

**From:** [Traci J. Schoenrock](#)  
**To:** [Black, Alexis](#); [SWD Waste](#)  
**Cc:** [Henry C. Norris](#)  
**Subject:** RE: [EXTERNAL]RE: Citrus County Central Landfill Leachate Evaluation Update  
**Date:** Thursday, August 20, 2020 3:41:13 PM  
**Attachments:** [image002.png](#)  
[image003.jpg](#)  
[2020LeachateCleaningSummary\\_2020-08-19 \(004\).pdf](#)

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Alexis,  
Attached is the Leachate Jet Cleaning Video Inspection report.  
Feel free to contact me with any questions.  
Sincerely,

**Traci Schoenrock**  
Solid Waste Compliance Manager  
Division of Solid Waste Management  
Email: [Traci.Schoenrock@citrusbocc.com](mailto:Traci.Schoenrock@citrusbocc.com)  
Main Office # (352)-527-7670  
Direct # (352)-527-7679  
Fax # (352)-527-7672



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**From:** Black, Alexis <[Alexis.Black@FloridaDEP.gov](mailto:Alexis.Black@FloridaDEP.gov)>  
**Sent:** Thursday, August 20, 2020 12:37 PM  
**To:** Traci J. Schoenrock <[Traci.Schoenrock@citrusbocc.com](mailto:Traci.Schoenrock@citrusbocc.com)>  
**Cc:** Madden, Melissa <[Melissa.Madden@FloridaDEP.gov](mailto:Melissa.Madden@FloridaDEP.gov)>  
**Subject:** [EXTERNAL]RE: Citrus County Central Landfill Leachate Evaluation Update

**WARNING:** This email originated from an external Domain **DO NOT CLICK** unless you recognize the sender and know the content is safe.

Hi Traci:  
Thank you for this update! Please continue to keep me informed of your progress.  
Best regards,  
Alexis



*Alexis Black*  
Environmental Specialist II  
Compliance Assurance Program  
Florida Department of Environmental Protection  
Southwest District

**PLEASE NOTE:** Florida has a very broad public records law. Electronic communications regarding state business are public records available upon request. Your e-mail communications may therefore be subject to public disclosure.



Please consider the environment before printing this email.

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**From:** Traci J. Schoenrock <[Traci.Schoenrock@citrusbocc.com](mailto:Traci.Schoenrock@citrusbocc.com)>  
**Sent:** Tuesday, August 18, 2020 4:30 PM  
**To:** Black, Alexis <[Alexis.Black@FloridaDEP.gov](mailto:Alexis.Black@FloridaDEP.gov)>  
**Subject:** Citrus County Central Landfill Leachate Evaluation Update

Alexis,

I just wanted to update you that the BOCC approved the work authorization for the leachate system evaluation as of August 11, 2020. Jones and Edmunds has begun their preliminary investigation. They were here on Thursday August 13, 2020 (I was out but it is my understanding that their focus was on the SCADA system for this inspection). They were here again today and I was present. We met with a representative from our Utilities Department to confirm what Jones and Edmunds had identified on Thursday as basic functions and problems with the current SCADA so that we can identify the needs for our new system installation. Jones and Edmunds indicated that they will be preparing a bullet summary for recommendations as we move forward.

I just wanted to keep you informed and I will continue to do so as things progress.

Thank you,

**Traci Schoenrock**

**Solid Waste Compliance Manager**

**Division of Solid Waste Management**

Email: [Traci.Schoenrock@citrusbocc.com](mailto:Traci.Schoenrock@citrusbocc.com)

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## **Citrus County Central Landfill Leachate Collection System Cleaning and Video Inspection**

**TO:** Henry Norris, Jr. Solid Waste Director  
Citrus County Solid Waste Management

**FROM:** Carol Sawyer, PE  
Matthew Morse, EI

**DATE:** August 19, 2020

**SUBJECT:** Summary of Leachate Collection System Cleaning and Inspection  
Jones Edmunds Project No. 03860-077-01

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### **1 INTRODUCTION**

Jones Edmunds was contracted by Citrus County to perform video inspection and cleaning of leachate collection pipes at the Citrus County Central Landfill (CCCL). The video inspection or water pressure cleaning are required by Rule 62-701.500(8)(h) and Specific Conditions 2.A.5.c and 2.C.12.c of Solid Waste Permit No. 21375-025-SO-01. This work was subcontracted to Florida Jetclean. Jones Edmunds reviewed the results, summarized areas of concern, and compared the report to the previous inspection to note any differences. The results of this work will be evaluated in more detail as part of the separate Leachate System Evaluation and Upgrades project (Jones Edmunds Project No.: 03860-080-01, Task Order RFQ 19-065).

### **2 SUMMARY OF 2020 CLEANING AND VIDEO INSPECTION**

Florida Jetclean performed high-pressure water jetting and video inspection of the leachate collection pipes at the active CCCL on July 14, 2020. Florida Jetclean documented their findings in a report, included as Attachment 1. The leachate pipes in Phases 1, 1A, 2, and 3 were jet-cleaned to the extent possible. Video inspection was performed in Phases 1A, 2, and 3; it was not possible to do video inspection in Phase 1 because the diameter of the pipes is only 6-inches (as opposed to 8-inches in the other phases) and the design included bends in the pipe which is not conducive for video inspection. The pipes were accessed through the cleanouts. No leachate pumps were removed as part of this work.

The report in Attachment 1 describes four areas of pipe in which possible issues were encountered during inspection work. Jones Edmunds reviewed the videos and a summary is as follows:

1. Phase 3: Setup 1 (WCO1 to ECO02)<sup>1</sup>: Video #1 shows the camera submerged at approximately 153.4 feet (4:40 minutes) and goes dark at approximately 165.9 feet (5:35 minutes). Based on the report and video, the camera stops at 186.8 feet for unknown reasons, but based on the presence of sand noted in Setup #3, sand is the likely cause. Although the water jet was able to proceed past this point, the accumulation of sand is a possible concern and may hinder future inspection events.
2. Phase 2: Setup 2 (WCO3 to ECO4):
  - a) Video #2 shows the camera submerged at approximately 178.3 feet (5:55 minutes). Just before being submerged, a circular/ring structure is visible that is detached from the pipe wall at approximate distance 177 feet. This may be the dislodged bead/ring mentioned in the 2015 Jetclean Report for the video inspection of Phase 2 west to east, although in 2015 the bead/ring was noted at 121.7 feet. This ring did not hinder cleaning or inspection; and it is unlikely that it hinders leachate conveyance.
  - b) At approximately 733 feet (20:45 minutes), the view begins to go dark. There is a dark mass that increases in size on the viewing range. The video commentary speculates possible sand.
3. Phase 3: Setup 3 (ECO2 to WCO1):
  - a) At approximately 141.5 feet (5:22 minutes), what appears to be a shallow layer of sand can be seen at the bottom of the pipe and continues farther down the length of the pipe.
  - b) Farther down the line, larger masses of a material, presumably sand, appear in the middle of the pipe.
  - c) At approximately 353.9 feet (15:45 minutes), there appears to be a larger mass of sand that may fill most of the pipe area at this location (though it is difficult to verify due to the low visibility).
  - d) Video #3 is the longest because it appears the video recorder was left on after being removed (about 24:30 minutes).
4. Phase 1A: Setup 6 (WCO5 to ECO6): The video notes an egg-shaped pipe at approximately 81.9 feet (1:53 minutes). The video camera is unable to proceed due to the constricted pipe area at approximately 108.0 feet (2:00 minute) in the video.

We will further evaluate the possible sand intrusion and pipe deformation as part of the Leachate System Evaluation and Upgrades project (Jones Edmund's Project No.: 03860-080-01). The information gathered as part of this cleaning/video inspection effort will be used to determine if there are potential issues with the leachate conveyance system.

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<sup>1</sup> WC = westside cleanout EC = eastside cleanout

### 3 COMPARISON TO 2015 CLEANING AND INSPECTION WORK

The 2015 Jet clean Report (Attachment 2) was performed by Florida Jetclean between April and July of 2015. The results of that work are compared to the most recent cleaning and video inspection.

**Table 1 Jet Cleaning Results: 2015 vs. 2020**

Jet-Cleaning Location	2015 Jetclean Report		2020 Jetclean Report	
	Distance (ft)	Comments (Abbreviated)	Distance (ft)	Comments (Abbreviated)
Phase 2 Primary Sump	N/A	N/A	229	<i>No comments</i>
Phase 3 W to E	500	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 3 E to W	1,000	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 2 W to E	500	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 2 E to W	1,000	Entire pipe thru overlap	1,000	Entire pipe thru overlap
Phase 1A W to E	132	Entire pipe thru overlap	108	Jets stops, pipe crushed
Phase 1A E to W	1,000	Entire pipe thru overlap	1,200	Jets stops, pipe crushed
10 W to E *	1,300	Jet stops	1,300	Jet stops
11 W to E *	210	Jet stops	500	Jet stops
12A W to E *	210	Jet stops	1,000	Jet stops
12B to 15E *	1,300	Entire pipe thru overlap	1,300	Entire pipe thru overlap
15E to 12B *	1,000	Entire pipe thru overlap	1,000	Entire pipe thru overlap
13 W to E *	170	Jet stops	170	Jet stops
14 W to E *	180	Jet stops	180	Jet stops

\* These points are through clean outs in Phase 1; refer to figure in Attachment 1.

**Table 2 Video Inspection Results: 2015 vs. 2020 Comparison**

Video Location	2015 Jetclean Report		2020 Jetclean Report	
	Distance (ft)	Comments (Abbreviated)	Distance (ft)	Comments (Abbreviated)
Phase 1A E to W	380.7	Cannot push further; no defects noted	361.1	<i>No issues noted</i>
Phase 1A W to E	89.9	Partially Crushed/Oval	108.0	Partially crushed, camera stops; small jet stopped, same location
Phase 2 E to W	454.9	Cannot push further; no defects noted	309.1	<i>No issues noted</i>
Phase 2 W to E	455.9	Cannot push further; Dislodged bead/ring at 121.7 ft	732.8	Camera stops under leachate, unknown reason; small jet proceeded 1,000 ft
Phase 3 E to W	988.4	Phase 3 Sump Reached	362.6	Sand stops camera's progress; small jet proceeded 1,000 ft
Phase 3 W to E	<i>Not performed; sump reached E to W</i>		186.8	Camera stops under leachate, reason unknown; small jet proceeded 1,000 ft

Key differences observed:

1. The partially crushed/egg-shaped pipe noted in Phase 1A of the 2020 Jetclean Report was also noted as partially crushed in the 2015 Jetclean Report. However, whereas the 2015 report noted that the water jet was able to pass the constricted pipe area, the 2020 report noted that the water jet stopped at this location.
2. In the Phase 2 pipe, the camera is noted as stopping at a different location in 2020 compared to 2015. The video commentary notes possible sand near the location where the camera stops.
3. The video inspection was able to proceed the entire length of the Phase 3 pipe in 2015, but the 2020 video inspection was only able to proceed a fraction of the total length from either direction. Sand was noted in the pipe in the 2020 inspection but not in the 2015 inspection.

## 4 RECOMMENDATIONS

The 2020 Jetclean Report noted that the high-pressure jet was unable to pass the Phase 1A blockage due to crushing, whereas the water jet was able to proceed in 2015. This may indicate that the pipe has become more constricted during this period, hindering its ability to convey leachate to the sump. Further investigation is recommended in the Phase 1A leachate pipe to determine the cause and severity of this issue.

Sand has accumulated in the leachate pipes in Phases 2 and 3 since the 2015 Jetclean Report. Although the high-pressure jet was able to proceed through these pipes, this finding indicates that sand may continue to accumulate in the future. This sand prevents these pipes from being fully inspected, and if an issue were to arise behind a sand blockage, access would be more difficult. We will evaluate the possible cause of the sand intrusion. One option could be more intensive cleaning efforts to remove or reduce the accumulation of sand in these leachate pipes.

