

Date:	2/11/13	Time:	12:45 PM	Weather:	41F Windy
Outfall System:	06	Structure ID:	4100	Shape:	Round
Structure Type:	SCB	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	10.5'	Water Depth:	1"
Housing Material:	CONC				
Location:	East side of Building 57, in grass.				

Pipe Data:

ID:	a
CLOCK POS.:	2
SIZE:	18"
MATERIAL:	VC
DEPTH:	10.6'
PHOTO:	14,15

ID:	b
CLOCK POS.:	10
SIZE:	18"
MATERIAL:	VC
DEPTH:	10.5'
PHOTO:	12,13

ID:	c
CLOCK POS.:	7
SIZE:	10"
MATERIAL:	VC
DEPTH:	3.2'
PHOTO:	8,9

ID:	N/A
CLOCK POS.:	8
SIZE:	6"
MATERIAL:	PVC
DEPTH:	2.7'
PHOTO:	6,7

ID:	N/A
CLOCK POS.:	6
SIZE:	12"
MATERIAL:	RC
DEPTH:	4.6'
PHOTO:	10,11

ID:	N/A
CLOCK POS.:	5
SIZE:	6"
MATERIAL:	PVC
DEPTH:	1.7'
PHOTO:	4,5

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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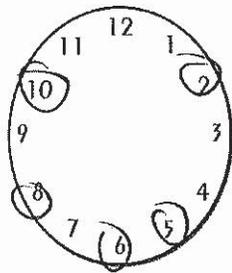
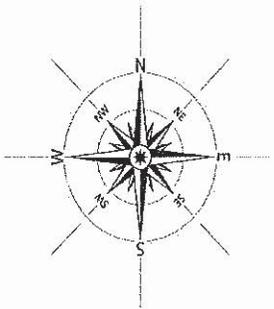
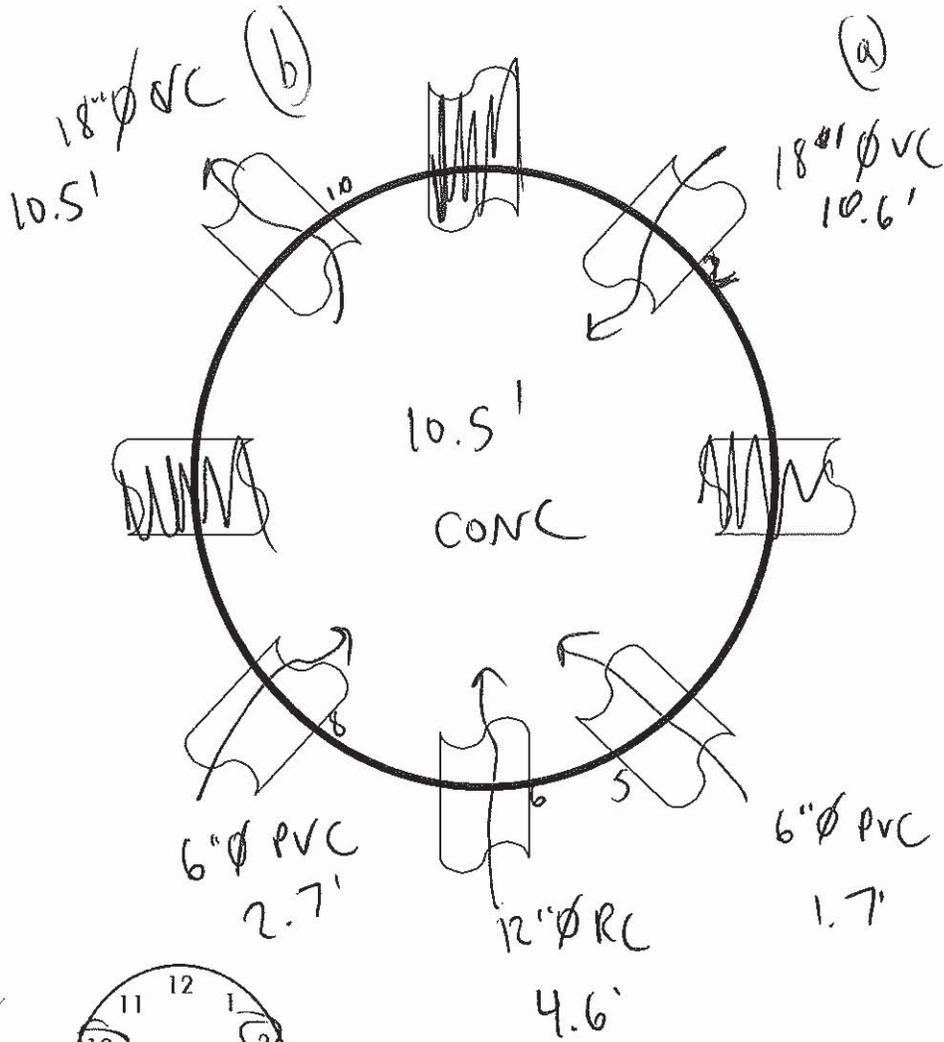
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid is a blank grate.

SCB 06-4100



Comments:

SCB 06-4100

1: Picture at a Distance



2: Top View



3: Lid



4: 6 INCH PVC - 1.7 FT INVERT - 5 O'CLOCK POSITION



5: 6 INCH PVC - 1.7 FT INVERT - 5 O'CLOCK POSITION (2)



6: 6 INCH PVC - 2.7 FT INVERT - 8 O'CLOCK POSITION



SCB 06-4100

7: 6 INCH PVC - 2.7 FT INVERT - 8 O'CLOCK POSITION (2)



8: 10 INCH VC - 3.2 FT INVERT - 7 O'CLOCK POSITION



9: 10 INCH VC - 3.2 FT INVERT - 7 O'CLOCK POSITION (2)



10: 12 INCH RC - 4.6 FT INVERT - 6 O'CLOCK POSITION



11: 12 INCH RC - 4.6 FT INVERT - 6 O'CLOCK POSITION (2)



12: 18 INCH VC - 10.5 FT INVERT - 10 O'CLOCK POSITION



SCB 06-4100

13: 18 INCH VC - 10.5 FT INVERT - 10 O'CLOCK POSITION (2)



14: 18 INCH VC - 10.6 FT INVERT - 2 O'CLOCK POSITION



15: 18 INCH VC - 10.6 FT INVERT - 2 O'CLOCK POSITION (2)



Date:	2/7/13	Time:	3:40 PM	Weather:	43F Sunny
Outfall System:	06	Structure ID:	2100	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	26.5'	Water Depth:	1"
Housing Material:	CONC				
Location:	Between buildings 91 and 85.				

Pipe Data:

ID:	a
CLOCK POS.:	NOT FOUND
SIZE:	24"*
MATERIAL:	CI*
DEPTH:	N/A
PHOTO:	N/A

ID:	b
CLOCK POS.:	7
SIZE:	36"
MATERIAL:	RC
DEPTH:	26.5'
PHOTO:	3

ID:	c
CLOCK POS.:	3
SIZE:	12"
MATERIAL:	PVC
DEPTH:	3.9'
PHOTO:	2

ID:	d
CLOCK POS.:	10
SIZE:	48"
MATERIAL:	RC
DEPTH:	26.5'
PHOTO:	4

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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Impact:

Root Intrusion:	NO
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Comments:

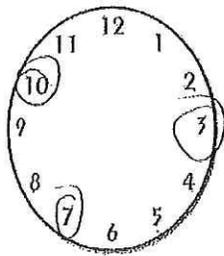
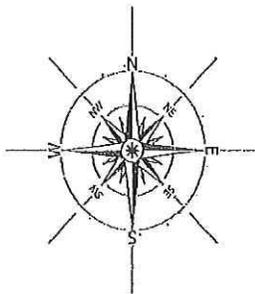
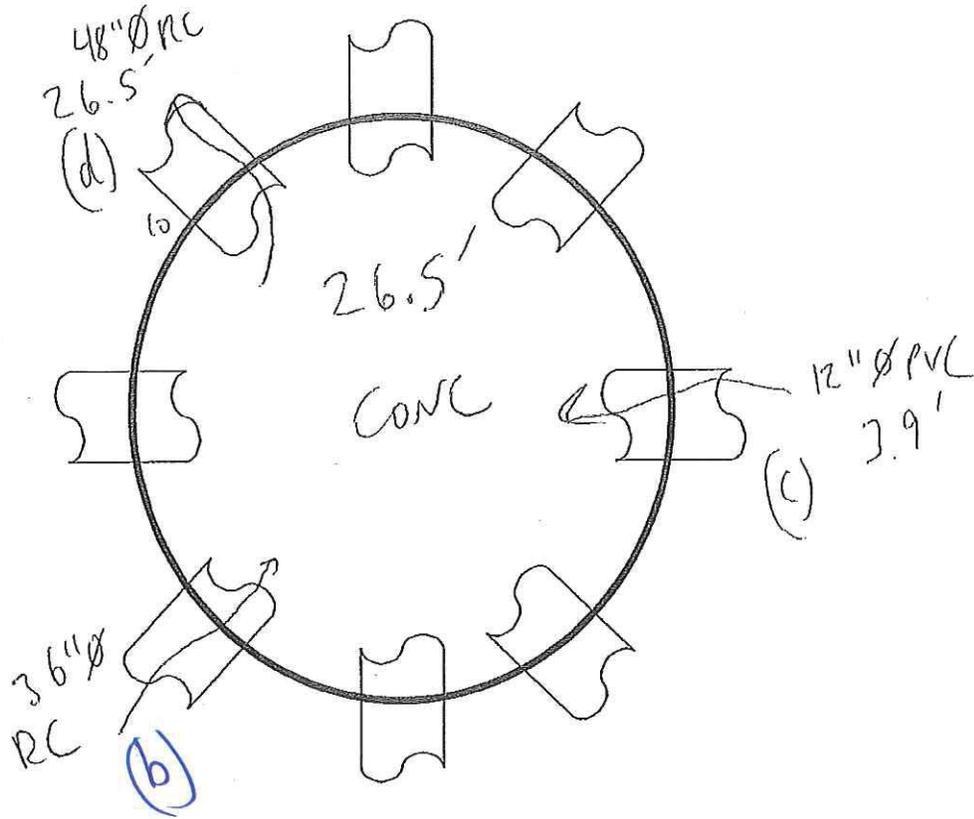
Lid labeled "SEWER."

The 12" PVC pipe appears to be misaligned or cracked, please refer to picture 2 in the photo reports.

36" unknown pipe is not found in the basemap.

**Information obtained from basemap.\***

SMH 06-2100



Comments:

SMH 06-2100

1: Picture at a Distance



2: 12 INCH PVC - 3.9 FT INVERT - 3 O'CLOCK POSITION



3: 36 INCH RC - 26.5 FT INVERT - 6 O'CLOCK POSITION



4: 48 INCH RC - 26.5 FT INVERT - 10 O'CLOCK POSITION



Date:	2/7/13	Time:	2:10	Weather:	39F Sun
Outfall System:	06	Structure ID:	2200	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	24.9'	Water Depth:	1"
Housing Material:	CONC				
Location:	Between buildings 85 and 92				

Pipe Data:

ID:	a
CLOCK POS.:	10
SIZE:	36"
MATERIAL:	RC
DEPTH:	24.9'
PHOTO:	8,9

ID:	b
CLOCK POS.:	3:30
SIZE:	27"
MATERIAL:	RC
DEPTH:	24.9'
PHOTO:	6

ID:	c
CLOCK POS.:	1
SIZE:	36"
MATERIAL:	RC
DEPTH:	24.9'
PHOTO:	7

ID:	d
CLOCK POS.:	4
SIZE:	12"
MATERIAL:	VC
DEPTH:	7.7'
PHOTO:	4,5

ID:	e
CLOCK POS.:	NOT FOUND
SIZE:	N/A
MATERIAL:	N/A
DEPTH:	N/A
PHOTO:	N/A

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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Impact:

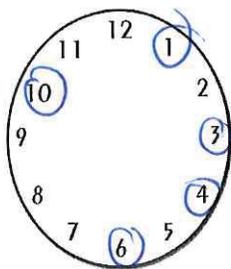
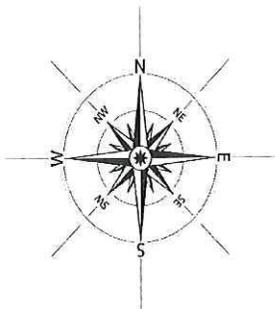
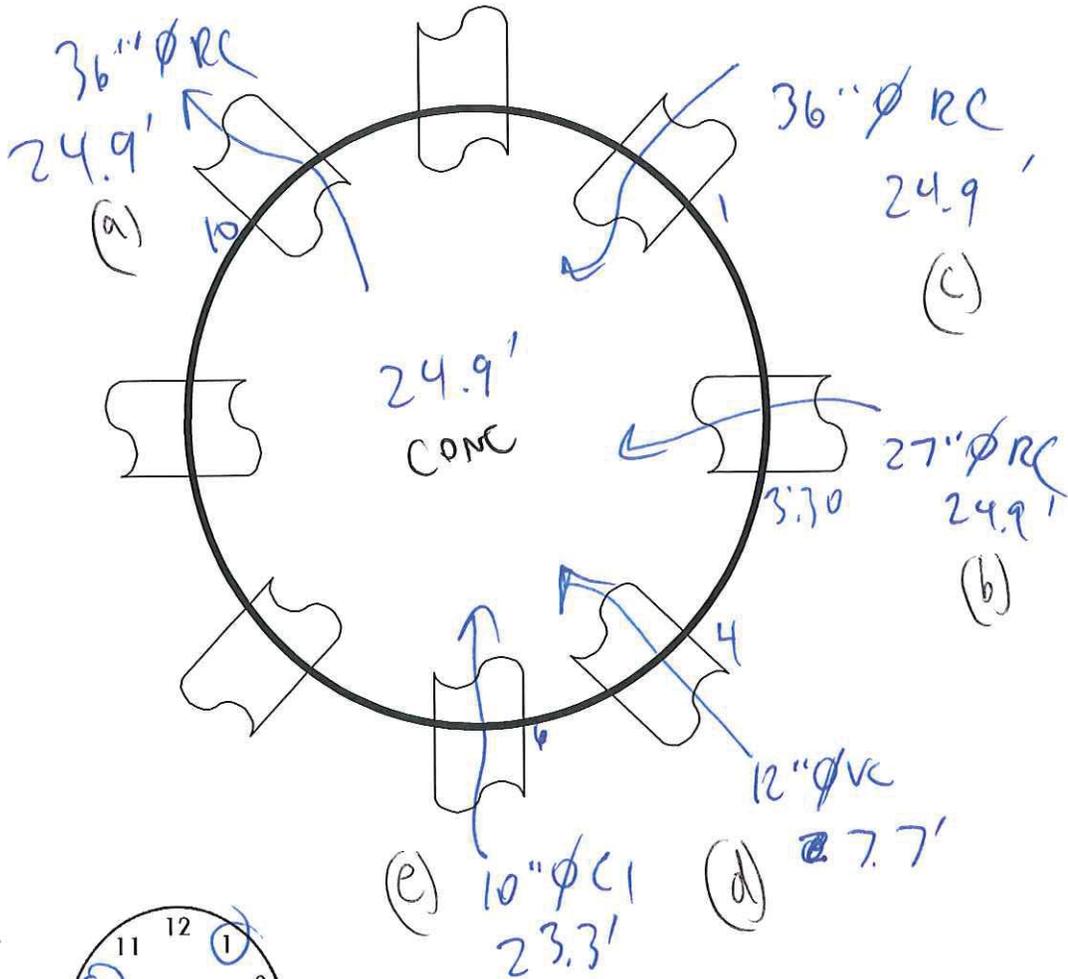
Root Intrusion:	NO
-----------------	----

Comments:

All steps failed. Lid says :”SEWER”

There is a large amount of debris present near along the bottom of the manhole near the entrance of the 27" RC pipe. This debris might be blocking the flow of water through the structure. The amount of debris blocking the flow of water from the pipes is approximately 20%.

SMH 06-2200



Comments:

SMH 06-2200

1: Picture at a Distance



2: Top View



3: Lid



4: 12 INCH VC - 7.7 FT INVERT - 4 O'CLOCK POSITION



5: 12 INCH VC - 7.7 FT INVERT - 4 O'CLOCK POSITION (2)



6: 27 INCH RC - 24.9 FT INVERT - 3 O'CLOCK POSITION



SMH 06-2200

7: 36 INCH RC - 24.9 FT INVERT - 1 O'CLOCK  
POSITION



8: 36 INCH RC - 24.9 FT INVERT - 10 O'CLOCK  
POSITION



9: 36 INCH RC - 24.9 FT INVERT - 10 O'CLOCK  
POSITION (2)



Date:	2/7/13	Time:	1:35	Weather:	36F Sunny
Outfall System:	06	Structure ID:	2220	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	20.3'	Water Depth:	1"
Housing Material:	CONC				
Location:	Between buildings 92, 114, 85				

Pipe Data:

ID:	a
CLOCK POS.:	10
SIZE:	27"
MATERIAL:	RC
DEPTH:	20.3'
PHOTO:	9

ID:	b
CLOCK POS.:	4
SIZE:	24"
MATERIAL:	RC
DEPTH:	19.3'
PHOTO:	8

ID:	c
CLOCK POS.:	7
SIZE:	10"
MATERIAL:	CI
DEPTH:	20.1'
PHOTO:	7

ID:	d
CLOCK POS.:	5
SIZE:	10"
MATERIAL:	CI
DEPTH:	20.3'
PHOTO:	6

ID:	e
CLOCK POS.:	12
SIZE:	6"
MATERIAL:	VC
DEPTH:	5.4'
PHOTO:	5

ID:	f
CLOCK POS.:	3
SIZE:	4"
MATERIAL:	CI
DEPTH:	1.5'
PHOTO:	4

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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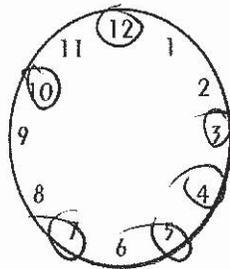
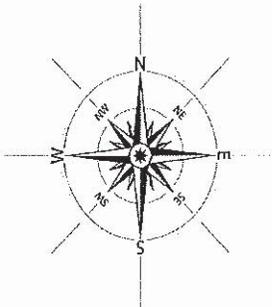
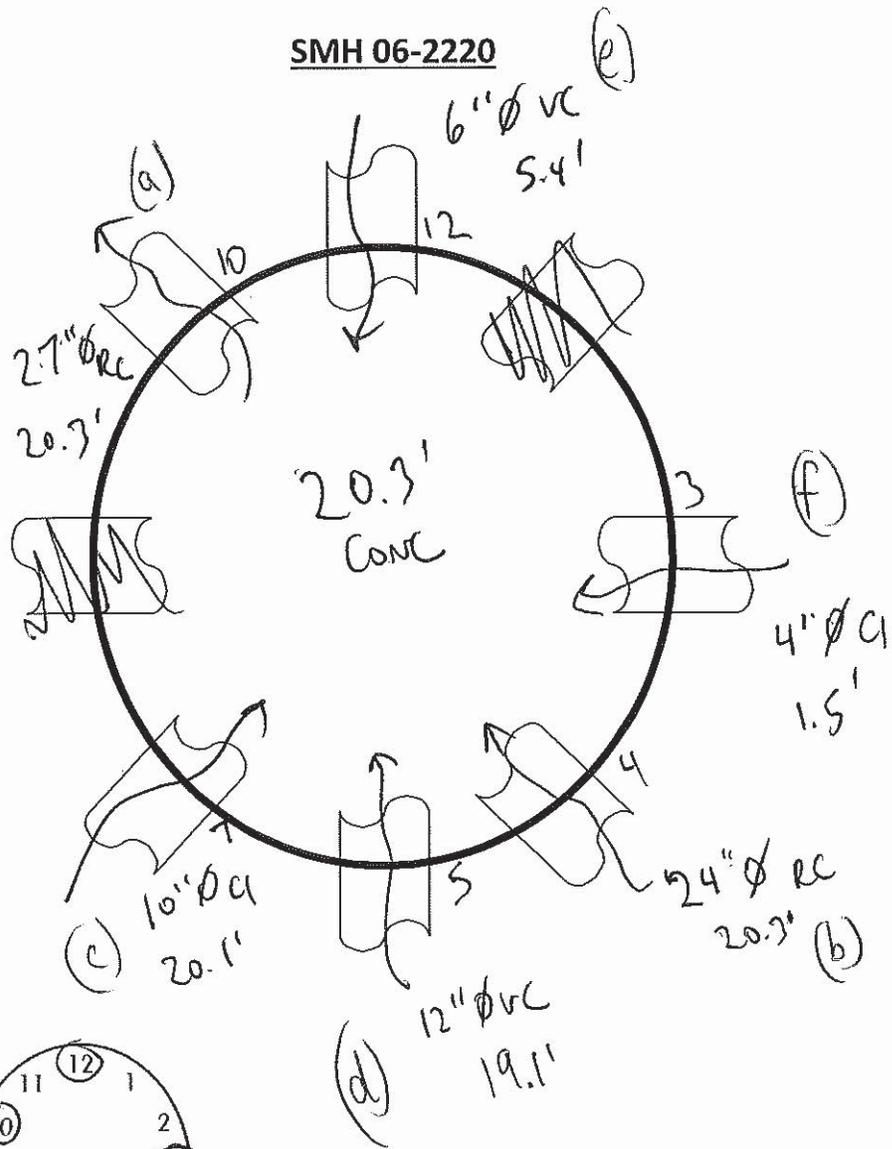
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid says "SEWER." Alignment off by 2" at 1 and 7 o'clock positions.

SMH 06-2220



Comments:

SMH 06-2220

1: Picture at a Distance



2: Top View



3: Lid



4: 4 INCH CI - 1.5 FT INVERT - 3 O'CLOCK POSITION



5: 6 INCH VC - 5.4 FT INVERT - 12 O'CLOCK POSITION



6: 10 INCH CI - 20.3 FT INVERT - 5 O'CLOCK POSITION



SMH 06-2220

7: 10 INCH CI - 20.1 FT INVERT - 7 O'CLOCK  
POSITION



8: 24 INCH RC - 19.3 FT INVERT - 4 O'CLOCK  
POSITION



9: 27 INCH RC - 20.3 FT INVERT - 10 O'CLOCK  
POSITION



Date:	2/11/13	Time:	4 PM	Weather:	39F Windy
Outfall System:	06	Structure ID:	2230	Shape:	ROUND
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	19.5'	Water Depth:	0"
Housing Material:	CONC				
Location:	Between Buildings 87 & 114				

Pipe Data:

ID:	a
CLOCK POS.:	10
SIZE:	24"
MATERIAL:	RC
DEPTH:	19.6'
PHOTO:	12

ID:	b
CLOCK POS.:	1
SIZE:	15"
MATERIAL:	CI
DEPTH:	14.9'
PHOTO:	8,9

ID:	c
CLOCK POS.:	2
SIZE:	15"
MATERIAL:	CI
DEPTH:	19.3'
PHOTO:	10,11

ID:	d
CLOCK POS.:	4
SIZE:	6"
MATERIAL:	CI
DEPTH:	19.4'
PHOTO:	5,6

ID:	e
CLOCK POS.:	7
SIZE:	12"
MATERIAL:	VC
DEPTH:	3.6'
PHOTO:	7

ID:	f
CLOCK POS.:	8
SIZE:	4"
MATERIAL:	VC
DEPTH:	11.6'
PHOTO:	4

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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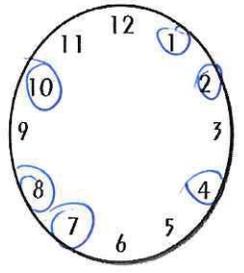
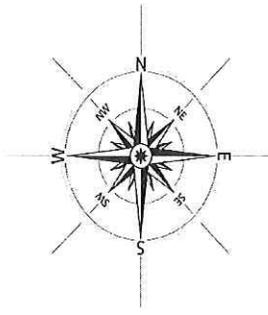
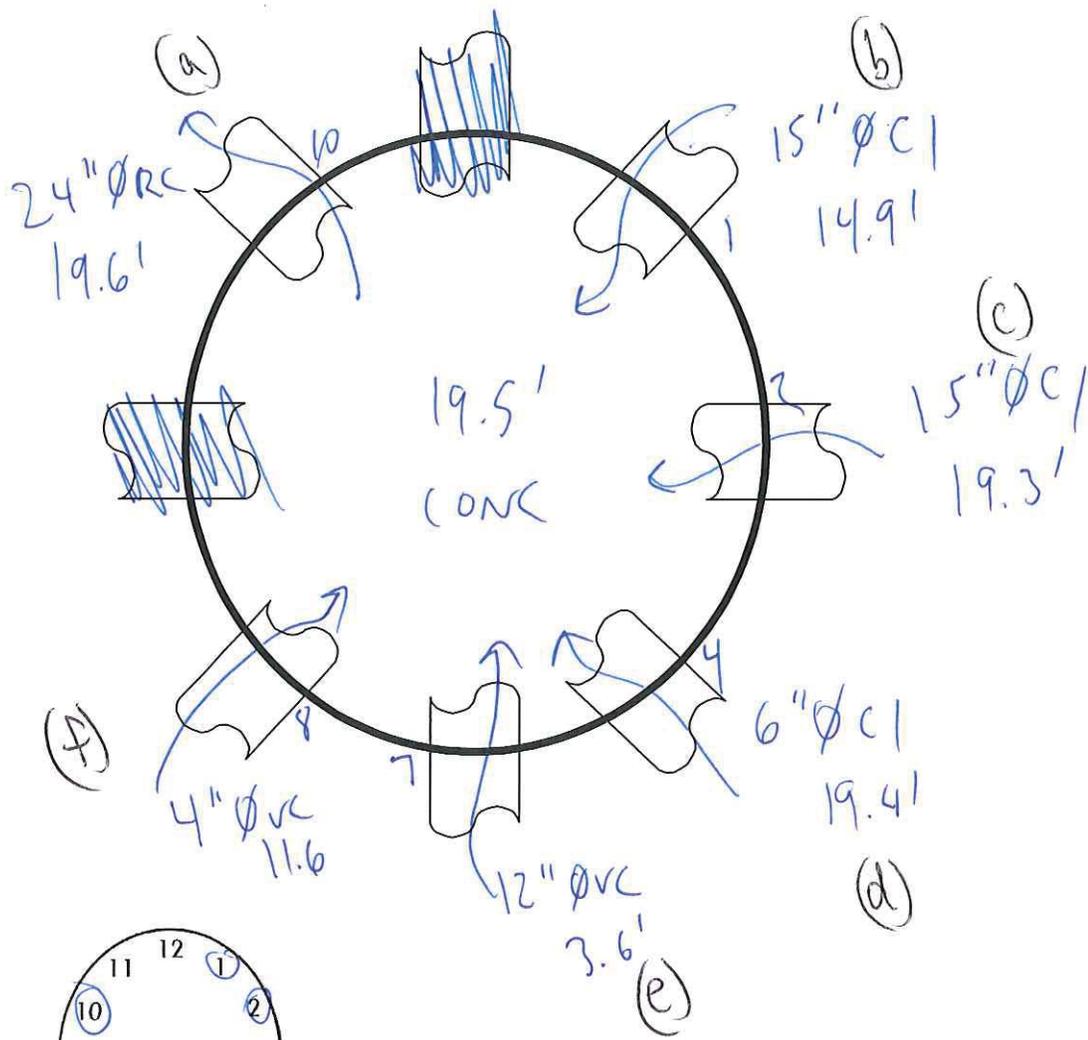
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid says "SEWER."

**SMH 06-2230**



Comments:

SMH 06-2230

1: Picture at a Distance



2: Top View



3: Lid



4: 4 INCH VC - 11.6 FT INVERT - 8 O'CLOCK POSITION



5: 6 INCH CI - 19.4 FT INVERT - 4 O'CLOCK POSITION



6: 6 INCH CI - 19.4 FT INVERT - 4 O'CLOCK POSITION (2)



SMH 06-2230

7: 12 INCH VC - 2.6 FT INVERT - 7 O'CLOCK POSITION



8: 15 INCH CI - 14.9 FT INVERT - 1 O'CLOCK POSITION



9: 15 INCH CI - 14.9 FT INVERT - 1 O'CLOCK POSITION (2)



10: 15 INCH CI - 19.3 FT INVERT - 2 O'CLOCK POSITION



11: 15 INCH CI - 19.3 FT INVERT - 2 O'CLOCK POSITION (2)



12: 24 INCH RC - 19.6 FT INVERT - 10 O'CLOCK POSITION



SMH 06-2230

13: 24 INCH RC - 19.6 FT INVERT - 10  
O'CLOCK POSITION (2)



Date:	2/7/13	Time:	3:25 PM	Weather:	43F Sunny
Outfall System:	06	Structure ID:	2300	Shape:	Round
Structure Type:	SMH	General Appraisal:	7	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	24.4'	Water Depth:	1"
Housing Material:	CONC				
Location:	Between building 85 and 88.				

