Caro	lina Cross	roads - V	Video In	spection	Summa	ry - Phase 2 - 04/09/2021
Culvert ID	ROW Alignment	Station	# Of Barrels	Pipe Size (D or WxH)	Length (ft) per Field Survey	Recommendations for Pipe Based on Video Inspection Report
EC-4201	I20000X	206+30	1	4'x4'	444	If retained, repair or seal cracking within culvert. Contractor to place appropriately designed outlet protection at downstream scour hole.
EP-4210	BRD002P	227+10	1	18"	277	If retained, remove and replace pipe 8' of pipe from outfall to Shell JB. Slip line or replace remainder of existing pipe to outfall south of Broad River Road.
EP-4211	I20CDW1	7210+65	1	18"	45	Replace existing pipe.
EP-4212	I20CDW1	7210+90	1	18"	66	Replace existing pipe.
EP-4213	BRDRE0P	3212+45	1	15"	88	Replace existing pipe.
EP-4220	BRD002P	216+90	1	18"	40	Replace existing pipe.
EP-4221	BRD002P	217+50	1	18"	72	Replace existing pipe.
EP-4222	BRD002P	219+50	1	15"	487	Replace existing pipe.
EP-4223	BRD002P	223+00	1	18"	211	VPI not performed due to inaccessibility. Contractor to investigate.
EP-4224	BRD002P	221+95	1	18"	31	Replace existing pipe.
EP-4225	BRD002P	221+94	1	18"	27	Replace existing pipe.
EP-4226	BRD002P	223+00	1	15"	190	Replace existing pipe.
EP-4227	BRD002P	224+35	1	15"	53	Replace existing pipe.
EP-4228	BRD002P	224+70	1	15"	41	Replace existing pipe.
EP-4240	BRD002P	241+40	1	18"	68	Replace existing pipe.
EP-4241	BRD002P	241+50	1	18"	104	Replace existing pipe.
EP-4242	BRD002P	242+20	1	18"	114	Replace existing pipe.
EP-4301	I20000X	222+65	1	24"	280	Clear all debris. Further investigation needed by contractor.
EP-4401	I20000X	240+60	1	18"	212	Slip line or replace existing pipe from north side of I-20 to median. Slip line or replace existing pipe from median of I-20 to outfall on EB side of I-20. Remove and replace pipe from 90' south of I-20 median to outfall due to severe joint separation.
EP-4501	I20000X	252+85	1	30"	225	Slip line or replace existing pipe.
EP-4601	I20000X	262+80	1	24"	291	Slip line or replace existing pipe from outfall on south side of I-20 to approximately 40' south of inlet on north side of I-20. Remove and replace 40' of pipe from inlet on north side of I-20 due to severe joint separation.

I-20/I-26/I-126 Corridor Improvement Project

Alignment I20000X, Station 206+30

Structure EC-4201

4' x 4' RCBC

Summary:

F&ME assessed the overall condition of a 4' x 4' RCBC designated as EC-4201.

Observations:

- Dimensions Verified 4' x 4' RCBC. Measured length of 444 LF; plan length of 446 LF.
- Scan direction Inlet to outfall.
- General notes None
- Observations:
 - 1) 23.8 feet Severe transverse crack in top of culvert (0.23" gap); infiltration weeping on left and right sides of culvert.
 - 2) 28.9 feet Transverse crack in top of culvert; infiltration weeping.
 - 3) 42.7 feet Infiltration weeping on left and right sides of culvert.
 - 4) 58.2 feet Transverse crack on right side of culvert.
 - 5) 63.7 feet Transverse crack on top of culvert.
 - 6) 82.0 feet Infiltration weeping on left and right sides.
 - 7) 93.1 feet Infiltration weeping on left and right sides.
 - 8) 99.0 feet Severe transverse crack on all four sides of culvert.
 - 9) 118.5 feet Transverse crack and infiltration on left, right, and top of culvert.
 - 10) 134.8 feet Infiltration on right side of culvert.
 - 11) 142.9 feet Transverse crack and infiltration weeping on left, right, and top of culvert.
 - 12) 148.8 feet Transverse crack and infiltration weeping on top of culvert.
 - 13) 151.8 feet Junction box on old pipe inlet; transverse crack and infiltration weeping on top of culvert.
 - 14) 159.2 feet Transverse crack and infiltration weeping on top of culvert.
 - 15) 165.2 feet Transverse crack and infiltration weeping on top of culvert.
 - 16) 172.4 feet Transverse crack and infiltration weeping on top of culvert.
 - 17) 177.3 feet Infiltration weeping.
 - 18) 180.2 feet Transverse crack and infiltration weeping on top of culvert.
 - 19) 194.7 feet Infiltration weeping on left and right sides of culvert.
 - 20) 210.1 feet Transverse crack and infiltration weeping on top of culvert.
 - 21) 217.9 feet Transverse crack and infiltration weeping on top of culvert.
 - 22) 227.4 feet Transverse crack and infiltration weeping on top of culvert.
 - 23) 231.2 feet Transverse crack and infiltration weeping on top of culvert.
 - 24) 242.7 feet Infiltration weeping; small root intrusion.
 - 25) 248.8 feet Transverse crack and infiltration weeping on top of culvert.
 - 26) 254.0 feet Infiltration weeping.
 - 27) 261.5 feet Infiltration weeping.



I-20/I-26/I-126 Corridor Improvement Project

Alignment I20000X, Station 206+30

Structure EC-4201

4' x 4' RCBC

Summary:

F&ME assessed the overall condition of a 4' x 4' RCBC designated as EC-4201.

Observations:

- Dimensions Verified 4' x 4' RCBC. Measured length of 444 LF; plan length of 446 LF.
- Scan direction Inlet to outfall.
- General notes None
- Observations:
 - 28) 265.1 feet Transverse crack and infiltration weeping on top of culvert.
 - 29) 273.4 feet Transverse crack, fine root intrusion, and infiltration weeping on top of culvert.
 - 30) 292.6 feet Infiltration weeping.
 - 31) 299.4 feet Infiltration weeping.
 - 32) 306.3 feet Transverse crack, fine root intrusion, and infiltration weeping on top of culvert.
 - 33) 311.0 feet Transverse crack, fine root intrusion, and infiltration weeping on top of culvert.
 - 34) 321.8 feet Severe transverse crack in top of culvert (0.23" gap); infiltration weeping on left and right sides of culvert.
 - 35) 325.3 feet Chimney inlet built over culvert; infiltration weeping.
 - 36) 343.4 feet Infiltration weeping.
 - 37) 349.0 feet Transverse crack of top of culvert; infiltration weeping on left and right sides of culvert.
 - 38) 366.6 feet Transverse crack of top of culvert; infiltration weeping on left and right sides of culvert.
 - 39) 376.8 feet Transverse crack on left side of culvert.
 - 40) 378.3 feet Transverse crack on right side of culvert.
 - 41) 382.6 to 383.9 feet Transverse crack and infiltration weeping on left, right, and top sides of culvert.
 - 42) 392.7 to 394.1 feet Transverse crack and infiltration weeping on left, right, and top sides of culvert.
 - 43) 422.9 feet Transverse crack of top of culvert; infiltration weeping on left and right sides of culvert.





Project Information

Certificate **Surveyor Name GCS** U-0917-07009391 Number

SCDOT Customer F&ME Owner

Drainage Area PO Number

Pipe Segment Date 3/29/2019 11:04

Reference

Street I-26 City **COLUMBIA**

Comments

Manhole

EC 4201 INLET Rim to Invert (U) **Upstream MH**

Grade to Invert Rim to Grade (U) (U)

Downstream MH EC 4201 OUTFALL Rim to Invert (D)

Grade to Invert Rim to Grade (D)

(D)

Direction of **Sewer Use** Downstream Survey

Pipe

4 Height (Diameter) 4 Width

Reinforced Concrete **Shape** Square Material

Lining Method Pipe Joint Length

Length Surveyed 443.5 **Total Length**

Year Laid **Year Renewed**

Misc

Flow Control DVD Media Label

Sewer Category Purpose Not Known **Date Cleaned** Pre-Cleaning Weather **Location Code** Additional Info **Location Details**

Custom

Number of Roots 20 Number of Taps 0

Number of

Num Cracks / 33 Broken / Holes / 0 **Fractures**

Collapse

Number of 0 Custom6 **Deposits**

Struct Grade Custom7 **Overall Grade OM Grade**

Pacp 6

Sheet (Group) **Reverse Setup ID**

Number

Imperial Units Pressure Value

True (US)

Work Order CCR PIPE **Project**

> Completed Yes

Project: CCR PIPE

Date: 3/29/2019 11:04:00 AM **Pipe Segment Reference:**

Upstream MH: EC 4201 INLET Street: I-26

Downstream MH: EC 4201 Length Surveyed: 443.5

OUTFALL

Direction of Survey:

EC-4201

Pacp Quick Overall Rating: Downstream

Material: Reinforced Concrete Height (Diameter): 4

Pipe

Street: I-26

Distance	Fault Observation	Time	Picture
0.0	Discharge Point Severity: None Remarks: EC 4201 INLET	32	
0.0	Water Level Severity: None Percent: 5	46	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
23.8	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	04:21	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 10:14 113/-93' +1.3% +23.7ft

Distance	Fault Observation	Time	Picture
23.8	Infil Weeper Position: 9 To 7 Severity: None Maint Weight: 2	05:01	CCR PIPE EC 4201 INLET To EC 4201 QUIFALE Crack Circumferential 03,29,19 149/-91' +1.4% +23,7ft
23.8	Infil Dripper Position: 4 Severity: None Maint Weight: 3	05:43	CCR PIPE EC 4201 TM PI To EC 4201 SIFFELE 10:16 -8/-88' +1.4% +23.7ft
23.8	Infil Weeper Position: 1 To 4 Severity: None Maint Weight: 2	06:08	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
28.9	Infil Weeper Position: 2 To 4 Severity: None Maint Weight: 2	07:33	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
28.9	Infil Weeper Position: 8 To 10 Severity: None Maint Weight: 2	08:43	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
28.9	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	08:46	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
42.7	Infil Weeper Position: 7 To 10 Severity: None Joint Maint Weight: 2	10:43	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03.29.19 -176/-82' +0.5% +42.7ft
42.7	Infil Weeper Position: 3 To 5 Severity: None Joint Maint Weight: 2	11:10	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
42.7	Infil Stain Position: 10 To 1 Severity: None Joint	11:42	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 111/-87' +0,5% +42,7ft

Distance	Fault Observation	Time	Picture
58.2	Crack Circumferential Position: 1 To 4 Severity: None Struct Weight: 1	13:02	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
58.2	Infil Stain Position: 3 To 4 Severity: None Remarks: FROM CRACK	13:30	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
63.3	Roots Fine Barrel Position: 1 To 4 Severity: None Maint Weight: 2	16:04	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
63.7	Crack Circumferential Position: 8 To 12 Severity: None Struct Weight: 1	16:18	CC_ PIPE EC 4201 INLET To EC 4201 OUTFALL
64.0	Infil Stain Position: 8 To 10 Severity: None	16:55	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
82.0	Infil Weeper Position: 2 To 4 Severity: None Maint Weight: 2	18:46	CCR PIPE EC 4201 INLET UTFALL

Distance	Fault Observation	Time	Picture
82.0	Roots Fine Barrel Position: 3 To 4 Severity: None Maint Weight: 2	20:06	_CR PINE EC 4201 INLET To EC 4201 OUTFALL: 03.29.19 -8/-86' +0.7% +82.0ft
82.0	Roots Fine Barrel Position: 10 Severity: None Maint Weight: 2	20:17	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
82.0	Infil Weeper Position: 8 To 10 Severity: None Maint Weight: 2	20:54	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
93.1	Infil Weeper Position: 7 To 8 Severity: None Maint Weight: 2	24:14	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
93.1	Infil Weeper Position: 3 To 5 Severity: None Maint Weight: 2	25:10	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
99.0	Crack Circumferential Position: 7 To 10 Severity: None Struct Weight: 1	27:32	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
99.0	Infil Stain Position: 7 To 10 Severity: None	26:42	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
99.0	Infil Stain Position: 1 To 5 Severity: None	27:18	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03.29.19 34/-85' +1.6% +98.9ft
99.1	Crack Circumferential Position: 5 To 7 Severity: None Remarks: FLOOR HAS CRACK OR THE REST OF JOINT IS PARGED Struct Weight: 1	28:23	CCR PIPE EC 4201 PALET TO EC 4201 DUTFALL 03,29,19 -107/-84' +1,3% +99,0ft

Distance	Fault Observation	Time	Picture
118.5	Crack Circumferential Position: 2 To 3 Severity: None Remarks: CRACK WITH WEEPING Struct Weight: 1	30:25	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
118.5	Roots Fine Joint Position: 4 To 5 Severity: None Joint Maint Weight: 1	30:43	CCR PIPE EC 4201 INLET To EC 4201 OUTFALE 10:42 -16/-85' +2.3% +118,5ft
118.5	Crack Circumferential Position: 7 To 12 Severity: None Struct Weight: 1	31:26	CCR PIPE EC 4201 INLET UTFALL Roots Fine Joint 03,29,19 -105/85' +2,3% +118,5ft

Distance	Fault Observation	Time	Picture
118.5	Infil Weeper Position: 7 To 9 Severity: None Maint Weight: 2	32:21	CCR PIPE EC 4201 INLET UTFALL
118.5	Picture Number: 2 Infil Weeper Position: 7 To 9	0	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL 10:44 -3/88' +2.2% +118,5ft
134.8	Roots Fine Barrel Position: 7 To 4 Severity: None Maint Weight: 2	33:59	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
134.8	Infil Weeper Position: 7 To 5 Severity: None Maint Weight: 2	36:22	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
142.9	Infil Weeper Position: 7 To 10 Severity: None Maint Weight: 2	38:21	CCR PIPE EC: 4201 FNETI To EC: 4201 TOUTFALL 03,29,19 147/-91' +2.5% +142,9ft
142.9	Infil Dripper Position: 12 Severity: None Maint Weight: 3	37:21	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
142.9	Crack Circumferential Position: 10 To 2 Severity: None Struct Weight: 1	37:44	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03.29.19 79/-90' +2.5% +142.9ft
142.9	Infil Weeper Position: 2 To 4 Severity: None Maint Weight: 2	38:14	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
148.8	Infil Dripper Position: 1 Severity: None Maint Weight: 3	39:51	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 65/-83' +3,0% +148,8ft

Distance	Fault Observation	Time	Picture
148.8	Infil Weeper Position: 7 To 5 Severity: None Maint Weight: 2	40:11	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
148.8	Crack Circumferential Position: 11 To 1 Severity: None Remarks: CRACK WITH POSSIBLE ROOTS Struct Weight: 1	41:06	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
151.8	General Observation Severity: None Remarks: JUNCTION BUILT OVER PIPE	44:56	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
151.8	Roots Fine Barrel Position: 1 To 5 Severity: None Maint Weight: 2	45:51	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL General Observation JUNC Form HUTCH OVER PI
151.8	Infil Weeper Position: 1 To 5 Severity: None Maint Weight: 2	46:15	CCR PLPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 29/-90 -1.2* +151,7ft
151.8	Crack Circumferential Position: 12 To 1 Severity: None Struct Weight: 1	46:34	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 71/-92' -1,2% +151,7ft

Distance	Fault Observation	Time	Picture
151.8	Infil Weeper Position: 7 To 10 Severity: None Maint Weight: 2	47:18	CCR PIPE EC 4201 INLEE To EC 4201 OUTEALL
159.2	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	48:47	CCR PIPE EC 4201 INLET UTFALL
159.2	Infil Weeper Position: 1 To 5 Severity: None Maint Weight: 2	49:24	11;02 44/-77' +1.7% +159,1ft

Distance	Fault Observation	Time	Picture
159.2	Infil Weeper Position: 7 To 10 Severity: None Maint Weight: 2	49:57	CCR PIPE EC 4201 INLET TO EC 3201 OUTFALL 11:02 4/79' +1.8% +159.16t
165.2	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	51:03	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
165.2	Infil Weeper Position: 1 To 5 Severity: None Maint Weight: 2	51:26	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
165.2	Infil Dripper Position: 4 Severity: None Maint Weight: 3	51:46	CCR PIPE EC 4201 INLEGE TO EC 4201 BUTERIA 11:04 -11/-88' +1.0% +165.1ft
165.2	Infil Weeper Position: 7 To 10 Severity: None Maint Weight: 2	52:29	03.29.19 -41/79' +1.0% +165.1ft
172.4	Infil Weeper Position: 1 To 5 Severity: None Maint Weight: 2	53:49	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL Infil Weeper 03,29,19 42/-86' +1,1% +172,4ft

Distance	Fault Observation	Time	Picture
172.4	Crack Circumferential Position: 12 To 1 Severity: None Struct Weight: 1	54:28	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL Infil Weeper 11:07 70/-84' +1.2% +172,4ft
177.3	Roots Fine Barrel Position: 7 To 10 Severity: None Maint Weight: 2	56:04	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
177.3	Infil Weeper Position: 7 To 10 Severity: None Maint Weight: 2	57:09	CCR PIPE EC 4201 INLET To EC 4201 OUTFALE Roots Fine Barrel

Distance	Fault Observation	Time	Picture
180.2	Crack Circumferential Position: 12 To 1 Severity: None Struct Weight: 1	57:37	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
180.2	Infil Stain Position: 12 To 2 Severity: None	58:05	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
180.2	Infil Weeper Position: 2 To 5 Severity: None Maint Weight: 2	58:24	CCR PIPE EC 4201 INLET UTFALL 03,29,19 6/-76' +5.9% +180,2ft'

Distance	Fault Observation	Time	Picture
194.7	Infil Stain Position: 10 To 2 Severity: None Joint	1:01:07	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 11:14 43/-87' +1.4% +194,6ft
194.7	Infil Weeper Position: 2 To 5 Severity: None Joint Maint Weight: 2	1:01:27	CCR PIPE To EC 4201 OUTFALL 03,29,19 20/-87 +1.4% +194,6Fb
194.7	Infil Weeper Position: 7 To 10 Severity: None Joint Maint Weight: 2	1:01:59	CCR PIPE EC 4201 INLET TO EC 4201 PEEALL

Distance	Fault Observation	Time	Picture
210.1	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	1:03:35	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
210.1	Infil Weeper Position: 1 To 5 Severity: None Maint Weight: 2	1:03:57	CCR PIPE EC 42014 INLET UTFALL 11:17 30/-86' +0.6% +210.0ft
210.1	Infil Weeper Position: 7 To 10 Severity: None Maint Weight: 2	1:04:34	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
217.9	Roots Fine Barrel Position: 7 To 1 Severity: None Maint Weight: 2	1:07:23	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
217.9	Infil Stain Position: 7 To 5 Severity: None	1:07:52	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 11:21 4/-102' +0.3% +217.9ft
217.9	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	1:08:29	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 -68/97' +0.3% +217,9ft

Distance	Fault Observation	Time	Picture
224.6	Roots Fine Barrel Position: 1 To 5 Severity: None Maint Weight: 2	1:10:49	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
224.6	Infil Stain Position: 1 To 5 Severity: None	1:09:43	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 11;23 19/-91' +1.1% +224,5ft
227.4	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	1:12:41	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
227.4	Roots Fine Barrel Position: 7 To 12 Severity: None Maint Weight: 2	1:11:43	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
227.4	Picture Number: 2 Roots Fine Barrel Position: 7 To 12	0	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
227.4	Infil Weeper Position: 7 To 11 Severity: None Maint Weight: 2	1:12:32	CCR PIPE EC 1201 INLET TO EC 4201 OUTEALL 03,29,19 -25/83' +1.7% +227,3ft

Distance	Fault Observation	Time	Picture
231.2	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	1:15:09	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
231.2	Roots Fine Barrel Position: 1 To 5 Severity: None Maint Weight: 2	1:14:07	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
231.2	Infil Weeper Position: 1 To 5 Severity: None Maint Weight: 2	1:14:27	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
231.7	Roots Fine Barrel Position: 10 Severity: None Maint Weight: 2	1:15:13	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03.29.19 -46/93' +0.8% +231.6ft
242.7	Infil Stain Position: 12 To 2 Severity: None Joint	1:18:54	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
242.7	Infil Weeper Position: 2 To 5 Severity: None Joint Maint Weight: 2	1:19:19	CCR PIPE To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
242.7	Infil Weeper Position: 7 To 10 Severity: None Joint Maint Weight: 2	1:18:13	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 -25/75 +1.0% +242,6ft
248.8	Crack Circumferential Position: 11 To 12 Severity: None Struct Weight: 1	1:19:37	CCR PIPE EC 4201 3 LET To EC 3 DUTFALL 03,29,19 -77/74' +2,3% +248,7ft
248.8	Infil Weeper Position: 7 To 12 Severity: None Maint Weight: 2	1:22:08	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 11;34 -1/79' +2.3% +248.7ft

Distance	Fault Observation	Time	Picture
250.4	General Observation Severity: None Remarks: CHIMNEY INLET	1:23:29	CCR PIPE. EC 4201 INLET To EC 4201 OUT ALL 11:36 83/-83' +0.9% +250.3ft
254.0	Infil Dripper Position: 12 Severity: None Maint Weight: 3	1:22:06	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
261.5	Infil Dripper Position: 3 Severity: None Maint Weight: 3	1:23:19	CCR PIPE EC 4201 INLET To EC 4201 DUTEULE

Distance	Fault Observation	Time	Picture
261.6	Infil Stain Position: 11 To 3 Severity: None	1:24:09	CCR PIPE To EC 4201 OUTFALL 11:39 23/-86' -2.1% +261,5ft
265.1	Crack Circumferential Position: 10 To 11 Severity: None Struct Weight: 1	1:25:23	CCR PIPE EC 4201 INLET To EC 4201 DUTFALL
265.1	Infil Weeper Position: 7 To 11 Severity: None Maint Weight: 2	1:25:45	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL Crack Circumferent fal

Distance	Fault Observation	Time	Picture
273.3	Roots Fine Barrel Position: 12 Severity: None Maint Weight: 2	1:27:57	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
273.3	Infil Stain Position: 7 To 5 Severity: None	1:28:44	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 11:46 -164/-59' -0.1% +273,2ft
273.4	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	1:26:48	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
292.6	Infil Weeper Position: 2 To 5 Severity: None Joint Maint Weight: 2	1:30:55	CCR PIPE EC 4201 INLET To EC 4201 OUTFOLL 11:48 15/-85 +2.0% +292.5ft
292.6	Infil Stain Position: 7 To 2 Severity: None Joint	1:31:31	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 120/-85' +2.0% +292,5ft
295.8	Infil Stain Position: 7 To 9 Severity: None	1:32:50	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
299.4	Infil Weeper Position: 1 To 5 Severity: None Maint Weight: 2	1:33:58	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
299.5	Roots Fine Barrel Position: 7 To 10 Severity: None Maint Weight: 2	1:34:42	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
299.6	Infil Weeper Position: 7 To 8 Severity: None Maint Weight: 2	1:35:28	CCR PIPE EC 4201 DULET To EC 421 BUTFB

Distance	Fault Observation	Time	Picture
306.2	Crack Circumferential Position: 10 To 11 Severity: None Struct Weight: 1	1:36:45	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
306.3	Roots Fine Barrel Position: 7 To 10 Severity: None Maint Weight: 2	1:37:22	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
306.3	Infil Stain Position: 7 To 10 Severity: None	1:37:48	CCR PIPE EC 4201 INEET TO EC 4201 OUTFALL 03,29,19 -9/92' +0,0% +306,2ft

Distance	Fault Observation	Time	Picture
310.9	Crack Circumferential Position: 11 To 2 Severity: None Struct Weight: 1	1:38:51	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 103/-91' +1,4% +310,8ft
311.0	Roots Fine Barrel Position: 2 To 4 Severity: None Maint Weight: 2	1:39:19	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
311.0	Infil Stain Position: 1 To 5 Severity: None	1:39:39	CCR PIPE EC 4201 INLET OTFALL 03.29.19 -5/-82' +1.4% +310.9ft

Distance	Fault Observation	Time	Picture
321.8	General Observation Severity: None Remarks: 0.23	1:41:37	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALE
321.8	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	1:42:17	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
321.8	Infil Dripper Position: 12 Severity: None Maint Weight: 3	1:43:27	CCR PIPE EC 4201 INLET To EC 4201 GUTALL 03,29,19 80/-88' +0,7% +321,7ft

Distance	Fault Observation	Time	Picture
321.8	Roots Fine Barrel Position: 11 To 12 Severity: None Maint Weight: 2	1:43:15	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
321.8	Infil Weeper Position: 2 To 5 Severity: None Maint Weight: 2	1:43:47	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
321.8	Infil Weeper Position: 7 To 10 Severity: None Maint Weight: 2	1:44:41	CCR PIPE EC 4201 INLET TO EC 4201 00TFALL Infil Weener 1 12:03 -8/97' +0.7% +321,7ft

Distance	Fault Observation	Time	Picture
325.3	General Observation Severity: None Remarks: CHIMNEY INLET BUILT OVER CULVERT	1:46:03	CCR PIPE EC 4201 INLET To EC 4201 FALL
325.3	Infil Dripper Position: 12 Severity: None Maint Weight: 3	1:46:42	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL General Observation CHIMNEY INLET BUILT OV ER CULVERT 03.29,19 73/-70' +0.6% +325,26t
325.3	Infil Weeper Position: 7 To 5 Severity: None Maint Weight: 2	1:47:10	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
343.4	Infil Weeper Position: 2 To 5 Severity: None Maint Weight: 2	1:52:57	CCR PIPE EG 1201 INLET TO EC 4201 OUTFALL 12:11 -152/67' +0.7% +343,2ft
343.4	Infil Stain Position: 10 To 1 Severity: None Joint	1:54:58	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
343.4	Picture Number: 2 Infil Stain Position: 10 To 1	0	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
343.4	Infil Weeper Position: 7 To 9 Severity: None Joint Maint Weight: 2	1:54:25	CCR PIPE EC 4201 INLET TO EC 4201 BUTFALL
348.9	Roots Fine Barrel Position: 2 To 4 Severity: None Maint Weight: 2	1:56:10	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03.29.19 357-82' +2.0% +348.8ft
349.0	Infil Weeper Position: 2 To 5 Severity: None Maint Weight: 2	1:56:34	CCR PIPE EC 4201 INLET. To EC 4201 OUTFALL 12:15 21/-82 +2,0% +348,9ft

Distance	Fault Observation	Time	Picture
349.0	Infil Stain Position: 10 To 11 Severity: None	1:58:48	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
349.0	Crack Circumferential Position: 11 To 1 Severity: None Struct Weight: 1	1:58:13	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
349.0	Picture Number: 2 Crack Circumferential Position: 11 To 1	0	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
358.5	Infil Stain Position: 2 To 4 Severity: None	1:59:58	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 31/-99 +0,0% +358,4ft
366.6	Crack Circumferential Position: 9 To 2 Severity: None Struct Weight: 1	2:01:41	CCR PIPE EC 4201 INEET TO EC 4201 OUTFALL 03,29,19 -91/58' +0.8% +366,5ft
366.6	Infil Dripper Position: 12 Severity: None Maint Weight: 3	2:01:59	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 12:21 -63/74' +0.9% +366,5ft

Distance	Fault Observation	Time	Picture
366.6	Roots Fine Barrel Position: 11 To 12 Severity: None Maint Weight: 2	2:02:32	CCR PIPE EC 4201 INLET To EC 4201 DUTFALL 12:22 -62/80' +0.8% +366.5ft
366.6	Infil Stain Position: 7 To 10 Severity: None	2:02:59	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 -12/92' +0.9% +366,5ft
366.6	Infil Weeper Position: 2 To 5 Severity: None Maint Weight: 2	2:03:41	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
376.8	Crack Circumferential Position: 7 To 11 Severity: None Struct Weight: 1	2:05:32	CCR PIPE EC 4201 INDEJ TO EC 4201 OUTFALL 12:25 24/86' +0.3% +376,7ft
376.8	Picture Number: 2 Crack Circumferential Position: 7 To 11	0	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 -35/86' +0.3% +376,8ft
376.9	Infil Stain Position: 7 To 9 Severity: None	2:08:03	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03,29,19 -8/86' +0,3% +376,8ft

Distance	Fault Observation	Time	Picture
378.2	Infil Weeper Position: 3 To 5 Severity: None Maint Weight: 2	2:06:59	CCR PIPE EC 4201 INLET To EC 4201 OUTFABLE 03,29,19 -8/-86' +1,4% +378,1ft
378.3	Crack Circumferential Position: 12 To 3 Severity: None Struct Weight: 1	2:07:39	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
378.3	Picture Number: 2 Crack Circumferential Position: 12 To 3	0	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
382.6	Crack Circumferential Position: 8 To 11 Severity: None Struct Weight: 1	2:11:16	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
382.7	Infil Stain Position: 7 To 11 Severity: None	2:09:39	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
382.7	Roots Fine Barrel Position: 10 Severity: None Maint Weight: 2	2:10:29	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
383.9	Infil Weeper Position: 2 To 5 Severity: None Maint Weight: 2	2:11:39	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL 03,29,19 12/-90' +1.6% +383,7ft
383.9	Crack Circumferential Position: 1 To 1 Severity: None Struct Weight: 1	2:14:23	CCR PIPE To EC 4201 OUTFALL
392.7	Crack Circumferential Position: 8 To 10 Severity: None Remarks: CRACK WITH STAIN Struct Weight: 1	2:14:42	CCR PIPE To Ec. 4201 OUTFALL 03,29,19 12/71' +1,9% +392,6ft

