

Project Information

Project Name:	Project Number:	Date:
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Contractor	Hartigan Company
Responsible:	Michael Melanson
Department:	
Street:	31 Welch Park Dr.
City:	Middlesex
Telephone:	800-696-0761
Fax:	hartigancompany.com
Mobile:	802-585-9916
E-Mail:	hartigancompany.com

Notes:



Defect Listing Plot Left

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C...	Pipe Use SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...
SPR 2	MPR 8	PO Number		Customer	
SPRI 2	MPRI 2	Work Order Number		Purpose	
QSR 2100	QMR 2400			ROUTINE ASSESSMENT	
OPR 10	Surveyed By EEM	Direction UPSTREAM	Date 20170517	Media label	
OPRI 2	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 08:11	Weather DRY - NO P...	
Date Cleaned			End Time 08:30	Additional Info	



54

	Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft.	Access Point Manhole 54					
0.0 ft.	Miscellaneous Water Level				5	
1.5 ft.	Miscellaneous Material Change PVC TO VCP					
2.0 ft.	Tap Break-In Intruding		10	3 / 1		
26.0 ft.	Tap Break-In Intruding		2	3 / 1		
52.6 ft.	Tap Factory Made CAPPED		10	3		
54.1 ft.	Tap Factory Made		2	3		
91.5 ft.	Crack Longitudinal		1			
103.4 ft.	Tap Factory Made		12	3		
114.6 ft.	Tap Factory Made		12	3		
119.9 ft.	Tap Break-In Intruding		12	3 / 1		
137.2 ft.	Tap Factory Made		12	3		
155.3 ft.	Tap Break-In Intruding		12	3 / 1		
159.8 ft.	Tap Factory Made		12	3		



Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 55	VILLAGE OF WATERBUR...	ELM ST	POLYVINYL CHLORIDE	EASEMENT/R...	SANITARY S...
	Total Length	Year Constructed	Shape	Location Details	
Downstream MH 54	Length surveyed	Year Renewed	Height	Width	Pipe Joint...
	230		15	15	

Code: _____ Continuous: _____ Pos: _____ Val 1 / 2 : _____ % : _____ Gallons: _____



162.1 ft.

Tap Factory Made		12	3		
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230.0 ft.

Access Point Manhole					
55					

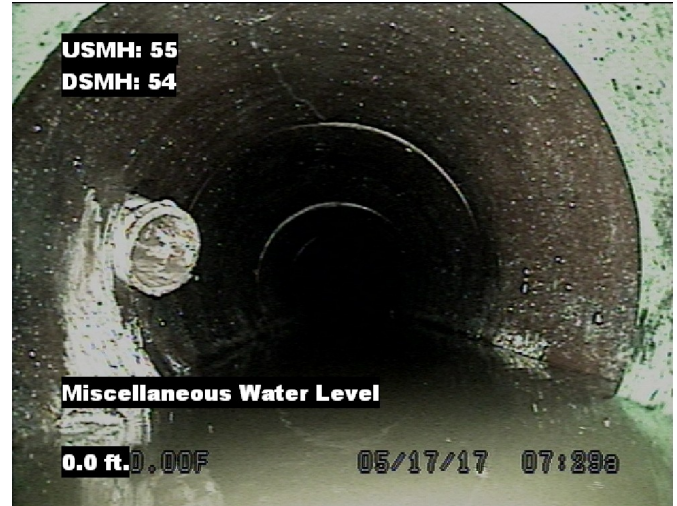
55

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE		Location C...	Pipe Use EASEMENT/R...SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...	



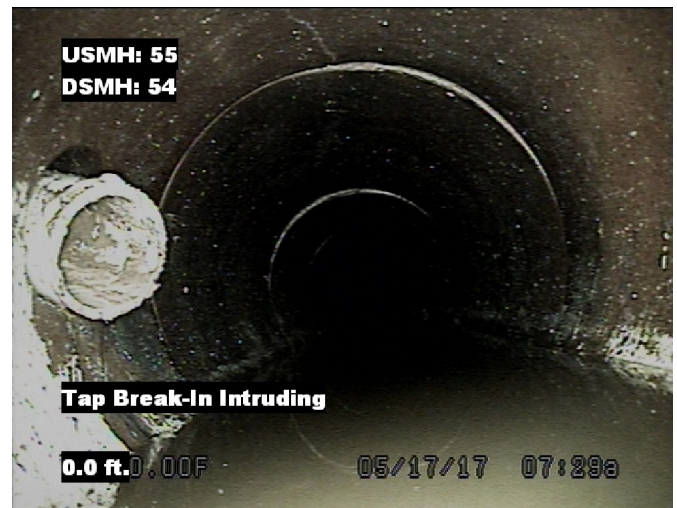
Distance: 0.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 54



Distance: 0.0 ft. Grade: 0
 Condition: Miscellaneous Water Level
 Remarks: N/A



Distance: 1.5 ft. Grade: 0
 Condition: Miscellaneous Material Change
 Remarks: PVC TO VCP



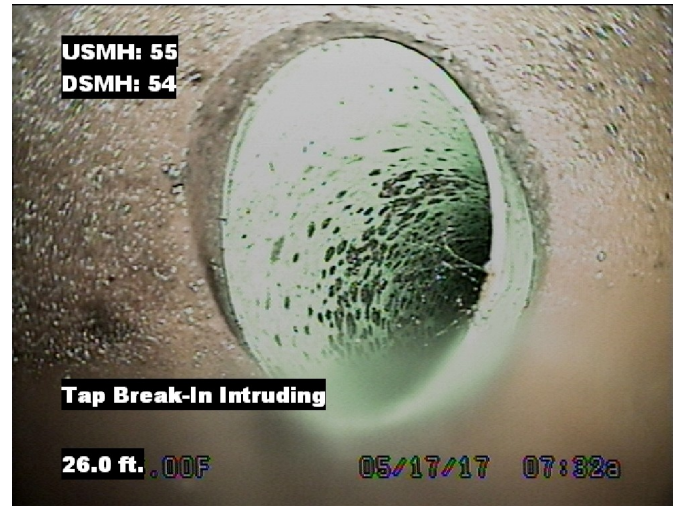
Distance: 2.0 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A

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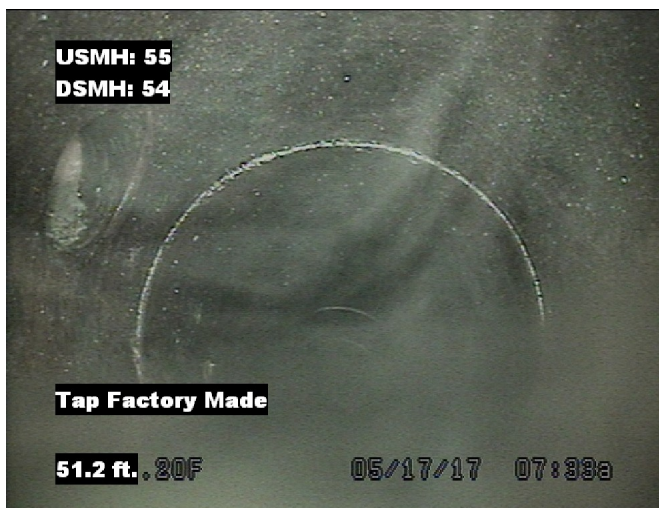
Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C...	Pipe Use EASEMENT/R...SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...



Distance: 26.0 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 26.0 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 52.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: CAPPED



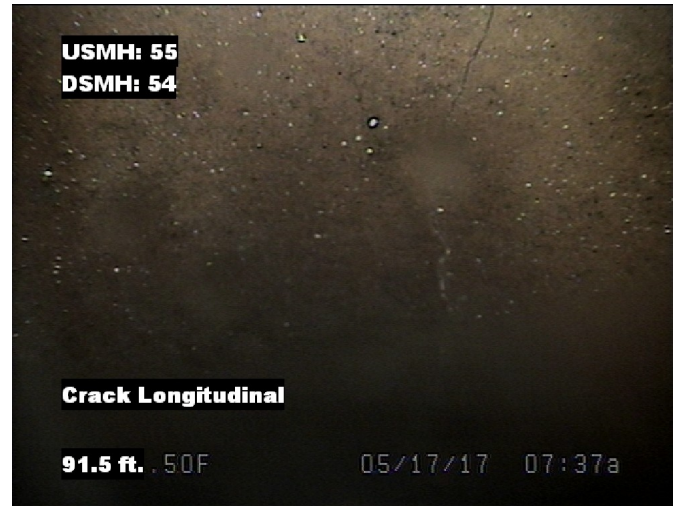
Distance: 52.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: CAPPED

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C...	Pipe Use EASEMENT/R...SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...



Distance: 54.1 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 91.5 ft. Grade: 2
 Condition: Crack Longitudinal
 Remarks: N/A



Distance: 103.4 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



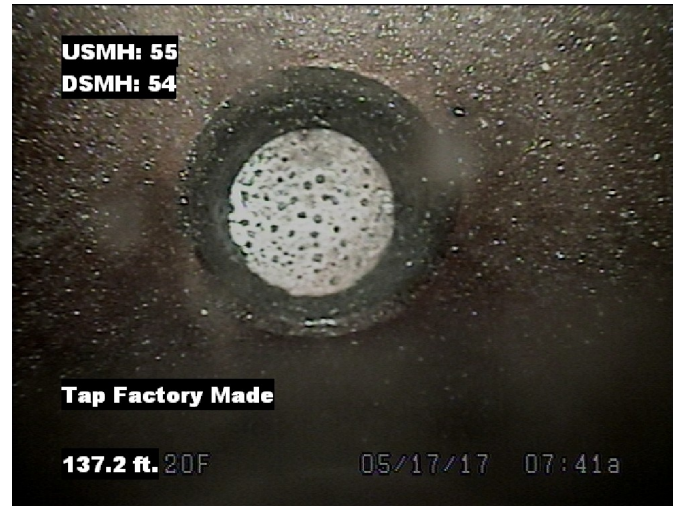
Distance: 114.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
	VILLAGE OF WATERBUR...	ELM ST	POLYVINYL CHLORIDE	EASEMENT/R...	SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...



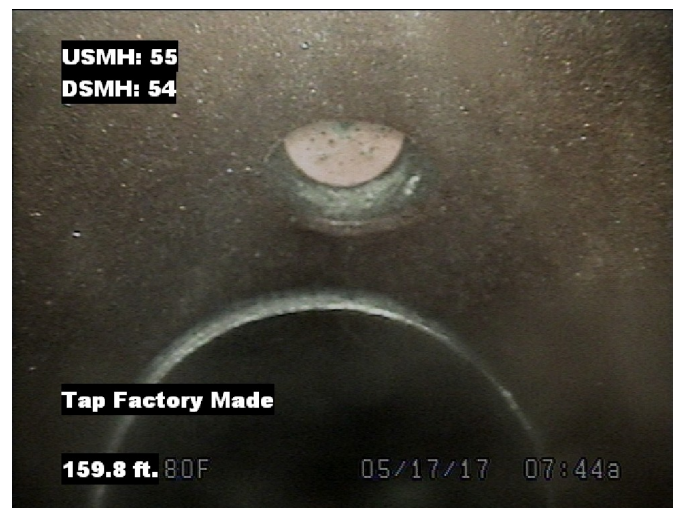
Distance: 119.9 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 137.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 155.3 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 159.8 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE		Location C...	Pipe Use EASEMENT/R...SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...	



Distance: 162.1 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 230.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 55

Project Information

Project Name:	Project Number:	Date:
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Contractor	Hartigan Company
Responsible:	Michael Melanson
Department:	
Street:	31 Welch Park Dr.
City:	Middlesex
Telephone:	800-696-0761
Fax:	hartigancompany.com
Mobile:	802-585-9916
E-Mail:	hartigancompany.com

Notes:



Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 59	VILLAGE OF WATERBUR...	FOUNDRY ST	POLYVINYL CHLORIDE	SECONDARY ..	SANITARY S...
Downstream MH 56	Total Length 197.4	Year Constructed	Shape CIRCULAR	Location Details	
SPR 0	MPR 0	Year Renewed	Height 15	Width 15	Pipe Joint...
SPRI 0	MPRI 0	PO Number	Customer		
QSR 0000	QMR 0000	Work Order Number	Purpose ROUTINE ASSESSMENT		
OPR 0	Surveyed By EEM	Direction DOWNSTREAM	Date 20170517	Media label	
OPRI 0	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 14:02	Weather DRY - NO P...	
Date Cleaned			End Time 14:17	Additional Info	



59

	Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft.	Access Point Manhole 59					
0.0 ft.	Miscellaneous Water Level				5	
82.2 ft.	Tap Factory Made		2	3		
115.2 ft.	Tap Factory Made		2	3		
136.1 ft.	Tap Factory Made		2	3		
197.4 ft.	Access Point Manhole 56					

56

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street FOUNDRY ST	Material POLYVINYL CHLORIDE	Location C...	Pipe Use SECONDARY .SANITARY S...
Upstream MH 59	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 56	Length surveyed 197.4	Year Renewed	Height 15	Width 15	Pipe Joint...



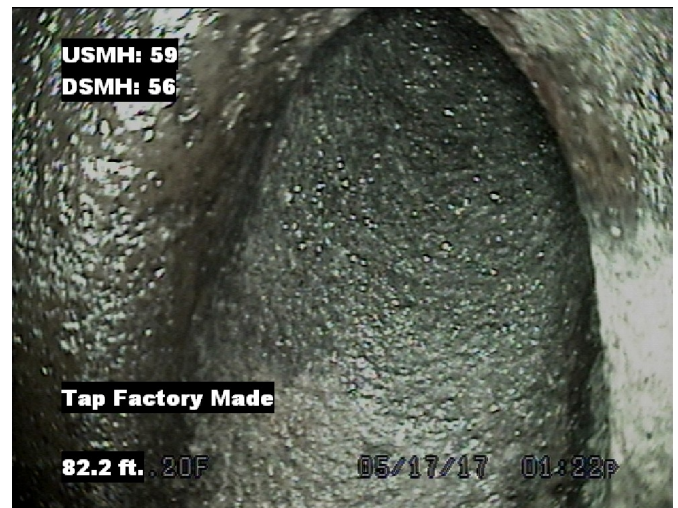
Distance: 0.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 59



Distance: 0.0 ft. Grade: 0
 Condition: Miscellaneous Water Level
 Remarks: N/A



Distance: 82.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



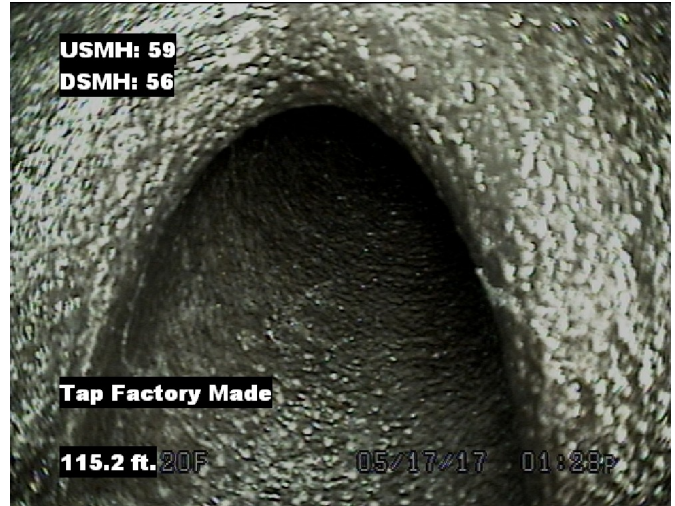
Distance: 82.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street FOUNDRY ST	Material POLYVINYL CHLORIDE	Location C...	Pipe Use SECONDARY .SANITARY S...
Upstream MH 59	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 56	Length surveyed 197.4	Year Renewed	Height 15	Width 15	Pipe Joint...