Pipe Data:

ID:	a
CLOCK POS.:	2:30
SIZE:	24"
MATERIAL:	RC
DEPTH:	23.7'
PHOTO:	18

ID:	b
CLOCK POS.:	12
SIZE:	24"
MATERIAL:	RC
DEPTH:	23.6'
PHOTO:	15,16

ID:	c
CLOCK POS.:	10
SIZE:	15"
MATERIAL:	RC
DEPTH:	24.5'
PHOTO:	14

ID:	d
CLOCK POS.:	8
SIZE:	12"
MATERIAL:	CI
DEPTH:	11.5'
PHOTO:	10,11

ID:	e
CLOCK POS.:	7
SIZE:	36"
MATERIAL:	RC
DEPTH:	24.5'
PHOTO:	17

ID:	f
CLOCK POS.:	4
SIZE:	8"
MATERIAL:	CI
DEPTH:	23.7'
PHOTO:	8,9

ID:	g
CLOCK POS.:	3
SIZE:	12"
MATERIAL:	VC
DEPTH:	4.3'
PHOTO:	12,13

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

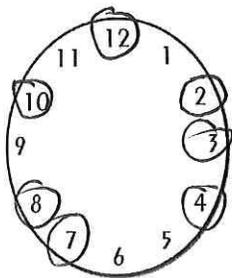
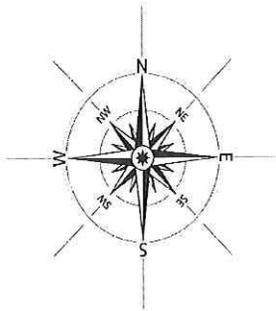
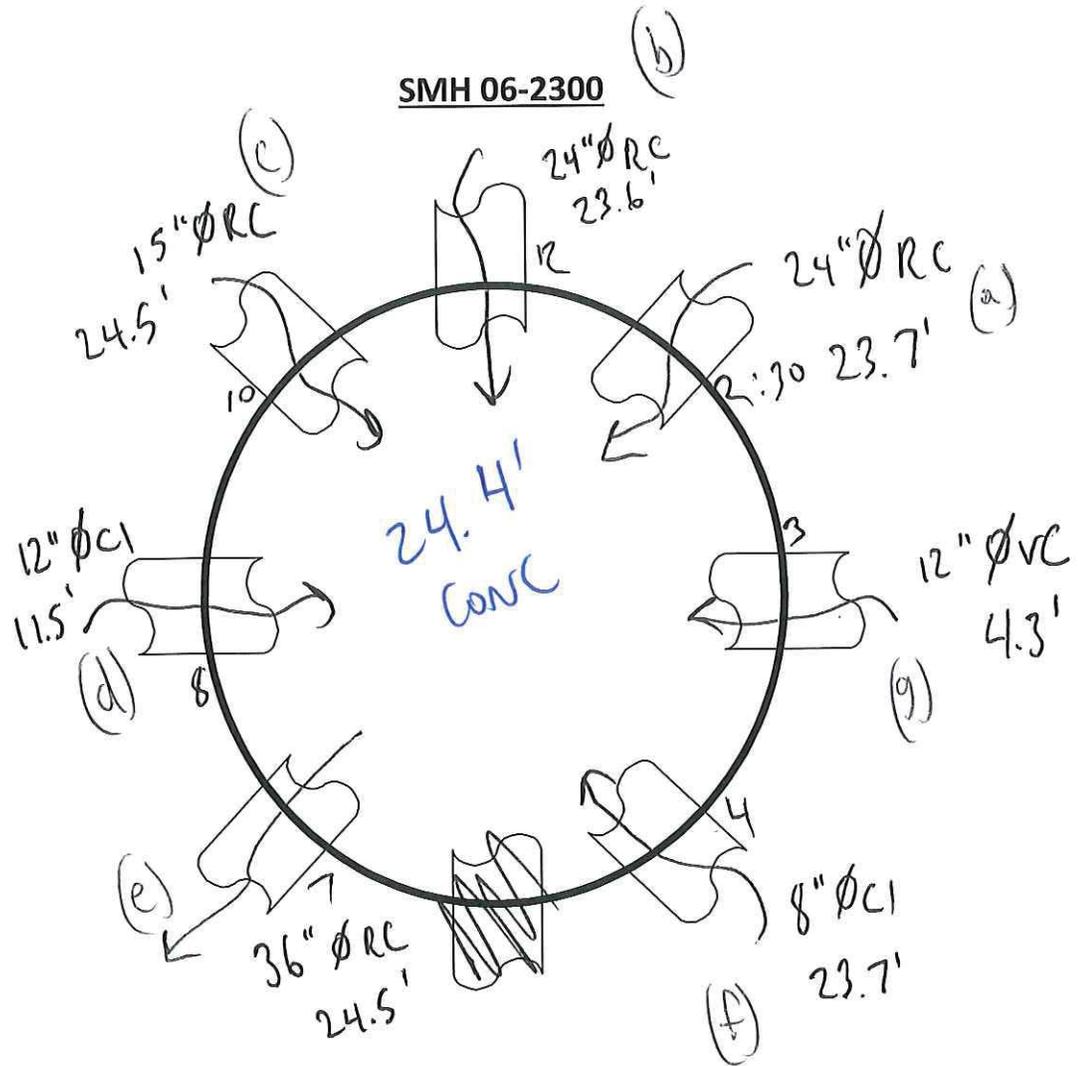
Housing:	7	Casting:	8
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Impact:

Root Intrusion:	NO
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Comments:

Map cracking on chimney. The map cracking has not appeared to affect the pipes coming into and out of the structure.



Comments:

SMH 06-2300

1: Picture at a Distance



2: Lid



3: Top View



4: Map Cracking



5: Map Cracking



6: Map Cracking



SMH 06-2300

7: Map Cracking



8: 8" CI Pipe, 23.7 Ft. Invert, 4 O'Clock



9: 8" CI Pipe, 23.7 Ft. Invert, 4 O'Clock



10: 12" CI Pipe, 11.5 Ft. Invert, 8 O'Clock



11: 12" CI Pipe, 11.5 Ft. Invert, 8 O'Clock

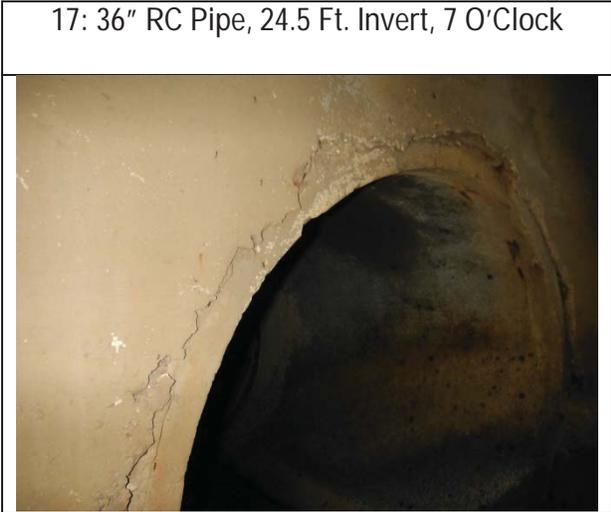
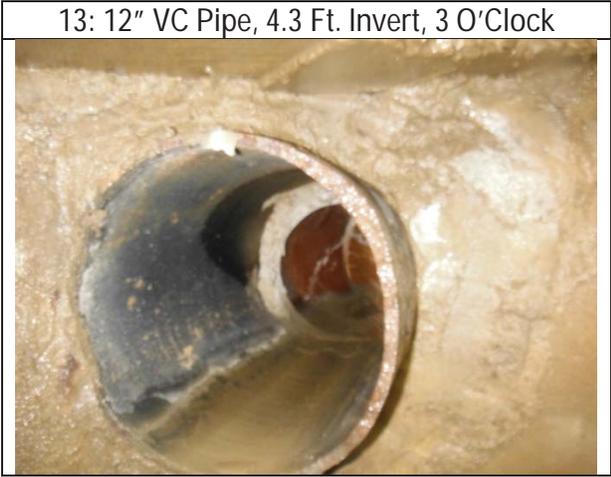


12: 12" VC Pipe, 4.3 Ft. Invert, 3 O'Clock



**Storm Sewer Inspection Reports**

SMH 06-2300



Date:	2/6/13	Time:	12:25 PM	Weather:	41F Sunny
Outfall System:	06	Structure ID:	2400	Shape:	ROUND
Structure Type:	SMH	General Appraisal:	7	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	21.7'	Water Depth:	1"
Housing Material:	CONC				
Location:	Intersection of Road K and Road M. Between building 88 and 89.				

Pipe Data:

ID:	a
CLOCK POS.:	3
SIZE:	24"
MATERIAL:	RC
DEPTH:	21.7'
PHOTO:	9

ID:	b
CLOCK POS.:	11:30
SIZE:	10"
MATERIAL:	VC
DEPTH:	14.3'
PHOTO:	8

ID:	c
CLOCK POS.:	7
SIZE:	24"
MATERIAL:	RC
DEPTH:	21.8'
PHOTO:	10

ID:	d
CLOCK POS.:	5
SIZE:	6"
MATERIAL:	VC
DEPTH:	5.1'
PHOTO:	4,5

ID:	e
CLOCK POS.:	DOES NOT EXIST
SIZE:	N/A
MATERIAL:	N/A
DEPTH:	N/A
PHOTO:	N/A

ID:	f
CLOCK POS.:	12
SIZE:	8"
MATERIAL:	VC
DEPTH:	4.0'
PHOTO:	6

ID:	g
CLOCK POS.:	12:30
SIZE:	10"
MATERIAL:	PVC
DEPTH:	15.6'
PHOTO:	7

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	7	Casting:	8
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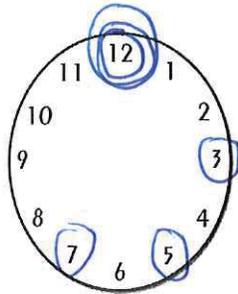
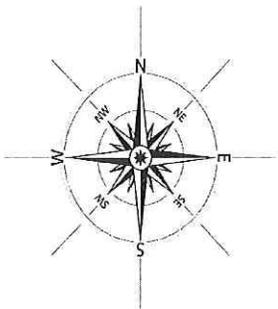
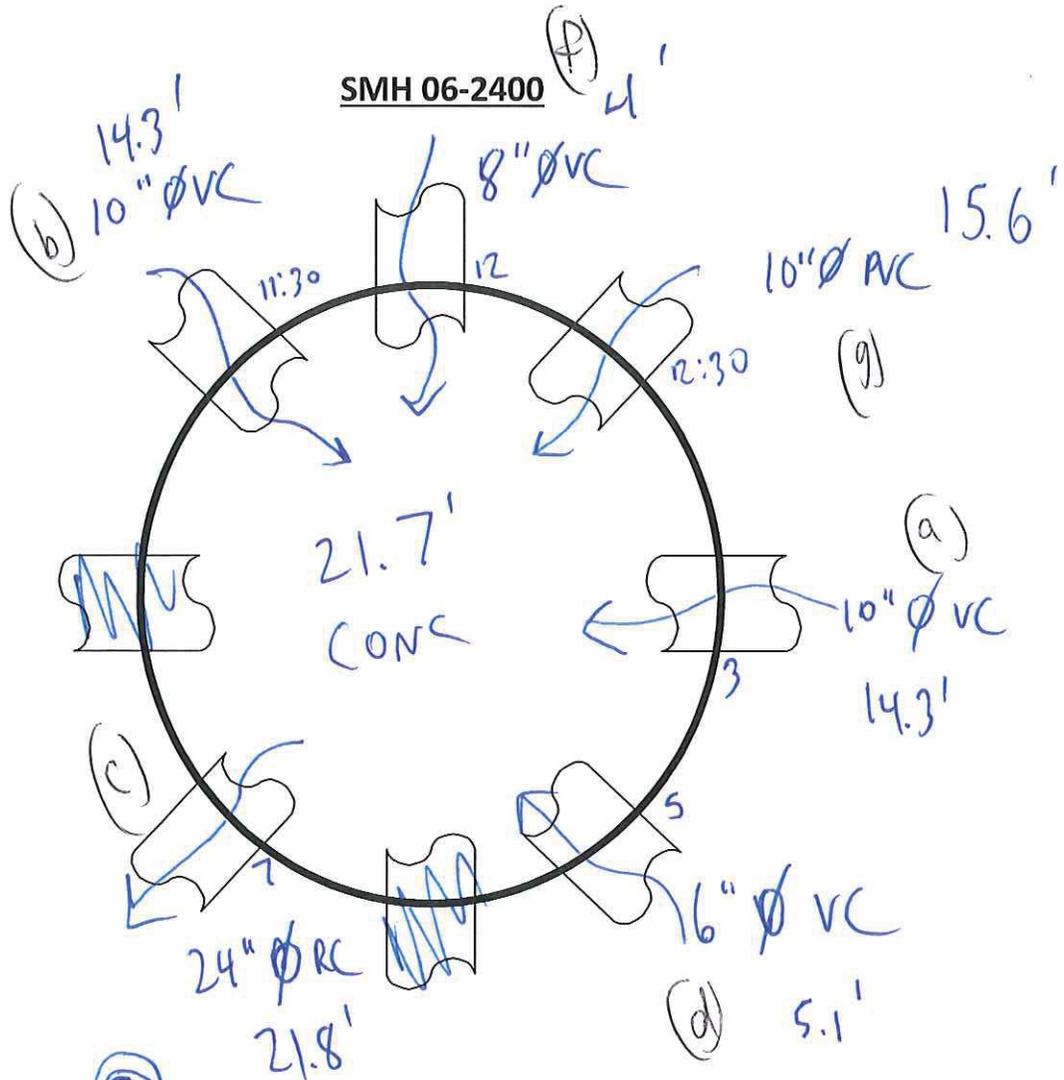
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid labeled "SEWER."

Top step delaminated 10%. At 1 o'clock position, concrete is "crumbled away." 1" high x 6" deep x 1'-0" around circumference.



Comments:

SMH 06-2400

1: Picture at a Distance



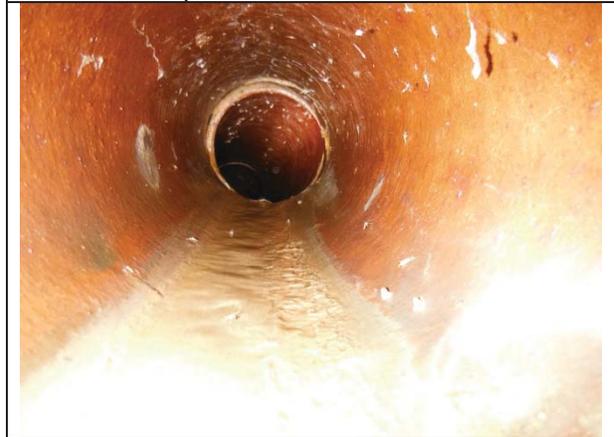
2: Lid



3: Top View



4: 6" VC Pipe, 5.1 Ft. Invert, 12:30 Position



5: 6" VC Pipe, 5.1 Ft. Invert, 12:30 Position

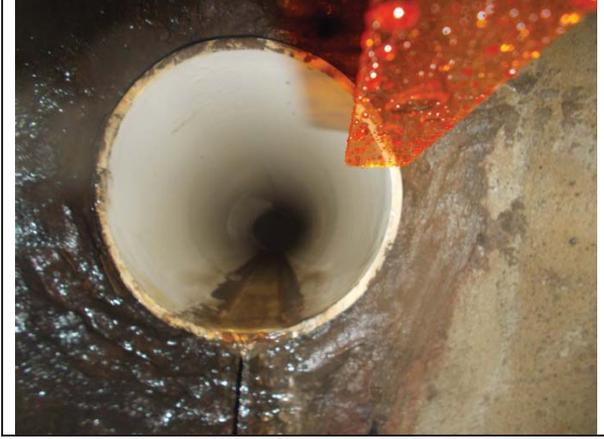


6: 8" VC Pipe, 4 Ft. Invert, 12 O'Clock



SMH 06-2400

7: 10" PVC Pipe, 15.6 Ft. Invert, 12:30 Position



8: 10" VC Pipe, 14.3 Ft. Invert, 11:30 Position



9: 24" RC Pipe, 21.7 Ft. Invert, 3 O'Clock



10: 24" RC Pipe, 21.8 Ft. Invert, 7 O'Clock



Date:	2/6/13	Time:	12:05 PM	Weather:	35F Sunny
Outfall System:	06	Structure ID:	2600	Shape:	ROUND
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	19.8'	Water Depth:	1"
Housing Material:	CONC				
Location:	Road K near building 87.				

Pipe Data:

ID:	a
CLOCK POS.:	4
SIZE:	12"
MATERIAL:	RC
DEPTH:	19.3'
PHOTO:	8

ID:	b
CLOCK POS.:	10
SIZE:	18"
MATERIAL:	RC
DEPTH:	20.1'
PHOTO:	7

ID:	c
CLOCK POS.:	2
SIZE:	10"
MATERIAL:	PVC
DEPTH:	5.9'
PHOTO:	4,5

ID:	d
CLOCK POS.:	1
SIZE:	18"
MATERIAL:	RC
DEPTH:	19'
PHOTO:	6

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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Impact:

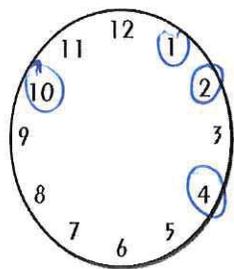
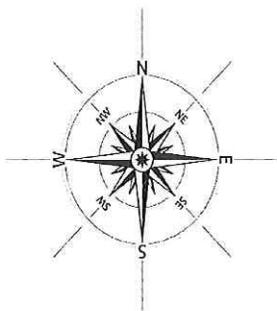
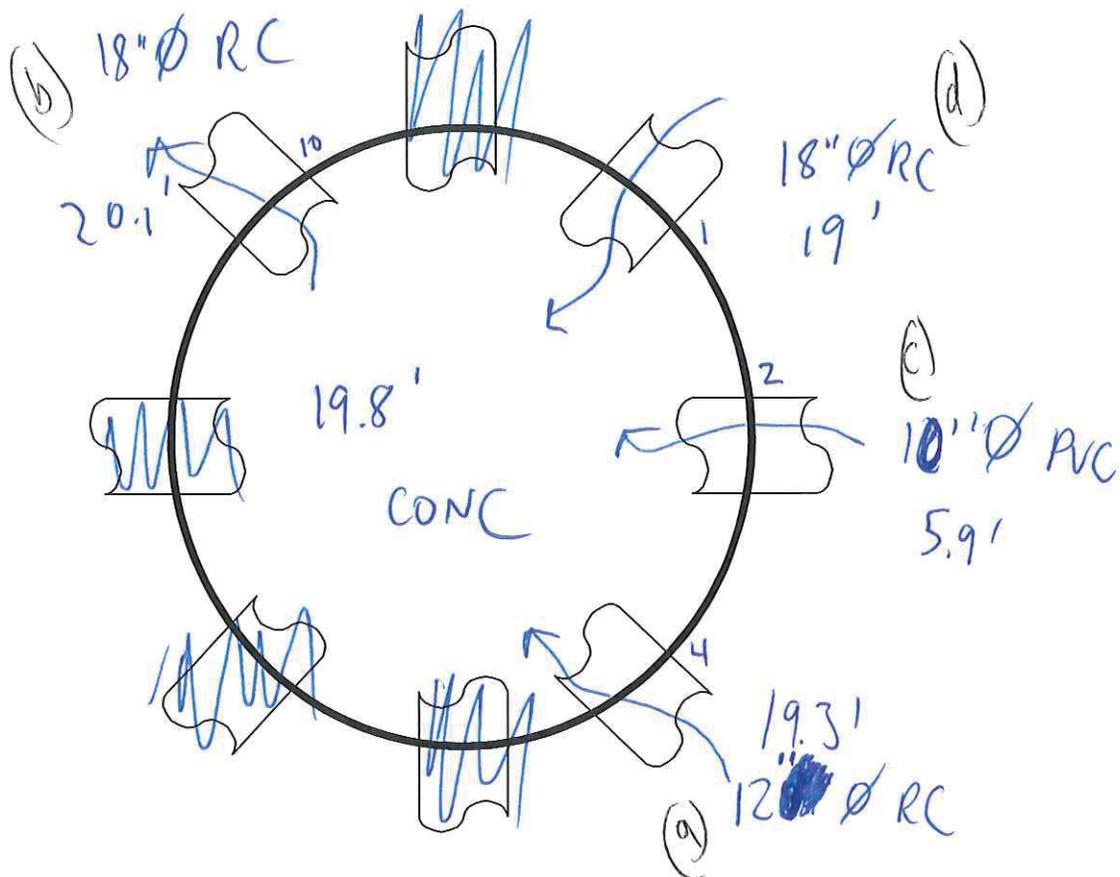
Root Intrusion:	NO
-----------------	----

Comments:

Lid labeled "SEWER."

There is a lot of sediment present in picture 7 of the photo report. Approximately, 25% of the pipe is filled with sediment and debris. Please refer to the picture report for details.

**SMH 06-2600**



Comments:

SMH 06-2600

1: Picture at a Distance



2: Top View



3: Lid



4: 10 INCH PVC - 5.9 FT INVERT - 2 O'CLOCK POSITION



5: 10 INCH PVC - 5.9 FT INVERT - 2 O'CLOCK POSITION



6: 18 INCH RC - 19 FT INVERT - 1 O'CLOCK POSITION



SMH 06-2600

7: 18 INCH RC - 20.1 FT INVERT - 10 O'CLOCK  
POSITION



8: 12 INCH RC - 19.3 FT INVERT - 4 O'CLOCK  
POSITION



Date:	2/6/13	Time:	11:05 AM	Weather:	34 Sunny
Outfall System:	06	Structure ID:	2700	Shape:	ROUND
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	16.7'	Water Depth:	0"
Housing Material:	CONC				
Location:	Sidewalk north of Building 106. Between Building and substation by guardrail.				

Pipe Data:

ID:	a
CLOCK POS.:	4
SIZE:	18"
MATERIAL:	RC
DEPTH:	16.7'
PHOTO:	8,9

ID:	b
CLOCK POS.:	7
SIZE:	18"
MATERIAL:	RC
DEPTH:	16.6'
PHOTO:	7

ID:	c
CLOCK POS.:	10
SIZE:	18"
MATERIAL:	VC
DEPTH:	6.5'
PHOTO:	10,11

ID:	N/A
CLOCK POS.:	5
SIZE:	6"
MATERIAL:	IRON
DEPTH:	2.7'
PHOTO:	5,6

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
----------	---	----------	---

Impact:

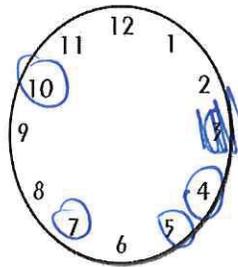
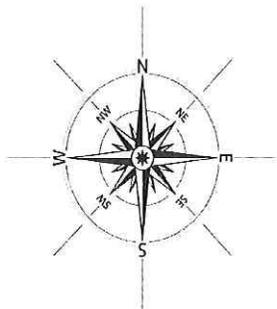
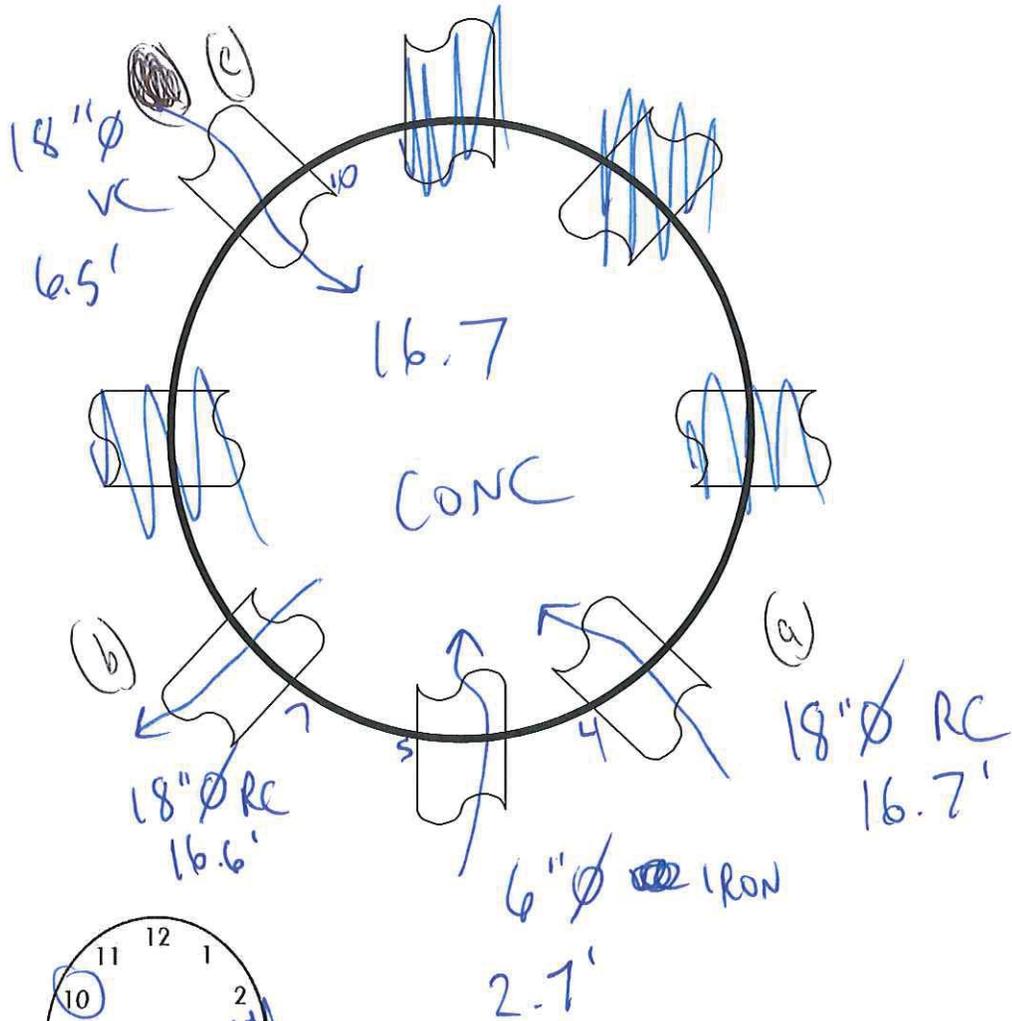
Root Intrusion:	NO
-----------------	----

Comments:

Lid says "SEWER."

Evidence of vertical separation is present in the 6" iron pipe located 2.7 feet below grade and at the 5 o'clock position.

SMH 06-2700



Comments:

SMH 06-2700

1: Picture at a Distance



2: Top View



3: Lid



4: 6 INCH IRON - 2.7 FT INVERT - 5 O'CLOCK POSITION



5: 6 INCH IRON - 2.7 FT INVERT - 5 O'CLOCK POSITION (2)



6: 18 INCH RC - 16.6 FT INVERT - 7 O'CLOCK POSITION



SMH 06-2700

7: 18 INCH RC - 16.7 FT INVERT - 4 O'CLOCK POSITION



8: 18 INCH RC - 16.7 FT INVERT - 4 O'CLOCK POSITION (2)



9: 18 INCH VC - 6.5 FT INVERT - 10 O'CLOCK POSITION



10: 18 INCH VC - 6.5 FT INVERT - 10 O'CLOCK POSITION (2)



Date:	2/7/13	Time:	7:45 AM	Weather:	31F Cloudy
Outfall System:	06	Structure ID:	2800	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	16.1'	Water Depth:	1"
Housing Material:	CONC				
Location:	Inside substation G, south corner by Taylor Road				

Pipe Data:

ID:	a
CLOCK POS.:	1
SIZE:	15"
MATERIAL:	RC
DEPTH:	15.9'
PHOTO:	5

ID:	b
CLOCK POS.:	5
SIZE:	12"
MATERIAL:	VC
DEPTH:	4.5'
PHOTO:	4

ID:	c
CLOCK POS.:	10
SIZE:	18"
MATERIAL:	RC
DEPTH:	15.9'
PHOTO:	7

ID:	d
CLOCK POS.:	7
SIZE:	15"
MATERIAL:	RC
DEPTH:	15.9'
PHOTO:	6

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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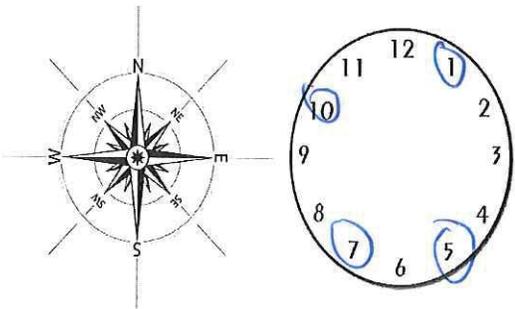
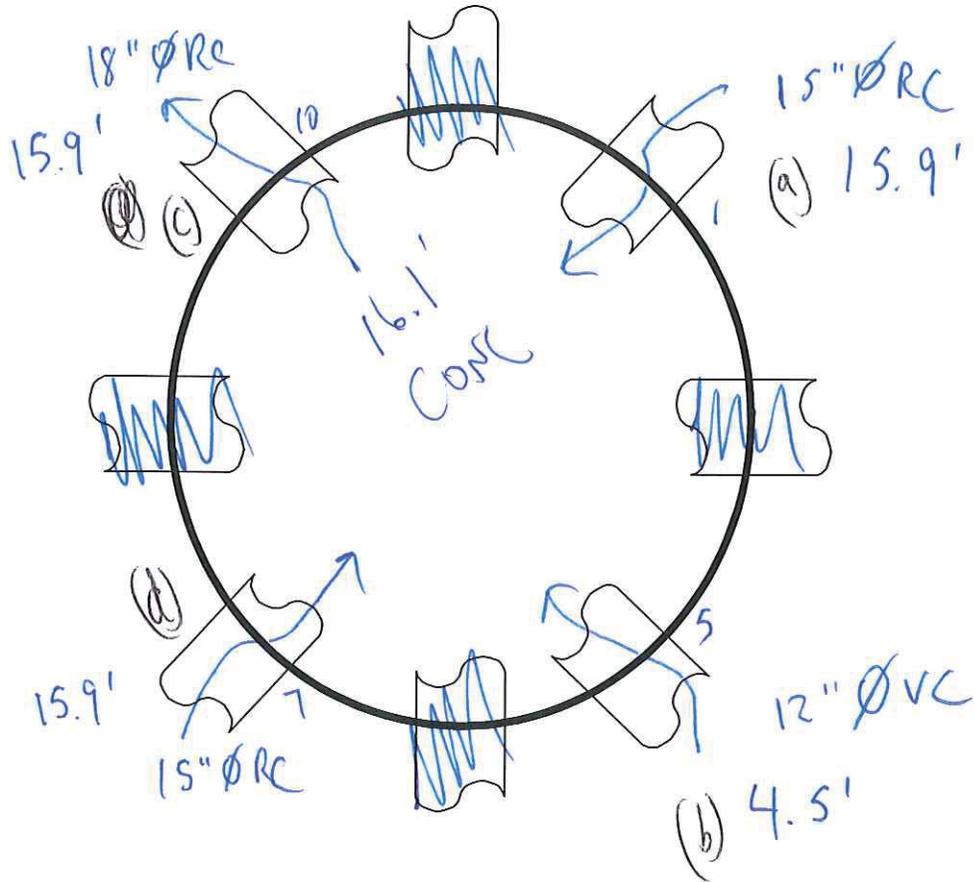
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid labeled "SEWER."  
 Steam in the manhole due to the cold temperatures.

