, New Bedford, MA 02745-9998

Plot 123, Lot .86, hereby agree to allow Russell J. Ferland
Robinson Green Beretta Corporation (Name)
50 Holden Street, Providence, RI 02908
(Mailing Address), to act on my behalf including affixing my

signature in securing permit for:

☒ Sewer/Drain Service Permits
☒ Water Service Permits
☒ Driveway Installation Permits
☒ Sidewalk Installation Permits

I further agree to conform to, and abide by, All City rules and ask regulations applicable to the permit (s) being applied for:

Name

J. Merlo

Signature

Digitally signed by Jeremy Merlo
DN: cn=Jeremy Merlo, o=USPS, ou=NFCMT,
email=jeremy.j.merlo@usps.gov, c=US
Date: 2014.05.07 11:06:44 -04'00'

USPS 6 Griffin Road North, Windsor, CT 06006

Address

May 7, 2014

Date

860-608-7120

Telephone number



Department of Public Infrastructure

Ronald H. Labelle
Commissioner

CITY OF NEW BEDFORD

Jonathan Mitchell, Mayor

Water
Wastewater
Highways
Engineering
Cemeteries
Park Maintenance

To Whom It May Concern:

I Russell Farland on behalf of USPS, being
(Name) (Mailing Address)

Owner of property located at

U.S. Post Office - 748 Mt. Pleasant St. N.B.

Plot 123, Lot 86, hereby agree to allow Eric Smith
(Name)

_____, to act on my behalf including affixing my
(Mailing Address)

signature in securing permit for:

☒ Sewer/Drain Service Permits
☐ Water Service Permits
☒ Driveway Installation Permits
☒ Sidewalk Installation Permits

I further agree to conform to, and abide by, All City rules and ask regulations applicable to the permit (s) being applied for:

Name Russell Farland
Signature

Address

Date

Telephone number

City of New Bedford
Dept of Public Infrastructure
1105 Shawmut Ave
New Bedford, MA 02740
(508) 979-1550



CITY OF NEW BEDFORD
DEPARTMENT OF PUBLIC INFRASTRUCTURE
1105 Shawmut Avenue, New Bedford, MA 02746

001153-0003 Erin I. 07/10/2014 11:38AM

MISCELLANEOUS

Description: DPI SEWER
PERMITS AND EXTENSIONS
(DPISEW)

DPI SEWER PERMITS AND
EXTENSIONS

1 @ 2,810.00

DPI SEWER PERMITS AND
EXTENSIONS

Principal 2,810.00

Interest 0.00

TW05-101009- 2,810.00D

63906000-422185- 2,810.00C

Payment Id: 20313

2,810.00

Subtotal 2,810.00
Total 2,810.00

CHECK 2,810.00
Check Number 4650

Change due 0.00

Paid by: W.C. SMITH

Thank you for your payment

Date: 7/9/2014

TO: W.C. Smith

FROM: D.P.I.

Sewer extension permit # 24391
P.123+ 123A.

United States Post Office - 748 Mt. Pleasant St

CHARGE CODE: DPISEW.

ACCOUNT: 63906000 422185

DEPOSIT \$ 2,810.00 - Sewer: \$ 450.00
Entrance fee: \$ 2,360.00
(590 #)
Total \$ 2,810.00

Initials C.T.

chk# 4650

White & Yellow/Treasurer's Copy • Pink/Department Copy

W.C. SMITH & SON, INC.
EXCAVATING CONTRACTOR

148 WESTVIEW STREET
NEW BEDFORD, MA 02740-1718

Sovereign Bank, N.A.

PART OF THE SANTANDER GROUP

5-7515-110

PAY TO THE
ORDER OF

City of New Bedford
Two Thousand, Eight Hundred and Ten

\$ 2810.00

DOLLARS

MEMO Post Office Sewer



Eric W Smith
AUTHORIZED SIGNATURE

004650 0110751501 13100046609

No. 14-03

FEE 60.00

COMMONWEALTH OF MASSACHUSETTS

Board of Health, NEW BEDFORD, MA.

DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permission is hereby granted to; Construct() Repair() Upgrade() Abandon(X) an individual sewage disposal system at 748 Mt. Pleasant Street, New Bedford, MA as described in the application for

Disposal System Construction Permit No. N/A, dated _____.

Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be met.

Form 1255 Rev. 5/96 A.M. Sulkin Co. Boston, MA

Date 7/10/14 Board of Health

Sandra J. Manning

Sewer main extension

Inspector OL Expires: 7/9/15



PERMIT NO.

CITY OF NEW BEDFORD
SEWER AND/OR STORM DRAIN PERMIT

DATE 7/9/14

24391

This certifies that permission is granted to

Property Owner United States Post Office Address 748 Mount Pleasant St Tel. 860-608-7120
108 Mt Pleasant

To connect a sewer and/or storm drain located at Downey St & Mt. Pleasant St 386' extension total
(-3 proposed manholes) - 8 inch

Assessor's Plot 123+123A Lot 204+1, to the sewer and/or storm drain in Downey Street Street

To be laid in accordance with the conditions in this application and the City of New Bedford ordinances.

TYPE OF USE: RESIDENTIAL COMMERCIAL INDUSTRIAL FLOW G.P.D.

If applicant other than actual property owner, attach Letter of Authorization from Property Owner.

Name Russell Ferland / Eric Smith Tel. 860-608-7120

Mailing Address 50 Holden St Providence, RI 02908

The Bonded Contractor/Drain Layer authorized to perform this work is:

Name W.C. Smith Address 148 Westview St Tel. 508-995-1449

Type of Pipe Required: SDR 35 PVC

PERMIT EXPIRES ONE YEAR AFTER DATE OF ISSUE

- Requires separate connections for sewage and storm drain where applicable. Storm water cannot be discharged to a sanitary sewer.
 - All work must be inspected and approved by a D.P.I. inspector before backfilling.
 - If this connection is to be part of a private service shared jointly with other building owners, attach copy of Recorded Joint Maintenance Agreement.
 - Permits can be issued to Industrial and/or Commercial Applicants only upon receipt and approval by the Commissioner of Public Infrastructure of required plans and supplemental information.
 - In addition, a City-issued Industrial User Discharge Permit and/or a Sewer Extension/Connection Permit issued by the Commonwealth of Massachusetts D.E.P. shall be required by the City for Industrial Discharge into the sewer system.
- Industrial User Discharge Permit No. Date

Comm. Mass. Sewer Conn./Ext. Permit No. 14-03 Date

A Filing and Inspection Fee of \$ 450.00 plus an Entrance Fee of \$ 235.00 where applicable, must accompany this application.

Bank# Sovereign Bank Check# 4050 Date 7-9-14 Receipt# 20313 82,810

Please call ahead 24 hr notice for inspection @ SOS 977-1558 ext 506.
Other requirements: Must file with DEP-BEP WP 72 compliance certification for sewer extensions <1000' printed with sewer permits

Connection made to Sewer Part of jointly-shared private line YES NO
Storm Drain

Applicant agrees to abide by the above terms, as well as all pertinent ordinances of the City of New Bedford, and such other special rules as the Commissioner of Public Infrastructure and/or City Engineer may deem necessary.

Manuel H. Silva
City Engineer
Supervising Civil Engineer

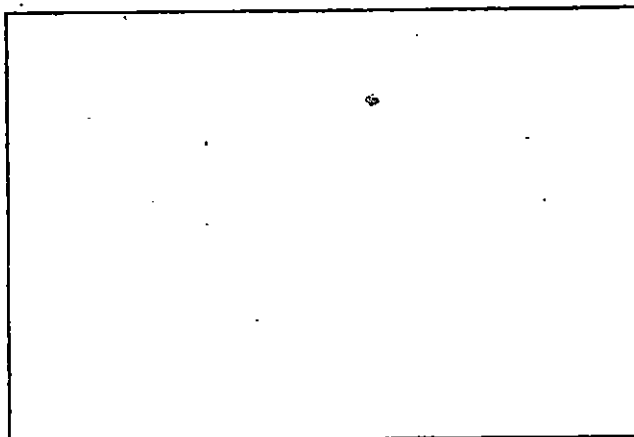
X Eric W. Smith
Signature of Property Owner or Representative
(508) 726-4344

INSPECTOR'S REPORT

INSPECTED BY:
DATE:
COMMENTS:

APPROVED DISAPPROVED

SIGNATURE



SKETCH PLAN

MT. PLEASANT
SEWER EXT.