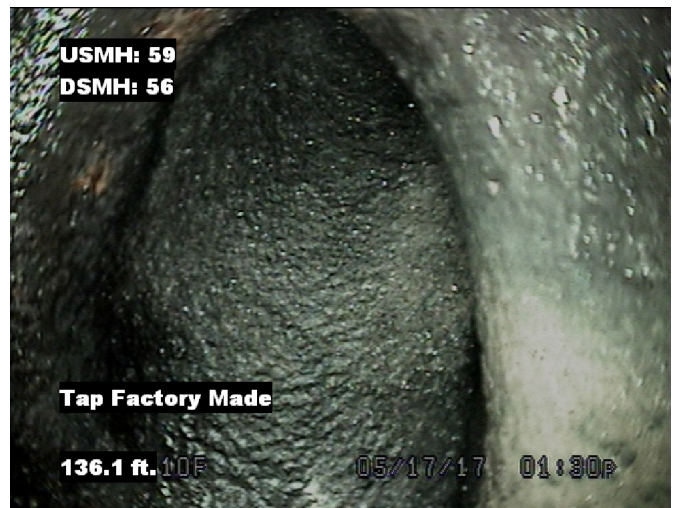
Distance: 115.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 115.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



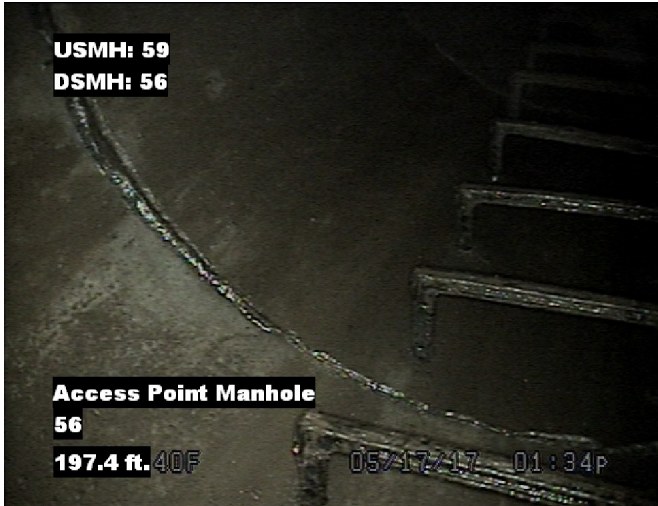
Distance: 136.1 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 136.1 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street FOUNDRY ST	Material POLYVINYL CHLORIDE		Location C...	Pipe Use SECONDARY .SANITARY S...
Upstream MH 59	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 56	Length surveyed 197.4	Year Renewed	Height 15	Width 15	Pipe Joint...	



Distance:	197.4 ft.	Grade:	0
Condition:	Access Point Manhole		
Remarks:	56		

Project Information

Project Name:	Project Number:	Date:
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Contractor	Hartigan Company
Responsible:	Michael Melanson
Department:	
Street:	31 Welch Park Dr.
City:	Middlesex
Telephone:	800-696-0761
Fax:	hartigancompany.com
Mobile:	802-585-9916
E-Mail:	hartigancompany.com

Notes:



Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 54	VILLAGE OF WATERBUR...	ELM ST	POLYVINYL CHLORIDE	EASEMENT/R...	SANITARY S...
Downstream MH 47	Total Length	Year Constructed	Shape	Location Details	
	Length surveyed 157	Year Renewed	CIRCULAR	Height 15	Width 15
SPR 0	MPR 6	PO Number		Customer	
SPRI 0	MPRI 2	Work Order Number		Purpose	
QSR 0000	QMR 2300			ROUTINE ASSESSMENT	
OPR 6	Surveyed By EEM	Direction DOWNSTREAM	Date 20170517	Media label	
OPRI 2	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 07:53	Weather DRY - NO P...	
	Date Cleaned		End Time 08:03	Additional Info	



54

	Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft.	Access Point Manhole 54					
0.0 ft.	Miscellaneous Water Level				5	
33.1 ft.	Tap Break-In Intruding		10	3 / 1		
76.2 ft.	Tap Break-In Intruding		2	3 / 1		
144.1 ft.	Tap Break-In Intruding		2	3 / 1		
157.0 ft.	Access Point Manhole 47					

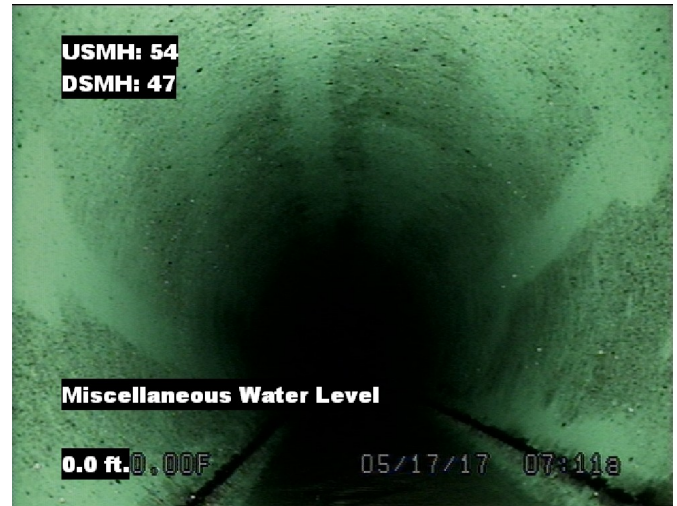
47

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE		Location C...	Pipe Use EASEMENT/R... SANITARY S...
Upstream MH 54	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 47	Length surveyed 157	Year Renewed	Height 15	Width 15	Pipe Joint...	



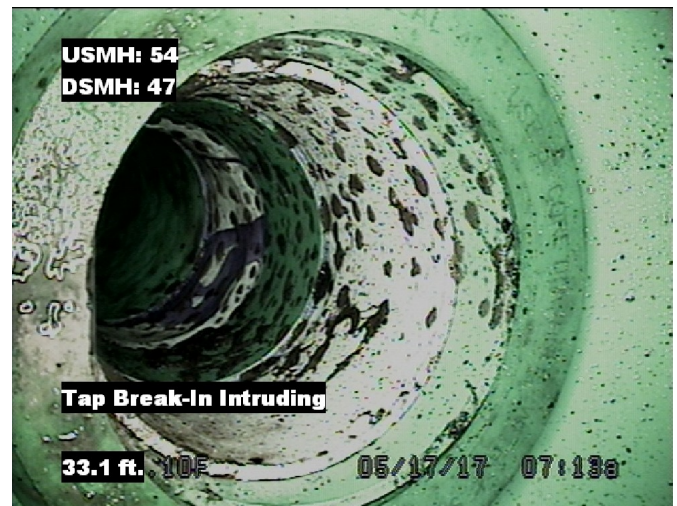
Distance: 0.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 54



Distance: 0.0 ft. Grade: 0
 Condition: Miscellaneous Water Level
 Remarks: N/A



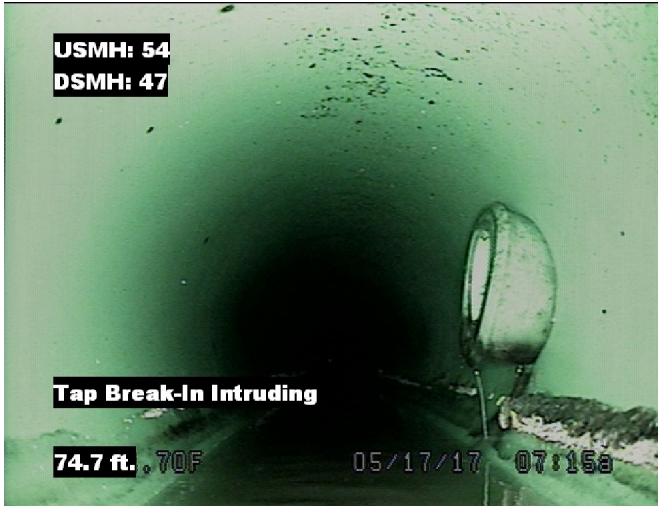
Distance: 33.1 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



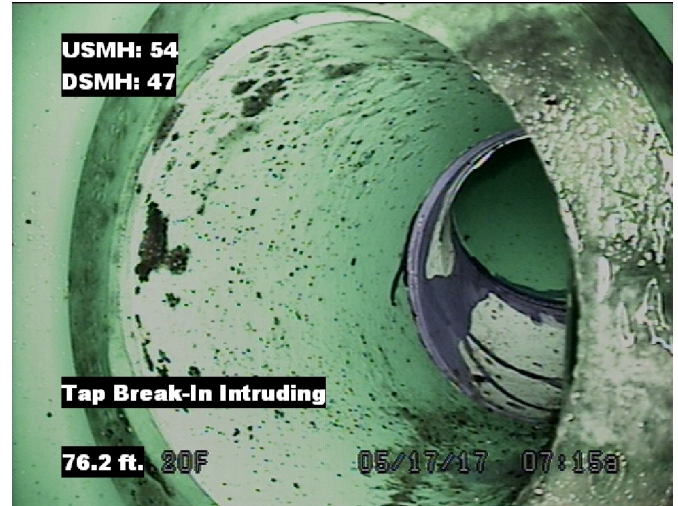
Distance: 33.1 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C... EASEMENT/R...	Pipe Use SANITARY S...
Upstream MH 54	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 47	Length surveyed 157	Year Renewed	Height 15	Width 15	Pipe Joint...



Distance: 76.2 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 76.2 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 144.1 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 157.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 47



Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 69	VILLAGE OF WATERBUR...	PARK ST	POLYVINYL CHLORIDE	SECONDARY	SANITARY S..
Downstream MH 68A	Total Length	Year Constructed	Shape	Location Details	
	Length surveyed 144.2	Year Renewed	CIRCULAR	Pipe Joint...	
SPR 0	MPR 0	PO Number		Customer	
SPRI 0	MPRI 0	Work Order Number		Purpose	
QSR 0000	QMR 0000	ROUTINE ASSESSMENT			
OPR 0	Surveyed By EEM	Direction UPSTREAM	Date 20170517	Media label	
OPRI 0	Certificate Number U-1016-07005746	Pre-Cleaning NO PRE-CLEANING	Time 12:03	Weather DRY - NO P...	
	Date Cleaned		End Time 12:14	Additional Info	



68A

Code:

Continuous: Pos: Val 1 / 2 : % : Gallons:

0.0 ft.

Access Point Manhole

68A

0.0 ft.

Miscellaneous Water Level

5

68.6 ft.

Tap Factory Made

10

3

144.2 ft.

Access Point Manhole

69

69

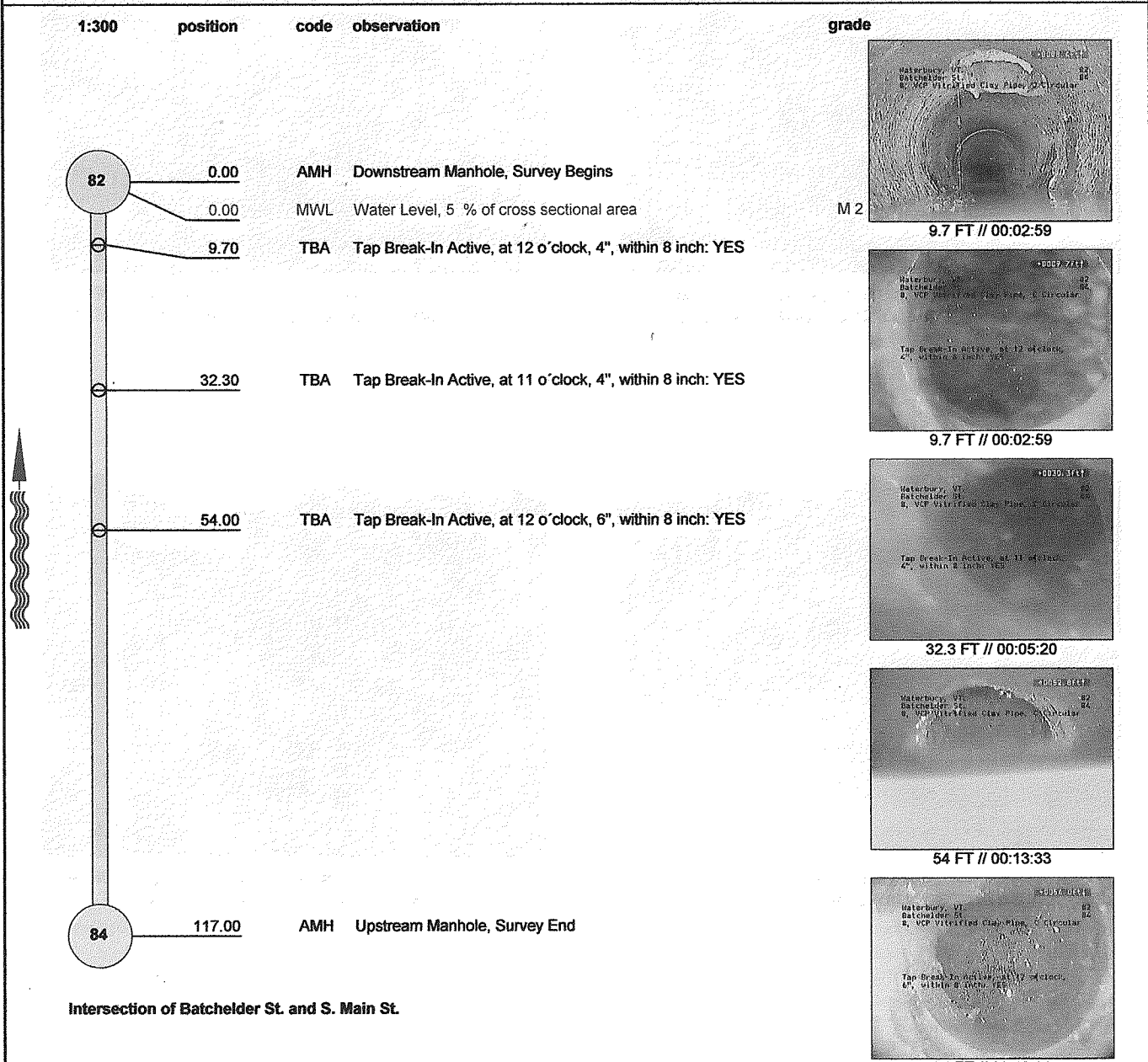
Inspection report

Date: 20090126	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 3	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Batchelder St.	Flow Control:	Start MH: 82
City: Waterbury, VT.	Year Renewed:	End MH: 84
Location Code: D Easement/Right of Way	Tape/Media #: 1	pipe length: 117 ft

Reason for inspection:	Dia/Height: C Circular 8/8
Use of Sewer: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe Length: 3ft
Drain. Area:	Lining Method:
	Category:

Remark:: **Had to use 6" Transporter to T.V. line.**



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2100	0	2	2	0	2	2



Hartigan Company
 147 Main St.
 Stowe, VT 05672
 Tel: 802-253-0376, Fax: 802-253-0387

INSPECTION REPORT

DATE: 05/21/2004	WORK ORDER:	WEATHER: SUNNY, DRY	OPERATOR: Jesse	SECTION NR: 2	SECTION NAME:
PRESENT:	VEHICLE:	CAMERA:	PRESET:	CLEANED: HEAVY	RATE: 2480

STREET: south main	MAP #1:	MH: 40
CITY: Waterbury	MAP #2:	MH: 41
LOCALE:	TAPE #:	TV'D LGTH: 286.5 ft

INSPECT REASON: CUSTOMER COMPLAINT	PIPE SIZE: 6 in
SECTION TYPE:	MATERIAL: VCP JT LGTH:
AREA:	LINING:
	RSRVD:

REMARK:

1:759	DIST	OBSERVATION	
	8.00	inspection begins at downstream manhole	
	94.40	service connection at 12 o'clock	
	115.50	offset joint, medium	
	122.00	pipe broken at joint at 11 o'clock	
	132.30	service connection capped at 12 o'clock	
	134.40	service connection with roots light at 12 o'clock	
	140.30	sag in line	
	160.30	service connection with roots light at 12 o'clock	
	169.10	Multiple Fractures from 06 to 12 o'clock	
	172.40	offset joint, medium	
	180.20	service connection at 12 o'clock severe offset.	
	182.00	sag in line.	
	198.10	Longitudinal Crack at joint at 01 o'clock	
	218.20	service connection at 12 o'clock	
	220.20	sag in line	
	228.50	service connection at 12 o'clock, severe offset.	
	246.40	offset joint, medium	
	275.40	service connection at 12 o'clock, grease present.	
	286.30	service connection at 12 o'clock	
	286.50	capped service, busted or service busted.	