SMH 06-2800



Comments:

SMH 06-2800

1: Picture at a Distance



2: Top View



3: Lid



4: 12 INCH VC - 4.5 FT INVERT - 5 O'CLOCK POSITION



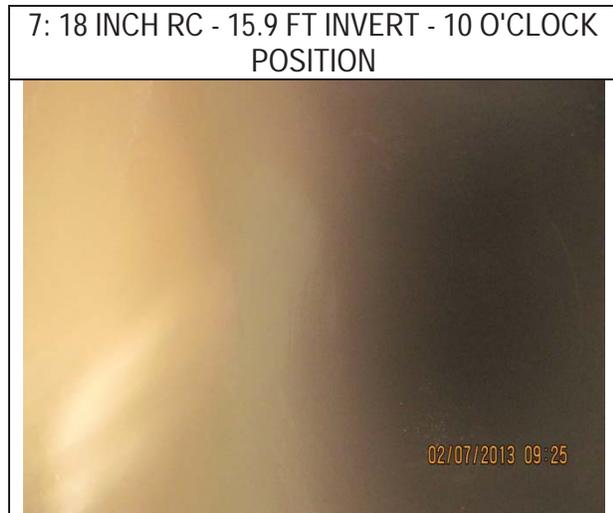
5: 15 INCH RC - 15.9 FT INVERT - 1 O'CLOCK POSITION



6: 15 INCH RC - 15.9 FT INVERT - 7 O'CLOCK POSITION



SMH 06-2800



**BARR & PREVOST**

ENGINEERING | TESTING | SURVEYING

2771 Scranton Road  
Cleveland Ohio 44113

# Inspection Reports

## Outfall No. 008

Date:	2/5/13	Time:	3:30 PM	Weather:	36F Sunny
Outfall System:	08	Structure ID:	0000	Shape:	ROUND
Structure Type:	HW	General Appraisal:	8	Diameter:	60"
Casting labeled "STORM":	N/A	Wall Height:	6.5'	Water Depth:	1"
Housing Material:	CONC				
Location:	Near Building 135				

Pipe Data:

ID:	a
CLOCK POS.:	2
SIZE:	60"
MATERIAL:	RC
DEPTH:	6.5'
PHOTO:	1,2,3

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

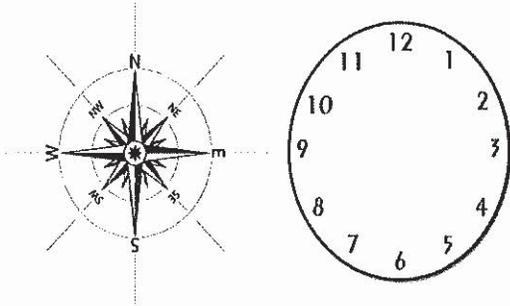
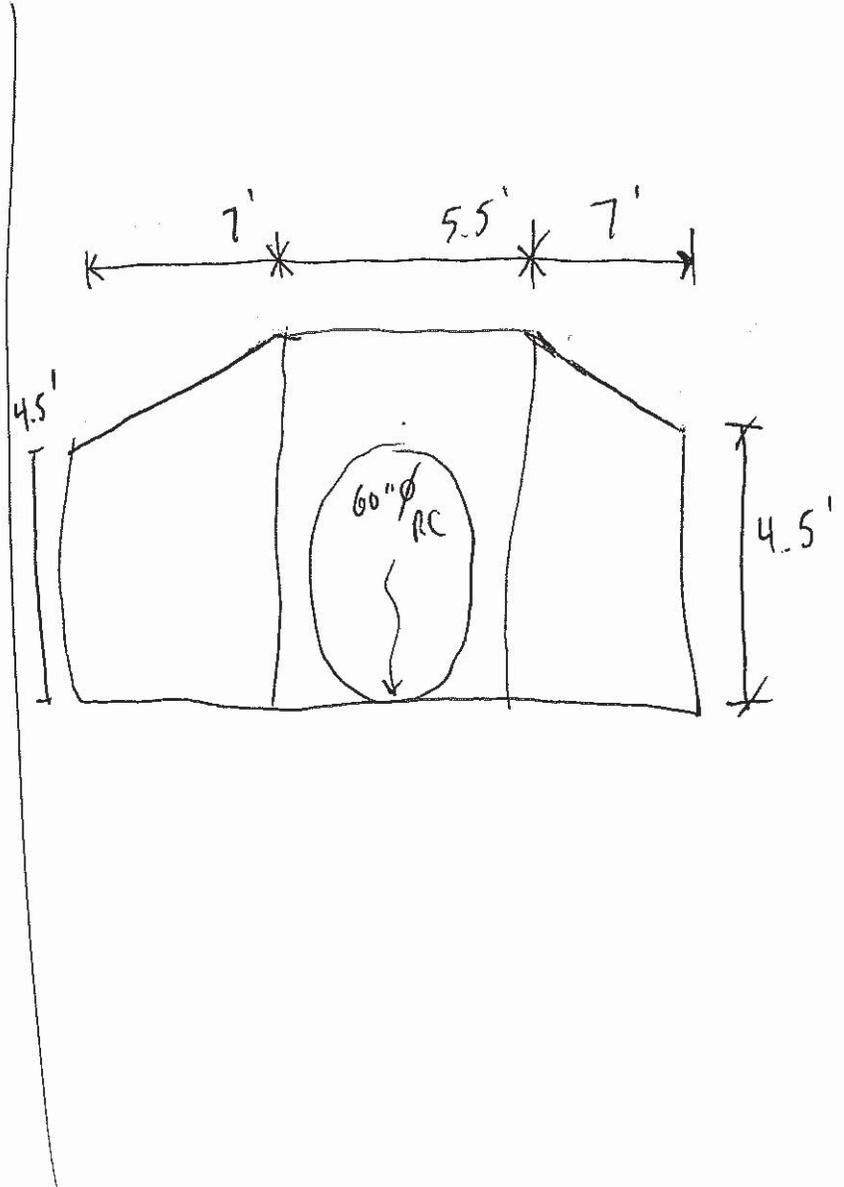
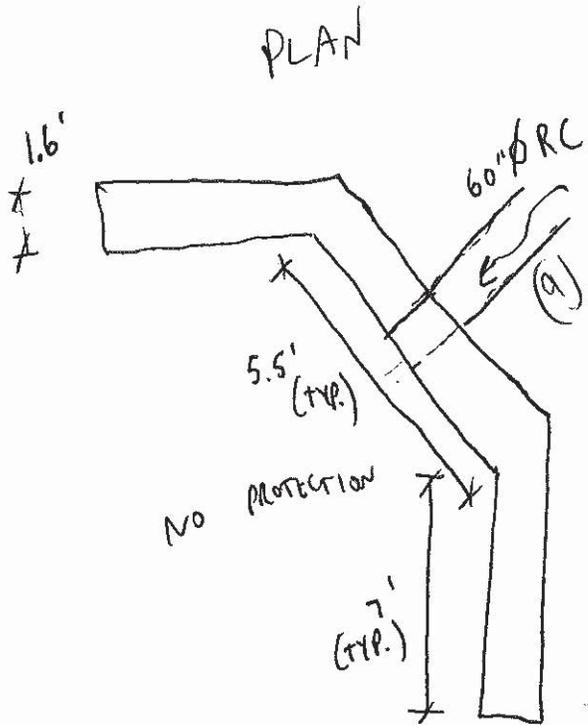
Housing:	8	Casting:	N/A
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Impact:

Root Intrusion:	NO
-----------------	----

Comments:

HW 08-0000



Comments:

HW 08-0000

1: No. 8 Outfall



2: 60" Pipe at Outfall



3: Picture of Outfall



Date:	2/14/13	Time:	10:10 AM	Weather:	30F Cloudy
Outfall System:	08	Structure ID:	1100	Shape:	Rect
Structure Type:	SMH	General Appraisal:	8	Diameter:	N/A
Casting labeled "STORM":	N/A	Invert:	25.8'	Water Depth:	3'
Housing Material:	CONC				
Location:	Near outfall 8 and BLDG 135				

Pipe Data:

ID:	a
CLOCK POS.:	10
SIZE:	60"
MATERIAL:	RC
DEPTH:	25.4'
PHOTO:	8,9

ID:	b
CLOCK POS.:	4
SIZE:	60"
MATERIAL:	RC
DEPTH:	8.1'
PHOTO:	6,7

ID:	c
CLOCK POS.:	1
SIZE:	8"
MATERIAL:	CM
DEPTH:	17.5'
PHOTO:	2,3

ID:	d
CLOCK POS.:	9
SIZE:	8"
MATERIAL:	CM
DEPTH:	17.8'
PHOTO:	4,5

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	N/A
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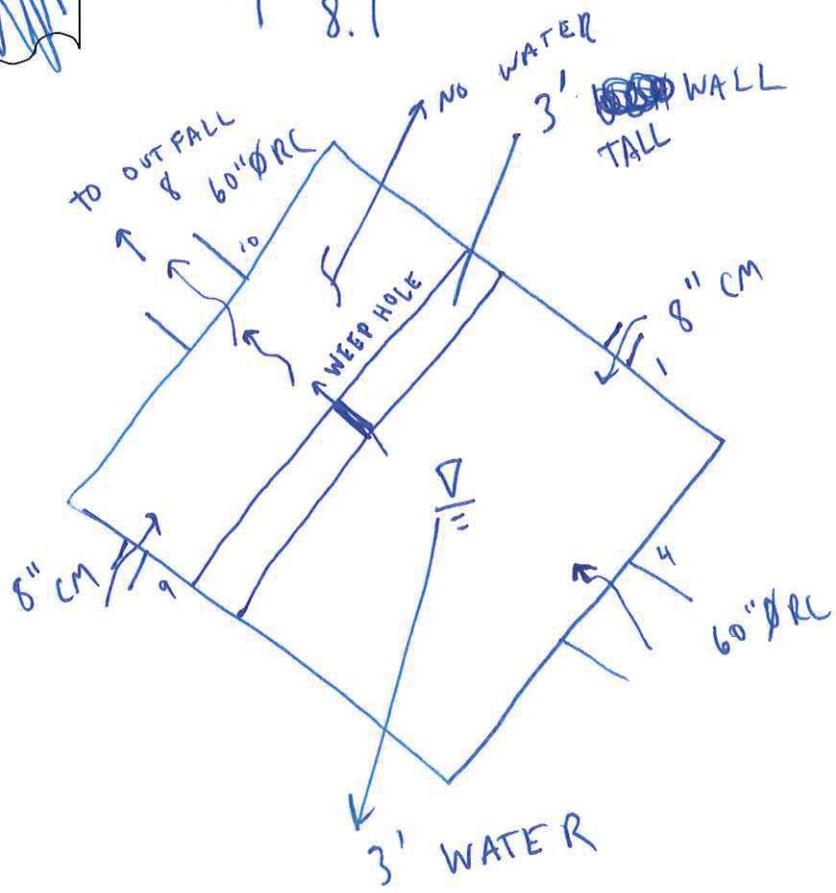
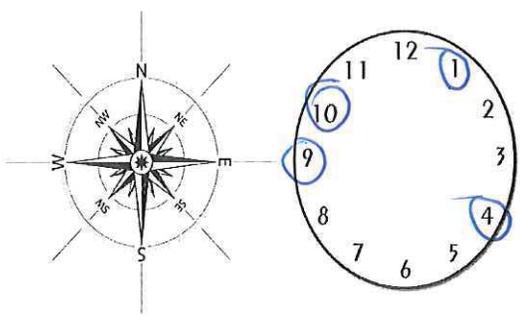
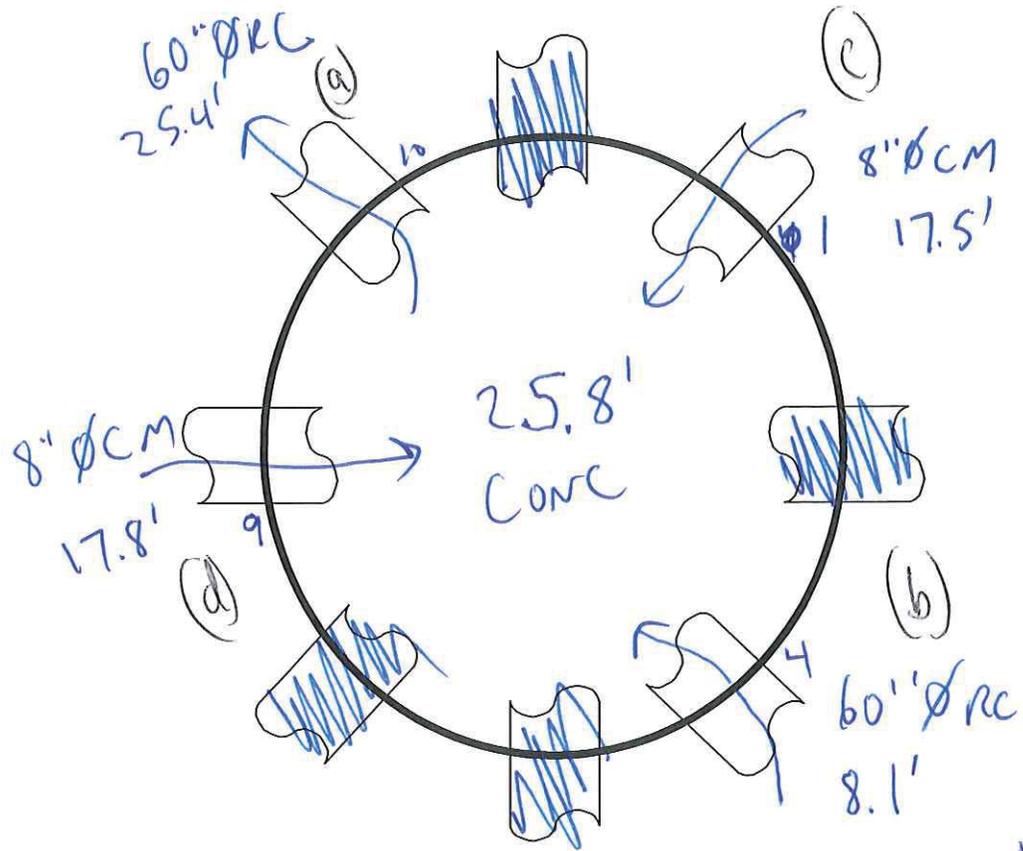
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Structure is 20 or 25 feet above ground. It is more convenient to take measurements by entering the manhole through Outfall 08. We did not reach the top of the structure to inspect the manhole lid.

SMH 08-1100



Comments:

SMH 08-1100

1: Picture of structure above ground



2: 8 INCH CM - 17.5 FT INVERT - 1 O'CLOCK POSITION



3: 8 INCH CM - 17.5 FT INVERT - 1 O'CLOCK POSITION (2)



4: 8 INCH CM - 17.8 FT INVERT - 9 O'CLOCK POSITION



5: 8 INCH CM - 17.8 FT INVERT - 9 O'CLOCK POSITION (2)



6: 60 INCH RC - 8.1 FT INVERT - 4 O'CLOCK POSITION



SMH 08-1100

7: 60 INCH RC - 8.1 FT INVERT - 4 O'CLOCK  
POSITION (2)



8: 60 INCH RC - 25.8 FT INVERT - 10 O'CLOCK  
POSITION



9: 60 INCH RC - 25.8 FT INVERT - 10 O'CLOCK  
POSITION (2)



Date:	2/5/13	Time:	3:10 PM	Weather:	35F Sunny
Outfall System:	08	Structure ID:	1230	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	YES	Invert:	12.6'	Water Depth:	2"
Housing Material:	CONC				
Location:	Near BLDG 94				

Pipe Data:

ID:	a
CLOCK POS.:	10
SIZE:	60"
MATERIAL:	RC
DEPTH:	13.8'
PHOTO:	7,8

ID:	b
CLOCK POS.:	4
SIZE:	60"
MATERIAL:	RC
DEPTH:	12.7'
PHOTO:	3,4

ID:	c
CLOCK POS.:	7
SIZE:	24"
MATERIAL:	PVC
DEPTH:	8.6'
PHOTO:	5,6

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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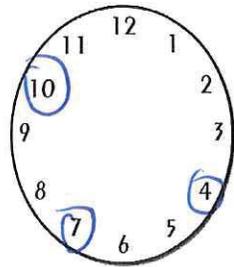
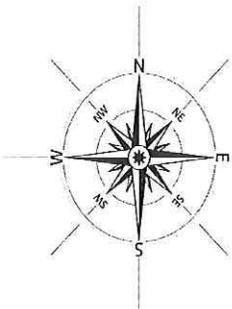
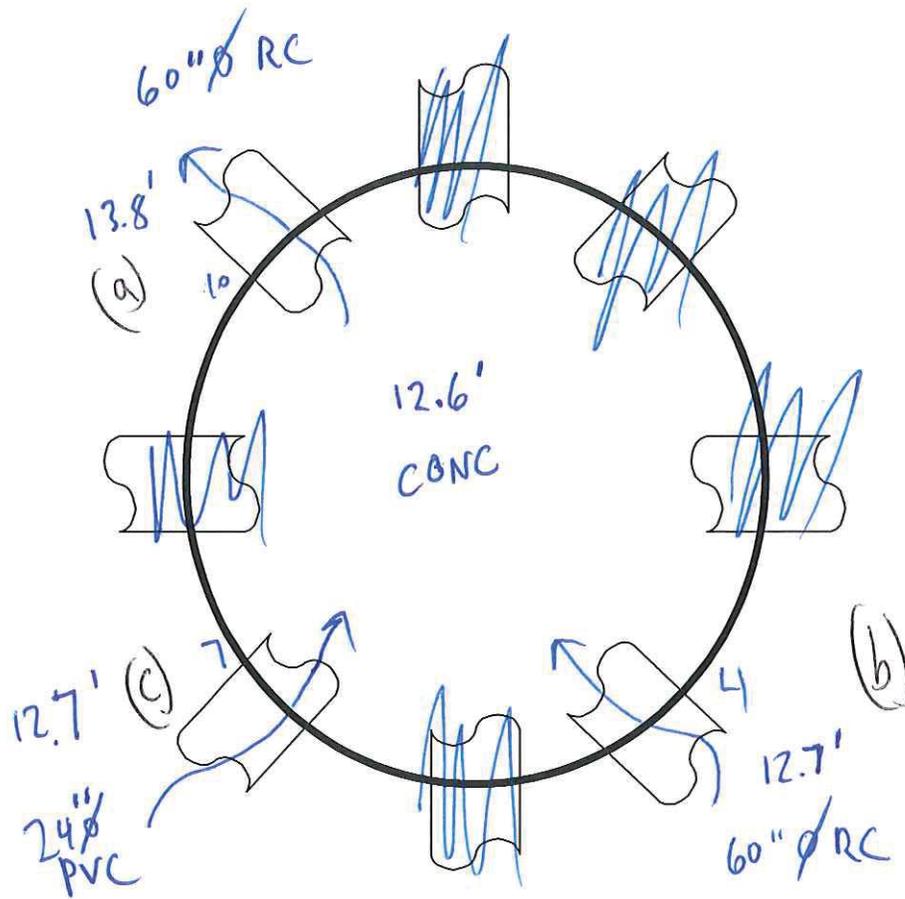
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid is solid (not grate). Casting is off alignment by 2" at 10 and 4 o'clock positions.

**SMH 08-1230**



Comments:

SMH 08-1230

1: Casting



2: Picture facing North



3: 60" RC, 4 o'clock position



4: 60" RC, 4 o'clock position



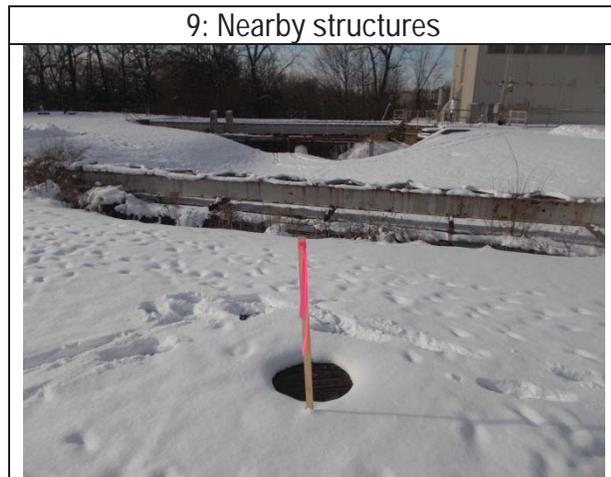
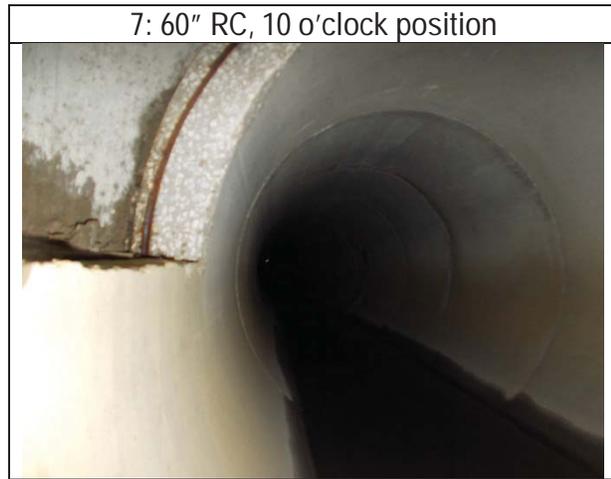
5: 24" PVC, 7 o'clock position



6: 24" PVC, 7 o'clock position



SMH 08-1230



Date:	2/5/13	Time:	2:20 PM	Weather:	35F Sunny
Outfall System:	08	Structure ID:	1400	Shape:	RECT
Structure Type:	SMH	General Appraisal:	8	Diameter:	1.6'
Casting labeled "STORM":	NO	Invert:	13.8'	Water Depth:	2"
Housing Material:	CONC				
Location:	Near BLDG 94 along Walcott Road				

Pipe Data:

ID:	a
CLOCK POS.:	9
SIZE:	60"
MATERIAL:	RC
DEPTH:	12.6'
PHOTO:	6

ID:	b
CLOCK POS.:	3
SIZE:	60"
MATERIAL:	RC
DEPTH:	10.7'
PHOTO:	4,5

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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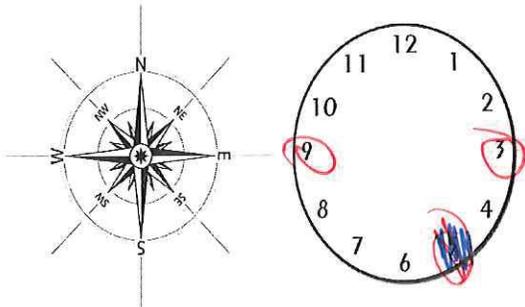
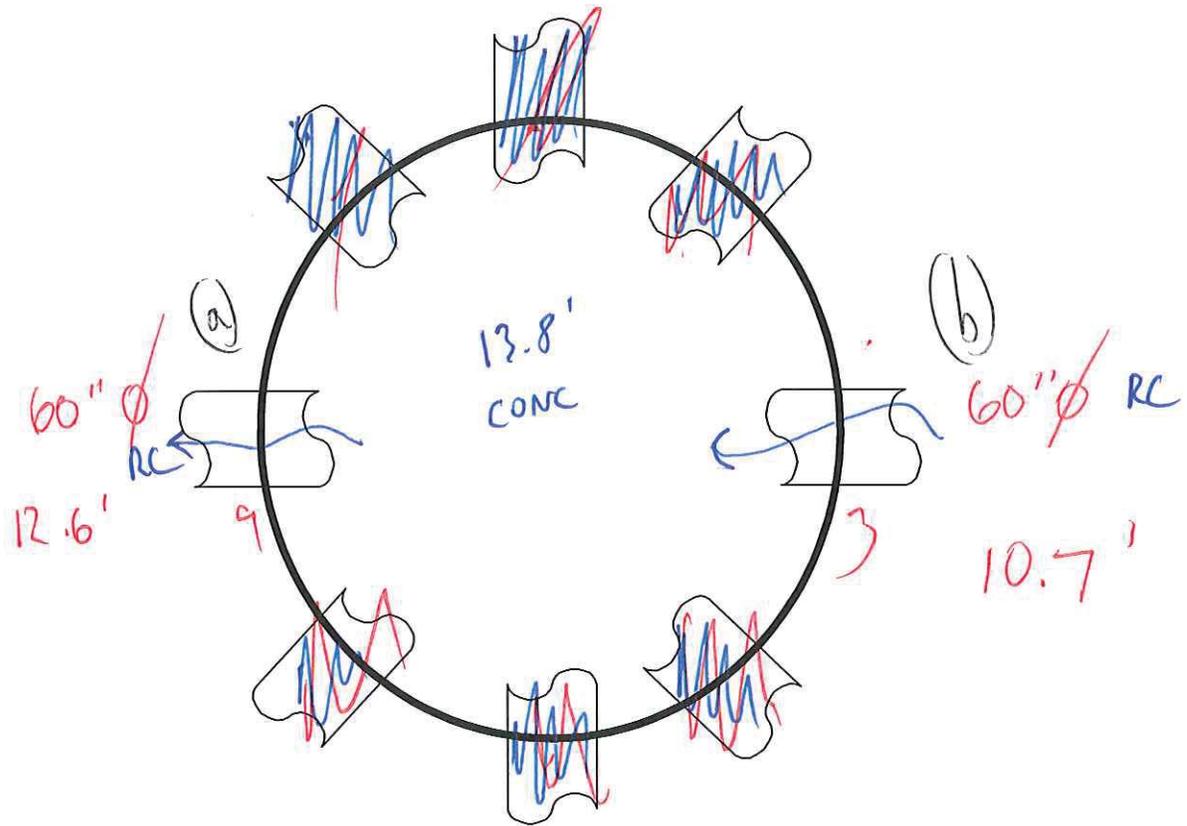
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid is solid – LABELLED "WATER METER."