Distance	Fault Observation	Time	Picture
392.7	Picture Number: 2 Crack Circumferential Position: 8 To 10	0	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL 03.29.19 -37/86' +1.9% +392,6ft
394.1	Infil Stain Position: 4 To 5 Severity: None Joint	2:16:21	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
394.1	Infil Stain Position: 7 To 10 Severity: None Joint	2:17:19	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
396.7	Infil Stain Position: 2 To 5 Severity: None	2:19:00	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
397.6	Infil Stain Position: 7 To 10 Severity: None	2:20:07	CCR PIPE EC 4201 INLET UTFALL
397.6	Picture Number: 2 Infil Stain Position: 7 To 10	0	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
422.9	Crack Circumferential Position: 10 To 1 Severity: None Struct Weight: 1	2:23:23	CCR PIPE EC 4201 INLET TO EC 4201 OUTFALL
422.9	Picture Number: 2 Crack Circumferential Position: 10 To 1	0	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
423.1	Infil Stain Position: 2 To 4 Severity: None	2:24:31	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL

Distance	Fault Observation	Time	Picture
423.1	Infil Stain Position: 9 Severity: None	2:25:15	CCR PIPE EC 4201 INLET To EC 4201 OUTFALL
443.5	Discharge Point Severity: None	2:27:28	

Created with the PDSM report generator

Project: CCR PIPE

Date: 3/29/2019 11:04:00 AM

Street: I-26

Length Surveyed: 443.5

Pacp Quick Overall Rating:

Height (Diameter): 4

Street: I-26

Pipe Segment Reference:

Upstream MH: EC 4201 INLET

Downstream MH: EC 4201

OUTFALL

Direction of Survey:

Downstream

Material: Reinforced Concrete

Pipe

ID Number: EC 4201 INLET

(0.0) ADP - Discharge Point Remark: EC 4201 INLET

(0.0) MWL - Water Level

(23.8) ID - Infil Dripper - Position: 4

(23.8) IW - Infil Weeper - Position: 1 To 4

(28.9) IW - Infil Weeper - Position: 2 To 4

(42.7) IW - Infil Weeper - Position: 3 To 5

(58.2) CC - Crack Circumferential - Position: 1 To

(58.2) IS - Infil Stain - Position: 3 To 4 Remark: FROM CRACK

(63.3) RFB - Roots Fine Barrel - Position: 1 To 4

(82.0) IW - Infil Weeper - Position: 2 To 4

(82.0) RFB - Roots Fine Barrel - Position: 3 To 4

(93.1) IW - Infil Weeper - Position: 3 To 5

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(23.8) CC - Crack Circumferential - Position: 11 To

(23.8) IW - Infil Weeper - Position: 9 To 7

(28.9) IW - Infil Weeper - Position: 8 To 10

(28.9) CC - Crack Circumferential - Position: 11 To

(42.7) IW - Infil Weeper - Position: 7 To 10

(42.7) IS - Infil Stain - Position: 10 To 1

(63.7) CC - Crack Circumferential - Position: 8 To 12

(64.0) IS - Infil Stain - Position: 8 To 10

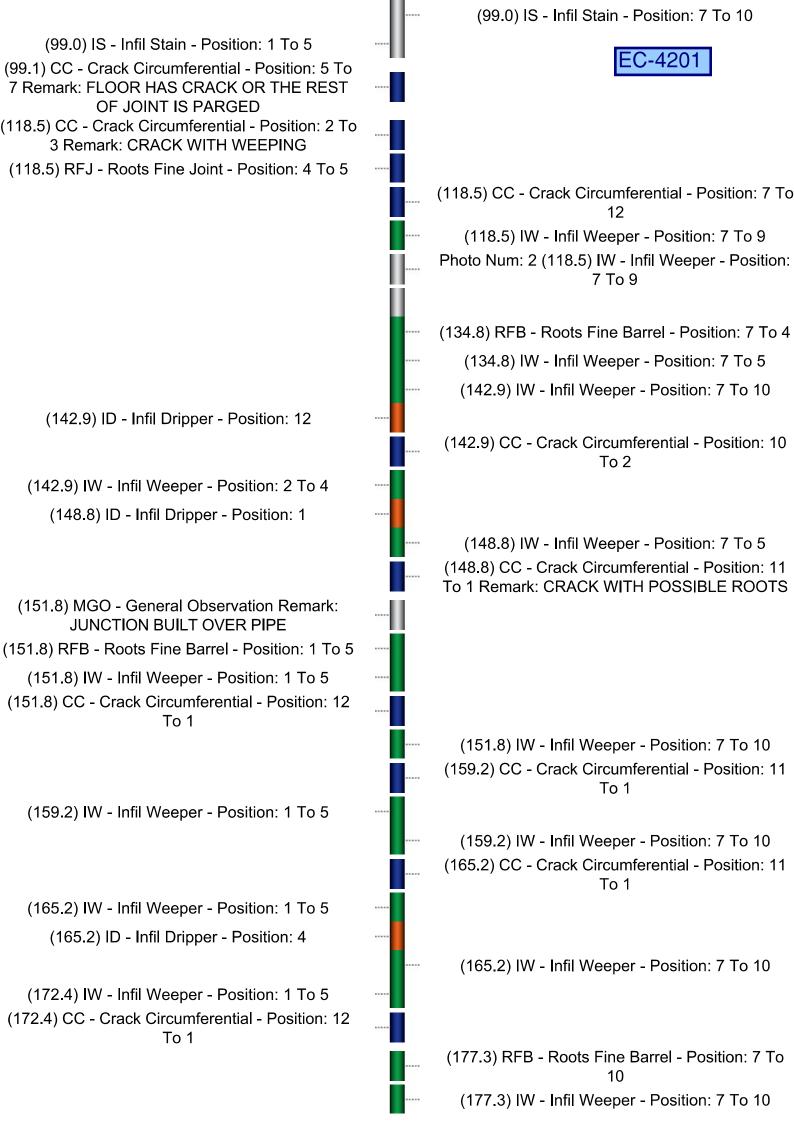
(82.0) RFB - Roots Fine Barrel - Position: 10

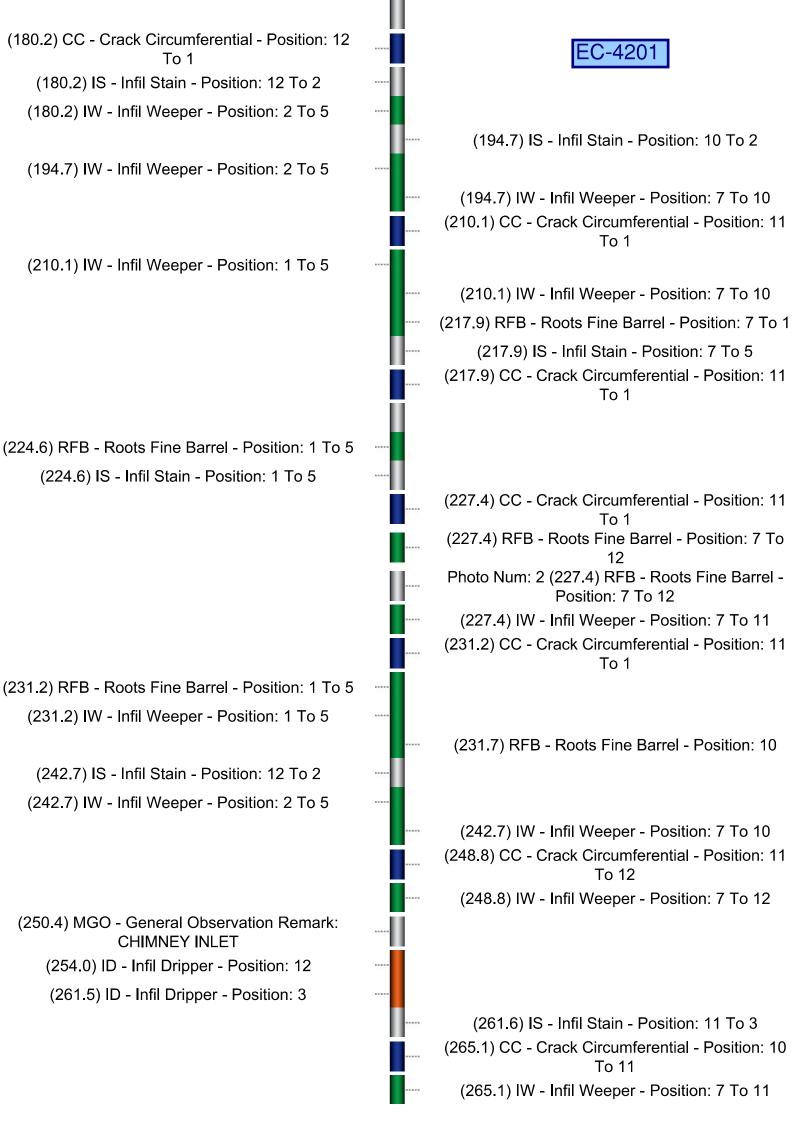
(82.0) IW - Infil Weeper - Position: 8 To 10

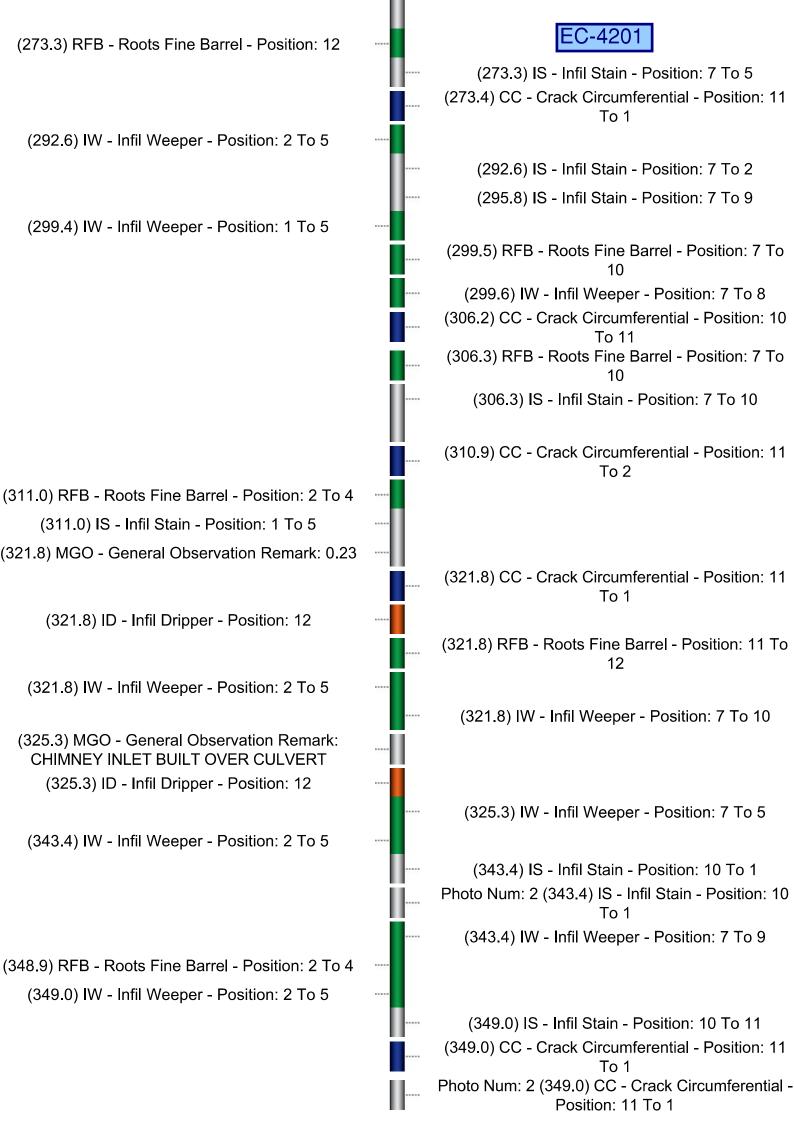
(93.1) IW - Infil Weeper - Position: 7 To 8

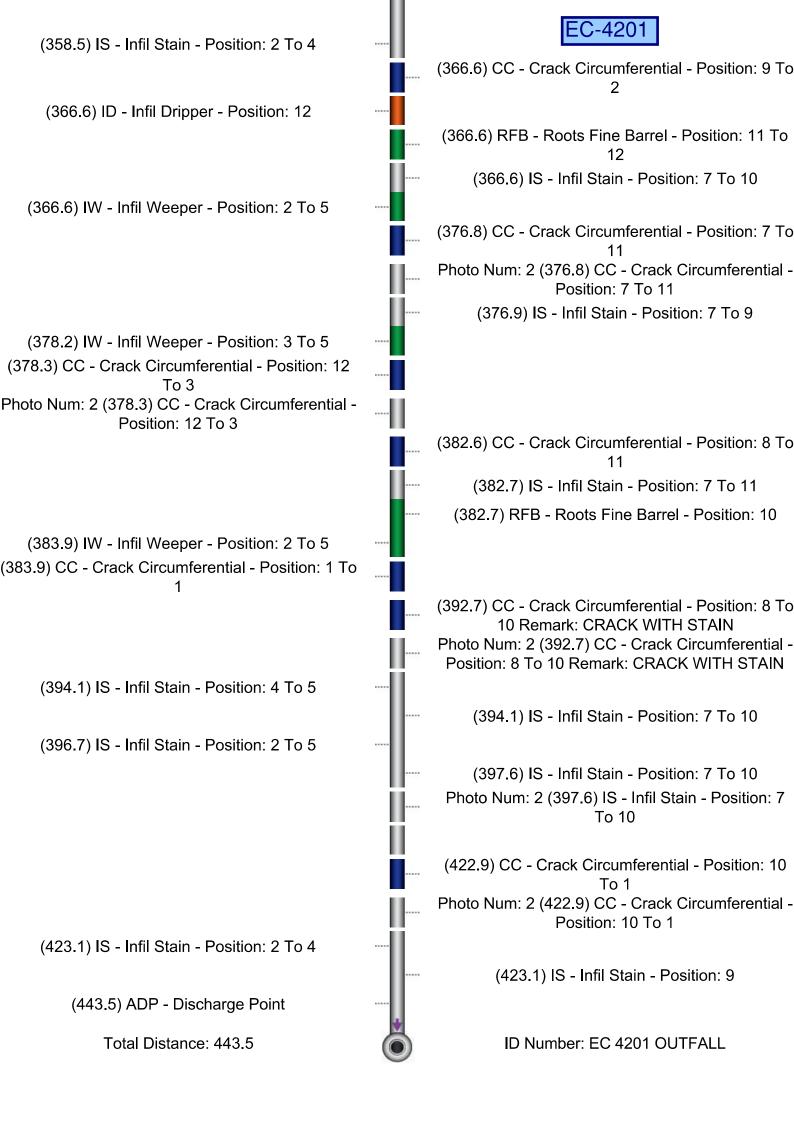
(99.0) CC - Crack Circumferential - Position: 7 To

10









Project: CCR PIPE

Date: 3/29/2019 11:04:00 AM

Street: I-26

Length Surveyed: 443.5

Pacp Quick Overall Rating:

Height (Diameter): 4

Street: I-26

Pipe Segment Reference:

Upstream MH: EC 4201 INLET Downstream MH: EC 4201

OUTFALL

Direction of Survey:

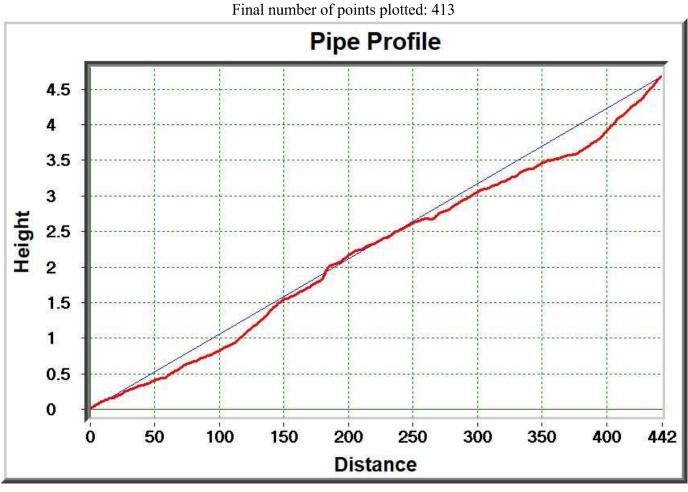
EC-4201

Downstream

Material: Reinforced Concrete

Pipe

Percent Grade Mean: 1.05
Plot Distance From: 0 To 445
Max Percent Difference: 3
Number of Window Values: 1
Percent Differnce Max for Windows Values: 60
Number of Feet to Average: 1
Final number of points plotted: 412

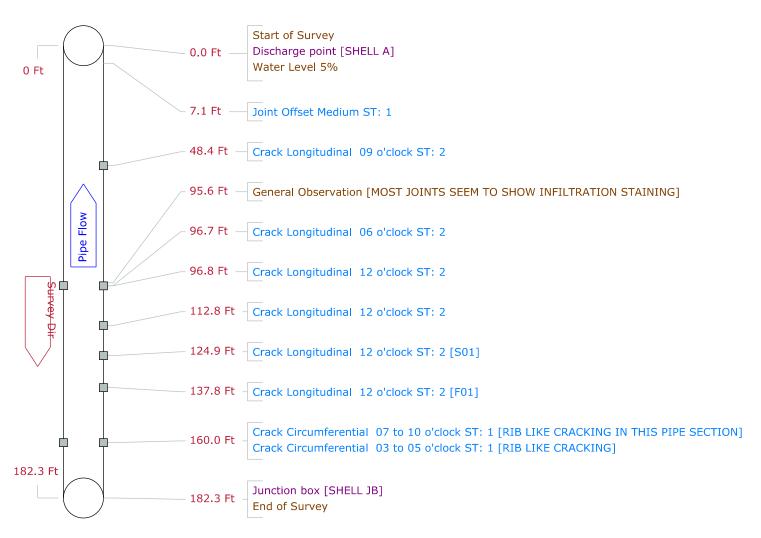




Pipe Graphic Report of PSR SHELL JB B for HDR



			0 02	_			TIDIX			
35	Surveyor	GCS		Certificate #	U-091	7-07009391	System Ov	vner SCDOT	-	
je			Survey Custon	mer						
		Date	2021/01/06	Time 11:35	s	treet BRO	AD RIVER RD			
COL	UMBIA		Further I	ocation details	s					
SHELL	JB		Rim	to invert		Grade to	invert	Rim to	grade	Ft
SHELL	Α		Rim	to invert		Grade to	invert	Rim to	grade	Ft
tormwat	er		Direction	Upstream	Flo	w control		Med	ia No	
Circula	r		Height	18 Width	ins	Pred	clean J	Date Cle	aned	
Rein	forced Concr	ete Pipe		Joint length	Ft	Total leng	jth 182.3 Ft	Length	Surveyed	182.30 Ft
				Year laid	Ye	ar rehabili	tated	Weather		
е				C	Cat					
nal info) SE	T UP ON	I INTERSTATE EI	NTRANCE RAM	1P		Structural	O & M	Constr	uctional
n							Miscellaneous	Hydraulic		
Ca	rolina Crossro	oads				_	Work	Order		
g				Easting	g		Elev	/ation		
nate Sy	stem						GPS Accura	су		
	35 Je COL SHELL SHELL Cormwat Circula I Rein e nal info	35 Surveyor Je COLUMBIA SHELL JB SHELL A formwater Circular Reinforced Concr e nal info Carolina Crossre	35 Surveyor GCS Je Date COLUMBIA SHELL JB SHELL A ormwater Circular Reinforced Concrete Pipe e nal info SET UP ON n Carolina Crossroads g	pe Survey Custor Date 2021/01/06 COLUMBIA Further I SHELL JB Rim SHELL A Rim Formwater Direction Circular Height I Reinforced Concrete Pipe e nal info SET UP ON INTERSTATE EI Carolina Crossroads g	35 Surveyor GCS Certificate # Justice Survey Customer Date 2021/01/06 Time 11:35 COLUMBIA Further location details SHELL JB Rim to invert SHELL A Rim to invert Ormwater Direction Upstream Circular Height 18 Width I Reinforced Concrete Pipe Joint length Year laid The second of the secon	35 Surveyor GCS Certificate # U-091 Je Survey Customer Date 2021/01/06 Time 11:35 S COLUMBIA Further location details SHELL JB Rim to invert SHELL A Rim to invert Ornwater Direction Upstream Flor Circular Height 18 Width ins I Reinforced Concrete Pipe Joint length Ft Year laid Year Le Cat The control of the c	35 Surveyor GCS Certificate # U-0917-07009391 ge Survey Customer Date 2021/01/06 Time 11:35 Street BRO COLUMBIA Further location details SHELL JB Rim to invert Grade to SHELL A Rim to invert Grade to ornwater Direction Upstream Flow control Circular Height 18 Width ins Prec I Reinforced Concrete Pipe Joint length Ft Total leng Year laid Year rehabilitie Cat nal info SET UP ON INTERSTATE ENTRANCE RAMP n Carolina Crossroads g Easting	35 Surveyor GCS Certificate # U-0917-07009391 System Over Survey Customer Date 2021/01/06 Time 11:35 Street BROAD RIVER RD COLUMBIA Further location details SHELL JB Rim to invert Grade to invert SHELL A Rim to invert Grade to invert Ormwater Direction Upstream Flow control Circular Height 18 Width ins Preclean J I Reinforced Concrete Pipe Joint length Ft Total length 182.3 Ft Year laid Year rehabilitated The second of the	35 Surveyor GCS Certificate # U-0917-07009391 System Owner SCDOT John Survey Customer Date 2021/01/06 Time 11:35 Street BROAD RIVER RD COLUMBIA Further location details SHELL JB Rim to invert Grade to invert Rim to SHELL A Rim to invert Grade to invert Rim to formwater Direction Upstream Flow control Medicircular Height 18 Width ins Preclean J Date Cle Reinforced Concrete Pipe Joint length Ft Total length 182.3 Ft Length Year laid Year rehabilitated Weather e Cat The linfo SET UP ON INTERSTATE ENTRANCE RAMP Structural O & Medicing Miscellaneous Hydraulic Carolina Crossroads Work Order Easting Easting Elevation	35 Surveyor GCS Certificate # U-0917-07009391 System Owner SCDOT July Survey Customer Date 2021/01/06 Time 11:35 Street BROAD RIVER RD COLUMBIA Further location details SHELL JB Rim to invert Grade to invert Rim to grade SHELL A Rim to invert Grade to invert Rim to grade Ormwater Direction Upstream Flow control Media No Circular Height 18 Width ins Preclean J Date Cleaned I Reinforced Concrete Pipe Joint length Ft Total length 182.3 Ft Length Surveyed Year laid Year rehabilitated Weather Cat Inal info SET UP ON INTERSTATE ENTRANCE RAMP Carolina Crossroads Carolina Crossroads Easting Elevation





SCA Underground Phone:(803)730-3568

Address: PO box Suite 102, West Columbia, SC



CCTV Picture List of SHELL JB B for HDR

Work Order			Setup 35
Video	Survey Date	2021/01/06	
Path to picture files	F:\CAMERA WORK DA	TABASE\Snaps\CAROLNA CROSSRC	DADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSRO	DADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	ADS\



Video Index Count 7.1 Ft

Code Joint Offset Medium

Remarks

File Name 245.jpg



Video Index Count 48.4 Ft

Code Crack Longitudinal

Remarks

File Name 246.jpg



Video Index Count 95.6 Ft

Code General Observation

Remarks MOST JOINTS SEEM TO SHOW INFILTRATION STAINING

File Name 247 jpg



Video Index Count 96.7 Ft

Code Crack Longitudinal

Remarks

File Name 248.jpg



Video Index Count 96.8 Ft

Code Crack Longitudinal

Remarks

File Name 249.jpg



Video Index Count 112.8 Ft

Code Crack Longitudinal

Remarks

File Name 250.jpg



Video Index Count 124.9 Ft

Code Crack Longitudinal

Remarks

File Name 251.jpg



SCA Underground Phone: (803)730-3568

Address: PO box Suite 102, West Columbia, SC



CCTV Picture List of SHELL JB B for HDR

Work Order			Setup 35		
Video	Survey Date	2021/01/06			
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSROA	ADS\		
Path to video files	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\				
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSROA	ADSI		



Video Index Count 160.0 Ft

Code Crack Circumferential

Remarks RIB LIKE CRACKING IN THIS PIPE SECTION

File Name 252.jpg



SCA Underground Phone: (803)730-3568

Address: PÓ box Suite 102, West Columbia, SC



EP-4210

Work Order			Setup 35
Video	Survey Date	2021/01/06	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRC	DADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSR	OADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	DADS\



Video Index **Count** 160.0 Ft

Code Crack Circumferential Remarks RIB LIKE CRACKING

File Name 253.jpg



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

CCTV Picture List of HDR SHELL JB В for

Work Order		Setup 35						
Video	Survey Date	2021/01/06						
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\						
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\						
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSF	ROADSI					



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC



Tabular Report of PSR SHELL JB B HDR for

Setup 35 Surveyor GCS	Certificate #	U-0917-07009391 Syste	em Owner SCDOT	
Drainage Surv	vey Customer			
P/O # Date 2021	/01/06 Time 11:35	Street BROAD RIVER	RD	
City COLUMBIA	Further location details			
Up SHELL JB	Rim to invert	Grade to invert	Rim to grade	Ft
Down SHELL A	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Up	Flow control	Media No	
Shape Circular	Height 18 Width	ins Preclean J	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 182.3 F	t Length Surveyed	182.3 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SET UP ON INTE Location	RSTATE ENTRANCE RAMP	Structural Miscellane		uctional
Project Carolina Crossroads		V	Vork Order	
Northing	Easting		Elevation	
Coordinate System		GPS Acc	curacy	

Count Video	CD	Code		ln1	ln2	%	Jnt	Fr	То	ImRef	Remarks
0.0		ST	Start of Survey								
0.0		ADP	Discharge point			İ					SHELL A
0.0		MWL	Water Level			5					
7.1		JOM	Joint Offset Medium								
48.4		CL	Crack Longitudinal				J	09			
95.6		MGO	General Observation								MOST JOINTS SEEM TO SHOW IN
96.7		CL	Crack Longitudinal				J	06			
96.8		CL	Crack Longitudinal				J	12			
112.8		CL	Crack Longitudinal				J	12			
124.9	S01	CL	Crack Longitudinal				J	12			
137.8	F01	CL	Crack Longitudinal				J	12			
160.0		CC	Crack Circumferential					07	10		RIB LIKE CRACKING IN THIS PIP
160.0		CC	Crack Circumferential					03	05		RIB LIKE CRACKING
182.3		AJB	Junction box								SHELL JB
182.3		FH	End of Survey	İ						İ	

182.3 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 17	Pipe Ratings Index 1.7	Quick Rating 2713
	O&M:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	Overall	Pipe Rating 17	Pipe Ratings Index 1.7	Quick Rating 2713

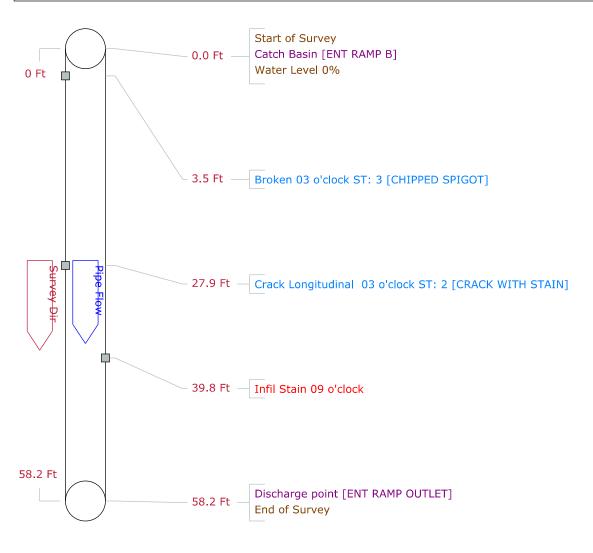


Pipe Graphic Report of PSR ENT RAMP B

for HDR



Setup	37 Surveyor	GCS	Се	rtificate #	U-0917	-07009391	System Ow	vner SCDO	Т	
Drainage		;	Survey Customer							
P/O #		Date 2	.021/01/06	Time 13:16	St	reet BROA	AD RIVER RD			
City	COLUMBIA		Further loca	tion details	S					
Up EN	IT RAMP B		Rim to	invert	-	Grade to i	invert	Rim to	grade	Ft
Down EN	IT RAMP OUTLE	Rim to	invert		Grade to i	invert	Rim to	grade	Ft	
Use Storn	nwater	Direction Do	wnstream	Flow	/ control		Media No			
Shape Cir	cular	Height 18	Width	ins Preclean J			Date Cleaned			
Material	Reinforced Concr	ete Pipe	Join	Joint length Ft Total le			th 58.2 Ft	Length	Surveyed	58.20 Ft
Lining			Ye	Year laid Year rehabilitated			ated	Weather		
Purpose				C	Cat					
Additional Location	info SE	T UP ON II	NTERSTATE ENTR	ANCE RAM	IP		Structural Miscellaneous	O & M Hydraulic	Const	ructional
Project	Carolina Crossro	oads	,							
Northing				Easting						
Coordinate System GPS Accuracy							су			





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Work Order			Setup 37					
Video	Survey Date	2021/01/06						
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\						
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\						
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSRO	DADS\					



