District of Columbia Water and Sewer Authority



# Soapstone Valley Creek Bed Sewer Rehabilitation Project



# Sewer Assessment March 15, 2011



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### Section 1 Introduction

#### 1.1 Background

The District of Columbia Water and Sewer Authority (DC Water) adopted the Sewer System Facilities Plan report (SSFP) produced by Engineering Program Management Consultant 3B (EPMC-3B) in June 2009. Rehabilitation projects for the sewer system were identified as Capital Improvement Program (CIP) projects in the SSFP and implemented based on the priority ranking assigned using field investigation results. As part of these findings, the Soapstone Valley creek bed sewer rehabilitation project was scheduled as a CIP project with a start of design by 2011.

Soapstone Valley Park, managed by the National Park Service – Rock Creek Park Operating Unit, is approximately 23 acres. This park is roughly bounded by Connecticut Avenue NW and Albemarle Street on the northwest corner, Audubon Terrace to the north and Broad Branch Road on the east. This park is at the western wing of the Rock Creek Park. Figure 1.1 shows the NPS Park. Soapstone Creek is a subwatershed of the Rock Creek, a tributary of the Potomac River.

#### 1.2 Purpose

The purpose of this Study is to evaluate the condition of the existing sanitary and storm sewer system in the Soapstone Valley Park and identify rehabilitation needs.

#### 1.3 Description of the Sewerage System

The sewer shed consists predominantly of residential and commercial areas and is entirely in the District of Columbia. The sanitary sewer system in Soapstone Valley Park was constructed in 1908 and wastewater flows through an 18-inch diameter sanitary sewer into the Rock Creek Main Interceptor (RCMI). The RCMI runs parallel Rock Creek and ultimately conveys the flow for treatment at the Blue Plains AWWTP. Storm sewers for the drainage basin all convey storm flow directly to Soapstone creek. Refer to Figure 1.1 for the project area and the location of the sanitary sewer system.

The Soapstone Valley sanitary sewer system is made up of vitrified clay pipe (VCP) material. Construction of the sewer was completed during 1908; making the system more than a century old and beyond the estimated service life of VCP (between 75 and 100 years). In order to convey flows at the lower points of the gravity system, sewers were installed in the vicinity of streams to convey the wastewater from the neighborhood. Due to natural stream valley, the sanitary sewer crossed the stream at a few locations. Over time, portions of the buried sewer crossings became exposed by the erosive stream flows and surface runoff. Sewer crossing with concrete encasement was also eroded and become exposed by the stream flow.



Section 2

## Section 2 Sewer System Condition Assessment

#### 2.1 Scope of Observations

Inspections of the sanitary and storm sewer infrastructure within the Soapstone Valley Park and the immediate vicinity were performed as part of this assessment. Figure 2.1 depicts the location of the sewers to be inspected as well as manhole numbers. Inspection reports for the sewers and manholes are included in the appendices.

#### 2.2 Inspection Methodology

Counter maps and GIS data were used to create field maps to aid the inspection crews. Manhole numbers were extracted from the DC Water geo-database and identified on the maps to be used in manhole inspection logs and sewer inspection videos. Diversion of flow or bypass pumping was not required for the inspection of the sewers.

Sewers were inspected by using Closed Circuit Television (CCTV) cameras. In order to perform these inspections, two access locations, at Manholes M-9787 (located in Albemarle Street and is approximately 40-feet deep) and M-10412 (located in Audobon Terrace), were identified to perform a continuous inspection through the 18-inch diameter sewer system. All the storm sewer lines and outfalls to the creek were inspected with access from the most upstream manhole located outside NPS property to minimize disruption. Any sewer lines flowing into the 18-inch diameter sewer line were inspected from access locations outside NPS property. Certain sewer segments were added to the schedule for CCTV inspection to complete the inspection, but were necessary to prevent having to enter the Park with the inspection truck.

Inspection of the remaining sewers with in the park property required a NPS special use permit (SUP). This SUP was obtained to inspect the sewers with minimal or no disturbance to the park property. For this report, both sanitary and storm manholes were inspected by man entry and pictures were taken to capture observations. The CCTV inspection contractor was able to collect and provide sufficient information to conduct the internal condition assessment; however, not all sewers were inspected due to access issues within the National Park. Additionally, a segment of the storm sewer system upstream of the outfall F-118, which runs across Connecticut Avenue, is under a building and access couldn't be obtained to perform inspection from outside the park.



#### 2.3 Manhole Inspection Results (Sanitary and storm sewer systems)

Manholes for the Soapstone Valley sewer system were constructed using brick and mortar. Corrosion inside the manholes was observed throughout the system. Manhole covers were mostly rusted closed and some of them were welded shut. Manhole frames were rusted along with the steps.



Photo - View of Sanitary Manhole M-9763 with corroded frame and steps



Photo - View of Sanitary Manhole M-10363 with 6-inch connection

Due to the stream erosion certain portions of the vitrified clay pipe sanitary sewer and the sanitary manholes are exposed. Exposed manholes were observed to have structural damage from the stream. Table 2-1 lists the locations of the exposed sanitary manholes and sewers in the stream.

Manhole ID	Counter Map	Figure
M-9766	LM-19-20 NW	Figure 2-2
M-9762	LM-19-20 NW	Figure 2-3
M-10442	IK-19-20 NW	Figure 2-4
M-10443	IK-19-20 NW	Figure 2-5
M-10364	IK-19-20 NW	Figure 2-6
M-10445	IK-19-20 NW	Figure 2-7

Table 2-1Exposed Sanitary Sewer and Manholes in Stream













#### 2.4 CCTV Inspection Results

#### 2.4.1 Sanitary Sewer CCTV Inspection Results

Active infiltration was observed in the sanitary sewers during the CCTV inspection predominantly where the sewer pipe crossed the stream. The sewer stream crossing between manholes M-10443 and M-10444 was observed to have high active infiltration as shown in the picture below. The location of the leak was later found and immediately referred to DC Water's DSS for repair. DSS immediately fixed the hole in the pipe, where a rock had fallen against the clay pipe causing a leak, with exterior cementitious grout and stopped the infiltration at this location.



Photo – Example of Active Infiltration

Cracks in the sewer pipe, both longitudinal and multiple, were observed throughout the sanitary line during the internal inspections. In general, VCP has a tendency to fail, especially those pipes installation with shallow cover over the pipe. External point loads exceeding the pipe hoop strength tend to deform the pipe, creating cracks in it. Failure is often exacerbated by the loss of surrounding soil leading to void formation and loss of soil support to the pipe.

Sewer segments between manholes M-9768 to M-9765 were observed to be previously lined and are in need of no further improvements at this time. Roots and multiple cracks at the crown of the pipe were observed for the sewer segment between manhole M-9765 and M-9764. Fine to medium roots were generally observed at the joints for all the sanitary sewer segments.

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Other common defects identified in the sanitary sewer VCP included: root intrusion, deposit build-up, cracks/broken pipe, and leakage.

A list of sanitary sewer segments with observed primary defects noted is provided in Table 2.2. As noted in the table all segments have defects that need to be addressed by either pipe replacement or rehabilitation with the exception of the two sections previously rehabilitated.

Upstream Manhole	Downstream Manhole ID	Diameter (inch)	Length	Primary Observed Defects
ID		(mon)	(14)	
M-9787	M-9768	18	353	Roots
M-9768	M-9766	18	180	Lined Previously
M-9766	M-9765	18	111	Lined Previously
M-9765	M-9764	18	270	Roots, Cracks
M-9764	M-9763	18	353	Roots fine
M-9763	M-9762	18	170	Roots fine, evidence of surcharge
M-9762	M-9761	18	167	Leaks, offsets minor, longitudinal cracks at
				12:00. Creek Crossing
M-9761	M-9760	18	37	Roots, located b/w two crossings
M-9760	M-10442	18	80	Fine Roots, located in wooded area with
				D/S MH on creek bank and in middle of
				two creek crossings
M-10442	M-10414	18	374	Leaks, roots, cracks, creek crossing
M-10414	M-10412	18	347	Fine roots

Table 2-2CCTV Inspection Results - Summary

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		<b>D</b> : (			
Upstream	Downstream	Diameter	Length	Primary Observed Defects	
Manhole	Manhole ID	(inch)	(ft)		
ID					
M-10412	M-10411	18	109	Roots (fine) in lower section; D/S MH	
				buried	
M-9758	M-9757	10	224	Roots; open joints	
M-9757	M-9756	10	284	Roots (fine)	
M-10417	M-10413	15	316	Roots (fine)	
M-10413	M-10412	15	261	Longitudinal cracks & fractures; roots (fine)	
M-9756	M-10417	10	320	Roots; Heavy cleaning; cracks, open joints,	
				fractures	
M-10411	M-10409	18	192	Roots, cracks, broken	
M-10409	M-10410	18	52	Cracks near U/S MH	
M-10410	M-10443	18	76	Roots, fine, cracks, lateral	
M-10443	M-10444	18	297	Roots, hole void visible, cracks, creek	
				crossing	
M-10444	M-10366	18	142	Roots, cracks	
M-10366	M-10365	18	87	Cracks, one active tap	
M-10365	M-10364	18	206	Fine roots, minor break	
M-10364	M-10363	18	376	Cracks, roots, grease or surcharge	
				evidence. One lateral with broken tee	
M-10363	M-10445	18	171	Leaks, roots, deposits. Crosses creek	
M-10445	M-10343	18	215	Hole void visible, leaks, 12:00 broken, fine	
				roots	

#### 2.4.2 Storm Sewer System CCTV Inspection Results

Storm sewer inspection limited due to topography and permitted access by the National Park Service. Storm lines inspected located in Soapstone Valley Park with major elevation changes have more significant problems than storm lines located on "flatter" slopes.

Upstream Manhole ID	Downstream Manhole ID	Diameter (inch)	Length (ft)	Primary Observed Defects	
M-10416	M-10415	18	130	Minor breaks	
M-10418	M-10416	18	92	Cracks	
M-10415	F-137	18	11	Good condition	
M-10395	M-10405	36	346	Roots (fine)	
M-10405	M-10406	27	97	Cracks, offset joints, minor break	

Table 2-3CCTV Inspection Results - Summary

#### 2.4.3 Overall Sewer Ratings

Sewers inspected as part of this assessment have been rated based on condition assessment rating system developed for the Sewer System Facilities Plan. Rating system used a unique client system based on the National Association of Sewer Service Companies (NASSCO) system available through their Pipeline Assessment Certification Program (PACP). The rating system encompasses normalized defect coding to provide a comparable segment score. "Tech Memo No. 5 Sewer Assessment Rating System" by EPMC-3A outlines the sewer assessment rating system in detail.

The Structural Segment Rating (normalized defect rating) and Overall Sewer Rating Scores for each sewer segment are included below in Table 2-4. The Sewer Ratings are depicted in Figure 2-8.

Upstream Manhole ID	Downstream Manhole ID	Structural Sewer Rating	Overall Sewer Rating
M-9760	M-10442	2	3
M-10366	M-10365	1	2
M-10363	M-10445	3	4
M-10364	M-10363	3	3
M-10445	M-10343	5	4
M-10365	M-10364	3	3
M-10444	M-10366	3	3
M-10443	M-10444	5	4
M-10410	M-10443	4	4
M-10409	M-10410	3	3
M-10411	M-10409	5	4
M-10416	M-10415	4	4
M-10418	M-10416	1	2
M-10415	F-137	0	2
M-10414	M-10412	6	5
M-9762	M-9761	7	5
M-9761	M-9760	3	3
M-10442	M-10414	6	5

Table 2-4CCTV Inspection Results - Summary

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Upstream Manhole ID	Downstream Manhole ID	Structural Sewer Rating	Overall Sewer Rating
M-9764	M-9763	2	3
M-9763	M-9762	5	4
M-9765	M-9764	2	3
M-9766	M-9765	6	5
M-9768	M-9766	3	3
M-9787	M-9768	3	3
M-9758	M-9757	4	4
M-9757	M-9756	3	3
M-10417	M-10413	2	3
M-10395	M-10405	2	3
M-10405	M-10406	5	5
M-10413	M-10412	3	3
M-9756	M-10417	4	3
M-10412	M-10411	6	5



Section 3

### Section 3 Project Requirements

#### 3.1 Preliminary Recommendations

Rehabilitation recommendations for the sewer include the following:

- Replace or relocate the sewer crossings indicated on Figure 3.1 with structural encasement for pipe integrity
- Rehabilitate approximately 4000 ft of the buried 18" sanitary sewers inside Soapstone Valley National Park with UV CIPP or similar trenchless method
- Stabilize the stream banks at the stream crossings to avoid any further erosion of the banks at the crossings

#### 3.2 Construction Access

For access to replace the stream crossing, access routes to the stream are required through the NPS property. Currently, access routes are planned to avoid dense areas of wood and mostly follow foot trails or wide gaps through woods. These access routes are being utilized to perform inspections with NPS approval. Access routes include:

- Access from the west end of Audubon Terrace through the existing foot trail
- Access from the paved edge of Audubon Terrace through wide gaps in the woods
- Access from the intersection of Audubon Terrace and 29th St NW
- Access from the east end of Audubon Terrace through the existing foot trail

#### 3.3 Permits

Permits are anticipated to be required from District of Columbia (DCRA), which incorporates DC Water, DDOT and District Dept. of Environment. Other permits required include the National Park Service (NPS), US Army Corps of Engineers, and U.S. Fish and Wildlife Service. Each of the permits required is discussed below.

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Agency	Permit Requirements
District of Columbia (DCRA)	<ul> <li>Construction Permit</li> </ul>
	<ul> <li>Building Permit</li> </ul>
	<ul> <li>Sediment Control/Stormwater Management Plan</li> </ul>
	<ul> <li>Sheeting and Shoring Permit</li> </ul>
	<ul> <li>Sewer Permit ( with DC Water)</li> </ul>
National Park Service (NPS)	<ul> <li>Special Use Permit</li> </ul>
	<ul> <li>Environmental Assessment</li> </ul>
US Army Corps of Engineers	<ul> <li>Permit for Construction in wetlands</li> </ul>
US Fish and Wildlife Service	<ul> <li>Review for impacts to endangered species</li> </ul>
	<ul> <li>Enhancement of Survival Permits – Candidate Conservation Agreement</li> </ul>

Table 3-1Anticipated Permit Requirements



# **Appendix A**

# Manhole Inspection Logs



Date/Time 6-15-2010	3:03 Pr Contract No 040/16 Task Order No 1 Inspection Crew JRH
MHID No M- 4762	Counter Man No ED 200 Donth 7 1610 Fint Weather XDry 4 Showers
Street Soap Stone Park	Quadrant $N \sim$ Block No. $N \land$ Temperature $67$ [F] 3 Light Rain
Grade Adjustment Grade Adjustment Bench I YPICAL MH SECTION	GENERAL       PHOIOS [No]         Surface Inspection       Location       Paved-Conc.       Surfaction       Invoice in the section       Invoice in
Comments: <u>Manhole in Sogpstone</u> Valley Park	FRAME       PHOIO       Sing       No         Frame       1       Good       Adjustmen       None       Seal       1       Good       Frame Inside         Condition       K Fair       Rings       2       One       Condition       Fair       Diameter       2O       [in]         3       Poor       3       Iwo       3       Poor       Offset       O       [in]         Frame       1       Cracked       Corroded/Pitted       Observed I/1       [gpm]
	GRADE ADJUSTMENT (CHIMNEY)       Yes       Yes       Yes       Yes       Yes         Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
·	Opening Dia [in] Height [in] Probe Depth [in] Observed 1/1 [gpm]
	CONE       No       or       RISER       Yes       Yes       No         Cone       Concentric       Material       Precast       Condition       1       Good       Defects       1       Voids         Shape       2       Eccentric       Brick       X       Fair       2       Roots         3       Flat Iop       3       Block       3       Poor       Cracked         4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       6       Other (Use Comments)         Probe       Denth       ()       [in]       Observed I/I       [gpm]

MH ID No <u>M- 4762</u> C	ounter N	Iap No. 🖵	0269	Stree	t <u>Soups</u>	Tone	Par KQu	adrant <u>N 4</u>	Z Bloc	k No. 🖊	NĄ		
· · · · · · · · · · · · · · · · · · ·	WALL	,					- · · · - · ·		PI	HOTOS	XS No		
Comments: Manhale in Soapstone Valley Py	Mate	erial I Pre Bri 3 Blo 4 Lin	ecast 5 ick 6 ock 7 ied	Cast-in-Pla Parged Ove Other (Use	ce Co r Comments)	onditio	n 1 Good Fair 3 Poor	Defects	1 Voi 2 Roc 3 Cra 4 H2S 5 Oth	ids ots cked S Corrosion er (Use Co	n omments)		
	Openi	ng Dia 🧾	<u>6 [in</u>	]	Probe D	epth	<u> </u>	Obse	erved I/I	0	[gpm]		
· ····································	BENC	H K No							PI	HOTOS	No No		
	_ Mate	erial 1 Pre X Bri 3 Blo 4 Lin	cast 5 ck 6 ock 7 led	Cast-in-Plac Parged Over Other (Use	ce Co r Comments)	nditio	n 1 Good X Fair 3 Poor	Defects	<ul> <li>1 Vo</li> <li>2 Ro</li> <li>2 Cra</li> <li>4 H2</li> <li>5 De</li> </ul>	ids ots acked S Corrosic bris/Silt	on		
	Needs	s Cleaning	Yes	<u>}</u> 0	bserved 1	И (	<u>) [gpm]</u>		6 Otl	her (Use C	omments)		
	CHAN	NEL 🖋	No						PH	HOTOS	Ks No		
		Material       1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1         Brick       6       Parged Over       Image: Second Seco								<ol> <li>Voids</li> <li>Roots</li> <li>Cracked</li> <li>H2S Corrosion</li> <li>Debris/Silt</li> </ol>			
	Needs	Needs Cleaning     Yes     Observed I/I     [gpm]     6 Other (Use Comments)									omments)		
	STEPS	SIEPS No							PHOIOS 🔀 No				
MH LOCATION SKETCH (use to clarify location, if needed)	Mat	Material       Metal       Condition       1 Good         2       Brick       S Fair         3       Plastic/Rubber Coated       3 Poor         4       Other (Use Comments)							1 Miss Corr 3 Brok 4 Othe	sing # [ roded # [ cen # [ er (Use Cor	3 mments)		
-M-9762	CONNI	Number of Steps     Observed I/I       CONNECTING PIPES											
		Flow Direction	Line Type	Clock Position	Shape	Siz Heig Dia	ze [in] ht Width	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpm]		
Doapstone	Line 1	2	1	12:00	3	18	X	7-0		1	0		
·····	Line 2	1	4	5:00	3	18	X	6-0	/	1	0		
PRIMARY EFFLUENT	Line 4						x 						
$Q \stackrel{(1)}{\longrightarrow} Q$	Line 5						x	-					
		1=Influent 2=Effluent	1=Primar 2=Second Influen 3=Overflc 4=Drop C	y I ine lary t I ine ww I ine onnection	1=Arched w 2=Barrel 3=Circular 4=Egg Shap 5=Horsesho 6=Oval 7=Rectangu	ed e	Bottom	* From Cover	1=None 2=Sludge 3=Mud 4=Rocks 5=Other	l=None 2=Light 3=Mediùr 4=Heavy 5=Severe	n		
(show connecting line numbers)					8=Square 9=Irapezoid 10=U-Shape	lal ed with F	lat Iop						
					11=Other (U	se Com	ments)						

DGWASA DGWASA Date/Time <u>6-15-2010</u> 3:3	DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY MANHOLE INSPECTION FORM
MH ID No M-9793 Street Soap Stone Park	Counter Map No. 70 269       Depth 6 [ft] 6 [in]       Weather       Ø Dry       4 Showers         Quadrant NW       Block No. NA       Temperature 67       [F]       3 Light Rain
Cover	GENERAL PHOTOS X No
Grade Adjustment	Surface Inspection       Location       1       Paved-Conc       5       Curb       Traffic       1       Fwo Lane         Internal Inspection       2       Paved-Asph       6       Yard       2       3-4 Lane         Buried or Paved Over       3       Driveway       Dirt/Grass       3       Highway         Surcharged       [in]       4       Side Walk       Cother (Use Comments)       4       Alley         Debris/Silt       5       Parking Lot       5       Parking Lot       Other (Use Comments)       4         Not Found       Vermin       1       Rats       None       Other (Use Comments)       Other (Use Comments)
	COVER PHOIO' XINO
Bench hvert Channel	Type       Yi Pick       Condition       I Good       Defects       Ioo light       S Broken       No. of       I None         2       Concealed       Y Fair       2       Loose       6       Cracked       Holes       2       Pick (1)         3       Gasketed       3       Poor       3       Rocking       7       Missing       Pick (2)         4       Bolted       4       Sorroded/Pitted       4       3-6       5       >6         5       Vent       5       Storm       5       >6       5       >6         6       Storm       5       Storm       5       (in)       Ponding Depth       (in)         Subject to Sheet Flow       Yes       Y. IF Yes       [sq.ft]       Surrounding Pavement Cracked       Yes       Yes
TYPICAL MH SECTION	
Comments: Manhole in Soapsione Valley Park	FRAME       PHOTO SING         Frame       I Good       Adjustmen       None       Seal       I Good       Frame Inside         Condition       Kair       Rings       2 One       Condition       Kair       Diameter       [in]         3       Poor       3       Two       3       Poor       [in]         4       Missing       4 >2       Offset       [in]
	Defects 2 Broken Observed I/I () [gpm]
	GRADE ADJUSTMENI (CHIMNEY) Yes X
· · · · · · · · · · · · · · · · · · ·	Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
	CONE 10 or RISER Yes 0 PHOIOS 10
	Cone       Concentric       Material       1       Precast       Condition       1       Good       Defects       1       Voids         Shape       2       Eccentric       Stick       Stick       Stick       Stick       2       Roots         3       Flat Iop       3       Block       3       Poor       Cracked         4       Other (Use Comments)       4       Cast-in Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       5       Other (Use Comments)
	Riser Dia. 24 [in] Probe Depth [in] Observed I/I [gpm]