**SMH 08-1400**



Comments:

SMH 08-1400

1: Casting



2: Picture facing North



3: Top view



4: 60" RC, 3 o'clock position



5: 60" RC, 3 o'clock position



6: 60" RC, 9 o'clock position



-Date:	2/5/13	Time:	1:50 PM	Weather:	36F Cloudy
Outfall System:	08	Structure ID:	1700	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	3'
Casting labeled "STORM":	NO	Invert:	9.2'	Water Depth:	2"
Housing Material:	Brick				
Location:	Middle of Walcott Road near BLDG 86				

Pipe Data:

ID:	a
CLOCK POS.:	3
SIZE:	36"
MATERIAL:	RC
DEPTH:	8.8'
PHOTO:	7,8

ID:	b
CLOCK POS.:	5
SIZE:	36"
MATERIAL:	RC
DEPTH:	9.5'
PHOTO:	9,10

ID:	c
CLOCK POS.:	10
SIZE:	60"
MATERIAL:	RC
DEPTH:	9.7'
PHOTO:	13

ID:	d
CLOCK POS.:	12
SIZE:	12"
MATERIAL:	VC
DEPTH:	7.8'
PHOTO:	5,6

ID:	e
CLOCK POS.:	8
SIZE:	8"
MATERIAL:	PVC
DEPTH:	6.5'
PHOTO:	11,12

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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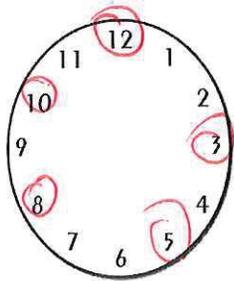
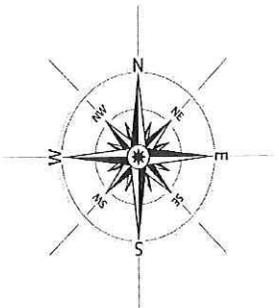
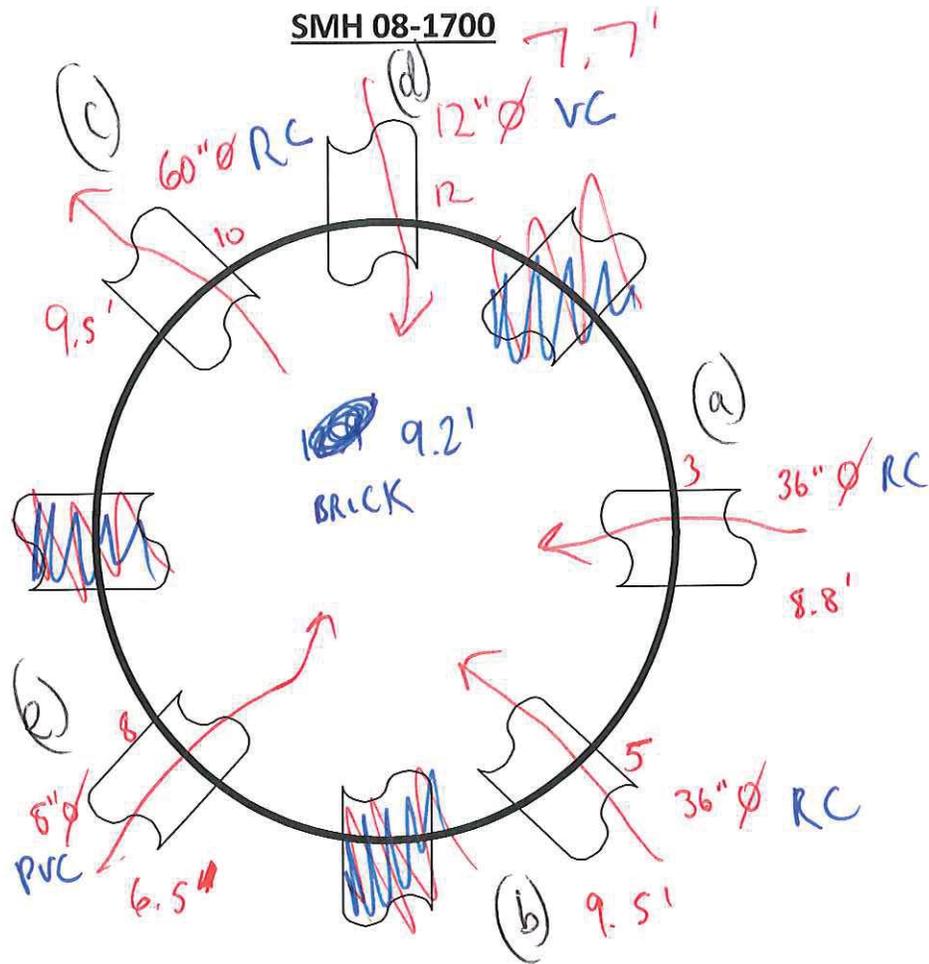
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid is solid, labeled "EAST JORDAN IRON WORKS, MADE IN USA."  
 Conduit from 08-3000 is 36" RC and not 120" as labeled in basemap.

**SMH 08-1700**



Comments:

SMH 08-1700

1: Lid



2: Picture at a distance



3: Top view



4: Incoming conduits



5: 12" VC, 12 o'clock position



6: 12" VC, 12 o'clock position



SMH 08-1700

7: 36" RC, 3 o'clock position



8: 36" RC, 3 o'clock position



9: 36" RC, 5 o'clock position



10: 36" RC, 5 o'clock position



11: 8" PVC, 8 o'clock position



12: 8" PVC, 8 o'clock position



SMH 08-1700

13: 60" RC, 10 o'clock position



Date:	2/5/13	Time:	1:20 PM	Weather:	32F Sunny
Outfall System:	08	Structure ID:	3000	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	8.5'	Water Depth:	1"
Housing Material:	CONC				
Location:	Near main BLDG entrance 86				

Pipe Data:

ID:	a
CLOCK POS.:	12
SIZE:	12"
MATERIAL:	CI
DEPTH:	5.8'
PHOTO:	5,6

ID:	b
CLOCK POS.:	3
SIZE:	36"
MATERIAL:	RC
DEPTH:	8.7'
PHOTO:	11,12

ID:	c
CLOCK POS.:	9
SIZE:	36"
MATERIAL:	RC
DEPTH:	8.9'
PHOTO:	9,10

ID:	d
CLOCK POS.:	6
SIZE:	8"
MATERIAL:	VC
DEPTH:	3.6'
PHOTO:	7,8

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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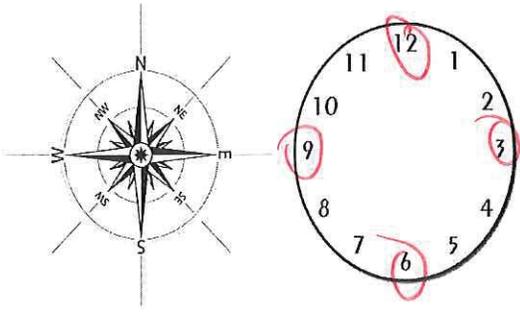
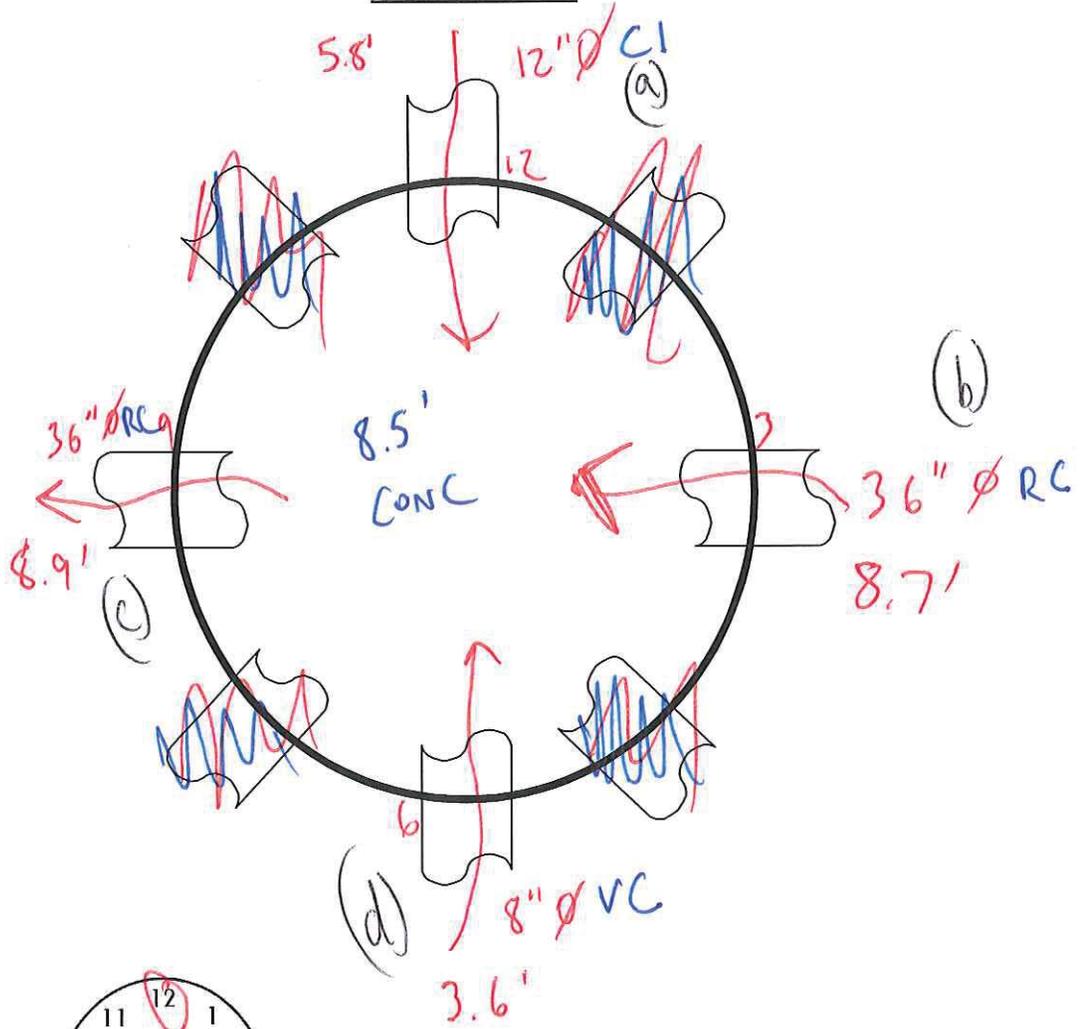
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid is solid, reads "THE MADISON FDRY CO, CLEVELAND O".  
 Steps have failed- 90% section loss.  
 The 8" VC pipe located 3.6 feet down and at 6 O'clock position appears to be 70% blocked with sediment.  
 Inverts b and c are shown as 120" on basemap but were found to be 36" diameter in field.

**SMH 08-3000**



Comments:

SMH 08-3000

1: Lid



2: Nearby Building



3: Nearby Building



4: Top View



5: 12" CI Pipe



6: 12" CI Pipe



SMH 08-3000

7: 8" VC Pipe



8: 8" VC Pipe



9: 36" RC Pipe



10: 36" RC Pipe



11: 36" RC Pipe



12: 36" RC Pipe



Date:	2/5/13	Time:	1:00 PM	Weather:	31F Cloudy
Outfall System:	08	Structure ID:	3100	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	8.8'	Water Depth:	1"
Housing Material:	CONC				
Location:	SE corner of BLDG 86				

Pipe Data:

ID:	a
CLOCK POS.:	1
SIZE:	36"
MATERIAL:	RC
DEPTH:	9.2'
PHOTO:	5,6

ID:	b
CLOCK POS.:	10
SIZE:	36"
MATERIAL:	RC
DEPTH:	9.3'
PHOTO:	10,11,12

ID:	c
CLOCK POS.:	5
SIZE:	8"
MATERIAL:	VC
DEPTH:	8.9'
PHOTO:	8,9

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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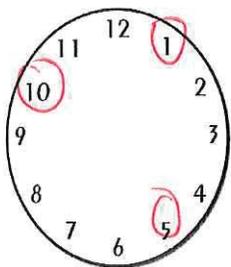
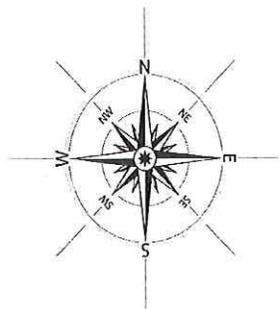
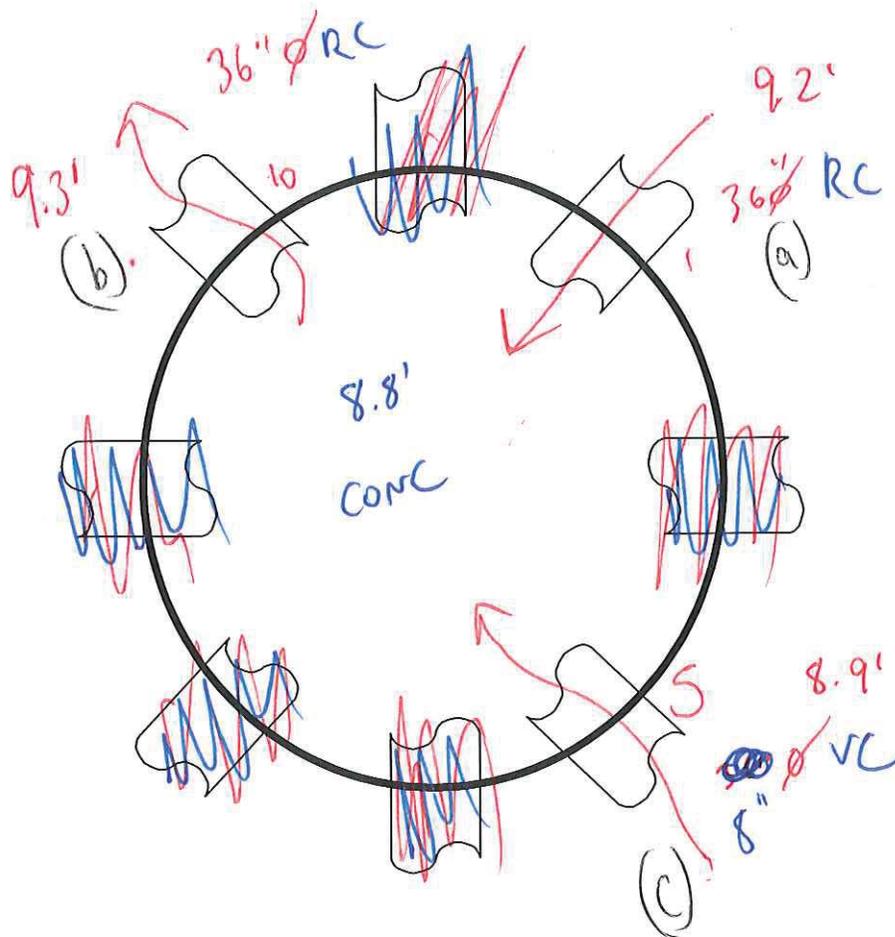
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid is a solid manhole lid. Lid reads "THE MADISON FDRY CO, CLEVELAND O". Steps are rusted and delaminating. Inverts a and b are shown as 120" on basemap but were found to be 36" diameter in field.

**SMH 08-3100**



Comments:

SMH 08-3100

1: Lid



2: Nearby Buildings



3: Nearby Buildings (Taylor and Walcott)



4: Lid



5: Top View



6: 36" RC Pipe



SMH 08-3100

7: 36" RC Pipe



8: 8" VC Pipe



9: 8" VC Pipe



10: 36" RC Pipe



11: 36" RC Pipe



12: 36" RC Pipe



Date:	2/5/13	Time:	11:45 AM	Weather:	29F Cloudy
Outfall System:	08	Structure ID:	3200	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	8.8'	Water Depth:	1"
Housing Material:	CONC				
Location:	East of BLDG 114 along Taylor Road				

Pipe Data:

ID:	a
CLOCK POS.:	1
SIZE:	12"
MATERIAL:	VC
DEPTH:	8.7'
PHOTO:	6,7

ID:	b
CLOCK POS.:	7
SIZE:	36"
MATERIAL:	RC
DEPTH:	9.4'
PHOTO:	8,9

ID:	c
CLOCK POS.:	3
SIZE:	36"
MATERIAL:	RC
DEPTH:	9'
PHOTO:	10,11

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

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CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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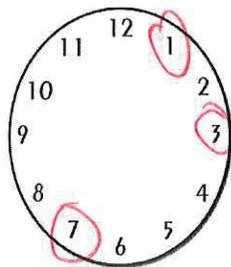
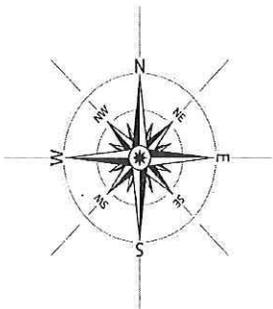
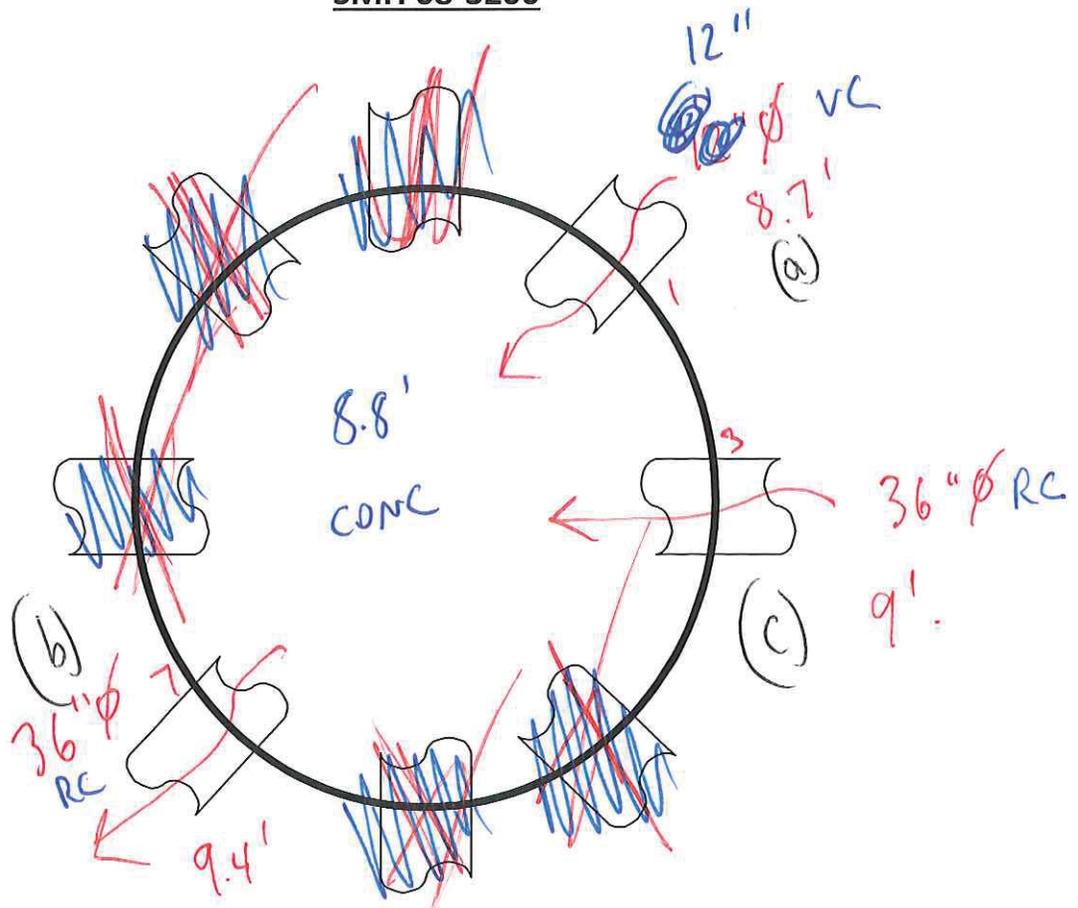
Impact:

Root Intrusion:	NO
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Comments:

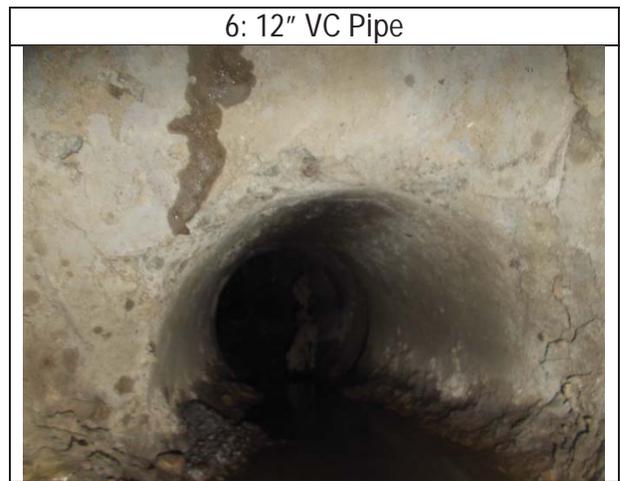
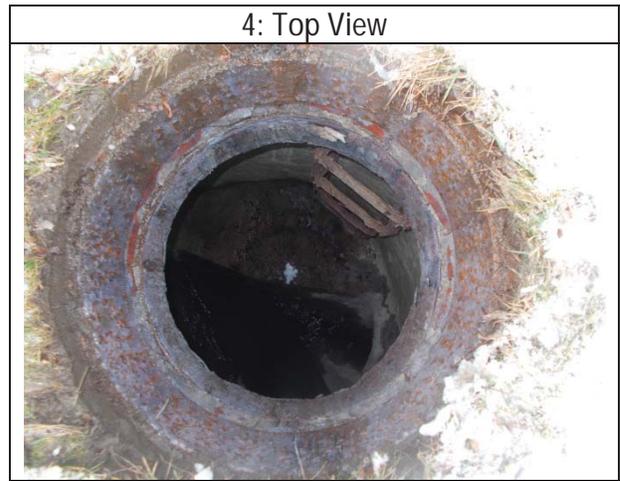
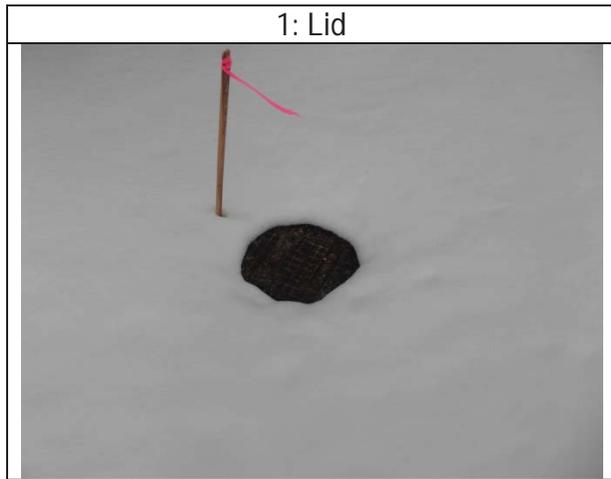
Near wind tunnel networks around BLDG 114  
 Lid is a solid manhole cover.  
 Steps are rusting – metal is delaminating.  
 Invert b is shown as 120" on basemap but was found to be 36" diameter in field.

SMH 08-3200



Comments:

SMH 08-3200



SMH 08-3200

7: 36" RC Pipe



8: 36" RC Pipe



9: 36" RC Pipe



10: 36" RC Pipe



Date:	2/11/13	Time:	12:35 PM	Weather:	41F WINDY
Outfall System:	08	Structure ID:	3300	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	8.7'	Water Depth:	1"
Housing Material:	CONC				
Location:	In front of BLDG 105 near Taylor Road				

Pipe Data:

ID:	a
CLOCK POS.:	2
SIZE:	36"
MATERIAL:	RC
DEPTH:	8.7'
PHOTO:	10,11

ID:	b
CLOCK POS.:	9
SIZE:	36"
MATERIAL:	RC
DEPTH:	8.9'
PHOTO:	12,13

ID:	c
CLOCK POS.:	8:30
SIZE:	10"
MATERIAL:	VC
DEPTH:	5.7'
PHOTO:	8,9

ID:	d
CLOCK POS.:	1
SIZE:	12"
MATERIAL:	DI
DEPTH:	8.1'
PHOTO:	6,7

ID:	e
CLOCK POS.:	7
SIZE:	8"
MATERIAL:	VC
DEPTH:	6.5'
PHOTO:	4,5

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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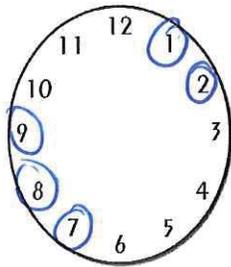
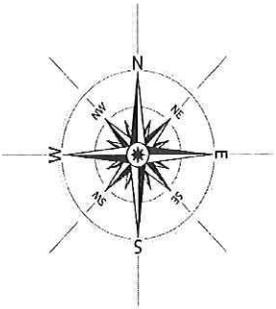
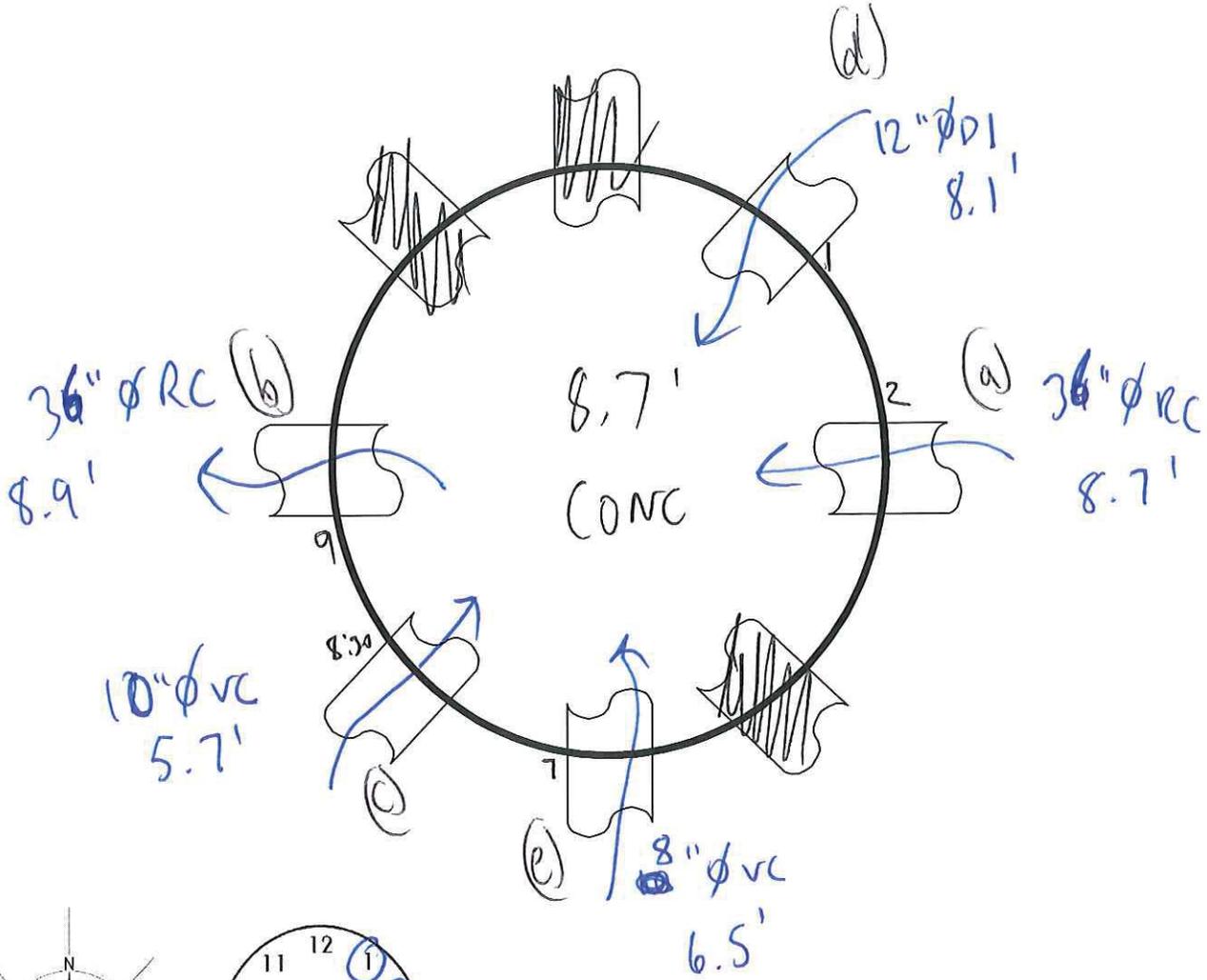
Impact:

Root Intrusion:	NO
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Comments:

Lid is a concave grate, no text.

**SMH 08-3300**



Comments:

SMH 08-3300

1: Picture at a Distance



2: Lid



3: Top View



4: 8" VC Pipe, 6.5 Ft. Invert, 7 O'Clock



5: 8" VC Pipe, 6.5 Ft. Invert, 7 O'Clock



6: 12" DI Pipe, 8.1 Ft. Invert, 1 O'Clock



SMH 08-3300

7: 12" DI Pipe, 8.1 Ft. Invert, 1 O'Clock



8: 10" VC Pipe, 5.7 Ft. Invert, 8:30 Position



9: 10" VC Pipe, 5.7 Ft. Invert, 8:30 Position



10: 36" RC Pipe, 8.7 Ft. Invert, 2 O'Clock



11: 36" RC Pipe, 8.7 Ft. Invert, 2 O'Clock



12: 36" RC Pipe, 8.9 Ft. Invert, 9 O'Clock



SMH 08-3300

13: 36" RC Pipe, 8.9 Ft. Invert, 9 O'Clock



Date:	2/5/13	Time:	11:10AM	Weather:	27F Cloudy
Outfall System:	08	Structure ID:	3400	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.4'
Casting labeled "STORM":	NO	Invert:	10.1'	Water Depth:	1"
Housing Material:	Brick				
Location:	Middle of Parking lot between BLDGS 105 and 34				

Pipe Data:

ID:	a
CLOCK POS.:	DOES NOT EXIST
SIZE:	N/A
MATERIAL:	N/A
DEPTH:	N/A
PHOTO:	N/A

ID:	b
CLOCK POS.:	3
SIZE:	36"
MATERIAL:	RC
DEPTH:	10.1'
PHOTO:	7,8

ID:	c
CLOCK POS.:	1
SIZE:	12"
MATERIAL:	VC
DEPTH:	8.7'
PHOTO:	9,10

ID:	d
CLOCK POS.:	9
SIZE:	36"
MATERIAL:	RC
DEPTH:	10.2'
PHOTO:	5,6

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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Impact:

Root Intrusion:	NO
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Comments:

Casting is labeled "SEWER" but the word is covered in asphalt.