Video Index Count 3.5 Ft

Code Broken

Remarks CHIPPED SPIGOT

File Name 258.jpg



Video Index Count 27.9 Ft

Code Crack Longitudinal
Remarks CRACK WITH STAIN

File Name 259.jpg



Video Index Count 39.8 Ft

Code Infil Stain

Remarks

File Name 260 jpg



SCA Underground Phone: (803)730-3568

Address: PÓ box Suite 102, West Columbia, SC

for HDR

Work Order		Setup 37						
Video	Survey Date	2021/01/06						
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\						
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\						
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSI	ROADS\					

ENT RAMP B



CCTV Picture List of

SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC



Tabular Report of PSR ENT RAMP B B for HDR

Setup 37 Surveyor GCS	Certificate #	U-0917-07009391 System	Owner SCDOT	
Drainage Sur	vey Customer			
P/O # Date 2021	/01/06 Time 13:16	Street BROAD RIVER RD		
City COLUMBIA	Further location details			
Up ENT RAMP B	Rim to invert	Grade to invert	Rim to grade	Ft
Down ENT RAMP OUTLET	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Down	Flow control	Media No	
Shape Circular	Height 18 Width	ins Preclean J	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 58.2 Ft	Length Surveyed	58.2 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SET UP ON INTE	RSTATE ENTRANCE RAMP	Structural	O & M Constru	ctional
Location		Miscellaneous		
Project Carolina Crossroads		Wor	k Order	
Northing	Easting	Ele	evation	
Coordinate System		GPS Accura	асу	

Count Video	CD Code		ln1	ln2	%	Jn	tFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ACB	Catch Basin								ENT RAMP B
0.0	MWL	Water Level			0					
3.5	В	Broken				J	03			CHIPPED SPIGOT
27.9	CL	Crack Longitudinal				J	03			CRACK WITH STAIN
39.8	IS	Infil Stain					09			
58.2	ADP	Discharge point								ENT RAMP OUTLET
58.2	FH	End of Survey								

58.2 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 5	Pipe Ratings Index 2.5	Quick Rating 3121
	O&M:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	Overall	Pipe Rating 5	Pipe Ratings Index 2.5	Quick Rating 3121



SCA Underground Phone:(803)730-3568

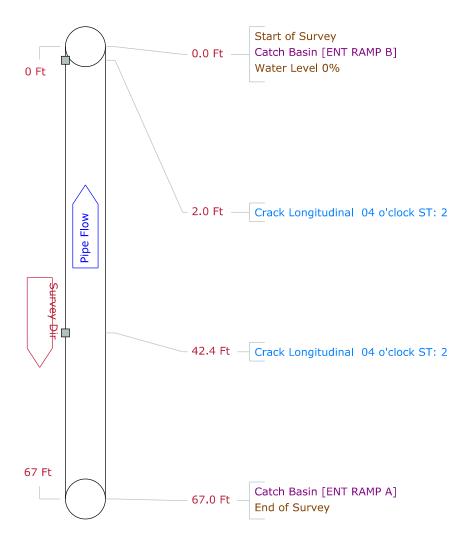
Pipe Graphic Report of PSR ENT RAMP A

for

HDR



Setup	36	Surveyor	GCS		Certificate #	U-091	7-0700939 ²	System Ov	vner SCD	OT		
Drainage)			Survey Custor	ner							
P/O #			Date	2021/01/06	Time 13:00	S	treet BRO	AD RIVER RD				
City	COL	JMBIA		Further le	ocation details	s						
Up E	ENT RA	AMP A		Rim	to invert		Grade to	invert	Rim t	to grade	Ft	
Down E	ENT RA	AMP B		Rim	to invert		Grade to	invert	Rim t	to grade	Ft	
Use Stormwater			Direction	ction Upstream Flow contro				Me	edia No			
Shape Circular			Height	18 Width	ins	ins Preclean J			Date Cleaned			
Material	Reint	orced Concr	ete Pipe	J	Joint length Ft Total length 67.0 Ft			Lengt	Length Surveyed 67		Ft	
Lining					Year laid	Ye	ar rehabili	tated	Weathe	:r		
Purpose					(Cat						
Addition	al info	SET	UP ON	INTERSTATE EN	NTRANCE RAM	1P		Structural	O & M	Const	tructional	1
Location	1							Miscellaneous	Hydraulic			
Project	Car	olina Crossro	ads				_	Work	Order			
Northing	Northing Easting						Elevation					
Coordina	ate Sy	stem						GPS Accura	су			

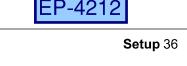




SCA Underground Phone:(803)730-3568

Address: PO box Suite 102, West Columbia, SC

CCTV Picture List of ENT RAMP A **HDR**



Work Order			Setup 36				
Video	Survey Date	2021/01/06					
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\					
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\					
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRC	DADS\				



Video Index Count 2.0 Ft

Code Crack Longitudinal

Remarks

File Name 255.jpg



Video Index Count 42.4 Ft

Code Crack Longitudinal

Remarks

File Name 256.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of ENT RAMP A for HDR

Work Order			Setup 36
Video	Survey Date	2021/01/06	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSI	ROADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSS	SROADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSF	ROADS\



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

Tabular Report of PSR ENT RAMP A

B for HDR



Setup	36	Surveyor	GCS	Certificate #	# U-0917-070093	91 System (Owner SCDOT		
Drainage)		Survey Custo	mer					
P/O #			Date 2021/01/06	Time 13:00	Street BRC	AD RIVER RD			
City	COLU	MB I A	Further	location details	3				
Up E	ENT RAI	MP A	Rim	ı to invert	Grade to	invert	Rim to	grade	Ft
Down E	ENT RAI	MP В	Rin	ı to invert	Grade to	invert	Rim to	grade	Ft
Use Sto	rmwatei		Direction	u Up	Flow control		Medi	a No	
Shape C	Circular		Height	18 Width	ins Pre	clean J	Date Clea	aned	
Material	Reinfo	rced Concre	ete Pipe	Joint length	Ft Total len	gth 67.0 Ft	Length S	Surveyed 67.0	Ft
Lining				Year laid	Year rehabil	tated	Weather		
Purpose				Ca	t			Pressure	
Addition		SET	UP ON INTERSTATE E	NTRANCE RAM	Р	Structural	O & M	Construction	nal
Location	1					Miscellaneous			
Project	Caro	lina Crossroa	ads			Worl	k Order		
Northing	l			Easting	9	Ele	vation		
Coordina	ate Sys	tem				GPS Accura	асу		

Count Video	CD Code		ln1	ln2	%	Jn	tFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ACB	Catch Basin								ENT RAMP B
0.0	MWL	. Water Level			0					
2.0	CL	Crack Longitudinal				J	04			
42.4	CL	Crack Longitudinal				J	04			
67.0	ACB	Catch Basin								ENT RAMP A
67.0	FH	End of Survey								

67.0 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 2200
	O&M:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	Overall	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 2200



Pipe Graphic Report of PSR SHELL B

A **for** HDR

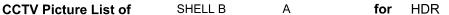


Setup 38 Surveyor GCS	Certificate #	U-0917-07009391 System Ov	vner SCDOT	
Drainage Surve	ey Customer			
P/O # Date 2021/0	1/06 Time 18:14	Street BROAD RIVER RD		
City COLUMBIA	Further location details			
Up SHELL B	Rim to invert	Grade to invert	Rim to grade	Ft
Down SHELL JB	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Upstream	Flow control	Media No	
Shape Circular	Height 15 Width	ins Preclean J	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length Ft	Length Surveyed 34.5	50 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	C	at		
Additional info SET UP AT SHELL	STATION	Structural	O & M Construction	nal
Location		Miscellaneous	Hydraulic	
Project Carolina Crossroads		Work	Order	
Northing	Easting	Elev	vation	
Coordinate System		GPS Accura	су	





SCA Underground Phone:(803)730-3568



EP-4213	
Setup 38	

Work Order			Setup 38				
Video	Survey Date	2021/01/06					
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\					
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\					
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRC	DADS\				



Video Index Count 20.2 Ft

Code General Observation

Remarks GAP OBSERVATION

File Name 262.jpg



Video Index Count 20.2 Ft

Code General Observation

Remarks JOINT GAP IS WIDE, PIPES ARE PROBABLY DIFFERENT AGES

File Name 263.jpg



Video Index Count 34.5 Ft

Code Abandoned Survey

Remarks TOO MUCH DEBRIS IN PIPE

File Name 264.jpg



Video Index Count 34.5 Ft

Code Abandoned Survey

Remarks TOO MUCH DEBRIS IN PIPE

File Name 265.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of SHELL B Α for **HDR Work Order** Setup 38 Video **Survey Date** 2021/01/06 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



SCA Underground Phone: (803)730-3568

Tabular Report of PSR SHELL B A

for HDR



Setup 38 Surveyor GCS	Certificate #	U-0917-07009391 Sy	stem Owner SCDO	Т
Drainage Sur	vey Customer			
P/O # Date 2021	/01/06 Time 18:14	Street BROAD RIVE	ER RD	
City COLUMBIA	Further location details			
Up SHELL B	Rim to invert	Grade to invert	Rim to	grade Ft
Down SHELL JB	Rim to invert	Grade to invert	Rim to	grade Ft
Use Stormwater	Direction Up	Flow control	Med	ia No
Shape Circular	Height 15 Width	ins Preclean J	Date Cle	eaned
Material Reinforced Concrete Pipe	Joint length	Ft Total length	Ft Length	Surveyed 34.5 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat			Pressure
Additional info SET UP AT SHELL Location	LL STATION	Structura Miscella		Constructional
Project Carolina Crossroads			Work Order	
Northing	Easting		Elevation	
Coordinate System		GPS A	Accuracy	

Count Video	CD Code	In1	In2	%	Jntl	Fr T	o ImR	ef Remarks
0.0	ST Start of Survey							
0.0	AJB Junction box							SHELL JB
0.0	MWL Water Level			0				
20.2	MGO General Observation							GAP OBSERVATION
20.2	MGO General Observation							JOINT GAP IS WIDE, PIPES ARE
34.5	MSA Abandoned Survey							TOO MUCH DEBRIS IN PIPE

34.5 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	Overall	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000

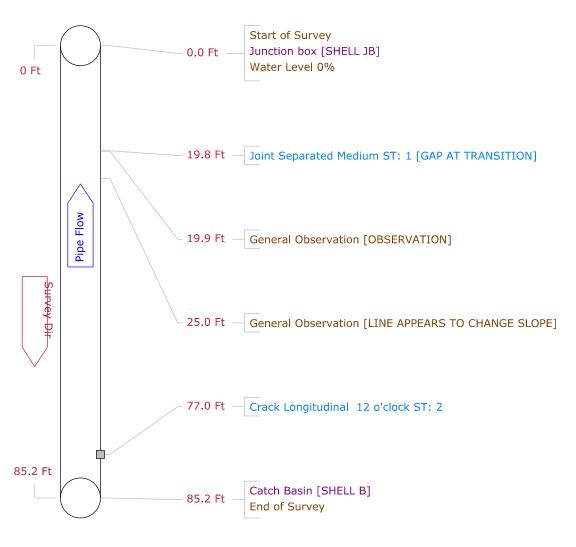


Pipe Graphic Report of PSR SHELL B

B for HDR



Setup 47 Surveyor GCS	Certificate #	U-0917-0700939	1 System Ow	ner SCDOT	
Drainage Survey Cust		0 0011 0700000	· Oyotom On		
P/O # Date 2021/02/24	Time 13:56	Street BRO	OAD RIVER RD		
City COLUMBIA Furthe	r location details	i			
Up SHELL B R	im to invert	Grade to	invert	Rim to g	grade Ft
Down SHELL JB R	im to invert	Grade to	invert	Rim to g	grade Ft
Use Stormwater Direction	on Upstream	Flow control		Media	a No
Shape Circular Heigh	nt 15 Width	ins Pre	clean J	Date Clea	ned
Material Reinforced Concrete Pipe	Joint length	Ft Total len	gth 85.2 Ft	Length S	Surveyed 85.20 Ft
Lining	Year laid	Year rehabil	itated	Weather	
Purpose	C	at			
Additional info SET UP AT SHELL STATION	NC		Structural	O & M	Constructional
Location			Miscellaneous	Hydraulic	
Project Carolina Crossroads		_	Work	Order	
Northing	Easting	I	Eleva	ation	
Coordinate System			GPS Accurac	s y	





SCA Underground Phone:(803)730-3568

CCTV Picture List of SHELL B B for HDR

|--|

Work Order			Setup 47
Video	Survey Date	2021/02/24	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRO	ADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSRC	DADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	ADS\



Video Index Count 19.8 Ft

Code Joint Separated Medium

Remarks GAP AT TRANSITION

File Name 327.jpg



Video Index Count 19.9 Ft

Code General Observation **Remarks** OBSERVATION

File Name 328.jpg



Video Index Count 77.0 Ft

Code Crack Longitudinal

Remarks

File Name 329 jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of SHELL B B for HDR

Work Order
Video Survey Date 2021/02/24

Path to picture files F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\

Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



Path to media files

SCA Underground Phone: (803)730-3568

for HDR

В



Setup	47	Surveyor G	CS	Certificate:	# U-0917	7-070093	91 System	Owner SCDO	Т	
Drainage	е		Survey Cust	omer						
P/O #			Date 2021/02/24	Time 13:56	S St	treet BRC	AD RIVER RD)		
City	COLUI	MB I A	Furthe	r location details	s					
Up	SHELL B		Ri	m to invert		Grade to	invert	Rim to	grade	Ft
Down SHELL JB			Ri	m to invert	to invert Grade to invert			Rim to	grade	Ft
Use Sto	ormwater		Direction	on Up	Flov	w control		Med	lia No	
Shape Circular H		Heigh	t 15 Width	ins	ins Preclean J		Date Cleaned			
Material	Reinfo	rced Concrete	Pipe	Joint length	Ft	Total len	gth 85.2 Ft	Length	Surveyed 85	5.2 Ft
Lining				Year laid	Yea	ar rehabil	itated	Weather		
Purpose	•			Са	nt				Pressure	
Addition	nal info	SET U	P AT SHELL STATION	ON			Structural	O & M	Construct	ional
Location	n						Miscellaneous			
Project	Carol	ina Crossroad	ls			_	Wo	rk Order		
Northing	g			Easting	g Elevation					
Coordin	ate Syst	em					GPS Accur	асу		

Count Video	CD Code		ln1	ln2	%	Jni	tFr	То	ImRe	f Remarks
0.0	ST S	Start of Survey								
0.0	AJB .	Junction box								SHELL JB
0.0	MWL \	Water Level			0					
19.8	JSM J	Joint Separated Medium								GAP AT TRANSITION
19.9	MGO (General Observation								OBSERVATION
25.0	MGO (General Observation								LINE APPEARS TO CHANGE SLOP
77.0	CL (Crack Longitudinal				J	12			
85.2	ACB (Catch Basin								SHELL B
85.2	FH E	End of Survey								

85.2 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 3	Pipe Ratings Index 1.5	Quick Rating 2111
	O&M:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	Overall	Pipe Rating 3	Pipe Ratings Index 1.5	Quick Rating 2111

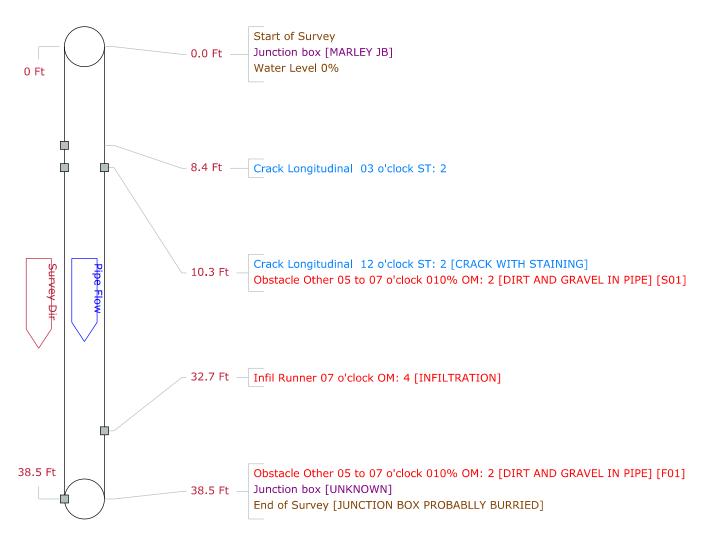


Pipe Graphic Report of PSR MARLEY JB

for HDR



Setup	33	Survey	or GCS		Certificate #	U-0917	-07009391	System Ow	ner SCDOT		
Draina	ge			Survey Custo	mer						
P/O #			Date	2021/01/05	Time 14:14	St	reet BROA	D RIVER RD			
City	C	OLUMBIA		Further	location detail	s					
Up	MAR	LEY JB		Rim	n to invert		Grade to i	nvert	Rim to	grade	Ft
Down UNKNOWN				Rim	Rim to invert Grade to			nvert	Rim to	Rim to grade	
Use S	Stormw	ater		Direction	n Downstream	Flow	/ control		Media	a No	
Shape Circular			Height	18 Width	ins	Prec	ean J	Date Cleaned			
Materia	al Re	einforced Co	ncrete Pipe		Joint length Ft Total le			th 38.5 Ft	Length S	h Surveyed 38.50 Ft	
Lining					Year laid	Yea	r rehabilita	ated	Weather		
Purpos	se				(Cat					
Additio	onal ir	nfo S	SET UP ON	MALEY AND BE	ROAD RIVER RI	D	S	tructural	O & M	Construc	ctional
Location	on						N	liscellaneous	Hydraulic		
Project	t (Carolina Cros	ssroads					Work	Order		
Northing Easting						g	g Elevation				
Coordi	nate	System						GPS Accurac	;y		





SCA Underground Phone:(803)730-3568





Work Order		Setup 33	
Video	Survey Date	2021/01/05	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSR	OADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSF	ROADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSR	OADS\



Video Index Count 8.4 Ft

Code Crack Longitudinal

Remarks

File Name 233.jpg



Video Index Count 10.3 Ft

Code Crack Longitudinal

Remarks CRACK WITH STAINING

File Name 234.jpg



Video Index Count 10.3 Ft

Code Obstacle Other

Remarks DIRT AND GRAVEL IN PIPE

File Name 235.jpg



Video Index Count 32.7 Ft

Code Infil Runner
Remarks INFILTRATION

File Name 236.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of MARLEY JB for HDR

Work Order			Setup 33
Video	Survey Date	2021/01/05	
Path to picture files	F:\CAMERA WORK DA	TABASE\Snaps\CAROLNA CROSSRO	DADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSR	OADS\
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSRC	DADS\



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

B for HDR



Setup 33	Surveyor GCS	Certificate	e # U-0917-07009391 System	m Owner SCDOT
Drainage		Survey Customer		
P/O #	Date	e 2021/01/05 Time 14:	14 Street BROAD RIVER F	RD
City CC	LUMB I A	Further location deta	ils	
Up MARI	_EY JB	Rim to invert	Grade to invert	Rim to grade Ft
Down UNK	NOWN	Rim to invert	Grade to invert	Rim to grade Ft
Use Stormwa	ater	Direction Down	Flow control	Media No
Shape Circul	lar	Height 18 Width	ins Preclean J	Date Cleaned
Material Re	inforced Concrete Pipe	e Joint length	Ft Total length 38.5 Ft	t Length Surveyed 38.5 F
Lining		Year laid	Year rehabilitated	Weather
Purpose		(Cat	Pressure
Additional in Location	fo SET UP OI	N MALEY AND BROAD RIVER I	RD Structural Miscellaneou	O & M Constructional us
Project C	arolina Crossroads		W	ork Order
Northing		Easti	ng E	Elevation
Coordinate S	System		GPS Acc	uracy

Count Video	CD	Code		ln1	ln2	%	Jn	tFr	То	ImRef	Remarks
0.0		ST	Start of Survey								
0.0		AJB	Junction box								MARLEY JB
0.0		MWL	Water Level			0					
8.4		CL	Crack Longitudinal				J	03			
10.3		CL	Crack Longitudinal				J	12			CRACK WITH STAINING
10.3	S01	OBZ	Obstacle Other			10		05	07		DIRT AND GRAVEL IN PIPE
32.7		IR	Infil Runner				J	07			INFILTRATION
38.5	F01	OBZ	Obstacle Other			10		05	07		DIRT AND GRAVEL IN PIPE
38.5		AJB	Junction box								UNKNOWN
38.5		FH	End of Survey								JUNCTION BOX PROBABLLY BUR

38.5 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 2200
	O&M:	Pipe Rating 16	Pipe Ratings Index 2.3	Quick Rating 4126
	Overall	Pipe Rating 20	Pipe Ratings Index 4.3	Quick Rating 4128

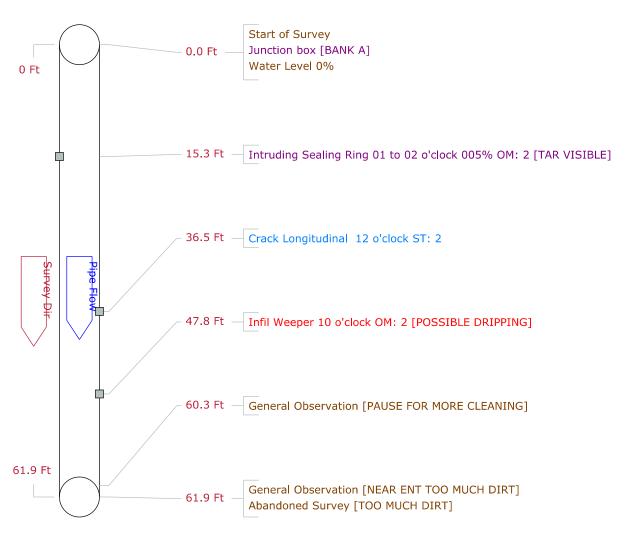


Pipe Graphic Report of PSR BANK A

B **for** HDR



		р		2,	_							
Setup	32	Surveyor	GCS		Certificate #	U-091	7-0700939	1 Syste	m Owner	SCDOT		
Drainage	е			Survey Custor	mer							
P/O #			Date	2021/01/05	Time 11:40	S	treet BRC	OAD RIVER	RD			
City	COLU	JMBIA		Further le	ocation details	s						
Up	BANK A			Rim	to invert		Grade to	invert		Rim to gr	ade	Ft
Down MARLEY JB Rim				to invert		Grade to	invert		Rim to grade		Ft	
Use Sto	ormwate	r		Direction	Downstream	Flo	w control			Media	No	
Shape Circular Height				18 Width	ins	Pre	clean J		Date Cleaned			
Material	Reinf	orced Concr	ete Pipe	e J	loint length	Ft	Total len	gth	Ft	Length Su	rveyed 61	.90 Ft
Lining					Year laid	Ye	ar rehabil	itated	\	N eather		
Purpose)				(Cat						
Addition	nal info	SET	T UP AT	BANK PARKING	LOT			Structural	0.6	ß М	Constructi	onal
Location	า							Miscellane	ous Hy	draulic		
Project	Card	olina Crossro	oads			Work Order						
Northing	3			Easting					Elevation			
Coordin	ate Sys	tem						GPS Ac	curacy			





SCA Underground Phone:(803)730-3568

CCTV Picture List of BANK A В for HDR

	LI -4221	
	Setup 32	
ROADS\		

Work Order			Setup 32					
Video	Survey Date	2021/01/05						
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSI	ROADS\					
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\						
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSF	ROADS\					



Video Index **Count** 15.3 Ft

Code Intruding Sealing Ring

Remarks TAR VISIBLE

File Name 229.jpg



Video Index Count 36.5 Ft

Code Crack Longitudinal

Remarks

File Name 230.jpg



Video Index Count 47.8 Ft

Code Infil Weeper

Remarks POSSIBLE DRIPPING

File Name 231.jpg



SCA Underground Phone: (803)730-3568

Work Order
Video
Survey Date
2021/01/05

Path to picture files
F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\

Path to video files
F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

Path to media files
F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\

for

HDR

В



CCTV Picture List of

BANK A

SCA Underground Phone: (803)730-3568

Tabular Report of PSR BANK A

B for HDR



Setup 32 Surveyor GCS	Certificate #	U-0917-07009391 Sy	stem Owner SCDOT	
Drainage Survey Cu	ıstomer			
P/O # Date 2021/01/05	Time 11:40	Street BROAD RIVE	ER RD	
City COLUMBIA Furti	ner location details			
Up BANK A	Rim to invert	Grade to invert	Rim to g	jrade Ft
Down MARLEY JB	Rim to invert	Grade to invert	Rim to g	jrade Ft
Use Stormwater Direct	tion Down	Flow control	Media	ı No
Shape Circular Hei	ght 18 Width	ins Preclean J	Date Clea	ned
Material Reinforced Concrete Pipe	Joint length	Ft Total length	Ft Length S	urveyed 61.9 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		F	Pressure
Additional info SET UP AT BANK PARK Location	ING LOT	Structur Miscella		Constructional
Project Carolina Crossroads			Work Order	
Northing	Easting		Elevation	
Coordinate System		GPS /	Accuracy	

Count Video	CD Code	In1	ln2	%	Jnt	Fr	То	ImRef	Remarks
0.0	ST Start of Surv	rey							
0.0	AJB Junction box	(BANK A
0.0	MWL Water Level			0					
15.3	ISSR Intruding Se	aling Ring		5		01	02		TAR VISIBLE
36.5	CL Crack Longi	tudinal			J	12			
47.8	IW Infil Weeper				J	10			POSSIBLE DRIPPING
60.3	MGO General Obs	servation							PAUSE FOR MORE CLEANING
61.9	MGO General Obs	servation						İ	NEAR ENT TOO MUCH DIRT
61.9	MSA Abandoned	Survey							TOO MUCH DIRT

61.9 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 2	Pipe Ratings Index 2	Quick Rating 2100
	O&M:	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 2200
	Overall	Pipe Rating 6	Pipe Ratings Index 4	Quick Rating 2300

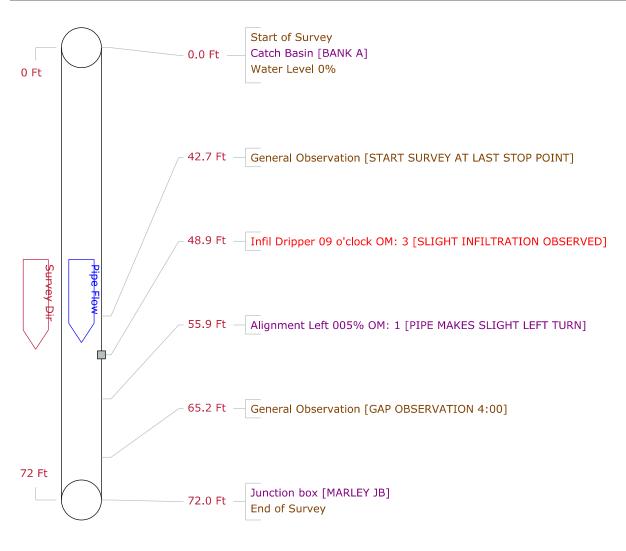


Pipe Graphic Report of PSR BANK A

for HDR



	•	<u> </u>									
Setup	44	Surveyor	GCS	C	ertificate #	U-091	7-0700939 ⁻	1 System Ov	vner SCDO	Γ	
Drainag	е			Survey Custome	er						
P/O #			Date	2021/02/17	Time 13:52	S	treet BRO	AD RIVER RD			
City	COL	UMBIA		Further loc	ation details	s					
Up	BANK	4		Rim to	o invert		Grade to	invert	Rim to	grade	Ft
Down	MARLE	Y JB		Rim to	o invert		Grade to	invert	Rim to	grade	Ft
Use Sto	ormwat	er		Direction [Oownstream	Flo	w control		Med	ia No	
Shape	Circula	r		Height 18	Width	ins	Pre	clean J	Date Cle	aned	
Material	Rein	forced Concr	ete Pipe	Jo	int length	Ft	Total leng	gth 72.0 Ft	Length	Surveyed	72.00 Ft
Lining				,	Year laid	Ye	ar rehabili	tated	Weather		
Purpose	•				(Cat					
Addition	nal info) SET	T UP AT	BANK PARKING L	TC			Structural	O & M	Const	ructional
Location	n							Miscellaneous	Hydraulic		
Project	Car	olina Crossro	oads					Work	Order		
Northing	g				Easting	g		Elev	ation		
Coordin	ate Sy	stem						GPS Accura	су		





SCA Underground Phone:(803)730-3568

CCTV Picture List of BANK A C for HDR



Work Order			Setup 44						
Video	Survey Date	2021/02/17							
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\							
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\							
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSRO	DADS\						



Video Index Count 48.9 Ft

Code Infil Dripper

Remarks SLIGHT INFILTRATION OBSERVED

File Name 311.jpg



Video Index Count 65.2 Ft

Code General Observation **Remarks** GAP OBSERVATION 4:00

File Name 312.jpg



SCA Underground Phone: (803)730-3568

Work Order
Video
Survey Date
2021/02/17

Path to picture files
F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\

Path to video files
F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

Path to media files
F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\

for

HDR

С



CCTV Picture List of

BANK A

SCA Underground Phone: (803)730-3568



Tabular Report of PSR BANK A C for HDR

Setup 44 Surveyor GCS	Certificate #	U-0917-07009391 Sy	stem Owner SCDO	Γ
Drainage Sur	vey Customer			
P/O # Date 2021	/02/17 Time 13:52	Street BROAD RIVI	ER RD	
City COLUMBIA	Further location details			
Up BANK A	Rim to invert	Grade to invert	Rim to	grade Ft
Down MARLEY JB	Rim to invert	Grade to invert	Rim to	grade Ft
Use Stormwater	Direction Down	Flow control	Med	ia No
Shape Circular	Height 18 Width	ins Preclean J	Date Cle	aned
Material Reinforced Concrete Pipe	Joint length	Ft Total length 72.0	Ft Length	Surveyed 72.0 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat			Pressure
Additional info SET UP AT BANK	K PARKING LOT	Structur	al O & M	Constructional
Location		Miscella	neous	
Project Carolina Crossroads			Work Order	
Northing	Easting		Elevation	
Coordinate System		GPS A	Accuracy	