Inspection report

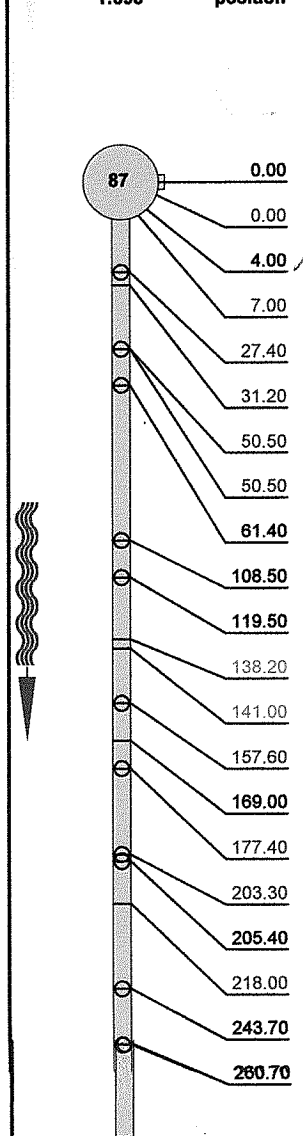
Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 5	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 87
City: Waterbury, VT.	Year Renewed:	End MH: 84
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	pipe length: 338 ft

Reason for inspection:	Dia/Height: C Circular 8/8
Use of Sewer: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe Length: 3ft
Drain. Area:	Lining Method:
	Category:

Remark::

1:693	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 10 % of cross sectional area			M 2
	4.00	TSA	Tap Saddle Active, at 10 o'clock, 4", within 8 inch: YES <i>6 inch PVC</i>	00:01:08	75a, b	
	7.00	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Active Remark: Full of roots.	00:02:36	76a, b	M 2
	27.40	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active Roots in service	00:05:04	77a, b	M 2
	31.20	CL	Crack Longitudinal, at 12 o'clock, within 8 inch: YES	00:05:59	78a	S 2
	50.50	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Capped with broken cap	00:08:14	79a, b	M 2
	50.50	BVV	Broken Void Visible, at 12 o'clock, within 8 inch: YES, Remark: At lateral large void.	00:08:17	80a, b	S 5
	61.40	TFA	Tap Factory Made Active, at 12 o'clock, 4", within 8 inch: YES	00:09:56	81a, b	
	108.50	TFA	Tap Factory Made Active, at 12 o'clock, 4", within 8 inch: YES	00:11:54	82a, b	
	119.50	TFA	Tap Factory Made Active, at 12 o'clock, 4", within 8 inch: YES, Remark: with light grease at connection	00:13:17	83a, b	
	138.20	CM	Crack Multiple, from 10 to 02 o'clock, within 8 inch: YES	00:14:21	84a, b	S 3
	141.00	CM	Crack Multiple, from 10 to 03 o'clock, within 8 inch: YES	00:14:51	85a	S 3
	157.60	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active with offset joint at connection	00:16:13	86a, b	M 2
	169.00	SSS	Surface Spalling, from 01 to 04 o'clock, within 8 inch: YES	00:17:41	87a, b	
	177.40	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active with Roots in service	00:18:49	88a, b	M 2
	203.30	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active with offset joint up lateral.	00:21:10	89a, b	M 2
	205.40	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:21:26	90a, b	
	218.00	CL	Crack Longitudinal, at 10 o'clock, within 8 inch: YES	00:22:42	91a	S 2
	243.70	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:23:58	92a, b	
	260.70	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:25:04	93a, b	



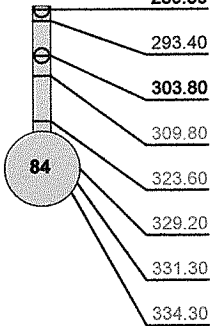
084

Inspection report

Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 5	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

1:693	position	code	observation	MPEG	photo	grade
	<u>289.80</u>	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:27:06	94a, b	
	<u>293.40</u>	CL	Crack Longitudinal, at 02 o'clock, within 8 inch: YES	00:27:35	95a	S 2
	<u>303.80</u>	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:28:57	96a, b	
	<u>309.80</u>	CM	Crack Multiple, from 10 to 11 o'clock, within 8 inch: YES	00:29:36	97a, b	S 3
	<u>323.60</u>	CM	Crack Multiple, from 12 to 01 o'clock, within 8 inch: YES	00:30:43	98a, b	S 3
	<u>329.20</u>	CM	Crack Multiple, from 11 to 12 o'clock, within 8 inch: YES	00:31:20	99a, b	S 3
	<u>331.30</u>	CM	Crack Multiple, from 10 to 01 o'clock, within 8 inch: YES	00:31:49	100a	S 3
	<u>334.30</u>	CM	Crack Multiple, from 01 to 04 o'clock, within 8 inch: YES	00:32:08	101a	S 3

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
5137	2700	32	14	46	2.91	2	2.56





Inspection report

Date: 05/15/2013	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 7	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date: 05/14/13	Pre-Cleaned: J Jetting	Map Grid #:

Street: Randall St.	Flow Control:	Start MH: 49
City: Waterbury, VT	Year Renewed:	End MH: 48
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	Total length: 265.5 ft

Purpose: F Routine Assessment	Dia/Height: C Circular 8"/8"
Use: SS Sanitary	Material: PVC Polyvinyl Chloride Pipe length: 13ft
Drain. Area:	Lining: Category:

Comment:
 Location details:

1:650	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 of cross sectional area			
	5.00	S1	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:01:03	85a	M 2
	22.20	F1	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:03:31		M 2
	24.80	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:03:53	87a, b	
	34.10	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:04:29	88a, b	
	41.00	S2	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:06:03		M 2
	87.10	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:06:57	90a, b	
	96.10	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:08:00	91a, b	
	96.70	F2	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:08:21		M 2
	102.10	S3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:08:53	93a	M 2
	137.40	F3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:12:25	94a	M 2
	172.10	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:14:14	95a, b	
	173.60	S3	DAZ Deposits Attached Other, 5 % of cross sectional area, from 05 to 07 o'clock, within 8 inch: NO, Remark: start	00:16:26	96a	M 2
	184.00	S3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:14:53	97a	M 2
	205.80	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:15:57	98a, b	
	206.30	F3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:16:21		M 2
	206.40	DAZ	Deposits Attached Other, 5 % of cross sectional area, from 05 to 07 o'clock, within 8 inch: NO	00:16:23		M 2
	245.40	MWLS	Water Level, Sag in pipe, 5 % of cross sectional area	00:18:21	101a	M 2
	265.50	AMH	Downstream Manhole, Survey Ends	00:20:44	102a	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2E00	0	56	56	0	2	2

Project Information

Project Name:	Project Number:	Date:
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Contractor	Hartigan Company
Responsible:	Michael Melanson
Department:	
Street:	31 Welch Park Dr.
City:	Middlesex
Telephone:	800-696-0761
Fax:	hartigancompany.com
Mobile:	802-585-9916
E-Mail:	hartigancompany.com

Notes:



Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 55	VILLAGE OF WATERBUR...	ELM ST	POLYVINYL CHLORIDE	EASEMENT/R...	SANITARY S...
Downstream MH 54	Total Length	Year Constructed	Shape	Location Details	
	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...
SPR 2	MPR 8	PO Number		Customer	
SPRI 2	MPRI 2	Work Order Number		Purpose	
QSR 2100	QMR 2400			ROUTINE ASSESSMENT	
OPR 10	Surveyed By EEM	Direction UPSTREAM	Date 20170517	Media label	
OPRI 2	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 08:11	Weather DRY - NO P...	
	Date Cleaned		End Time 08:30	Additional Info	



54

	Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft.	Access Point Manhole 54					
0.0 ft.	Miscellaneous Water Level				5	
1.5 ft.	Miscellaneous Material Change PVC TO VCP					
2.0 ft.	Tap Break-In Intruding		10	3 / 1		
26.0 ft.	Tap Break-In Intruding		2	3 / 1		
52.6 ft.	Tap Factory Made CAPPED		10	3		
54.1 ft.	Tap Factory Made		2	3		
91.5 ft.	Crack Longitudinal		1			
103.4 ft.	Tap Factory Made		12	3		
114.6 ft.	Tap Factory Made		12	3		
119.9 ft.	Tap Break-In Intruding		12	3 / 1		
137.2 ft.	Tap Factory Made		12	3		
155.3 ft.	Tap Break-In Intruding		12	3 / 1		
159.8 ft.	Tap Factory Made		12	3		



Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 55	VILLAGE OF WATERBUR...	ELM ST	POLYVINYL CHLORIDE	EASEMENT/R..	SANITARY S...
	Total Length	Year Constructed	Shape	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...

Code: _____ Continuous: _____ Pos: _____ Val 1 / 2 : _____ % : _____ Gallons: _____



162.1 ft.

Tap Factory Made		12	3		
------------------	--	----	---	--	--

230.0 ft.

Access Point Manhole					
55					

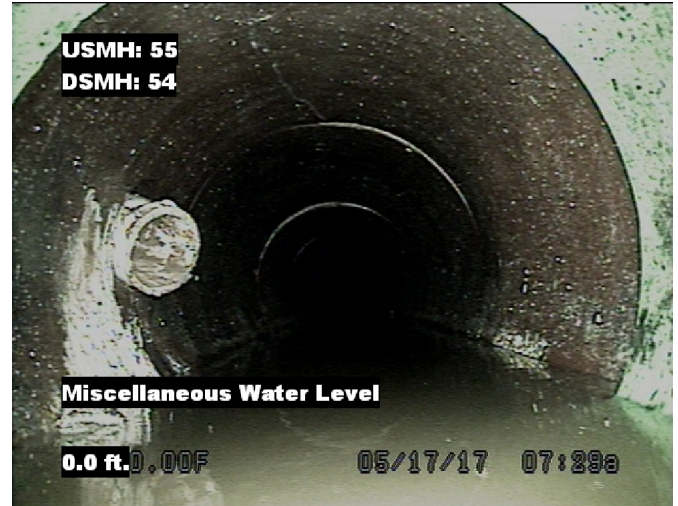
55

Image Report 4/Page

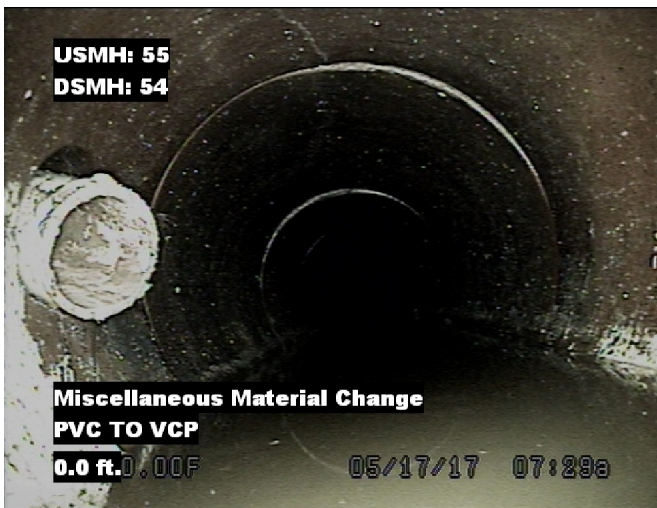
Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C... EASEMENT/R...	Pipe Use SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...



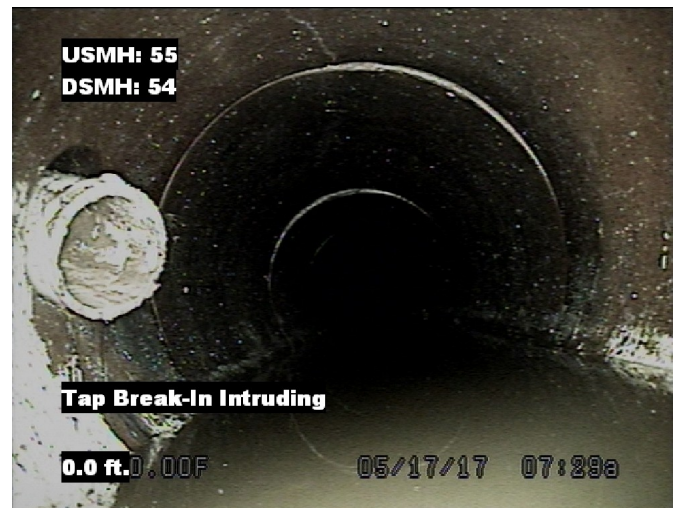
Distance: 0.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 54



Distance: 0.0 ft. Grade: 0
 Condition: Miscellaneous Water Level
 Remarks: N/A



Distance: 1.5 ft. Grade: 0
 Condition: Miscellaneous Material Change
 Remarks: PVC TO VCP



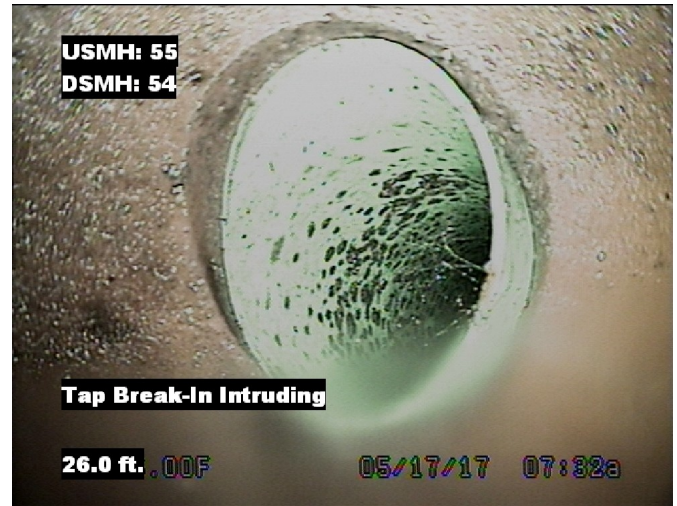
Distance: 2.0 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A

Image Report 4/Page

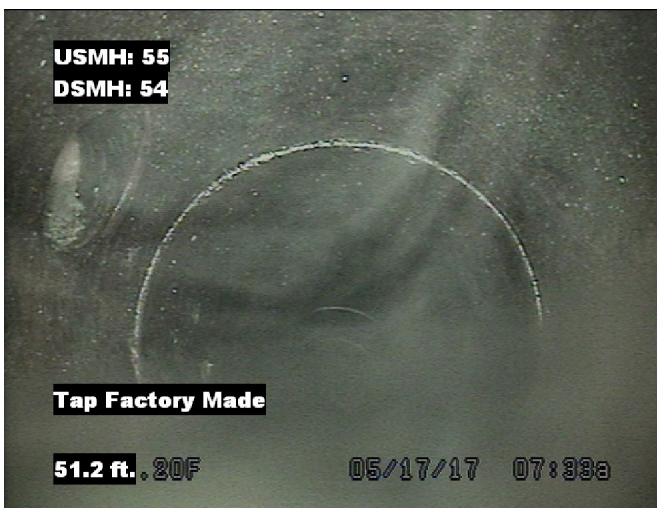
Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C...	Pipe Use EASEMENT/R... SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...



Distance: 26.0 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 26.0 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 52.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: CAPPED



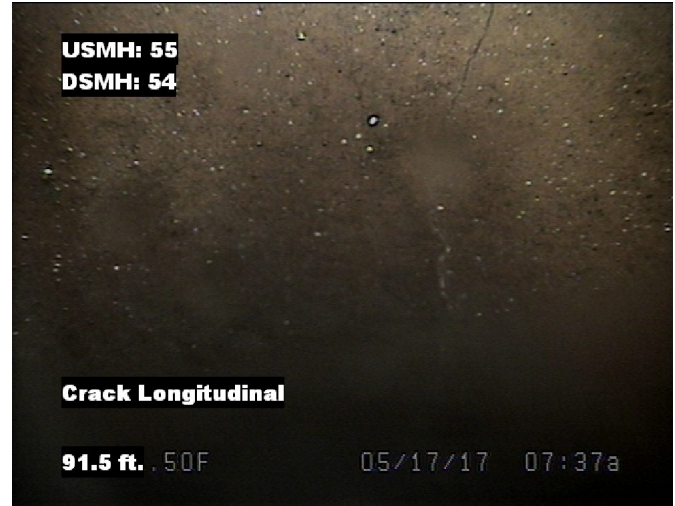
Distance: 52.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: CAPPED

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C... EASEMENT/R..	Pipe Use SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...



Distance: 54.1 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 91.5 ft. Grade: 2
 Condition: Crack Longitudinal
 Remarks: N/A



Distance: 103.4 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



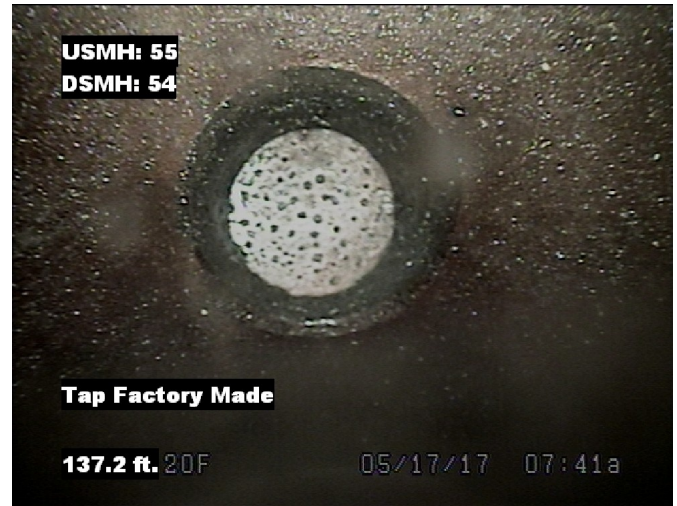
Distance: 114.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE	Location C... EASEMENT/R..	Pipe Use SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...



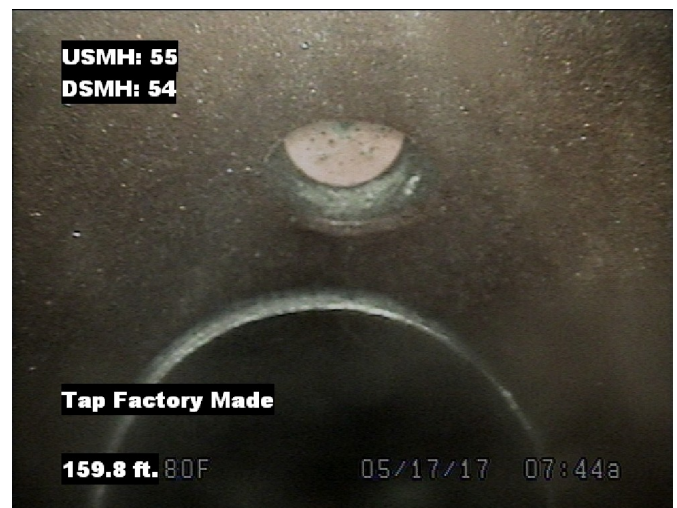
Distance: 119.9 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 137.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 155.3 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 159.8 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street ELM ST	Material POLYVINYL CHLORIDE		Location C...	Pipe Use EASEMENT/R... SANITARY S...
Upstream MH 55	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 54	Length surveyed 230	Year Renewed	Height 15	Width 15	Pipe Joint...	



