



Sanitary and Storm Sewer Lining 2023

Section 23-00662-00-SA

March 29, 2023

City of Urbana

Department of Public Works

## **TABLE OF CONTENTS**

- A. IDOT Proposal Forms
  - a. BLR 12200 – Local Public Agency Formal Contract Proposal
  - b. BLR 12201 – Schedule of Prices
  - c. BLR 12230 – Local Agency Proposal Bid Bond
  - d. BLR 12325 – Apprentice or Training Program Certification
  - e. BLR 12326 – Affidavit of Illinois Business Office
- B. City of Urbana Proposal Forms
  - a. VRAD Form
  - b. EEO Form
  - c. Prevailing Wage
- C. City of Urbana Special Provisions
  - a. General Information
  - b. General Contractual Conditions
  - c. Technical Provisions
- D. NASSCO CIPP Installation Performance Specification Guideline
- E. Sanitary Sewer Standards for UCSD and Affiliated Communities
- F. IDOT Special Provisions
  - a. Index for Supplemental Specifications
  - b. BLR 11300 – Check Sheet for Recurring Special Provisions
  - c. BDE Special Provisions
  - d. BLRS Special Provisions
- G. Standard Details
  - a. IDOT Highway Standards
- H. Plans
  - a. Sewer Schedule Tables
  - b. Sewer Inspection Reports



**SECTION A**

IDOT Proposal Forms

**Local Public Agency  
Formal Contract Proposal**

**COVER SHEET**

**Proposal Submitted By:**

Contractor's Name

Contractor's Address

City

State

Zip Code

STATE OF ILLINOIS

Local Public Agency

County

Section Number

Route(s) (Street/Road Name)

Type of Funds

Proposal Only  Proposal and Plans  Proposal only, plans are separate

Submitted/Approved

**For Local Public Agency:**

**For a Municipal Project**

Submitted/Approved/Passed

Signature & Date

<i>John C. Zeman</i>	3/29/2023
----------------------	-----------

Official Title

Note: All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed.

Local Public Agency	County	Section Number	Route(s) (Street/Road Name)
City of Urbana	Champaign	23-00662-00-SA	Sanitary and Storm Sewer Linir

### NOTICE TO BIDDERS

Sealed proposals for the project described below will be received at the office of City of Urbana Public Works Department  
Name of Office  
706 S Glover Ave, Urbana, IL 61802 until 2:15 PM on 04/14/23  
Address Time Date

Sealed proposals will be opened and read publicly at the office of City of Urbana Public Works Department  
Name of Office  
706 S Glover Ave, Urbana, IL 61802 at 2:15 PM on 04/14/23  
Address Time Date

### DESCRIPTION OF WORK

Location	Project Length
Various segments of sanitary and storm sewers owned by City of Urbana.	2.49 miles

**Proposed Improvement**  
 This project consists of rehabilitation of existing gravity sewers, both storm and sanitary, by the installation of cured-in-place pipe (CIPP). The sewer pipe diameters range from 8 inches to 30 inches.

1. Plans and proposal forms will be available in the office of  
Register online at the City of Urbana website: <https://urbanaininois.us/bids-rfps> to receive bid documents.

2.  Prequalification  
 If checked, the 2 apparent as read low bidders must file within 24 hours after the letting an "Affidavit of Availability" (Form BC 57) in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work. One original shall be filed with the Awarding Authority and two originals with the IDOT District Office.
3. The Awarding Authority reserves the right to waive technicalities and to reject any or all proposals as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals.
4. The following BLR Forms shall be returned by the bidder to the Awarding Authority:
  - a. Local Public Agency Formal Contract Proposal (BLR 12200)
  - b. Schedule of Prices (BLR 12201)
  - c. Proposal Bid Bond (BLR 12230) (if applicable)
  - d. Apprenticeship or Training Program Certification (BLR 12325) (do not use for project with Federal funds.)
  - e. Affidavit of Illinois Business Office (BLR 12326) (do not use for project with Federal funds)
5. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided.
6. Submission of a bid shall be conclusive assurance and warranty the bidder has examined the plans and understands all requirements for the performance of work. The bidder will be responsible for all errors in the proposal resulting from failure or neglect to conduct an in depth examination. The Awarding Authority will, in no case, be responsible for any costs, expenses, losses or changes in anticipated profits resulting from such failure or neglect of the bidder.
7. The bidder shall take no advantage of any error or omission in the proposal and advertised contract.
8. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Agency and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.
9. Permission will be given to a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

Local Public Agency	County	Section Number	Route(s) (Street/Road Name)
City of Urbana	Champaign	23-00662-00-SA	Sanitary and Storm Sewer Linir

**PROPOSAL**

1. Proposal of \_\_\_\_\_ Contractor's Name \_\_\_\_\_

Contractor's Address \_\_\_\_\_

2. The plans for the proposed work are those prepared by Engineering Division of the Urbana Public Works Department and approved by ~~the Department of Transportation~~ on Mar 29, 2023

3. The specifications referred to herein are those prepared by the Department of Transportation and designated as "Standard Specifications for Road and Bridge Construction" and the " Supplemental Specifications and Recurring Special Provisions" thereto, adopted and in effect on the date of invitation for bids.

4. The undersigned agrees to accept, as part of the contract, the applicable Special Provisions indicated on the "Check Sheet for Recurring Special Provisions" contained in this proposal.

5. The undersigned agrees to complete the work within 90 working days or by \_\_\_\_\_ unless additional time is granted in accordance with the specifications.

6. The successful bidder at the time of execution of the contract will be required to deposit a contract bond for the full amount of the award. When a contract bond is not required, the proposal guaranty check will be held in lieu thereof. If this proposal is accepted and the undersigned fails to execute a contract and contract bond as required, it is hereby agreed that the Bid Bond of check shall be forfeited to the Awarding Authority.

7. Each pay item should have a unit price and a total price. If no total price is shown or if there is a discrepancy between the products of the unit price multiplied by the quantity, the unit price shall govern. If a unit price is omitted, the total price will be divided by the quantity in order to establish a unit price. A bid may be declared unacceptable if neither a unit price nor a total price is shown.

8. The undersigned submits herewith the schedule of prices on BLR 12201 covering the work to be performed under this contract.

9. The undersigned further agrees that if awarded the contract for the sections contained in the combinations on BLR 12201, the work shall be in accordance with the requirements of each individual proposal for the multiple bid specified in the Schedule for Multiple Bids below.

10. A proposal guaranty in the proper amount, as specified in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals, will be required. Bid Bonds will be allowed as a proposal guaranty. Accompanying this proposal is either a bid bond, if allowed, on Department form BLR 12230 or a proposal guaranty check, complying with the specifications, made payable to: \_\_\_\_\_ Treasurer of the City of Urbana .

The amount of the check is \_\_\_\_\_ ( \_\_\_\_\_ ).

**Attach Cashier's Check or Certified Check Here**

In the event that one proposal guaranty check is intended to cover two or more bid proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual bid proposal. If the proposal guaranty check is placed in another bid proposal, state below where it may be found.

The proposal guaranty check will be found in the bid proposal for: Section Number \_\_\_\_\_ .

Local Public Agency	County	Section Number	Route(s) (Street/Road Name)
City of Urbana	Champaign	23-00662-00-SA	Sanitary and Storm Sewer Linir

## CONTRACTOR CERTIFICATIONS

The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder.

1. **Debt Delinquency.** The bidder or contractor or subcontractor, respectively, certifies that it is not delinquent in the payment of any tax administered by the Department of Revenue unless the individual or other entity is contesting, in accordance with the procedure established by the appropriate Revenue Act, its liability for the tax or the amount of the tax. Making a false statement voids the contract and allows the Department to recover all amounts paid to the individual or entity under the contract in a civil action.
2. **Bid-Rigging or Bid Rotating.** The bidder or contractor or subcontractor, respectively, certifies that it is not barred from contracting with the Department by reason of a violation of either 720 ILCS 5/33E-3 or 720 ILCS 5/33E-4.

A violation of section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense, or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent on behalf of the corporation.

A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State of Local government. No corporation shall be barred from contracting with any unit of State or Local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent on behalf of the corporation.

3. **Bribery.** The bidder or contractor or subcontractor, respectively, certifies that, it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois or any unit of local government, nor has the firm made an admission of guilt of such conduct which is a matter or record, nor has an official, agent, or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm.
4. **Interim Suspension or Suspension.** The bidder or contractor or subcontractor, respectively, certifies that it is not currently under a suspension as defined in Subpart I of Title 44 Subtitle A Chapter III Part 6 of the Illinois Administrative code. Furthermore, if suspended prior to completion of this work, the contract or contracts executed for the completion of this work may be canceled.

Local Public Agency

County

Section Number

Route(s) (Street/Road Name)

City of Urbana

Champaign

23-00662-00-SA

Sanitary and Storm Sewer Linir

### SIGNATURES

(If an individual)

Bidder Signature & Date

Business Address

City

State

Zip Code

(If a partnership)

Firm Name

Signature & Date

Title

Business Address

City

State

Zip Code

Insert the Names and Addresses of all Partners

(If a corporation)

Corporate Name

Signature & Date

Title

Business Address

City

State

Zip Code

Insert Names of Officers

President

Attest:

Secretary

Secretary

Treasurer

## Schedule of Prices

Contractor's Name

Contractor's Address

City

State

Zip Code

Local Public Agency

County

Section Number

Route(s) (Street/Road Name)

### Schedule for Multiple Bids

Combination Letter	Section Included in Combinations	Total

### Schedule for Single Bid

(For complete information covering these items, see plans and specifications.)

Item Number	Items	Unit	Quantity	Unit Price	Total
1	Sanitary Sewer Lining, 8"	Foot	5296		
2	Reinstate Serv Conn, Sanitary	Each	147		
3	Storm Sewer Lining, 8"	Foot	3667		
4	Storm Sewer Lining, 10"	Foot	985		
5	Storm Sewer Lining, 12"	Foot	1219		
6	Storm Sewer Lining, 15"	Foot	1139		
7	Storm Sewer Lining, 18"	Foot	98		
8	Storm Sewer Lining, 21"	Foot	318		
9	Storm Sewer Lining, 24"	Foot	370		
10	Storm Sewer Lining, 30"	Foot	52		
11	Reinstate Serv Conn, Storm	Each	42		
12	Mobilization	L Sum	1		
13	Traffic Control & Prot (Special)	L Sum	1		
<b>Bidder's Total Proposal</b>					

1. Each pay item should have a unit price and a total price.
2. If no total price is shown or if there is a discrepancy between the product of the unit price multiplied by the quantity, the unit price shall govern.
3. If a unit price is omitted, the total price will be divided by the quantity in order to establish a unit price.
4. A bid may be declared unacceptable if neither a unit price or total price is shown.



**Local Public Agency  
Proposal Bid Bond**

Local Public Agency  County  Section Number

WE, \_\_\_\_\_ as PRINCIPAL, and \_\_\_\_\_ as SURETY, are held jointly, severally and firmly bound unto the above Local Public Agency (hereafter referred to as "LPA") in the penal sum of 5% of the total bid price, or for the amount specified in the proposal documents in effect on the date of invitation for bids, whichever is the lesser sum. We bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly pay to the LPA this sum under the conditions of this instrument.

WHEREAS THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, the said PRINCIPAL is submitting a written proposal to the LPA acting through its awarding authority for the construction of the work designated as the above section.

THEREFORE if the proposal is accepted and a contract awarded to the PRINCIPAL by the LPA for the above designated section and the PRINCIPAL shall within fifteen (15) days after award enter into a formal contract, furnish surety guaranteeing the faithful performance of the work, and furnish evidence of the required insurance coverage, all as provided in the "Standard Specifications for Road and Bridge Construction" and applicable Supplemental Specifications, then this obligation shall become void; otherwise it shall remain in full force and effect.

IN THE EVENT the LPA determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the LPA acting through its awarding authority shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees, and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this \_\_\_\_\_ of \_\_\_\_\_ Day Month and Year

**Principal**

Company Name

Company Name

Signature & Date  
By:

Signature & Date  
By:

Title

Title

(If Principal is a joint venture of two or more contractors, the company names, and authorized signatures of each contractor must be affixed.)

**Surety**

Name of Surety

Signature of Attorney-in-Fact Signature & Date  
By:

STATE OF IL  
COUNTY OF

I \_\_\_\_\_, a Notary Public in and for said county do hereby certify that

(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instruments as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this \_\_\_\_\_ day of \_\_\_\_\_ Month and Year

(SEAL, if required by the LPA)

Notary Public Signature & Date

Date commission expires \_\_\_\_\_

Local Public Agency

County

Section Number

City of Urbana

Champaign

23-00662-00-SA

ELECTRONIC BID BOND

**Electronic bid bond is allowed (box must be checked by LPA if electronic bid bond is allowed)**

The Principal may submit an electronic bid bond, in lieu of completing the above section of the Proposal Bid Bond Form. By providing an electronic bid bond ID code and signing below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the LPA under the conditions of the bid bond as shown above. (If PRINCIPAL is a joint venture of two or more contractors, an electronic bid bond ID code, company/Bidder name title and date must be affixed for each contractor in the venture.)

Electronic Bid Bond ID Code

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Company/Bidder Name

--

Signature & Date

--

Title

--

# Apprenticeship and Training Program Certification

Local Public Agency	County	Street Name/Road Name	Section Number
City of Urbana	Champaign	San & Storm Lining 2023	23-00662-00-SA

**All contractors are required to complete the following certification**

- For this contract proposal or for all bidding groups in this deliver and install proposal.
- For the following deliver and install bidding groups in this material proposal.

Illinois Department of Transportation policy, adopted in accordance with the provisions of the Illinois Highway Code, requires this contract to be awarded to the lowest responsive and responsible bidder. The award decision is subject to approval by the Department. In addition to all other responsibility factors, this contract or deliver and install proposal requires all bidders and all bidder's subcontractors to disclose participation in apprenticeship or training programs that are (1) approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training, and (2) applicable to the work of the above indicated proposals or groups. Therefore, all bidders are required to complete the following certification:

1. Except as provided in paragraph 4 below, the undersigned bidder certifies that it is a participant, either as an individual or as part of a group program, in an approved apprenticeship or training program applicable to each type of work or craft that the bidder will perform with its own employees.
2. The undersigned bidder further certifies, for work to be performed by subcontract, that each of its subcontractors either (A) is, at the time of such bid, participating in an approved, applicable apprenticeship or training program; or (B) will, prior to commencement of performance of work pursuant to this contract, establish participation in an approved apprenticeship or training program applicable to the work of the subcontract.
3. The undersigned bidder, by inclusion in the list in the space below, certifies the official name of each program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's employees. Types of work or craft that will be subcontracted shall be included and listed as subcontract work. The list shall also indicate any type of work or craft job category for which there is no applicable apprenticeship or training program available.

4. Except for any work identified above, if any bidder or subcontractor shall perform all or part of the work of the contract or deliver and install proposal solely by individual owners, partners or members and not by employees to whom the payment of prevailing rates of wages would be required, check the following box, and identify the owner/operator workforces and positions of ownership.

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed. The Department at any time before or afterward may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. In order to fulfill the participation requirement, it shall not be necessary that any applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract or deliver and install proposal.

<p>Bidder</p> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <p>Title</p> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <p>Address</p> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div>	<p>Signature &amp; Date</p> <div style="border: 1px solid black; height: 40px; margin-bottom: 5px;"></div>		
	City	State	Zip Code

# Affidavit of Illinois Business Office

Local Public Agency	County	Street Name/Road Name	Section Number
City of Urbana	Champaign	San & Storm Lining 2023	23-00662-00-SA

I, \_\_\_\_\_ of \_\_\_\_\_, \_\_\_\_\_,  
Name of Affiant City of Affiant State of Affiant  
being first duly sworn upon oath, state as follows:

1. That I am the \_\_\_\_\_ of \_\_\_\_\_.  
Officer or Position Bidder
2. That I have personal knowledge of the facts herein stated.
3. That, if selected under the proposal described above, \_\_\_\_\_, will maintain a business office in the  
Bidder  
State of Illinois, which will be located in \_\_\_\_\_ County, Illinois.  
County
4. That this business office will serve as the primary place of employment for any persons employed in the construction contemplated by this proposal.
5. That this Affidavit is given as a requirement of state law as provided in Section 30-22(8) of the Illinois Procurement Code.

Signature & Date

Print Name of Affiant

## Notary Public

State of IL

County \_\_\_\_\_

Signed (or subscribed or attested) before me on \_\_\_\_\_ by  
(date)

\_\_\_\_\_, authorized agent(s) of  
(name/s of person/s)

\_\_\_\_\_  
Bidder

Notary Public Signature & Date

My commission expires \_\_\_\_\_

(SEAL)

**SECTION B**

City of Urbana Proposal Forms

**CITY OF URBANA**  
**CERTIFICATION FORMS**

**The Notice of Award cannot be issued until the Contractor's equal opportunity compliance and certification forms have been approved by Urbana's Human Relations Commission. Contractors are encouraged to pre-qualify with the City prior to the bid opening to expedite issuance of the Notice of Award.**

Consultants can check to see if they are Equal Employment Opportunity (EEO) qualified with the City by contacting the City Human Relations Office at [HRO@urbanaininois.us](mailto:HRO@urbanaininois.us) or (217)384-8455.

The following Urbana Certification Forms should be completed and submitted to the City of Urbana as soon as possible by Consultants that are not EEO qualified:

- (1) Vendor Representations and Additional Duties Form
- (2) Equal Employment Opportunity (E.E.O.) Workforce Statistics Form

The forms can be mailed to:

City of Urbana  
Attn: Human Relations Office  
400 South Vine Street  
Urbana, IL 61802  
217-384-2466 – Phone  
[HRO@urbanaininois.us](mailto:HRO@urbanaininois.us)



## VENDOR REPRESENTATIONS AND ADDITIONAL DUTIES

The Vendor agrees that following representations and additional duties are a material part of the contract. The undersigned, having been duly sworn under oath, certifies and agrees as follows:

1. None of the Vendor or its partners, officers, owners, employees, or agents have been barred from contracting with a unit of State or local government in the past five years as a result of a conviction for bid rigging, in violation of 720 ILCS 5/33E-3 or any similar offense of any state or the United States which contains the same elements as this offense. 720 ILCS 5/33E-11.
2. None of the Vendor or its partners, officers, owners, employees, or agents have ever been barred from contracting with a unit of State or local government as a result of a conviction for bid rotating, in violation of 720 ILCS 5/33E-4 or any similar offense of any state or the United States which contains the same elements as this offense. 720 ILCS 5/33E-11.
3. If the Vendor holds any elected or appointed office under the laws or Constitution of this State, the Vendor is in compliance with the Public Officer Prohibited Activities Act. 50 ILCS 105/3.
4. The Vendor is not a municipal officer with a prohibited financial interest in this contract, directly in the officer's own name or indirectly in the name of any other person, association, trust, or corporation, in accordance with 65 ILCS 5/3.1-55-10.
5. *Please initial one statement, in accordance with 65 ILCS 5/11-42.1-1:*
  - A. \_\_\_\_\_ The Vendor is not delinquent in the payment of any tax administered by the Department of Revenue unless the Vendor is contesting, in accordance with the procedures established by the appropriate revenue Act, its liability for the tax or the amount of tax.
  - B. \_\_\_\_\_ The Vendor has entered into an agreement with the Department of Revenue for the payment of all such taxes that are due and is in compliance with the agreement.
6. If the Vendor employs commercial motor vehicle operators, the Vendor is in compliance with the Federal Highway Administration rules for controlled substances and alcohol use and testing. 49 CFR Parts 40 and 382.
7. During the term of this contract, the Vendor shall comply with (a) Urbana City Code Section 2-119, which prohibits employment discrimination by contractors and vendors with the City; (B) the Equal Employment Opportunity provisions of Ill. Admin. Code tit. 44, § 750; and (C) Article 2 of the Illinois Human Rights Act, 775 ILCS 5/2-101 *et seq.*, including without limitation the requirement that the Vendor have a written sexual harassment policy in conformance with 775 ILCS 5/2-105.
8. If this contract involves the construction, reconstruction, alteration, repair, improvement, or maintenance of public works, the Vendor has filed with the City and made available to the general public a copy of the Vendor's written substance abuse prevention program, which meets or exceeds the requirements of 820 ILCS 265/15.



**VENDOR REPRESENTATIONS AND ADDITIONAL DUTIES**

9. If this contract involves the construction, reconstruction, alteration, repair, improvement, or maintenance of public works, the Vendor shall use United States produced steel products, in compliance with 30 ILCS 565/4.

10. If this contract involves the construction, addition to, or alteration of public works, the Vendor shall employ laborers in compliance with the Veterans Preference Act (330 ILCS 55/0.01 *et seq.*) and the Employment of Illinois Workers on Public Works Act (30 ILCS 570/0.01 *et seq.*).

11. The Vendor shall comply with all applicable provisions of the Prevailing Wage Act, which requires the payment of the prevailing rate of wage to all laborers, workers, and mechanics employed by or on behalf of a public body in the construction, demolition, maintenance, or repair of public works. 820 ILCS 130/0.01 *et seq.* The prevailing wage rates are established and revised by the Department of Labor and are available at [www.state.il.us/agency/idol/rates/rates.htm](http://www.state.il.us/agency/idol/rates/rates.htm).

12. The Vendor shall obtain from all subcontractors to be used in the performance of this contract a sworn statement agreeing to the representations and additional duties contained on this document. The Vendor shall maintain the sworn statements on file for the duration of this contract and shall promptly provide them to the City upon request. If a subcontractor is or becomes ineligible for a contract with the City, the Vendor promptly shall terminate its subcontract upon the City's request. The Vendor shall include adequate provisions in all subcontracts to allow it to terminate such subcontracts as required herein.

The representations contained on this document are true, complete, and correct in all respects. The representations contained herein are continuing. If any such representation is no longer true or correct, the Vendor promptly shall notify the City in writing.

Vendor:

By: \_\_\_\_\_

Printed name:

Title:

Date:

State of

County of

Signed and sworn (or affirmed) to before me on \_\_\_\_\_ (date)

by \_\_\_\_\_ (name of person making statement).

(seal)

\_\_\_\_\_  
Signature of notary public





# Equal Employment Opportunity (EEO) Workforce Statistics Form

Failure to properly complete each section of this form as instructed may result in a delay or denial of eligibility to bid or do business with the City of Urbana.

## Section I. Identification

### 1. Company Name and Address

Name:	
d/b/a:	
Address:	
City/State/Zip:	
Telephone:	

2.  New Certification  Renewal
3. Please check one of the following:
- |  |  |
|--|--|
| <input type="checkbox"/> Corporation               | <input type="checkbox"/> Partnership                   |
| <input type="checkbox"/> Individual Proprietorship | <input type="checkbox"/> Limited Liability Corporation |

4. FEI Number:

### 5. Name and Address of the Company's Principal Office

(If principal office is same as above, skip to question #6.)

Name:	
Address:	
City/State/Zip:	

### 6. Project on which your company is bidding (or indicate general renewal):

7. Please describe the major product or service of your company:

8. City of Urbana staff member assigned to your contract or to the RFP:

## Section II. Policies and Practices

Yes No

1. Is it the company's policy to recruit, hire, train, upgrade, promote and discipline persons without regard to race, color, creed, class, national origin, religion, sex, age, marital status, mental and/or physical disability, personal appearance, sexual preference, family responsibilities, matriculation, political affiliation, prior arrest, conviction record, or source of income?
2. Has someone been assigned to develop procedures, which will assure that the EEO policy is implemented and enforced by managerial, administrative, and supervisory personnel? If so, please indicate the name, title, and contact information of the official charged with this responsibility.

Name:	
Title:	
Telephone:	
Email:	

3. Does the company have a written Equal Employment Opportunity Statement? (Note: An example of an EEO Statement is on the same webpage as this form.) Please attach an EEO Statement in order to be considered eligible to do business with the City of Urbana.  
Questions? 217-384-2455 or [hro@urbanaininois.us](mailto:hro@urbanaininois.us).
4. Has the company developed a written policy statement prohibiting sexual harassment? (Note: An example of a Sexual Harassment Policy statement is on the same webpage as this form.) Please attach a copy of your company's Sexual Harassment Policy in order to be considered eligible to do business with the City of Urbana.
5. Have all recruitment sources been notified that the company will consider all qualified applicants without regard to race, color, creed, class, national origin, religion, sex, age, marital status, mental and/or physical disability, personal appearance, sexual orientation, family responsibilities, matriculation, political affiliation, prior arrest, conviction record, or source of income?
6. Are you currently seeking to renew an existing or expired Urbana EEO certificate? (If yes, please complete Table B. If no, skip to question #8.)
7. Were you previously issued a "Provisional Certificate"? (If yes, please refer to the letter you received when your provisional certificate was issued and respond to all stipulations required for renewal.  
Questions? 217-384-2455 or [hro@urbanaininois.us](mailto:hro@urbanaininois.us).)

Yes    N/A

8. If advertising is used, does it specify that all qualified applicants will be considered for employment without regard to race, color, creed, class, national origin, religion, sex, age, marital status, mental and/or physical disability, personal appearance, sexual orientation, family responsibilities, matriculation, political affiliation, prior arrest, convention record, or source of income?
9. Has the contractor notified all of its sub-contractors of their obligations to comply with the Equal Opportunity requirements either in writing, by inclusion in subcontract, or purchase orders?
10. Is the company a state certified minority/women owned business? If yes, please attach a copy of state certification.
11. Does the company have collective bargaining agreements with labor organizations? (If your answer is "N/A", skip to question #13.)
12. Have the labor organizations been notified of the company's responsibility to comply with the Equal Employment Opportunity requirements in all contracts with the City of Urbana?
13. Does the company perform construction, rehabilitation, alteration, conversion, demolition or repair of buildings, highways, or other improvements to real property? (If yes, please complete Table C.)

## Section III. Employment Information

IMPORTANT: Please complete the company workforce analysis below. Use the number of employees as of the most recent payroll period. **Complete this form in its entirety and submit your organization's (1) EEO Statement and (2) Sexual Harassment Policy in order to be eligible to do business with the City of Urbana.** For descriptions of Job Categories, as well as Race/Ethnic Categories, please see the last page of this form.

**TABLE A - TOTAL CONTRACTOR/VENDOR WORKFORCE**

<b>Job Categories</b>	<b>Total Employees in Category</b>		<b>Not of Hispanic Origin</b>				<b>Hispanic or Latino</b>		<b>Not of Hispanic Origin</b>				<b>Other Races; Two or More Races</b>	
			<b>White</b>		<b>Black or African- American</b>				<b>Asian; Hawaiian or other Pacific Islander</b>		<b>Native American or Alaskan Native</b>			
	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>
Officials & Managers														
Professionals														
Technicians														
Sales Workers														
Office & Clerical														
Craft Workers (Skilled)														
Operatives (Semi-Skilled)														
Laborers (Unskilled)														
Service Workers														
<b>OVERALL TOTALS</b>														

Please note any additional information unique to your workforce (for example, the number of employees who non-disclose race/ethnicity; staff members identifying as non-binary; someone splitting their time in two or more departments):

Date of this Data: \_\_\_\_\_

## TABLE B - WORKFORCE TURNOVER SINCE PREVIOUS EEO REPORT

Please complete if your company previously received certification from the City of Urbana and now seeks renewal.

Job Categories	Total Employees Separated		Minority Employees Separated		Total Employees Newly Hired		Total Minorities Newly Hired	
	M	F	M	F	M	F	M	F
Officials & Managers								
Professionals								
Technicians								
Sales Workers								
Office & Clerical								
Craft Workers (Skilled)								
Operatives (Semi-Skilled)								
Laborers (Unskilled)								
Service Workers								
<b>OVERALL TOTALS</b>								

**TABLE C\* - EMPLOYEES TO BE ASSIGNED TO THE CITY OF URBANA CONTRACT**

Please complete if your answer to Section II, Question #13 (on page 3 of this form) was "Yes".

Job Categories	Total Employees in Category		Black or African-American		Hispanic or Latino		Asian; Hawaiian or other Pacific Islander		Native American or Alaskan Native		Other Races; Two or More Races	
	M	F	M	F	M	F	M	F	M	F	M	F
Officials & Managers												
Professionals												
Technicians												
Sales Workers												
Office & Clerical												
Craft Workers (Skilled)												
Operatives (Semi-Skilled)												
Laborers (Unskilled)												
Service Workers												
<b>OVERALL TOTALS</b>												

\*Totals included in Table C should be a projection of the number of persons to be employed in the performance of the City contract.

For Contractors: Data provided in Table C will be verified by worksite inspections.

## Section IV. Certification

By signing below, the company certifies that it has answered all of the foregoing questions truthfully to the best of its knowledge and belief and agrees to comply and abide by the City of Urbana's Code of Ordinances (Section 2-119).

<input type="checkbox"/> Check box to authorize electronic signature	
<b>Signature</b>	<b>Printed Name and Title</b>
<b>E-mail</b>	<b>Date</b>

## Section V. Verification

Prior to Submitting this form, please check the answers to the following questions to verify your completion of this form:

- |  |                   |
|--|-------------------|
|  | <b>Yes    No</b>  |
| <b>1.</b> Did you fill in all of the appropriate boxes in the tables in Section III, including the "TOTAL" row?  |                   |
| <b>2.</b> Have you enclosed/attached your company's EEO statement?   |                   |
| <b>3.</b> Have you enclosed/attached your company's Sexual Harassment policy?  |                   |
|  | <b>Yes    N/A</b> |
| <b>4.</b> If your company is renewing and previously received a "Provisional Certificate", have you enclosed/attached a "Good Faith Efforts" plan or update? |                   |

# DEFINITIONS OF TERMS LISTED ON THIS WORKFORCE STATISTICS FORM

## DESCRIPTION OF RACE/ETHNIC CATEGORIES

Race/ethnic designations as used by the Office of Human Rights & Equity do not denote definitions of anthropological origins. For the purpose of this report, an employee may be included in the group to which he or she appears to belong, identifies with, or a community regards as belonging. However, please count no person in more than one column. The race/ethnic categories for this report are:

**White (Not of Hispanic origin).** All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.

**Black of African-American (not of Hispanic origin).** All persons having origins in any of the Black racial groups of Africa.

**Hispanic or Latino.** All persons of Mexican, Puerto Rican, Cuban, Central, or South American, or other Spanish culture or origin, regardless of race.

**Asian, Hawaiian, or other Pacific Islander.** All persons having origins in any of the original peoples of the Asian continent or the

Pacific Islands. This category includes, but is not limited to, China, India, Japan, Korea, the Philippine Islands, and Samoa.

**Native American or Alaskan Native.** All persons having origins in any of the original peoples of North America. Includes those referred to as members of First Nations, and those who maintain cultural identification through tribal affiliation, or community recognition.

**Other Races; Two or More Races.** All persons who do not self-identify with the above categories, or who self-identify with two or more of the above categories.

## DESCRIPTION OF JOB CATEGORIES

Count each employee in only one job category. Select the category containing the jobs most similar to that performed by the employee. The jobs listed in each category provide examples, not a complete list, of all job titles falling into that category.

**Officials and managers.** Occupations requiring administrative and managerial personnel who set broad policies, exercise overall responsibility for execution of these policies, and direct individual departments or special phases of a firm's operations. Includes: officials, executives, middle management, plant managers, department managers, and superintendents, salaried supervisors who are members of management, purchasing agents and buyers, railroad conductors and yardmasters, ship captains, mates and other officers, farm operators and managers, and kindred workers.

**Professionals.** Occupations requiring either college graduation or experience of such kind and amount as to provide a comparable background. Includes: accountants and auditors, airplane pilots and navigators, architects, artists, chemists, designers, dietitians, editors, engineers, lawyers, librarians, mathematicians, natural scientist, registered professionals nurses, personnel and labor relations specialist, physical scientist, physicians, social scientist, teachers, surveyors and kindred workers.

**Technicians.** Occupations requiring a combination of basic scientific knowledge and manual skill, obtainable through 2-years of post-high school education, such as offered in many technical institutes and union colleges, or through equivalent on-the-job training. Includes: computer programmers, drafters, engineering aides, junior engineers, mathematical aides, licensed, practical or vocational nurses, photographers, radio operators, scientific assistants, technical illustrators, technicians (medical, dental, electronic, physical science), and kindred workers.

**Sales.** Occupations engaging wholly or primarily in direct selling. Includes: advertising agents and sales workers, insurance agents and brokers, real estate agents, and brokers, stock and bond sales workers, demonstrators, sales workers and sales clerks, grocery clerks, and cashiers/checkers, and kindred workers.

**Office and clerical.** Includes all clerical-type work regardless of difficulty, where the activities are predominantly non-manual though some manual work not directly involved with altering or transporting the products is included. Includes: bookkeepers, collectors (bills and accounts), messengers and office helpers, office machine operators (including computer), shipping and receiving clerks, stenographers, typists and secretaries, telegraph and telephone operators, legal assistants, and kindred workers.

**Craft workers (skilled).** Manual workers of relatively high skill level having a thorough and comprehensive knowledge of the processes involved in their work. These workers exercise considerable independent judgment and usually receive an extensive period of training. Includes: the building trades, hourly paid supervisors, and lead operators who are not members of occupations, compositors and typesetters, electricians, engravers, painters (construction and maintenance), motion picture projectionists, pattern and model makers, stationary hand painters, coaters, bakers, decorating occupations, and kindred workers.

**Operatives (semiskilled).** Workers who operate machine or processing equipment or perform other factory-type duties of an intermediate level, skills mastered in a few weeks and requiring only limited training. Includes: apprentices (auto service and stitchers, dryers, furnace workers, heaters, laundry and dry cleaning operatives, milliners, mine operatives and laborers, motor operators, oilers and greasers (except auto), painters (manufactured articles), photographic process workers, truck and tractor drivers, knitting, looping, taping and weaving machine operators, welders and flame cutters, electrical and electronic equipment assemblers, butchers and meat cutters, inspectors, testers and graders, hand packers and packagers, and kindred workers.

**Laborers (unskilled).** Workers in manual occupations, which generally require no special training who perform elementary duties that may be learned in a few days and require the application of little or no independent judgment. Includes: garage laborers, car washers and greasers, groundskeepers and gardeners, farmworkers, stevedores, woodchoppers, laborers performing lifting, digging, mixing, loading and pulling operation and kindred workers.

**Service workers.** Workers in both protective and nonprotective service occupations. Includes: Attendants (hospital and other institutions, professional and personal service, including nurses aides, and orderlies), barbers, char workers and cleaners, cooks, counter and fountain workers, elevator operators, firefighters and fire protection, guards, doorkeepers, stewards, janitors, police officers and detectives, porters, waiters and waitresses, amusement and recreation facilities attendants, guides, ushers, public transportation attendants, and kindred workers.



## Champaign County Prevailing Wage Rates posted on 3/1/2023

Trade Title	Rg	Type	C	Base	Foreman	Overtime				H/W	Pension	Vac	Trng	Other Ins
						M-F	Sa	Su	Hol					
ASBESTOS ABT-GEN	All	BLD		35.12	36.37	1.5	1.5	2.0	2.0	7.25	18.61	0.00	0.90	
ASBESTOS ABT-MEC	All	BLD		25.45	26.45	1.5	1.5	2.0	2.0	9.95	8.25	0.00	0.50	
BOILERMAKER	All	BLD		42.13	45.13	1.5	1.5	2.0	2.0	7.07	24.01	0.00	2.07	
BRICK MASON	All	BLD		35.16	36.92	1.5	1.5	2.0	2.0	9.25	16.30	0.00	0.91	
CARPENTER	All	BLD		37.83	40.08	1.5	1.5	2.0	2.0	9.25	17.23	0.00	0.78	
CARPENTER	All	HWY		38.10	39.85	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.75	
CEMENT MASON	All	BLD		36.36	38.86	1.5	1.5	2.0	2.0	10.00	11.70	0.00	0.50	
CEMENT MASON	All	HWY		37.24	39.24	1.5	1.5	2.0	2.0	10.00	13.00	0.00	0.50	
CERAMIC TILE FINISHER	All	BLD		33.17	33.17	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
ELECTRIC PWR EQMT OP	All	ALL		50.97	60.48	1.5	1.5	2.0	2.0	8.53	14.27	0.00	0.76	
ELECTRIC PWR GRNDMAN	All	ALL		34.63	60.48	1.5	1.5	2.0	2.0	8.04	9.70	0.00	0.52	
ELECTRIC PWR LINEMAN	All	ALL		56.74	60.48	1.5	1.5	2.0	2.0	8.70	15.88	0.00	0.85	
ELECTRIC PWR TRK DRV	All	ALL		36.35	60.48	1.5	1.5	2.0	2.0	8.09	10.18	0.00	0.54	
ELECTRICIAN	All	BLD		46.05	50.66	1.5	1.5	2.0	2.0	7.85	11.95	0.00	0.69	
ELECTRONIC SYSTEM TECH	All	BLD		35.06	38.06	1.5	1.5	2.0	2.0	7.35	11.79	0.00	0.40	
ELEVATOR CONSTRUCTOR	All	BLD		53.26	59.92	2.0	2.0	2.0	2.0	16.07	20.56	4.26	0.70	
FENCE ERECTOR	All	ALL		35.50	37.50	1.5	1.5	2.0	2.0	11.74	15.00	0.00	1.11	
GLAZIER	All	BLD		37.95	39.95	1.5	1.5	2.0	2.0	7.45	12.57	0.00	0.68	
HEAT/FROST INSULATOR	All	BLD		34.90	36.40	1.5	1.5	2.0	2.0	8.49	13.79	0.00	0.30	0.65
IRON WORKER	All	ALL		35.50	37.50	1.5	1.5	2.0	2.0	11.74	15.00	0.00	1.11	
LABORER	All	BLD		32.12	33.37	1.5	1.5	2.0	2.0	7.25	18.61	0.00	0.80	
LABORER	All	HWY		35.17	36.17	1.5	1.5	2.0	2.0	7.25	18.73	0.00	0.80	
LATHER	All	BLD		37.83	40.08	1.5	1.5	2.0	2.0	9.25	17.23	0.00	0.78	
MACHINIST	All	BLD		53.18	57.18	1.5	1.5	2.0	2.0	9.93	8.95	1.85	1.47	
MARBLE FINISHER	All	BLD		33.17	33.17	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
MARBLE MASON	All	BLD		34.69	34.69	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
MILLWRIGHT	All	BLD		34.58	36.83	1.5	1.5	2.0	2.0	9.25	20.94	0.00	0.78	
MILLWRIGHT	All	HWY		38.82	40.57	1.5	1.5	2.0	2.0	9.25	21.71	0.00	0.75	
OPERATING ENGINEER	All	ALL	1	43.85	46.85	1.5	1.5	2.0	2.0	11.35	12.50	0.00	1.30	
OPERATING ENGINEER	All	ALL	2	28.75	46.85	1.5	1.5	2.0	2.0	11.35	12.50	0.00	1.30	
OPERATING ENGINEER	All	ALL	3	45.85	46.85	1.5	1.5	2.0	2.0	11.35	12.50	0.00	1.30	

PAINTER	All	ALL		37.45	38.95	1.5	1.5	2.0	2.0	9.85	7.79	0.00	0.60	
PAINTER - SIGNS	All	ALL		37.45	38.95	1.5	1.5	2.0	2.0	9.85	7.79	0.00	0.60	
PILEDRIIVER	All	BLD		38.83	41.08	1.5	1.5	2.0	2.0	9.25	17.23	0.00	0.78	
PILEDRIIVER	All	HWY		38.10	39.85	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.75	
PIPEFITTER	All	BLD		48.54	51.55	1.5	1.5	2.0	2.0	8.75	11.14	0.00	2.14	0.10
PLASTERER	All	BLD		36.05	38.05	1.5	1.5	2.0	2.0	9.85	13.77	0.00	0.50	
PLUMBER	All	BLD		48.54	51.55	1.5	1.5	2.0	2.0	8.75	11.14	0.00	2.14	0.10
ROOFER	All	BLD		36.00	39.00	1.5	1.5	2.0	2.0	10.47	9.34	0.00	0.56	
SHEETMETAL WORKER	All	BLD		41.30	43.80	1.5	1.5	2.0	2.0	10.05	15.97	0.00	0.55	2.02
SPRINKLER FITTER	All	BLD		44.98	47.98	1.5	1.5	2.0	2.0	11.45	14.92	0.00	0.52	
STONE MASON	All	BLD		35.16	36.92	1.5	1.5	2.0	2.0	9.25	16.30	0.00	0.91	
TERRAZZO FINISHER	All	BLD		33.17	33.17	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
TERRAZZO MASON	All	BLD		34.69	34.69	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
TILE MASON	All	BLD		34.69	34.69	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
TRUCK DRIVER	All	ALL	1	40.91	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	2	41.50	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	3	41.77	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	4	42.16	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	5	43.26	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	1	32.73	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	2	33.20	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	3	33.42	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	4	33.73	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	5	34.61	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TUCKPOINTER	All	BLD		35.16	36.92	1.5	1.5	2.0	2.0	9.25	16.30	0.00	0.91	

**Legend**

**Rg** Region

**Type** Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers

**C** Class

**Base** Base Wage Rate

**OT M-F** Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.

**OT Sa** Overtime pay required for every hour worked on Saturdays

**OT Su** Overtime pay required for every hour worked on Sundays

**OT Hol** Overtime pay required for every hour worked on Holidays

**H/W** Health/Welfare benefit

**Vac** Vacation

## **Trng Training**

**Other Ins** Employer hourly cost for any other type(s) of insurance provided for benefit of worker.

### Explanations CHAMPAIGN COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

Oil and chip resealing (O&C) means the application of road oils and liquid asphalt to coat an existing road surface, followed by application of aggregate chips or gravel to coated surface, and subsequent rolling of material to seal the surface.

### EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

### CERAMIC TILE FINISHER, MARBLE FINISHER, TERRAZZO FINISHER

Assisting, helping or supporting the tile, marble and terrazzo mechanic by performing their historic and traditional work assignments required to complete the proper installation of the work covered by said crafts. The term "Ceramic" is used for naming the classification only and is in no way a limitation of the product handled. Ceramic takes into consideration most hard tiles.

### ELECTRONIC SYSTEMS TECHNICIAN

Installation, service and maintenance of low-voltage systems which utilizes the transmission and/or transference of voice, sound, vision, or digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background/foreground music, intercom and telephone interconnect, field programming, inventory control systems, microwave transmission, multi-media, multiplex, radio page, school, intercom and sound burglar alarms and low voltage master clock systems.

Excluded from this classification are energy management systems, life safety systems, supervisory controls and data acquisition systems not intrinsic with the above listed systems, fire alarm systems, nurse call systems and raceways exceeding fifteen feet in length.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION Class 1. Drivers on 2 axle trucks hauling less than 9 ton. Air compressor and welding machines and brooms, including those pulled by separate units, truck driver helpers, warehouse employees, mechanic helpers, greasers and tiremen, pickup trucks when hauling materials, tools, or workers to and from and on-the-job site, and fork lifts up to 6,000 lb. capacity.

Class 2. Two or three axle trucks hauling more than 9 ton but hauling less than 16 ton. A-frame winch trucks, hydrolift trucks, vector trucks or similar equipment when used for transportation purposes. Fork lifts over 6,000 lb. capacity, winch trucks, four

axle combination units, and ticket writers.

Class 3. Two, three or four axle trucks hauling 16 ton or more. Drivers on water pulls, articulated dump trucks, mechanics and working forepersons, and dispatchers. Five axle or more combination units.

Class 4. Low Boy and Oil Distributors.

Class 5. Drivers who require special protective clothing while employed on hazardous waste work.

#### TRUCK DRIVER - OIL AND CHIP RESEALING ONLY.

This shall encompass laborers, workers and mechanics who drive contractor or subcontractor owned, leased, or hired pickup, dump, service, or oil distributor trucks. The work includes transporting materials and equipment (including but not limited to, oils, aggregate supplies, parts, machinery and tools) to or from the job site; distributing oil or liquid asphalt and aggregate; stock piling material when in connection with the actual oil and chip contract. The Truck Driver (Oil & Chip Resealing) wage classification does not include supplier delivered materials.

OPERATING ENGINEERS - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION Class 1. Draglines, Derricks, Shovels, Gradalls, Mechanics, Tractor Highlift, Tournadozer, Concrete Mixers with Skip, Tournamixer, Two Drum Machine, One Drum Hoist with Tower or Boom, Cableways, Tower Machines, Motor Patrol, Boom Tractor, Boom or Winch Truck, Winch or Hydraulic Boom Truck, Tournapull, Tractor Operating Scoops, Bulldozer, Push Tractor, Asphalt Planer, Finishing Machine on Asphalt, Large Rollers on Earth, Rollers on Asphalt Mix, Ross Carrier or similar Machine, Gravel Processing Machine, Asphalt Plant Engineer, Paver Operator, Dredging Equipment, or Dredge Engineer, or Dredge Operator, Central Mix Plant Engineer, CMI or similar type machine, Concrete Pump, Truck or Skid Mounted, Engineer or Rock Crusher Plant, Concrete Plant Engineer, Ditching Machine with dual attachment, Tractor Mounted Loaders, Hydro Crane, Standard or Dinkey Locomotives, Scoopmobiles, Euclid Loader, Soil Cement Machine, Back Filler, Elevating Machine, Power Blade, Drilling Machine, including Well Testing, Caissons, Shaft or any similar type drilling machines, Motor Driven Paint Machine, Pipe Cleaning Machine, Pipe Wrapping Machine, Pipe Bending Machine, Apsco Paver, Boring Machine, (Head Equipment Greaser), Barber-Greene Loaders, Formless Paver, (Well Point System), Concrete Spreader, Hydra Ax, Span Saw, Marine Scoops, Brush Mulcher, Brush Burner, Mesh Placer, Tree Mover, Helicopter Crew (3), Piledriver-Skid or Crawler, Stump Remover, Root Rake, Tug Boat Operator, Refrigerating Machine, Freezing Operator, Chair Cart- Self-Propelled, Hydra Seeder, Straw Blower, Power Sub Grader, Bull Float, Finishing Machine, Self-Propelled Pavement Breaker, Lull (or similar type Machine), Two Air Compressors, Compressors hooked in Manifold, Chip Spreader, Mud Cat, Sull-Air, Fork Lifts (except when used for landscaping work), Soil Stabilizer (Seaman Tiller, Bo Mag, Rago Gator, and similar types of equipment), Tube Float, Spray Machine, Curing Machine, Concrete or Asphalt Milling Machine, Snooper Truck-Operator, Backhoe, Farm Tractors (with attachments), 4 Point Lift System (Power Lift or similar type), Skid-Steer (Bob Cat or similar type), Wrecking Shears, Water Blaster.

Class 2. Concrete Mixers without Skips, Rock Crusher, Ditching Machine under 6', Curbing Machine, One Drum Machines without Tower or Boom, Air Tugger, Self-Propelled Concrete Saw, Machine Mounted Post Hole Digger, two to four Generators, Water Pumps or Welding Machines, within 400 feet, Air Compressor 600 cu. ft. and under, Rollers on Aggregate and Seal Coat Surfaces, Fork Lift (when used for landscaping work), Concrete and Blacktop Curb Machine, One Water Pump, Oilers, Air Valves or Steam Valves, One Welding Machine, Truck Jack, Mud Jack, Gunnite Machine, House Elevators when used for hoisting material, Engine Tenders, Fireman, Wagon Drill, Flex Plane, Conveyor, Siphons and Pulsometer, Switchman, Fireman on Paint Pots, Fireman on Asphalt Plants, Distributor Operator on Trucks, Tampers, Self-Propelled Power Broom, Striping Machine (motor driven), Form Tamper, Bulk Cement Plant, Equipment Greaser, Deck Hands, Truck Crane Oiler-Driver, Cement Blimps, Form Grader, Temporary Heat, Throttle Valve, Super Sucker (and similar type of equipment).

Class 3. Power Cranes, Truck or Crawler Crane, Rough Terrain Crane (Cherry Picker), Tower Crane, Overhead Crane.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If

a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

#### LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

**SECTION C**

City of Urbana Special Provisions

**CITY OF URBANA  
SPECIAL PROVISIONS**

**PART 1 – GENERAL INFORMATION..... 2**

1.1 ADVERTISEMENT FOR BIDS..... 2

1.2 INFORMATION FOR BIDDERS ..... 3

**PART 2 – GENERAL CONTRACTUAL CONDITIONS..... 4**

2.1 COORDINATION OF CONTRACT DOCUMENTS ..... 4

2.2 PAYMENTS TO CONTRACTORS..... 4

2.3 PRE-CONSTRUCTION MEETING..... 4

2.4 GUARANTEE PERIOD..... 5

2.5 INSURANCE ..... 5

2.6 CONSTRUCTION AND MAINTENANCE NOISE ..... 5

**PART 3 - TECHNICAL PROVISIONS ..... 7**

3.1 LOCATION OF PROJECT ..... 7

3.2 DESCRIPTION OF WORK ..... 7

3.3 TREE LIMB PRUNING ..... 7

3.4 SEWER LINING..... 7

3.5 TRAFFIC CONTROL AND PROTECTION ..... 10

## **PART 1 – GENERAL INFORMATION**

### **1.1 Advertisement for Bids**

City of Urbana  
Department of Public Works  
706 South Glover Avenue  
Urbana, Illinois 61802

Sealed BIDS for the construction of **Sanitary and Storm Sewer Lining 2023 (Section 23-00662-00-SA)** including: rehabilitation of existing gravity sewers, both storm and sanitary, by the installation of cured-in-place pipe (CIPP) that will be received by the City of Urbana at the Public Works Department, 706 South Glover, Urbana, Illinois 61802 until **2:15 PM** prevailing time on **Friday, April 14, 2023** and publicly opened and read aloud at said office.

Register online at the City of Urbana website: <https://urbanaininois.us/bids-rfps> to receive bid documents.

The plans and proposals are each a call for bids containing all requirements governing the letting and performance of the particular contract including but not limited to any applicable requirements for the payment of prevailing rates of wages for labor as required by law. Any questions regarding individual plans and proposals should be directed to the City of Urbana Public Works Department.

Each proposal shall be accompanied by a bid bond according to BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals.

All bidders are hereby notified that the City of Urbana is required to affirmatively insure that the contract, entered into pursuant to this advertisement, will be awarded to the lowest responsible bidder and on a non-discriminatory basis. The lowest responsible bidder must have an active Equal Employment Opportunity (EEO) Certificate of Compliance from the City of Urbana before the contract can be awarded. Applications for EEO Certificate of Compliance are reviewed only once per month by the City of Urbana; therefore, all bidders are encouraged to apply for EEO certification in advance of the bid opening.

All bidders are hereby notified that any proposal requiring work to be performed by a contractor requires the prime and subcontractors to participate in an approved training program. All bidders must complete BLR 12325 and return with the bidders' proposals. If BLR 12325 is not completed, the bid will not be read.

John C. Zeman, PE, SE  
City Engineer



## **1.2 Information for Bidders**

Bids will be received by the City of Urbana (herein called the "Owner") acting through the City Council at 706 South Glover Avenue, Urbana, Illinois 61802 until **2:15 PM** prevailing time on **Friday, April 14, 2023** and publicly opened and read aloud at said office.

All bids and accompanying data must be submitted in conformity with, be based upon, and be subject to all the requirements of the Contract Documents. The following documents must be submitted as part of the Bid, in addition to the BLR Forms listed on BLR 12200:

- EEO Workforce Statistics Form
- Vendor Representation and Additional Duties Form
- Acknowledgement of Addenda (if applicable)

Each Bid must be submitted in a sealed envelope, addressed to the City of Urbana in care of the City Engineer, 706 South Glover Avenue, Urbana, Illinois 61802. Each sealed envelope containing a Bid must be plainly marked on the outside as "**Sanitary and Storm Sewer Lining 2023**" **Section 23-00662-00-SA** and the envelope should bear on the outside the name of the Bidder, his/her address, and his/her license number if applicable. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to the City of Urbana in care of the City Engineer, 706 South Glover Avenue, Urbana, Illinois 61802.

Should the City issue any Addendum to the Bid documents, the bidder shall acknowledge receipt of the amendment by including a copy of the Addendum with their bid form. The bid shall be based on all Addenda. **Any Addendum issued by the City shall be considered part of the bid documents and failure to submit acknowledgement of the receipt of all Addenda shall be cause for the City to reject the bid.**

The Bidder and their subcontractors shall comply fully with all applicable City of Urbana Ordinances including, but not limited to the City of Urbana's Human Rights Ordinance as well as all other laws and ordinances pertaining to equal employment opportunity. Pursuant to the guidelines, the Bidder must have on file a Certificate of Compliance from the City of Urbana before a bid can be awarded to the Bidder. In addition, before a subcontractor can be utilized on this project the subcontractor must have on file a Certificate of Compliance from the City of Urbana. The Notice of Award **cannot** be issued until the Contractor's equal employment opportunity Certificate of Compliance forms have been approved by Urbana's Human Relations Commission. Contractors and Subcontractors are encouraged to pre-qualify with the City prior to the Bid opening to expedite issuance of the Notice of Award. Inquiries concerning this requirement may be directed to the Human Relations Officer, 400 South Vine Street, Urbana, Illinois 61801 or by telephone at (217) 384-2466.

City of Urbana and State of Illinois Sales Tax and Federal Excise taxes are not applicable to this project and must be excluded. The Urbana City Clerk, upon request, will execute the exemption certificates in connection with all orders when Federal Excise Tax would otherwise be due.

The Engineer is the City Engineer, 706 South Glover Avenue, Urbana, Illinois, or his/her designee.

Construction is to be performed within City rights-of-way and easements.

**PART 2 – GENERAL CONTRACTUAL CONDITIONS**

**2.1 Coordination of Contract Documents**

The following table supplements the hierarchy of contract documents according to Article 105.05 of the Standard Specifications.

Authorized Change Orders	Hold over:	Addenda to Contract Documents, Special Provisions, Plans, Recurring Special Provisions, Supplemental Specifications, and Standard Specifications.
Addenda to Contract Documents	Hold over:	Special Provisions, Plans, Recurring Special Provisions, Supplemental Specifications, and Standard Specifications.
Special Provisions <sup>(1)</sup>	Hold over:	Plans, Recurring Special Provisions, Supplemental Specifications, and Standard Specifications.
Plans <sup>(2)</sup>	Hold over:	Recurring Special Provisions, Supplemental Specifications, and Standard Specifications.

Notes:

- (1) The term “Special Provisions” includes General Information, General Contractual Conditions, and Technical Provisions.
- (2) Detail plans hold over Urbana Standard Details, and Urbana Standard Details hold over IDOT District or Highway Standards.

**2.2 Payments to Contractors**

Payment will be made by check; no payments will be made with bonds.

**2.3 Pre-Construction Meeting**

As soon as possible after receipt of the Notice to Proceed, the ENGINEER will schedule a Pre-construction Meeting for the project. The CONTRACTOR shall have his/her General Superintendent and Jobsite Superintendent present at the appropriate meeting to discuss all details of the project. At these meetings, the CONTRACTOR shall submit for approval information and drawings where appropriate on all major equipment and materials planned for use on the projects to the ENGINEER for approval. Information shall be included on a minimum of the following items:

- A. List of Subcontractors and Material Suppliers
- B. Shop Drawings
- C. Erosion Control Plan and Inlet Filter Systems
- D. Construction Staging and Access to Properties
- E. Traffic Control Plan
- F. Progress Schedule

## **2.4 Guarantee Period**

The CONTRACTOR shall warrant all work performed for a period of one (1) year from the date of completion and acceptance by the OWNER.

## **2.5 Insurance**

For “Employers Liability” (part (a)(2) of Article 107.27 of the Standard Specifications), change the coverage limit to \$1,000,000 for each category.

Add the following requirements to “Commercial General Liability” (part (b) of Article 107.27 of the Standard Specifications): “...shall provide coverage for the usual Personal Liability endorsement with no exclusions pertaining to employment...”

Add the following paragraphs to Article 107.27 of the Standard Specifications:

The CONTRACTOR shall purchase a Builder’s Risk-Installation Floater in a form acceptable to the OWNER covering property of the Project for the full cost of replacement as of the time of any loss which shall include, as named insured, (1) the CONTRACTORS, (2) all SUBCONTRACTORS, (3) all Sub-SUBCONTRACTORS, (4) the OWNER, the ENGINEER(S) or Architect(s), as their respective interest may prove to be at the time of loss, covering insurable property which is the subject of this CONTRACT, whether in place, stored at the job site, stored elsewhere, or in transit at the risk of the insured(s).

Coverage shall be affected on an “All Risk” form including, but not limited to, the perils of fire, wind, vandalism, collapse, theft and earthquake, with exclusions normal to the coverage. With approval of the ENGINEER, the CONTRACTOR may arrange for such deductibles as (s)he deems to be within his/her ability to self-assume, but (s)he will be held solely responsible for the amount of such deductible and for any co-insurance penalties. Any insured loss shall be adjusted with the OWNER and the CONTRACTOR and paid to the OWNER and CONTRACTOR as Trustee for the other insured.

The following subrogation clause shall appear in all policies of insurance, “Subrogation Clause - it is hereby stipulated that this insurance shall not be invalidated should the insured waive in writing prior to a loss any or all right of recovery against any part for loss occurring to the property described herein.”

## **2.6 Construction and Maintenance Noise**

The contractor shall adhere to the City of Urbana noise ordinance Section 16-7 in scheduling work windows. According to the ordinance, it is unlawful to use any construction equipment to perform any construction or maintenance work associated with this project at any time between the hours noted below where such construction equipment is operated within six hundred (600) feet of any residence, hospital, or place of worship.

- 8:00 pm through 7:00 am Monday through Saturday
- 8:00 pm Saturday through 12:00 pm (noon) Sunday
- 8:00 pm Sunday through 7:00 am Monday

This time regulation shall not apply to sawing contraction joints, maintenance or operation of safety and traffic control devices such as barricades, signs and lighting, or to construction of an emergency nature.

Any arrow boards used for traffic control that is to remain in place overnight shall be of a non-motorized type in order to eliminate noise and comply with the City's Ordinance.

Exception: Any machine or device or part thereof which is regulated by or becomes regulated by Federal or State of Illinois noise standards shall conform to those above standards. Such equipment shall be operated as designated above.

## **PART 3 - TECHNICAL PROVISIONS**

The following Special Provisions supplement the “Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022”, the latest edition of the “Manual on Uniform Traffic Control Devices for Streets and Highways”, and the “Manual of Test Procedures for Materials” in effect on the date of invitation for bids, and the “Supplemental Specifications and Recurring Special Provisions” indicated on the Check Sheet included herein, which apply to and govern the construction of Section 23-00662-00-SA (Sanitary and Storm Sewer Lining 2023) and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

### **3.1 Location of Project**

Various segments of sanitary and storm sewers owned and maintained by the City of Urbana, located within public ROW or utility easements. The sewer segments are identified in Sewer Schedule Tables within the Plans section of this document, as well as with an online GIS map found at the following link:

<https://urbana.ccgisc.org/portalurbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>

### **3.2 Description of Work**

This project consists of rehabilitation of existing gravity sewers, both storm and sanitary, by the installation of cured-in-place pipe (CIPP). The sewer pipe diameters range from 8 inches to 30 inches.

### **3.3 Tree Limb Pruning**

The City of Urbana will perform any tree limb pruning required to accommodate construction operations. If the Contractor encounters any existing tree limbs that will impede the progress of construction, the Contractor shall notify the Engineer.

### **3.4 Sewer Lining**

**Description.** This work shall consist of the rehabilitation of sanitary and storm sewer pipelines by the installation of cured-in-place pipe (CIPP) within the existing, deteriorated pipe, according to the NASSCO Cured-In-Place Pipe (CIPP) Installation Performance Specification Guideline (PSG), 2020 Edition.

**General.** A copy of the NASSCO CIPP Installation PSG is included with the contract documents and has been modified with strikeouts and the following specifications.

Reports of CCTV inspection of the sewer segments designated for lining are included within the Plans section of this document as “Sewer Inspection Reports”.

#### **Add to 1.3.C of the NASSCO CIPP Installation PSG:**

CCTV inspections shall generate inspection data and videos that are compatible with CUES GraniteNet software.

Add to 1.3.K of the NASSCO CIPP Installation PSG:

Contractor shall provide three (3) notifications to properties adjacent to sanitary or storm sewer lining. Applicable notifications shall be provided to adjacent properties even if there is no evidence of a direct connection to notify the homeowner of possible off-gassing odors during liner installation. Notices must be given at the following times:

- 1.) Cleaning Notice – Advise residents to close toilet lids to prevent blown stools (Sanitary Only). This notice should also mention the upcoming sewer lining and ask that any residents with respiratory conditions contact the public works department prior to the start of lining (Sanitary & Storm). Notice must be given a minimum of 24 hours in advance.
- 2.) Pre-lining Notice – Advise residents to reduce water usage, fill traps, and place wet towels over floor drains (Sanitary & Storm). This notice should also advise residents with respiratory conditions to contact the public works department prior to the start of lining. Notice must be given a minimum of 24 hours in advance
- 3.) Post-Lining Notice – Advise residents work is complete and they can resume normal water usage. Notice must be given immediately upon completion.

Examples of these notices must be provided to the Engineer for approval.

Add to 1.8.A of the NASSCO CIPP Installation PSG:

As-built drawings/records, pre- & post-inspection videos, and other electronic media shall be submitted to the City by the Contractor on a portable hard drive or via a secure file transfer site.

**Materials.**

Add to 2.5.A of the NASSCO CIPP Installation PSG:

In the absence of groundwater elevation data for a particular sewer, the Contractor shall assume the water table adjacent to these sewers on the project is equivalent to the rim elevation above the pipe. This shall be utilized for liner thickness calculations.

**Construction Requirements.**

Add to 3.1.C of the NASSCO CIPP Installation PSG:

The designated site for disposal of all debris removed from the City's sewer system as a direct result of the cleaning operation shall be the settling pit located at the City of Urbana Public Works Department at 706 S. Glover Avenue. Access to this settling pit is secured by Public Works, and the Contractor shall coordinate with the Engineer for access.

It shall be the responsibility of the Contractor to remove all solid debris and deposits from the sewer line by making one to three passes with an appropriate, up-to-date sewer cleaning machine and tools appropriate for the size and type of pipe being cleaned, and this will be considered "standard pipe cleaning". If three cleaning passes are not sufficient to clear all solid debris and deposits, then additional, "heavy pipe cleaning" shall be completed if directed by the Engineer.

Add to 3.1.D of the NASSCO CIPP Installation PSG:

In no cases will sewage be allowed to flow to storm sewer manholes or other areas which are not directly linked to the Urbana-Champaign Sanitary District interceptor facilities for treatment. Any damage caused by sewage back-ups into private or public property will be the responsibility of the Contractor and any damage will be repaired to the satisfaction of the respective property Owner at the Contractor's expense.

Replace 3.1.F of the NASSCO CIPP Installation PSG with:

Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions that will interfere with the installation and long-term performance of the CIPP. If pre-installation inspection reveals an obstruction that was not identified as part of the original scope of work and will prohibit proper installation of the CIPP, the Contractor may be directed by the Owner to correct the problem(s) prior to installation by utilizing heavy pipe cleaning methods.

If pre-installation inspection reveals an obstruction (which cannot be removed by heavy pipe cleaning), misalignment, broken or collapsed section or sag that was not identified as part of the original scope of work and will prohibit proper installation of the CIPP, the City may direct others to correct the problem(s) prior to installation by utilizing open cut repair methods. If a point repair by others is necessary, the Contractor will be informed of the schedule for making the necessary point repairs in order to plan his/her schedule around this work. Once the schedule is established, the Contractor shall coordinate his/her work with the other parties performing the point repairs. No additional compensation will be provided to the Contractor for coordinating this work.

Add to 3.1.G of the NASSCO CIPP Installation PSG:

In some cases, it is not known whether the service line is live or not. Engineer will identify service lines to be abandoned, which do not require reinstatement. If the Contractor identifies a service line that requires action not previously specified by the Engineer, Contractor shall inform the Engineer so that dye testing, or another approved method for confirming a live connection, may be performed to determine if a line should be reinstated or abandoned.

Add to 3.1.H of the NASSCO CIPP Installation PSG:

Illinois American Water Company, who owns the fire hydrants in Urbana, has requirements regarding a Contractor's use of their fire hydrants. The Contractor must contact Illinois American Water Company to notify of their use at the time thereof; remain in the vicinity of the hydrant; and notify Illinois American Water of completion of use.

Add to 3.4.C of the NASSCO CIPP Installation PSG:

If, due to broken or misaligned pipes at the manhole wall, the hardened liner fails to make a tight seal, the Contractor shall apply a seal at that point. The seal shall consist of a hand-placed resin mixture compatible with the inner liner. This is incidental to the contract and no extra payment is allowed for this work.

Sanitary Sewers Only – end seal sleeves shall be used at each end for all sanitary sewer full-length liners to be installed. End seal sleeves shall be Insignia End Seal Sleeves, by LMK Technologies, or Engineer approved equivalent. End seal sleeves shall be installed in accordance with manufacturer's specifications.

Add to 3.8.C of the NASSCO CIPP Installation PSG:

Low pressure air tests shall only be performed at the direction of the Engineer if the pipe segment is a candidate for air testing and a visual inspection for leakage is inconclusive.

**Method of Measurement.** Sewer lining will be measured for payment in place in feet. The measurement shall be from center of manhole to center of manhole.

**Basis of Payment.** This work will be paid for at the contract unit price per foot for SEWER LINING, of the type and size specified. The following work items will not be paid for separately but will be considered included in the unit price bid for SEWER LINING, of the type and size specified: pre-installation CCTV inspection, standard pipe cleaning, pre-liner installation, CIPP installation, sewage bypass, manhole/wall interface sealing, and post construction CCTV inspection.

Reconnecting service lines will be paid for at the contract unit price per each for REINSTATE SERVICE CONNECTIONS, of the type specified. The following work items will not be paid for separately but will be considered included in the unit price bid for REINSTATE SERVICE CONNECTIONS, of the type specified: service reconnections and service connection sealing.

If required, the following work items will be paid for according to Article 109.04 of the Standard Specifications: verification of active service connections with techniques beyond standard mainline CCTV, heavy pipe cleaning, and flowable fill for backfilling of soil voids.

**3.5 Traffic Control and Protection**

Traffic control shall be in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, the applicable guidelines contained in the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, these Special Provisions and any special details and highway standards contained herein and in the plans.

Special attention is called to Articles 107.09 and 107.14 of the Standard Specifications, the following Highway Standards relating to Traffic Control, and the listed Supplemental Specifications and Recurring Special Provisions.

Highway Standards:

701001-02	701006-05	701101-05	701106-02	701201-05
701301-04	701336-07	701501-06	701502-09	701601-09
701602-10	701606-10	701611-01	701701-10	701801-06
701901-08				

Traffic: It is the intention of the City that streets be kept open to traffic at all times during the construction of this section, unless otherwise approved by the Engineer. One-way traffic will be permitted in the immediate work areas during construction. At all other times, two-way traffic shall be maintained throughout the project.

**Advanced Notice**

The City of Urbana will be responsible for notifying the public, the United States Postal Service and the emergency service agencies for road closures and changes in the traffic maintenance plans.

The contractor shall notify the City 72 hours in advance of implementing new or adjusting existing traffic control.

**Pedestrian Sidewalk Control**

The Contractor shall install, maintain, and remove necessary signs and barricades needed to direct pedestrians to usable sidewalks and walkways during the construction, and as directed by the Engineer. At each point of closure, a sufficient number of barricades shall be used to completely close the sidewalk to pedestrian movement. Where construction activities involve sidewalks on both sides of the street, the work shall be staged so that both are not out of service at the same time.



## **Public Safety and Convenience**

The Contractor shall maintain entrances and side roads along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences caused to the Contractor by complying with these requirements shall be considered as incidental to the contract and no additional compensation will be allowed.

**Basis of Payment.** Traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION (SPECIAL).

**SECTION D**

NASSCO CIPP Installation Performance Specification Guideline

# CURED-IN-PLACE PIPE (CIPP) INSTALLATION

## PERFORMANCE SPECIFICATION GUIDELINE (PSG)

March 2021



**2020 Edition**  
NASSCO Pipe Rehab Committee

(Supersedes all previous editions of this document)

© 2021 NASSCO, Inc.  
Nassco.org

NASSCO, Inc.  
5285 Westview Dr, Suite 202  
Frederick, MD 21703

## Disclaimer

These Specifications were prepared by a Committee comprised of representatives of NASSCO members and peer-reviewed by industry professionals. These Specifications are not specific to any one product, project, or job site, and should be considered a guideline only. Conditions for use may require additions, deletions or amendments to these guidelines so as to conform to project-specific site conditions and to comply with applicable laws, regulations, and ordinances. NASSCO does not guarantee, certify or assure any result and assumes no liability as to content, use and application of these guidelines

### EFFECTIVE SPECIFICATIONS

Effective specifications should encourage the most innovative, efficient and experienced Contractor to provide the level of quality required by the Owner at the best and lowest competitive price.

The specification should not strive to encourage the Contractor to seek the cheapest approach and product delivery available to provide the lowest price.

Effective specifications include the following, which are critical for project success:

1. Product selection for the best solution.
2. Definition of project goals and requirements, both short and long term.
3. Construction means and methods as defined, in writing, by the Contractor.
4. Product provided and installed as specified by the product manufacturer.
5. Product quality and quantity confirmed through inspection and testing.
6. Product design and service life verified through warranty inspection.

## Index

<b>PART 1</b>	<b>GENERAL .....</b>	<b>1</b>
1.1	DESCRIPTION OF WORK AND PRODUCT DELIVERY.....	1
1.2	REFERENCES.....	3
1.3	PERFORMANCE WORK STATEMENT (PWS) SUBMITTAL.....	4
1.4	PRODUCT SUBMITTALS .....	6
1.5	SAFETY .....	7
1.6	QUALITY CONTROL PLAN (QCP).....	8
1.7	CIPP REPAIR/REPLACEMENT.....	9
1.8	AS-BUILT DRAWINGS/RECORDS .....	9
1.9	WARRRANTY .....	10
<b>PART 2</b>	<b>PRODUCTS.....</b>	<b>11</b>
2.1	MATERIALS .....	11
2.2	FABRIC TUBE.....	11
2.3	RESIN .....	13
2.4	STRUCTURAL REQUIREMENTS .....	14
2.5	MINIMUM PHYSICAL PROPERTIES .....	14
<b>PART 3</b>	<b>INSTALLATION.....</b>	<b>15</b>
3.1	CONSTRUCTION REQUIREMNTS.....	15
3.2	INSTALLATION OF CIPP .....	18
3.3	COOL DOWN.....	19
3.4	FINISH.....	20
3.5	FLOWABLE FILL OF VOID AREAS.....	21
3.6	MANHOLE CONNECTIONS AND RECONNECTIONS OF EXISTING SERVICES .....	21
3.7	TESTING OF INSTALLED CIPP .....	22
3.8	FINAL ACCEPTANCE.....	24
3.9	TYPICAL BID ITEMS .....	26

## PART 1 GENERAL

This performance specification guideline (PSG) is for the rehabilitation of gravity sewers, either sanitary or storm, by the installation of cured-in-place-pipe (CIPP).