Count Video	CD Code		In1	ln2	%	Jn	tFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ACB	Catch Basin								BANK A
0.0	MWL	Water Level			0					
42.7	MGO	General Observation								START SURVEY AT LAST STOP P
48.9	ID	Infil Dripper				J	09			SLIGHT INFILTRATION OBSERVE
55.9	LL	Alignment Left			5					PIPE MAKES SLIGHT LEFT TURN
65.2	MGO	General Observation								GAP OBSERVATION 4:00
72.0	AJB	Junction box								MARLEY JB
72.0	FH	End of Survey								

72.0 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 3111
	Overall	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 3111

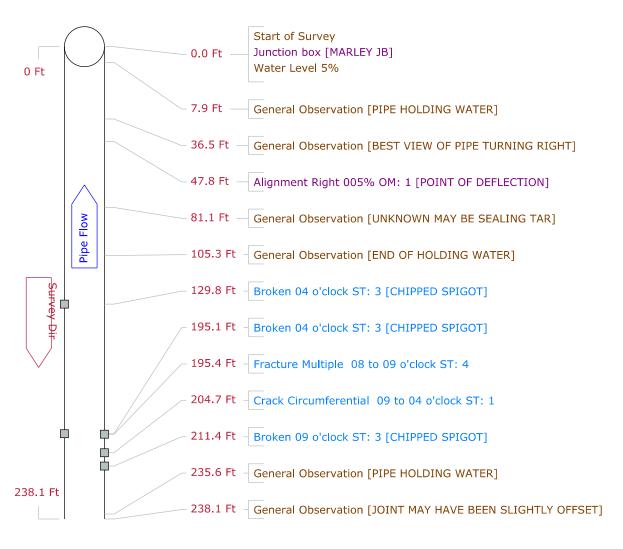


Pipe Graphic Report of PSR SHELL D

C **fo**r HDR



Setup	46	Surveyor	GCS		Certificate	# U-09	17-07009391	System Ov	vner SCDOT		
Drainag	е			Survey Custo	mer						
P/O #			Date	2021/02/17	Time 14:	35	Street BROA	D RIVER RD			
City	COL	UMBIA		Further	location deta	ails					
Up	SHELL	D		Rin	n to invert		Grade to i	nvert	Rim to	grade	Ft
Down	MARLE	EY JB		Rin	n to invert		Grade to i	nvert	Rim to	grade	Ft
Use Sto	ormwat	er		Directio	U pstream	Flo	ow control		Medi	a No	
Shape	Circula	r		Height	15 Width	ins	s Precl	ean J	Date Cleaned		
Material	Rein	forced Concr	ete Pipe		Joint length Ft Total length Ft				Length Surveyed 325.10 Ft		
Lining					Year laid	Ye	ear rehabilita	ated	Weather		
Purpose	•					Cat					
Addition Location		SE ⁻	T UP ON	MARLEY				tructural Iiscellaneous	O & M Hydraulic	Constr	uctional
Project	Car	rolina Crossro	oads					Work	Order		
Northing Easting Elevation											
Coordin	ate Sy	stem						GPS Accura	су		





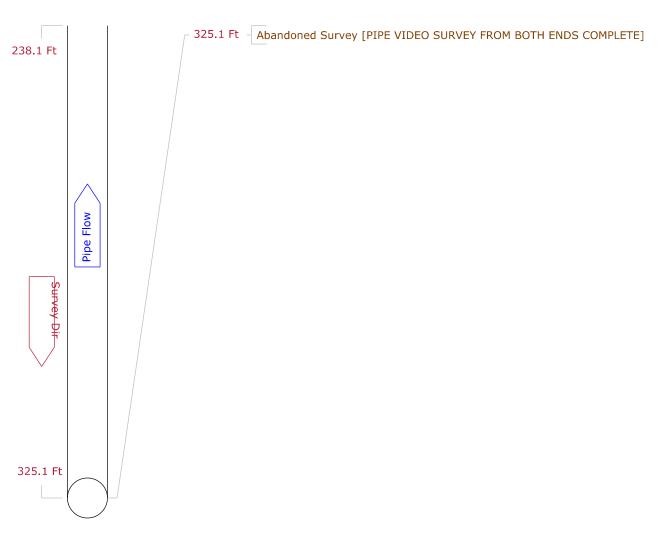
SCA Underground Phone:(803)730-3568

Pipe Graphic Report of PSR SHELL D C

HDR for



Setup 46 Surveyor GCS	Certificate #	U-0917-0700939	1 System Ow	ner SCDOT				
Drainage Survey Custo	omer		-,					
P/O # Date 2021/02/17	Time 14:35	Street BRC	AD RIVER RD					
City COLUMBIA Further	location details	i						
Up SHELL D Rii	m to invert	Grade to	invert	Rim to g	grade Ft			
Down MARLEY JB Rii	m to invert	Grade to	invert	Rim to g	grade Ft			
Use Stormwater Directio	n Upstream	Flow control		Media	a No			
Shape Circular Height	t 15 Width	ins Pre	clean J	Date Clea	ned			
Material Reinforced Concrete Pipe	Joint length	Joint length Ft Total length Ft			Surveyed 325.10 Ft			
Lining	Year laid	Year rehabili	itated	Weather				
Purpose	С	at						
Additional info SET UP ON MARLEY			Structural	O & M	Constructional			
Location			Miscellaneous	Hydraulic				
Project Carolina Crossroads	Project Carolina Crossroads Work Order							
Northing	orthing Easting Elevation							
Coordinate System			GPS Accurac	су				





SCA Underground Phone:(803)730-3568 Address: PO box Suite 102, West Columbia, SC

CCTV Picture List of SHELL D C for HDR



Work Order		Setup 46	
Video	Survey Date	2021/02/17	
Path to picture files	F:\CAMERA WORK DA	TABASE\Snaps\CAROLNA CROSS	SROADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROS	SROADS\
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSS	SROADS\



Video Index Count 7.9 Ft

Code General Observation

Remarks PIPE HOLDING WATER

File Name 317.jpg



Video Index Count 36.5 Ft

Code General Observation

Remarks BEST VIEW OF PIPE TURNING RIGHT

File Name 318.jpg



Video Index Count 81.1 Ft

Code General Observation

Remarks UNKNOWN MAY BE SEALING TAR

File Name 319.jpg



Video Index Count 129.8 Ft

Code Broken

Remarks CHIPPED SPIGOT

File Name 320.jpg



Video Index Count 195.1 Ft

Code Broken

Remarks CHIPPED SPIGOT

File Name 321.jpg



Video Index Count 195.4 Ft

Code Fracture Multiple

Remarks

File Name 322.jpg



Video Index Count 204.7 Ft

Code Crack Circumferential

Remarks

File Name 323.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of SHELL D С for HDR



Work Order			Setup 46
Video	Survey Date	2021/02/17	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRO	ADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSRC	DADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	ADS\



Video Index **Count** 211.4 Ft

Code Broken

Remarks CHIPPED SPIGOT

File Name 324.jpg



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC





Work Order		Setup 46	
Video	Survey Date	2021/02/17	
Path to picture files	F:\CAMERA WORK DA	.TABASE\Snaps\CAROLNA CROSSRO	DADS\
Path to video files	F:\CAMERA WORK DA	TABASE\Movies\CAROLNA CROSSR	OADS\
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSRC	DADS\



Video Index **Count** 235.6 Ft

Code General Observation Remarks PIPE HOLDING WATER

File Name 325.jpg



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

CCTV Picture List of SHELL D for **HDR Work Order** Setup 46 Video **Survey Date** 2021/02/17 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\

С



SCA Underground Phone: (803)730-3568

Tabular Report of PSR SHELL D C

for HDR



Setup 46 Surveyor GCS	Certificate #	U-0917-07009391 Syste	em Owner SCDOT			
Drainage Surv	vey Customer					
P/O # Date 2021	/02/17 Time 14:35	Street BROAD RIVER	RD			
City COLUMBIA	Further location details					
Up SHELL D	Rim to invert	Grade to invert	Rim to grade Ft			
Down MARLEY JB	Rim to invert	Grade to invert	Rim to grade Ft			
Use Stormwater	Direction Up	Flow control	Media No			
Shape Circular	Height 15 Width	ins Preclean J	Date Cleaned			
Material Reinforced Concrete Pipe	Joint length	Ft Total length F	Ft Length Surveyed 325.1 Ft			
Lining	Year laid	Year rehabilitated	Weather			
Purpose	Cat		Pressure			
Additional info SET UP ON MAR Location	LEY	Structural Miscellaneo	O & M Constructional ous			
Project Carolina Crossroads		V	Vork Order			
Northing	Easting	g Elevation				
Coordinate System		GPS Acc	curacy			

Count Video	CD Code		ln1	ln2	%	Jnt	Fr	То	ImRef	Remarks
0.0	ST	Start of Survey								
0.0	AJB	Junction box								MARLEY JB
0.0	MWL	Water Level			5					
7.9	MGO	General Observation								PIPE HOLDING WATER
36.5	MGO	General Observation								BEST VIEW OF PIPE TURNING RI
47.8	LR	Alignment Right			5					POINT OF DEFLECTION
81.1	MGO	General Observation								UNKNOWN MAY BE SEALING TAR
105.3	MGO	General Observation		ĺ						END OF HOLDING WATER
129.8	В	Broken				J	04			CHIPPED SPIGOT
195.1	В	Broken				J	04			CHIPPED SPIGOT
195.4	FM	Fracture Multiple				J	80	09		
204.7	СС	Crack Circumferential		ĺ			09	04		
211.4	В	Broken				J	09			CHIPPED SPIGOT
235.6	MGO	General Observation		ĺ						PIPE HOLDING WATER
238.1	MGO	General Observation		ĺ						JOINT MAY HAVE BEEN SLIGHTL'
325.1	MSA	Abandoned Survey	İ							PIPE VIDEO SURVEY FROM BOTH

325.1 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 14	Pipe Ratings Index 2.8	Quick Rating 4133
	O&M:	Pipe Rating 1	Pipe Ratings Index 1	Quick Rating 1100
	Overall	Pipe Rating 15	Pipe Ratings Index 3.8	Quick Rating 4133

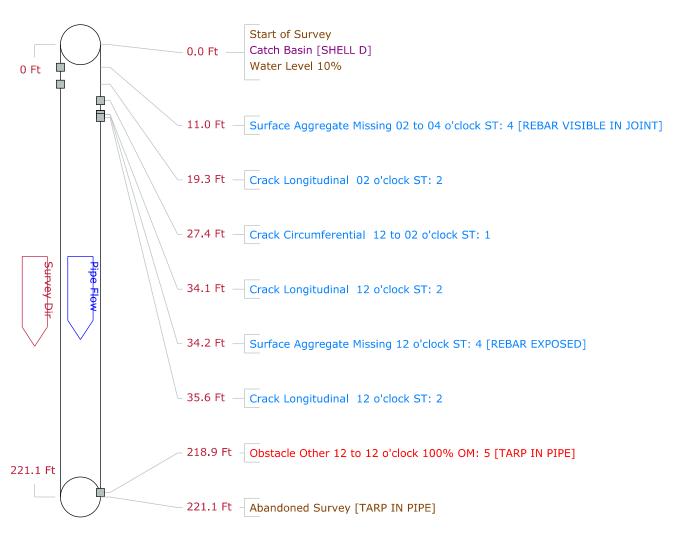


Pipe Graphic Report of PSR SHELL D

A **for** HDR



٠,,,,	. topoit o.	. •	0	, ,							
34	Surveyor	GCS		Certificate #	U-091	7-0700939	1 Sys	tem Own	er SCDOT		
е			Survey Custon	ner							
		Date	2021/01/05	Time 15:00	5	Street BRC	AD RIVE	R RD			
COL	UMBIA		Further Id	cation details	s						
SHELL	D		Rim	to invert		Grade to	invert		Rim to g	grade	Ft
Down MARLEY JB Rim			to invert		Grade to	invert		Rim to g	grade	Ft	
Use Stormwater Direction				Downstream	Flo	w control			Media	a No	
Shape Circular Heigh			Height 1	5 Width	ins	ins Preclean J			Date Cleaned		
Rein ⁻	forced Concr	ete Pipe	J	oint length	Ft	Total len	gth	Ft	Length S	Surveyed	221.10 Ft
				Year laid Year rehabilitated				Weather			
)				(Cat						
nal info	SET	Γ UP AT	TITLE LOAN OFF	ICE			Structura	al () & M	Constru	uctional
n							Miscella	neous F	Hydraulic		
Car	olina Crossro	oads						Work O	rder		
9				Easting Ele					ion		
ata Sv	stom			GPS Accuracy							
	34 COLI SHELL MARLE Drmwate Circular Reint al info	34 Surveyor COLUMBIA SHELL D MARLEY JB Drimwater Circular Reinforced Concr al info SE Carolina Crossro	34 Surveyor GCS Date COLUMBIA SHELL D MARLEY JB Domwater Circular Reinforced Concrete Pipe Lal info Carolina Crossroads	Date 2021/01/05 COLUMBIA Further Ic SHELL D Rim MARLEY JB Rim Ormwater Direction Circular Height 1 Reinforced Concrete Pipe J stal info SET UP AT TITLE LOAN OFF	34 Surveyor GCS Survey Customer Date 2021/01/05 COLUMBIA SHELL D MARLEY JB SITTED Time 15:00 Rim to invert Rim to invert Direction Downstream Circular Reinforced Concrete Pipe Joint length Year laid Carolina Crossroads Easting	34 Surveyor GCS Survey Customer Date 2021/01/05 COLUMBIA SHELL D Rim to invert MARLEY JB Rim to invert Direction Downstream Circular Reinforced Concrete Pipe Reinforced Concrete Pipe Cat Tall info SET UP AT TITLE LOAN OFFICE Carolina Crossroads Easting	34 Surveyor GCS Survey Customer Date 2021/01/05 Time 15:00 COLUMBIA Further location details SHELL D Rim to invert Grade to MARLEY JB MARLEY JB Rim to invert Grade to Direction Downstream Circular Reinforced Concrete Pipe Reinforced Concrete Pipe Joint length Year laid Year rehability Cat Carolina Crossroads Easting	34 Surveyor GCS Survey Customer Date 2021/01/05 Time 15:00 COLUMBIA Further location details SHELL D Rim to invert MARLEY JB Rim to invert Grade to invert Ormwater Direction Downstream Circular Height 15 Width ins Preclean J Reinforced Concrete Pipe Joint length Year laid Year rehabilitated Cat Structura Miscellar Carolina Crossroads Easting	34 Surveyor GCS Survey Customer Date 2021/01/05 Time 15:00 COLUMBIA Further location details SHELL D Rim to invert MARLEY JB Rim to invert Direction Downstream Circular Reinforced Concrete Pipe Joint length Year laid Year rehabilitated Cat Carolina Crossroads Easting Certificate # U-0917-07009391 System Owne System Owne Street BROAD RIVER RD Street BROAD RIVER RD Street BROAD RIVER RD Street BROAD RIVER RD Street BROAD RIVER RD Street BROAD RIVER RD Street BROAD RIVER RD Street BROAD RIVER RD Flow control In Serial to the system owne Street BROAD RIVER RD Street BROAD RIVER RD Street BROAD RIVER RD Flow control In Structural Miscellaneous Work O	34 Surveyor GCS Certificate # U-0917-07009391 System Owner SCDOT e Survey Customer Date 2021/01/05 Time 15:00 Street BROAD RIVER RD COLUMBIA Further location details SHELL D Rim to invert Grade to invert Rim to grade to invert	34 Surveyor GCS Certificate # U-0917-07009391 System Owner SCDOT E Survey Customer Date 2021/01/05 Time 15:00 Street BROAD RIVER RD COLUMBIA Further location details SHELL D Rim to invert Grade to invert Rim to grade MARLEY JB Rim to invert Grade to invert Rim to grade Ormwater Direction Downstream Flow control Media No Circular Height 15 Width ins Preclean J Date Cleaned Reinforced Concrete Pipe Joint length Ft Total length Ft Length Surveyed Year laid Year rehabilitated Weather Cat Carolina Crossroads Work Order Easting Elevation





SCA Underground Phone:(803)730-3568

CCTV Picture List of SHELL D A for HDR



Work Order		Setup 34							
Video	Survey Date	2021/01/05							
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\							
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\							
Path to media files	F:\CAMERA WORK DA	NTABASE\Media\CAROLNA CROSSR	OADS\						



Video Index Count 11.0 Ft

Code Surface Aggregate Missing
Remarks REBAR VISIBLE IN JOINT

File Name 238.jpg



Video Index Count 19.3 Ft

Code Crack Longitudinal

Remarks

File Name 239.jpg



Video Index Count 34.1 Ft

Code Crack Longitudinal

Remarks

File Name 240.jpg



Video Index Count 34.2 Ft

Code Surface Aggregate Missing

Remarks REBAR EXPOSED

File Name 241.jpg



Video Index Count 35.6 Ft

Code Crack Longitudinal

Remarks

File Name 242.jpg



Video Index Count 218.9 Ft

Code Obstacle Other
Remarks TARP IN PIPE

File Name 243.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of SHELL D Α for **HDR Work Order** Setup 34 Video **Survey Date** 2021/01/05 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



SCA Underground Phone: (803)730-3568

Tabular Report of PSR SHELL D

for HDR



Setup	34	Surveyor	GCS	Certificate #	# U-0917-070093	391 System	Owner SCDOT	-	
Drainag	ge		Survey Custo	mer					
P/O #			Date 2021/01/05	Time 15:00	Street BR	OAD RIVER RD			
City	COLU	MBIA	Further I	ocation details	;				
Up	SHELL D)	Rim	to invert	Grade t	o invert	Rim to	grade	Ft
Down MARLEY JB Rin		to invert	Grade t	o invert	Rim to	grade	Ft		
Use St	tormwater	•	Direction	Down	Flow contro	I	Medi	a No	
Shape	Circular		Height	15 Width	ins Pr	eclean J	Date Cle	aned	
Materia	Reinfo	rced Concre	te Pipe	loint length	Ft Total lei	ngth Ft	Length S	Surveyed 221.	1 Ft
Lining				Year laid	Year rehabi	litated	Weather		
Purpos	e			Car	t			Pressure	
Additio Locatio	nal info	SET	UP AT TITLE LOAN OF	FICE		Structural Miscellaneous	O & M	Construction	nal
Project	Caro	lina Crossroa	ads		'	Wor	k Order		
Northin	ng			Easting	ng Elevation				
Coordin	nate Sys	tem				GPS Accura	асу		

Count Video	CD Code		ln1	ln2	%	Jnt	ŀFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ACB	Catch Basin								SHELL D
0.0	MWL	Water Level			10					
11.0	SAM	Surface Aggregate Missing				J	02	04		REBAR VISIBLE IN JOINT
19.3	CL	Crack Longitudinal				J	02			
27.4	CC	Crack Circumferential				J	12	02		
34.1	CL	Crack Longitudinal					12			
34.2	SAM	Surface Aggregate Missing					12			REBAR EXPOSED
35.6	CL	Crack Longitudinal				J	12			
218.9	OBZ	Obstacle Other			100		12	12		TARP IN PIPE
221.1	MSA	Abandoned Survey								TARP IN PIPE

221.1 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 15	Pipe Ratings Index 2.5	Quick Rating 4223	
	O&M:	Pipe Rating 5	Pipe Ratings Index 5	Quick Rating 5100	
	Overall	Pipe Rating 20	Pipe Ratings Index 7.5	Quick Rating 5142	

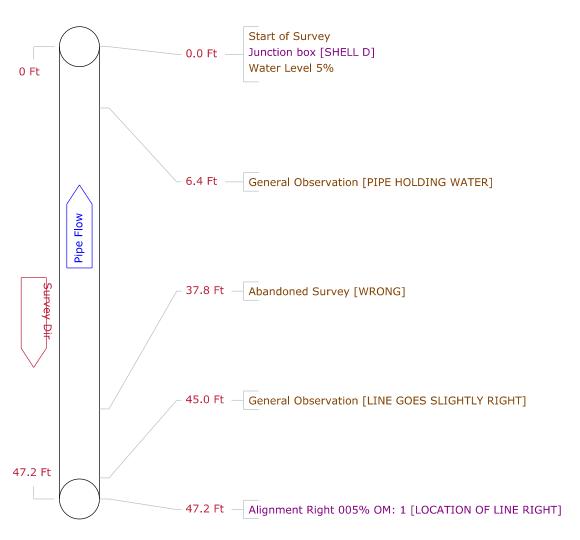


Pipe Graphic Report of PSR MARLEY JB

for HDR



Setup	45	Surveyor	GCS		Certificate #	U-091	7-07009391	System Ov	vner SCDOT		
Draina	ge			Survey Custo	mer						
P/O #			Date	2021/02/17	Time 14:25	s	treet BROA	D RIVER RD			
City	CC	LUMBIA		Further I	ocation detail	s					
Up	MAR	LEY JB		Rim	to invert		Grade to i	nvert	Rim to	grade	Ft
Down SHELL D			Rim	to invert		Grade to i	nvert	Rim to	grade	Ft	
Use S	Stormw	ater		Direction	Upstream	Flo	w control		Medi	a No	
Shape Circular			Height	15 Width	ins	Precl	Date Cleaned				
Materia	al Re	inforced Conc	rete Pipe		Joint length Ft Total lengt			h Ft	Length 9	Surveyed	37.80 Ft
Lining					Year laid	Yea	ar rehabilita	ated	Weather		
Purpos	se				(Cat					
Additio	onal in	fo SE	T UP AT	TITLE LOAN OF	FICE			tructural	O & M	Constr	ructional
Location	on						IV	liscellaneous	Hydraulic		
Project	t C	arolina Crossr	oads					Work	Order		
Northir	ng				Easting Eleva						
Coordi	inate S	System						GPS Accura	су		

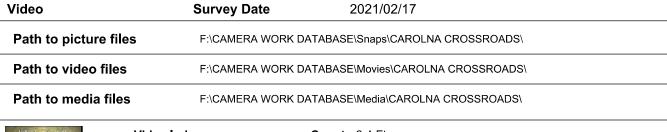




SCA Underground Phone:(803)730-3568

CCTV Picture List of MARLEY JB for **HDR**

	LF-4222	
	Setup 45	
OADS\		
		1





Work Order

Video Index Count 6.4 Ft

Code General Observation Remarks PIPE HOLDING WATER

File Name 314.jpg



Video Index **Count** 45.0 Ft

Code General Observation

Remarks LINE GOES SLIGHTLY RIGHT

File Name 315.jpg



SCA Underground Phone: (803)730-3568

Work Order
Video
Survey Date
2021/02/17

Path to picture files
F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\

Path to video files
F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

Path to media files
F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\

for

HDR

Α

MARLEY JB



CCTV Picture List of

SCA Underground Phone: (803)730-3568

Tabular Report of PSR MARLEY JB

4 for HDR



Setup 45 Surveyor GCS	Certificate #	U-0917-07009391 System (Owner SCDOT
Drainage Sui	rvey Customer		
P/O # Date 202	1/02/17 Time 14:25	Street BROAD RIVER RD	
City COLUMBIA	Further location details		
Up MARLEY JB	Rim to invert	Grade to invert	Rim to grade Ft
Down SHELL D	Rim to invert	Grade to invert	Rim to grade Ft
Use Stormwater	Direction Up	Flow control	Media No
Shape Circular	Height 15 Width	ins Preclean J	Date Cleaned
Material Reinforced Concrete Pipe	Joint length	Ft Total length Ft	Length Surveyed 37.8 Ft
Lining	Year laid	Year rehabilitated	Weather
Purpose	Cat		Pressure
Additional info SET UP AT TITL Location	E LOAN OFFICE	Structural Miscellaneous	O & M Constructional
Project Carolina Crossroads		Worl	k Order
Northing	Easting	Ele	vation
Coordinate System		GPS Accura	ісу

Count Video	CD Code	ln1	ln2	%	Jnt	Fr	То	ImRe	f Remarks
0.0	ST Start of Survey								
0.0	AJB Junction box								SHELL D
0.0	MWL Water Level			5					
6.4	MGO General Observation								PIPE HOLDING WATER
37.8	MSA Abandoned Survey								WRONG
45.0	MGO General Observation								LINE GOES SLIGHTLY RIGHT
47.2	LR Alignment Right	İ		5					LOCATION OF LINE RIGHT

47.2 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 1	Pipe Ratings Index 1	Quick Rating 1100
	Overall	Pipe Rating 1	Pipe Ratings Index 1	Quick Rating 1100

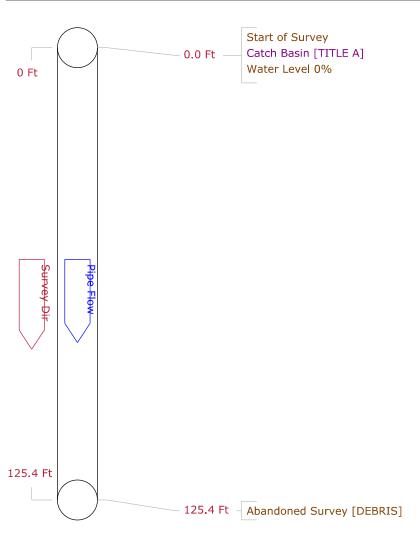


Pipe Graphic Report of PSR TITLE A

for HDR



Setup	2	7 5	Surveyor	GCS		Certificate	# U-09	17-070093	91 Sy s	stem Owr	ner SCDOT		
Draina	ge				Survey Custo	mer							
P/O #				Date	2020/12/15	Time 15:	28	Street BR	OAD RIV	ER RD			
City	(COLUN	//BIA		Further l	location deta	ils						
Up	TIT	LE A			Rim	n to invert		Grade t	o invert		Rim to	grade	Ft
Down	В				Rim	n to invert		Grade t	o invert		Rim to	grade	Ft
Use S	torm	water			Direction	n Downstream	FI	ow contro	ol		Medi	a No	
Shape	Circ	cular			Height	18 Width	in	s Pr	eclean Z	7	Date Clea	aned	
Materia	al F	Reinfor	ced Concr	ete Pipe	,	Joint length	Ft	Total le	ngth	Ft	Length S	Surveyed	1 125.40 Ft
Lining						Year laid	Υ	ear rehab	ilitated		Weather		
Purpos	se						Cat						
Additio	nal	info							Structu	ral	O & M	Const	ructional
Location	on								Miscella	aneous	Hydraulic		
Project	t	Caroli	na Crossro	oads						Work (Order		
Northir	ng					East	ng			Eleva	tion		
Coordi	nate	Syste	em						GPS	Accuracy	/		





SCA Underground Phone:(803)730-3568 Address: PO box Suite 102, West Columbia, SC

Tabular Report of PSR TITLE A

for HDR

В



Setup	27	Surveyor G	ics	C	ertificate #	U-091	7-07009	391 Sy :	stem O	wner SCDOT		
Drainage			S	Survey Customer								
P/O #			Date 20	020/12/15	Г ime 15:28	5	treet BR	ROAD RIVE	RRD			
City	COLUN	/IB I A		Further loca	tion details							
Up TI	TLE A			Rim to	invert		Grade t	to invert		Rim to	grade	Ft
Down B				Rim to	invert		Grade t	to invert		Rim to	grade	Ft
Use Stor	nwater			Direction Do	wn	Flo	w contro	ol		Medi	a No	
Shape C	rcular			Height 18	Width	ins	Pr	eclean Z		Date Clea	aned	
Material	Reinfor	ced Concrete	Pipe	Join	t length	Ft	Total le	ngth	Ft	Length S	Surveyed	125.4 Ft
Lining				Ye	ar laid	Ye	ar rehab	ilitated		Weather		
Purpose					Cat						Pressure	,
Additiona	l info							Structura	al	O & M	Constr	uctional
Location								Miscellar	neous			
Project	Caroli	na Crossroad	ls						Work	Order		
Northing					Easting				Elev	ation		
Coordinat	e Syst	em						GPS A	ccurac	у		

Count Video	CD Code	ln1	ln2	% JntFr To ImRef Remarks
0.0	ST Start of Survey			
0.0	ACB Catch Basin			TITLE A
0.0	MWL Water Level			0
125.4	MSA Abandoned Survey			DEBRIS

125.4 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	Overall	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000