Distance: 162.1 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 230.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 55



Inspection report

Date: 05/16/2013	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 10	PSR: 15
Total Pipe Length:	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date: 05/14/13	Pre-Cleaned: H Heavy Cleaning	Map Grid #:

Street: Elm St.	Flow Control:	Start MH: 54
City: Waterbury, VT	Year Renewed:	End MH: 47
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	Total length: 161 ft

Purpose: F Routine Assessment	Dia/Height: C Circular 15"/15"
Use: SS Sanitary	Material: PVC Polyvinyl Chloride Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:400	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 10 % of cross sectional area			
	34.80	TSI	Tap Saddle Intruding, at 10 o'clock, 4", 1", 5 %, within 8 inch: NO, Remark: PVC	00:03:14	122a, b	M 2
	69.90	S1 MWLS	Water Level, Sag in pipe, 10 % of cross sectional area, start	00:05:16	123a	M 2
	78.70	TSI	Tap Saddle Intruding, at 03 o'clock, 4", 1", 10 %, within 8 inch: NO, Remark: PVC	00:07:01	124a, b	M 2
	107.20	S3 MWLS	Water Level, Sag in pipe, 10 % of cross sectional area, Remark: start	00:22:58	132a	M 2
	114.00	F3 MWLS	Water Level, Sag in pipe, 10 % of cross sectional area, end			M 2
	114.20	F1 MWLS	Water Level, Sag in pipe, 10 of cross sectional area, end	00:08:50		M 2
	114.20	S2 MWLS	Water Level, Sag in pipe, 15 % of cross sectional area, start	00:08:52	126a	M 2
	134.00	MWL	Water Level, 30 of cross sectional area	00:09:41	127a	
	146.80	TSI	Tap Saddle Intruding, at 02 o'clock, 4", 2", 15 %, within 8 inch: NO, Remark: PVC	00:11:16	128a, b	M 3
	155.90	F2 MWLS	Water Level, Sag in pipe, 15 % of cross sectional area, end	00:12:44		M 2
	161.00	AMH	Downstream Manhole, Survey Ends	00:27:06	131a, b	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	312C	0	45	45	0	2.05	2.05



Inspection report

Date: 05/15/2013	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 7	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date: 05/14/13	Pre-Cleaned: J Jetting	Map Grid #:

Street: Randall St.	Flow Control:	Start MH: 49
City: Waterbury, VT	Year Renewed:	End MH: 48
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	Total length: 265.5 ft

Purpose: F Routine Assessment	Dia/Height: C Circular 8"/8"
Use: SS Sanitary	Material: PVC Polyvinyl Chloride Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:650	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 of cross sectional area			
	5.00	S1	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:01:03	85a	M 2
	22.20	F1	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:03:31		M 2
	24.80	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:03:53	87a, b	
	34.10	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:04:29	88a, b	
	41.00	S2	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:06:03		M 2
	87.10	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:06:57	90a, b	
	96.10	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:08:00	91a, b	
	96.70	F2	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:08:21		M 2
	102.10	S3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:08:53	93a	M 2
	137.40	F3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:12:25	94a	M 2
	172.10	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:14:14	95a, b	
	173.60	S3	DAZ Deposits Attached Other, 5 % of cross sectional area, from 05 to 07 o'clock, within 8 inch: NO, Remark: start	00:16:26	96a	M 2
	184.00	S3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, start	00:14:53	97a	M 2
	205.80	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:15:57	98a, b	
	206.30	F3	MWLS Water Level, Sag in pipe, 5 % of cross sectional area, end	00:16:21		M 2
	206.40	DAZ	Deposits Attached Other, 5 % of cross sectional area, from 05 to 07 o'clock, within 8 inch: NO	00:16:23		M 2
	245.40	MWLS	Water Level, Sag in pipe, 5 % of cross sectional area	00:18:21	101a	M 2
	265.50	AMH	Downstream Manhole, Survey Ends	00:20:44	102a	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2E00	0	56	56	0	2	2



Inspection report

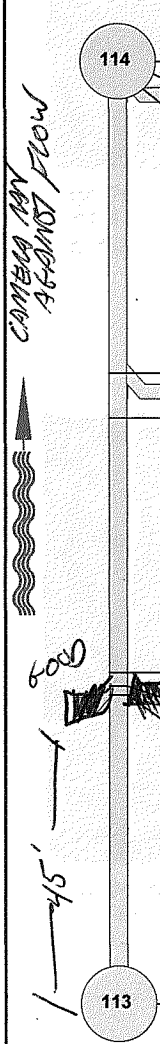
Date: 20110908	P.O.#:	Weather: 1 Dry	Surveyed By: DEH	section number: 2	PSR: 8
Total Pipe Length: 133.1	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: No. Main St.	Flow Control:	Start MH: 114
City: Waterbury, VT	Year Renewed:	End MH: 113
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	Total length: 133.1 ft

Purpose:	Dia/Height: C Circular 8"/8"
Use: SS Sanitary	Material: AC Asbestos Cement Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:325	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area	00:00:00		
	2.10	TFA	Tap Factory Made Active, at 09 o'clock, 4", within 8 inch: YES	00:00:36	7a, b	
	44.00	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES	00:03:43	8a, b	
	50.40	RFJ	Roots Fine Joint, from 02 to 10 o'clock, within 8 inch: YES	00:04:17	9a	M 1
	86.40	MMC	Material Change, PVC Polyvinyl Chloride	00:06:15	10a	
	88.20	TFA	Tap Factory Made Active, at 03 o'clock, 6", within 8 inch: YES	00:06:51	11a, b	
	89.50	MMC	Material Change, AC Asbestos Cement	00:07:27	12a	
	133.10	AMH	Upstream Manhole, Survey Ends	00:10:00	13a, b	



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	1100	0	1	1	0	1	1



Inspection report

Date: 01/14/2013	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 3	PSR:
Total Pipe Length: 135'	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: North Main St.	Flow Control:	Start MH: 102
City: Waterbury, VT	Year Renewed:	End MH: 101
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: Flash Drive	Total length: 324.5 ft

Purpose: F Routine Assessment	Dia/Height: C Circular 8"/8"
Use:	Material: AC Asbestos Cement Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:800	position	code	observation	MPEG	photo	grade
Buried at time on inspection.						
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area			
	17.60	TFA	Tap Factory Made Active, at 02 o'clock, 4", within 8 inch: YES, Remark: Elbows to right just outside mainline.	00:01:36	21a, b	
	19.80	JSL	Joint Separated Large, Remark: with gasket exposed no visible infiltration.	00:01:58	22a, b	S 2
	25.70	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES, Remark: Elbows to left just outside mainline.	00:03:05	23a, b	
	25.90	S1 MWLS	Water Level, Sag in pipe, 5 % of cross sectional area, start	00:03:24	24a	M 2
	50.40	F1 MWLS	Water Level, Sag in pipe, 5 % of cross sectional area, end	00:06:03		M 2
	53.20	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES, Remark: Elbows to Left just outside mainline. In Use.	00:06:50	26a, b	
	105.40	S2 MWLS	Water Level, Sag in pipe, 10 % of cross sectional area, start	00:10:07	27a, b	M 2
	106.50	TFA	Tap Factory Made Active, at 09 o'clock, 4", within 8 inch: YES, Remark: Elbows to right just outside mainline.	00:10:43	28a, b	
	111.20	F2 MWLS	Water Level, Sag in pipe, 10 % of cross sectional area, end	00:11:31		M 2
	111.20	S3 MWLS	Water Level, Sag in pipe, 15 % of cross sectional area, start	00:11:34	30a	M 2
	120.00	F3 MWLS	Water Level, Sag in pipe, 15 % of cross sectional area, end	00:12:06		M 2
	120.00	S4 MWLS	Water Level, Sag in pipe, 5 % of cross sectional area, start	00:12:14	32a	M 2
	134.60	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES, Remark: Elbows to Right just outside Mainline.	00:13:35	33a, b	
	145.00	F4 MWLS	Water Level, Sag in pipe, 5 % of cross sectional area, end	00:15:03		M 2
	234.10	CM	Crack Multiple, from 08 to 11 o'clock, within 8 inch: YES, Remark: Spider web cracking or fungus growing on walls.	00:20:02	35a, b	S 3
	243.30	TSD	Tap Saddle Defective, at 02 o'clock, 4", within 8 inch: YES, Remark: with mineral deposits at connection. ACP	00:22:01	36a, b	M 2
	250.50	TSA	Tap Saddle Active, at 02 o'clock, 4", within 8 inch: YES, Remark: ACP	00:23:56	37a, b	
	297.00	AMH	Manhole Buried at time of inspection under pavement. Labeled as MH 102A	00:29:29	38a	
	324.50	AMH	Upstream Manhole, Survey Ends	00:35:32	39a, b	
At intersection of North Main St. and Stowe St.						

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
3121	2B00	5	30	35	2.5	2	2.06

Project Information

Project Name:	Project Number:	Date:
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Contractor	Hartigan Company
Responsible:	Michael Melanson
Department:	
Street:	31 Welch Park Dr.
City:	Middlesex
Telephone:	800-696-0761
Fax:	hartigancompany.com
Mobile:	802-585-9916
E-Mail:	hartigancompany.com

Notes:



Defect Listing Plot Left

Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE	Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...
SPR 11	MPR 3	PO Number		Customer	
SPRI 3.7	MPRI 1.5	Work Order Number		Purpose ROUTINE ASSESSMENT	
QSR 5141	QMR 2111				
OPR 14	Surveyed By EEM	Direction UPSTREAM	Date 20170703	Media label	
OPRI 2.8	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 12:18	Weather DRY - NO P...	
Date Cleaned			End Time 12:52	Additional Info	



104

	Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft.	Access Point Manhole 104					
0.0 ft.	Miscellaneous Water Level				5	
6.0 ft.	Broken Pipe Soil Visible		12			
6.0 ft.	Fracture Multiple		8 - 5			
13.0 ft.	Tap Factory Made		12	3		
48.2 ft.	Tap Factory Made		12	3		
63.4 ft.	Roots Fine Joint		9			
71.4 ft.	Tap Factory Made		12	3		
109.8 ft.	Tap Break-In Intruding		1	3 / 1		
109.8 ft.	Crack Longitudinal		3			
115.8 ft.	Tap Factory Made		12	3		
136.2 ft.	Tap Factory Made		12	3		
150.5 ft.	Tap Factory Made		12	3		
170.6 ft.	Tap Factory Made		12	3		



Defect Listing Plot Left

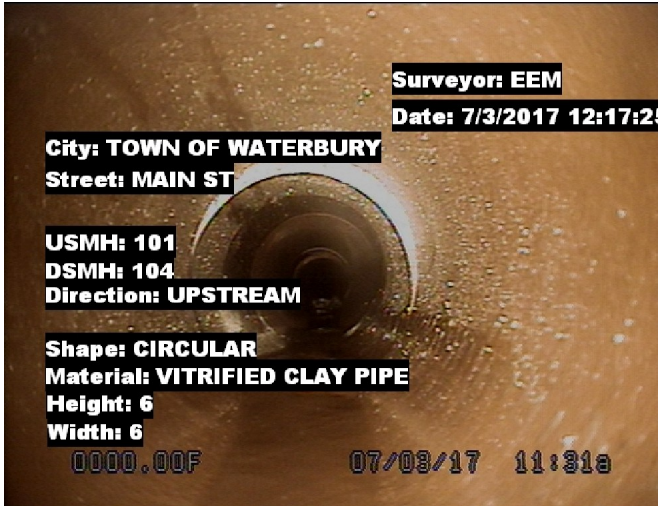
Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE	Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...



Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
200.5 ft. Tap Break-in/Hammer		12	3		
227.6 ft. Tap Break-in/Hammer		12	3		
229.5 ft. Tap Factory Made		12	3		
234.5 ft. Miscellaneous Survey Abandoned PIPE CAPPED					

Image Report 4/Page

Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...	



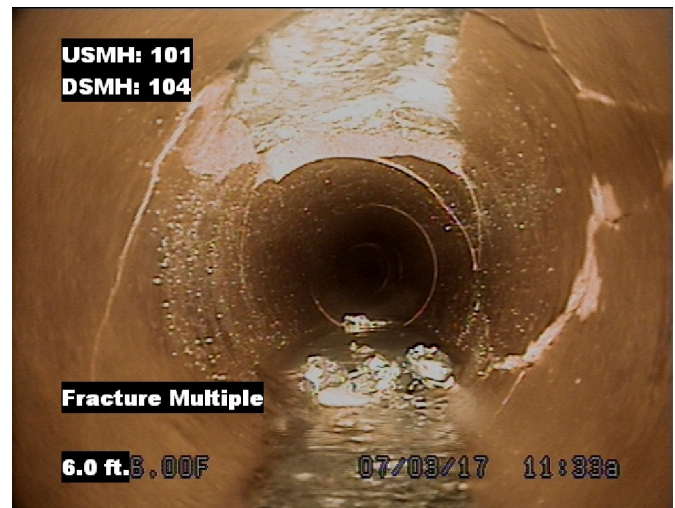
Distance: 0.0 ft. Grade: 0
 Condition: Access Point Manhole
 Remarks: 104



Distance: 0.0 ft. Grade: 0
 Condition: Miscellaneous Water Level
 Remarks: N/A



Distance: 6.0 ft. Grade: 5
 Condition: Broken Pipe Soil Visible
 Remarks: N/A



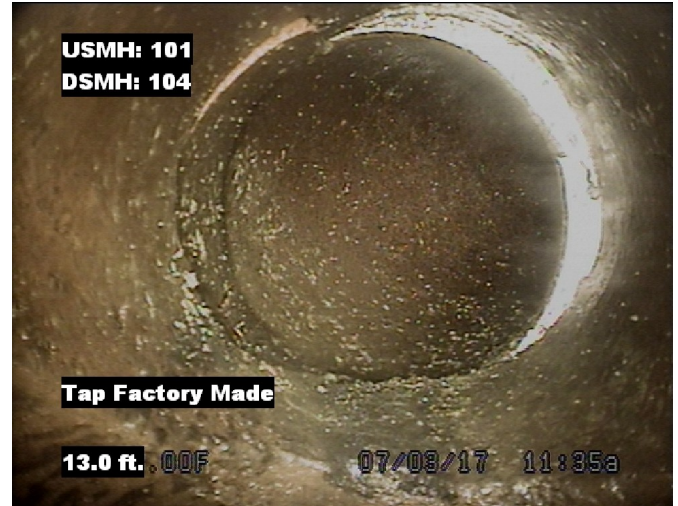
Distance: 6.0 ft. Grade: 4
 Condition: Fracture Multiple
 Remarks: N/A

Image Report 4/Page

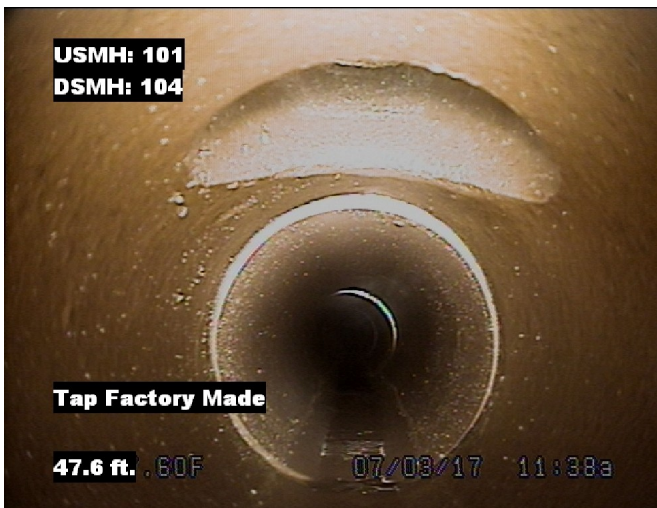
Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...	



