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SUMMARY REPORT

For

VIDEO INSPECTION

OF

LEVEE CONDUIT SYSTEM

Situate In

City Of Williamsport

Lycoming County, Pennsylvania

August 2015

Prepared For:

STATE PIPE SERVICES, INC.

7587 Franklin Road
Cranberry Township, PA 16066

COMMONWEALTH OF PENNSYLVANIA
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INTRODUCTION:

The City of Williamsport accepted proposals for TV inspection in support of the Northeast and Northwest Williamsport Flood Protection System Certification Evaluation implemented by the City of Williamsport. The purpose of this work is to perform TV inspection of storm sewer gravity lines that run through the Northeast and Northwest Williamsport flood protection (levee/floodwall) systems.

The Request for Proposals from the City of Williamsport identified the levee/floodwall system as being comprised of the Northeast Williamsport System (NE) and the Northwest Williamsport System (NW). These two system are described and to include the following components:

- Northeast Williamsport, denoted as Williamsport System (NE) on the attached figure, is located in the City of Williamsport and the Township of Loyalsock. The system runs along the east bank of Lycoming Creek, the north bank of the West Branch Susquehanna River, and the west bank of Miller's Run. The system consists of six (6) earthen levee segments totaling 3.4 miles and three (3) floodwall segments totaling 1,810 feet. In addition, the system consists of a number of components, including: four (4) pump stations, twenty-nine (29) gravity drains, and five (5) closure structures.

- Northwest Williamsport System, denoted as Williamsport System (NW) on the attached figure, is located in the City of Williamsport and the Township of Old Lycoming. The system runs along the east bank of Dougherty's Run, the north bank of the West Branch of the Susquehanna River, the west bank of Lycoming Creek, and the south bank of Bottle Run. The system consists of two (2) earthen levee segments totaling 5.5 miles and one (1) 950-foot long floodwall segment. This system also consists of four (4) pump stations, several seepage relief wells, thirty-eight (38) gravity drains, and four (4) closure structures.

State Pipe Services, Inc. (SPS) was the successful contractor for the project and awarded the contract to perform the internal video inspection and inspection documentation for the project. SPS field

technicians and labor forces performed the necessary cleaning and video inspections of the levee systems from June 8, 2015 through July 30, 2015.

Cornerstone Engineering Group, LLC (CEG) is the engineering consultant for SPS that performed the project oversight and review and final evaluation of the video inspections of the levee systems. In accordance with the contract requirements CEG has evaluated the inspection videos and reports as specified and to meet the U.S. Army Corps of Engineers (USACE) Baltimore District "Guidelines for Video Inspection of Conduits" and "Guidelines for Human/Visual Inspection of Conduits" as the documents are applicable to the City of Williamsport levee systems.

RESULTS AND FINDINGS:

CEG evaluated the levee systems that were inspected and applied an "Inspection Ratings" of "Acceptable", "Minimally Acceptable" and "Unacceptable" in accordance with the ASCE Guidelines as referenced above in the "Introduction" of this report. Each deficiency of each section of the system has been assessed and given an Inspection Rating. Each levee segment receives an overall segment inspection rating based upon the lowest of the segment deficiency rating noted.

The ASCE Levee System Inspection Ratings are defined as follows:

Acceptable: All inspection items are rated as Acceptable.

Minimally Acceptable: One or more inspection items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable inspection items would not prevent the segment/system from performing as intended during the next flood event.

Unacceptable: One or more inspection items are rated as Unacceptable and would prevent the segment/system from performing as intended, or a serious deficiency noted in past inspections (previous Unacceptable items in a Minimally Acceptable overall rating) has not been corrected within the established timeframe, not to exceed two years.

Furthermore, CEG has applied the Inspection Ratings above based upon the ASCE Inspection Guidelines for the evaluation of interior drainage system culverts as follows:

A - Acceptable: There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition.

M - Minimally Acceptable: There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss.

U – Unacceptable: Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert.