- A. This performance specification guideline (PSG) includes the minimum requirements for the rehabilitation of sanitary and storm sewer pipelines by the installation of cured-in-place pipe (CIPP) within the existing, deteriorated pipe as shown on the plans included as part of these contract documents.
- B. The rehabilitation of pipelines shall be done by the installation of a resin-impregnated flexible tube which, when cured, shall be continuous and tight-fitting throughout the entire length of the original pipe. The CIPP shall extend the full length of the original pipe and provide a structurally sound, jointless and water-tight new pipe-within-a-pipe. The Contractor is responsible for proper, accurate and complete installation of the CIPP using the system selected by the Contractor meeting the Owners requirements.
- C. Neither the CIPP product, system, nor its installation, shall cause adverse effects to any of the Owner's processes or facilities. The installation pressure for the product shall not damage the system in any way, and the use of the product shall not result in the formation or production of any detrimental compounds or by-products at the wastewater treatment plant. The Contractor shall notify the Owner and identify any by-products produced as a result of the installation operations, test and monitor the levels, and comply with any and all local waste discharge requirements. The Contractor shall cleanup, restore existing surface conditions and structures, and repair any of the CIPP system determined to be defective. The Contractor shall conduct installation operations and schedule cleanup in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians, businesses and property owners or tenants and to provide an environmentally safe restored jobsite.
- D. The prices submitted by the Contractor, shall include all costs of permits, labor, equipment and materials for the various bid items necessary for furnishing and installing, complete in place, CIPP in accordance with these specifications. All items of work not specifically mentioned herein which are required, by the Contractor, to make the product perform as intended and deliver the final product as specified herein shall be included in the respective lump sum and unit prices bid.

### 1.1 DESCRIPTION OF WORK AND PRODUCT DELIVERY

The specifications must include a detailed description of the work required including all products that are to be included in the installation, and what is to be delivered by the Contractor.

- A. This PSG covers all work necessary to furnish and install the CIPP. The Contractor shall provide all materials, labor, equipment, and services necessary for traffic control

- (if required), bypass pumping and/or diversion of flows, cleaning, measurement and television inspection of sewers to be rehabilitated, CIPP installation, reconnection of service connections, all quality controls, provide samples for performance of required material tests, final television inspection, testing of the rehabilitated pipe system, warranty work and other work, all as specified herein.
- B. The product furnished shall be a complete CIPP system including specific materials, applicable equipment and installation procedures. If prequalification is required, the CIPP system manufacturer may submit appropriate data/information to the Owner. All other CIPP systems or multi-component products will be required to meet the submittal requirements as contained herein.
  - C. The CIPP shall be continuous and jointless from manhole to manhole or access point to access point and shall be free of all defects that will affect the long-term life and operation of the pipe.
  - D. The CIPP shall not leak at the manholes or through the wall of the installed pipe-

If the host pipe is in groundwater, the use of end seals, if specified, shall be included to prevent infiltration tracking between the host pipe and CIPP.
  - E. The CIPP shall be designed for a life of 50 years or greater and an equal service life unless specifically specified otherwise by the Owner.
  - F. The CIPP may be designed for partially deteriorated conditions to resist external groundwater pressures only or for fully deteriorated conditions for a structural stand-alone pipe.
  - G. The installed CIPP shall comply with the chemical resistance requirements of ASTM F1216 or ASTM D5813.
  - H. All existing and confirmed active service connections and any other service laterals to be reinstated, as directed by the Owner, shall be re-opened robotically or by hand in the case of person-entry size piping, to their original shape and to 90% - 95% of their original area. All over-cut or under-cut service connections shall be properly repaired to meet the requirements of these specifications.
  - I. All materials furnished, as part of this contract shall be marked with detailed product information, stored in a manner specified by the manufacturer and tested to the requirement of this contract.
  - J. Testing and warranty inspections shall be executed by the Owner. Any defects found shall be repaired or replaced by the Contractor.

- K. The Contractor shall furnish, from the project installation, all samples, marked with chain of custody information such as project name, section, date, diameter and thickness, etc., for product testing at the request of the Owner. The Owner shall take possession of the samples for testing and shall maintain the chain of custody, deliver the samples to an approved laboratory and pay for all material and product testing performed under this contract.

## 1.2 REFERENCES

All applicable reference documents should be listed in this section. If a document does not apply, is not pertinent or has unknown content, it should not be included. Specific reference document requirements should be defined in the contract documents or by reference to a specific section of the document. Specific Contractor requirements and/or test procedures contained in the references should be defined in detail in the contract documents.

- A. The following documents form a part of this specification to the extent stated herein and shall be the latest editions thereof. Where differences exist between codes and standards, the requirements of these specifications shall apply. All references to codes and standards shall be to the latest revised version.
- ASTM - F1216 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
  - ~~ASTM - F1743-17 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)~~
  - ASTM - D543 Standard and Practice for Evaluating the Resistance of Plastics to Chemical Reagents
  - ASTM - D638 Standard Test Method for Tensile Properties of Plastics
  - ASTM - D790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
  - ASTM - D792 Standard Test Methods for Density and Specific Gravity of Plastics by Displacement.
  - ~~ASTM - F2019-20 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled-in-Place Installation of Glass Reinforced Plastic Cured-in-Place (GRP-CIPP) Using the UV-Light Curing Method~~
  - ~~ASTM F2561 Standard Practice for Rehabilitation of a Sewer Service Lateral and Its Connection to the Main Using a One-Piece Main and Lateral Cured-in-Place Liner~~
  - ASTM - D2990 Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics
  - ASTM - D3567 Standard Practice for Determining Dimensions of Fiberglass (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings
  - ASTM - D3681 Standard Test Method for Chemical Resistance of "Fiberglass (Glass Fiber Reinforced Thermosetting Resin) Pipe in a Deflected Condition"



- ASTM - D5813 Standard Specification for Cured-in Place Thermosetting Resin Sewer Pipe

### 1.3 PERFORMANCE WORK STATEMENT (PWS) SUBMITTAL

In place of the engineer defining the specific method for product installation, the contractor defines the installation means and methods through a written plan called the Performance Work Statement (PWS). During construction the PWS provides valuable information to the inspector so that the inspector can determine if the submitted means and methods are being followed by the contractor. The PWS also outlines the necessary quality checks to be performed and the installation crew qualifications.

- A. The Contractor shall submit, to the Owner, a Performance Work Statement (PWS) which clearly defines the CIPP product delivery in conformance with the requirements of these contract documents. Unless otherwise directed by the Owner, the PWS shall, at a minimum, contain the following:
- B. Clearly indicate that the CIPP will conform to the project requirements as outlined in the Description of Work and as delineated in these specifications.
- C. A detailed product installation plan describing all preparation work, cleaning operations, pre-CCTV inspections, bypass pumping, traffic control, installation procedure, method of curing, service reconnection, quality control, testing to be performed, final CCTV inspection, warranties furnished and all else necessary and appropriate for a complete CIPP installation. A detailed installation schedule shall be prepared, submitted and conform to the requirements of this contract.
- D. Contractor's description of the proposed CIPP technology, including a detailed plan for identifying all active service connections maintaining service, during mainline CIPP installation, to each home connected to the section of pipe being rehabilitated, including temporary service for commercial, industrial and apartment complexes, if required by the contract.
- E. A description of the CIPP materials to be furnished for the project. Materials shall be fully detailed in the submittals and conform to these specifications and/or shall conform to the pre-approved product submission.
- F. A statement of the Contractors experience. The Contractor shall have a minimum of three (3) years of cumulative experience installing CIPP in pipe of a similar size, length and configuration as contained in this contract. The lead personnel, including the superintendent, the foreman and the lead crew personnel for the CCTV inspection, resin wet-out, the CIPP installation, curing and the robotic service reconnections each

must have a minimum of one (1) year of experience with the CIPP technology proposed for this contract and must have demonstrated competency and experience to perform the scope of work contained in this contract. The name and experience of each lead individual performing work on this contract shall be submitted with the PWS. Personnel replaced by the Contractor, on this contract, shall have similar, verifiable experience as the personnel originally submitted for the project

If the design calculations include physical properties greater than the minimum properties listed in these specifications, the physical properties included in the design calculations become the minimum acceptable values when testing field samples.

- G. Engineering design calculations, in accordance with the Appendix of ASTM F1216, ~~or other design protocol as specified by the owner,~~ for each length of CIPP to be installed including the thickness of each proposed CIPP. It will be acceptable for the Contractor to submit a design for the most severe line condition and apply that design to all of the line sections. These calculations shall be performed and certified by a qualified, Professional Engineer. All calculations shall include data that conforms to the requirements of these specifications or has been pre-approved by the Owner.
- H. Proposed manufacturers technology data shall be submitted for all CIPP products and all associated technologies to be furnished.

Reinstating service laterals is a critical operation for completing small diameter CIPP installations. This specialty type equipment is not readily available for rent from local equipment rental companies. Because of this, often redundant robotic cutters are specified for small diameter projects with service laterals.

- I. Submittals shall include information on CIPP intended for installation and all tools and equipment required for a complete installation. The PWS shall identify which tools and equipment will be redundant on the job site in the event of equipment breakdown. All equipment to be furnished for the project, including proposed back-up equipment, shall be clearly described. The Contractor shall outline the mitigation procedure to be implemented in the event of key equipment failure during the installation process.

Non-specialty backup equipment should be identified and reserved by the Contractor (on will call) from local rental companies in the event of equipment failure.

- J. A detailed description of the Contractor's proposed procedures for removal of any existing blockages in the pipeline that may be encountered during the cleaning process.

Proper public notification can prevent many public relations issues during a project. If the residents know that there will be workers and equipment near their homes, that they should not use large volumes of water or that they may smell strange odors, many homeowner concerns and problems can be prevented.

- K. A detailed public notification plan shall be prepared and submitted including detailed staged notification to residences affected by the CIPP installation.

A CIPP installation typically includes the use of polyester resins. The resin emits a distinctive odor from the styrene component. To minimize this nuisance odor the contractor should devise an odor control plan that will mitigate the nuisance effect to the general public and residents at the project site during the CIPP installation.

- L. An odor control plan shall be submitted, by the Contractor, that will ensure that project specific odors will be minimized at the project site and surrounding area. Part of the plan will include methods for removing odors from resident's homes, if required
- M. Compensation for all work required for the submittal of the PWS shall be included in the various pipelining items contained in the Proposal.

#### 1.4 PRODUCT SUBMITTALS

Product submittals require the contractor to submit the materials to be incorporated in the installation. This also allows the contractor to submit alternative materials that may be equal or better than those specified. The engineer must be prepared to evaluate alternative materials through evaluation, certifications and third-party testing to validate alternative materials meet the specified requirements of the contract.

This section includes a list of significant CIPP products and procedures that should be included in the submittal package. These include the two principal products, the tube and the resin, in addition to handling and storing these items from the manufacturing plant to the wet-out facility. Also included are detailed procedures for wet-out, installation and curing.

- A. Fabric Tube – including the manufacturer and description of product components such as felts and reinforcing materials and tube mechanical properties.
- B. Flexible membrane (coating) material – including materials specific to the proposed curing method and recommended repair (patching) procedure if applicable.

- C. Raw Resin Data - including the manufacturer and description of product components including the spectroscopic wavelength diagram for the resin being furnished as well as mechanical properties, corrosion data and creep data.
- D. Manufacturers' shipping, storage and handling recommendations for all components of the CIPP system.
- E. Safety Data Sheets (SDS) for all materials to be furnished for the project.
- F. Tube wet-out & cure method including:
  - 1. A description of the wet-out procedure for the proposed technology. In the case of tubes wet-out by a third party, the wet-out information from the third-party source.
  - 2. The Manufacturer's recommended cure method for each diameter and thickness of CIPP to be installed. The PWS shall contain a detailed curing procedure outlining the curing medium, the method of application and how the curing temperatures will be monitored.
- ~~G. Compensation for all work required for the submittal of product data shall be included in the Lump Sum price contained in the Proposal for Mobilization.~~

Worker safety should be the number one priority on a job site. No work should start until the Contractor submits a safety plan, and all work should be conducted in accordance with the safety plan. The plan should be sufficiently detailed to describe daily safety meeting requirements, procedures and documentation. Emergency procedures and location of medical facilities should be identified

## 1.5 SAFETY

- A. The Contractor shall conform to all work safety requirements of pertinent regulatory agencies and shall secure the site for the working conditions in compliance with the same. The Contractor shall erect signs and other devices as are necessary for the safety of the work site.
- B. The Contractor shall perform all of the Work in accordance with applicable OSHA standards. Emphasis shall be placed upon the requirements for entering confined spaces and with the equipment being utilized for pipe renewal.
- C. The Contractor shall submit a proposed Safety Plan to the Owner prior to beginning any work, identifying all competent persons. The plan shall include a description of a daily safety program for the job site and all emergency procedures to be implemented in the event of a safety incident. The Safety Plan shall include safety recommendations

for mitigating styrene emissions on heat-cure CIPP job sites that have a potential to pose health risks to workers. References: TTC's "Emissions Phase 2 Final Report" and NASSCO's "Guideline for the Safe Use and Handling of Styrene Based Resins in CIPP". All work shall be conducted in accordance with the Contractor's submitted Safety Plan.

- D. Compensation for work required for the submittal of the Safety Plan shall be included in the various pipelining items contained in the Proposal.

#### 1.6 QUALITY CONTROL PLAN (QCP)

A Quality Control Plan (QCP) should be submitted by the Contractor. The QCP should include a discussion of the proposed quality controls to be performed by the Contractor, including material protection and handling, equipment operation and documentation requirements. The Contractor personnel, including names and cell phone numbers for those that are responsible for assuring that all quality requirements are met, should be identified and submitted.

- A. A detailed quality control plan (QCP) that fully represents and conforms to the requirements of these specifications shall be submitted to the Owner. At a minimum the QCP shall include the following:
  1. A detailed discussion of the proposed quality controls to be performed by the Contractor.
  2. Defined responsibilities, of the Contractor's personnel, for assuring that all quality requirements for this contract are met. These shall be assigned by the Contractor to specific personnel.
  3. Proposed procedures for quality control, product sampling and testing shall be defined and submitted as part of the plan.
  4. Proposed methods for product performance controls, including method of and frequency of product sampling and testing both in raw material form and cured product form.
  5. Scheduled performance and product test result reviews between the Contractor and the Owner at a regularly scheduled job meeting.
  6. Inspection forms and guidelines for quality control inspections shall be prepared in accordance with the standards specified in this contract and submitted with the QCP.

Two very important aspects of a successful CIPP project are a well written and detailed performance specification and an educated inspector that understands the key aspects of CIPP and the quality control procedures required on a project. The inspector should be trained and knowledgeable in where the product is applicable, technology procedures, material wet-out, curing requirements, acceptability standards and required testing.

## 1.7 CIPP REPAIR/REPLACEMENT

As part of the PWS, the Contractor should submit repair and replacement procedures for common CIPP defects. Defects should be categorized as those that need no repair, those that can be repaired and those that must be removed and replaced. Defects that affect the operation and/or longevity of the CIPP should be repaired or replaced.

- A. Occasionally installations will result in the need to repair or replace a defective CIPP. The Contractor shall outline specific repair or replacement procedures for potential defects that may occur in the installed CIPP. Repair/replacement procedures shall be as recommended by the CIPP system manufacturer and shall be submitted as part of the PWS.
- B. Defects in the installed CIPP that will not affect the operation and long-term life of the product shall be identified and defined.
- C. Repairable defects that may occur in the installed CIPP shall be specifically defined by the Contractor based on manufacturer's recommendations, including a detailed step-by-step repair procedure, resulting in a finished product meeting the requirements of these contract specifications.
- D. Unrepairable defects that may occur to the CIPP shall be clearly defined by the Contractor based on the manufacturer's recommendations, including a recommended procedure for the removal and replacement of the CIPP.

## 1.8 AS-BUILT DRAWINGS/RECORDS

As-Built drawings/records include the identification of the work completed by the Contractor and should include the pre- and post-inspection documentation. As-Built drawings /records should be kept current and should be available on the project site at all times. As-Built drawings/records can be in the form of actual drawings, either paper or electronic, spreadsheets or Word documents.

- A. As-Built drawings/records, pre & post inspection videotapes, CDs or other electronic media shall be submitted to the Owner, by the Contractor, within 2 weeks of final

- acceptance of said work or as specified by the Owner. As-Built drawings/records will include the identification of the work completed by the Contractor and shall be prepared on one set of Contract Drawings/Records provided to the Contractor at the onset of the project.
- B. As-Built drawings/records shall be kept on the project site at all times, shall include all necessary information as outlined in the PWS or as agreed to by the Owner and the Contractor at the start of the Contract, shall be updated as the work is being completed and shall be clearly legible.
  - C. Compensation for all work required for the submittal and approval of As-Built drawings/records shall be included in the various pipelining items contained in the Proposal.

## 1.9 WARRRANTY

The Contractor should warrant the CIPP material and installation for a period as specified. If required by the Owner, the Contractor should warrant any defective work that has been repaired for an extended period as agreed. After completion of the work but before the warranty period has expired, the owner should inspect a portion of the rehabilitated system. Initial warranty inspection should include up to 15% of the completed work. The warranty inspection should be based on the recommendations documented by the project inspector during the execution of the project. Any defects found should be handled in accordance with the repair/replacement plan submitted in the PWS. Depending on the frequency of defects found, the Owner may inspect more installations, as necessary.

- A. The materials used for the project shall be certified by the manufacturer for the specified purpose. The Contractor shall warrant the CIPP material and installation for a period of one (1) year. During the Contractor warranty period, any defect which may materially affect the integrity, strength, function and/or operation of the pipe, shall be repaired at the Contractor's expense in accordance with procedures included in Section 1.7 CIPP Repair/Replacement and as recommended by the manufacturer.
- B. On any work completed by the Contractor that is defective and/or has been repaired, the Contractor shall warrant this work for (1) year in addition to the warrantee required by the contract.
- C. After a pipe section has been rehabilitated and for a period of time up to one (1) year following completion of the project, the Owner may inspect all or portions of the rehabilitated system. The specific locations will be selected at random by the Owner's inspector and should include all sizes of CIPP from this project. If it is found that any of the CIPP has developed abnormalities since the time of "Post Construction Television Inspection," the abnormalities shall be repaired and/or replaced as defined in Section 1.7 CIPP Repair/Replacement and as recommended by the manufacturer. If, after inspection of a portion of the rehabilitated system under the contract, problems

are found, the Owner may televise all the CIPP installed on the contract. All verified defects shall be repaired and/or replaced by the Contractor and shall be performed in accordance with Section 1.7 CIPP Repair/Replacement and per the original specifications, all at no additional cost to the Owner.

## **PART 2 PRODUCTS**

### **2.1 MATERIALS**

The cured CIPP product must meet the chemical resistance requirements specified as referenced in ASTM F1216 or ASTM D5813. The tested product should be of the same type tube and resin used on the project. Chemical resistance testing is a qualification test that is typically completed by the resin manufacturer who then certifies that the product meets the specified requirement. This certification, which can be accompanied by the test report, is submitted by the contractor prior to the start of the project.

- A. The CIPP System must meet the chemical resistance requirements of these contract documents.
- B. All materials shipped to the project site shall be accompanied by test reports certifying that the material conforms to the appropriate ASTM standards listed herein. Materials shall be shipped, stored, and handled in a manner consistent with written recommendations of the CIPP system manufacturer to avoid damage. Damage includes, but is not limited to, gouging, abrasion, flattening, cutting, puncturing or ultra-violet (UV) degradation. On site storage locations shall be approved by the Owner. All damaged materials shall be promptly removed from the project site at the Contractor's expense and disposed of in accordance with all current applicable agency regulations.

### **2.2 FABRIC TUBE**

The fabric tube is the vehicle that carries the resin into the pipeline and holds the resin in place prior to and during cure. The thickness of the fabric tube and installation procedures determine the finished thickness of the CIPP. A properly designed and specified fabric tube is critical to achieving the specified finished CIPP thickness.

- A. The fabric tube shall consist of one or more layers of absorbent non-woven felt fabric, felt/fiberglass, felt/carbon fiber, carbon fiber or fiberglass and meet the requirements of ASTM F 1216, ~~ASTM F 1743, or ASTM F2019~~ and ASTM D5813 as applicable. The fabric tube shall be capable of absorbing and carrying resins, constructed to withstand



- installation pressures and curing temperatures and have sufficient strength to bridge missing pipe segments and stretch to fit irregular pipe sections. The Contractor shall submit certified information from the felt manufacturer on the nominal void volume in the felt fabric that will be filled with resin.
- B. The wet-out fabric tube shall have a uniform thickness and excess resin distribution that when compressed at installation pressures will meet or exceed the design thickness after cure.
  - C. The fabric tube shall be manufactured to a size and length that when installed will tightly fit the internal circumference of the original pipe. Allowance shall be made for circumferential stretching during installation. The tube shall be properly sized to the diameter of the existing pipe and the length to be rehabilitated and be able to stretch to fit irregular pipe sections and negotiate bends. The Contractor shall determine the minimum tube length necessary to effectively span the designated run between manholes. The Contractor shall verify the lengths in the field prior to ordering and prior to impregnation of the tube with resin to ensure that the tube will have sufficient length to extend the entire length of the run. The Contractor shall also measure the inside diameter of the existing pipelines in the field prior to ordering tube so that the CIPP can be installed in a tight-fitted condition.
  - D. The outside and/or inside layer of the fabric tube (before inversion/pull-in, as applicable) shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate, if applicable, vacuum impregnation and monitoring of the resin saturation during the resin impregnation (wet-out) procedure.
  - E. No material shall be included in the fabric tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be acceptable upon visual inspection as evident by color contrast between the tube fabric and the activated resin containing a colorant, if a colorant is utilized.
  - F. The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made. The color contrast shall be sufficient to distinguish between the fully resin saturated felt fabric and dry or resin lean areas.
  - ~~G. Seams in the fabric tube, if applicable, shall meet the requirements of ASTM F1743.~~
  - H. The outside of the fabric tube shall be marked at a maximum of every 5 feet with the name of the manufacturer or CIPP system, manufacturing lot and production footage.
  - I. The minimum length of the fabric tube shall be that deemed necessary by the installer to effectively span the distance from the starting manhole to the terminating manhole

or access point, plus that amount required to run-in and run-out for the installation process.

- J. The nominal fabric tube wall thickness shall be constructed, as a minimum, to a sufficient thickness that exceeds the required design thickness for that section of installed CIPP. Wall thickness transitions may be fabricated into the fabric tube between installation entrance and exit access points. The quantity of resin used in the impregnation shall be sufficient to fill all the felt voids for the nominal felt thickness.

### 2.3 RESIN

In felt tube CIPP the resin is the structural pipe. In reinforced tube CIPP, the resin is important in providing the structural matrix so that the reinforcing fibers can significantly increase the CIPP's physical properties. Thus, it is important that the applicable resin for the pipe's flow characteristics is specified and delivered to the wet-out facility. The project representative should verify that the resin specified or substituted by the Contractor meets the contract specified requirements. The inspector should verify that the specified or approved resin is supplied by the Contractor and correct amount of resin is added to the tube at the wet-out facility. This information can be verified from the spectroscopic wavelength diagram of the resin, the tube wet-out report and standard resin saturation charts furnished from the suppliers of the resin and tube.

- A. The resin shall be a corrosion resistant polyester or vinyl ester resin and catalyst system or epoxy and hardener system that, when properly cured within the tube composite, meets the requirements of ASTM F1216, ~~ASTM F1743 or F2019~~ and ASTM D5813, the physical properties herein, and those which are to be utilized in the design of the CIPP for this project. The resin, specified for the specific application defined in the contract documents, shall produce CIPP which will comply with or exceed the structural and chemical resistance requirements of this specification.
- B. The resin to tube ratio, by volume, shall be furnished as recommended by the manufacturer.

## 2.4 STRUCTURAL REQUIREMENTS

The calculated design thickness typically determines the minimum installed CIPP thickness. However, in small diameter CIPP, such as 8", the calculated thickness may be quite small depending upon the design loads. The minimum installed CIPP thickness in these cases should consider the minimum thickness required for maintenance activities such as pressure jetting and abrasion and damage from materials and objects in the pipe flow. Also, the risk of leakage through the CIPP wall increases as the wall becomes thinner. Under these circumstances, a minimum wall thickness greater than the calculated design thickness may be prudent. The type of CIPP product, for example felt or glass tube, should be considered.

- A. The physical properties and characteristics of the finished CIPP will vary considerably, depending on the types and mixing proportions of the materials used and the degree of cure executed. It shall be the responsibility of the Contractor to control these variables and to provide a CIPP system which meets or exceeds the minimum properties specified herein or as submitted in the PWS.
- B. The CIPP shall be designed as per ASTM F1216 Appendix X1. The CIPP design shall assume no bonding to the original pipe wall.
- C. The design engineer shall set the long-term (50 year extrapolated) Creep Retention Factor at 50% of the initial design flexural modulus as determined by ASTM D790 test method. This value shall be used unless the Contractor submits long-term test data (ASTM D2990) to substantiate a higher retention factor.
- D. The cured pipe material (CIPP) shall, at a minimum, meet or exceed the structural properties, as listed below or as submitted in the PWS.

## 2.5 MINIMUM PHYSICAL PROPERTIES

Property	Test Method	Cured Composite Per ASTM F1216	Cured Composite Per Design
Flexural Modulus of Elasticity (Short-Term) Felt Tubes. Felt/Fiberglass, Fiberglass as recommended by the Manufacturer	ASTM D790	250,000 psi	Contractor Value
Flexural Strength (Short-Term) Felt Tubes. Felt/Fiberglass, Fiberglass as recommended by the Manufacturer	ASTM D790	4,500 psi	Contractor Value

- A. The required structural CIPP wall thickness shall be based, as a minimum, on the physical properties of the cured composite and per the design of the Professional Engineer (see section 1.3.G) and in accordance with the design equations contained in Appendix X1 of ASTM F1216, ~~or Appendix X1.1 of ASTM F2019~~ and the following design parameters:

Design Safety Factor	2.0 (1.5 for pipes 36" or larger, if applicable)
Creep Retention Factor	50% or otherwise verified by test data
Ovality	2% or as measured by field inspection
Constrained Soil Modulus	Per AASHTO LRFD Section 12 and AWWA Manual M45
Groundwater Depth	As specified or indicated on the Plans
Soil Depth (above the crown)	As specified or indicated on the Plans
Live Load	Highway, railroad, airport or permanent structures as applicable
Soil Load (assumed)	120 lb./cu. ft. or as specified
Minimum Service Life	50 years

- B. The Contractor shall submit, prior to installation of the lining materials, certification of compliance with these specifications and/or the requirements of the pre-approved CIPP system. Certified material test results shall be included that confirm that all materials conform to these specifications and/or the pre-approved system. Materials not complying with these requirements will be rejected.
- C. The design soil modulus may be adjusted based on data, determined from detailed project soil testing results, as provided by the Owner in the contract documents.

### **PART 3 INSTALLATION**

#### **3.1 CONSTRUCTION REQUIREMENTS**

The construction requirements cover all on-site activities needed for proper installation of the CIPP product. All of these activities (cleaning, inspection, measurement, bypass, etc.) should have been explained in detail in the PWS submitted by the Contractor. Inspection and testing requirements, during construction, should be clearly defined for the Contractor and the inspector. The Contractor shall keep detailed wet-out and curing logs for inspection by the Owner or Owner's project representative.

- A. The wet-out tube shall be constructed of materials and methods that, when installed, shall provide a jointless and continuous structurally sound CIPP able to withstand all

imposed static and dynamic loads on a long-term basis as required in the specifications.

- B. The Contractor may, under the direction of the Owner, utilize any of the existing manholes in the project area as installation access points. If a street must be closed to traffic because of the location of the sewer, the Contractor shall furnish a detailed traffic control plan and all labor and equipment necessary. The plan shall be in conformance with the requirements of the local agency having jurisdiction over traffic control.
- C. Cleaning of Pipelines – Before ordering tube materials for the project, the Contractor shall remove all internal debris from the pipeline that will interfere with the installation and the final product delivery of the CIPP, as required in these specifications, and accurately measure and document the diameter and length of the existing pipeline to be rehabilitated. Solid debris and deposits shall be removed from the system and disposed of properly by the Contractor. Moving material from manhole section to manhole section shall not be allowed. As applicable, the Contractor shall either plug or install a flow bypass pumping system to properly clean the pipelines. Precaution shall be taken by the Contractor in the use of cleaning equipment to avoid damage to the existing pipe. The repair of any damage, caused by the cleaning equipment, shall be the responsibility of the Contractor. The Owner will designate a site for the disposal of all debris removed from the Owner’s sewer system as a direct result of the cleaning operation. Unless otherwise specified by the Owner, the Contractor shall dispose of all debris at no charge. ~~Should any dumping fees apply, the Contractor shall be compensated at the respective unit price bid in the Proposal for cleaning.~~
- D. Bypassing Existing Flows - The Contractor shall provide for the flow of existing mainline and service connection effluent, if applicable, around the section or sections of pipe designated for CIPP installation. With most small diameter pipelines, particularly on terminal sewers, plugging will be adequate but must be monitored on a regular basis to prevent backup of sewage into adjacent homes. Service connection effluent may be plugged, if required, only after proper notification to the affected residence and may not remain plugged overnight. Installation of the CIPP shall not begin until the Contractor has installed the required plugs, or a sewage bypass system and all pumping facilities have been installed and tested under full operating conditions including the bypass of mainline and side sewer flows, if required. Once the installation has begun, existing flows shall be maintained, until the resin/tube composite is fully cured, cooled down, fully televised and the CIPP ends finished. The Contractor shall coordinate sewer bypass and flow interruptions with the Owner at least 7 days in advance. The pump and bypass lines shall be of adequate capacity and size to handle peak flows. The Contractor shall submit a detail of the bypass plan and design to the Owner before proceeding with any CIPP installation. ~~Compensation for bypass pumping and all associated plans and approvals shall be at the price bid in the Proposal.~~

- E. Contractor shall perform post-cleaning video inspections of the pipelines. Only PACP certified personnel trained in locating defects, obstacles and service connections by closed circuit television shall perform the inspection. The Contractor shall provide the Owner a copy of the pre-cleaning and post-cleaning video and suitable log, and/or in digital format, for review prior to installation of the CIPP and for later reference by the Owner.
- ~~F. **Line Obstructions** It shall be the responsibility of the Contractor to clear the line of obstructions that will interfere with the installation and long-term performance of the CIPP. If pre installation inspection reveals an obstruction, misalignment, broken or collapsed section or sag that was not identified as part of the original scope of work and will prohibit proper installation of the CIPP, the Contractor may be directed by the Owner to correct the problem(s) prior to installation by utilizing open cut repair methods. The Contractor shall be compensated for this work under a contingency pay item designated for open cut point repairs. Removal of any previously unknown obstructions shall be considered as a changed condition. The cost of removal of obstructions that appeared on pre-bid video documentation and made available to the Contractor, prior to the bid opening, shall be compensated for on a unit price basis in accordance with the contract documents.~~
- G. The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing the CIPP. ~~If required in the contract documents, each connection will be dye tested to determine whether or not the connection is live or abandoned. Other approved methods to confirm live connections are acceptable. The cost for dye testing of existing service connections shall be compensated at the unit price bid in the Proposal for Dye Testing of Existing Service Connections.~~ In the event the status of a service connection cannot be adequately defined, the Owner will make the final decision, prior to installation of the CIPP, as to the status. Typically, only service connections deemed “active” shall be reopened by the Contractor.
- H. The Contractor shall be allowed to use water from an owner-approved fire hydrant in the project vicinity. Use of an approved double check backflow assembly shall be required. Contractor shall provide his own approved assembly. Contractor shall pay current market price for all water usage.

### 3.2 INSTALLATION OF CIPP

It is important that the CIPP be installed in accordance with the manufacturer's recommendations. These procedures should have been outlined in detail in the PWS submitted by the Contractor. Recommended procedures that should be monitored include: Installation speed and pressure, the cure schedule and curing temperature monitoring must be maintained and documented, as recommended by the manufacturer. Chemical grouting should be utilized, or a pre-liner should be installed, where the infiltration into the pipeline is excessive and may affect the cure and/or the final structure of the CIPP unless the tube has an outer coating or film.

- A. The CIPP shall be installed and cured in the host pipe per the manufacturer's specifications as described and submitted in the PWS.
- B. CIPP installation shall be in accordance with the applicable ASTM standards as modified in this section 3.2.
- C. If significant groundwater infiltration is present in the existing sewer, such as PACP infiltration gusher or multiple runners, , the Contractor shall install a pre-liner tube or perform chemical grouting to control resin loss and contamination, maintain CIPP thickness, prevent physical property reduction and prevent inadequate curing of the CIPP resulting from water or other contamination of the resin during installation. The pre-liner tube shall be a plastic tube to fit the existing pipeline and shall be continuous from manhole (access) to manhole (access). Pre-liners are not required in this situation when using pulled-in tubes with exterior coatings or in the case of UV or LED wet-out tubes that contain an inner and outer foil material.
- D. The wet-out tube shall be positioned in the pipeline using the method specified by the manufacturer. Care should be exercised not to damage the tube as a result of installation. The wet-out tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.
- E. Prior to installation and as recommended by the manufacturer, remote temperature gauges or sensors shall be placed inside the host pipe to monitor the temperatures during the cure cycle. CIPP and/or host pipe interface temperature shall be monitored and logged during cure.
- F. To monitor the temperature of the CIPP wall and to verify correct curing, ~~where specified by the contract documents~~, temperature monitors can be placed between the host pipe and the CIPP in the bottom of the host pipe (invert) at manholes or access points ~~and/or throughout its entire length (continuous)~~ to monitor the temperature on the outside of the CIPP during the curing process.

Monitoring curing temperatures is important for verifying the correct cure of the resin. Temperatures can be monitored continuously in time and location throughout the pipeline being rehabilitated by using a fiber optic cable sensing system installed in the pipe invert prior to CIPP installation. Continuous monitoring systems are computer controlled with a real-time screen display and can be monitored by any smart device. This is especially useful for critical sewers and medium to large diameter sewers. As a minimum, standard thermocouples, which measure temperatures at one point, should be used, typically at the pipe invert in the termination manhole. Often thermocouples are used in addition to continuous monitoring systems to verify proper cure of the CIPP

- G. Curing shall be accomplished by utilizing the appropriate medium or ultraviolet or LED light in accordance with the manufacturer's recommended cure procedure and/or schedule. The curing source or in and output temperatures shall be monitored and logged during the cure cycles, if applicable. The manufacturer's recommended cure method & schedule shall be used for each line segment installed, and the CIPP wall thickness and the existing ground conditions with regard to temperature, moisture level, and thermal conductivity of soil shall be taken into account by the Contractor.
- H. For heat cured CIPP, if any temperature sensor, or continuous sensor location does not reach the temperature as specified by the manufacturer to achieve proper curing or cooling, the installer can make necessary adjustments to comply with the manufacturer's recommendations. For continuous temperature monitoring, the system computer should have an output report that specifically identifies stations along the length of pipe, indicates the maximum temperature achieved and the sustained temperature time at the stations. At each station along the length of the pipe, the computer should record both the maximum temperature and the minimum cool down temperature and comply with the manufacturer's recommendations.
- I. For UV or LED Cured CIPP, light train sensor readings shall provide output documenting the cure along the entire length of the installed CIPP. The cure procedure shall be in accordance with the manufacturer's recommendation as included in the PWS submission by the Contractor.

### 3.3 COOL DOWN

Proper cool down of CIPP is important to help minimize CIPP shrinkage and cracking. The temperature profile and times required should be provided as a part of the cure schedule. Short cuts that reduce the cool down time should not be allowed.

- A. The Contractor shall cool the CIPP in accordance with the approved CIPP manufacturer's recommendations as described and outlined in the PWS.



- B. Temperatures and curing data shall be monitored and recorded by the Contractor throughout the installation process to ensure that each phase of the process is achieved as approved in accordance with the CIPP system manufacturer's recommendations.

### 3.4 FINISH

Any defect which could affect the structural integrity or longevity of the CIPP should be repaired. Sealing the ends of the CIPP at manholes and at service connection openings, if specified, is important in cases where the sewer is below the groundwater surface elevation. Leaks through the wall of the CIPP are considered a defect.

- A. The installed CIPP shall be continuous over the entire length of a sewer line section and be free from visual defects such as foreign inclusions, dry spots, pinholes, major wrinkles and delamination. The CIPP shall be impervious and free of any leakage through the CIPP wall.
- B. Any defect which will or could affect the structural integrity or strength of the CIPP shall be repaired at the Contractor's expense in accordance with the procedures submitted under Section 1.7 CIPP Repair/Replacement.
- C. The beginning and end of the CIPP shall be sealed to the existing host pipe, if specified. The sealing material shall be compatible with the pipe end and shall provide a watertight seal.
- D. If any of the service connections leak water between the host pipe and the installed CIPP, the connection mainline interface shall be sealed, if required by these specifications, to provide a leak tight connection.
- E. If the wall of the CIPP leaks, it shall be repaired or removed and replaced with a watertight pipe as recommended by the manufacture of the CIPP system.
- ~~F. Compensation shall be at the actual length of CIPP installed. The length shall be measured from center of manhole to center of manhole. The unit price per linear foot installed shall include all materials, labor, equipment and supplies necessary for the complete CIPP installation. Compensation for service connection sealing and pipe sealing at the manhole/wall interface shall be at the unit price bid in the Proposal.~~

The long-term structural capability of the existing underground pipeline is defined by the pipe design and the surrounding soil structure. When a CIPP is installed through an existing pipe that represents such defects as soil visible or soil missing, the engineer should consider that the soils be replaced using a flowable fill technique to provide soils support for the newly installed CIPP.

### 3.5 FLOWABLE FILL OF VOID AREAS

- A. Where required by the Owner, the Contractor shall backfill known voids that remain after installation of CIPP. The material shall be of the flowable fill type and shall be injected into the void while removing all trapped air from the void. The Contractor shall submit the proposed method of placing the flowable fill, including pressures that will not collapse the CIPP and air release method to be employed, to the Owner for review before any material is installed. ~~The cost of this work shall be at the unit price bid for flowable fill and include all material, equipment, and labor to complete the filling of the soil void.~~

### 3.6 MANHOLE CONNECTIONS AND RECONNECTIONS OF EXISTING SERVICES

The most common method of sealing the CIPP at manholes is to install a hydrophilic rubber seal prior to installing the CIPP. Sealing the CIPP at manholes after the CIPP has been installed is possible but less effective. Side connections should be cut open to at least 90%-95% of the original service connection opening area. In all cases, the invert of the lateral connection shall be cut flush with the invert entering the mainline to eliminate debris build-up.

- A. A seal, consisting of a resin mixture or hydrophilic seal compatible with the installed CIPP, shall be applied at manhole/wall interface, if specified, in accordance with the CIPP System manufacturer's recommendations.
- B. Existing services shall be internally or externally reconnected unless indicated otherwise in the contract documents
- C. Reconections of existing services shall be made after the CIPP has been installed, fully cured, and cooled down. It is the Contractor's responsibility to make sure that all active service connections are reconnected. ~~If verification of active service connections requires techniques beyond standard mainline CCTV then a separate bid item shall be included.~~

Verification of active services can be completed using many options such as dye testing, CCTV via lateral launching from the main, connection records from the Owner or other means. Methods requiring the Contractor to extend resources beyond mainline CCTV should be separate bid items.

- D. External reconections are to be made with a tee fitting or other approved method in accordance with CIPP System manufacturer's recommendations. Saddle connections shall be seated and sealed to the new CIPP using grout or resin compatible with the CIPP.

- E. A CCTV camera and remote cutting tool shall be used for internal reconnections. The machined opening shall be at least 90 percent of the service connection opening area and the bottom of both openings must match. The opening shall not be more than 100 percent of the service connection opening. The edges of the opening shall not have pipe fragments or CIPP fragments which may obstruct flow or snag debris. In all cases the invert of the service connection shall be cut flush with the invert entering the mainline.
- F. If service reinstatements result in openings that are greater than 100 percent of the service connection opening, the Contractor shall install a CIPP type repair, sufficiently in size to completely cover the over-cut service connection. No additional compensation will be paid for the repair of over-cut service connections.
- G. Coupons or fragments of CIPP material resulting from service tap cutting shall be collected at the next manhole downstream of the pipe rehabilitation operation prior to leaving the site. Coupons may not be allowed to pass through the system.
- H. ~~Compensation shall be at the actual number of services reconnected using either internal or external means as contained in the Proposal. The unit price bid per service line reconnected shall include all materials, labor, equipment and supplies necessary to complete the work as required in these specifications.~~

### 3.7 TESTING OF INSTALLED CIPP

CIPP physical properties should be verified through field sampling and independent testing. Samples shall be taken from the CIPP section installed and should be properly marked and transmitted to an independent testing laboratory or obtained from the project site by a laboratory representing the Owner. Test results should be transmitted from the laboratory to the Owner's representative. Sampling should be in accordance with ASTM F1216, ~~or F2019 as applicable~~, and a chain of custody should be strictly maintained. Restrained samples can be used for sewers of 18" in diameter or less. Plate samples are used for pipelines larger than 18" in diameter. Samples should be acquired as directed and specified by the Owner or the Contract documents.

- A. The physical properties of the installed CIPP shall be verified through field sampling and laboratory testing. All materials for testing shall be furnished by the Contractor to the Owner for testing. All materials testing shall be performed at the Owner's expense by an independent third-party laboratory selected by the Owner as recommended by the CIPP manufacturer. All tests shall be in accordance with applicable ASTM test methods to confirm compliance with the requirements specified in these contract documents, or as submitted in the PWS.
- B. The Contractor shall provide samples for testing to the Owner from the actual installed CIPP. Samples shall be provided from each section of CIPP installed ~~or as required~~

~~by the Owner.~~ The sample shall be cut from a section of cured CIPP that has been inverted or pulled through a like diameter pipe which has been held in place by a suitable heat sink, such as sandbags. All curing, cutting and identification of samples will be witnessed by the Owner and transmitted by the Owner's representative as specified, and sent to the testing laboratory. Flat plate samples can be taken on pipelines greater than 18 inches in diameter, if specified. Identification on the samples shall be standard chain of custody markings.

- C. The laboratory results shall identify the test sample location as referenced to the nearest manhole and station. Final payment for the project shall be withheld pending receipt and approval of the test results. If properties tested do not meet the minimum physical and thickness requirements, the CIPP shall be repaired or replaced by the Contractor unless the actual physical properties and the thickness of the sample tested meet the design requirements as required in the contract.

Chemical resistance is a qualification test where CIPP samples tested should be of the fabric tube and resin proposed for the actual construction. For municipal applications, a certification is typically submitted from the manufacturer verifying that the chemical resistance meets the contract requirements. For industrial installations, the chemical resistance of the resin installed must be tested to meet the corrosion resistance requirements of the pipeline being rehabilitated.

- D. Chemical resistance - The CIPP system installed shall meet the chemical resistance requirements of ASTM F1216 or ASTM D5813. CIPP samples tested shall be of the fabric tube and the specific resin proposed for actual construction. It is required that CIPP samples without plastic coating meet these chemical testing requirements. A certification may be submitted, by the Contractor, from the manufacturer verifying that the chemical resistance of the CIPP meets the contract requirements.
- E. Hydraulic Capacity - The installed CIPP shall, at a minimum, be equal to the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.
- F. The installed CIPP thickness shall be measured for each line section installed as per the ASTM requirements specified. If the CIPP thickness does not meet that specified in the contract and submitted as the approved design by the Contractor, then the CIPP shall be repaired or removed unless the tested physical properties and the thickness of the sample tested meet the design requirements as required in the contract. The CIPP thickness shall have tolerance of minus 5%. In worker-entry size piping, where sampling is by flat plate, a quality based approach using the approved quality plan will be used to accept installed thickness (see discussion in following text box). If the plate sample does not meet the required physical property values, or if any quality checks are deficient, it may be necessary for the Contractor to remove a 2-inch core from the

CIPP 12 o'clock position to check thickness. The openings produced from core samples shall be repaired in accordance with manufacturer's recommended procedures.

For small diameter CIPP of 18" inch diameter or less, the restrained sample can be measured for thickness. In sewers larger than 18-inch diameter the flat plate sample can be tested for thickness, but a flat plate can be constructed in any thickness. The thickness can be measured in a manhole once the CIPP ends are cut, but this may result in a low measurement due to resin loss and thinning. A quality based approach can be used where it is determined that if all the quality checks are met, the likelihood of the CIPP installed thickness meeting the required minimum installed thickness is good. For example, if the dry tube is the correct thickness, the correct type and amount of resin is added during wet-out, and the correct pressures, temperatures and procedures are used during installation and cure, the installed thickness should meet the design minimum thickness. If the plate sample does not meet the required physical property values, or if any quality checks are deficient, it may be necessary to remove a core sample from the CIPP at the 12:00 o'clock position to check thickness. The core hole shall be repaired as recommended by the manufacturer.

- ~~G. All costs to the Contractor associated with providing cured CIPP samples for testing shall be included in the Lump Sum price bid for Mobilization. Payment for all testing by a laboratory will be paid for by the Owner directly to the laboratory under the lump sum Reserve for Testing item force bid in the Bid Proposal.~~

### 3.8 FINAL ACCEPTANCE

Sample testing and repairs to the CIPP should be completed. Test results must have been received from the independent laboratory and meet the contract specified requirements prior to final acceptance of the installed CIPP.

- A. CIPP sample testing and repairs to the installed CIPP, as applicable, shall be completed before final acceptance, meeting the requirements of these specifications and documented in written form.

Prior to conducting the final CCTV, the Contractor should thoroughly clean the newly installed CIPP. Sewage flow in the line should be minimized, and any standing water in sags should be cleared. The CCTV visual quality of the final inspection shall be as specified in the contract. If the quality does not meet the specified requirements, the Contractor shall re-CCTV those section that are unacceptable.

- B. The Contractor shall perform a detailed closed-circuit television inspection in the presence of the Owner after installation of the CIPP and reconnection of the side sewers. Conventional pan and tilt TV camera or sidewall scanning technology, as

approved by Owner, shall be used. The finished CIPP shall be continuous over the entire length of the installation and shall be free of significant visual defects, damage, lifts, holes, leaks and other defects that are not a reflection of the existing pipe condition. Unedited digital documentation of the inspection shall be provided to the Owner within ten (10) working days of the CIPP installation. The data shall note the inspection date, location of all reconnected side sewers, debris, as well as any defects in the CIPP, including, but not limited to, gouges, cracks, bumps, or bulges. If post installation inspection documentation is not submitted within ten (10) working days of the CIPP installation, the Owner may at its discretion suspend any further installation of CIPP until the post-installation documentation is submitted. As a result of this suspension, no additional working days will be added to the contract, nor will any adjustment be made for increase in cost. Immediately prior to conducting the closed-circuit television inspection, the Contractor shall thoroughly clean the newly installed CIPP removing all debris and build-up that may have accumulated at no additional cost to the Owner.

Final CCTV inspection should be performed using water jets to eliminate standing water in sags and bellies while the line is being televised.

If required by the Owner in the specifications, leakage can be determined through visual inspection (water or air installations), hydrostatic testing (water installations), air testing (air installations) or infiltration testing (water or air installations). For small diameter sewers installed with air pressure (UV/LED cure or steam cure), it does not make sense to do hydrostatic (exfiltration) testing for leakage. This leaves visual inspection or air testing as viable alternatives.

For large diameter sewers, visual inspection for leakage is the most common method. Air and hydrostatic testing should not be performed for sewers greater than 36" diameter because of worker safety. Any unacceptable leakage through the CIPP wall should be repaired as required in the contract documents or agreed to by the owner.

- C. If required by the Owner in the specifications, and if the pipe diameter is less than or equal to 36", the CIPP shall be tested for leakage using the water exfiltration test (ASTM F1216 8.2) or a low pressure air test (refer to Appendix A). Testing is limited to pipe lengths with no reinstated service laterals and could delay service lateral reinstatement. Water exfiltration or air testing is not recommended in pipe diameters exceeding 36" diameter. In these cases, a visual inspection for leakage shall be performed, if specified.

Any unacceptable leakage through the CIPP wall should be repaired as required in the specifications or agreed to by the owner.

Not all CIPP line segments can be air tested because of end configurations in the manhole, shape of the CIPP and CIPP irregularities. It is recommended that only a set percentage of the line segments in any one project be tested in lieu of testing each line segment.

Low pressure air testing can be a dangerous operation. It is imperative that all safety protocols for plug operation & maintenance and air testing be followed, including proper blocking/bracing of plugs during the air test and limiting air tests to a maximum diameter of 36 inches.

- D. Bypass pumping or plugging from the upstream manhole shall be utilized to minimize sewage from entering the line during the inspection. In the case of bellies in the line, the pipe shall be cleared of any standing water to provide continuous visibility during the inspection.

### ~~3.9 TYPICAL BID ITEMS~~

~~Additional items such as pre-liner and flowable backfill can be added to specific contracts requiring these items.~~

- ~~A. Mobilization — Lump Sum — Includes all PWS information, submittals, safety plan, as-built drawings, testing samples, mobilization/demobilization of labor, equipment and materials to the project site. Generally limited to 5% of the total amount bid for the project.~~
- ~~B. Pre-Installation CCTV Inspection — Per linear foot — Includes pre-cleaning and post-cleaning CCTV for Owner review. Does not include CCTV inspection just prior to CIPP installation. All inspections will be performed by PACP trained and certified personnel.~~
- ~~C. Dye Testing of Service Connections — Per each — Includes dye testing and documentation of existing service connection on each pipe length to be lined.~~
- ~~D. Point Repairs — Per each or by Lump Sum Contingency — Includes excavation and restoration of a section or sections of pipe that are beyond rehabilitation using CIPP. Note: Point repair items shall be categorized by pipe size, a minimum length of excavation and depth category of excavation to be paid for in the Proposal. If point repairs are not identified in the contract documents, payment shall be on a contingency basis.~~
- ~~E. Standard Pipe cleaning — Per linear foot for each pipe size category — including all labor, equipment, materials and cost of material disposal.~~

- ~~F. Heavy Pipe Cleaning — Per linear foot for each pipe category — including all labor, equipment, materials and cost of material disposal.~~
- ~~G. Pre-liner Installation — per linear foot installed by size category. Includes all labor, equipment and materials required.~~
- ~~H. CIPP Installation — Per linear foot for each pipe size category — Includes all labor, equipment and materials required for the complete installation of a CIPP.~~
- ~~I. Flowable Fill — per cu. yd. of material installed and documented including all labor, equipment and materials required for the complete backfilling of soil voids.~~
- ~~J. Traffic Control — Lump Sum — Includes all labor, equipment and materials required to implement a traffic control plan for the entire project and shall include all costs associated with sub-contracted traffic control specialists.~~
- ~~K. Sewage Bypass — Lump Sum — Includes all labor, equipment and materials required to implement a flow bypass plan for the entire project, including the cost of all sub-contracted flow bypass specialists.~~
- ~~L. Service Reconnections — Per each — Includes reconnecting existing live sewer service connections to the installed CIPP. Owner shall review and verify those connections that are not live and will be left unopened.~~
- ~~M. Service connection sealing — Per each — Includes sealing the interface between the installed CIPP and the host pipe at the location of the service connection.~~
- ~~N. Manhole/Wall Interface Sealing — Per each — Includes sealing the interface between the installed CIPP and the manhole wall~~
- ~~O. Post Construction CCTV Inspection — Per linear foot — Includes post lining CCTV for submission to the Owner. All inspections will be performed by PACP trained and certified personnel.~~
- ~~P. Reserve for Testing — Lump Sum Reserve — For Owners use to include testing required as directed by the Owner, under this contract, by an independent laboratory. (The amount will be set by the Owner in the Bid Proposal)~~

~~\*\*END OF SECTION\*\*~~



## Appendix A: Air Testing of CIPP

Pressure gauges used for this test shall have a minimum division of 0.1 psi and an accuracy of 0.0625 psi.

Test Procedure:

1. The tested pipe may be wet or dry.
2. The minimum test pressure should equal 3.5 psi plus 0.433 psi for each foot of average water or groundwater depth over the crown of the pipe. The maximum test pressure shall be 6 psi.
3. Slowly add air to the section of pipe being tested until the internal air pressure is raised to 4 psi greater than the average back pressure due to water or groundwater. The maximum air pressure shall be 6 psi.
4. Once the test pressure is reached, allow a period of time for the air temperature to stabilize. The stabilization period can vary from a few minutes to an hour or more dependent upon the temperature of the air and CIPP under test. Add air to maintain pressure.
5. After the temperature stabilization period, disconnect the air supply.
6. Record the time in seconds required for the air pressure to drop from 3.5 to 2.5 psi greater than the average back pressure due to water or groundwater.

Acceptance Criteria:

The tested section is acceptable if the time recorded is not less than the time in seconds (T):

$$T = K/C$$

Where:

K = the sum of the computations ( $0.011d^2L$ ) for each size of CIPP and its length in the section

C = the sum of the computations ( $0.0003882 dL$ ) for each size of CIPP and its length in the section; the minimum value for C = 1

d = inside diameter of CIPP in inches

L = length of CIPP in feet

If the tested section fails the air test (time recorded is less than T), check all connections of the test apparatus with soapy water for leaks. Complete another stabilization period (# 4 above) and retest. If the tested section fails again but the results are better (time recorded is still less than T but closer), the problem may be temperature stabilization or re-rounding or expansion of the CIPP. Repeat the stabilization/test cycle if results continue to improve until the section passes. If after repeated test/stabilization cycles the results are not improving, there is most likely a leak in the CIPP or the test apparatus.

If it is determined that there is a leak in the CIPP test section, then a visual test will be performed to locate the leak and repair it, if possible. Repairs will be in accordance with manufacturer's recommendations. Once repaired, the section should be retested.

Not all CIPP line segments can be air tested because of end configurations in the manhole, shape of the CIPP and CIPP irregularities such as wrinkles. It is recommended that only a set percentage (typically 10%) of the line segments in any one project be tested in lieu of testing each line segment.

Low pressure air testing can be a dangerous operation. It is imperative that all safety protocols for plug operation & maintenance and air testing be followed, including proper blocking/bracing of plugs during the air test and limiting air tests to a maximum diameter of 36 inches.

Table 1: Example Air Test Chart for Gravity Sewers

\*Adapted from "Oregon Standard Specifications for Construction, 2015, Section 00445.72 Pipe Testing, pp. 330-331"

Table 1: Example Air Test Chart for Gravity Sewers

Example Air Test Chart for Gravity Sewers																		
Minimum Acceptance Time for Pressure Drop from 3.5 to 2.5 psi																		
Adapted from "Oregon Standard Specifications for Construction" (2015)																		
Diameter	6-inch			8-inch			10-inch			12-inch			18-inch			24-inch		
Length (ft.)	C	K	Minimum Time	C	K	Minimum Time	C	K	Minimum Time	C	K	Minimum Time	C	K	Minimum Time	C	K	Minimum Time
			Min.-Sec.			Min.-Sec.			Min.-Sec.			Min.-Sec.			Min.-Sec.			
100	1.00	35	0'-35"	1.00	64	1'-02"	1.00	100	1'-40"	1.00	146	2'-26"	1.00	329	5'-29"	1.00	585	9'-45"
150	1.00	53	0'-53"	1.00	93	1'-33"	1.00	150	2'-30"	1.00	219	3'-39"	1.01	493	8'-10"	1.34	877	10'-53"
200	1.00	70	1'-10"	1.00	125	2'-05"	1.00	200	3'-20"	1.00	292	4'-52"	1.34	658	8'-10"	1.79	1169	10'-53"
250	1.00	88	1'-28"	1.00	156	2'-36"	1.00	250	4'-10"	1.12	365	5'-27"	1.68	822	8'-10"	2.24	1462	10'-53"
300	1.00	105	1'-45"	1.00	187	3'-07"	1.11	300	4'-30"	1.34	439	5'-27"	2.01	987	8'-10"	2.68	1754	10'-53"
350	1.00	123	2'-03"	1.02	218	3'-33"	1.29	349	4'-30"	1.57	512	5'-27"	2.35	1151	8'-10"	3.13	2046	10'-53"
400	1.00	140	2'-20"	1.17	249	3'-33"	1.48	399	4'-30"	1.79	585	5'-27"	2.68	1316	8'-10"	3.58	2339	10'-53"
450	1.00	158	2'-38"	1.31	280	3'-33"	1.66	449	4'-30"	2.01	658	5'-27"	3.02	1480	8'-10"	4.03	2631	10'-53"
500	1.10	175	2'-40"	1.46	312	3'-33"	1.85	499	4'-30"	2.24	731	5'-27"	3.36	1644	8'-10"	4.47	2923	10'-53"
550	1.21	193	2'-40"	1.61	343	3'-33"	2.03	549	4'-30"	2.46	804	5'-27"	3.69	1809	8'-10"	4.92	3216	10'-53"
600	1.31	210	2'-40"	1.75	374	3'-33"	2.22	599	4'-30"	2.68	877	5'-27"	4.03	1973	8'-10"	5.37	3508	10'-53"
650	1.42	228	2'-40"	1.90	405	3'-33"	2.40	649	4'-30"	2.91	950	5'-27"	4.36	2138	8'-10"	5.82	3801	10'-53"
700	1.53	245	2'-40"	2.05	436	3'-33"	2.59	699	4'-30"	3.13	1023	5'-27"	4.70	2302	8'-10"	6.26	4093	10'-53"

Notes:	1. $C = (0.0003882)dL$	4. If C is less than 1 use C = 1
	2. $K = (0.011)d^2L$	5. For project calculated minimum times, use actual inside diameter of CIPP
	3. $T_{(sec)} = (K/C)$	6. Calculations shown are for 4.5 mm CIPP for 6", 6 mm for 8", 10" & 12", 9 mm for 18" and 12 mm for 24"
	7. If $C > 1$ , $T_{(sec)} = 28.34d$	

**SECTION E**

Sanitary Sewer Standards for UCSD and Affiliated Communities

**SANITARY SEWER STANDARDS**  
**URBANA & CHAMPAIGN SANITARY DISTRICT**  
**AND**  
**AFFILIATED COMMUNITIES**  
**CHAMPAIGN**  
**URBANA**  
**SAVOY**

**Prepared by:**

**Intergovernmental  
Joint Sanitary Sewer Technical Committee  
Effective November 2nd 2020**

## Introduction

The Intergovernmental Agreement Regarding Sanitary Sewers, which was adopted in 1992 by the Urbana & Champaign Sanitary District (District), the City of Champaign, City of Urbana and Village of Savoy, provided for the creation of a Sanitary Sewer Technical Committee charged with the responsibility of coordinating and implementing certain responsibilities set forth in that Agreement. One of those responsibilities is to control connections to, and set standards for construction of, all municipal sanitary sewer systems tributary to the District. To that end, the Technical Committee adopted a set of standards in December, 1994.

This document represents the latest revision to those 1994 standards, incorporating policy and technical changes that expand and clarify the practices and requirements that apply to all sanitary sewers within the District.

It is the Sanitary Sewer Technical Committee's intent through these standards that it is clear to the development, architectural, and engineering community what the District and each community's standards are. This will result in consistent plan and specification submittals and simplify installation methods and expectations for contractors.

**Urbana & Champaign Sanitary District**

By:   
Executive Director

**City of Urbana, Illinois**

By:   
Public Works Director

**City of Champaign, Illinois**

By:   
City Engineer

**Village of Savoy, Illinois**

By:   
Public Works Director

## **SANITARY SEWER STANDARDS**

### **100.00 PIPE MATERIALS**

Pipe materials used for sanitary sewers shall conform to the following materials which are expressly manufactured for transmitting sanitary sewage and shall comply with requirements of the Illinois Environmental Protection Agency:

SDR 26 (minimum thickness) Solid Wall PVC pipe per ASTM D-3034 (4-inch through 15-inch), SDR 26 (minimum thickness) Solid Wall PVC pipe per ASTM DF679 (18-inch through 60-inch), PVC profile pipe (18-inch diameter and larger) per ASTM F949 or ASTM 1803, centrifugally-cast fiberglass-reinforced polymer mortar pipe per ASTM D3262 (18-inch through 60-inch), ductile iron per AWWA C150, and others approved by the Executive Director of the UCSD with the concurrence of the approving authority.

Ductile iron pipe shall have an interior coating to protect against corrosion consisting of Protecto 401 ceramic epoxy or polyethylene lining. Interior coating shall have a nominal thickness of 40 mils. Polyethylene lining shall be in accordance with ASTM D1248 and be heat fused. For trenchless construction, materials and methods will be approved on a case-by-case basis by the approving authority.

### **110.0 MANHOLES**

Manholes shall comply with minimum standards in the "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS latest edition" and shall be a minimum of four-feet in diameter. An external manhole chimney seal shall be required on all new manholes.

### **111.0 DROP MANHOLE CONNECTIONS**

All new drop manholes shall be a minimum of five-foot diameter. Drop manhole installations, for 8-inch collector sewers and service lines connecting to five-foot or greater diameter manholes, shall be installed as internal to the manhole structure. Drop connections to existing manholes less than five-foot diameter shall be external and shall comply with the appropriate provisions and details in the "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, latest edition". A minimum of a five-foot diameter manhole shall be required for internal drop assemblies. Internal drop assembly shall be a RELINER® drop bowl system or engineer approved equal. The drop bowl system shall include a drop bowl assembly, pipe clamps, pipe, and pipe fittings. Pipe and pipe fittings shall be SDR 26 PVC pipe in accordance with Section 100. Drop bowl system shall be installed in accordance with manufacturer's recommendations. The location and details of proposed internal drop assemblies must be approved by the approving authority prior to initiation of construction.

## 112.0 TERMINAL MANHOLE CONNECTIONS

Manholes at the upstream end of dead-end lines shall be constructed so that influent service connections are only attached to the manhole at the upstream side. Further, there shall be a minimum of 4 inches of elevation difference from the invert of the service connection to the invert of the outlet pipe. There shall also be a concrete channel constructed from the invert of the service connection to the channel of the bench outlet pipe. Details of the connection shall be approved by the appropriate agency prior to initiation of construction.

## 113.0 CONNECTIONS TO EXISTING MANHOLES

New connections made to any existing manhole shall be angled in the direction of flow, and shall be accomplished by core drilling through the wall of the manhole and installing an appropriately sized connector boot, such as *KOR n SEAL*® by Trelleborg, Z-LOK by A-LOK Products, Incorporated, or approving authority approved equal.

## 114.0 MANHOLE REQUIREMENTS

Manholes constructed shall conform to the “Sanitary Sewer Manhole Detail” attached to these Sanitary Sewer Standards.

## 120.0 SERVICE LATERALS

The minimum inside diameter of new service laterals or clean-outs shall be 4-inches. No reduction in new service lateral pipe diameter is permitted from the structure to the public sanitary sewer. Existing 4-inch service laterals may be lined one time, resulting in a final internal diameter less than 4-inches.

Pipe materials used for sanitary sewer laterals shall conform to the following materials which are expressly manufactured for transmitting sanitary sewage:

Solid wall PVC with a minimum wall thickness equivalent to SDR 26 or Schedule 40 which meets ASTM D-3034, D-224, or D-2665; and ductile iron per AWWA C150. Ductile iron pipe shall have an interior coating to protect against corrosion consisting of Protecto 401 ceramic epoxy or polyethylene lining. Interior coating shall have a nominal thickness of 40 mils. Polyethylene lining shall be in accordance with ASTM D1248 and be heat fused.

PVC Pipe joints for SDR-26 shall be push-on-type with a bell-end groove to receive a synthetic rubber gasket. Solvent welded joints are not allowed for SDR-26. The joint shall be made in accordance with ASTM D-3212.

Schedule 40 PVC joints can be solvent-cemented. The cement shall meet the requirements of ASTM D-2564.



If laterals are constructed of 6-inch pipe, they shall have a minimum slope of 1/8-inch per foot (1%). 4-inch pipe shall have a minimum slope of 1/4-inch per foot (2%). All laterals shall be installed at a depth to serve the building it is designed to serve, but shall have a minimum cover of 42-inches unless otherwise approved on a case-by-case basis by the approving authority.

The end of the lateral shall be at no deeper than seven-feet below the existing grade. The end of the lateral shall be staked with a 2 x 4 wood leader which extends to one-foot above the ground and the coordinates of the end of the lateral shall be measured using Global Positioning System survey grade equipment using the Illinois State Plane Coordinate System and the coordinates recorded on the as-built drawings for the sanitary sewer

Manholes are required on any service lateral that that exceeds 6-inches in inside diameter. Manholes shall comply with section 110.00

VAC-A-TEE® by LMK Technologies shall be acceptable for clean-outs on existing sewer lateral lines.

Each service connection shall be installed to the property line and shall be installed no closer than five-feet to any property corner.

A sewer lateral clean-out located on private property shall be required on all sewer lateral pipe repairs that involve replacing over fifty-percent of the lateral pipe. If the lateral already has an existing clean-out no additional clean-outs are required. The clean-out shall NOT be located in either public right-of-way or utility easement unless authorized by the approving authority

## 124.0 PIPEBURSTING SEWER LATERAL REPLACEMENT

### 1. CONTRACTOR'S QUALIFICATIONS

The Contractor shall be trained and certified by manufacturer of the pipe bursting system. A copy of the contractor's certification and training records shall be submitted to approving authority.

Field joining of HDPE pipe shall be performed by competent personnel trained in the use of butt-fusion equipment and recommended methods for new pipe connections. Personnel directly involved with installing the new pipe shall receive training in the proper methods for handling and installing the HDPE pipe. All training shall be performed by a qualified representative of the manufacturer.

## 2. MATERIALS

Polyethylene Plastic Pipe shall be high-density polyethylene pipe and meet the applicable requirements of ASTM F714 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter, ASTM D1248, ASTM D3550.

All pipe installed shall be the same diameter or larger than the original sewer lateral and offer the same flow capacity. All pipe shall be made of virgin material. The pipe shall be homogenous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.

The minimum wall thickness of the polyethylene pipe shall be SDR-17. Minimum inside diameter shall be 4-inches.

If coiled HDPE pipe is utilized contractor shall provide equipment to straighten and reround coiled pipe to meet or exceed ASTM D-2513 quality requirements.

## 3. EQUIPMENT

**BURSTING TOOL:** The pipe bursting tool shall be designed and manufactured to force its way through existing pipe materials by fragmenting the pipe and compressing the old pipe sections into the surrounding soil as it progresses. The bursting unit shall generate sufficient force to burst and compact the existing pipe line. The pipe bursting tool shall be properly sized for the diameter of pipe to be rehabilitated.

The remotely controlled bursting unit shall pull the HDPE pipe with it as it moves forward. The bursting head shall incorporate a shield/expander to prevent collapse of the hole ahead of the PE pipe insertion. The bursting action of the tool shall increase the external dimensions sufficiently, causing breakage of the pipe at the same time expanding the surrounding ground. This action shall allow the HPDE pipe to be installed free of obstructions and damage.

The contractor shall provide a system of guide pulleys and bracing to minimize cable contact with the existing sewer facilities.

## 4. CONSTRUCTION METHODS

The Contractor shall install all pulleys, rollers, bumpers, alignment control devices and other equipment required to protect existing facilities and to protect the pipe from damage during installation. Lubrication may be used as recommended by the manufacturer. Under no circumstances shall the pipe be stressed beyond its elastic limit. The pipe bursting unit is to be centered in the pipe to be burst.

The polyethylene pipe shall be assembled and joined at the site using the butt-fusion method to provide a leak proof joint. Butt-fusion joints shall be in accordance

with ASTM Standard F2620. Threaded or solvent-cement joints and connections are not permitted.

All equipment and procedures used shall be used in strict compliance with the manufacturer's recommendations. Fusing shall be accomplished by personnel trained by a manufacturer of HDPE pipe and/or fusing equipment.

The butt-fused joint shall be true alignment and shall have uniform roll-back beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal of pressure. The fused joint shall be watertight and shall have tensile strength equal to that of the pipe.

All defective joints shall be cut out and replaced at no additional cost. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater in depth than ten percent (10%) of the wall thickness, shall not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated above. In addition, any section of the pipe having other defects such as concentrated ridges, discoloration, excessive spot roughness, pitting, variable wall thickness or any other defect of manufacturing or handling shall be discarded and not used.

The ends of the HDPE shall be connected to existing or new pipes using a coupling device. The new connection shall not compromise the structural stability or previous rehabilitation efforts in the mainline sewer serving the lateral. A Fernco Stock or Mission Standard coupling are acceptable for coupling the new HDPE to existing clay, concrete, or cast iron pipe for buried applications. Mission or Fernco couplings shall have rubber sleeves that conform to ASTM C 425 and ASTM C 1173 with 316 Series stainless steel clamps with nut and bolt or worm drive take-up. A bag of premixed concrete shall be installed under each Mission or Fernco coupling.

An ISCO Standard Coupling to IPS PVC or Poly-Cam Transition Coupling shall be used for coupling the new HDPE pipe to PVC pipe.

After all connections are made and inspected by the approving authority, the access pits shall be backfilled.

## 5. INSPECTION

The Contractor shall provide internal pipe televising inspection for the sewer lateral prior to the pipe bursting activities and after the pipe bursting activities have been completed. A copy of the internal pipe televising inspection shall be available to the approving authority for their review. An electronic copy of the televised inspections shall be provided on a media specified by the Approving Authority prior to final acceptance of the sewer.

All pipe connections made must be inspected prior to backfilling and resurfacing.

## 125.0 CURED-IN-PLACE SANITARY LATERAL LINING STANDARDS

### 1. CONTRACTOR'S QUALIFICATIONS

The Contractor shall be trained and certified by manufacturer of the cured-in-place sanitary sewer lateral lining system. A copy of the contractor's certification and training records shall be submitted to approving authority.

### 2. MATERIALS

The tube shall consist of one or more layers of flexible needled felt or an equivalent non-woven or woven material or a combination non-woven and woven material meeting the requirements of ASTM F1216, Section 5.1.

The CONTRACTOR shall furnish and install a general purpose, unsaturated, styrene-based, thermoset resin and catalyst system or epoxy resin and hardener specifically designed for lining sewers that provides minimum strengths as specified below.

Strength	Minimum	Applicable ASTM Test
	(psi.)	
Tensile Strength	3,000	D 638
Flexural Stress	4,500	D 790
Flexural Modulus Elasticity	250,000	D 790

All other material properties of the resin system shall meet the requirements of ASTM F1216, Section 5.2.

The minimum thickness of the liner shall be 3.4 millimeters (0.134 inches).

### 3. INSTALLATION

Cured-in-place sanitary sewer lateral lining is only permitted on 4-inch and larger diameter sanitary sewer laterals. Cured-in-place sanitary lining shall not be permitted for less than 4-inch diameter sanitary sewer laterals. Contractor shall field verify the diameter of the lateral and report the diameter to the approving authority prior to commencement of any work.

The installation of the cured-in-place liner shall be in accordance with ASTM F 1216.

It shall be the responsibility of the Contractor to remove all internal debris from the lateral line. Internal debris consists of any material that obstructs the original pipeline and prevents the installation of the liner. Example of debris includes solids, crushed or collapsed pipe, roots, grease and other miscellaneous materials.

The Contractor shall perform the resin impregnation of the tube in accordance with ASTM F 1216.

The "wet out" tube shall be inserted through an access point by means of an inversion process and the application of air pressure or hydrostatic head sufficient to fully extend it to the public sanitary sewer. The tube shall be inserted into the inversion standpipe with the impermeable plastic membrane side out. At the other end of the inversion standpipe, it shall be turned inside out. The inversion head shall be adjusted to provide sufficient pressure or height to cause the impregnated tube to invert from and hold the tube tight to the pipe wall. Care shall be taken during the inversion so as not to over-stress the felt fiber.

The use of lubricant is required during the inversion procedure. The methods and materials used for lubrication shall be in accordance with ASTM F 1216, Section 7.5.