MH ID No. <u>1-9763</u> C	ounter M	ap No. <b>I</b> l	244	Stree	t <u>Soap 5</u>	Tone	Par KQua	idrant <u>N</u> G	Bloc	k No. 🖊	14
······································	WALL								PI	HOTOS	Xes No
Comments: Manhole in SogpsTone Valley Park	Mate	rial 1 Pre X Bri 3 Bla 4 Lir	cast 5 ck 6 ock 7 hed	Cast-in-Pla Parged Ove Other (Use	ce Co r Comments)	nditio	n 1 Good X Fair 3 Poor	Defects	1 Voi 2 Roc Cra 4 H2S	ds ots cked S Corrosior er (Use Co	1 mments)
	Openin	ng Dia <u>3</u>	<u>6 [in]</u>	]	Probe D	epth _	[in]	Obse	erved I/I	0	[gpm]
	BENCH	I 🌾 No							PI	HOTOS,	🔆 s No
	Mate	rial 1 Pred Brid 3 Blo 4 Lin	cast 5 ck 6 ck 7 ed	Cast-in-Plac Parged Over Other (Use	ce Co r Comments)	ndition	1 Good Stair 3 Poor	Defects	1 Vo 2 Ro X Cra 4 H2 5 De	ids ots acked S Corrosio bris/Silt	n
	Needs	Cleaning	Yes		bserved I		<u>)</u> [gpm]				
	CHANN Mater	Tial 1 Prec 2 Bric 3 Bio	vast 5 k 6 k <b>X</b>	Cast-in-Plac Parged Over Half Pipe	e Co	ndition	1 Good S Fair 3 Poor	Defects	PI 1 Voi 2 Roo Cra	HOIOS ids ots icked	X I No
	Needs	4 Line Cleaning	ed 8 ( Yes M	Other (Use C	Comments) Observed I	л	<u> </u>		₩ H2: 3 De 6 Ot	S Corrosion brís/Silt her (Use Co	n omments)
	SIEPS	X No							PI	iotos J	Kes No
MH LOCATION SKETCH (use to clarify location, if needed)	Mat	erial $\begin{bmatrix} 1 \\ 2 \\ 3 \\ 4 \end{bmatrix}$	Metal Brick Plastic/Rul Other (Use	ober Coated e Comments	Condit:	ion	1 Good Fair 3 Poor	Defects	1 Miss Com 3 Brol 4 Othe	sing # [ roded # [ cen # [ er (Use Cor	nments)
	CONNE	ECTING P				0036					
		Flow Direction	Line Type	Clock Position	Shape	Siz Heig Dia	te [in] ht Width	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpm]
SOUPSTONE	Line 1	2	1	12:00	3	18	x Ø	8-6	1		0
	Line 2		<u>l</u>	6:00	3	18	x Ø	0-6	1	1	0
PRIMARY EFFLUENT	Line 3						X	-			
(1)	Line 5						x				
		1=Influent 2=Effluent	I=Primar 2=Second Influen 3=Overflo 4=Drop C	y Line ary t Line ow Line connection	1=Arched w 2=Barrel 3=Circular 4=Egg Shar 5=Horsesho 6=Oval 7=Rectangu	rith Flat ed e	Bottom	* From Cover	1=None 2=Słudge 3=Mud 4=Rocks 5=Other	1=None 2=Light 3=Mediur 4=Heavy 5=Severe	n
show connecting line numbers)					8=Square 9=Irapezoid 10=U-Shape 11=Other (U	lal d with F Ise Com	lat Iop ments)				



Date/Time 4-15-2010 4:	15 PM Contract No. 080110 Task Order No. 1 Inspection Crew JRH
MH ID No m- 97 64	Counter Map No. <u>ID269</u> Depth 6 [ft] 6 [in] Weather 7 4 Showers
Street Soapstone Park	Quadrant $\underline{N}\underline{N}$ Block No. $\underline{N}\underline{A}$ Temperature $\underline{67}$ [F] $\underline{3}$ Light Rain
Cover Grade Adjustment	GENERAL       PHOIOS       No         Surface Inspection       Location       Paved-Conc       Curb       Fraffic       Two Lane         Internal Inspection       2       Paved-Asph       6       Yard       2       3 4 Lane         Buried or Paved Over       3       Driveway       Dirt/Grass       3       Highway         Surcharged       [in]       4       Side Walk       Other (Use Comments)       4       Alley         Debris/Silt       5       Parking Lot       5       Parking Lot       Other (Use Comments)       Other (Use Comments)         Not Found       Vermin       1       Rats       None       Other (Use Comments)       Other (Use Comments)
Bench Invert	COVER       PHOIO'       No         Type       Pick       Condition       Good       Defects       Ioo light       5       Broken       No. of       1       None         2       Concealed       Image: Second Secon
Channel IYPICAL MH SECTION	Cover Dia $22$ [in]       Grade {+/·} $6$ [in]       Ponding Depth $0$ [in]         Subject to Sheet Flow       Yes $Yes$ [sq ft]       Surrounding Pavement Cracked       Yes $Yes$ FRAME       PHOTO       Yes $Yes$ $Yes$ $Yes$ $Yes$ $Yes$
Comments: <u>Man hole in Scapstone</u> Valley Park <u>,</u>	Frame       1       Good       Adjustmen       None       Seal       1       Good       Frame Inside         Condition       J. Fair       Rings       2       One       Condition       Seal       Fair       Diameter       [in]         3       Poor       3       Iwo       3       Poor       Offset       [in]         Frame       1       Cracked       X       Corroded/Pitted       Observed I/I       [gpm]
	GRADE ADJUSTMENT (CHIMNEY)       Yes       Yes       PHOIOS       Yes         Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)         6       Other (Use Comments)       4       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/1 [gpm]
	CONE       Ites [No]       Or       RISER       Ites [No]       PHOTOS       PHOTOS         Cone       Concentric       Material       Precast       Condition       I Good       Defects       I Voids         Shape       2       Eccentric       Image: Shape       3       Eccentric       Image: Shape       3       Brick       Image: Shape       2       Roots         3       Flat Top       3       Block       3       Poor       Image: Cracked         4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       5       Other (Use Comments)
	Riser Dia. $24$ [in]Loi Other (Use Comments) Probe Depth $6$ [in]Observed I/I $6$ [gpm]

MH ID No. <u>M-9749</u> C	ounter M	[ap No. <b>I</b> ]	269	Stree	t <u>Soqp5</u>	tone .	Park Que	drant <u>Nh</u>	Bloc	k No 🖊	14	
r	WALL	······································							Pl	HOTOS	Xes No	
Comments: Manhole in Soupstone Valley Park	Mate	erial 1 Pre Erial Bri 3 Blo 4 Lin	cast 5 ck 6 ock 7 ued	Cast-in-Place Parged Ove Other (Use	r Comments)	nditior	1 1 Good X Fair 3 Poor	Defects	1 Voi 2 Roo 3 Cra 4 H2 5 Oth	ids ots icked S Corrosior ier (Use Co	n mments)	
· · · · · · · · · · · · · · · · · · ·	Openi	ng Dia. <u>3</u>	<u>6</u> [in]	]	Probe De	epth	<u>O_</u> [in]	Obse	rved I/I	0	[gpm]	
· · · ·	BENC	H Yes No			· · ·			······································	PI	HOTOS	VS No	
	Mate	erial 1 Pres	cast 5 ck 6 ck 7 ed	Cast-in-Plac Parged Over Other (Use (	ce Co: Comments)	ndition	1 Good Fair 3 Poor	Defects	<ol> <li>1 Vo</li> <li>2 Ro</li> <li>S Cr.</li> <li>4 H2</li> <li>5 De</li> <li>6 Ot</li> </ol>	oids oots acked 2S Corrosio obris/Silt ber (Use C)	n nmmente)	
	INCERT	Cleaning	Yes X		bserved 1		<u>/ [gpm]</u>					
	Mate	NEL Yes 1 rial 1 Prec 2 Bric 3 Bloc 4 Line	vo k 5 k 6 k 2 k 2 k 2 k 3	Cast-in-Plac Parged Over Half Pipe Other (Use C	e Con	ndition	1 Good X Fair 3 Poor	Defects	PI 1 Vo 2 Ro Cra 4 H2 5 De	HOTOS ids ots acked S Corrosion bris/Silt	n 	
	Needs Cleaning Yes No Observed I/I [gpm]								her (Use Co	mments		
· · · · · · · · · · · · · · · · · · ·	STEPS	No			PF	IOTOS	YES No					
MH LOCATION SKETCH (use to clarify location, if needed)	Mat Numb	Material Metal Condition 1 Good Defect Brick Fair Plastic/Rubber Coated 3 Poor 4 Other (Use Comments)								1       Missing       #         X       Corroded       #         3       Broken       #         4       Other (Use Comments)		
	CONNI	ECTING PI	PES									
		Flow Direction	Line Type	Clock Position	Shape	Siz Heigl Dia.	e [in] nt Width	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpm	
	Line 1	2	1	12:00	3	18	хÔ	6-6	1	1	0	
	Line 2		l.	6:00	.3	18	x D	6-6			$\cup$	
PRIMARY EFFLUENT	Line 4						X v	-				
$Q \stackrel{(1)}{\bullet} Q$	Line 5	· · ·					x	_				
	L	1=Influent 2=Effluent	1=Primar 2=Second Influen 3=Overflc 4=Drop C	y Line lary t Line ow Line connection	1=Arched w 2=Barrel 3=Circular 4=Egg Shap 5=Horsesho 6=Oval	rith Flat I ed e	Bottom	* From Cover	1=None 2=Sludge 3=Mud 4=Rocks 5=Other	1=None 2=Light 3=Mediur 4=Heavy 5=Severe	n.	
show connecting line numbers)					7=Rectangu 8=Square 9=Trapezoid 10=U-Shape 11=Other (U	lar lal cd with Fl lse_Comm	lat I op nents)					



Date/Time 6-15-2010 40	o PM hr) Contract No 080110 Task Order No.   Inspection Crew JRH
MH ID No / - 47 65	Counter Map No <u><b>TO 269</b></u> Depth <u>6 [ft]</u> [in] Weather <u>X</u> Dry <u>4</u> Showers
Street Soapstone Park	Quadrant <u>NW</u> Block No. <u>NA</u> Temperaturi <u>97</u> [F] <u>3</u> Light Rain
Cover Grade Adjustment	GENERAL       PHOIOS       No         Surface Inspection       Location       1 Paved-Conc       5 Curb       Fr affic       1 Two Lane         Internal Inspection       2 Paved-Asph       6 Yard       2 3.4 Lane         Buried or Paved Over       3 Driveway       Dirt/Grass       3 Highway         Surcharged       [in]       4 Side Walk       Other (Use Comments)       4 Alley         Debris/Silt       5 Parking Lot       5 Parking Lot       Other (Use Comments)       Other (Use Comments)         Not Found       Vermin       1 Rats       None       Other (Use Comments)       Other (Use Comments)
Bench hvert Channel I YPICAL MH SECTION	Type       Pick       Condition       1       Good       Defects       Ioo Iight       Broken       No. of       1       None         2       Concealed       X       Fair       2       Loose       6       Cracked       Holes       2       Pick (1)         3       Gasketed       Image: Second se
Comments: <u>Manhole in Soapstone</u> Valley Park <u>-</u>	FRAME       PHOTO       SNO         Frame       I Good       Adjustmer       None       Seal       I Good       Frame Inside         Condition       Kair       Rings       2 One       Condition       Fair       Diameter       20       [in]         3       Poer       3       Two       3 Poor       Offset       [in]         4       Missing       4       >2       Offset       [in]         Frame       I Cracked       Corroded/Pitted       Observed I/( 0 form)
	Defects 2 Broken
	GRADE ADJUSIMENT (CHIMNEY)       Yes       <
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
	CONE       No       or       RISER       Yes       No         Cone       Concentric       Material       1       Precast       Condition       1       Good       Defects       1       Voids         Shape       2       Eccentric       Material       1       Precast       Condition       1       Good       Defects       1       Voids         3       Flat Iop       3       Block       3       Poor       Cracked         4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       5       Other (Use Comments)
	Riser Dia. <u>[in]</u> Probe Depth <u>[]</u> [in] Observed I/I <u>[]</u> [gpm]

MH ID No <u>M-9765</u> Co	unter M	ap No. <u>I</u> I	0269	Street	Soapsi	ine	Park Qua	drant <u>NW</u>	Block	No. <u>N</u>	<u>^</u> A
······································	WALL						·		PI	IOTOS	Ks No
Comments: Manhole in Soapstone Valley Park	Mate	rial I Pred Brid 3 Blo 4 Lin	cast 5 ck 6 ock 7 ed	Cast-in-Plac Parged Over Other (Use (	æ Co T Comments)	nditio	n 1 Good X Fair 3 Poor	Defects	1 Void 2 Roo X Crac 4 H2S 5 Other	ls ts cked Corrosion er (Use Col	nments)
	Openii	ng Dia. <u>5</u>	<u>6</u> [in]	]	Probe De	epth_	<u>     [in]</u>	Obse	erved I/I	0	[gpm]
	BENCH	I Yes No							PH	iotos	Kes No
	Mate Needs	rial 1 Prec Brig Blo Lin Cleaning	cast 5 ck 6 ck 7 ed	Cast-in-Plac Parged Over Other (Use (	e Co Comments)	nditio	n 1 Good Fair 3 Poor	Defects	1 Vo 2 Ro 4 H2 5 De 6 Oth	ids ots icked S Corrosio bris/Silt ier (Use Co	n omments)
	CHANN	र्षे 😿 ाचा							РĬ-	TOTOS	<b>Xe</b> s No
<u> </u>	Mater	rial 1 Prec Bric 3 Bloc 4 Line	xast 5 ( k 6 ] xk 7 ] xd 8 ( Yes <b>X</b>	Cast-in-Plac Parged Over Half Pipe Other (Use C	e Cor Comments)	nditio	n 1 Good SFair 3 Poor	Defects	1 Voi 2 Roc 2 Roc 2 Cra 4 H2: 3 De 6 Ott	ds ots cked S Corrosion bris/Sift aer (Use Co	1 ) ) ) ) ) ) ) ) ) ) ) )
	GTEDO										KS No
MH LOCATION SKETCH (use to clarify location, if needed)	Numb	erial X <sup>1</sup> 2 I 3 I 4 c	vietal Brick Plastic/Rul Other (Use	bber Coated e Comments	Conditi )	ion Obs	1 Good Fair 3 Poor er ved 1/1	Defects	1 Miss Corr 3 Brol 4 Othe	sing # [ roded # [c cen # [ er (Use Cor	Diments)
	CONNE	ECTING PI	PES								
Evere		Flow Direction	Line Type	Clock Position	Shape	Si Heig Dia	ze [in] ght Width a.	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpm]
SOAN PORT	Line 1	2	1	12:00	3	18	x O	6-0	1	1	0
	Line 2			7:00	3	18	x O	6-0	(	(	0
PRIMARY EFFLUENT	Line 3			-		 	X				
(1)	Line 5					-	x x				
	:	1=Influent 2=Effluent	1=Primar 2=Second Influen 3=Overflo 4=Drop C	y Line lary tt Line ow Line Connection	1=Arched v 2=Barrel 3=Circular 4=Egg Shar 5=Horsesho 6=Oval 7=Rectangu	vith Flat ped lar	: Bottom	* From Cover	I=None 2=Sludge 3=Mud 4=Rocks 5=Other	1=None 2=Light 3=Mediun 4=Heavy 5=Severe	n
					8=Square 9=Trapezoio	dal					
(show connecting line numbers)					10=U-Shape 11=Other (U	ed with Jse Con	Flat Iop nments)				



Date/Time 6-15-2010 3:4	5 Pm in Contract No. 080/10 Task Order No. 1 Inspection Crew JRH
MH ID No M-9766	Counter Map No. ID 269 Depth 6 [ft] 0 [in] Weather Dry 4 Showers
Street Soap Stone Park	Quadrant <u>NW</u> Block No. <u>NA</u> Temperature <u>47</u> [F] 3 Light Rain
Cover Grade Adjustment	GENERAL       PHOIOS       No         V Surface Inspection       Location       Paved-Conc       S Curb       Tr affic       I I wo Lane         Internal Inspection       2 Paved-Asph       6 Yard       2 3-4 Lane         Buried or Paved Over       3 Driveway       Dirt/Grass       3 Highway         Surcharged       [in]       4 Side Walk       Other (Use Comments)       4 Alley         Debris/Silt       S       None       Other       Other         Not Found       Vermin       Rats       None       Other         2 Cookroaches       4 Other (Use Comments)       Other       Other         You       Pick       Condition 1 Good       Defects       Ioo Iight       Broken       No. of 1 None         Type       Pick       Condition 1 Good       Defects       Ioo Iight       Broken       No. of 1 None         3 Gasketed       3 Feor       3 Rocking       Missing       Pick (2)         4 Bolted       3 Feor       3 Rocking       Pick (2)       S >6         5 Vent       Storm       S >6       Storm       S >6       Storm
	Subject to Sheet Flow $\underline{Yes} \times$ , IF Yes[sq ft.] Surrounding Pavement Cracked $\underline{Ye} \times$
	FRAME PHOIO XINO
Manhole in Sogoston. Valley Park	Frame       I Good       Adjustmer       None       Seal       I Good       Frame Inside         Condition       Fair       Rings       2 One       Condition       Fair       Diameter       Diameter       [in]         Image: Properties       Image: Properis       Image: Properis       Image:
<i>n</i>	GRADE ADJUSIMENI (CHIMNEY) Yes X PHOIOS Yes X
	Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
	CONE Ses No or RISER Yes So PHOIOS MO
	Cone       Concentric       Material       1       Precast       Condition       1       Good       Defects       1       Voids         Shape       2       Eccentric       State       State <td< th=""></td<>
	Riser Dia. <u>24</u> [in] Probe Depth <u>O</u> [in] Observed I/I <u>O</u> [gpm]

МН IŲ № <u>М-9766</u> С	ounter Map	No. 🎵	0260	7 Stree	t <u>Soap</u>	270 De ParkQue	adrant <u>Nh</u>	/ Block	k No. <u>/</u>	IA
	WALL							PI	HOTOS	K No
Comments: <u>Man hole 'n Soapste</u> Valley Park	Material <b>M</b> e	1 Pred Brid 3 Blo 4 Lin	cast 5 ck 6 ock 7 ed	Cast-in-Pla Parged Ove Other (Use	ce Co i Comments)	ndition 1 Good K Fair 3 Poor	Defects	1 Voi 2 Roo 5 Oth	ds ots cked 5 Corrosion er (Use Co	1 mments)
	Opening I	Dia. <u>3</u>	6_[in]	]	Probe D	epth [in]	Obse	erved I/I	Ò	[gpm]
	BENCH	No						PI	IOTOS	Kes No
	Material	1 Prec Brig Blo 4 Line	xast 5 k 6 ck 7 ed	Cast-in-Plac Parged Ove Other (Use	ce Co r Comments)	ndition 1 Good Fair 3 Poor	Defect	<ol> <li>Vo</li> <li>Ro</li> <li>Ro</li> <li>Ro</li> <li>Cra</li> <li>H2</li> <li>Cra</li> <li>H2</li> <li>De</li> <li>De</li> <li>Otto</li> </ol>	ids ots acked S Corrosio bris/Silt ber (Use Co	n omments
				<u>a</u> c						
	Material	1 Prec 2 Bric 3 Bloc 4 Line	ast 5 k 6 k <b>X</b> d 8	Cast-in-Plac Parged Over Half Pipe Other (Use C	e Co)	ndition 1 Good X Fair 3 Poor	Defects	1 Voi 2 Roo 2 Roo 4 H22 3 Field	ids ots icked S Corrosion bris/Silf	n 
	Needs Cle	aning	Yes 🕅		bserved I	/I <u>(</u> [gpm]		6 Ott	ner (Use Co	omments
	SIEPS K No PHOIOS K No									
MH LOCATION SKETCH (use to clarify location, if needed)	Materia Number o	I X N 2 F 3 F 4 c	Metal Brick Plastic/Rul Other (Use	ober Coated e Comments	Condit:	ion 1 Good Fair 3 Poor Observed I/I	Defects	1 Miss Com 3 Brol 4 Othe	sing # [ roded # [ ken # [ er (Use Cor	2 nments)
	CONNECI	ING PI	PES							
	] Dir	Flow rection	Line Type	Clock Position	Shape	Size [in] Height Width Dia.	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpn
	Line 1	2	1	12:00	3	18 × 0	6-0	1	1	0
	Line 2	1	4	4:00	3	12 × 0	4-8	(	1	0
PRIMARY EFFLUENT	Line 3	1		େଚ୍ଚ	ممت ا	/8 × 0	6-0			0
$Q \stackrel{(1)}{\blacktriangle} Q$	Line 5					x				
	1=In: 2=Ef	fluent fluent	1=Primar 2=Second Influen	y Line ary t Line	1=Arched w 2=Barrel 3=Circular	with Flat Bottom	* From Cover	1=None 2=Sludge 3=Mud	1=None 2=Light 3=Mediur	n.
		2	3=Overflo 1=Drop C	w Line onnection	4=Egg Shap 5=Horsesho 6=Oval 7=Rectangu 8=Square	ed e lar	·	4=Rocks 5=Other	4=Heavy 5≕Severe	
how connecting line numbers)					9=1rapezoid 10=U-Shape 11=Other (U	lal d with Flat I op (se Comments)				