The finding and recommendations for resolving the deficiencies found have been provided in the attached Table A – System Condition Report

Table A

System Condition Report

Northeast & Northwest Williamsport Flood Protection Sysytem

City of Williamsport, Pennsylvania

SPS Section No.	Description	Upstream Structure	Direction Of Camera Inspection	Downstream Structure	Pipe Diameter (in)	Type of Pipe	Distance (ft)	Deficiency Noted	USACE Levee System Inspection Rating	Recommendations or Observations
1	#3 - 2150' DS from NYCRR	A	Downstream	B	36	CMP	-	Asphalt surface coating is starting to spall; minor debris in pipe	A - Acceptable	Future re-evaluation
2	#4 - 5000' DS from NYCRR	Valve Chamber	Downstream	B	36	CMP	-	None Found	A - Acceptable	Future re-evaluation
3	#5 - Fox Hollow Run	West side	Downstream	B	60	CMP	-	None Found	A - Acceptable	Future re-evaluation
4	#5 - Fox Hollow Run	Center	Downstream	B	60	CMP	-	None Found	A - Acceptable	Future re-evaluation
5	#5 - Fox Hollow Run	East Side	Downstream	B	60	CMP	-	None Found	A - Acceptable	Future re-evaluation
6	#6 - 750' from Queen St	A	Upstream	B	36	CMP	-	None Found	A - Acceptable	Future re-evaluation
7	#13 - 54' US from Penna	South	Downstream	B	66	CMP	78.40	Intruding Seal from 7 to 2 o'clock (5% intrusion)	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					66	CMP	90.10	5% Pipe Deformation/Buckling	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
8	#13 - 54' US from Penna	North	Downstream	B	66	CMP	65.00	Offset Joint	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					66	CMP	77.80	Intruding Seal from 3 to 6 o'clock (minor intrusion)	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					66	CMP	94.90	Offset Joint	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
9	#29 - 610' US from Penna Bridge	Catchbasin	Downstream	B	42	CMP	0.00	Sillt/Debris Dposits 10% od cross section	M - Minimally Acceptable	Clean or monitor and re-evaluate at future inspections
					42	CMP	114.00	Sillt/Debris Dposits 10% od cross section	M - Minimally Acceptable	Clean or monitor and re-evaluate at future inspections

SPS Section No.	Description	Upstream Structure	Direction Of Camera Inspection	Downstream Structure	Pipe Diameter (in)	Type of Pipe	Distance (ft)	Deficiency Noted	USACE Levee System Inspection Rating	Recommendations or Observations
10	#28 - 581' DS from West 4th Bridge	A	Upstream	Storm Flap	15	RCP	-	None Found	A - Acceptable	Future re-evaluation; Pipe is in good condition
11	#27 - DS from Memorial St Bridge	Catchbasin	Downstream	B	15	VCP	2.00	Multiple circumferential cracks	M - Minimally Acceptable	Internal CIP spot repair or replace to cast iron pipe
					15	VCP	5.00	Circumferential fracture	M - Minimally Acceptable	Internal CIP spot repair or replace to cast iron pipe
					15	VCP	7.10	Multiple circumferential cracks; Pipe material changes to Cast Iron	M - Minimally Acceptable	Internal CIP spot repair or replace to cast iron pipe
12	#26 - 636' DS from begin of concrete wall	A	Upstream	Storm Flap	12	CI	12.30	Pipe alignment down at 5%	M - Minimally Acceptable	Future re-evaluation
13	#25 - 481' DS from begin concrete wall	A	Downstream	B	8	CI	-	None Found	M - Minimally Acceptable	Future re-evaluation
14	#24 - 56' DS from begin concrete wall	A	Upstream	Storm Flap	8	CI	40.70	Angular joint, medium	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					8	CI	44.60	Intruding Seal from 2:00 to 3:00 o'clock (5% intrusion)	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
15	#23 - 281' US from concrete wall	Headwall	Downstream	B	24	CMP	-	Hole in pipe wall	M - Minimally Acceptable	Need internal CIP spot repair or replacement
16	#21 - 100' US from High St Bridge	North	Downstream	B	48	CMP	-	Buckling pipe wall/minor deformation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
17	#21 - 1000' ft US from High St Bridge	South	Downstream	B	48	CMP	-	None Found	M - Minimally Acceptable	Future re-evaluation
18	#22A - 3391' US from High St Bridge	MH A	Upstream	B	18	VCP	-	None Found	M - Minimally Acceptable	Future re-evaluation; Pipe in good condition
19	#22 - 3391' US from High St Bridge	Headwall	Downstream	B	8	CMP	-	None Found	M - Minimally Acceptable	Future re-evaluation; Multiple concrete repairs observed
20	#22B - End of Yale Ave	A	Upstream	MH B	10	AC	-	None Found	M - Minimally Acceptable	Future re-evaluation; Drop connection observed at 4 feet
21	#22C - Bike path near Carlton Terrace	MH A	Downstream	B	48	RCP	2.50	Intruding Seal from 3 to 4 o'clock (5% intrusion)	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
22	#1 - North side NYCRR tracks	A	Downstream	B	24	CMP	2.00	Hole in pipe wall	U - Unacceptable	Repair or replace; Consider slip-lining/replacing entire section