**Attachment 1**  
**Florida Jet clean Report July 2020**

## **FLORIDA JETCLEAN**

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HIGH PRESSURE WATER JETTING  
EXPLOSION PROOF VIDEO INSPECTION  
VACUUM TRUCK SERVICES  
WWW.FLORIDAJETCLEAN.COM

7538 DUNBRIDGE DRIVE  
ODESSA, FL 33556  
T: 800-226-8013 / F: 813-926-4616  
FLORIDAJETCLEAN@YAHOO.COM

# **Jones Edmunds Citrus County Landfill Phases 1-3 Leachate Collection Pipe Maintenance**

## **Work Performed July 2020**

Conducted By:  
**Florida Jetclean**  
**800-226-8013**

## FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING  
EXPLOSION PROOF VIDEO INSPECTION  
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T: 800-226-8013 / F: 813-926-4616  
FLORIDAJETCLEAN@YAHOO.COM

### REPORT

DATE : 7/21/2020  
TO : Carol Sawyer – Jones Edmunds  
FROM : Ralph Calistri (floridajetclean@yahoo.com)  
SUBJECT : Citrus County Landfill – 2020 Phase 1-3 Leachate Pipe Maintenance

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the existing Phase 1-3 leachate collection piping at the Citrus County Landfill on 7/14/2020. Included with this report are the applicable Jetting logs, Video Reports, and the inspection footage in .MP4 format for complete detailed review.

#### High-pressure Water-jetting:

As the below jetting log indicates, all existing Phase 1-3 leachate piping was jetcleaned as far as possible through the available access locations via high-pressure water-jetting nozzle. Distances achieved are documented below.

<b>JETTING LOCATION</b>	<b>ACHIEVED DISTANCE (ft)</b>	<b>COMMENTS</b>
Phase 2 Primary Sump	229'	
Phase 3 – West to East	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 3 – East to West	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 2 – West to East	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 2 – East to West	1,000'	Entire Pipe Jetcleaned Through Overlap
Phase 1A – West to East	108'	Jet Stops - Pipe Crushed
Phase 1A – East to West	1,200'	Jet Stops – Pipe Crushed
10 – West to East	1,300'	Jet Stops
11 – West to East	500'	Jet Stops
12A – West to East	1,000'	Jet Stops
12B to 15E	1,300'	Entire Pipe Jetcleaned Through Overlap
15E to 12B	1,000'	Entire Pipe Jetcleaned Through Overlap
13 – West to East	170'	Jet Stops
14 – West to East	180'	Jet Stops

#### Explosion-proof Video-inspection:

After jetcleaning was completed the above piping was video-inspected as far as possible using explosion-proof video-inspection equipment (see included CCTV Survey List, Pipe Graphic Reports, photos, and inspection footage). With the exception of the items listed below, all other areas of the pipes appear to be in good condition with no additional defects noted.



<b><u>VIDEO LOCATION</u></b>	<b><u>ACHIEVED DISTANCE (ft)</u></b>	<b><u>COMMENTS</u></b>
Setup 1 - Phase 3 – WCO to ECO	186.8'	Camera stops under leachate with no clear video picture. Reason for stoppage can not be determined. Smaller jet nozzle proceeded 1,000'.
Setup 2 - Phase 2 – WCO to ECO	732.8'	Camera stops under leachate with no clear video picture. Reason for stoppage can not be determined. Smaller jet nozzle proceeded 1,000'.
Setup 3 - Phase 3 – ECO to WCO	362.6'	Sand visible in pipe stopping camera's forward progress. Smaller jet nozzle proceeded 1,000'.
Setup 6 - Phase 1A – WCO to ECO	108.0'	Pipe partially crushed stopping camera's forward progress. Smaller jet nozzle stopped at same location.

Please call us with questions or concerns.

Regards,



Ralph Calistri - Florida Jetclean - 800-226-8013

CCTV Surveys List for JEA

Number of surveys in this list is 6 as of Wednesday, July 15, 2020

Unit of measure: ft

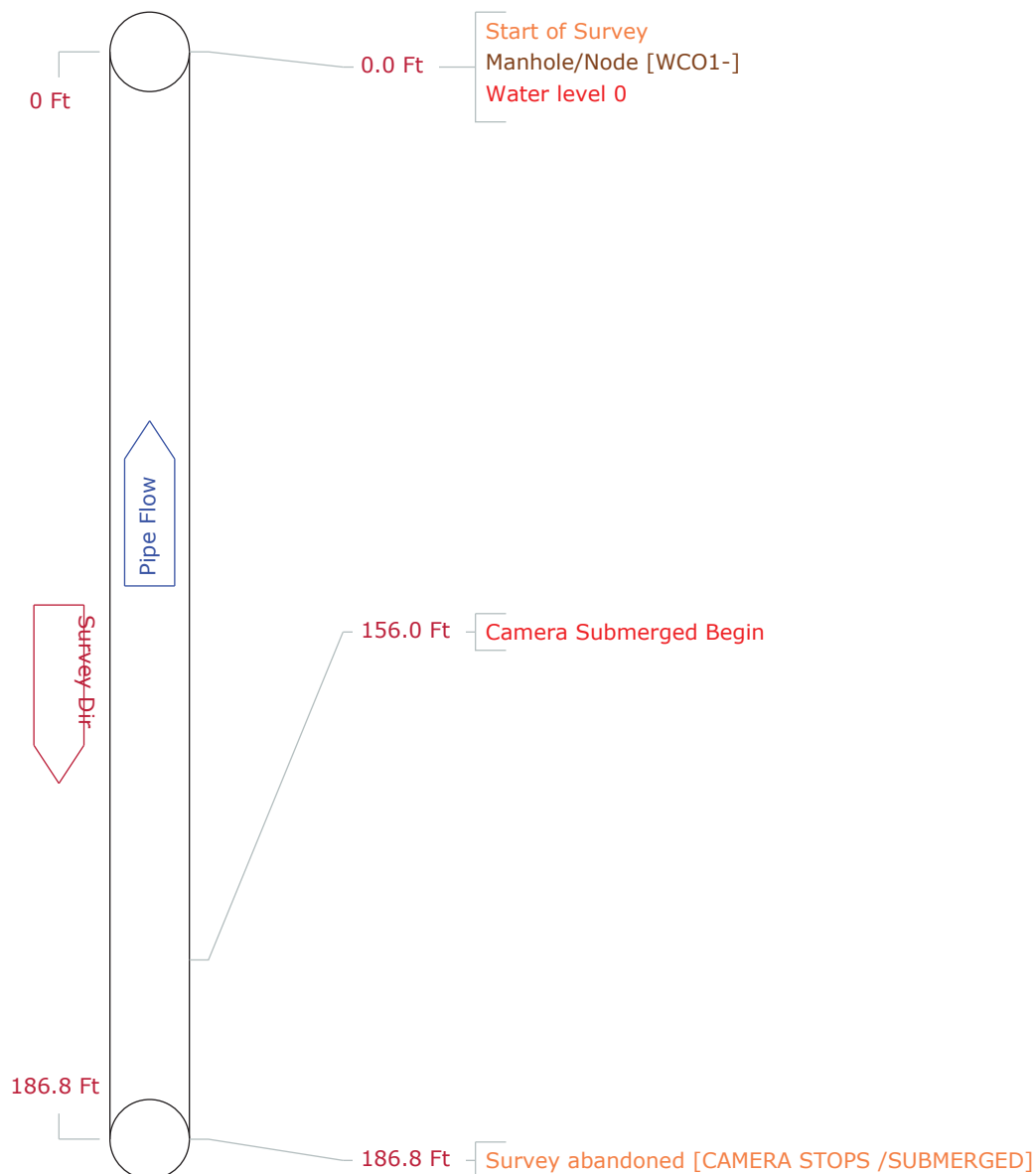
Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Vid Cassette	Scheduled Length	Surveyed Length
1	7/14/2020	CITRUS COUNTY LF PHASE 3	WCO1-	ECO2	U	8	Y			186.8
2	7/14/2020	CITRUS COUNTY LF PHASE 2	WCO3-	ECO4	U	8	Y			732.8
3	7/14/2020	CITRUS COUNTY LF PHASE 3	ECO2-	WCO1	D	8	Y			362.6
4	7/14/2020	CITRUS COUNTY LF PHASE 1A	ECO6-	WCO5	D	8	Y			361.1
5	7/14/2020	CITRUS COUNTY LF PHASE 2	ECO4	WCO3	D	8	Y			309.1
6	7/14/2020	CITRUS COUNTY LF PHASE 1A	WCO5-	ECO6	U	8	Y			108.0
Total Scheduled Length									0.0	
Total Length Surveyed										2,060.4



FLORIDA JETCLEAN Phone: 1800-226-8013

# Pipe Graphic Report of PLR ECO2 A for JEA

Work Order		Contract		Video		Setup		1	
Facility		Operator		BMN		Van Ref		5	
						Surveyed On		07/14/2020	
Street Name		CITRUS COUNTY LF PHASE 3		City		LACANTO FL			
Location type		Berm							
Surface									
Survey purpose		Other (state in comments)		Weather		Dry			
Pipe Use		Other (state in comments)		Schedule length		Ft		From	
Shape		Circular		Size		8 by		ins	
Material		Other (state in comments)		Joint spacing		Ft		Direction	
Lining				Year laid		Pre-clean		Y	
General note		HDPE LEACHATE COLLECTION				Structural		Service	
Location note		JETTING=1000				Miscellaneous		Hydraulic	
								Constructional	

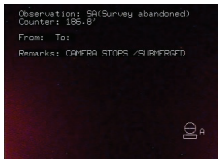


CCTV Picture List of ECO2 A for JEA

Work Order			Setup 1
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index Count 156.0 Ft  
Code Camera Submerged Begin  
Remarks  
File Name 3.jpg



Video Index Count 186.8 Ft  
Code Survey abandoned  
Remarks CAMERA STOPS /SUBMERGED  
File Name 4.jpg

Observation: CUB(Camera Submerged Be  
Counter: 156.0'

From: To:

Remarks:



Observation: SA(Survey abandoned)  
Counter: 186.8'