$\sim$	
	DISTRICT OF COLUMBIA WATER
DEBURRE	AND SEWER AUTHORITY
UG <b>WASA</b>	MANHOLE INSPECTION FORM
Date/Time_6/15/10 11:	53AM, Contract No. 080110 Task Order No. 1 Inspection Crew JRH
MH ID No M-10363	Counter Map No. $\overline{ID-209}$ Depth $12$ [ft] O [in] Weather $\times$ Dry 4 Showers
Street Scapstone Valley P.	Quadrant <u>MU</u> Block No. <u>NA</u> Temperature <u>(de</u> [F] <u>3</u> Light Rain
Cover	GENERAL PHOIOS
	Surface Inspection Location 1 Paved-Conc 5 Curb Traffic 1 Iwo Lane Internal Inspection 2 Paved-Asph 6 Yard 2 3-4 Lane
	Buried or Paved Over 3 Driveway Dirt/Grass 3 Highway
	Surcharged [in] 4 Side Walk Side Walk 5 Parking Lot
	Not Found Vermin 1 Rats None Other (Use Comments)
Dept	Type Pick Condition I Good Defects Ioo light 5 Broken No. of I None
	2     Concealed     Fair     2     Loose     6     Cracked     Holes     2     Pick (1)
and the second	Image: Second sected         Image: Second second sected         Image: Second second sected
	5 Vent 5 >6
Changel	Cover Dia 22 Int. Grade (+() () fint. Banding Donth () [in]
	Subject to Sheet Flow Yes $\checkmark$ IF Yes $\downarrow$ Is a ft $\downarrow$ Surrounding Payement Cracked Yes $\checkmark$
I YPICAL MH SECTION	
Comments:	FRAME PHOTO SINO
Tasite DOCK.	Frame [1] Good Adjustmen X None Seal [1] Good Frame Inside Condition Fair Bings [2] One Condition Fair Diameter (20) [in]
	Poer 3 Iwo 3 Poor
	$\begin{array}{c c} \hline 4 \\ \hline 4 \\ \hline 6 \\ \hline 7$
No internal inspect	Frame I Cracked Corroded/Pitted Observed I/I C [gpm]
due to flow from	GRADE ADJUSTMENT (CHIMNEY) Yes 5
drop connections , +	Material I Precast Condition I Good Defects I Voids
	2 Brick 2 Fair 2 Roots
	3 Block     3 Poor     5 Clacked       4 Cast-in-Place     4 H2S Corrosion
	5 Parged Over 5 Other (Use Comments)
·	Opening Dia[in] Height[in] Probe Deptn[in] Observed D1[ghm]
	CONE YES No or RISER YES PHOTOS K
	Cone Defects L Voids Shape 2 Eccentric Material Brick Z Fair 2 Roots
	3 Flat Iop 3 Block 3 Poor 2 Cracked
4	
	4     Other (Use Comments)     4     Cast-in-Place     4     H2S Corrosion       5     Parged Over     5     Other (Use Comments)
-	4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)         6       Other (Use Comments)       5       Other (Use Comments)
MH ID No 10363 Co	ounter Map No. ID-269 Street Scop Stone Pack Quadrant NJ Block No. NA
--	---
	WALL PHOTOS K
Comments: <u>MH</u> In Soap Stone Valley Park.	Material       1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1       Voids         Image: Second
	Opening Dia <u>36</u> [in] Probe Depth <u>C</u> [in] Observed I/1 <u>C</u> [gpm]
	BENCH KS No PHOIOS KS No
	Material 1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1       Voids         Brick       6       Parged Over       Fair       2       Roots         Block       7       Other (Use Comments)       3       Poor       Cracked         4       Lined       5       Debris/Silt
<u>-</u>	Needs Cleaning Yes Observed I/I (gpm] 6 Other (Use Comments)
	CHANNEL MO PHOIOS CHANNEL
	Material       1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1       Voids         Brick       6       Parged Over       S       Fair       2       Roots         3       Block       7       Half Pipe       3       Poor       Cracked         4       Lined       8       Other (Use Comments)       4       H2S Corrosion
	Needs Cleaning Yes K       Observed I/I (gpm)         6 Other (Use Comments)
	SIEPS SIEPS PHOTOS Yes No
MH LOCATION SKETCH (use to clarify location, if needed)	Material       Metal       Condition       I Good       Defects       I Missing       #         2       Brick       Image: Second se
NPS Poorporty	CONNECTING PIPES
01-10343	Flow DirectionLine TypeClock PositionShapeSize Height Dia.Depth to Invert* [ft]-[in]Debris PositionRoots I/I 
	Line 1 2 1 12:00 3 18 x 12-0 1 1 0
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
PRIMARY EFFLUENT	Line 3 $1$ $4$ $1.00$ $3$ $18$ x $4-3$ $1$ $1$ $0$
$Q \stackrel{(1)}{\checkmark} Q$	Line 5 x -
	1=Influent       1=Primary Line       1=Arched with Flat Bottom       * From       1=None       1=None         2=Effluent       2=Secondary       2=Barrel       Cover       2=Sludge       2=Light         Influent Line       3=Circular       3=Mud       3=Medium         3=Overflow Line       4=Egg Shaped       4=Rocks       4=Heavy         4=Drop Connection       5=Horseshoe       5=Other       5=Severe         6=Oval       7       7       7       7
	7=Kectangular 8=Square 9=Trapezoidal
(show connecting line numbers)	10=U-Shaped with Flat Iop 11=Other (Use Comments)



Date/Time_ 6/15/10 12	30 PAH Contract No 080/10 Task Order No. Inspection Crew JRH
MH ID No M- 10364	Counter Map No <u>ID-269</u> Depth <u>5 [ft]</u> Weather X Dry <u>4</u> Showers
Street Soapstone Valley P.	Quadrant $\mathcal{N}_{\mathcal{L}}$ Block No. $\mathcal{N}_{\mathcal{A}}$ Temperature $\mathcal{L}_{\mathcal{I}}$ [F] [I ght Rain
Cover Grade Adjustment Grade Adjustment Bench Invert Channel	GENERAL       PHOIOS       No         Surface Inspection       Location       Paved-Conc       Surbace for the section       Involane         Internal Inspection       Paved-Asph       G Yard       I Two Lane         Buried or Paved Over       Internal Inspection       Paved-Asph       G Yard       I Two Lane         Buried or Paved Over       Internal Inspection       Internal Inspection       I Two Lane       I Two Lane         Buried or Paved Over       Internal Inspection       I Devis/Sit       I Highway         Debris/Silt       I Side Walk       Other (Use Comments)       I Alley         Debris/Silt       Surcharged       Internal Inspection       I Rats       None         I Not Found       Vermin       Rats       None       Other (Use Comments)         COVER       PHOIO'       No         Type       Pick       Condition       Good       Defects       Ioo light       Broken       No. of       None         I Bolted       Fair       I Loose       I Corroded/Pitted       I 3.2.6       Pick (2)       Pick (2)         I Bolted       I Bolted       I 3.2.6       S torm       I 3.2.6       S torm       S > 6         I Bolted       I 3.2.6       Internal Inspection<
	Subject to Sheet Flow $\underline{Yes} \times$ , IF Yes[sq ft.] Surrounding Pavement Cracked $\underline{Ye} \times$
TYPICAL MH SECTION	FRAME PHOTO XINO
Comments: <u>MH</u> In. <u>Soap stone</u> Valley Park.	Frame       1       Good       Adjustmen       None       Seal       1       Good       Frame Inside         Condition       Stair       Rings       2       One       Condition       Stair       Diameter        [in]         3       Poor       3       Iwo       3       Poor       [in]        [in]         4       Missing       4       >2       Offset
<i>a</i> ,	GRADE ADJUSIMENT (CHIMNEY) Yes PHOTOS
, <u>/</u>	Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Ctacked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
	CONE To or RISER Yes PHOTOS EN
	Concentric       Material       I       Precast       Condition       I       Good       Defects       I       Voids         Shape       2       Eccentric       State       Brick       State       2       Roots         3       Flat Iop       3       Block       3       Poor       Cracked         4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       5       Other (Use Comments)
-	Riser Dia. 24 [in] Probe Depth [in] Observed I/I [gpm]

MH Inspection Form Rev. Date 03/25/04

MH ID No. <u>M-10364</u> C	ouuter Map No	ED-26	7 Stree	t Soap	stone Park Que	adrant <u>N</u>	Bloc	k No. <u>A</u>	14			
	WALL						PI	HOIOS	X No			
Comments: <u>MH</u> In Soap stone Valley Park.	Material I Pr Bi 3 B 4 L	ecast 5 rick 6 lock 7 ined	Cast-in-Pla Parged Ove Other (Use	ce Co r Comments)	ndition 1 Good E Fair 3 Poor	Defects	1 Voi 2 Roo Cra 4 H2 5 Oth	ids ots cked S Corrosion er (Use Co	1 mments)			
	Opening Dia 3	6_[in]		Probe D	epth [in]	Obse	erved I/I		[gpm]			
	BENCH	•]					PI	HOTOS	Yes No			
	Material 1 Pr Material 1 Pr Material 1 Pr Material 1 Material 1	Material       1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1       Voids										
	CHANNEL X Material 1 Pro Bri 3 Blo	No cast 5 ( ck 6 F ock 7 F	Cast-in-Plac Parged Over Half Pipe	e Co	ndition 1 Good Fair 3 Poor	Defects	PI 1 Vo: 2 Roi Cra	HOTOS ids ots acked	Xes No			
	[4] Lin Needs Cleaning	4       Lined       8       Other (Use Comments)       4       H2S Corrosion         3       Debris/Slit       5       Debris/Slit       6       Other (Use Comments)         6       Other (Use Comments)       6       Other (Use Comments)       6										
	SIEPS No	,					PF	HOIOS 🔀 No				
MH LOCATION SKETCH (use to clarify location, if needed)	Material 2 3 4 Number of Step	Metal Brick Plastic/Rub Other (Use	ber Coated Comments	Conditi	ion 1 Good Fair 3 Poor Observed I/I	Defects	1 Miss Corr 3 Brol 4 Othe	sing # [ roded # [2 cen # [ er (Use Cor	nments)			
	CONNECTING F	IPES										
	Flow Direction	Line 1 Type	Clock Position	Shape	Size [in] Height Width Dia.	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpm]			
	Line 1 2	1	12:00	3	18 x	53	)	1	0			
	Line 2	1	6:00	3	18 ×	5-3	1	1	D			
PRIMARY EFFLUENT	Line 3				x	-						
(1)	Line 4				x							
	Line 5				X	-						
	l=Influent 2≕Effluent	1=Primary 2=Seconda Influent 3=Overflov 4=Drop Co	Line ary Line w Line onnection	1=Arched w 2=Barrel 3=Circular 4=Egg Shap 5=Horseshoo 6=Oval 7=Rectangu 8=Square	rith Flat Bottom ed e lar	* From Cover	1=None 2=Sludge 3=Mud 4=Rocks 5=Other	1=None 2=Light 3=Medium 4=Heavy 5=Severe	n			
(show connecting line numbers)				9=Irapezoid 10=U-Shape 11=Other (U	al d with Flat I op se Comments)							



Data/Tima 6-17-2010 3:4	10 M M Contract No (192110) Tark Order No. 1 Inspection Cross JRH
$MILTO N_{0} = \frac{h^{-1}(3)^{2}}{3}$	The second and the se
	Counter Map No. <u>+D - 69</u> Depth <u>70 fft 8 in</u> Weather 2 Heavy Rain 5 Snow
Street Soupstone Valley	Quadrant <u>NW</u> Block No. <u>NA</u> Temperature <u>F</u> <u>3</u> Light Rain
Cover	GENERAL PHOIOS XINO
Grade Adjustment	Surface Inspection       Location       1       Paved-Conc.       5       Curb       Traffic       1       Iwo Lane         Internal Inspection       2       Paved-Asph       6       Yard       2       3 4 Lane         Buried or Paved Over       3       Driveway       Dirt/Grass       3       Highway         Surcharged       [in]       4       Side Walk       8       Other (Use Comments)       4       Alley         Debris/Silt       5       Parking Lot       5       Parking Lot       Other (Use Comments)       Other (Use Comments)         Not Found       Vermin       1       Rats       4       Other (Use Comments)       Other (Use Comments)
	COVER PHOTO' XINO
Bench	Type       Pick       Condition       Good       Defects       Ioo light       Broken       No. of       None         2       Concealed       Fair       2       Loose       Cracked       Holes       Pick (1)         3       Gasketed       Gasted       Gasketed       Gasketed
Channel	Cover Dia $22^{-1}$ [in] Grade $\{+/\}$ $\hat{O}$ [in] Ponding Depth $\hat{O}$ [in]
	Subject to Sheet Flow Yes $\lambda$ , IF Yes[sq.ft.] Surrounding Pavement Cracked $\mathbb{Y} = \lambda$
TYPICAL MH SECTION	
Comments: <u>Manhole in</u> <u>Soapstone</u> Valley <u>n</u>	Frame       I Good       Adjustmen       None       Seal       I Good       Frame Inside         Condition       X Fair       Rings       2 One       Condition       Fair       Diameter       20       [in]         3 Poor       3 Iwo       3 Poor       4 >2       Offset       [in]
Park	Frame     I     Cracked     Corroded/Pitted     Observed I/I     Ogpm]       Defects     2     Broken     Observed I/I     Observed I/I     Observed I/I
a	GRADE ADJUSIMENI (CHIMNEY) Yes X PHOIOS Yes X
<u>f</u>	Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
	CONE So or RISER Yes No PHOTOS
~	Cone       Concentric       Material       1       Precast       Condition       1       Good       Defects       1       Voids         Shape       2       Eccentrie       2       Brick       2       Fair       Roots         3       Flat Iop       3       Block       3       Poor       Cracked         4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       5       Other (Use Comments)
	Riser Dia. $27$ [in] Probe Depth $0$ [in] Observed $1/1$ [gpm]

MH Inspection Form Rev. Date 03/25/04

MH ID No. M- 103 68 C	ounter M	ap No <b>_</b>	D244	1 Street	Soap Ste	ine V	a Iley Qua	drant <u>Nh</u>	/ Block	No. 🖊	VA
	WALL		<u>.</u>		· · · · · ·		•		PI	IOTOS	🗙s No
Comments: <u>Man hole</u> în Sogpstone Ualley Pack	Mate	rial 1 Pre X Bri 3 Bla 4 Lir	cast 5 ck 6 ock 7 .ed	Cast-in-Plac Parged Over Other (Use (	e Co Comments)	uditior	1 Good A Faix 3 Poor	Defects	1 Voi X Roc A Cra 4 H2S 5 Oth	ds ts cked Corrosion er (Use Co	ı mments)
19/1	Openi	ng Dia. <u>3</u>	<b>Ç</b> [in]	I	Probe De	epth	<u> [in]</u>	Obse	erved I/I	0	[gpm]
	BENCE	H Ks No							PH	IOTOS	Kes No
	Material       1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1       V         Naterial       1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1       V         Naterial       1       Precast       6       Parged Over       1       V       R         3       Block       7       Other (Use Comments)       3       Poor       1       H         4       1       Ined       5       D       1										n
	Needs	Cleaning	Yes 🕅	0	bserved I	/I	_ [gpm]		<u>[6]</u> Uti	her (Use Co	
	CHANN Mater	VEL X(s) 1 rial 1 Prec	No ast 5	Cast-in-Plac	e Cor	dition	1 Good	Defects	PH 1 Voi	ds	Xes No
		A Brid Bloc 4 Line	к [6]] k [7]] d [8](	Parged Over Half Pipe Other (Use C	comments)	~ ~	A rair 3 Poor	• <i>;</i> ;	4 H2:	cked S Corrosion bris/Silt	
	Needs	Cleaning	Yes X	<u> </u>	bserved I	/1	/[gpm]		`		
	Mat	erial $\mathbf{X}^{1}$	vfetal Brick		Conditi	on [ A	1] Good S Fair	Defects	1 Mis 2 Con	sing # [ roded # [	
MH LOCATION SKETCH (use to clarify location, if needed)	Numb	3 1 4 ber of Steps	Plastic/Rul Other (Use	bber Coated e Comments	)	Obse:	3 Poor	<u>O_ [gpm]</u>	3 Brol 4 Othe	cen # [ er (Use Cor	nments)
	CONNE	ECTING P	PES		<u> </u>						
0-m-10368		Flow Direction	Line Type	Clock Position	Shape	Siz Heigl Dia.	e [in] 11 Width	Depth to Invert* [ft]·[in]	Debris	Roots	I/I [gpm]
	Line 1	2	1	12:00	3	10	x	10-0	1	1	0
	Line 2		4	6,00	3	10	x	8-8	1		0
PRIMARY EFFLUENT	Line 3						x	-			
$^{(1)}$	Line 4						x	-'			
	Line 5						x	•. 	1-21	1-21	
		1=Influent 1=Primary Line 1=Arched with Flat Bottom * 2=Effluent 2=Secondary 2=Barrel Influent Line 3=Circular 3=Overflow Line 4=Egg Shaped 4=Drop Connection 5=Horseshoe 6=Oval						Cover	2=Sludge 3=Mud 4=Rocks 5=Other	2=Light 3=Mediur 4=Heavy 5=Severe	n
					7=Rectangu 8=Square 9=Trapezoid	lar al					
(show connecting line numbers)					10=U-Shape 11=Other (U	d with Fi se Comr	lat Iop nents)				



Date/Time 6-17-2010 4	10 pris Contract No 086110 Task Order No.   Inspection Crew JRH
MH ID No M ~ 76369	Counter Map No. ID 269 Depth 8 [ft] 5 [in] Weather X Dry 4 Showers 2 Heavy Rain 5 Snow
Street Soap stone Ugiley	Quadrant <u>NW</u> Block No. <u>NA</u> Temperature <u>71</u> [F] <u>3 Light Rain</u>
Cover	GENERAL PHOTOS X No
Grade Adjustment	X       Surface Inspection       Location       1       Paved-Conc       5       Curb       Traffic       1       Iwo Lane         X       Internal Inspection       2       Paved-Asph.       6       Yard       2       3-4 Lane         Buried or Paved Over       3       Driveway       X       Dirt/Grass       3       Highway         Surcharged       [in]       4       Side Walk       8       Other (Use Comments)       4       Alley         Debris/Silt       5       Parking Lot       5       Parking Lot         Not Found       Vermin       1       Rats       X       None       X       Other (Use Comments)         2       Cockroaches       4       Other (Use Comments)       (Use Comments)       4
	COVER PHOIO' XINO
Bench Invert	Type       Pick       Condition       I Good       Defects       I oo light       S Broken       No. of       I None         2       Concealed       X       Fair       2       Loose       6       Cracked       Holes       2       Pick (1)         3       Gasketed       3       Rocking       7       Missing       X       Pick (2)         4       Bolted       #       X       Corroded/Pitted       4       3-6         5       Vent       5       Storm       5       5       5       5
Channel	Cover Dia 22, [in] Grade $\{\frac{1}{2}, 0$ [in] Ponding Depth $\mathcal{O}$ [in]
	Subject to Sheet Flow $\underline{Yes}$ , IF Yes[sq.ft.] Surrounding Pavement Cracked $\underline{Ye}$
IYPICAL MH SECTION	
Comments: <u>Manhole in</u> <u>Boapstoze Lalley</u> <u>Park</u>	Frame       1       Good       Adjustmen       X       None       Seal       1       Good       Frame Inside         Condition       Fair       Rings       2       One       Condition       Tair       Diameter       ZO       [in]         3       Poor       3       Iwo       3       Poor       [in]       Offset       O       [in]         Frame       1       Cracked       X       Corroded/Pitted       Observed I/I       Ogpm]         Pefects       2       Broken       Image: Corroded/Pitted       Observed I/I       [gpm]
·	GRADE ADJUSTMENT (CHIMNEY) Yes X PHOIOS Yes
<u>/</u>	Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
· · · · · · · · · · · · · · · · · · ·	CONE TEN OF RISER Yes No PHOIOS NO
	Cone       X       Concentric       Material       1       Precast       Condition       1       Good       Defects       1       Voids         Shape       2       Eccentric       X       Brick       X       Fair       2       Roots         3       Flat Iop       3       Block       3       Poor       X       Cracked         4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       5       Other (Use Comments)
· · · · · · · · · · · · · · · · · · ·	Riser Dia. 24 [in] Probe Depth O [in] Observed 1/1 C [gpm]

MH Inspection Form Rev Date 03/25/04

			297	Street	Jeapsi	0// 4		urau	10 00			<u>v / i</u>
	WALL				<del> </del>					<u>PF</u>	IOTOS	XS N
Manhole 'n Scian sting leviller	Material	1 Preca Brick 3 Block 4 Lined	st 5 6 c 7	Cast-in-Plac Parged Over Other (Use (	e Co Comments)	ndition [ [ [	1 Good Fair 3 Poor	Ľ	)efects	1 Void 2 Roo X Crac 4 H2S 5 Othe	ls ts Sked Corrosion er (Use Cor	u mments)
Park Park	Opening D	Dia 36	[in]		Probe D	epth	)[in]		Obse	rved I/I	0	[gpm]
	BENCH 🕨	ks No								PH	<u>iotos (</u>	<b>X</b> s N
	Material	1 Precas Brick 3 Block 4 Lined	st 5 6 7	Cast-in-Plac Parged Over Other (Use (	e Co Comments)	ndition [ [ ]	1 Good Fair 3 Poor	J	Defects	<ol> <li>I Voi</li> <li>Roc</li> <li>Cra</li> <li>H2:</li> <li>Det</li> <li>Oth</li> </ol>	ds ots cked S Corrosio oris/Silt er (Use Co	n
			Yes 1 <b>%</b>			/1	[ghm]					<b>X A N</b>
	CHANNEL	, Xes No	·					·			10108   da	×3  19
	Material Needs Clea	<ol> <li>Precas</li> <li>Brick</li> <li>Block</li> <li>Lined</li> <li>aning</li> </ol>	t 5 ( 6 1 7 1 8 ( Yes) <b>X</b> (	Cast-in-Place Parged Over Half Pipe Other (Use C	e Cor comments) bserved I	ndition [ [ /I	[] Good Fair 3] Poor [gpm]	1	Jefects	1   Vol     2   Roc     2   Cra     4   H2S     5   Del     6   Otiz	us ots cked Corrosion oris/Silt er (Use Co	
	STEPS	STEPS STEPS								PH	otos	KsI
MH LOCATION SKETCH (use to clarify location, if needed)	Material Number o	I X Me 2 Bri 3 Pla 4 Ot	etal ick istic/Rub her (Use	ber Coated Comments)	Conditi	on 1 2 A Observ	Good Fair Poor ed J/I	De [	gpm]	1 Miss 2 Corr 3 Brok 4 Othe	ing # [ oded # ] en # [ r (Use Cor	<u>}</u> ] nments
	CONNECT	ING PIP	ES									
0+ M-103A	FDir	Flow	Line Type	Clock Position	Shape	Size Height Dia.	[in] Width	Dep Inv [ft]	th to ert* ·[in]	Debris	Roots	I/I (gpn
	Line 1	2	1	12:00	3	18 >	(	8	5	)	1	0
	Line 2	1	1	6:00	3	18 >	ζ.	7	- 7		1	0
PRÍMARY EFFLUENT	Line 3					X	۲ ــــــــــــــــــــــــــــــــــــ					
	Line 4					Х	c		-			
	Line 5					х	:					
	1=ĭnf 2=Efi	fluent 1= fluent 2= 3= 4=	Primary Second Influent Overflo Drop Co	v Line ary E Line w Line onnection	1=Arched w 2=Barrel 3=Circular 4=Egg Shap 5=Horsesho 6=Oval 7=Rectangu	ed ea lar	ttom	* Fro Co	om ver	1=None 2=Sludge 3=Mud 4=Rocks 5=Other	1=None 2=Light 3=Mediun 4=Heavy 5=Severe	n
					8=Square							
				!	9=Trapezoid 10=U-Shape	al d with Flat	Іор					
show connecting line numbers)						Common	- <u>-</u>					

