

	Project I	nformation			
Surveyor Name	GCK	Certificate Number	U-210-10171		
Owner		Customer			
Drainage Area		PO Number	1-1618		
Pipe Segment	TC4-M5-16 to TC4-M5	Date	7/29/2022 11:53		
Reference Street	17 Midgard	City	DOCMville		
Comments	Midgard	City	POSMville		
oonnents	Ма	nhole			
Upstream MH	TC4-M5-16	Rim to Invert (U)			
Grade to Invert (U)		Rim to Grade (U)			
Downstream MH	TC4-M5-17	Rim to Invert (D)			
Grade to Invert (D)		Rim to Grade (D)			
Pipe Use	Sanitary Sewage Pipe		Downstream		
		lipe			
Height (Diameter)	8 Oireadar	Width	Vitrified Olev Dire		
Shape Lining Method	Circular	Material Pipe Joint Length	Vitrified Clay Pipe		
Total Length		Length Surveyed	304.2		
Year Constructed		Year Renewed	50 4 .2		
	Ν	lisc			
Flow Control		Media Label	6/19/09		
Purpose	Pre-Rehabilitation Survey	Consequence of Failure			
Pre-Cleaning	Heavy Cleaning	Date Cleaned	7/29/2022 11:53		
Weather	Light Rain	Location Code	Easement/Right of Way		
Additional Info Location Details					
		stom	1		
Custom 1	1	Custom 2	1		
Custom 3 Custom 5	12 0	Custom 4 Custom 6	9		
Custom 7	0	Custom 8	0		
Custom 9	0	Custom 10	0		
	-	oject			
Reverse Setup ID		Sheet (Group) Number			
Imperial Units (US)	True	Pressure Value			
Work Order		Project	TC4		
Coating Method	lnon T	Completed	Yes		
CCTV	Yes	ech Used Laser	No		
Sidewall	No	Sonar	No		
Zoom	No	Other	No		

	Insp	ection	
Inspection Status	Complete Inspection		
Reviewed By		Reviewer Certificate Number	
	Count	Groups	
Taps	1	Roots	1
Cracks / Fractures	12	Broken / Holes / Collapse	9
Deposits	0	Obstruction	0
Abandoned Survey	1		
	Sc	ores	
Structure Peak Score	10	Structure Peak Grade	2
Structure Mean Score	0.26	Structure Mean Grade	1
Service Peak Score	1	Service Peak Grade	1
Service Mean Score	0	Service Mean Grade	1
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Project: TC4

Date: 7/29/2022 11:53:00 AM

Street: Midgard Length Surveyed: 304.2 Run Number: Height (Diameter): 8 Pipe Segment Reference: TC4-M5-16 to TC4-M5-17 Upstream MH: TC4-M5-16 Downstream MH: TC4-M5-17 Direction of Survey: Downstream Material: Vitrified Clay Pipe

Distance	Fault Observation	Time	Picture
7.0	Fracture Circumferential Position: 6 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:24:50	Te4-M5-16 B/19/2009 Te4 Te4-M5-17 10:51
7.5	Miscellaneous Water Level Severity: None Defect: 0 Percent: 10	00:00:44	T64-M5-18 T0 T64-M5-17 B/19/2009 T64 10:27 Water Level 7.5 FT
11.4	Fracture Multiple Position: 12 To 1 Severity: None Cont Defect: S01 Defect: 0 Percent: 0 Joint Remarks: N/L Struct Weight: 4	00:01:56	T04-M5-18 B/19/2009 T04 T04-M5-17 10:29 Fracture Multiple 11.4 FT

Distance	Fault Observation	Time	Picture
21.1	Broken Soil Visible Position: 9 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 5	00:03:46	TC4-M5-18 5/19/2009 TC4 TC4-M5-17 10:30 10:30 Proken Soil Visible 21.1 FT
21.1	Fracture Multiple Position: 12 To 1 Severity: None Cont Defect: F01 Defect: 0 Percent: 0 Joint Remarks: N/L Struct Weight: 4	00:04:02	TC4-M5-18 B/19/2009 TC4 TC4 TC4-M5-17 10:31
36.0	Fracture Circumferential Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Joint Remarks: N/L Struct Weight: 2	00:06:48	TG4-M5-18 B/19/2009 TG4 TG4 TG4 T0:39 TG4 T0:39 TG4 T0:39 TG4 T0:39

Distance	Fault Observation	Time	Picture
41.7	Broken Soil Visible Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Struct Weight: 5	00:11:50	T04-M5-16 T0 T04-M5-17 5/19/2009 T64 10:39 Broken Sotl Visible 41.7 FT
45.9	Fracture Multiple Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 4	00:12:57	TC4-M5-16 T0 TC4-M5-17 6/19/2009 TC4 10:40 Freeture Multiple 45.9 FT
69.4	Miscellaneous Abandoned Survey Severity: None Defect: 0 Percent: 0 Remarks: NEEDS JETTING	00:21:07	TC4-M5-16 T0 TC4-M5-17 5/19/2009 TC4 10:48 Abendoned Survey ES.4 FT T