8/19/14

SMH INSTALLED @ PORT
MT PLEASANT

8/20/14

TEST SMH "A" @ 9:11q to 9:123
@ 10:46 - DROP 1/4 HG = PASS

TEST SMH "C" @ 9:38 to 9:40
@ 10:46 DROP 1/4 HG = PASS

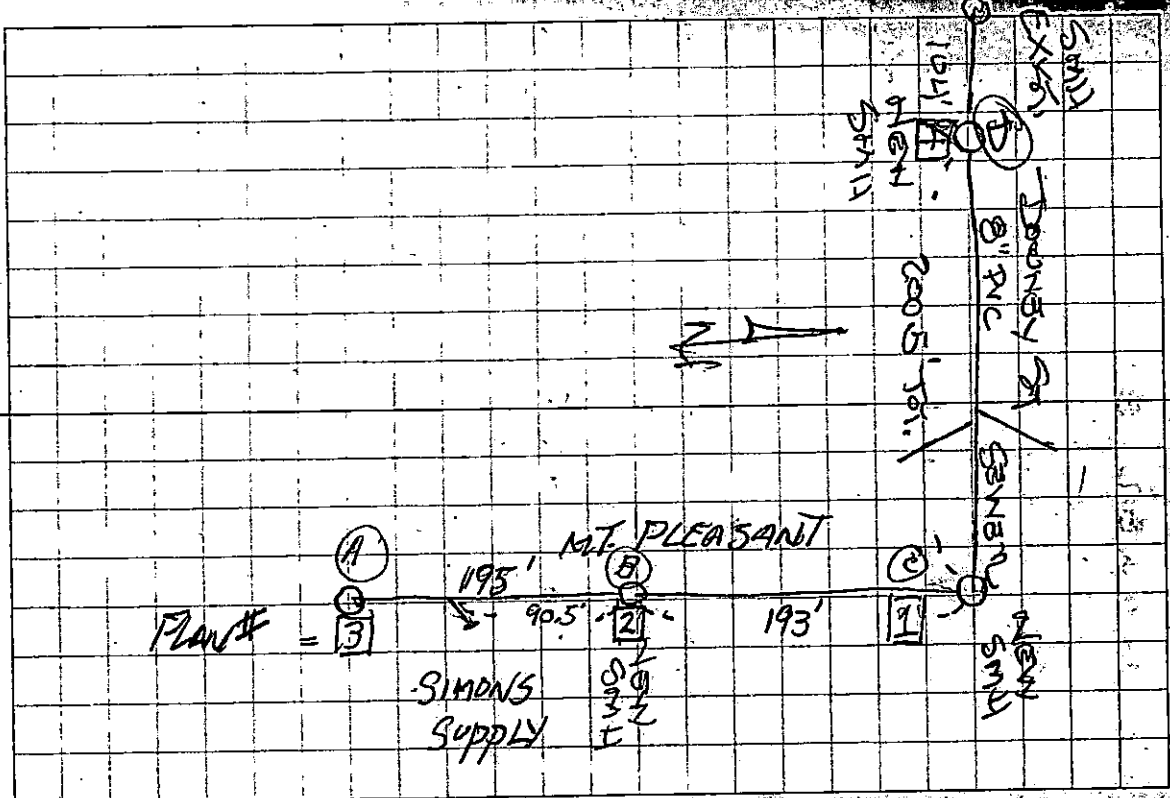
VACOMIN
TEST SMH "B" @ 10:28 to 10:30
@ 10:46 DROP 1/4 HG = PASS

TEST SMH "D" @ 11:01 - 11:03
@ 10:46 DROP 1/4 HG = PASS

TEST SEWER LINE "A" - "B"
(AND RESSMAN) 9:53 to 9:58
NO LEAKS = PASS

SEWER LINE "B" - "C"

10:08 to 10:13
NO LEAKS = PASS



8/12/14

MT Pleasant

+ Downy CA

SEWER EXTENSION

8/14 - DUG OUT MAIN

IN MT. PLEASANT + EXTENSION

SEWER MAIN UNDER

CAJONED + FLOW FILLED TRENCH

+ TOPPED OFF FLOW FILL W/ 12" GRAVEL COMPACTED

8/15 - TOP OFF FLOW FILL TRENCH

FROM EXTENSION, DOL

PLATES FROM 4 RD

INSTALL TUNNELING SMH

8/16 - SMH INSTALLED ON 8/15/14

INSTALLING SEWER MAIN

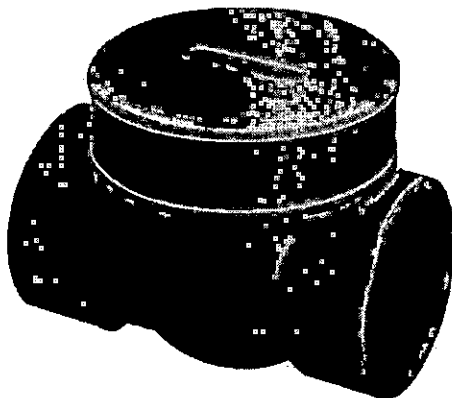
ON MT. PLEASANT

X 1/4" UNDER STORM DRAIN

12" DUCTILE + 8" DI WATER



Thermoplastic Valves Product Guide & Engineering Specifications Backwater Valves



Basic Valve

- All-PVC Construction with EPDM Flapper Seal
- Threaded Top Plug for Convenient Service
- Simple Snap-In Internal Flapper Assembly for Easy Replacement
- Optional Factory Assembled Service-Access Extension Kits - External Housing with Internal Extension for Convenient Removal, Inspection or Replacement
- Optional Extension Components Kits for Assembly with User-Supplied Pipe
- Available in Sizes 2", 3", 4" and 6" with Socket Ends
- Direct Connection to ASTM D 2665 PVC DWW or other IPS size pipe. Spears® IPS x Sewer Adapters Available for Connection to ASTM 3034 Sewer
- Conforms to ASME/ANSI A112.14.1 for Backwater Valves
- Pressure Rated to 43 psi (100 feet of head) @ 73°F



Sample Engineering Specification

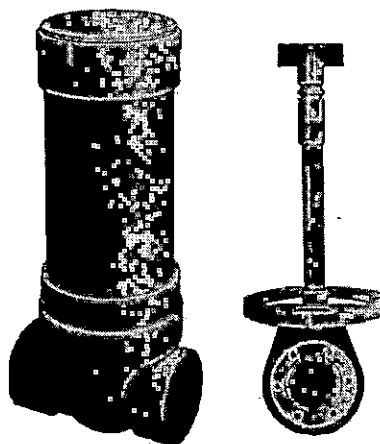
All thermoplastic valves shall be Backwater type constructed from PVC Type I, ASTM D 1784 Cell Classification 12454. All Valve Seats shall be EPDM. All valves shall have external Arrow Flow Indicator. All valves shall be pressure rated to 43 psi (100 feet of Head) for water @ 73°F as manufactured by Spears® Manufacturing Company.

Quick-View Backwater Valve Selection Chart Standard Valve

Valve Size	Seat Material	PVC Material	Pressure Rating
		Socket	
2	EPDM	S275P	43 psi (100 feet of Head)
3	EPDM	S375P	
4	EPDM	S475P	
6	EPDM	S675P	

Features - PVC Gray

Backwater Valves are designed to prevent backflow in numerous applications where easy service access for maintenance and cleaning is needed. Excellent for use in sanitary or storm sewer drainage systems to prevent waste back up due to inadequate drainage, for balancing multi-level ponds, aquaculture features or storage tank systems, and many other applications. Spears® Backwater Valve has been engineered for improved function and easier service, especially in buried service with use of optional Service-Access Extension Kit.



Valve with
Extension Kit

PVC Service-Access

Extension Kit Options:

Available as a complete unit, with or without valve, factory assembled to internal flap assembly, extension pipe, and external extension housing with top access adapter in convenient increments of 12", 16", 20", 24", 36", and 48" (measured from top of valve to top of extension). All extension kits can be cut shorter in the field for custom fits. Also available as Extension Components Kits, with or without valve for assembly with user-supplied Class 125 or Schedule 40 pipe. Kits without valve require use of existing valve top Access Plug, all kits require solvent cement assembly to valve. Contact Spears® for pricing on custom cut lengths.