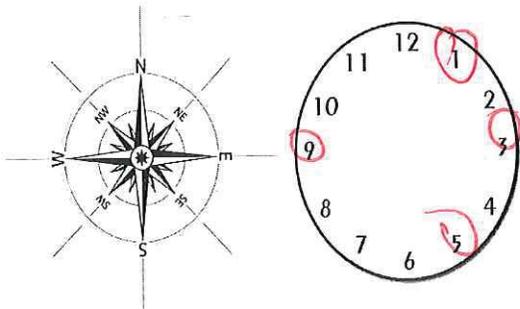
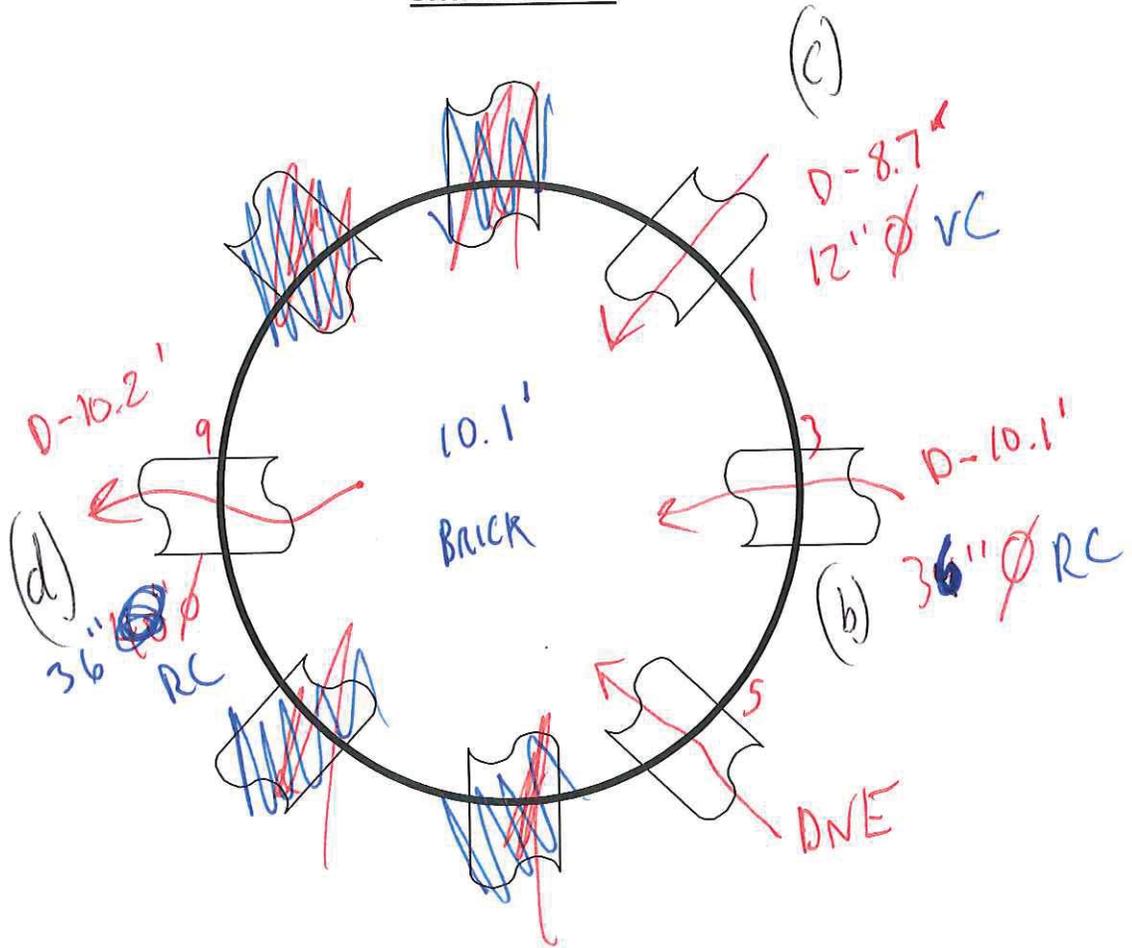
The pipe at 5 o'clock position was not present.

Blockage: Pipe at 1 o'clock position is filled with 1" of sediment. Sediment has spilled into the path of the 3 o'clock invert and is approximately 3" deep. Water is still flowing through the manhole.

Lid is a flat grate.

The 34" RC pipe located at an invert of 10.1 feet and at the 3 O'clock position appears to be 90% blocked by sediment.

SMH 08-3400



Comments:

SMH 08-3400

1: Lid



2: Looking Southwest



3: Looking North



4: Top View



5: 40" RC Pipe



6: 40" RC Pipe



SMH 08-3400

7: 36" RC Pipe



8: 36" RC Pipe



9: 12" VC Pipe



10: 12" VC Pipe



Date:	2/5/13	Time:	10:45 AM	Weather:	27F Snow
Outfall System:	08	Structure ID:	3500	Shape:	Round
Structure Type:	SMH	General Appraisal:	7	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	8.6'	Water Depth:	1"
Housing Material:	BRICK				
Location:	Along Road J in front of BLDG 34				

Pipe Data:

ID:	a
CLOCK POS.:	3
SIZE:	36"
MATERIAL:	RC
DEPTH:	9.6'
PHOTO:	5,6

ID:	b
CLOCK POS.:	9
SIZE:	36"
MATERIAL:	RC
DEPTH:	9.6'
PHOTO:	7,8

ID:	c
CLOCK POS.:	4
SIZE:	10"
MATERIAL:	RC
DEPTH:	4.9'
PHOTO:	9,10

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

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CLOCK POS.:	
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ID:	
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DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	7
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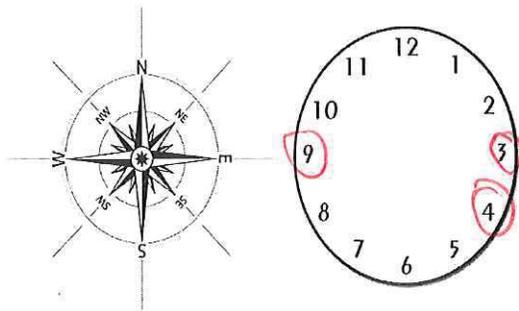
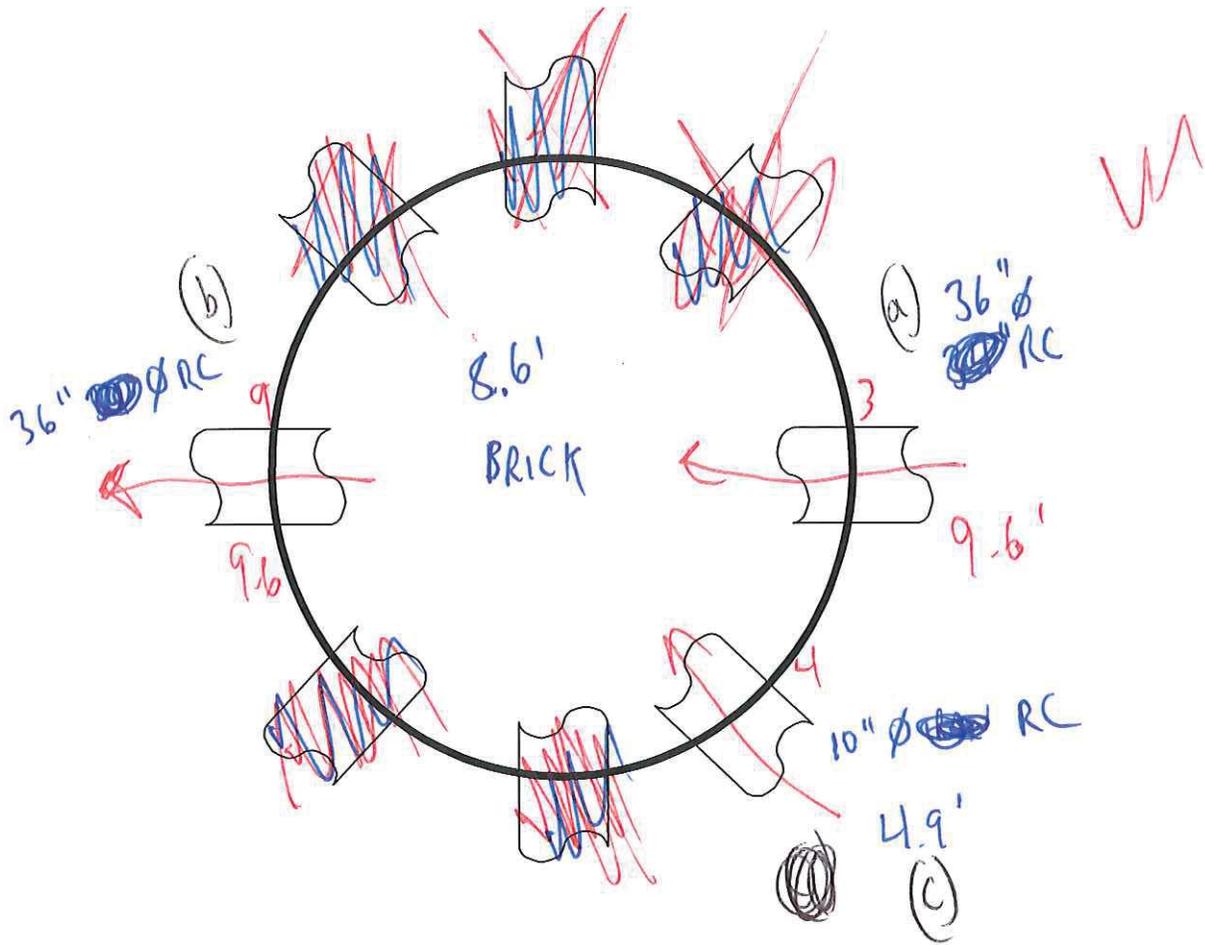
Impact:

Root Intrusion:	NO
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Comments:

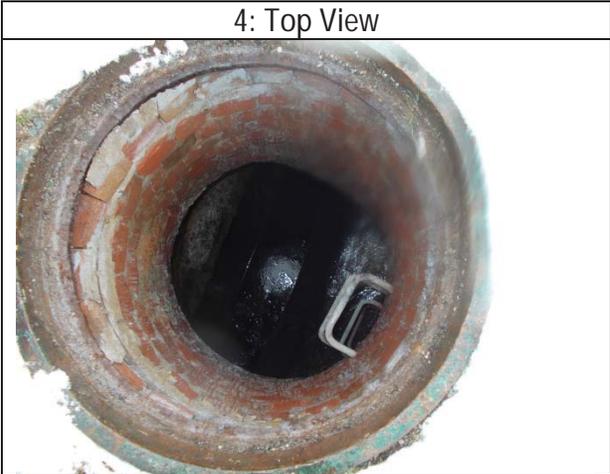
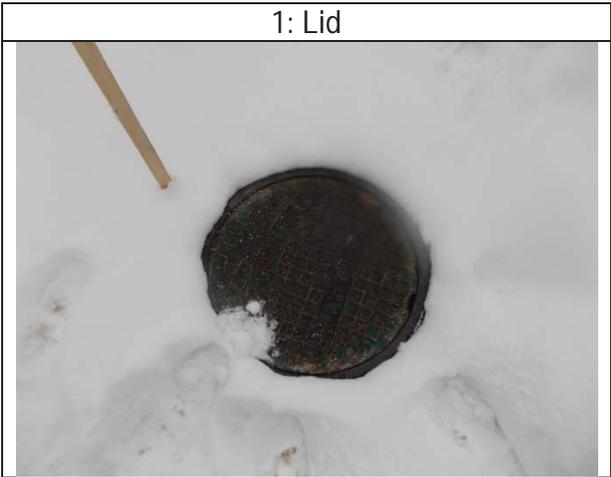
Casting is labeled "THE MADISON FDRY CO CLEVELAND O".  
 Grout is delaminated at all joints on highest ring of brick chimney.

**SMH 08-3500**

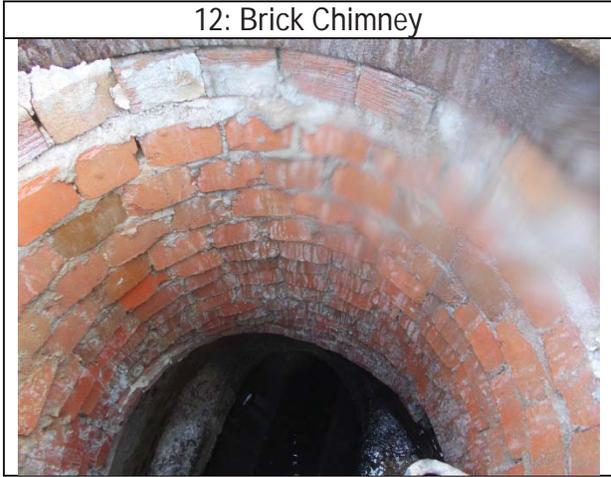
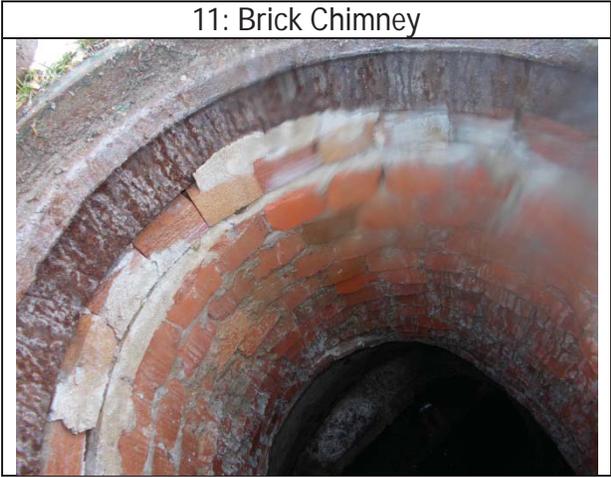
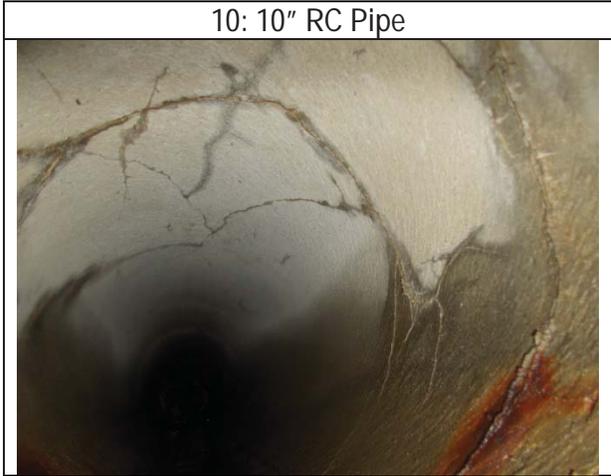
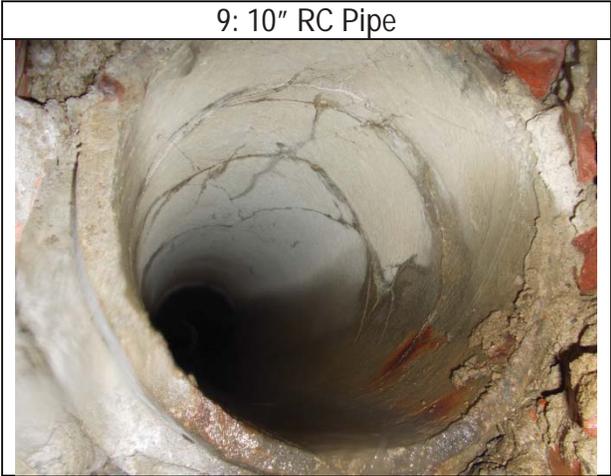
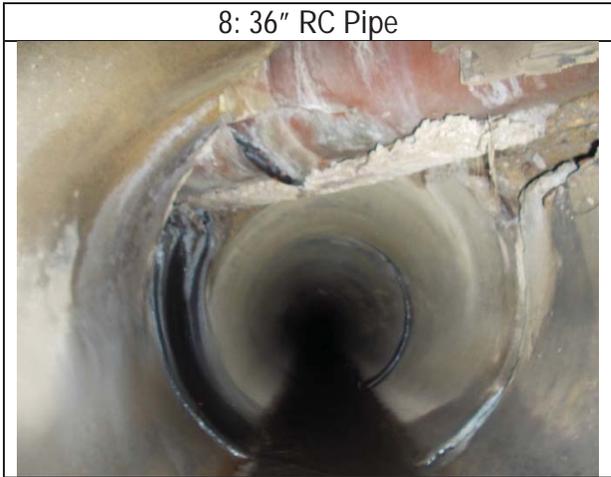
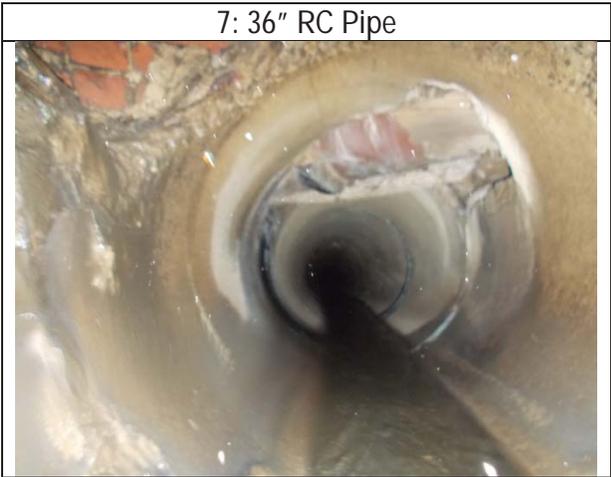


Comments:

SMH 08-3500



SMH 08-3500



SMH 08-3500

13: Brick Chimney



Date:	2/5/13	Time:	10:10AM	Weather:	27F SNOW
Outfall System:	08	Structure ID:	2000	Shape:	SQ
Structure Type:	SMH	General Appraisal:	7	Diameter:	1.5'x1.5'
Casting labeled "STORM":	NO	Invert:	10.3'	Water Depth:	1"
Housing Material:	BRICK				
Location:	Entrance drive for BLDG 35-1				

Pipe Data:

ID:	a
CLOCK POS.:	12
SIZE:	36"
MATERIAL:	RC
DEPTH:	10.5'
PHOTO:	5,6

ID:	b
CLOCK POS.:	6
SIZE:	36"
MATERIAL:	RC
DEPTH:	10.5'
PHOTO:	8,9

ID:	c
CLOCK POS.:	9
SIZE:	8"
MATERIAL:	VC
DEPTH:	3.6'
PHOTO:	10,11

ID:	d
CLOCK POS.:	3
SIZE:	12"
MATERIAL:	RC
DEPTH:	5.5'
PHOTO:	7

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	7	Casting:	8
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Impact:

Root Intrusion:	NO
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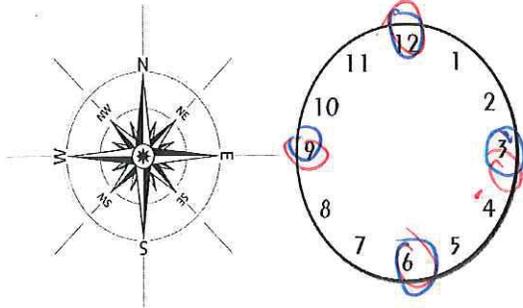
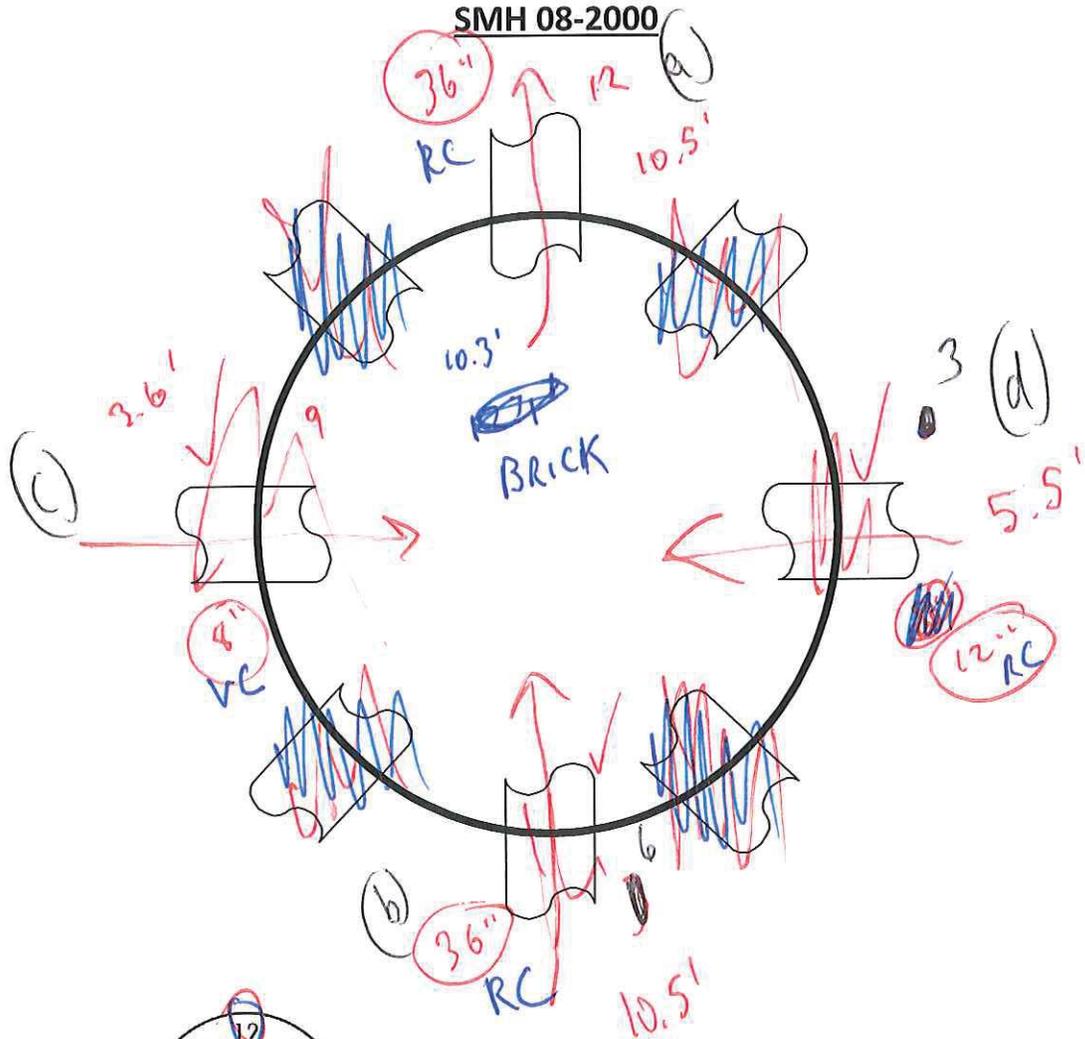
Comments:

Casting is a flat grate.

4 or 5 bricks have fallen out of chimney at top. See picture 4. Pipe at 3 o'clock position is 25% blocked with debris.

Brick wall is showing section loss on 3 o'clock wall. Approximately 18" X 18" of brick is missing, centered around the 12" pipe. Section loss is approximately 1" deep into the wall.

SMH 08-2000



Comments:

SMH 08-2000

1: Grate



2: Picture facing North



3: Top View



4: Masonry



5: 36" RC, 12 o'clock position



6: 36" RC, 12 o'clock position



SMH 08-2000

7: 12" RC, 3 o'clock position



8: 36" RC, 10.5' invert, 6 o'clock position



9: 36" RC, 10.5' invert, 6 o'clock position



10: 8" RC, 3.6' invert, 9 o'clock position



10: 8" RC, 3.6' invert, 9 o'clock position



Date:	2/8/13	Time:	1:15 PM	Weather:	28F SNOW
Outfall System:	08	Structure ID:	2100	Shape:	ROUND
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	12.4'	Water Depth:	1"
Housing Material:	BRICK				
Location:	North of BLDG 51				

Pipe Data:

ID:	a
CLOCK POS.:	11
SIZE:	36"
MATERIAL:	RC
DEPTH:	12.5'
PHOTO:	9,10

ID:	b
CLOCK POS.:	5
SIZE:	30"
MATERIAL:	RC
DEPTH:	12.4'
PHOTO:	7,8

ID:	c
CLOCK POS.:	7
SIZE:	12"
MATERIAL:	RC
DEPTH:	9.2'
PHOTO:	4,6

ID:	d
CLOCK POS.:	8
SIZE:	12"
MATERIAL:	VC
DEPTH:	9.2'
PHOTO:	5,6

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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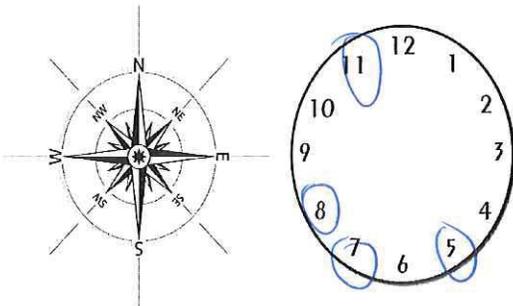
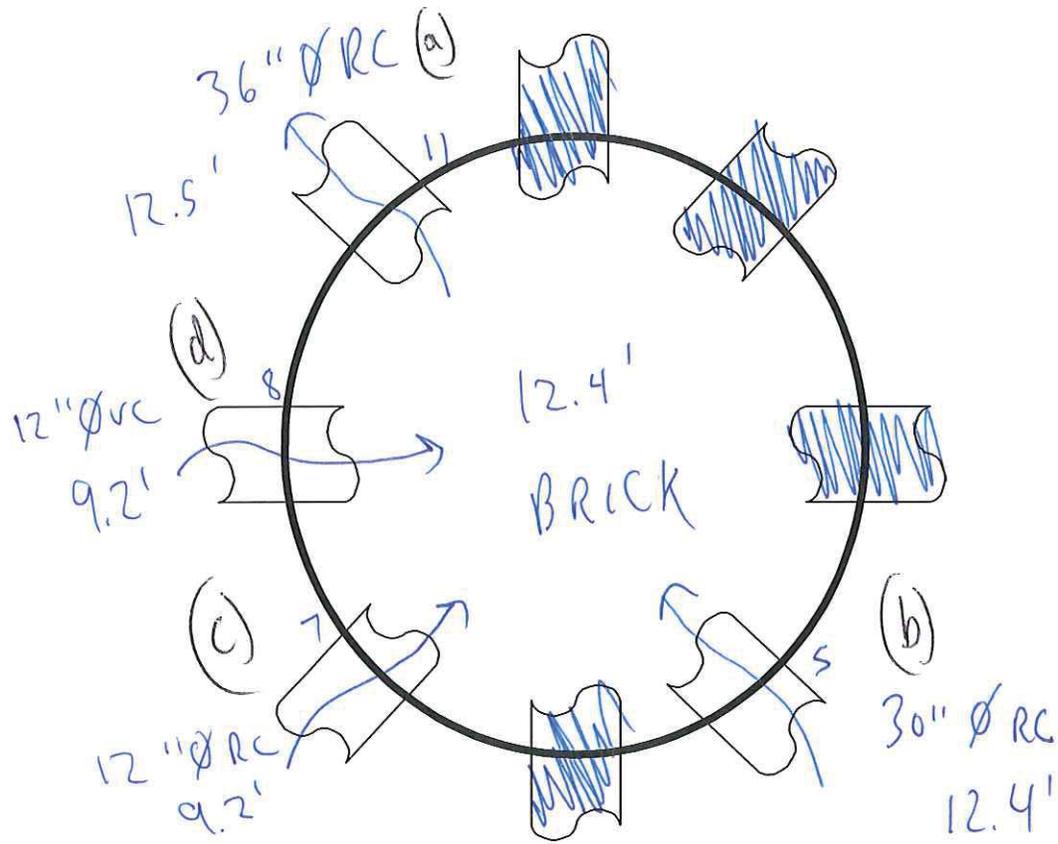
Impact:

Root Intrusion:	NO
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Comments:

Steps: top 3 delamination, bottom 3 90% section loss  
 4" below grade. Was buried, found with metal detector and dug using shovel.  
 Lid says "MADISON FDRY CO, CLEVELAND, O"

SMH 08-2100



Comments:

SMH 08-2100

1: Picture at a Distance



2: Lid



3: Top View



4: 12" VC Pipe, 9.2 Ft. Invert, 7 O'Clock



5: 12" VC Pipe, 9.2 Ft. Invert, 8 O'Clock



6: 12" VC and RC Pipe, 9.2 Ft. Invert, 7 O'Clock

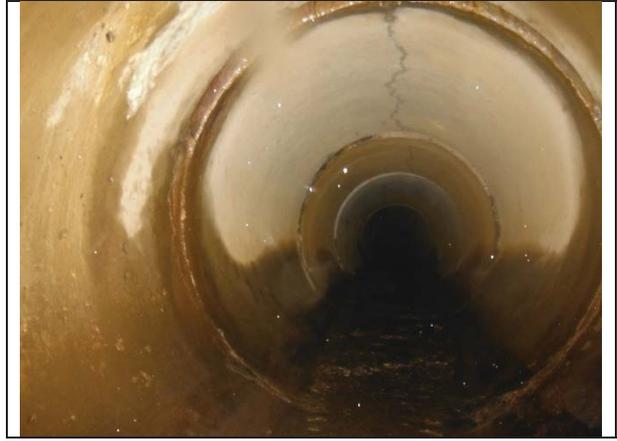


SMH 08-2100

7: 30" RC Pipe, 12.4 Ft. Invert, 5 O'Clock



8: 30" RC Pipe, 12.4 Ft. Invert, 5 O'Clock



9: 36" RC Pipe, 12.5 Ft. Invert, 11 O'Clock



10: 36" RC Pipe, 12.5 Ft. Invert, 11 O'Clock



Date:	2/5/13	Time:	9:40 AM	Weather:	27F Snow
Outfall System:	08	Structure ID:	2200	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	12.1'	Water Depth:	1"
Housing Material:	BRICK				
Location:	East of BLDG 51 in Parking Lot				