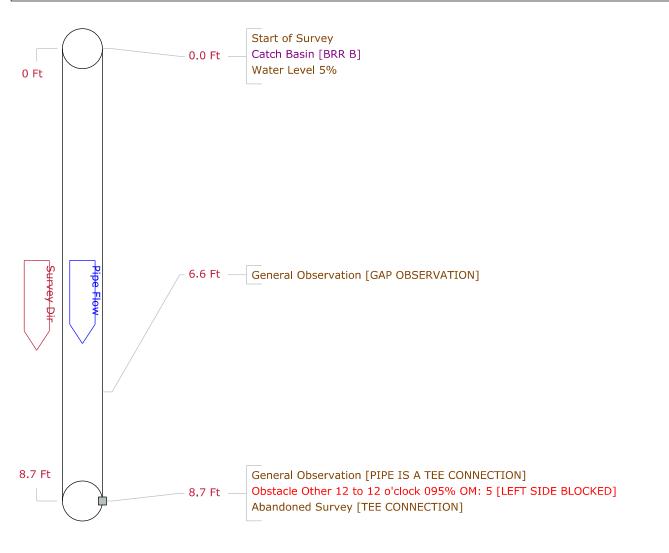


Pipe Graphic Report of PSR BRR B

A **for** HDR



Setup	23	Surveyor	GCS		Certificate #	U-0917-07	7009391	System Ow	vner SCDOT		
Drainage				Survey Custo	mer						
P/O #			Date	2020/12/09	Time 11:14	Stree	et BROAD	RIVER RD			
City	COL	JMBIA		Further I	ocation detail	s					
Up E	BRR B			Rim	to invert	Gr	ade to in	vert	Rim to	grade	Ft
Down B	BRR C			Rim	to invert	Gr	ade to in	vert	Rim to	grade	Ft
Use Sto	rmwate	er		Direction	Downstream	Flow c	ontrol		Medi	a No	
Shape C	Circular			Height	18 Width	ins	Precle	ean J	Date Clea	aned	
Material	Reinf	orced Concr	ete Pipe	•	Joint length	Ft To	tal length	n Ft	Length S	Surveyed	08.70 Ft
Lining					Year laid	Year re	ehabilitat	ted	Weather		
Purpose						Cat					
Addition	al info	SET	ΓUP AT .	ABANDONED E	CONOMY INN		St	ructural	O & M	Constru	uctional
Location							Mi	scellaneous	Hydraulic		
Project	Car	olina Crossro	oads					Work	Order		
Northing					Easting	g		Elev	ation		
Coordina	ite Sys	stem					(GPS Accurac	су		





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CCTV Picture List of BRR B A for HDR



Work Order			Setup 23			
Video	Survey Date	2020/12/09				
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSF	ROADS\			
Path to video files	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\					
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSF	ROADS\			



Video Index Count 6.6 Ft

Code General Observation

Remarks GAP OBSERVATION

File Name 197.jpg



Video Index Count 8.7 Ft

Code Obstacle Other

Remarks LEFT SIDE BLOCKED

File Name 198.jpg



SCA Underground Phone: (803)730-3568

Work Order
Video
Survey Date
2020/12/09

Path to picture files
F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\

Path to video files
F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

Path to media files
F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\

for

HDR

Α



CCTV Picture List of

BRR B

SCA Underground Phone: (803)730-3568

Tabular Report of PSR BRR B A for HDR



Setup 23 Surveyor GCS	Certificate #	U-0917-07009391 System (Owner SCDOT	
Drainage Surv	vey Customer			
P/O # Date 2020/	/12/09 Time 11:14	Street BROAD RIVER RD		
City COLUMBIA	Further location details			
Up BRR B	Rim to invert	Grade to invert	Rim to grade	Ft
Down BRR C	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Down	Flow control	Media No	
Shape Circular	Height 18 Width	ins Preclean J	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length Ft	Length Surveyed 8.7	Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SET UP AT ABAN	IDONED ECONOMY INN	Structural	O & M Constructio	nal
Location		Miscellaneous		
Project Carolina Crossroads		Work	(Order	
Northing	Easting	Elev	vation	
Coordinate System		GPS Accura	су	

Count Video	CD Code	ln1	ln2	% 、	JntFr	To Ir	mRef Remarks	
0.0	ST Start of Survey							
0.0	ACB Catch Basin						BRR B	
0.0	MWL Water Level			5				
6.6	MGO General Observation						GAP OBSERVATION	
8.7	MGO General Observation						PIPE IS A TEE CONNECTION	
8.7	OBZ Obstacle Other			95	12	12	LEFT SIDE BLOCKED	
8.7	MSA Abandoned Survey						TEE CONNECTION	

8.7 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 5	Pipe Ratings Index 5	Quick Rating 5100
	Overall	Pipe Rating 5	Pipe Ratings Index 5	Quick Rating 5100

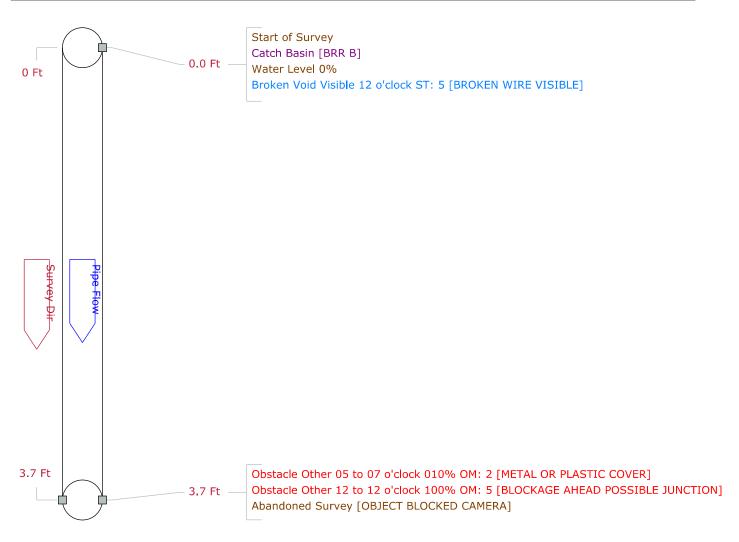


Pipe Graphic Report of PSR BRR B

B **for** HDR



•	•	•										
Setup	24	Surveyor	GCS	1	Certificate #	U-091	17-07009391	l Syst	em Owne	er SCDOT		
Drainag	е			Survey Custom	ner							
P/O #			Date	2020/12/09	Time 11:24		Street BRO	AD RIVE	R RD			
City	COL	UMBIA		Further lo	cation details	s						
Up	BRR B			Rim	to invert		Grade to	invert		Rim to g	grade	Ft
Down	BRR A			Rim t	to invert		Grade to	invert		Rim to g	grade	Ft
Use St	ormwate	er		Direction	Downstream	Flo	w control			Media	a No	
Shape	Circula	r		Height 1	8 Width	ins	Pred	clean Z		Date Clea	ned	
Material	Rein	forced Concr	ete Pipe	Jo	oint length	Ft	Total leng	gth	Ft	Length S	urveyed	03.70 Ft
Lining					Year laid	Ye	ar rehabilit	tated		Weather		
Purpose	9				(Cat						
Addition	nal info	SE ⁻	Γ UP AT	ABANDONED EC	ONOMY INN			Structura	ıl C) & M	Constr	uctional
Location	n							Miscellar	neous H	lydraulic		
Project	Car	olina Crossro	oads						Work O	rder		
Northing	g				Easting	9			Elevati	on		
Coordin	ate Sy	stem						GPS A	ccuracy			





SCA Underground Phone:(803)730-3568





Work Order			Setup 24				
Video	Survey Date	2020/12/09					
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\					
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\					
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSR	OADS\				



Video Index Count 0.0 Ft

Code Broken Void Visible

Remarks BROKEN WIRE VISIBLE

File Name 200.jpg



Video Index Count 3.7 Ft

Code Obstacle Other

Remarks METAL OR PLASTIC COVER

File Name 203.jpg



Video Index Count 3.7 Ft

Code Obstacle Other

Remarks BLOCKAGE AHEAD POSSIBLE JUNCTION

File Name 201.jpg



Video Index Count 3.7 Ft

Code Obstacle Other

Remarks BLOCKAGE AHEAD POSSIBLE JUNCTION

File Name 202.jpg



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CCTV Picture List of BRR B В for **HDR Work Order** Setup 24 Video **Survey Date** 2020/12/09 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



SCA Underground Phone: (803)730-3568

В



Setup	24	Surveyor GCS	C	ertificate #	U-091	7-070093	91 Sy s	stem O	wner SCDOT		
Drainage			Survey Customer								
P/O #		Date 2	2020/12/09	Time 11:24	S	treet BRO	DAD RIVE	R RD			
City	COLUI	МВ І А	Further loca	tion details							
Up ∃	BRR B		Rim to i	nvert		Grade to	invert		Rim to	grade	Ft
Down B	BRR A		Rim to i	nvert		Grade to	invert		Rim to	grade	Ft
Use Sto	rmwater		Direction Do	wn	Flo	w control			Medi	a No	
Shape C	Circular		Height 18	Width	ins	Pre	eclean Z		Date Clea	aned	
Material	Reinfo	rced Concrete Pipe	Join	t length	Ft	Total len	gth	Ft	Length S	Surveyed 3.7	Ft
Lining			Ye	ar laid	Ye	ar rehabil	litated		Weather		
Purpose				Cat						Pressure	
Addition	al info	SET UP AT A	BANDONED ECON	OMY INN			Structura	ıl	O & M	Construction	nal
Location							Miscellar	neous			
Project	Carol	ina Crossroads						Work	Order		
Northing				Easting				Elev	ation		
Coordina	ite Syst	em					GPS A	ccurac	Э		

Count Video	CD Code	ln1	ln2	% Jr	ntFr	To Imf	Ref Remarks
0.0	ST Start of Survey						
0.0	ACB Catch Basin						BRR B
0.0	MWL Water Level			0			
0.0	BVV Broken Void Visible				12		BROKEN WIRE VISIBLE
3.7	OBZ Obstacle Other			10	05	07	METAL OR PLASTIC COVER
3.7	OBZ Obstacle Other			100	12	12	BLOCKAGE AHEAD POSSIBLE JU
3.7	MSA Abandoned Survey						OBJECT BLOCKED CAMERA

3.7 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 5	Pipe Ratings Index 5	Quick Rating 5100
	O&M:	Pipe Rating 7	Pipe Ratings Index 3.5	Quick Rating 5121
	Overall	Pipe Rating 12	Pipe Ratings Index 8.5	Quick Rating 5221

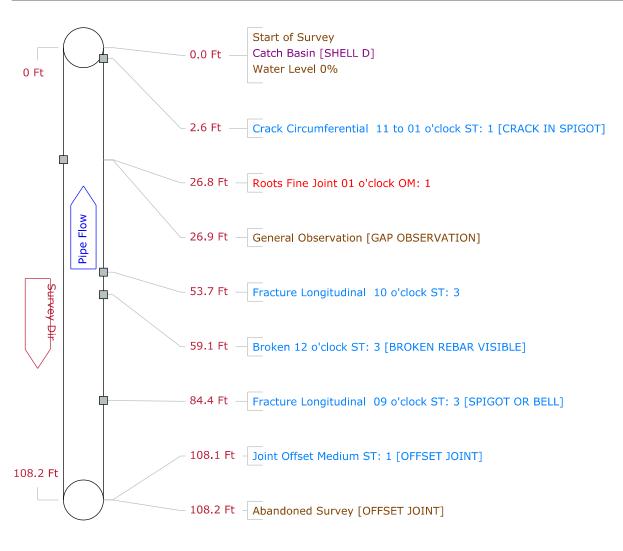


Pipe Graphic Report of PSR SHELL C

for HDR



•	•	•									
Setup	28	Surveyor	GCS		Certificate #	U-091	17-07009391	System Ov	wner SCDO	Γ	
Drainage	е			Survey Custon	ner						
P/O #			Date	2020/12/15	Time 16:14	. (Street BROA	AD RIVER RD			
City	COL	UMBIA		Further Id	ocation details	s					
Up	SHELL	GRATE C		Rim	to invert		Grade to i	nvert	Rim to	grade	Ft
Down	SHELL	D		Rim	to invert		Grade to i	nvert	Rim to	grade	Ft
Use Sto	ormwate	er		Direction	Upstream	Flo	w control		Med	ia No	
Shape	Circulai	r		Height 1	15 Width	ins	Prec	lean J	Date Cle	aned	
Material	Rein	forced Concr	ete Pipe	J	oint length	Ft	Total leng	th Ft	Length	Surveyed	108.20 Ft
Lining					Year laid	Υe	ar rehabilit	ated	Weather		
Purpose)				(Cat					
Addition	nal info	SET	Γ UP AT	TITLE LOAN OFF	ICE		9	Structural	O & M	Constr	uctional
Location	า						N	Miscellaneous	Hydraulic		
Project	Car	olina Crossro	oads					Work	k Order		
Northing	3				Easting	g		Elev	vation		
Coordin	ate Sy	stem						GPS Accura	су		





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CCTV Picture List of SHELL C A for HDR



Work Order			Setup 28					
Video	Survey Date	2020/12/15						
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\						
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\						
Path to media files	F:\CAMERA WORK DA	NTABASE\Media\CAROLNA CROSSRO	DADS\					



Video Index Count 2.6 Ft

Code Crack Circumferential
Remarks CRACK IN SPIGOT

File Name 215.jpg



Video Index Count 26.8 Ft

Code Roots Fine Joint

Remarks

File Name 216.jpg



Video Index Count 26.9 Ft

Code General Observation

Remarks GAP OBSERVATION

File Name 217.jpg



Video Index Count 53.7 Ft

Code Fracture Longitudinal

Remarks

File Name 218.jpg



Video Index Count 59.1 Ft

Code Broken

Remarks BROKEN REBAR VISIBLE

File Name 219.jpg



Video Index Count 84.4 Ft

Code Fracture Longitudinal
Remarks SPIGOT OR BELL

File Name 220.jpg



Video Index Count 108.1 Ft

Code Joint Offset Medium
Remarks OFFSET JOINT
File Name 221.jpg



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CCTV Picture List of SHELL C Α for **HDR Work Order** Setup 28 Video **Survey Date** 2020/12/15 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



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Tabular Report of PSR SHELL C

for HDR



Setup	28	Surveyor G	CS	Certificate #	# U-0917-07009391	System	Owner SCDC	Τ	
Drainage	е		Survey Custor	mer					
P/O #			Date 2020/12/15	Time 16:14	Street BROA	D RIVER RD			
City	COLU	JMBIA	Further I	ocation details	3				
Up :	SHELL	GRATE C	Rim	to invert	Grade to i	nvert	Rim to	grade	Ft
Down 3	SHELL	D	Rim	to invert	Grade to i	nvert	Rim to	o grade	Ft
Use Sto	ormwate	r	Direction	Up	Flow control		Med	dia No	
Shape (Circular		Height	15 Width	ins Precl	ean J	Date CI	eaned	
Material	Reinf	orced Concrete	Pipe J	loint length	Ft Total lengt	h Ft	Length	Surveyed 1	08.2 Ft
Lining				Year laid	Year rehabilita	ited	Weather	r	
Purpose)			Car	t			Pressure	
Addition Location		SET U	IP AT TITLE LOAN OFF	FICE	-	tructural liscellaneous	O & M	Construct	ional
Project	Card	olina Crossroad	ls		_	Wor	k Order		
Northing	9			Easting	3	Ele	vation		
Coordin	ate Svs	stem				GPS Accura	acv		

Count Video	CD Code		ln1	ln2	%	Jn	tFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ACB	Catch Basin								SHELL D
0.0	MWL	Water Level			0					
2.6	CC	Crack Circumferential				J	11	01		CRACK IN SPIGOT
26.8	RFJ	Roots Fine Joint				J	01			
26.9	MGO	General Observation								GAP OBSERVATION
53.7	FL	Fracture Longitudinal				J	10			
59.1	В	Broken				J	12			BROKEN REBAR VISIBLE
84.4	FL	Fracture Longitudinal				J	09			SPIGOT OR BELL
108.1	JOM	Joint Offset Medium								OFFSET JOINT
108.2	MSA	Abandoned Survey		Ì						OFFSET JOINT

108.2 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 11	Pipe Ratings Index 2.2	Quick Rating 3312
	O&M:	Pipe Rating 1	Pipe Ratings Index 1	Quick Rating 1100
	Overall	Pipe Rating 12	Pipe Ratings Index 3.2	Quick Rating 3313



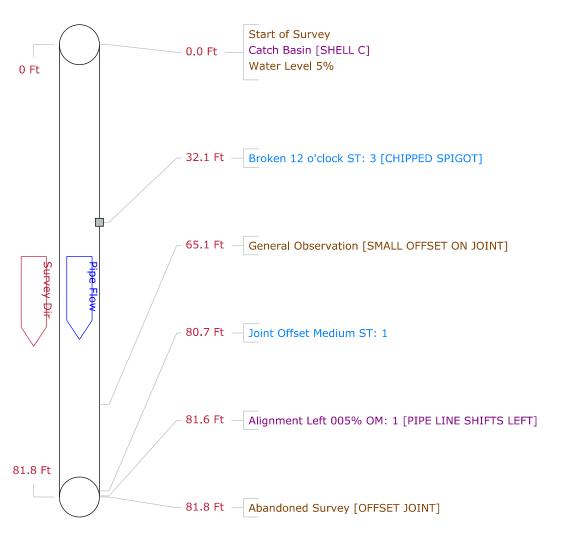
Pipe Graphic Report of PSR SHELL C

for

HDR



Setup 25 Surveyor GCS Certificate # U-0917-07009391 System Owner SCDOT	
- Johnson - John	•
Drainage Survey Customer	
P/O # Date 2020/12/09 Time 12:56 Street BROAD RIVER RD	
City COLUMBIA Further location details	
Up SHELL GRATE C Rim to invert Grade to invert Rim to	grade Ft
Down SHELL D Rim to invert Grade to invert Rim to	grade Ft
Use Stormwater Direction Downstream Flow control Med	ia No
Shape Circular Height 15 Width ins Preclean J Date Cle	aned
Material Reinforced Concrete Pipe Joint length Ft Total length Ft Length	Surveyed 81.80 Ft
Lining Year laid Year rehabilitated Weather	
Purpose Cat	
Additional info SET UP AT SHELL STATION EXIT Structural O & M	Constructional
Location Miscellaneous Hydraulic	
Project Carolina Crossroads Work Order	
Northing Easting Elevation	
Coordinate System GPS Accuracy	





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CCTV Picture List of SHELL C B for HDR



Work Order		Setup 25						
Video	Survey Date	2020/12/09						
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\						
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\						
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSRO	ADS\					



Video Index Count 32.1 Ft

Code Broken

Remarks CHIPPED SPIGOT

File Name 205.jpg



Video Index Count 65.1 Ft

Code General Observation

Remarks SMALL OFFSET ON JOINT

File Name 206.jpg



Video Index Count 80.7 Ft

Code Joint Offset Medium

Remarks

File Name 207.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of SHELL C B for HDR

Work Order
Video Survey Date 2020/12/09

Path to picture files F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\

Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



Path to media files

SCA Underground Phone: (803)730-3568



Setup	25	Surveyor	GCS	Certificate #	U-0917-070093	91 System (Owner SCDOT		
Drainag	ge		Survey Custor	mer					
P/O #			Date 2020/12/09	Time 12:56	Street BR0	OAD RIVER RD			
City	COL	UMB I A	Further I	ocation details	;				
Up	SHELL	GRATE C	Rim	to invert	Grade to	o invert	Rim to	grade	Ft
Down	SHELL	D	Rim	to invert	Grade to	o invert	Rim to	grade	Ft
Use S	tormwate	er	Direction	Down	Flow contro		Medi	a No	
Shape	Circula	-	Height	15 Width	ins Pre	eclean J	Date Clea	aned	
Materia	l Rein	forced Concret	te Pipe J	oint length	Ft Total ler	ngth Ft	Length S	Surveyed 81.8	Ft
Lining				Year laid	Year rehabi	litated	Weather		
Purpos	e			Cat	:			Pressure	
	nal info	SET	UP AT SHELL STATION	EXIT		Structural	O & M	Construction	nal
Locatio	on					Miscellaneous			
Project	: Car	olina Crossroa	nds			Worl	k Order		
Northir	ng			Easting	I	Ele	vation		
Coordi	nate Sy	stem				GPS Accura	су		

Count Video	CD Code		ln1	ln2	%	Jnt	tFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ACB	Catch Basin								SHELL C
0.0	MWL	Water Level			5					
32.1	В	Broken				J	12			CHIPPED SPIGOT
65.1	MGO	General Observation								SMALL OFFSET ON JOINT
80.7	JOM	Joint Offset Medium								
81.6	LL	Alignment Left			5					PIPE LINE SHIFTS LEFT
81.8	MSA	Abandoned Survey								OFFSET JOINT

81.8 Ft Total Length Surveyed

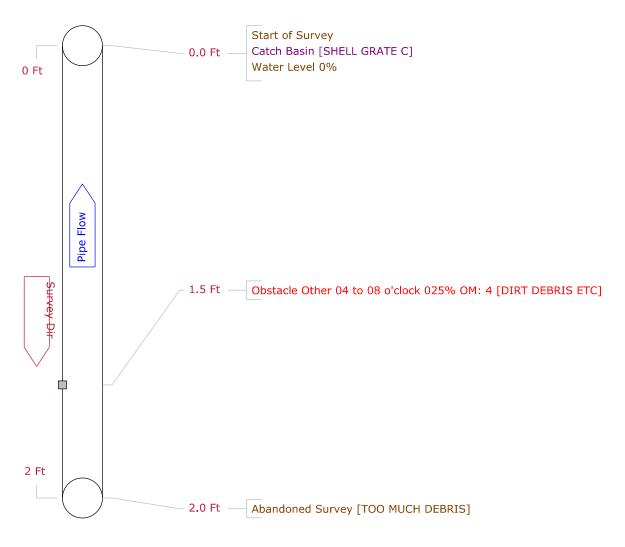
Scores	Structural:	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 3111
	O&M:	Pipe Rating 1	Pipe Ratings Index 1	Quick Rating 1100
	Overall	Pipe Rating 5	Pipe Ratings Index 3	Quick Rating 3112





Pipe Graphic Report of PSR SHELL GRATE J B for HDR

Setup	31	Surveyor	GCS		Certificate #	U-0917	7-07009391	System Ov	vner SCDOT		
Drainage				Survey Custo	mer						
P/O #			Date	2020/12/21	Time 15:42	e s	treet BROA	D RIVER RD			
City	COLU	JMBIA		Further I	ocation detail	s					
Up S	HELL	GRATE J		Rim	to invert		Grade to in	nvert	Rim to	grade	Ft
Down S	HELL	GRATE C		Rim	to invert		Grade to in	nvert	Rim to	grade	Ft
Use Stor	rmwate	r		Direction	Upstream	Flov	w control		Media	a No	
Shape C	Circular			Height	15 Width	ins	Precl	ean Z	Date Clea	ned	
Material	Reinf	orced Concr	ete Pipe	•	Joint length	Ft	Total lengt	h Ft	Length S	Surveyed 0	2.00 Ft
Lining					Year laid	Yea	ar rehabilita	ited	Weather		
Purpose						Cat					
Additiona	al info	SET	UP AT	SHELL STATION	I EXIT		S	tructural	O & M	Construc	tional
Location							IV	liscellaneous	Hydraulic		
Project	Card	olina Crossro	ads					Work	Order		
Northing					Eastin	g		Elev	ation /		
Coordina	te Svs	stem				_		GPS Accura	cv		





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CCTV Picture List of SHELL GRATE J B for HDR



Work Order		Setup 31	
Video	Survey Date	2020/12/21	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRO	DADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSR	OADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	DADS\



Video Index Count 1.5 Ft

Code Obstacle Other
Remarks DIRT DEBRIS ETC

File Name 227.jpg



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CCTV Picture List of SHELL GRATE J for HDR

Work Order			Setup 31				
Video	Survey Date	2020/12/21					
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\					
Path to video files	F:\CAMERA WORK DA	TABASE\Movies\CAROLNA CROSSR	OADS\				
Path to media files	F:\CAMERA WORK DA	NTABASE\Media\CAROLNA CROSSRC	DADS\				



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC



Setup 31 Surveyor GCS	Certificate #	U-0917-07009391 System	m Owner SCDOT	
Drainage Sur	vey Customer			
P/O # Date 2020	7)/12/21 Time 15:42	Street BROAD RIVER F	RD	
City COLUMBIA	Further location details			
Up SHELL GRATE J	Rim to invert	Grade to invert	Rim to grade	Ft
Down SHELL GRATE C	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Up	Flow control	Media No	
Shape Circular	Height 15 Width	ins Preclean Z	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length Ft	Length Surveyed 2	2.0 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SET UP AT SHE	LL STATION EXIT	Structural	O & M Construc	tional
Location		Miscellaneo	us	
Project Carolina Crossroads		W	ork Order	
Northing	Easting	E	Elevation	
Coordinate System		GPS Acci	uracy	

HDR

Count Video	CD Code	ln1	In2	% .	JntFi	То	ImRe	f Remarks
0.0	ST Start of Survey							
0.0	ACB Catch Basin							SHELL GRATE C
0.0	MWL Water Level			0				
1.5	OBZ Obstacle Other			25	04	1 08		DIRT DEBRIS ETC
2.0	MSA Abandoned Survey							TOO MUCH DEBRIS

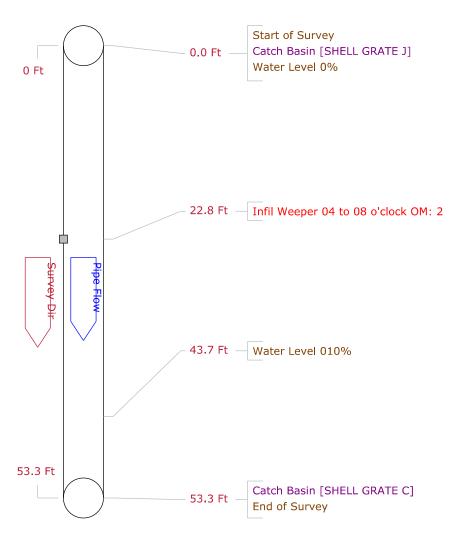
2.0 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 4	Pipe Ratings Index 4	Quick Rating 4100
	Overall	Pipe Rating 4	Pipe Ratings Index 4	Quick Rating 4100





Setup 50 Surveyor GCS	Certificate #	U-0917-07009391 S	ystem Owner	SCDOT	
Drainage Surv	ey Customer				
P/O # Date 2021/	702/24 Time 15:10	Street BROAD R	IVER RD		
City COLUMBIA	Further location details				
Up SHELL GRATE J	Rim to invert	Grade to inve	rt	Rim to grade	Ft
Down SHELL GRATE C	Rim to invert	Grade to inve	rt	Rim to grade	Ft
Use Stormwater	Direction Downstream	Flow control		Media No	
Shape Circular	Height 15 Width	ins Preclean	J [Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 5	3.3 Ft	Length Surveyed	53.30 Ft
Lining	Year laid	Year rehabilitated	v	Veather	
Purpose	С	at			
Additional info SET UP AT SHEL	L STAT I ON	Struc	tural O &	k M Constr	uctional
Location		Misce	ellaneous Hyd	draulic	
Project Carolina Crossroads			Work Ord	er	
Northing	Easting		Elevation	า	
Coordinate System		GP:	S Accuracy		





SCA Underground Phone:(803)730-3568

SHELL GRATE J **CCTV Picture List of** for HDR

Work Order							
Video	Survey Date	2021/02/24					
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\					
Path to video files	F:\CAMERA WORK DA	TABASE\Movies\CAROLNA CROSSR	OADS\				
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSRC	DADS\				



Video Index Count 22.8 Ft Code Infil Weeper Remarks

File Name 338.jpg



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

Work Order
Video
Survey Date
Path to picture files
F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

Path to video files
F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\

F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



Path to media files

SCA Underground Phone: (803)730-3568

Tabular Report of PSR SHELL GRATE J A

A for HDR



Setup 50 Surveyor GCS	Certificate #	U-0917-07009391 System	Owner SCDOT	
Drainage Sur	vey Customer			
P/O # Date 2021	/02/24 Time 15:10	Street BROAD RIVER RD		
City COLUMBIA	Further location details			
Up SHELL GRATE J	Rim to invert	Grade to invert	Rim to grade	Ft
Down SHELL GRATE C	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Down	Flow control	Media No	
Shape Circular	Height 15 Width	ins Preclean J	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 53.3 Ft	Length Surveyed 53.3	S Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SET UP AT SHELL Location	LL STATION	Structural Miscellaneous	O & M Constructio	nal
Project Carolina Crossroads		Wor	rk Order	
Northing	Easting	Ele	evation	
Coordinate System		GPS Accura	асу	

Count Video	CD Code		ln1	In2	%	Jni	tFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ACB	Catch Basin								SHELL GRATE J
0.0	MWL	Water Level			0					
22.8	IW	Infil Weeper				J	04	08		
43.7	MWL	Water Level			10					
53.3	ACB	Catch Basin								SHELL GRATE C
53.3	FH	End of Survey								

53.3 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 2	Pipe Ratings Index 2	Quick Rating 2100
	Overall	Pipe Rating 2	Pipe Ratings Index 2	Quick Rating 2100





EP-4228

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Pro	ieci	T In	TOTE	natior

Surveyor Name GCS Certificate Number U-0917-07009391

Owner SCDOT Customer HDR

Drainage Area PO Number

Pipe Segment
Reference
Date
12/28/2020 13:46

Street BROAD RIVER RD City COLUMBIA

Comments

Purpose

Manhole

Upstream MH SHELL INLET Rim to Invert (U)

Grade to Invert (U) Rim to Grade (U)

Downstream MH SHELL GRATE J Rim to Invert (D)

Grade to Invert (D) Rim to Grade (D)

Pipe Use Stormwater Pipe Direction of Survey Downstream

Pipe

Height (Diameter) 15 Width

Shape Circular Material Reinforced Concrete Pipe

Lining Method Pipe Joint Length

Total Length 26.3 Length Surveyed 26.3

Year Constructed Year Renewed

Misc

Flow Control Media Label DVD

Consequence of

Failure

Pre-Cleaning No Pre-Cleaning Date Cleaned

Weather Location Code

Additional Info

Location Details

SET UP IN SHELL
PARKING LOT

Custom

Custom 1 Custom 2
Custom 3 Custom 4
Custom 5 Custom 6
Custom 7 Custom 8
Custom 9 Custom 10