Quick View

Extension Components Kit Options

Extension Adapters and Flap Assembly with or without valve. Must be assembled with user-supplied Class 125 or Schedule 40 Pipe.

Valve Size	Socket Valve With Extension Component Kit	Extension Component Kit Only	Pressure Rating
2	S275P-AK	S275P-ECK	43 psi (100 feet of head)
3	S375P-AK	S375P-ECK	
4	S475P-AK	S475P-ECK	
6	S675P-AK	S675P-ECK	

Thermoplastic Valves Product Guide & Engineering Specifications

Backwater Valves



Quick View Backwater Valves with Extension Kit to Premade Lengths

Socket Valve with complete Extension Assembly in precut lengths.

Valve x Extension Size ¹	Socket Valve With Extension	Valve x Extension Size ¹	Socket Valve With Extension	Pressure Rating
2 x 12HT	S275P-120	4 x 12HT	S475P-120	43 psi (100 feet of head)
2 x 16HT	S273P-160	4 x 16HT	S473P-160	
2 x 20HT	S275P-200	4 x 20HT	S475P-200	
2 x 24HT	S275P-240	4 x 24HT	S475P-240	
2 x 36HT	S275P-360	4 x 36HT	S475P-360	
2 x 48HT	S275P-480	4 x 48HT	S475P-480	
3 x 12HT	S375P-120	6 x 12HT	S675P-120	
3 x 16HT	S373P-160	6 x 16HT	S673P-160	
3 x 20HT	S375P-200	6 x 20HT	S675P-200	
3 x 24HT	S375P-240	6 x 24HT	S675P-240	
3 x 36HT	S375P-360	6 x 36HT	S675P-360	
3 x 48HT	S375P-480	6 x 48HT	S675P-480	

¹ - Size designates nominal valve size x extension height (HT-top of valve to top of extension, inches).

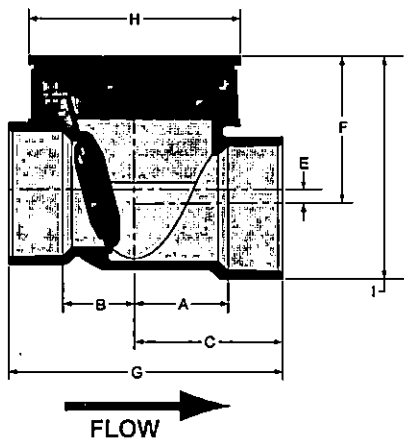
Quick View Service Access Extension Kit Only In Premade Lengths

(valve not included)
Extension Assembly in precut lengths. Use existing valve top Access Plug.

Size ¹	Premade Extension	Size ¹	Premade Extension	Pressure Rating
2 x 12HT	SAEK-020-120	4 x 12HT	SAEK-040-120	43 psi (100 feet of head)
2 x 16HT	SAEK-020-160	4 x 16HT	SAEK-040-160	
2 x 20HT	SAEK-020-200	4 x 20HT	SAEK-040-200	
2 x 24HT	SAEK-020-240	4 x 24HT	SAEK-040-240	
2 x 36HT	SAEK-020-360	4 x 36HT	SAEK-040-360	
2 x 48HT	SAEK-020-480	4 x 48HT	SAEK-040-480	
3 x 12HT	SAEK-030-120	6 x 12HT	SAEK-060-120	
3 x 16HT	SAEK-030-160	6 x 16HT	SAEK-060-160	
3 x 20HT	SAEK-030-200	6 x 20HT	SAEK-060-200	
3 x 24HT	SAEK-030-240	6 x 24HT	SAEK-060-240	
3 x 36HT	SAEK-030-360	6 x 36HT	SAEK-060-360	
3 x 48HT	SAEK-030-480	6 x 48HT	SAEK-060-480	

¹ - Size designates nominal valve size x extension height (HT-top of valve to top of extension, inches). All extension kits can be cut shorter in the field for custom fits.

STANDARD VALVE



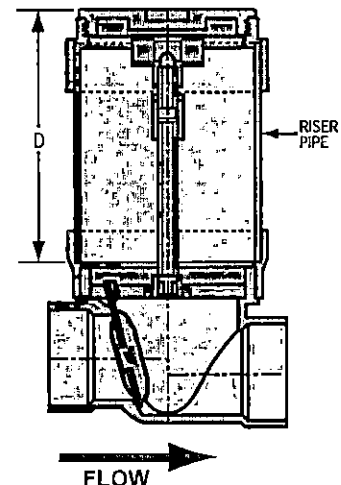
Standard Valve Dimensions

Size	A	B	C	E	F	G	H	I
2	1-13/16	1-3/4	2-5/8	5/16	3-1/4	5-9/32	4-3/16	4-9/16
3	2-5/8	2	4-3/16	13/32	4-1/8	7-3/4	6	6-1/8
4	3-5/8	3-3/4	5-7/16	23/32	5-7/16	10-15/16	8-1/4	7-15/16
6	4-3/4	4-5/8	7-3/4	13/16	7-3/16	15-3/8	11-1/4	10-13/16

VALVE WITH EXTENSION KIT

Valve with Extension Kit Dimensions (Inches)

HEIGHT-D
12
16
20
24
36
48
D = Top of plug Standard Valve to top of plug with Extension





NATIONAL PIPE & PLASTICS, INC.

American-made products since 1970

EVER-GREEN®

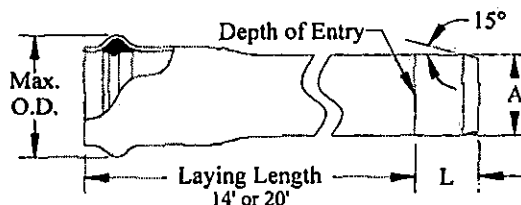
Corporate Offices
3421 Old Vestal Road, Vestal, NY 13850
800.836.4350 607.729.9381 Fax: 607.729.6130
www.nationalpipe.com

PVC SEWER & STORM DRAINAGE PIPE

Scope: This submittal designates the general requirements for Unplasticized Polyvinyl Chloride (PVC) Plastic PSM Sewer Pipe from compound with a cell class 12454, as defined in ASTM Standard D-1784.

Pipe: Pipe in trade size diameter of 4" through 15" shall meet the requirements of the latest ASTM D-3034 Standard. Pipe in trade sizes diameter of 18" and above shall meet the requirements of the latest ASTM Standard F-679. The above pipe shall conform to the requirements of CSA B-182.2, BNQ NQ 3624-130 and NQ 3624-135 Standards. If integral gasketed bell ends are provided on the pipe, the pipe joint must meet the requirements of ASTM Standard D-3212, and the sealing gasket must conform to the requirements of ASTM Standard F-477 for sizes 4"-15". Pipe in trade size diameters of 4 and 6 inch are available with solvent-weld bells. Pipe is manufactured to a standard laying length of 14 feet. Other lengths available upon request.

Fittings: Fittings shall conform to ASTM D-3034 & F-679 & CSA B-182.2.



Pipe Dimensions

ASTM D-3034			Minimum Wall Thickness			Bell OD Max.	"L" Dim. Reference
Nominal Size	Metric (m.m)	Average O.D.	SDR-35*	SDR-26	SDR-28*		
4"	100	4.215	0.120	0.162	0.151	5.050	3.500
5"	135	5.640	---	---	0.201	6.188	4.125
6"	150	6.275	0.180	0.241	0.224	7.305	4.375
8"	200	8.400	0.240	0.323	---	9.605	4.375
10"	250	10.500	0.300	0.404	---	12.030	6.125
12"	300	12.500	0.360	0.481	---	14.100	6.000
15"	375	15.300	0.437	0.588	---	17.200	6.375
Min. Pipe Stiffness @ 5% Deflection			46 psi	115 psi	91 psi		
ASTM F-679			SDR-35	SDR-26			
18"	450	18.701	0.536	0.719	---	20.690	9.125
21"	500	22.047	0.632	0.847	---	24.260	10.125
24"	600	24.803	0.711	0.953	---	27.290	11.125
Min. Pipe Stiffness @ 5% Deflection			46 psi	115 psi			

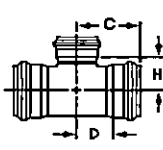
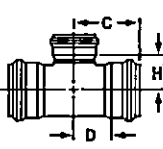
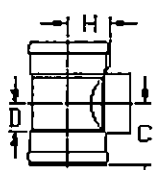
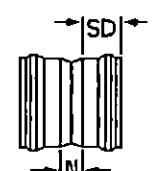
* Per CSA B182.2 & BNQ NQ 3624-130





4" - 24" GASKETED HEAVY WALL SEWER FITTINGS

SDR 26 fittings are manufactured to ASTM F1336 specifications.