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*	•
Date/Time & -17-2010 2:0	Dop m hr) Contract No 080110 Task Order No. 1 Inspection Crew JRH
MH ID No M- 10 3 72	Counter Map No $ID269$ Depth $12$ [ft] $O$ [in] Weather $X$ Dry 4 Showers 2 Heavy Rain 5 Snow
street Lenore Ln	Quadrant <u>NW</u> Block No. 4100 Temperature <u>67</u> [F] 3 Light Rain
Cover Grade Adjustment	GENERAL       PHOIOS       No         Surface Inspection       Location       1 Paved-Conc.       5 Curb       Traffic       7 Wo Lane         Internal Inspection       Paved-Asph       6 Yard       2 3.4 Lane         Buried or Paved Over       3 Driveway       Dirt/Grass       3 Highway         Surcharged       [in]       4 Side Walk       8 Other (Use Comments)       4 Alley         Debris/Silt       5 Parking Lot       5 Parking Lot       5 Other         Not Found       Vermin       1 Rats       3 None       0 Other         2 Cockroaches       4 Other (Use Comments)       Comments)       0 Other
	COVER PHOTO' XINO
Bench	Type       Pick       Condition       1       Good       Defects       Ioo light       5       Broken       No. of       1       None         2       Concealed       Fair       2       Loose       6       Cracked       Holes       2       Pick (1)         3       Gasketed       Gasketed       3       Pick       7       Missing       Missing       Pick (2)         4       Bolted       4       3-6       5       Vent       5       >6         5       Storm       5       Storm       5       >6       5       >6
Channel	Cover Dia $2^{2}$ find Grade (+/.) O find Ponding Denth O find
	Subject to Sheet Flow $\frac{Yes}{X}$ , IF Yes[sq.ft.] Surrounding Pavement Cracked $\frac{Ye}{X}$
IYPICAL MH SECTION	FRAME PHOTO XINO
Comments:	Frame       I       Good       Adjustmen       None       Seal       I       Good       Frame Inside         Condition       X. Fair       Rings       2       One       Condition       X       Fair       Diameter       20       [in]         3       Poor       3       Iwo       3       Poor       3       Poor       0ffset       0       [in]
	Frame       1       Cracked       X1       Corroded/Pitted       Observed I/1       O [gpm]         Defects       2       Broken       0
·	GRADE ADJUSIMENT (CHIMNEY) Yes X PHOIOS Yes X
	Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
,	CONE No or RISER Yes PHOIOS
	Cone       Image: Concentric Material       Image: Precast Condition       Image: Good Defects       Image: Voids Condition         Shape       Image: Eccentric Condition       Image: Condition Condition
	Riser Dia. $\underline{24}$ [in] Probe Depth $\underline{0}$ [in] Observed $\underline{11}$ $\underline{0}$ [gpm]

MH Inspection Form Rev. Date 03/25/04

MH ID No. M-10372 C	ounter M	lap No. <u>I</u>	0260	1 Street	t <u>Leno</u>	re Ln Q	uadrant <u>N</u> 4	Z Block	(No. <u>4</u>	200		
	WALL		<u> </u>					PI	IOTOS	Ks No		
Comments:	_ Mate	rial 1 Pre X Bri 3 Bla 4 Lir	cast 5 ck 6 ock 7 ned	Cast-in-Plac Parged Over Other (Use (	ce Co r Comments)	ndition 1 Goo Fair 3 Poor	d Defects	1 Voi 2 Roc X Cra 4 H2S 5 Oth	is ts cked Corrosior er (Use Co	ı mments)		
	Openi	ng Dia <u>3</u>	<u>(in</u> ]	]	Probe Do	epth <u>0</u> [i	n] Obse	erved I/I	<u></u>	[gpm]		
4	BENCI	H <b>M</b> 🕅 🖂						PI	IOTOS	Yes 🔀		
	Mate	rial I Pree 2 Brid 3 Blo 4 Lin	cast 5 ck 6 ock 7 ed	Cast-in-Plac Parged Over Other (Use C	comments)	ndition 1 Good 2 Fair 3 Poor	d Defects	<ol> <li>I Vo</li> <li>Ro</li> <li>Cri</li> <li>Cri</li> <li>H2</li> <li>H2</li> <li>De</li> <li>Ott</li> </ol>	ids ots acked S Corrosio bris/Silt aer (Use Co	n omments)		
Primary line is	CHAN	NET. Yes	$\overline{\mathbf{x}}$			·	<u> </u>	PI	IOTOS	Yes No		
40% block ed with asphalt and rocks	Mater	HANNEL       Yes       PHOIOS       Phoio										
	littetus					/ leP/m,				No.		
MH LOCATION SKETCH (use to clarify location, if needed)	Material Metal Condition 1 Good Defects 1 Missing 2 Brick S Fair 2 Concoded 3 Plastic/Rubber Coated 3 Poor 3 Broken 4 Other (Use Comments) 4 Other (Use								sing # [ oded # [ cen # [ er (Use Cor	B nments)		
Lenore Cn							101 1					
		Flow Direction	Line Type	Clock Position	Shape	Size [in] Height Width Dia.	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpm]		
	Line 1	2	1	12:00	3	10 x	12-0	5	l	0		
	Line 2	1	2	3100	3	10 x	12-0		l	0		
PRIMARY EFFLUENT	Line 3	1	2	9:00	3	10 x	12-0			0		
$^{(1)}$	Line 4					x						
	Line 5					X	* 1	1-None	1=None			
		1≕Influent 2≕Effluent	1=Primar 2=Second Influen 3=Overflc 4=Drop C	y Line ary t Line ww Line onnection	1=Arcned w 2=Barrel 3=Circular 4=Egg Shap 5=Horsesho 6=Oval 7=Rectangu 8=Square	nui riat Bottom ed lar	- rrom Cover	2=Sludge 3=Mud 4=Rocks 5=Other	2=Light 3=Mediur 4=Heavy 5=Severe	n		
(show connecting line numbers)					9=Irapezoid 10=U-Shape 11=Other (U	al d with Flat Top (se Comments)						



Date/Time 6-17-10 10130	am h) Contract No 080110 Task Order No. 1 Inspection Crew JRH
MH ID No M- 10 415	Counter Map No. <u>ID 269</u> Depth <u>5 [ft] 1 [in]</u> Weather X Dry <u>4</u> Showers
Street Soap Stone Valley	Quadrant <u>NW</u> Block No. <u>NA</u> Temperature <u>72</u> [F] [2] Heavy Rain [5] Snow 3 Light Rain
Cover	GENERAL PHOIOS X No
Grade Adjustment	Surface Inspection       Location       1       Paved-Conc.       5       Curb       Traffic       1       Iwo Lane         Internal Inspection       2       Paved-Asph       6       Yard       2       3 4 Lane         Butied or Paved Over       3       Driveway       Dirt/Grass       3       Highway         Surcharged       [in]       4       Side Walk       8       Other (Use Comments)       4       Alley         Debris/Silt       5       Parking Lot       5       Parking Lot       Other (Use Comments)       Other (Use Comments)
	COVER PHOIO' X No
Bench hvert	Type       Pick       Condition 1       Good       Defects       Ioo light       5       Broken       No. of       1       None         2       Concealed       X       Fair       2       Loose       6       Cracked       Holes       2       Pick (1)         3       Gasketed       3       Booking       7       Missing       X       Pick (2)         4       Bolted       4       4       3.6       5       >6         5       Vent       5       Storm       5       >6
Channel	Cover Dia. 22. [in] Grade $\{+/\}$ $\hat{O}$ [in] Ponding Depth $\hat{O}$ [in]
IVEICAL MERSECTION	Subject to Sheet Flow $\boxed{Yes}$ , IF Yes[sq.ft] Surrounding Pavement Cracked $\boxed{Ye}$
	FRAME PHOIO XINO
Manhole is in in Soupstone Vulley	Frame       1       Good       Adjustmen       X None       Seal       1       Good       Frame Inside         Condition       Fair       Rings       2       One       Condition       Fair       Fair       Diameter       2.0       [in]         3       Poor       3       Iwo       3       Poor       (in)       (in)       (in)       (in)         4       Missing       4       >2       Offset       (in)         Frame       1       Cracked       Corroded/Pitted       Observed I/I       (in)
Park	Defects 2 Broken
· · · · · · · · · · · · · · · · · · ·	GRADE ADJUSTMENI (CHIMNEY) Yes X PHOIOS Yes X
// 	Material       1       Precast       Condition       1       Good       Defects       1       Voids         2       Brick       2       Fair       2       Roots         3       Block       3       Poor       3       Cracked         4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)
	Opening Dia [in] Height [in] Probe Depth [in] Observed I/I [gpm]
· · · · · · · · · · · · · · · · · · ·	CONE KS No or RISER Yes X PHOIOS KS No
	Concentric       Material       1       Precast       Condition       1       Good       Defects       1       Voids         Shape       2       Eccentric       X       Brick       X       Fair       2       Roots         3       Flat Iop       3       Block       3       Poor       X       Cracked         4       Other (Use Comments)       4       Cast-in-Place       4       H2S Corrosion         5       Parged Over       5       Other (Use Comments)       5       Other (Use Comments)
	Riser Dia.     24 [in]     Probe Depth     O [in]     Observed I/I     O [gpm]
· ·	Page 1 of 2 MH Inspection Form Rev. Date 03/25/04

MH ID No. 1- 10415 Co	unter M	ap No. 👖	D 269	Stree	t <u>Soaps</u> 7	one ValleyQu	adrant <u>NL</u>	/ Block	« No. 🔟	VA			
	WALL	· · · · ·			···· ···			PF	IOTOS	Xs No			
Comments: Manhole is in	Mate	Material       1       Precast       5       Cast-in-Place       Condition       1       Good       Defects       1       Voids         Material       1       Precast       6       Parged Over       A       Fair       2       Roots         3       Block       7       Other (Use Comments)       3       Poor       A       Cracked         4       Lined       1       Other (Use Comments)       1       Other (Use Comments)											
Soapstone Valley	Openin	ng Dia_ 🤇	6 fin	ł	Probe De	epth 🖉 [in	] Obse	rved I/I	0	[gpm]			
paris	BENCH	I Ves No		- 	<u> </u>			PH	IOTOS	No No			
	Mate	1 Vo 2 Roo X Crz 4 H2 5 Del	<ol> <li>Voids</li> <li>Roots</li> <li>Cracked</li> <li>H2S Corrosion</li> <li>Debris/Silt</li> </ol>										
	Needs	Needs Cleaning Yes S Observed I/I O [gpm] 6 Other (Use C											
	CHANN Mater	ial 1 Prec Maine 1 Prec Marcel Brice 3 Bloce	vo ast 5 k 61 sk 71	Cast-in-Plac Parged Over Half Pipe	e Coi	ndition 1 Good X Fair 3 Poor	Defects	PH 1 Voi 2 Roc Cra	ds ds ds cked	110			
	4 I ined       8 Other (Use Comments)       4 H2S Corrosid         5 Debris/Silt       5 Debris/Silt         6 Other (Use C       6 Other (Use C												
	SIEPS	Kes No						PH	OTOS 🏂 No				
MH LOCATION SKETCH (use to clarify location, if needed)	Mate Numb	erial A 1 2 I 3 I 4 er of Steps	Metal Brick Plastic/Rul Other (Use	ober Coated e Comments	Conditi )	ion 1 Good X Fair 3 Poor Observed I/I	Defects	1Miss2Cont3Brok4Other	ing # [ oded # [ en # [ r (Use Cor	nments)			
	CONNE	ECTING PI	PES										
0 m-104	15	Flow Direction	Line Type	Clock Position	Shape	Size [in] Height Width Dia.	Depth to Invert* [ft]-[in]	Debris	Roots	I/I [gpm]			
	Line 1	2	1	12:00	3	24 x	5-1	)	1	0			
	Line 2	1	Ĵ	8:00	3	15 x	5-1		1	0			
PRIMARY EFFLUENT	Line 3					x	-						
	Line 4					Х	-						
	Line 5					x	-						
	1=Influent       1=Primary Line       1=Arched with Flat Bo         2=Effluent       2=Secondary       2=Barrel         Influent Line       3=Circular         3=Overflow Line       4=Egg Shaped         4=Drop Connection       5=Horseshoe         6=Oval       7=Rectangular         8=Square       8=Square					vith Flat Bottom ved e lar	* From Cover	1=None 2=Sludge 3=Mud 4=Rocks 5=Other	1=None 2=Light 3=Mediur 4=Heavy 5=Severe	<b>n</b>			
(show connecting line numbers)					9=Irapezoid 10=U-Shape 11=Other (U	lal ed with Flat Iop Jse Comments)							

## **Appendix B**

# **CCTV Inspection Logs**

#### CCTV Surveys List for DCWASA

Number of surveys in this list is 24 as of Monday, June 28, 2010

Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Media Number	Scheduled Length	Surveyed Length
15	6/16/2010	SOAPSTONE VALLEY PARK	M-10366	M-10365	D	18	z	SVP	87.0	87.0
16	6/16/2010	SOAPSTONE VALLEY PARK	M-10363	M-10445	D	18	Z	SVP	171.0	171.0
17	6/16/2010	SOAPSTONE VALLEY PARK	M-10364	M-10363	D	18	Z	SVP	376.3	376.3
18	6/16/2010	SOAPSTONE VALLEY PARK	M-10445	M-10343	D	18	Z	SVP	215.2	215.2
19	6/16/2010	SOAPSTONE VALLEY PARK	M-10365	M-10364	D	18	Z	SVP	206.0	206.0
20	6/16/2010	SOAPSTONE VALLEY PARK	M-10444	M-10366	D	18	Z	SVP	142.0	142.0
21	6/16/2010	SOAPSTONE VALLEY PARK	M-10443	M-10444	D	18	Z	SVP	296.7	296.7
22	6/16/2010	SOAPSTONE VALLEY PARK	M-10410	M-10443	D	18	Z	SVP	76.0	76.0
23	6/16/2010	SOAPSTONE VALLEY PARK	M-10409	M-10410	D	18	Z	SVP	52.0	52.0
24	6/16/2010	SOAPSTONE VALLEY PARK	M-10411	M-10409	D	18	Z	SVP	192.0	192.0
25	6/17/2010	SOAPSTONE VALLEY PARK	M-10416	M-10415	D	18	Z	SVP-1	130.1	130.1
26	6/17/2010	SOAPSTONE VALLEY PARK	M-10418	M-10416	D	18	Z	SVP-1	92.0	92.0
27	6/17/2010	SOAPSTONE VALLEY PARK	M-10415	F-137	D	18	Z	SVP-1	11.0	11.0
28	6/19/2010	SOAPSTONE VALLEY PARK	M-10414	M-10412	D	18	Z	SVP-2	347.1	347.1
29	6/19/2010	SOAPSTONE VALLEY PARK	M-9762	M-9761	D	18	Z	SVP-2	167.0	167.0
30	6/19/2010	SOAPSTONE VALLEY PARK	M-9761	M-9760	D	18	Z	SVP-2	67.0	67.0
31	6/19/2010	SOAPSTONE VALLEY PARK	M-10442	M-10414	D	18	Z	SVP-2	374.0	374.0
32	6/19/2010	SOAPSTONE VALLEY PARK	M-9764	M-9763	D	18	z	SVP-2	353.0	353.0
33	6/19/2010	SOAPSTONE VALLEY PARK	M-9763	M-9762	D	18	Z	SVP-2	170.0	170.0
34	6/19/2010	SOAPSTONE VALLEY PARK	M-9765	M-9764	D	18	Z	SVP-2	270.0	270.0
35	6/19/2010	SOAPSTONE VALLEY PARK	M-9766	M-9765	D	18	Z	SVP-2	111.0	111.0
36	6/19/2010	SOAPSTONE VALLEY PARK	M-9768	M-9766	D	18	Z	SVP-2	180.0	180.0
37	6/19/2010	SOAPSTONE VALLEY PARK	M-9787	M-9768	D	18	Z	SVP-2	353.0	353.0
38	6/19/2010	SOAPSTONE VALLEY PARK	M-9760	M-10442	D	18	Z	SVP-2	80.0	80.0

Total Scheduled Length 4,519.4

Total Length Surveyed

4,519.4

Tabul	ar Repo	ort of PSR	M-10366		for	DCWA	SA			
Setup	15	Surveyor	JRH	Certificate #	U-809-9	224	Syste	m Owner	DCWASA	
Diam	aye	3	urvey customer Do				TONEN			
P/O #	ID-269		Date 2010/06/16	Time 12:09	Stree	t SOAF	STONE VA	ALLEY PAR	(K	
City	WAS	HINGTON D	C Further loc	ation details						
Start	M-1036	6	Rim to inv	rert	Grade t	o invert		Rim to gr	ade	Ft
Finisł	M-1036	5	Rim to inv	rert	Grade t	o invert		Rim to gr	ade	Ft
Use	Sanitary		Direction	Down	Flow c	ontrol	Not Contro	olled	Media No	SVP
Shape	e Circula	r	Height	18 Width	ins	Precle	an Z		Year Cleane	ed
Mater	ial Vitrif	ied Clay Pipe	Joint le	enath Fi	t Tota	l lenath	87.0	Ft Lend	th Surveye	d 87.0
Lining	1		Yearla	uid Ye	ar rehat	ilitated	W	leather	Drv	
Purpo	ose Main	tenance Rela	ted	(	Cat					
Addit	ional info						Structura	08	RM	Constructional
Locat	ion Ease	ment/Right o	f Way				Miscellan	eous Hy	draulic	
Count	Video	CD Code		In1	In2 %	Jnt Fr	To ImRe	f Remark	S	
0.0		ST	Start of Survey							
0.0	11349	AMH	Manhole					M-10366		
0.0	11349	MWL	Water Level		15					
0.0		MGO	General Observation					ROOTS I	N MH	
47.8		TBA	Tap Break-in Active	04		9				
72.7		CL	Crack Longitudinal			5				
87.0		AMH	Manhole					M-10365		
87.0		FH	End of Survey							

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

Tabul	ar Repo	ort of	PSR	M-10363		fo	r D	CWA	SA		
Setup	16	Surve	eyor J	RH Ce	ertificate #	U-80	9-922	4	Sy	stem Owner DCWAS	A
	aye		51	Deta 2010/06/16	104			0045	CTON		
P/0 #	ID-269	,		Date 2010/06/16 11	me 13:52	Sti	reet	SOAP	STON	E VALLEY PARK	
City	WAS	SHING	TON DC	Further locat	ion details	_			_		
Start	M-1036	63		Rim to inver	t	Grad	le to i	nvert		Rim to grade	Ft
Finisl	1 M-1044	45		Rim to inver	t	Grad	le to i	nvert		Rim to grade	Ft
Use	Sanitary			Direction D	Down	Flow	w con	trol	Not Co	ontrolled Media Net	o SVP
Shap	e Circula	r		Height 18	3 Width	ir	ns F	recle	an Z	Year Cle	eaned
Mater	ial Vitrif	fied Cla	ay Pipe	Joint len	gth F	t T	otal l	ength	171.0	Ft Length Surve	eyed 171.0
Linin	a			Year laid	Y	ear rel	habili	tated		Weather Dry	
Purpo	ose Mair	ntenan	ce Relat	ed		Cat					
Addit	ional info	0				out		-	Struc	tural O&M	Constructional
Auun	lon Eoo	omont	Diabt of	Mov					Misce	ellaneous Hydraulic	Constructional
Locat	ION Ease	ement	Right of	vvay		_					
Count	Video	CD	Code		In1	l In2	% JI	nt Fr	To In	nRef Remarks	
0.0			ST	Start of Survey				_			
0.0	21326		AMH	Manhole				1		M-10363	
0.0	21326		MWL	Water Level			15				
0.0			MGO	General Observation						DROP CONNECTI	ON BEHIND CAME
40.8	_		IR	Infil Runner				J 7			
59.0			IR	Infil Runner				J 4			
71.8			RFJ	Roots Fine Joint				J 9	-		
71.9		S01	DAE	Deposits Attached Encru	station	-	5	9	3		
77.4		F01	DAE	Deposits Attached Encru	station	1	5	9	3		
135.4			IR	Infil Runner		-		4			
135.4			RFJ	Roots Fine Joint		-	-	J 4			
147.1		-	DAE	Deposits Attached Encru	station	-	5	J 3			
159.4		-	DAE	Deposits Attached Encru	station		5	J 9			
162.6	-	-	RFJ	Roots Fine Joint				J 4			
165.7		-	RFJ AMU	Kools Fine Joint		-		J 8	-	N 10145	
1/1.0			AIVIE					-		IVI-10445	
165.7 171.0 171.0			RFJ AMH FH	Roots Fine Joint Manhole End of Survey				J 8		M-10445	

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Report of PSR M-10	)364	for DCWA	SA		
Setup 17 Surveyor JRH	Certificate #	U-809-9224	System Owr	er DCWASA	
Drainage Survey	Customer DCWASA				
P/O # ID-269 Date	2010/06/16 Time 12:44	Street SOAF	STONE VALLEY	PARK	
City WASHINGTON DC	Further location details				
Start M-10364	Rim to invert	Grade to invert	Rim t	o grade	Ft
Finish M-10363	Rim to invert	Grade to invert	Rim t	o grade	Ft
Use Sanitary	Direction Down	Flow control	Not Controlled	Media No	SVP
Shape Circular	Height 18 Width	ins Precle	an Z	Year Clea	ned
Material Vitrified Clay Pipe	Joint length F	t Total length	376.3 Ft L	ength Survey	ed 376.3
Lining	Year laid Year	ear rehabilitated	Weather	r Dry	
Purpose Maintenance Related		Cat			
Additional info			Structural	O&M	Constructional
Location Easement/Right of Way			Miscellaneous	Hydraulic	
Count Video CD Code	ln1	In2 % Jnt Fr	To ImRef Rem	arks	

oount	VILLEO	00	ooue			1112	/0	JIII	ГГ	10	unicer	Remarks
0.0			ST	Start of Survey								
0.0	13540		AMH	Manhole								M-10364
0.0	13540		MWL.	Water Level			15					
5.6		S01	DAGS	Deposits Attached Grease			5		3	9		
24.3			DAE	Deposits Attached Encrustation			5	J	6	6		
38.1			CL	Crack Longitudinal					9			
43.8		F01	DAGS	Deposits Attached Grease			5		3	9		
61.6			RFJ	Roots Fine Joint				J	10			
118.6			RFJ	Roots Fine Joint		1		J	6	6		
122.1			RFJ	Roots Fine Joint				J	9	3		
196.3			CL	Crack Longitudinal				J	2			
202.1			В	Broken				J	4			
223.2			CL	Crack Longitudinal				J	4			
259.8			MGO	General Observation								OPEN JOINT
265.6			RFJ	Roots Fine Joint				J	2	6		
320.8			CL	Crack Longitudinal				J	9			
320.8			СМ	Crack Multiple				J	6	6		
323.4			TFA	Tap Factory Active	04				3			
376.3			AMH	Manhole								M-10363
376.3	E		FH	End of Survey								