Project

Reverse Setup ID Sheet (Group)

Number

Imperial Units (US) True Pressure Value

Work Order Project CAROLINA CROSSROADS

Coating Method Completed No

	Insp Tech Used				
CCTV	Yes	Laser	No		
Sidewall	No	Sonar	No		
Zoom	No	Other	No	EP-4228	

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Inspection Status Complete Inspection

Reviewer Certificate Reviewed By

Number

Count Groups						
Taps	0	Roots	0	·		
Cracks / Fractures	0	Broken / Holes / Collapse	0			
Deposits	0	Obstruction	1			
Abandoned Survey	1					







Project: CAROLINA CROSSROADS				
Date: 12/28/2020 1:46:00 PM	Pipe Segment Reference:			
Street: BROAD RIVER RD	Upstream MH: SHELL INLET			
Length Surveyed: 26.3	Downstream MH: SHELL GRATE J			
Run Number:	Direction of Survey: Downstream			
Height (Diameter): 15	Material: Reinforced Concrete Pipe			

Distance	Fault Observation	Time	Picture
0.0	EP-4228 Access Point Discharge Point Severity: None	22	CAROLINA CROSSROADS FROM SHELL INLET TO SHELL GRATE J DP - Access Point Distrate 14:53 1/0' +0.0ft
0.0	Miscellaneous Water Level Severity: None Percent: 0	42	CAROLINA CROSSROADS From SHELL INLET TO SHELL GRATE J WL - Miscellaneous Walter 12.28.20 1/0' +0.0ft
15.9	Miscellaneous General Observation Severity: None Remarks: GAP OBSERVATION 0.961	04:11	CAROEINA CROSSROADS FROM SHELL INLET TO SHELL GRATE J 12,28,20 -171/-83' +15,8ft

Distance	Fault Observation	Time	Picture
26.3	Obstruction Other Position: 4 To 8 Severity: None Percent: 40 Remarks: DIRT AND DEBRIS IN PIPE Maint Weight: 5	06:28	CAROLINA CROSSROADS From SHELL INLET To SHELL GRATE J OBZ - Obstruction Othe r
26.3	Miscellaneous Abandoned Survey Severity: None Remarks: DEBRIS IN PIPE	06:49	CAROLINA CROSSROADS FROM SHELL INLET LL GRATE J 15:00 0/0' +26.2ft



EP-4228





Project: CAROLINA CROSSROADS				
Date: 12/28/2020 1:46:00 PM	Pipe Segment Reference:			
Street: BROAD RIVER RD	Upstream MH: SHELL INLET			
Length Surveyed: 26.3	Downstream MH : SHELL GRATE J			
Run Number:	Direction of Survey: Downstream			
Height (Diameter): 15	Material: Reinforced Concrete Pipe			

Severity
Light-1
Moderate-2
Average-3
Heavy-4
Severe-5

(0.0) ADP - Access Point Discharge Point

(0.0) MWL - Miscellaneous Water Level

(15.9) MGO - Miscellaneous General Observation Remark: GAP OBSERVATION 0.961

(26.3) OBZ - Obstruction Other - Position: 4 To 8
 Remark: DIRT AND DEBRIS IN PIPE
 (26.3) MSA - Miscellaneous Abandoned Survey
 Remark: DEBRIS IN PIPE

Total Distance: 26.3



ID Number: SHELL INLET

ID Number: SHELL GRATE J

Created with the report generator

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

EP-4228

Grade	Structural	O&M	Overall
5	0	5	5
4	0	0	0
3	0	0	0
2	0	0	0
1	0	0	0
Overall	0	5	5
Number of Defects	0	1	1
Pipe Rating	0000	5100	5100
Pipe Ratings Index	0	5	5

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



Digtoned Video		rideo C. 1	Cont		Value		T	Circumferential Location	
Distance	Ref	Code	Defect	Dimension		0/	Joint	At/	То
				1st	2nd	%		From	10
0	22	ADP - Access Point Discharge							
	22	Point							
0	42	MWL - Miscellaneous Water				0			
	42	Level				U			
15.9	251	MGO - Miscellaneous General							
13.9	231	Observation							
		GAP OBSERVATION 0.961							
26.3	388	OBZ - Obstruction Other				40		4	8
		DIRT AND DEBRIS IN PIPE							
26.2	400	MSA - Miscellaneous	·			·			
26.3	409	Abandoned Survey							
		DEBRIS IN PIPE							



Videos Created for Session CAROLINA CROSSROADS

SHELL INLET_SHELL GRATE J_20201228_27566.mp4 Size: 157 MB

Your browser does not support the video tag.

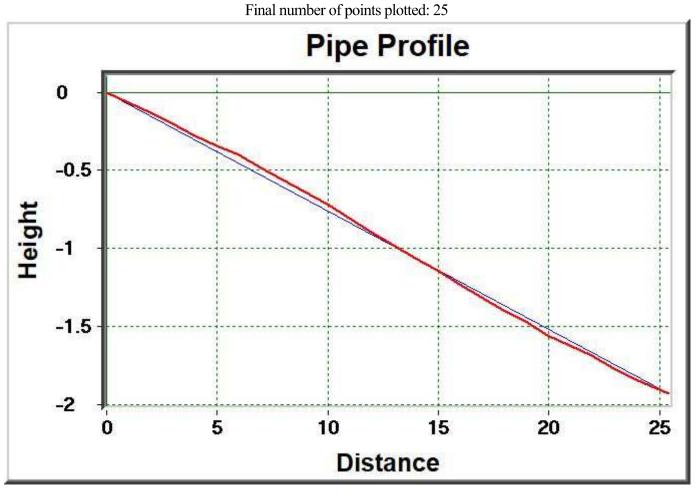




Project: CAROLINA CROSSROADS				
Date: 12/28/2020 1:46:00 PM	Pipe Segment Reference:			
Street: BROAD RIVER RD	Upstream MH: SHELL INLET			
Length Surveyed: 26.3	Downstream MH: SHELL GRATE J			
Run Number:	Direction of Survey: Downstream			
Height (Diameter): 15	Material: Reinforced Concrete Pipe			

Percent Grade Mean: -7.61
Plot Distance From: 0 To 27
Max Percent Difference: 3
Number of Window Values: 1
Percent Difference Max for Windows Values: 60

Number of Feet to Average: 1





Additional Reports for Session CAROLINA CROSSROADS

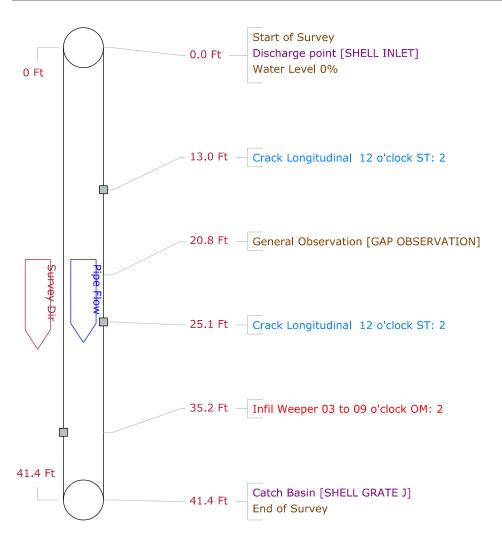
EP-4228



for HDR



Setup 49 Surveyor GCS	Certificate #	U-0917-07009391 System	Owner SCDOT	
Drainage Surv	vey Customer			
P/O # Date 2021/	02/24 Time 14:56	Street BROAD RIVER F	RD	
City COLUMBIA	Further location details			
Up SHELL INLET	Rim to invert	Grade to invert	Rim to grade	Ft
Down SHELL GRATE J	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Downstream	Flow control	Media No	
Shape Circular	Height 15 Width	ins Preclean J	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 41.4 F	t Length Survey	ed 41.40 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	С	at		
Additional info SET UP AT SHEL	L STAT I ON	Structural	O & M Cor	nstructional
Location		Miscellaneo	<mark>us</mark> Hydraulic	
Project Carolina Crossroads		W	ork Order	
Northing	Easting	1	Elevation	
Coordinate System		GPS Acc	uracy	





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Address: PO box Suite 102, West Columbia, SC



Work Order			Setup 49
Video	Survey Date	2021/02/24	
Path to picture files	F:\CAMERA WORK D.	ATABASE\Snaps\CAROLNA CROSSROAI	OS\
Path to video files	F:\CAMERA WORK D.	ATABASE\Movies\CAROLNA CROSSROA	DS\
Path to media files	F:\CAMERA WORK D.	ATABASE\Media\CAROLNA CROSSROAL	DSI



Video Index Count 13.0 Ft

Code Crack Longitudinal

Remarks

File Name 333.jpg



Video Index Count 20.8 Ft

Code General Observation

Remarks GAP OBSERVATION

File Name 334.jpg



Video Index Count 25.1 Ft

Code Crack Longitudinal

Remarks

File Name 335.jpg



Video Index Count 35.2 Ft

Code Infil Weeper

Remarks

File Name 336.jpg



SCA Underground Phone: (803)730-3568

Address: PÓ box Suite 102, West Columbia, SC

CCTV Picture List of SHELL INLET Α for **HDR Work Order** Setup 49 Video **Survey Date** 2021/02/24 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



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Address: PÓ box Suite 102, West Columbia, SC



Tabular Report of PSR SHELL INLET A for HDR

Setup 49 Surveyor GCS	Certificate #	U-0917-07009391 System	Owner SCDOT	
Drainage Sur	vey Customer			
P/O # Date 2021	1/02/24 Time 14:56	Street BROAD RIVER RE)	
City COLUMBIA	Further location details			
Up SHELL INLET	Rim to invert	Grade to invert	Rim to grade	Ft
Down SHELL GRATE J	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Down	Flow control	Media No	
Shape Circular	Height 15 Width	ins Preclean J	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 41.4 Ft	Length Surveyed	1 41.4 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	e
Additional info SET UP AT SHE	LL STATION	Structural	O & M Const	ructional
Location		Miscellaneous	S	
Project Carolina Crossroads		Wo	ork Order	
Northing	Easting	EI	evation	
Coordinate System		GPS Accur	racy	

Count Video	CD Code		ln1	ln2	%	Jn	tFr	То	ImRe	f Remarks
0.0	ST	Start of Survey								
0.0	ADP	Discharge point								SHELL INLET
0.0	MWL	Water Level			0					
13.0	CL	Crack Longitudinal				J	12			
20.8	MGO	General Observation								GAP OBSERVATION
25.1	CL	Crack Longitudinal				J	12			
35.2	IW	Infil Weeper				J	03	09		
41.4	ACB	Catch Basin								SHELL GRATE J
41.4	FH	End of Survey								

41.4 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 4	Pipe Ratings Index 2	Quick Rating 2200
	O&M:	Pipe Rating 2	Pipe Ratings Index 2	Quick Rating 2100
	Overall	Pipe Rating 6	Pipe Ratings Index 4	Quick Rating 2300



SCA Underground Phone:(803)730-3568





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Surveyor Name GCS Certificate Number U-0917-07009391

Owner SCDOT Customer HDR

Drainage Area PO Number

Pipe Segment Date 12/28/2020 17:05

Street BROAD RIVER RD City COLUMBIA

Comments

Purpose

Manhole

Upstream MH KFC GRATE Rim to Invert (U)

Grade to Invert (U) Rim to Grade (U)

Downstream MH DENTIST B Rim to Invert (D)

Grade to Invert (D) Rim to Grade (D)

Pipe Use Stormwater Pipe Direction of Survey Upstream

Pipe

Height (Diameter) 18 Width

Shape Circular Material Reinforced Concrete Pipe

Lining Method Pipe Joint Length

Total Length 65 Length Surveyed 65

Year Constructed Year Renewed

Misc

Flow Control Media Label DVD

Consequence of

Failure

Pre-Cleaning No Pre-Cleaning Date Cleaned

Weather Location Code

Additional Info

Location Details

SET UP IN DENTIST PARKING LOT

Custom

Custom 1 Custom 2
Custom 3 Custom 4
Custom 5 Custom 6
Custom 7 Custom 8
Custom 9 Custom 10

Project

Reverse Setup ID Sheet (Group)

Number

Imperial Units (US) True Pressure Value

Work Order Project CAROLINA CROSSROADS

Coating Method Completed Yes

Insp Tech Used CCTV Yes No Laser **Sidewall** No Sonar No Zoom No Other No

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-			•	

Inspection Status Complete Inspection

Reviewer Certificate Reviewed By

Number

Count Groups						
Taps	0	Roots	0	·		
Cracks / Fractures	1	Broken / Holes / Collapse	3			
Deposits	0	Obstruction	0			
Abandoned Survey	0					





Project: CAROLINA CROSSROADS					
Date: 12/28/2020 5:05:00 PM	Pipe Segment Reference:				
Street: BROAD RIVER RD	Upstream MH: KFC GRATE				
Length Surveyed: 65	Downstream MH: DENTIST B				
Run Number:	Direction of Survey: Upstream				
Height (Diameter): 18	Material: Reinforced Concrete				
leight (Blameter). 10	Pipe				

Distance	Fault Observation	Time	Picture
0.0	EP-4240 Access Point Catch Basin Severity: None Remarks: DENTIST B	24	CAROLINA CROSSROADS From DENTIST B 18:12 0/0' +0.0ft
0.0	Miscellaneous Water Level Severity: None Percent: 0	02:14	28 ROLINA CROSSIOADS PRODE DENTIST 8. GRATI 12,28,20 87/-91! +0.0ft
6.7	Broken Position: 12 Severity: None Joint Remarks: BROKEN SPIGOT 6.208 Struct Weight: 4	02:57	ARGOTTNA CROUSEDOADS DENTIST & TURNOC GRATT 12,28,20 87/-91' +6,7ft

Distance	Fault Observation	Time	Picture
31.0	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	05:00	CAROLINA CROSSROADS FROM DENTIFIED TO KEC GRATE CL - Crack and grandena 1 12,28,20 87/-82' +31,0ft
59.4	Broken Position: 11 Severity: None Joint Remarks: SPIGOT Struct Weight: 4	07:38	OM DENTIST B ADS. FIN HERT TO KE STATE 12,28.20 1347-681 +59.4ft
62.7	Hole Soil Visible Position: 2 Severity: None Struct Weight: 5	08:27	CAROLINA CRASSILLAS ENTIST FO. KEC GRATE 12.28.20 347-91' +62.7ft

Distance	Fault Observation	Time	Picture
65.0	EP-4240 Access Point Catch Basin Severity: None Remarks: KFC GRATE	08:44	CAROLINA CRASSE AD FROM DENTIS B TO KFC GRAT





Project: CAROLINA CROSSROADS						
Date: 12/28/2020 5:05:00 PM	Pipe Segment Reference:					
Street: BROAD RIVER RD	Upstream MH: KFC GRATE					
Length Surveyed: 65	Downstream MH: DENTIST B					
Run Number:	Direction of Survey: Upstream					
Height (Diameter): 18	Material: Reinforced Concrete Pipe					



(0.0) ACB - Access Point Catch Basin Remark: DENTIST B

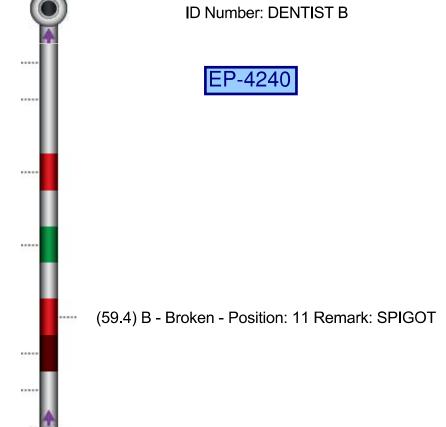
(0.0) MWL - Miscellaneous Water Level

(6.7) B - Broken - Position: 12 Remark: BROKEN SPIGOT 6.208

(31.0) CL - Crack Longitudinal - Position: 12

(62.7) HSV - Hole Soil Visible - Position: 2 (65.0) ACB - Access Point Catch Basin Remark: KFC GRATE

Total Distance: 65



ID Number: KFC GRATE



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

EP-4240

Grade	Structural	O&M	Overall
5	5	0	5
4	8	0	8
3	0	0	0
2	2	0	2
1	0	0	0
Overall	15	0	15
Number of Defects	4	0	4
Pipe Rating	5142	0000	5142
Pipe Ratings Index	3.8	0	3.8

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

D: 4	Video		Cont Value			T: /	Circumferential Location		
Distance	Ref	Code	Defect	Dime	ension	0/	Joint	At/	Т-
				1st	2nd	%		From	То
0	24	ACB - Access Point Catch							
U	24	Basin							
		DENTIST B							
0	124	MWL - Miscellaneous Water							
U	134	Level				0			
6.7	177	B - Broken					X	12	
		BROKEN SPIGOT 6.208							
31	300	CL - Crack Longitudinal					X	12	
59.4	458	B - Broken					X	11	
		SPIGOT	-						
62.7	507	HSV - Hole Soil Visible						2	
(5	524	ACB - Access Point Catch							
65	524	Basin							
		KFC GRATE		•					



Videos Created for Session CAROLINA CROSSROADS

DENTIST B_KFC GRATE_20201228_24169.mp4 Size: 203 MB

Your browser does not support the video tag.

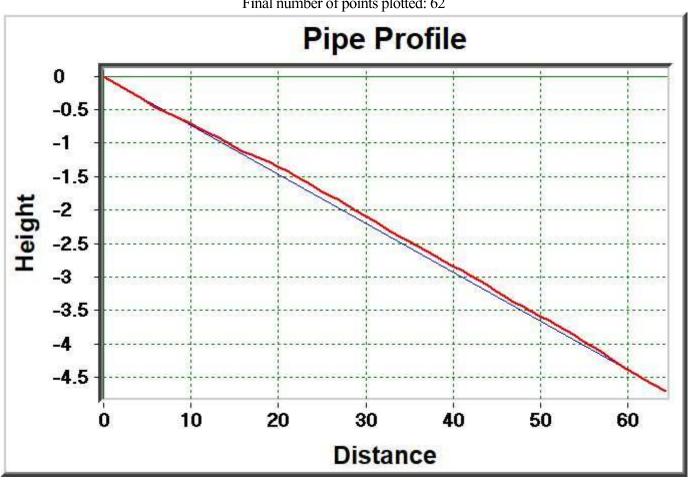




Project: CAROLINA CROSSROADS							
Date: 12/28/2020 5:05:00 PM	Pipe Segment Reference:						
Street: BROAD RIVER RD	Upstream MH: KFC GRATE						
Length Surveyed: 65	Downstream MH: DENTIST B						
Run Number:	Direction of Survey: Upstream						
Height (Diameter): 18	Material: Reinforced Concrete						

Percent Grade Mean: -7.35
Plot Distance From: 0 To 66
Max Percent Difference: 3
Number of Window Values: 1
Percent Differnce Max for Windows Values: 60

Number of Feet to Average: 1 Final number of points plotted: 62





Additional Reports for Session CAROLINA CROSSROADS

EP-4240

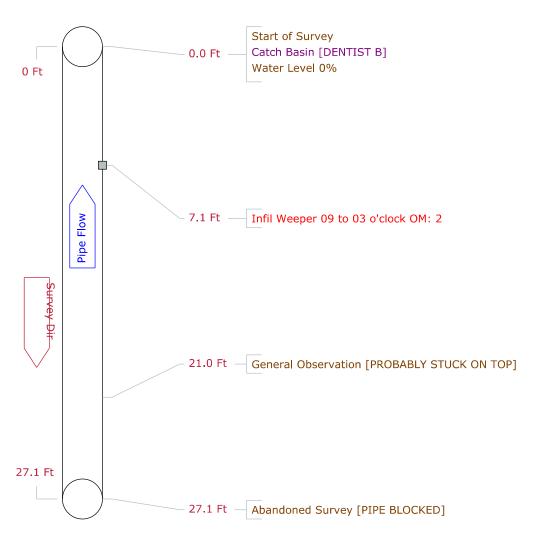
Created with the report generator

Pipe Graphic Report of PSR KFC GRATE

B **for** HDR



Setup 29 Surveyor GCS	Certificate #	U-0917-07009391 System	Owner SCDOT
Drainage Survey 0	Customer		
P/O # Date 2020/12/1	6 Time 10:13	Street BROAD RIVER I	RD
City COLUMBIA Fu	rther location details		
Up KFC GRATE	Rim to invert	Grade to invert	Rim to grade Ft
Down DENTIST B	Rim to invert	Grade to invert	Rim to grade Ft
Use Stormwater Dire	ection Upstream	Flow control	Media No
Shape Circular He	eight 18 Width	ins Preclean Z	Date Cleaned
Material Reinforced Concrete Pipe	Joint length	Ft Total length F	t Length Surveyed 27.10 Ft
Lining	Year laid	Year rehabilitated	Weather
Purpose	С	at	
Additional info SET UP DENTIST PAR	RKING LOT	Structural	O & M Constructional
Location		Miscellaneo	o <mark>us</mark> Hydraulic
Project Carolina Crossroads		W	/ork Order
Northing	Easting	1	Elevation
Coordinate System		GPS Acc	uracy





SCA Underground Phone:(803)730-3568

Address: PO box Suite 102, West Columbia, SC





Work Order			Setup 29				
Video	Survey Date	2020/12/16					
Path to picture files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Snaps\CAROLNA CROSSROADS\					
Path to video files	F:\CAMERA WORK DA	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\					
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	ADS\				



Video Index Count 7.1 Ft

Code Infil Weeper Remarks

File Name 223.jpg



Video Index Count 21.0 Ft

Code General Observation

Remarks PROBABLY STUCK ON TOP

File Name 224.jpg



SCA Underground Phone: (803)730-3568

Address: PÓ box Suite 102, West Columbia, SC

CCTV Picture List of KFC GRATE В for **HDR Work Order** Setup 29 Video **Survey Date** 2020/12/16 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



SCA Underground Phone: (803)730-3568

Address: PÓ box Suite 102, West Columbia, SC



Tabular Report of PSR KFC GRATE В HDR for

Setup 29 Surveyor GCS	Certificate #	U-0917-07009391 S	ystem Owner	SCDOT	
Drainage Surv	vey Customer				
P/O # Date 2020/	12/16 Time 10:13	Street BROAD RIV	/ER RD		
City COLUMBIA	Further location details				
Up KFC GRATE	Rim to invert	Grade to invert	I	Rim to grade	Ft
Down DENTIST B	Rim to invert	Grade to invert	I	Rim to grade	Ft
Use Stormwater	Direction Up	Flow control		Media No	
Shape Circular	Height 18 Width	ins Preclean	Z D a	ate Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length	Ft L	ength Surveyed 27.1	Ft
Lining	Year laid	Year rehabilitated	We	eather	
Purpose	Cat			Pressure	
Additional info SET UP DENTIST	PARKING LOT	Structu	ıral O&N	M Construction	al
Location		Miscell	aneous		
Project Carolina Crossroads			Work Order	•	
Northing	Easting		Elevation		
Coordinate System		GPS	Accuracy		

Count Video	CD Code	ln1	ln2	%	Jn	tFr	То	ImRe	f Remarks
0.0	ST Start of Survey								
0.0	ACB Catch Basin								DENTIST B
0.0	MWL Water Level			0					
7.1	IW Infil Weeper				J	09	03		
21.0	MGO General Observation								PROBABLY STUCK ON TOP
27.1	MSA Abandoned Survey								PIPE BLOCKED

27.1 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 2	Pipe Ratings Index 2	Quick Rating 2100
	Overall	Pipe Rating 2	Pipe Ratings Index 2	Quick Rating 2100

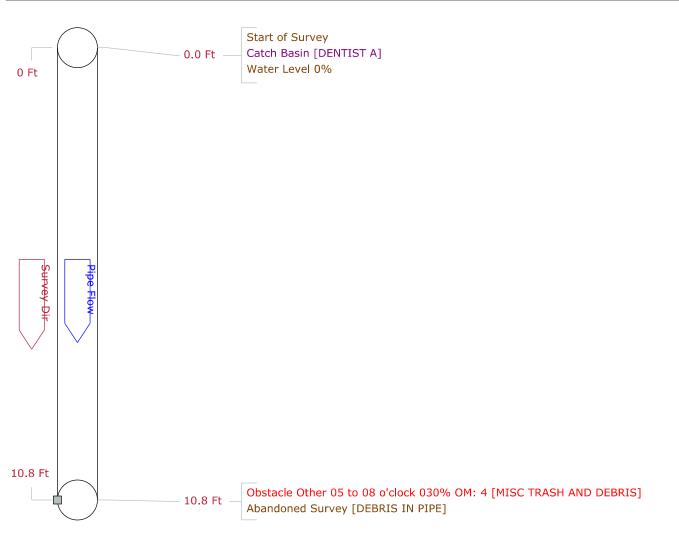


Pipe Graphic Report of PSR DENTIST A

B **for** HDR



Setup	26	Survey	or GCS		Certificate #	U-0917	7-07009391	System Ov	vner SCDOT		
Draina	ge			Survey Custon	ner						
P/O #			Date	2020/12/10	Time 9:20	St	treet BROA	D RIVER RD			
City	CC	DLUMBIA		Further Id	cation detail	s					
Up	DEN	TIST A		Rim	to invert		Grade to i	nvert	Rim to	grade	Ft
Down	DEN	TIST B		Rim	to invert		Grade to i	nvert	Rim to	grade	Ft
Use S	tormw	ater		Direction	Downstream	Flov	w control		Medi	a No	
Shape	Circu	lar		Height 1	8 Width	ins	Prec	lean Z	Date Clea	aned	
Materia	al Re	inforced Co	ncrete Pipe	J	oint length	Ft	Total leng	th Ft	Length \$	Surveyed	10.80 Ft
Lining					Year laid	Yea	r rehabilit	ated	Weather		
Purpos	e				(Cat					
Additio	nal ir	fo S	SET UP DEI	NTIST PARKING	LOT		5	Structural	O & M	Consti	uctional
Location	on						IV.	/liscellaneous	Hydraulic		
Project	t C	arolina Cros	ssroads					Work	Order		
Northir	ng				Easting	g		Elev	/ation		
Coordi	nate S	System						GPS Accura	су		





SCA Underground Phone:(803)730-3568

Address: PO box Suite 102, West Columbia, SC



CCTV Picture List of	DENTISTA	D	ior	חטא		
Work Order					Setup 26	
Video	Survey Date		2020/12	/10		
Path to picture files	F:\CAMERA WO	ORK DATA	BASE\Snaps\C	AROLNA CROSSROA	DS\	
Path to video files	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\					
Path to media files	F:\CAMERA WO	ORK DATA	BASE\Media\C	AROLNA CROSSROA	DS\	



Video Index Count 10.8 Ft

Code Obstacle Other

Remarks MISC TRASH AND DEBRIS

File Name 209.jpg



Video Index Count 10.8 Ft

Code Obstacle Other

Remarks MISC TRASH AND DEBRIS

File Name 210.jpg



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CCTV Picture List of DENTIST A В for **HDR Work Order** Setup 26 Video **Survey Date** 2020/12/10 Path to picture files ${\sf F:\CAMERA\ WORK\ DATABASE\Snaps\CAROLNA\ CROSSROADS\)}$ Path to video files F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\ Path to media files F:\CAMERA WORK DATABASE\Media\CAROLNA CROSSROADS\



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Tabular Report of PSR DENTIST A B for HDR

Setup 26 Surveyor GCS	Certificate #	U-0917-07009391 System (Owner SCDOT	
Drainage Surv	vey Customer			
P/O # Date 2020	/12/10 Time 9:20	Street BROAD RIVER RD		
City COLUMBIA	Further location details			
Up DENTIST A	Rim to invert	Grade to invert	Rim to grade	Ft
Down DENTIST B	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Down	Flow control	Media No	
Shape Circular	Height 18 Width	ins Preclean Z	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length Ft	Length Surveyed	10.8 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SET UP DENTIST	PARKING LOT	Structural	O & M Construc	ctional
Location		Miscellaneous		
Project Carolina Crossroads		Wor	k Order	
Northing	Easting	Ele	vation	
Coordinate System		GPS Accura	асу	

Count Video	CD Code	ln1	ln2	% 、	JntF	r To	ImRe	f Remarks
0.0	ST Start of Survey							
0.0	ACB Catch Basin							DENTIST A
0.0	MWL Water Level			0				
10.8	OBZ Obstacle Other			30	0	5 08		MISC TRASH AND DEBRIS
10.8	MSA Abandoned Survey							DEBRIS IN PIPE

10.8 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 4	Pipe Ratings Index 4	Quick Rating 4100
	Overall	Pipe Rating 4	Pipe Ratings Index 4	Quick Rating 4100



SCA Underground Phone:(803)730-3568



D		4	£	
Pro	ieci	T In	TOTE	natior

Surveyor Name GCS **Certificate Number** U-0917-07009391

Owner **SCDOT** Customer **HDR**

PO Number Drainage Area

Pipe Segment Date 12/28/2020 16:37 Reference

Street BROAD RIVER RD City COLUMBIA

Comments

Manhole

Upstream MH DENTIST B Rim to Invert (U)

Rim to Grade (U) **Grade to Invert (U)**

Downstream MH DENTIST C Rim to Invert (D)

Grade to Invert (D) Rim to Grade (D)