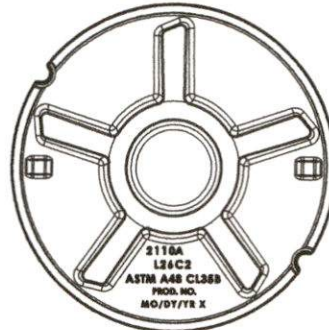
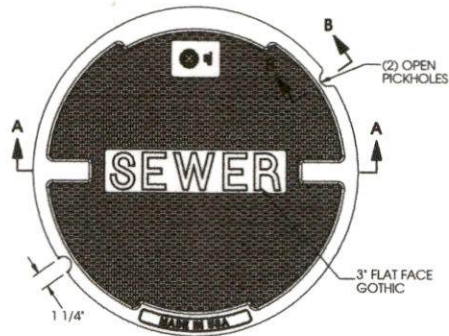
	SIZE	PART NUMBER	LB/100	(C)	(H)	(D)		SIZE	PART NUMBER	LB/100	(C)	(H)	(D)
 FULL & REDUCING TEE GxGxG	6x4	903-0064	510	5.37	6.00	3.62	 SDR26HWS xSCH40 TEE GxG	8x4	963-0084	920	7.33	7.70	3.54
	6x6	903-0066	824	8.75	6.00	5.00		8x6	963-0086	1140	7.33	8.70	3.54
	8x4*	903-0084	786	7.33	4.46	3.54		10x4	963-0104	1725	9.87	7.87	4.87
	8x6*	903-0086	838	7.33	4.46	3.54		10x6	963-0106	2000	10.87	8.37	5.87
	8x8	903-0088	1650	12.00	7.94	7.62		12x4	963-0124	2400	10.10	8.87	5.00
	10x4	903-0104	1660	9.87	8.12	4.87		12x6	963-0126	2740	11.00	9.37	6.00
	10x6	903-0106	1920	10.87	8.12	5.87		15x4	963-0154	3750	11.00	10.13	5.75
	10x8	903-0108	2330	12.12	9.00	7.12		15x6	963-0156	4200	12.00	10.13	6.75
	10x10	903-1010	2790	13.25	9.37	8.25		18x4	963-0184	7150	14.75	11.75	7.75
	12x4	903-0124	2320	10.10	9.12	5.00		18x6	963-0186	7800	15.75	12.25	8.75
	12x6	903-0126	2640	11.00	9.12	6.00		21x4	963-0214	10650	17.00	13.50	8.50
	12x8	903-0128	3090	12.12	10.00	7.12		21x6	963-0216	11500	18.00	14.00	9.50
	12x10	903-1210	3590	13.12	10.37	8.12		24x4	963-0244	16150	20.50	14.87	11.50
	12x12	903-1212	4310	15.00	10.87	10.00		24x6	963-0246	17000	21.50	15.37	12.50
	15x4	903-0154	3690	11.00	10.38	5.75	 SDR26HWS xSCH40 TEE GxH				(C)	(H)	(D)
	15x6	903-0156	4100	12.00	9.88	6.75		8x4*	973-0084	770	7.33	4.46	3.54
	15x8	903-0158	4675	13.12	11.38	7.87		8x6*	973-0086	819	7.33	4.46	3.54
	15x10	903-1510	5310	14.25	11.00	9.00		10x4	973-0104	1675	9.87	7.62	4.87
	15x12	903-1512	5940	15.25	11.75	10.00		10x6	973-0106	1900	10.87	8.62	5.87
	15x15	903-1515	7420	17.50	13.25	12.25		12x4	973-0124	2350	10.10	8.62	5.00
	18x4	903-0184	6300	12.87	12.12	5.87		12x6	973-0126	2700	11.00	9.62	6.00
	18x6	903-0186	6900	13.87	12.12	6.87		15x4	973-0154	3650	11.00	9.87	5.75
	18x8	903-0188	7500	14.87	13.00	7.87		15x6	973-0156	4150	12.00	10.37	6.75
	18x10	903-1810	8300	15.87	13.37	8.87		18x4	973-0184	7050	12.87	11.50	5.87
	18x12	903-1812	9100	16.87	13.75	9.87		18x6	973-0186	7750	13.87	12.50	6.87
	18x15	903-1815	10500	17.87	15.50	10.87		21x4	973-0214	10550	17.00	13.25	8.50
	18x18	903-1818	13300	21.87	15.12	14.62		21x6	973-0216	11400	18.00	14.25	9.50
	21X4	903-0214	10600	17.00	13.75	8.50		24x4	973-0244	16100	20.50	14.62	11.50
	21X6	903-0216	11400	18.00	13.75	9.50		24x6	973-0246	16900	21.50	15.62	12.50
	21X8	903-0218	12100	19.00	14.62	10.50	 STOP COUPLING GxG				(SD)	(N)	
	21X10	903-2110	13000	20.00	15.00	11.50		4	905-0004	120	2.75	2.00	
	21X12	903-2112	13900	21.00	15.50	12.50		6	905-0006	300	3.75	1.50	
	21X15	903-2115	15600	22.50	17.25	14.00		8	905-0008	640	4.38	2.25	
	21X18	903-2118	18100	24.00	16.75	15.50		10	905-0010	1110	5.00	3.00	
	21X21	903-2121	21700	27.00	19.50	18.50		12	905-0012	1650	5.00	4.00	
	24X4	903-0244	16100	20.50	15.12	11.50		15	905-0015	2430	5.25	3.50	
	24X6	903-0246	16900	21.50	15.12	12.50		18	905-0018	5000	7.00	6.25	
	24X8	903-0248	17900	22.50	16.00	13.50		21	905-0021	8900	8.50	11.00	
	24X10	903-2410	18800	23.50	16.50	14.50		24	905-0024	13800	9.00	17.00	
	24X12	903-2412	19900	24.50	17.00	15.50							
	24X15	903-2415	21800	26.00	18.75	17.00							
	24X18	903-2418	24600	27.50	18.25	18.50							
	24X21	903-2421	27500	29.00	21.00	20.00							
	24X24	903-2424	33000	32.50	21.00	23.50							

Massachusetts 26" X 8" Frame & Sewer Cover Set

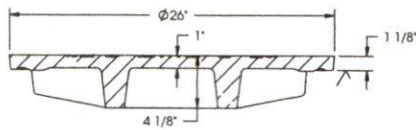
OMA211000056



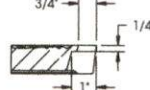
2110A Cover



BOTTOM VIEW



SECTION A-A



SECTION B-B

NOTE: MASS DOT TEST BAR REQUIRED



Product Number

00211044

Design Features

- Materials: Gray Iron (CL35B)
- Design Load: HS20 Load Rating
- Open Area: n/a
- Coating: Undipped
- √ Designates Machined Surface

Estimated Weight

208 lbs.