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabu	ar Re	port of	PSR	M-10	0445				fe	or	DC	WA	SA				
Setur Drain P/O #	) 18 age ID-2	Surve	eyor J Sı	IRH Irvey Date	Custome 2010/06	0 0 r DCW 16 7	Certific VASA Time	cate #	U-8 S	09-9 tree	224 t S	OAP	STC	Syste	m Owne	er DCWASA ARK	
City	W	ASHING	TON DO	)	Fur	ther loca	ation o	letails									
Start	M-10	0445			Rin	n to inve	ert		Gra	de te	o inv	ert			Rim to	grade	Ft
Finis	h M-10	0343			Rin	n to inve	ert		Gra	de te	o inv	ert			Rim to	grade	Ft
Use	Sanitar	ry			Dir	ection	Down		Flo	ow c	ontr	ol	Not	Contro	olled	Media No	SVP
Shap	e Circ	ular			1	leight 1	8 V	Vidth		ins	Pre	clea	n	Z		Year Clear	ned
Mater	rial Vi	itrified Cla	ay Pipe			Joint le	ngth	F	t ·	Tota	l len	gth	21	5.2	Ft Le	ngth Survey	ed 215.2
Linin	g					Year lai	d	Ye	ear re	ehab	oilita	ted		v	Veather	Dry	
Purp	ose M	laintenan	ce Relat	ed					Cat								
Addit Locat	ional in tion Ea	nfo asement/	Right of	Way									Str Mis	uctura scellar	l eous	<mark>O&amp;M</mark> Hydraulic	Constructiona
Count	Video	CD	Code					In1	In2	%	Jnt	Fr	То	ImRe	f Rema	rks	
0.0			ST	Start	of Survey	2											
0.0	23203		AMH	Man	hole										M-1044	15	
0.0	23203		MWL	Wate	er Level					10							
3.7			RFJ	Root	s Fine Joi	nt					J	9					
19.5	_		IR	Infil I	Runner						J	2					
22.9			IR	Infil I	Runner						J	2					
46.9			IR	Infil I	Runner						J	4					
62.5			В	Brok	en						J	12					
64.2		S01	CM	Crac	k Multiple							10	2				
66.0			HVV	Hole	Void Visil	ole						12					
69.6		F01	CM	Crac	k Multiple							10	2				

AMH Manhole

End of Survey

FH

215.2

215.2

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

M-10343

Tabul	ar Repo	ort of PSI	R M-1	0365			fo	r [	CM	AS	Α			
Setup	19	Surveyor	JRH		Certi	ficate #	U-80	9-92	24		Syste	m Owner	DCWASA	A
Drain	age		Survey	<b>Customer</b>	DCWASA	4								
P/O #	ID-269		Date	2010/06/16	Time	12:23	St	reet	SO	APS	TONE V	ALLEY PA	RK	
City	WAS	HINGTON	DC	Furthe	r location	ı details								
Start	M-1036	5		Rim to	o invert		Grad	e to	inve	ert		Rim to g	grade	Ft
Finist	M-1036	4	_	Rim to	o invert		Grad	e to	inve	ert		Rim to g	grade	Ft
Use	Sanitary			Direct	ion Dow	/n	Flov	w co	ntro	I N	ot Contro	olled	Media No	SVP
Shape	e Circular	r		Heig	ght 18	Width	ir	ıs	Prec	lean	Z		Year Clea	aned
Mater	ial <sup>Vitrifi</sup>	ed Clay Pip	be	Jo	int length	n F	t T	otal	leng	th 2	206.0	Ft Ler	ngth Survey	yed 206.0
Lining	3			Ye	ar laid	Ye	ar rel	habi	litate	ed	v	Veather	Dry	
Purpo	se Main	tenance Re	elated				Cat							
Addit	ional info										Structura	I C	M&0	Constructional
Locat	ion Ease	ment/Right	of Way							ſ	Miscellar	ieous H	lydraulic	
Count	Video	CD Code	e			In1	In2	% .	Jnt	FrT	o ImRe	f Remar	ks	
0.0		ST	Sta	rt of Survey										
0.0	12248	AM	H Ma	nhole								M-1036	5	
0.0	12248	MV	VL Wa	ter Level				15						
144.8		RF	J Ro	ots Fine Joint					J	3				
194.6		В	Bro	ken					J	3				
206.0		AM	H Ma	nhole								M-1036	4	
206.0		FH	En	d of Survey								-		

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

Tabul	ar Repo	ort of	PSR	_			fc	or	DC	NA	SA	-					
Setup Drain P/O # City	20 age ID-269 WAS	Surve ) SHING	eyor Ji Su I TON DC	RH Irvey Date	Custome 2010/06 Fur	Cer r DCWAS 16 Tim ther locatio	tificate SA e 11:8 on deta	50 50	U-80	09-9 tree	224 t SC	DAP	Sy Ston	<b>/sten</b> IE VA	n Owner	DCWASA RK	
Start Finish	M-1044 M-1036	44 36			Rin Rin	n to invert n to invert			Gra Gra	de te de te	o inv o inv	ert ert			Rim to g Rim to g	rade rade	Ft Ft
Use Shape Mater Lining Purpo	Sanitary e Circula ial <sup>Vitrif</sup> g ose Mair	r fied Cla	ay Pipe ce Relate	ed	Dir H	ection Do leight 18 Joint leng Year laid	wn Widt th	th F Ye	Flo i t ar re Cat	ow c ins Tota ehab	ontro Pre I len oilitat	ol clea gth ted	Not C an Z 142.0	ontro 0 F W	iled Ft Len eather	Media No Year Clea gth Survey Dry	SVP ned ved 142.0
Addit Locat	ional info ion Ease	o ement/	Right of	Way									Struc Misc	ctural ellane	O eous H	<mark>&amp;M</mark> ydraulic	Constructional
Count	Video	CD	Code					In1	In2	%	Jnt	Fr	To Ir	nRef	Remark	(S	
0.0			ST	Start	t of Survey												
0.0	10114		AMH	Man	hole										M-10444		
0.0	10114		MWL	Wate	er Level					15							
25.7			RFJ	Root	ts Fine Joi	nt					J	3					
32.4			CL	Crac	k Longitud	linal					J	1					
39.3		S01	RFJ	Root	ts Fine Joi	nt					J	3	9				
80.4			DAE	Dep	osits Attac	hed Encrust	ation			5	J	9	3				
87.8		F01	RFJ	Root	ts Fine Joi	nt			-		J	3	9				
110.2			CL	Crac	k Longitud	linal						3		- 23			
139.8			В	Brok	en							7	5		1		
142.0			AMH	Man	hole										M-10366		
142.0			FH	End	of Survey												

Scores [	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabul	ar Repo	ort of	PSR	M-10443				fc	or	DC	WA	SA					
Setup Drain	age	Surve	eyor J Sເ	IRH urvey Cust	omer D	Certifi CWASA	cate #	U-8(	09-9	224			Syste	m Owne	r DCWA	SA	
P/O #	ID-268	9		Date 201	0/06/16	Time	11:21	S	tree	t So	JAP	SIC	ONE VA	ALLEY P	ARK		
City	WAS	SHING	TON DO	)	Further I	ocation	details	_			_						
Start	M-104	43			Rim to in	nvert		Gra	de te	o inv	ert			Rim to	grade		Ft
Finisl	h M-104	44			Rim to in	nvert		Grad	de te	o inv	ert			Rim to	grade		Ft
Use	Sanitary				Direction	n Down	i i	Flo	wc	ontr	ol	Not	Contro	lled	Media N	lo	SVP
Shap	e Circula	ar			Heigh	t 18 \	Nidth	1	ns	Pre	cle	an	Z		Year Cl	leane	d
Mater	ial Vitri	fied Cla	ay Pipe		Joint	length	F	t 1	Tota	l len	ath	29	6.7	Ft Le	nath Surv	veved	296.7
Linin	a				Year	laid	Ve	ar ro	hah	ilitat	hot		M	loathor	Dry	.,	1222
Durne	e Mair	ntonand	no Rolat	od	rear	laiu	10		man	inta	leu			catilei	Diy		
Addit	lonal inf	a		eu				Jai				Cha			0.004		O a materia dia ma
Auun			D:	10/								Mid	collan	2010	Hydraulic	C	Jonstructiona
Locat	tion East	ement/	Right of	vvay								IVIIS	Scenari	eous	Tyurauno		
Count	Video	CD	Code				In1	In2	%	Jnt	Fr	То	ImRe	f Rema	rks		
0.0			ST	Start of Si	urvey												
0.0	3836		AMH	Manhole	-									M-1044	3		
0.0	3836		MWL	Water Lev	vel	_			15					_			
8.0			RFJ	Roots Fin	e Joint					J	12						
11.9		S01	RFJ	Roots Fin	e Joint					J	9	3					
16.2			CL	Crack Lor	gitudinal						7						
27.4			IR	Infil Runn	er					J	12						
28.6			HVV	Hole Void	Visible						12						
53.5		F01	RFJ	Roots Fin	e Joint					J	9	3					
81.4		S02	DAE	Deposits /	Attached E	ncrustatio	on		5		9	3					
174.0		S03	RFJ	Roots Fin	e Joint					J	7	5					
203.3		F03	RFJ	Roots Fin	e Joint		_			J	7	5					
227.6		F02	DAE	Deposits /	Attached E	ncrustatio	on		5		9	3	1				
259.6			CL	Crack Lor	gitudinal					J	8						
286.1			RFJ	Roots Fin	e Joint					J	8						
291.8			IVIVVL	Water Lev	el				30	_							
296.7			AIVIH	Mannole			-		-					M-1044	4		
296.7			FH	End of Su	rvey								in the				

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabul	ar Repo	ort of	PSR	M-10	)410				f	or	DC	NA	SA						
Setup Drain P/O # City	22 age ID-269 WAS	Surve SHING	yor J Su TON DC	RH Irvey Date	Custom 2010/0 Fເ	ner DC 96/16 Irther lo	Certifi CWASA Time cation	10:40 details	U-8 S	09-9	224 t SC	DAP	STO	Systen NE VA	n Owne	er do Ark	CWASA		
Start	M-104	10			R	im to in	vert		Gra	de to	o inv	ert			Rim to	grade	•		Ft
Finish	1 M-1044	43			R	im to in	vert		Gra	de te	o inv	ert			Rim to	grade	9		Ft
Use Shape Mater	Sanitary e Circula ial <sup>Vitrif</sup>	r fied Cla	ау Ріре		D	irection Height Joint	Dowr 18 Iength	Width F	Fle t	ow c ins Tota	ontro Pre I len	ol clea gth	Not ( n Z 76.(	Contro Contro	lled Ft Le	Mee Yea angth 3	dia No ar Clea Survey	S' ned red 76.	VP 0
Durne	y Non Mair	tenan	no Rolat	bo		reari	aiu	TE	ear n	enap	mia	eu		**	eamer	Diy			
Addit Locat	ional info ion Ease	o ement/l	Right of	Way									Stru Mis	ictural cellane	eous	<mark>O&amp;M</mark> Hydrai	ulic	Con	structiona
Count	Video	CD	Code					In1	In2	%	Jnt	Fr	To	mRef	Rema	rks			
0.0			ST	Start	of Surve	ЭУ						2							
0.0	3023		AMH	Manh	hole						1.51				M-104	10			
0.0	3023		MWL	Wate	er Level					15									
27.7			RFJ	Root	s Fine Jo	oint					J	3							
49.4			RFJ	Root	s Fine Jo	oint					J	8							
54.1		S01	DAE	Depo	osits Atta	ched En	crustatio	on		5		3	9						
70.0			TBA	Tap	Break-in	Active		04				9							
70.0			СМ	Crac	k Multipl	е						8	10						
70.0			RFJ	Root	s Fine Jo	oint					J	3							
76.0		F01	DAE	Depo	osits Atta	ched En	crustatio	on		5		3	9	11					
76.0			AMH	Man	nole							-6			M-1044	13			
							the second se		1	1									

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
2000 B 100	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Re	port of PSR M-10409		for	DCW	ASA			
Setup 23	Surveyor JRH Ce	rtificate #	U-809-9	224		Syster	n Owner DCWASA	
Drainage	Survey Customer DCWA	SA						
P/O # ID-2	269 Date 2010/06/16 Tir	ne 10:28	Stree	t SOA	PSTO	ONE VA	LLEY PARK	
City W	ASHINGTON DC Further location	ion details						
Start M-10	0409 Rim to invert	1	Grade t	o inve	rt		Rim to grade	Ft
Finish M-10	0410 Rim to invert	t	Grade t	o inve	rt		Rim to grade	Ft
Use Sanitar	ry Direction D	own	Flow o	ontrol	Not	Contro	lled Media No	SVP
Shape Circi	ular Height 18	Width	ins	Prec	lean	Z	Year Clean	ed
Material Vi	itrified Clay Pipe Joint leng	yth Ft	t Tota	l lengt	th 52	.0 F	t Length Surveye	d 52.0
Lining	Year laid	Ye	ar rehal	oilitate	d	w	eather Dry	
Purpose M	aintenance Related	(	Cat					
Additional in	nfo				St	uctural	O&M	Constructional
Location Ea	asement/Right of Way				Mi	scellane	eous Hydraulic	
Count Video	CD Code	In1	In2 %	Jnt F	r To	ImRef	Remarks	
0.0	ST Start of Survey							
0.0 2449	AMH Manhole						M-10409	
0.0 2449	MWL Water Level		15					
1.1	CM Crack Multiple				6 12			
1.1	CL Crack Longitudinal			J	3			
52.0	AMH Manhole						M-10410	
52.0	FH End of Survey							

Service: Total Mean Defect Peak M	ICALL FIDE	wear Pr	Реак	Mean Defect	Total	Structural:
Service. Total Mean Defect Feak W	lean Pipe	Mean Pip	Peak	Mean Defect	Total	Service:

Tabular Repo	ort of	PSR	M-10411		fc	or	DC	WA	SA		
Setup 24	Surv	eyor J	RH Certificate	e #	U-80	09-9	224			System Owner DCWAS/	A Contraction
Drainage		Su	Irvev Customer DCWASA								
P/O # ID-269	9		Date 2010/06/16 Time 8:2	4	S	troot	I SC	CAP	STO	NE VALLEY PARK	
City WAS	SHING		Eurther location det	lle	0	lice		0/ 11			
Start M-104	11	TON DO	Rim to invert	115	Gra	do te	o inv	ort	-	Rim to grade	Ft
Einich M-104	00		Pim to invert		Gra	de ti		ort		Rim to grade	Et.
Finish W-104	05		Rim to invert		Gra	ueta		en	Mat	Controlled Media No	EV/D
Ose Samary			Direction Down		FIC	wc	ontr	01	NOL	Controlled Wiedla No	SVP
Shape Circula	ind CL	av Dino	Height 18 Wid	th		ns	Pre	clea	an	Year Clea	aned
Material Vill	neu Ch	ay Fipe	Joint length	Ft	t	<b>Fota</b>	l len	gth	19	2.0 Ft Length Surve	yed 192.0
Lining			Year laid	Ye	ear re	hab	ilitat	ted		Weather Dry	
Purpose Main	ntenan	ce Relat	ed	(	Cat						
Additional info	0								Sti	uctural O&M	Constructional
Location Ease	ement/	Right of	Way						Mi	cellaneous Hydraulic	
Count Video	CD	Code		In1	In2	%	Jnt	Fr	То	ImRef Remarks	
0.0		ST	Start of Survey	T							
0.0		AMH	Manhole							M-10411	
0.0		MWL	Water Level			15					
3.6		RMJ	Roots Medium Joint			30	J	7	5		
7.0		RMJ	Roots Medium Joint			30	J	10	1		
9.6		CL	Crack Longitudinal				J	7			
10.1		RFJ	Roots Fine Joint				J	3			
13.2	S01	RFJ	Roots Fine Joint				J	7	5		
13.2		CM	Crack Multiple					2	5		
38.9		CL	Crack Longitudinal					12			
40.2	S02	CL	Crack Longitudinal				J	12			
44.5		CL	Crack Longitudinal					2			
44.5		DAE	Deposits Attached Encrustation			5		2			
50.0	F01	RFJ	Roots Fine Joint				J	7	5		
50.0	F02	CL	Crack Longitudinal				J	12			
89.5		RFJ	Roots Fine Joint				J	7	10		
93.2		CM	Crack Multiple				J	2	5		
93.2		В	Broken			_	J	3			
96.3	_	CL	Crack Longitudinal				J	9			
98.3		RMJ	Roots Medium Joint	-		30	J	3	4		
101.9		В	Broken	_			J	9	12		
105.2		RMJ	Roots Medium Joint	_		20	J	10	-		
117.2	-	RFJ	Roots Fine Joint	-			J	9	-		
120.6	-	CL	Crack Longitudinal	-	-	00	J	12	_		
128.7		RMJ	Roots Medium Joint			20	J	9	-		
165.5	000	RFJ	Roots Fine Joint	-	-		J	2	-		
172.0	503	KFJ	Roots Fine Joint	-	-		J	9	3		
1/5.8	500		Grack Longitudinal		-	-	J	12	-		
192.0	F03		Manhala	-			J	9	3	M 10400	
192.0				-					-	10409	
192.0		rn.	End of Survey	-	-	_	-				

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Report of PSR M-10416	for DCWASA
Setup25SurveyorJRHCertificateDrainageSurvey CustomerDCWASA	# U-809-9224 System Owner DCWASA
P/O # ID-269 Date 2010/06/17 Time 9:55	Street SOAPSTONE VALLEY PARK
City WASHINGTON DC Further location deta	ils
Start M-10416 Rim to invert	Grade to invert Rim to grade Ft
Finish M-10415 Rim to invert	Grade to invert Rim to grade Ft
Use Stormwater Direction Down	Flow control Not Controlled Media No SVP-1
Shape Circular Height 18 Widt	h ins Preclean Z Year Cleaned
Material Concrete Pipe (non-reinforced) Joint length	Ft Total length 130.1 Ft Length Surveyed 130.1
Lining Year laid	Year rehabilitated Weather Dry
Purpose Maintenance Related	Cat
Additional info	Structural O&M Constructional
Location Easement/Right of Way	INISCEILATEOUS Hydraulic
Count Video CD Code	In1 In2 % Jnt FrTo ImRef Remarks
0.0 ST Start of Survey	
0.0 AMH Manhole	M-10416
0.0 MWL Water Level	5
36.9 JAM Joint Angular Medium	PIPE DROPS
52.5 B Broken	J 2
111.8 JAM Joint Angular Medium	
119.7 B Broken	J 6
130.1 AMH Manhole	M-10415
130.1 FH End of Survey	

Scores	_

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

Tabula	r Rep	ort of PSF	<b>R</b> M-10	)418			fo	r	DCV	NAS	SA			_			
Setup Draina	26	Surveyor	JRH	Customor	Cert	ificate #	U-80	9-92	224		S	ysten	n Owne	er C	DCWASA	4	
Diama;	ye ID 000		Survey	oustoiner	7	~ ~ ~ ~	~										
P/O #	ID-269	9	Date	2010/06/1	7 Time	e 8:21	St	reet	SC	JAPS	510	NE VA	LLEYP	ARK			
City	WA	SHINGTON	DC	Furth	er locatio	n details											
Start	M-104	18		Rim	to invert		Grac	le to	o inv	ert			Rim to	grad	de		Ft
Finish	M-104	16		Rim	to invert		Grad	le to	o inv	ert			Rim to	grad	de		Ft
Use S	stormwa	ter		Dire	ction Dov	wn	Flo	wc	ontro	ol N	lot (	Contro	led	M	edia No		SVP-1
Shape	Circula	ar		He	eight 18	Width	iı	ns	Pre	clear	n Z			Y	ear Clea	aned	
Materia	al Con	crete Pipe (I	non-reinf	orced) J	oint lengt	h F	t T	otal	leng	gth	92.0	) F	t Le	ngth	Survey	yed s	92.0
Lining				١	'ear laid	Ye	ear re	hab	ilitat	ed		w	eather	Dr	ry		
Purpos	e Mai	ntenance Re	elated				Cat										
Additio	onal inf	0								1	Stru	ctural		O&M	1	C	onstructional
Locatio	on Eas	ement/Right	of Way								Mis	cellane	ous	Hydr	aulic		
Count V	/ideo	CD Code	9			In1	In2	%	Jnt	Fr T	o	mRef	Rema	rks			
0.0		ST	Start	of Survey													
0.0		AM	H Man	hole									M-104	18			
0.0		MM	VL Wate	er Level				5									
49.4		MW	VLS Wate	er Level Sag	1			10									
57.4		JAN	M Joint	Angular Me	edium								PIPE D	ROF	PS		
92.0		AM	H Man	hole									M-104*	16			
92.0		FH	End	of Survey													

S	C	0	re	S
-	-	-		-

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Report of PSR M-10415	for DCWASA
Setup 27 Surveyor JRH Certificate	e # U-809-9224 System Owner DCWASA
P/O #ID-269Date2010/06/17Time10:CityWASHINGTON DCFurther location detail	41 Street SOAPSTONE VALLEY PARK ails
Start M-10415 Rim to invert	Grade to invert Rim to grade Ft
Finish F-137 Rim to invert	Grade to invert Rim to grade Ft
Use Stormwater Direction Down	Flow control Not Controlled Media No SVP-1
Shape Circular Height 18 Widt	th ins Preclean Z Year Cleaned
Material Concrete Pipe (non-reinforced) Joint length	Ft Total length 11.0 Ft Length Surveyed 11.0
Lining Year laid	Year rehabilitated Weather Dry
Purpose Maintenance Related	Cat
Additional info Location Easement/Right of Way	Structural O&M Constructional Miscellaneous Hydraulic
Count Video CD Code	In1 In2 % Jnt Fr To ImRef Remarks
0.0 ST Start of Survey	
0.0 AMH Manhole	M-10415
0.0 MWL Water Level	5
11.0 AEP End of Pipe	
11.0 FH End of Survey	