Distance	Fault Observation	Time	Picture
91.8	Fracture Circumferential Position: 2 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:29:55	TC4-M5-16 E/22/2009 TG4 TG4 TG4-M5-17 D9:11 D9:11 Fracture Circumferential 91.8 FT
191.3	Roots Fine Lateral Position: 9 Severity: None Defect: 0 Percent: 0 Maint Weight: 1	00:35:06	T04-M5-16 T0 T04-M5-17 5/22/2009 T04 09:15 Boots Fine Lateral 191.3 FT
191.3	Tap Break-in Activity Position: 8 Severity: None Size: 6 Defect: 0 Percent: 0	00:34:47	TC4-M5-16 5/22/2009 TC4 D9:18 Te4-M5-17 D9:18 Te4-M5-17 D9:18

Distance	Fault Observation	Time	Picture
192.8	Fracture Multiple Position: 7 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 4	00:36:33	T04-M5-16 5/22/2009 T04 T04-M5-17 D9:19 Fracture Multiple 192.8 FT
203.0	Fracture Circumferential Position: 11 To 2 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:38:08	T04-M5-18 5/22/2009 T04 T04 D3:19 Fracture Circumferential 203.0 FT
218.0	Crack Longitudinal Position: 12 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 2	00:39:29	TC4-M5-16 T0 TC4-M5-17 6/22/2009 TC4 09:21 Greek Lonaitudinel 218.0 FT

Distance	Fault Observation	Time	Picture
244.8	Crack Multiple Position: 12 To 1 Severity: None Cont Defect: S02 Defect: 0 Percent: 0 Joint Struct Weight: 3	00:41:25	T04-ME-16 5/22/2009 T04 T04-ME-17 09:22 09:22 Crack Multiple 244.9 FT
258.7	Broken Soil Visible Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Joint Struct Weight: 5	00:44:03	TC4-M5-16 5/22/2009 TC4 TC4 TC4-M5-17 D9:25 D9:25 Eroken Soil Visible 258.7 FT
258.7	Crack Multiple Position: 12 To 1 Severity: None Cont Defect: F02 Defect: 0 Percent: 0 Joint Struct Weight: 3	00:43:34	T64-H5-18 T0 T64-H5-17 5/22/2009 T64 09:25 Greck Multiple 258.7 FT

Distance	Fault Observation	Time	Picture
263.8	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: S03 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:45:23	T04-M5-15 5/22/2009 T04 T04-M5-17 09:25 Eroken Soti Visible 259.9 FT
267.2	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: F03 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:46:08	T64-H5-18 5/22/2009 T04 09:27 09:27 Eroken Soti Visible 257.2 FT
273.5	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: S04 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:47:38	TC4-MS-18 B/22/2009 TC4 D9:29 Epoken Soll Visible 278.5 FT

Distance	Fault Observation	Time	Picture
275.9	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: F04 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:48:29	TC4-M5-16 5/22/2009 TC4 09:30 Epoken Soll Visible 275.9 FT
283.7	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: S05 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:49:57	T64-M5-18 5/22/2009 T64 Broken Soil Visible 283.7 FT
295.2	Broken Soil Visible Position: 12 To 1 Severity: None Cont Defect: F05 Defect: 0 Percent: 0 Joint Struct Weight: 5	00:50:45	TC4-M5-18 6/22/2009 TC4 TC4 09:82 Broken Soil Visible 295.2 FT

Distance	Fault Observation	Time		Picture	
301.9	Crack Circumferential Position: 12 To 1 Severity: None Defect: 0 Percent: 0 Struct Weight: 1	00:52:53	TC4-M5-16 6/22/2009 Crack Circumfe 301.9 FT	TO TG4	TC4-M5-17 D9:94
304.2	Access Point Manhole Severity: None Defect: 0 Percent: 0 Remarks: TC4-M5-17	00:53:32	TC4-M5-16 6/22/2009 Manhole 304.2 FT	To Te4	TC4-M5-17 D9:35