Certification

- ASTM A48
- ASTM H20-44
- M306-10
- Country of Origin: USA

Drawing Revision

3/26/2009 Designer: SBB
8/1/2013 Revised By: DJH

Disclaimer

Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

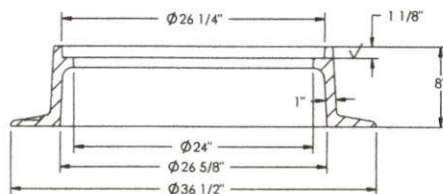
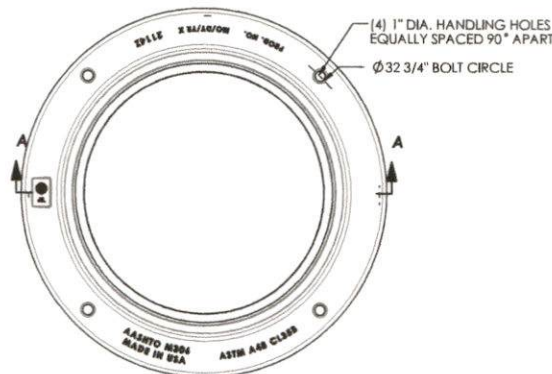
Contact

800 626 4653
ejco.com

00211044

Quantity: 1

2114Z Frame



SECTION A-A



Product Number

00211411

Design Features

- Materials: Gray Iron (CL35B)
- Design Load: HS20 Load Rating
- Open Area: n/a
- Coating: Undipped
- √ Designates Machined Surface

Estimated Weight

292 LBS

Certification

- ASTM A48
- Country of Origin: USA

Drawing Revision

6/24/2009 Designer: DEW
3/3/2014 Revised By: DAE

Disclaimer

Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact

800 626 4653
ejco.com

00211411

Quantity: 1

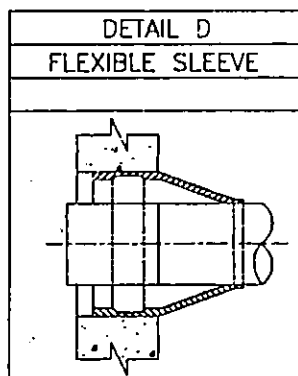
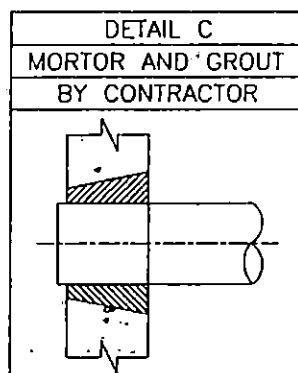
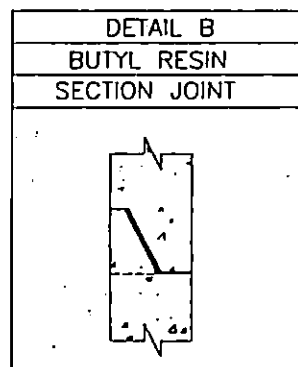
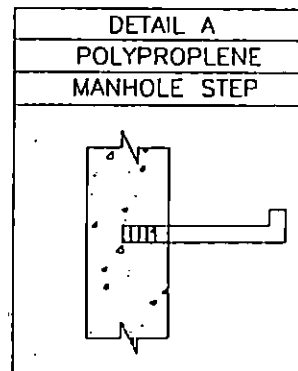
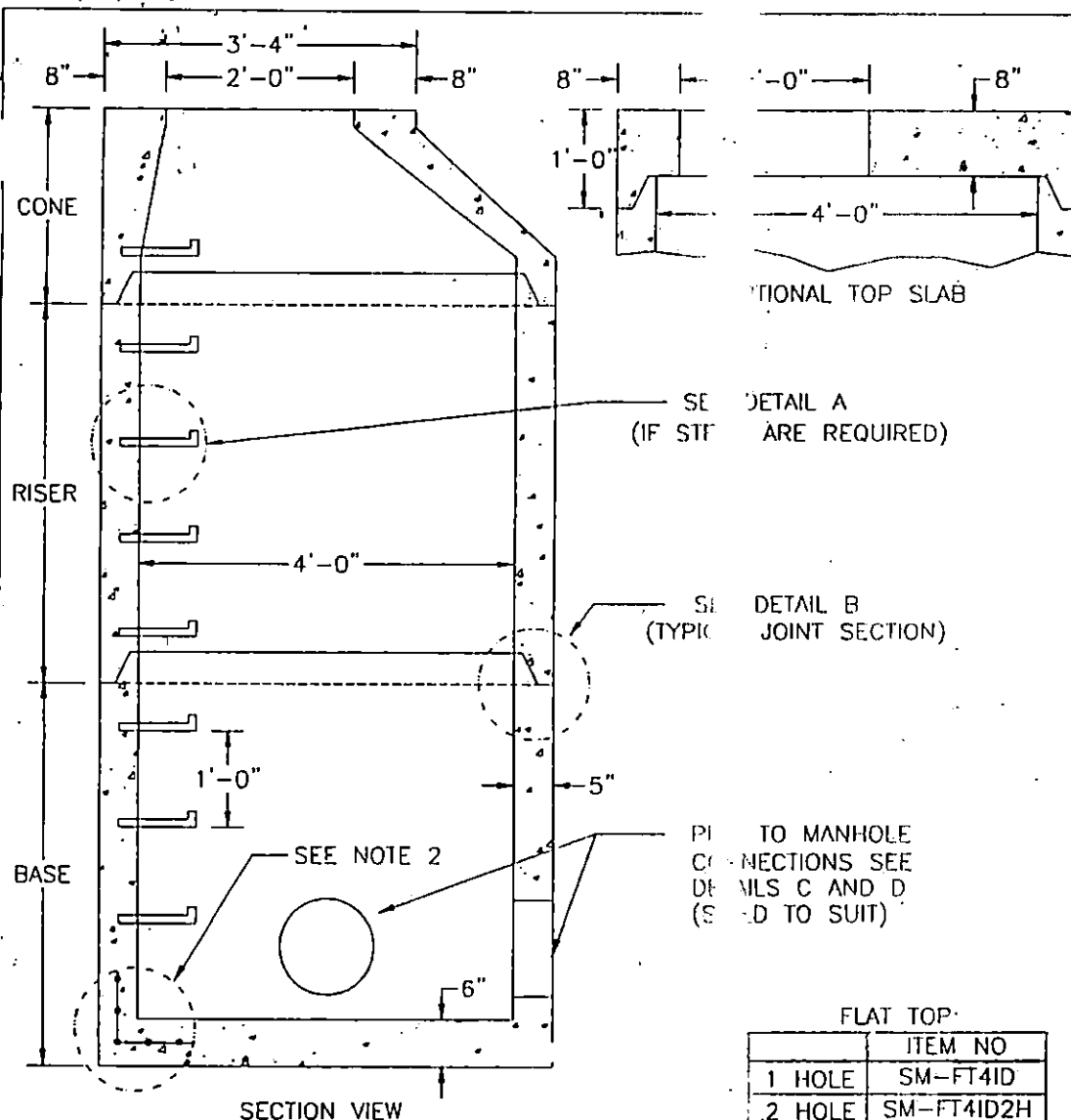
Disclaimer

Weight (lbs./kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notices.

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Contact

800 626 4653
ejco.com



HEIGHT	ITEM NO
2'-0"	SM-24C4ID
2'-6"	SM-30C4ID
3'-0"	SM-36C4ID
4'-0"	SM-60C4ID

HEIGHT	ITEM NO
2'-0"	SM-24S4ID
2'-6"	SM-30S4ID
3'-0"	SM-36S4ID
4'-0"	SM-48S4ID
5'-0"	SM-48S4ID

FLAT TOP	
	ITEM NO
1 HOLE	SM-FT4ID
2 HOLE	SM-FT4ID2H

HEIGHT	ITEM NO
1'-0"	SM-12CS4ID
2'-0"	SM-24CS4ID
2'-6"	SM-30CS4ID
3'-0"	SM-36CS4ID
4'-0"	SM-48CS4ID
5'-6"	SM-66CS4ID

NOTES:

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS
2. REINFORCED STEEL CONFORMS TO LATEST ASTM SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. (BOTH WAYS) BASE BOTTOM.
3. H-20 DESIGN LOADING PER AASHTO HS-20-44 ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
4. BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
5. STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP CONFORMS TO LATEST ASTM C478 SPEC.

J & R PRE-CAST

SEWER MANHOLE
48" DIA

PRO-STIK



PREFORMED JOINT
SEALANT MADE OF
BUTYL RUBBER
MATERIAL IN
FLEXIBLE ROPE FORM

PRO-STIK comes with a coated,
protective release paper, that
removes easily.