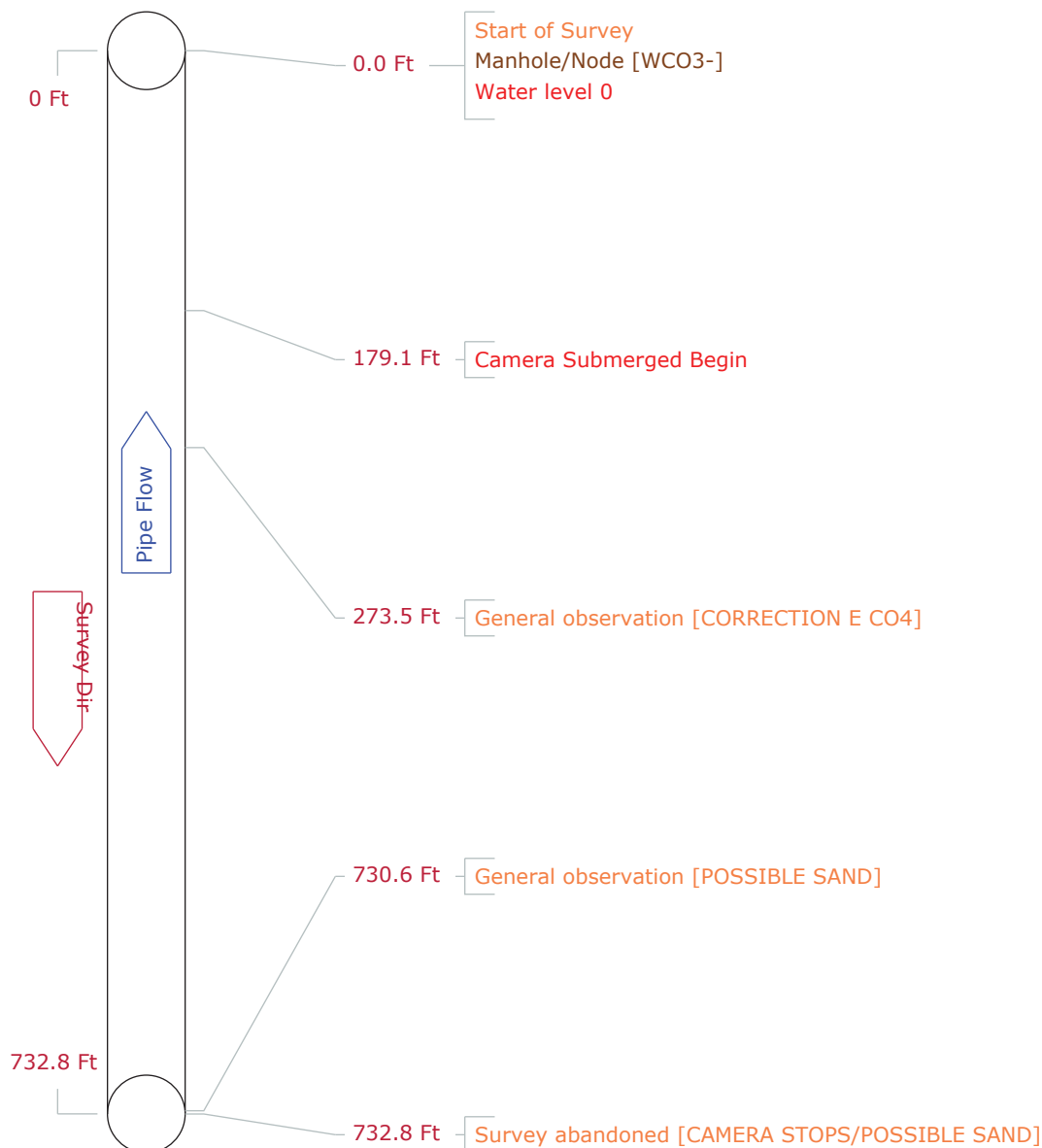
From: To:

Remarks: CAMERA STOPS /SUBMERGED



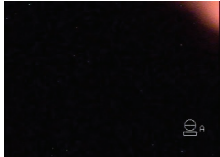
# Pipe Graphic Report of PLR ECO4 B for JEA

Work Order		Contract		Video		Setup		2	
Facility		Operator		BMN		Van Ref		5	
		Surveyed On						07/14/2020	
Street Name		CITRUS COUNTY LF PHASE 2		City		LACANTO FL			
Location type		Berm							
Surface									
Survey purpose		Other (state in comments)		Weather		Dry			
Pipe Use		Other (state in comments)		Schedule length		Ft		From	
Shape		Circular		Size		8 by		ins	
Material		Other (state in comments)		Joint spacing		Ft		Direction	
Lining				Year laid				Upstream	
						Pre-clean		Y	
						Last cleaned		7/14/2020	
General note		HDPE LEACHATE COLLECTION				Structural		Service	
Location note		CORRECTION ECO4 JETTING=1000				Miscellaneous		Hydraulic	
								Constructional	



CCTV Picture List of ECO4 B for JEA

Work Order		Setup 2
Video	Survey Date	2020/07/14
Path to picture files	G:\Snaps\JEA\	
Path to video files	G:\Movies\JEA\	
Path to media files	G:\Media\JEA\	



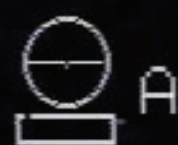
Video Index Count 732.8 Ft

Code Survey abandoned

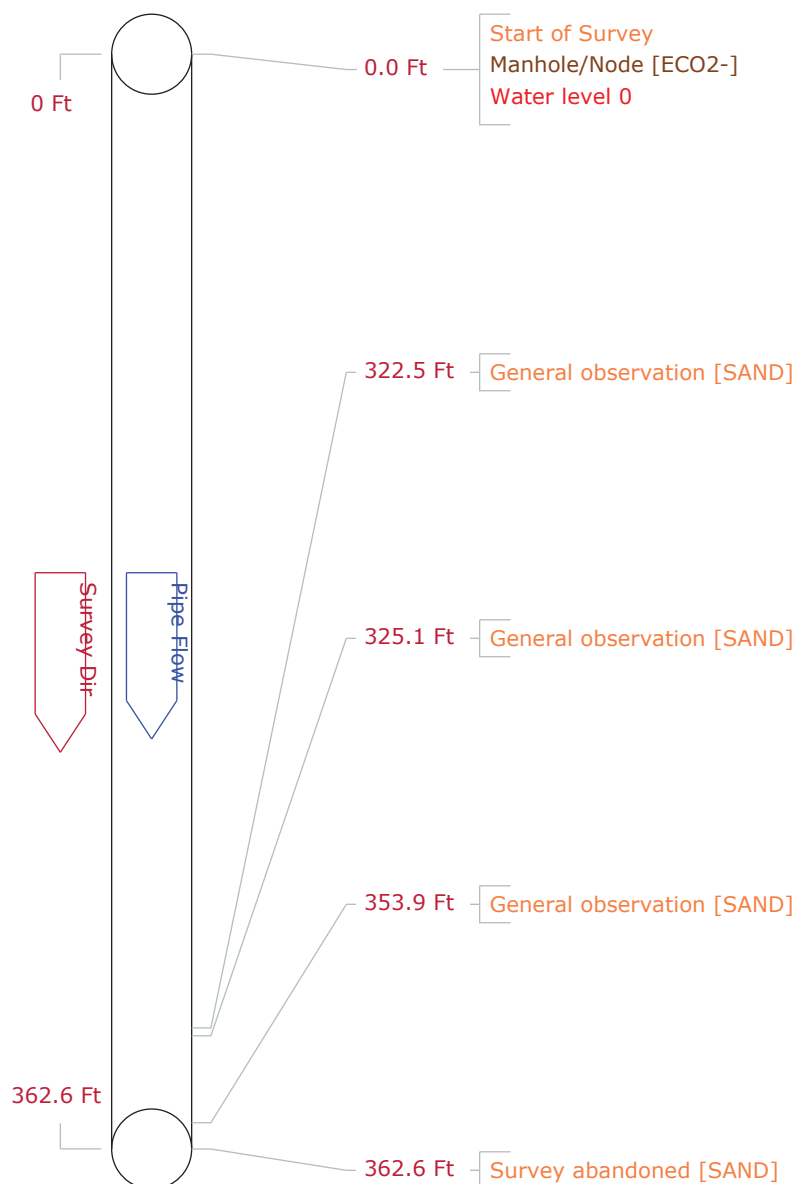
Remarks CAMERA STOPS/POSSIBLE SAND

File Name 6.jpg





Work Order		Contract		Video		Setup		3									
Facility		Operator		BMN		Van Ref		5		Surveyed On		07/14/2020					
Street Name		CITRUS COUNTY LF PHASE 3				City		LACANTO FL									
Location type		Berm															
Surface																	
Survey purpose		Other (state in comments)				Weather		Dry									
Pipe Use		Other (state in comments)		Schedule length		Ft		From		ECO2-		Depth					
Shape		Circular		Size		8		by		ins		To		WCO1		Depth	
Material		Other (state in comments)		Joint spacing		Ft		Direction		Downstream							
Lining				Year laid				Pre-clean		Y		Last cleaned		7/14/2020			
General note		HDPE LEACHATE COLLECTION						Structural		Service		Constructional					
Location note		JETTING=1000						Miscellaneous		Hydraulic							



CCTV Picture List of ECO2- C for JEA

Work Order			Setup 3
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index Count 322.5 Ft  
 Code General observation  
 Remarks SAND  
 File Name 8.jpg



Video Index Count 325.1 Ft  
 Code General observation  
 Remarks SAND  
 File Name 9.jpg

Observation: GO (General observation)  
Counter: 322.5'

From: To:

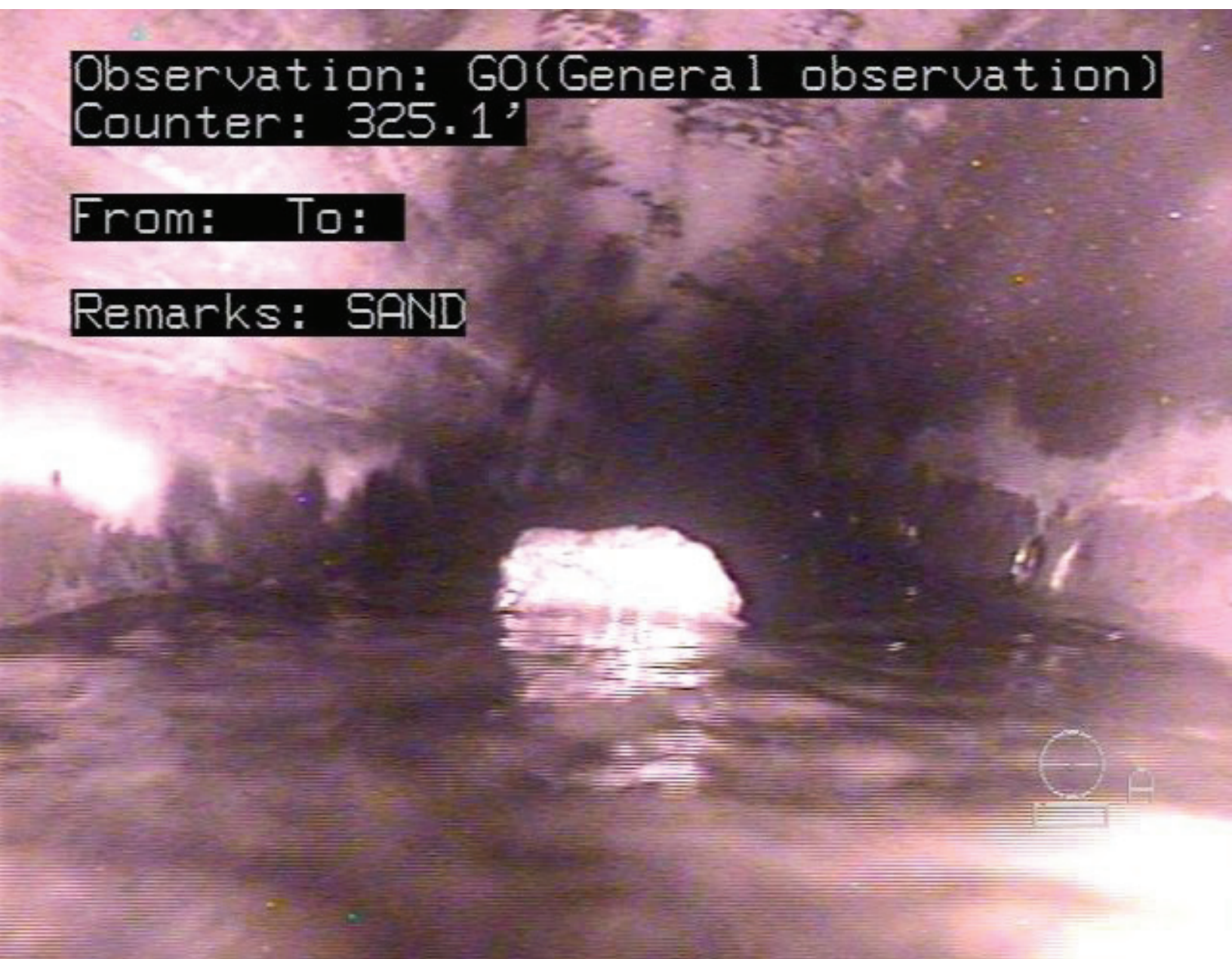




Observation: GO (General observation)  
Counter: 325.1'