Pipe Data:

ID:	a
CLOCK POS.:	3
SIZE:	18"
MATERIAL:	RC
DEPTH:	11.8'
PHOTO:	5,6

ID:	b
CLOCK POS.:	5
SIZE:	30"
MATERIAL:	RC
DEPTH:	12.1'
PHOTO:	7,8

ID:	c
CLOCK POS.:	8
SIZE:	12"
MATERIAL:	VC
DEPTH:	5.8'
PHOTO:	9,10

ID:	d
CLOCK POS.:	11
SIZE:	30"
MATERIAL:	RC
DEPTH:	12'
PHOTO:	N/A

ID:	e
CLOCK POS.:	1
SIZE:	10"
MATERIAL:	RC
DEPTH:	6'
PHOTO:	N/A

ID:	f
CLOCK POS.:	12
SIZE:	4"
MATERIAL:	VC
DEPTH:	N/A
PHOTO:	N/A

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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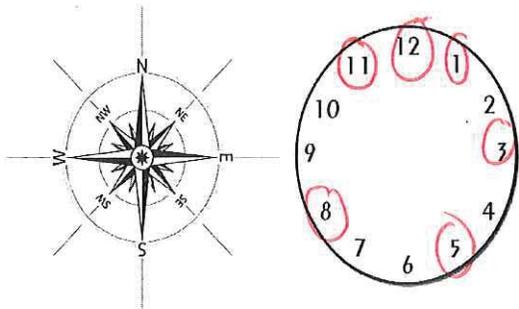
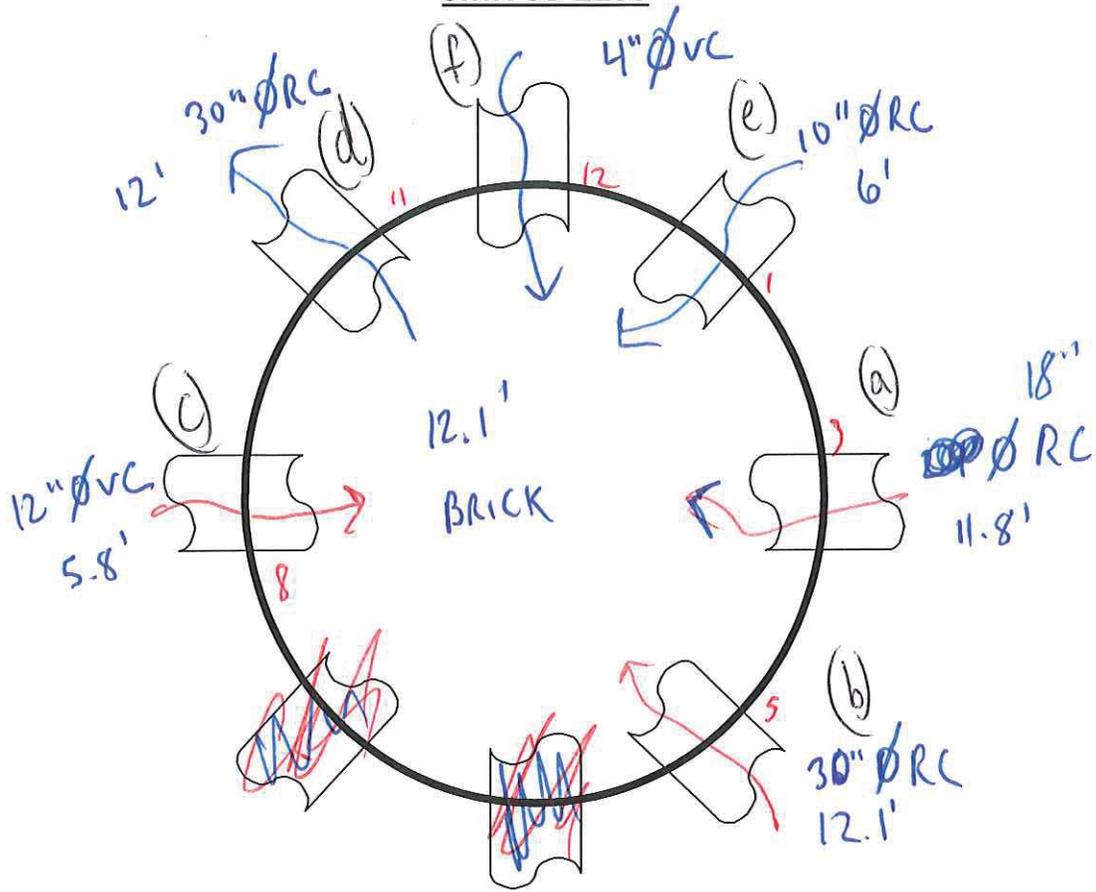
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

No major defects in housing.  
 Casting is 2" off alignment at 12 o'clock and 6 o'clock positions.  
 Casting is a flat grate.

**SMH 08-2200**



Comments:

SMH 08-2200

1: Manhole Lid



2: Nearby Structures



3: Looking Southwest



4: Looking North



5: RC 18" Pipe



6: RC 18" Pipe

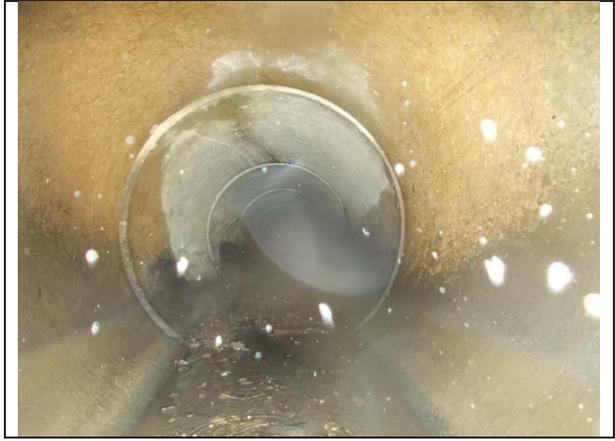


SMH 08-2200

7: RC 30" Pipe



8: RC 30" Pipe



9: VC 12" Pipe



10: VC 12" Pipe



11: Inside Structure



12: Inside Structure



Date:	2/5/13	Time:	9:20 AM	Weather:	27F Cloudy
Outfall System:	08	Structure ID:	4000	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	9.9'	Water Depth:	1"
Housing Material:	CONC				
Location:	Near Main entrance of BLDG 100				

Pipe Data:

ID:	a
CLOCK POS.:	5
SIZE:	30"
MATERIAL:	RC
DEPTH:	12.3'
PHOTO:	7,8

ID:	b
CLOCK POS.:	11
SIZE:	30"
MATERIAL:	RC
DEPTH:	12.2'
PHOTO:	5,6

ID:	c
CLOCK POS.:	8
SIZE:	6"
MATERIAL:	VC
DEPTH:	4.75'
PHOTO:	9,10

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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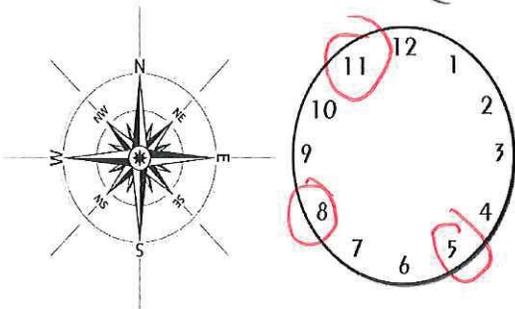
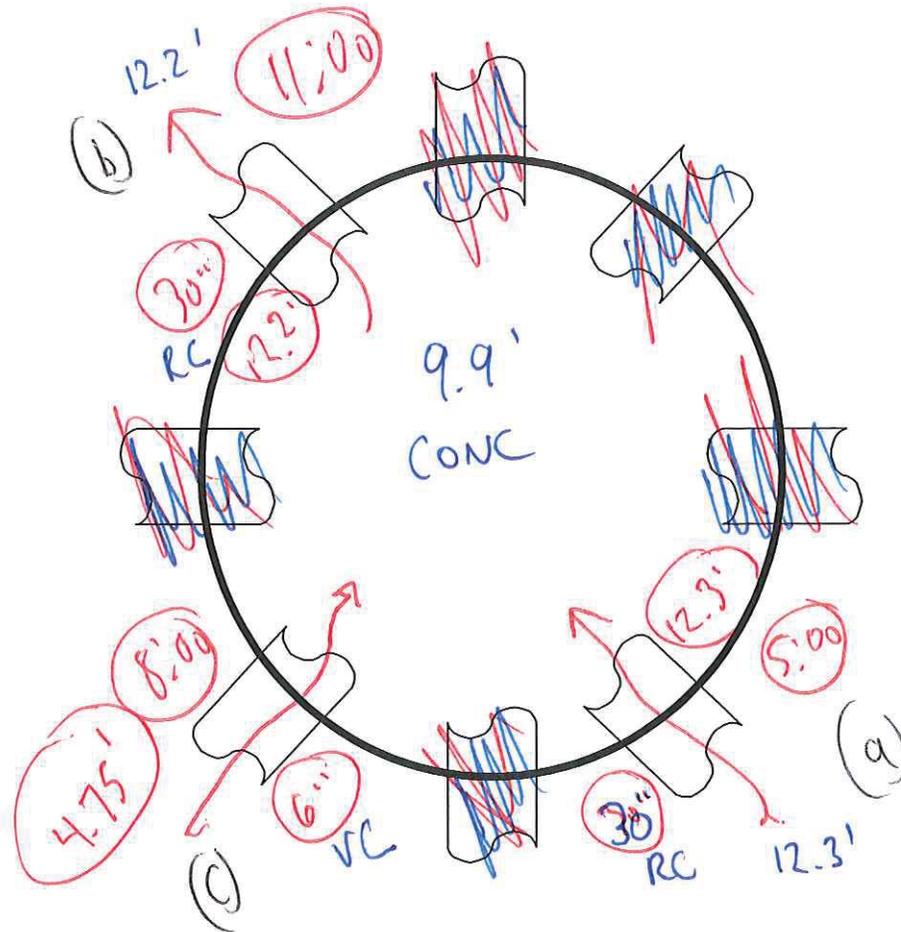
Impact:

Root Intrusion:	no
-----------------	----

Comments:

Manhole lid reads: "THE MADISON FDRY CO" "CLEVELAND O"  
 Vertical separation in 6" diameter VC  
 Casting is a flat grate.

**SMH 08-4000**



Comments:

SMH 08-4000

1: Lid



2: Picture at a Distance



3: Picture at a Distance



4: Top View



5: RC 30" 11 O'clock Position



6: RC 30" 11 O'clock Position



SMH 08-4000

7: RC 30" 5 O'clock Position



8: RC 30" 5 O'clock Position



9: VC 6" 8 O'clock Position



10: VC 6" 8 O'clock Position



Date:	2/8/13	Time:	12:40 PM	Weather:	28F SNOW
Outfall System:	08	Structure ID:	4100	Shape:	ROUND
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	12.7'	Water Depth:	1"
Housing Material:	CONC				
Location:	SE side of BLDG 100				

Pipe Data:

ID:	a
CLOCK POS.:	5
SIZE:	30"
MATERIAL:	RC
DEPTH:	12.7'
PHOTO:	10,11

ID:	b
CLOCK POS.:	11
SIZE:	30"
MATERIAL:	RC
DEPTH:	12.8'
PHOTO:	12

ID:	c
CLOCK POS.:	2
SIZE:	6"
MATERIAL:	VC
DEPTH:	3.7'
PHOTO:	6,7

ID:	d
CLOCK POS.:	8
SIZE:	12"
MATERIAL:	VC
DEPTH:	7.9'
PHOTO:	8,9

ID:	e
CLOCK POS.:	DOES NOT EXIST
SIZE:	N/A
MATERIAL:	N/A
DEPTH:	N/A
PHOTO:	N/A

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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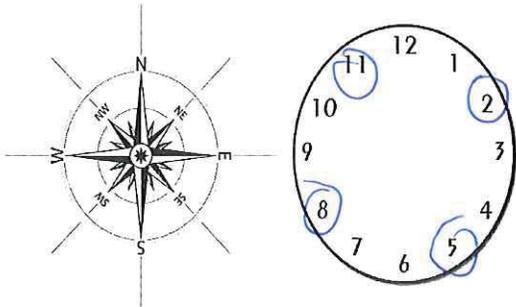
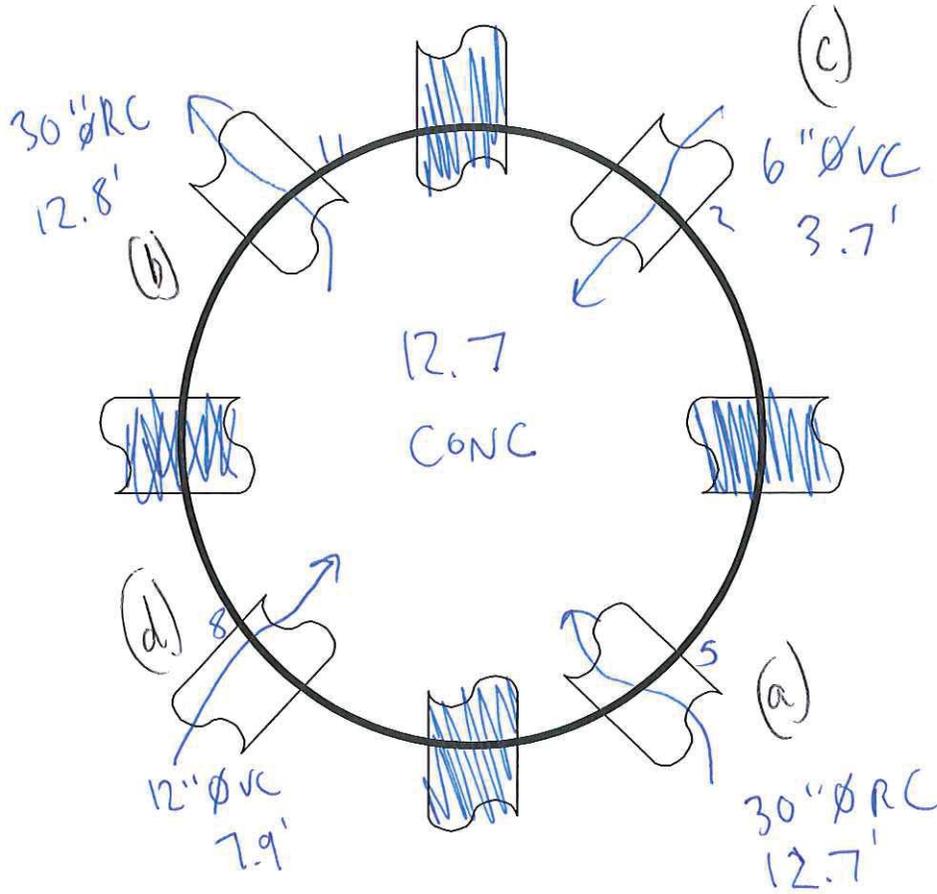
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid labeled "MADISON FDRY CO, CLEVELAND, O"  
 2" BELOW GRADE, found with metal detector and uncovered using shovel.

SMH 08-4100



Comments:

SMH 08-4100

1: Picture at a Distance



2: Structure Buried



3: Structure Uncovered



4: Lid



5: Top View



6: 6" VC Pipe, 3.7 Ft. Invert, 2 O'Clock



SMH 08-4100

7: 6" VC Pipe, 3.7 Ft. Invert, 2 O'Clock



8: 12" VC Pipe, 7.9 Ft. Invert, 8 O'Clock



9: 12" VC Pipe, 7.9 Ft. Invert, 8 O'Clock



10: 30" RC Pipe, 12.7 Ft. Invert, 5 O'Clock



11: 30" RC Pipe, 12.7 Ft. Invert, 5 O'Clock



12: 30" RC Pipe, 12.8 Ft. Invert, 11 O'Clock



Date:	2/5/13	Time:	7:55 am	Weather:	27F Cloudy
Outfall System:	08	Structure ID:	4300	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.2'
Casting labeled "STORM":	NO	Invert:	10.2'	Water Depth:	1"
Housing Material:	Brick				
Location:	Middle of Walcott Road near Cedar Point Road				

Pipe Data:

ID:	a
CLOCK POS.:	5
SIZE:	18"
MATERIAL:	RC
DEPTH:	9.9'
PHOTO:	5,6,7

ID:	b
CLOCK POS.:	6
SIZE:	12"
MATERIAL:	VC
DEPTH:	5.5'
PHOTO:	8

ID:	c
CLOCK POS.:	3
SIZE:	24"
MATERIAL:	VC
DEPTH:	9.3'
PHOTO:	9,10

ID:	d
CLOCK POS.:	11
SIZE:	36"
MATERIAL:	RC
DEPTH:	10.1'
PHOTO:	4

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
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DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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Impact:

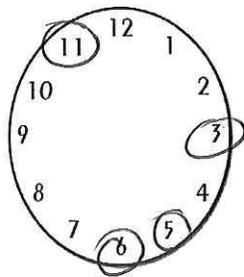
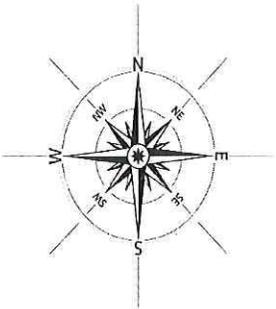
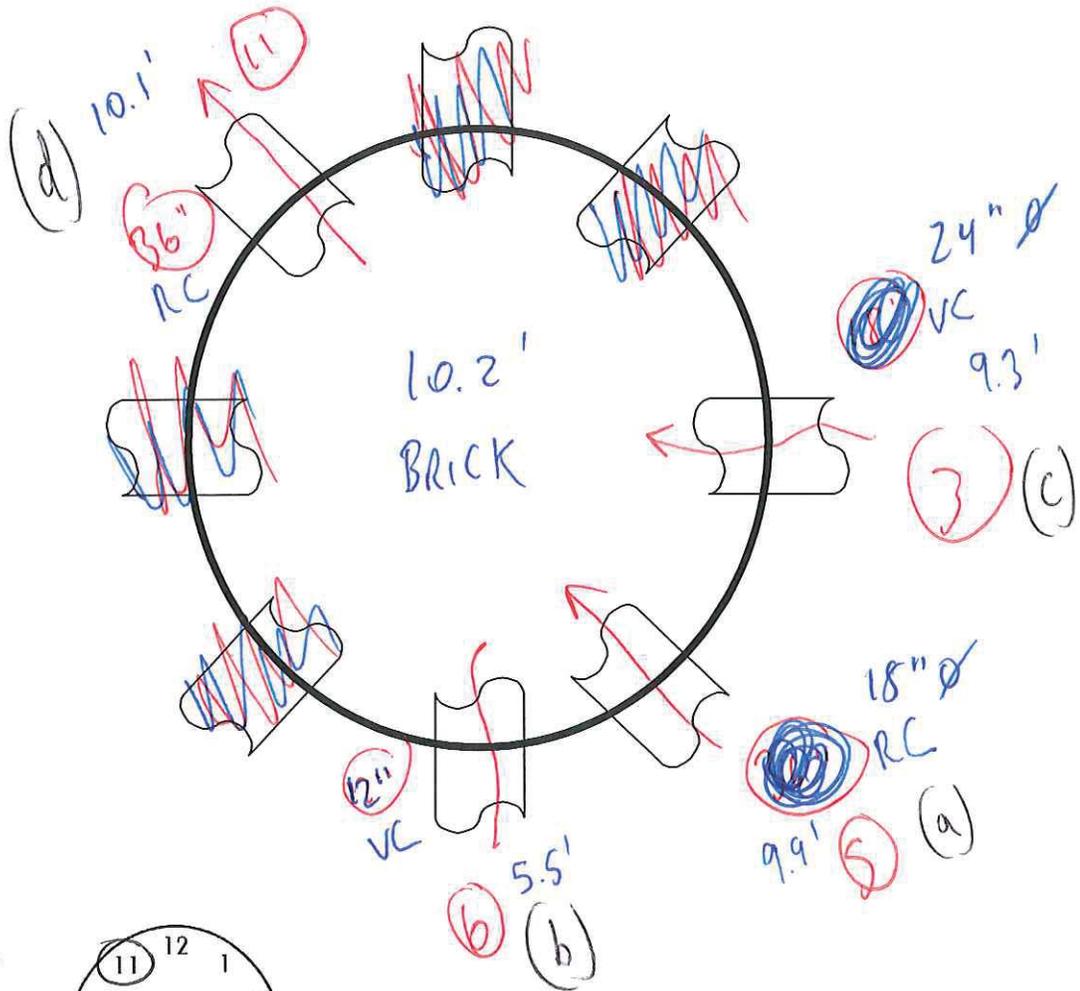
Root Intrusion:	NO
-----------------	----

Comments:

Housing – no major defects, 8

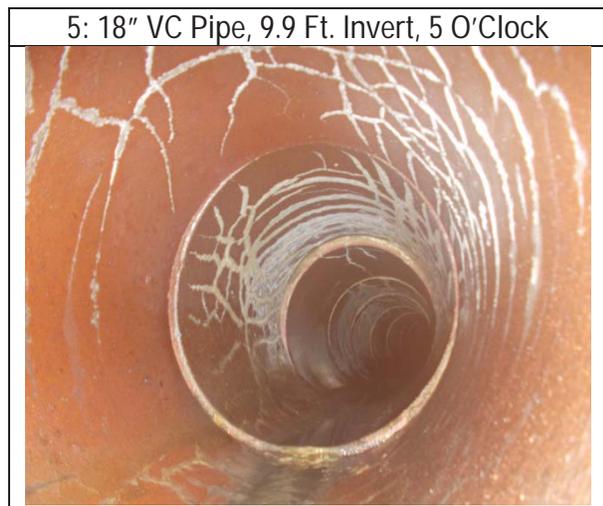
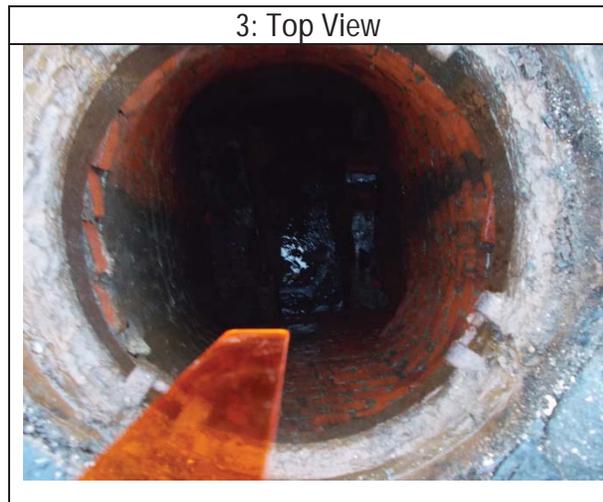
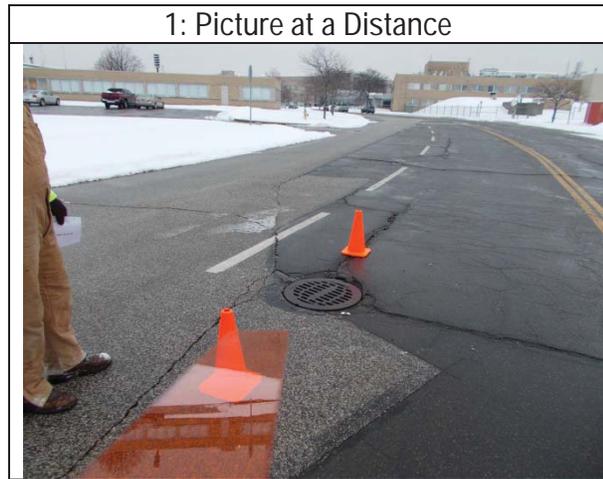
Casting – no major defects, 8. Casting seems to be too small for manhole. Casting is flush at 10:00 position, but 4" off alignment at 4:00 position. Casting is a flat grate.

**SMH 08-4300**



Comments:

SMH 08-4300



SMH 08-4300

7: 18" VC Pipe, 9.9 Ft. Invert, 5 O'Clock



8: 12" RC Pipe, 5.5 Ft. Invert, 6 O'Clock



9: 24" RC Pipe, 9.3 Ft. Invert, 3 O'Clock



10: 24" RC Pipe, 9.3 Ft. Invert, 3 O'Clock



Date:	2/12/13	Time:	9:15 AM	Weather:	32F Cloudy
Outfall System:	08	Structure ID:	4400	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	5.9'	Water Depth:	1.6'
Housing Material:	BRICK				
Location:	Near NASA boundary fence				

Pipe Data:

ID:	a
CLOCK POS.:	5
SIZE:	18"
MATERIAL:	RC
DEPTH:	UNDERWATER
PHOTO:	N/A

ID:	b
CLOCK POS.:	11
SIZE:	24"
MATERIAL:	RC
DEPTH:	UNDERWATER
PHOTO:	N/A

ID:	c
CLOCK POS.:	7
SIZE:	18"
MATERIAL:	RC
DEPTH:	4.9'
PHOTO:	5

ID:	N/A
CLOCK POS.:	11
SIZE:	4"
MATERIAL:	VC
DEPTH:	3.3'
PHOTO:	4

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
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SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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Impact:

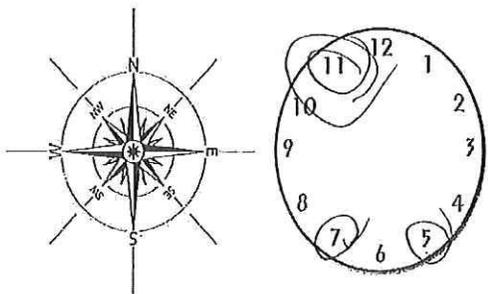
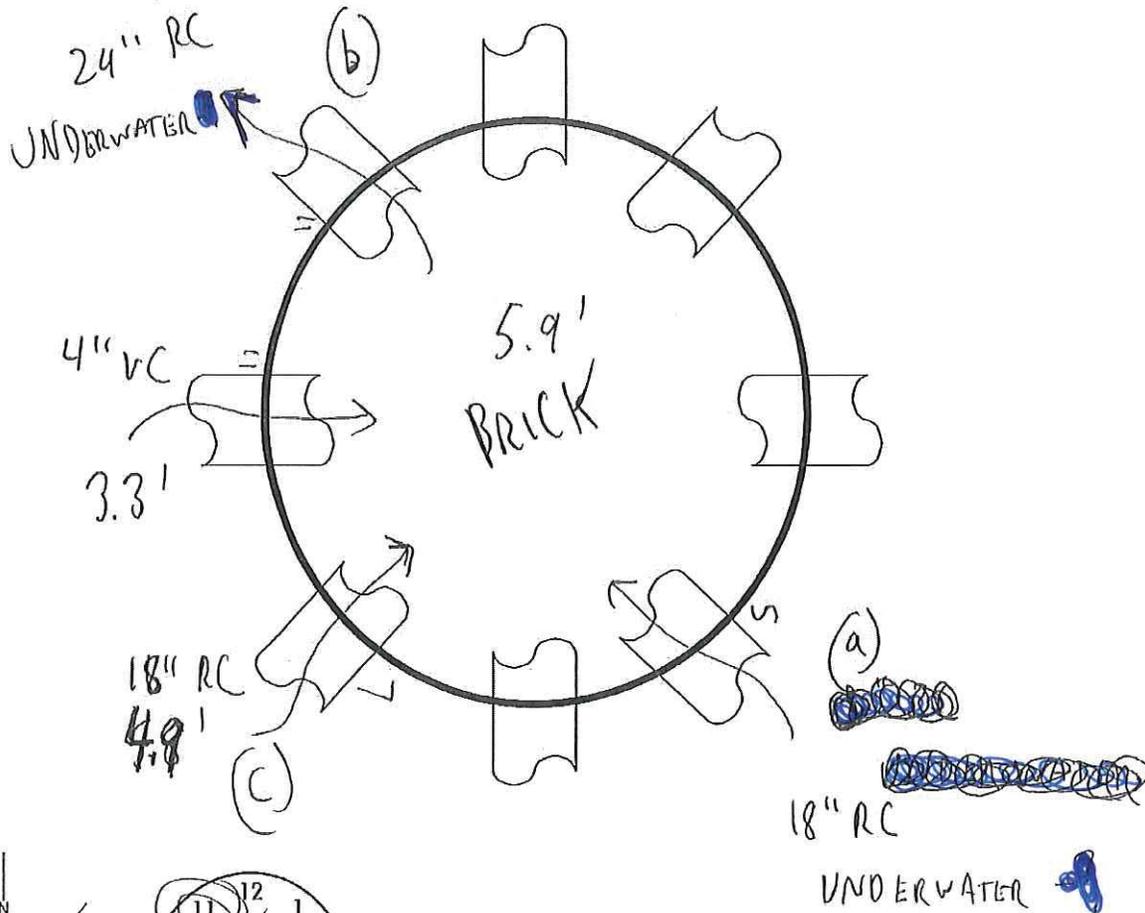
Root Intrusion:	NO
-----------------	----

Comments:

Located near a transformer pad.