TYPICAL APPLICATIONS

- Excellent Low Pressure, Water Resistant Joint Seal
- Manhole Joints and Vertical Risers
- Sanitary and Storm Sewer Manhole
- Sealing of Irrigation and Drainage Systems Joints
- Septic Tanks
- Wet Wells
- Box Culverts
- Underground (Utility) Vault Seal
- Burial Vaults
- Round and Special Shaped Pipe
- Architectural Foundation Joints
- Used with O-Rings for Extra Security in Pressure Pipe Joints



PRESS-SEAL GASKET CORPORATION

6932 GETTYSBURG PIKE
FORT WAYNE, INDIANA 46804
(800) 348-7325 or (219) 436-0521
Fax: (219) 436-1908

P.O. Box 10482
Fort Wayne, Indiana 46852
Web Site: www.press-seal.com
E-Mail: pressseal@press-seal.com

TECHNICAL INFORMATION

PRO-STIK Pre-Formed Butyl Sealant

DESCRIPTION

PRO-STIK is a butyl-rubber-based sealant designed to be permanently flexible, tacky and resistant to moisture and to deterioration by exposure to dilute chemical solutions. PRO-STIK meets all requirements of ASTM C990-96 for Butyl Rubber Sealants.

TYPICAL PROPERTIES

The following values represent typical test results and are not to be confused with manufacturing specifications.

	<u>SPEC.</u>	<u>REQUIRED</u>	<u>PRO-STIK</u>
Butyl Rubber (Hydrocarbon Content %)	ASTM D4	50% min.	51%
Ash Inert Mineral Filler %	AASHTO	30% min.	41%
Volatile Matter (AASHTO T47)	ASTM D6	2% max.	0.3%
Specific Gravity @ 77° F (AASHTO T229)	ASTM D7	1.15 - 1.50	1.25 - 1.35
Ductility @ 77° F, cm (AASHTO T51)	ASTM D1	5.0 min.	6.0 cm
Flash Point C.O.C.	ASTM D9	350° min.	375° F
Fire Point C.O.C.	ASTM D9	375° min.	385° F
Rebound Test			
@ 77° F	ASTM C9	5% - 15%	9.5%
@ 32° F		30% - 60%	41%
Compression Test			
@ 77° F, lbf/in ²	ASTM C9	100 max.	64 lb-ft per cubic in.
@ 32° F, lbf/in ²		200 max.	92 lb-ft per cubic in.
Low Temperature Flexibility			
@ -10° F	ASTM C	180° bend, no cracking, nor loss of adhesion.	Pass - no cracking or adhesion loss.
Elevated Temperature Flexibility			
14 days @ 158° F	ASTM C	No sag, nor change in extruded shape.	Pass - no sag or shape change.
Adhesion After Impact	ASTM C 584	No greater loss than 50% of adhesion.	Pass - no loss of adhesion.
Cone Penetration			
@ 77° F, dmm	ASTM D	50 - 100 dmm	67 dmm
@ 32° F, dmm		40 min.	50 dmm
Chemical Resistance		No deterioration, no cracking, no swelling.	Pass - no visible change after 30 days immersion in 5% solutions of HCl, H ₂ SO ₄ , NaOH, KOH, H ₂ S

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties expressed or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. The foregoing shall not be changed except by an agreement signed by officers of seller and manufacturer.

ms contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties expressed or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. The foregoing shall not be changed except by an agreement signed by officers of seller and manufacturer.

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pagemaker/specs/pro-stik.doc



Press-Seal Gasket Corporation

6932 Gettysburg Pike, Fort Wayne, Indiana 46804
P.O. Box 10432, Fort Wayne, Indiana 46852
Phone: (219) 436-0522 (800) 348-7325 Fax: (219) 436-1908
e-mail: presseal@press-seal.com Web: www.press-seal.com

Bob,
These are rest of
the specs for materials
for the Post Office.

Thanks,
Donna



CORPORATION
X 539
02717
508-763-1930

Design 80 psi @
Strength: 28days
Slump: 8 +/- 0.5
in
Air: 25 +/-
0.5 %
Desired Yield: 27.10 cu ft/yd

w/cm: 4.16
% FA by volume: 100 %
% CA + OA by volume: %
Unit Weight: 103.47 lb/cu ft

MATERIAL	SUPPLIER	PRODUCT	SP. GR.	SSD WT/ YD (lb)	VOLUME (cu ft)
Cement:	Glen Falls	Type I / II	3.15	80	0.41
Pozzolan 1:	Fly Ash	Type F	2.40		
Pozzolan 2:	Slag	GBFS	2.90		
Water:	Well	Well	1.00	333	5.34
Coarse aggregate:	Coarse Agg	#57	2.60		
Other aggregate:	Other Agg.	#8	2.68		
Fine aggregate:	Fine Agg.	Concrete Sand	2.63	2391	14.57
Design Air				25.0%	6.78
TOTAL				2804	27.10

ADMIXTURES	SUPPLIER	PRODUCT	oz/cwt	oz/yd
Admix 1:	Sika	Sikament AFM		
Admix 2:	W R Grace	Dara Fill		1 Bag Per yard
Admix 3:	Admix 3	Admix 3		
Admix 4:	Admix 4	Admix 4		

Please do not hesitate to call if I may be of further assistance.

***** We can not guarantee color. *****

LEHIGH

HEIDELBERGCEMENT Group

Mill Test Certificate Report

Type: I/II and GU ASTM, I/II AASHTO
 Silo:
 Grind Number: Week 20-21 2014

Test Period: 05/13/14
 to: 05/25/14

Certification

This certifies that the described cement, at the time of shipment, meets chemical and physical requirements of the current applicable specification for ASTM C-150, for Type I and Type II as well as AASHTO M-85 for Type I and Type II. This cement also meets the specification for ASTM C-1157 type GU. This cement contains no organic or inorganic additions. We are not responsible for improper use or workmanship.

General Information

Supplier: Lehigh Cement Company LLC
 Address: 675 Quaker Hill Rd.
 Union Bridge, Md. 21791
 Telephone: 800-462-9071
 Source Location: Union Bridge Plant
 Contact: Sales Office

Test Data on ASTM "Standard" Requirements

Chemical Requirements (ASTM C-150, Table 1)				Physical Requirements (ASTM C-150, Table 3)		
Item	Limit	Results		Item	Limit	Results
SiO ₂	-	19.49		Fineness:		
Al ₂ O ₃	6.0 Max	4.78		% Passing 45µm (No. 325)	-	96.64
Fe ₂ O ₃	6.0 Max	3.35		Blaine Fineness (m ² /Kg)	260 min	370
CaO	-	63.42				
MgO	6.0 max	2.88		Autoclave Expansion (%)	0.8 max	0.04
SO ₃	-	2.60		Vicat Setting Time:		
Equivalent Alkalies	0.6 max	0.51		Initial Set (minutes)	45 min	155
Loss on Ignition	3.0 max	2.78				
Insoluble Residue	0.75 max	0.31				
CO ₂	A	1.79		Air Content (%)	12 max	8.1
Limestone %	5.0 max	4.48				
CaCO ₃ in Limestone	70% Min	91.0		Compressive Strengths Mpa:		
				1-Day	-	15.74
Potential Compounds:		Adjusted	Base	3-Day	12.0 min	27.35
C ₃ S	-	58.65	61.30	7-Day	19.0 min	33.54
C ₂ S	-	11.11	11.62	28-Day	-	-
C ₃ A	8 max	6.94	7.25			
C ₄ AF	-	10.15	10.61			

Test Data on ASTM Optional Requirement

Chemical Requirements (ASTM C-150, Table 2)				Physical Requirements (ASTM C-150, Table 4)		
Item	Limit	Results		Item	Limit	Result
C ₃ S+4.75°C ₃ A	<100	91.6		False Set	Min 50	77
Heat of Hydration (6/13)		81.4		C-1038	Max 0.020	-

May 27, 2014
 Date

J. D. Hoke
 Quality Control Manager



Briggs Engineering & Testing

A Division of PK Associates, Inc.