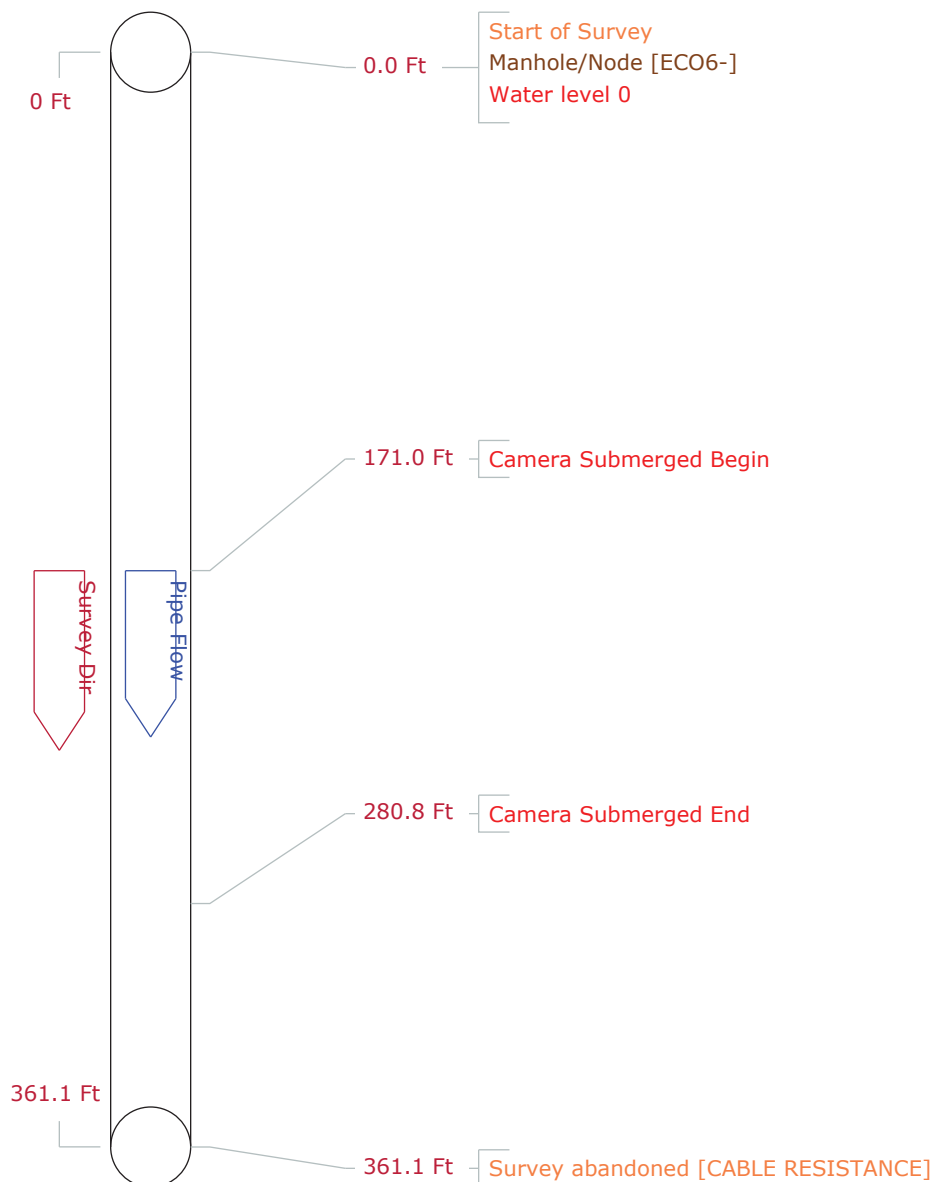
From: To:

Remarks: SAND



# Pipe Graphic Report of PLR ECO6- C for JEA

Work Order		Contract		Video		Setup		4		
Facility		Operator	BMN	Van Ref	5	Surveyed On		07/14/2020		
Street Name		CITRUS COUNTY LF PHASE 1A		City	LACANTO FL					
Location type		Berm								
Surface										
Survey purpose		Other (state in comments)		Weather		Dry				
Pipe Use		Other (state in comments)		Schedule length		Ft	From ECO6-		Depth	
Shape	Circular			Size	8	by	ins	To WCO5	Depth	
Material	Other (state in comments)		Joint spacing		Ft		Direction		Downstream	
Lining			Year laid				Pre-clean	Y	Last cleaned	7/14/2020
General note		HDPE LEACHATE COLLECTION				Structural		Service	Constructional	
Location note		JETTING=1200				Miscellaneous		Hydraulic		



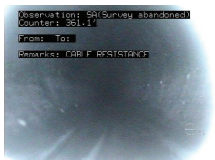
Work Order			Setup 4
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index Count 171.0 Ft  
 Code Camera Submerged Begin  
 Remarks  
 File Name 11.jpg



Video Index Count 280.8 Ft  
 Code Camera Submerged End  
 Remarks  
 File Name 12.jpg



Video Index Count 361.1 Ft  
 Code Survey abandoned  
 Remarks CABLE RESISTANCE  
 File Name 13.jpg

Observation: CUB(Camera Submerged Be  
Counter: 171.0'

From: To:

Remarks:





Observation: CUE(Camera Submerged En  
Counter: 280.8'

From: To:

Remarks:



Observation: SA(Survey abandoned)  
Counter: 361.1'

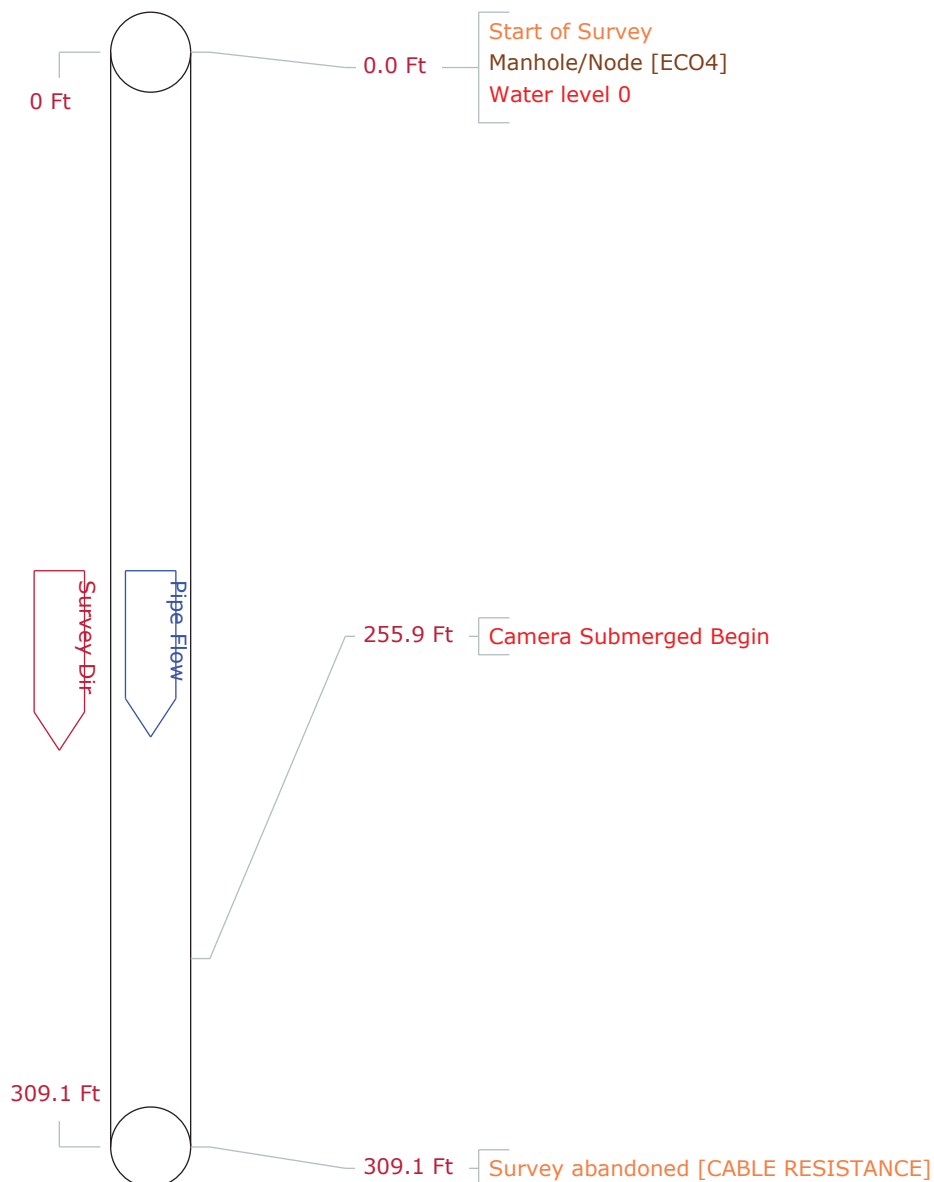
From: To:

Remarks: CABLE RESISTANCE



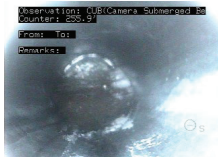
# Pipe Graphic Report of PLR ECO4 D for JEA

Work Order		Contract		Video		Setup		5	
Facility		Operator		BMN		Van Ref		5	
						Surveyed On		07/14/2020	
Street Name		CITRUS COUNTY LF PHASE 2		City		LACANTO FL			
Location type		Berm							
Surface									
Survey purpose		Other (state in comments)		Weather		Dry			
Pipe Use		Other (state in comments)		Schedule length		Ft		From	
Shape		Circular		Size		8 by		ins	
Material		Other (state in comments)		Joint spacing		Ft		Direction	
Lining				Year laid				Downstream	
						Pre-clean		Y	
General note		HDPE LEACHATE COLLECTION				Structural		Service	
Location note		JETTING=1000				Miscellaneous		Hydraulic	
								Constructional	

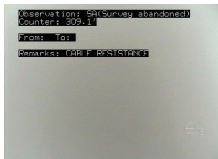


CCTV Picture List of ECO4 D for JEA

Work Order			Setup 5
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index Count 255.9 Ft  
 Code Camera Submerged Begin  
 Remarks  
 File Name 15.jpg



Video Index Count 309.1 Ft  
 Code Survey abandoned  
 Remarks CABLE RESISTANCE  
 File Name 16.jpg



Observation: CUB(Camera Submerged Be  
Counter: 255.9'

From: To:

Remarks:



Observation: SA(Survey abandoned)  
Counter: 309.1'