Lid is a grate labeled "DUMP NO WASTE DRAINS TO WATERWAYS."

SMH 08-4400



Comments:

SMH 08-4400

1: Picture at a Distance



2: Lid



3: Top View



4: 4" VC Pipe, 3.3 Ft. Invert, 11 O'Clock



5: 18" RC Pipe, 4.9 Ft. Invert, 7 O'Clock



**BARR & PREVOST**

ENGINEERING | TESTING | SURVEYING

2771 Scranton Road  
Cleveland Ohio 44113

# Inspection Reports

## Outfall No. 025

Date:	2/5/13	Time:	1:45	Weather:	29F Cloudy
Outfall System:	25	Structure ID:	0000	Shape:	ROUND
Structure Type:	HW	General Appraisal:	8	Diameter:	24"
Casting labeled "STORM":	N/A	Wall Height:	N/A	Water Depth:	1"
Housing Material:	None				
Location:	South of Building 70				

Pipe Data:

ID:	a
CLOCK POS.:	6
SIZE:	24"
MATERIAL:	CP
DEPTH:	N/A
PHOTO:	--

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

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CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

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CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	N/A	Casting:	N/A
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Impact:

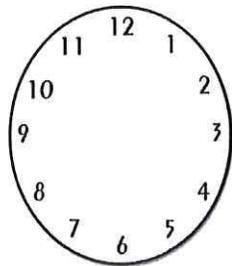
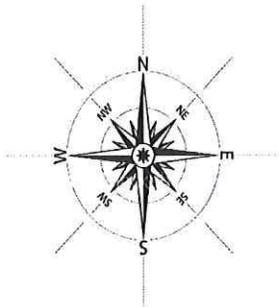
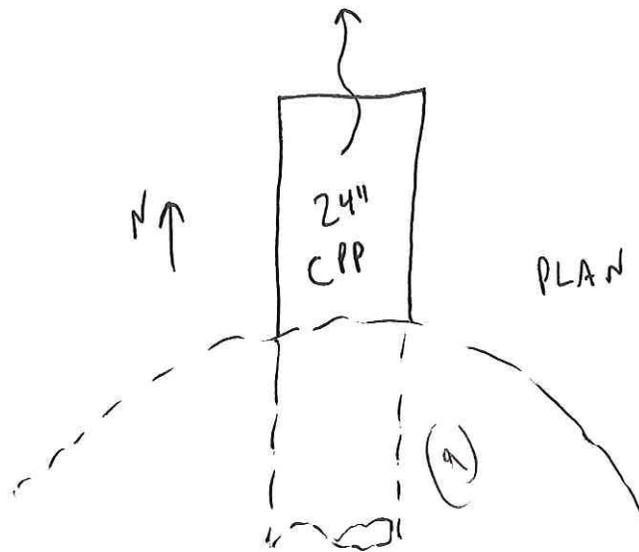
Root Intrusion:	NO
-----------------	----

Comments:

No headwall, pipe is direct buried.  
 This outfall will be removed and replaced.

HW 25-0000

NO HEADWALL  
~~XXXXXXXXXX~~



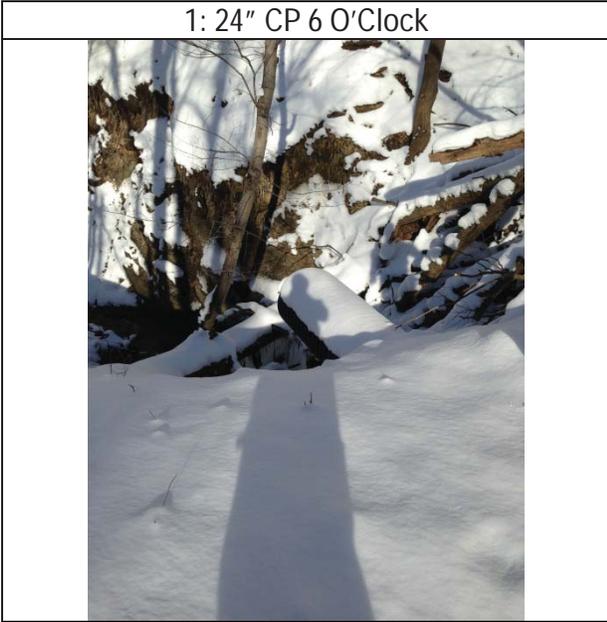
PROFILE



Comments:

HW 25-0000

1: 24" CP 6 O'Clock



Date:	2/6/13	Time:	10:15 AM	Weather:	35F Sunny
Outfall System:	25	Structure ID:	1200	Shape:	Round
Structure Type:	SMH	General Appraisal:	5	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	5'	Water Depth:	4'
Housing Material:	CONC				
Location:	West Area Road				

Pipe Data:

ID:	a
CLOCK POS.:	NOT FOUND
SIZE:	N/A
MATERIAL:	N/A
DEPTH:	N/A
PHOTO:	--

ID:	b
CLOCK POS.:	9
SIZE:	18
MATERIAL:	RC
DEPTH:	5'
PHOTO:	--

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
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CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	5	Casting:	8
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Impact:

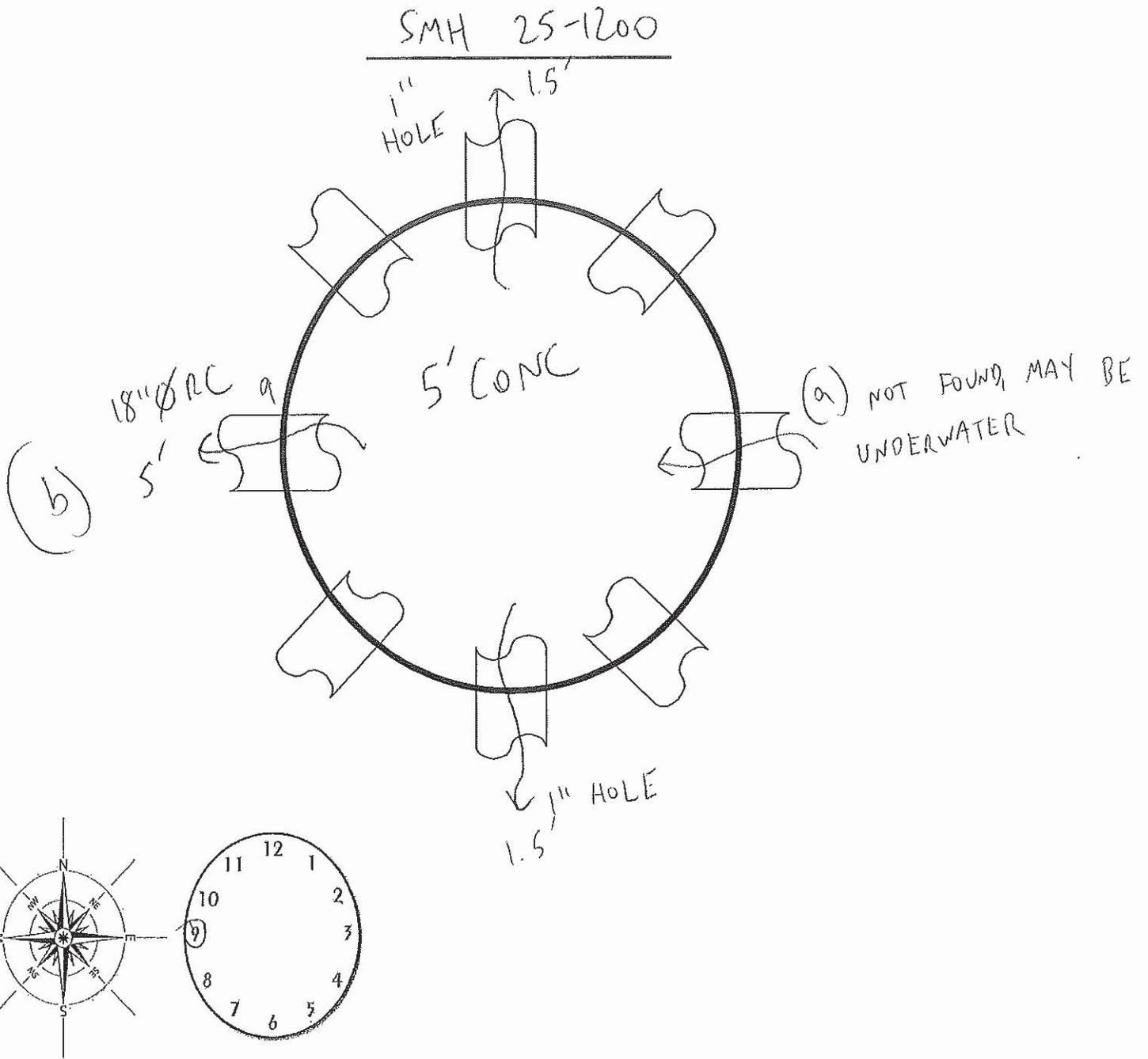
Root Intrusion:	YES
-----------------	-----

Comments:

Located approximately 30 feet off edge of pavement in wooded area.

Lid labeled "EJIW"

Invert was measured as 5.0'. Manhole protrudes 2.5' above ground. Water is leaking out of structure 1.0' feet above ground through holes drilled through the sides of the manhole. This manhole possibly was plugged with concrete because according to the basemap this structure has a 15 foot invert. See pictures 5 through 10.



Comments:



SMH 25-1200

7: Structural Holes



8: Structural Holes



9: Structural Holes



10: Structural Holes



11: Structural Holes



12: Structural Holes



Date:	2/6/13	Time:	8:45 AM	Weather:	27 Cloudy
Outfall System:	25	Structure ID:	1220	Shape:	ROUND
Structure Type:	SCB	General Appraisal:	6	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	4.8'	Water Depth:	3"
Housing Material:	BRICK				
Location:	Near the intersection of Walcott and West Area Road (NW)				

Pipe Data:

ID:	a
CLOCK POS.:	4
SIZE:	12"
MATERIAL:	RC
DEPTH:	4.6'
PHOTO:	4,5

ID:	b
CLOCK POS.:	11
SIZE:	12"
MATERIAL:	RC
DEPTH:	4.8'
PHOTO:	6,7

ID:	N/A
CLOCK POS.:	5
SIZE:	8"
MATERIAL:	IRON
DEPTH:	3.4'
PHOTO:	2,3

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	6
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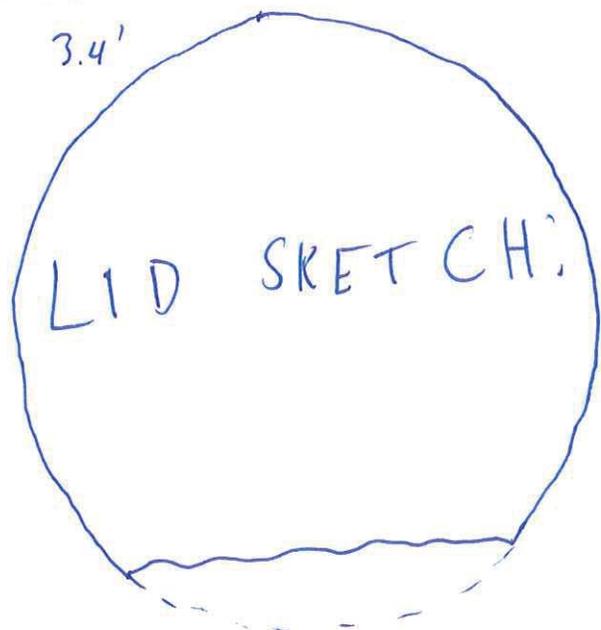
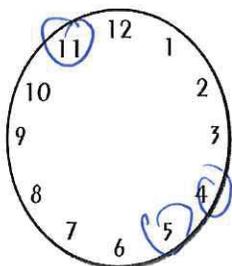
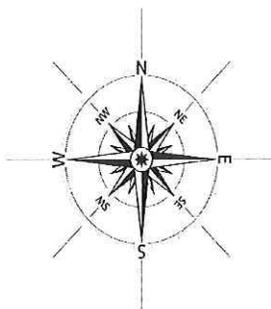
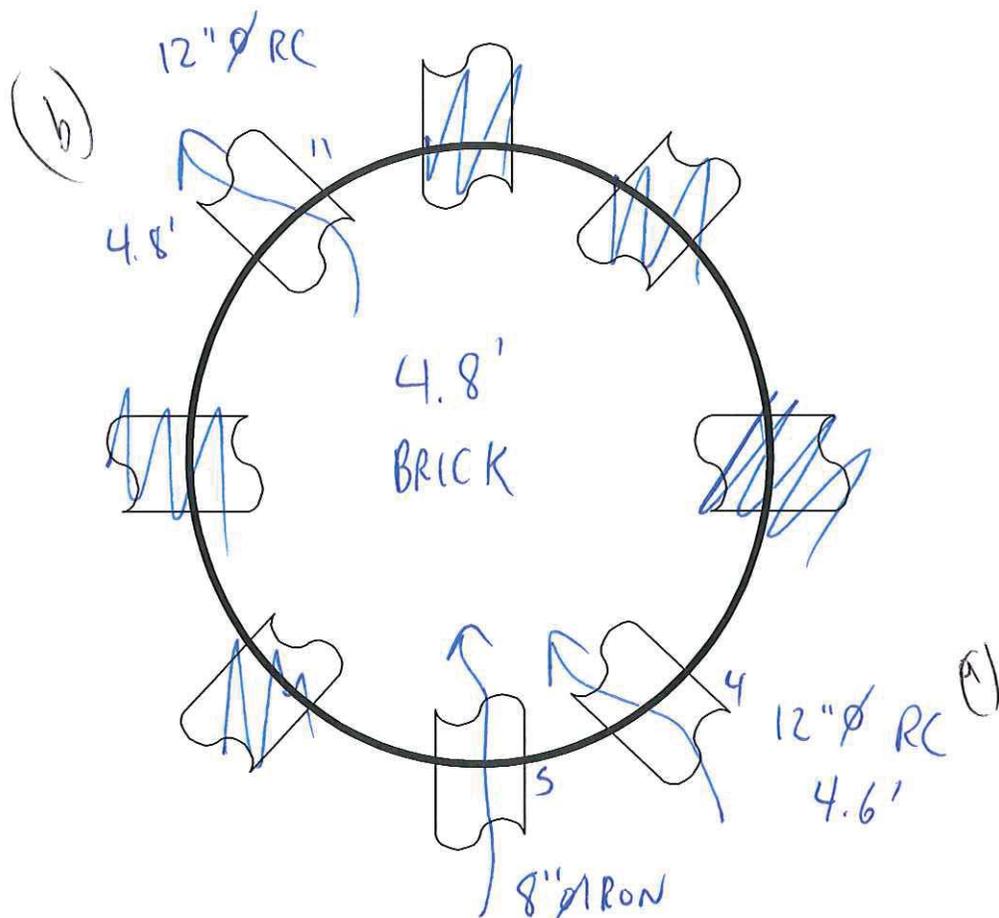
Impact:

Root Intrusion:	No
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Comments:

Lid has 10% section loss – see field sketch. Lid has a pattern, could not detect any text.

**SCB 25-1220**



Comments:

SCB 25-1220

1: Picture at a Distance



2: 8 INCH IRON - 3.4 FT INVERT - 5 O'CLOCK POSITION



3: 8 INCH IRON - 3.4 FT INVERT - 5 O'CLOCK POSITION (2)



4: 12 INCH RC - 4.6 FT INVERT - 4 O'CLOCK POSITION



5: 12 INCH RC - 4.6 FT INVERT - 4 O'CLOCK POSITION (2)



6: 12 INCH RC - 4.8 FT INVERT - 11 O'CLOCK POSITION



SCB 25-1220

7: 12 INCH RC - 4.8 FT INVERT - 11 O'CLOCK  
POSITION (2)



Date:	2/11/13	Time:	11:15 AM	Weather:	48F Cloudy
Outfall System:	25	Structure ID:	1230	Shape:	Round
Structure Type:	SCB	General Appraisal:	8	Diameter:	1.8'
Casting labeled "STORM":	NO	Invert:	3.6'	Water Depth:	1"
Housing Material:	CONC				
Location:	Near BLDG 39 close to intersection of Walcott and West Area Road				

Pipe Data:

ID:	a
CLOCK POS.:	7
SIZE:	12"
MATERIAL:	VC
DEPTH:	3.8'
PHOTO:	9,10

ID:	b
CLOCK POS.:	10
SIZE:	12"
MATERIAL:	RC
DEPTH:	3.7'
PHOTO:	7,8

ID:	N/A
CLOCK POS.:	4
SIZE:	12"
MATERIAL:	RC
DEPTH:	3.6'
PHOTO:	5,6

ID:	N/A
CLOCK POS.:	4
SIZE:	4"
MATERIAL:	VC
DEPTH:	2.3'
PHOTO:	4

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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Impact:

Root Intrusion:	NO
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Comments:

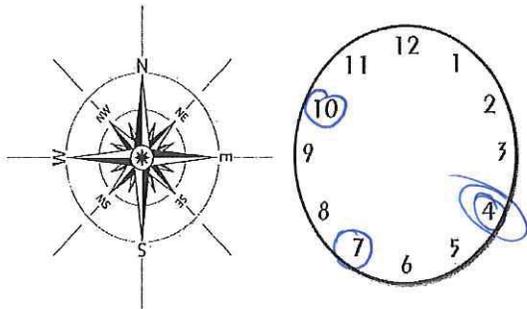
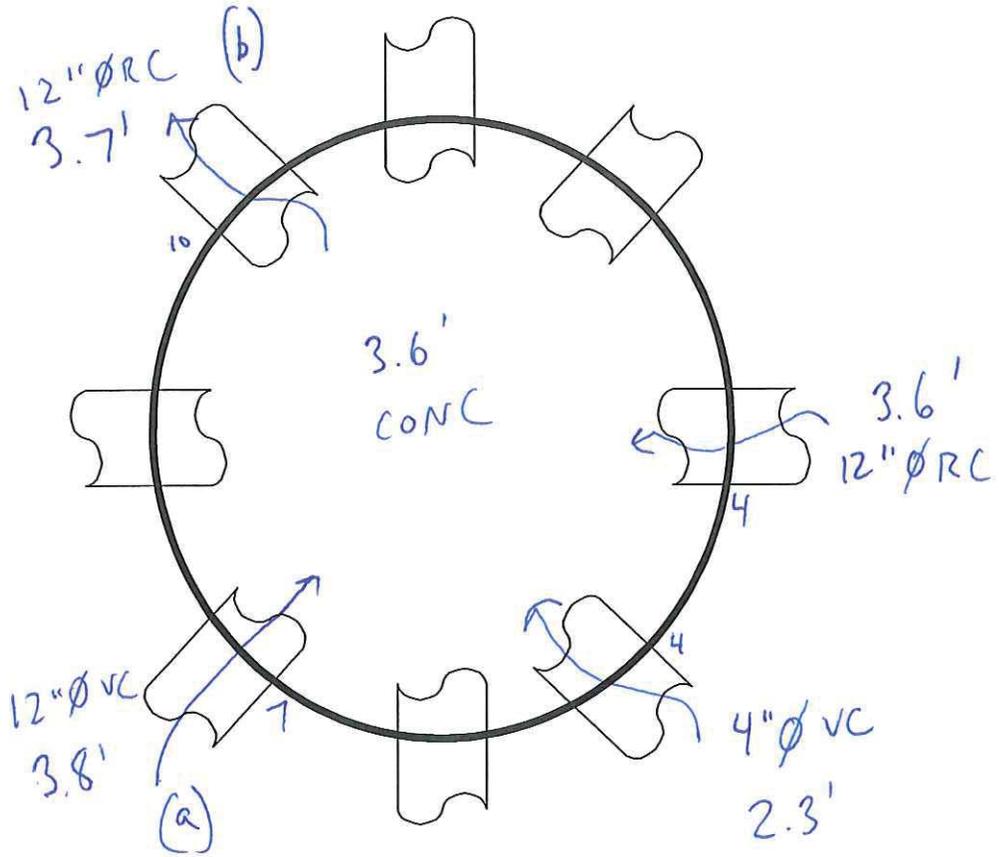
Lid is a grate, labeled "Madison."

The 12" RC pipe located at an invert of 3.6 feet and at a position of 4 O'clock is approximately 35% blocked by sediment.

The 12" RC pipe located at an invert of 3.7 feet at a position of 10 O'clock is approximately 40% blocked by sediment.

Details of the blockage in these pipes are shown in pictures 5,6,7,and 8 in the photo report.

SCB 25-1230



Comments:

SCB 25-1230

1: Picture at a Distance



2: Lid



3: Top View



4: 4" VC Pipe, 2.3 Ft. Invert, 4 O'Clock



5: 12" RC Pipe, 3.6 Ft. Invert, 4 O'Clock



6: 12" RC Pipe, 3.6 Ft. Invert, 4 O'Clock



SCB 25-1230

7: 12" RC Pipe, 3.6 Ft. Invert, 10 O'Clock



8: 12" RC Pipe, 3.7 Ft. Invert, 10 O'Clock



9: 12" VC Pipe, 3.8 Ft. Invert, 7 O'Clock



10: 12" VC Pipe, 3.8 Ft. Invert, 7 O'Clock



Date:	2/6/13	Time:	8:15 AM	Weather:	29F Cloudy
Outfall System:	25	Structure ID:	1240	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2'
Casting labeled "STORM":	NO	Invert:	4.9'	Water Depth:	1"
Housing Material:	CONC				
Location:	Across the street from centerline intersection of Walcott and West Area Road				

Pipe Data:

ID:	a
CLOCK POS.:	1
SIZE:	12"
MATERIAL:	VC
DEPTH:	4.9'
PHOTO:	11,12

ID:	b
CLOCK POS.:	7
SIZE:	12"
MATERIAL:	VC
DEPTH:	4.7'
PHOTO:	9,10

ID:	c
CLOCK POS.:	4
SIZE:	12"
MATERIAL:	RC
DEPTH:	3.2'
PHOTO:	7,8

ID:	d
CLOCK POS.:	6
SIZE:	12"
MATERIAL:	RC
DEPTH:	4.8'
PHOTO:	5,6

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
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PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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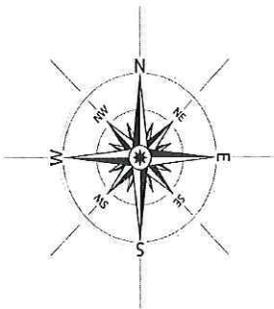
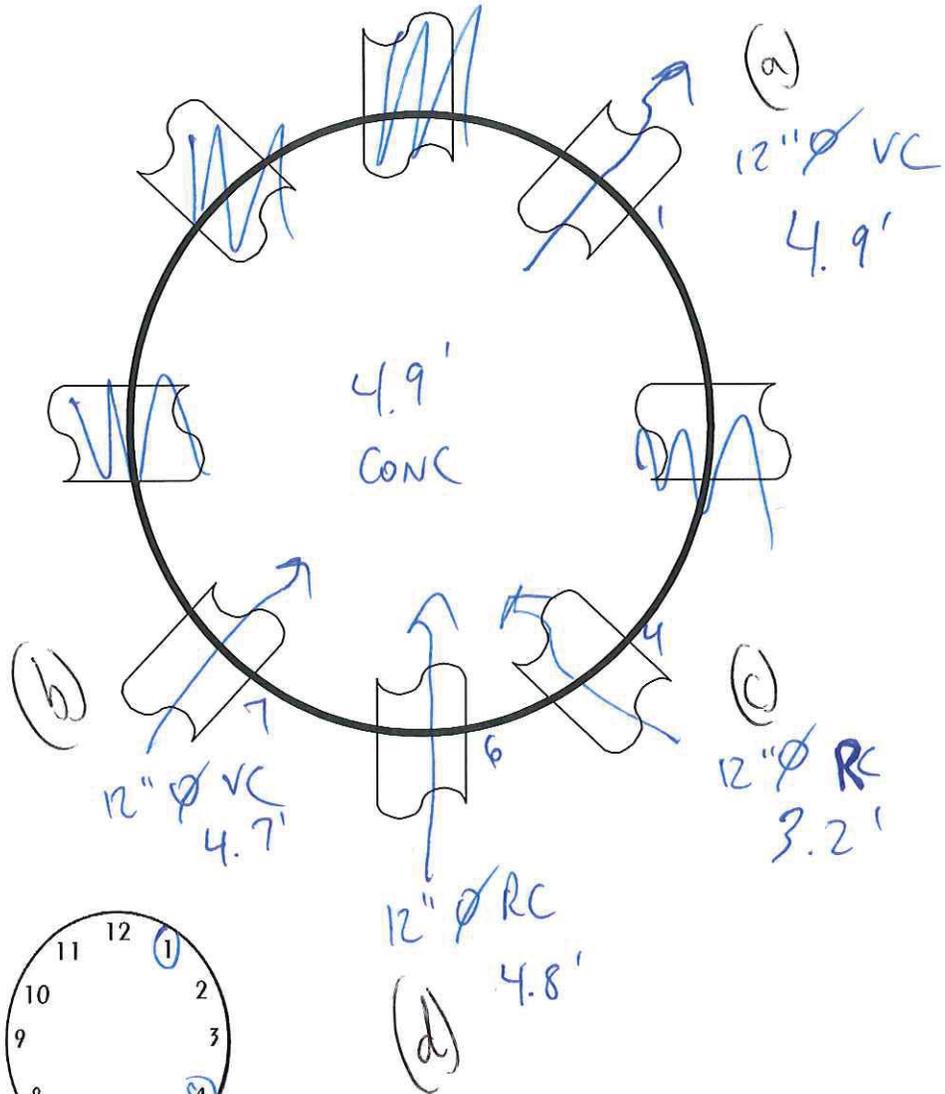
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid is solid, labeled "EJIW," casting is off alignment 2" at 1 and 7 o'clock positions.

**SCB 25-1240**



Comments:

SMH 25-1240

1: Picture at a Distance



2: Picture at a Distance



3: Manhole Lid



4: Top View



5: 12" RC Pipe 4.8 Ft. Invert 6 O'Clock



6: 12" RC Pipe 4.8 Ft. Invert 6 O'Clock



SMH 25-1240

7: 12" RC Pipe 3.2 Ft. Invert 4 O'Clock



8: 12" RC Pipe 3.2 Ft. Invert 4 O'Clock



9: 12" VC Pipe 4.7 Ft. Invert 7 O'Clock



10: 12" VC Pipe 4.7 Ft. Invert 7 O'Clock



11: 12" VC Pipe 4.9 Ft. Invert 1 O'Clock



12: 12" VC Pipe 4.9 Ft. Invert 1 O'Clock



Date:	2/6/13	Time:	8:00 AM	Weather:	26F Cloudy
Outfall System:	25	Structure ID:	1250	Shape:	Round
Structure Type:	SCB	General Appraisal:	8	Diameter:	1.5'
Casting labeled "STORM":	NO	Invert:	3.9'	Water Depth:	1.8'
Housing Material:	CONC				
Location:	Side entrance off Road M for BLDG 39				

Pipe Data:

ID:	a
CLOCK POS.:	11
SIZE:	12"
MATERIAL:	VC
DEPTH:	2'
PHOTO:	9

ID:	b
CLOCK POS.:	10
SIZE:	6"
MATERIAL:	PVC
DEPTH:	1.9'
PHOTO:	7

ID:	c
CLOCK POS.:	12
SIZE:	6"
MATERIAL:	PVC
DEPTH:	1.6'
PHOTO:	6

ID:	d
CLOCK POS.:	9
SIZE:	6"
MATERIAL:	PVC
DEPTH:	1.8'
PHOTO:	8

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

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CLOCK POS.:	
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CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

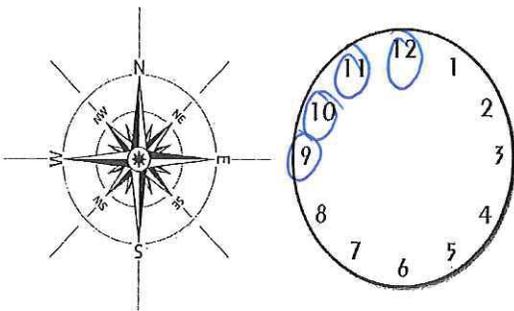
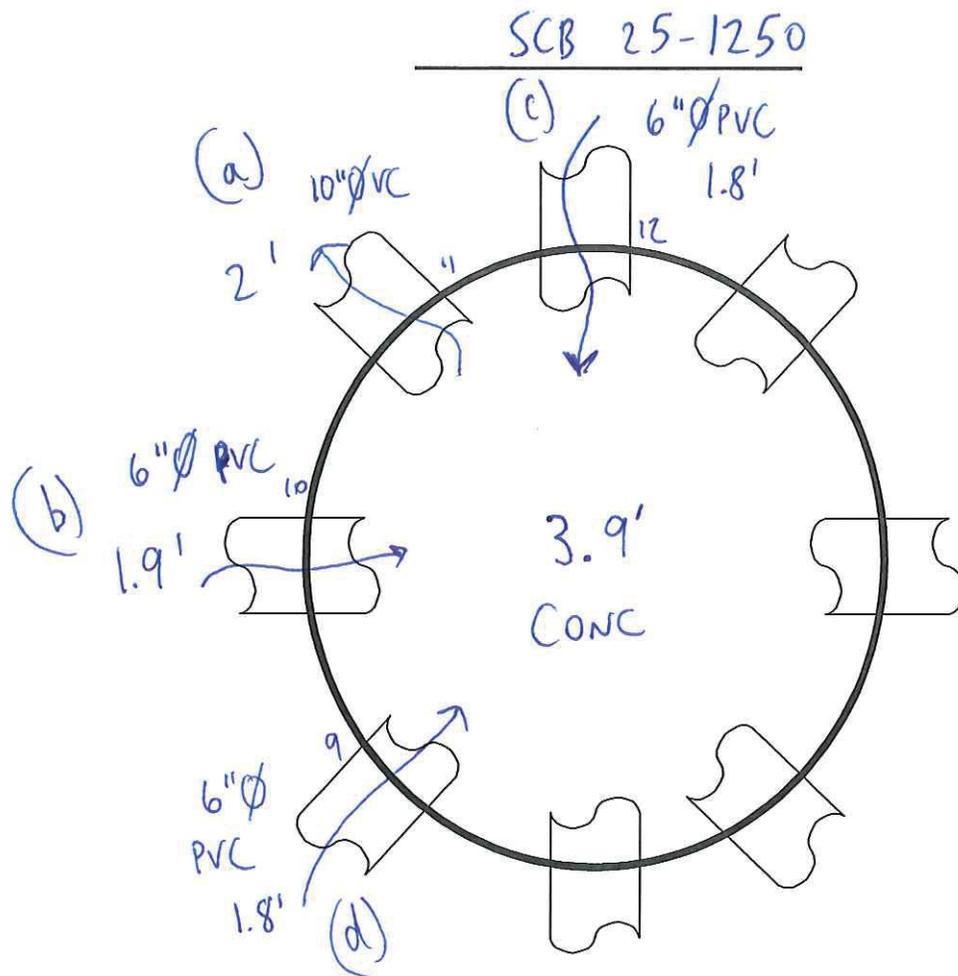
Housing:	8	Casting:	8
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Impact:

Root Intrusion:	N/A
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Comments:

Water is 1.8' deep, therefore cannot see bottom. Sediment on bottom of unknown depth. Casting is 3" off alignment at 1 and 7 o'clock positions. Lid is a grate and has no text.