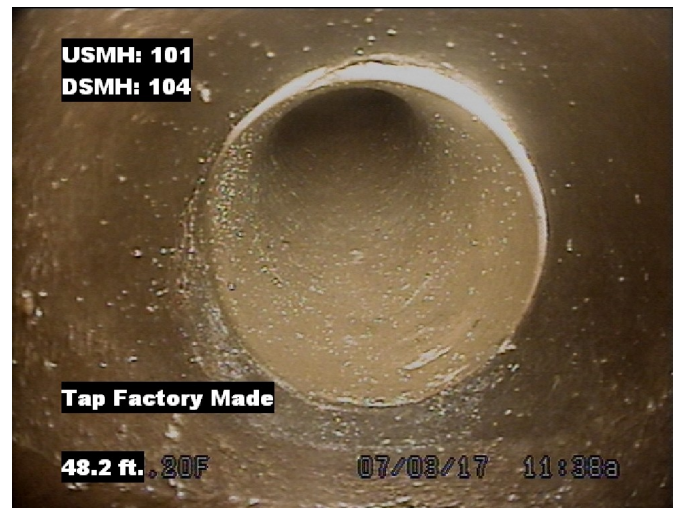
Distance: 13.0 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 13.0 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 48.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



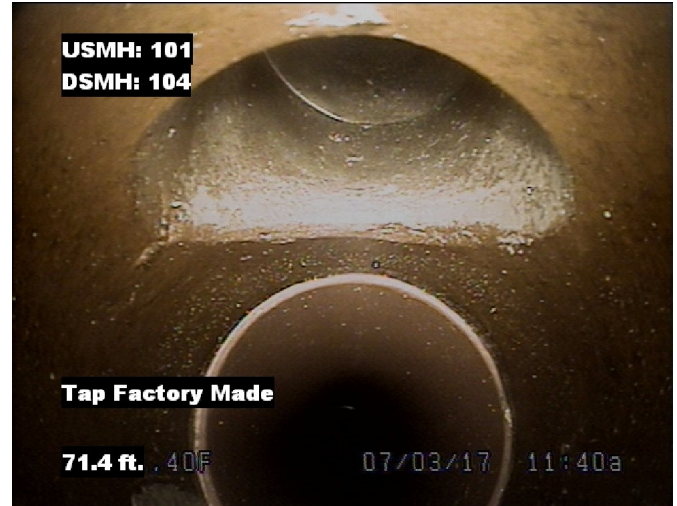
Distance: 48.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

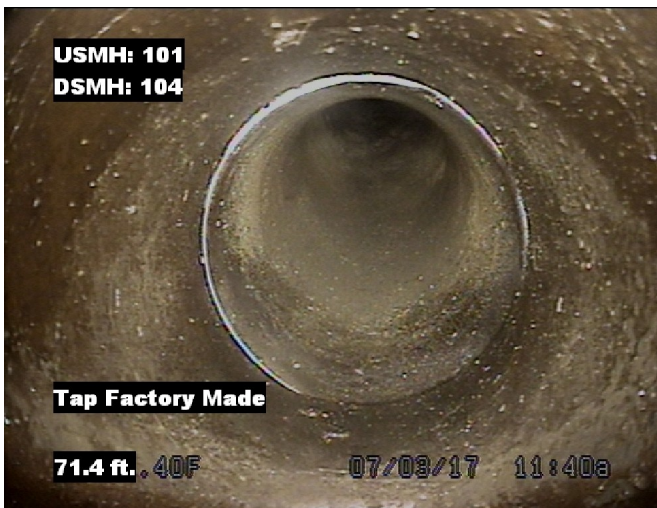
Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...	



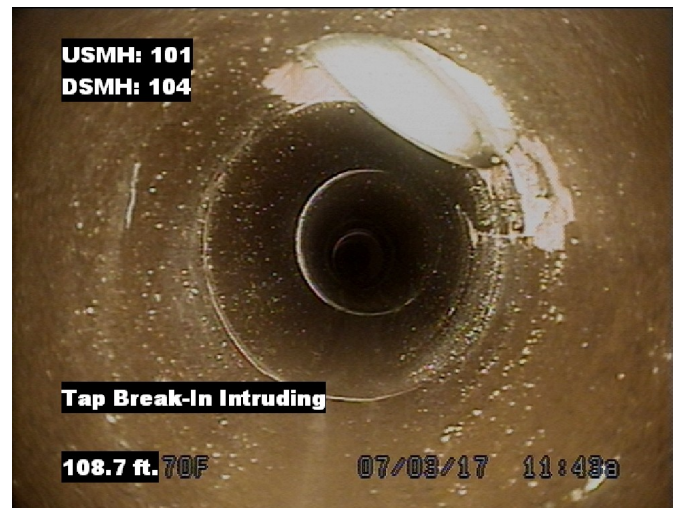
Distance: 63.4 ft. Grade: 1
 Condition: Roots Fine Joint
 Remarks: N/A



Distance: 71.4 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 71.4 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 109.8 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...	



Distance: 109.8 ft. Grade: 2
 Condition: Tap Break-In Intruding
 Remarks: N/A



Distance: 109.8 ft. Grade: 2
 Condition: Crack Longitudinal
 Remarks: N/A



Distance: 115.8 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



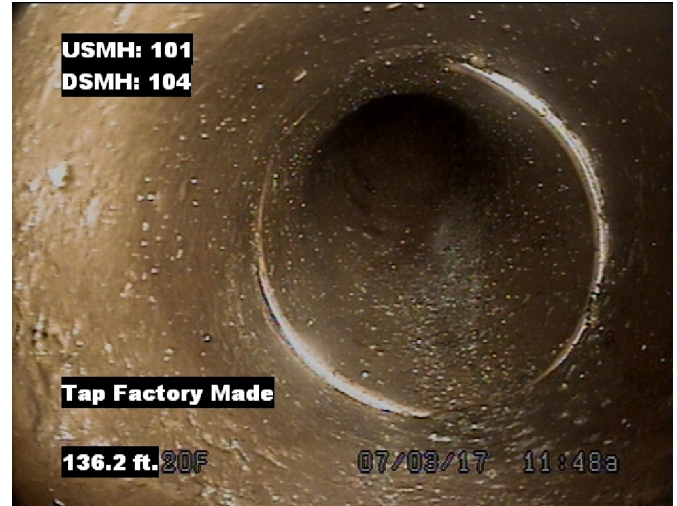
Distance: 115.8 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...	



Distance: 136.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 136.2 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



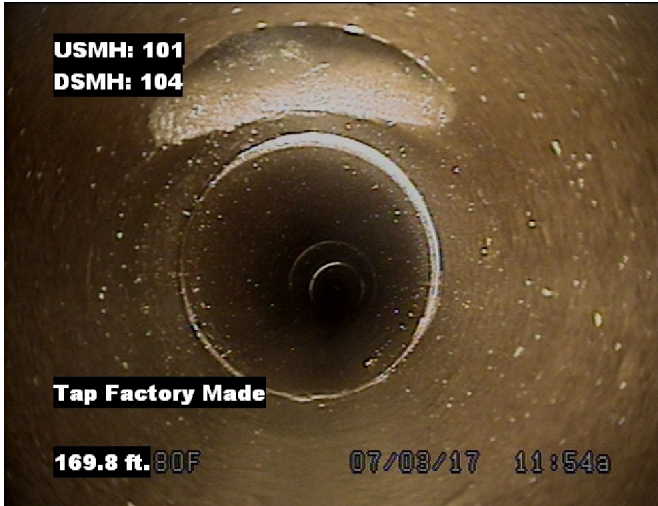
Distance: 150.5 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



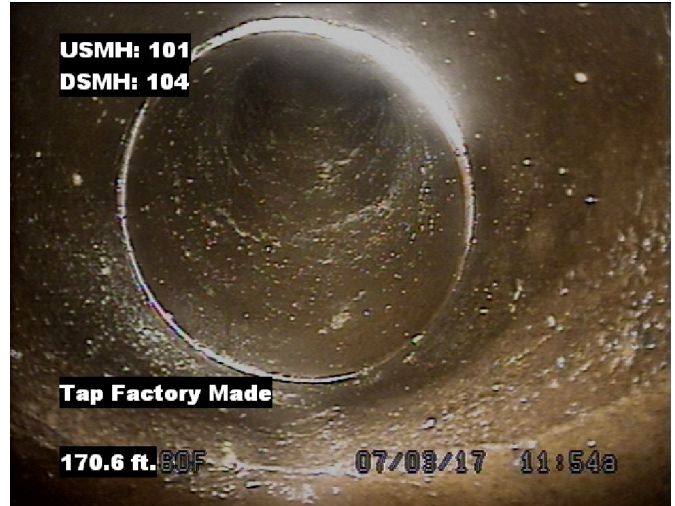
Distance: 150.5 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...	



Distance: 170.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 170.6 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



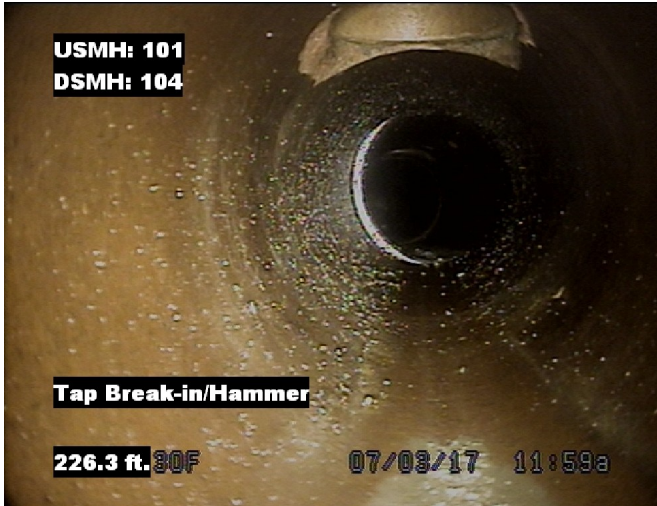
Distance: 200.5 ft. Grade: 0
 Condition: Tap Break-in/Hammer
 Remarks: N/A



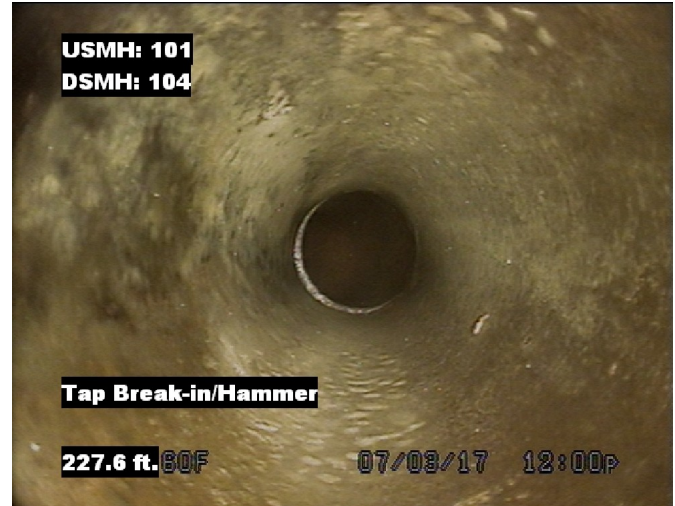
Distance: 200.5 ft. Grade: 0
 Condition: Tap Break-in/Hammer
 Remarks: N/A

Image Report 4/Page

Pipe Segment Refere...	City TOWN OF WATERBURY	Street MAIN ST	Material VITRIFIED CLAY PIPE	Location C...	Pipe Use SANITARY S...
Upstream MH 101	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 104	Length surveyed 234.5	Year Renewed	Height 6	Width 6	Pipe Joint...



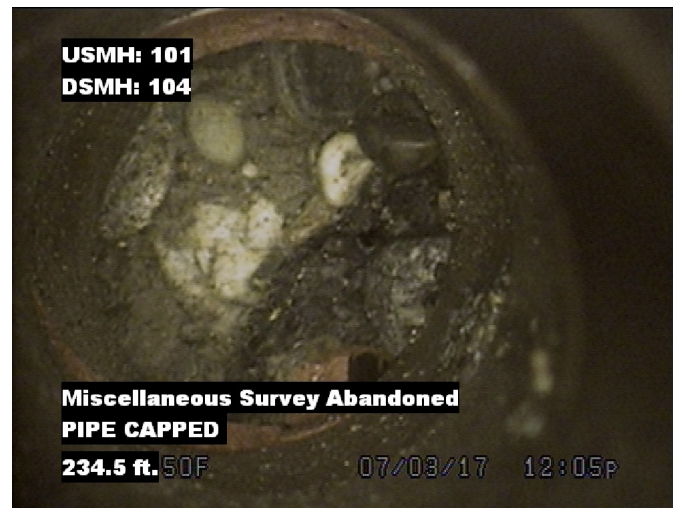
Distance: 227.6 ft. Grade: 0
 Condition: Tap Break-in/Hammer
 Remarks: N/A



Distance: 227.6 ft. Grade: 0
 Condition: Tap Break-in/Hammer
 Remarks: N/A



Distance: 229.5 ft. Grade: 0
 Condition: Tap Factory Made
 Remarks: N/A



Distance: 234.5 ft. Grade: 0
 Condition: Miscellaneous Survey Abandoned
 Remarks: PIPE CAPPED

SHEET NO.: 2 PROJECT: TV/ PHASE #2 PROJECT NO: 70604.62
 DATE: 3/4/92 CLIENT: VILLAGE OF WATERBURY,VT. INSPECTOR: BK
 SECTION ON: MAIN ST. TP#1
 FROM MANHOLE #: 20A **103** TO MANHOLE #: 20B **102**
 PIPE SIZE: 8 PIPE TYPE: AC PIPE LENGTH: 13 TYPE OF JOINTS: B/S
 DIRECTION OF FLOW FROM MH#: <<<< DIRECTION OF MEASUREMENT FROM MH#: >>>>

REF NO	FOOTAGE	OBSERVATIONS	INFILTRATION		VIDEO NO
			CLOCK REF	INFLOW GPM	
1	0+00	@ MH# 20A			1235
2	0+18	S/C	2:00		
3	0+34	S/C	9:00		
4	0+71	S/T	10:00	RUNNING	
5	0+76	@ MH# 20B			1519
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

SPECIAL NOTES:



Hartigan Company
 31 Welch Park Drive
 Middlesex, VT 05602
 Tel: (802)223-3452, Fax: (802)223-6116

Inspection report

Date: 01/14/2013	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 2	PSR:
Total Pipe Length: 135'	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: North Main St.	Flow Control:	Start MH: 103
City: Waterbury, VT	Year Renewed:	End MH: 102
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: Flash Drive	Total length: 76.8 ft

Purpose: F Routine Assessment	Dia/Height: C Circular 8"/8"
Use:	Material: AC Asbestos Cement Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

104

1:200	position	code	observation	MPEG	photo	grade
In front of House# 13 N. Main St.						
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area			
	17.90	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:02:32	15a	
	33.20	TFC	Tap Factory Made Capped, at 10 o'clock, 4", within 8 inch: YES	00:04:19	16a, b	
	70.80	TSA	Tap Saddle Active, at 10 o'clock, 4", within 8 inch: NO, Remark: PVC	00:06:51	17a, b	
	76.80	AMH	Upstream Manhole, Survey Ends	00:09:46	18a, b	

South of Driveway for House# 13 N. Main St.