Su	ructural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabul	ar Rep	ort of	PSR	M-10	)414				fc	or	DC	NA	SA							
Setup Drain	28 age	Surve	eyor Ji Su	RH	Custor	ner D(	Certif	icate #	U-8	09-9	224		-	Syster	n Owne	r C	OCWAS	SA		
P/O # City	ID-269 WA	) SHING	TON DC	Date	2010/0 F	06/19 urther lo	Time cation	4:11 details	S	tree	t so	DAP	STC	NE VA	LLEY P	ARK				
Start	M-104	14			F	to in	vert		Gra	de te	o inv	ert		/	Rim to	grad	de		Ft	
Finish	M-104	12			F	tim to in	vert		Gra	de te	o inv	ert			Rim to	grad	le		Ft	
Use Shape Mater Lining Purpo Addit Locat	Sanitary e Circula ial Vitri g Cureo ose Main ional info ion Eas	ar fied Cla d in Pla ntenand o ement/	ay Pipe ice ce Relate Right of '	ed Way	D	Direction Height Joint Year I	Down 18 length aid	n Width F <sup>.</sup> Ye	Flo i ar re Cat	ow c ins Tota ehab	ontro Pre I len pilitat	ol clea gth ted	Not an 34 Str Mis	Contro Z 7.1 F W uctural scellane	lled Ft Lei eather cous H	Me Ye ngth Dr <mark>O&amp;M</mark> Hydra	edia Ne ear Cle n Surve y aulic	o eane eyed	SVP-2 d 347.1 Constructio	nal
Count	Video	CD	Code					In1	In2	%	Jnt	Fr	То	ImRef	Rema	rks				
0.0			ST	Start	of Surv	еу								1						
0.0	21915		AMH	Man	hole									1	M-1041	4				
0.0	21915		MWL	Wate	er Level					10										
28.8		S01	DAGS	Depo	osits Atta	ached Gr	ease			5		4	8							
274.9			RFJ	Root	s Fine J	oint					J	3								
347.1		F01	DAGS	Depo	osits Atta	ached Gr	ease			5		4	8							
347.1			AMH	Man	hole				123						M-1041	2				

347.1

FH

End of Survey

Scores

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Report of PSR M-9762	for DCWASA
Setup 29 Surveyor JRH Certificate #	U-809-9224 System Owner DCWASA
Drainage Survey Customer DCWASA	
P/O # ID-269 Date 2010/06/19 Time 2:54	Street SOAPSTONE VALLEY PARK
City WASHINGTON DC Further location details	
Start M-9762 Rim to invert	Grade to invert Rim to grade Ft
Finish M-9761 Rim to invert	Grade to invert Rim to grade Ft
Use Sanitary Direction Down	Flow control Not Controlled Media No SVP-2
Shape Circular Height 18 Width	ins Preclean Z Year Cleaned
Material Vitrified Clay Pipe Joint length	Ft Total length 167.0 Ft Length Surveyed 167.0
Lining Cured in Place Year laid Y	Year rebabilitated Weather Dry
Purpose Maintenance Related	Cat
Additional info	Structural O&M Constructional
Location Easement/Right of Way	Miscellaneous Hydraulic
Count Video CD Code In'	1 In2 % Jnt Fr To ImRef Remarks
0.0 13426 AMH Manholo	M 0762
	10
82 REL Roots Fine Joint	
11.6 JAM Joint Angular Medium	
15.6 RFJ Roots Fine Joint	J 12
17.9 S01 DAGS Deposits Attached Grease	5 4 8
23.3 CL Crack Longitudinal	12
34.5 ID Infil Dripper	J 2
34.5 IR Infil Runner	J 10
37.4 JOM Joint Offset Medium	
39.5 IR Infil Runner	12
108.2 RFJ Roots Fine Joint	J 5
110.3 JOM Joint Offset Medium	
110.4 RFJ Roots Fine Joint	J 7
123.8 RFJ Roots Fine Joint	
141.8 KFJ Koots Fine Joint	
161.3 KMB Koots Medium Barrel	
167.0 FUT DAGS Deposits Attached Grease	
	W-9701

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabu	ar Repo	ort of	PSR	M-97	'61			fc	or	DC	WA	SA		-		
Setup Drain	30 age	Surve	eyor J Su	RH Irvey	Customer	Certi DCWASA	ficate # \	U-80	09-9	224			Syster	n Ownei	DCWASA	
P/O #	ID-269	k:		Date	2010/06/19	Time	3:11	S	tree	t So	DAP	STO		LLEY PA	RK	
City	WAS	SHING	TON DC	;	Furth	er location	n details									
Start	M-976				Rim t	o invert		Gra	de te	o inv	ert			Rim to	grade	Ft
Finis	M-9760	)			Rim t	o invert		Gra	de te	o inv	ert			Rim to g	grade	Ft
Use	Sanitary				Direc	tion Dow	/n	Flo	ow c	ontr	ol	Not	Contro	lled	Media No	SVP-2
Shap	e Circula	r			He	ght 18	Width	I	ins	Pre	clea	an	Z		Year Clear	ned
Mater	ial <sup>Vitrif</sup>	ied Cla	ay Pipe		Je	oint length	n F	t '	Tota	l len	gth	67	.0 1	t Ler	ngth Surveye	ed 67.0
Lining	g Cureo	l in Pla	ice		Y	ear laid	Ye	ear re	hab	ilitat	ted		W	eather	Dry	
Purpo	ose Mair	itenan	ce Relat	ed				Cat								
Addit	ional info	)										Str	ructural	C	0&M	Constructional
Locat	ion Ease	ement/	Right of	Way								Mi	scellan	eous H	lydraulic	
Count	Video	CD	Code				In1	In2	%	Jnt	Fr	То	ImRet	Remar	ks	
0.0			ST	Start	of Survey											
0.0	14912		AMH	Man	hole									M-9761		
0.0	14912		MWL	Wate	er Level				10							
2.2			RMJ	Root	s Medium Jo	int			20	J	10					
8.0		S01	RFJ	Root	s Fine Joint					J	7	5				
44.8		F01	RFJ	Root	s Fine Joint					J	7	5				
60.3			RFJ	Root	s Fine Joint					J	9	3				
67.0			AMH	Man	nole									M-9760		

FH

End of Survey

67.0

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

ar Repo	ort of PSF	<b>K</b> M-10	)442			fo	or	DCI	NAS	SA				
31	Surveyor	JRH		Certifi	icate #	U-8	09-9	224		Sy	stem O	wner	DCWASA	
age		Survey	Customer [	CWASA										
ID-269	)	Date	2010/06/19	Time	3:46	S	treet	t so	DAP	STONE	VALLE	Y PAR	K	
WAS	SHINGTON	DC	Further	ocation	details									
M-1044	42		Rim to i	nvert		Gra	de te	o inv	ert		Rim	to gr	ade	Ft
h M-104	14		Rim to i	nvert		Gra	de to	o inv	ert		Rim	to gr	ade	Ft
Sanitary			Directio	n Down	1	Flo	ow c	ontro	ol l	Not Co	ntrolled		Media No	SVP-2
e Circula	r		Heigh	t 18 1	Width		ins	Pre	clea	nΖ			Year Clear	ned
ial <sup>Vitrif</sup>	ied Clay Pip	е	Join	t length	F	t ·	Tota	l len	gth	374.0	Ft	Leng	th Survey	ed 374.0
g Cureo	l in Place		Year	laid	Ye	ear re	ehab	ilitat	ted		Weath	ner l	Dry	
ose Mair	ntenance Re	lated				Cat								
ional info	0									Struct	ural	08	M	Constructional
tion Ease	ement/Right	of Way								Misce	llaneous	Hy	draulic	
Video	CD Code	,			In1	In2	%	Jnt	Fr	To Im	Ref Re	mark	s	
	ST	Star	t of Survey											
15946	AMI	H Man	hole								M-1	10442		
15946	MW	L Wate	er Level				10							
	age ID-269 WAS M-1044 h M-1044 Sanitary e Circula rial Vitrif g Curec ose Mair ional infection Ease Video 15946 15946	ar Report of PSF age ID-269 WASHINGTON M-10442 h M-10414 Sanitary e Circular rial Vitrified Clay Pip g Cured in Place ose Maintenance Re ional info tion Easement/Right Video CD Code ST 15946 AMM	ar Report of PSR M-10 age Surveyor JRH age Date WASHINGTON DC M-10442 h M-10414 Sanitary e Circular rial Vitrified Clay Pipe g Cured in Place ose Maintenance Related ional info tion Easement/Right of Way Video CD Code ST Star 15946 AMH Man 15946 MWL Wate	ar Report of PSR       MI-10442         age       Survey Customer         age       Survey Customer         ID-269       Date         WASHINGTON DC       Further I         M-10442       Rim to i         h       M-10442         sanitary       Directio         e       Circular         rial       Vitrified Clay Pipe         g       Cured in Place         visse       Maintenance Related         ional info       tion         tion       Easement/Right of Way         Video       CD         ST       Start of Survey         15946       MWL	ar Report of PSR       MI-10442         age       31       Surveyor       JRH       Certificant         age       Survey Customer       DCWASA         ID-269       Date       2010/06/19       Time         WASHINGTON DC       Further location       M-10442       Rim to invert         M-10442       Rim to invert       Sanitary       Direction       Dowr         e       Circular       Height       18       Mintenance         rial       Vitrified Clay Pipe       Joint length       18       Mintenance         g       Cured in Place       Year laid       Year laid         ose       Maintenance Related       Sional info       Start of Survey         tion       Easement/Right of Way       Start of Survey       15946       AMH       Manhole	arr Report of PSR M-10442         age       Survey of JRH       Certificate #         age       Survey Customer       DCWASA         ID-269       Date       2010/06/19       Time       3:46         WASHINGTON DC       Further location details         M-10442       Rim to invert         h       M-10414       Rim to invert         Sanitary       Direction       Down         e       Circular       Height       18         vitrified Clay Pipe       Joint length       F         g       Cured in Place       Year laid       Year         ose       Maintenance Related       Otional length       F         video       CD       Code       In1         ST       Start of Survey       15946       AMH       Manhole	Ider Report of PSR MI-10442       free state of the second sta	for         for         arr Report of PSR MI-10442       for         o 31 Surveyor JRH       Certificate # U-809-9         age       Survey Customer       DCWASA         ID-269       Date       2010/06/19       Time       3:46       Street         WASHINGTON DC       Further location details         M-10442       Rim to invert       Grade to         M-10442       Rim to invert       Grade to       Sade to       Sade to         M-10414       Rim to invert       Grade to       Sade to         Sanitary       Direction       Down       Flow colspan="2">Flow colspan="2">Flow colspan="2">Flow colspan="2">Flow colspan="2">Flow colspan= 2         Sanitary       Direction       Down       Flow colspan="2">Flow colspan="2">Flow colspan= 2         G       Cured in Place       Year laid       Year rehab         Dise       Maintenance Related       Cat       Cat         Ional info       Int       In2 %       MH         Video       CD       Code       In1       In2 %         ST       Start of Survey       Int       Int       Int         15946       MWL	ar Report of PSR M-10442       for DC         age       Survey Customer       DCWASA         age       Survey Customer       DCWASA         ID-269       Date       2010/06/19       Time       3:46       Street       SC         WASHINGTON DC       Further location details       M-10442       Rim to invert       Grade to inv         M-10442       Rim to invert       Grade to inv       Grade to inv         M-10414       Rim to invert       Grade to inv         Sanitary       Direction       Down       Flow contration details         e Circular       Height       18       Width       ins       Previat         g Cured in Place       Year laid       Year rehabilitation       Cat         cose       Maintenance Related       Cat       Cat         ional info       Start of Survey       Int       Int       Int         Video       CD       Code       Int       Int       Int         15946       AMH       Manhole       Int       Int       Int	ar Report of PSR MI-10442       for DCWAS         age       Survey Customer       DCWASA         iD-269       Date       2010/06/19       Time       3:46       Street       SOAPS         WASHINGTON DC       Further location details         M-10442       Rim to invert       Grade to invert         h       M-10414       Rim to invert       Grade to invert         Sanitary       Direction       Down       Flow control       Insection         e       Circular       Height       18       Width       ins       Preclea         rial       Vitrified Clay Pipe       Joint length       Ft       Total length         g       Cured in Place       Year laid       Year rehabilitated         ose       Maintenance Related       Cat       Cat         ional info       Inf       In2 % Jnt       Fr         Video       CD Code       In1       In2 % Jnt       Fr         15946       AMH       Manhole       In1       In1       In1	Interference       Interference <th< td=""><td>ar Report of PSR MI-10442       for DCWASA         o 31       Surveyor JRH       Certificate # U-809-9224       System Orage         age       Survey Customer       DCWASA         i ID-269       Date 2010/06/19       Time 3:46       Street SOAPSTONE VALLE         WASHINGTON DC       Further location details       M-10442       Rim to invert       Grade to invert       Rim         M-10414       Rim to invert       Grade to invert       Rim       Rim         Sanitary       Direction       Down       Flow control       Not Controlled         e Circular       Height 18       Width       ins       Preclean Z         rial       Vitrified Clay Pipe       Joint length       Ft       Total length       374.0       Ft         g       Cured in Place       Year laid       Year rehabilitated       Weath         obse       Maintenance Related       Cat       Miscellaneous       Miscellaneous         Video       CD Code       In1       In2 % Jnt       Fr To ImRef Ref         15946       MWL       Water Level       10       Ind       Ind</td><td>Interference       Interference       <th< td=""><td>Iar Report of PSR Mi-10442       for DCWASA         o 31       Surveyor JRH       Certificate # U-809-9224       System Owner DCWASA         age       Survey Customer DCWASA       Dife 2010/06/19       Time 3:46       Street SOAPSTONE VALLEY PARK         WASHINGTON DC       Further location details       M-10442       Rim to invert       Grade to invert       Rim to grade         M-10442       Rim to invert       Grade to invert       Rim to grade         Sanitary       Direction Down       Flow control       Not Controlled       Media No         e Circular       Height 18       Width       ins       Preclean Z       Year Clean         rial Vitrified Clay Pipe       Joint length       Ft       Total length       374.0       Ft       Length Survey         g Cured in Place       Year laid       Year rehabilitated       Weather       Dry         ose       Maintenance Related       Cat       Structural       O&amp;M         tion Easement/Right of Way       In1       In2 % Jnt Fr To       ImRef Remarks         Video       CD Code       In1       In2 % Jnt Fr To       M-10442         15946       AMH Manhole       In1       In2       In1       In2</td></th<></td></th<>	ar Report of PSR MI-10442       for DCWASA         o 31       Surveyor JRH       Certificate # U-809-9224       System Orage         age       Survey Customer       DCWASA         i ID-269       Date 2010/06/19       Time 3:46       Street SOAPSTONE VALLE         WASHINGTON DC       Further location details       M-10442       Rim to invert       Grade to invert       Rim         M-10414       Rim to invert       Grade to invert       Rim       Rim         Sanitary       Direction       Down       Flow control       Not Controlled         e Circular       Height 18       Width       ins       Preclean Z         rial       Vitrified Clay Pipe       Joint length       Ft       Total length       374.0       Ft         g       Cured in Place       Year laid       Year rehabilitated       Weath         obse       Maintenance Related       Cat       Miscellaneous       Miscellaneous         Video       CD Code       In1       In2 % Jnt       Fr To ImRef Ref         15946       MWL       Water Level       10       Ind       Ind	Interference       Interference <th< td=""><td>Iar Report of PSR Mi-10442       for DCWASA         o 31       Surveyor JRH       Certificate # U-809-9224       System Owner DCWASA         age       Survey Customer DCWASA       Dife 2010/06/19       Time 3:46       Street SOAPSTONE VALLEY PARK         WASHINGTON DC       Further location details       M-10442       Rim to invert       Grade to invert       Rim to grade         M-10442       Rim to invert       Grade to invert       Rim to grade         Sanitary       Direction Down       Flow control       Not Controlled       Media No         e Circular       Height 18       Width       ins       Preclean Z       Year Clean         rial Vitrified Clay Pipe       Joint length       Ft       Total length       374.0       Ft       Length Survey         g Cured in Place       Year laid       Year rehabilitated       Weather       Dry         ose       Maintenance Related       Cat       Structural       O&amp;M         tion Easement/Right of Way       In1       In2 % Jnt Fr To       ImRef Remarks         Video       CD Code       In1       In2 % Jnt Fr To       M-10442         15946       AMH Manhole       In1       In2       In1       In2</td></th<>	Iar Report of PSR Mi-10442       for DCWASA         o 31       Surveyor JRH       Certificate # U-809-9224       System Owner DCWASA         age       Survey Customer DCWASA       Dife 2010/06/19       Time 3:46       Street SOAPSTONE VALLEY PARK         WASHINGTON DC       Further location details       M-10442       Rim to invert       Grade to invert       Rim to grade         M-10442       Rim to invert       Grade to invert       Rim to grade         Sanitary       Direction Down       Flow control       Not Controlled       Media No         e Circular       Height 18       Width       ins       Preclean Z       Year Clean         rial Vitrified Clay Pipe       Joint length       Ft       Total length       374.0       Ft       Length Survey         g Cured in Place       Year laid       Year rehabilitated       Weather       Dry         ose       Maintenance Related       Cat       Structural       O&M         tion Easement/Right of Way       In1       In2 % Jnt Fr To       ImRef Remarks         Video       CD Code       In1       In2 % Jnt Fr To       M-10442         15946       AMH Manhole       In1       In2       In1       In2

0.0	15946		MWL	Water Level	10					
0.0		S01	DAGS	<b>Deposits Attached Grease</b>	5		4	8		
2.7		S02	RFJ	Roots Fine Joint		J	9	5		
14.2		F02	RFJ	Roots Fine Joint		J	9	5		
14.2		S03	IR	Infil Runner		J	12			
26.5		F03	IR	Infil Runner		J	12			
128.8			CL	Crack Longitudinal			11			
138.6			RFJ	Roots Fine Joint	1	J	12			
156.8			RFJ	Roots Fine Joint		J	7			
200.0			CL	Crack Longitudinal		J	8			
265.8			RFJ	Roots Fine Joint		J	9	3		
285.7			RFJ	Roots Fine Joint		J	7			
374.0		F01	DAGS	Deposits Attached Grease	5		4	8		
374.0			AMH	Manhole					M-10414	
374.0			FH	End of Survey			-	1		

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabula	ar Repo	ort of PSF	<b>R</b> M-9764	_	fc	or [	DCV	VA	SA			
Setup Draina	32 Ige	Surveyor	JRH Certifica Survey Customer DCWASA	te #	U-80	)9-92	224		Syste	m Owner	DCWASA	
P/O #	ID-269		Date 2010/06/19 Time 2	12	S	root	so		STONE VA		ĸ	
City	WAS	HINGTON	DC Further location de	tails	5	reet	00				ĸ	
Start	M-9764		Rim to invert		Grad	de to	inve	ert	-	Rim to gra	ade	Ft
Finish	M-9763		Rim to invert		Grad	de to	inve	ert		Rim to gra	ade	Ft
Use S	Sanitary		Direction Down		Flo	wco	ontro		Not Contro	lled r	Media No	SVP-2
Shape	Circular		Height 18 Wi	dth	1	ns	Prec	lea	n Z		Year Clean	ed
Materia	al Vitrifi	ed Clay Pip	e Joint length	F	+ 1	otal	long	th	353.0	Et Long	th Survovo	d 353 0
Lining	Cured	in Place	Vear laid	v		habi	litate	ad	14	leathar [	an ourveye	u 000.0
Purpos	se Main	tenance Re	lated	10	Cat	Παυι	IIIale	au		eather 1	Jiy	
Additio	onal info								Structural	0&	M	Constructiona
Locatio	on Ease	ment/Right	of Way						Miscellan	eous Hyd	draulic	
Count V	Video	CD Code		In1	In2	% .	Jnt	Fr	To ImRe	Remarks	3	
0.0		ST	Start of Survey									
0.0 1	10248	AMI	H Manhole							M-9764		
0.0 1	10248	MW	L Water Level			10						
44.0		RFJ	Roots Fine Joint				J	7				
123.1		DAE	E Deposits Attached Encrustation			5	J	7	5			
228.0		RFJ	Roots Fine Joint				J	5	7			
283.7		DAE	Deposits Attached Encrustation			5	J	1				
286.9		RFJ	Roots Fine Joint				J	7				
303.2		RFJ	Roots Fine Joint				J	7				
318.4		CL	Crack Longitudinal					8				
332.6		CM	Crack Multiple				J	4	6			-
353.0		AMH	H Manhole							M-9763		

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe
		intern Berteet	roun	mountipo

Tabu	ar Rep	ort of	PSR	M-976	33			fc	or	DC	NA	SA					
Setur Drain P/O #	age ID-269	Surve	yor Jf Su I	RH rvey C Date	customer 2010/06/19	Certi DCWASA Time	ficate # 2:36	U-8( St	09-9: treet	224 t SC	DAP	STC	Systei NE V/	n Own	er Park	DCWASA	
Start	M 076	SHING I	ON DC		Furthe	r location	details	0				_		Dine 4		4.	<b>F</b> 4
Start	WI-970	5			Rimto	invert		Grad	de to	o inv	ert			Rimto	o gra	ae	Ft
Finis	n WI-976	2			Rim to	o invert		Grad	de to	o inv	ert	_		Rim to	o gra	de	Ft
Use	Sanitary				Direct	ion Dow	'n	Flo	wc	ontre	ol	Not	Contro	lled	M	ledia No	SVP-2
Shap	e Circula	ar			Hei	ght 18	Width	I	ns	Pre	clea	in 2	Z		Y	'ear Clean	ed
Mater	ial Vitri	fied Clay	y Pipe		Jo	int length	F	t 1	Tota	l len	ath	170	0.0	Ft L	enat	h Surveve	d 170.0
Linin	a Cureo	d in Plac	e		Ye	ar laid	Ye	ar re	hab	ilitat	hed		W	leather	· D	rv	
Purn	ose Mair	ntenanc	e Relate	d				Cat	incis	inter				outifor		.,	
Addit Locat	ional inf	o ement/F	Right of V	Nay								Str. Mis	uctural cellan	eous	O&N Hydr	<mark>/</mark> raulic	Constructional
Count	Video	CD C	ode				In1	In2	%	Jnt	Fr	То	ImRe	f Rem	arks		
0.0			ST	Start o	of Survey				1								
0.0	12221		AMH	Manho	ble									M-976	33	_	
0.0	12221		MWL	Water	Level			18.5	10								
1.2			CL	Crack	Longitudina	I					4						
48.9			RFJ	Roots	Fine Joint					J	7						
57.6			RFJ	Roots	Fine Joint					J	7						
65.1		S01	DAGS	Depos	its Attached	Grease			5		5	7					
133.9			RFJ	Roots	Fine Joint					J	7						
170.0		F01	DAGS	Depos	its Attached	Grease			5		5	7					