A.D. Makepeace
158 Tihonet Road
Wareham, MA 02571

Report Date: 6/25/13

Attn: Mr. Mark Bartlett

Project: A.D. Makepeace
Briggs #: 21976

Tested: 6/21/13
Received: 6/19/13

1.	<u>Sample No.</u> M-22930	<u>Description</u> Concrete Sand	<u>Source of Material</u> Pit #17
----	------------------------------	-------------------------------------	--------------------------------------

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

Sieve Size		Results {% Passing by Wt.}	Specifications ASTM C 33 Fine Agg.
Standard	Alternate		
9.5 mm	3/8"	100	100
4.75 mm	#4	97	95-100
2.36 mm	#8	91	80-100
1.18 mm	#16	81	50-85
0.600 mm	#30	57	25-60
0.300 mm	#50	22	5-30
0.150 mm	#100	3	0-10
0.075 mm	#200	0.5	

3. Fineness Modulus: 1.49 2.3-3.1

4. Sample tested conforms to Specifications for "ASTM C 33, Fine Aggregate."

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

Sean Skorohod
Director of Testing Services
Construction Technology Division

www.briggsengineering.com

100 Weymouth Street - Unit C-2
Rockland, MA 02370
Phone (781) 871-6040 • Fax (781) 871-4340

56 Roland Street - Suite 102-1
Boston, MA 02121
Phone (617) 666-6140

100 Pound Road
Cumberland, RI 02864
Phone (401) 658-2990 • Fax (401) 658-2977

DARAFILL® DRY

Controlled low strength material performance additive

Product Description

DaraFill® Dry produces engineered Controlled Low Strength Material (CLSM)* that is highly flowable, volume stable and excavatable in the future. By developing a stable-air matrix in the CLSM mixture, DaraFill Dry improves flowability and reduces the required amount of mix water up to 50%, compared to a water-based CLSM. DaraFill Dry is packaged in bags.

Uses

The use of DaraFill Dry produces a low water content CLSM that is primarily used to improve flowability, lower densities, eliminate segregation and settlement, and control strength development in applications where future excavation is required. DaraFill Dry is designed to be used with cement, and pozzolans such as ASTM grade fly ash and ground blast furnace slag. The addition of DaraFill Dry is a cost-effective alternative to a water-based CLSM mixture, and CLSM is a cost-effective alternative to soil backfill.

DaraFill Dry is designed for CLSM mixtures and is not recommended for use in conventional concrete.

Performance

The addition of DaraFill Dry generates stable air contents of 15 to 30% and significantly reduces mix water requirements by as much as 50% when compared to water-based CLSM. When used as recommended, DaraFill Dry enhances plastic and hardened properties of CLSM accordingly:

- Provides a CLSM which is highly flowable with no segregation.
- Controls strength development for future excavation, usually in the range of 50 to 200 psi (0.35 to 1.40 MPa) depending on the application requirements.
- Increases yield of materials up to 30%.
- Provides densities in the range of 90 to 120 lbs/ft³ (1440 to 1920 kg/m³).



Product Advantages

- Makes re-excavatable CLSM with 15-30% air entrainment and reduced buoyancy
- Produces CLSM with minimal subsidence relative to water-based fill systems
- Can be used in wide range of mix designs, to satisfy different performance requirements
- Dry product increases convenience of job site addition



- Aids pumpability and minimizes segregation in pump between loads. Pre-job testing with actual equipment and intended configuration is strongly recommended.
- Reduces buoyancy problems in CLSM around embedded pipes and tanks when compared to water-based CLSM.

Addition Rates

Addition rates are typically one bag [containing 0.38 lbs (0.17 kg) DaraFill Dry] to dose 1 yd³ (0.75 m³) of CLSM and one large bag [containing 1.5 lbs (0.68 kg) DaraFill Dry] to dose 4 yd³ (3 m³) of CLSM.

Batch Sequencing

The contents of DaraFill Dry bags are added in their entirety to the CLSM load. DaraFill Dry should be added directly into mixers after the CLSM load is batched. For optimization of freight volumes, add DaraFill Dry at the job site. CLSM with DaraFill Dry reaches optimum consistency when the mixture reaches a creamy, flowing appearance. For central mix operations, add the contents of DaraFill Dry bags into the central mixer and not into trucks to ease discharge from the central mixer.

Mix design information may be obtained from a Grace Construction Products representative. If water-based CLSM is now being used, a mix design adjustment will be required in order to use DaraFill Dry.

Packaging & Handling

DaraFill Dry bags have a storage tolerance in the temperature range of 32°F to 130°F (0°C to 55°C). Store DaraFill Dry above freezing, away from heat sources and out of direct sunlight.

Specifications

Material for backfill operations shall be cementitious Controlled Low Strength Material mixtures as supplied by concrete producer and contain DaraFill Dry, as manufactured by Grace Construction Products, Cambridge, MA. Mixture ingredients and proportions shall be submitted for approval. DaraFill Dry shall be added by the concrete producer personnel as per manufacturers' recommendations.

* CLSM may be referred to as "Flowable Fill", "Controlled Density Fill" or "Cement Stabilized Sand" in different geographical areas.

www.graceconstruction.com

North American Customer Service: 1-877-4AD-MIX1 (1-877-423-6491)

DaraFill is a registered trademark of W. R. Grace & Co.-Conn.

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate and is offered for the users' consideration, investigation and verification, but we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would infringe any patent or copyright. W. R. Grace & Co.-Conn., 62 Whittemore Avenue, Cambridge, MA 02140. In Canada, Grace Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

This product may be covered by patents or patents pending.
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tibbetts engineering corp.

716 County Street, Taunton MA 02780

CONSULTING ENGINEERS
Tel. (508) 822-6934 Fax. (508) 880-7811

Christopher M. White, PE - Laboratory Director

Report of Aggregate Wet Sieve Analysis (ASTM C136)

Client: *Medeiros and Sons Construction*
620 Chase Road
North Dartmouth, MA 02747

Job No.: *Inst. 13-3074*
Date: *04/17/13*
Report No.: *MA3106C*

Project: Quality Control Testing
Material: Recycled Processed Gravel with Asphalt
Location: Chase Road Pit

Specs. MA DOT Reclaimed Pavement Borrow Material M1.09.0 (Supplement C2010)

Sampled By: Client
Tested By: Philip J. Medeiros


Date Sampled: 4/15/2013
Date Tested: 4/16/2013

ANALYSIS RESULTS

Sample Wt.(g) = 1717.40

Sieve Size	MM	Weight Retaine % Retained % Passing			Specification Gradation Limits		
		(Grams)			Min.	-	Max.
3.0 Inch	76.10	0.00	0.0	100.0	100		
1.5 Inch	38.10	0.00	0.0	100.0	70		100
3/4 Inch	19.00	283.60	16.5	83.5	50		85
1/2 Inch	12.70	274.50	16.0	67.5			
No. 4	4.760	408.20	23.8	43.7	30		60
No. 10	2.000	247.80	14.4	29.3			
No. 50	0.297	347.20	20.2	9.1	8		24
No. 100	0.149	60.20	3.5	5.6			
No. 200	0.074	35.80	2.1	3.5	0		10
Pan		60.10	3.5				