Before inversion begins, the Contractor shall obtain from the manufacturer the minimum pressure required to hold the tube tight against the existing conduit and the maximum allowable pressure so as to not damage the tube. Once the inversion process begins, the Contractor shall maintain the pressure between the minimum and maximum pressure until the completion of the inversion process. If the pressure deviates beyond the limits of the minimum and maximum pressures, the Contractor shall remove the installed tube from the existing conduit.

The Contractor shall perform the curing of the inverted tube in accordance with ASTM F 1216, Section 7.6.

Initial cure shall be deemed to be completed when inspection of the exposed portions appear to be hard and sound or the remote temperature sensor indicates that the temperature is of a magnitude to realize an exotherm or cure in the resin. The cure period shall be of a duration recommended by the resin manufacturer, as modified for the process, during which time the recirculation of the water and cycling of the heat exchanger continues to maintain the temperature.

Steam curing is allowed and shall follow Section 7.6.2 and Section 7.6.3 of ASTM F1216.

The finished liner shall be continuous over the entire length of an inversion run and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes and delaminations.

After sewer lateral cured-in-place sewer lining is completed and inspected by the approving authority, the access pit shall be backfilled.

All pipe connections made must be inspected prior to backfilling and resurfacing.

#### 4. CONNECTION TO PUBLIC SEWER

The cured-in-place liner shall not be allowed to protrude into the public sanitary sewer. Contractor shall verify by television inspection that the cured-in-place liner does not protrude into the public sanitary sewer. Contractor shall provide photos or video of the lateral liner connection to the public sewer to the approving authority. Contractor shall be responsible for removing any protruding cured-in-place liner in the public sewer and all costs associated with that work.

#### 5. INSPECTION

The Contractor shall provide internal pipe televising inspection for the sewer lateral prior to the cured-in-place lining activities and after the sewer lining activities have been completed. A copy of the internal pipe televising inspection shall be available to the approving authority for their review. An electronic copy of the televised inspections shall be provided on a media specified by the Approving Authority prior to final acceptance of the sewers.

### 126.0 DIRECTIONAL BORING OF SEWER LATERALS

#### 1. CONTRACTOR'S QUALIFICATIONS

The Contractor shall be trained and certified by manufacturer of the directional boring system. A copy of the contractor's certification and training records shall be submitted to approving authority.

Field joining of HDPE pipe shall be performed by competent personnel trained in the use of butt-fusion equipment. Personnel directly involved with installing the new pipe shall receive training in the proper methods for handling and installing the HDPE pipe. All training shall be performed by a qualified representative of the manufacturer.

#### 2. MATERIALS

Polyethylene Plastic Pipe shall be high-density polyethylene pipe and meet the applicable requirements of ASTM F714 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter, ASTM D1248, ASTM D3550.

Certa-Lok Yelomine PVC pipe meeting the applicable requirements of ASTM D2241, D3139, F477, D2774 is also approved for directional boring of laterals.

All pipe shall be made of virgin material. The pipe shall be homogenous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.

The minimum wall thickness of the polyethylene and PVC pipe shall be SDR-17. Minimum inside diameter shall be 4-inches.

If coiled HDPE pipe is utilized contractor shall provide equipment to straighten and reround coiled pipe to meet or exceed ASTM D-2513 quality requirements.

### 3. CONSTRUCTION METHODS

Lubrication may be used as recommended by the manufacturer. Under no circumstances shall the pipe be stressed beyond its elastic limit.

The polyethylene pipe shall be assembled and joined at the site using the butt-fusion method to provide a leak proof joint. Butt-fusion joints shall be in accordance with ASTM Standard F2620. Threaded or solvent-cement joints and connections are not permitted.

All equipment and procedures used shall be used in strict compliance with the manufacturer's recommendations. Fusing shall be accomplished by personnel trained by a manufacturer of HDPE pipe and/or fusing equipment.

The butt-fused joint shall be true alignment and shall have uniform roll-back beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal of pressure. The fused joint shall be watertight and shall have tensile strength equal to that of the pipe.

All defective joints shall be cut out and replaced at no additional cost. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater in depth than ten percent (10%) of the wall thickness, shall not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated above. In addition, any section of the pipe having other defects such as concentrated ridges, discoloration, excessive spot roughness, pitting, variable wall thickness or any other defect of manufacturing or handling shall be discarded and not used.

Certa-Lock pipe shall be assembled and jointed at the site using a splined restrained joint system.

The ends of the HDPE shall be connected to existing or new pipes using a coupling device. The new connection shall not compromise the structural stability or previous rehabilitation efforts in the mainline sewer serving the lateral. See Section 143 for

connection type for transition from HDPE pipe to existing clay, concrete, or cast iron pipe for buried applications.

An ISCO Standard Coupling to IPS PVC or Poly-Cam Transition Coupling shall be used for coupling the new HDPE pipe to PVC pipe.

See section 143 for connection type for Yelomine PVC pipe to existing clay, concrete, cast iron, or PVC.

After all connections are made and inspected by the approving authority, the access pits shall be backfilled.

## 5. INSPECTION

The Contractor shall provide internal pipe televising inspection for the sewer lateral post construction. Televised inspection shall be done while running water thru the pipe to check for sags. A copy of the internal pipe televising inspection shall be available to the approving authority for their review. An electronic copy of the televised inspections shall be provided on a media specified by the Approving Authority prior to final acceptance of the sewers.

### 130.0 PIPE BEDDING, HAUNCHING & INITIAL BACKFILL

Material and requirements for pipe bedding, haunching, and initial backfill to 12-inches above the top of the pipe shall be in accordance with the "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS latest edition. Previously excavated material is not an allowable material, unless the material has been tested, at intervals and frequencies acceptable to the approving authority, by a certified laboratory and shown to meet the gradation requirements for one of the specified aggregate materials.

### 140.0 PIPE CONNECTIONS

#### 141.0 WYES

Sewer wye material must comply with Section 100.00, must comply with appropriate provisions of the "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS latest edition" and shall be encased in granular bedding conforming to Section 130.00,

#### 142.0 CONNECTIONS TO EXISTING SEWERS

If a connection is to be made where there is no wye, and the existing piping is smaller than 12 inches in diameter, a section of pipe shall be removed and a wye inserted with pipe couplings, conforming to Section 143.00, and new sections of



pipe as needed. New connections to existing piping 12-inches in diameter or larger shall be made by core drilling the existing pipe and installing a flexible connector assembly such as *Kor-N-Tee Lateral Pipe Connectors by NPK, a LMT™ (Lined Main Tap™) Saddle by LMK, or approving authority approved equal.*

LMT™ (Lined Main Tap™) Saddle by LMK or approving authority approved equal shall be used for all connections to existing sewer pipes up to 24-inches in diameter that have been rehabilitated using the cured-in-place sewer lining technology. Kor-N-Tee Lateral Pipe Connectors by NPK or approving authority approved equal shall be used for all connections to existing sewer pipes over 24-inches in diameter that have been rehabilitated using the cured-in-place sewer lining technology.

Kor-N-Tee Lateral Pipe Connectors or LMT™ Saddle shall be properly supported in a granular base to minimize settlement.

#### 143.0 PIPE COUPLINGS

Pipe couplings shall be non-shear type and conform to the applicable portions of ASTM C-425, C-443, C-564, C-1173, D-5926 and D-1869. Pipe couplings shall be Fernco 5000 Series Strong Back Couplings or Engineer approved equal. They shall be made of elastomeric polyvinyl chloride with a 0.012-inch thick 300 series stainless steel shear ring, shall be specifically sized to fit the outer diameter of the pipes being joined, and shall have stainless steel take-up clamps to fit the appropriate outer diameter of the coupling. The take-up clamps shall be tightened to the manufacturers recommended torque value and the joints tested in accordance with Section 160.00, and the manufacturer's recommendations. Testing may be waived at the discretion of the approving authority, provided that the installation passes visual inspection. After the connection has been inspected, tested where required, and approved by the approving authority, the entire connection shall be encased in granular fill to a minimum of 6-inches all around.

#### 150.0 BACKFILL

Where the inner edge of the trench is within 2-feet of the edge of the pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk, the sewer trench must be backfilled with CLSM (controlled low strength material) meeting the approving authority's specifications, or granular trench backfill, placed in uniform layers not exceeding 6 inches thick (loose measure) and compacted to 95% of Standard Proctor unless flowable fill is used, in which case, the fill shall be designed to have a compressive strength between 100 to 200 psi. Backfill requirements shall conform to agency with jurisdiction over right-of-way or easement where sewer is installed.

Jetting and water-soaking is not allowed.

Outside of the pavement area, native soil may be returned to the trench, in accordance with the requirements of "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", but the developer and/or contractor is responsible for repair of all settlement which occurs.

#### 160.0 TESTING

Testing shall comply with provisions of the "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS latest edition" with the following exceptions: 1) the maximum leakage shall be 200 gpd/in. dia./day/mile of pipe instead of 240, 2) all reaches shall be tested, and 3) all manholes shall be vacuum tested in accordance with ASTM C1244-05a.

#### 165.0 TELEVISIONING

All newly constructed public and private sanitary sewers (excluding sewer laterals) shall be inspected by closed circuit television. The developer or property owner shall be responsible for the televising of new public and private sanitary sewers for 8-inch diameter or larger sewer.

Any defects discovered during televised inspection shall be corrected at no cost to the Approving Authority. After the correction of defects has been completed, affected sewer sections shall be re-televised at no cost to the Approving Authority. A copy of the internal pipe televising inspection shall be available to the approving authority for their review. An electronic copy of the televised inspections shall be provided on a media specified by the Approving Authority prior to final acceptance of the sewers.

#### 170.0 MANDREL TEST

The sewer must be capable of passing a two-foot long cylinder, which has a diameter 1 inch less than the inside diameter of the pipe being tested.

#### 180.0 PAVEMENT REPAIRS

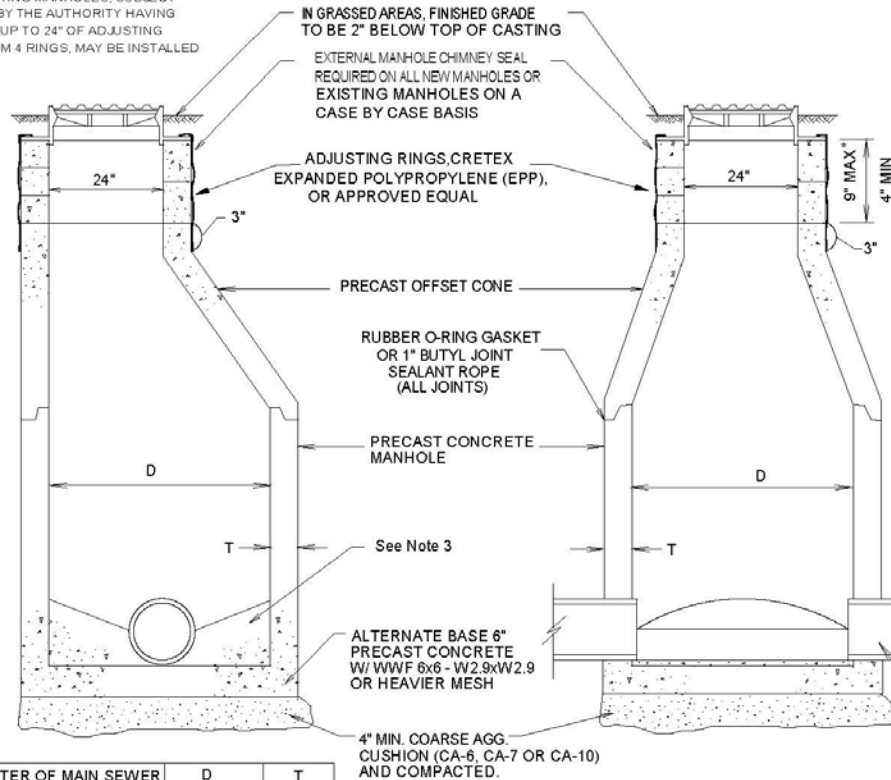
Pavement repair requirements shall conform to agency with jurisdiction over right-of-way or easement where sewer is installed.

#### 190.0 MINIMUM CONSTRUCTED SLOPE

Pipe slopes shall be in accordance Section 370.320 of the ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS.

For terminal sewer runs serving less than one-hundred (100) population equivalents the sewer line for a minimum distance of 300-feet shall from the upstream manhole shall have a minimum pipe slope of 0.60% slope for an 8-inch diameter line.

\* FOR SOME EXISTING MANHOLES, SUBJECT TO APPROVAL BY THE AUTHORITY HAVING JURISDICTION, UP TO 24" OF ADJUSTING RINGS, MAXIMUM 4 RINGS, MAY BE INSTALLED



DIAMETER OF MAIN SEWER	D	T
15" OR LESS	4'-0"	4" Min.
18" AND GREATER	5'-0"	5" Min.

**SANITARY SEWER  
MANHOLE DETAIL**

**NOTE:**

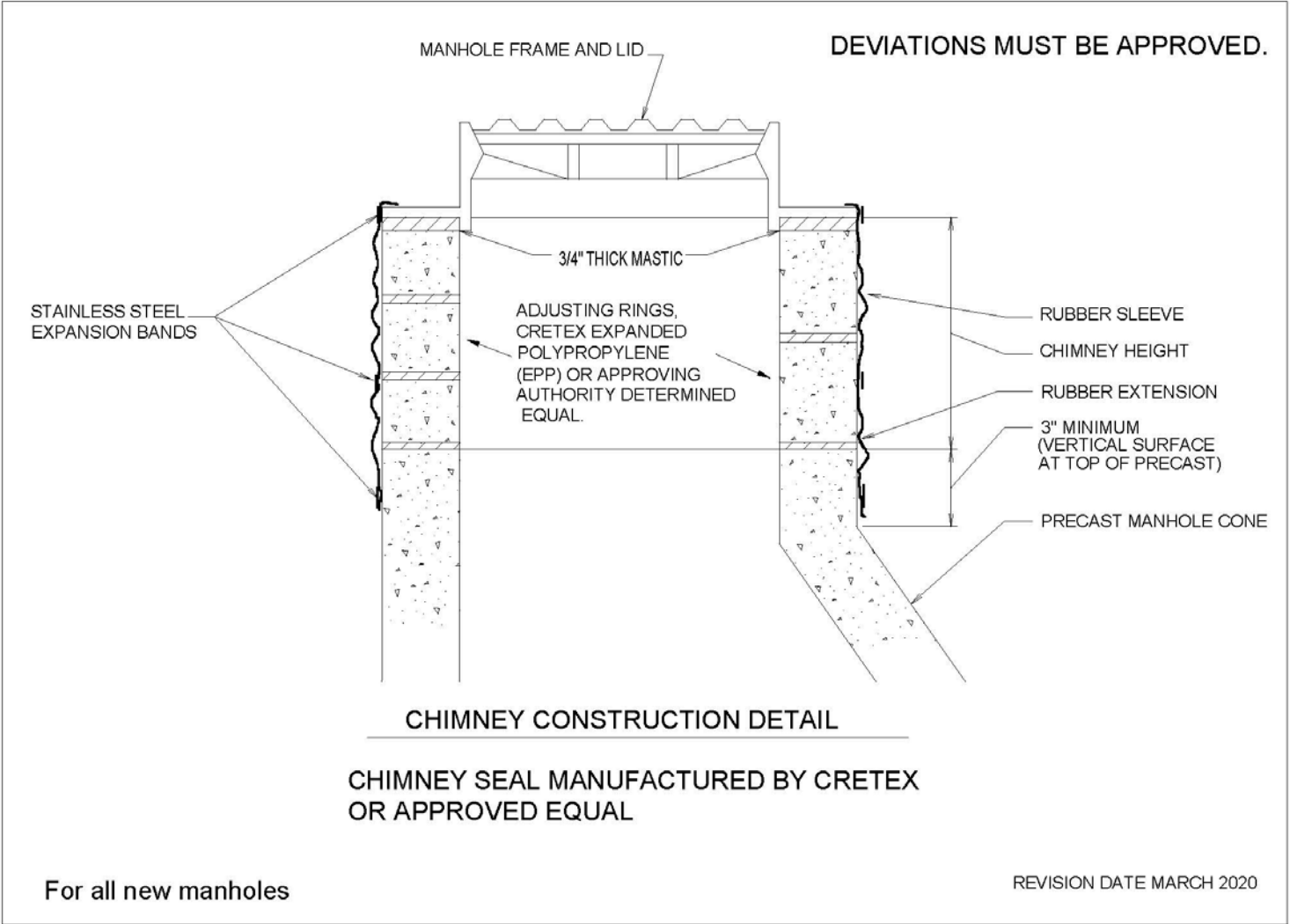
1. CASTING NEENAH R-1713 WITH TYPE B SELF SEALING LID OR EQUAL AND OWNER APPROVED TEXT CAST IN LID. WHERE BOLT DOWN LIDS REQUIRED, CASTING SHALL BE R1916D OR EQUIVALENT.
2. NO ADJUSTING RINGS ARE REQUIRED FOR MANHOLES THAT ARE TO BE BURIED IN AGRICULTURAL AREAS, TURF OR NON-PAVED AREAS.
3. CONCRETE MANHOLE BASE AND FILLET SHALL BE CAST INTEGRALLY WITH BOTTOM MANHOLE SECTION FOR NEW CONSTRUCTION. FOR NEW MANHOLE ON EXISTING SEWERS, A PRECAST, REINFORCED MANHOLE BASE 6" MIN. THICKNESS MAY BE USED.
4. INSIDE AND OUTSIDE OF ALL JOINTS AND PIPE OPENINGS TO BE FILLED WITH MORTAR & BRUSHED SMOOTH.
5. OUTSIDE OF ALL JOINTS TO BE SEALED WITH BITUMINOUS MATERIAL.
6. SERVICE SEWER SHALL BE ANGLED IN DIRECTION OF FLOW, WITH INVERT OF SERVICE SEWER SET BETWEEN CENTER OF MAIN SEWER AND NOT MORE THAN TWO FEET ABOVE CENTER OF MAIN SEWER AND CHANNELED DOWN TO CENTER OF MAIN SEWER.
7. FOR MANHOLES CONSTRUCTED ON NEW SEWERS INTENDED TO SERVE FUTURE DEVELOPMENT, A WOOD LEADER (4 IN X 4 IN ) SHALL BE INSTALLED ADJACENT TO THE MANHOLE AND BROUGHT PAINTED GREEN.
8. APPROVING AUTHORITY TO DETERMINE IF MANHOLE STEPS ARE REQUIRED.

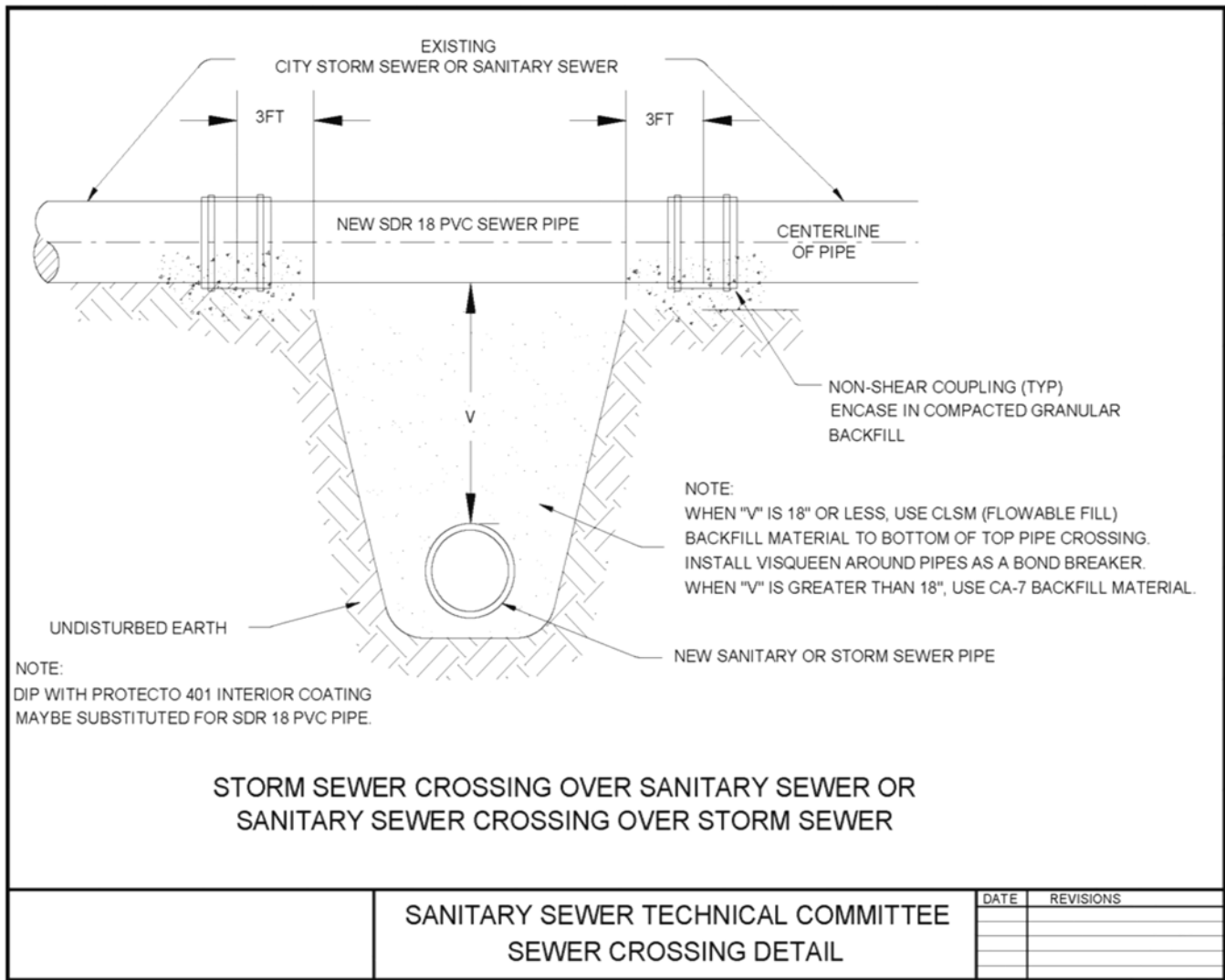
ALL OPENINGS FOR INLET AND OUTLET PIPES SHALL BE PRECAST WITH THE BOTTOM MANHOLE SECTION. SAID OPENING SHALL CONTAIN FLEXIBLE BOOTS WHICH ARE COMPATIBLE WITH THE SIZE AND TYPE OF SEWER USED.  
CORE-N-SEAL BY TRELLEBORG, Z-LOCK BY A-LOCK PRODUCTS INCORPORATED, OR APPROVING AUTHORITY APPROVED EQUAL.

ALL DEVIATIONS FROM THE DETALS SHOWN ON PAGE 1 OR PAGE 2 MUST BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

FOR ALL SANITARY MANHOLES WITHIN THE URBANA & CHAMPAIGN SANITARY DISTRICT

REVISION DATE MARCH 2020

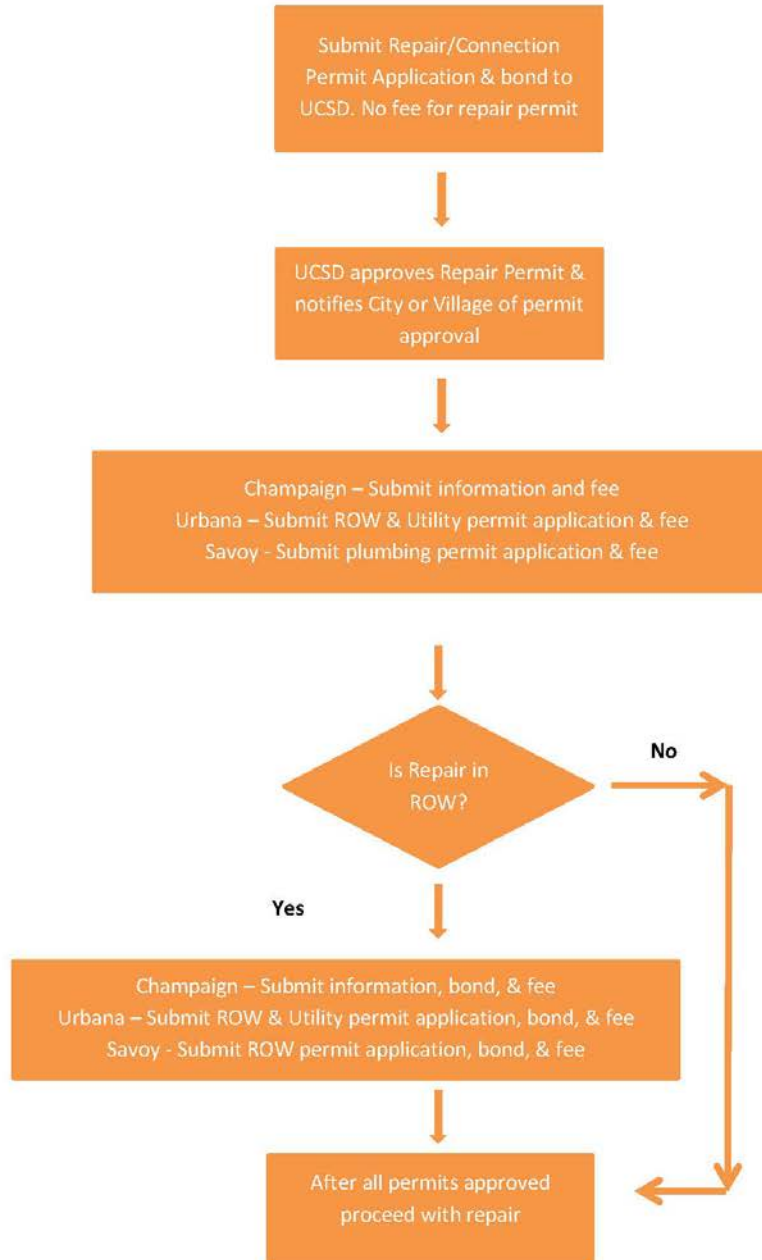




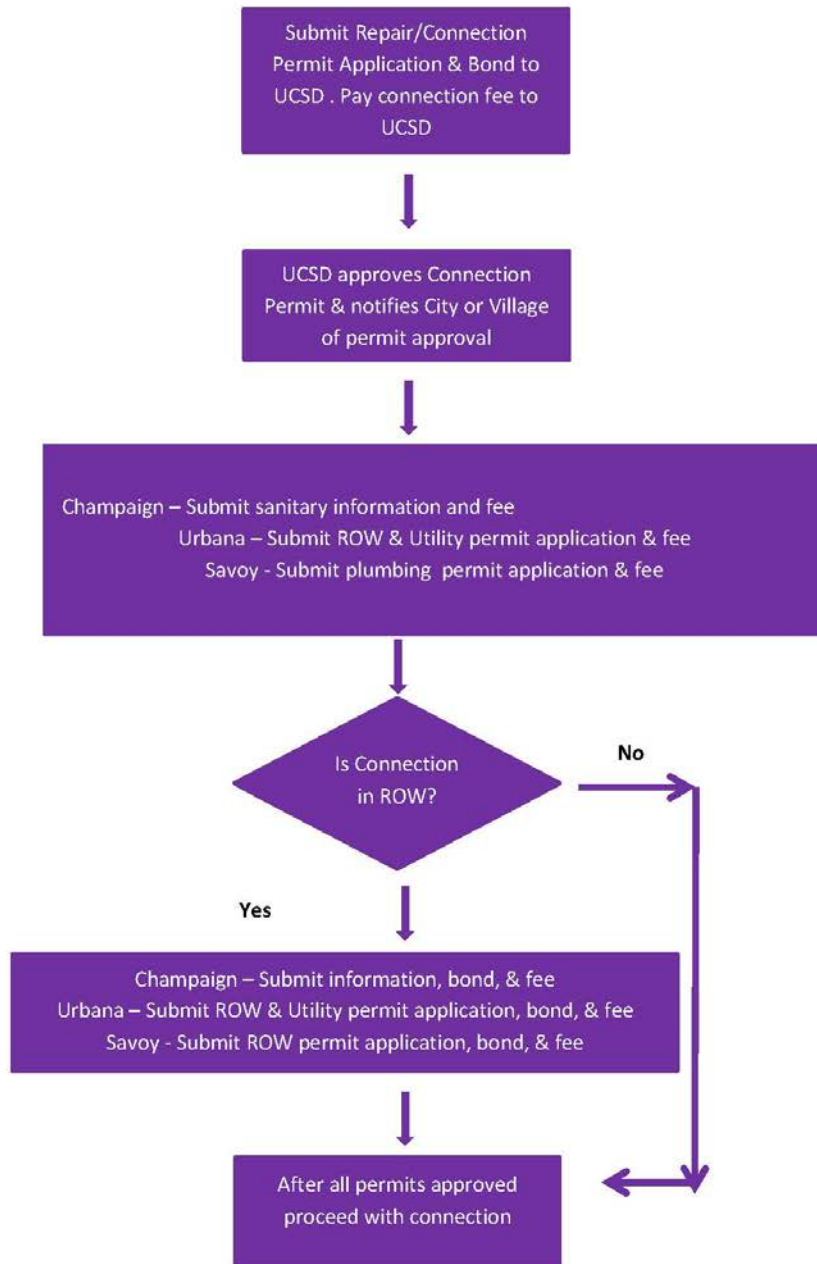
SANITARY SEWER TECHNICAL COMMITTEE  
SEWER CROSSING DETAIL

DATE	REVISIONS

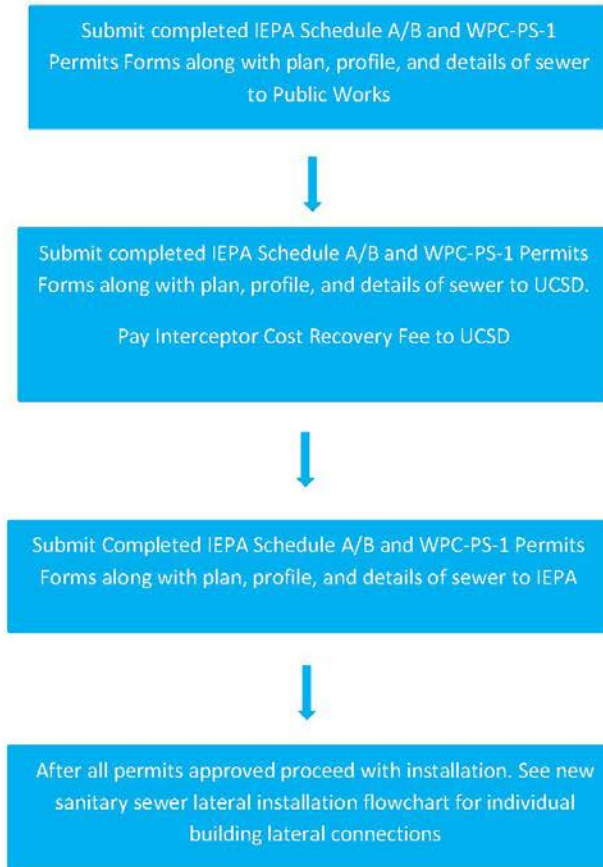
## EXISTING SANITARY SEWER LATERAL REPAIR PERMITTING FLOWCHART



**NEW SANITARY SEWER LATERAL CONNECTION PERMITTING  
FLOWCHART FOR FLOWS BELOW 1,500 GALS/DAY**



**NEW SANITARY SEWER PERMITTING FLOWCHART FOR FLOWS ABOVE 1,500 GAL/DAY AND PROJECTS REQUIRING AN IEPA CONSTRUCTION PERMIT**





**SECTION F**

IDOT Special Provisions

INDEX  
FOR  
SUPPLEMENTAL SPECIFICATIONS  
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2023

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction  
(Adopted 1-1-22) (Revised 1-1-23)

SUPPLEMENTAL SPECIFICATIONS

<u>Std. Spec. Sec.</u>		<u>Page No.</u>
202	Earth and Rock Excavation .....	1
204	Borrow and Furnished Excavation.....	2
207	Porous Granular Embankment .....	3
211	Topsoil and Compost .....	4
407	Hot-Mix Asphalt Pavement (Full-Depth) .....	5
420	Portland Cement Concrete Pavement .....	6
502	Excavation for Structures .....	7
509	Metal Railings .....	8
540	Box Culverts .....	9
542	Pipe Culverts .....	29
586	Granular Backfill for Structures .....	34
644	High Tension Cable Median Barrier .....	35
782	Reflectors .....	36
801	Electrical Requirements .....	38
821	Roadway Luminaires .....	40
1003	Fine Aggregates .....	41
1004	Coarse Aggregates .....	42
1020	Portland Cement Concrete .....	43
1030	Hot-Mix Asphalt .....	44
1067	Luminaire .....	45
1097	Reflectors .....	52



## Check Sheet for Recurring Special Provisions

Local Public Agency	County	Section Number
City of Urbana	Champaign	23-00662-00-SA

Check this box for lettings prior to 01/01/2023.

The Following Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

### Recurring Special Provisions

<u>Check Sheet #</u>		<u>Page No.</u>
1	<input type="checkbox"/> Additional State Requirements for Federal-Aid Construction Contracts	53
2	<input type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts)	56
3	<input type="checkbox"/> EEO	57
4	<input type="checkbox"/> Specific EEO Responsibilities Non Federal-Aid Contracts	67
5	<input type="checkbox"/> Required Provisions - State Contracts	72
6	<input type="checkbox"/> Asbestos Bearing Pad Removal	78
7	<input type="checkbox"/> Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal	79
8	<input type="checkbox"/> Temporary Stream Crossings and In-Stream Work Pads	80
9	<input type="checkbox"/> Construction Layout Stakes	81
10	<input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing	84
11	<input type="checkbox"/> Subsealing of Concrete Pavements	86
12	<input type="checkbox"/> Hot-Mix Asphalt Surface Correction	90
13	<input type="checkbox"/> Pavement and Shoulder Resurfacing	92
14	<input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal	93
15	<input type="checkbox"/> Polymer Concrete	95
16	<input type="checkbox"/> Reserved	97
17	<input type="checkbox"/> Bicycle Racks	98
18	<input type="checkbox"/> Temporary Portable Bridge Traffic Signals	100
19	<input type="checkbox"/> Nighttime Inspection of Roadway Lighting	102
20	<input type="checkbox"/> English Substitution of Metric Bolts	103
21	<input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete	104
22	<input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant	105
23	<input type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures	113
24	<input type="checkbox"/> Reserved	129
25	<input type="checkbox"/> Reserved	130
26	<input type="checkbox"/> Temporary Raised Pavement Markers	131
27	<input type="checkbox"/> Restoring Bridge Approach Pavements Using High-Density Foam	132
28	<input type="checkbox"/> Portland Cement Concrete Inlay or Overlay	135
29	<input type="checkbox"/> Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	139
30	<input type="checkbox"/> Longitudinal Joint and Crack Patching	142
31	<input type="checkbox"/> Concrete Mix Design - Department Provided	144
32	<input type="checkbox"/> Station Numbers in Pavements or Overlays	145

City of Urbana

Champaign

23-00662-00-SA

The Following Local Roads And Streets Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Local Roads And Streets Recurring Special Provisions

<u>Check Sheet #</u>		<u>Page No.</u>
LRS 1	<b>Reserved</b>	147
LRS 2	<input type="checkbox"/> Furnished Excavation	148
LRS 3	<input checked="" type="checkbox"/> Work Zone Traffic Control Surveillance	149
LRS 4	<input checked="" type="checkbox"/> Flaggers in Work Zones	150
LRS 5	<input checked="" type="checkbox"/> Contract Claims	151
LRS 6	<input checked="" type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals	152
LRS 7	<input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals	158
LRS 8	<b>Reserved</b>	164
LRS 9	<input type="checkbox"/> Bituminous Surface Treatments	165
LRS 10	<b>Reserved</b>	169
LRS 11	<input checked="" type="checkbox"/> Employment Practices	170
LRS 12	<input checked="" type="checkbox"/> Wages of Employees on Public Works	172
LRS 13	<input checked="" type="checkbox"/> Selection of Labor	174
LRS 14	<input type="checkbox"/> Paving Brick and Concrete Paver Pavements and Sidewalks	175
LRS 15	<input checked="" type="checkbox"/> Partial Payments	178
LRS 16	<input checked="" type="checkbox"/> Protests on Local Lettings	179
LRS 17	<input checked="" type="checkbox"/> Substance Abuse Prevention Program	180
LRS 18	<input type="checkbox"/> Multigrade Cold Mix Asphalt	181
LRS 19	<input type="checkbox"/> Reflective Crack Control Treatment	182

BDE SPECIAL PROVISIONS  
For the April 28, 2023 and June 16, 2023 Lettings

The following special provisions indicated by a “check mark” are applicable to this contract and will be included by the Project Coordination and Implementation Section of the Bureau of Design & Environment (BDE).

File Name	#		Special Provision Title	Effective	Revised
	80099	1	<input type="checkbox"/> Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2022
	80274	2	<input type="checkbox"/> Aggregate Subgrade Improvement	April 1, 2012	April 1, 2022
	80192	3	<input checked="" type="checkbox"/> Automated Flagger Assistance Devices	Jan. 1, 2008	April 1, 2023
	80173	4	<input type="checkbox"/> Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
	80426	5	<input type="checkbox"/> Bituminous Surface Treatment with Fog Seal	Jan. 1, 2020	Jan. 1, 2022
	80436	6	<input type="checkbox"/> Blended Finely Divided Minerals	April 1, 2021	
*	80241	7	<input type="checkbox"/> Bridge Demolition Debris	July 1, 2009	
*	50531	8	<input type="checkbox"/> Building Removal	Sept. 1, 1990	Aug. 1, 2022
*	50261	9	<input type="checkbox"/> Building Removal with Asbestos Abatement	Sept. 1, 1990	Aug. 1, 2022
	80384	10	<input checked="" type="checkbox"/> Compensable Delay Costs	June 2, 2017	April 1, 2019
*	80198	11	<input type="checkbox"/> Completion Date (via calendar days)	April 1, 2008	
*	80199	12	<input type="checkbox"/> Completion Date (via calendar days) Plus Working Days	April 1, 2008	
	80261	13	<input type="checkbox"/> Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
	80434	14	<input type="checkbox"/> Corrugated Plastic Pipe (Culvert and Storm Sewer)	Jan. 1, 2021	
*	80029	15	<input type="checkbox"/> Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Mar. 2, 2019
	80229	16	<input type="checkbox"/> Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
	80447	17	<input type="checkbox"/> Grading and Shaping Ditches	Jan. 1, 2023	
	80433	18	<input type="checkbox"/> Green Preformed Thermoplastic Pavement Markings	Jan. 1, 2021	Jan. 1, 2022
	80443	19	<input type="checkbox"/> High Tension Cable Median Barrier Removal	April 1, 2022	
	80446	20	<input type="checkbox"/> Hot-Mix Asphalt - Longitudinal Joint Sealant	Nov. 1, 2022	
	80438	21	<input type="checkbox"/> Illinois Works Apprenticeship Initiative – State Funded Contracts	June 2, 2021	Sept. 2, 2021
	80045	22	<input type="checkbox"/> Material Transfer Device	June 15, 1999	Jan. 1, 2022
	80441	23	<input type="checkbox"/> Performance Graded Asphalt Binder	Jan. 1, 2023	
*	34261	24	<input type="checkbox"/> Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2022
	80445	25	<input type="checkbox"/> Seeding	Nov. 1, 2022	
	80448	26	<input checked="" type="checkbox"/> Source of Supply and Quality Requirements	Jan. 2, 2023	
	80340	27	<input type="checkbox"/> Speed Display Trailer	April 2, 2014	Jan. 1, 2022
	80127	28	<input type="checkbox"/> Steel Cost Adjustment	April 2, 2004	Jan. 1, 2022
	80397	29	<input type="checkbox"/> Subcontractor and DBE Payment Reporting	April 2, 2018	
	80391	30	<input checked="" type="checkbox"/> Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
	80437	31	<input type="checkbox"/> Submission of Payroll Records	April 1, 2021	Nov. 1, 2022
	80435	32	<input type="checkbox"/> Surface Testing of Pavements – IRI	Jan. 1, 2021	Jan. 1, 2023
	80410	33	<input type="checkbox"/> Traffic Spotters	Jan. 1, 2019	
*	20338	34	<input type="checkbox"/> Training Special Provisions	Oct. 15, 1975	Sept. 2, 2021
	80429	35	<input type="checkbox"/> Ultra-Thin Bonded Wearing Course	April 1, 2020	Jan. 1, 2022
	80439	36	<input checked="" type="checkbox"/> Vehicle and Equipment Warning Lights	Nov. 1, 2021	Nov. 1, 2022
	80440	37	<input type="checkbox"/> Waterproofing Membrane System	Nov. 1, 2021	
	80302	38	<input type="checkbox"/> Weekly DBE Trucking Reports	June 2, 2012	Nov. 1, 2021
	80427	39	<input checked="" type="checkbox"/> Work Zone Traffic Control Devices	Mar. 2, 2020	
*	80071	40	<input checked="" type="checkbox"/> Working Days	Jan. 1, 2002	

Highlighted items indicate a new or revised special provision for the letting.

An \* indicates the special provision requires additional information from the designer, which needs to be submitted separately. The Project Coordination and Implementation Section will then include the information in the applicable special provision.

The following special provisions have been deleted from use.

<u>File Name</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
50481	Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491	Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010

The following special provisions are in the 2023 Supplemental Specifications and Recurring Special Provisions.

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location(s)</u>	<u>Effective</u>	<u>Revised</u>
80293	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	Articles 540.04 & 540.06	April 1, 2012	July 1, 2016
80311	Concrete End Sections for Pipe Culverts	Articles 540.07, 542.01, 542.02, 542.07, 542.11 & 542.12	Jan. 1, 2013	April 1, 2016
80422	High Tension Cable Median Barrier	Articles 644.02, 644.05, 782.01, 782.04, 782.07 & 1097.02	Jan. 1, 2020	Jan. 1, 2022
80442	Hot-Mix Asphalt	Articles 1030.09 & 1030.10	Jan. 1, 2022	Aug. 1, 2022
80444	Hot-Mix Asphalt – Patching	Errata – Article 442.08(b)	April 1, 2022	
80411	Luminaires, LED	Articles 801.05(a), 821.02(d), 821.03, 821.08 & 1067.01-1067.06	April 1, 2019	Jan. 1, 2022
80418	Mechanically Stabilized Earth Retaining Walls	Articles 1003.07 & 1004.06	Nov. 1, 2019	Nov. 1, 2020
80430	Portland Cement Concrete – Haul Time	Article 1020.11(a)(7)	July 1, 2020	
80395	Sloped Metal End Section for Pipe Culverts	Articles 540.07, 542.01, 542.02, 542.07, 542.11 & 542.12	Jan. 1, 2018	
80318	Traversable Pipe Grate for Concrete End Sections	Articles 540.04, 540.07, 540.08 & 542.01, 542.02, 542.07, 542.11 & 542.12	Jan. 1, 2013	Jan. 1, 2018

## **COMPENSABLE DELAY COSTS (BDE)**

Effective: June 2, 2017

Revised: April 1, 2019

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the

Contractor's yard or another job and the cost to re-mobilize, whichever is less. Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13.”

Revise Article 108.04(b) of the Standard Specifications to read:

“(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item.”

Revise Article 109.09(f) of the Standard Specifications to read:

“(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead



other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

**“109.13 Payment for Contract Delay.** Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
  - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and

	One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

(2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.

(c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid for according to Article 109.04.

When an extended traffic control adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

## **SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)**

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%”

80391

## **VEHICLE AND EQUIPMENT WARNING LIGHTS (BDE)**

Effective: November 1, 2021

Revised: November 1, 2022

Add the following paragraph after the first paragraph of Article 701.08 of the Standard Specifications:

“The Contractor shall equip all vehicles and equipment with high-intensity oscillating, rotating, or flashing, amber or amber-and-white, warning lights which are visible from all directions. In accordance with 625 ILCS 5/12-215, the lights may only be in operation while the vehicle or equipment is engaged in construction operations.”

80439

## WORK ZONE TRAFFIC CONTROL DEVICES (BDE)

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports ..... 1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

“**701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

“**1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades, temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact

attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”

**WORKING DAYS (BDE)**

Effective: January 1, 2002

The Contractor shall complete the work within 90 working days.

80071

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
INSURANCE

Effective: February 1, 2007  
Revised: August 1, 2007

All references to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

The Contractor shall name the following entities as additional insured under the Contractor's general liability insurance policy in accordance with Article 107.27:

---

---

---

---

---

---

---

---

The entities listed above and their officers, employees, and agents shall be indemnified and held harmless in accordance with Article 107.26.



State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
EQUIPMENT RENTAL RATES

Effective: January 1, 2012

All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

Replace Article 109.04(b)(4) with the following:

- "(4) Equipment. For any machinery or special equipment (other than small tools) the use of which has been authorized by the Engineer, the Contractor will be paid according to the latest revision of "SCHEDULE OF AVERAGE ANNUAL EQUIPMENT OWNERSHIP EXPENSE" and latest index factor as issued by the Illinois Department of Transportation. The equipment should be of a type and size reasonably required to complete the extra work."

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets  
SPECIAL PROVISION  
FOR  
CONSTRUCTION AND MAINTENANCE SIGNS

Effective: January 1, 2004  
Revised: June 1, 2007

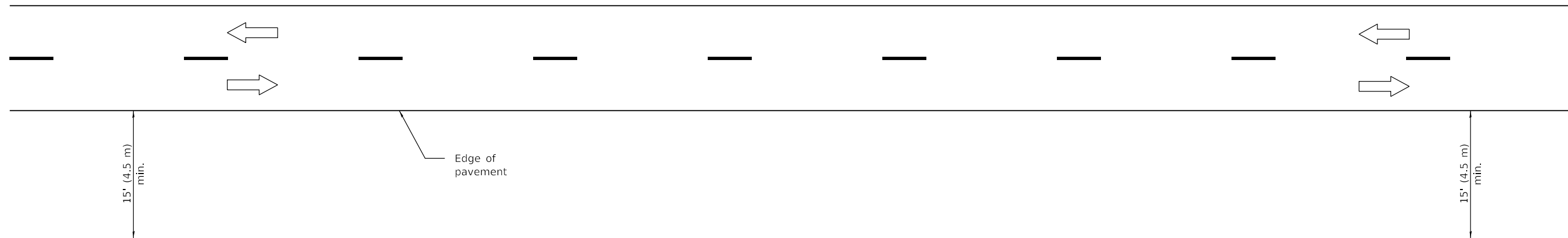
All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

701.14. Signs. Add the following paragraph to Article 701.14:

All warning signs shall have minimum dimensions of 1200 mm x 1200 mm (48" x 48") and have a black legend on a fluorescent orange reflectorized background, meeting, as a minimum, Type AP reflectivity requirements of Table 1091-2 in Article 1091.02.

**SECTION G**

Standard Details



**TYPICAL APPLICATIONS**

- Landscaping work
- Utility work
- Fencing contracts and maintenance
- Cleaning culverts

**GENERAL NOTES**

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.


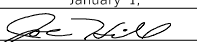
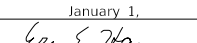
When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701006.

All dimensions are in inches (millimeters) unless otherwise shown.

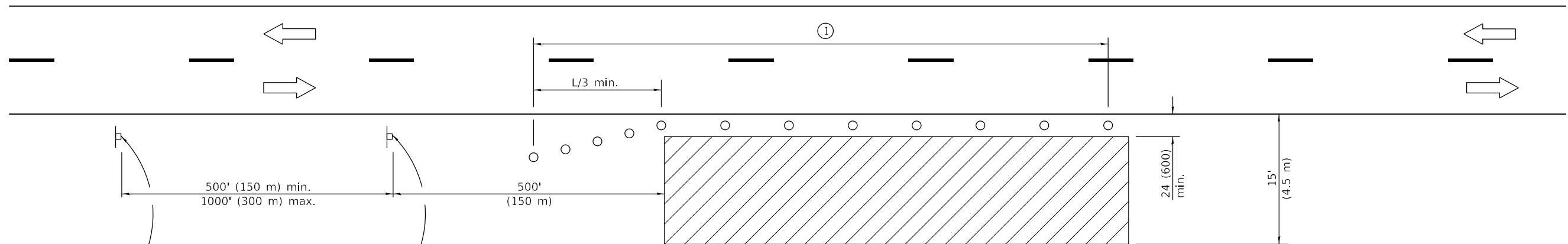
DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-05	Revised title and notes.

**OFF-RD OPERATIONS,  
2L, 2W, MORE THAN  
15' (4.5 m) AWAY**

**STANDARD 701001-02**


 Illinois Department of Transportation  
 PASSED January 1, 2009  
  
 ENGINEER OF OPERATIONS  
 APPROVED January 1, 2009  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



For contract construction projects

**ROAD CONSTRUCTION AHEAD**

W20-1103(0)-48

**WORKERS AHEAD**

W21-1(0)-48

For maintenance and utility projects

**ROAD WORK AHEAD**

W20-1(0)-48

**TYPICAL APPLICATIONS**

- Utility operations
- Culvert extensions
- Side slope changes
- Guardrail installation and maintenance
- Delineator installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

**SYMBOLS**

- Work area
- Sign
- Cone, drum or barricade

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.

**GENERAL NOTES**

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24' (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L=(W)(S)$	$L=0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

**OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE**

**STANDARD 701006-05**

Illinois Department of Transportation

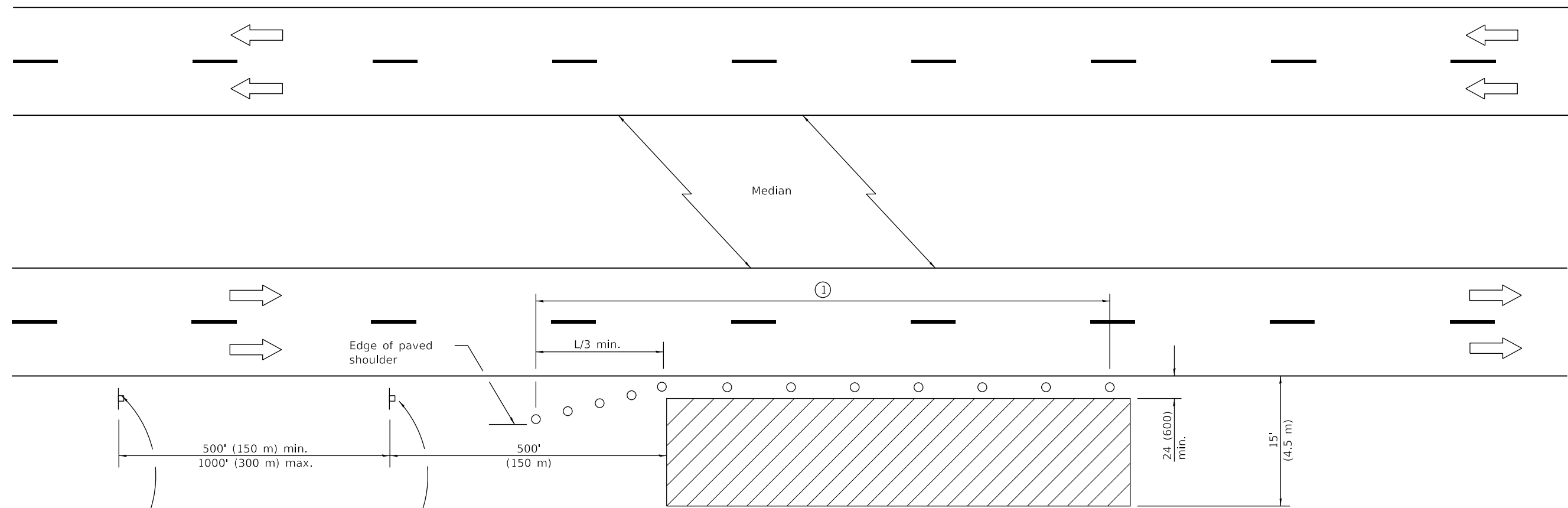
PASSED January 1, 2014

*[Signature]*  
ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2014

*[Signature]*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



For contract construction projects



W20-1103(0)-48



W21-1(0)-48

For maintenance and utility projects



W20-1(0)-48

**TYPICAL APPLICATIONS**

- Utility operations
- Culvert extensions
- Side slope changes
- Guardrail installation and maintenance
- Delineator installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.

**SYMBOLS**

- Work area
- Sign
- Cone, drum or barricade

**GENERAL NOTES**

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24' (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Corrected typo in title.
1-1-14	Revised workers sign number to agree with current MUTCD.

**OFF-RD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE**

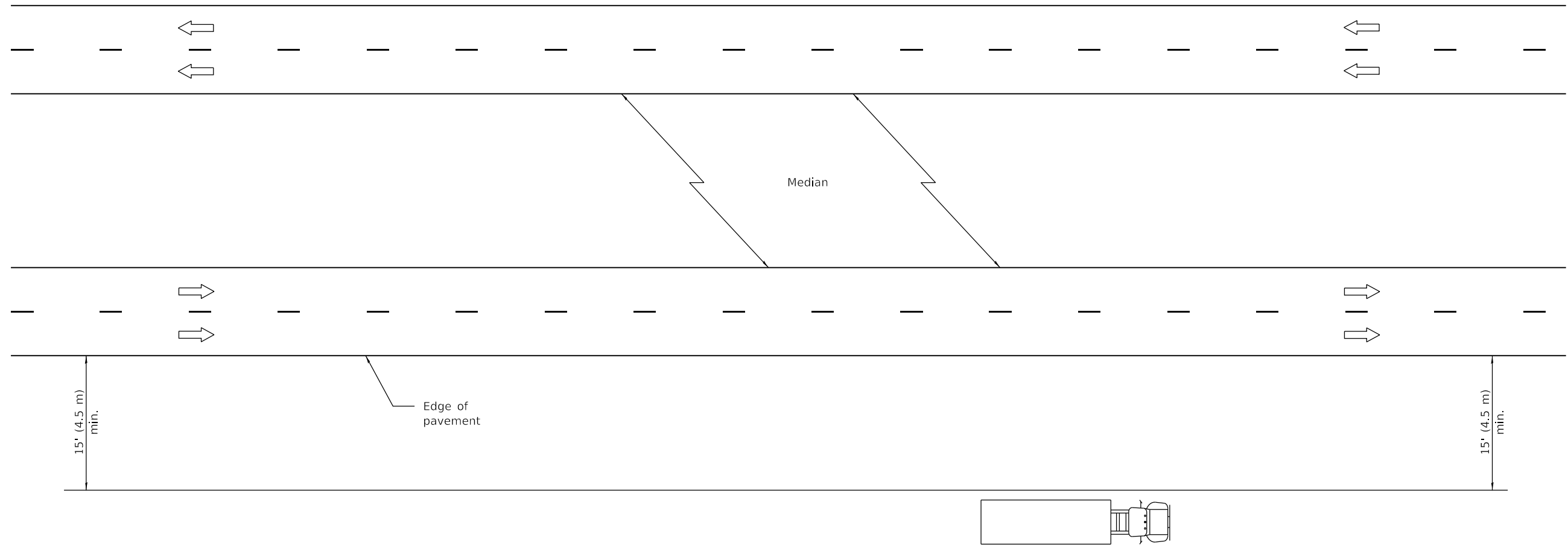
**STANDARD 701101-05**

Illinois Department of Transportation

PASSED April 1, 2016  
  
 ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



**TYPICAL APPLICATIONS**

- Landscaping work
- Utility work
- Fencing contracts

**GENERAL NOTES**

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701101.


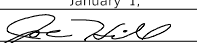
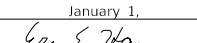
This Standard also applies to work performed in the median more than 15' (4.5 m) from either pavement.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-05	Switched units to English (metric).
1-1-05	Revised title.

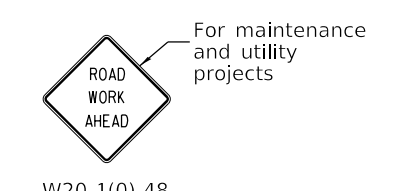
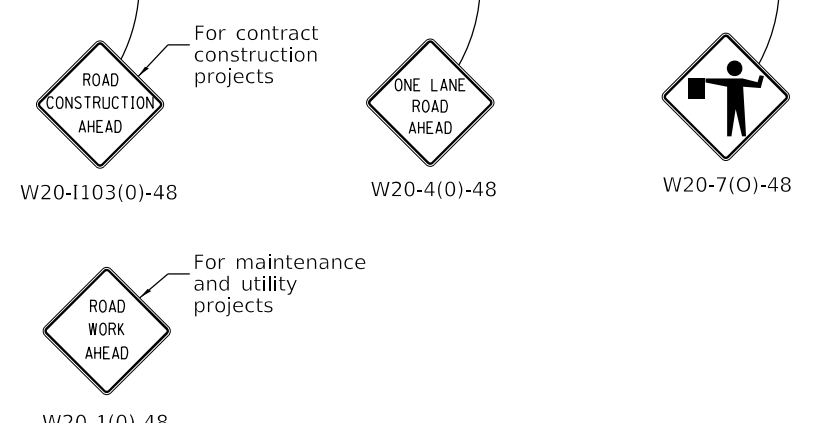
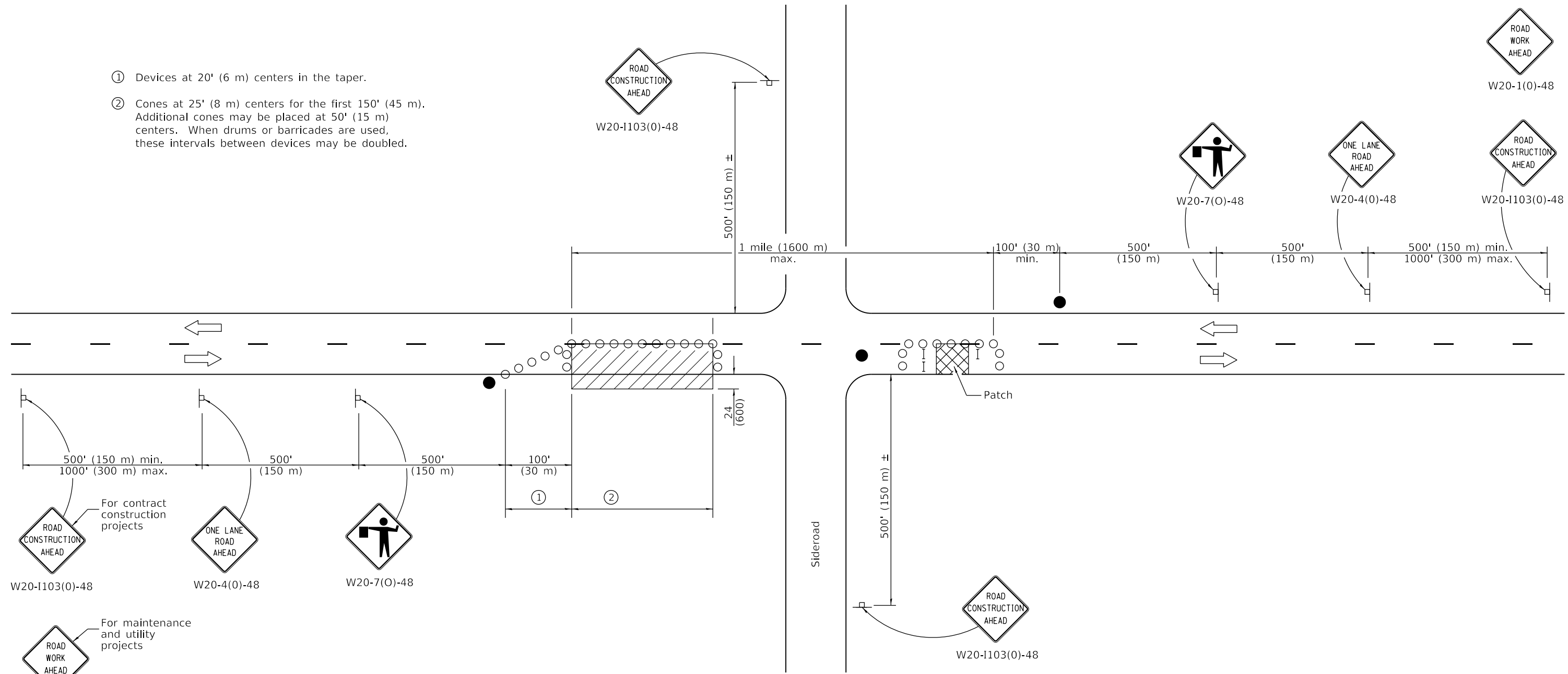
**OFF-RD OPERATIONS, MULTILANE,  
MORE THAN 15' (4.5 m) AWAY**

**STANDARD 701106-02**


 Illinois Department of Transportation  
 PASSED January 1, 2009  
  
 ENGINEER OF OPERATIONS  
 APPROVED January 1, 2009  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

- ① Devices at 20' (6 m) centers in the taper.
- ② Cones at 25' (8 m) centers for the first 150' (45 m). Additional cones may be placed at 50' (15 m) centers. When drums or barricades are used, these intervals between devices may be doubled.



**SYMBOLS**

- Work area
- Sign
- Barricade or drum
- Cone, drum or barricade
- Flagger with traffic control sign

**TYPICAL APPLICATIONS**

- Isolated patching
- Utility operations
- Storm sewer
- Culverts
- Cable placement

**GENERAL NOTES**

This Standard is used where at any time, any vehicles, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600) outside the edge of pavement for daylight operation.

When the distance between successive work areas exceeds 2000' (600 m), additional warning signs, flaggers, and taper shall be placed as shown.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2019  
  
 ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

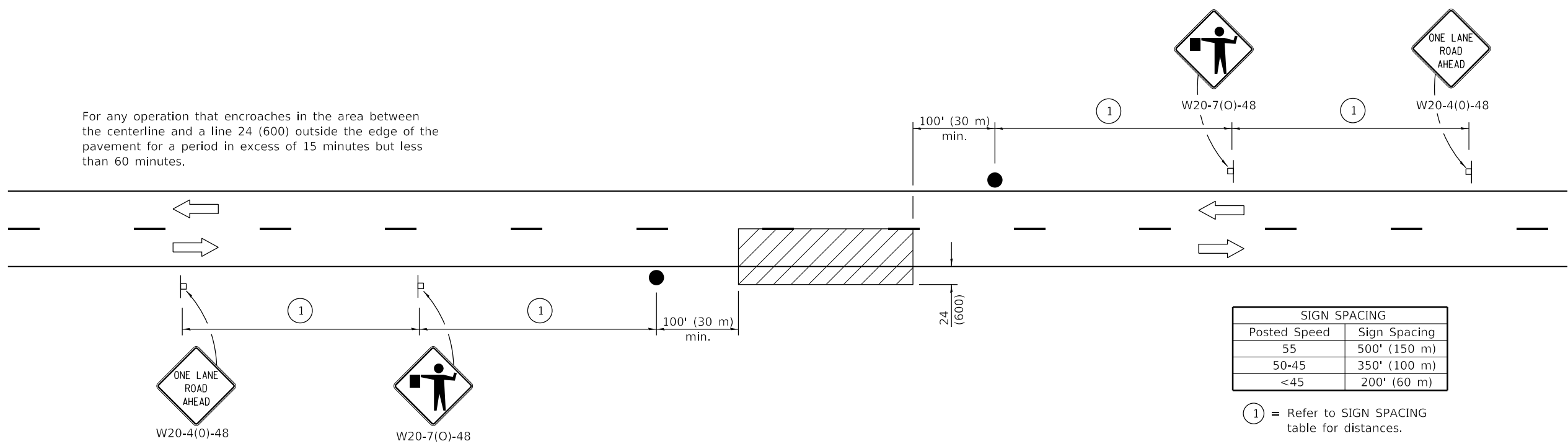
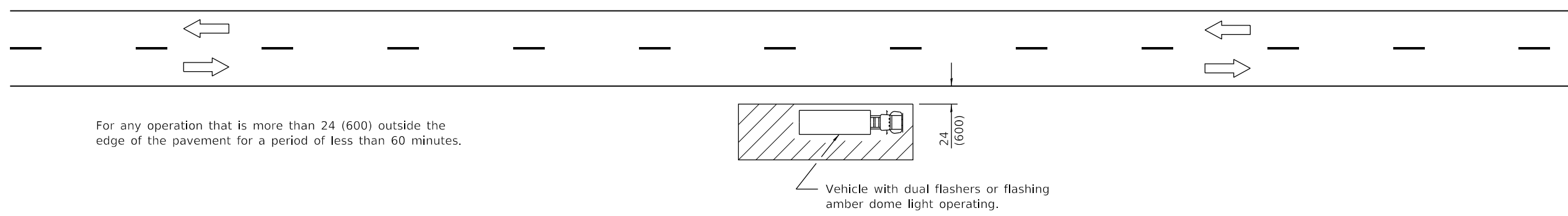
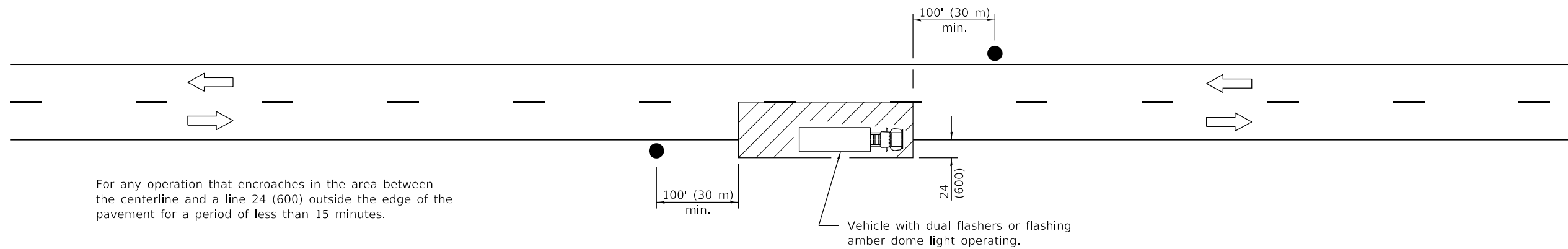
ISSUED 1-1-97

DATE	REVISIONS
1-1-19	Revised device spacing in taper.
1-1-11	Revised flagger sign.

**LANE CLOSURE, 2L, 2W,  
DAY ONLY,  
FOR SPEEDS ≥ 45 MPH**

**STANDARD 701201-05**





**TYPICAL APPLICATIONS**

- Marking patches
- Field survey
- String line
- Utility operations
- Cleaning up debris on pavement

**SYMBOLS**

- Work area
- Sign on portable or permanent support
- Flagger with traffic control sign

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2011  
*Amelia Adams*  
 ENGINEER OF SAFETY ENGINEERING

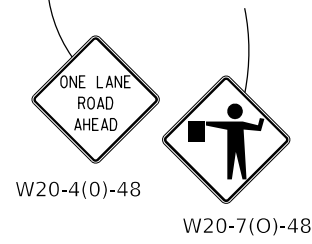
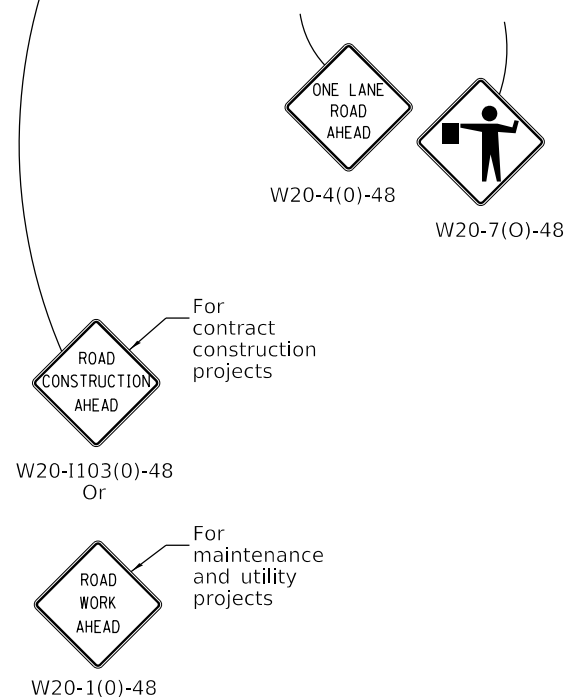
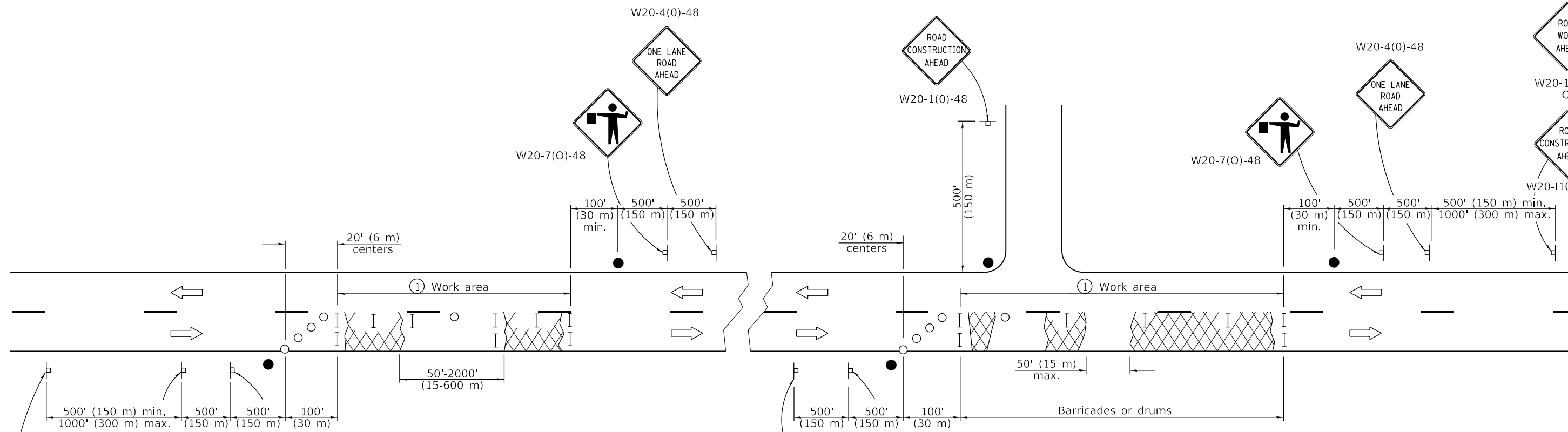
APPROVED January 1, 2011  
*Scott Schick*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).

**LANE CLOSURE, 2L, 2W,  
SHORT TIME OPERATIONS**

**STANDARD 701301-04**



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600) outside the edge of the pavement.

Two flaggers shall be required for each separate lane closure. The flagger shall be a minimum of 200' (60 m) and a maximum of 1/2 day's operation beyond the flagger sign. When the distance between successive patches exceeds 2000' (600 m), additional flaggers, warning signs, and tapers shall be placed as shown.

Barricades/drums shall be placed at intervals not greater than 100' (30 m) or cones shall be placed at intervals not greater than 50' (15 m) centers throughout the work zone. When the spacing between open holes is greater than 50' (15 m), two barricades/drums shall be placed in front of each open hole and one on the backside close to the centerline. When the open hole is greater than 10' (3 m) parallel to the centerline, one barricade/drum shall be placed in each hole. For large holes, barricades/drums shall be placed at 50' (16 m) centers.

All dimensions are in inches (millimeters) unless otherwise shown.

① 1/2 mile (800 m) maximum

**SYMBOLS**

- ▨ Patches
- ⊥ Sign
- Flagger with traffic control sign
- I Barricade or drum
- Cone, barricade or drum

**TYPICAL APPLICATIONS**

Patching

DATE	REVISIONS
1-1-19	Revised device spacing in taper.
1-1-11	Revised flagger sign.