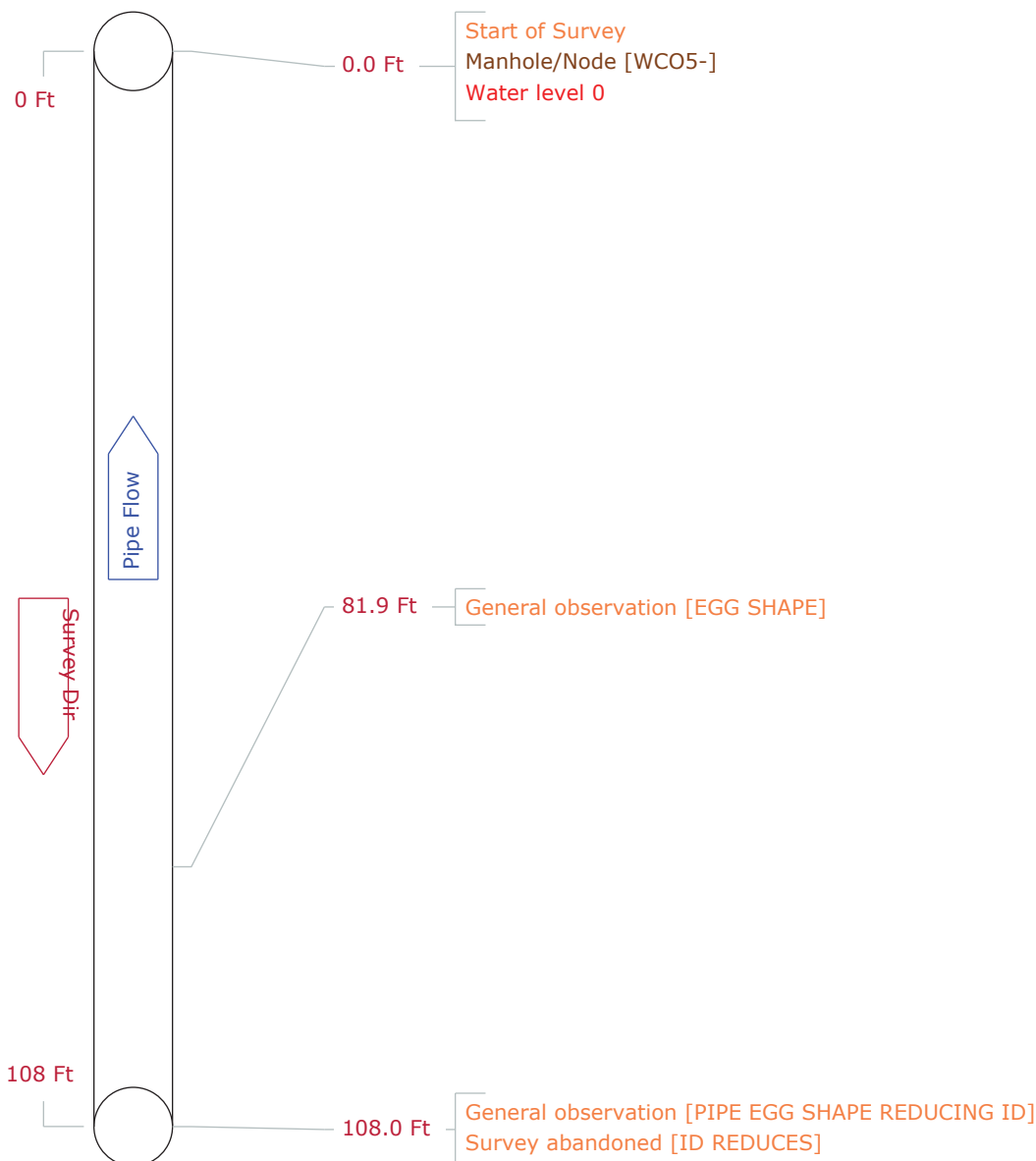
From: To:

Remarks: CABLE RESISTANCE

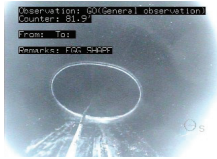


# Pipe Graphic Report of PLR ECO6 E for JEA

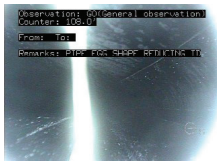
Work Order	Contract	Video	Setup	6
Facility	Operator BMN	Van Ref 5	Surveyed On	07/14/2020
Street Name	CITRUS COUNTY LF PHASE 1A	City	LACANTO FL	
Location type	Berm			
Surface				
Survey purpose	Other (state in comments)	Weather	Dry	
Pipe Use	Other (state in comments)	Schedule length	Ft	From WCO5-
Shape	Circular	Size 8 by	ins	To ECO6
Material	Other (state in comments)	Joint spacing	Ft	Direction Upstream
Lining		Year laid		Pre-clean Y Last cleaned 7/14/2020
General note	HDPE LEACHATE COLLECTION			Structural Service Constructional
Location note	JETTING=108			Miscellaneous Hydraulic



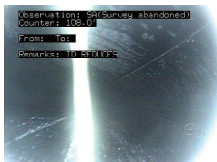
Work Order			Setup 6
Video	Survey Date	2020/07/14	
Path to picture files	G:\Snaps\JEA\		
Path to video files	G:\Movies\JEA\		
Path to media files	G:\Media\JEA\		



Video Index Count 81.9 Ft  
 Code General observation  
 Remarks EGG SHAPE  
 File Name 18.jpg



Video Index Count 108.0 Ft  
 Code General observation  
 Remarks PIPE EGG SHAPE REDUCING ID  
 File Name 19.jpg



Video Index Count 108.0 Ft  
 Code Survey abandoned  
 Remarks ID REDUCES  
 File Name 20.jpg



Observation: GO(General observation)  
Counter: 81.9'

From: To:

Remarks: EGG SHAPE



Observation: GO(General observation)  
Counter: 108.0'

From: To:

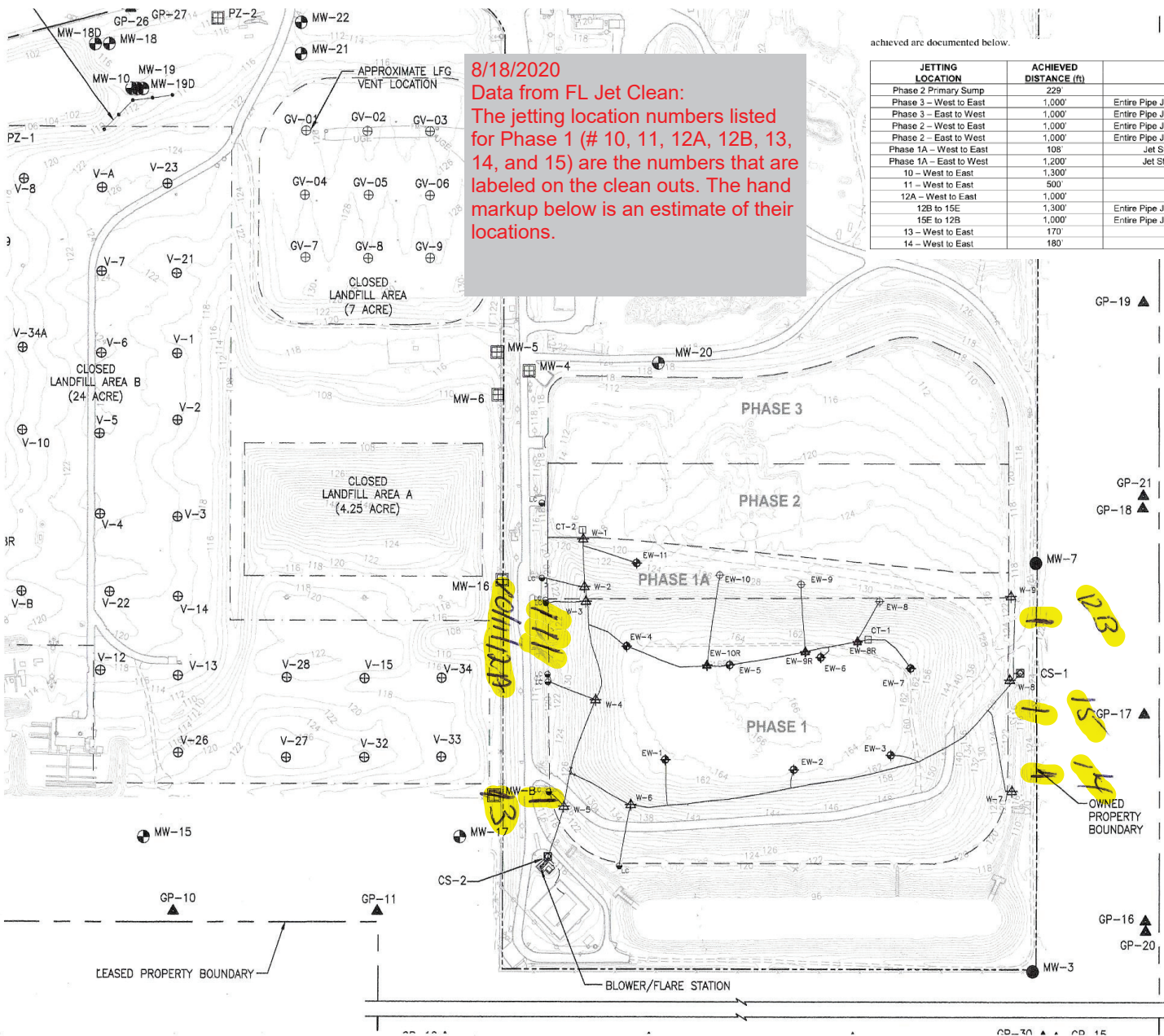
Remarks: PIPE EGG SHAPE REDUCING ID



Observation: SA(Survey abandoned)  
Counter: 108.0'

From: To:

Remarks: ID REDUCES



- NOTES:
1. TOPOGRAPHIC SURVEYING,
  2. EXISTING LFG
  3. AS-BUILT IN BY BBLS SU 2010.

**Attachment 2**  
**Florida Jetclean Report July 2015**

## **FLORIDA JETCLEAN**

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HIGH PRESSURE WATER JETTING  
PIPELINE VIDEO INSPECTION (EX)  
VACUUM TRUCK SERVICES  
LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556  
TEL: 800-226-8013 FAX: 813-926-4616  
WEB: WWW.FLORIDAJETCLEAN.COM  
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

# **SCS Engineers Citrus County Landfill 2015 Leachate Pipe Maintenance**

## **Work Performed April 2015 - July 2015**

**Conducted By:  
Florida Jetclean  
800-226-8013**



# FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING  
PIPELINE VIDEO INSPECTION (EX)  
VACUUM TRUCK SERVICES  
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EMAIL: FLORIDAJETCLEAN@YAHOO.COM

## REPORT

DATE : 7/16/2015  
TO : Ed Hilton – SCS Engineers  
FROM : Ralph Calistri (floridajetclean@yahoo.com)  
SUBJECT : Citrus County Landfill - Existing Leachate Pipes - 2015 Maintenance

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the existing leachate collection piping at the Citrus County Landfill on 7/8/2015. Included with this report are the applicable Jetting logs, Pipe Graphic Reports, and the inspection footage in DVD format.

### High-pressure Water-jetting:

As the below jetting log indicates, all existing leachate piping was jetcleaned as far as possible via high-pressure water-jetting nozzle and was blockage free upon completion.

<u>JETTING LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
P3 - West to East	500.0'	Entire Pipe Jetcleaned Through Overlap
P3 - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
P2 - West to East	500.0'	Entire Pipe Jetcleaned Through Overlap
P2 - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
P1A - West to East	132.0'	Entire Pipe Jetcleaned Through Overlap
P1A - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
10 - West to East	1,300.0'	Jet Stops
11 - West to East	210.0'	Jet Stops
12A - West to East	210.0'	Jet Stops
12B to 15E	1,300.0'	Entire Pipe Jetcleaned Through Overlap
15E to 12B	1,000.0'	Entire Pipe Jetcleaned Through Overlap
13 - West to East	170.0'	Jet Stops
14 - West to East	180.0'	Jet Stops

### Explosion-proof Video-inspection:

After jetcleaning was completed the above piping was video-inspected as far as possible using explosion-proof video-inspection equipment (see included Pipe Graphic Reports and DVD's). A summary of the video-inspections are provided below for quick reference. The Pipe Graphic Reports and DVD's should be referenced for complete details.

<u>VIDEO LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
Phase 3 - East to West	988.4'	Phase 3 Sump Reached

		No Defects Noted
Phase 1A - West to East	89.9'	Impassable Partially Crushed / Oval Pipe
Phase 2 - West to East	455.9'	Camera Can Not Be Pushed Further Dislodged Bead / Ring at 121.7'
Phase 2 - East to West	454.9'	Camera Can Not Be Pushed Further No Defects Noted
Phase 1A - East to West	380.7'	Camera Can Not Be Pushed Further No Defects Noted

All areas of the existing piping viewed with the inspection-camera were in good condition, with no defects noted or visible. All areas of the pipes accessed with the jet nozzle were clean and blockage free as of the completion of our mobilization.

Please call us with questions or concerns.