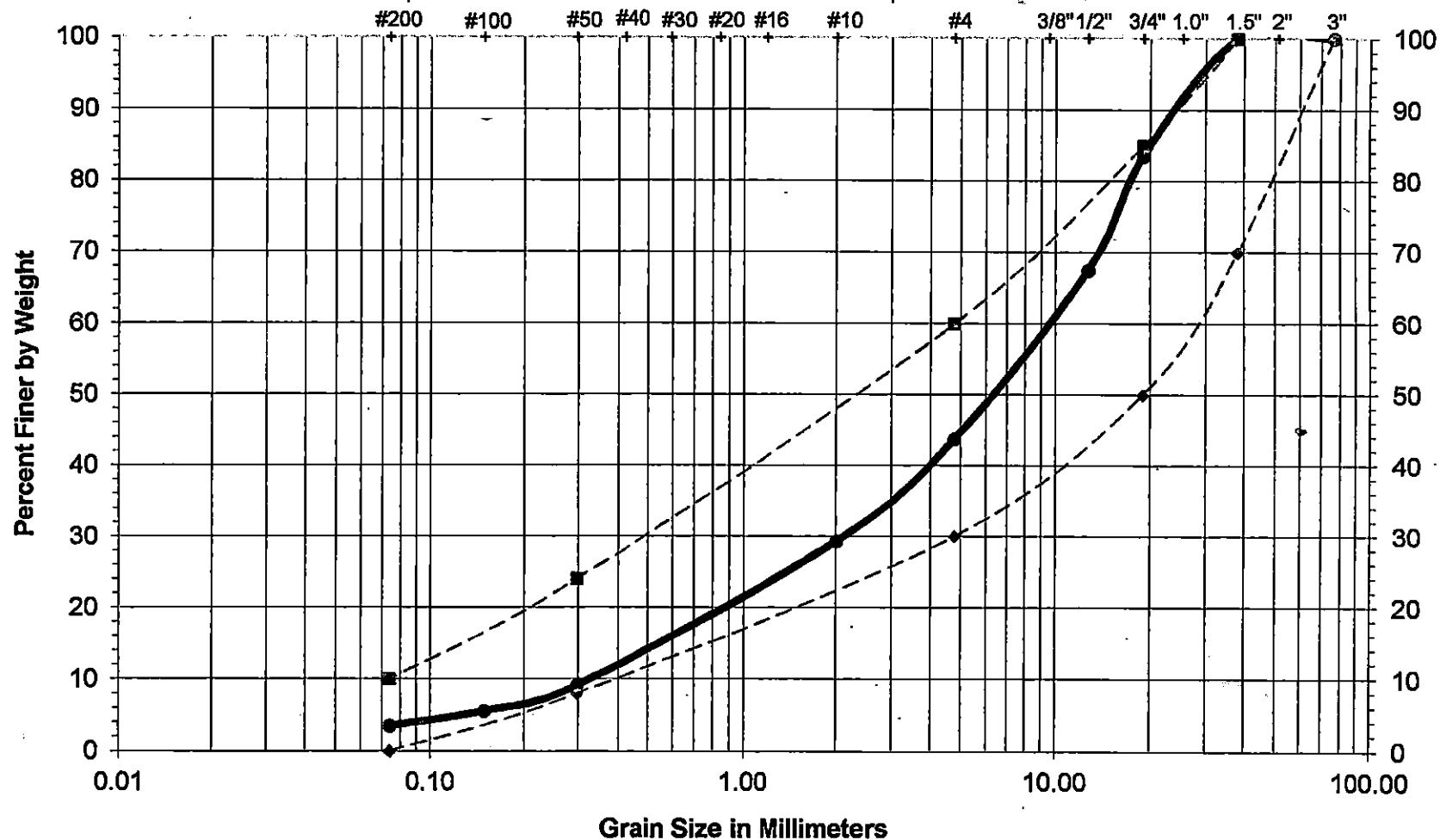
Remarks: The gradation of this sample met the specified limits for Reclaimed Pavement Borrow Material (M1.09.0) and Processed Gravel for Subbase (M1.03.1)


Christopher M. White, PE
Laboratory Director

Philip J. Medeiros
Laboratory Technician

Graph of Sieve Analysis Using ASTM C-136

Medeiros and Sons Construction
+ Report No.: MA3106C
--■-- Specification Max. Limit
Job No.: Inst. 13-3074
● Soil Grain Size Distribution
--◆-- Specification Min. Limit





HOT MIX ASPHALT JOB MIX FORMULAS

COMPANY: PJ Keating CITY: Acushnet, MA
 PLANT LOCATION: 72 South Main Street

DATE: 2/20/2014
 REVISED # 1
 DATE OF REVISION: 5/30/2014
 TELEPHONE #: 508-992-3542

RMS-043 Revised: 1/23/12

Plants to be used

ID #	Batch/Drum Size	Automatic Controls (X)	PG Binder Tanks	Mix Silos: Insul/Heat (X)
903	tons/ 500 Tph	part full X w/printer X	3 @ 30K gals. 5	@ 200 ton, ins. X /htd X
	tons/ Tph	part full w/printer	@ gals. 4	@ 250 ton, ins. X /htd X
	tons/ Tph	part full w/printer	@ gals.	@ ton, ins. /htd

ALLOWABLE TOLERANCES

Sieve Designation/ Binder Content	Eng. Limit All Mixes	Eng. Limit for OGFC
Passing No. 4 and larger sieve sizes	JMF Target +/- 7 %	JMF Target +/- 5 %
Passing No. 8 through No. 100	JMF Target +/- 4 %	JMF Target +/- 3 %
Passing No. 200	JMF Target +/- 2 %	JMF Target +/- 1 %
% Binder	JMF Target +/- 0.4 %	JMF Target +/- 0.3 %

Coarse Aggregates

Nom size	Producer & City
1 1/2"	PJ Keating Acushnet MA
3/4", 1/2"	PJ Keating Acushnet MA
3/8"	PJ Keating Acushnet MA

Fine Aggregates

%	Producer & City
0-100	Screenings PJ Keating Acushnet MA
0-100	Stone Sand PJ Keating Acushnet MA
0-100	Natural Sand Makepeace Middleborough, Ma

RAP Amount for:

Base	25	%	3/4"	.w/PG	64-28	modifier
Intermediate	25	%	1/2"	.w/PG	64-28	modifier
Surface	15	%	3/8"	.w/PG	64-28	modifier

Mineral Filler

% and Kind	Grade	Source
%	64-28	Pike Newington, NH
Kind	64-28	Hudson Providence, RI

Special Material:

OGFC: Polymer	3	% and Kind	BASF Latex
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Anti-Strip:

0.75	% of Bit	Kind:	Ad-here /
1	oz per	5000	gals. Evotherm

NOTE LIMITATIONS (Unless Design

Data Approved) Unless authorized by the Engineer, no Job Mix Formula will be approved which specifies:
 * Less than 6% binder for HMA Surface Course - Standard Top
 ** Less than 5.5% binder for HMA Surf. Course - Dense Binder and Mod Top for mixes containing RAP.

FORMULAS (DR = Design Range of Specifications, JM = Job Mix Formula)

Aggregate Percentages below are proportional percentages of total aggregate for the mix.

Sieve Size	HMA Base		HMA Binder		HMA Intern. Dense Binder		HMA Surface Dense Binder		HMA Surface Std. Top		HMA Surface Mod. Top		HMA Dense Mix		HMA Surf. Tmt.		HMA OGFC		HMA 3/8" Top		HMA	
	DR	JM	DR	JM	DR	JM	DR	JM	DR	JM	DR	JM	DR	JM	DR	JM	DR	JM	DR	JM	DR	JM
2"	100	100																				
1"	64-80	80	100	100	100	100	100	100			100	100										
3/4"			87-93	93	87-93	93	87-93	93			95-100	99										
5/8"									100	100									100	100		
1/2"	47-58	56	62-68	68	72-73	73	72-73	73	95-100	97	86-93	93	100	100			100	100	95-100	100		
3/8"									87-93	88	75-81	81	87-93	93	100	100	95-100	95	87-93	93		
#4	27-38	35	35-43	43	55-58	55	55-58	55	57-69	62	55-61	58	62-73	73	94-100	94	35-45	35	57-69	65		
#8	19-29	27	24-34	33	41-45	43	41-45	43	41-45	45	37-42	42	52-55	55	68-81	68	8-12	12	41-45	45		
#16									30-36	31	24-36	31	40-45	41	50-64	50			30-36	35		
#30	12-13	13	12-18	17	21-26	22	21-26	22	21-25	22	18-26	21	28-34	28	30-46	32			21-25	22		
#50	8	8	9-11	10	14-18	14	14-18	14	14-17	14	13-17	13	18-23	18	17-27	20			14-17	14		
#100									9-12	9	10-12	10	10-14	10	11-13	12			9-12	9		
#200	2	2	2-3	3	24	4	24	4	4-5	5	4	4	6	6	5-6	5	2	2	4-5	5		
% Binder	4.4-4.6	4.4	4.9-5.1	4.9	5.4-5.6	5.4	** 5.4-5.6	5.5	* 5.9-6.6	6.0	** 5.4-5.6	5.5	7.4-7.6	7.4	7.4-7.6	7.4	6.3-6.7	6.3	* 5.9-6.6	6.0		
Max. Theo Sp. Gr.	2.535		2.515		2.508		2.507		2.466		2.499		2.481		2.475				2.474			

We agree to furnish mixes to MassDOT projects produced from only above referenced materials, within allowable tolerances of the exact formulas given above.

We also understand that formulas are to be submitted annually, prior to production for MassDOT work, and any subsequent changes in materials or formulation will require resubmission for approval.

Authorized Signature and Title:

MATTHEW TETO
 QC MANAGER

e-mail address:

mteto@pjkeating.com