**LANE CLOSURE, 2L, 2W,  
WORK AREAS IN SERIES,  
FOR SPEEDS ≥ 45 MPH**

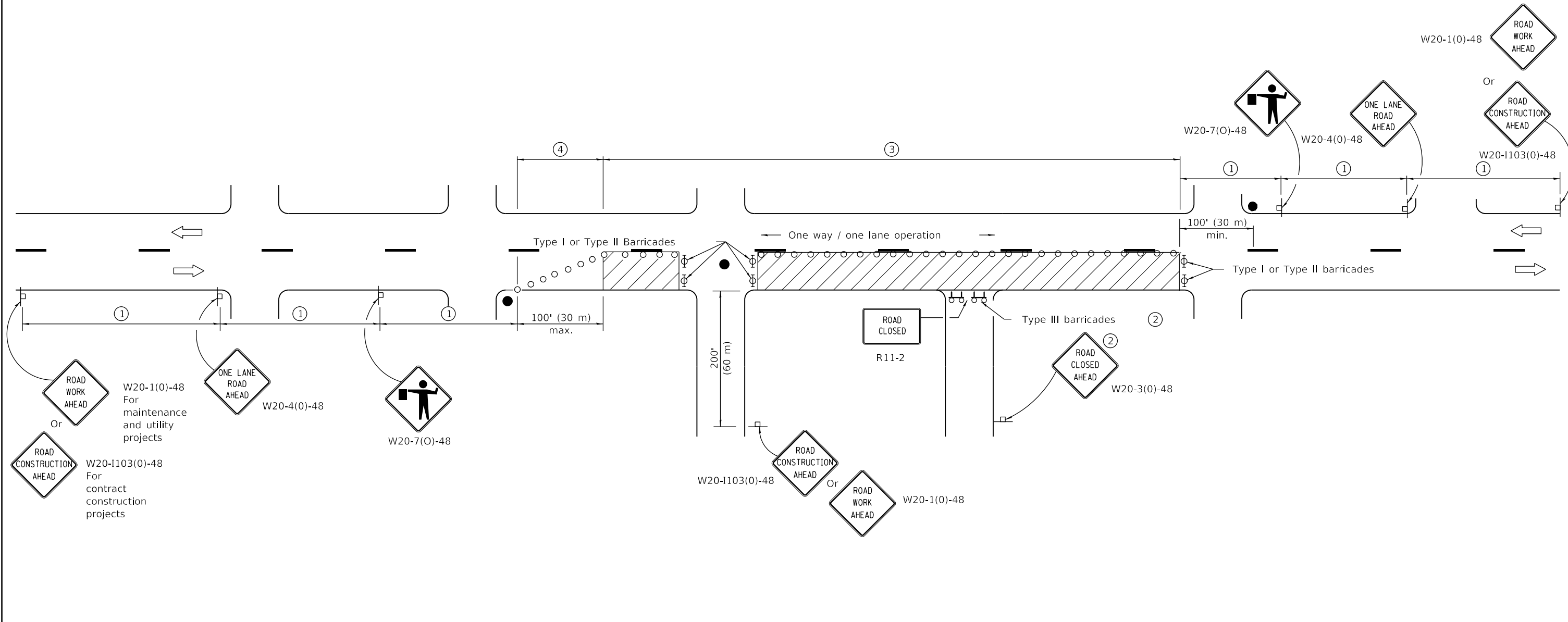
**STANDARD 701336-07**

Illinois Department of Transportation

APPROVED January 1, 2019  
*Cynthia Watt*  
ENGINEER OF SAFETY PROG. AND ENGINEERING







APPROVED January 1, 2019  
*Joe E. ...*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**SYMBOLS**

-  Work area
-  Cone, drum or barricade (not required for moving operations)
-  Sign on portable or permanent support
-  Flagger with traffic control sign
-  Barricade or drum with flashing light
-  Type III barricade with flashing lights

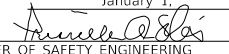
- ① Refer to SIGN SPACING TABLE for distances.
- ② For approved sideroad closures.
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Cones, drums or barricades at 20' (6 m) centers.

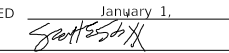
**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2011  
  
 ENGINEER OF SAFETY ENGINEERING

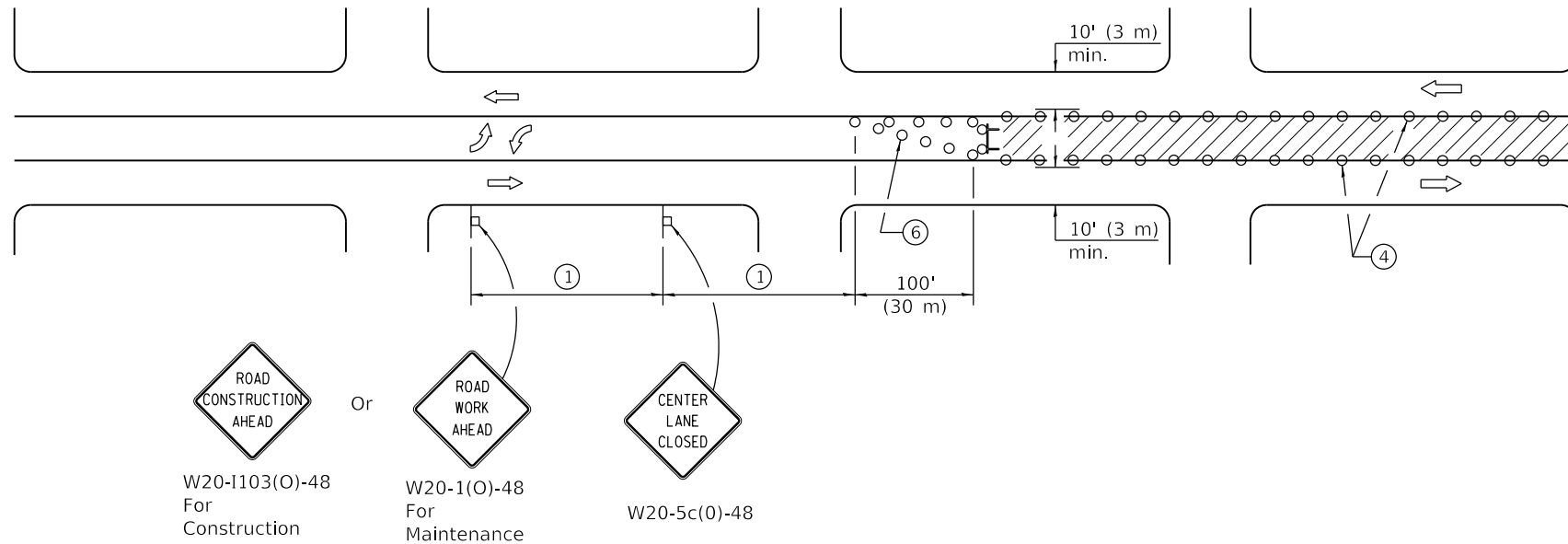
APPROVED January 1, 2011  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

**URBAN LANE CLOSURE,  
2L, 2W, UNDIVIDED**

**STANDARD 701501-06**



**CASE I**

(Signs required for both directions)

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**SYMBOLS**

- Work area
- Barricade or drum with flashing light
- Flagger with traffic control sign
- Cone, drum or barricade
- Sign on portable or permanent support
- Type III barricade with flashing lights

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph (70 km/h).
- ③ Required if work exceeds 500' (164 m) or 1 block.
- ④ Cones at 25' (8 m) centers for 250' (75 m) on approach. Additional cones may be placed at 50' (15 m) centers. When drums or type I or II barricades are used, the interval between devices may be doubled.
- ⑤ For approved sideroad closures.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Use flagger sign only when flagger is present.

**GENERAL NOTES**

This Standard is used to close one lane of an urban, two lane, two way roadway with a bidirectional turn lane.

Case I applies when no workers are present. When workers are present, two lanes shall be closed and traffic control shall be according to Standard 701501.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).  
S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2019  
*Lyndee Watt*  
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019  
*J. E. ...*  
ENGINEER OF DESIGN AND ENVIRONMENT

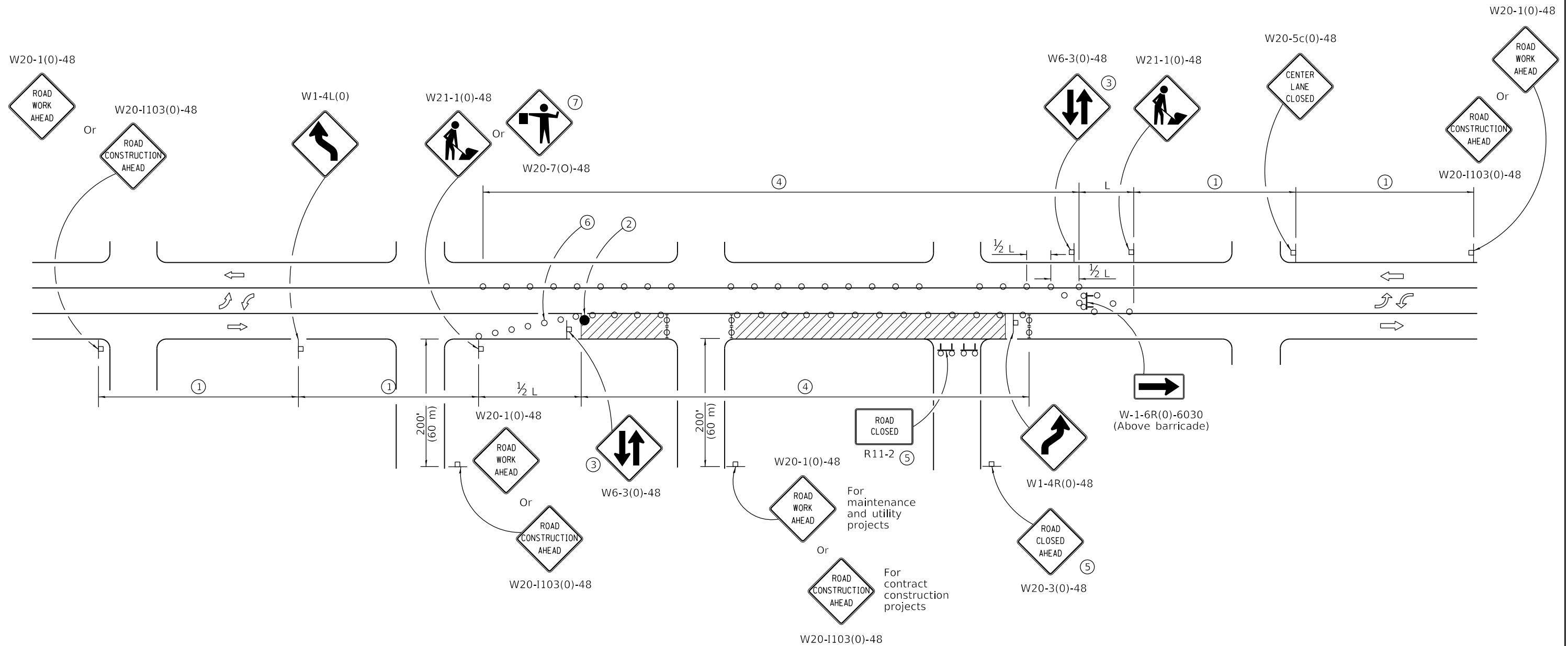
ISSUED 1-1-01

DATE	REVISIONS
1-1-19	Revised to allow cones at night.
1-1-18	Corrected sign number for TWO WAY TRAFFIC sign for CASE II.

**URBAN LANE CLOSURE,  
2L, 2W, WITH BIDIRECTIONAL  
LEFT TURN LANE**

(Sheet 1 of 2)

**STANDARD 701502-09**



**CASE II**

Illinois Department of Transportation

APPROVED January 1, 2019  
*[Signature]*  
 ENGINEER OF SAFETY PROG. AND ENGINEERING

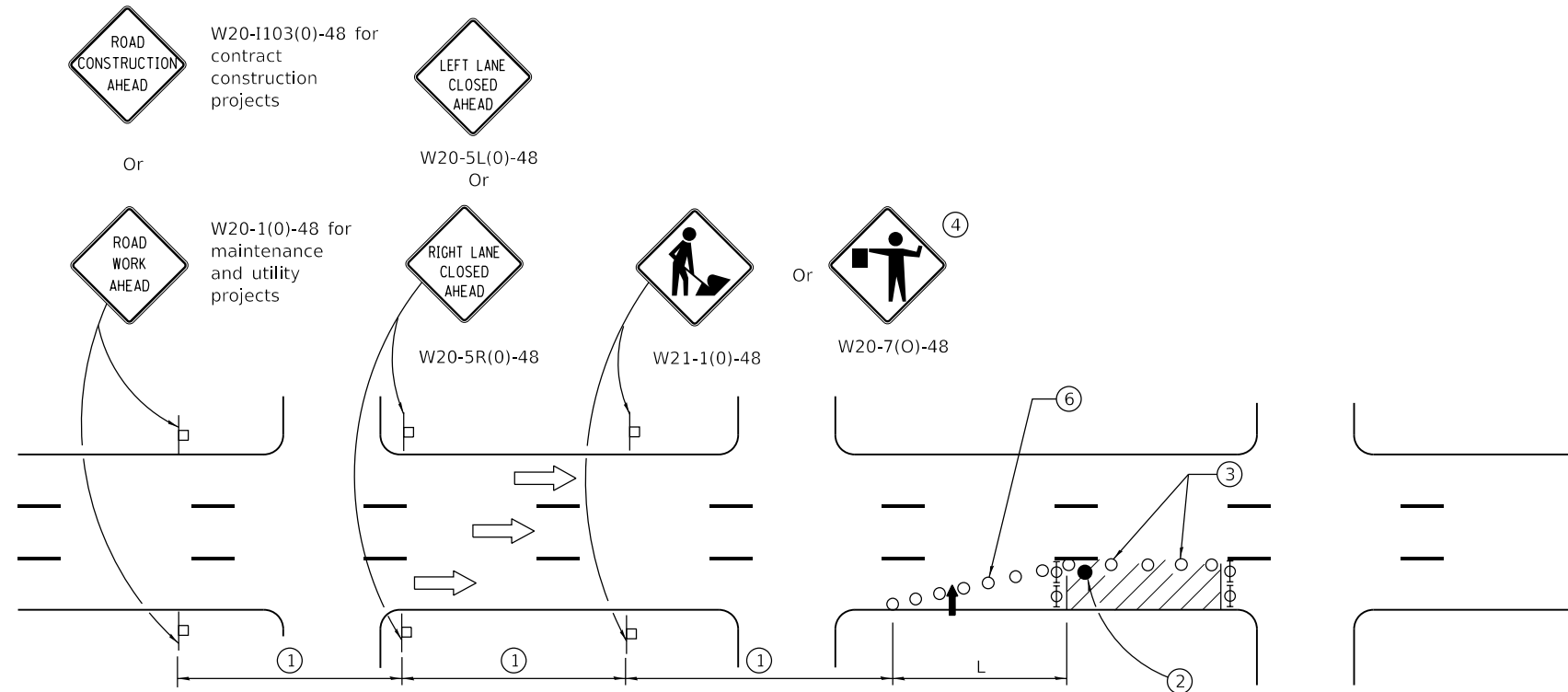
APPROVED January 1, 2019  
*[Signature]*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-01

**URBAN LANE CLOSURE,  
 2L, 2W, WITH BIDIRECTIONAL  
 LEFT TURN LANE**

(Sheet 2 of 2)

**STANDARD 701502-09**



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**SYMBOLS**

- Arrow board
- Cone, drum or barricade
- Sign on portable or permanent support
- Work area
- Barricade or drum with flashing light
- Type III barricade with flashing lights
- Flagger with traffic control sign.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 MPH
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Use flagger sign only when flagger is present.
- ⑤ For approved sideroad closures.
- ⑥ Cones, drums or barricades at 20' (6 m) in taper.

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in urban areas.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2014  
  
 ENGINEER OF SAFETY ENGINEERING

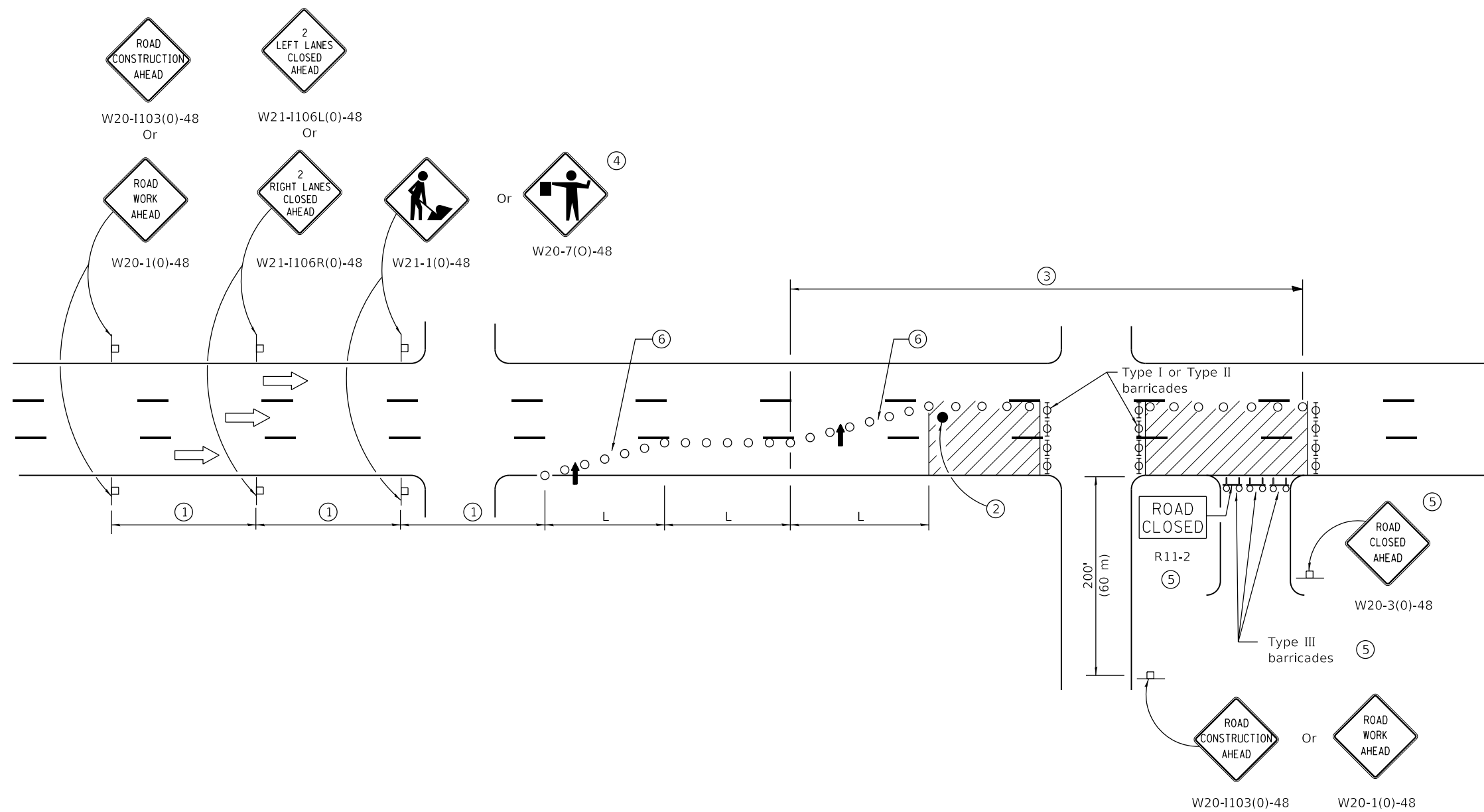
ISSUED 1-1-97



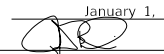
APPROVED January 1, 2014  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

**URBAN LANE CLOSURE,  
MULTILANE, 1W OR 2W WITH  
NONTRAVERSABLE MEDIAN**  
 (Sheet 1 of 2)

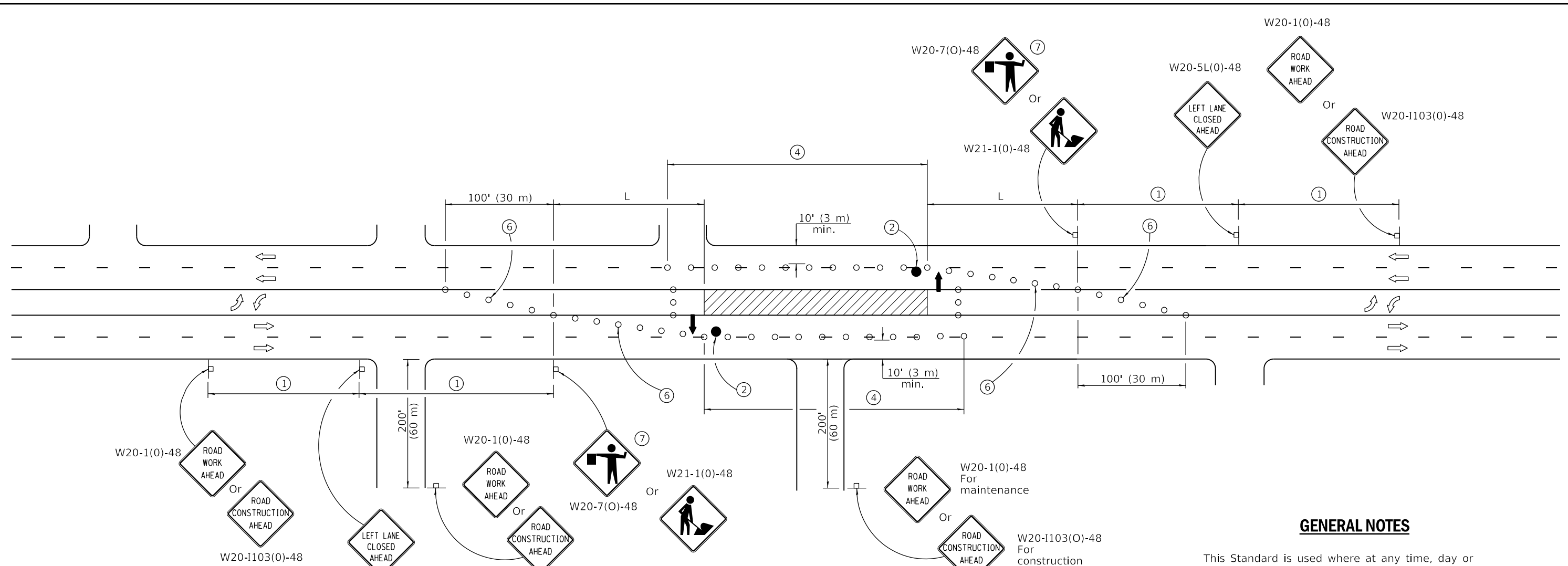
**STANDARD 701601-09**



 Illinois Department of Transportation  
 PASSED                      January            2014  
  
 ENGINEER OF SAFETY ENGINEERING  
 APPROVED                      January 1, 2014  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**URBAN LANE CLOSURE,  
 MULTILANE, 1W OR 2W WITH  
 NONTRAVERSABLE MEDIAN**  
(Sheet 2 of 2)  
**STANDARD 701601-09**



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

- SYMBOLS**
- Arrow board
  - Work area
  - Barricade or drum with steady burning mondirectional light
  - Flagger with traffic control sign
  - Cone, drum or barricade
  - Sign on portable or permanent support
  - Type III barricade with flashing lights

**CASE I**

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph (70 km/h).
- ③ Required if work exceeds 500' (164 m) or 1 block, repeat every 1 mile (1.6 km).
- ④ Cones at 25' (8 m) centers for 250' (75 m) on approach. Additional cones may be placed at 50' (15 m) centers. When drums or type I or II barricades are used, the interval between devices may be doubled.
- ⑤ For approved sideroad closures.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Use flagger sign only when flagger is present.

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an Urban area.

If the work operation is performed between 9:00 a.m. and 3:00 p.m. and does not exceed 15 min. Traffic protection shall be as shown for Standard 701426.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L=(W)(S)$	$L=0.65(W)(S)$

W = Width of offset in feet (meters).  
 S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Revised to allow cones at night.
1-1-18	Moved arrow boards into closed lanes for CASE I.

**URBAN LANE CLOSURE,  
MULTILANE, 2W WITH  
BIDIRECTIONAL LEFT TURN LANE**

(Sheet 1 of 4)

**STANDARD 701602-10**

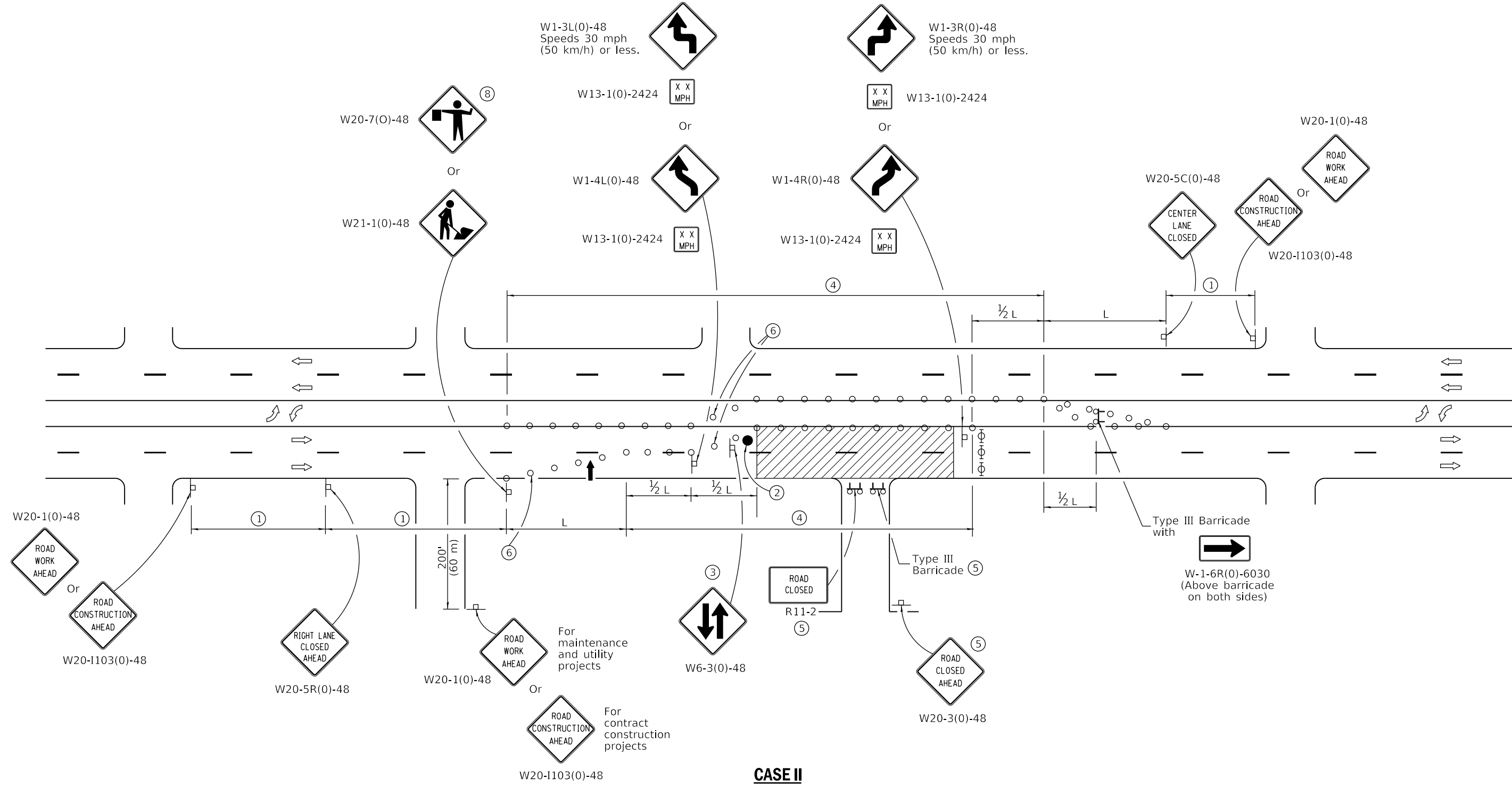
Illinois Department of Transportation

APPROVED January 1, 2019  
  
 ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13





Illinois Department of Transportation

APPROVED January 1, 2019  
*Lyndee Watt*  
ENGINEER OF SAFETY PROG. AND ENGINEERING

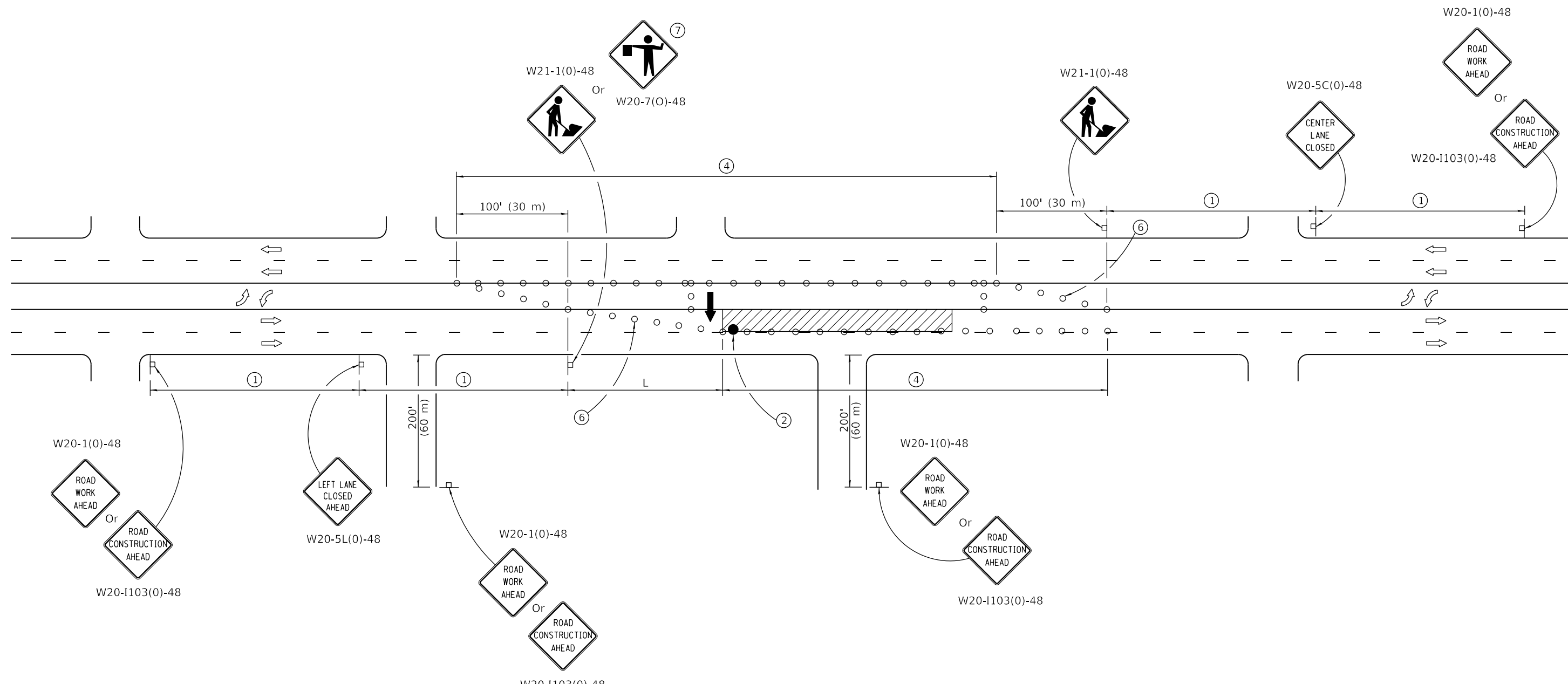
APPROVED January 1, 2019  
*J. E. ...*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13


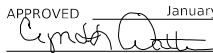
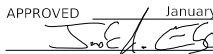
**URBAN LANE CLOSURE,  
MULTILANE, 2W WITH  
BIDIRECTIONAL LEFT TURN LANE**

(Sheet 2 of 4)

**STANDARD 701602-10**

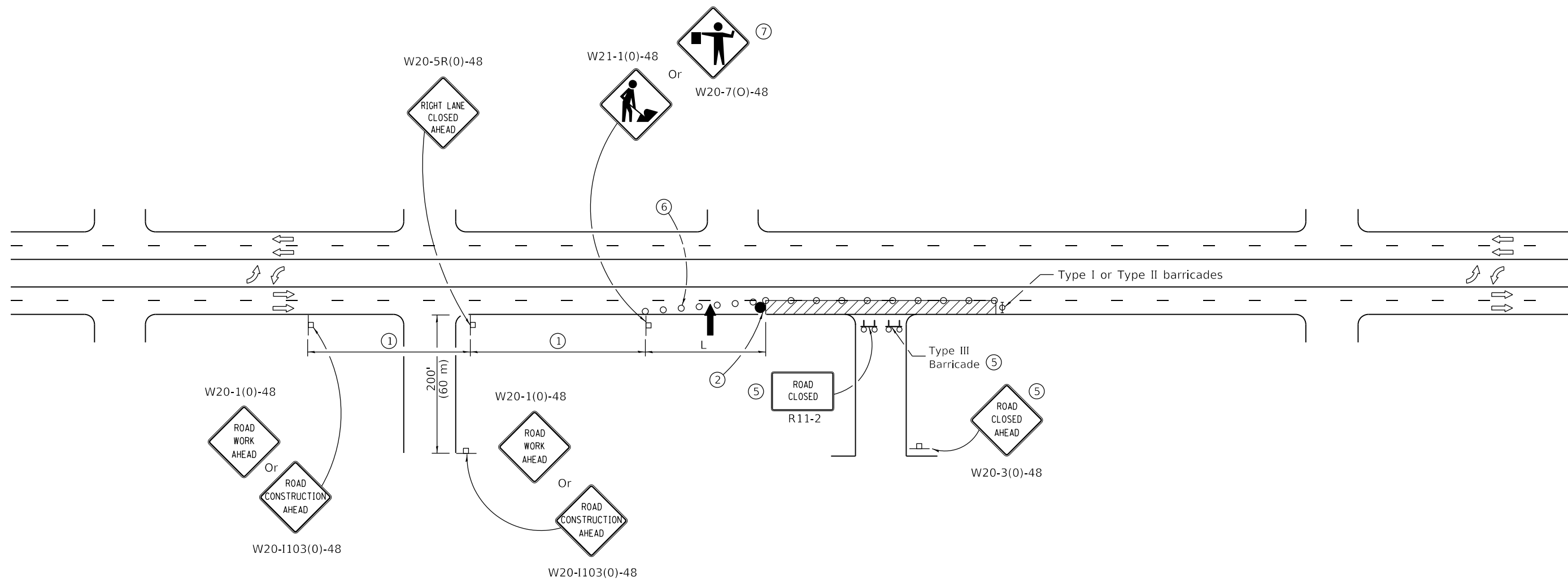


**CASE III**

 Illinois Department of Transportation  
 APPROVED January 1, 2019  
  
 ENGINEER OF SAFETY PROG. AND ENGINEERING  
 APPROVED January 1, 2019  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

**URBAN LANE CLOSURE,  
 MULTILANE, 2W WITH  
 BIDIRECTIONAL LEFT TURN LANE**  
 (Sheet 3 of 4)  
**STANDARD 701602-10**



**CASE IV**

Illinois Department of Transportation

APPROVED January 1, 2019  
*Cynthia Watt*  
 ENGINEER OF SAFETY PROG. AND ENGINEERING

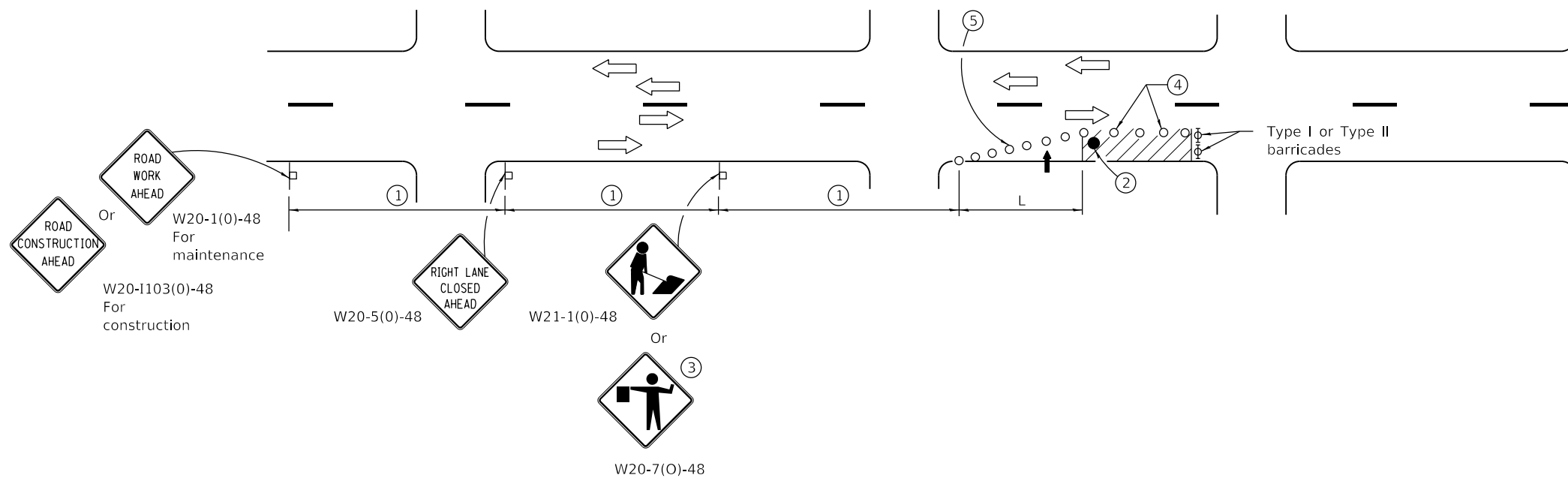
APPROVED January 1, 2019  
*J. E. ...*  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

**URBAN LANE CLOSURE,  
 MULTILANE, 2W WITH  
 BIDIRECTIONAL LEFT TURN LANE**

(Sheet 4 of 4)

**STANDARD 701602-10**



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

- SYMBOLS**
- Arrow board
  - Cone, drum or barricade
  - Sign on portable or permanent support
  - Work area
  - Barricade or drum with flashing light
  - Flagger with traffic control sign.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph.
- ③ Use flagger sign only when flagger is present.
- ④ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ⑤ Cones, drums or barricades at 20' (6 m) centers in taper.

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an Urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).  
 S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2015  
 ENGINEER OF SAFETY ENGINEERING

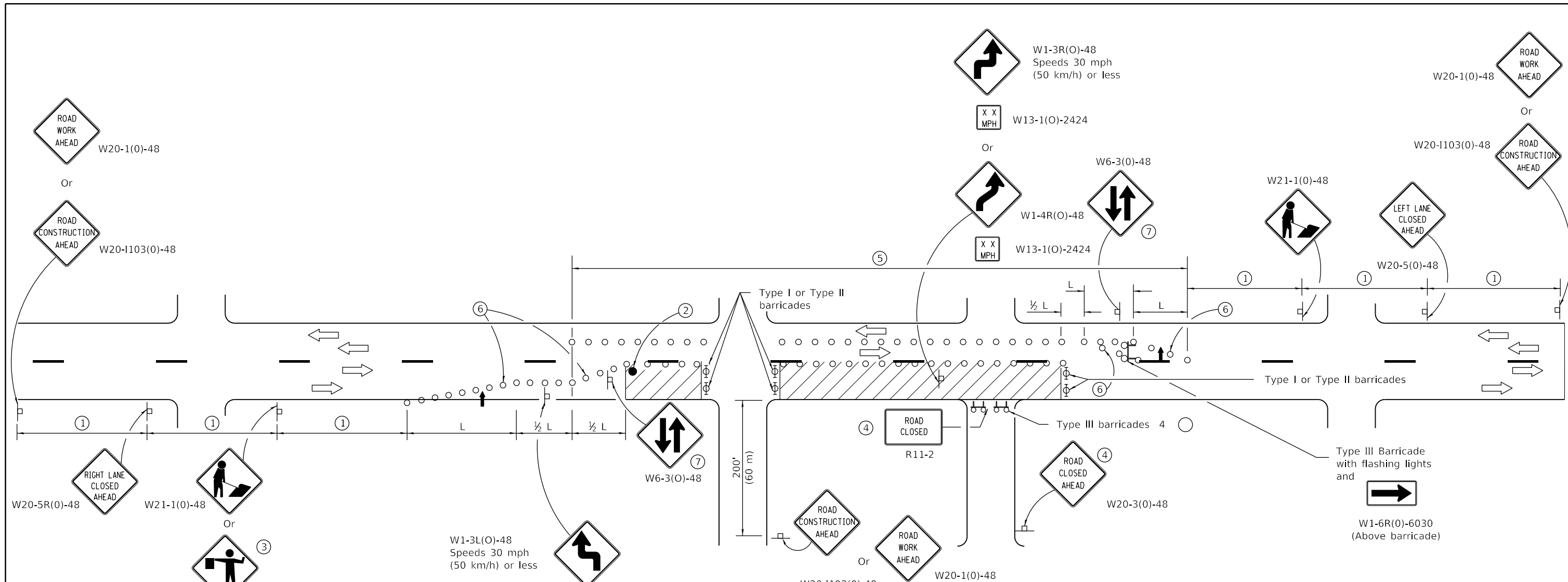
APPROVED January 1, 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-15	Renamed standard. Moved case on Sheet 2 to new Highway Standard.
1-1-14	Revised workers sign number to agree with current MUTCD.

**URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN**

**STANDARD 701606-10**



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

- W1-3L(O)-48  
Speeds 30 mph  
(50 km/h) or less
- W13-1(O)-2424
- Or
- W1-4L(O)-48
- W13-1(O)-2424

- SYMBOLS**
- Arrow board
  - Cone, drum or barricade
  - Sign on portable or permanent support
  - Work area
  - Barricade or drum with flashing light
  - Type III barricade with flashing lights
  - Flagger with traffic control sign.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph.
- ③ Use flagger sign only when flagger is present.
- ④ For approved sideroad closures.
- ⑤ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Repeat every 1 mile (1.6 km).

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of more than one traffic lane in an Urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).  
S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED April 1, 2016  
*[Signature]*  
ENGINEER OF SAFETY ENGINEERING

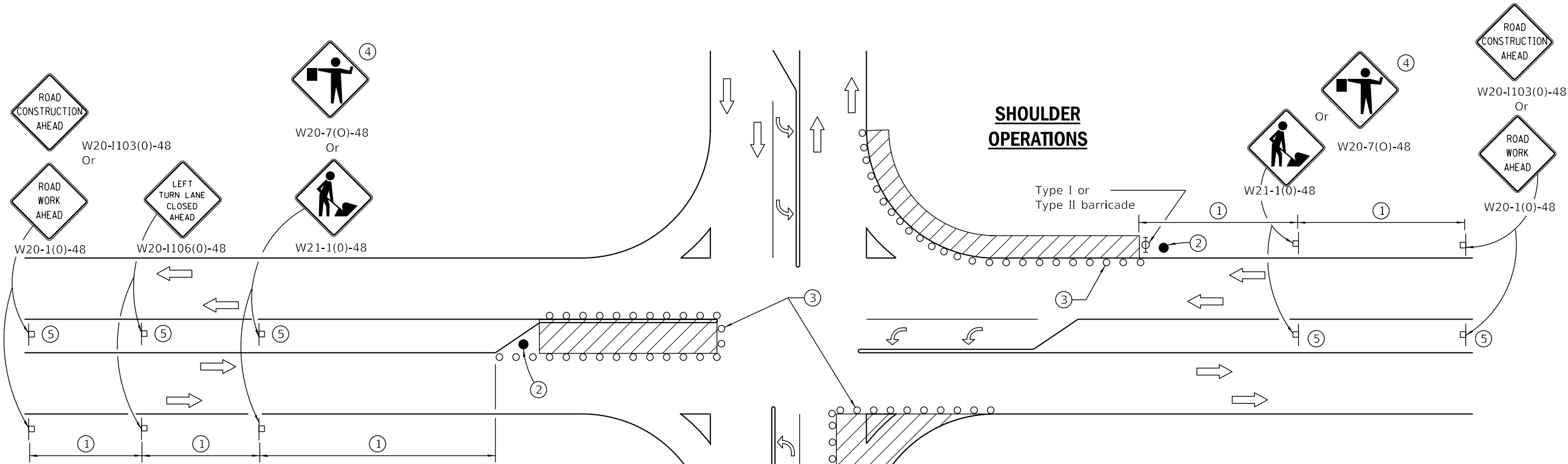
ISSUED 1-1-15

APPROVED April 1, 2016  
*[Signature]*  
ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
4-1-16	Moved first reverse curve/turn sign to middle of tangent.
1-1-15	New Standard.

**URBAN HALF ROAD CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN**

**STANDARD 701611-01**



**LEFT TURN LANE OR CENTER MEDIAN OPERATIONS**

- ① Refer to SIGN SPACING TABLE for distance.
- ② Required for speed > 40 mph.
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Use flagger sign only when flagger is present.
- ⑤ Omit this sign when median is less than 10' (3 m) or for bi-directional turn lanes.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Advanced arrow board required for speeds > 45 mph.
- ⑧ Three Type II barricades, drums or vertical barricades at 50' (15 m) centers.

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**SYMBOLS**

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Corrected sign number for LEFT TURN LANE CLOSED AHEAD.
1-1-14	Added devices at arrow board upstream from taper.
	Rev. workers sign number.

**URBAN LANE CLOSURE, MULTILANE INTERSECTION**

**STANDARD 701701-10**

Illinois Department of Transportation

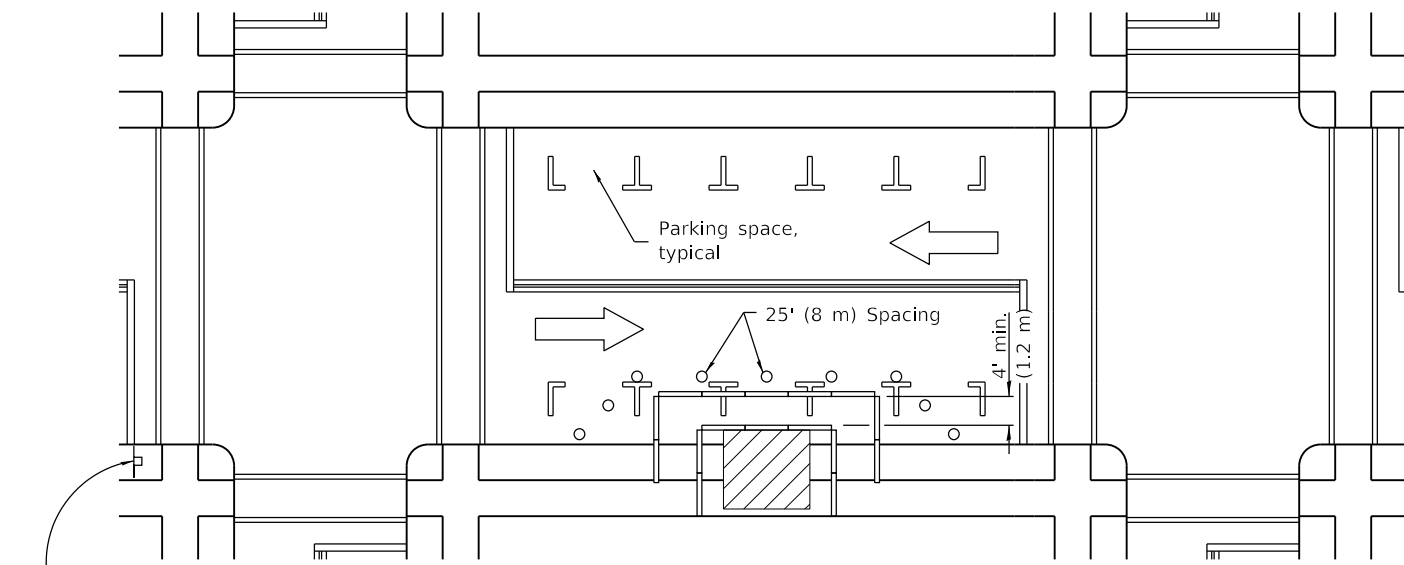
PASSED April 1, 2016

*[Signature]*  
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016

*[Signature]*  
ENGINEER OF DESIGN AND ENVIRONMENT

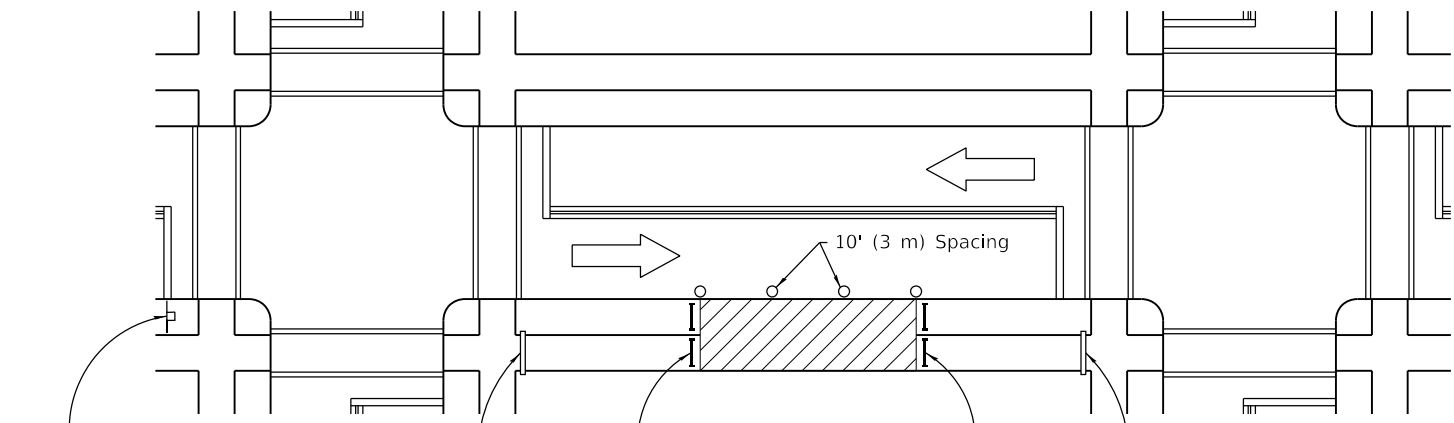
ISSUED 1-1-97



① ROAD CONSTRUCTION AHEAD  
W20-1103(0)-48 for contract construction projects

Or  
① ROAD WORK AHEAD  
W20-1(0)-48 for maintenance and utility projects

**SIDEWALK DIVERSION**



① ROAD CONSTRUCTION AHEAD  
W20-1103(0)-48 for contract construction projects

Or  
① ROAD WORK AHEAD  
W20-1(0)-48 for maintenance and utility projects

SIDEWALK CLOSED  
←  
USE OTHER SIDE  
R11-1102-2430

SIDEWALK CLOSED  
R11-1101-2418

SIDEWALK CLOSED  
→  
USE OTHER SIDE  
R11-1102-2430

**SIDEWALK CLOSURE**

① Omit whenever duplicated by road work traffic control.

**GENERAL NOTES**

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

All dimensions are in inches (millimeters) unless otherwise shown.

**SYMBOLS**

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade
- Detectable pedestrian channelizing barricade

Illinois Department of Transportation

PASSED April 1, 2016  
*[Signature]*  
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016  
*[Signature]*  
ENGINEER OF DESIGN AND ENVIRONMENT

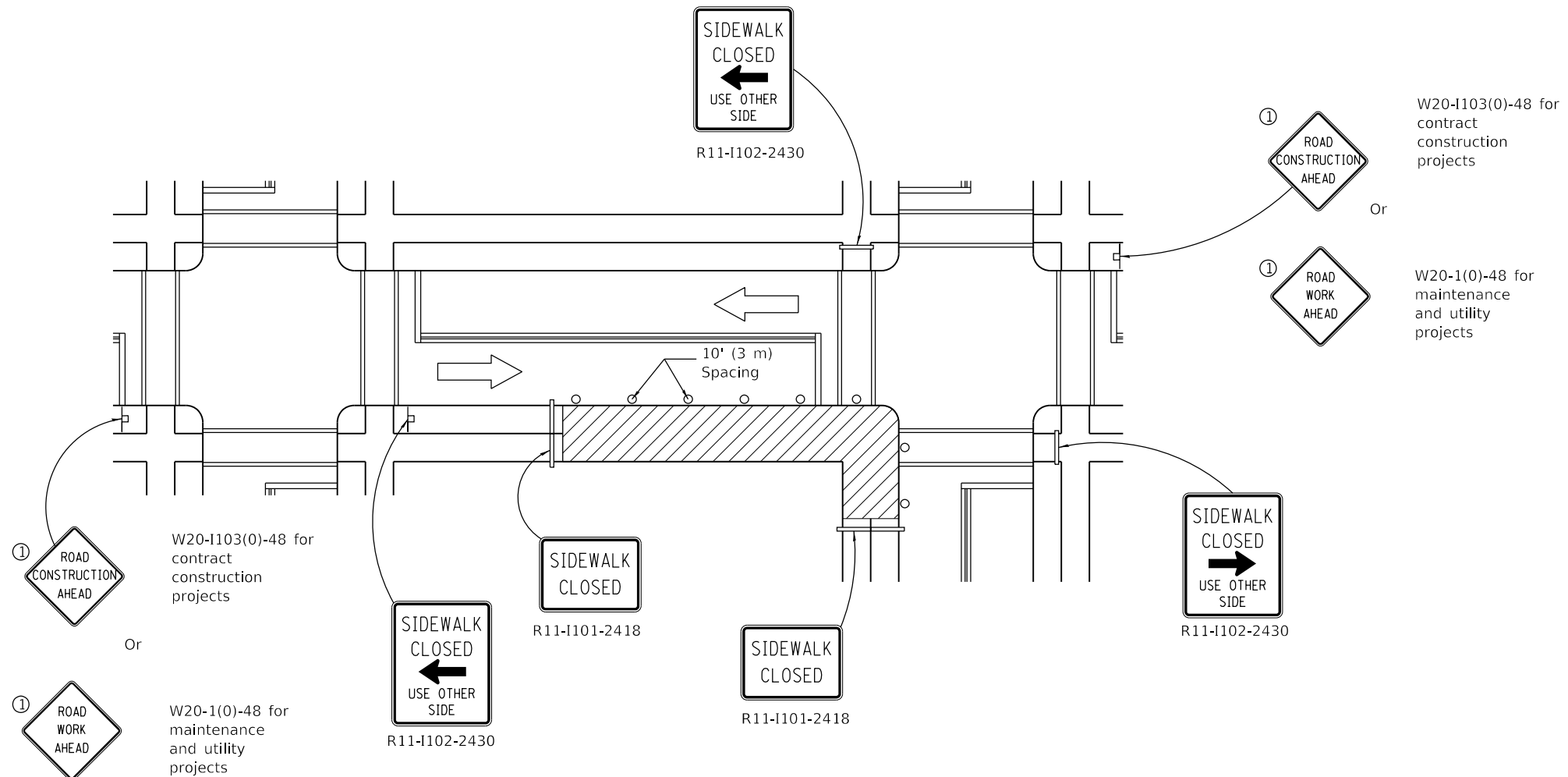
ISSUED 1-1-97

DATE	REVISIONS
4-1-16	Omitted orange safety fence from standard as this is covered in the std. spec.
1-1-12	Added SIDEWALK DIVERSION. Modified appearance of plan views. Renamed Std.

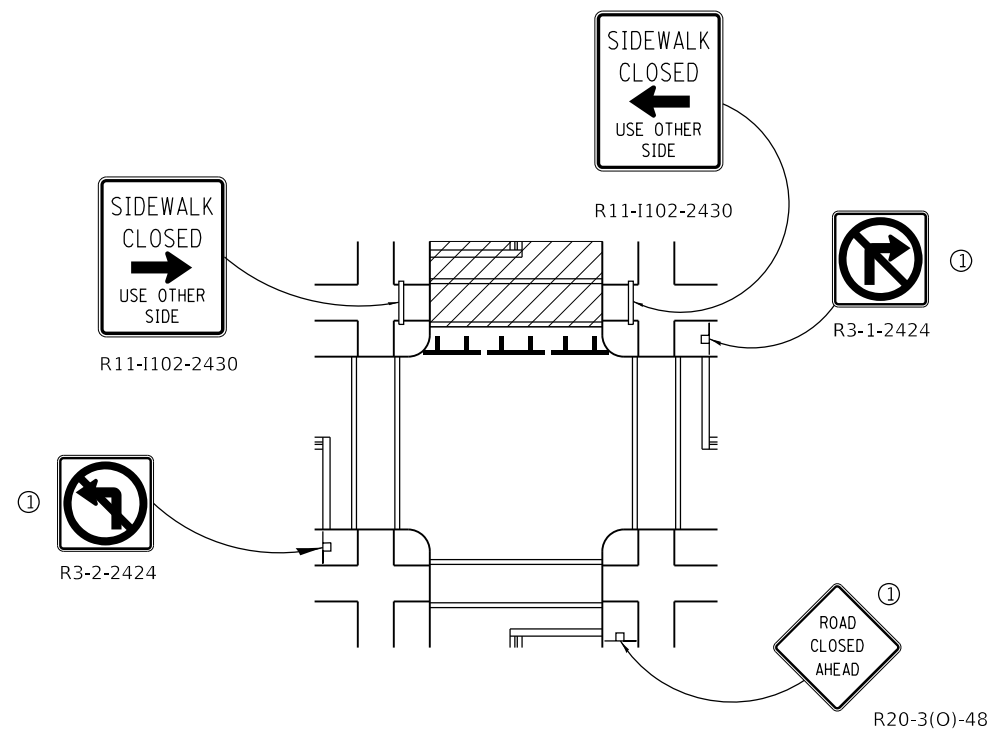
**SIDEWALK, CORNER OR CROSSWALK CLOSURE**

(Sheet 1 of 2)

**STANDARD 701801-06**



**CORNER CLOSURE**



**CROSSWALK CLOSURE**

W20-I103(0)-48 for contract construction projects

Or

W20-1(0)-48 for maintenance and utility projects

**SIDEWALK, CORNER OR CROSSWALK CLOSURE**

(Sheet 2 of 2)

**STANDARD 701801-06**

Illinois Department of Transportation

PASSED April 1, 2016

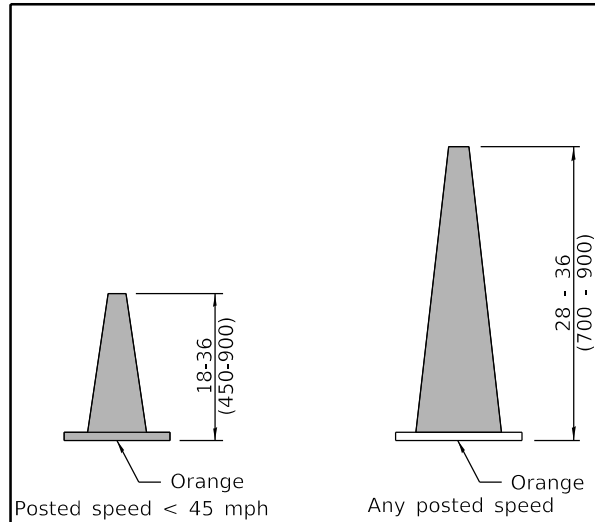
*[Signature]*  
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016

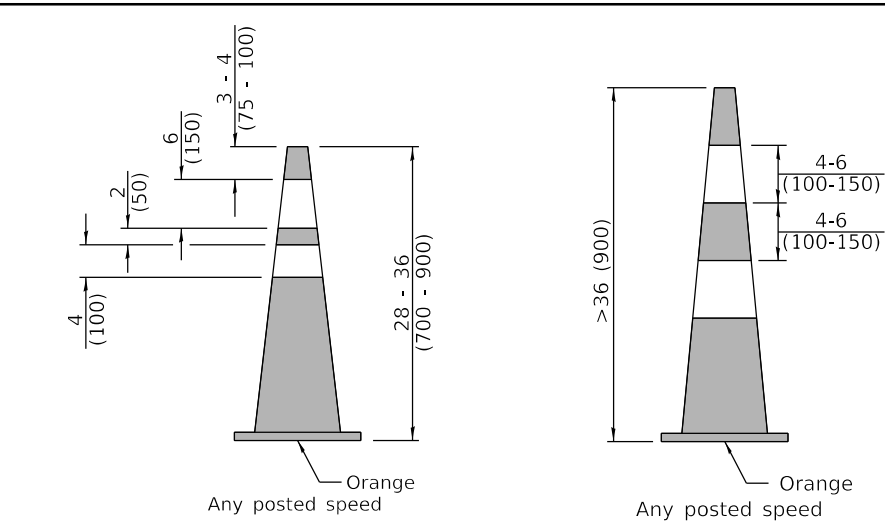
*[Signature]*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

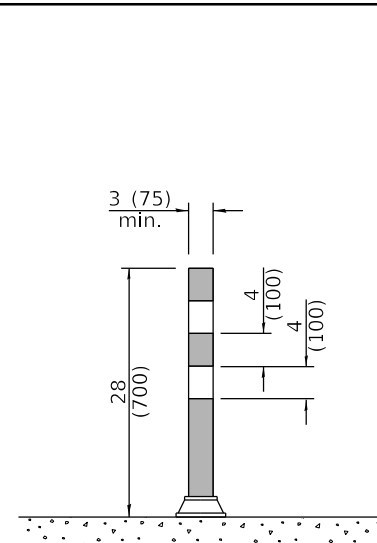




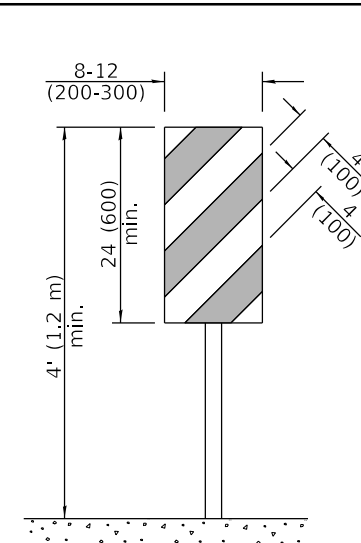
**DAYTIME USE**



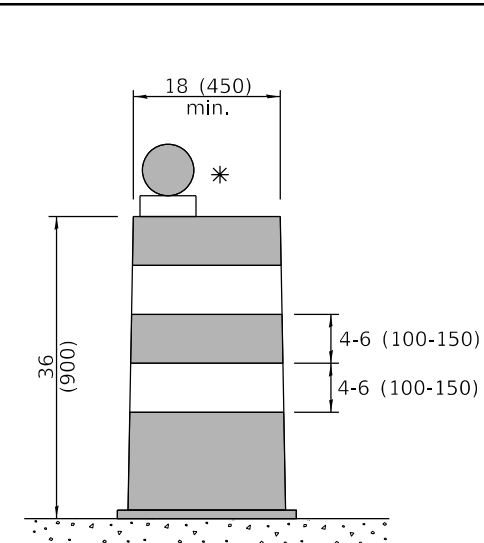
**DAY OR NIGHTTIME USE**



**TUBULAR MARKER**

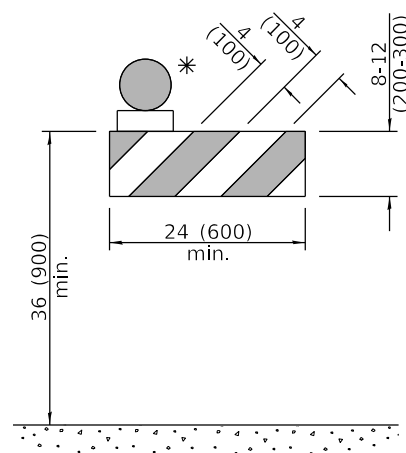


**VERTICAL PANEL  
POST MOUNTED**

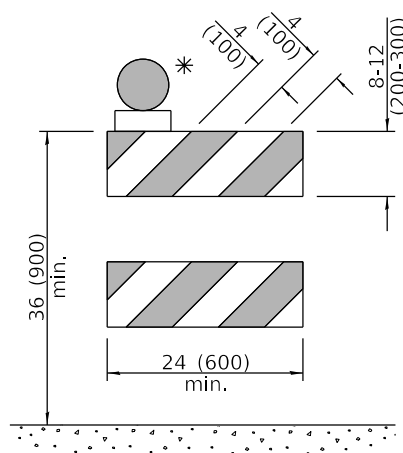


**DRUM**

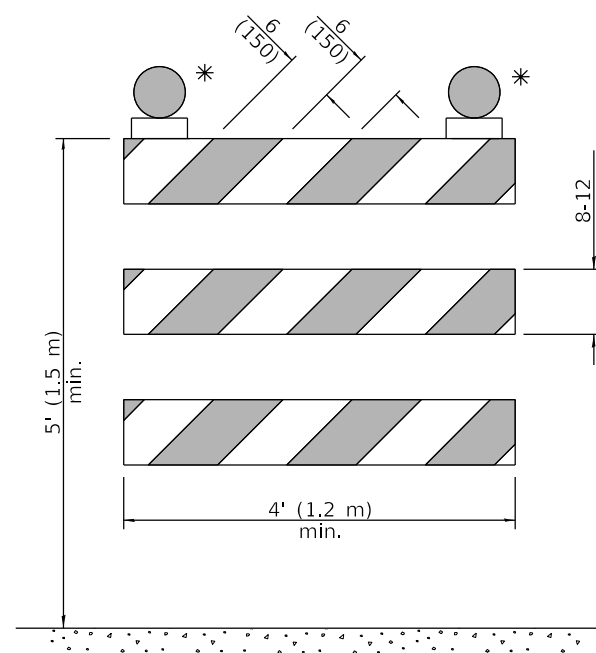
**CONES**



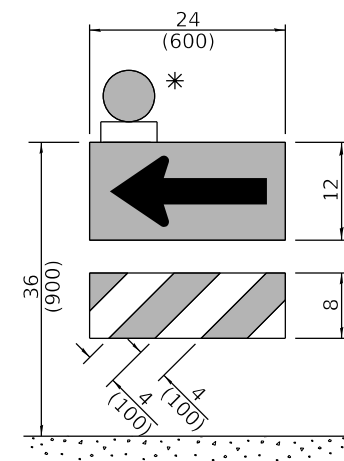
**TYPE I BARRICADE**



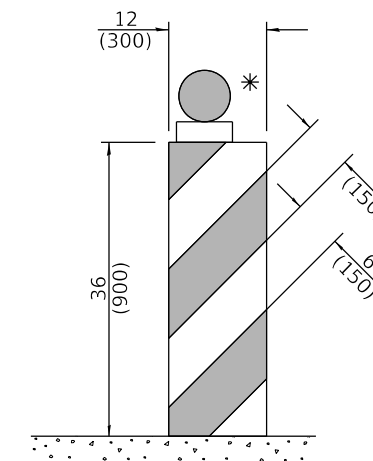
**TYPE II BARRICADE**



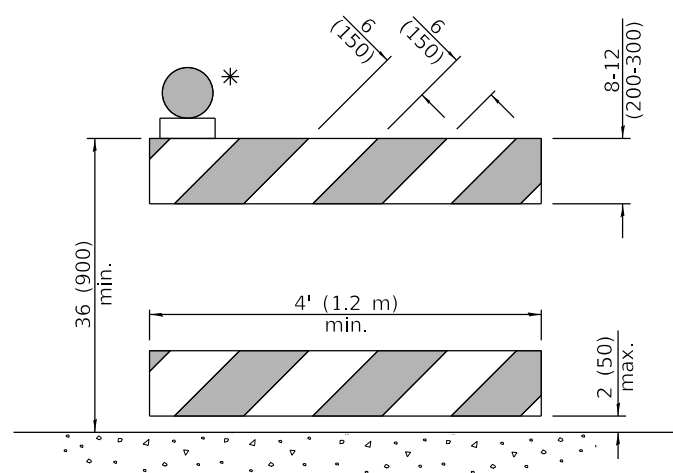
**TYPE III BARRICADE**



**DIRECTION INDICATOR  
BARRICADE**



**VERTICAL BARRICADE**



**DETECTABLE PEDESTRIAN  
CHANNELIZING BARRICADE**

\* Warning lights (if required)

**GENERAL NOTES**

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Revised cone usage and added cones >36" (900 mm) height.
1-1-18	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.