SPS Section No.	Description	Upstream Structure	Direction Of Camera Inspection	Downstream Structure	Pipe Diameter (in)	Type of Pipe	Distance (ft)	Deficiency Noted	USACE Levee System Inspection Rating	Recommendations or Observations
23	#1A - North side NYCRR tracks	Gate	Downstream	MH B	15	CI	-	None Found	M - Minimally Acceptable	Future re-evaluation
24	#1A - North side NYCRR tracks	MH A	Downstream	MH B	15	CI	-	None Found	M - Minimally Acceptable	Future re-evaluation; Pipe encrusted
25	#17B - 600' US from Memorial Ave	Catchbasin	Downstream	B	42	RCP	-	None Found	M - Minimally Acceptable	Future re-evaluation
26	#18 - 51.5' US from begin of flood wall	A	Upstream	Storm Flap	12	CMP	1.1 - 10.2	Spalling of asphalt surface coating	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					12	CMP	10.20	Pipe alignment down at 5%	M - Minimally Acceptable	Future re-evaluation
					12	CMP	17.30	Buckling pipe wall/minor deformation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
27	#19 - DS side of High St Bridge	Gate	Downstream	B	18	CMP	2.00	Buckling pipe wall/minor deformation (9 to 10 o'clock)	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					18	CMP	12.7 - 16.8	Sag in pipe; 10% of cross-section	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
28	#19 - DS side of High St Bridge	A	Upstream	Gate	18	CMP	-	None Found	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
29	#20 -250' US from High St Bridge	Catchbasin	Downstream	B	18	CMP	0.0 - 2.0	Spalling of asphalt surface coating; Pipe changes to RCP	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					18	RCP	38.30	Pipe changes to CMP	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					18	CMP	38.3 - 40.9	Surface corrosion open joint at connection to RCP	M - Minimally Acceptable	Consider internal CIP spot repair or replacement
					18	CMP	44.1 - 75.0	Spalling of asphalt surface coating and surface corrosion	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
30	#15 - foot of Blane St	Gate	Downstream	B	36	CT	27.90	Multiple circumferential cracks 9 to 3 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					36	CMP	39.50	Pipe changes CMP	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					36	CMP	55.80	Minor buckling at joint; Possibly occurred during installation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections

SPS Section No.	Description	Upstream Structure	Direction Of Camera Inspection	Downstream Structure	Pipe Diameter (in)	Type of Pipe	Distance (ft)	Deficiency Noted	USACE Levee System Inspection Rating	Recommendations or Observations
31	#14 - 470' US from 4th St Bridge	Storm Flap	Upstream	A	12	CMP	0.00	Minor holes at connection to storm flap	M - Minimally Acceptable	Parge around pipe connection
					12	CMP	0.0 - 21.6	Minor surface corrosion	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					12	CMP	28.3 - 59.8	Surface corrosion & debris in pipe	M - Minimally Accepptable	Clean pipe; Monitor and re-evaluate at future inspection
32	#16 - At the Foot of Lacomic St	Gate	Downstream	Storm Flap	72	RCP	-	None Found	A - Acceptable	Future re-evaluation; Pipe in good condition
33	#16 - At the Foot of Lacomic St	A	Upstream	Gate	72	RCP	-	None Found	A - Acceptable	Future re-evaluation; Pipe in good condition
34	#17 - 600' US from Memorial Ave	A	Upstream	Stormflap	15	CMP	0.0 - 24.8	Spalling of asphalt surface coating and surface corrosion	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					15	CMP	51.30	Minor buckling at joint; Possibly occurred during installation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
35	#59 - Foot of Meade St	A	Upstream	Storm Flap	15	CMP	0.0 - 33.7	Water in pipe approximately 15% of cross section	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					15	CMP	40.1 - 110.7	Minor surface corrosion	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					15	VCP	110.70	Pipe changes to VCP; inspection complete	M - Minimally Acceptable	Future re-evaluation; Pipe in good condition
36	#58 -440' DS from Washington Blvd	MH A	Downstream	MH B	15	VCP	52.40	Circumferential fracture from 8 to 4 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					15	VCP	60.20	Circumferential crack from 7 to 5 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					15	VCP	112.20	Multiple cracks in pipe from 8 to 4 o'clock	M - Minimally Acceptable	Internal CIP spot repair
					15	VCP	124.90	Multiple fracture in pipe from 8 to 12 o'clock; weeping infiltration	M - Minimally Acceptable	Internal CIP spot repair
37	# 49 - 350' DS from Chestnut St	West	Downstream	B	84	RCP	-	None Found	A - Acceptable	Future re-evaluation; 84-inch square pipe in good condition
38	# 49 - 350' DS from Chestnut St	East	Downstream	B	84	RCP	-	None Found	A - Acceptable	Future re-evaluation; 84-inch square pipe in good condition