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Projec	Project: TC4 Severity			
Date: 7/29/2022 11:53:00 AM Street: Midgard Length Surveyed: 304.2 Run Number: Height (Diameter): 8	SeveritySeverityLight-1TC4-M5-17Moderate-2Upstream MH: TC4-M5-16Average-3Downstream MH: TC4-M5-17Heavy-4Direction of Survey: DownstreamSevere-5Material: Vitrified Clay PipeSevere-5			
 (7.5) MWL - Miscellaneous Water Level (Clip) (11.4) FM - Fracture Multiple - Position: 12 To 1 - Cont Def: S01 Remark: N/L (Clip) (21.1) FM - Fracture Multiple - Position: 12 To 1 - Cont Def: F01 Remark: N/L (Clip) (36.0) FC - Fracture Circumferential - Position: 12 To 1 To 1 Remark: N/L (Clip) (41.7) BSV - Broken Soil Visible - Position: 12 To 1 (Clip) (45.9) FM - Fracture Multiple - Position: 12 To 1 (Clip) (69.4) MSA - Miscellaneous Abandoned Survey Remark: NEEDS JETTING (Clip) (91.8) FC - Fracture Circumferential - Position: 2 To 1 (Clip) (218.0) CL - Crack Longitudinal - Position: 12 (Clip) (244.8) CM - Crack Multiple - Position: 12 To 1 - Cont Def: S02 (Clip) (258.7) PSV - Prace Scill Visible - Position: 12 To 1 - Cont Def: S02 (Clip) 	 (21.1) BSV - Broken Soil Visible - Position: 9 To 1 (Clip) (21.1) BSV - Broken Soil Visible - Position: 9 To 1 (Clip) (191.3) RFL - Roots Fine Lateral - Position: 9 (Clip) (191.3) TBA - Tap Break-in Activity - Position: 8 (Clip) (192.8) FM - Fracture Multiple - Position: 7 To 1 (Clip) (203.0) FC - Fracture Circumferential - Position: 11 To 2 (Clip) 			
(258.7) BSV - Broken Soil Visible - Position: 12 To 1 (Clip)	·			

(258.7) CM - Crack Multiple - Position: 12 To 1 -		
Cont Def: F02 (Clip) (263.8) BSV - Broken Soil Visible - Position: 12 To		
1 - Cont Def: S03 (Clip)		
(267.2) BSV - Broken Soil Visible - Position: 12 To		
1 - Cont Def: F03 (Clip)		
(273.5) BSV - Broken Soil Visible - Position: 12 To 1 - Cont Def: S04 (Clip)		
1 - Cont Del. 304 (Chp)		
(275.9) BSV - Broken Soil Visible - Position: 12 To		
1 - Cont Def: F04 (Clip)		
(283.7) BSV - Broken Soil Visible - Position: 12 To		
1 - Cont Def: S05 (Clip)		
(295.2) BSV - Broken Soil Visible - Position: 12 To		
1 - Cont Def: F05 (Clip)		
(301.9) CC - Crack Circumferential - Position: 12		
To 1 (Clip)		
(304.2) AMH - Access Point Manhole Remark:		
TC4-M5-17 (Clip)	*	
Total Distance: 304.2	\bigcirc	ID Number: TC4-M5-17

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Nassco C.C.T.V. Defect Code Information

Grade	Structural	O&M	Overall
5	35	0	35
4	16	0	16
3	9	0	9
2	10	0	10
1	1	1	2
Overall	71	1	72
Number of Defects	20	1	21
Pipe Rating	5744	1100	5744
Pipe Ratings Index	3.6	1	3.4

Nassco C.C.T.V. Defect Code Information

Distance	Video Ref	Code	Cont Defect	Value		Joint	Circumferential Location		
Distance				Dimension		%	Joint	At /	То
				1st	2nd	/0		From	10
7	1490	FC - Fracture Circumferential			0	0	X	6	1
7.5	44	MWL - Miscellaneous Water Level			0	10			
11.4	116	FM - Fracture Multiple	S01		0	0	X	12	1
N/L									
21.1	226	BSV - Broken Soil Visible			0	0	X	9	1
21.1	242	FM - Fracture Multiple	F01		0	0	X	12	1
		N/L							
36	408	FC - Fracture Circumferential			0	0	x	12	1
		N/L							
41.7	710	BSV - Broken Soil Visible			0	0		12	1
45.9	777	FM - Fracture Multiple			0	0	X	12	1
69.4	1267	MSA - Miscellaneous Abandoned Survey			0	0			
NEEDS JETTING									
91.8	1795	FC - Fracture Circumferential			0	0	X	2	1
191.3	2106	RFL - Roots Fine Lateral			0	0		9	
191.3	2087	TBA - Tap Break-in Activity		6	0	0		8	
192.8	2193	FM - Fracture Multiple			0	0	X	7	1
203	2288	FC - Fracture Circumferential			0	0	x	11	2
218	2369	CL - Crack Longitudinal			0	0	X	12	
244.8	2485	CM - Crack Multiple	S02		0	0	X	12	1
258.7	2643	BSV - Broken Soil Visible			0	0	X	12	1
258.7	2614	CM - Crack Multiple	F02		0	0	X	12	1
263.8	2723	BSV - Broken Soil Visible	S03		0	0	X	12	1
267.2	2768	BSV - Broken Soil Visible	F03		0	0	X	12	1
273.5	2858	BSV - Broken Soil Visible	S04		0	0	X	12	1

275.9	2909	BSV - Broken Soil Visible	F04		0	0	X	12	1
283.7	2997	BSV - Broken Soil Visible	S05		0	0	X	12	1
295.2	3045	BSV - Broken Soil Visible	F05		0	0	Х	12	1
301.9	3173	CC - Crack Circumferential			0	0		12	1
304.2	3212	AMH - Access Point Manhole			0	0			
		TC4-M5-17							

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Additional Reports for Session TC4