**TRAFFIC CONTROL DEVICES**

(Sheet 1 of 3)

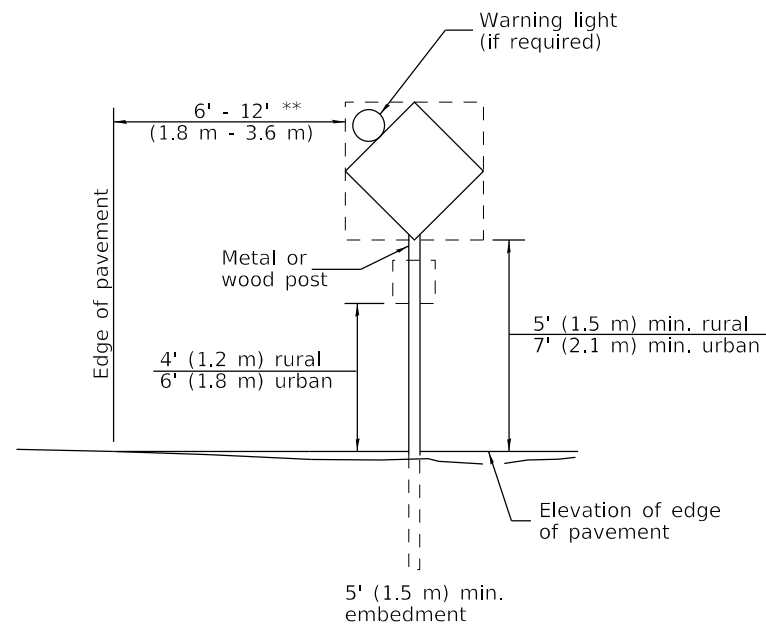
**STANDARD 701901-08**

Illinois Department of Transportation

APPROVED January 1, 2019  
  
 ENGINEER OF SAFETY PROG. AND ENGINEERING

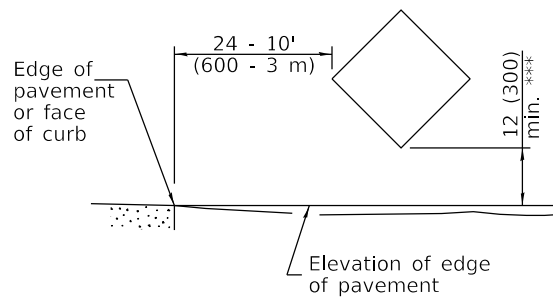
APPROVED January 1, 2019  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED  
 ET-1-1



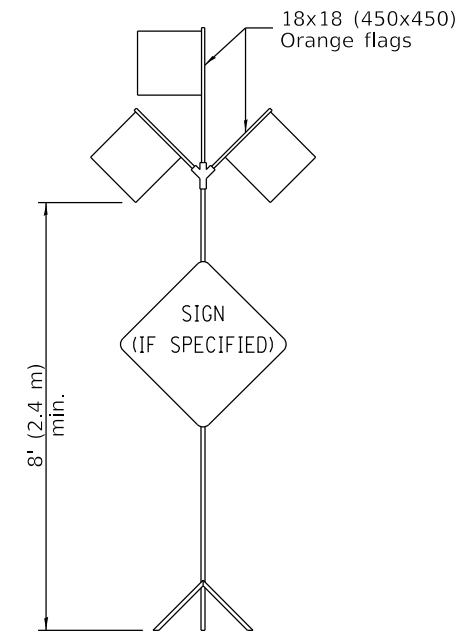
**POST MOUNTED SIGNS**

\*\* When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

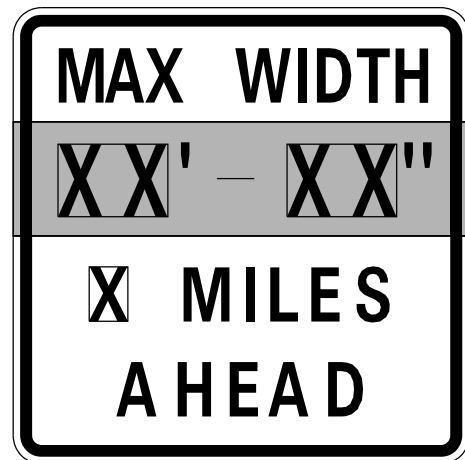


**SIGNS ON TEMPORARY SUPPORTS**

\*\*\* When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



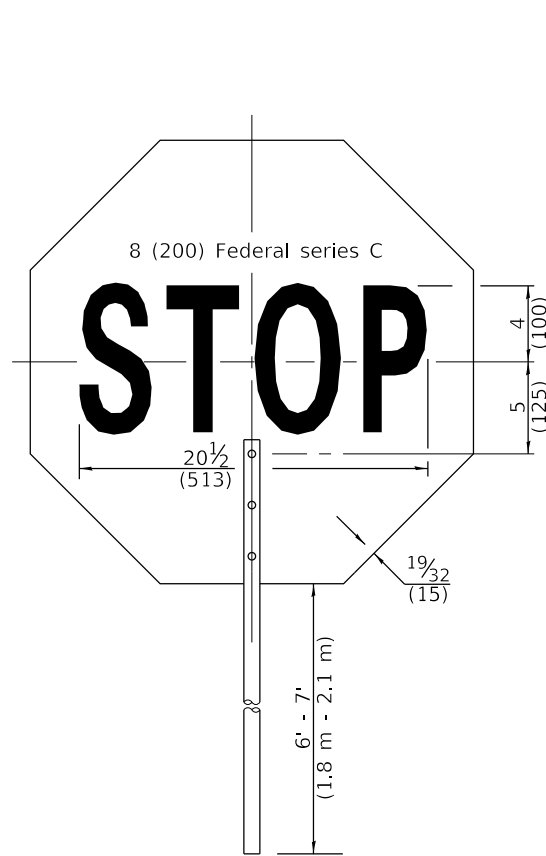
**HIGH LEVEL WARNING DEVICE**



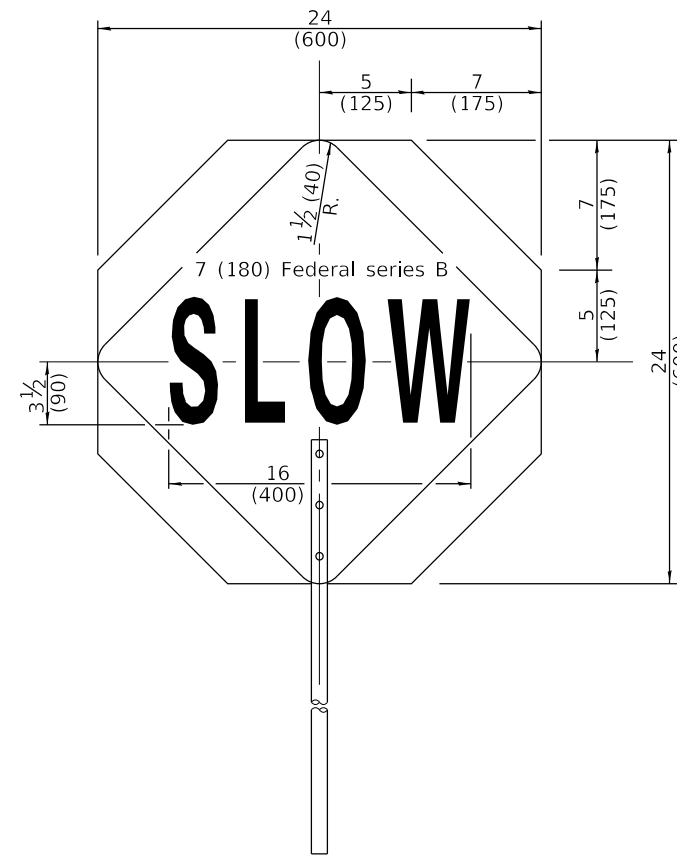
W12-I103-4848

**WIDTH RESTRICTION SIGN**

XX'-XX" width and X miles are variable.



FRONT SIDE



REVERSE SIDE

**FLAGGER TRAFFIC CONTROL SIGN**



G20-I104(0)-6036



G20-I105(0)-6024

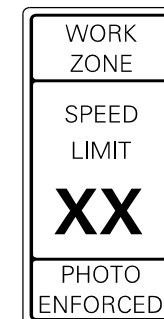
This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

**WORK LIMIT SIGNING**



W21-III5(0)-3618

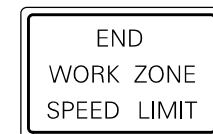
R2-1-3648

R10-I108p-3618 \*\*\*\*



R2-I106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.



G20-I103-6036

This sign shall be used when the above sign assembly is used.

**HIGHWAY CONSTRUCTION SPEED ZONE SIGNS**

\*\*\*\* R10-I108p shall only be used along roadways under the jurisdiction of the State.

**TRAFFIC CONTROL DEVICES**

(Sheet 2 of 3)

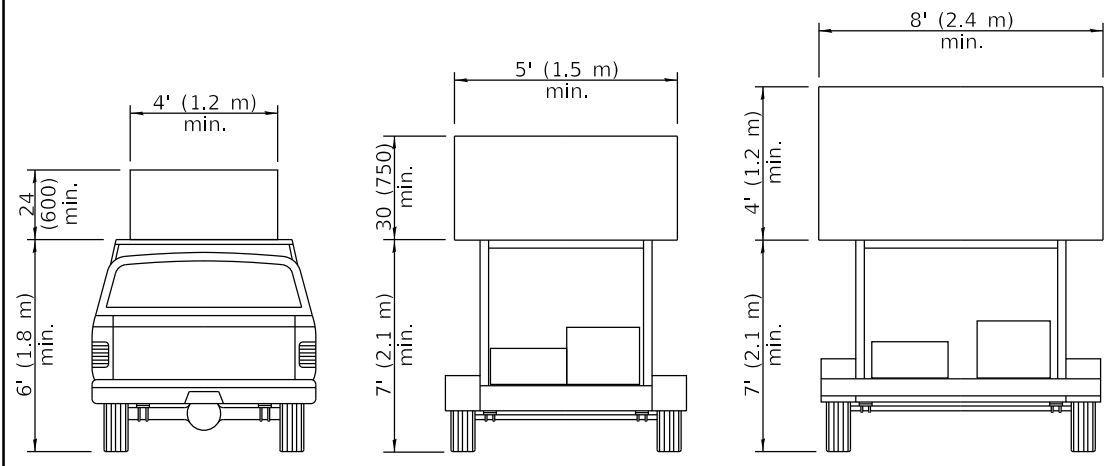
**STANDARD 701901-08**

Illinois Department of Transportation

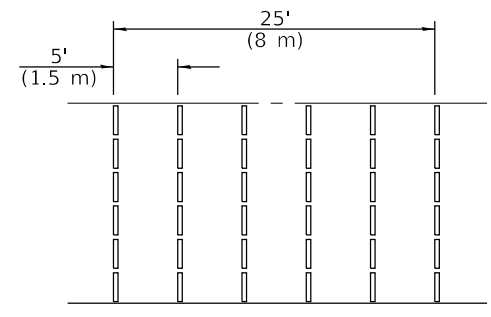
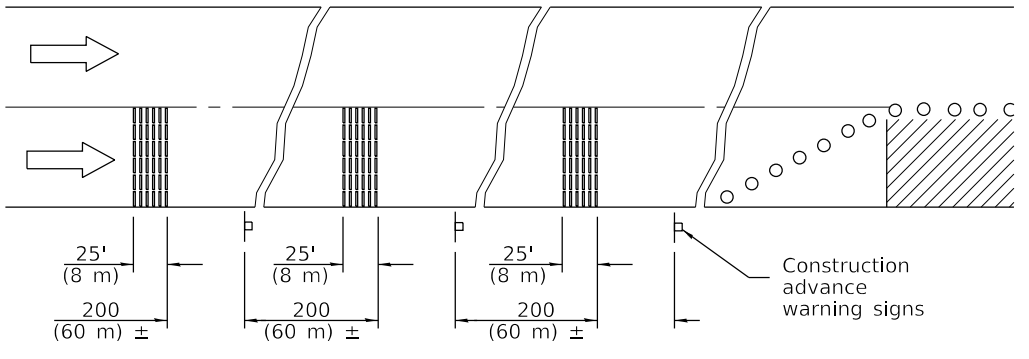
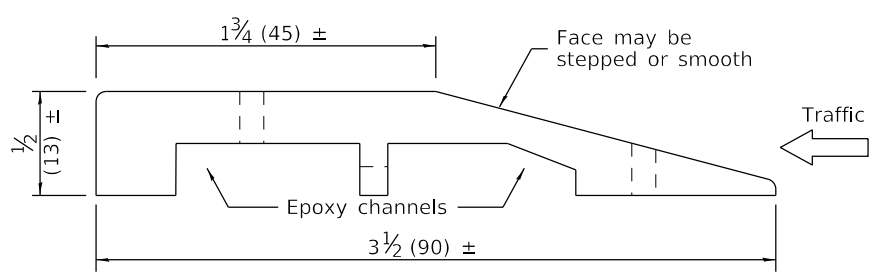
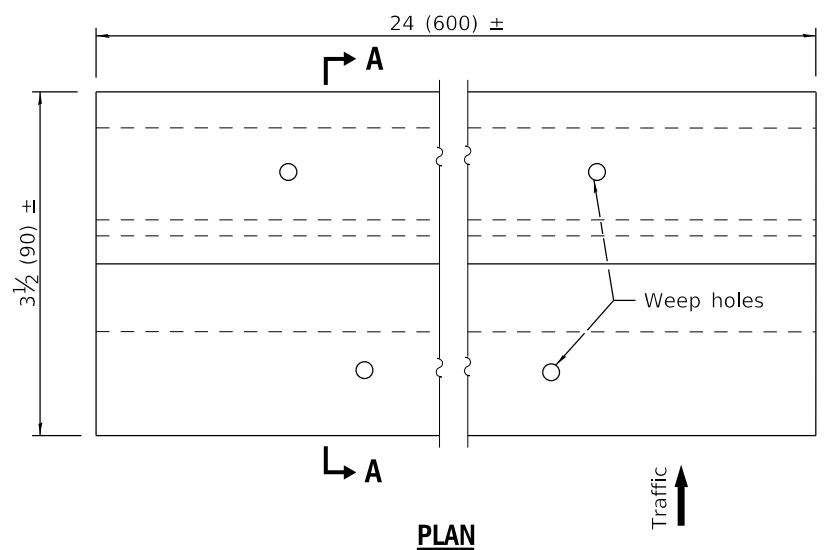
APPROVED January 1, 2019  
  
 ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019  
  
 ENGINEER OF DESIGN AND ENVIRONMENT

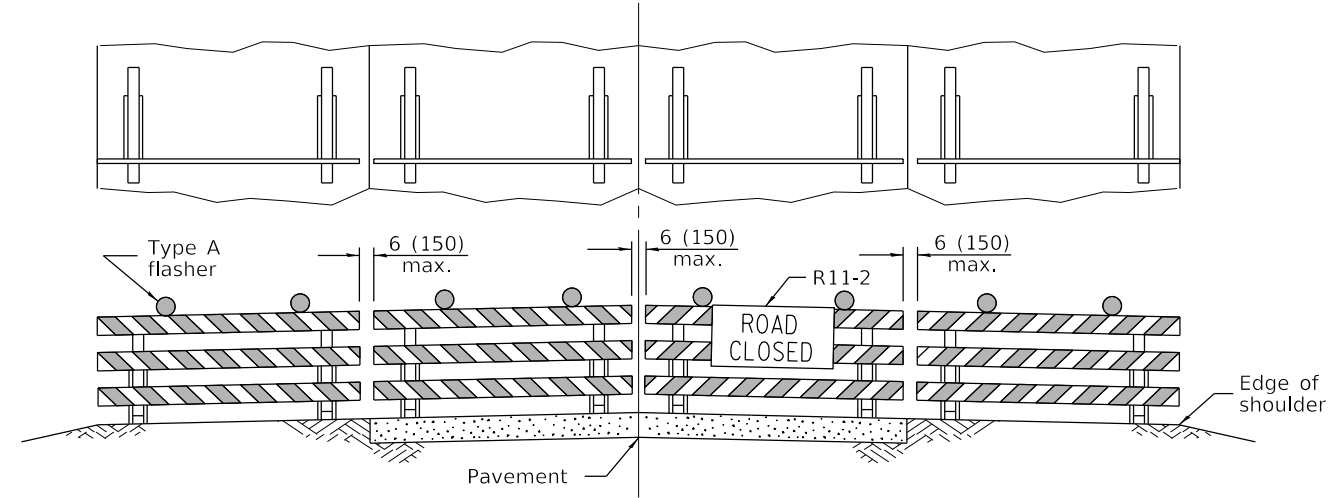
ISSUED 1-1-13



**ARROW BOARDS**

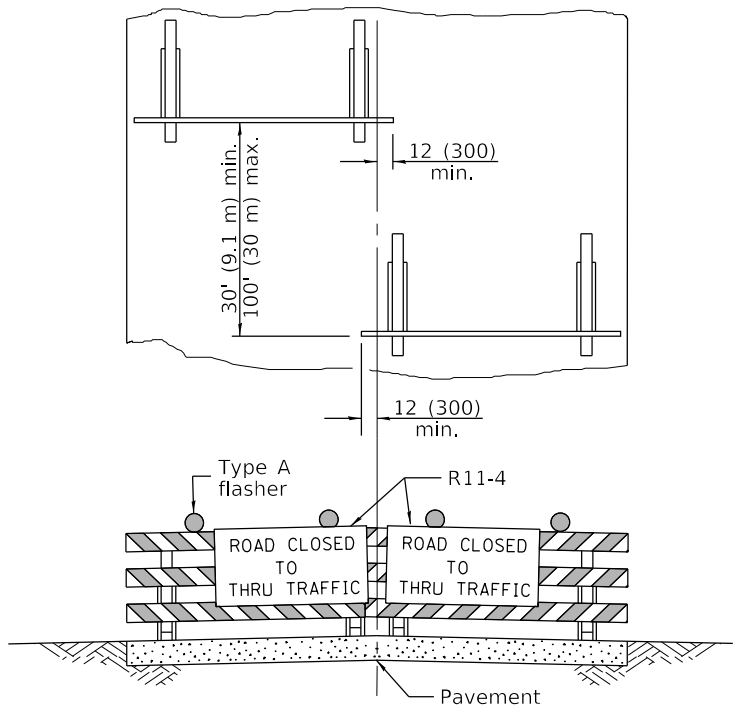


**TEMPORARY RUMBLE STRIPS**



**ROAD CLOSED TO ALL TRAFFIC**

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



**ROAD CLOSED TO THRU TRAFFIC**

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

**TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD**

Illinois Department of Transportation

APPROVED January 1, 2019

*Cynthia Watt*  
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019

*Joe E. ...*  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUES: E1-1-1

**TRAFFIC CONTROL DEVICES**

(Sheet 3 of 3)

**STANDARD 701901-08**

**SECTION H**

Plans

**SANITARY SEWER LINING, 8”**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinstale (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
289	CLAY	353	In rear yards of 201, 203 and 205 E Holmes St	7	102605-102604	7.02	15.12
323	CLAY	554	In Clark St and west of Busey Ave	16	057531-056543	8.02	3.72
352	CLAY	395	In Oregon St between S Lincoln and S Busey Ave	8	068600-068601	7.54	9.22
585	CLAY	303	In rear yards of 1204 to 1214 Eastern Dr.	10	081598-081599	8.2	7.72
589	CONCRETE	320	From Fairlawn Dr. between Grant Pl and Patton Pl.	5	081600A-081600		9.4
994	CLAY	373	Along Gregory St between Nevada and Oregon Streets	13	067579-067569	7.44	7.36
1277	CLAY	302	Mid-block of Delaware St between Busey and Orchard Streets	10	079549-079550	6	5.33
1278	CLAY	300	Delaware St just west of Orchard St	11	079550-079551	5.33	9.86
1368	CONCRETE	477	Harvey St north of Fairview Ave	19	045557-045545	11.56	11.13
1376	CLAY	467	In alley between Main and Stoughton and Harvey and Gregory St's	16	056554-056555	9.12	11.28
1419	CLAY	135	Between Broadway and Berkley Avenues just north of Oakland Ave	2	047507A-047512	8.07	
1786	CLAY	230	From end of Cul-De-Sac of Shuman Circle to bend in Shuman Circle	4	091561-091564	5.02	6.35
1906	CLAY	153	In rear yard of 405 Colorado Ave west of S George Huff Dr.	3	091546-091545	8.15	
1964	CLAY	161	High Street extended west of Urbana Ave.	2	069542-UCSD Sewer		
2294	CLAY	391	In Nevada St west of McCullough Street	11	068619-068621	3.3	5
2298	CLAY	382	In California Ave between Orchard and McCullough St	10	068596-068595	7.5	7.5
		5,296	Total for SANITARY SEWER LINING, 8”	147	Total for REINSTATE SERVICE CONNECTION, SANITARY		

Notes:

1. The following link is to a GIS map which displays all the sewer segments to be lined:  
<https://urbana.ccgisc.org/portaIurbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>
2. The “Pipe ID#” is also referred to as the “Urbana Lucity ID#” on the GIS map and as the “Mainline ID#” in the Sewer Inspection Reports.
3. The upstream and downstream depths are measured from rim elevation at a manhole to the invert elevation of a pipe.

**STORM SEWER LINING, 8”**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinststate (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
13	CLAY	24	Crossing Springfield Ave in front of 1010 W Springfield Ave	0	56336-56336A		
2423	CLAY	470	In University Ave between Orchard and McCullough St's	0	57163-57170		
2483	CONCRETE	45	Crossing Main St east of Lincoln Ave.	0	56298C-56298D		
2644	CLAY	394	South side of High St between Orchard and McCullough St's	6	68189-68191		
2645	CLAY	387	South side of High St between McCullough and Birch St	1	68191-681943		
2647	CLAY	377	South side of High St between Cedar and Birch St	1	68193-68196A		
2696	CLAY	397	North side of California Ave between McCullough and Birch St	3	68237-68233		
2702	CLAY	374	North side of Oregon St between Cedar and Race St's	3	69264-68261		
2737	CLAY	28	East side of McCullough St south of Nevada St	0	68280-68280B		6.35
2739	CLAY	28	Crossing Nevada St along the east side of McCullough St	0	68280-68280A		
2825	CLAY	303	North side of Hill St east of Lincoln Ave.	0	57108A-56128		
3119	CLAY	479	North side of Michigan Ave west of Orchard St	4	79176-79174		
3126	CLAY	329	West side of Carle Ave between Indiana and Michigan Ave's	1	79154-79181		
10405	CLAY	32	Crossing Springfield Ave and east of Gregory St.	0	56340-56339		
		3667	Total for STORM SEWER LINING, 8”	19	Total for REINSTATE SERVICE CONNECTION, STORM		

Notes:

1. The following link is to a GIS map which displays all the sewer segments to be lined:  
<https://urbana.ccgisc.org/portalarbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>
2. The “Pipe ID#” is also referred to as the “Urbana Lucity ID#” on the GIS map and as the “Mainline ID#” in the Sewer Inspection Reports.
3. The upstream and downstream depths are measured from rim elevation at a manhole to the invert elevation of a pipe.

**STORM SEWER LINING, 10”**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinststate (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
2772	CONCRETE	21	From centerline of Main St north and east of Gregory St	0	56294-56295A		
2775	CLAY	157	Along the east side of Gregory St and north of Clark St	2	56292C-56241		
2886	CLAY	36	Crossing Romine St along the north side of Dublin St	0	45168-45166		
6531	CLAY	94	West of Lake House Rd and crossing Park St going north.	0	58153E-BLIND TEE		
7534	CLAY/CONC	315	West side of Mathews Ave between Hill and Beslin St's	1	45191-56109		
7642	CLAY	362	North side of Dublin St between Romine and Mathews	4	45169-45168		
		985	Total for STORM SEWER LINING, 10”	7	Total for REINSTATE SERVICE CONNECTION, STORM		

Notes:

1. The following link is to a GIS map which displays all the sewer segments to be lined:  
<https://urbana.ccgisc.org/portalurbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>
2. The “Pipe ID#” is also referred to as the “Urbana Lucity ID#” on the GIS map and as the “Mainline ID#” in the Sewer Inspection Reports.
3. The upstream and downstream depths are measured from rim elevation at a manhole to the invert elevation of a pipe.

**STORM SEWER LINING, 12”**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinstatement (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
23	CLAY	43	Crossing Stoughton St at address 1106 W Stoughton St	2	56135A-56315		
388	CONCRETE	70	West side of Philo Rd just north of the fire station	2	103212-103213		
2798	CONCRETE	179	Along the south side of Church St and east of Goodwin Ave	1	56147-56145AE		
2828	CLAY	212	East side of Busey Ave crossing Hill St and heading north	2	57107-57111A		
2858	CONCRETE	11	Middle of Lincoln Ave between Fairview and Hill St's <b>(Partial Lining)</b>	0	56204-56132		
3069	CLAY	457	In Lincoln Ave between Michigan and Pennsylvania Ave's	2	79173-79193	5.24	5.00
6106	CLAY	27	Crossing Hill St along the east side of Lincoln Ave.	0	56130-56128		
6639	CONCRETE	15	Crossing Anthony Dr. along east side of Willow Rd. <b>(Partial Lining)</b>	0	26102-26103		
7518	CLAY	205	South side of Eads St and east of Mathews Ave	0	45139-45139A		
		1219	Total for STORM SEWER LINING, 12”	9	Total for REINSTATE SERVICE CONNECTION, STORM		

Notes:

1. The following link is to a GIS map which displays all the sewer segments to be lined:  
<https://urbana.ccgisc.org/portalurbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>
2. The “Pipe ID#” is also referred to as the “Urbana Lucity ID#” on the GIS map and as the “Mainline ID#” in the Sewer Inspection Reports.
3. The upstream and downstream depths are measured from rim elevation at a manhole to the invert elevation of a pipe.



**STORM SEWER LINING, 15”**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinstale (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
344	CONCRETE	134	West side of Philo Rd crossing McHenry St	1	103200-103201		
349	CONCRETE	79	West side of Philo Rd north of McHenry St	1	103202-103201		
350	CONCRETE	75	West side of Philo Rd north of McHenry St	0	103202-103203		
368	CONCRETE	62	West side of Philo Rd north of McHenry St	0	103207-103208		
374	CONCRETE	56	West side of Philo Rd north of McHenry St	0	103208-103209		
4166	CLAY	204	Along the north side of Mumford Dr between Zuppke and Mills Dr.	1	91218-102126		
4440	CONCRETE	248	North side of Colorado Ave and east of Anderson St.	0	92109B-92110		9.7
7373	CMP	266	South of Kenyon Rd crossing Hagan Blvd going west	0	36154-36152		
9604	CONCRETE	15	West of Coler Ave between Sunset Dr. and Fairview Ave. <b>(Partial Lining)</b>	1	46110A-BLIND TEE		
		1139	Total for STORM SEWER LINING, 15”	4	Total for REINSTATE SERVICE CONNECTION, STORM		

Notes:

1. The following link is to a GIS map which displays all the sewer segments to be lined:  
<https://urbana.ccgisc.org/portalurbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>
2. The “Pipe ID#” is also referred to as the “Urbana Lucity ID#” on the GIS map and as the “Mainline ID#” in the Sewer Inspection Reports.
3. The upstream and downstream depths are measured from rim elevation at a manhole to the invert elevation of a pipe.

**STORM SEWER LINING, 18”**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinstale (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
2374	CONCRETE	98	Crystal Lake Park near boat house	0	58177-OUTLET		
		98	Total for STORM SEWER LINING, 18”	0	Total for REINSTATE SERVICE CONNECTION, STORM		

**STORM SEWER LINING, 21”**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinstale (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
4113	CONCRETE	284	East side of Anderson north of Colorado Ave	0	92109B-92016	9.7	7.02
7776	CLAY	34	Crossing Illinois St between Webber and Lynn St's	0	70167A-70169		
		318	Total for STORM SEWER LINING, 21”	0	Total for REINSTATE SERVICE CONNECTION, STORM		

Notes:

1. The following link is to a GIS map which displays all the sewer segments to be lined:  
<https://urbana.ccgisc.org/portaIurbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>
2. The “Pipe ID#” is also referred to as the “Urbana Lucity ID#” on the GIS map and as the “Mainline ID#” in the Sewer Inspection Reports.
3. The upstream and downstream depths are measured from rim elevation at a manhole to the invert elevation of a pipe.

**STORM SEWER LINING, 24"**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinstale (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
2435	CLAY	37	Northeast corner of Busey and Clark St's	0	59201-57190A		5.06
5558	CLAY	333	From Illinois St to intersection of E High St and Webber St	0	70153C-70167	12.87	10.03
		370	Total for STORM SEWER LINING, 24"	0	Total for REINSTATE SERVICE CONNECTION, STORM		

**STORM SEWER LINING, 30"**

Pipe ID#	Material	Length (foot)	Location	Service Taps to Reinstale (each)	MH #'s	Upstream Depth (foot)	Downstream Depth (foot)
2560	BRICK	52	Crossing Main St east of Orchard St	3	57228-57229		
		52	Total for STORM SEWER LINING, 30"	3	Total for REINSTATE SERVICE CONNECTION, STORM		

Notes:

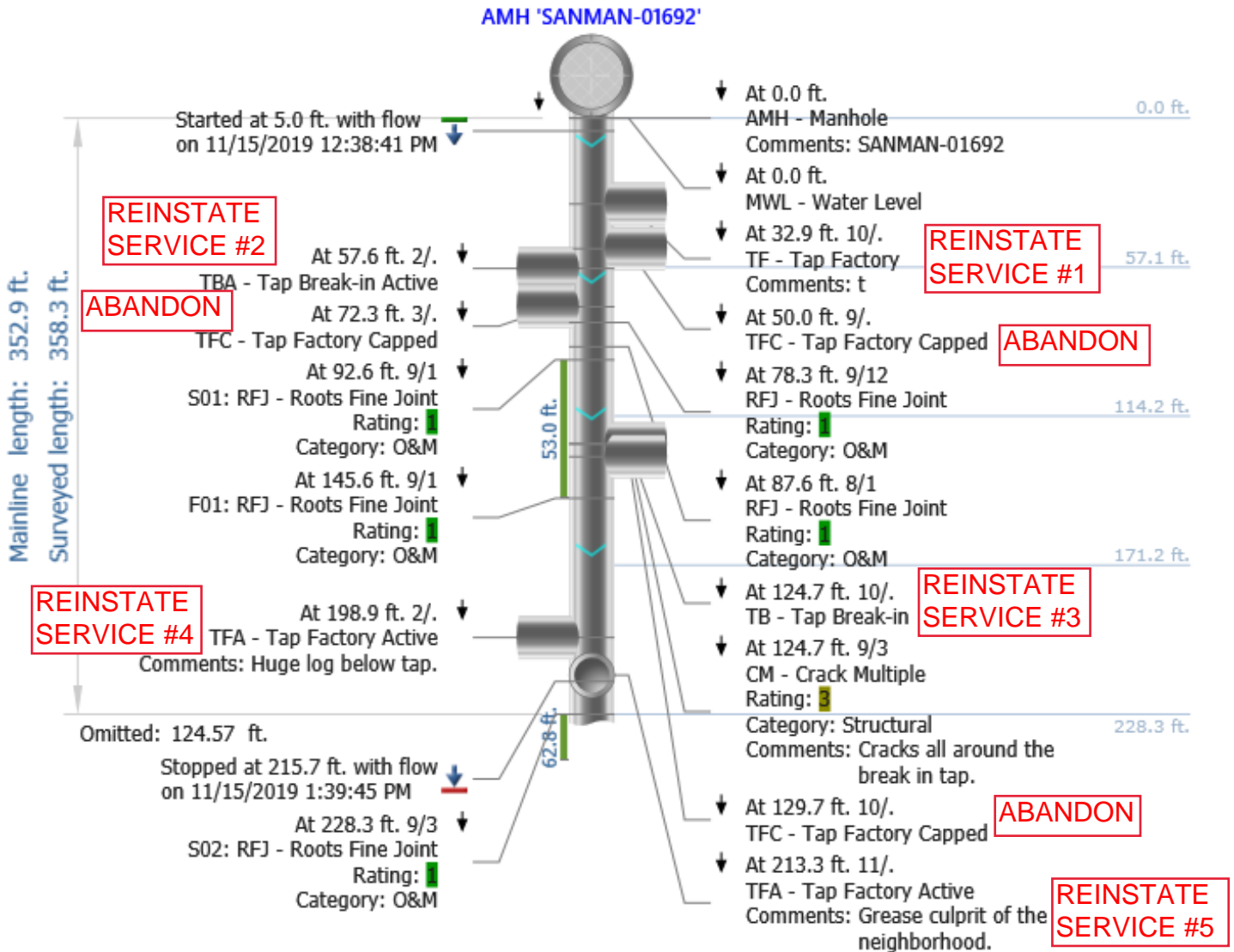
1. The following link is to a GIS map which displays all the sewer segments to be lined:  
<https://urbana.ccgisc.org/portalurbana/apps/mapviewer/index.html?webmap=3fdfab66af984469910780318dfe1bc3>
2. The "Pipe ID#" is also referred to as the "Urbana Lucity ID#" on the GIS map and as the "Mainline ID#" in the Sewer Inspection Reports.
3. The upstream and downstream depths are measured from rim elevation at a manhole to the invert elevation of a pipe.



CUES, Inc.  
3600 Rio Vista Avenue  
Orlando, FL 32805  
Phone: 407-849-0190  
Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-00289</b>	City: <b>URB</b>	Street: <b>Pell Circle</b>
Start date/time: <b>11/15/2019 12:38 PM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

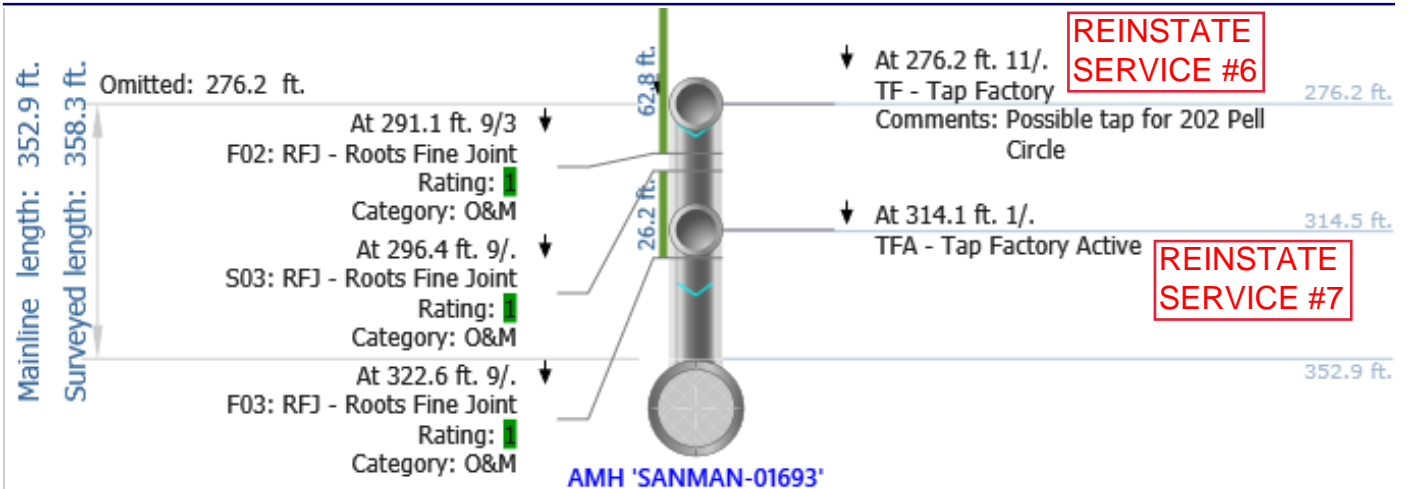
2019 Miscellaneous TV

SANGRAV-00289

11/15/2019 12:38 PM

D

Weather:



**Some observations have distance greater than the pipe length**

Project name:

Mainline ID:

Start date/time:

Direction:

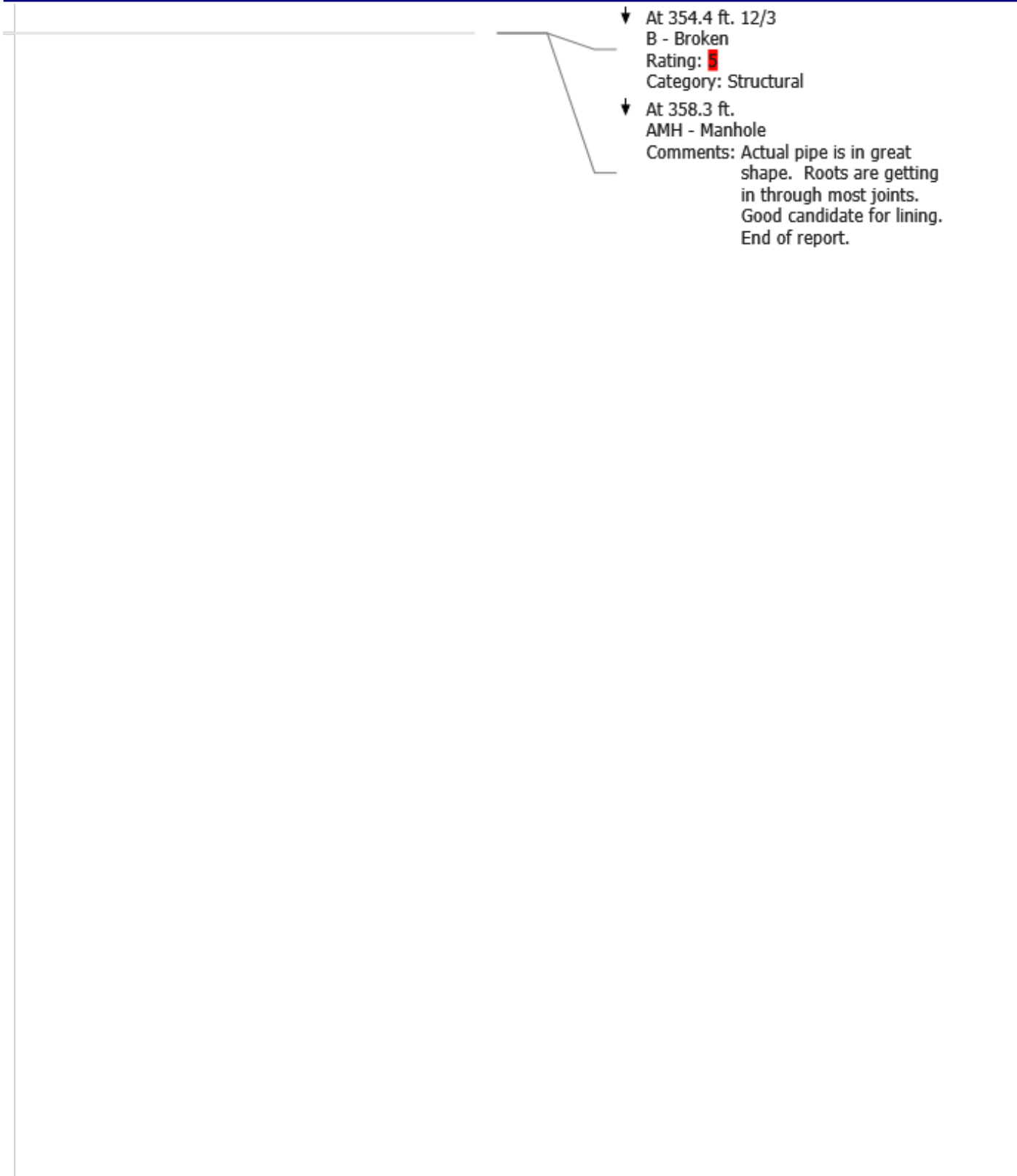
**2019 Miscellaneous TV**

**SANGRAV-00289**

**11/15/2019 12:38 PM**

**D**

Weather:



↓ At 354.4 ft. 12/3  
B - Broken

Rating: ■  
Category: Structural

↓ At 358.3 ft.  
AMH - Manhole

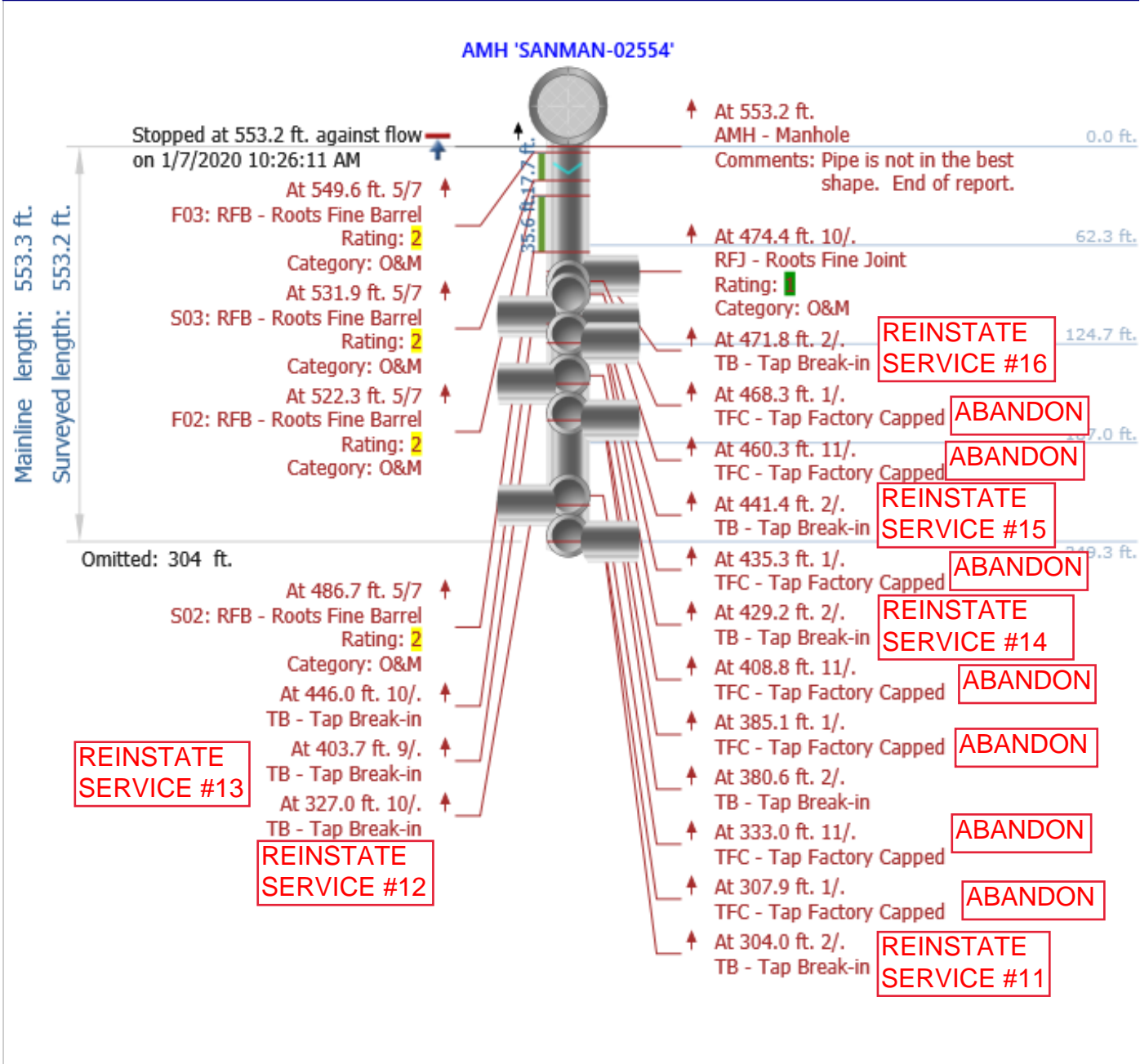
Comments: Actual pipe is in great  
shape. Roots are getting  
in through most joints.  
Good candidate for lining.  
End of report.



CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2020 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-00323</b>	City: <b>URB</b>	Street: <b>Clark St</b>
Start date/time: <b>1/7/2020 9:30 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

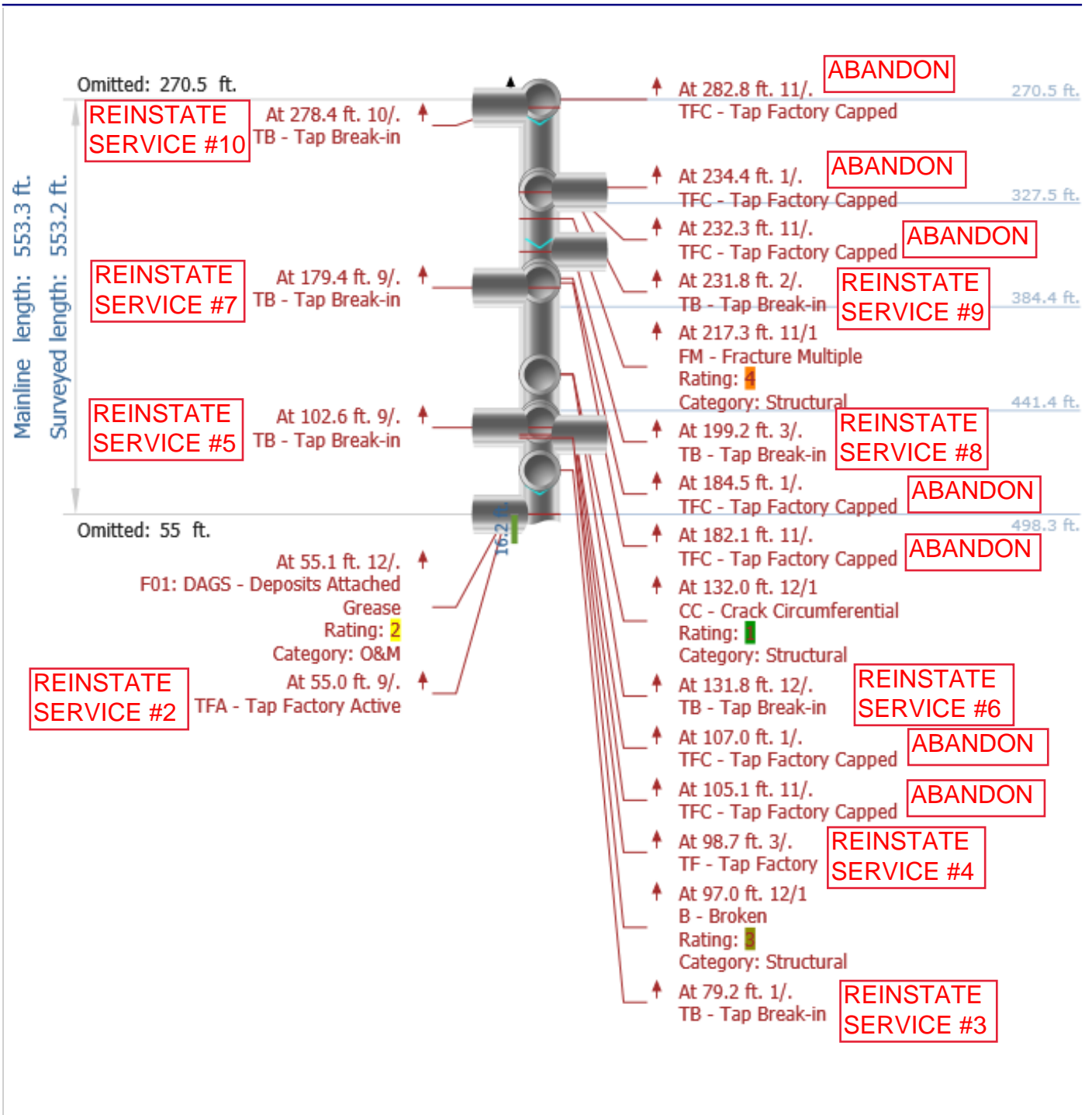
2020 Miscellaneous TV

SANGRAV-00323

1/7/2020 9:30 AM

U

Weather:





Project name:

Mainline ID:

Start date/time:

Direction:

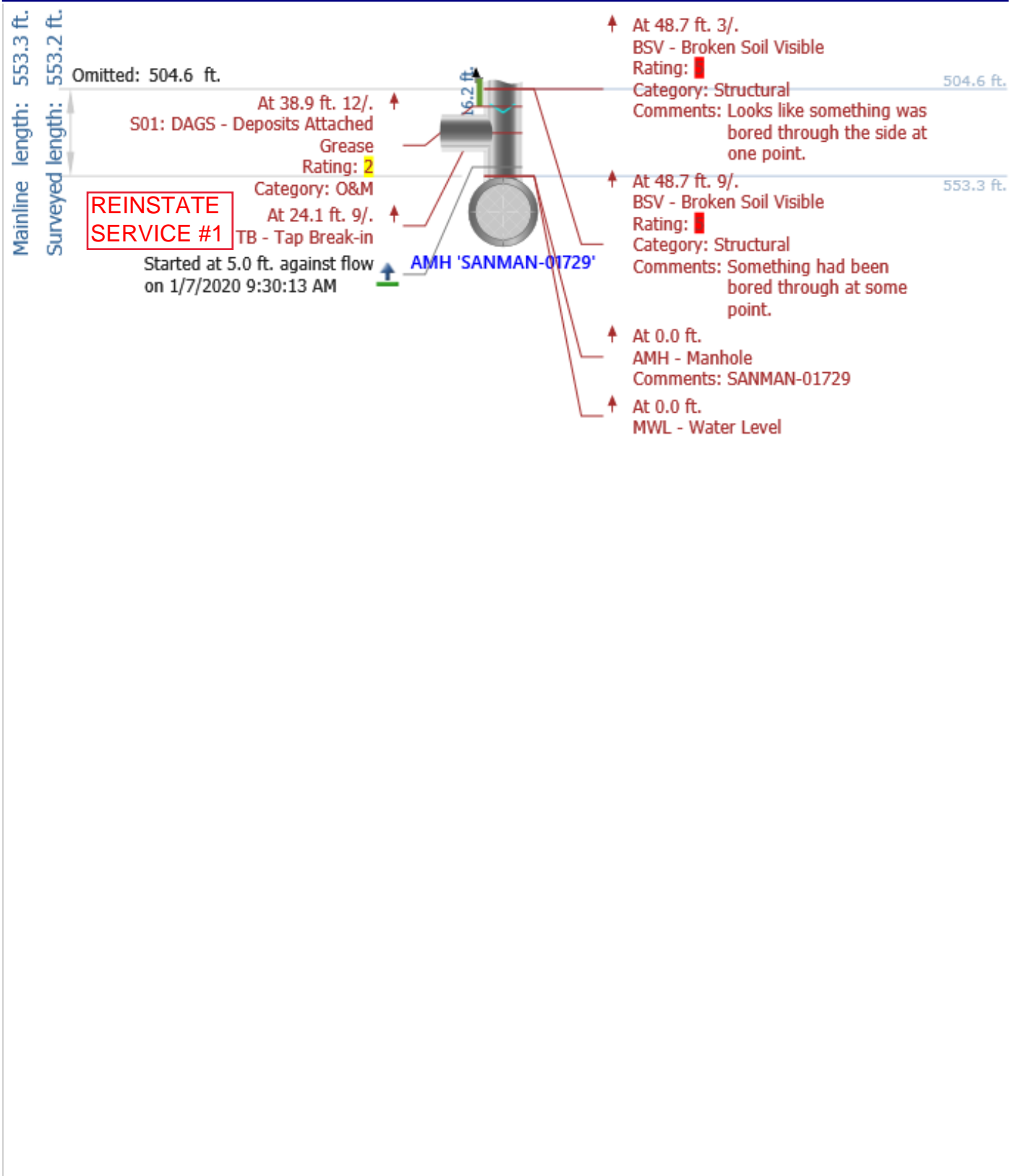
2020 Miscellaneous TV

SANGRAV-00323

1/7/2020 9:30 AM

U

Weather:

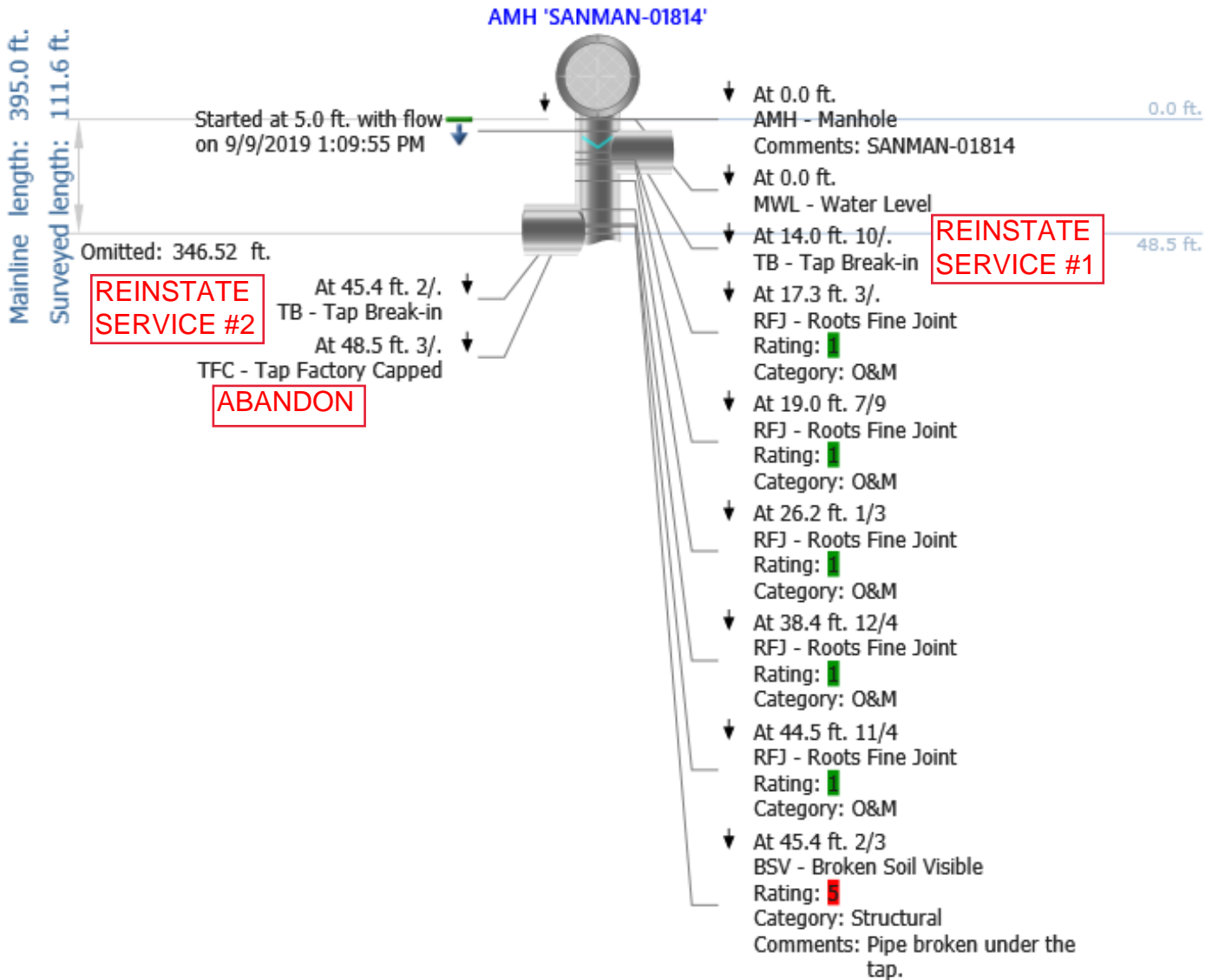




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>2019 Miscellaneous TV</b>	<b>SANGRAV-00352</b>	<b>URB</b>	<b>W Oregon St</b>
Start date/time:	Direction:	Weather:	Location code:
<b>9/9/2019 1:09 PM</b>	<b>D</b>		
Shape:	Material:	Height:	Width:
<b>C</b>	<b>CT</b>	<b>8 in.</b>	



Project name:

Mainline ID:

Start date/time:

Direction:

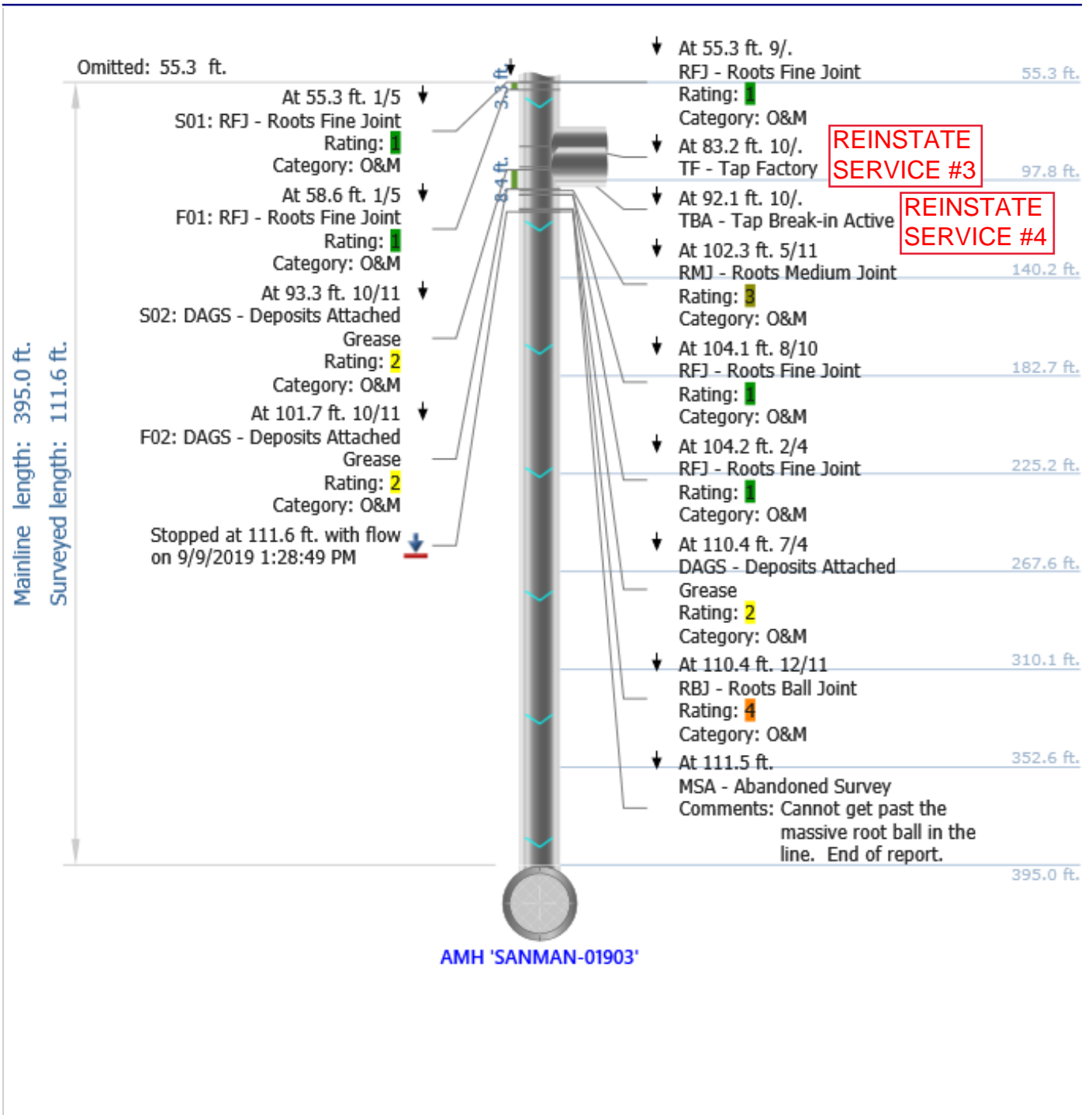
2019 Miscellaneous TV

SANGRAV-00352

9/9/2019 1:09 PM

D

Weather:

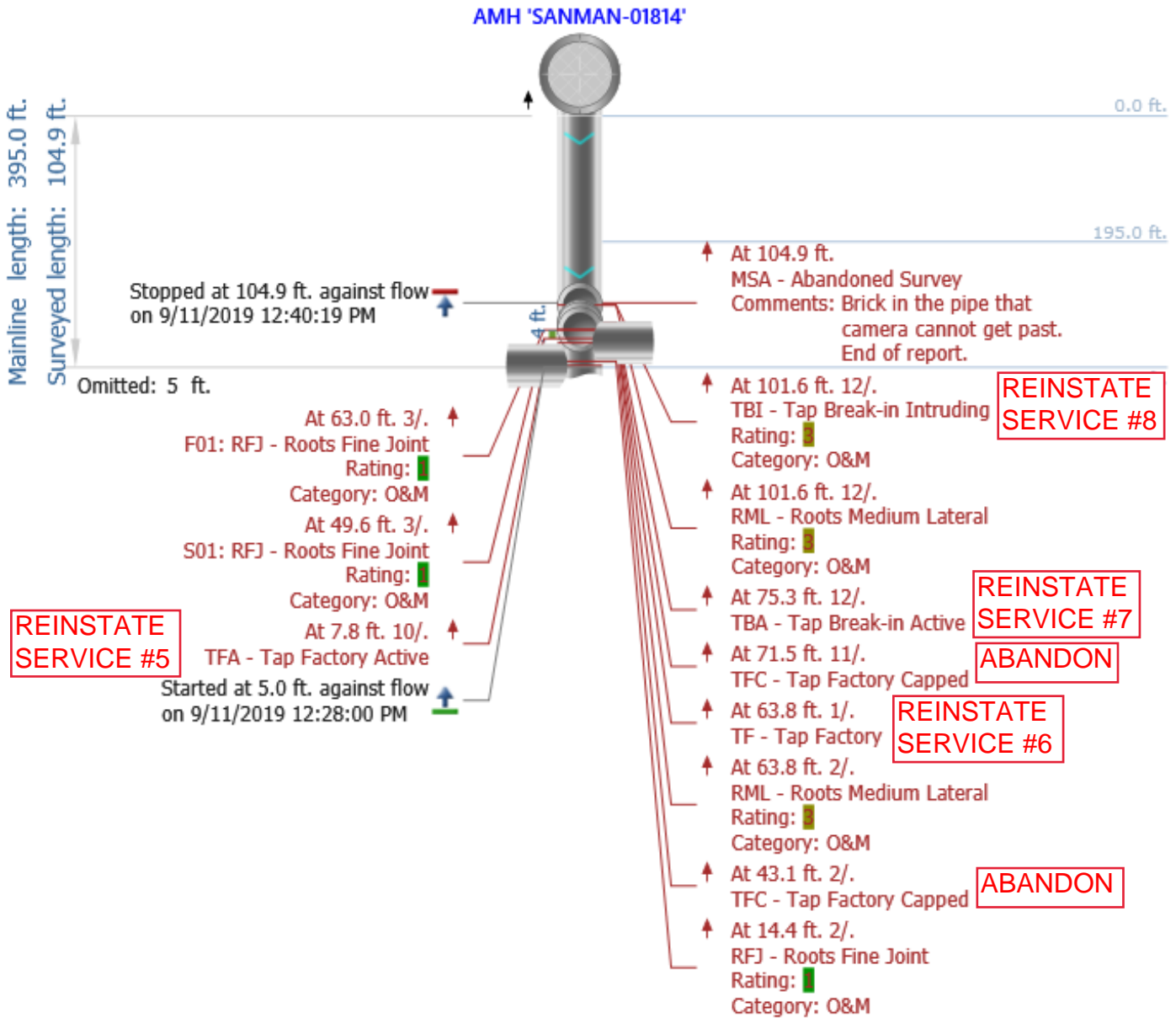




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-00352</b>	City: <b>URB</b>	Street: <b>W Oregon St</b>
Start date/time: <b>9/11/2019 12:28 PM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

**2019 Miscellaneous TV**

**SANGRAV-00352**

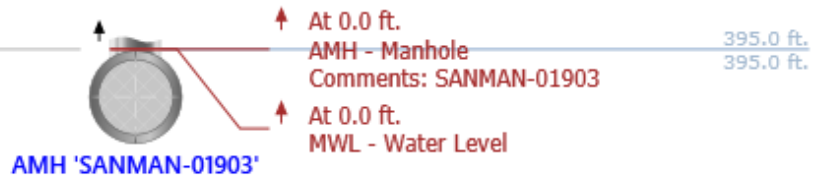
**9/11/2019 12:28 PM**

**U**

Weather:

Mainline length: 395.0 ft.  
Surveyed length: 104.9 ft.

Omitted: 395.02 ft.