SPS Section No.	Description	Upstream Structure	Direction Of Camera Inspection	Downstream Structure	Pipe Diameter (in)	Type of Pipe	Distance (ft)	Deficiency Noted	USACE Levee System Inspection Rating	Recommendations or Observations
39	#55 - 142' DS from end Flood Wall	A	Downstream	B	48	CMP	-	None Found	M - Minimally Acceptable	Entire length of pipe has been repaired with concrete flow line
40	#56 - 260' West of Penna RR levee storm drain	MH A	Downstream	MH B	18	CIP Liner	-	None Found	A - Acceptable	Pipe has been repaired with a CIP liner; good condition
41	#57 - 100' West of Reading RR levee storm drain	A	Upstream	B	48	CMP	106.70	Circumferential crack from 3 to 9 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
42	#47 - 580' DS from Penna RR Bridge	A	Downstream	Storm Flap	18	CMP	0.0 - 107.0	Surface corrosion	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					18	CMP	107.0 - 113.0	Hole in pipe from 5 to 7 o'clock	U - Unacceptable	Install internal CIP spot repair
43	#44 - Foot of Penn St	A	Upstream	Storm Flap	78	CMP	0.0 - 77.9	Bottom of pipe raired with concrete	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					78	Steel	80.00	Pipe changes to Steel	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					78	Steel	186.0 - 220.7	Bottom of pipe lined with oncrete & brick	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
44	#36 - 260' DS from pump Station	MH A	Downstream	B	16	CMP	0.0 - 83.2	Water in pipe approximately 15% of cross section	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					16	CMP	16.50	Minor buckling at joint; Possibly occurred during installation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					16	CMP	37.00	Minor buckling at joint; Possibly occurred during installation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					16	CMP	83.30	Water in pipe approximately 80% of cross section; end of inspection	U - Unacceptable	Remove water and re-evaluate pipe for repairs
45	#35 - 300' South of PPL Co Dam	South	Upstream	B	108	RCP Box	-	None Found	A - Acceptable	75% full of water appears to be in good condition
46	#35 - 300' South of PPL Co Dam	Center	Upstream	B	108	RCP Box	-	None Found	A - Acceptable	75% full of water appears to be in good condition
47	#35 - 300' South of PPL Co Dam	North	Upstream	B	108	RCP Box	-	None Found	A - Acceptable	75% full of water appears to be in good condition
48	#35 - 300' South of PPL Co Dam	A	Upstream	B	36	RCP Box	-	None Found	A - Acceptable	Future re-evaluation; Pipe in good condition