Pipe Use **Direction of Survey** Stormwater Pipe Downstream

Pipe

Height (Diameter) 18 Width

Circular Material Reinforced Concrete Pipe Shape

Lining Method Pipe Joint Length

Total Length 72.5 Length Surveyed 72.5

Year Constructed Year Renewed

Misc

Flow Control Media Label DVD

Consequence of **Purpose**

Failure

Pre-Cleaning No Pre-Cleaning **Date Cleaned**

Weather **Location Code**

SET UP IN DENTIST **Additional Info Location Details** PARKING LOT

Custom

Custom 1 Custom 2 **Custom 3** Custom 4 **Custom 5 Custom 6 Custom 7 Custom 8 Custom 9** Custom 10

Project

Sheet (Group) **Reverse Setup ID**

Number

Imperial Units (US) **Pressure Value** True

CAROLINA Work Order Project CROSSROADS

Coating Method Completed No

Insp Tech Used					
CCTV	Yes	Laser	No		
Sidewall	No	Sonar	No		
Zoom	No	Other	No	EP-4242	

Inspection

Inspection Status Complete Inspection

Reviewer Certificate Reviewed By

Number

		Count Groups	
Taps	0	Roots	0
Cracks / Fractures	0	Broken / Holes / Collapse	0
Deposits	0	Obstruction	3
Abandoned Survey	1		







Project: CAROLINA CROSSROADS			
Date: 12/28/2020 4:37:00 PM	Pipe Segment Reference:		
Street: BROAD RIVER RD	Upstream MH: DENTIST B		
Length Surveyed: 72.5	Downstream MH: DENTIST C		
Run Number:	Direction of Survey:		
Ruii Nuiibei.	Downstream		
Height (Diameter): 18	Material: Reinforced Concrete		
Tieight (Diameter). 18	Pipe		

Distance	Fault Observation	Time	Picture
0.0	EP-4242 Access Point Catch Basin Severity: None Remarks: DENTIST B	23	
0.0	Miscellaneous Water Level Severity: None Percent: 0	53	CAROLINA CROSSROADS 17:43 0/0' +0.0ft
7.1	Obstruction Other Position: 5 To 7 Severity: None Cont Defect: S01 Percent: 15 Remarks: GRAVEL DIRT ETC IN PIPE Maint Weight: 3	01:57	CAROLINA CROSSROADS From DENTIST B To DENTIST C OBZ + Obstruction Other

Distance	Fault Observation	Time	Picture
31.6	EP-4242 Miscellaneous General Observation Severity: None Remarks: GAP OBSERVATION 1.729	06:12	CAROLINA CROSSROADS From DENTIST B To DENTIST C MGO - Miscellaneous Ge nens! 17:48 -166/-76' +31.6ft
58.9	Miscellaneous General Observation Severity: None Remarks: HIDDEN JUNCTION	10:41	CAROLINA CROSSROADS ENTIST B TO DENTIST C MGO - Misc. 12.28.20 0/-3' +58.8ft
72.5	Obstruction Other Position: 4 To 9 Severity: None Percent: 20 Joint Remarks: UNKNOWN HARD OBSTACLE Maint Weight: 3	14:50	CAROLINA CROSSROADS From DENTIST B To DENTIST C 17:57 0/0' +72.5ft

Distance	Fault Observation	Time	Picture
72.5	Cont Defect: F01 Percent: 15 Remarks: GRAVEL DIRT ETC IN PIPE Maint Weight: 3	15:45	CAROLINA CROSSROADS From DENTIST B To DENTIST C OBZ - Obstruction Other 12,28,20 0/0' +72,5ft
72.5	Miscellaneous Abandoned Survey Severity: None Remarks: OBSTACLE CAN TRAP CAMERA	17:27	CAROLINA CROSSROADS From DENTIST B To DENTIST C MSA - Miscellaneous Ab andone 18:00 0/0' +72,5ft





Project: CAROLINA CROSSROADS			
Date: 12/28/2020 4:37:00 PM	Pipe Segment Reference:		
Street: BROAD RIVER RD	Upstream MH: DENTIST B		
Length Surveyed: 72.5	Downstream MH: DENTIST C		
Run Number:	Direction of Survey:		
Kuli Nullibel.	Downstream		
Height (Diameter): 18	Material: Reinforced Concrete		
leight (Diameter). 10	Pipe		



ID Number: DENTIST B

(0.0) ACB - Access Point Catch Basin Remark: DENTIST B

(0.0) MWL - Miscellaneous Water Level

(7.1) OBZ - Obstruction Other - Position: 5 To 7 - Cont Def: S01 Remark: GRAVEL DIRT ETC IN PIPE

(31.6) MGO - Miscellaneous General Observation Remark: GAP OBSERVATION 1.729

(58.9) MGO - Miscellaneous General Observation Remark: HIDDEN JUNCTION

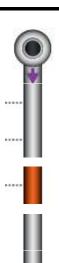
(72.5) OBZ - Obstruction Other - Position: 4 To 9
 Remark: UNKNOWN HARD OBSTACLE

 (72.5) OBZ - Obstruction Other - Position: 5 To 7 Cont Def: F01 Remark: GRAVEL DIRT ETC IN

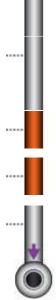
 PIPE

(72.5) MSA - Miscellaneous Abandoned Survey Remark: OBSTACLE CAN TRAP CAMERA

Total Distance: 72.5







ID Number: DENTIST C



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

EP-4242

Grade	Structural	O&M	Overall		
5	0	0	0		
4	0	0	0		
3	0	42	42		
2	0	0	0		
1	0	0	0		
Overall	0	42	42		
Number of Defects	0	14	14		
Pipe Rating	Pipe Rating 0000		3A00		
Pipe Ratings Index	0	3	3		

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

Distance	Video Ref	Code	Cont Defect	Value			T	Circumferential Location			
				Dimension			Joint	At/	To		
				1st	2nd	%		From	10		
0	23	ACB - Access Point Catch									
U	23	Basin									
		DENTIST B									
0	53	MWL - Miscellaneous Water				0					
U	33	Level				U					
7.1	117	OBZ - Obstruction Other	S01			15		5	7		
		GRAVEL DIRT ETC IN PIPE									
31.6	372	MGO - Miscellaneous General									
31.0		Observation									
		GAP OBSERVATION 1.729									
58.9	641	MGO - Miscellaneous General									
36.9	041	Observation									
		HIDDEN JUNCTION									
72.5	890	OBZ - Obstruction Other				20	X	4	9		
		UNKNOWN HARD OBSTACLE									
72.5	945	OBZ - Obstruction Other	F01			15		5	7		
		GRAVEL DIRT ETC IN PIPE									
72.5	1047	MSA - Miscellaneous									
72.5		Abandoned Survey									
		OBSTACLE CAN TRAP CAM	ERA								



Videos Created for Session CAROLINA CROSSROADS

DENTIST B_DENTIST C_20201228_18505.mp4 Size: 396 MB

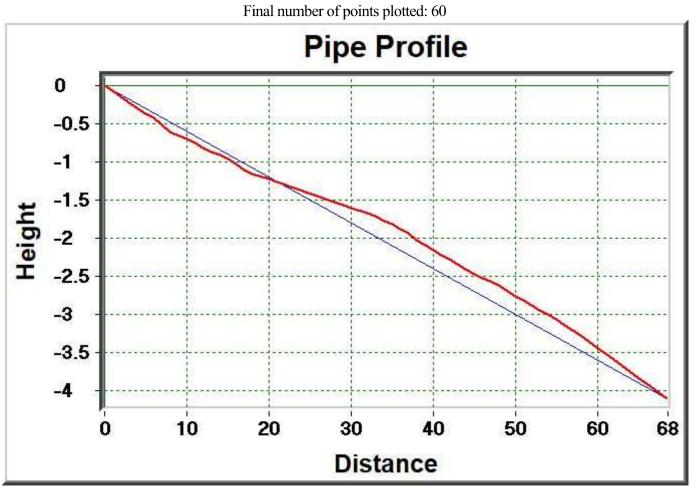
Your browser does not support the video tag.



Project: CAROLINA CROSSROADS								
Date: 12/28/2020 4:37:00 PM	Pipe Segment Reference:							
Street: BROAD RIVER RD	Upstream MH: DENTIST B							
Length Surveyed: 72.5	Downstream MH: DENTIST C							
Run Number:	Direction of Survey:							
Run Number.	Downstream							
Height (Diameter): 18	Material: Reinforced Concrete							
neight (Diameter). 10	Pine							



Percent Grade Mean: -6.29
Plot Distance From: 0 To 73
Max Percent Difference: 3
Number of Window Values: 1
Percent Difference Max for Windows Values: 60
Number of Feet to Average: 1



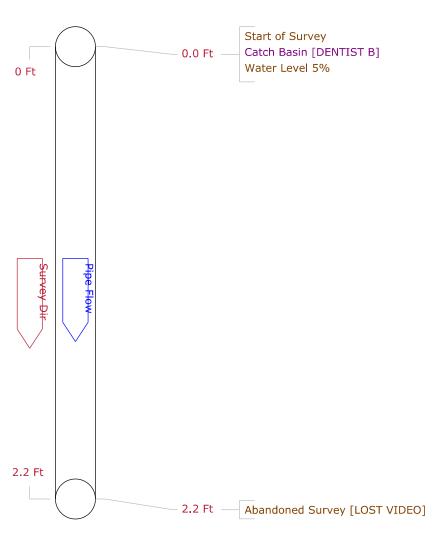


Pipe Graphic Report of PSR DENTIST B

for HDR



				D2.11.10.1 D	_							
Setup	30	Surveyor	GCS		Certificate #	U-09	17-0700939	1 Sys	tem Own	er SCDOT		
Drainage	е			Survey Custor	mer							
P/O #			Date	2020/12/16	Time 10:29	9 ;	Street BRO	DAD RIVI	ER RD			
City	COL	JMBIA		Further I	ocation detail	s						
Up	DENTIS	ST B		Rim	to invert		Grade to	invert		Rim to g	grade	Ft
Down DENTIST C			Rim	Rim to invert Grade			to invert		Rim to grade		Ft	
Use Sto	ormwate	er		Direction	Downstream	Flo	ow control			Media	a No	
Shape Circular			Height	18 Width	ins	ins Preclean Z			Date Cleaned			
Material	Reint	orced Concr	ete Pipe		loint length	Ft	Total len	gth	Ft	Length S	Surveyed	02.20 Ft
Lining					Year laid	Υe	ear rehabil	itated		Weather		
Purpose)				1	Cat						
Addition	nal info	SET	T UP DE	NTIST PARKING	LOT			Structur	al (O & M	Constr	uctional
Location	n							Miscella	ineous l	Hydraulic		
Project	Car	olina Crossro	oads				_		Work C	Order		
Northing	9				Easting Ele				Elevat	tion		
Coordin	ate Sy	stem				GPS Accuracy						





SCA Underground Phone:(803)730-3568 Address: PO box Suite 102, West Columbia, SC



Tabular Report of PSR DENTIST B B for HDR

Setup 30 Surveyor GCS	Certificate #	U-0917-07009391 System (Owner SCDOT	
Drainage Sur	vey Customer			
P/O # Date 2020	0/12/16 Time 10:29	Street BROAD RIVER RD		
City COLUMBIA	Further location details			
Up DENTIST B	Rim to invert	Grade to invert	Rim to grade	Ft
Down DENTIST C	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Down	Flow control	Media No	
Shape Circular	Height 18 Width	ins Preclean Z	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length Ft	Length Surveyed 2.2	Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SET UP DENTIS	T PARKING LOT	Structural Miscellaneous	O & M Construction	nal
Location				
Project Carolina Crossroads		Work	k Order	
Northing	Easting	Ele	vation	
Coordinate System		GPS Accura	су	

Count Video	CD Code		ln1	ln2	%	JntFr	То	ImRe	f Remarks
0.0	ST	Start of Survey							
0.0	ACB	Catch Basin							DENTIST B
0.0	MWL	Water Level			5				
2.2	MSA	Abandoned Survey							LOST VIDEO

2.2 Ft Total Length Surveyed

Scores	Structural:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	O&M:	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000
	Overall	Pipe Rating 0	Pipe Ratings Index 0	Quick Rating 0000



SCA Underground Phone:(803)730-3568

I-20/26/126 Corridor Improvement Project

EP-4301

Station 210+00 24-inch RCP

Client: SCDOT

Mead & Hunt Project Number: 114295.02

Phase: Drainage Video Pipe Inspections

Summary:

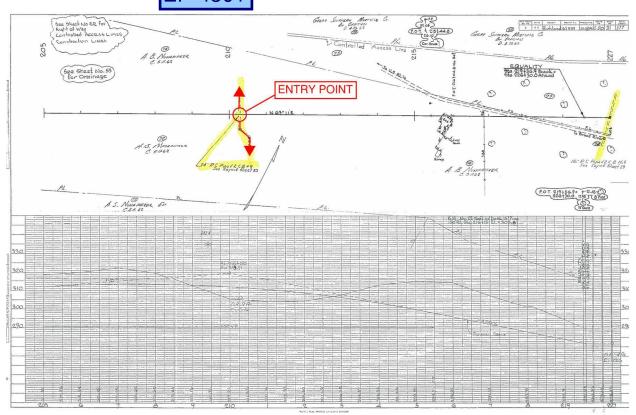
Mead & Hunt, Inc. assessed the overall condition of a 24-inch reinforced concrete pipe as illustrated on sheet number 31 of the provided plan sheets for I-20.

Objective:

The inspections are to assess the overall condition of each box culvert. Each culverts dimension will be measured for comparison to the current plans. Deficiencies to be noted include cracks, spalling, cave-ins, debris build-up, sediment build-up, etc. Each box culvert is to be recorded on video, from end to end, to display any deficiencies within the culvert.

I-20 Station 210+00

- Dimensions: Verified 24-inch RCP, Approximately 200 LF
- Observations
 - 1. South entrance is blocked by vegetation.
 - 2. Both directions need to be cleaned.
- Recommendations
 - 1. Clean both directions.







I-20/26/126 Corridor Improvement Project

EP-4401

Station 237+50 18-inch RCP

Client: SCDOT

Mead & Hunt Project Number: 114295.02

Phase: Drainage Video Pipe Inspections

Summary:

Mead & Hunt, Inc. assessed the overall condition of an 18-inch reinforced concrete pipe as illustrated on sheet number 32 of the provided plan sheets for I-20.

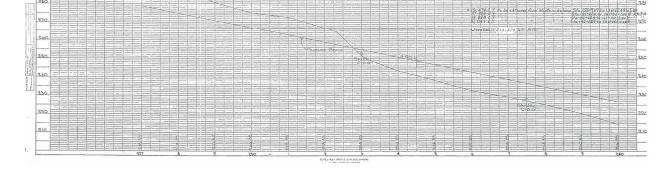
Objective:

The inspections are to assess the overall condition of each box culvert. Each culverts dimension will be measured for comparison to the current plans. Deficiencies to be noted include cracks, spalling, cave-ins, debris build-up, sediment build-up, etc. Each box culvert is to be recorded on video, from end to end, to display any deficiencies within the culvert.

I-20 Station 237+50

- Dimensions: Verified 18-inch RCP, Approximately 225 LF
- Observations
 - 1. Joint at approximately 98-feet (South of entry)-severe joint separation, soil is visible, unable to continue inspecting.
 - 2. Joint at approximately 82-feet and 86-feet (South of entry)-roots growing through the joint, not properly sealed.
 - Joint at approximately 5-feet (South of entry)-moderate joint separation, appears to be groundwater entering/exiting at the bottom of the joint.
 - 4. Joint at approximately 9-feet (South of entry)-roots growing through the joint, not properly sealed.
- Recommendations
 - 1. Slipline or replace existing pipe.
 - 2. Determine if new backfill is needed under pipe where water is exiting through joint.

EP-4401 235 LEGNE 13.64 AL **ENTRY POINT** PLACE TEATING R C. PIPE (50* Exew) Tale 197 PLACE 164-18 R C PIER (30° 5xcw) Leave 35.83







3.







I-20/I-26/I-126 Corridor Improvement Project

Alignment I20000X, Station 252+85

Structure EP-4501

30" RCP

Summary:

F&ME assessed the overall condition of a 30" RCP designated as EP-4501.

Observations:

- Dimensions Verified 30" RCP. Measured length of 222 LF; plan length of 223 LF.
- Scan direction Inlet to outfall.
- General notes None.
- Observations:
 - 1) 5.0 feet 3.28" gap in joint with visible soil; root intrusion in joint.
 - 2) 11.0 feet 0.87: gap in joint; longitudinal crack in pipe; fine root intrusion in joint.
 - 3) 23.1 feet 0.50" gap in joint.
 - 4) 29.6 feet 0.47" gap in joint; intrusion weeping; fine root intrusion in joint.
 - 5) 37.3 feet 0.82" gap in joint; longitudinal crack in pipe; intrusion weeping; fine root intrusion in joint.
 - 6) 43.3 feet Longitudinal crack in pipe.
 - 7) 55.3 feet 0.99" gap in joint; longitudinal crack in pipe; intrusion weeping; fine root intrusion in joint.
 - 8) 61.3 feet 0.47" gap in joint; infiltration staining.
 - 9) 67.3 feet 0.62" gap in joint; longitudinal crack in pipe; infiltration staining.
 - 10) 73.2 feet -0.83" gap in joint; intrusion weeping; fine root intrusion in joint.
 - 11) 79.2 feet 0.82" gap in joint; intrusion staining; fine root intrusion in joint.
 - 12) 91.2 feet 0.71" gap in joint.
 - 13) 97.5 feet Longitudinal crack in pipe.
 - 14) 103.5 feet -0.72" gap in joint; longitudinal crack in pipe; intrusion weeping; fine root intrusion in joint.
 - 15) 109.5 feet Longitudinal crack in pipe.
 - 16) 111.3 feet Circumferential crack in pipe.
 - 17) 112.8 feet Circumferential crack in pipe.
 - 18) 139.5 feet -0.59" gap in joint; longitudinal crack in pipe; infiltration staining.
 - 19) 145.2 feet 0.43" gap in joint; longitudinal crack in pipe; infiltration staining.
 - 20) 157.3 feet Longitudinal crack in pipe; infiltration weeping; fine root intrusion in pipe.
 - 21) 161.9 feet Circumferential crack in pipe.
 - 22) 163.4 feet Longitudinal crack in pipe; infiltration weeping; fine root intrusion in pipe.
 - 23) 169.1 feet Spider web cracking in pipe; infiltration staining.
 - 24) 172.7 feet Spider web cracking in pipe; infiltration staining.
 - 25) 174.4 feet Longitudinal cracks in pipe.
 - 26) 177.8 feet Spider web cracking in pipe.



I-20/I-26/I-126 Corridor Improvement Project

Alignment I20000X, Station 252+85

Structure EP-4501

30" RCP

Summary:

F&ME assessed the overall condition of a 30" RCP designated as EP-4501.

Observations:

- Dimensions Verified 30" RCP. Measured length of 222 LF; plan length of 223 LF.
- Scan direction Inlet to outfall.
- General notes None.
- Observations:
 - 27) 180.8 feet Spider web cracking in pipe.
 - 28) 182.7 feet Spider web cracking in pipe.
 - 29) 193.1 feet 1.53" gap in joint; chipped spigot; fine root intrusion in pipe.
 - 30) 198.9 feet Infiltration weeping.
 - 31) 205.2 feet -0.59" gap in joint; infiltration weeping; fine root intrusion in pipe.





Project Information

Surveyor Name GCS Certificate
Number U-0917-07009391

Owner SCDOT Customer F&ME

Drainage Area PO Number

Pipe Segment Date 4/1/2019 14:59

Reference Street I-26 City COLUMBIA

Comments

Manhole

Upstream MH EP 4501 INLET Rim to Invert (U)

Grade to Invert (U) Rim to Grade (U)

Downstream MH EP 4501 OUTLET Rim to Invert (D)

Grade to Invert Rim to Grade (D)

(D) Direction of

Sewer Use Downstream Survey

Pipe

Height (Diameter) 30 Width

Shape Circular Material Reinforced Concrete

Pipe

Lining Method Pipe Joint Length

Total Length Length Surveyed 221.9

Year Laid Year Renewed

Misc

Flow Control Media Label DVD

Purpose Sewer Category
Pre-Cleaning Not Known Date Cleaned
Weather Location Code
Additional Info Location Details

Custom

Number of Taps 0 Number of Roots 27

Number of

Num Cracks / Fractures 21 Broken / Holes / 1

Collapse

Number of 0 Custom6

Deposits
Custom7 Struct Grade

OM Grade Overall Grade

Pacp 6

Reverse Setup ID Sheet (Group)

Number

Imperial Units (US) True Pressure Value

Work Order Project CCR PIPE

Completed Yes

Project: CCR PIPE

Date: 4/1/2019 2:59:00 PM **Pipe Segment Reference:**

Street: I-26 Upstream MH: EP 4501 INLET

Downstream MH: EP 4501

EP-4501

Length Surveyed: 221.9 OUTLET

Direction of Survey:

Pacp Quick Overall Rating: Downstream

Height (Diameter): 30

Material: Reinforced Concrete

Pipe

Street: I-26

Distance	Fault Observation	Time	Picture
0.0	Discharge Point Severity: None Remarks: EP 4501 INLET	32	CCR PIPE EP 4501 INLET
0.0	Water Level Severity: None Percent: 5	47	
5.0	Joint Separated Large Severity: None Remarks: 3.276 Struct Weight: 2	02:17	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
5.0	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	02:52	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
11.1	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	04:08	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
11.1	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	04:46	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
11.1	General Observation Severity: None Remarks: 0.873	05:17	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
23.1	General Observation Severity: None Remarks: 0.496	07:46	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
26.8	Infil Weeper Position: 3 To 9 Severity: None Joint Remarks: NEXT JOINT WEEPING Maint Weight: 2	08:52	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
29.6	Roots Fine Joint Position: 3 To 5 Severity: None Joint Maint Weight: 1	10:03	CCR PIPE To EP 4501 OUTLET Infil Wester NEXT JOINT WESTER 14:16 -537-87' +3.6% +29.5ft
29.6	General Observation Severity: None Remarks: 0.472	10:54	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
33.2	Infil Stain Position: 8 To 10 Severity: None Joint	12:14	_CR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
37.3	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	13:18	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
37.3	Roots Fine Joint Position: 8 To 9 Severity: None Joint Maint Weight: 1	14:03	CCR PIPE EP 4501 INLED TO EP 4501 OUTLET
37.3	Infil Stain Position: 7 To 9 Severity: None	14:28	_CR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
37.3	Infil Weeper Position: 3 To 5 Severity: None Joint Maint Weight: 2	14:56	_CR PIPE EP 4501 INLET TO EP 4501 OUTLET
37.3	General Observation Severity: None Remarks: 0.824	15:44	CCR PIPE EP' 4501 INLET TO EP 4501 OUTLET
43.3	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	16:16	CR PIPE EP 4501 INLET TO EP 4501 OUTLET 14:24 101/-122' +2.1% +43.2ft

Distance	Fault Observation	Time	Picture
43.3	Infil Stain Position: 7 To 10 Severity: None Joint	17:00	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
43.3	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	17:17	-CR PIPE; EP 4501 TNLET To EB 4501 OUTLET
43.3	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	17:34	CCR PIPE EP 4501 INLET UTLET 14;25 -50/-96' +2,1% +43,3ft

Distance	Fault Observation	Time	Picture
49.3	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	18:48	CCR PIPE EP 4501 INCET To EP 4501 OUTLET
55.3	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	19:55	©CR PIPE EP 4501 INLET TO EP 4501 OUTLET
55.3	Infil Stain Position: 7 To 9 Severity: None Joint	20:40	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
55.3	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	20:53	04.01.19 -122/-90' +3.5% +55.3ft
55.3	General Observation Severity: None Remarks: 0.987	21:43	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
61.2	Infil Stain Position: 7 To 9 Severity: None Joint Remarks: STAIN NOT WEEPER	23:36	CCR PIPE EP 4501 TNLET TO EP 4501 OUTLET 04.01.19 -129/-83' +2.6% +61.2ft

Distance	Fault Observation	Time	Picture
61.3	General Observation Severity: None Remarks: 0.469	25:35	CCR PIPE. EP 4501 INLET TO EP 4501 OUTLET
67.3	Infil Stain Position: 7 To 9 Severity: None Joint	26:44	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
67.3	Infil Stain Position: 3 To 5 Severity: None Joint	27:17	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
67.3	General Observation Severity: None Remarks: 0.617	27:54	CCR PIPE -EP 4501 INLET UTLET 04.01.19 145/-86' +3.3% +67.3ft
67.4	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	28:26	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
73.2	Infil Weeper Position: 7 To 8 Severity: None Joint Maint Weight: 2	29:37	Crack Lerfait (4-4-11-2) O4.01.19 -1167-83 +2.2% +73.2ft

Distance	Fault Observation	Time	Picture
73.2	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	29:53	CCR PIPE EP 4501 INLET TO ER 4501 OUTLET
73.2	General Observation Severity: None Remarks: 0.825	30:48	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
79.2	Infil Stain Position: 7 To 9 Severity: None Joint	31:39	CCR PIPE EP 4501 INLET TO EP 4501 DUTLET General Observation 0.825

Distance	Fault Observation	Time	Picture
79.2	Infil Stain Position: 3 To 5 Severity: None Joint	32:08	CCR PIPE EP 4501 INLET To EP 4501 DUTLET
79.2	General Observation Severity: None Remarks: 0.82	32:38	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
85.3	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	33:36	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
85.3	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	33:51	CCR PIPE EP 4501 INDET TO EP 4501 ROLL 04.01.19 -63/-85' +2.7% +85.2ft
91.2	General Observation Severity: None Remarks: 0.707	35:27	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
97.5	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	36:13	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
97.5	Infil Stain Position: 7 To 9 Severity: None Joint	36:56	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
97.5	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	38:00	CCR PIPE EP 4501 INLET To EP: 4501 OUTLET
97.5	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	38:16	CCR FIPE EP 4591 1/R E1 To EP 4577 44 50 EF 14:48 -65/-92' +2.6% +97.5ft

Distance	Fault Observation	Time	Picture
103.5	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	38:17	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
103.5	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	38:31	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET Crack Longitudinal 14:49 91/-60' +3.5% +103.5ft
103.5	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	38:58	CCR PIPE EP 45-01 35-01 T To EP 45-01 T 04.01,19 -71/-94 +3,5% +103,5ft

Distance	Fault Observation	Time	Picture
103.5	General Observation Severity: None Remarks: 0.717	39:41	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
109.5	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	40:23	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
111.3	Crack Circumferential Position: 3 To 4 Severity: None Struct Weight: 1	42:41	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
112.8	Crack Circumferential Position: 8 To 9 Severity: None Struct Weight: 1	42:27	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
115.6	Infil Stain Position: 3 To 5 Severity: None Joint	43:43	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
121.6	Infil Stain Position: 7 To 8 Severity: None Joint	45:06	CCR PIPE EP 4501 INLET: To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
127.6	Infil Stain Position: 3 To 5 Severity: None Joint	46:41	CCR PIPE EP 4501 INLET TO EP 4501 DUTLET
133.6	Roots Fine Joint Position: 3 To 5 Severity: None Joint Maint Weight: 1	48:11	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
133.6	Infil Stain Position: 3 To 5 Severity: None Joint	48:32	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET Roots Fine Joint 04,01,19 -20/-90' +1,6% +133,5ft

Distance	Fault Observation	Time	Picture
139.5	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	49:30	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET 0:59 15;01 95/-70' +2,3* +139,5ft
139.6	Infil Stain Position: 7 To 9 Severity: None	50:07	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
145.2	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	51:05	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
145.2	Picture Number: 2 Crack Longitudinal Position: 12	0	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
145.2	Infil Stain Position: 7 To 8 Severity: None	53:33	CCR PIPE EP 4501 INLET To EP 4501 OUTLET 04.01.19 -153/-81' +3.1% +145.2ft
145.3	Infil Stain Position: 1 To 5 Severity: None Joint	52:37	CCR PIPE EP 4501 INLET

Distance	Fault Observation	Time	Picture
151.3	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	53:39	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET 04.01.19 -108/-85 +2.6% +151.2ft
151.3	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	55:40	CCR PIPE EP 4501 INLET TO EP 4501 OUTLE 04.01.19 -637-85' +2.6% +151,2Pt
151.3	Infil Stain Position: 7 To 5 Severity: None Joint	54:22	CCR PIPE EP 4501 INLET UTLET

Distance	Fault Observation	Time	Picture
157.3	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	55:12	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
157.3	Picture Number: 2 Crack Longitudinal Position: 12	0	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
157.3	Infil Stain Position: 7 To 9 Severity: None Joint	56:01	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
157.3	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	56:18	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
157.3	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	56:31	CCR PIPE EP 4501 INE TO EP 4501 ANSIGET 04.01.19 -33/-93' +2.1% +157.3ft
157.3	Infil Stain Position: 3 To 5 Severity: None Joint	58:56	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
161.9	Crack Circumferential Position: 8 To 9 Severity: None Struct Weight: 1	57:30	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
163.3	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	58:25	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
163.4	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	1:00:51	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
163.4	Infil Stain Position: 7 To 10 Severity: None Joint	59:20	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
163.4	Infil Weeper Position: 3 To 5 Severity: None Joint Maint Weight: 2	59:50	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
169.1	Crack Longitudinal Position: 12 Severity: None Joint Struct Weight: 2	1:00:58	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET Infil Weeper 15:13 97/-112' +3.0% +169.0ft