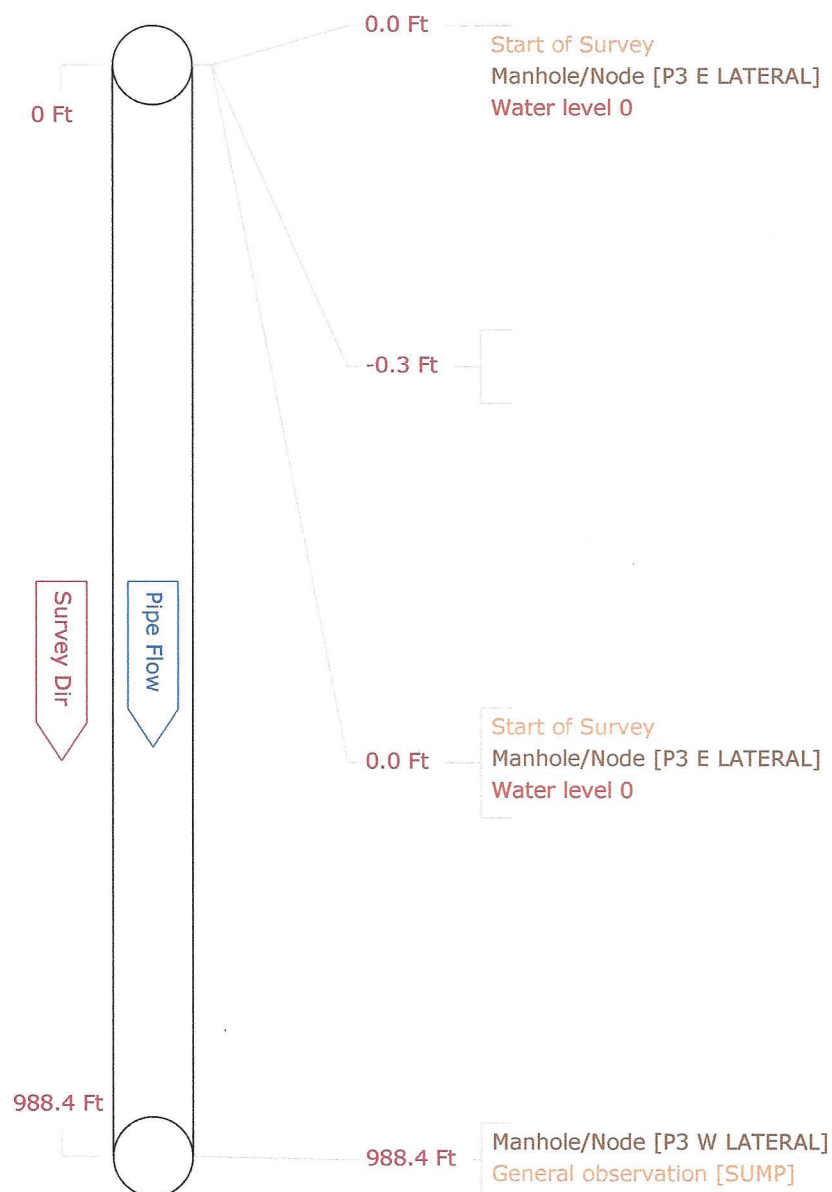
Regards,

  
Ralph Calistri - Florida Jetclean - 800-226-8013



# Pipe Graphic Report of PLR P3 E LATERAL A for CITRUS COUNTY SOLID WASTE

Work Order	Contract	Video	1	Setup	1
Facility	Operator BMN	Van Ref	4	Surveyed On	07/07/2015
Street Name	PHASE 3 LATERAL	City	EAST SIDE LAT 3		
Location type	Berm				
Surface					
Survey purpose	Other (state in comments)	Weather	Dry		
Pipe Use	Other (state in comments)	Schedule length	Ft	From	P3 E LATERAL
Shape	Circular	Size	8 by	To	P3 W LATERAL
Material	Other (state in comments)	Joint spacing	Ft	Direction	Downstream
Lining		Year laid		Pre-clean	Y
				Last cleaned	7/7/2015
General note	HDPE LEACHATE COLLECTION			Structural	Service
Location note				Miscellaneous	Hydraulic



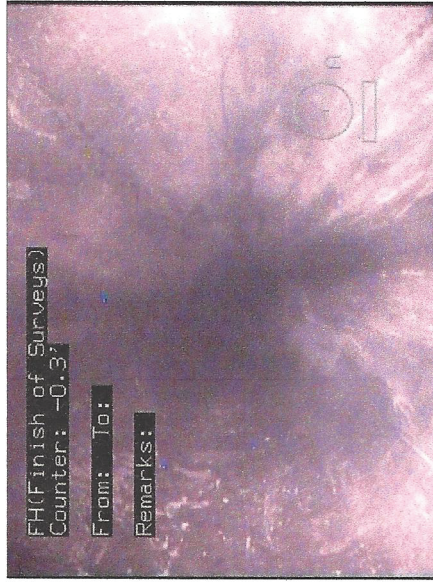
FLORIDA JETCLEAN  
Phone: 800-226-8013

# CCTV pictures of P3 E LATERAL A for CITRUS COUNTY SOLID WASTE

Work Order	Video 1	Surveyed On 07/07/2015	Direction Downstream	Setup 1
Street Name PHASE 3 LATERAL	City Name EAST SIDE LAT 3		Weather Dry	
Location Berm	From Manhole P3 E LATERAL		To Manhole P3 W LATERAL	

Date: 07/07/2015  
 Distance: -0.3 Ft  
 Obs: Finish of Surveys

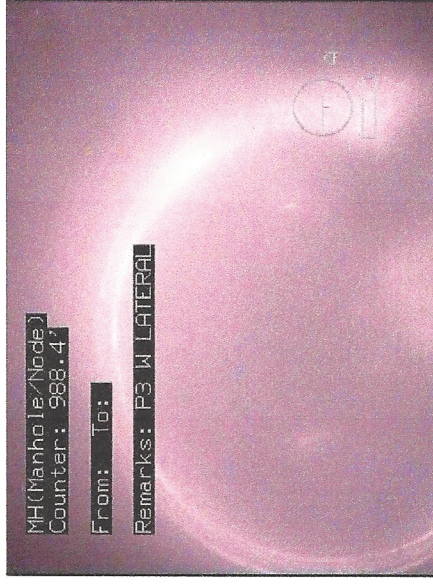
Comments:



FH(Finish of Surveys)  
 Counter: -0.3'  
 From: To:  
 Remarks:

Date: 07/07/2015  
 Distance: 988.4 Ft  
 Obs: Manhole/Node

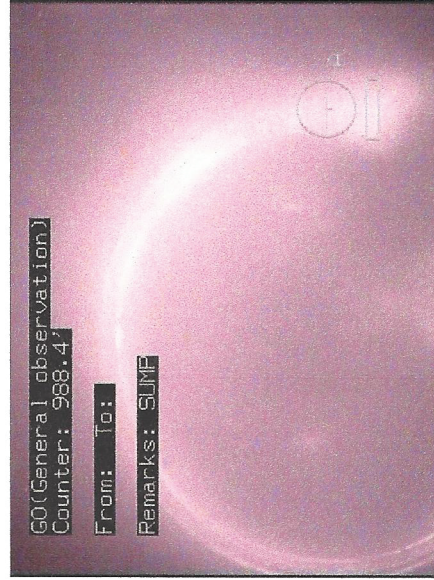
Comments:  
 P3 W LATERAL



MH(Manhole/Node)  
 Counter: 988.4'  
 From: To:  
 Remarks: P3 W LATERAL

Date: 07/07/2015  
 Distance: 988.4 Ft  
 Obs: General observation

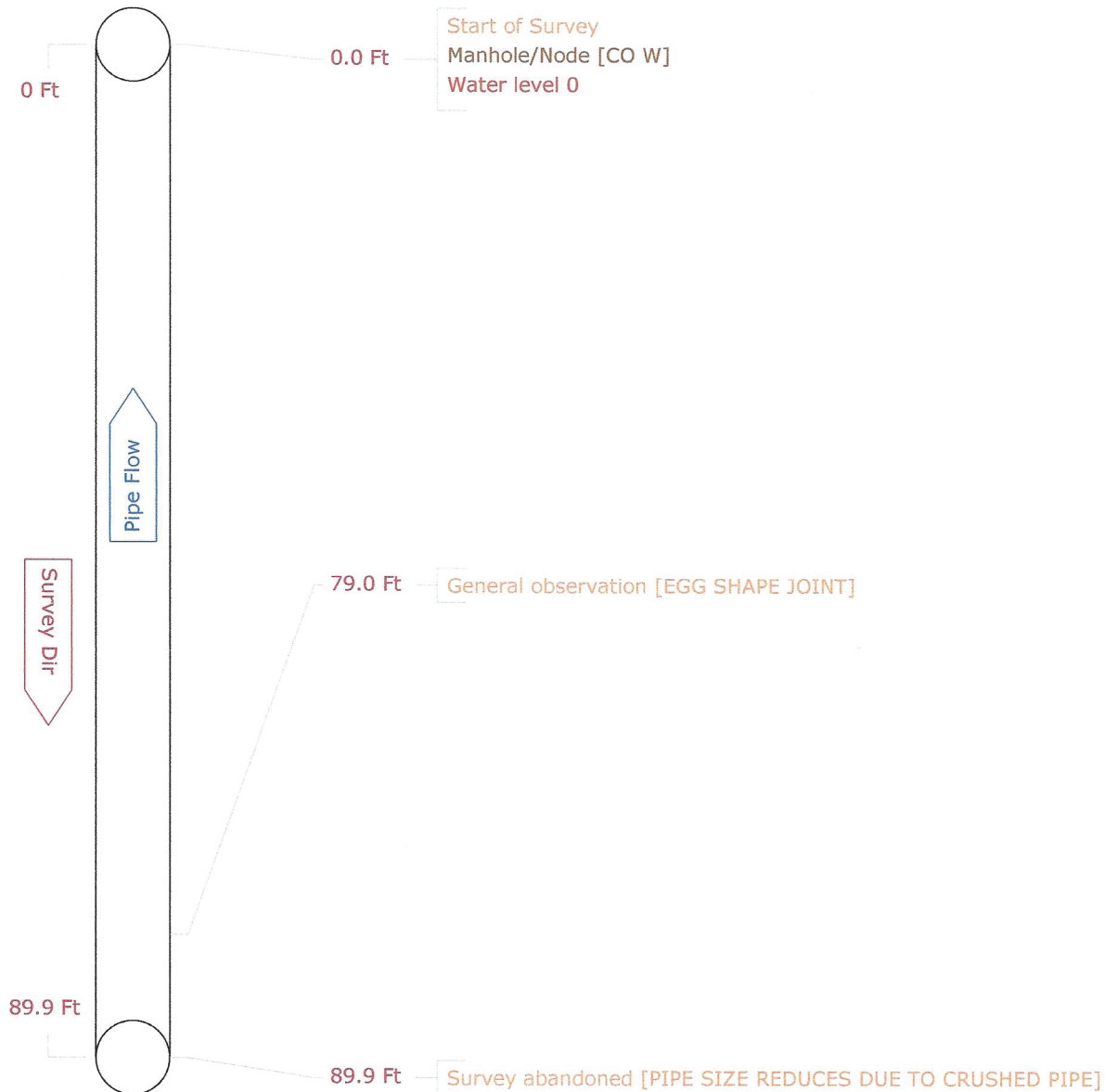
Comments:  
 UIMP



GO(General observation)  
 Counter: 988.4'  
 From: To:  
 Remarks: UIMP

Pipe Graphic Report of PLR CO E C for CITRUS COUNTY SOLID WASTE

Work Order	Contract	Video	1	Setup	3
Facility	Operator	Van Ref		Surveyed On	04/28/2015
Street Name	CITRUS COUNTY PHASE 1A	City	CITRUS COUNTY LF		
Location type	Berm				
Surface					
Survey purpose	Other (state in comments)	Weather	Light rainfall		
Pipe Use	Other (state in comments)	Schedule length	Ft	From	CO W
Shape	Circular	Size	8 by	To	CO E
Material	Other (state in comments)	Joint spacing	Ft	Direction	Upstream
Lining		Year laid		Pre-clean	Y
				Last cleaned	4/27/2015
General note	JETTING=132 POSSIBLE CRUSHED PIPE			Structural	Service
Location note	VIDEO IN REVERSE VIDEO SHOWS PHASE 1			Miscellaneous	Hydraulic