SPS Section No.	Description	Upstream Structure	Direction Of Camera Inspection	Downstream Structure	Pipe Diameter (in)	Type of Pipe	Distance (ft)	Deficiency Noted	USACE Levee System Inspection Rating	Recommendations or Observations
49	#37 - 150' DS from West St	A	Downstream	B	12	CMP	-	Silt/debris at various locations along pipe run	A - Acceptable	Perform maintenance cleaning as necessary
50	#38 - 190' FD from Laurel St	A	Downstream	B	12	CMP	-	Deposits throughout pipe run	A - Acceptable	Perform maintenance cleaning as necessary
					12	CMP	116.80	Hole in bottom of pipe	U - Unacceptable	Install internal CIP spot repair
51	#42 - Foot of Basin St	A	Downstream	B	48	CI	-	High water throughout entire inspection	M - Minimally Acceptable	Pipe appears in good condition; re-inspect as needed
52	#48 - 250' DS from Chestnut St	A	Downstream	Pump Station	24	VCP	63.1 - 65.0	Broken pipe and offset joint	U - Unacceptable	Remove offset, parge with concrete & install internal CIP spot repair
53	#48 - 250' DS from Chestnut St	A	Downstream	Storm Flap	24	VCP	78.60	Circumferential crack from 7 to 5 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					24	VCP	90.10	Large rock in pipe	M - Minimally Acceptable	Remove rock
54	#40 - 40' US from State St	A	Downstream	Storm Flap	12	CMP	-	Deposits throghout & several areas of surface corrosion	M - Minimally Acceptable	Monitor and re-evaluate; Consider sliplining or CIP lining of pipe run
55	#45 - 788' US from Penna Bridge	A	Downstream	Storm Flap	42	CMP	17.10	Minor buckling at joint; Possibly occurred during installation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					42	CMP	-	Deposits throghout & several areas of surface corrosion	M - Minimally Acceptable	Monitor and re-evaluate; Consider sliplining or CIP lining of pipe run
56	#34 - 515' Downstream fr. Maynard St. Br	A	Upstream	Storm Flap	30	RCP	2.00	Circumferential crack from 12 to 12 o'clock	M - Minimally Acceptable	Monitor and or consider internal CIP spot repair
57	#30 - At Cemetery Run	Headwall	Downstream	B	60	CMP	136.30	12 o'clock slight buckling; Possibly occurred during installation	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					60	CMP	315.60	Offset/Open joint	M - Minimally Acceptable	Monitor or parge with concrete to close joint
					60	CMP	353.80	Circumferential crack from 8 to 10 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					60	CMP	353.80	Wall buckling from 1 to 2 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
58	#45 - 788' US from Penna Bridge	A	Upstream	Storm Flap	42	CMP	-	None Found	A - Acceptable	Future re-evaluation; Pipe in good condition

SPS Section No.	Description	Upstream Structure	Direction Of Camera Inspection	Downstream Structure	Pipe Diameter (in)	Type of Pipe	Distance (ft)	Deficiency Noted	USACE Levee System Inspection Rating	Recommendations or Observations
59	#8 - 607' DS from Arch St	Headwall	Downstream	B	8	CMP	-	None Found	A - Acceptable	Future re-evaluation; Pipe in good condition
60	#10 - 1192' DS from Reading RR	A	Downstream	B	24	CMP	-	Several angular joints; All have been sealed	A - Acceptable	Future re-evaluation; Special attention given to sealed joint
61	#11 - 614' DS from Reading RR	A	Upstream	Gate	36	CMP	-	Pipe below waterline of river; missing bottom	U - Unacceptable	Slipline pipe or install CIP liner
62	#11 - 614' DS from Reading RR	Gate	Downstream	Storm Flap	36	CMP	-	Pipe below waterline of river; missing bottom	U - Unacceptable	Slipline pipe or install CIP liner
63	#9 - Opposite Sweets Steel Pump house	Gate	Downstream	B	18	CMP	39.2 - 42.5	Surface corrosion from 3 to 8 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
64	#9 - Opposite Sweets Steel Pump Station	A	Upstream	Gate	18	CMP	50.1 - 57.1	Buckling and deformation of pipe; Open Joints	U - Unacceptable	Slipline pipe or open cut repair
65	#33 - 935' Upstream from Maynard St. Bridge	A	Upstream	Storm Flap	18	RCP	-	None Found	A - Acceptable	Future re-evaluation; Pipe in good condition
66	#39 - Foot of Court St.	Manhole A	Downstream	Outlet	15	CMP	-	Water in pipe approximately 15% of cross section	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
67	#39 - Foot of Court St.	Inlet	Upstream	Manhole A	15	CMP	0.10	Hole in bottom of pipe	U - Unacceptable	Repair hole and perform new inspection & re-evaluation of pipe
68	#43 - 133' Downstream from Basin St.	Inlet	Upstream	Outlet	12	CMP	18.6 - 40.7	5% horizontal deformation of pipe	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
69	#31 - 2100' Downstream from Cemetery Run	A	Upstream	B	48	CMP	5.3 - 40.7	Gravel deposits	M - Minimally Acceptable	Clean and re-evaluate pipe as necessary
					48	CMP	21.40	Open joint	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
70	#32 - 935' Upstream from Maynard St. Bridge	A	Upstream	Storm Flap	48	CMP	42.30	Separated joint	M - Minimally Acceptable	Monitor and re-evaluate at future inspections
					48	CMP	75.40	Minor buckling of wall at 10 o'clock	M - Minimally Acceptable	Monitor and re-evaluate at future inspections