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	0000	0	0	0	0	0	0

SHEET NO.: 3 PROJECT: TV/ PHASE #2 PROJECT NO: 70604.62
 DATE: 3/4/92 CLIENT: VILLAGE OF WATERBURY, VT. INSPECTOR: BK

SECTION ON: MAIN ST. TP#1
 FROM MANHOLE #: 20A *103* TO MANHOLE #: 20 *104*
 PIPE SIZE: 8 PIPE TYPE: AC PIPE LENGTH: 13 TYPE OF JOINTS: COLLAR
 DIRECTION OF FLOW FROM MH#: >>>> DIRECTION OF MEASUREMENT FROM MH#: >>>>

REF NO	FOOTAGE	OBSERVATIONS	INFILTRATION		VIDEO NO
			CLOCK REF	INFLOW GPM	
1	0+00	@ MH# 20A <i>103</i>			1519
2	0+11	@ MH# 20 <i>104</i> <i>11 FT.</i>			1655
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

SPECIAL NOTES:



Inspection report

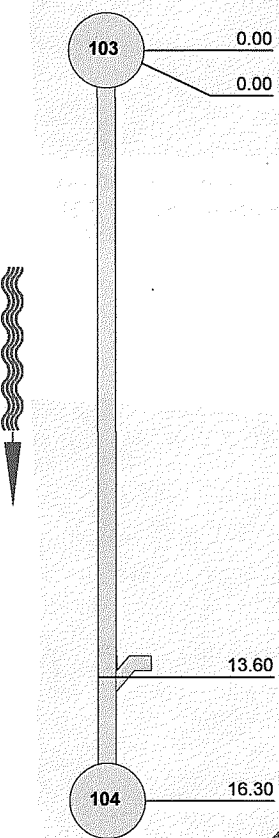
Date: 20110908	P.O.#:	Weather: 1 Dry	Surveyed By: DEH	section number: 1	PSR: 8
Total Pipe Length: 16.3	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 103
City: Waterbury, VT	Year Renewed:	End MH: 104
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	Total length: 16.3 ft

Purpose:	Dia/Height: C Circular 8"/8"
Use: SS Sanitary	Material: AC Asbestos Cement Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:50	position	code	observation	MPEG	photo	grade
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area	00:00:00		
	13.60	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES	00:02:06	3a, b	
	16.30	AMH	Downstream Manhole, Survey Ends	00:04:22	4a, b	



COVERED

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	0000	0	0	0	0	0	0

105 TO 104 HEADING SOUTH

SHEET NO.: 4 PROJECT: TV /PHASE #2 PROJECT NO: 70604.62
 DATE: 3/4/92 CLIENT: VILLAGE OF WATERBURY, VT. INSPECTOR: BK
 SECTION ON: MAIN ST. TP#1
 FROM MANHOLE #: 18 (INT. OF WINDSKITO MANHOLE #: ~~2~~)
 PIPE SIZE: 6 PIPE TYPE: VC PIPE LENGTH: 3 TYPE OF JOINTS: B/S
 DIRECTION OF FLOW FROM MH#: <<<< DIRECTION OF MEASUREMENT FROM MH#: >>>>

REF NO	FOOTAGE	OBSERVATIONS	CLOCK	REF	INFILTRATION INFLOW GPM	VIDEO NO
1	0+00	@ MH# 18 <i>105</i>				1655
2	0+10	SET FOOTAGE				
3	0+10	LINE SAG 2"-1" TO				
4	0+22	C/B				
5	0+46	S/C	12:00			
6	0+62	SLIGHT C/B	11-2:00			
7	0+67	S/C	12:00			
8	0+99	S/C	12:00			
9		COULD NOT SEE PULLED TO				
10		MH#20 AND PLUGGED				
11		INCOMING LINE.				
12	2+81	@ MH# 20 <i>104</i>				
13	2+79	BADLY BROKEN PIECES MISSING:				
14	2+77	BREAKENDS				
15	2+60	S/C	12:00		SL/FLOW	
16	2+58	LINE SAG 1" TO 254'				
17	2+52	BADLY BROKEN AND O.D.R. TO	253'			
18	2+43	S/C	12:00			
19	2+30	TO PVC				
20	2+28	S/C	2:00			
21	2+26	TO VC				
22	2+23	S/C	12:00			
23	1+79	S/C	12:00			
24	1+34	S/C	12:00		SL/FLOW	
25	1+17	S/C	12:00			
1	1+14	LINE SAG				
2	0+97	S/C	12:00			
3	0+72	L/C	2:00			
4	0+65	S/C	12:00			
5	0+46	S/C	12:00			
6	0+21	C/B	10:00			
7	0+00	@ MH# 18				2524



Inspection report

Date: 20110908	P.O.#:	Weather: 1 Dry	Surveyed By: DEH	section number: 4	PSR: 6
Total Pipe Length: 271.5	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: No.Main St.	Flow Control:	Start MH: 112
City: Waterbury,VT	Year Renewed	End MH: 105
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	Total length: 271.5 ft

Purpose:	Dia/Height: C Circular 6"/6"
Use: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe length: 2ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:675	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area	00:00:00		
	38.20	OBJ	Obstacles In Joint, 15 % of cross sectional area, at 03 o'clock, Remark: Stick or chop stick in joint	00:04:34	19a	M 3
	55.30	TFC	Tap Factory Made Capped, at 03 o'clock, 6", within 8 inch: YES	00:07:02	20a, b	
	69.40	TFC	Tap Factory Made Capped, at 12 o'clock, 6", within 8 inch: YES	00:08:21	21a, b	
	99.10	TFA	Tap Factory Made Active, at 12 o'clock, 6", within 8 inch: YES	00:11:56	22a, b	
	116.40	TFA	Tap Factory Made Active, at 12 o'clock, 6", within 8 inch: YES, Remark: Reduces to 4" just outside mainline	00:14:42	23a, b	
	122.50	RFJ	Roots Fine Joint, from 10 to 02 o'clock, within 8 inch: YES	00:15:42	24a	M 1
	137.40	RBJ	Roots Ball Joint, from 08 to 04 o'clock, 40 %, within 8 inch: YES	00:17:00	25a	M 4
	144.30	OBJ	Obstacles In Joint, 10 % of cross sectional area, from 04 to 08 o'clock, Remark: Possable rock or clay pieces	00:18:50	26a	M 2
	145.50	TFC	Tap Factory Made Capped, at 12 o'clock, 6", within 8 inch: YES	00:19:32	27a, b	
	148.50	RFJ	Roots Fine Joint, from 09 to 02 o'clock, within 8 inch: YES	00:20:10	28a	M 1
	151.50	RFJ	Roots Fine Joint, from 09 to 03 o'clock, within 8 inch: YES	00:20:35	29a	M 1
	174.20	RFJ	Roots Fine Joint, from 08 to 03 o'clock, within 8 inch: YES	00:22:56	30a	M 1
	175.70	S1 RFJ	Roots Fine Joint, from 12 to 12 o'clock, within 8 inch: YES, start	00:23:25	31a	M 1
	197.10	TFA	Tap Factory Made Active, at 12 o'clock, 6", within 8 inch: YES	00:25:13	32a, b	
	202.60	TFC	Tap Factory Made Capped, at 12 o'clock, 6", within 8 inch: YES	00:26:16	33a, b	
	216.90	F1 RFJ	Roots Fine Joint, from 12 to 12 o'clock, within 8 inch: YES, end	00:27:44		M 1
	269.80	TFD	Tap Factory Made Defective, at 12 o'clock, 6", within 8 inch: YES, Remark: Service connection is broke were 6" switches to 4"	00:32:46	35a, b	M 2
	269.80	TFD	Tap Factory Made Defective, at 12 o'clock, 6", within 8 inch: YES, Remark: Cracks at connection	00:32:53	36a, b	M 2
	271.50	AMH	Upstream Manhole, Survey Ends	00:35:07	37a, b	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	4131	0	25	25	0	1.47	1.47



Hartigan Company
 31 Welch Park Drive
 Middlesex, VT 05602
 Tel: (802) 223-3452, Fax: (802) 223-6116

Inspection report

Date: 20110908	P.O.#:	Weather: 1 Dry	Surveyed By: DEH	section number: 3	PSR: 8
Total Pipe Length: 20.2	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: No.Main St.	Flow Control:	Start MH: 113
City: Waterbury,VT	Year Renewed:	End MH: 112
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	Total length: 20.2 ft

Purpose:	Dia/Height: C Circular 8"/8"
Use: SS Sanitary	Material: AC Asbestos Cement Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:50	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area	00:00:00		
	20.20	AMH	Upstream Manhole, Survey Ends	00:02:09	16a, b	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	0000	0	0	0	0	0	0

SHEET NO.: 7 PROJECT: TV/PHASE # 2 PROJECT NO: 70604.62

DATE: 3/4/92 CLIENT: VILLAGE OF WATERBURY, VT. INSPECTOR: BK

SECTION ON: MAIN ST.

FROM MANHOLE #: 15 *112*

TO MANHOLE #: 14 (NEXT TO SIDEWALK *114*)

TR#1

PIPE SIZE: 8 PIPE TYPE: AC

PIPE LENGTH: 13 TYPE OF JOINTS: COLLAR

DIRECTION OF FLOW FROM MH#: >>>>

DIRECTION OF MEASUREMENT FROM MH#: >>>>

REF NO	FOOTAGE	OBSERVATIONS	INFILTRATION		VIDEO NO
			CLOCK REF	INFLOW GPM	
1	0+00	@ MH# 15			3942
2	0+22	@ MH# 15A			
3	1+09	S/C	2:00		
4	1+50	S/C	2:00		
5	1+51	MODERATE GREASE			
6	1+52	END OF PIPE			
7	1+54	@ MH# 14			4217
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

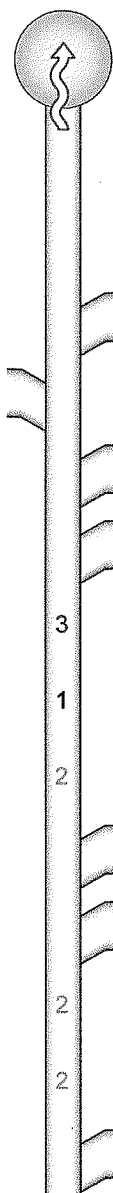
SPECIAL NOTES:



SOUTH MAIN ST
 MH 55-56
 4-27-2016
Defect Listing Plot Left

Hartigan Company
 31 Welch Park Dr.
 Middlesex VT 05602
 800-696-0761

Customer	City	Street	Date		Surveyed B...	Sewer Use
Upstream MH	WATERBURY	ROUTE 2	20160427		MLM	Sanitary
MH 56	DS Manhole	Material	Shape		Length surveyed	
Pre-Cleaning	MH 55	VITRIFIED CLAY PIPE	CIRCULAR		395	
JETTING	Date Cleaned	Direction	Height	Width	Pipe Joint...	
		UPSTREAM	15	15	3	
SPR	12	MPR	4	PO Number		
SPRI	2	MPRI	2	Work Order		Purpose
QSR	3124	QMR	2200			ROUTINE ASSESSMENT
OPR	16	Media label				
OPRI	2	Certificate Number	Pipe Segment Refere...	Weather		
		U-1106-3842		DRY		
Location Details				Additional Info		



MH 55

Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft. Access Point Manhole MH 55					
0.0 ft. Water Level				5	
11.8 ft. Tap Factory Made		12	4		
19.1 ft. Tap Break-In		2	6		
35.0 ft. Tap Factory Made		12	4		
36.9 ft. Tap Factory Made		12	4		
48.2 ft. Crack Multiple		7 - 1			
69.6 ft. Crack Circumferential		1 - 2			
78.5 ft. Deposits Attached Grease		12 - 7		5	
81.4 ft. Tap Factory Made - P10 - P16		12	4		
92.6 ft. Tap Factory Made		12	4		
106.8 ft. Crack Longitudinal	Start S01	1			
110.4 ft. Crack Longitudinal	End F01	1			
115.8 ft. Tap Factory Made		12	4		



Defect Listing Plot Left

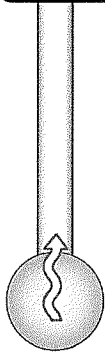
Customer	City	Street	Date	Surveyed B...	Sewer Use
	WATERBURY	ROUTE 2	20160427	MLM	Sanitary
Upstream MH	DS Manhole	Material	Shape	Length surveyed	
MH 56	MH 55	VITRIFIED CLAY PIPE	CIRCULAR	395	
Pre-Cleaning	Date Cleaned	Direction	Height	Width	Pipe Joint...
JETTING		UPSTREAM	15	15	3
SPR	MPR	PO Number			
12	4				
SPRI	MPRI	Work Order		Purpose	
2	2			ROUTINE ASSESSMENT	
QSR	QMR				
3124	2200				
OPR	Media label				
16					
OPRI	Certificate Number	Pipe Segment Refere...	Weather		
2	U-1106-3842		DRY		
Location Details			Additional Info		

147.8 ft.	Tap Factory Made		12	4
164.7 ft.	Tap Factory Made CAPPED		12	4
185.0 ft.	Tap Factory Made Capped		12	4
209.0 ft.	Tap Factory Made STEADY CLEAR FLOW	<i>FILE STATION</i>	12	4
211.0 ft.	Tap Saddle		2	4 / 0
213.7 ft.	Tap Factory Made		12	4
225.9 ft.	Crack Longitudinal	Start S02	10	
231.2 ft.	Tap Factory Made		11	4
240.7 ft.	Crack Longitudinal	End F02	10	
257.4 ft.	Tap Factory Made		12	4
274.4 ft.	Tap Factory Made	<i>ACROSS STREET</i>	12	4
294.5 ft.	Tap Break-In Intruding CLEAR FLOW	<i>ANNE IMHOFF Telephone POLE</i>	2	4 / 1
294.5 ft.	Tap Factory Made		12	4
338.4 ft.	Tap Factory Made	<i>ALBERTS WATERMAIN SERVICE OVER</i>	12	4
340.5 ft.	Tap Factory Made		12	4
372.5 ft.	Tap Factory Made		12	4



Defect Listing Plot Left

Customer	City WATERBURY	Street ROUTE 2	Date 20160427	Surveyed B... MLM	Sewer Use Sanitary
Upstream MH MH 56	DS Manhole MH 55	Material VITRIFIED CLAY PIPE	Shape CIRCULAR	Length surveyed 395	
Pre-Cleaning JETTING	Date Cleaned	Direction UPSTREAM	Height 15	Width 15	Pipe Joint... 3
SPR 12	MPR 4	PO Number		Purpose ROUTINE ASSESSMENT	
SPRI 2	MPRI 2	Work Order			
QSR 3124	QMR 2200	Media label			
OPR 16	Certificate Number U-1106-3842		Pipe Segment Refere...	Weather DRY	
Location Details			Additional Info		



- 380.0 ft. Material Change
VCP TO PVC
- 391.3 ft. General Observation
~~DROP SERVICE FROM MH 67~~
- 395.0 ft. Access Point Manhole
MH 56

MH 56



Inspection report

Date: 06/04/2012	P.O.#:	Weather: 3 Light rain	Surveyed By: MLM	section number: 3	PSR: 6
Total Pipe Length:	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 56
City: Waterbury, VT	Year Renewed:	End MH: 57
Location Code: D Easement/Right of Way	Tape/Media #: 1	Total length: 352 ft

Purpose: F Routine Assessment	Dia/Height: C Circular 6"/6"
Use: SS Sanitary	Material: PVC Polyvinyl Chloride Pipe length: 13ft
Drain. Area:	Lining:
	Category:

Comment: **PVC and VCP 3' lengths**

Location details:

1:875	position	code	observation	MPEG	photo	grade
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area			
	4.00	TF	Tap Factory Made, at 06 o'clock, 6", within 8 inch: YES, Remark: Outside Drop Connection	00:00:29	17a, b	
	5.00	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES, Remark: Reduces to 4" just outside mainline	00:01:34	18a, b	
	8.50	MMC	Material Change, VCP Vitrified Clay Pipe	00:04:56		
	8.50	MJL	Joint Length Change, 3'	00:05:54		
	27.70	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:08:19	21a, b	
	69.20	TFC	Tap Factory Made Capped, at 10 o'clock, 6", within 8 inch: YES	00:11:34	22a	
	92.40	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:14:43	23a, b	
	123.20	CC	Crack Circumferential, from 07 to 09 o'clock, within 8 inch: YES	00:20:52	24a, b	S 1
	134.00	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:23:21	25a, b	
	136.10	CL	Crack Longitudinal, at 12 o'clock, within 8 inch: YES	00:23:47	26a	S 2
	150.80	TFC	Tap Factory Made Capped, at 02 o'clock, 6", within 8 inch: YES	00:25:41	27a, b	
	185.80	TFC	Tap Factory Made Capped, at 02 o'clock, 6", within 8 inch: YES	00:28:15	28a, b	
	187.80	TFC	Tap Factory Made Capped, at 10 o'clock, 6", within 8 inch: YES	00:29:18	29a, b	
	214.20	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:31:51	30a, b	
	216.00	TFD	Tap Factory Made Defective, at 10 o'clock, 6", within 8 inch: YES, Remark: fractured 4" up lateral	00:32:39	31a, b	M 2
	260.80	TFC	Tap Factory Made Capped, at 10 o'clock, 6", within 8 inch: YES	00:35:44	32a, b	
	261.10	CS	Crack Spiral, from 09 to 12 o'clock, within 8 inch: YES	00:36:13	33a	S 2
	269.40	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:37:33	34a, b	
	316.70	CM	Crack Multiple, from 08 to 04 o'clock, within 8 inch: YES, Remark: spider web cracking	00:42:20	35a, b	S 3
	324.80	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:44:14	36a, b	
	352.00	AMH	Upstream Manhole, Survey Ends Buried at time of inspection	00:49:19	37a	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
3122	2100	8	2	10	2	2	2



Inspection report

Date: 06/04/2012	P.O.#:	Weather: 3 Light rain	Surveyed By: MLM	section number: 4	PSR: 6
Total Pipe Length:	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 57
City: Waterbury, VT	Year Renewed:	End MH: 58
Location Code: D Easement/Right of Way	Tape/Media #: 1	Total length: 264 ft

Purpose: F Routine Assessment	Dia/Height: C Circular 6"/6"
Use: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe length: 3ft
Drain. Area:	Lining:
	Category:

Comment:
 Location details:

1:650	position	code	observation	MPEG	photo	grade
In front of House # 61						
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area			
	8.80	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:05:47	40a, b	
	22.70	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:08:22	41a, b	
	39.60	TFC	Tap Factory Made Capped, at 02 o'clock, 6", within 8 inch: YES	00:10:55	43a, b	
	90.00	TFD	Tap Factory Made Defective, at 02 o'clock, 6", within 8 inch: YES, Remark: with light roots	00:16:24	44a, b	M 2
	90.50	RFJ	Roots Fine Joint, from 02 to 05 o'clock, within 8 inch: YES	00:16:38	45a	M 1
	99.50	RFJ	Roots Fine Joint, from 09 to 03 o'clock, within 8 inch: YES	00:18:32	46a	M 1
	101.10	TFD	Tap Factory Made Defective, at 10 o'clock, 6", within 8 inch: YES, Remark: Heavy roots in lateral	00:19:32	47a, b	M 2
	112.50	TFD	Tap Factory Made Defective, at 02 o'clock, 6", within 8 inch: YES, Remark: with light roots	00:21:23	48a, b	M 2
	117.40	TFC	Tap Factory Made Capped, at 10 o'clock, 6", within 8 inch: YES	00:22:44	49a, b	
	170.10	TFC	Tap Factory Made Capped, at 02 o'clock, 6", within 8 inch: YES	00:27:15	50a, b	
	174.30	CL	Crack Longitudinal, at 12 o'clock, within 8 inch: YES	00:31:28	51a	S 2
	174.30	TFA	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES, Remark: Appears to have been full pipe at one point??	00:32:12	52a, b	
	190.90	TFC	Tap Factory Made Capped, at 02 o'clock, 6", within 8 inch: YES	00:35:17	53a, b	
	210.20	TFA	Tap Factory Made Active, at 02 o'clock, 6", within 8 inch: YES	00:41:33	54a, b	
	234.90	TFC	Tap Factory Made Capped, at 02 o'clock, 6", within 8 inch: YES	00:55:42	55a, b	
	264.00	MSA	Survey Abandoned, Remark: End of Video at 264'			