Work Order	Surveyed On 04/28/2015	Setup 3
Street Name CITRUS COUNTY PHASE 1	Weather Light rainfall	Video 1
City Name CITRUS COUNTY LF		
Location Berm		
From Manhole CO W	To Manhole CO E	Direction Upstream

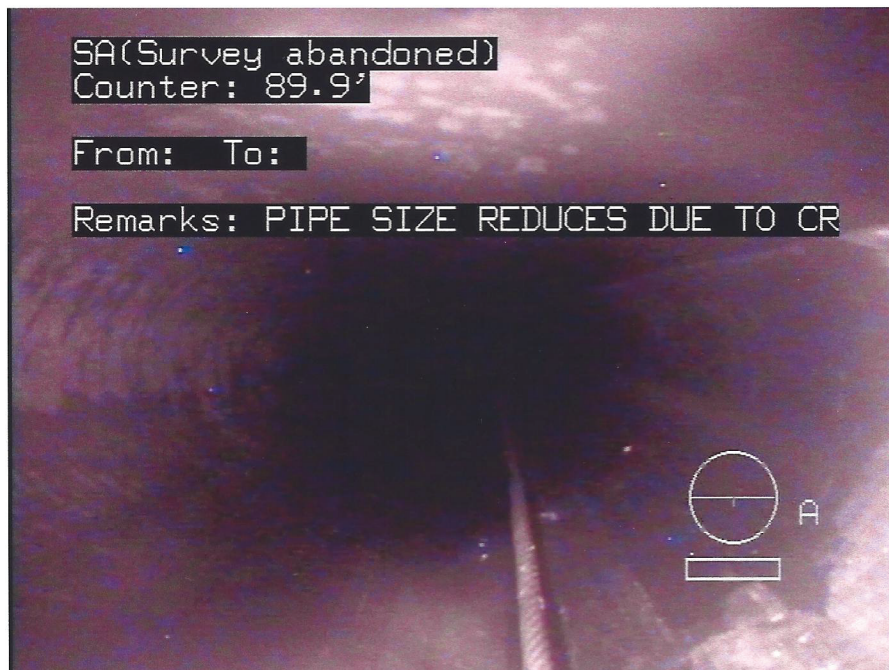


Date: 04/28/2015

Distance: 79.0 Ft

Obs: General observation

Comments: EGG SHAPE JOINT



Date: 04/28/2015

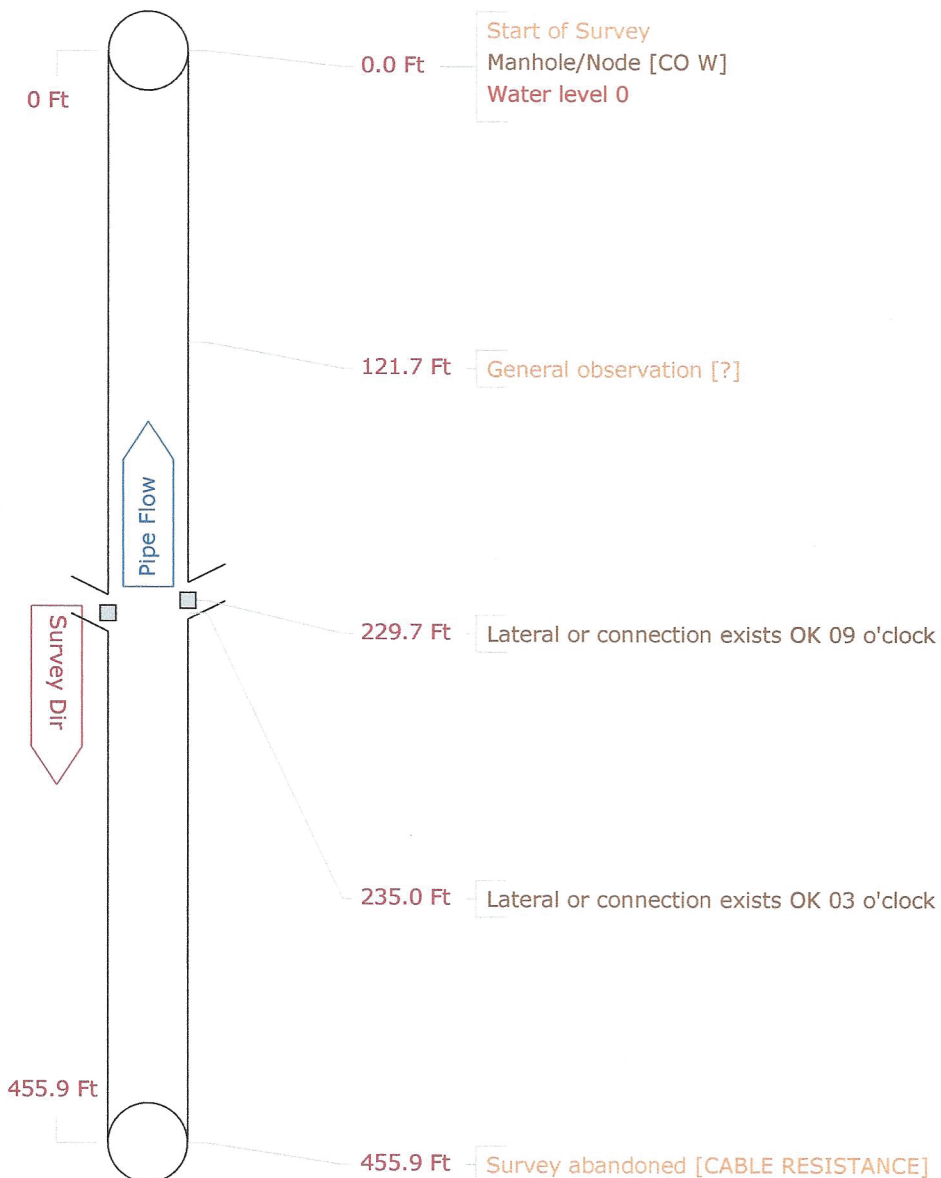
Distance: 89.9 Ft

Obs: Survey abandoned

Comments: PIPE SIZE REDUCES DUE TO CRUSHED PIPE

# Pipe Graphic Report of PLR CO E D for CITRUS COUNTY SOLID WASTE

Work Order	Contract	Video	1	Setup	4
Facility	Operator	Van Ref		Surveyed On	04/28/2015
Street Name	CITRUS COUNTY PHASE 2	City	CITRUS COUNTY LF		
Location type	Berm				
Surface					
Survey purpose	Other (state in comments)	Weather	Light rainfall		
Pipe Use	Other (state in comments)	Schedule length	Ft	From	CO W
Shape	Circular	Size	8 by	To	CO E
Material	Other (state in comments)	Joint spacing	Ft	Direction	Upstream
Lining		Year laid		Pre-clean	Y
				Last cleaned	4/27/2015
General note	JETTING=500 OVERLAP			Structural	Service
Location note				Miscellaneous	Hydraulic



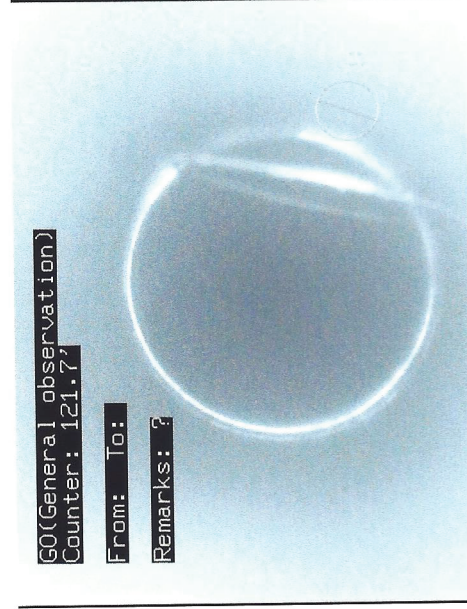


# CCTV pictures of CO E D for CITRUS COUNTY SOLID WASTE

Work Order	Video 1	Surveyed On 04/28/2015	Direction Upstream	Setup 4
Street Name CITRUS COUNTY PHASE 2	City Name CITRUS COUNTY LF		Weather Light rainfall	
Location Berm	From Manhole CO W		To Manhole CO E	

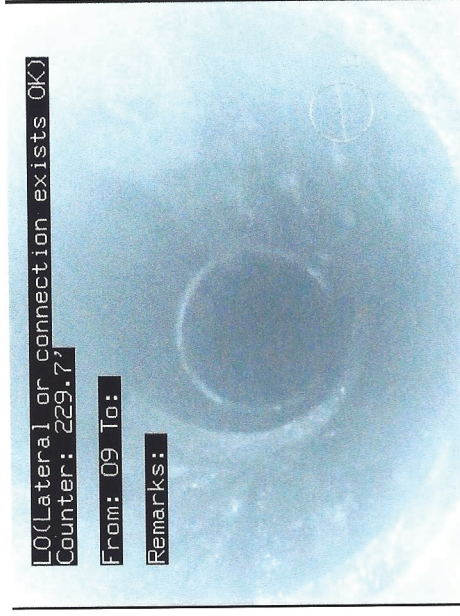
Date: 04/28/2015  
 Distance: 121.7 Ft  
 Obs: General observation  
 Comments:  
 ?

G0(General observation)  
 Counter: 121.7'  
 From: To:  
 Remarks: ?



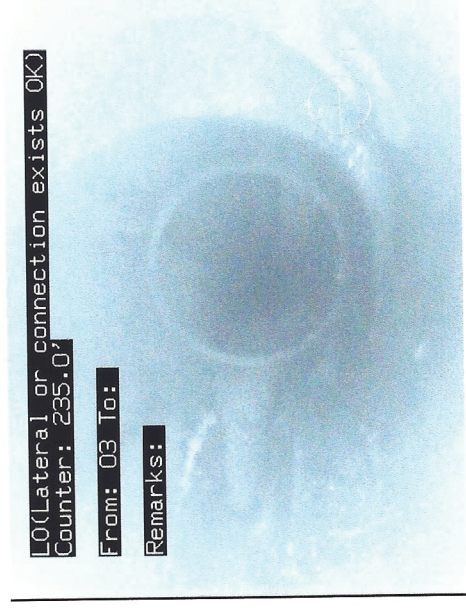
Date: 04/28/2015  
 Distance: 229.7 Ft  
 Obs: Lateral or connection exists OK  
 Comments:

L0(Lateral or connection exists OK)  
 Counter: 229.7'  
 From: 09 To:  
 Remarks:



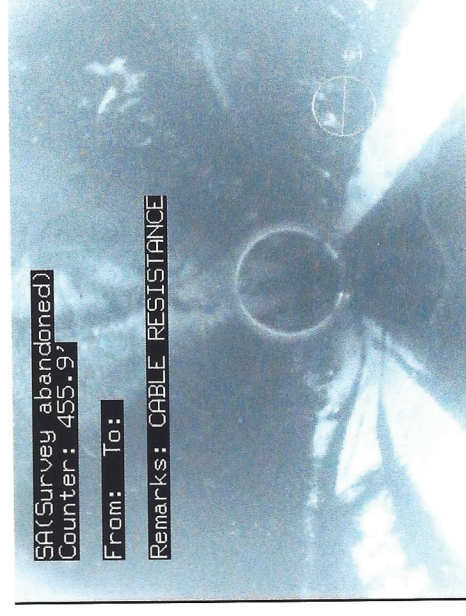
Date: 04/28/2015  
 Distance: 235.0 Ft  
 Obs: Lateral or connection exists OK  
 Comments:

L0(Lateral or connection exists OK)  
 Counter: 235.0'  
 From: 03 To:  
 Remarks:



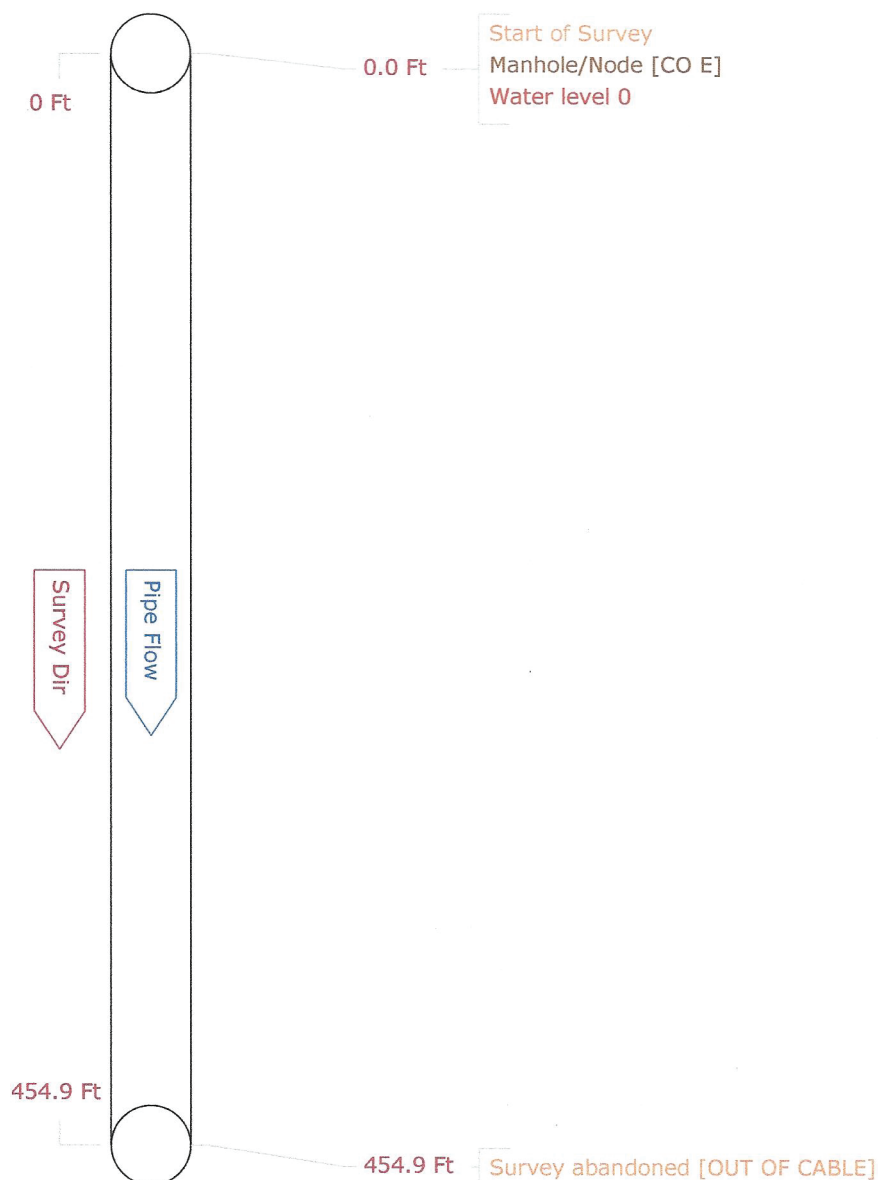
Date: 04/28/2015  
 Distance: 455.9 Ft  
 Obs: Survey abandoned  
 Comments:  
 CABLE RESISTANCE

SA(Survey abandoned)  
 Counter: 455.9'  
 From: To:  
 Remarks: CABLE RESISTANCE



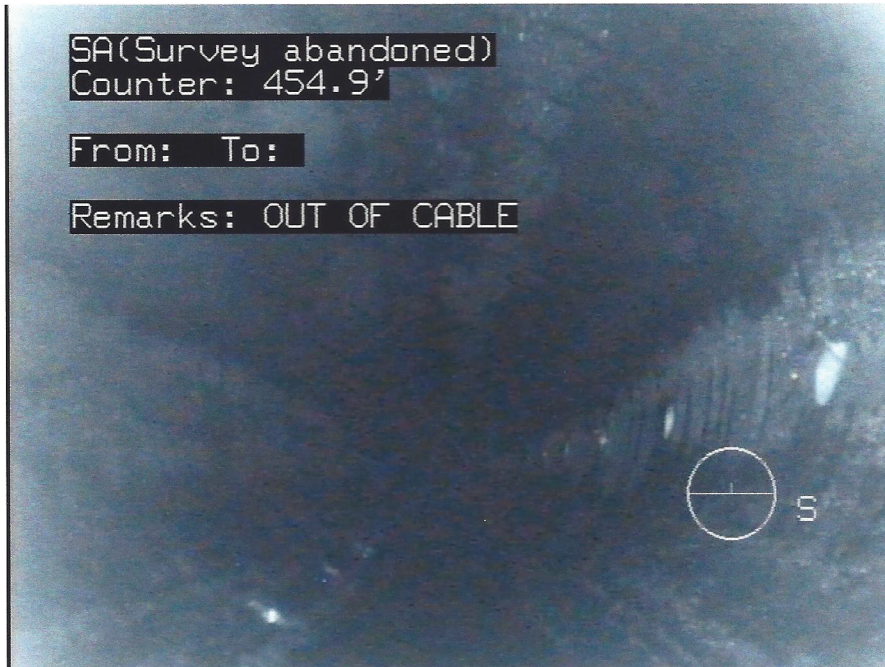
# Pipe Graphic Report of PLR CO E G for CITRUS COUNTY SOLID WASTE

Work Order	Contract		Video	1	Setup	8
Facility	Operator		Van Ref	Surveyed On 04/28/2015		
Street Name	CITRUS COUNTY PHASE 2		City	CITRUS COUNTY LF		
Location type	Berm					
Surface						
Survey purpose	Other (state in comments)		Weather	Light rainfall		
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO E
Shape	Circular		Size	8 by	To	CO W
Material	Other (state in comments)		Joint spacing	Ft	Direction	Downstream
Lining			Year laid		Pre-clean	Y Last cleaned 4/27/2015
General note	JETTING=1000				Structural	Service
Location note					Miscellaneous	Hydraulic





Work Order	Surveyed On 04/28/2015	Setup 8
Street Name CITRUS COUNTY PHASE 2	Video 1	
City Name CITRUS COUNTY LF	Weather Light rainfall	
Location Berm		
From Manhole CO E	To Manhole CO W	Direction Downstream



Date: 04/28/2015

Distance: 454.9 Ft

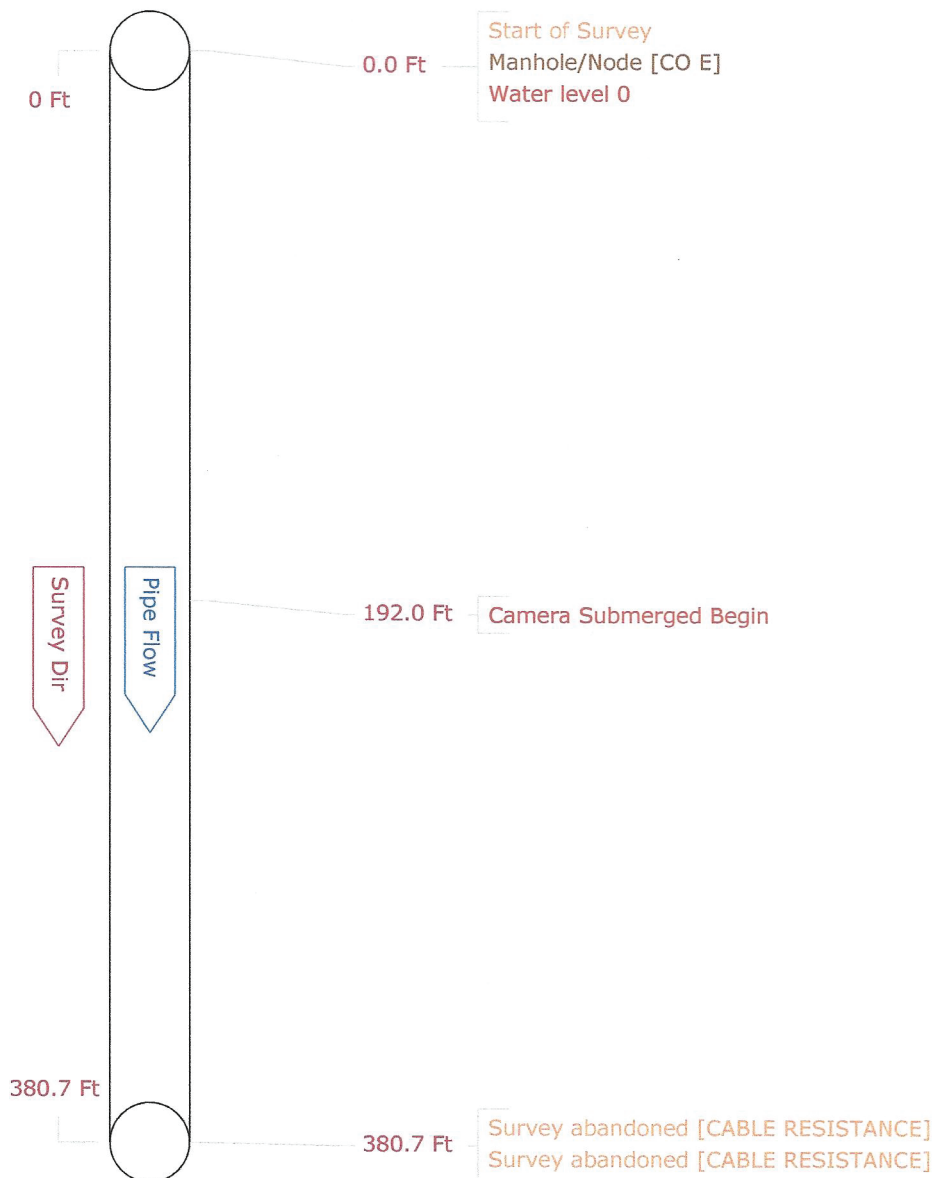
Obs: Survey abandoned

Comments: OUT OF CABLE



# Pipe Graphic Report of PLR CO E H for CITRUS COUNTY SOLID WASTE

Work Order	Contract	Video	1	Setup	9
Facility	Operator	Van Ref		Surveyed On	04/28/2015
Street Name	CITRUS COUNTY PHASE 1A	City	CITRUS COUNTY LF		
Location type	Berm				
Surface					
Survey purpose	Other (state in comments)	Weather	Light rainfall		
Pipe Use	Other (state in comments)	Schedule length	Ft	From CO E	Depth
Shape	Circular	Size 8 by	ins	To CO W	Depth
Material	Other (state in comments)	Joint spacing	Ft	Direction	Downstream
Lining		Year laid		Pre-clean	Y Last cleaned 4/27/2015
General note	JETTING=1000			Structural	Service
Location note	VIDEO SHOWS PHASE 1			Miscellaneous	Hydraulic



# CCTV pictures of CO E H for CITRUS COUNTY SOLID WASTE

Work Order	Video 1	Surveyed On 04/28/2015	Direction Downstream	Setup 9
Street Name CITRUS COUNTY PHASE 1	City Name CITRUS COUNTY LF		Weather Light rainfall	
Location Berm	From Manhole CO E		To Manhole CO W	

Date: 04/28/2015

Distance: 192.0 Ft

Obs: Camera Submerged  
Begin

Comments:

CUB(Camera Submerged Begin)  
Counter: 192.0'

From: To:

Remarks:

Date: 04/28/2015

Distance: 380.7 Ft

Obs: Survey abandoned

Comments:  
CABLE RESISTANCE

CUE(Camera Submerged End)  
Counter: 282.8'

From: To:

Remarks:

Date: 04/28/2015

Distance: 380.7 Ft

Obs: Survey abandoned

Comments:

CABLE RESISTANCE

SA(Survey abandoned)  
Counter: 380.7'

From: To:

Remarks: CABLE RESISTANCE