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	Section No.	Upstream MH	Direction of Survey	Downstream MH	Street name and Number	Diameter / height	Pre-cleaning	Total length surveyed
1	1	A	Downstream	B	#3 - 2150' DS from NYCRR	36	No Pre-Cleaning	99.00
2	2	Valve Chamber	Downstream	B	#4 5000' DS from NYCRR	36	No Pre-Cleaning	94.50
3	3	West side	Downstream	B	#5 Fox Hollow run	60	No Pre-Cleaning	113.00
4	4	Center	Downstream	B	#5 Fox Hollow Run	60	No Pre-Cleaning	116.70
5	5	East Side	Downstream	B	#5 Fox Hollow Run	60	No Pre-Cleaning	117.90
6	6	A	Upstream	B	#6 750' from Queen St	36	Jetting	135.60
7	7	South	Downstream	B	#13 54' US from Penna	66	No Pre-Cleaning	117.40
8	8	North	Downstream	B	#13 54' US from Penna	66	No Pre-Cleaning	120.60
9	9	Catchbasin	Downstream	B	#29 610' US fr Penna Bridge	42	No Pre-Cleaning	114.80
10	10	A	Upstream	Storm Flap	#28 581' DS fr W 4th Bridge	15	No Pre-Cleaning	101.40
11	11	Catchbasin	Downstream	B	#27 DS fr Memorial St Br.	15	Jetting	36.60
12	12	A	Upstream	Stormflap	#26 636' DS fr Beg Conc wall	12	Jetting	17.50
13	13	A	Downstream	B	#25 481' DS fr Beg Conc Wall	8	Jetting	18.10
14	14	A	Upstream	Storm Flap	#24 56' DS fr Beg conc wall	8	Jetting	48.00
15	15	Headwall	Downstream	B	#23 281' US fr Conc wall	24	Jetting	34.50
16	16	North	Downstream	B	#21 100' US from high st br	48	Jetting	74.40
17	17	South	Downstream	B	#21 1000' ft US from High st br	48	Jetting	75.00
18	18	MH A	Upstream	B	#22A 3391' US fr High St br	18	Jetting	100.40
19	19	Headwall	Downstream	B	#22 3391' US fr High St Br	8	Jetting	62.10
20	20	A	Upstream	MH B	#22 B End of Yale Ave	10	Jetting	51.20
21	21	MH A	Downstream	B	#22 C Bike path near carlton ter.	48	Jetting	94.10
22	22	A	Downstream	B	#1 North side NYC track	24	Jetting	47.90
23	23	Gate	Downstream	MH B	#1 A North side NYC tracks	15	Jetting	65.80
24	24	MH A	Downstream	MH B	#1 A North side NYC tracks	15	Jetting	113.50
25	25	Catchbasin	Downstream	B	#17 B 600' US fr Memorial Ave	42	Jetting	66.70
26	26	A	Upstream	Stormflap	#18 51.5' US fr beg of flood wall	12	No Pre-Cleaning	23.30
27	27	Gate	Downstream	B	#19 DS side of High st Br	18	No Pre-Cleaning	22.60
28	28	A	Upstream	Gate	#19 DS side of High st Br	18	No Pre-Cleaning	6.00
29	29	Catchbasin	Downstream	B	#20 250' US fr high st Br	18	No Pre-Cleaning	83.10
30	30	Gate	Downstream	B	#15 foot of Blane St	36	No Pre-Cleaning	76.60
31	31	A	Upstream	Stormflap	#14 470' US fr 4th St Br	12	Jetting	63.80
32	32	Gate	Downstream	Storm Flap	#16 Foot of Lacomic St	72	Jetting	65.60
33	33	A	Upstream	Gate	#16 Foot of Lacomic St	72	Jetting	188.00
34	34	A	Upstream	Stormflap	#17 600' US fr Memorial Ave	15	Jetting	56.70
35	35	A	Upstream	Stormflap	#59 Foot of Meade St	15	No Pre-Cleaning	110.70
36	36	MH A	Downstream	MH B	#58 440' DS fr Washington Blvd	15	No Pre-Cleaning	129.00
37	37	west	Downstream	B	# 49 350' DS fr Chestnut St	84	No Pre-Cleaning	144.30
38	38	East	Downstream	B	#49 350' ft DS fr Chestnut St	84	No Pre-Cleaning	135.10
39	39	A	Downstream	B	#55 142' DS fr end FL Wall	48	No Pre-Cleaning	155.00