FH

AMH Manhole

End of Survey

170.0

170.0

Scores

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

M-9762

Tabular Report of PSR M-976	35	for DCWA	SA	
Setup 34 Surveyor JRH	Certificate #	U-809-9224	System Owner DCWASA	
Drainage         Survey C           P/O #         ID-269         Date           City         WASHINGTON DC	ustomer DCWASA 2010/06/19 Time 1:52 Further location details	Street SOAF	PSTONE VALLEY PARK	
Start M-9765	Rim to invert	Grade to invert	Rim to grade	Ft
Finish M-9764	Rim to invert	Grade to invert	Rim to grade	Ft
Use Sanitary	Direction Down	Flow control	Not Controlled Media No	SVP-2
Shape Circular	Height 18 Width	ins Precle	an Z Year Cleane	ed
Material Vitrified Clay Pipe	Joint length	t Total length	270.0 Ft Length Surveyed	270.0
Lining Cured in Place	Year laid Y	ear rehabilitated	Weather Dry	
Purpose Maintenance Related		Cat		
Additional info			Structural O&M	Constructional
Location Easement/Right of Way			Miscellaneous Hydraulic	

Count	Video	CD	Code		In1	In2	%	Jnt	Fr	То	ImRef	Remarks
0.0			ST	Start of Survey								
0.0	4438		AMH	Manhole		6						M-9765
0.0	4438		MWL	Water Level			10					
118.2			RFJ	Roots Fine Joint				J	8			
135.6			RFJ	Roots Fine Joint				J	5			
165.6			RMJ	Roots Medium Joint	12		20	J	3			
167.4			CM	Crack Multiple					10	1	1	
167.4			RFB	Roots Fine Barrel					12			
169.3			CM	Crack Multiple					12	5		
169.3			RFB	Roots Fine Barrel				1	5			
174.6		S01	RFJ	Roots Fine Joint				J	7	5		
176.3			CL	Crack Longitudinal				J	3			
210.7		F01	RFJ	Roots Fine Joint				J	7	5		
270.0			AMH	Manhole								M-9764
270.0			FH	End of Survey								

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabu	ar Rep	ort of	PSR M	-9766			for	DC	WA	SA			
Setup Drain	age	Surve	eyor JRH Surv	⊣ ⁄ey Customer	Certific DCWASA	cate #	U-809-	9224		Sys	stem Ow	ner DCWASA	
P/O #	ID-269	9	Da	ite 2010/06/1	9 Time	1:28	Stre	et S	OAP	STONE	E VALLEY	' PARK	
City	WAS	SHING	TON DC	Furth	er location o	details							
Start	M-976	6		Rim	to invert		Grade	to inv	vert		Rim	to grade	Ft
Finis	n M-976	5		Rim	to invert		Grade	to inv	vert		Rim	to grade	Ft
Use	Sanitary			Dire	ction Down		Flow	contr	ol	Not Co	ntrolled	Media No	SVP-2
Shap	e Circula	ar		He	ight 18 V	Vidth	ins	Pre	eclea	n Z		Year Clean	ed
Mater	ial Vitri	fied Cla	y Pipe	J	oint length	F	t Tot	al len	ath	111.0	Ft	Lenath Surveye	d 111.0
Lining	a Cureo	d in Pla	се	Y	ear laid	Ye	ar reha	bilita	ted		Weath	er Drv	
Purpo	ose Mair	ntenand	ce Related			(	Cat						
Addit Locat	ional info ion Ease	o ement/l	Right of W	ay						Struct Miscel	ural Ilaneous	<mark>O&amp;M</mark> Hydraulic	Constructional
Count	Video	CD	Code			In1	In2 %	Jnt	Fr	To Im	Ref Rer	narks	
0.0			ST S	tart of Survey									
0.0	3617		AMH N	lanhole							M-97	766	
0.0	3617		MWL V	Vater Level			10						
42.2		S01	DAGS D	eposits Attache	d Grease		5	J	5	7			
61.8		S02	DAGS D	eposits Attache	ed Grease		5		9	3			
111.0		F01	DAGS D	eposits Attache	d Grease		5	J	5	7			
111.0		F02	DAGS D	eposits Attache	d Grease		5		9	3			
111.0			AMH N	lanhole							M-97	65	
111.0			FH E	nd of Survey									

Scores

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	roun	mean ripe
Mean Defect	Peak	Mean Pipe
	Mean Defect	Mean Defect Peak

Tabular Report of PSR M-97	68	for DCWASA		
Setup <sup>36</sup> Surveyor JRH Drainage Survey	Certificate # Customer DCWASA	U-809-9224	System Owner DCWASA	
P/O # ID-269 Date City WASHINGTON DC	2010/06/19 Time 1:04 Further location details	Street SOAPSTO	ONE VALLEY PARK	
Start M-9768	Rim to invert	Grade to invert	Rim to grade	Ft
Finish M-9766	Rim to invert	Grade to invert	Rim to grade	Ft
Use Sanitary	Direction Down	Flow control Not	Controlled Media No	SVP-2
Shape Circular	Height 18 Width	ins Preclean	Z Year Clear	ned
Material Vitrified Clay Pipe	Joint length F	t Total length 18	0.0 Ft Length Surveye	d 180.0
Lining	Year laid Y	ear rehabilitated	Weather Dry	
Purpose Maintenance Related		Cat		
Additional info		Str	ructural O&M	Constructional
Location Easement/Right of Way		Mi	scellaneous Hydraulic	
Count Video CD Code	ln1	In2 % Jnt FrTo	ImRef Remarks	
0.0 ST Start	of Survey			

0.0			ST	Start of Survey				
0.0	2136		AMH	Manhole				M-9768
0.0	2136		MWL	Water Level	15			
50.0		S01	DAGS	Deposits Attached Grease	5	5	7	
180.0		F01	DAGS	Deposits Attached Grease	5	5	7	
180.0			MGO	General Observation				M-9767 DONT EXIST
180.0			MGO	General Observation				AT M-9766
180.0			AMH	Manhole				M-9767
180.0			FH	End of Survey				

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Report of PSR M-9787	for DO	CWASA
Setup37SurveyorJRHCertificatDrainageSurvey CustomerDCWASAP/O #ID-269Date2010/06/19Time12:CityWASHINGTON DCFurther location det	2 # U-809-9224 38 Street 3	4 System Owner DCWASA SOAPSTONE VALLEY PARK
Start M-9787 Rim to invert	Grade to in	nvert Rim to grade Ft
Finish M-9768 Rim to invert	Grade to in	nvert Rim to grade Ft
Ose Samuary     Direction Down       Shape Circular     Height 18 Wid       Material Vitrified Clay Pipe     Joint length       Lining     Year laid       Purpose Maintenance Related     Additional info	Flow cont h ins P Ft Total le Year rehabilit Cat	trol Not Controlled Media No SVP-2 Preclean Z Year Cleaned ength 353.0 Ft Length Surveyed 353.0 tated Weather Dry
Location Easement/Right of Way		Miscellaneous Hydraulic
Count Video CD Code	In1 In2 % Jn	nt Fr To ImRef Remarks
0.0 ST Start of Survey		
0.0 AMH Manhole		M-9787
0.0 MWL Water Level	15	
22.4 DAE Deposite Attached Ensuretation		
ZZ.4 DAE Deposits Attached Encrustation	5 J	J 6 6

			E operation and a Enorablation		0	0	0	<b>U</b>			
88.4	F01	DAE	Deposits Attached Encrustation		5	J	6	6			
142.5		DAE	Deposits Attached Encrustation		5		9	3			
174.3	S02	RFJ	Roots Fine Joint			J	7	10	-		
183.6	F02	RFJ	Roots Fine Joint			J	7	10			
183.6		RFJ	Roots Fine Joint			J	5				
295.3		RFJ	Roots Fine Joint		1	J	8	1	1		
353.0		AMH	Manhole							M-9768	
353.0		FH	End of Survey								
				the second se							

Structural	: Total	Mean Defect	Peak	Mean Pipe																
Service	: Total	Mean Defect	Peak	Mean Pipe																
Tabula	r Repo	ort of	PSR	M-97	′60				fc	or	DC	WA	SA							
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Setup Draina	38 ge	Surve	eyor J Si	RH Irvey	Custom	er DC	Certi WASA	ficate #	U-8	09-9	224			Syste	n Own	er [	DCWAS.	A		
P/O # City	ID-269 WAS	HING	TON DO	Date	2010/06 Fui	/19 ther lo	Time cation	3:37 details	S	tree	t So	DAP	STO	ONE VA	ALLEY F	PARK				
Start	M-9760	)			Rin	n to inv	vert		Gra	de te	o inv	ert			Rim to	grad	de		Ft	
Finish	M-1044	2			Rin	n to inv	vert		Gra	de te	o inv	ert			Rim to	grad	de		Ft	
Use S	Sanitary				Dir	ection	Dow	'n	Flo	w c	ontr	ol	Not	Contro	lled	М	edia No	o	SVP-2	
Shape	Circula	r				leight	18	Width	1	ns	Pre	clea	an	Z		Y	ear Cle	anec	1	
Materia	al Vitrifi	ed Cla	y Pipe			Joint I	length	F	t ·	Гota	l len	gth	80	.0 1	Ft Le	ength	n Surve	eyed	80.0	
Lining	Cured	in Pla	се			Year la	aid	Ye	ar re	hab	ilitat	ted		W	eather	D	ry			
Purpos	se Main	tenand	e Relat	ed					Cat											
Additio Locatio	onal info on Ease	ment/l	Right of	Way									Str Mis	uctural scellan	eous	<mark>O&amp;N</mark> Hydr	l aulic	C	Construction	al
Count \	/ideo	CD	Code					ln1	In2	%	Jnt	Fr	То	ImRe	Rema	arks				_
0.0			ST	Start	of Survey															
0.0	15946		AMH	Man	hole										M-976	0				
0.0	15946		MWL	Wate	er Level					10										
23.5		S01	RFJ	Root	s Fine Joi	nt			1		J	7	5							
80.0		F01	RFJ	Root	s Fine Joi	nt					J	7	5							
80.0			AMH	Man	nole										M-104	42				
80.0			FH	End	of Survey															

Scores

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

## Tabular Report of PSR M-10412 H for DCWASA

0.4	n li en la companya de
Setup 12 Surveyor JRH Certificate	e # U-809-9224 System Owner DCWASA
Drainage Survey Customer DCWASA	
P/O # ID-269 Date 2010/04/20 Time 14:	01 Street AUDOBON TERRACE NW.
City WASHINGTON Further location deta	ails
Start M-10412 Rim to invert	Grade to invert Rim to grade Ft
Finish M-10411 Rim to invert	Grade to invert Rim to grade Ft
Use Sanitary Direction Down	Flow control Not Controlled Media No 269
Shape Circular Height 18 Widd	th ins Preclean J Year Cleaned 2010/04/20
Material Vitrified Clay Pipe Joint length	Ft Total length 109.0 Ft Length Surveyed 109.0
Lining Year laid	Year rehabilitated Weather Dry
Purpose Maintenance Related	Cat
Additional info	Structural O&M Constructional
Location Easement/Right of Way	Miscellaneous Hydraulic
Count Video CD Code	In1 In2 % Jnt FrTo ImRef Remarks
0.0 ST Start of Survey	
0.0 AMH Manhole	M-10412
0.0 MWL Water Level	15
15.5 S01 DAZ Deposits Attached Other	5 4 8
91.5 RFJ Roots Fine Joint	J9
91.5 RFJ Roots Fine Joint	J9
100.8 RFJ Roots Fine Joint	J 10
109.0 F01 DAZ Deposits Attached Other	5 4 8
109.0 AMH Manhole	M-10411

109.0 Ft Total Length Surveyed

FH

End of Survey

109.0

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Service: Total	Service: Total Mean Defect	Service: Total Mean Defect Peak

Tabular Report of PSRM-10395R		for	DC	WASA	1			
Setup         5         Surveyor         JRH         Certifi           Drainage         Survey Customer         DCWASA	cate #	U-809-	9224		Syster	n Owner	DCWASA	
P/O # ID-269 Date 2010/04/19 Time	15:02	Stre	et Ll	NNNEA	NAVE.	NW.		
City WASHINGTON Further location	details	00						
Start M-10395 Rim to invert		Grade	to inv	vert		Rim to g	rade	Ft
Finish M-10405 Rim to invert		Grade	to inv	ert		Rim to g	rade	Ft
Use Stormwater Direction Down	6	Flow	contr	ol No	t Contro	lled	Media No	269
Shape Circular Height 36 V	Nidth	ins	Pre	clean	J		Year Clea	ned
Material Reinforced Concrete Pipe Joint length	Ft	Tot	al len	ath 34	46.1 F	t Len	gth Survey	ed 346.1
Lining Year laid	Ye	ar reha	bilita	ted	w	eather	Dry	
Purpose Maintenance Related	c	Cat						
Additional info				St	ructural	0	&M	Constructional
Location Light Highway				м	iscellane	eous H	ydraulic	
Count Video CD Code	In1	In2 %	Jnt	FrTo	ImRef	Remark	s	
0.0 ST Start of Survey								
0.0 AMH Manhole						M-10395		
0.0 MWL Water Level		5						
130.7 OBZ Obstacle Other		10		5 7		DEBRIS		
259.5 MSC Shape or Size Change	27					SIZE CH	ANGE	
346.1 AMH Manhole						M-10405		
								1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1

Scores

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

and the p	UIL UI PSK	M-10405	R		fo	or l	DCW	ASA			and the local	
Setup 4 Drainage	Surveyor J Su	IRH urvey Customer	Certific DCWASA	cate #	U-80	09-92	224		Syste	n Owner	DCWASA	
P/O # ID-269	9	Date 2010/04/19	Time	15:43	St	treet	LINN	INEA	N AVE.	NW.		
City WA:	SHINGTON	Furthe	er location d	letails								
Start M-104	05	Rim t	o invert		Grad	de to	inver	rt		Rim to g	rade	Ft
Finish M-104	06	Rim t	o invert		Grad	de to	inver	t		Rim to g	rade	Ft
Use Stormwa	ter	Direc	tion Down		Flo	wco	ontrol	Not	Contro	lled	Media No	269
Shape Circula	ar	Hei	aht 27 W	Vidth	i	ns	Preci	ean	J		Year Clea	ned
Material Reir	nforced Concre	te Pipe	int length	F	, т	Total	longt	h 97	0 1	t lon	ath Survey	ed 97.0
Lining				Y.		local	lengt			t Len	Day	eu on.o
Lining Demos	stanana Dalat	16	ear laid	re	ear re	nabi	intated	a	vv	eather	Diy	
Purpose Mair	ntenance Relat	ed			Cat							
and the second second second second												
Additional info	0 It Highway							St	ructural	O Heous H	&M vdraulic	Constructional
Additional info	o it Highway							St Mi	ructural scellan	O eous H	&M ydraulic	Constructional
Additional info Location Ligh	o it Highway CD Code			In1	In2	% .	Jnt F	St Mi	ructural scellan	O eous H Remari	&M ydraulic k <b>s</b>	Constructional
Additional info Location Ligh Sount Video	o it Highway CD Code ST	Start of Survey		In1	In2	%	Jnt F	St Mi	ructural scellan ImRef	O eous H Remari	&M ydraulic k <b>s</b>	Constructional
Additional inf Location Ligh Count Video 0.0 0.0	o It Highway CD Code ST AMH	Start of Survey Manhole		In1	In2	%	Jnt F	St Mi	ructural scellan ImRet	O eous H Remari M-10405	&M ydraulic k <b>s</b>	Constructional
Additional inf Location Ligh Count Video 0.0 0.0 0.0	o tt Highway CD Code ST AMH MWL	Start of Survey Manhole Water Level		In1	In2	%	Jnt F	St Mi	ImRef	O eous H Remarl M-10405	&M ydraulic ks	Constructional
Additional inf Location Ligh Count Video 0.0 0.0 0.0 48.4	o tt Highway CD Code ST AMH MWL B	Start of Survey Manhole Water Level Broken		In1	In2	%	Jnt F	St Mi	ImRet	O eous H Remari M-10405	&M ydraulic ks	Constructional
Additional info Location Ligh Count Video 0.0 0.0 48.4 62.1	o tt Highway CD Code ST AMH MWL B CM	Start of Survey Manhole Water Level Broken Crack Multiple		In1	In2	% . 5	Jnt F	St Mi 5 7 9 12	ImRef	O eous H Remari M-10405	&M ydraulic ks	Constructional
Additional inf Location Ligh Count Video 0.0 0.0 48.4 62.1 67.2	o tt Highway CD Code ST AMH MWL B B CM CM	Start of Survey Manhole Water Level Broken Crack Multiple Crack Multiple		in1	In2	% 5	Jnt F	St Mi 5 7 9 12 3 6	ImRef	O eous H Remark M-10405	&M ydraulic ks	Constructional
Additional inf Location Ligh Count Video 0.0 0.0 0.0 48.4 62.1 67.2 71.8	CD Code CD Code ST AMH MWL B CM CM CM CM	Start of Survey Manhole Water Level Broken Crack Multiple Crack Multiple Crack Longitudina	al		In2	% 5	Jnt F	St Mi 5 7 9 12 3 6 3	ImRef	O eous H Remark M-10405	&M ydraulic ks	Constructional
Additional inf Location Ligh Count Video 0.0 0.0 0.0 48.4 62.1 67.2 71.8 91.4	CD Code CD Code CD AMH CD AMH C AMH C AMVL B C AMVL C B C CM C CM C CL B	Start of Survey Manhole Water Level Broken Crack Multiple Crack Multiple Crack Longitudina Broken	al	in1	In2	5	Jnt F	St Mi 5 7 9 12 3 6 3 3	ImRet	O eous H Remark M-10405	&M ydraulic ks	Constructional
Additional inf Location Ligh Oount Video 0.0 0.0 0.0 48.4 62.1 67.2 71.8 91.4 92.9	CD Code CD Code ST AMH AMVL B CM CM CM CM CM CL B CL CL	Start of Survey Manhole Water Level Broken Crack Multiple Crack Multiple Crack Longitudina Broken Crack Longitudina	al	in1	In2	5	Jnt F J J J J J J J	St Mi 5 7 9 12 3 6 3 3 0	ImRet	O eous H Remark M-10405	&M ydraulic ks	Constructional
Additional info Location Ligh Oount Video 0.0 0.0 48.4 62.1 67.2 71.8 91.4 92.9 97.0	CD Code CD Code CD AMH CD CM CL B CL AMH	Start of Survey Manhole Water Level Broken Crack Multiple Crack Multiple Crack Longitudina Broken Crack Longitudina Manhole	al	In1	In2	5	Jnt F J J J J J J J	St Mi 5 7 9 12 3 6 3 3 0	ImRef	O eous H Remark M-10405	&M ydraulic ks	Constructional

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabula	ar Repo	ort of	<b>FPSR</b>	M-10403	Х		fc	or	DC	WA	SA						
Setup Draina	3 Ige	Surv	eyor J Sເ	RH Irvey Customer De	Certificat	e #	U-8	09-9	224		S	ystem Ov	/ner	DCWAS	SA		
City	N/A	, SHING		Date 2010/04/15	Time 12.	.55	5	tree		NNE	AN A	VE. NVV.					
Start	M-104	03		Purmer in	wort	ans	Cro	do to	- 1	ort		Dim	to ar	obe		Et	
Finich	M-104	04		Rim to in	wort		Gra		J INV	ert		Dim	to gra	aue		Et.	
Lleo S	Sanitary			Direction	Down		Grad	ue to		ert		Killi	to yra	Aue Andia N	-	260	
Chana	Circula			Direction			F10	wc	ontro	01			, ,		0	205	1/12
Shape	- Vitrif	ied CL	av Pine	Height		tn 		ns	Pre	clea	in J			rear Cle	eaned	2010/04	10
Wateri	al vian		ayripe	Joint	length	FI	t i	ota	i len	gth	231	.1 Ft	Leng	th Surve	eyed 4	231.1	
Lining			1000	Year	laid	Ye	ar re	hab	ilitat	ted		Weath	er L	light Rai	n		
Purpo	se Mair	ntenan	ce Relate	ed	_	0	Cat	_									
Additio	onal info	0									Stru	ctural	0&	M	Co	onstructi	onal
Locati	on Ligh	t High	way								Misc	cellaneous	Hyc	draulic			
Count V	Video	CD	Code			In1	In2	%	Jnt	Fr	To I	mRef Re	marks				
0.0			ST	Start of Survey													
0.0			AMH	Manhole								M-1	0403				
0.0			MWL	Water Level				5									
3.0			TBA	Tap Break-in Active		04				3			_				
40.3			DAGS	Deposits Attached Gr	ease			5		4							
64.1	_		В	Broken					J	12	1			_			-
73.0	0.000		TBA	Tap Break-in Active		04				9		PIP	E BRO	KEN AR	OUND	TAP	
85.7			В	Broken					J	1	6	_					
106.0		S01	DAGS	Deposits Attached Gr	ease			5		7	5						_
125.9		S02	CM	Crack Multiple				-	-	7	5	-					
130.2			TBA	Tap Break-In Active		04				9	-						
130.3			IDA	Infil Ruppor		04				2							
155.0			REI	Roots Fine Joint					3	0							
157.4			B	Broken		-		-		5	12	10/0	TER G			DIDE	_
207.9			MGO	General Observation						5	12		RISI				
231.1		F01	DAGS	Deposits Attached Gr	ease			5		7	5						
231.1		F02	CM	Crack Multiple				-	-	7	5						
231.1			AMH	Manhole					5	·	-	M-1	0404				
231.1			FH	End of Survey													