Comments:

SCB 25-1250

1: Picture at a Distance



2: Picture at a Distance



3: Manhole Lid



4: Top View



5: Top View



6: 6" PVC 1.6 Ft. Invert 12 O'Clock



SCB 25-1250

7: 6" PVC Pipe 1.9 Ft. Invert 10 O'Clock



8: 6" PVC Pipe 1.8 Ft. Invert 9 O'Clock



9: 12" VC Pipe 2 Ft. Invert 11 O'Clock



Date:	2/11/13	Time:	12:10 PM	Weather:	46 WINDY
Outfall System:	25	Structure ID:	1600	Shape:	Round
Structure Type:	SMH	General Appraisal:	8	Diameter:	2.1'
Casting labeled "STORM":	NO	Invert:	9.5'	Water Depth:	1"
Housing Material:	BRICK				
Location:	Located inside courtyard of BLDG 39				

Pipe Data:

ID:	a
CLOCK POS.:	4
SIZE:	18"
MATERIAL:	VC
DEPTH:	9.6'
PHOTO:	15,16

ID:	b
CLOCK POS.:	10
SIZE:	18"
MATERIAL:	VC
DEPTH:	9.6'
PHOTO:	17,18

ID:	c
CLOCK POS.:	3
SIZE:	10"
MATERIAL:	C
DEPTH:	6.4'
PHOTO:	9,10

ID:	d
CLOCK POS.:	12
SIZE:	10"
MATERIAL:	VC
DEPTH:	6.8'
PHOTO:	11,12

ID:	e
CLOCK POS.:	6
SIZE:	6"
MATERIAL:	VC
DEPTH:	4.2'
PHOTO:	6,7

ID:	f
CLOCK POS.:	9
SIZE:	4"
MATERIAL:	VC
DEPTH:	3.2'
PHOTO:	4,5

ID:	N/A
CLOCK POS.:	7
SIZE:	6"
MATERIAL:	VC
DEPTH:	5.6'
PHOTO:	6,8

ID:	N/A
CLOCK POS.:	9
SIZE:	12"
MATERIAL:	VC
DEPTH:	6.6'
PHOTO:	13,14

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	8
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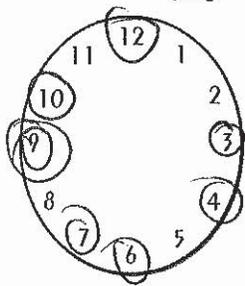
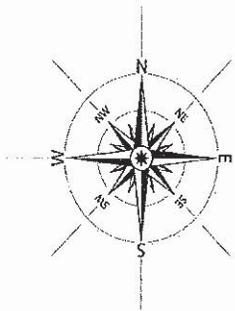
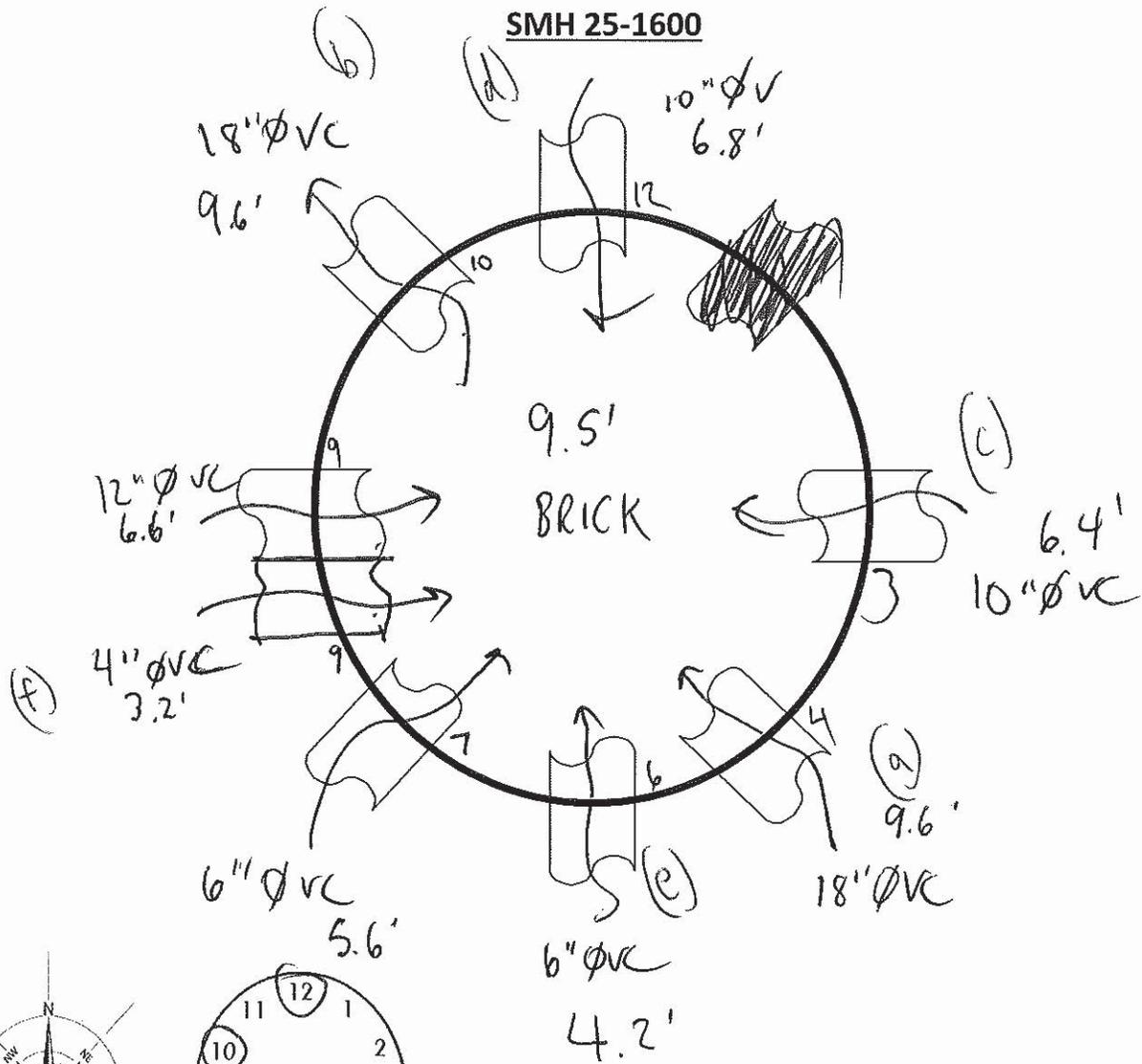
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

Lid labeled "SEWER."

**SMH 25-1600**



Comments:

SMH 25-1600

1: Picture at a Distance



2: Lid



3: Top View



4: 4" VC Pipe, 3.2 Ft. Invert, 9 O'Clock



5: 4" VC Pipe, 3.2 Ft. Invert, 9 O'Clock



6: 2-6" VC Pipes, 4.2 and 5.6 Ft. Invert, 6 and 7 O'Clock Positions



SMH 25-1600

7: 6" VC Pipe, 4.2 Ft. Invert, 6 O'Clock



8: 6" VC Pipe, 5.6 Ft. Invert, 7 O'Clock



9: 10" VC Pipe, 6.4 Ft. Invert, 3 O'Clock



10: 10" VC Pipe, 6.4 Ft. Invert, 3 O'Clock



11: 10" VC Pipe, 6.8 Ft. Invert, 12 O'Clock



12: 10" VC Pipe, 6.8 Ft. Invert, 12 O'Clock



SMH 25-1600

13: 12" VC Pipe, 6.6 Ft. Invert, 9 O'Clock



14: 12" VC Pipe, 6.6 Ft. Invert, 9 O'Clock



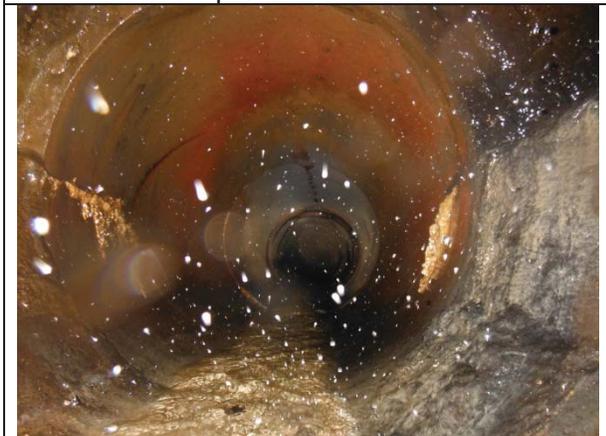
15: 18" VC Pipe, 9.6 Ft. Invert, 4 O'Clock



16: 18" VC Pipe, 9.6 Ft. Invert, 4 O'Clock



17: 18" VC Pipe, 9.6 Ft. Invert, 10 O'Clock



18: 18" VC Pipe, 9.6 Ft. Invert, 10 O'Clock



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# Inspection Reports

## Outfall No. 041

Date:	2/12/13	Time:	8:50 AM	Weather:	30F CLOUDY
Outfall System:	41	Structure ID:	0000	Shape:	ROUND
Structure Type:	HW	General Appraisal:	8	Diameter:	48"
Casting labeled "STORM":	N/A	Wall Height:	N/A	Water Depth:	1"
Housing Material:	N/A				
Location:	Northwest of Outfall 25, outside NASA boundary fence				

Pipe Data:

ID:	a
CLOCK POS.:	4
SIZE:	48"
MATERIAL:	RC
DEPTH:	N/A
PHOTO:	--

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
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MATERIAL:	
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PHOTO:	

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CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	N/A	Casting:	N/A
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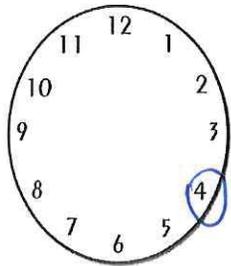
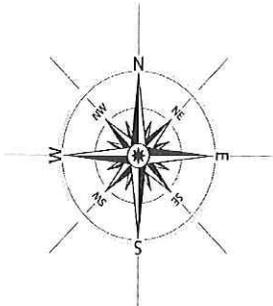
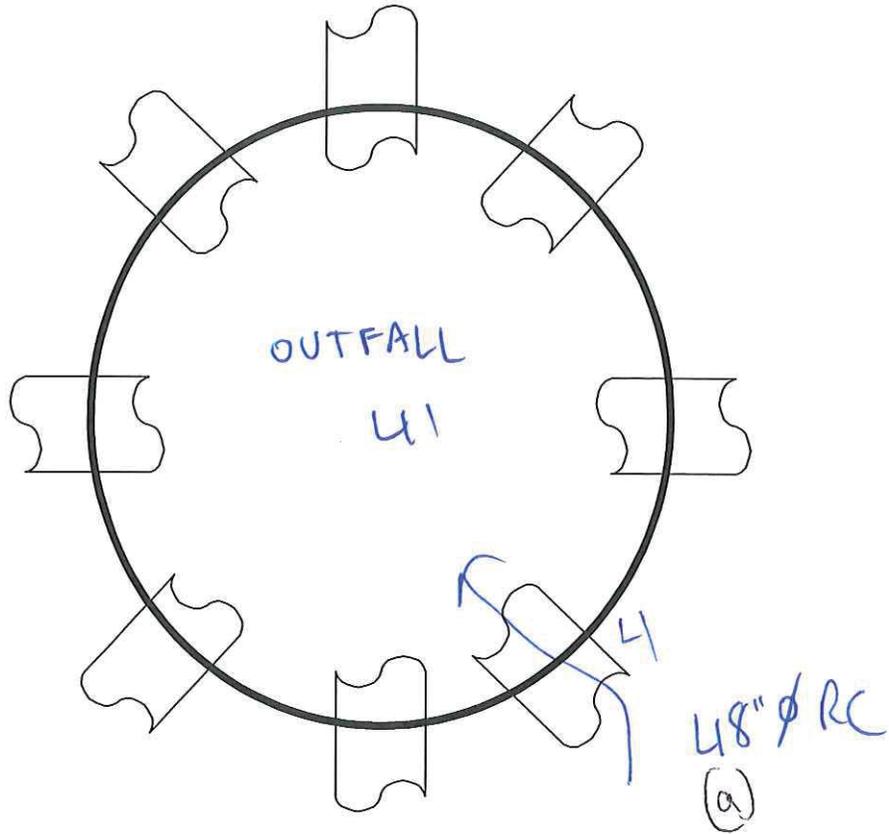
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

No headwall, pipe is direct buried.

Hw 41-0000



NO HEADWALL

Comments:

HW 41-0000

1: Outfall



2: Top View



3: 48" RC Pipe



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# Inspection Reports

## Outfall No. 015

Date:	2/8/13	Time:	2:25 PM	Weather:	28F Snow
Outfall System:	15	Structure ID:	0000	Shape:	ROUND
Structure Type:	HW	General Appraisal:	8	Diameter:	60"
Casting labeled "STORM":	N/A	Wall Height:	N/A	Water Depth:	N/A
Housing Material:	N/A				
Location:	West of Building 152 , outside NASA boundary fence				

Pipe Data:

ID:	a
CLOCK POS.:	4
SIZE:	60"
MATERIAL:	RC
DEPTH:	N/A
PHOTO:	--

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
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CLOCK POS.:	
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MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	N/A	Casting:	N/A
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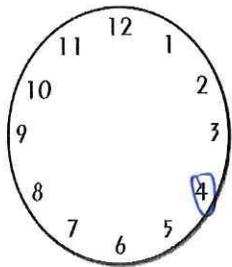
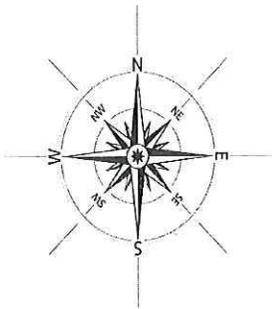
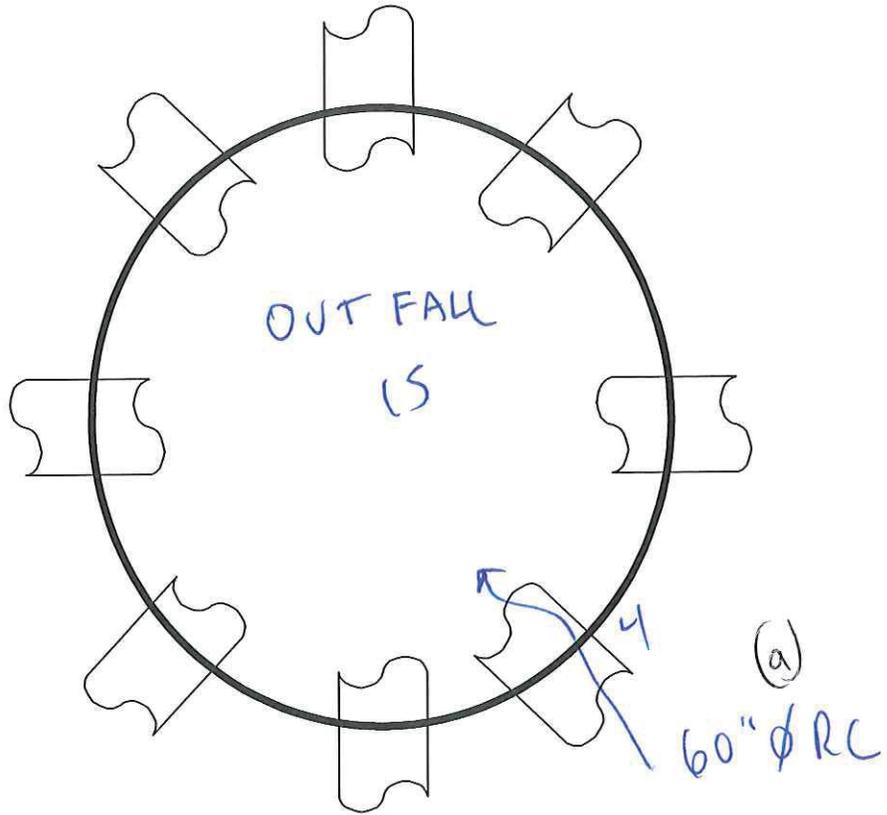
Impact:

Root Intrusion:	NO
-----------------	----

Comments:

No headwall

HW 15-0000



NO HEAD WALL

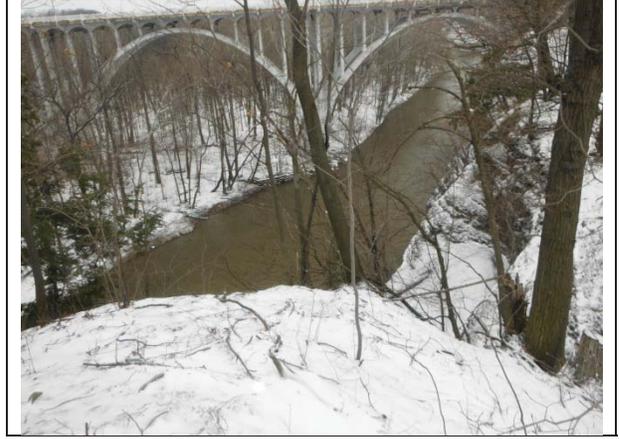
Comments:

HW 15-0000

1: Picture at a Distance



2: Outfall



3: 60" RC Pipe



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# Inspection Reports

## Outfall No. 017

Date:	2/8/13	Time:	2:15 PM	Weather:	28F Snow
Outfall System:	17	Structure ID:	0000	Shape:	ROUND
Structure Type:	HW	General Appraisal:	8	Diameter:	60"
Casting labeled "STORM":	N/A	Wall Height:	6'	Water Depth:	N/A
Housing Material:	CONC				
Location:	West of Building 25, outside NASA boundary fence				

Pipe Data:

ID:	a
CLOCK POS.:	4
SIZE:	60"
MATERIAL:	RC
DEPTH:	4'
PHOTO:	--

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

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ID:	
CLOCK POS.:	
SIZE:	
MATERIAL:	
DEPTH:	
PHOTO:	

Structural Ratings:

Housing:	8	Casting:	N/A
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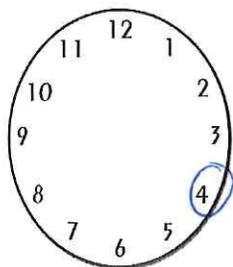
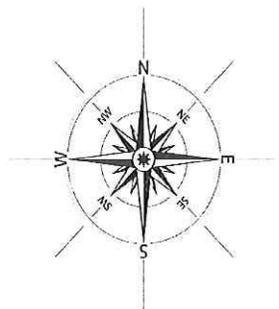
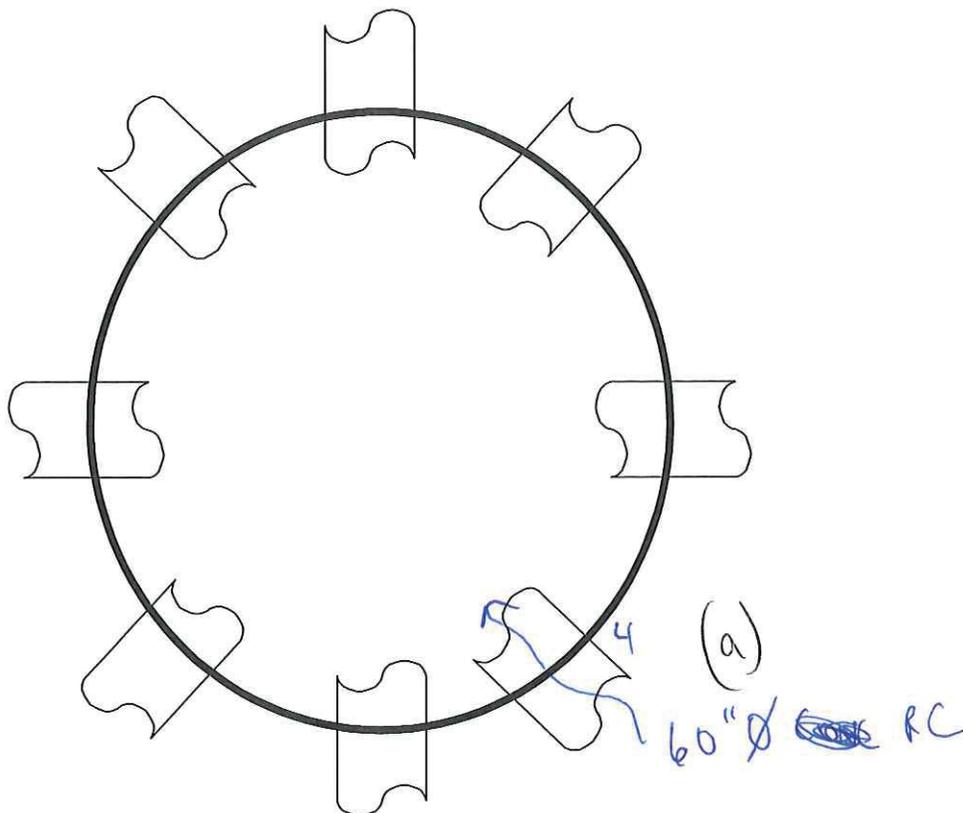
Impact:

Root Intrusion:	NO
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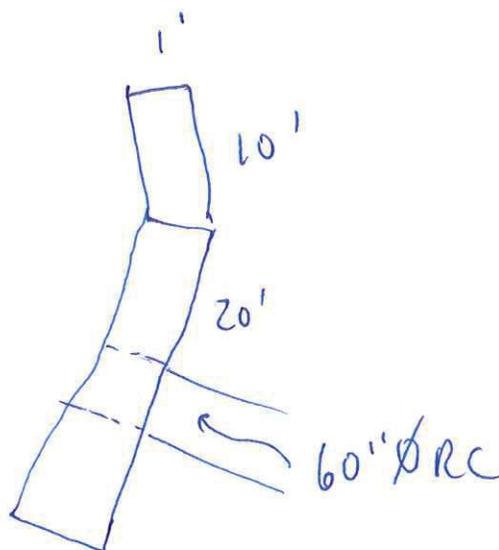
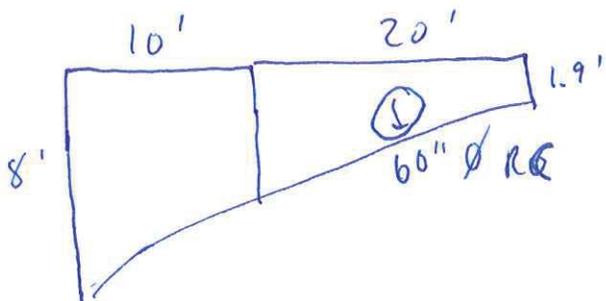
Comments:

Downed branches from trees are surrounding the headwall on this outfall but do not appear to be blocking the flow of storm water out the outfall.

HW 17-0000



Comments:



HW 17-0000

1: Picture at a Distance



2: Headwall and 60" RC Pipe



# Appendix B

## Structural Rating Definitions

## Structural Rating Definitions

### Housing (concrete manholes)

<u>Code</u>	<u>Category</u>	<u>Description</u>
9	Excellent	New Condition, superficial and isolated damage from construction.
8	Very Good	Hairline cracking without rust staining or delaminations; surface in good condition; isolated damage from construction.
7	Good	Hairline cracking. No single crack greater than 1/16 inch, without rust staining parallel to the direction of traffic; light scaling on less than 10% of exposed area, less than 1/8 inch deep. Delaminated/Spalled area less than 1% of surface area.
6	Satisfactory	Hairline map cracking combined with molted areas. Cracks less than 1/8 inch parallel to traffic, with minor efflorescence or minor amounts of leakage. Scaling on less than 20% of exposed area, less than 1/4 inch deep. Spalled areas with exposed reinforcing, less than 5%. Additional Delaminated/Spalled areas less than 5% of surface area.
5	Fair	Map cracking. Cracks less than 1/8 inch parallel to traffic, less than 1/16 inch transverse to traffic with efflorescence and/or rust stain, leakage and molted areas. Scaling on less than 30% of exposed area, less than 3/16 inch deep. Spalled areas with exposed reinforcing less than 10%. Total delaminated/ spalled areas less than 15% of surface area.
4	Poor	Transverse cracks open greater than 1/8 inch with efflorescence and rust staining. Spalling at numerous locations; extensive surface scaling greater than 1/2 inch. Extensive cracking with cracks open more than 1/8 inch with efflorescence; spalling has caused exposure of heavily corroded reinforcing steel; extensive surface scaling greater than 3/4 inch. (approximately 50% of structure is affected).
3	Serious	Extensive cracking with spalling, delaminations, and slight differential movement; scaling has exposed all surfaces of the reinforcing steel (approximately all exposed surfaces are 50% loss of wall thickness); concrete very soft.
2	Critical	Full depth holes. Extensive cracking greater than 1/2 inch. Spalled areas with exposed reinforcing greater than 25%. Total delaminated, spalled, and punky concrete areas are greater than 50% of surface area. Reinforcing steel bars have extensive section loss and perimeter of bar is completely exposed (several bars in a row).

1	Imminent Failure	Structure partially collapsed or collapse is imminent.
0	Failed	The structure is collapsed.

## Housing (masonry manholes)

<u>Code</u>	<u>Category</u>	<u>Description</u>
9	Excellent	New condition.
8	Very Good	No cracking, no missing dislocated masonry present; surface in good condition.
7	Good	Surface deterioration at isolated locations.
6	Satisfactory	Minor cracking of masonry units.
5	Fair	Minor cracking; slight dislocation of masonry units; large areas of surface scaling. Split or cracked stones. Minor cracking; slight dislocation of masonry units; large areas of surface scaling.
4	Poor	Significant displacement of individual masonry units.
3	Serious	Extensive cracking with spalling, delaminations, and slight differential movement; Scaling has exposed reinforcing steel; individual masonry units in lower part of structure missing or Crushed.
2	Critical	Individual masonry units in lower part of structure missing, or crushed. individual masonry units in top of structure missing or crushed.
1	Imminent Failure	Structure partially collapsed or collapse is imminent.
0	Failed	Total failure of structure.

## Casting

<u>Code</u>	<u>Category</u>	<u>Description</u>
9	Excellent	New condition; no corrosion.
8	Very Good	Discoloration of surface; no layers of rust.
7	Good	Discoloration of surface; no layers of rust. Minor pinholes (with an area less than 3 square inches per square foot).
6	Satisfactory	Layers of rust. Sporadic pitting. Minor pinholes (with an area less than 6 square inches per square foot, 4%).
5	Fair	Heavy rust and scale. Pinholes (with an area less than 15 square inches per square foot, 10%) throughout. Section loss and perforations at top/bottom. Holes in metal at top/bottom.
4	Poor	Extensive heavy rust; thick and scaling rust throughout; deep pitting; perforations throughout with an area less than 30 square inches per square foot, 20%. Overall thin metal, which allows for an easy puncture with chipping hammer.
3	Serious	Extensive heavy rust; thick and scaling rust throughout; deep

pitting; perforations throughout with an area less than 36 square inches per square foot, 25%. Overall thin metal, which allows for an easy puncture with chipping hammer. Top/bottom corroded away.

2	Critical	Perforations throughout with an area greater than 36 square inches per square foot, 25%.
1	Imminent Failure	Structure partially collapsed.
0	Failed	Total failure of structure.