	Section No.	Upstream MH	Direction of Survey	Downstream MH	Street name and Number	Diameter / height	Pre-cleaning	Total length surveyed
40	40	MH A	Downstream	MH B	#56 260' West fr Penna RR levee st	18	No Pre-Cleaning	79.80
41	41	A	Upstream	B	#57 100' West fr Reading RR levee	48	No Pre-Cleaning	153.50
42	42	A	Downstream	Stormflap	#47 580' DS fr Penna RR Br	18	No Pre-Cleaning	115.80
43	43	A	Upstream	Stormflap	#44 Foot of Penn St	78	No Pre-Cleaning	220.70
44	44	MH A	Downstream	B	#36 260' DS from pump Station	16	Heavy Cleaning	83.30
45	45	South	Upstream	B	#35 300' South fr PPL Co Damn	108	No Pre-Cleaning	97.10
46	46	Center	Upstream	B	#35 300' South of PPL Co Damn	108	No Pre-Cleaning	60.10
47	47	North	Upstream	B	#35 300' South of PPL Co Damn	108	No Pre-Cleaning	108.00
48	48	A	Upstream	B	#35 300' South of PPL Co Dam	36	No Pre-Cleaning	6.00
49	49	A	Downstream	B	#37 150' DS from West St	12	No Pre-Cleaning	125.00
50	50	A	Downstream	B	#38 190' FD fr Laurel St	12	No Pre-Cleaning	116.80
51	51	A	Downstream	B	#42 Foot of Basin St	48	No Pre-Cleaning	59.00
52	52	A	Downstream	Pump Station	#48 250' DS from Chestnut St	24	No Pre-Cleaning	65.00
53	53	A	Downstream	Stormflap	#48 250' DS fr Chestnut St	24	No Pre-Cleaning	125.40
54	54	A	Downstream	Stormflap	#40 40' US fr State St	12	Jetting	105.70
55	55	A	Downstream	Stormflap	#45 788' US from Penna Bridge	42	No Pre-Cleaning	79.10
56	56	A	Upstream	Stormflap	#34 515' Downstream fr. Maynard St	30	No Pre-Cleaning	53.70
57	57	Headwall	Downstream	B	#30 At Cemetery Run	60	No Pre-Cleaning	473.90
58	58	A	Upstream	Stormflap	#45 788' US fr Penna Bridge	42	Jetting	147.90
59	59	Headwall	Downstream	B	#8 607' DS fr Arch St	8	No Pre-Cleaning	175.70
60	60	A	Downstream	B	#10 1192' DS fr Reading RR	24	No Pre-Cleaning	42.40
61	61	A	Upstream	Gate	#11 614' DS fr Reading RR	36	Heavy Cleaning	22.40
62	62	Gate	Downstream	Stormflap	#11 614' DS fr Reading RR	36	Heavy Cleaning	36.60
63	63	Gate	Downstream	B	#9 Opposite Sweets Steel Pump ho	18	Heavy Cleaning	68.00
64	64	A	Upstream	Gate	#9 Opposite Sweets Steel Pump Sta	18	Heavy Cleaning	71.10
65	65	A	Upstream	Storm Flap	#33 935' Upstream from Maynard st.	18	No Pre-Cleaning	212.20
66	66	Manhole A	Downstream	Outlet	#39 Foot of Court St.	15	Heavy Cleaning	59.30
67	67	Inlet	Upstream	Manhole A	#39 Foot of Court St.	15	Heavy Cleaning	0.10
68	68	Inlet	Upstream	Outlet	#43 133' Downstream from Basin St.	12	No Pre-Cleaning	80.20
69	69	A	Upstream	B	#31 2100' Downstream fr. Cemetery	48	Heavy Cleaning	41.70
70	70	A	Upstream	Storm Flap	#32 935' Upstream fr. Maynard St. B	48	No Pre-Cleaning	353.10
								6735.10 ft