Distance	Fault Observation	Time	Picture
169.1	Crack Multiple Position: 11 To 1 Severity: None Joint Remarks: SPIDER LIKE CRACKING Struct Weight: 3	1:01:54	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
169.1	Picture Number: 2 Crack Multiple Position: 11 To 1	0	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
169.1	Infil Stain Position: 7 To 9 Severity: None Joint	1:05:15	CCR PIPE EP 4501 INLED To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
169.1	Infil Stain Position: 3 To 5 Severity: None Joint	1:05:45	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
172.7	Crack Multiple Position: 9 To 3 Severity: None Cont Defect: S01 Joint Remarks: SPIDER LIKE CRACKING Struct Weight: 3	1:04:12	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
174.4	Picture Number: 2 Crack Multiple Position: 9 To 3	0	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET 04.01.19 67/-39' +1.6% +174.4ft

Distance	Fault Observation	Time	Picture
177.8	Picture Number: 3 Crack Multiple Position: 9 To 3	0	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
180.8	Picture Number: 4 Crack Multiple Position: 9 To 3 Remarks: SPIDER LIKE CRACKING	0	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
174.9	Infil Stain Position: 7 To 9 Severity: None Joint	1:05:18	CCR PIPE EP 4501 INLET To EP 4501 OUTSET

Distance	Fault Observation	Time	Picture
174.9	Infil Stain Position: 9 To 5 Severity: None Joint	1:05:45	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
180.9	Roots Fine Joint Position: 5 To 9 Severity: None Joint Maint Weight: 1	1:07:31	CCR PIPE EP 4501 INLET To EP 4501 OUTLET 04.01.19 -145/-71' +2.5% +180.8ft
180.9	Infil Stain Position: 9 To 3 Severity: None Joint	1:07:54	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
182.7	Crack Multiple Position: 9 To 3 Severity: None Cont Defect: F01 Joint Remarks: SPIDER LIKE CRACKING Struct Weight: 3	1:08:32	CCR PIPE EP 4501 INLET UTLET 04.01.19 -92/117' +1.8% +182.7ft
187.1	Roots Fine Joint Position: 7 To 9 Severity: None Joint Maint Weight: 1	1:09:30	CCR PIPE EP 4501 INLET UTLET
187.1	Roots Fine Joint Position: 4 To 5 Severity: None Joint Maint Weight: 1	1:09:54	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET Roots Fine To int 04.01.19 -49/-87' +2.1% +187.0ft

Distance	Fault Observation	Time	Picture
187.1	Infil Stain Position: 8 To 4 Severity: None Joint	1:10:19	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
193.0	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	1:11:33	CCR PIPE EP 4501 INLET UT ET 04.01.19 -95/-82 +2.4% +192.9ft
193.1	Broken Position: 1 To 2 Severity: None Joint Remarks: CHIPPED SPIGOT Struct Weight: 4	1:12:40	CCR PIPE EP 4501 INLET To EP 4501 OUTLET 1.53

Distance	Fault Observation	Time	Picture
196.8	Infil Weeper Position: 3 To 5 Severity: None Joint Maint Weight: 2	1:13:15	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
198.9	Infil Stain Position: 7 To 9 Severity: None Joint	1:14:05	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET.
205.2	Roots Fine Joint Position: 7 Severity: None Joint Maint Weight: 1	1:15:37	CCR: PIPE. EP 4501 'INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
205.2	Roots Fine Joint Position: 5 Severity: None Joint Maint Weight: 1	1:15:50	CCR PIPE EP 4501 INLET TO EP 4501 OUTLET
205.2	Infil Stain Position: 2 To 5 Severity: None Joint	1:19:35	CCR PIPE EP 4501 INLET To EP 4501 OUTLET
205.2	General Observation Severity: None Remarks: 0.591	1:16:47	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
211.1	Roots Fine Joint Position: 5 To 7 Severity: None Joint Maint Weight: 1	1:18:01	CCR PIPE T To EP 4501 QUILLET (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
211.1	Infil Stain Position: 7 To 4 Severity: None Joint	1:18:25	CCR PIPE EP 4501 INLET To EP 4501 OUTLET.
217.0	Roots Fine Joint Position: 4 To 6 Severity: None Joint Maint Weight: 1	1:19:34	CCR PIPE EP 4501 INLET To EP 4501 OUTLET

Distance	Fault Observation	Time	Picture
221.9	Discharge Point Severity: None Remarks: EP 4501 OUTLET	1:20:09	

Created with the PDSM report generator

Project: CCR PIPE

Date: 4/1/2019 2:59:00 PM

Street: I-26

Length Surveyed: 221.9

Pacp Quick Overall Rating:

Height (Diameter): 30

Street: I-26

(55.3) MGO - General Observation Remark: 0.987

Pipe Segment Reference:

Upstream MH: EP 4501 INLET

Downstream MH: EP 4501

OUTLET

Direction of Survey:

Downstream

Material: Reinforced Concrete

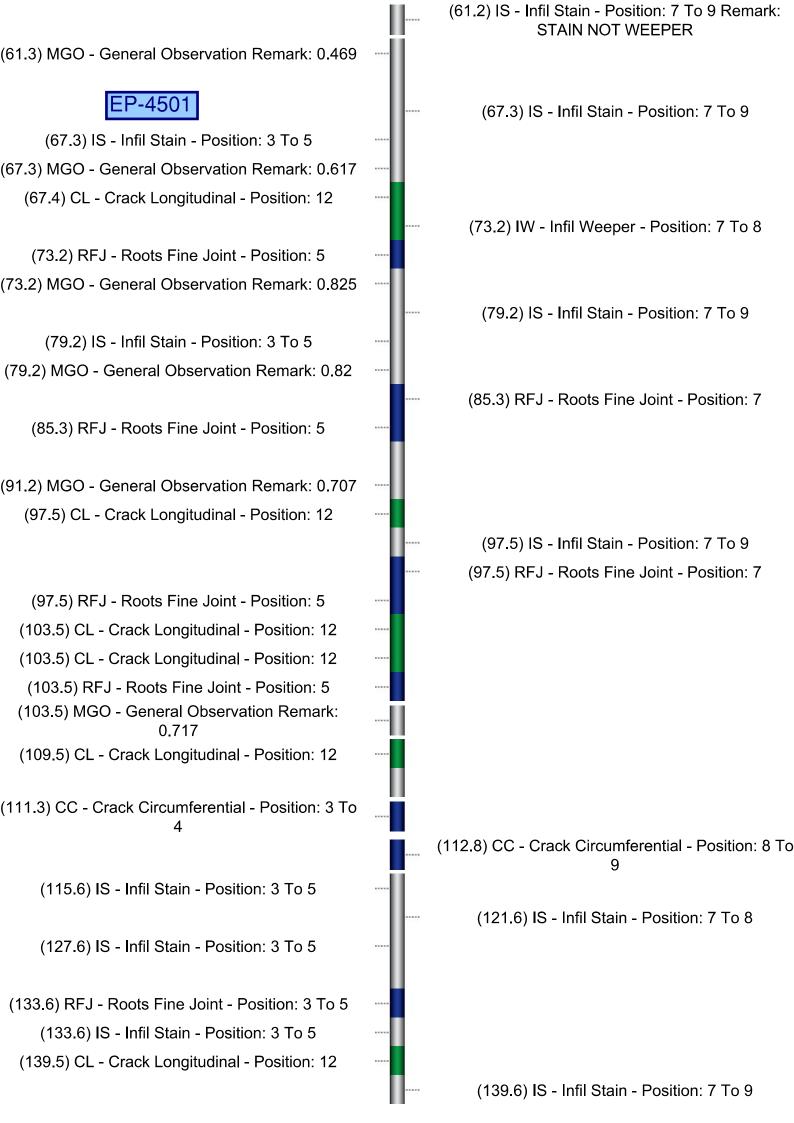
Pipe

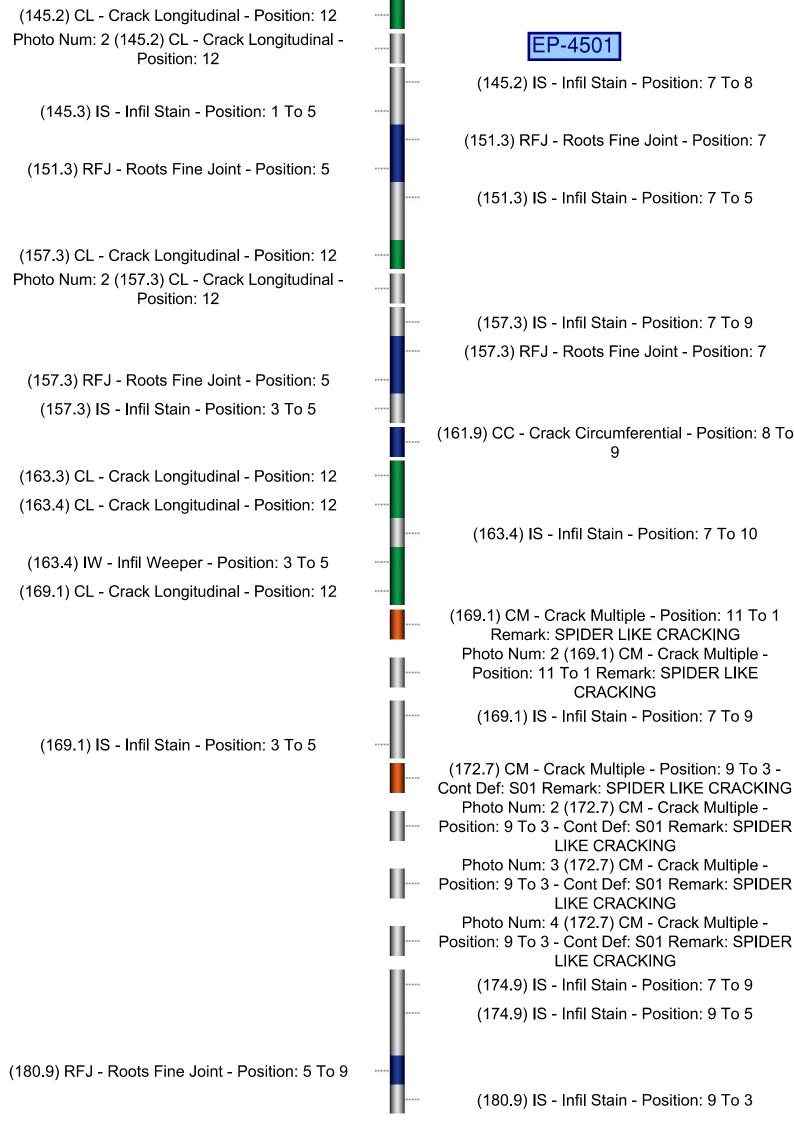
(55.3) IS - Infil Stain - Position: 7 To 9

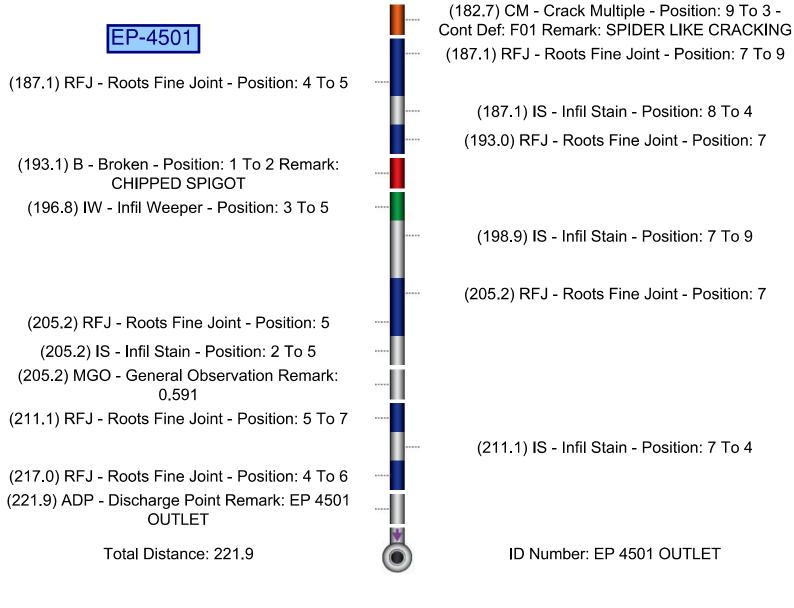
(55.3) RFJ - Roots Fine Joint - Position: 7

EP-4501

ID Number: EP 4501 INLET (0.0) ADP - Discharge Point Remark: EP 4501 (0.0) MWL - Water Level (5.0) JSL - Joint Separated Large Remark: 3.276 (5.0) RFJ - Roots Fine Joint - Position: 7 (11.1) RFJ - Roots Fine Joint - Position: 5 (11.1) CL - Crack Longitudinal - Position: 12 (11.1) MGO - General Observation Remark: 0.873 (23.1) MGO - General Observation Remark: 0.496 (26.8) IW - Infil Weeper - Position: 3 To 9 Remark: NEXT JOINT WEEPING (29.6) RFJ - Roots Fine Joint - Position: 3 To 5 (29.6) MGO - General Observation Remark: 0.472 (33.2) IS - Infil Stain - Position: 8 To 10 (37.3) CL - Crack Longitudinal - Position: 12 (37.3) RFJ - Roots Fine Joint - Position: 8 To 9 (37.3) IS - Infil Stain - Position: 7 To 9 (37.3) IW - Infil Weeper - Position: 3 To 5 (37.3) MGO - General Observation Remark: 0.824 (43.3) CL - Crack Longitudinal - Position: 12 (43.3) IS - Infil Stain - Position: 7 To 10 (43.3) RFJ - Roots Fine Joint - Position: 7 (43.3) RFJ - Roots Fine Joint - Position: 5 (49.3) RFJ - Roots Fine Joint - Position: 7 (55.3) CL - Crack Longitudinal - Position: 12







Created with the PDSM report generator

Project: CCR PIPE

Date: 4/1/2019 2:59:00 PM

Street: I-26

Length Surveyed: 221.9

Pacp Quick Overall Rating:

Height (Diameter): 30

Street: I-26

Pipe Segment Reference:

Upstream MH: EP 4501 INLET

EP-4501

Downstream MH: EP 4501

OUTLET

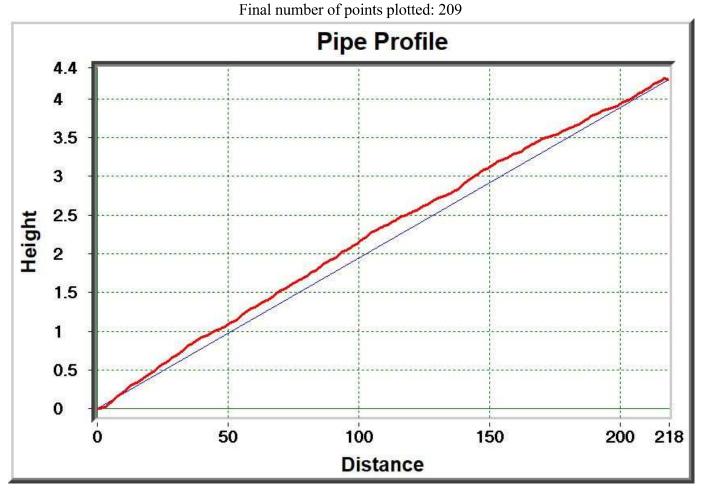
Direction of Survey:

Downstream

Material: Reinforced Concrete

Pipe

Percent Grade Mean: 1.92 Plot Distance From: 0 To 223 Max Percent Difference: 3 Number of Window Values: 1 Percent Differnce Max for Windows Values: 60 Number of Feet to Average: 1



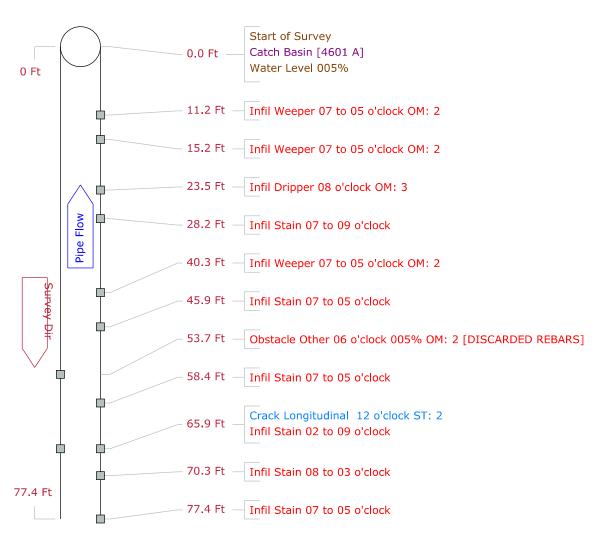


Pipe Graphic Report of PSR 4601 B

X for HDR



Setup 18 Surveyor GCS	Certificate #	U-0917-07009391 System Ov	vner SCDOT	
Drainage Surv	ey Customer HDR			
P/O # Date 2020/	/12/03 Time 15:03	Street I-20 GARNER LANE		
City WEST COLUMBIA	Further location details			
Up 4601 B	Rim to invert	Grade to invert	Rim to grade	Ft
Down 4601 A	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Upstream	Flow control	Media No	
Shape Circular	Height 24 Width	ins Preclean Z	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 252.4 Ft	Length Surveye	d 252.40 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	С	at		
Additional info SURVEYED FROM	M GARNER LANE	Structural		tructional
Location		Miscellaneous	Hydraulic	
Project Carolina Crossroads		Work	Order	
Northing	Easting	Elev	ration	
Coordinate System		GPS Accurac	су	



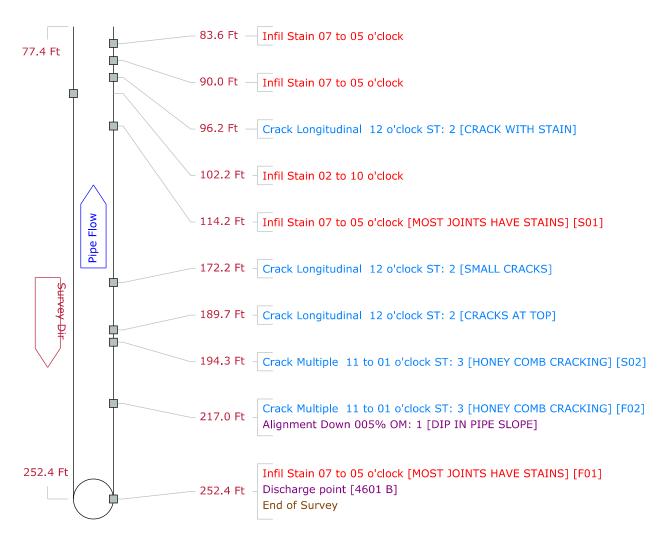


SCA Underground Phone:(803)730-3568



Pipe Graphic Report of PSR 4601 B X for HDR

Setup 18 Surv	eyor GCS	Certificate #	U-0917-07009391 S y	ystem Owner S	CDOT
Drainage	Survey C	ustomer HDR			
P/O #	Date 2020/12/03	Time 15:03	Street I-20 GARN	IER LANE	
City WEST COL	.UMBIA Fu r	ther location details	;		
Up 4601 B		Rim to invert	Grade to inver	t R	im to grade Ft
Down 4601 A		Rim to invert	Grade to inver	t R	im to grade Ft
Use Stormwater	Dire	ction Upstream	Flow control		Media No
Shape Circular	He	eight 24 Width	ins Preclean	Z Dat	te Cleaned
Material Reinforced	Concrete Pipe	Joint length	Ft Total length 25	52.4 Ft Le	ngth Surveyed 252.40 Ft
Lining		Year laid	Year rehabilitated	Wea	ather
Purpose		C	at		
Additional info	SURVEYED FROM GA	RNER LANE	Struct	ural O & M	Constructional
Location			Misce	llaneous Hydrai	ulic
Project Carolina C	Crossroads			Work Order	
Northing		Easting	l	Elevation	
Coordinate System			GPS	S Accuracy	





SCA Underground Phone:(803)730-3568



CCTV Picture List of 4601 B X for HDR

Work Order			Setup 18
Video	Survey Date	2020/12/03	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRO	DADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSRO	OADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	ADS\



Video Index Count 11.2 Ft

Code Infil Weeper Remarks

File Name 146.jpg



Video Index Count 15.2 Ft

Code Infil Weeper

Remarks

File Name 147.jpg



Video Index Count 23.5 Ft

Code Infil Dripper

Remarks

File Name 148 jpg



Video Index Count 28.2 Ft

Code Infil Stain

Remarks

File Name 149.jpg



Video Index Count 40.3 Ft

Code Infil Weeper

Remarks

File Name 150.jpg



Video Index Count 45.9 Ft

Code Infil Stain

Remarks

File Name 151.jpg



Video Index Count 53.7 Ft

Code Obstacle Other

Remarks DISCARDED REBARS

File Name 152.jpg



SCA Underground Phone: (803)730-3568



CCTV Picture List of 4601 B Χ for HDR

Work Order			Setup 18
Video	Survey Date	2020/12/03	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSROA	ADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSRO	ADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSROA	NDS\



Video Index Count 58.4 Ft Code Infil Stain Remarks

File Name 153.jpg



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

CCTV Picture List of 4601 B Χ for HDR

EP-4	601
	Setup 18
. CROSSROADS\	

Work Order		0000/40/00	Setup 18
Video	Survey Date	2020/12/03	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSS	ROADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSS	SROADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSI	ROADS\



Count 65.9 Ft Video Index

Code Crack Longitudinal

Remarks

File Name 154.jpg



Video Index **Count** 65.9 Ft

Code Infil Stain

Remarks

File Name 155.jpg



Video Index Count 70.3 Ft

Code Infil Stain

Remarks

File Name 156 jpg



Video Index **Count** 83.6 Ft

Code Infil Stain

Remarks

File Name 157.jpg



Video Index Count 90.0 Ft

Code Infil Stain

Remarks

File Name 158.jpg



Video Index **Count** 96.2 Ft

Code Crack Longitudinal Remarks CRACK WITH STAIN

File Name 159.jpg



Video Index Count 102.2 Ft

Code Infil Stain

Remarks

File Name 160.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of for HDR 4601 B Χ



Work Order			Setup 18
Video	Survey Date	2020/12/03	
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRO	ADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSRO	DADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	ADS\



Video Index **Count** 114.2 Ft

Code Infil Stain

Remarks MOST JOINTS HAVE STAINS

File Name 161.jpg



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

CCTV Picture List of 4601 B X for HDR

EP-4601

Work Order			Setup 18		
Video	Survey Date	2020/12/03			
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRO	OADS\		
Path to video files	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\				
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	DADS\		



Video Index Count 114.2 Ft

Code Infil Stain

Remarks MOST JOINTS HAVE STAINS

File Name 162 jpg



Video Index Count 172.2 Ft

Code Crack Longitudinal
Remarks SMALL CRACKS

File Name 163.jpg



Video Index Count 189.7 Ft

Code Crack Longitudinal Remarks CRACKS AT TOP

File Name 164.jpg



Video Index Count 194.3 Ft

Code Crack Multiple

Remarks HONEY COMB CRACKING

File Name 165.jpg



Video Index Count 194.3 Ft

Code Crack Multiple

Remarks HONEY COMB CRACKING

File Name 166.jpg



Video Index Count 194.3 Ft

Code Crack Multiple

Remarks HONEY COMB CRACKING

File Name 167.jpg



Video Index Count 194.3 Ft

Code Crack Multiple

Remarks HONEY COMB CRACKING

File Name 168 jpg



Video Index Count 194.3 Ft

Code Crack Multiple

Remarks HONEY COMB CRACKING



SCA Underground Phone: (803)730-3568

CCTV Picture List of 4601 B for HDR Χ

Work Order			Setup 18		
Video	Survey Date	2020/12/03			
Path to picture files	F:\CAMERA WORK DA	ATABASE\Snaps\CAROLNA CROSSRO	DADS\		
Path to video files	F:\CAMERA WORK DATABASE\Movies\CAROLNA CROSSROADS\				
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRC	DADS\		

File Name 169.jpg



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC



CCTV Picture List of 4601 B X for HDR

Work Order			Setup 18
Video	Survey Date	2020/12/03	
Path to picture files	F:\CAMERA WORK DA	NTABASE\Snaps\CAROLNA CROSSRC	DADS\
Path to video files	F:\CAMERA WORK DA	ATABASE\Movies\CAROLNA CROSSRO	OADS\
Path to media files	F:\CAMERA WORK DA	ATABASE\Media\CAROLNA CROSSRO	ADS\



Video Index Count 194.3 Ft

Code Crack Multiple

Remarks HONEY COMB CRACKING

File Name 170.jpg



Video Index Count 217.0 Ft

Code Alignment Down
Remarks DIP IN PIPE SLOPE

File Name 171.jpg



SCA Underground Phone: (803)730-3568

CCTV Picture List of 4601 B Χ for HDR

Work Order			Setup 18
Video	Survey Date	2020/12/03	
Path to picture files	F:\CAMERA WORK DA	.TABASE\Snaps\CAROLNA CROSSRO	DADS\
Path to video files	F:\CAMERA WORK DA	TABASE\Movies\CAROLNA CROSSR	OADS\
Path to media files	F:\CAMERA WORK DA	TABASE\Media\CAROLNA CROSSRC	DADS\



SCA Underground Phone: (803)730-3568 Address: PO box Suite 102, West Columbia, SC

X for HDR



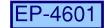
Setup Surveyor GCS Certificate # U-0917-07009391 System Owner SCDOT Survey Customer HDR Drainage P/O # Date 2020/12/03 Time 15:03 Street I-20 GARNER LANE City WEST COLUMBIA **Further location details** 4601 B Ft Up Rim to invert **Grade to invert** Rim to grade **Down** 4601 A Rim to invert Grade to invert Rim to grade Ft Use Stormwater **Direction** Up Flow control Media No Shape Circular Height 24 Preclean Z **Date Cleaned** Width ins Material Reinforced Concrete Pipe Joint length Ft Total length 252.4 Ft Length Surveyed 252.4 Ft Year rehabilitated Weather Lining Year laid **Purpose** Cat **Pressure** Structural O & M **Additional info** SURVEYED FROM GARNER LANE Constructional Miscellaneous Location Carolina Crossroads **Work Order Project Northing Easting** Elevation **Coordinate System GPS Accuracy**

Count Video	CD	Code		ln1	ln2	%	Jn	tFr	То	ImRef	Remarks
0.0		ST	Start of Survey								
0.0		ACB	Catch Basin							4	601 A
0.0		MWL	Water Level			5					
11.2		IW	Infil Weeper				J	07	05		
15.2		IW	Infil Weeper				J	07	05		
23.5		ID	Infil Dripper				J	80			
28.2		IS	Infil Stain				J	07	09		
40.3		IW	Infil Weeper				J	07	05		
45.9		IS	Infil Stain				J	07	05		
53.7		OBZ	Obstacle Other			5		06			DISCARDED REBARS
58.4		IS	Infil Stain				J	07	05		
65.9		CL	Crack Longitudinal				J	12			
65.9		IS	Infil Stain				J	02	09		
70.3		IS	Infil Stain				J	80	03		
77.4		IS	Infil Stain				J	07	05		
83.6		IS	Infil Stain				J	07	05		
90.0		IS	Infil Stain				J	07	05		
96.2		CL	Crack Longitudinal				J	12			CRACK WITH STAIN
102.2		IS	Infil Stain				J	02	10		
114.2	S01	IS	Infil Stain				J	07	05	N	MOST JOINTS HAVE STAINS
172.2		CL	Crack Longitudinal				J	12		S	SMALL CRACKS
189.7		CL	Crack Longitudinal				J	12		C	CRACKS AT TOP
194.3	S02	CM	Crack Multiple				J	11	01	F	HONEY COMB CRACKING
217.0	F02	CM	Crack Multiple				J	11	01	H	HONEY COMB CRACKING
217.0		LD	Alignment Down			5					OIP IN PIPE SLOPE
252.4	F01	IS	Infil Stain				J	07	05	N	MOST JOINTS HAVE STAINS
252.4		ADP	Discharge point							4	601 B
252.4		FH	End of Survey								

252.4 Ft Total Length Surveyed



SCA Underground Phone:(803)730-3568



Quick Rating 3524 Quick Rating 3124 Quick Rating 3628

Tabular Report of PSR 4601 B X for HDR

Pipe Rating 23 Pipe Rating 12 Pipe Rating 35

Setup 18 Surveyor GCS	Certificate #	U-0917-07009391 System	Owner SCDOT	
Drainage Sur	vey Customer HDR			
P/O # Date 2020	0/12/03 Time 15:03	Street I-20 GARNER LAN	NE .	
City WEST COLUMBIA	Further location details			
Up 4601 B	Rim to invert	Grade to invert	Rim to grade	Ft
Down 4601 A	Rim to invert	Grade to invert	Rim to grade	Ft
Use Stormwater	Direction Up	Flow control	Media No	
Shape Circular	Height 24 Width	ins Preclean Z	Date Cleaned	
Material Reinforced Concrete Pipe	Joint length	Ft Total length 252.4 Ft	Length Surveyed	252.4 Ft
Lining	Year laid	Year rehabilitated	Weather	
Purpose	Cat		Pressure	
Additional info SURVEYED FRO	M GARNER LANE	Structural	O & M Constru	ıctional
Location		Miscellaneous	S	
Project Carolina Crossroads		Wo	ork Order	
Northing	Easting	El	evation	
Coordinate System		GPS Accu	racy	

Pipe Ratings Index 2.6 Pipe Ratings Index 2 Pipe Ratings Index 4.6



Scores

Structural: O&M: Overall