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
2000 C	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Rep	ort of	<b>PSR</b> M-10404	Х		fc	or	DC	WA	SA				
Setup 2	Surv	eyor JRH	Certificate	#	U-80	09-9	224		5	Syster	n Owner	DCWAS	SA
Drainage		Survey Customer DC	WASA										
P/O # ID-269	9	Date 2010/04/13	Time 14:2	25	St	tree	t LI	NNE	AN	AVE. N	W.		
City WA	SHING	TON DC Further lo	cation deta	ils									
Start M-104	04	Rim to in	vert		Grad	de te	o inv	ert			Rim to g	rade	Ft
Finish M-104	07	Rim to in	vert		Grad	de te	o inv	ert			Rim to g	rade	Ft
Use Sanitary		Direction	Down		Flo	wc	ontr	ol				Media N	o 269
Shape Circula	ar	Height	10 Widt	h	1	ns	Pre	clea	an J	Ú.		Year Cl	eaned 2010/04/
Material Vitri	fied Cl	ay Pipe Joint I	ength	F	1	Гota	l len	gth	153	3.4 F	t Leng	gth Surv	eyed 153.4
Lining		Year l	aid	Ye	ar re	hab	ilitat	ted		W	eather	Light Rai	n
Purpose Main	ntenan	ce Related		(	Cat								
Additional info	0					-			Stru	ictural	08	δ.M	Constructio
Location Woo	ods								Mis	cellan	eous Hy	/draulic	
Count Video	CD	Code		In1	In2	%	Jnt	Fr	То	ImRef	Remark	S	
0.0		ST Start of Survey										1.000	
0.0		AMH Manhole									M-10404	-	
0.0		MWL Water Level				5							
1.7		MGO General Observation									LINE DR	OPS DOV	VN
10.3	S01	DAGS Deposits Attached Gre	ase			5		7	5	_			
24.7		RFJ Roots Fine Joint					J	5					
42.6		RFJ Roots Fine Joint					J	7	5				
46.0	-	RFJ Roots Fine Joint					J	12					
48.0		CC Crack Circumferential		_				12	6				
64.1		RFJ Roots Fine Joint					J	12	6				
64.1		CM Crack Multiple		_	-		J	1	6				
67.3		RFJ Roots Fine Joint		-			J	6	11				
80.0		H Holo		04	-			40	-		TOFFOL		
102.1	E01	DACS Deposite Attached Cro	000	-		5		12	E		TREES V	ISIBLE	
102.1	502	REL Boots Fine Joint	ase	-		5	-	6	6				
112.7	S03	DAGS Deposits Attached Gre	ase	-		5	5	7	5			1.00 1.1	
153.4	F02	RFJ Roots Fine Joint				-	J	6	6				
153.4	F03	DAGS Deposits Attached Gre	ase	-		5	-	7	5				
153.4		AMH Manhole									M-10407		
153.4		FH End of Survey											

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabula	r Repo	ort of	PSR	M-10417	R		fo	r	DCI	NA	SA					
Setup	6	Surv	eyor 、	JRH	Certif	icate #	U-80	9-9	224		S	yster	n Owner	DCV	VASA	
Draina	ge		S	urvey Customer	DCWASA											
P/O #	ID-269	1		Date 2010/04/19	Time	12:19	St	reet	t Al	JDO	BON	TER.	NW			
City	WAS	SHING	TON	Furthe	r location	details										
Start	M-1041	17		Rim to	invert		Grad	le to	o inv	ert			Rim to g	grade		Ft
Finish	M-1041	13		Rim to	invert		Grad	le to	o inv	ert			Rim to g	grade		Ft
Use S	Sanitary			Direct	ion Dow	n	Flo	wc	ontro	ol	Not (	Contro	lled	Media	No	269
Shape	Circula	r		Heid	aht 15	Width	i	ns	Pre	clea	in J			Year	Cleane	d
Materia	al Vitrif	ied Cla	ay Pipe	Joi	int lenath	F	t T	ota	l len	ath	316	.1 F	t Len	ath Su	irveyed	316.1
Lining				Ye	ar laid	Ye	ar re	hab	ilitat	ed		w	eather	Dry		
Purpos	e Main	tenan	ce Relat	ted		(	Cat									
Additio	onal info	)								T	Stru	ctural	C	8M		Constructional
Locatio	on Light	Hiahy	wav								Mis	cellane	eous H	ydrauli	c	
Count	lidee	00	0			1.4	1.0	0/	1.4							
	lueo		ST	Start of Survey		101	Inz	%	Jnt	Fr		mker	Remar	KS		
0.0				Manhole						-	-		M 1041	7	1111	
0.0			MM	Water Level				5				-	WI-10417			
11.0		S01	REJ	Roots Fine Joint				5	1	3	9					
74.2		F01	RFJ	Roots Fine Joint					J	3	9					
114.6			RFJ	Roots Fine Joint					J	3	6					
192.0			TBA	Tap Break-in Activ	е	04				9			2899 AL	IDOBO	N TER.	
219.6			SSS	Surface Spalling					J	9						
243.6			DAE	Deposits Attached	Encrustati	on		5	J	3	6					
265.8			DAE	Deposits Attached	Encrustati	on		5		3	4					
295.0			TBA	Tap Break-in Activ	е	04				9			2891 AL	IDOBO	N TER.	
298.1			TBA	Tap Break-in Activ	е	04				9			2891 AL	DOBO	N TER.	
316.1	_		AMH	Manhole									M-10413	3		

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Report of PSR	M-9756	R	for	DCWASA

Setup Drainage	7 Su	urveyor S	JRH Survey	Customer	Certin DCWASA	ficate #	U-8	09-9	224			Syster	n Owner	DCWASA	Ą
P/O #	ID-269		Date	2010/04/19	Time	11:33	S	tree	t AL	JDOI	BOI	TERF	RACE NW		
City	WASHI	NGTON		Further	location	details									
Start I	M-10417			Rim to	invert		Gra	de t	o inv	ert			Rim to g	rade	Ft
Finish	M-9756			Rim to	invert		Gra	de t	o inv	ert			Rim to g	rade	Ft
Use Sa	nitary			Directi	on Up		Flo	w c	ontre	1 10	Not	Contro	lled	Media No	269
Shape Material Lining Purpose	Circular Vitrified Mainter	Clay Pipe	e ated	Heig Joi Yea	ht 10 nt length ar laid	Width F Ye	i t earre Cat	ins Tota ehat	Pre I len pilitat	clea gth ted	n ·	J F W	<sup>=</sup> t Leng eather	Year Clea gth Survey Dry	aned yed 180.2
Addition Location	al info Light Hi	REVERSI ghway	E								Str Mis	uctural scellane	O& eous Hy	&M /draulic	Constructiona
Count Vic	leo C	D Code	-			In1	In2	%	Jnt	Frl	Го	ImRef	Remark	s	
0.0		ST	Start	of Survey											
0.0		AMH	Man	hole									M-10417		
0.0		MWL	. Wate	er Level				5							
12.7	S	01 RFJ	Root	s Fine Joint					J	3	9				
180.2	F	01 RFJ	Root	s Fine Joint					J	3	9				
180.2		MSA	Abar	doned Survey									REVERS	F	

Scores
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Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

## Tabular Report of PSRM-51410XforDCWASA

Setup 8 Surveyor JRH	Certificate #	U-809-9224	System Owner DCWASA	
Drainage Survey Cus	tomer DCWASA			
P/O # ID-269 Date 20	0/04/19 Time 10:56	Street AUDO	BON TERRACE NW.	
City WASHINGTON	Further location details			
Start M-9758	Rim to invert	Grade to invert	Rim to grade	Ft
Finish M-51410	Rim to invert	Grade to invert	Rim to grade	Ft
Use Sanitary	Direction Up	Flow control	Not Controlled Media No	269
Shape       Circular         Material       Polyvinyl Chloride         Lining       Purpose       Maintenance Related         Additional info       M-51410 NEW MANH	Height 10 Width Joint length F Year laid Ye OLE, TOTAL DISTANCE 100	ins Precie t Total length ear rehabilitated Cat FT.	an J Year Clean 100.0 Ft Length Surveye Weather Dry Structural O&M	ed 100.0 Constructional
Location Light Highway	Contraction of the second		Miscellaneous Hydraulic	
Count Video CD Code	In1	In2 % Jnt Fr	To ImRef Remarks	
0.0 ST Start of S	urvey			
0.0 AMH Manhole			M-9758	
0.0 MWL Water Lev	/el	5		
100.0 AMH Manhole			M-51410	
100.0 FH End of Su	rvey			

100.0 Ft Total Length Surveyed

Scores

Structural:	Total	Mean Defect	Peak	Mean Pipe
Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Report of PSRM-9757X	for DCWASA
Setup 10 Surveyor JRH Certif	ficate # U-809-9224 System Owner DCWASA
Drainage Survey Customer DCWASA	
P/O # ID-269 Date 2010/04/19 Time	9:07 Street AUDOBON TERRACE NW.
City WASHINGTON Further location	details
Start M-9757 Rim to invert	Grade to invert Rim to grade Ft
Finish M-9756 Rim to invert	Grade to invert Rim to grade Ft
Use Sanitary Direction Down	n Flow control Not Controlled Media No 269
Shape Circular Height 10	Width ins Preclean J Year Cleaned
Material Vitrified Clay Pipe Joint length	Ft Total length 284.1 Ft Length Surveyed 284.1
Lining Year laid	Year rehabilitated Weather Dry
Purpose Maintenance Related	Cat
Additional info	Structural O&M Constructional
Location Light Highway	Miscellaneous Hydraulic
Count Video CD Code	In1 In2 % Jnt FrTo ImRef Remarks
0.0 ST Start of Survey	
0.0 AMH Manhole	M-9757
0.0 MWL Water Level	5
13.6 RFJ Roots Fine Joint	J 3 9
22.2 S01 RFJ Roots Fine Joint	J 6 6
28.8 TBA Tap Break-in Active	04 9 3001 AUDOBON TER.
284.1 F01 RFJ Roots Fine Joint	J 6 6
284.1 AMH Manhole	M-9756
284.1 FH End of Survey	

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Rep	ort o	f PSR	M-9758 X		fc	or	DC	WA	SA	
Setup 11 Drainage	Surv	veyor S	JRH Certifi urvey Customer DCWASA	cate #	U-8	09-9	224		5	System Owner DCWASA
P/O # ID-26	69		Date 2010/04/19 Time	7:44	S	tree	t A	UDO	BON	N TERRACE NW.
City W	ASHING	STON	Further location	details			•			
Start M-97	58		Rim to invert	aotano	Gra	de te	o inv	vert		Rim to grade Ft
Finish M-97	57		Rim to invert		Gra	de te	o inv	ert		Rim to grade Et
Use Sanitary	,		Direction Down		Flo	wc	ontr		Not	Controlled Media No. 269
Shape Circu	lar		Height 10 V	Vidth	1	ne	Pro		an .	Vear Cleaned
Material Vit	rified Cl	lay Pipe	Joint length	F	+ -	Tota	Lion	ath	224	40 Et Length Surveyed 2240
Lining			Voar laid	Ve	ar ro	hab	ilita	yun	LL	Weather Dry
Purnose Ma	intenar	ce Relat	led	10	Cat	man	mita	leu		Weather Dry
Additional in	fo				Jai			-	Ctra	ustural O <sup>®</sup> M Constructional
Location Lig	ht High	way							Mis	cellaneous Hydraulic
Count Video	CD	Code		In1	In2	%	Jnt	Fr	То	ImRef Remarks
0.0		ST	Start of Survey							
0.0		AMH	Manhole							M-9758
8.6		RMJ	Roots Medium Joint			10	J	3	7	
8.6		MWL	Water Level			5				
8.6	0.04	B	Broken				J	5	7	
33.5	S01	SSS	Surface Spalling					6	6	
47.1	-	TED	Tan Fostory Abordonad	-				7		
54.5		MCO	Capacel Observation	04	-		_	9	-	3005 AUDOBON TER.
91.0	E01	1VIGO	Surface Spalling					-	-	ROUTS AT TAP
85.1		RMI	Boots Medium Joint	-	-	10	1	2	6	
93.8	-	DAE	Deposits Attached Encrustatio	_		5	5	2	6	
102.4		DAE	Deposits Attached Encrustatio	n		5	.1	2	10	
110.8		RFJ	Roots Fine Joint			•	.]	7	12	
123.4		RMJ	Roots Medium Joint			10	J	6	12	
128.2		RBJ	Roots Ball Joint			55	J	3	9	
135.6	S02	RFJ	Roots Fine Joint				J	6	6	
148.5	F02	RFJ	Roots Fine Joint				J	6	6	
165.9		RFJ	Roots Fine Joint				J	6	6	
187.3		DAE	Deposits Attached Encrustation	1		5		5		
191.9		DAE	Deposits Attached Encrustation	1		5	J	5		
211.4	1	TBA	Tap Break-in Active	04				9		3001 AUDOBON TER.
224.0		AMH	Manhole							M-9757
224.0		FH	End of Survey	111						

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabu	lar Repo	ort of	PSR	M-10413 X		f	or	DC	WA	SA		
Setu	p 14	Surve	yor J	IRH Certifica	te #	U-8	09-9	224		Syster	n Owner DCW	VASA
Drain	nage		Su	urvey Customer DCWASA								
P/O #	# ID-269	9		Date 2010/04/20 Time 8:	34	S	tree	t A	UDO	BON TER	RACE NW.	
City	WAS	SHING	TON	Further location de	tails							
Start	M-104	13		Rim to invert		Gra	de te	o inv	ert		Rim to grade	Ft
Finis	h M-104	12		Rim to invert		Gra	de te	o inv	ert		Rim to grade	Ft
Use	Sanitary			Direction Down		Flo	ow c	ontr	ol	Not Contro	lled Media	No 269
Shap	e Circula	ır		Height 15 Wid	ith		ins	Pre	clea	an J	Year	Cleaned 2010/04/20
Mate	rial Vitrif	fied Cla	y Pipe	Joint length	F	t	Tota	l len	gth	261.0	Ft Length Su	rveyed 261.0
Linin	g			Year laid	Ye	ear re	ehab	oilita	ted	w	eather Dry	
Purp	ose Mair	ntenanc	e Relat	ed	(	Cat						
Addit	tional info	5								Structural	O&M	Constructional
Loca	tion Light	t Highw	ay							Miscellan	eous Hydraulie	0
Count	Video	CD (	Code		In1	In2	%	Jnt	Fr	To ImRef	Remarks	
0.0			ST	Start of Survey	T	1			$\square$			
0.0			AMH	Manhole							M-10413	
0.0			MWL	Water Level			10					
19.4		S01	RFJ	Roots Fine Joint				J	6	6		
32.8			TBI	Tap Break-in Intruding	04	01			9		2883 AUDOBO	N TER.
75.5			В	Broken				J	10			
95.5			DAE	Deposits Attached Encrustation			5		5			
100.0			CL	Crack Longitudinal				J	12			
101.6			TBI	Tap Break-in Intruding	02	01			9			
103.3			CL	Crack Longitudinal				J	12			
109.8		S02	CL	Crack Longitudinal	-			J	12			
112.0		000	CL	Crack Longitudinal	-	-	-	J	7			
116.2		503	TDA	Crack Longitudinal	-			J	7			
124.1		E02		Crock Longituding	04	-		-	9		2877 AUDOBO	N TER.
150.1		F02	CL	Crack Longitudinal	-			J	12			
159.7		504	DEL		-			J	6	6		
			RF.I	Roots Fine Joint								
248.2		FUT	TBA	Tap Break-in Active	04			J	9	0		NTER
248.2 261.0		FUT	TBA AMH	Tap Break-in Active Manhole	04			J	9	0	2871 AUDOBO	N TER.

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

## Tabular Report of PSRM-10407XforDCWASA

Setup 1	Surveyor	JRH	Certificate #	U-80	9-9224	5	System (	Owner	DCWASA	
Drainage	S	urvey Customer	DCWASA							
P/O # ID-26	9	Date 2010/04/13	Time 14:52	St	reet LI	INNEAN /	AVE. NW			
City WA	SHINGTON DO	C Further	location details							
Start M-104	107	Rim to	invert	Grad	le to inv	vert	Ri	m to gi	rade	Ft
Finish M-104	109	Rim to	invert	Grad	le to inv	vert	Ri	m to gi	rade	Ft
Use Sanitary		Directio	n Down	Flo	w contr	ol	-		Media No	269
Shape Circul	ar	Heigh	nt 10 Width	iı	ns Pre	eclean J	J		Year Clean	ed 2010/04/13
Material Vitr	ified Clay Pipe	Join	t length F	t T	otal len	igth	Ft	Leng	th Surveye	d 30.2
Lining		Year	r laid Ye	ear re	habilita	ted	Wea	ther	Light Rain	
Purpose Mai	intenance Relat	ted		Cat						
Additional inf Location Wo	f <b>o</b> ods					Stru Mis	uctural cellaneou	O8 Is Hy	&M /draulic	Constructional
Count Video	CD Code		In1	In2	% Jnt	FrTo	ImRef F	Remark	S	
0.0	ST	Start of Survey			11 10	011172				
0.0	AMH	Manhole					M	-10407		

0.0	MWL Water Level	5				
0.0	MGO General Observation					LINE DROPS DOWN
3.5	RFJ Roots Fine Joint		J	6	9	
14.6	CM Crack Multiple		J	6	6	4
18.3	FM Fracture Multiple	11 3 24 14		6	6	
30.2	MSA Abandoned Survey					PIPE DROPS 45 DEGREES

30.2 Ft Total Length Surveyed

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Repo	ort o	f PSR	M-9756 H		fo	or	DC	WA	SA	
Setup 13	Surv	eyor .	JRH Certificate	e #	U-8	09-9	224		Sy	stem Owner DCWASA
Drainage		S	urvey Customer DCWASA							
P/O # ID-269	)		Date 2010/04/20 Time 12:	21	S	tree	t Al	JDC	BON T	FERRACE NW.
City WAS	SHING	STON	Further location deta	ails						
Start M-9756	3		Rim to invert		Gra	de t	o inv	ert		Rim to grade Ft
Finish M-104	17		Rim to invert		Gra	de t	o inv	ert		Rim to grade Ft
Use Sanitary			Direction Down		Flo	w c	ontr	ol	Not Co	ontrolled Media No 269
Shape Circula	r		Height 10 Wid	th		ins	Pre	cle	an H	Year Cleaned 2010/04/20
Material Vitrif	ied Cl	ay Pipe	Joint length	F	t ·	Tota	llen	ath	319.8	Ft Length Surveyed 319.8
Lining			Year laid	Ye	ar re	hah	oilitat	fed		Weather Dry
Purpose Mair	ntenan	ce Relat	ted		Cat	max	/inter	lou		
Additional info	RE	TV HEA	VY CLEAN ROOT CUT		out			1	Struct	tural O&M Constructional
Location Light	t High	wav							Misce	ellaneous Hydraulic
Count Video	CD	Code	01-1-10	In1	In2	%	Jnt	Fr	To Im	Ref Remarks
0.0			Start of Survey	-	-			_	-	MOZEC
0.0			Water Level	-		6	-	-		MI-9756
16.9	501	REI	Roots Fine Joint	-	-	5	1	2	0	
21.7		CC	Crack Circumferential			-	5	6	9	
25.7		CC	Crack Circumferential					6	6	
29.9		cc	Crack Circumferential					3	6	
46.4		CL	Crack Longitudinal				J	5		
48.8		TBA	Tap Break-in Active	04				9		2915 AUDOBON TER.
64.7		CC	Crack Circumferential					11	6	
66.2		TBA	Tap Break-in Active	04				9		2915 AUDOBON TER.
80.1		CL	Crack Longitudinal					1		
92.4	-	В	Broken				J	12	3	
92.4		CM	Crack Multiple				J	3	9	
130.2		CC	Crack Circumferential				J	5	7	
136.2	-	CL	Crack Longitudinal	-			J	3		
189.0			Loint Angular Medium		-		J	4	10	
210.2		CI	Crack   ongitudinal				1	2		
217.1	F01	RFJ	Roots Fine Joint			-	.1	3	9	
268.4		SSS	Surface Spalling					10	11	
277.3		SSS	Surface Spalling					3		
309.9		RFJ	Roots Fine Joint				J	3	9	
315.5		DAE	Deposits Attached Encrustation			5		11	1	
319.8		AMH	Manhole							M-10417
319.8		FH	End of Survey							

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

Tabular Rep	ort of	PSR	M-97	'56		Х		fo	r I	DC	NA	SA						
Setup 9 Drainage P/O # ID-269 City WA	Surv 9 SHING	eyor J Sເ STON	IRH urvey ( Date	Custom 2010/04 Fu	er DC I/19	Certifi WASA Time	cate # 9:42	U-80	9-92 reet	224 Al	JDO	BOI	Syster	n Owne	er C W.	DCWASA	A	
Start M-975	6			Ri	m to inv	/ert	actano	Grac	e to	inv	ert			Rim to	arad	de	F	t
Finish M-104	17			Ri	m to inv	/erf	rt Grade to invert							Rim to grade Ft				
Use Sanitary Shape Circula Material <sup>Vitri</sup>	ar fied Cl	ay Pipe		Di	rection Height Joint I	Down 10 V ength	Vidth F <sup>i</sup>	Flo <sup>r</sup> ii t T	w co ns otal	Pre len	ol clea gth	Not an	Contro J F	iled t Le	Mo Yo ngth	edia No ear Clea n Survey	26 aned yed 126	;9 ;.9
Lining					Year la	aid	Ye	ar re	habi	ilitat	ed		W	eather	Dr	У		
Purpose Mai	ntenan	ce Relat	ed				(	Cat					-					
Additional inf	o NE It Highv	EDS HE way	AVY C	LEANED	)							Str Mis	uctural scellane	eous I	O&M Hydra	l aulic	Cons	tructional
Count Video	CD	Code					In1	In2	%	Jnt	Fr	То	ImRef	Rema	rks			
0.0		ST	Start	of Surve	/												_	
0.0	1	AMH	Manh	iole										M-9756	5			
0.0		MWL	Wate	r Level					5									
13.1	S01	RFJ	Roots	s Fine Jo	nt					J	6	6						
45.4		TBA	Tap E	3reak-in /	Active		04				9	-		2915 A	UDO	BON TE	R.	
63.1		TBA	Tap E	3reak-in /	Active		04				9			2915 A	UDO	BON TE	R.	
63.1		MGO	Gene	ral Obse	rvation									ROOTS	AT	TAP		
89.8		CC	Crack	Circumf	erential					J	3	9						
120.9	1	RMJ	Roots	Medium	Joint				10	J	3	9						
126.9		RMJ	Roots	Medium	Joint	-			30	J	3	6						
126.9	F01	RFJ	Roots	Fine Joi	nt					J	6	6						
· · · · · · · · · · · · · · · · · · ·												_						

Scores	Structural:	Total	Mean Defect	Peak	Mean Pipe
	Service:	Total	Mean Defect	Peak	Mean Pipe