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 (58) — 286

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
2100	2312	2	8	10	2	1.6	1.67



Inspection report

Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 1	PSR: 6
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 69
City: Waterbury, VT.	Year Renewed:	End MH: 70
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	pipe length: 268.3 ft

Reason for inspection:	Dia/Height: C Circular 6/6
Use of Sewer: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe Length: 3ft
Drain. Area:	Lining Method:
	Category:

Remark::

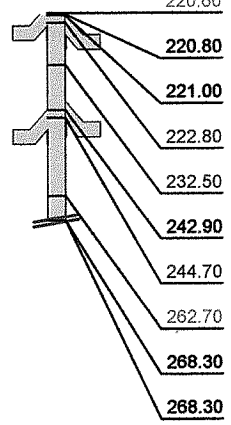
1:528	position	code	observation	MPEG	photo	grade
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area			M 2
	28.60	B	Broken, from 11 to 01 o'clock, within 8 inch: YES, Remark: Chip in pipe at joint.	00:05:09	4a, b	S 4
	35.50	RFJ	Roots Fine Joint, at 08 o'clock, within 8 inch: YES	00:06:50	5a	
	40.00	MWLS	Water Level, Sag in pipe, 5 % of cross sectional area, Remark: starts	00:08:17	7a	M 2
	42.00	TFC	Tap Factory Made Capped, at 10 o'clock, 4", within 8 inch: YES	00:08:02	6a, b	
	44.00	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:08:50	8a, b	
	44.40	CM	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES	00:09:32	9a	S 3
	47.20	RFJ	Roots Fine Joint, at 02 o'clock, within 8 inch: YES	00:09:54	10a	
	50.40	RFJ	Roots Fine Joint, from 11 to 01 o'clock, within 8 inch: YES	00:10:16	11a	
	91.50	TFA	Tap Factory Made Active, at 02 o'clock, 4", within 8 inch: YES	00:15:40	12a, b	
	121.20	TFD	Tap Factory Made Defective, at 10 o'clock, 4", within 8 inch: YES, Remark: broken at connection	00:19:30	13a, b	M 2
	129.00	TFD	Tap Factory Made Defective, at 02 o'clock, 4", within 8 inch: YES, Remark: Roots in service	00:21:37	14a, b	M 2
	137.90	RFJ	Roots Fine Joint, from 02 to 04 o'clock, within 8 inch: YES	00:22:37	15a	
	188.20	TFD	Tap Factory Made Defective, at 10 o'clock, 4", within 8 inch: Capped YES, Remark: Roots in service	00:25:12	16a, b	M 2
	190.00	RMJ	Roots Medium Joint, from 08 to 09 o'clock, 5 %, within 8 inch: YES	00:25:28	17a	
	191.30	RMJ	Roots Medium Joint, from 04 to 08 o'clock, 10 %, within 8 inch: YES	00:26:07	18a	
	197.10	RMJ	Roots Medium Joint, from 07 to 09 o'clock, 5 %, within 8 inch: YES	00:26:47	19a	
	200.30	RFJ	Roots Fine Joint, from 04 to 08 o'clock, within 8 inch: YES	00:27:17	20a, b	
	209.90	CC	Crack Circumferential, from 10 to 02 o'clock, within 8 inch: YES	00:28:39	21a	S 1



Inspection report

Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 1	PSR: 6
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

1:528	position	code	observation	MPEG	photo	grade
	<u>220.60</u>	CM	Crack Multiple, from 01 to 05 o'clock, within 8 inch: YES	00:30:44	22a	S 3
	<u>220.80</u>	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:31:06	23a, b	
	<u>221.00</u>	RFJ	Roots Fine Joint, from 04 to 08 o'clock, within 8 inch: YES, Remark: starts	00:31:19	24a	
	<u>222.80</u>	TFD	Tap Factory Made Defective, at 10 o'clock, 4", within 8 inch: Active YES, Remark: Roots in service	00:31:53	25a, b	M 2
	<u>232.50</u>	DSZ	Deposits Settled Other, 10 % of cross sectional area, from 05 to 07 o'clock, within 8 inch: YES, Remark: septic	00:32:43	26a	M 2
	<u>242.90</u>	TFC	Tap Factory Made Capped, at 10 o'clock, 4", within 8 inch: YES	00:38:10	27a, b	
	<u>244.70</u>	TFD	Tap Factory Made Defective, at 02 o'clock, 4", within 8 inch: YES, Remark: Offset joint at connection with roots in service	00:39:30	28a, b	M 2
	<u>262.70</u>	CC	Crack Circumferential, from 10 to 02 o'clock, within 8 inch: YES	00:52:20	31a	S 1
	<u>268.30</u>	OBB	Obstacles Brick, 90 % of cross sectional area, from 12 to 12 o'clock	00:51:05	29a, b	M 5
	<u>268.30</u>	MSA	Survey Abandoned, Remark: Due to bricks in pipe. Line may end here, with no manhole.	00:53:14		



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QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4132	5128	12	21	33	2.4	2.33	2.36



Inspection report

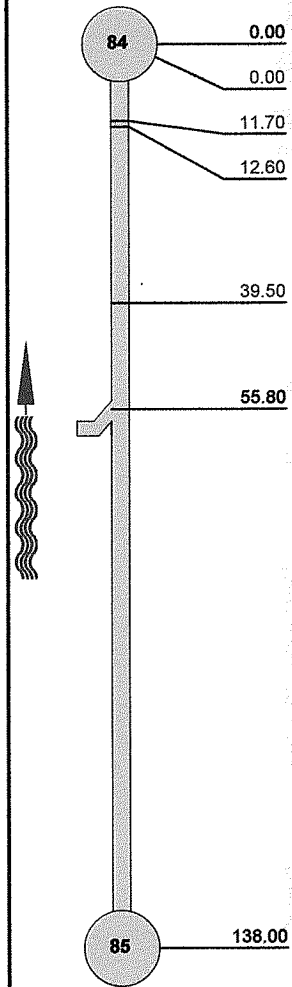
Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 2	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 84
City: Waterbury, VT.	Year Renewed:	End MH: 85
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	pipe length: 138 ft

Reason for inspection:	Dia/Height: C Circular 8/8
Use of Sewer: SS Sanitary	Material: AC Asbestos Cement Pipe Length: 13ft
Drain. Area:	Lining Method:
	Category:

Remark::

1:350	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area			M 2
	11.70	CL	Crack Longitudinal, at 12 o'clock, within 8 inch: NO	00:02:54	34a, b	S 2
	12.60	BVV	Broken Void Visible, from 02 to 03 o'clock, within 8 inch: NO	00:03:19	35a, b	S 5
	39.50	B	Broken, at 11 o'clock, within 8 inch: NO, Remark: slight puncture	00:05:00	36a	S 4
	55.80	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:05:54	37a, b	
	138.00	AMH	Upstream Manhole, Survey End	00:10:52	38a	



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
5141	2100	11	2	13	3.67	2	3.25



Inspection report

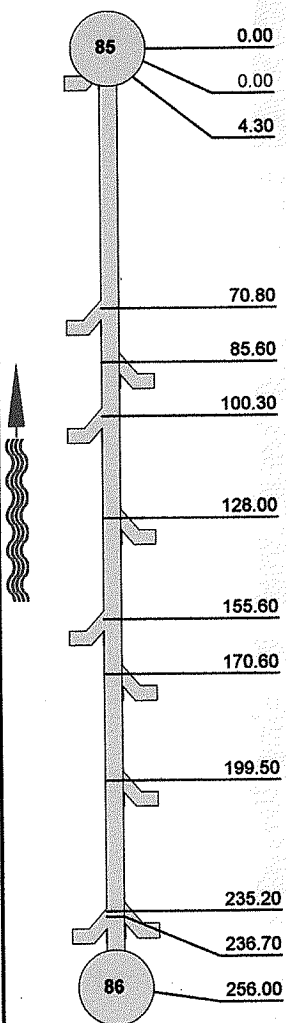
Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 3	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury,VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 85
City: Waterbury, VT.	Year Renewed:	End MH: 86
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	pipe length: 256 ft

Reason for inspection:	Dia/Height: C Circular 8/8
Use of Sewer: SS Sanitary	Material: AC Asbestos Cement Pipe Length: 13ft
Drain. Area:	Lining Method:
	Category:

Remark::

1:625	position	code	observation	MPEG	photo	grade
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 0 % of cross sectional area			M 2
	4.30	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:00:55	41a, b	
	70.80	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:02:59	42a, b	
	85.60	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES	00:03:58	43a, b	
	100.30	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:05:02	44a, b	
	128.00	TFC	Tap Factory Made Capped, at 10 o'clock, 4", within 8 inch: YES	00:06:58	45a, b	
	155.60	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:07:58	46a, b	
	170.60	TFC	Tap Factory Made Capped, at 10 o'clock, 4", within 8 inch: YES	00:08:48	47a, b	
	199.50	TSA	Tap Saddle Active, at 09 o'clock, 4", within 8 inch: YES	00:10:22	48a, b	
	235.20	TSA	Tap Saddle Active, at 09 o'clock, 4", within 8 inch: NO	00:13:01	49a, b	
	236.70	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:13:50	50a, b	
	256.00	AMH	Upstream Manhole, Survey End	00:15:58	51a, b	



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2100	0	2	2	0	2	2

INSPECTION REPORT

DATE: 05/21/2004	WORK ORDER:	WEATHER: SUNNY, DRY	OPERATOR: Jesse	SECTION NR: 2	SECTION NAME:
PRESENT:	VEHICLE:	CAMERA:	PRESET:	CLEANED: HEAVY	RATE: 2480

STREET: south main	MAP #1:	MH: 40
CITY: Waterbury	MAP #2:	MH: 41
LOCALE:	TAPE #:	TVD LGTH: 286.5 ft

INSPECT REASON: CUSTOMER COMPLAINT	PIPE SIZE: 6 in
SECTION TYPE:	MATERIAL: VCP JT LGTH:
AREA:	LINING:
	RSRVD:

REMARK:

1:759	DIST	OBSERVATION	
	8.00	inspection begins at downstream manhole	
	94.40	service connection at 12 o'clock	
	115.50	offset joint, medium	
	122.00	pipe broken at joint at 11 o'clock	
	132.30	service connection capped at 12 o'clock	
	134.40	service connection with roots light at 12 o'clock	
	140.30	sag in line	
	160.30	service connection with roots light at 12 o'clock	
	169.10	Multiple Fractures from 06 to 12 o'clock	
	172.40	offset joint, medium	
	180.20	service connection at 12 o'clock severe offset.	
	182.00	sag in line.	
	198.10	Longitudinal Crack at joint at 01 o'clock	
	218.20	service connection at 12 o'clock	
	220.20	sag in line	
	228.50	service connection at 12 o'clock, severe offset.	
	246.40	offset joint, medium	
	275.40	service connection at 12 o'clock, grease present.	
	286.30	service connection at 12 o'clock	
	286.50	capped service, busted or service busted.	



Inspection report

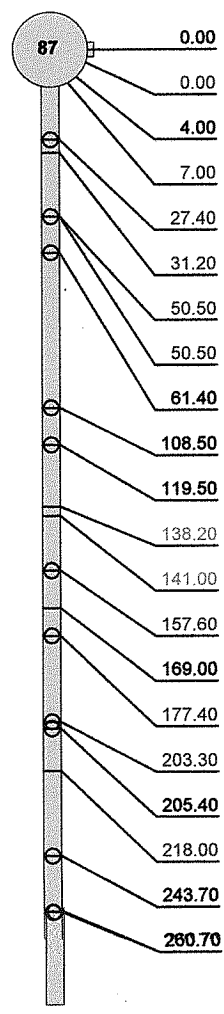
Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 5	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 87
City: Waterbury, VT.	Year Renewed:	End MH: 84
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	pipe length: 338 ft

Reason for inspection:	Dia/Height: C Circular 8/8
Use of Sewer: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe Length: 3ft
Drain. Area:	Lining Method:
	Category:

Remark:

1:693	position	code	observation	MPEG	photo	grade
	0.00	AMH	Upstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 10 % of cross sectional area			M 2
	4.00	TSA	Tap Saddle Active, at 10 o'clock, 4", within 8 inch: YES	00:01:08	75a, b	
	7.00	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Active Remark: Full of roots.	00:02:36	76a, b	M 2
	27.40	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active Roots in service	00:05:04	77a, b	M 2
	31.20	CL	Crack Longitudinal, at 12 o'clock, within 8 inch: YES	00:05:59	78a	S 2
	50.50	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Capped with broken cap	00:08:14	79a, b	M 2
	50.50	BVV	Broken Void Visible, at 12 o'clock, within 8 inch: YES, Remark: At lateral large void.	00:08:17	80a, b	S 5
	61.40	TFA	Tap Factory Made Active, at 12 o'clock, 4", within 8 inch: YES	00:09:56	81a, b	
	108.50	TFA	Tap Factory Made Active, at 12 o'clock, 4", within 8 inch: YES	00:11:54	82a, b	
	119.50	TFA	Tap Factory Made Active, at 12 o'clock, 4", within 8 inch: YES, Remark: with light grease at connection	00:13:17	83a, b	
	138.20	CM	Crack Multiple, from 10 to 02 o'clock, within 8 inch: YES	00:14:21	84a, b	S 3
	141.00	CM	Crack Multiple, from 10 to 03 o'clock, within 8 inch: YES	00:14:51	85a	S 3
	157.60	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active with offset joint at connection	00:16:13	86a, b	M 2
	169.00	SSS	Surface Spalling, from 01 to 04 o'clock, within 8 inch: YES	00:17:41	87a, b	
	177.40	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active with Roots in service	00:18:49	88a, b	M 2
	203.30	TFD	Tap Factory Made Defective, at 12 o'clock, 4", within 8 inch: YES, Remark: Active with offset joint up lateral.	00:21:10	89a, b	M 2
	205.40	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:21:26	90a, b	
	218.00	CL	Crack Longitudinal, at 10 o'clock, within 8 inch: YES	00:22:42	91a	S 2
	243.70	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:23:58	92a, b	
	260.70	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:25:04	93a, b	



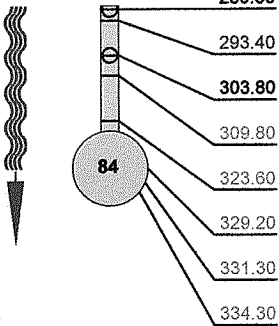


Inspection report

Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 5	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

1:693	position	code	observation	MPEG	photo	grade
	<u>289.80</u>	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:27:06	94a, b	
	<u>293.40</u>	CL	Crack Longitudinal, at 02 o'clock, within 8 inch: YES	00:27:35	95a	S 2
	<u>303.80</u>	TFC	Tap Factory Made Capped, at 12 o'clock, 4", within 8 inch: YES	00:28:57	96a, b	
	<u>309.80</u>	CM	Crack Multiple, from 10 to 11 o'clock, within 8 inch: YES	00:29:36	97a, b	S 3
	<u>323.60</u>	CM	Crack Multiple, from 12 to 01 o'clock, within 8 inch: YES	00:30:43	98a, b	S 3
	<u>329.20</u>	CM	Crack Multiple, from 11 to 12 o'clock, within 8 inch: YES	00:31:20	99a, b	S 3
	<u>331.30</u>	CM	Crack Multiple, from 10 to 01 o'clock, within 8 inch: YES	00:31:49	100a	S 3
	<u>334.30</u>	CM	Crack Multiple, from 01 to 04 o'clock, within 8 inch: YES	00:32:08	101a	S 3

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
5137	2700	32	14	46	2.91	2	2.56





Inspection report

Date: 20090701	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 4	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury, VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 87
City: Waterbury, VT.	Year Renewed:	End MH: 88
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	pipe length: 280.3 ft

Reason for inspection:	Dia/Height: C Circular 8/8
Use of Sewer: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe Length: 3ft
Drain. Area:	Lining Method:
	Category:

Remark::

1:700	position	code	observation	MPEG	photo	grade
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 10 of cross sectional area			M 2
	2.00	MWM	Water Mark, 50 % of cross sectional area		54a	M 3
	2.00	DAGS	Deposits Attached Grease, 5 % of cross sectional area, from 12 to 12 o'clock, within 8 inch: NO starts	00:03:42	55a	M 2
	33.00	TFC	Tap Factory Made Capped, at 10 o'clock, 4", within 8 inch: YES	00:04:23	56a, b	
	64.90	TFA	Tap Factory Made Active, at 02 o'clock, 4", within 8 inch: YES	00:05:56	57a, b	
	64.90	RFJ	Roots Fine Joint, from 08 to 12 o'clock, within 8 inch: YES	00:06:27	58a	
	70.00	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES	00:06:57	59a, b	
	104.90	TFA	Tap Factory Made Active, at 02 o'clock, 4", within 8 inch: YES, Remark: Slightly offset joint.	00:08:54	60a, b	
	136.90	TFA	Tap Factory Made Active, at 02 o'clock, 4", within 8 inch: YES	00:10:29	61a, b	
	147.90	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES	00:11:58	62a, b	
	188.70	TFC	Tap Factory Made Capped, at 02 o'clock, 4", within 8 inch: YES	00:14:23	63a, b	
	193.70	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES, Remark: Transitions to orangeburg	00:16:01	64a, b	
	211.80	DSGV	Deposits Settled Gravel, 5 % of cross sectional area, at 06 o'clock, within 8 inch: NO to 219'	00:17:05		M 2
	223.00	TFA	Tap Factory Made Active, at 02 o'clock, 4", within 8 inch: YES, Remark: with steady clear flow	00:18:15	66a, b	
	243.10	TFD	Tap Factory Made Defective, at 10 o'clock, 4", within 8 inch: YES, Remark: Broken at first joint with roots up lateral.	00:20:14	67a, b	M 2
	266.30	TFD	Tap Factory Made Defective, at 02 o'clock, 4", within 8 inch: YES, Remark: Capped with Heavy roots.	00:22:34	68a, b	M 2
	274.80	RBJ	Roots Ball Joint, from 07 to 10 o'clock, 30 %, within 8 inch: YES	00:24:24	69a, b	
	279.00	RBL	Roots Ball Lateral, at 10 o'clock, 50 %, within 8 inch: YES	00:25:58	70a, b	M 4
	280.30	TFD	Tap Factory Made Defective, at 10 o'clock, 4", within 8 inch: YES, Remark: Full pipe of Roots in service	00:27:06	71a, b	M 2
	280.30	MSA	Survey Abandoned, Remark: Due to heavy roots entering line from lateral.	00:28:03	72a	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	4131	0	19	19	0	2.38	2.38



Hartigan Company
 31 Welch Park Drive
 Middlesex, VT. 05602
 Tel: 802-223-3452, Fax: 802-223-6116

Inspection report

Date: 20090710	P.O.#:	Weather: 1 Dry	Surveyed By: MLM	section number: 6	PSR: 8
Total Pipe Length:	Survey Customer: Waterbury, VT.	System Owner: Waterbury,VT.	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	Map Grid #:

Street: Main St.	Flow Control:	Start MH: 87
City: Waterbury, VT.	Year Renewed	End MH: 88
Location Code: B Main Highway - Suburban/Rural	Tape/Media #: 1	pipe length: 354.5 ft

Reason for inspection:	Dia/Height: C Circular 8/8
Use of Sewer: SS Sanitary	Material: VCP Vitrified Clay Pipe Pipe Length: 3ft
Drain. Area:	Lining Method:
	Category:

Remark:: **Re-Televis after rootcutting.**

1:875	position	code	observation	MPEG	photo	grade
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 10 % of cross sectional area			M 2
	280.20	TFD	Tap Factory Made Defective, at 10 o'clock, 4", within 8 inch: YES, Remark: Heavy roots	00:04:50	105a, b	M 2
	280.20	MGP	General Photograph, within 8 inch: YES, Remark: After Rootcutting This was a full pipe of roots.	00:04:51	106a	
	312.20	TFD	Tap Factory Made Defective, at 02 o'clock, 4", within 8 inch: YES, Remark: Roots in service	00:06:52	107a, b	M 2
	332.10	TFA	Tap Factory Made Active, at 10 o'clock, 4", within 8 inch: YES	00:08:44	108a, b	
	354.50	MGP	General Photograph, within 8 inch: YES, Remark: Incoming Pipe is 6" It is broken just outside manhole 88		112a, b	
	354.50	AMH	Upstream Manhole, Survey End	00:11:22	109a, b	

Buried at time of inspection.

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2300	0	6	6	0	2	2



Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 90	VILLAGE OF WATERBUR...	MAIN ST	VITRIFIED CLAY PIPE	PRIMARY MA...	SANITARY S...
Downstream MH 90A	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
SPR 5	MPR 3	Year Renewed	Height 6	Width 6	Pipe Joint...
SPRI 1.7	MPRI 1.5	PO Number	Customer		
QSR 3112	QMR 2111	Work Order Number	Purpose ROUTINE ASSESSMENT		
OPR 8	Surveyed By EEM	Direction UPSTREAM	Date 20170524	Media label	
OPRI 1.6	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 07:03	Weather DRY - NO P...	
	Date Cleaned		End Time 07:17	Additional Info	



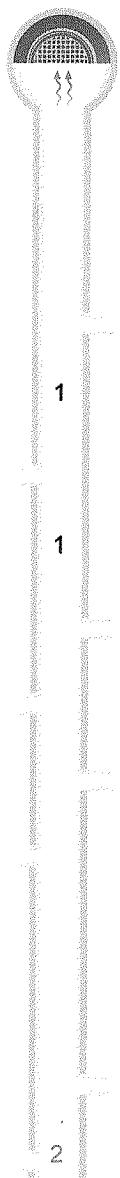
*ENTER 90A
HEADING SOUTH*

Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft. Access Point Manhole 90					
0.0 ft. Miscellaneous Water Level				5	
8.4 ft. Crack Circumferential		7 - 12			
13.3 ft. Crack Multiple		8 - 3			
13.3 ft. Roots Fine Barrel		2			
13.7 ft. Tap Factory Made ROOTS & BROKEN		9	3		
19.5 ft. Roots Fine Joint		1			
28.7 ft. Crack Circumferential		12 - 4			
45.7 ft. Tap Factory Made		2	3		
60.1 ft. Access Point Manhole 90					



Defect Listing Plot Left

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street MAIN ST	Material VITRIFIED CLAY PIPE	Location C... PRIMARY MA..	Pipe Use SANITARY S...
Upstream MH 91	Total Length	Year Constructed	Shape CIRCULAR	Location Details	
Downstream MH 90	Length surveyed 165.9	Year Renewed	Height 6	Width 6	Pipe Joint...
SPR 0	MPR 4	PO Number		Customer	
SPRI 0	MPRI 1.3	Work Order Number		Purpose	
QSR 0000	QMR 2112	ROUTINE ASSESSMENT			
OPR 4	Surveyed By EEM	Direction UPSTREAM	Date 20170524	Media label	
OPRI 1.3	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 07:20	Weather DRY - NO P...	
Date Cleaned			End Time 07:47	Additional Info	



NORTH TO T.V. FROM SOUTH HEADING SOUTH TO MH 91

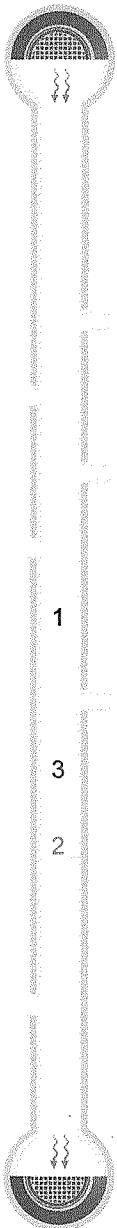
Code:	Continuous:	Pos:	Val 1 / 2 :	% :	Gallons:
0.0 ft. Access Point Manhole 90					
0.0 ft. Miscellaneous Water Level				5	
4.3 ft. Tap Factory Made		10	3		
19.2 ft. Infiltration Stain Joint MINERAL DEPOSIT		12			
21.2 ft. Tap Factory Made CAPPED		2	3		
33.1 ft. Infiltration Stain Joint MINERAL DEPOSIT		10			
35.1 ft. Tap Factory Made CAPPED		10	3		
76.2 ft. Tap Factory Made		2	3		
87.0 ft. Tap Factory Made ROOTS		10	3		
107.1 ft. Tap Factory Made CAPPED		2	3		
113.0 ft. Miscellaneous Material Change VCP TO PVC					
134.5 ft. Miscellaneous Material Change PVC TO VCP					
139.1 ft. Tap Factory Made		10	3		
165.4 ft. Tap Break-In Intruding		2	3 / 1		

510 FT 91



Defect Listing Plot Left

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 90A	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 90B	Length surveyed 140.3	Year Renewed	Height 6	Width 6	Pipe Joint...	
SPR 5	MPR 1	PO Number		Customer		
SPRI 2.5	MPRI 1	Work Order Number		Purpose		
QSR 3121	QMR 1100			ROUTINE ASSESSMENT		
OPR 6	Surveyed By EEM	Direction DOWNSTREAM	Date 20170524		Media label	
OPRI 2	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 08:13		Weather DRY - NO P...	
Date Cleaned			End Time 08:35		Additional Info	



90A

Code:

Continuous: Pos: Val 1 / 2 : % : Gallons:

0.0 ft. Access Point Manhole
90A

0.0 ft. Miscellaneous Water Level 5

46.4 ft. Tap Factory Made 10 3

51.4 ft. Tap Factory Made 2 3

71.3 ft. Tap Factory Made
CAPPED 10 3

91.3 ft. Tap Factory Made
CAPPED & ROOTS 2 3

119.0 ft. Infiltration Stain Joint 10

120.4 ft. Tap Factory Made
CAQPPED 10 3

121.5 ft. Crack Multiple 1 - 3

124.5 ft. Crack Spiral 8 - 10

133.4 ft. Point Repair Replacement
A PEACE OF PVC

137.3 ft. Tap Factory Made 2 3

140.3 ft. Access Point Manhole
90B

144
90B



Defect Listing Plot Left

Pipe Segment Refere...	City VILLAGE OF WATERBUR...	Street MAIN ST	Material VITRIFIED CLAY PIPE		Location C...	Pipe Use SANITARY S...
Upstream MH 90B	Total Length	Year Constructed	Shape CIRCULAR		Location Details	
Downstream MH 88	Length surveyed 92.2	Year Renewed	Height 6	Width 6	Pipe Joint...	
SPR 6	MPR 0	PO Number		Customer		
SPRI 2	MPRI 0	Work Order Number		Purpose		
QSR 3121	QMR 0000			ROUTINE ASSESSMENT		
OPR 6	Surveyed By EEM	Direction DOWNSTREAM	Date 20170524		Media label	
OPRI 2	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 08:39		Weather DRY - NO P...	
Date Cleaned			End Time 08:58		Additional Info	



90B

Code:

Continuous: Pos: Val 1 / 2 : % : Gallons:

0.0 ft. Access Point Manhole
88

0.0 ft. Miscellaneous Water Level 5

1 14.4 ft. Crack Circumferential 9 - 10

2 21.0 ft. Crack Longitudinal 1

22.1 ft. Point Repair Patch
BROKEN PIPE PATCHED 7 - 5

30.6 ft. Tap Factory Made 10 3

63.1 ft. Tap Factory Made 2 3

77.2 ft. Tap Factory Made 10 3

87.2 ft. Crack Multiple 7 - 5

92.2 ft. Access Point Manhole ~~88~~ 88

88



2017
MH 91 TO 90

Hartigan Company
31 Welch Park Dr.
Middlesex VT 05602
800-696-0761

Defect Listing Plot Left

Pipe Segment Refere...	City	Street	Material	Location C...	Pipe Use
Upstream MH 91	VILLAGE OF WATERBUR...	MAIN ST	VITRIFIED CLAY PIPE	PRIMARY MA...	SANITARY S...
Downstream MH 90	Total Length 122.6	Year Constructed	Shape CIRCULAR	Location Details	
SPR 0	MPR 1	Year Renewed	Height 6	Width 6	Pipe Joint...
SPRI 0	MPRI 1	PO Number	Customer		
QSR 0000	QMR 1100	Work Order Number	Purpose ROUTINE ASSESSMENT		
OPR 1	Surveyed By EEM	Direction DOWNSTREAM	Date 20170524	Media label	
OPRI 1	Certificate Number U-1016-07005746	Pre-Cleaning LIGHT CLEANING	Time 10:38	Weather DRY - NO P...	
	Date Cleaned		End Time 11:13	Additional Info	



91 ENTERED 91 MH
HEADING NORTH

Code:

Continuous: Pos: Val 1 / 2 : % : Gallons:

0.0 ft. Access Point Manhole
91

0.0 ft. Miscellaneous Water Level 5

4.0 ft. Tap Factory Made 2 3

6.0 ft. Tap Factory Made 2 3

44.4 ft. Tap Factory Made 2 3

GAENIER SERVICE
6" TAP

45.8 ft. Roots Fine Joint 3

45.8 ft. Tap Factory Made 10 3

81.3 ft. Tap Factory Made 10 3

98.0 ft. Tap Factory Made 2 3

122.6 ft. Miscellaneous Survey Abandoned
AT THE LIMIT OF PUSH CAMERA

90 510 FT



Inspection report

Date: 20111130	P.O.#:	Weather: 1 Dry	Surveyed By: DEH	section number: 7	PSR: 6
Total Pipe Length:	Survey Customer: Waterbury, VT	System Owner: Waterbury, VT	Clean Date:	Pre-Cleaned: J Jetting	Map Grid #:

Street: Main Street	Flow Control:	Start MH: MH 91
City: Waterbury, VT	Year Renewed:	End MH: MH 90
Location Code:	Tape/Media #: 1	Total length: 244.1 ft

Purpose: Use: SS Sanitary	Dia/Height: C Circular 6"/6"
Drain Area:	Material: AC Asbestos Cement Pipe length: 13ft
	Lining: Category:

Comment:
 Location details:

1:600	position	code	observation	MPEG	photo	grade
	0.00	AMH	Downstream Manhole, Survey Begins	00:00:00		
	0.00	MWL	Water Level, 5 % of cross sectional area	00:00:00		
	5.00	TFA	Tap Factory Made Active, at 03 o'clock, 4", within 8 inch: YES, Remark: Steady Clear Flow	00:00:45	40a, b	
	7.00	TFD	Tap Factory Made Defective, at 03 o'clock, 4", within 8 inch: YES, Remark: Service seperating from main line	00:02:34	41a, b	M 2
	41.00	MMC	Material Change, VCP Vitrified Clay Pipe	00:08:16		
	49.20	JOM	Joint Offset Medium with Roots also at joint	00:08:23	43a, b	S 1
	49.20	TFC	Tap Factory Made Capped, at 03 o'clock, 6", within 8 inch: YES	00:10:45	44a, b	
	49.20	TFC	Tap Factory Made Capped, at 09 o'clock, 6", within 8 inch: YES	00:11:43	45a, b	
	56.10	CM	Crack Multiple, from 03 to 05 o'clock, within 8 inch: YES	00:12:48	46a	S 3
	84.10	TFA	Tap Factory Made Active, at 09 o'clock, 4", within 8 inch: YES	00:14:47	47a, b	
	96.90	CL	Crack Longitudinal, at 01 o'clock, within 8 inch: YES	00:15:55	48a	S 2
	101.20	TFC	Tap Factory Made Capped, at 03 o'clock, 4", within 8 inch: YES	00:16:31	49a, b	
	137.40	TFC	Tap Factory Made Capped, at 03 o'clock, 4", within 8 inch: YES	00:18:35	50a, b	
	159.90	CC	Crack Circumferential, from 11 to 04 o'clock, within 8 inch: YES	00:21:04	51a	S 1
	173.10	TFC	Tap Factory Made Capped, at 09 o'clock, 4", within 8 inch: YES	00:22:29	52a, b	
	175.10	TFD	Tap Factory Made Defective, at 03 o'clock, 4", within 8 inch: YES, Remark: Hole at 12 o'clock inside service	00:23:16	53a, b	M 2
	176.00	CM	Crack Multiple, from 03 to 05 o'clock, within 8 inch: YES	00:23:49	54a	S 3
	199.20	CC	Crack Circumferential, from 07 to 12 o'clock, within 8 inch: YES	00:25:16	55a	S 1
	208.60	CM	Crack Multiple, from 10 to 02 o'clock, within 8 inch: YES	00:25:49	56a	S 3
	212.80	TFA	Tap Factory Made Active, at 09 o'clock, 4", within 8 inch: YES	00:26:20	57a, b	
	240.00	TFC	Tap Factory Made Capped, at 03 o'clock, 4", within 8 inch: YES	00:27:48	58a, b	
	244.10	JOL	Joint Offset Large, Remark: Fernco Fitting	00:28:39	59a	S 2
	244.10	MMC	Material Change, PVC Polyvinyl Chloride	00:30:24	60a	
	244.10	MSA	Survey Abandoned, Remark: Due to large offset joint in pipe	00:30:59	61a	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
3322	2200	16	4	20	2	2	2