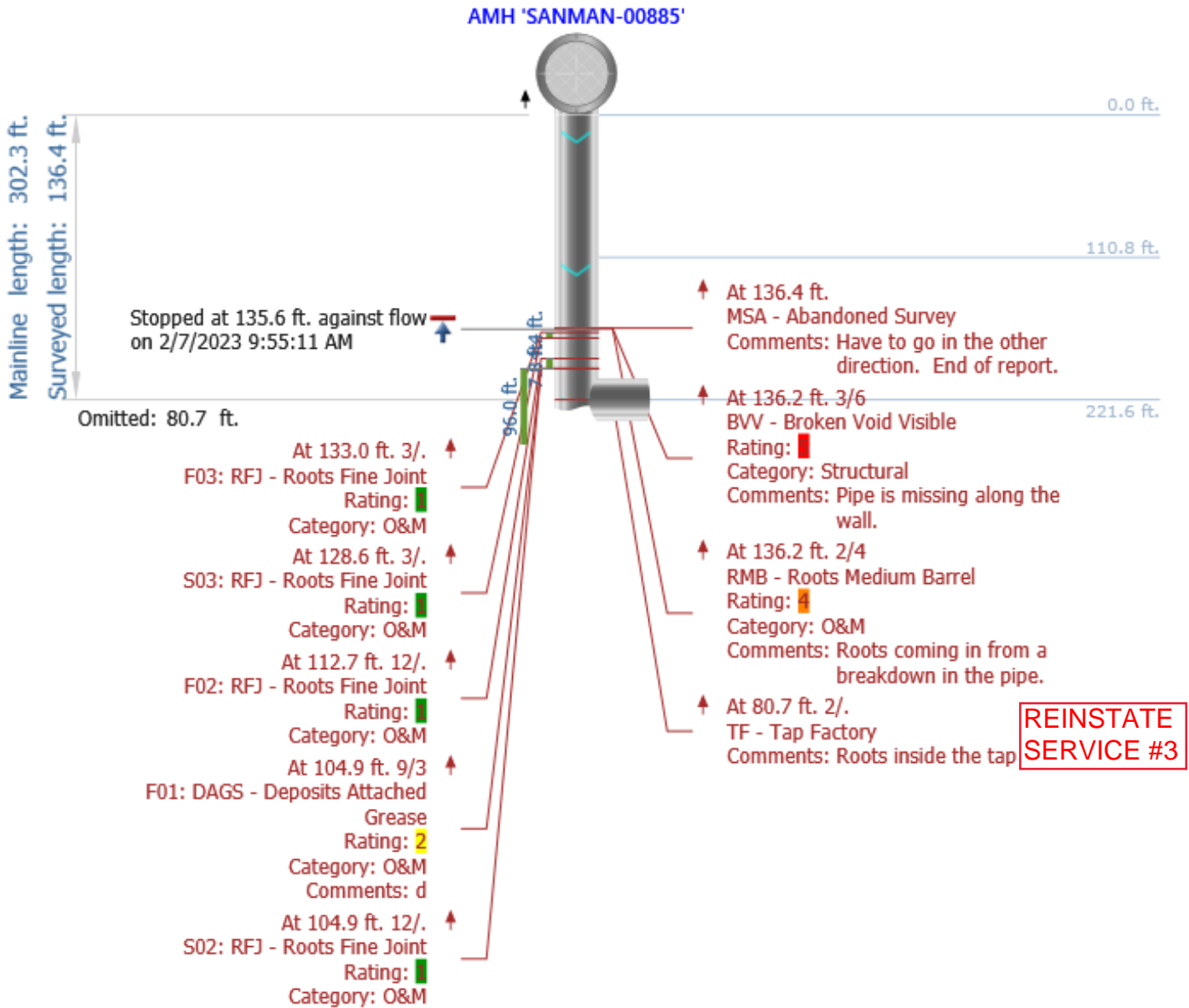




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>2021 Miscellaneous TV</b>	<b>SANGRAV-00585</b>	<b>URB</b>	<b>1214 Eastern Dr</b>
Start date/time:	Direction:	Weather:	Location code:
<b>2/7/2023 9:19 AM</b>	<b>U</b>		
Shape:	Material:	Height:	Width:
<b>C</b>	<b>CT</b>	<b>8 in.</b>	



Project name:

Mainline ID:

Start date/time:

Direction:

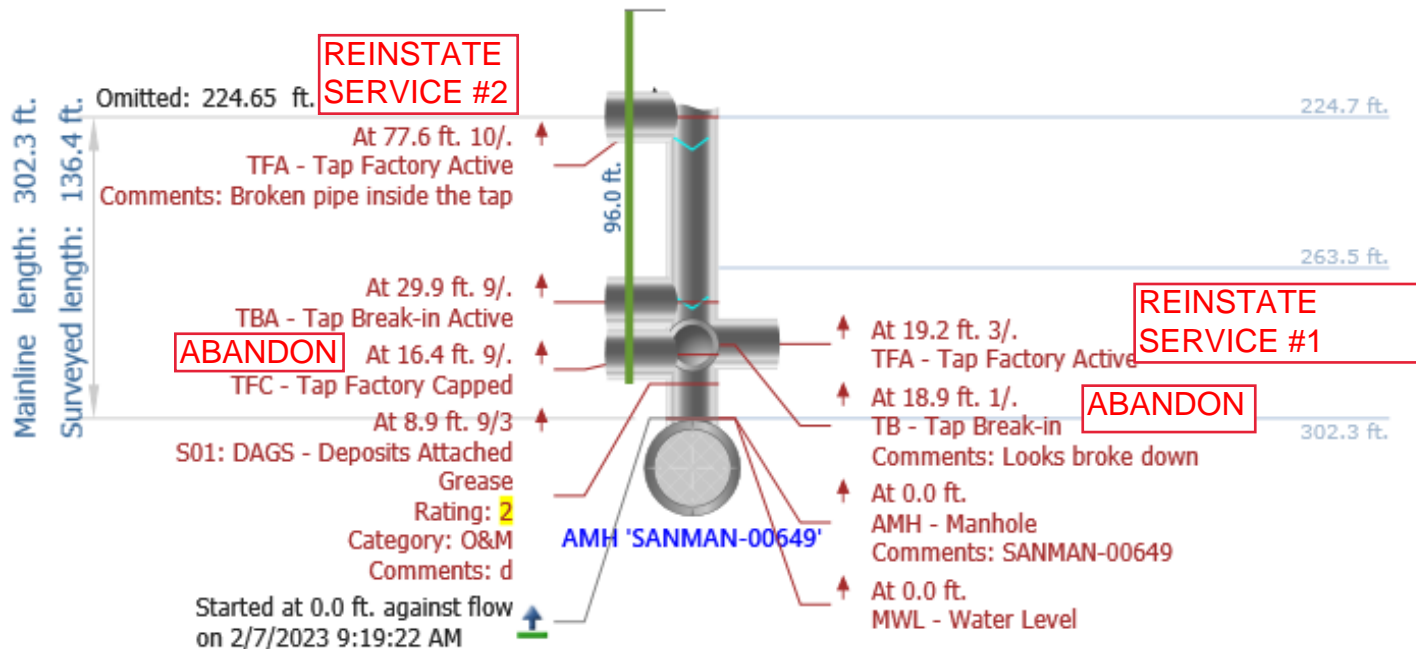
2021 Miscellaneous TV

SANGRAV-00585

2/7/2023 9:19 AM

U

Weather:

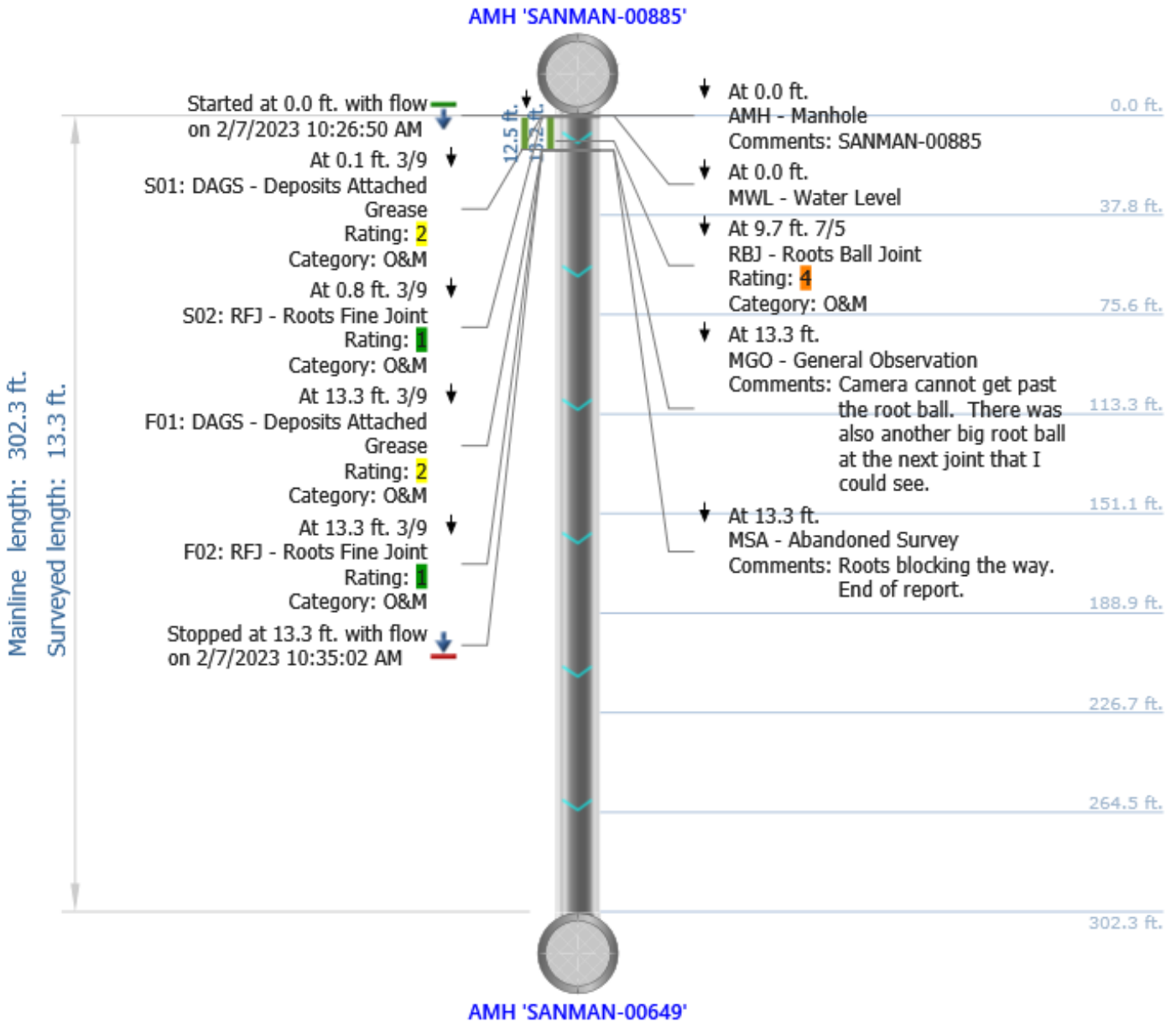




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>2021 Miscellaneous TV</b>	<b>SANGRAV-00585</b>	<b>URB</b>	<b>1204 Eastern Dr</b>
Start date/time:	Direction:	Weather:	Location code:
<b>2/7/2023 10:26 AM</b>	<b>D</b>		
Shape:	Material:	Height:	Width:
<b>C</b>	<b>CT</b>	<b>8 in.</b>	



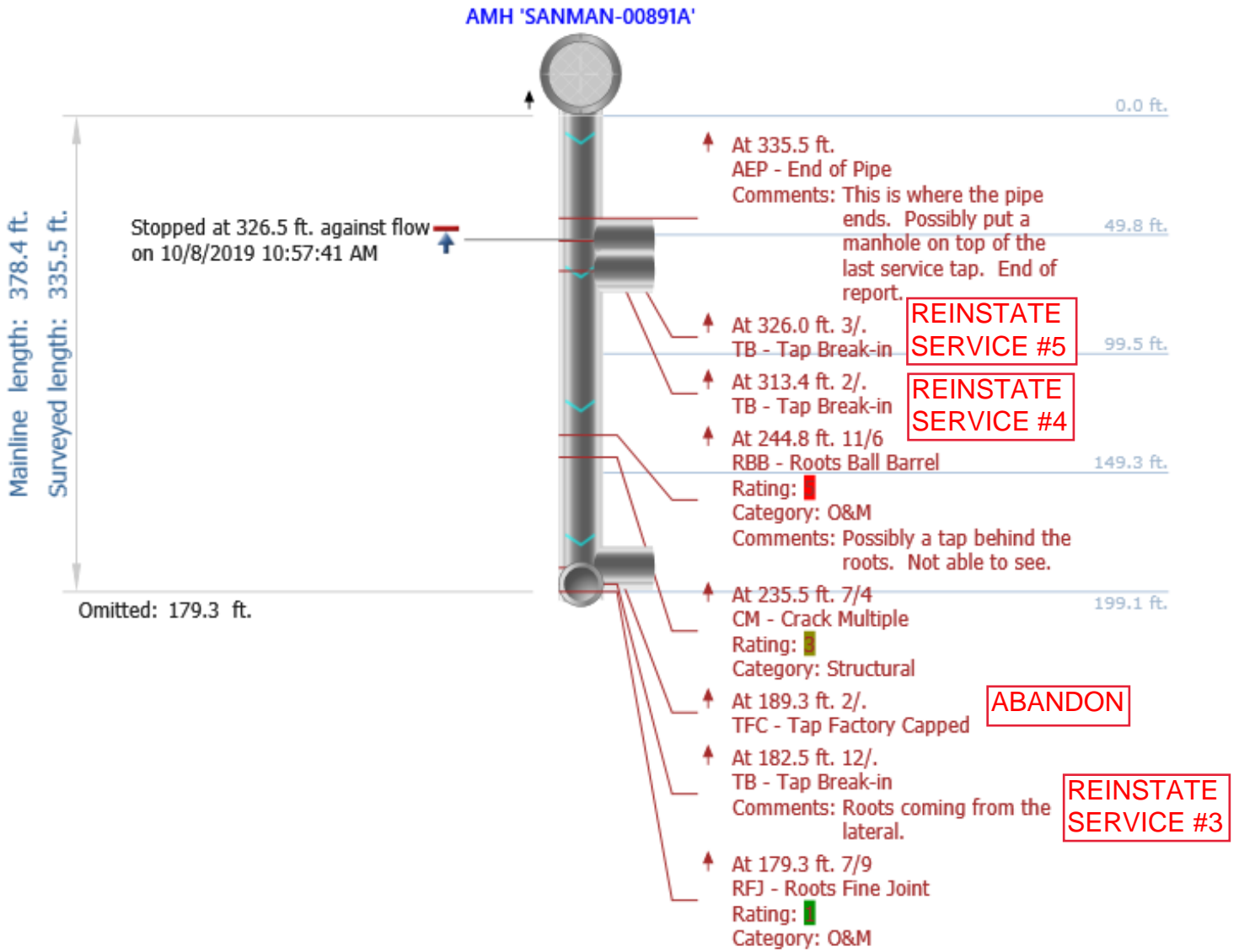




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-00589</b>	City: <b>URB</b>	Street: <b>Fairlawn Dr</b>
Start date/time: <b>10/8/2019 10:06 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CP</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

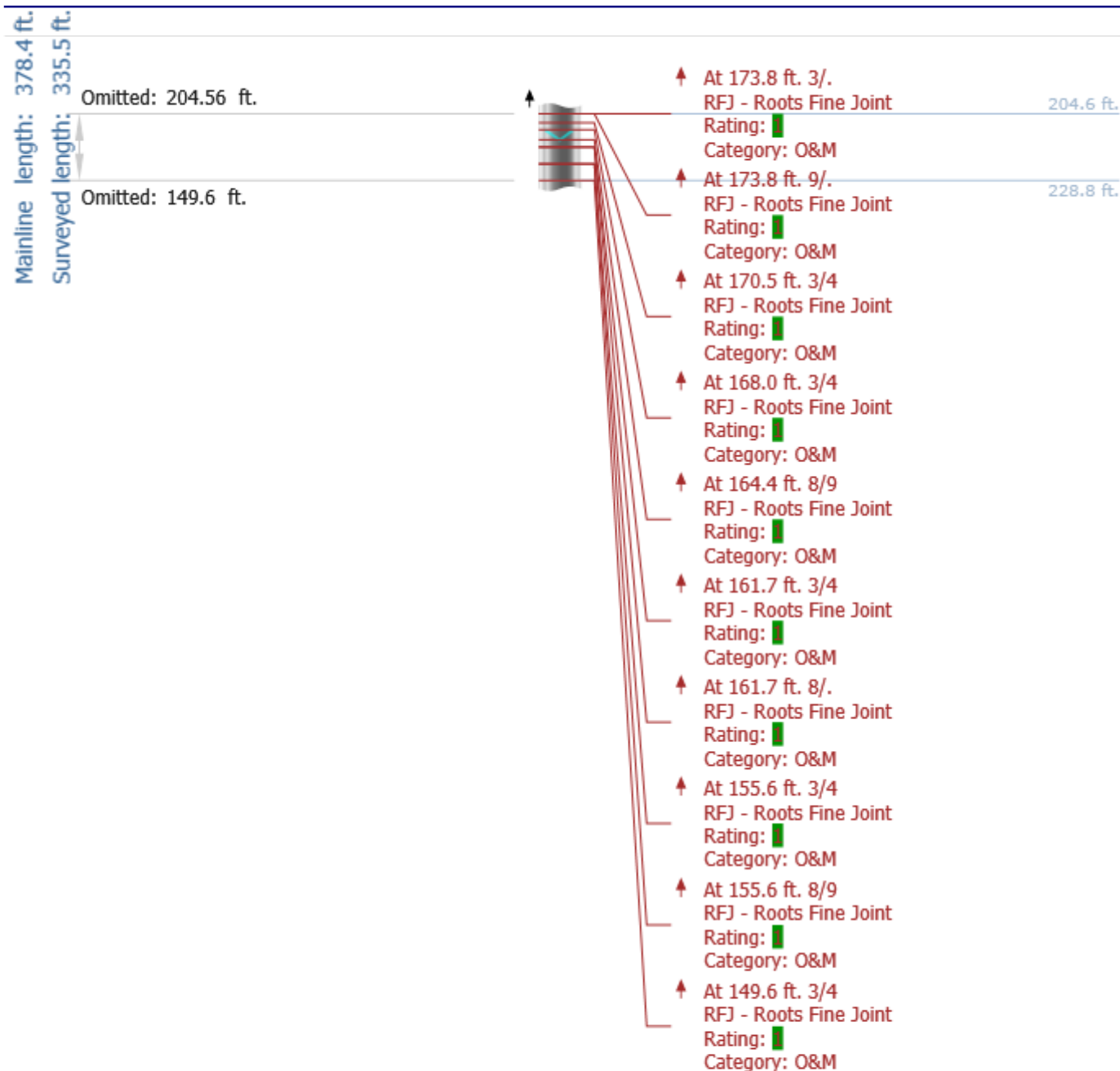
2019 Miscellaneous TV

SANGRAV-00589

10/8/2019 10:06 AM

U

Weather:



Project name:

Mainline ID:

Start date/time:

Direction:

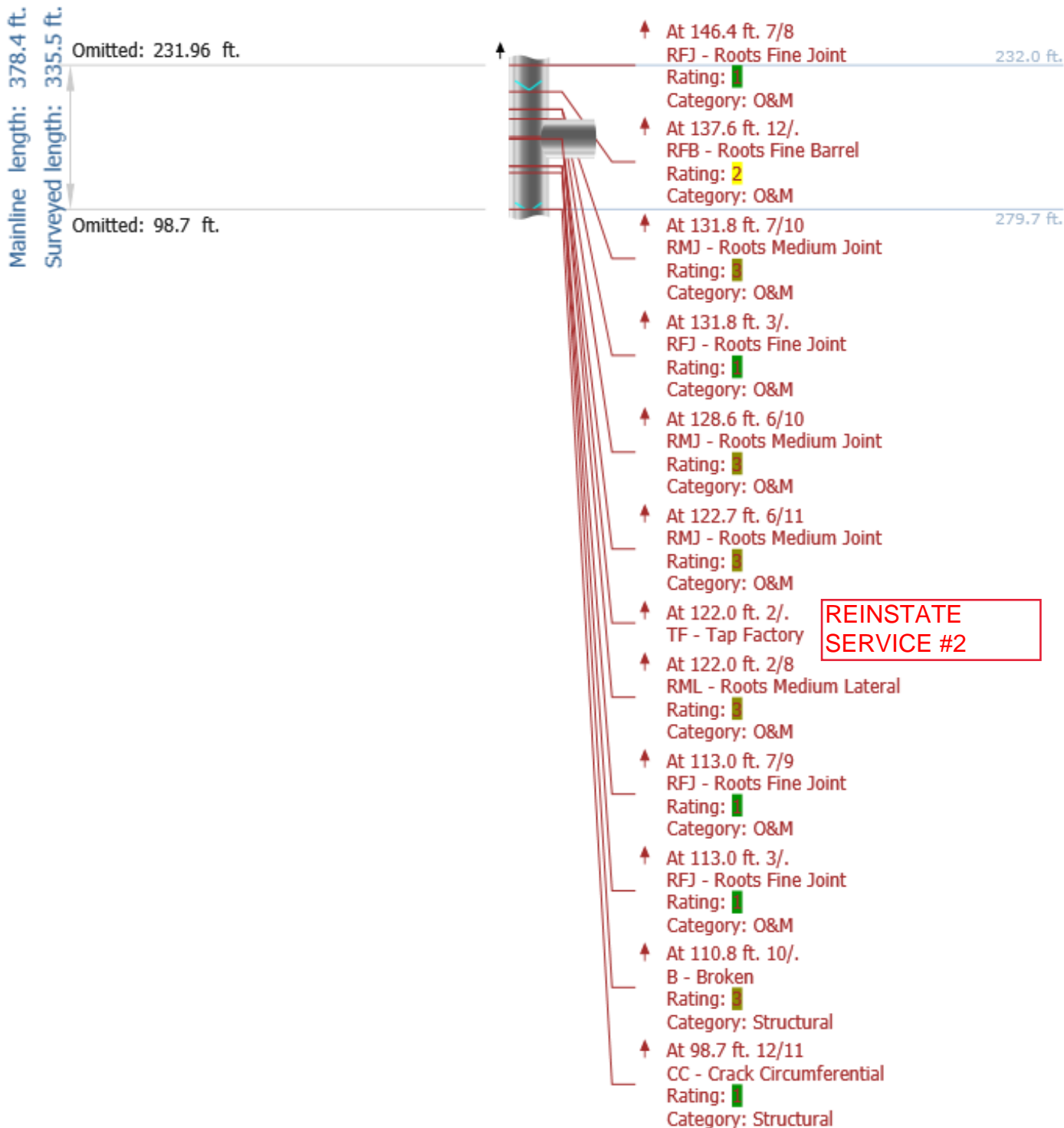
2019 Miscellaneous TV

SANGRAV-00589

10/8/2019 10:06 AM

U

Weather:



REINSTATE SERVICE #2

Project name:

Mainline ID:

Start date/time:

Direction:

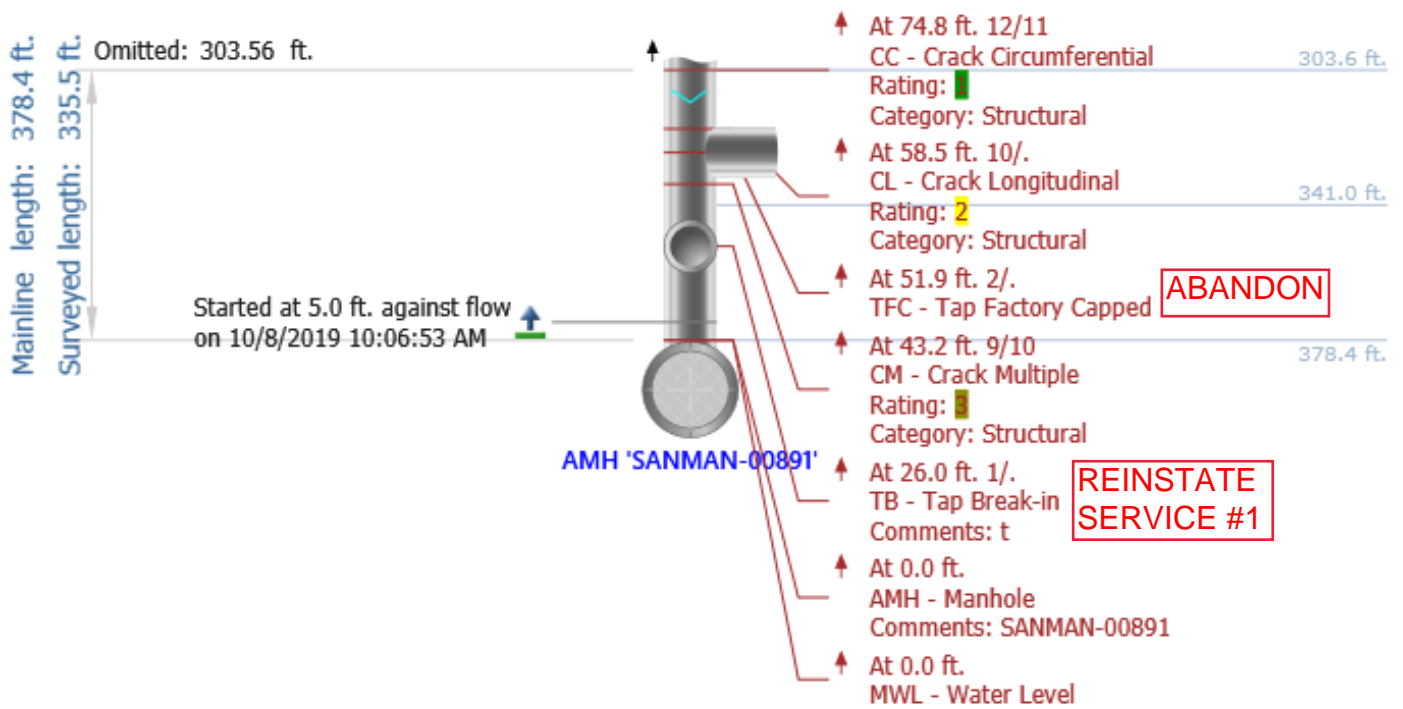
2019 Miscellaneous TV

SANGRAV-00589

10/8/2019 10:06 AM

U

Weather:

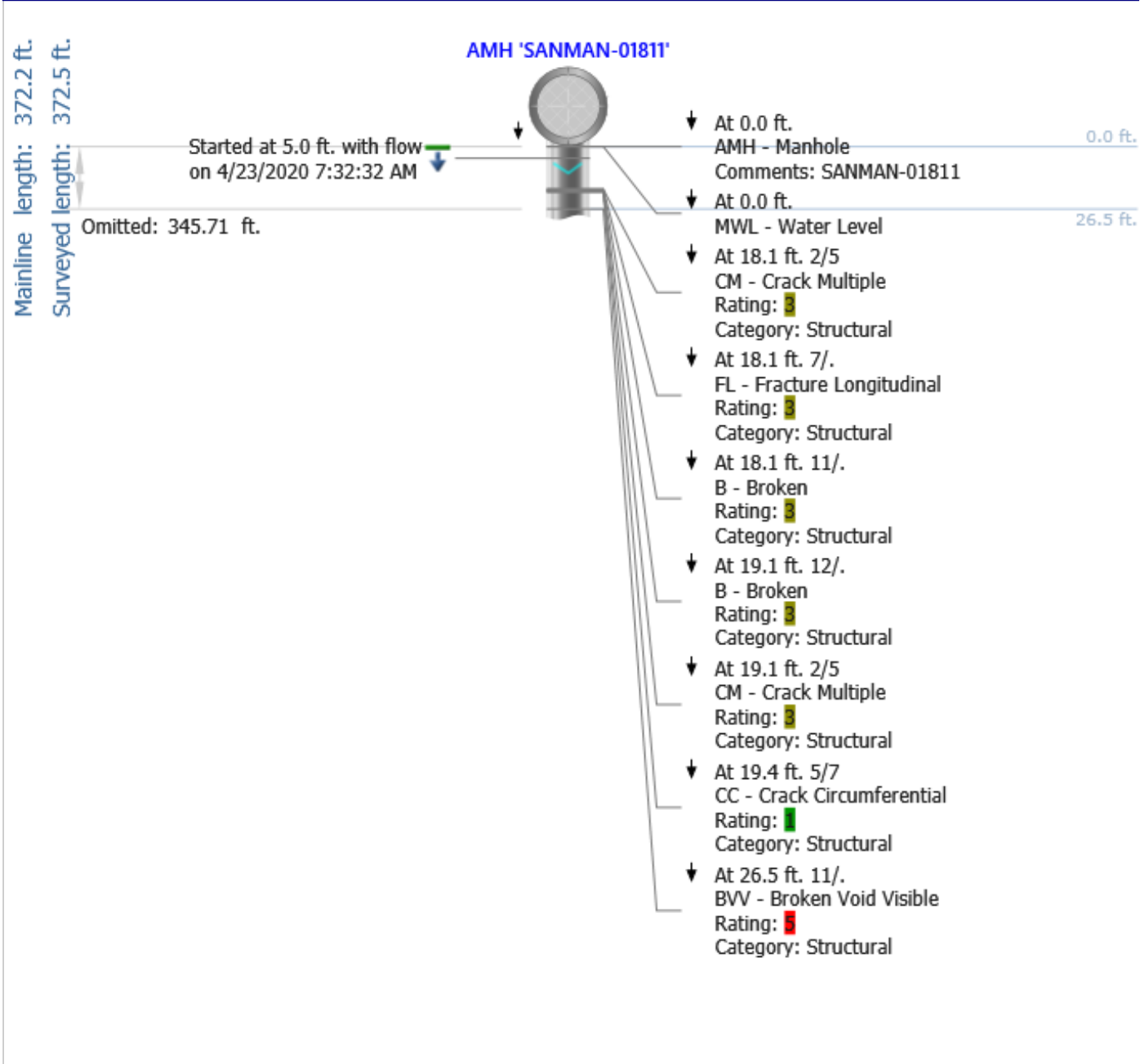




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>2020 Miscellaneous TV</b>	<b>SANGRAV-00994</b>	<b>URB</b>	<b>W Nevada St</b>
Start date/time:	Direction:	Weather:	Location code:
<b>4/23/2020 7:32 AM</b>	<b>D</b>		
Shape:	Material:	Height:	Width:
<b>C</b>	<b>VCP</b>	<b>8 in.</b>	



Project name:

Mainline ID:

Start date/time:

Direction:

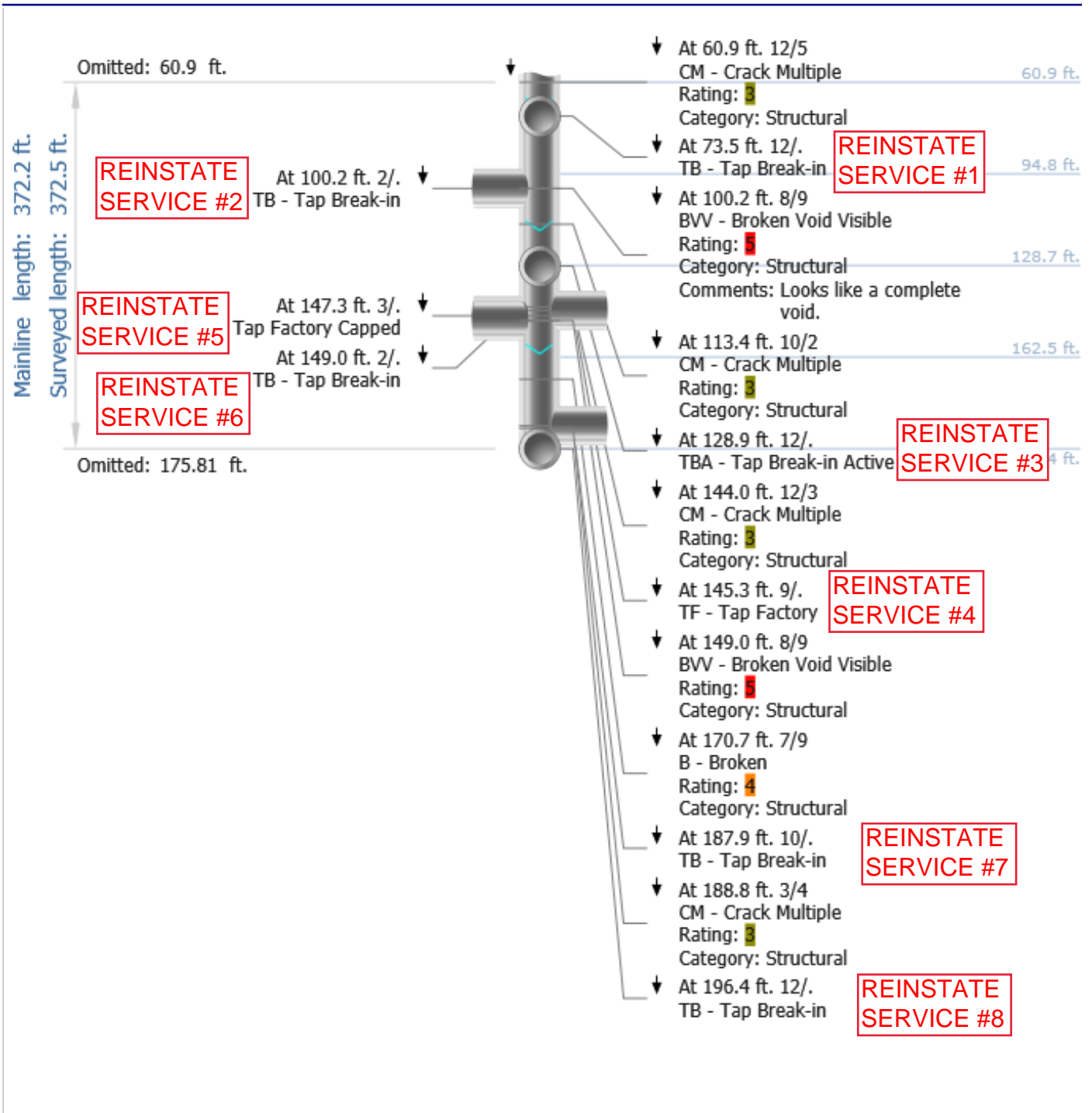
2020 Miscellaneous TV

SANGRAV-00994

4/23/2020 7:32 AM

D

Weather:



Project name:

Mainline ID:

Start date/time:

Direction:

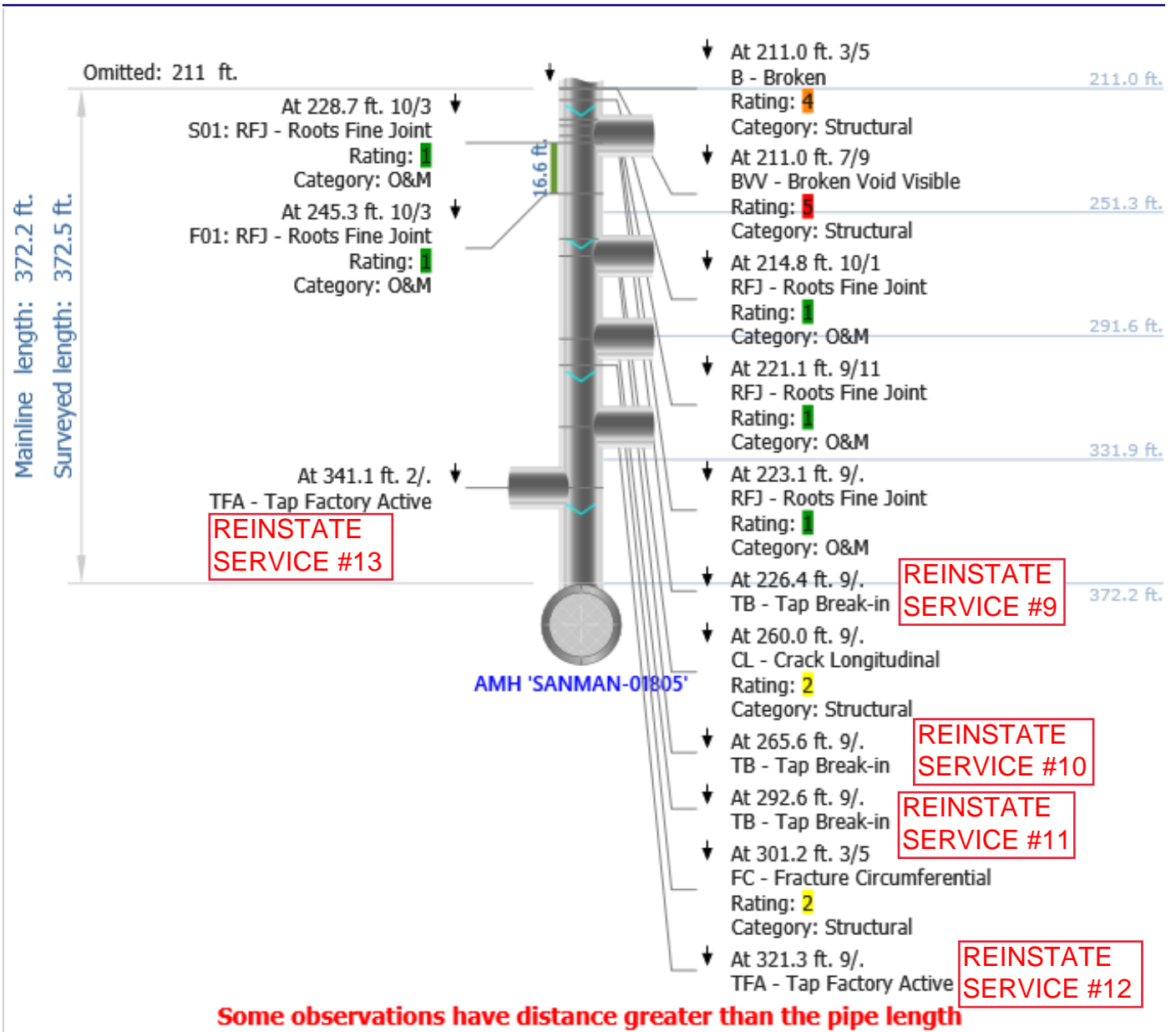
2020 Miscellaneous TV

SANGRAV-00994

4/23/2020 7:32 AM

D

Weather:



Project name:

Mainline ID:

Start date/time:

Direction:

**2020 Miscellaneous TV**

**SANGRAV-00994**

**4/23/2020 7:32 AM**

**D**

Weather:

Stopped at 372.5 ft. with flow  
on 4/23/2020 8:02:28 AM



At 372.4 ft.

AMH - Manhole

Comments: A couple bad voids and quite a bit of broken pipe. Good candidate for lining project. End of report.

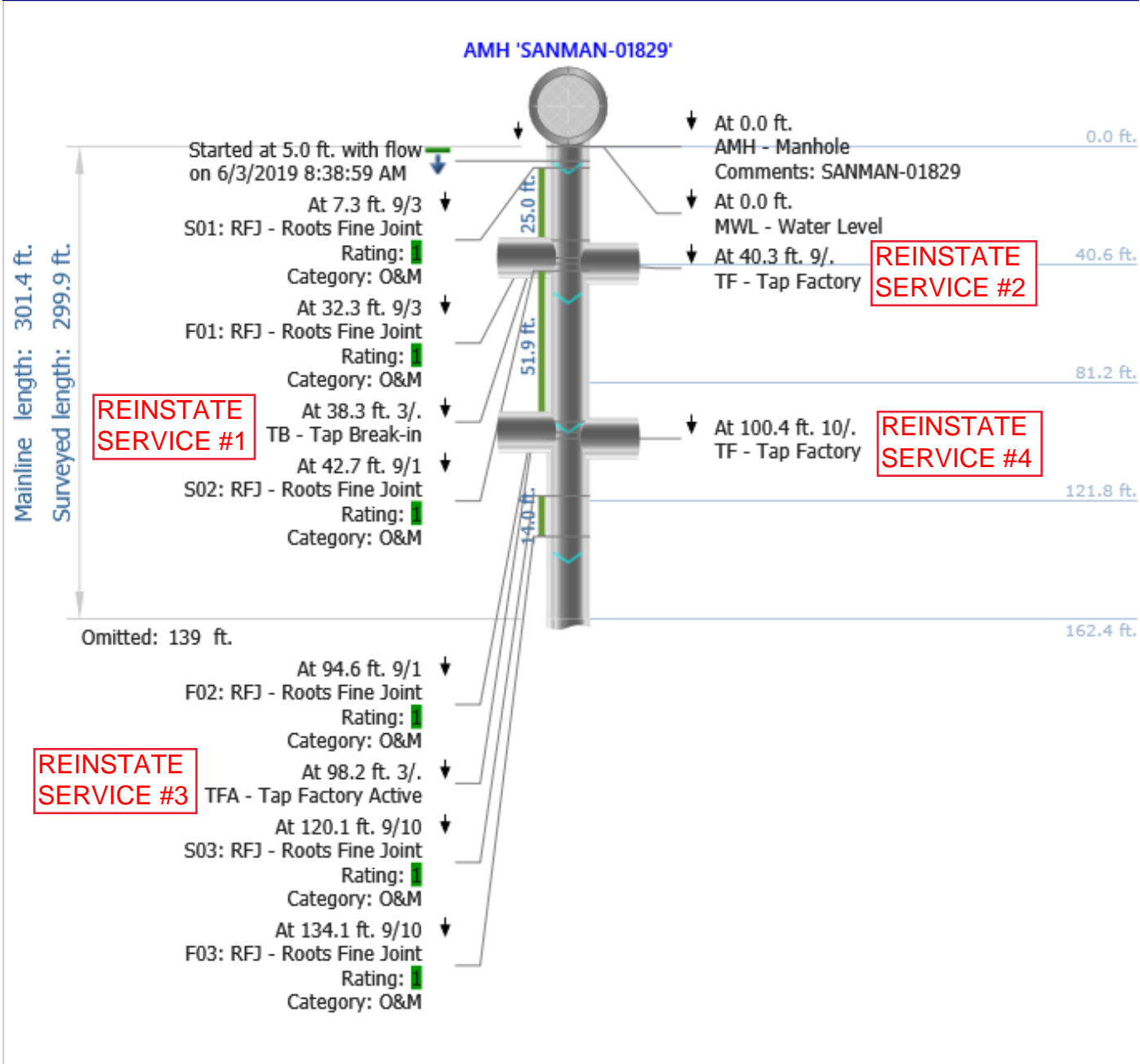




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-01277</b>	City: <b>URB</b>	Street: <b>W Delaware Ave</b>
Start date/time: <b>6/3/2019 8:38 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

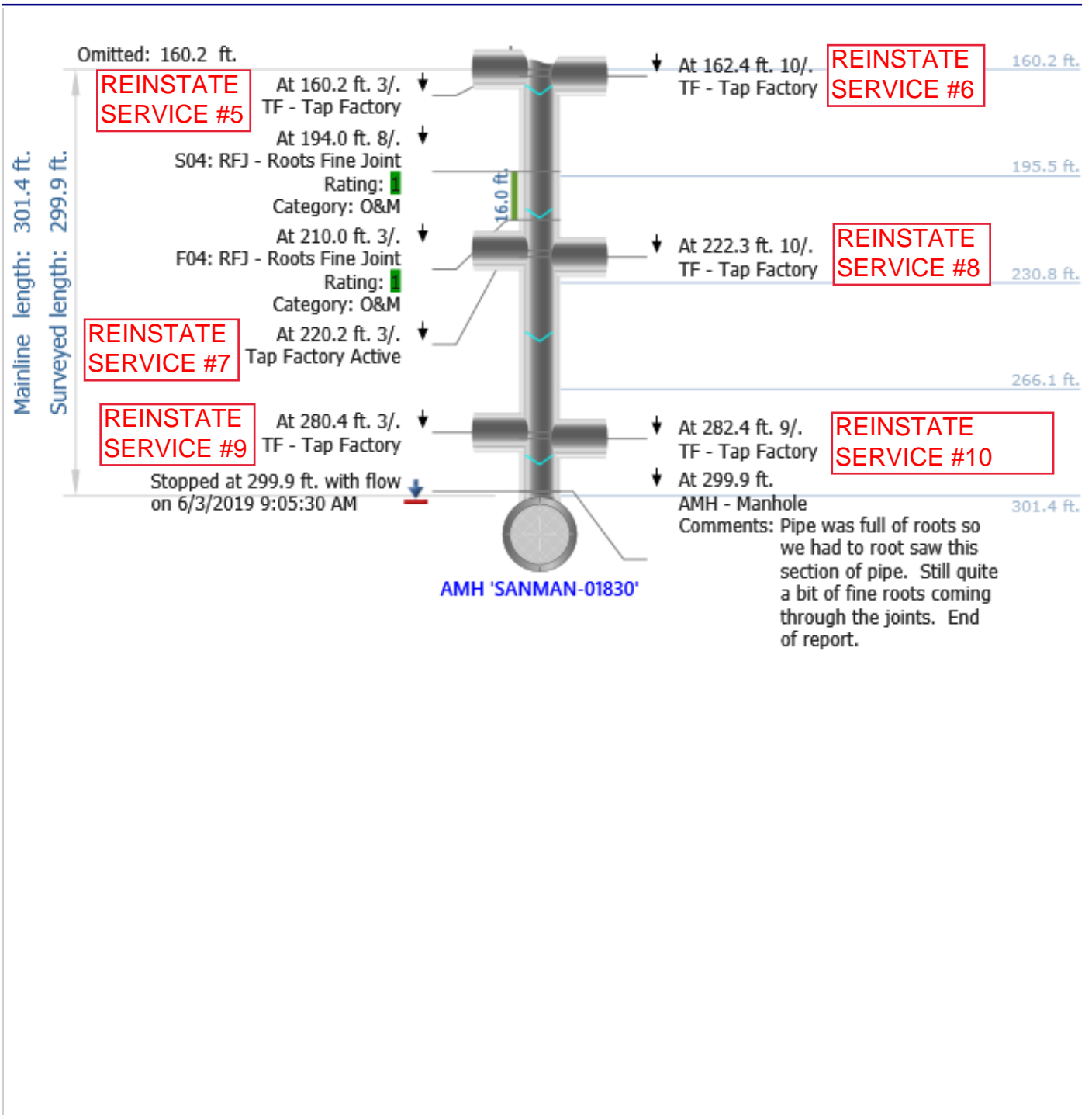
2019 Miscellaneous TV

SANGRAV-01277

6/3/2019 8:38 AM

D

Weather:

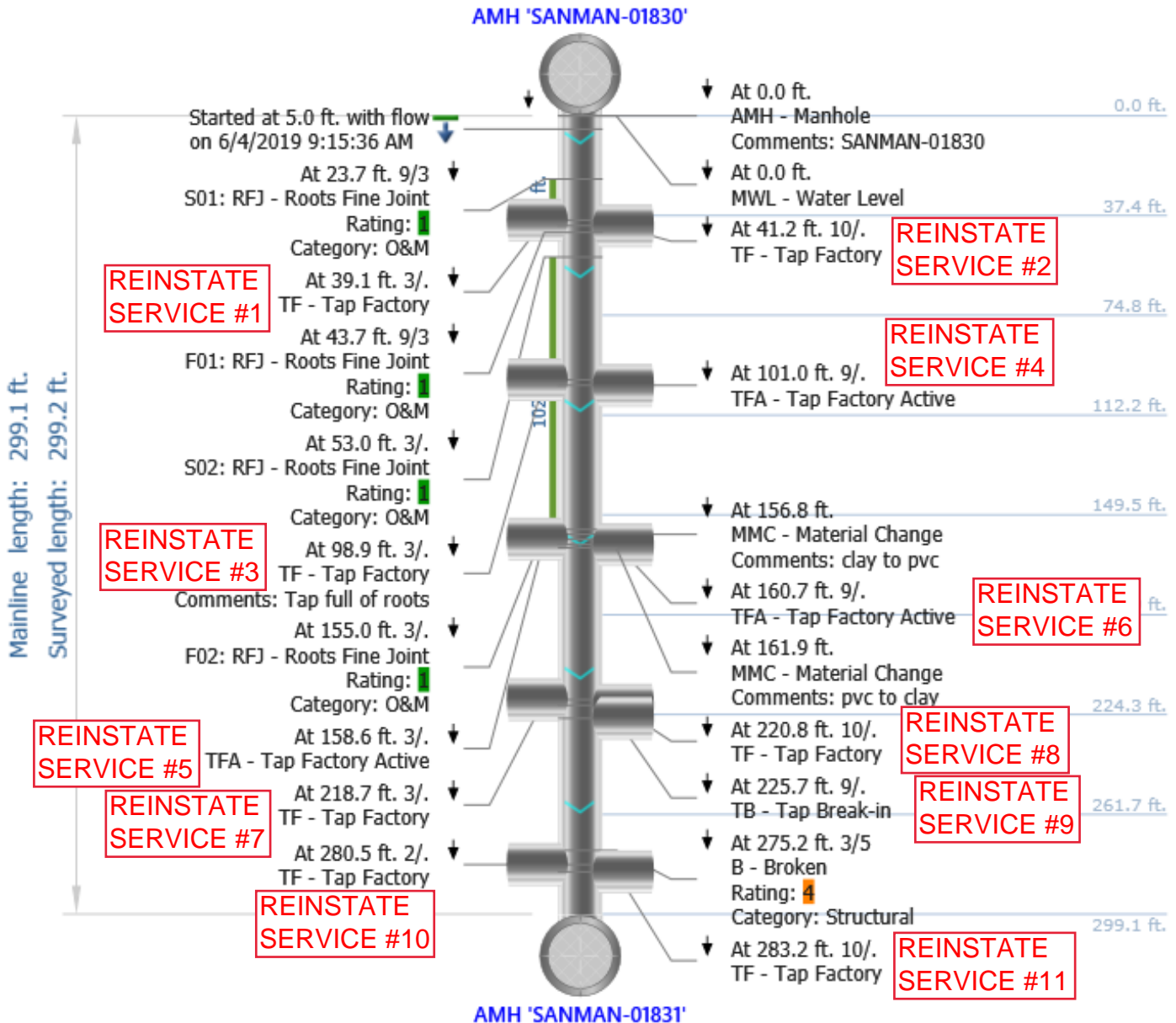




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>2019 Miscellaneous TV</b>	<b>SANGRAV-01278</b>	<b>URB</b>	<b>W Delaware Ave</b>
Start date/time:	Direction:	Weather:	Location code:
<b>6/4/2019 9:15 AM</b>	<b>D</b>		
Shape:	Material:	Height:	Width:
<b>C</b>	<b>CT</b>	<b>8 in.</b>	



Project name:

Mainline ID:

Start date/time:

Direction:

**2019 Miscellaneous TV**

**SANGRAV-01278**

**6/4/2019 9:15 AM**

**D**

Weather:

Stopped at 299.2 ft. with flow  
on 6/4/2019 9:31:57 AM



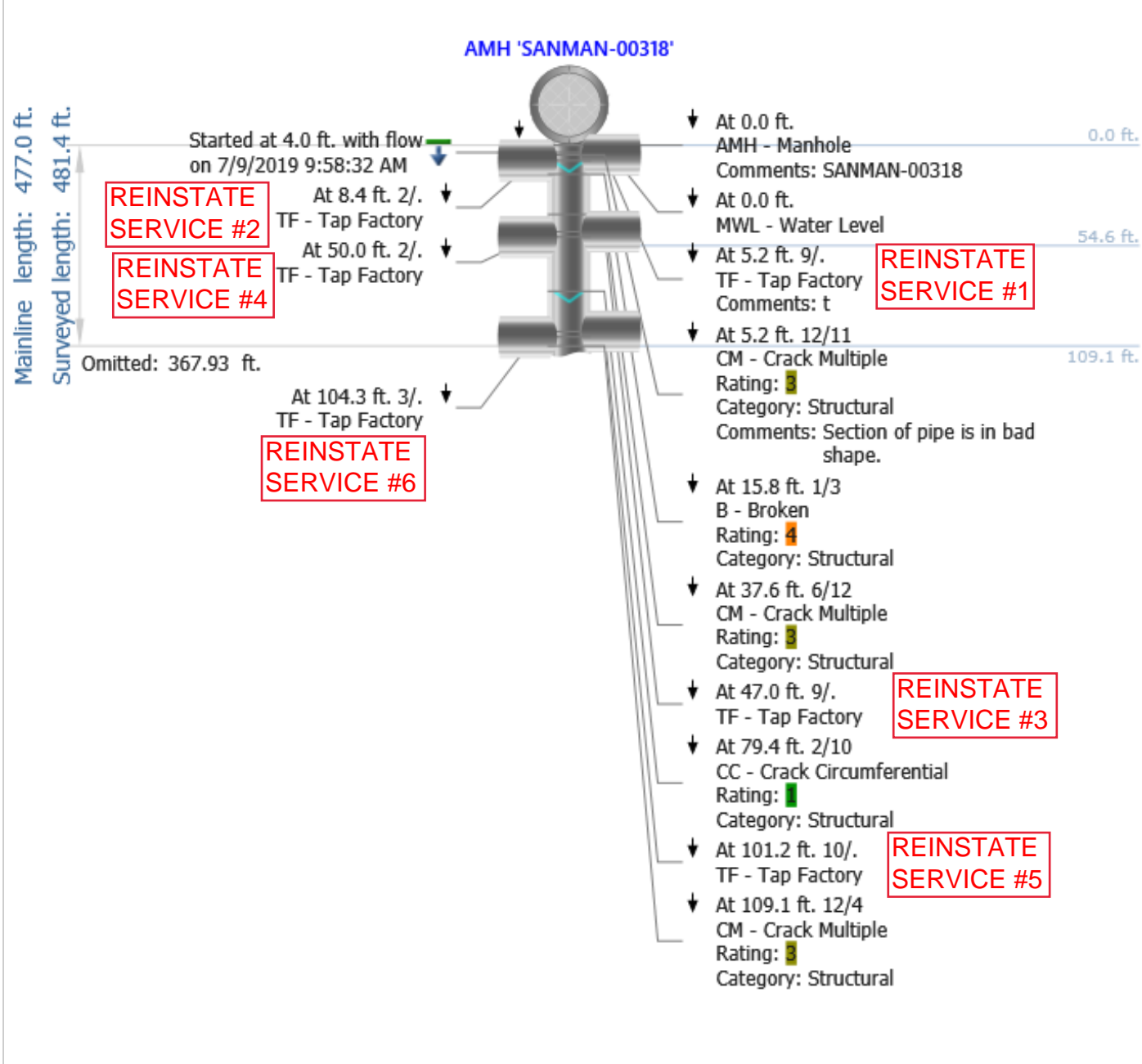
At 299.2 ft.  
AMH - Manhole  
Comments: Pipe has alot of roots in  
the joints. End of report.



CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>2019 Miscellaneous TV</b>	<b>SANGRAV-01368</b>	<b>URB</b>	<b>Harvey St</b>
Start date/time:	Direction:	Weather:	Location code:
<b>7/9/2019 9:58 AM</b>	<b>D</b>		
Shape:	Material:	Height:	Width:
<b>C</b>	<b>CP</b>	<b>8 in.</b>	<b>8 in.</b>



Project name:

Mainline ID:

Start date/time:

Direction:

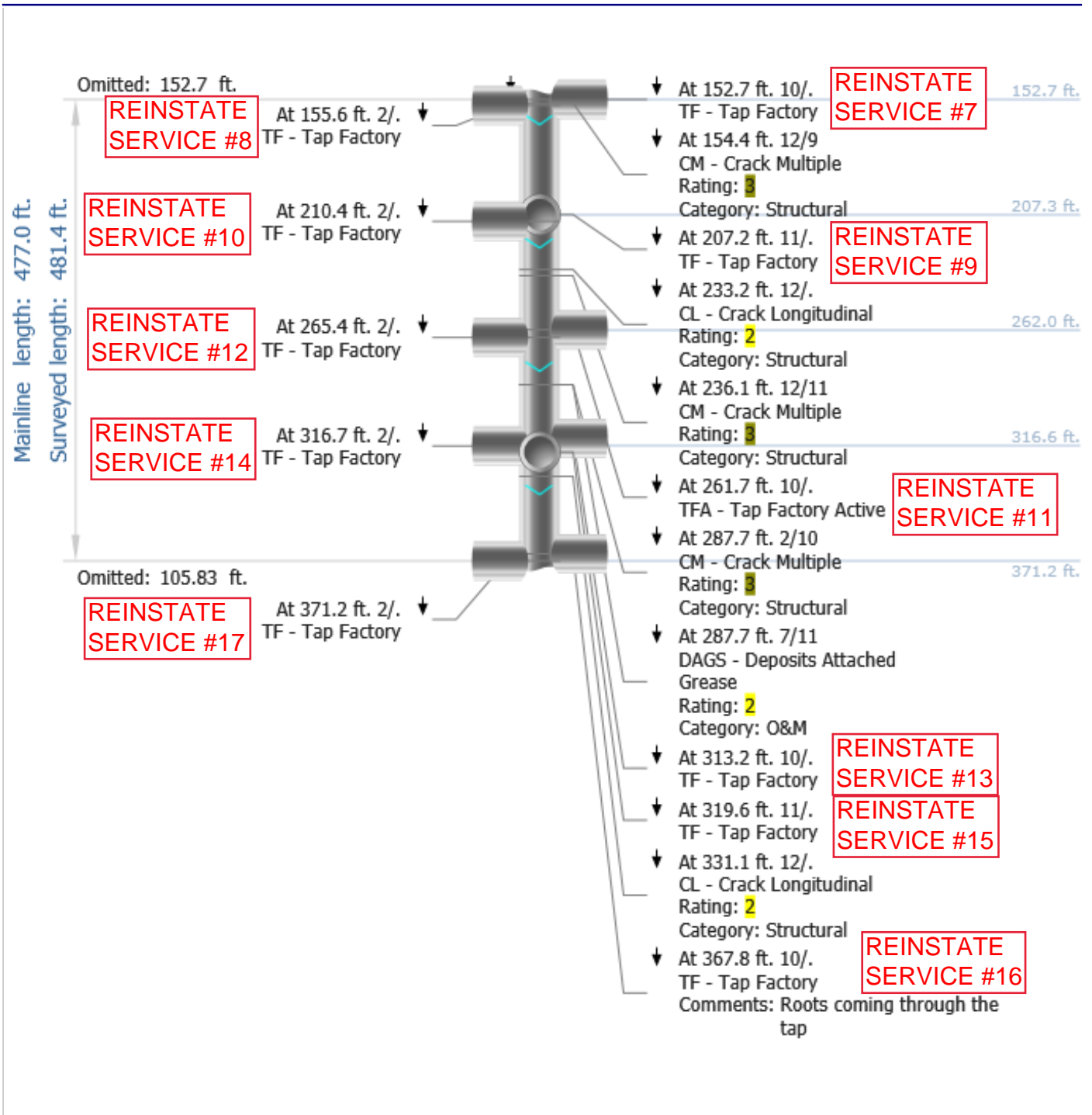
2019 Miscellaneous TV

SANGRAV-01368

7/9/2019 9:58 AM

D

Weather:



Project name:

Mainline ID:

Start date/time:

Direction:

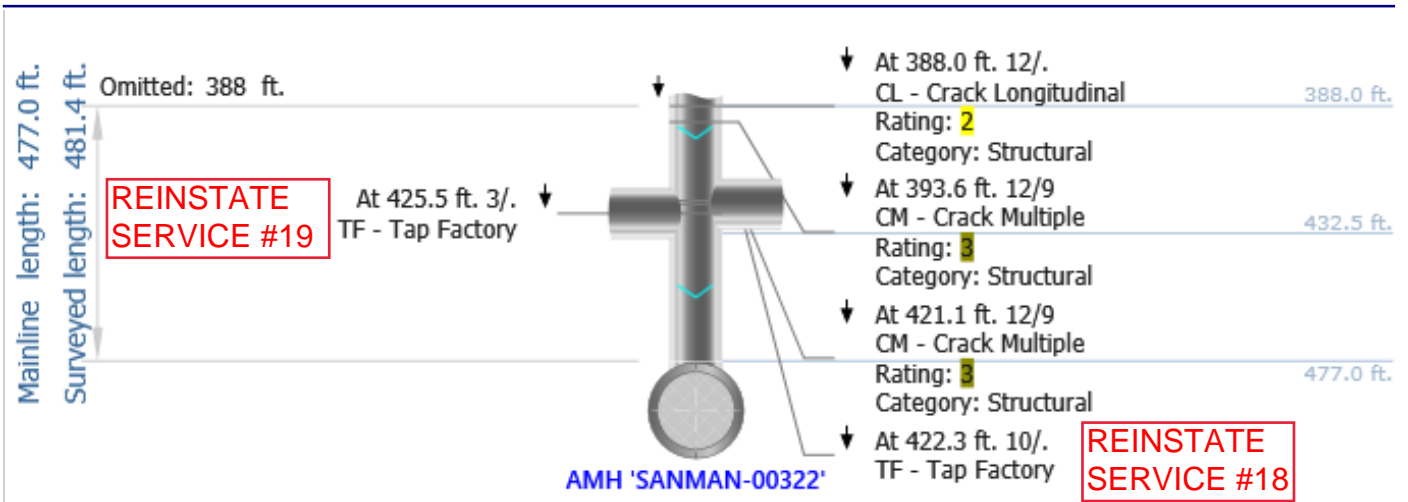
2019 Miscellaneous TV

SANGRAV-01368

7/9/2019 9:58 AM

D

Weather:



Some observations have distance greater than the pipe length

Project name:

Mainline ID:

Start date/time:

Direction:

**2019 Miscellaneous TV**

**SANGRAV-01368**

**7/9/2019 9:58 AM**

**D**

Weather:

Stopped at 481.4 ft. with flow  
on 7/9/2019 10:33:09 AM



At 481.4 ft.  
AMH - Manhole  
Comments: Lots of cracks throughout  
the pipe. End of pipe.

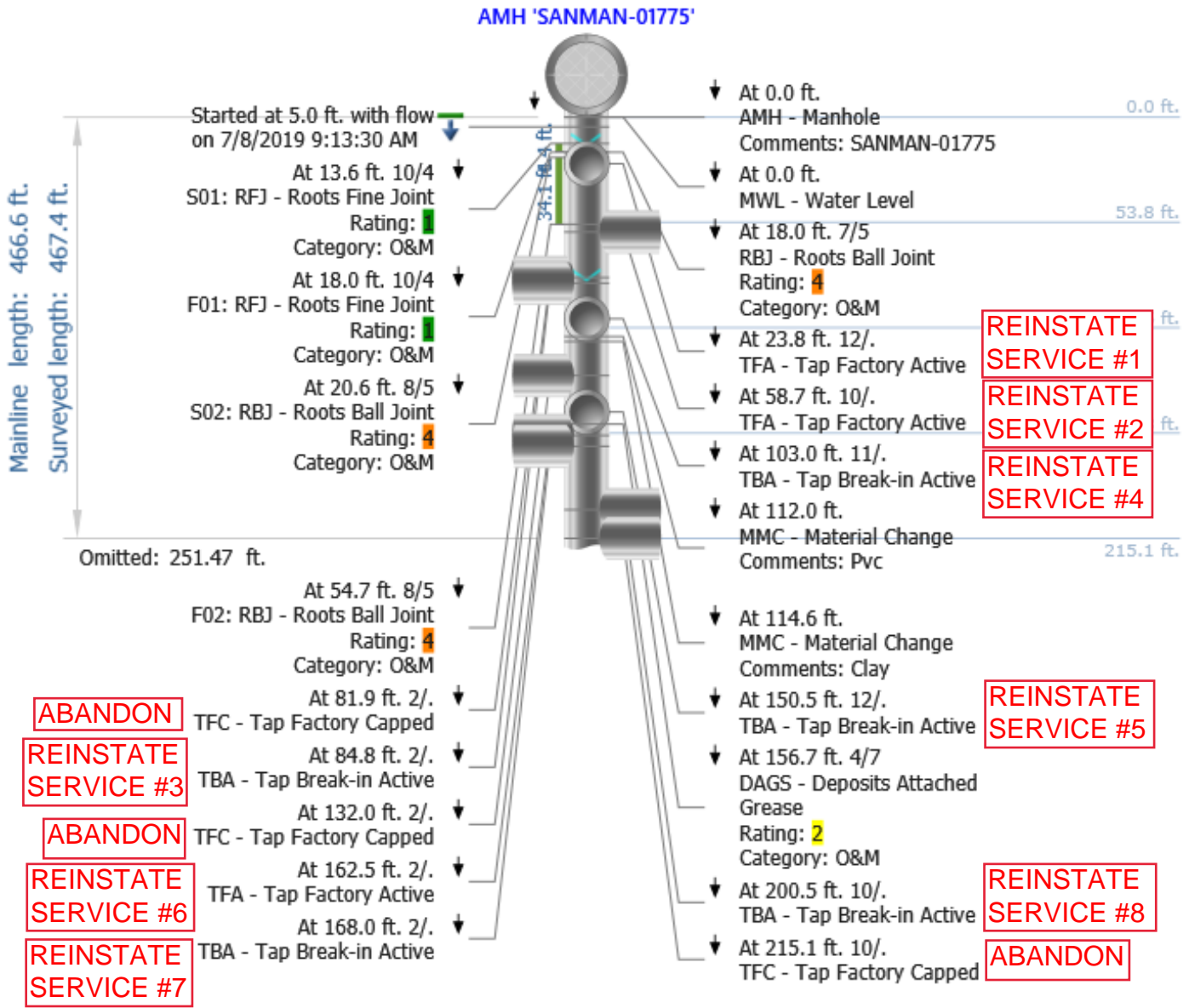




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-01376</b>	City: <b>URB</b>	Street: <b>Hrvey to Gregory</b>
Start date/time: <b>7/8/2019 9:13 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

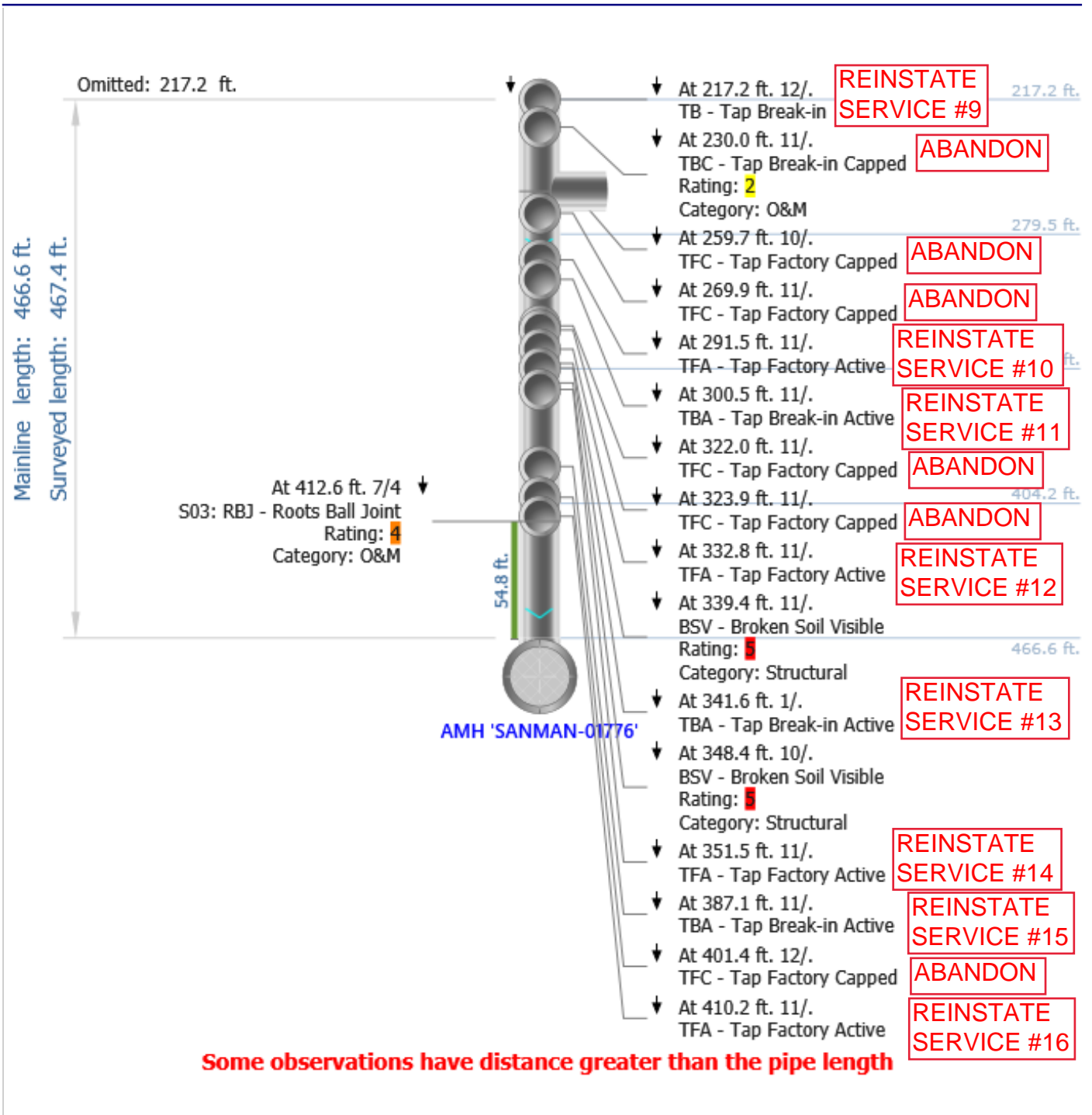
2019 Miscellaneous TV

SANGRAV-01376

7/8/2019 9:13 AM

D

Weather:



Project name:

Mainline ID:

Start date/time:

Direction:

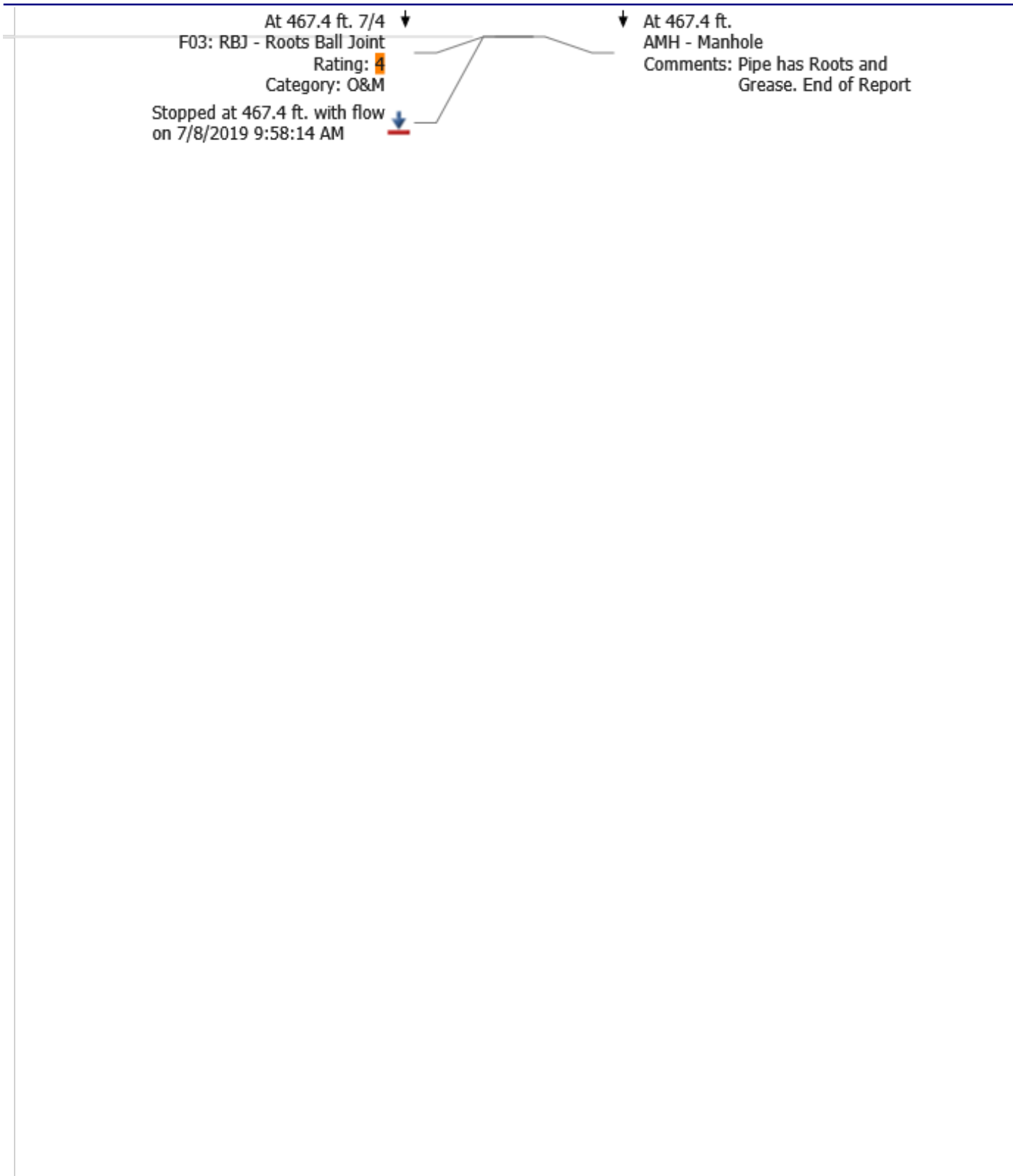
**2019 Miscellaneous TV**

**SANGRAV-01376**

**7/8/2019 9:13 AM**

**D**

Weather:

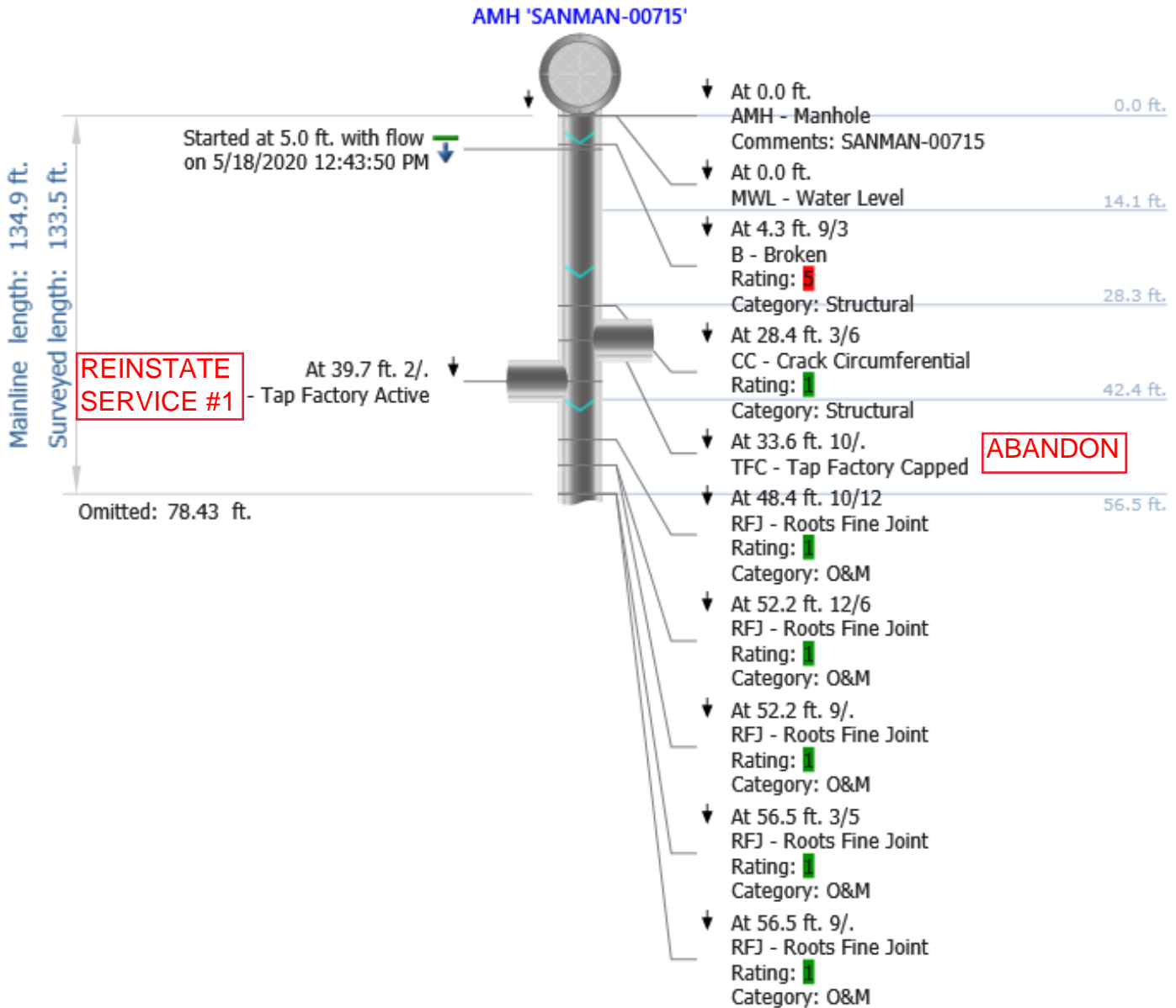




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2020 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-01419</b>	City: <b>URB</b>	Street: <b>Oakland Ave</b>
Start date/time: <b>5/18/2020 12:43 PM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

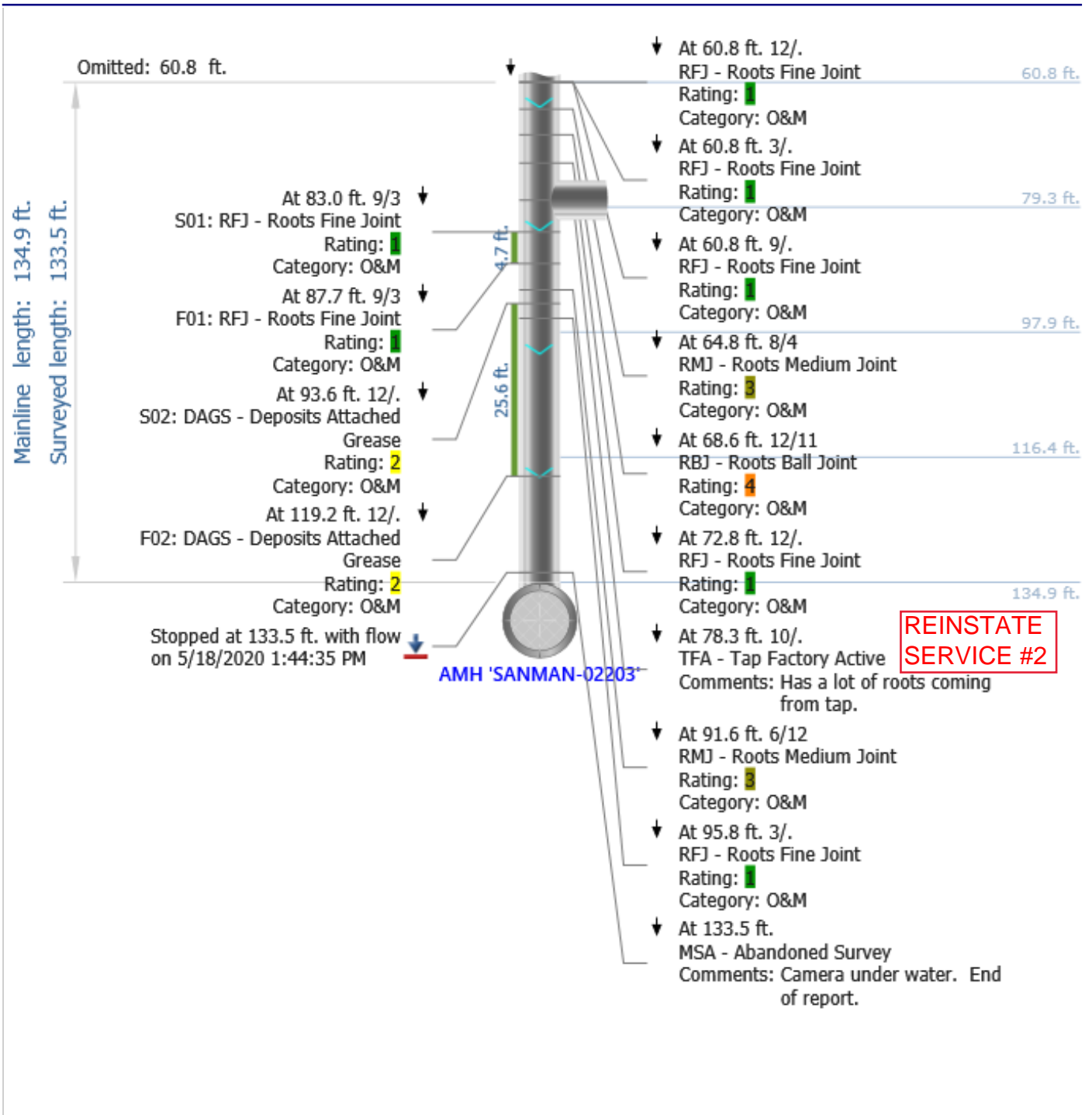
2020 Miscellaneous TV

SANGRAV-01419

5/18/2020 12:43 PM

D

Weather:

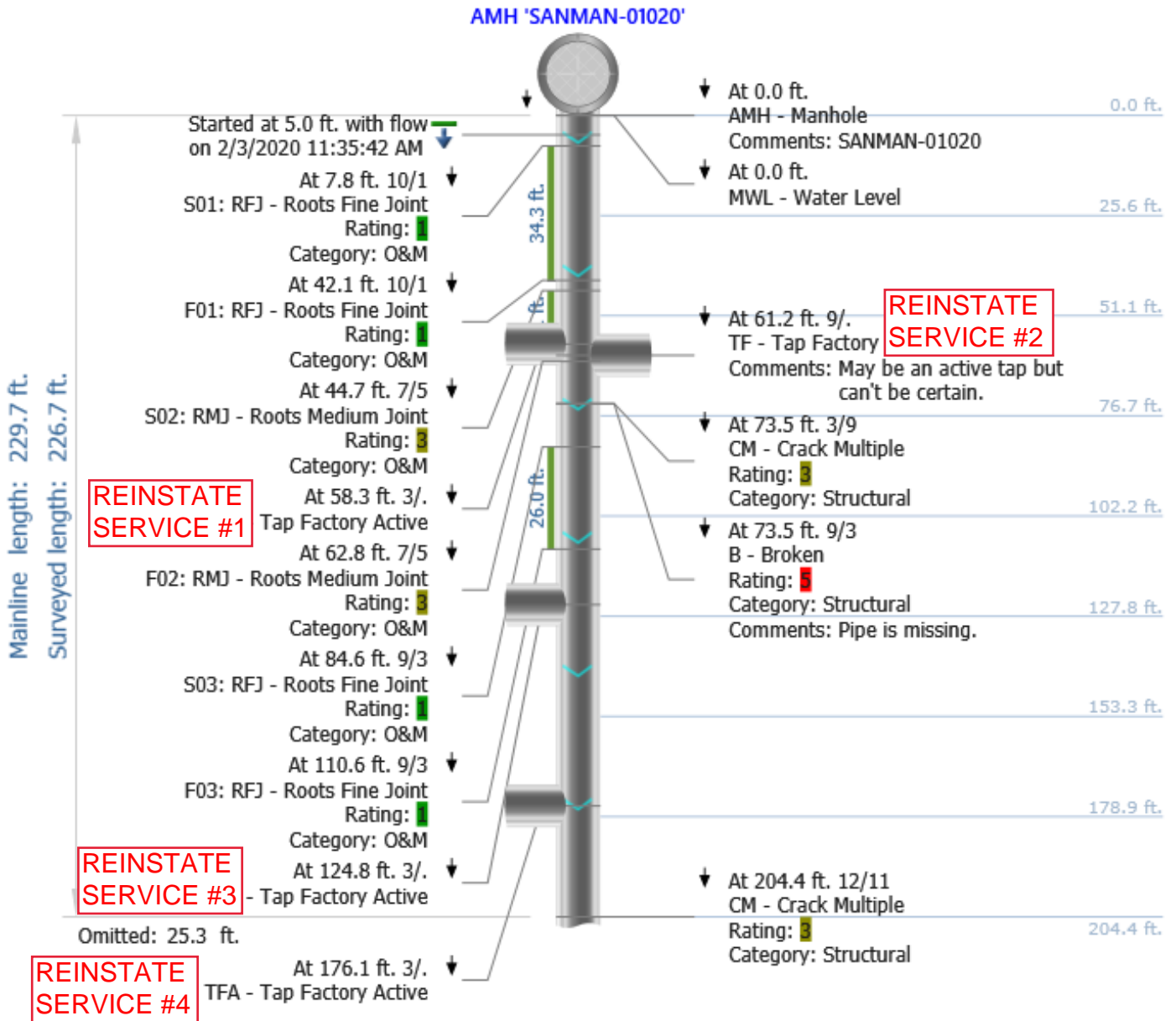




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2020 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-01786</b>	City: <b>URB</b>	Street: <b>Shuman Cir</b>
Start date/time: <b>2/3/2020 11:35 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CP</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

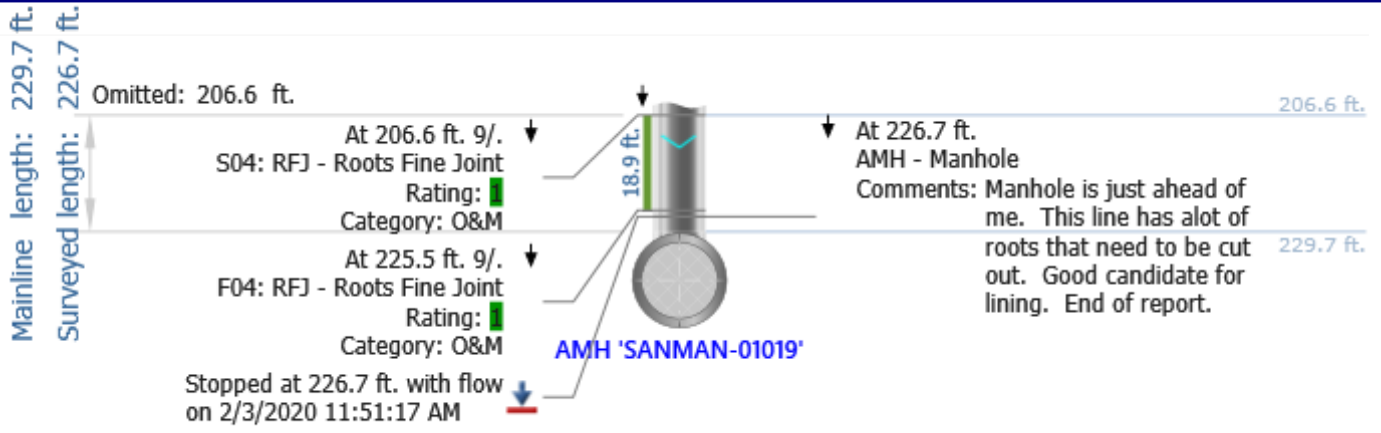
2020 Miscellaneous TV

SANGRAV-01786

2/3/2020 11:35 AM

D

Weather:

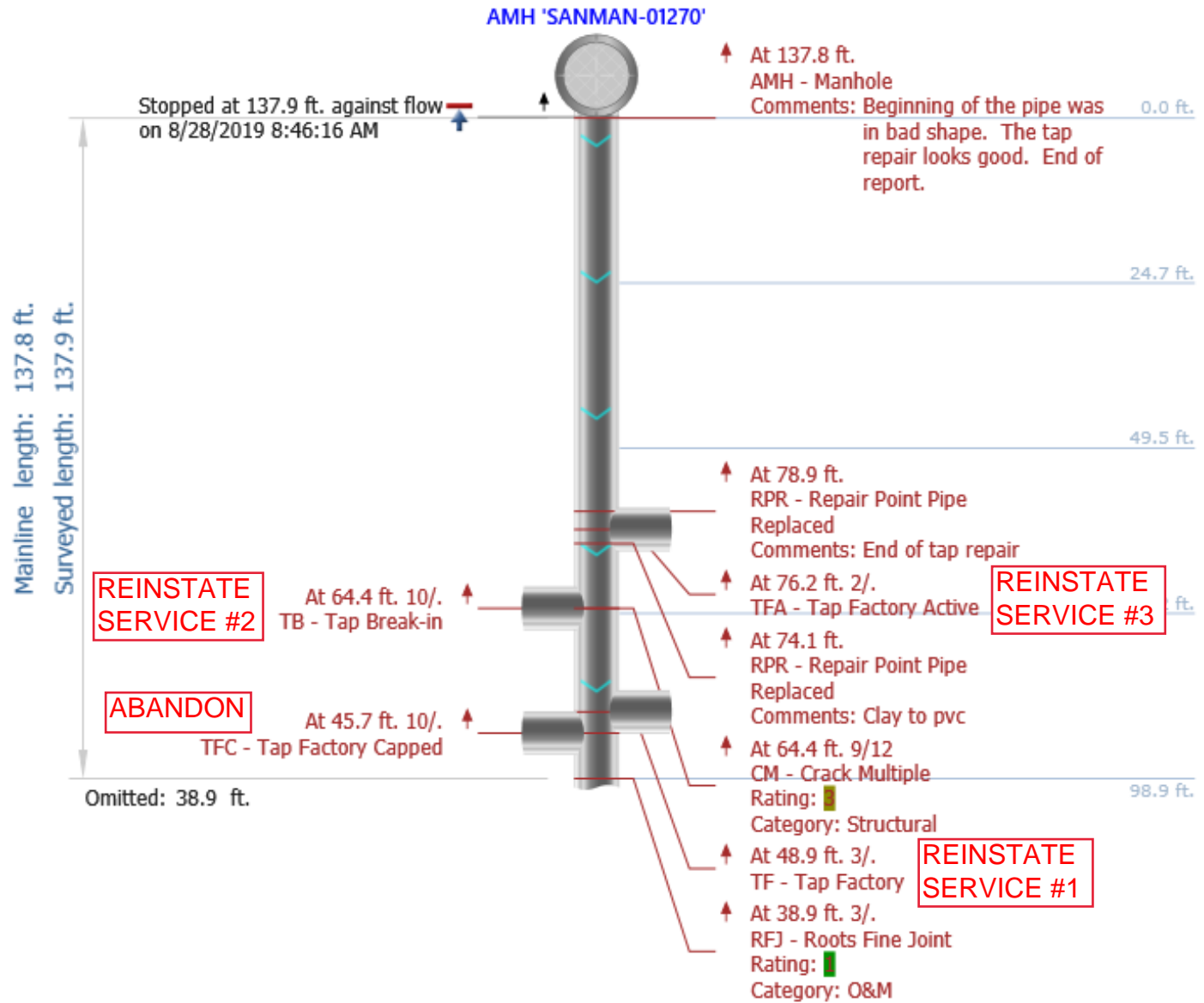




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-01906</b>	City: <b>URB</b>	Street: <b>George Huff Dr</b>
Start date/time: <b>8/28/2019 8:29 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width: <b>8 in.</b>





Project name:

Mainline ID:

Start date/time:

Direction:

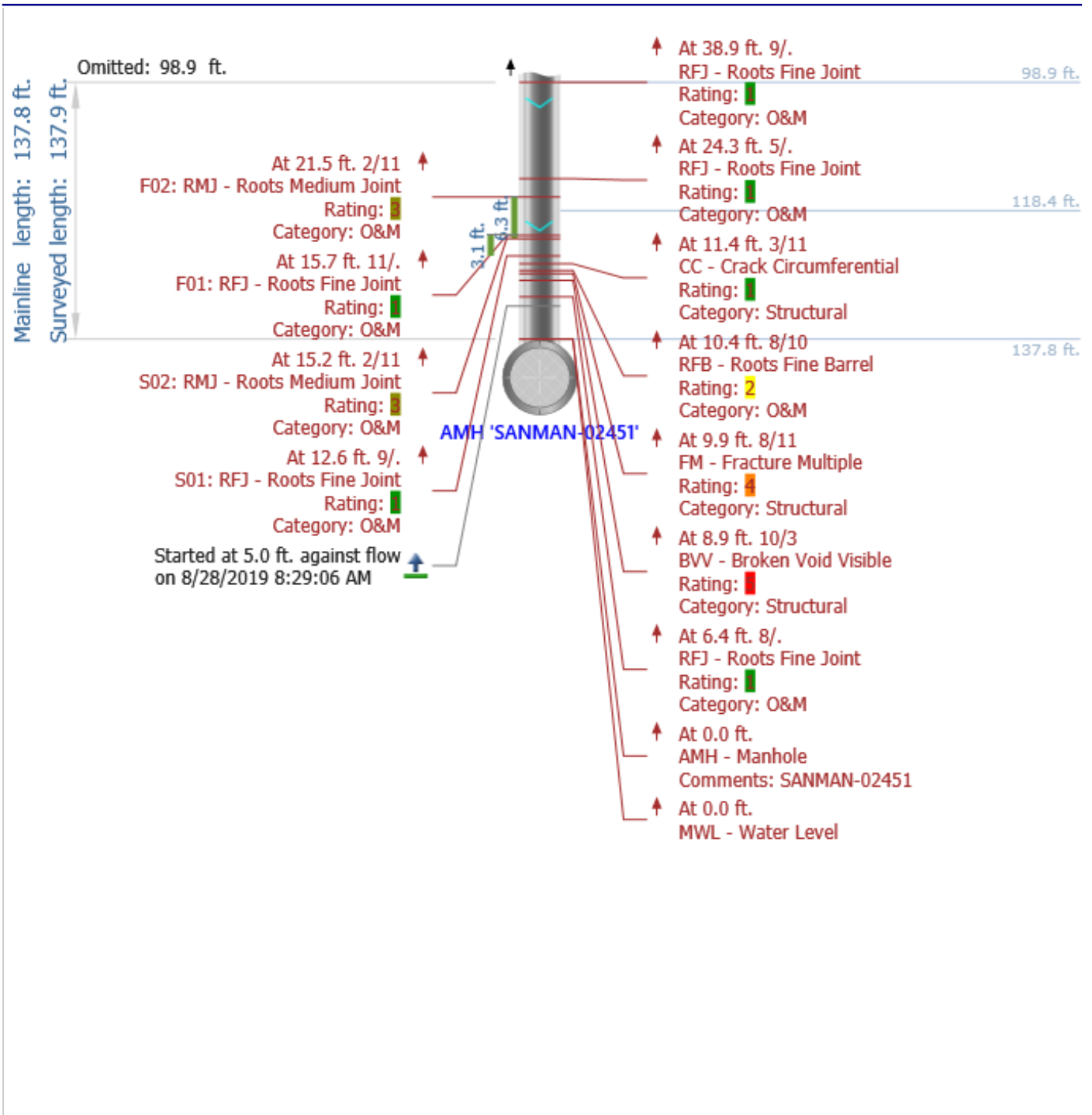
2019 Miscellaneous TV

SANGRAV-01906

8/28/2019 8:29 AM

U

Weather:

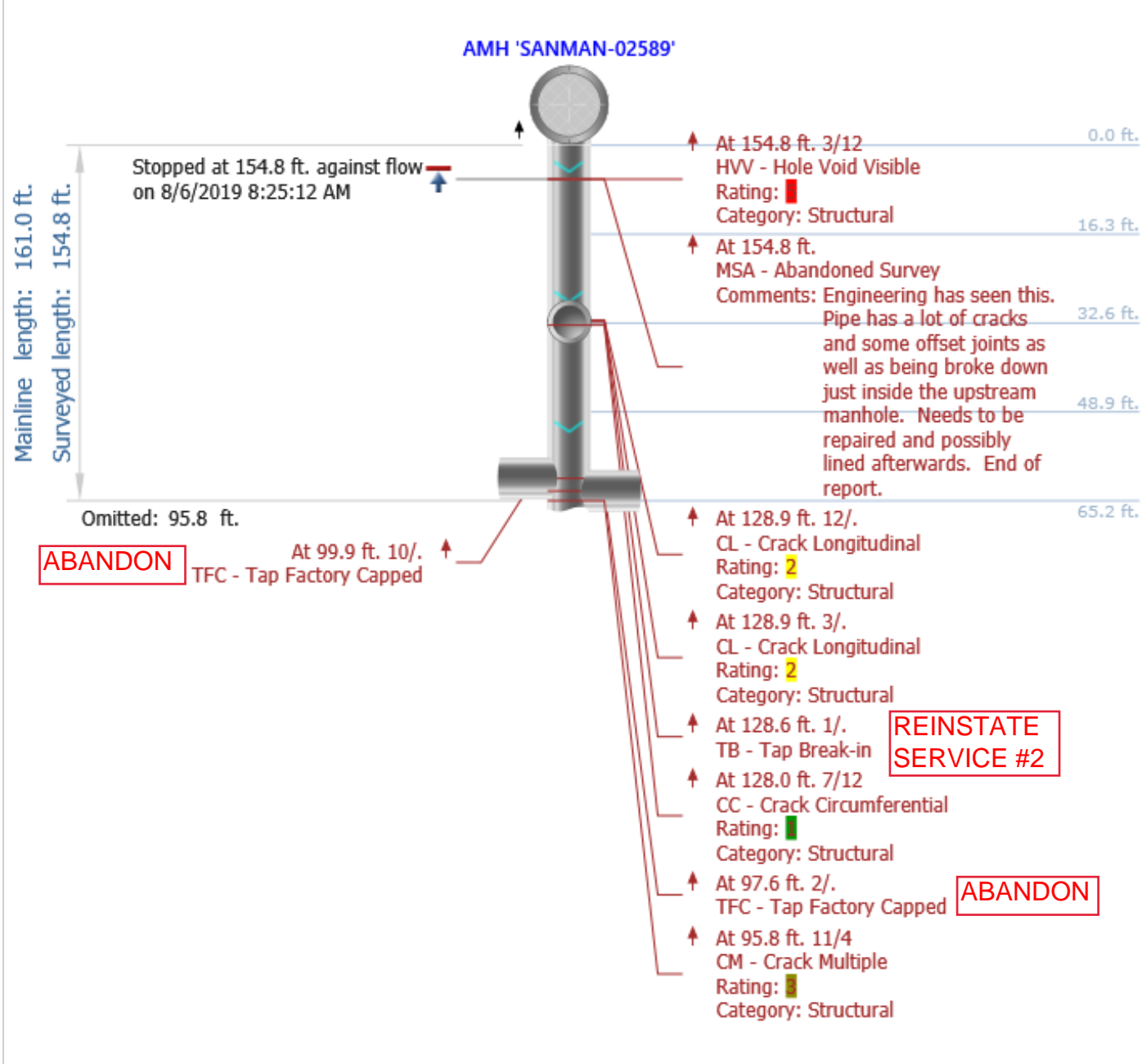




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-01964</b>	City: <b>URB</b>	Street: <b>Urbana Ave</b>
Start date/time: <b>8/6/2019 7:36 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

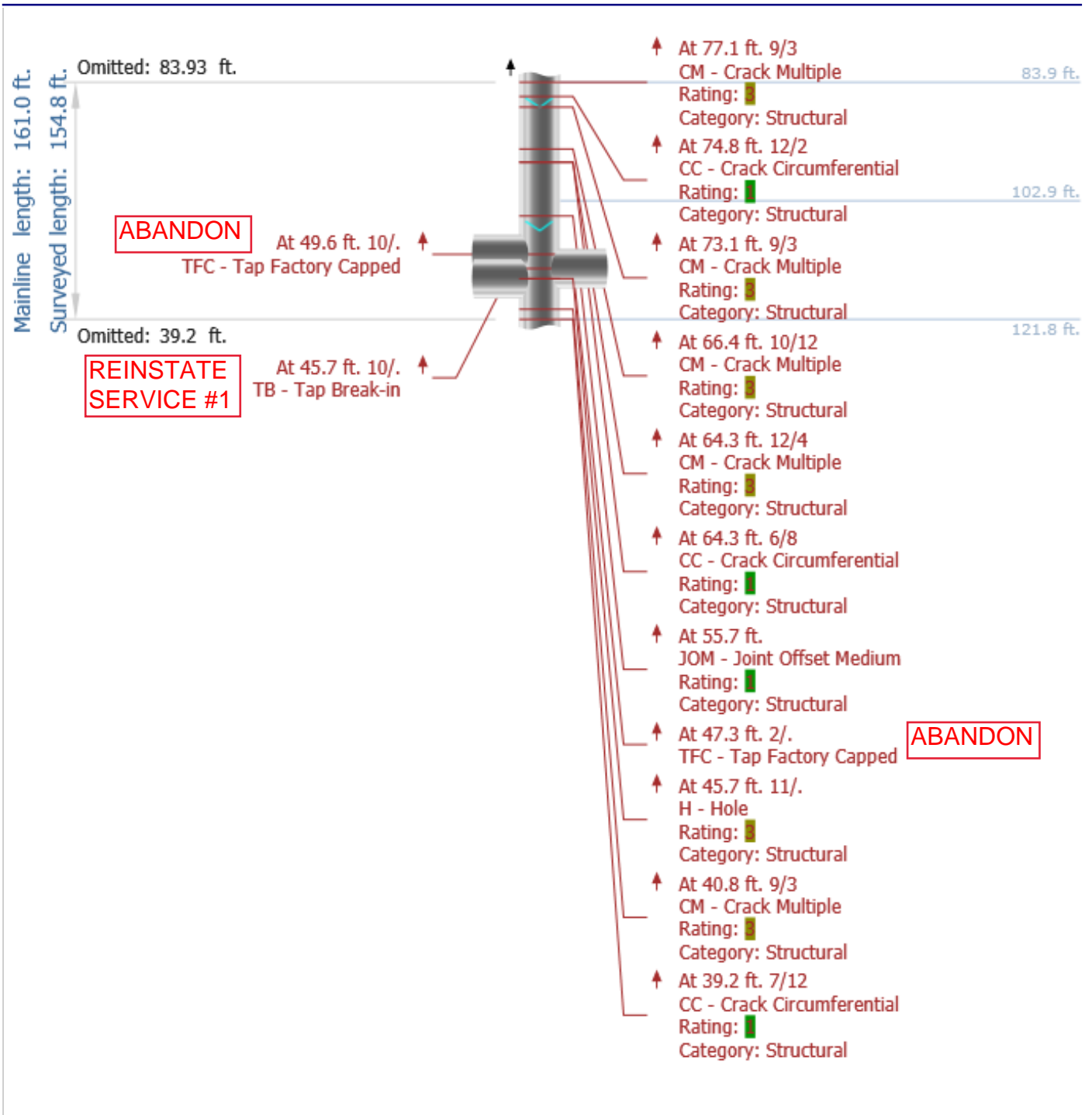
2019 Miscellaneous TV

SANGRAV-01964

8/6/2019 7:36 AM

U

Weather:



Project name:

Mainline ID:

Start date/time:

Direction:

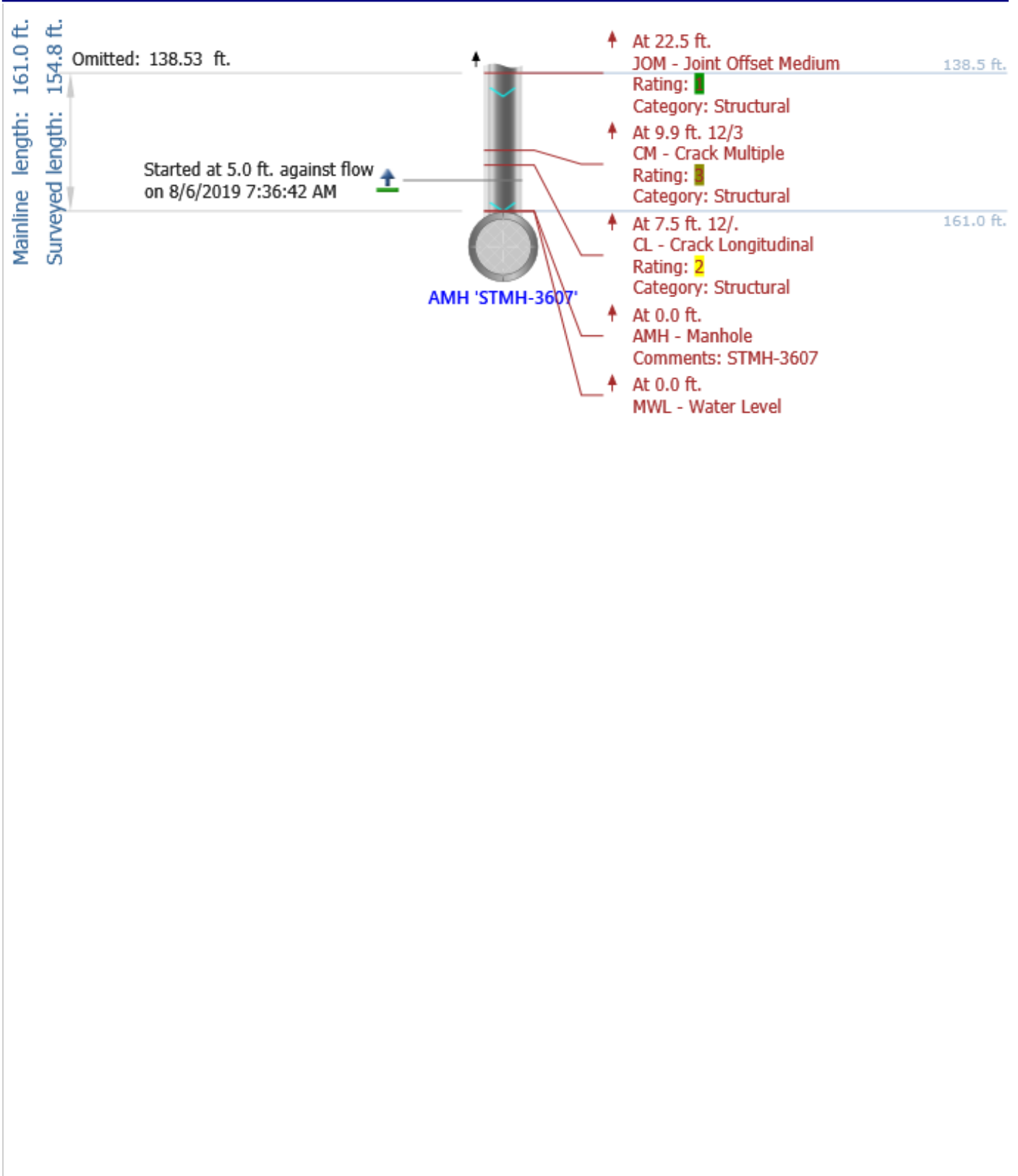
2019 Miscellaneous TV

SANGRAV-01964

8/6/2019 7:36 AM

U

Weather:

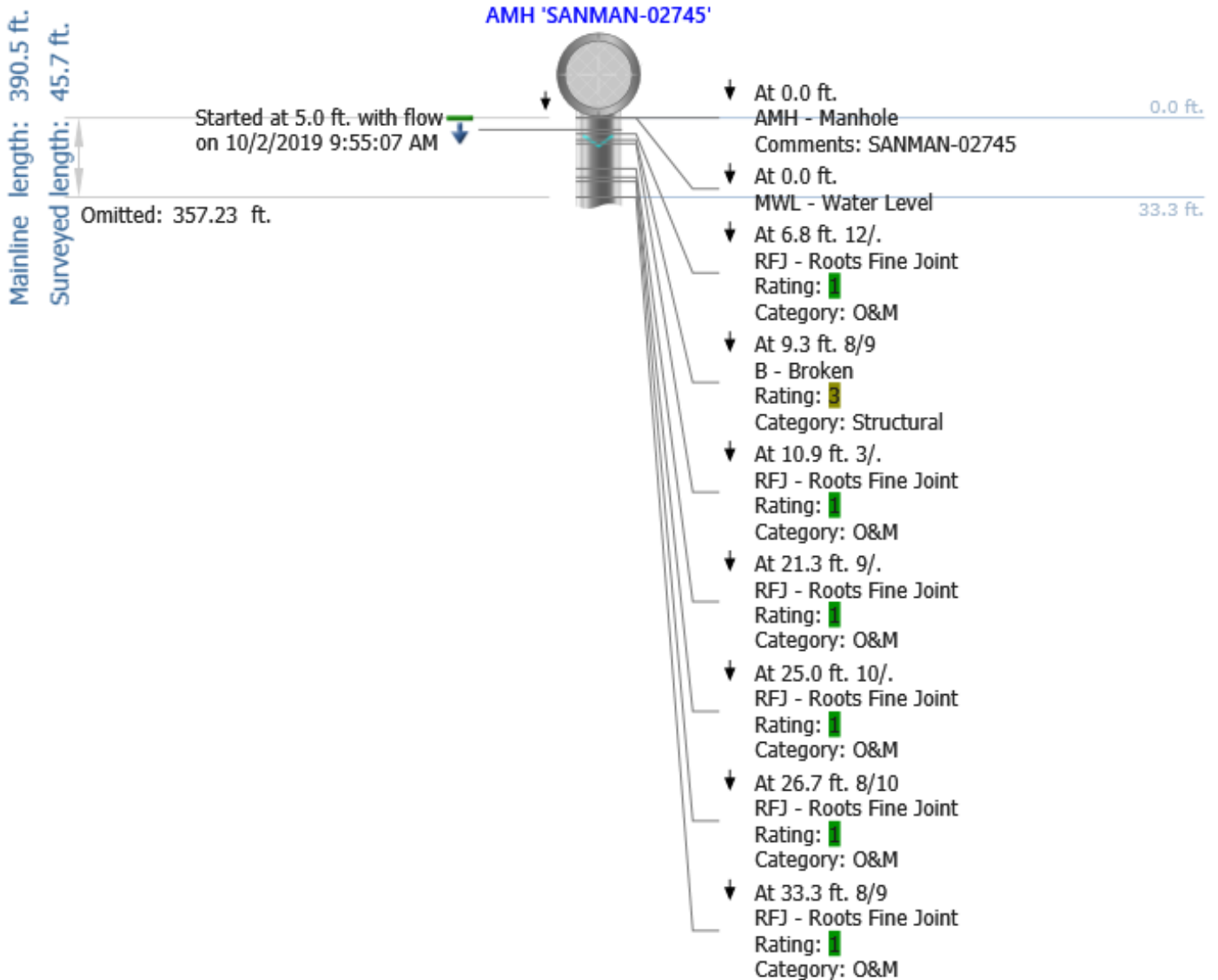




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-02294</b>	City: <b>URB</b>	Street: <b>W Nevada St</b>
Start date/time: <b>10/2/2019 9:55 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

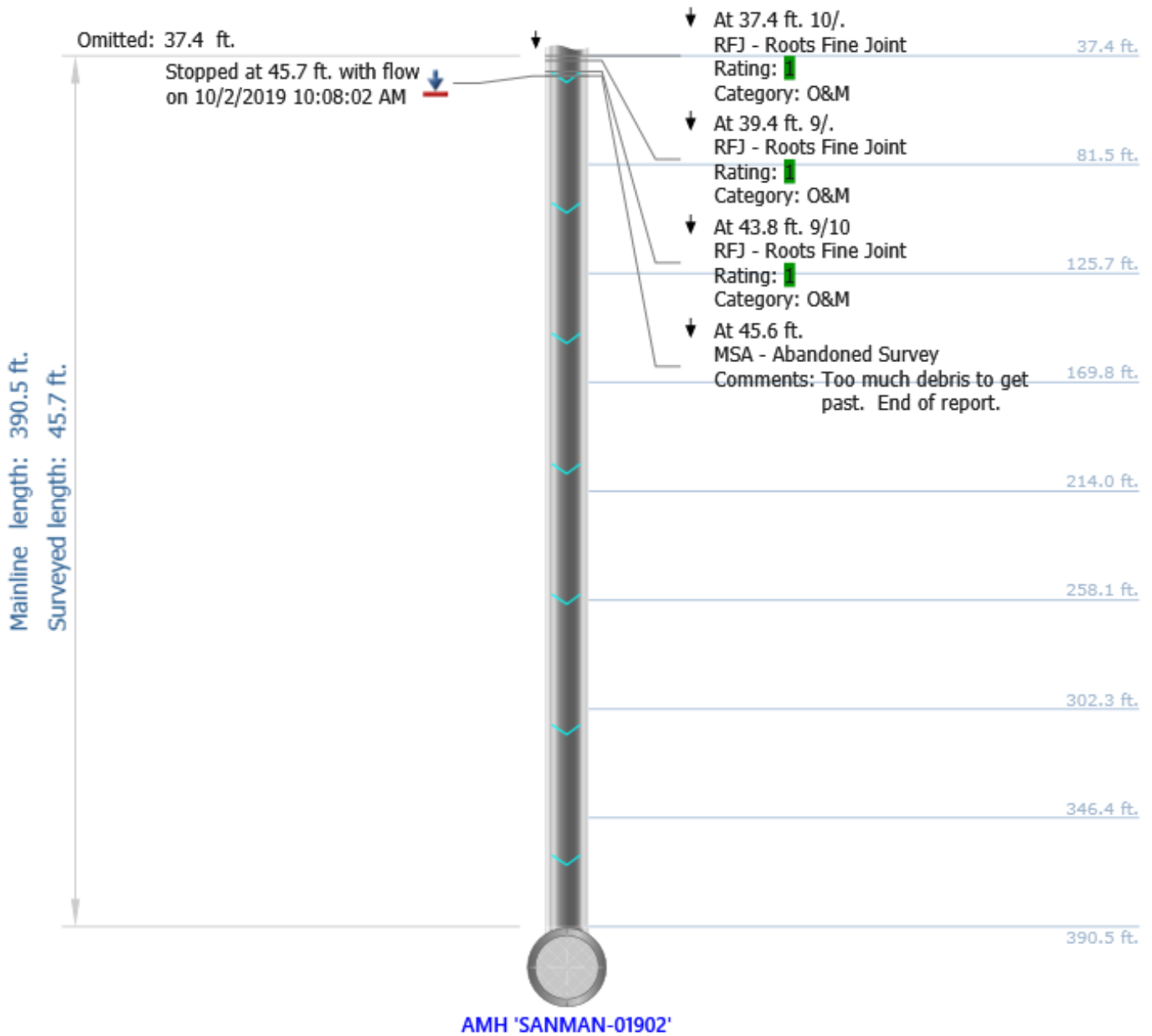
2019 Miscellaneous TV

SANGRAV-02294

10/2/2019 9:55 AM

D

Weather:

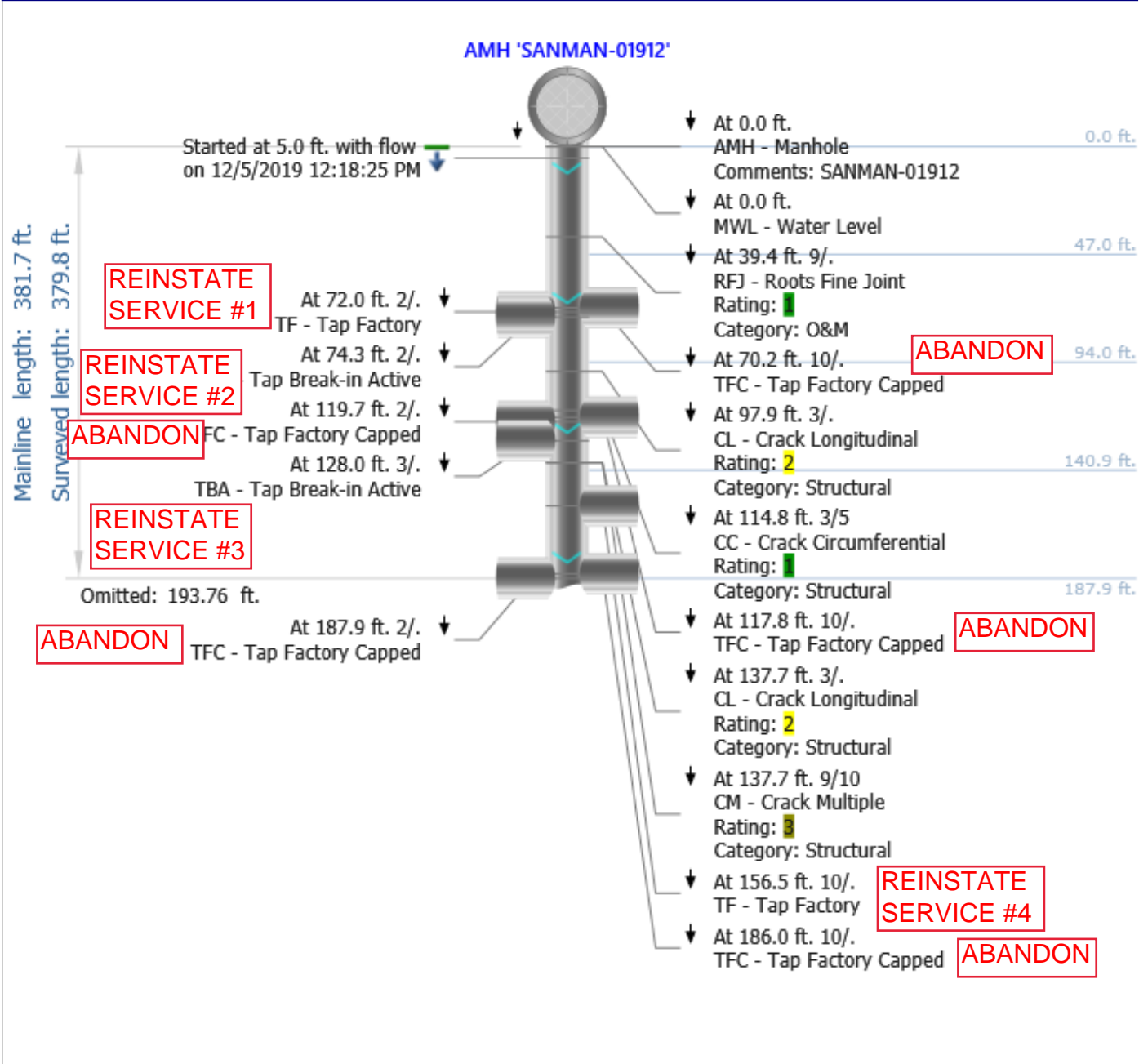




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>SANGRAV-02298</b>	City: <b>URB</b>	Street: <b>W California St</b>
Start date/time: <b>12/5/2019 12:18 PM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID:

Start date/time:

Direction:

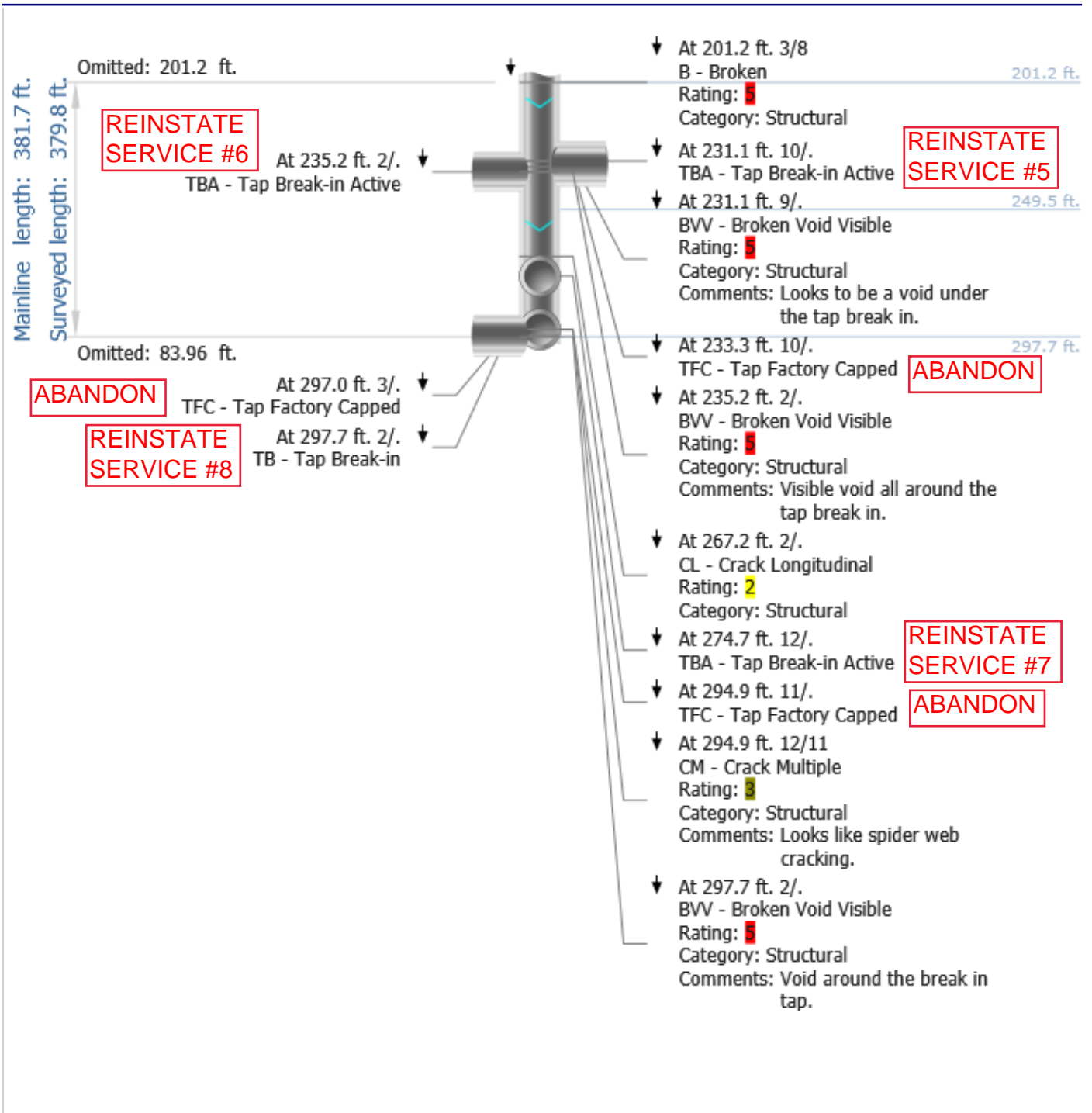
2019 Miscellaneous TV

SANGRAV-02298

12/5/2019 12:18 PM

D

Weather:





Project name:

Mainline ID:

Start date/time:

Direction:

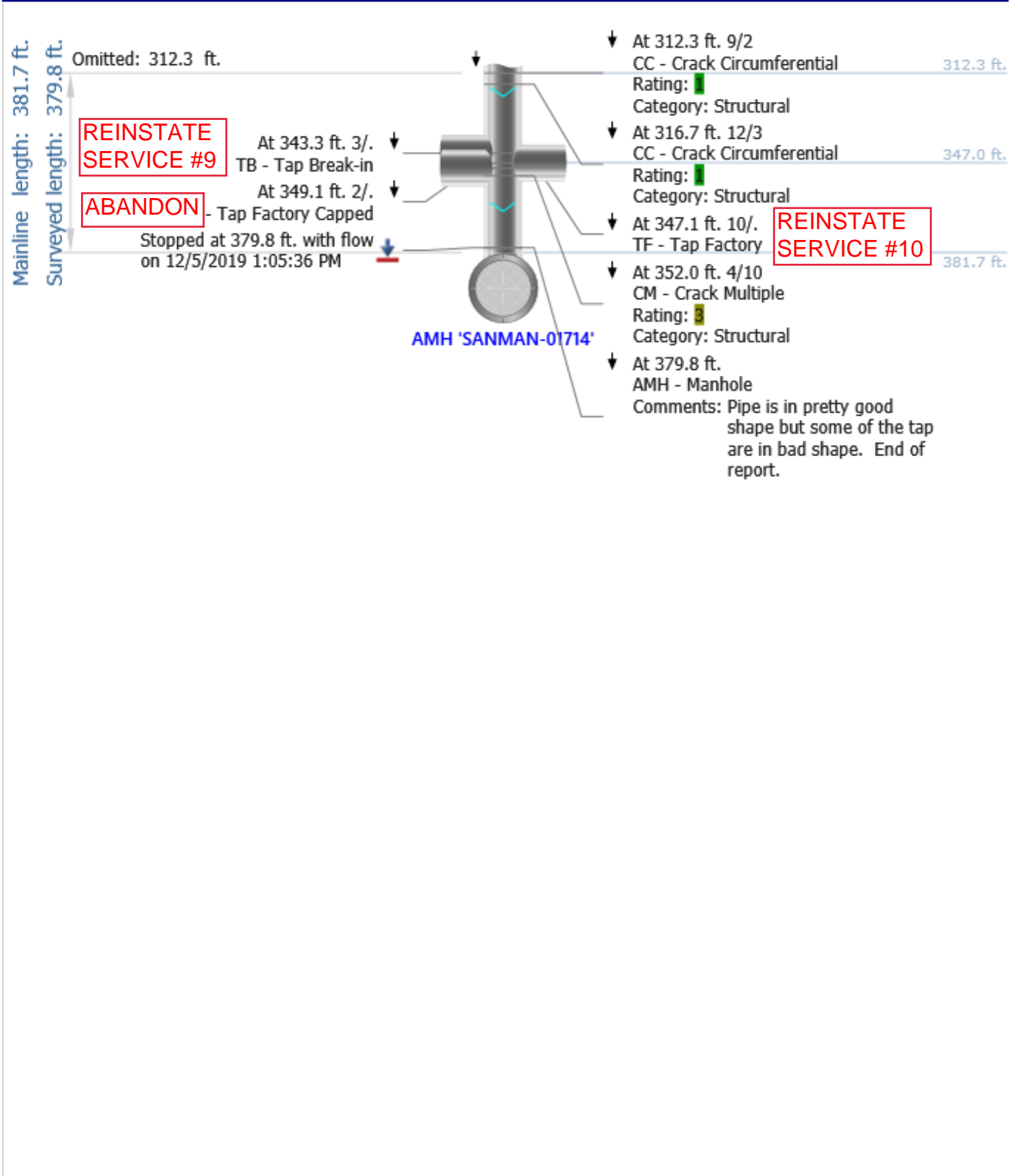
2019 Miscellaneous TV

SANGRAV-02298

12/5/2019 12:18 PM

D

Weather:

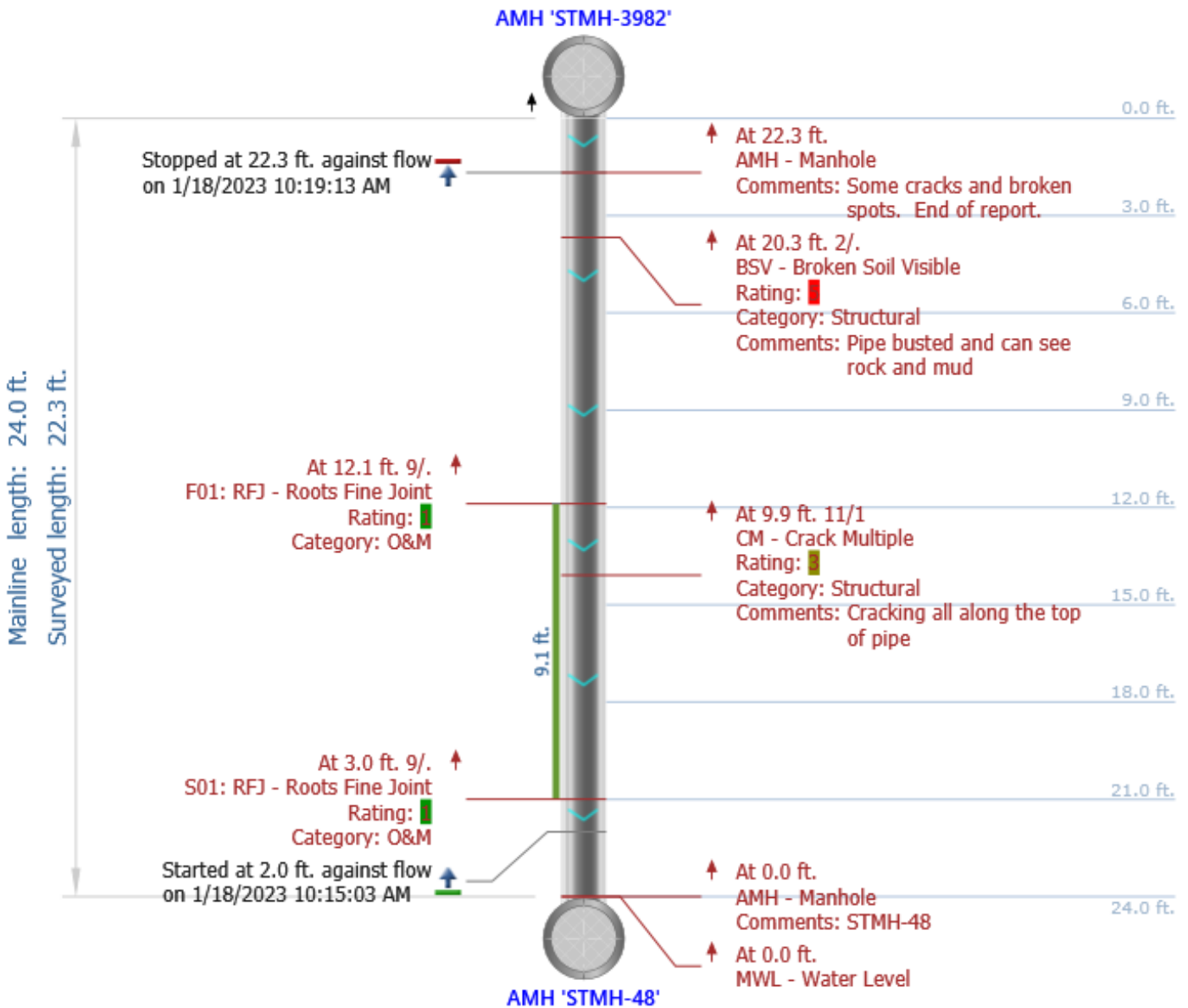




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-13</b>	City: <b>URB</b>	Street: <b>1011 Springfield (manhole to manhole across street)</b>
Start date/time: <b>1/18/2023 10:15 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>8 in.</b>	Width:

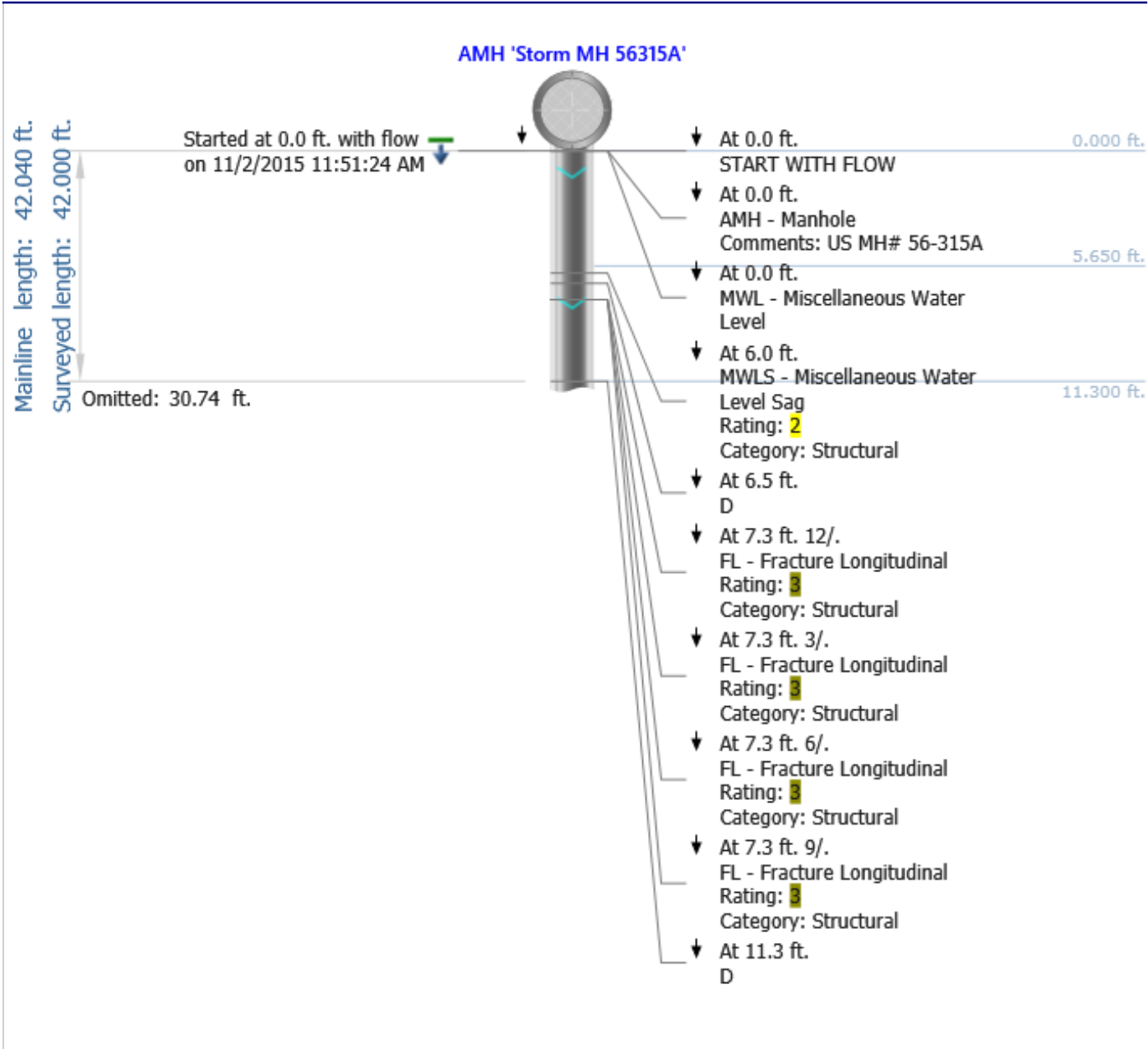




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>23</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>D</b>	Weather:	Location code:
<b>11/2/2015 11:51 AM</b>	Material:	<b>1</b>	
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>12 in.</b>	



Project name: Mainline ID:

Start date/time:

Direction:

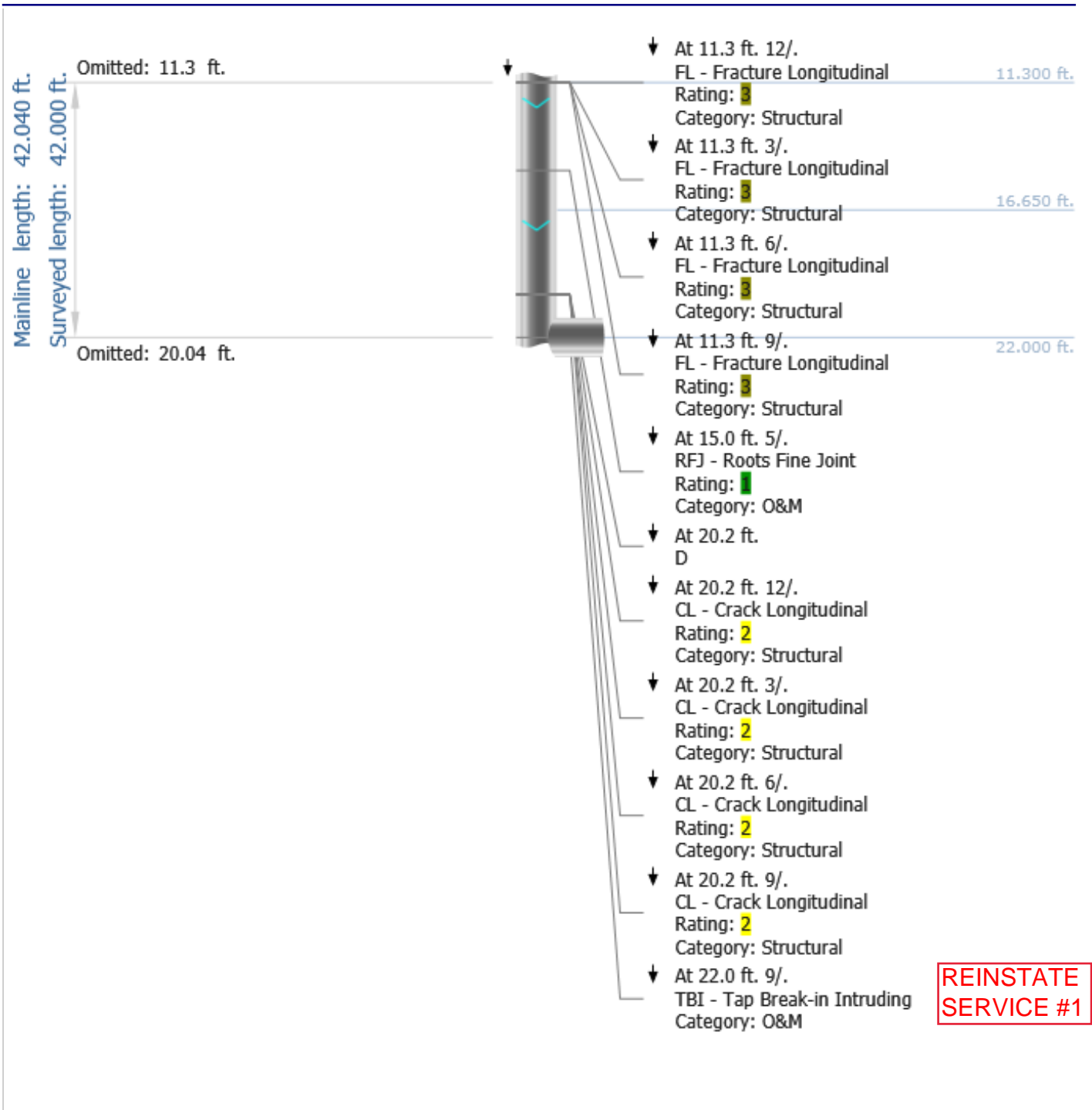
**Urbana 2015 Storm Sewer 23  
Cleaning & TV Project**

**11/2/2015 11:51 AM**

**D**

Weather:

**1**



Project name:

Mainline ID:

Start date/time:

Direction:

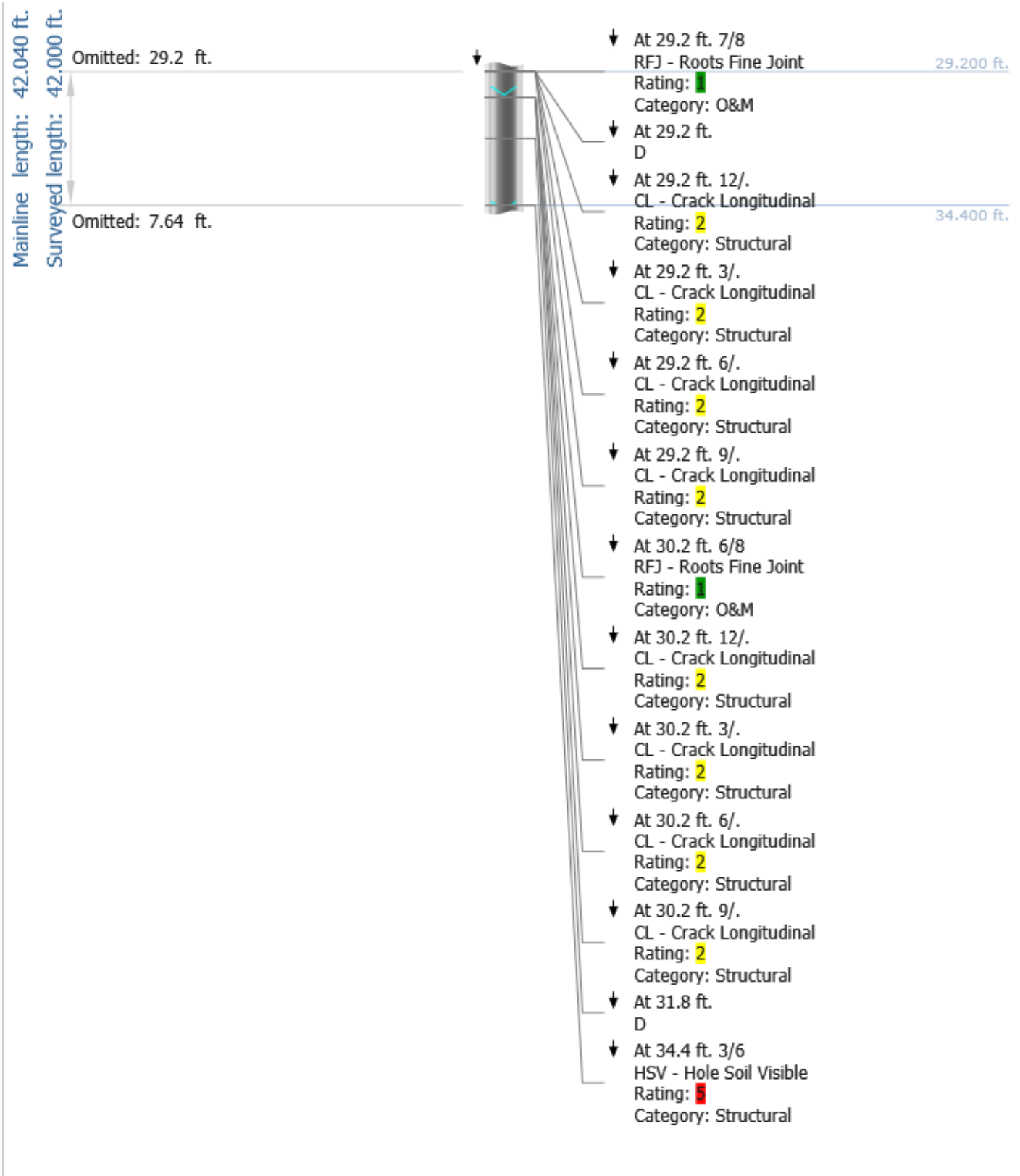
**Urbana 2015 Storm Sewer 23  
Cleaning & TV Project**

**11/2/2015 11:51 AM**

**D**

Weather:

1



Project name: Mainline ID:

Start date/time:

Direction:

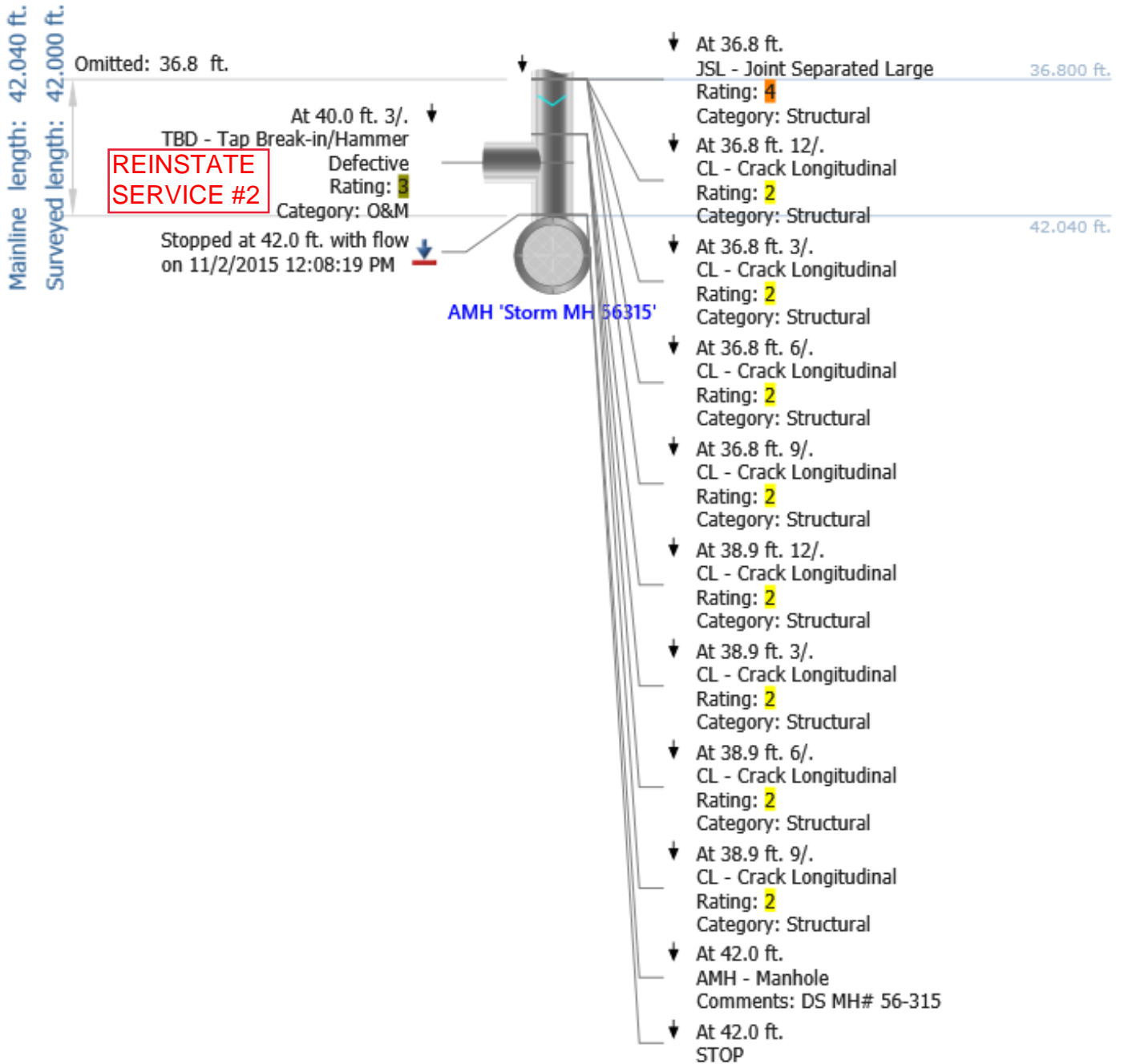
**Urbana 2015 Storm Sewer 23  
Cleaning & TV Project**

**11/2/2015 11:51 AM**

**D**

Weather:

**1**

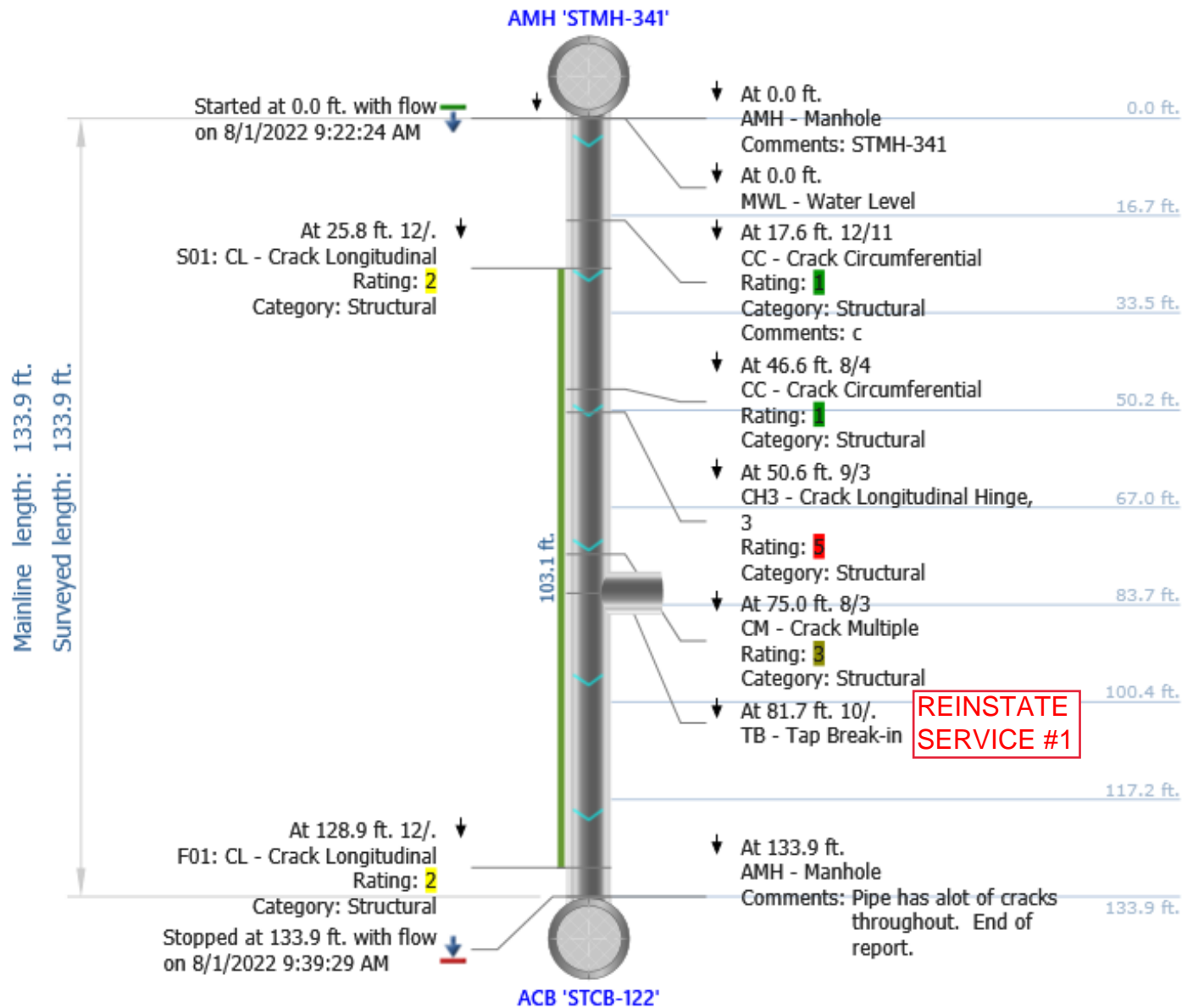




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-344</b>	City: <b>URB</b>	Street: <b>Philo Rd (a McHenry going North)</b>
Start date/time: <b>8/1/2022 9:22 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>15 in.</b>	Width:

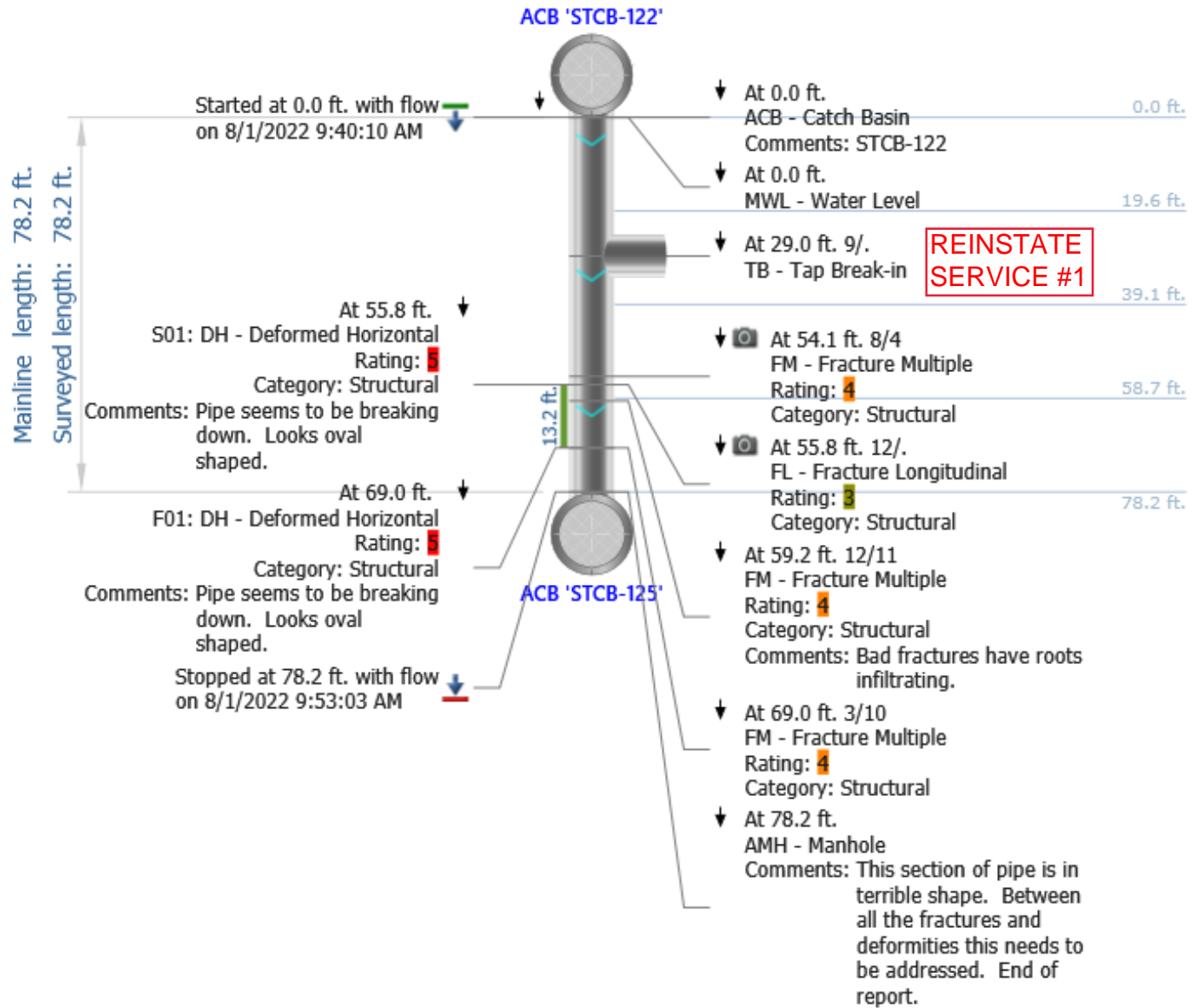




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-349</b>	City: <b>URB</b>	Street: <b>Philo Rd (going North)</b>
Start date/time: <b>8/1/2022 9:40 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>15 in.</b>	Width:



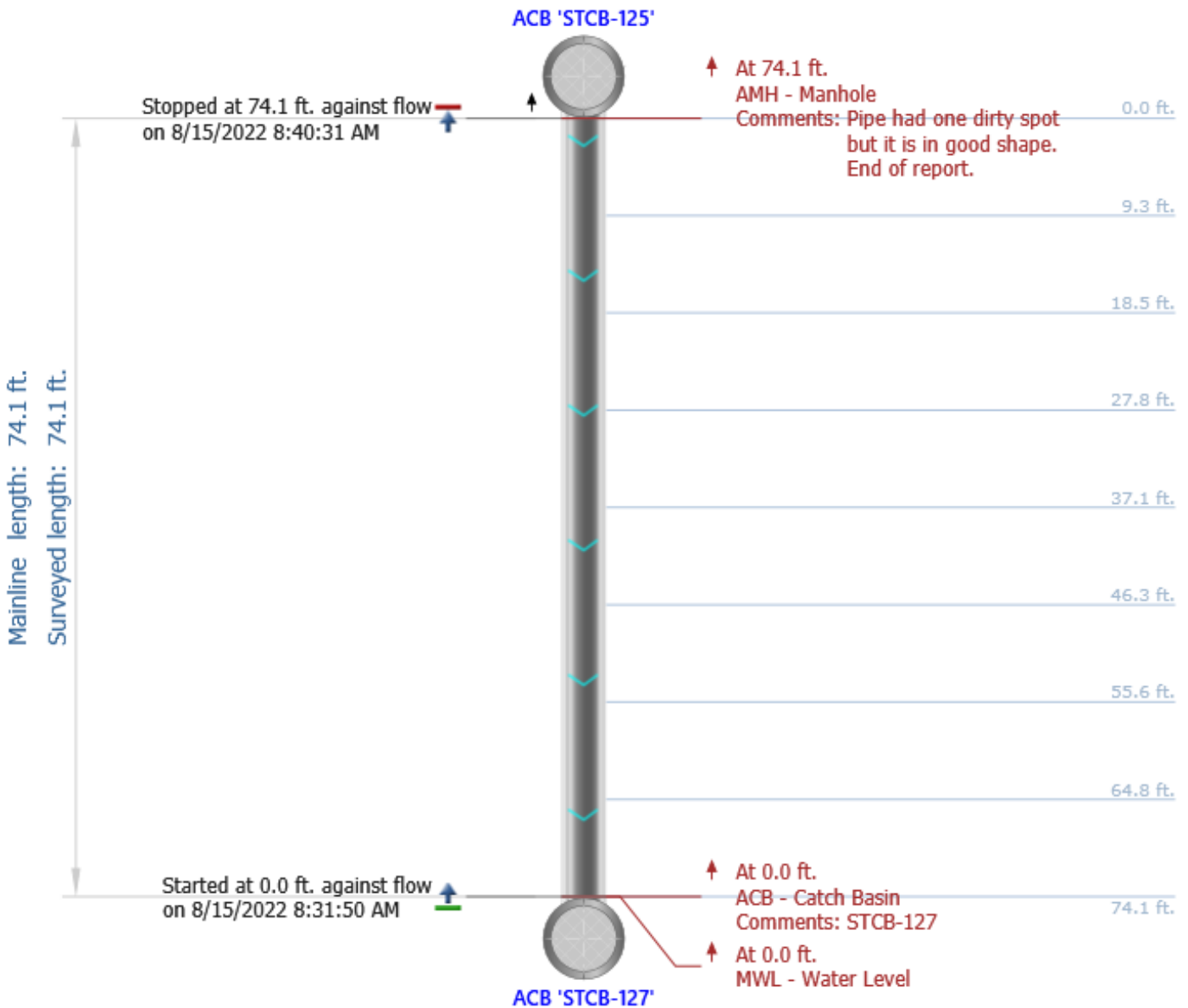




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-350</b>	City: <b>URB</b>	Street: <b>Philo Rd (2013 going South)</b>
Start date/time: <b>8/15/2022 8:31 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>15 in.</b>	Width:

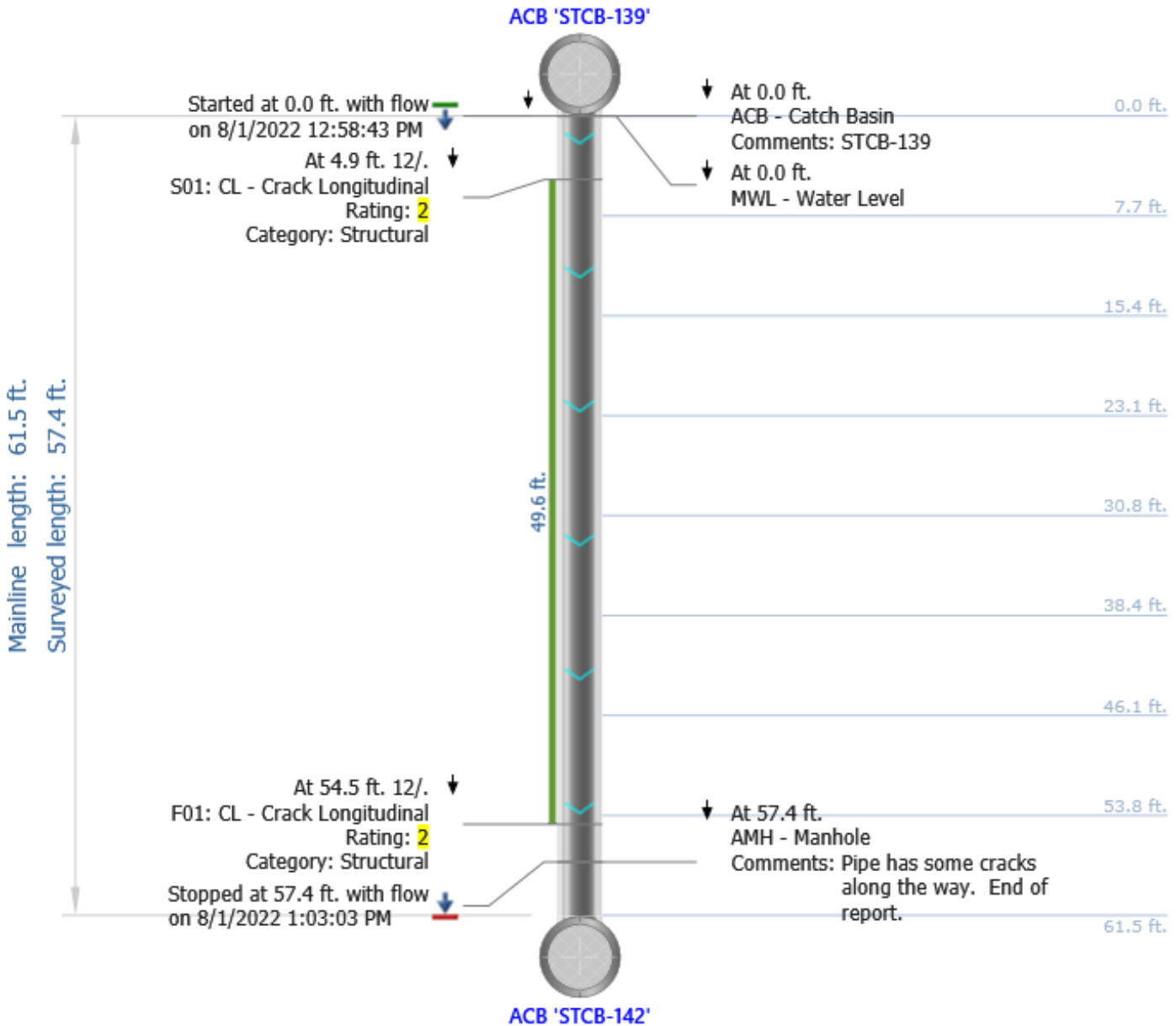




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>2021 Miscellaneous TV</b>	<b>STMGRAV-368</b>	<b>URB</b>	<b>Philo Rd (going North)</b>
Start date/time:	Direction:	Weather:	Location code:
<b>8/1/2022 12:58 PM</b>	<b>D</b>		
Shape:	Material:	Height:	Width:
<b>C</b>	<b>RCP</b>	<b>15 in.</b>	

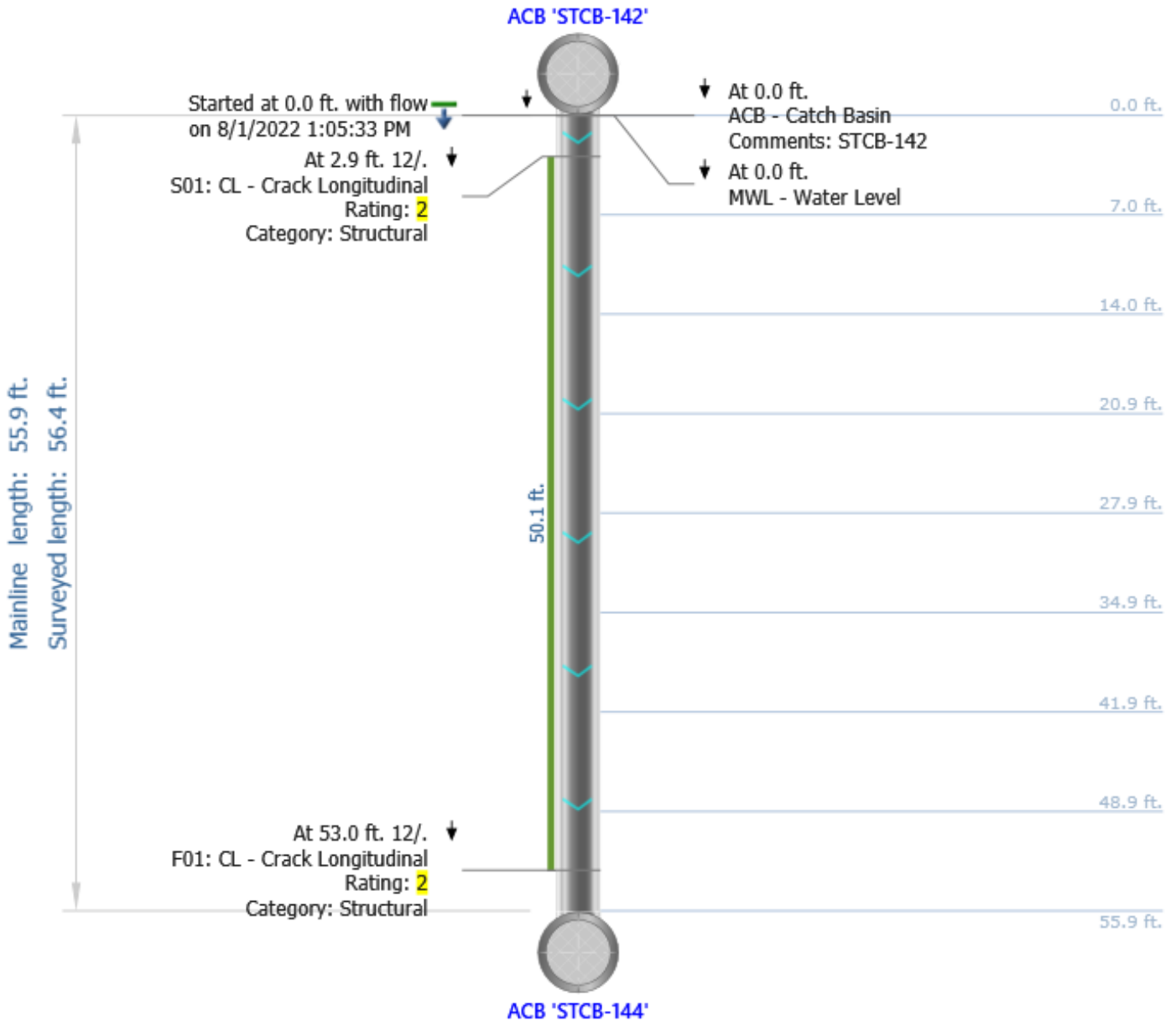




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-374</b>	City: <b>URB</b>	Street: <b>Philo Rd (going north)</b>
Start date/time: <b>8/1/2022 1:05 PM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>15 in.</b>	Width:



**Some observations have distance greater than the pipe length**

Project name:

Mainline ID:

Start date/time:

Direction:

**2021 Miscellaneous TV**

**STMGRAV-374**

**8/1/2022 1:05 PM**

**D**

Weather:

Stopped at 56.4 ft. with flow  
on 8/1/2022 1:08:49 PM



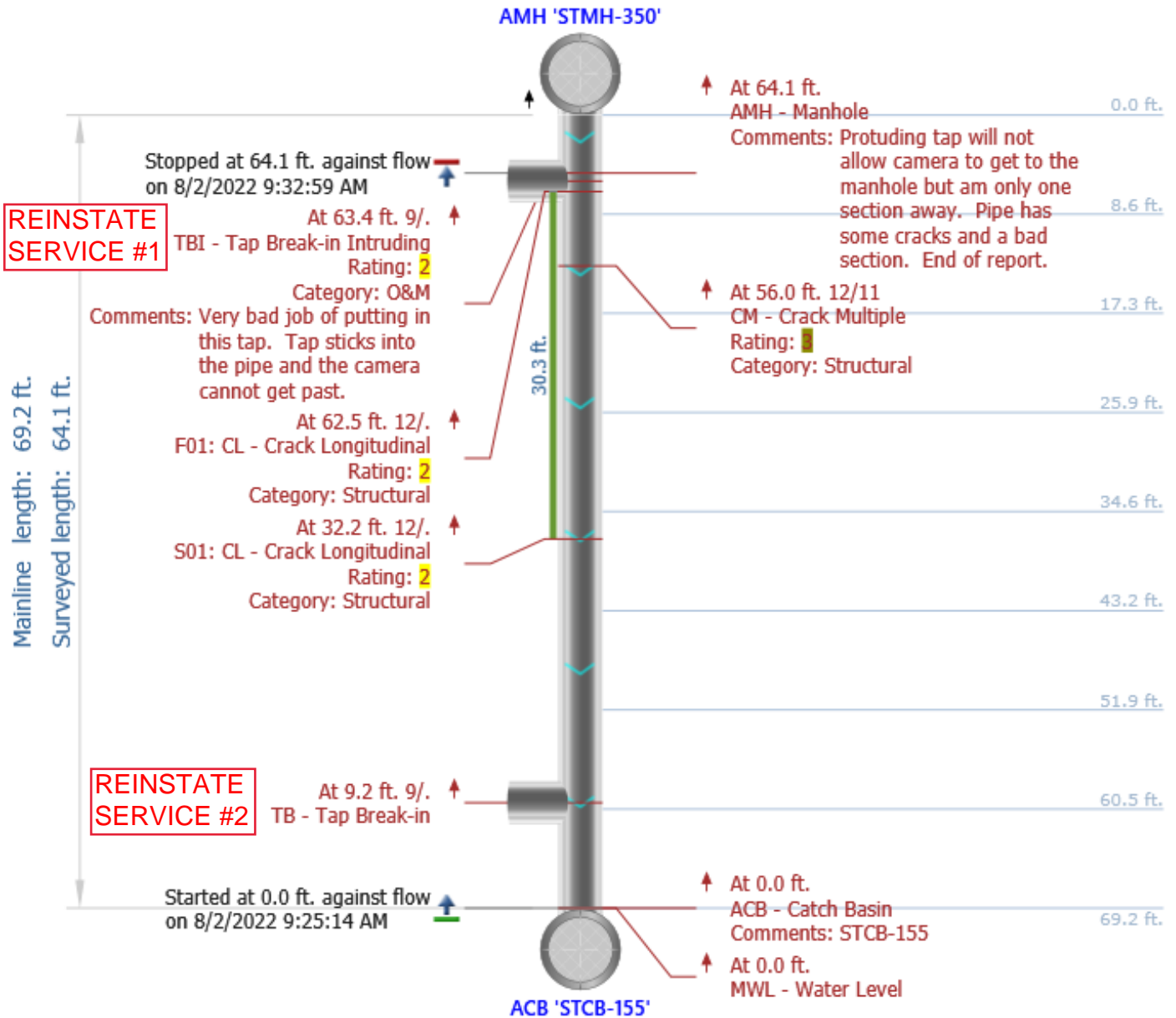
At 56.4 ft.  
AMH - Manhole  
Comments: Has some cracks. End of  
report.



CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-388</b>	City: <b>URB</b>	Street: <b>Philo Rd (going North)</b>
Start date/time: <b>8/2/2022 9:25 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>12 in.</b>	Width:

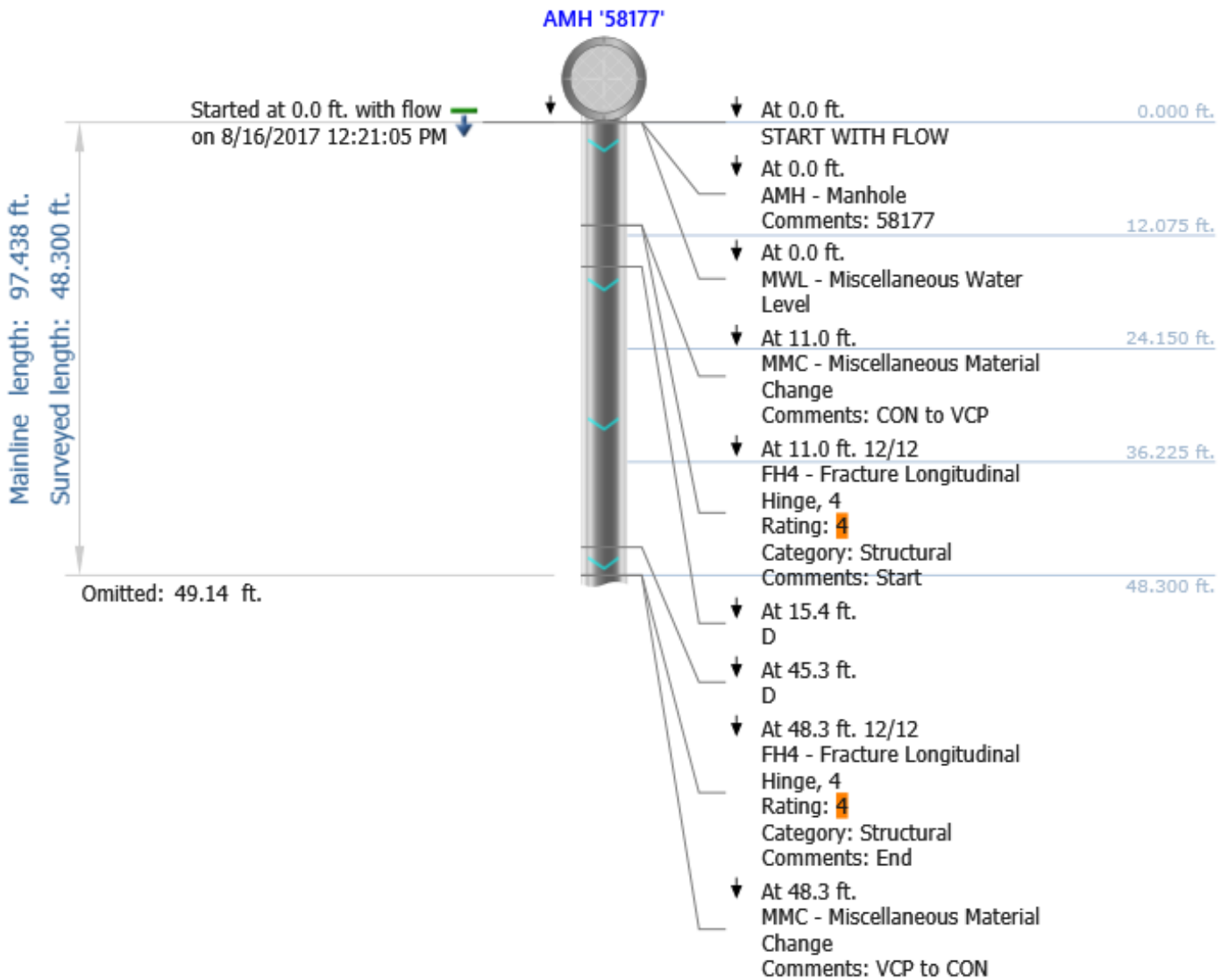




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2374</b>	City: <b>Urbana</b>	Street: <b>Lakehouse Rd</b>
Start date/time: <b>8/16/2017 12:21 PM</b>	Direction: <b>D</b>	Weather:	Location code: <b>C</b>
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>18 in.</b>	Width:



Project name: Mainline ID:

Start date/time:

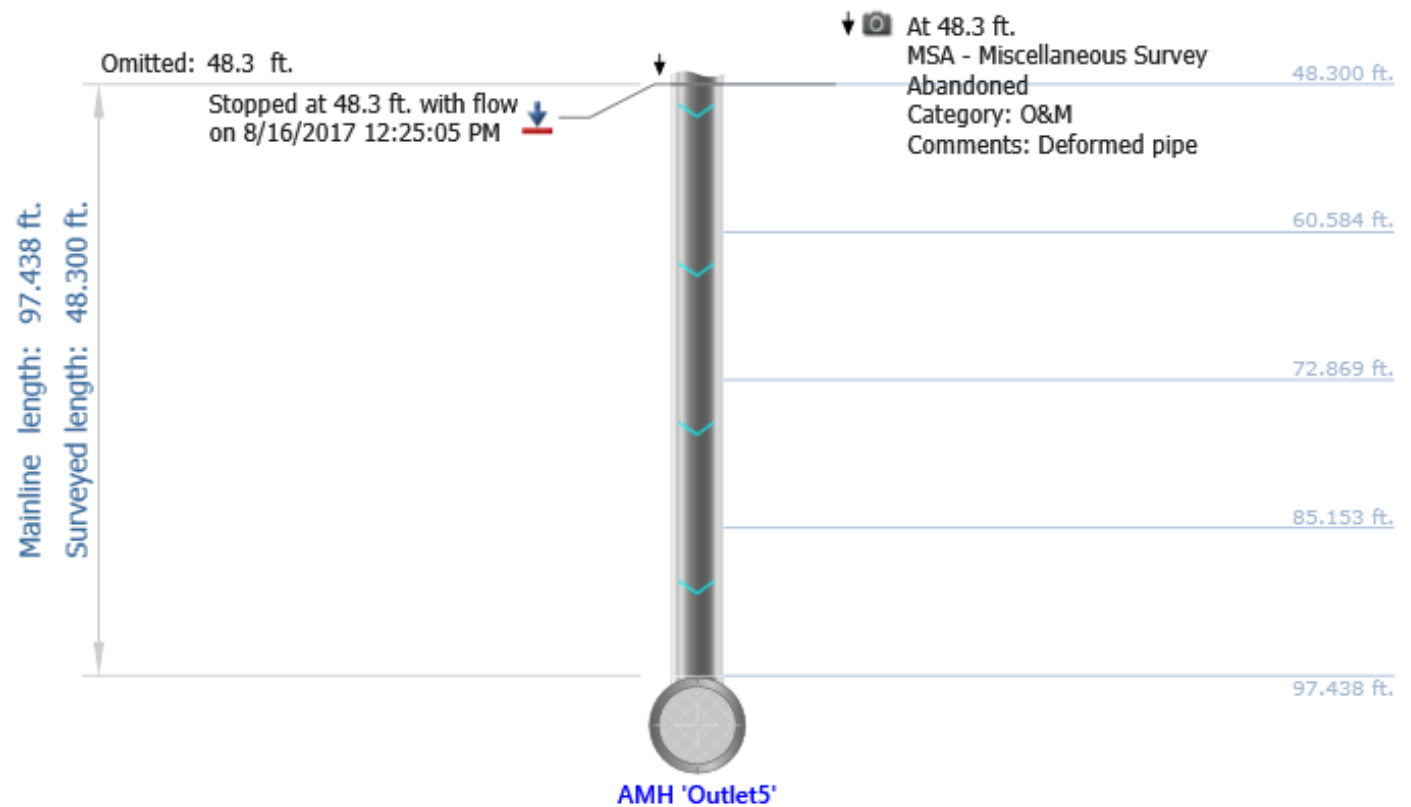
Direction:

**Urbana 2016 Storm Sewer 2374  
Cleaning & TV Project**

**8/16/2017 12:21 PM**

**D**

Weather:

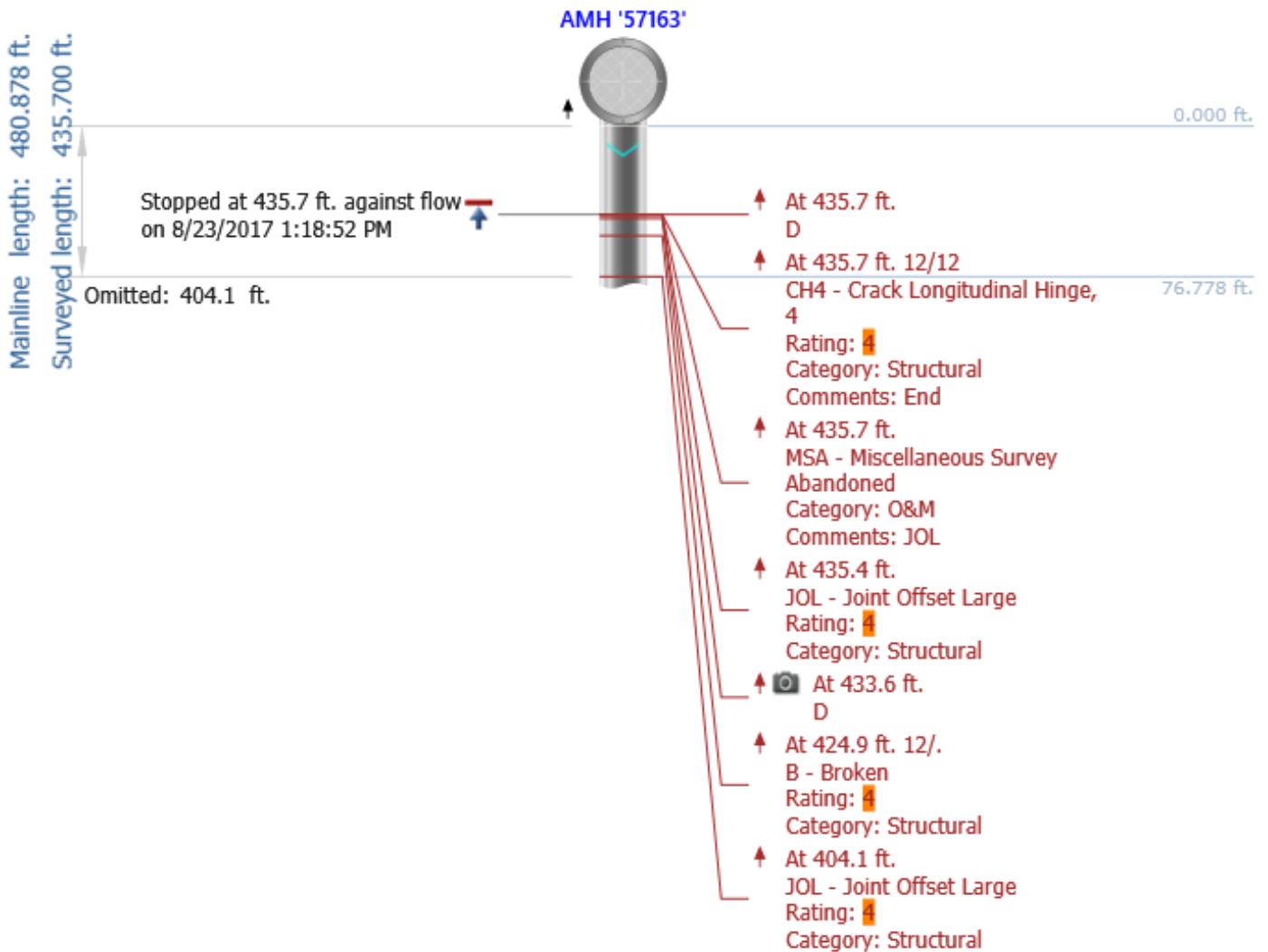




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	<b>2423</b>	<b>Urbana</b>	<b>W University From Orchard to McCullough</b>
Start date/time:	Direction:	Weather:	Location code:
<b>8/23/2017 12:46 PM</b>	<b>U</b>		<b>A</b>
Shape:	Material:	Height:	Width:
<b>C</b>	<b>CT</b>	<b>8 in.</b>	





Project name: Mainline ID:

Start date/time:

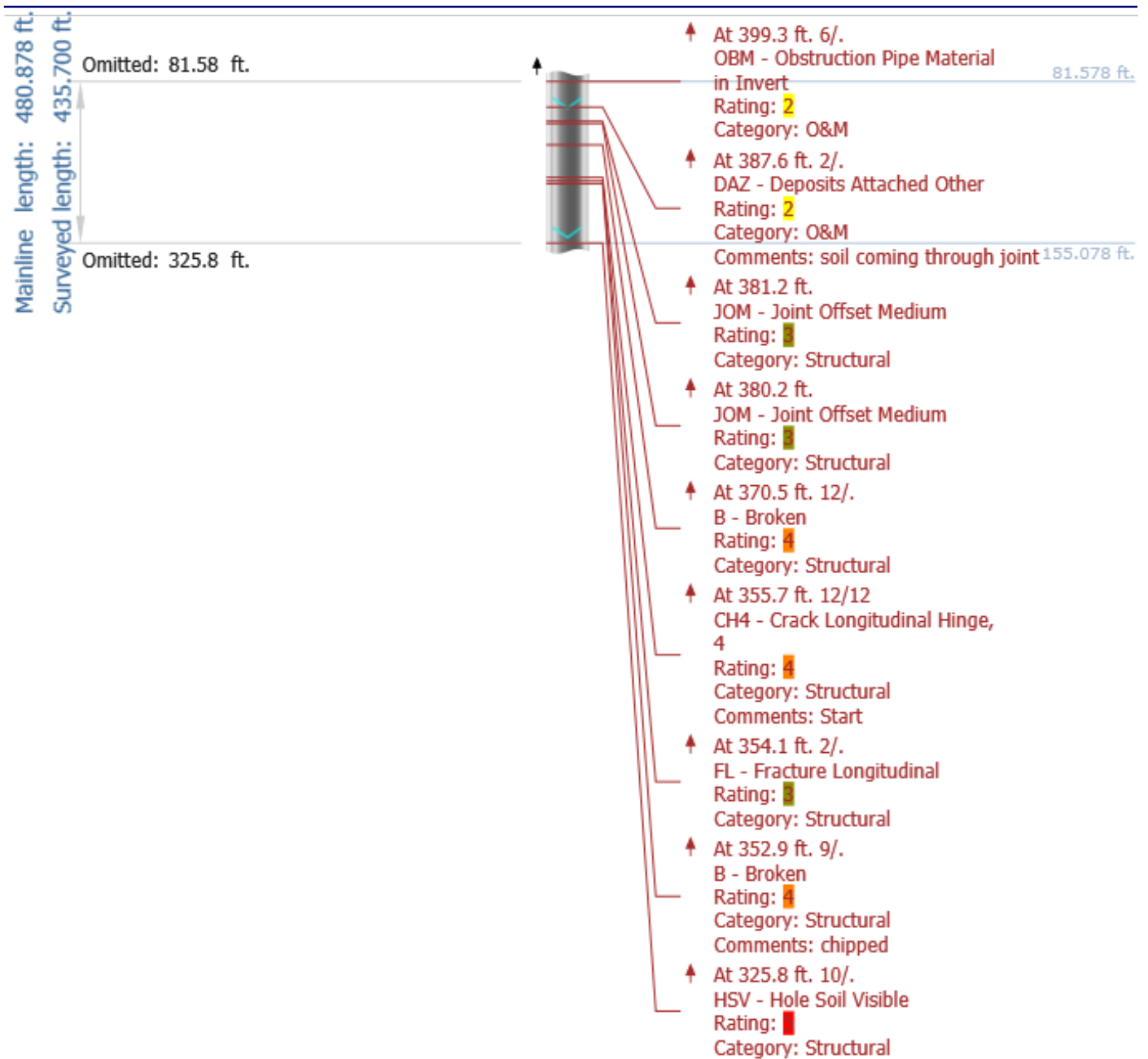
Direction:

**Urbana 2016 Storm Sewer 2423  
Cleaning & TV Project**

**8/23/2017 12:46 PM**

**U**

Weather:



Project name: Mainline ID:

Start date/time:

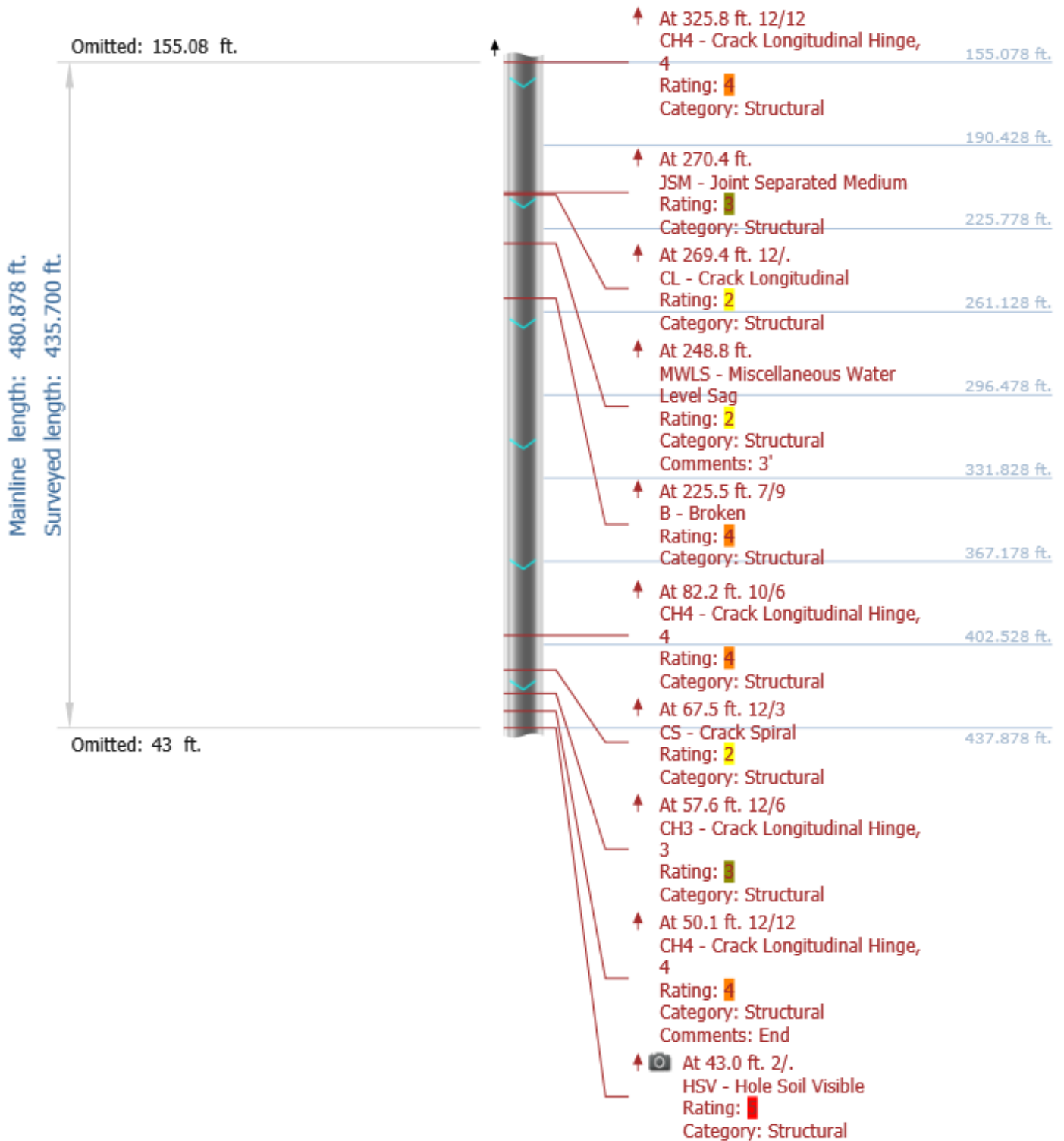
Direction:

**Urbana 2016 Storm Sewer 2423  
Cleaning & TV Project**

**8/23/2017 12:46 PM**

**U**

Weather:



Project name: Mainline ID:

Start date/time:

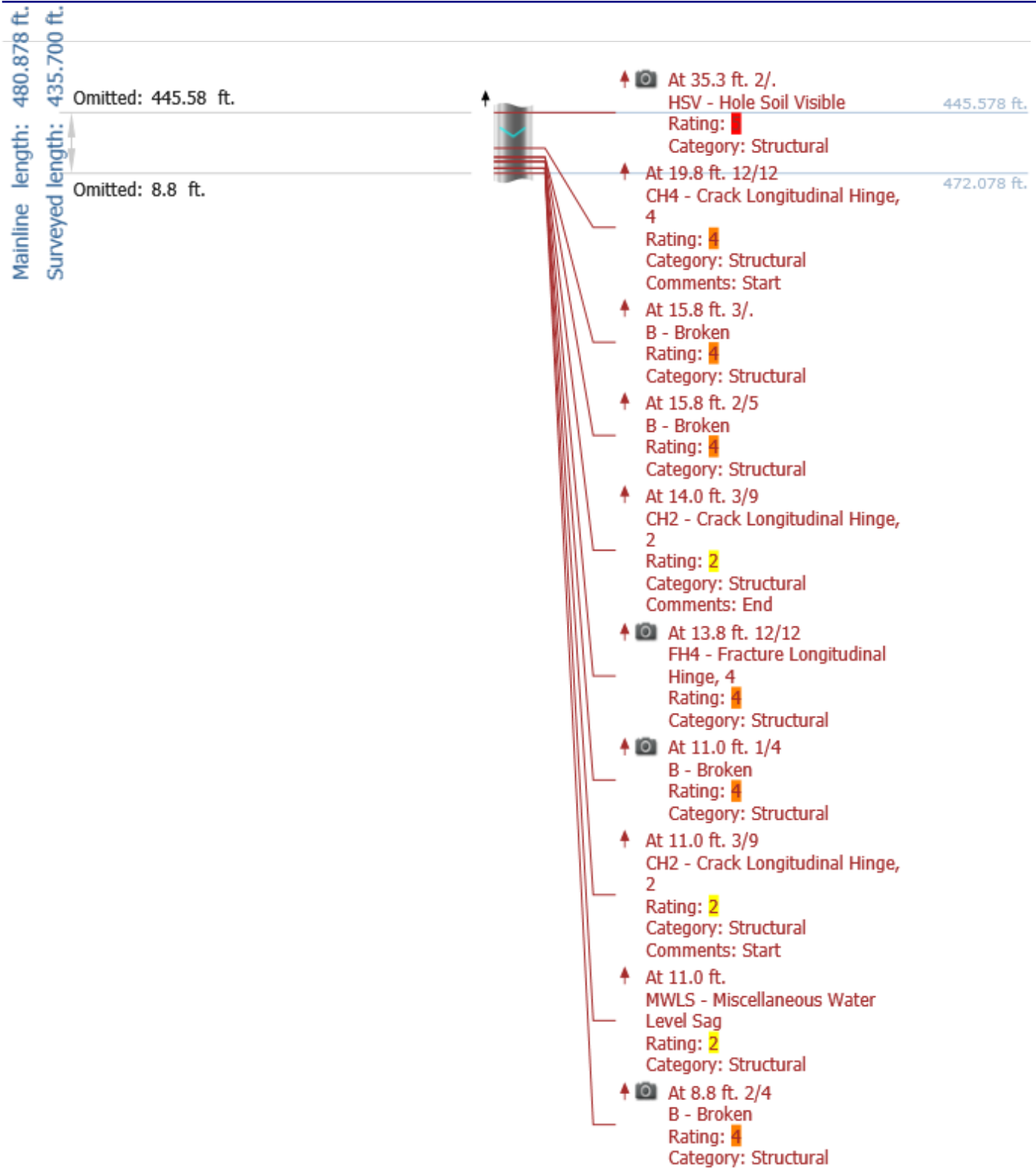
Direction:

**Urbana 2016 Storm Sewer 2423  
Cleaning & TV Project**

**8/23/2017 12:46 PM**

**U**

Weather:



Project name: Mainline ID:

Start date/time:

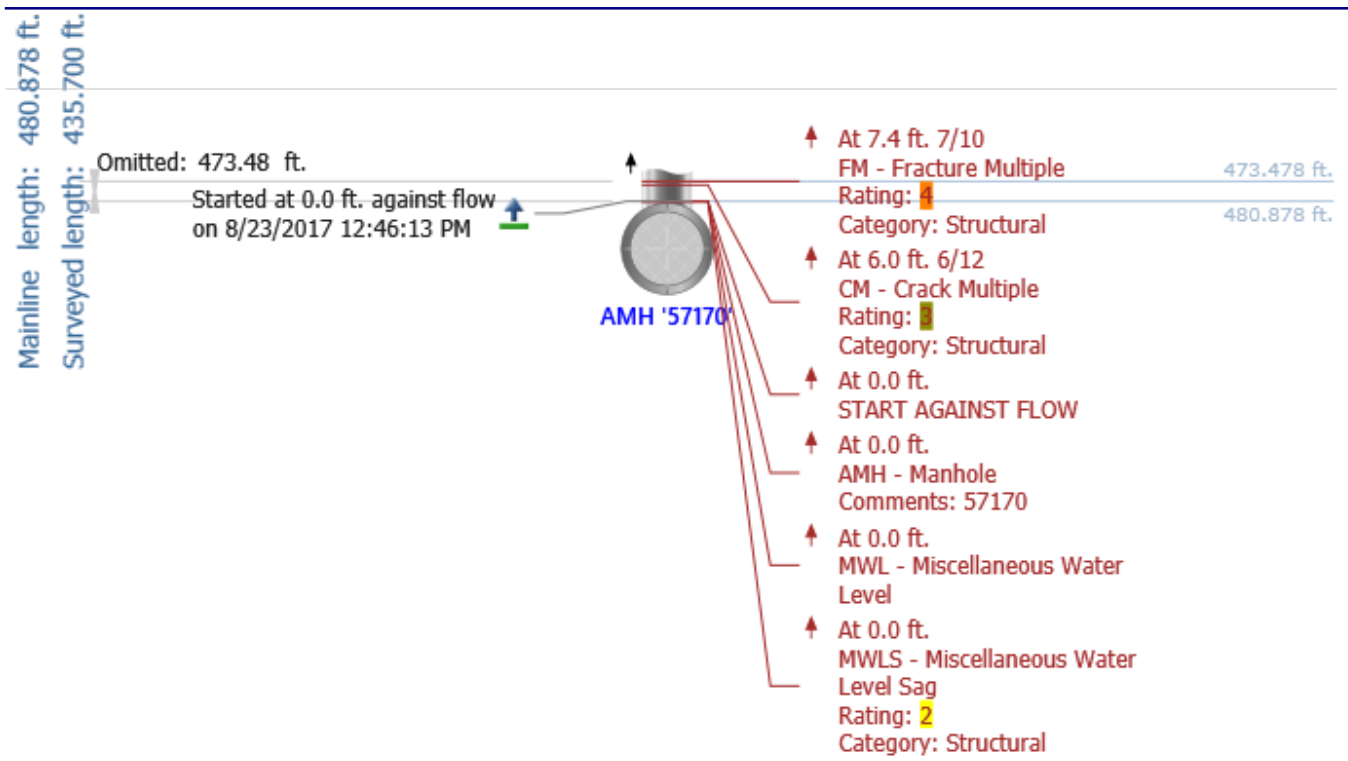
Direction:

**Urbana 2016 Storm Sewer 2423  
Cleaning & TV Project**

**8/23/2017 12:46 PM**

**U**

Weather:

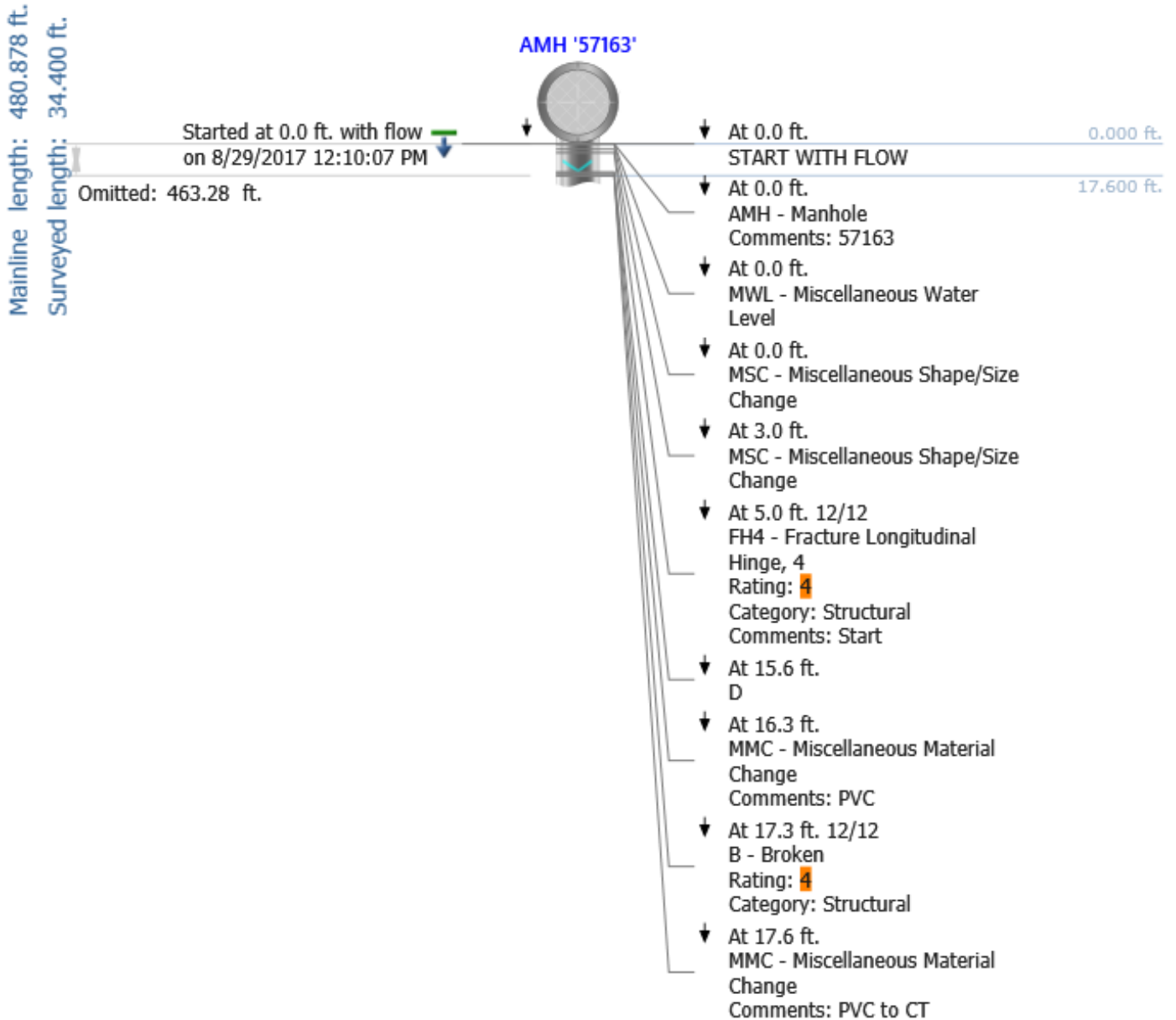




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	<b>2423</b>	<b>Urbana</b>	<b>W University From Orchard to McCullough</b>
Start date/time:	Direction:	Weather:	Location code:
<b>8/29/2017 12:10 PM</b>	<b>D</b>		<b>A</b>
Shape:	Material:	Height:	Width:
<b>C</b>	<b>CT</b>	<b>8 in.</b>	



Project name: Mainline ID:

Start date/time:

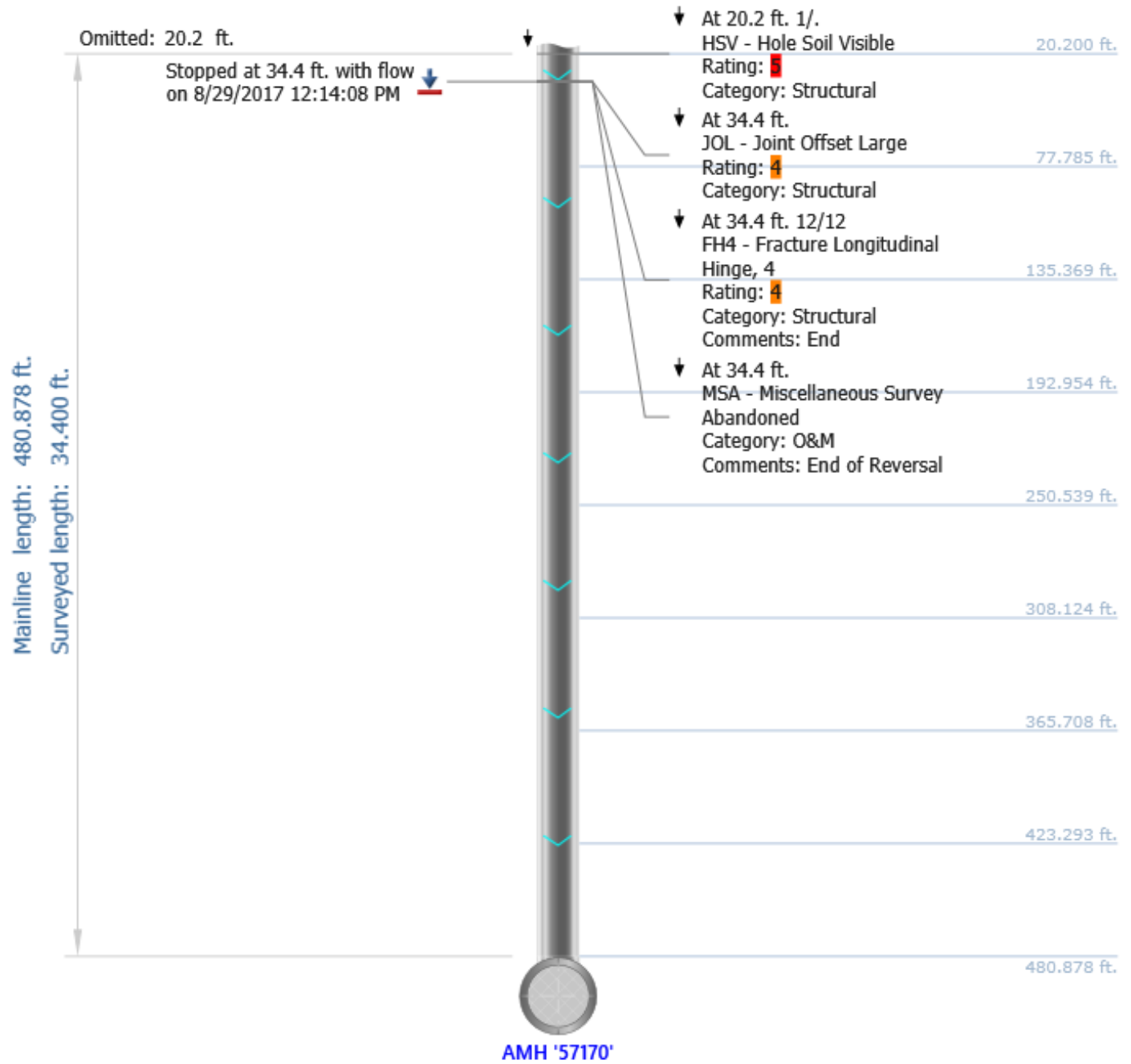
Direction:

**Urbana 2016 Storm Sewer 2423  
Cleaning & TV Project**

**8/29/2017 12:10 PM**

**D**

Weather:

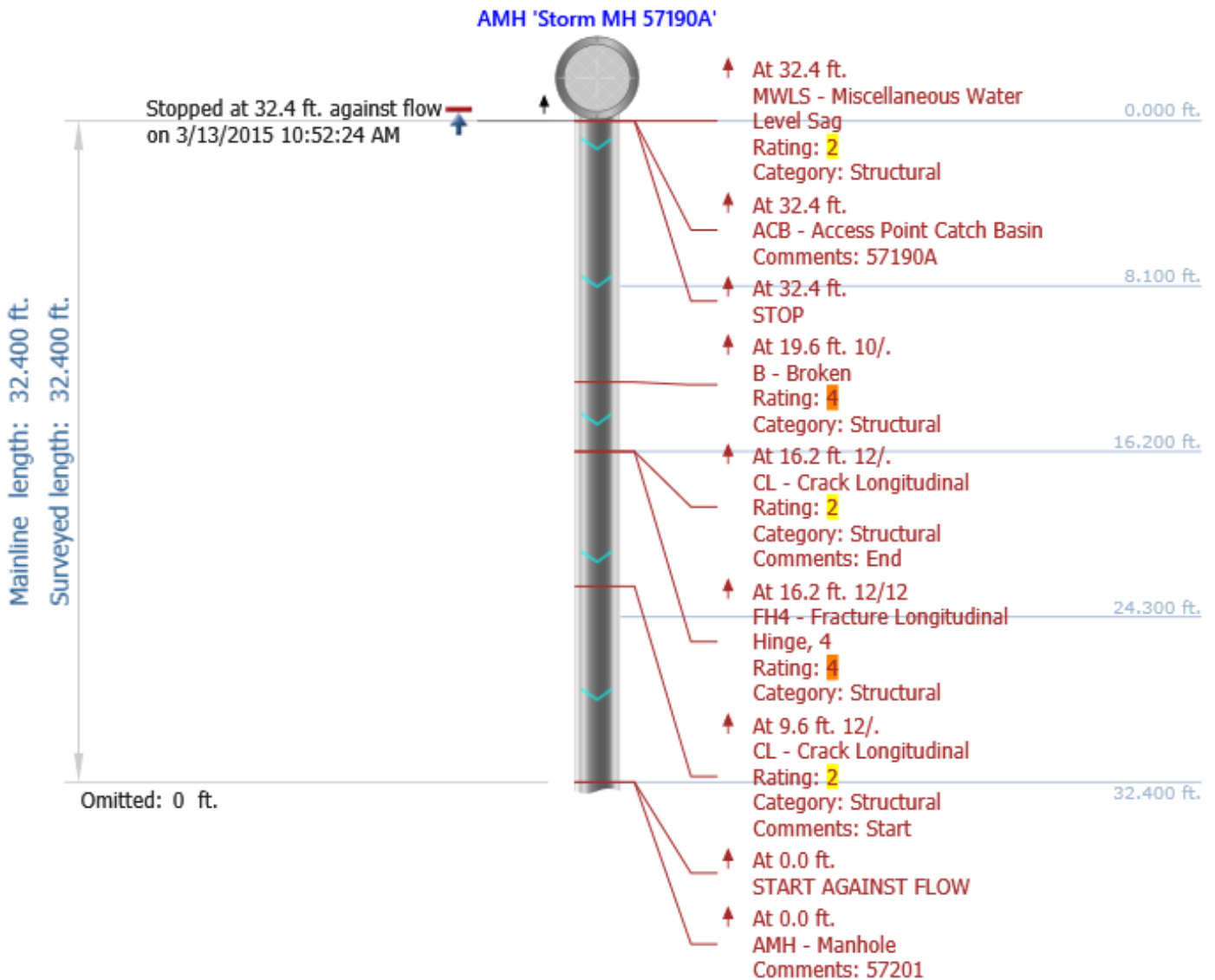




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2435</b>	City: <b>Urbana</b>	Street: <b>Clark St &amp; N Busey</b>
Start date/time: <b>3/13/2015 10:48 AM</b>	Direction: <b>U</b>	Weather: <b>5</b>	Location code: <b>D</b>
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>24 in.</b>	Width:



Project name:

Mainline ID: **2435**

Start date/time:

Direction:

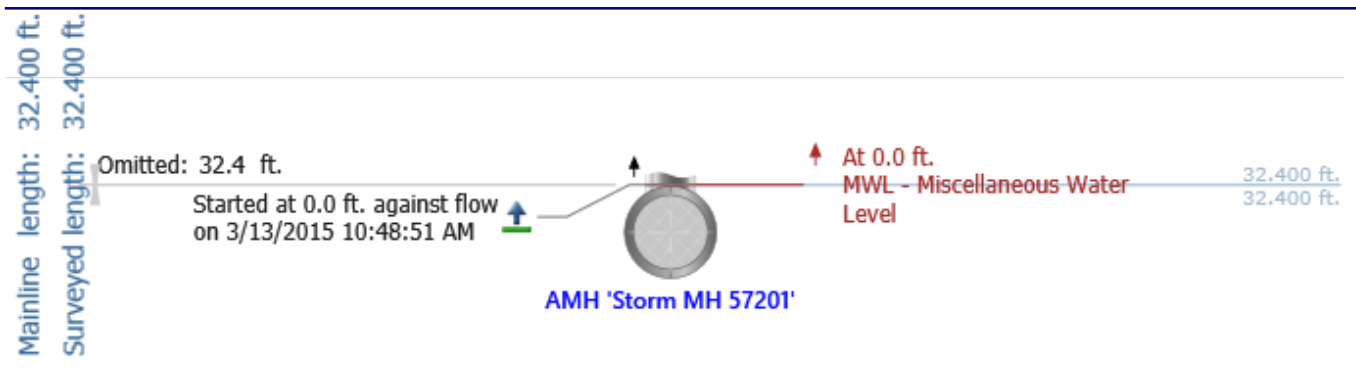
**Urbana 2014 Storm Sewer  
Cleaning & TV Project**

**3/13/2015 10:48 AM**

**U**

Weather:

**5**



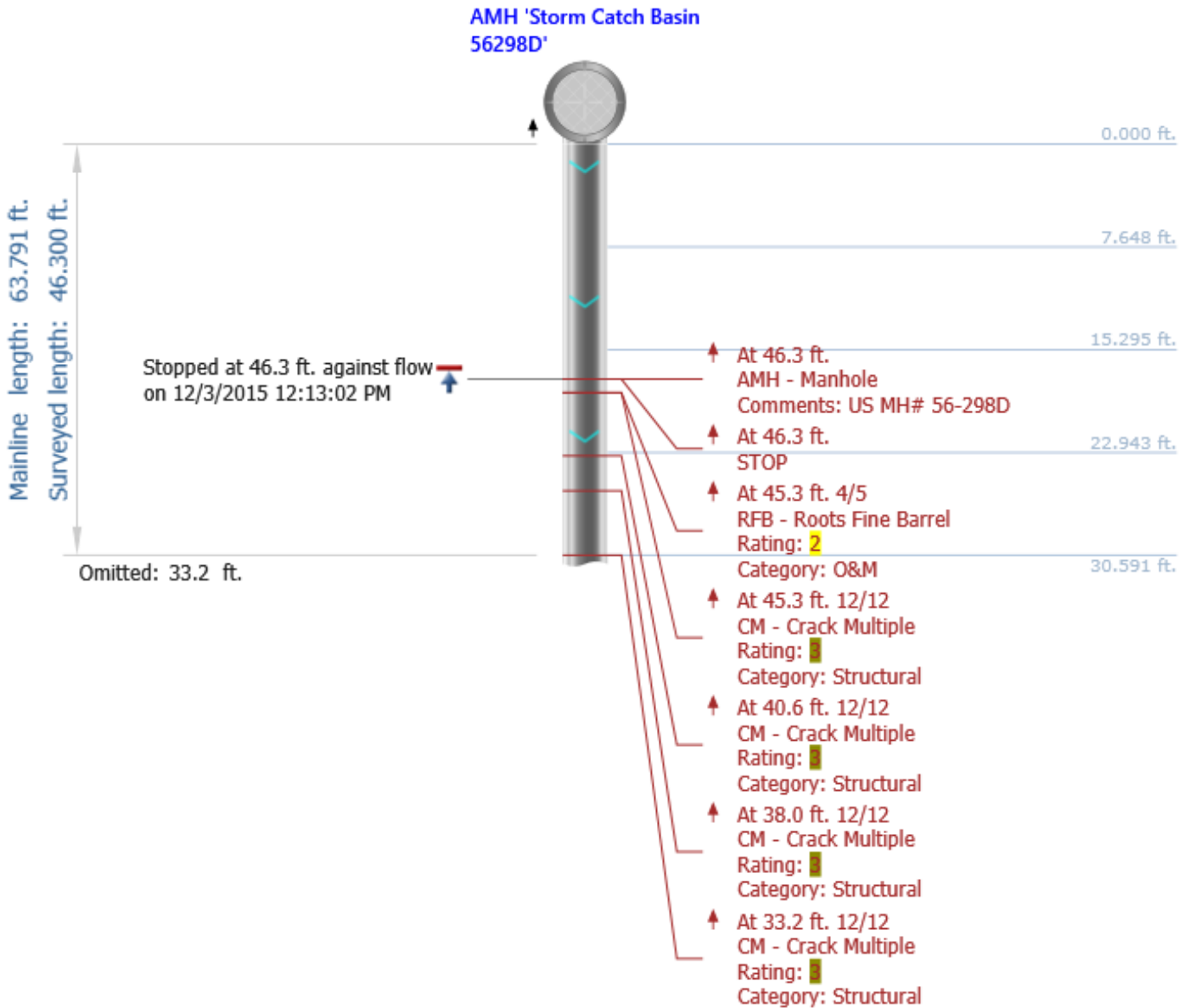




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2483</b>	City: <b>Urbana</b>	Street:
Start date/time: <b>12/3/2015 11:04 AM</b>	Direction: <b>U</b>	Weather: <b>1</b>	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID: 2483

Start date/time:

Direction:

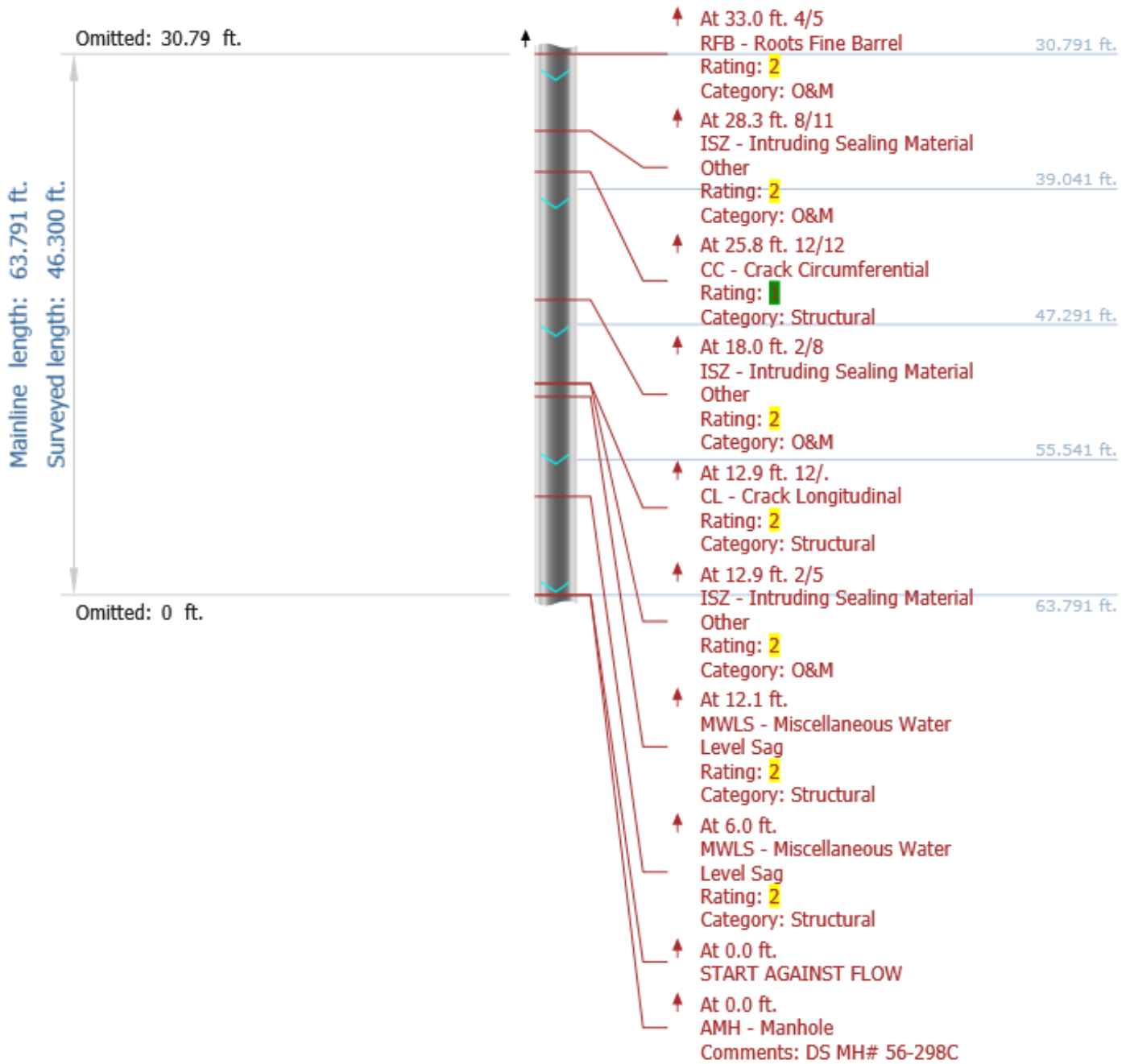
**Urbana 2015 Storm Sewer Cleaning & TV Project**

12/3/2015 11:04 AM

U

Weather:

1



Project name:

Mainline ID: **2483**

Start date/time:

Direction:

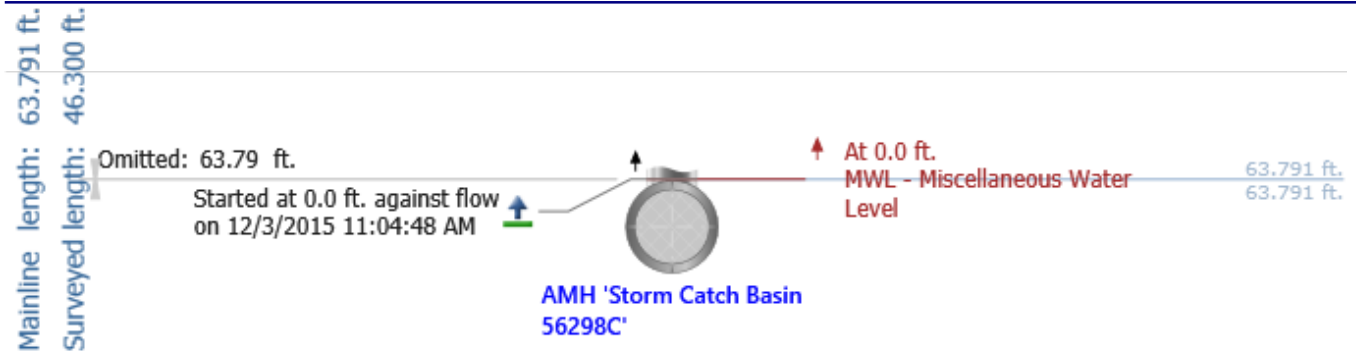
**Urbana 2015 Storm Sewer  
Cleaning & TV Project**

**12/3/2015 11:04 AM**

**U**

Weather:

**1**

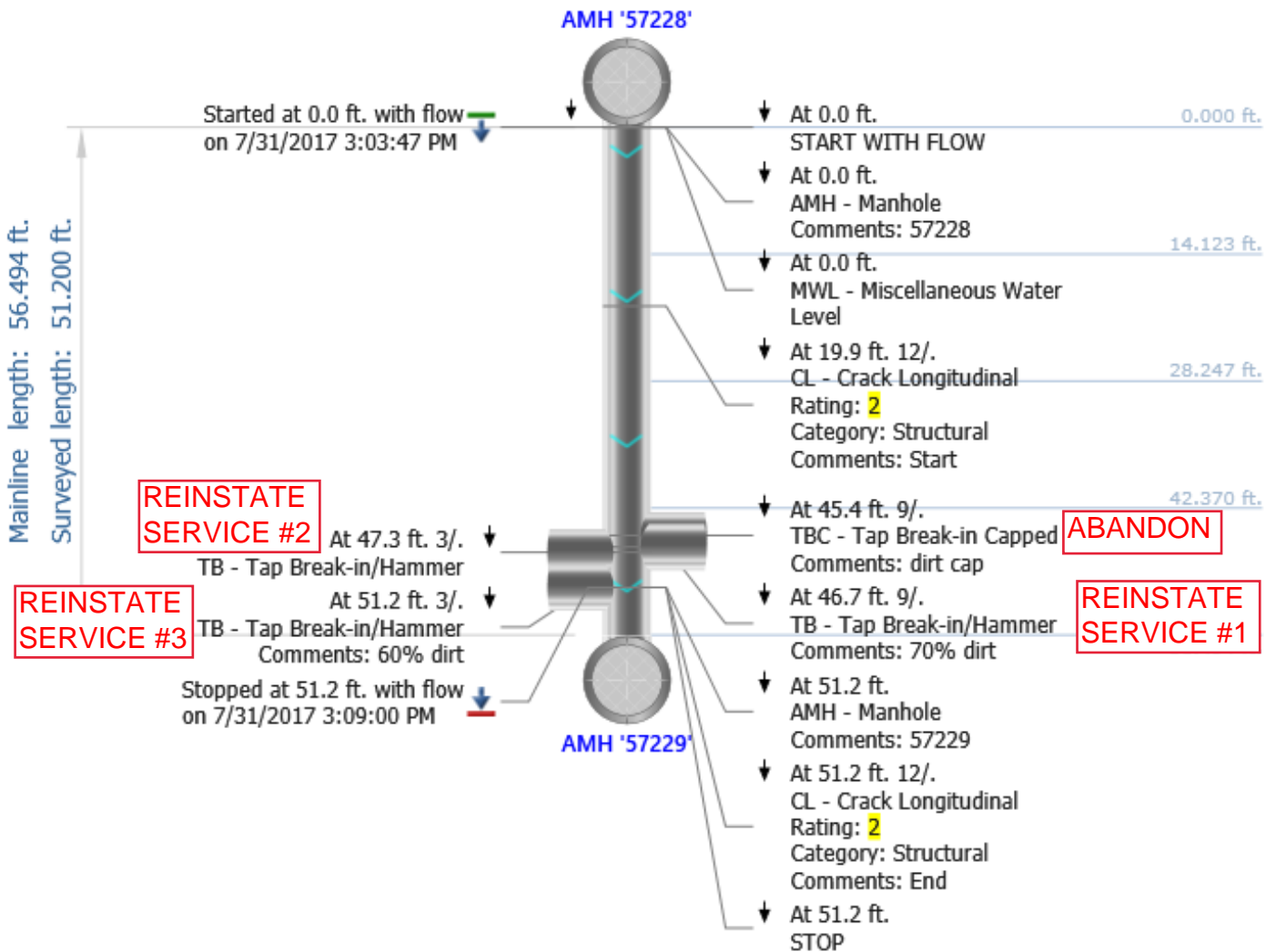




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2560</b>	City: <b>Urbana</b>	Street: <b>W Main &amp; Orchard</b>
Start date/time: <b>7/31/2017 3:03 PM</b>	Direction: <b>D</b>	Weather:	Location code: <b>C</b>
Shape: <b>C</b>	Material: <b>BR</b>	Height: <b>30 in.</b>	Width:

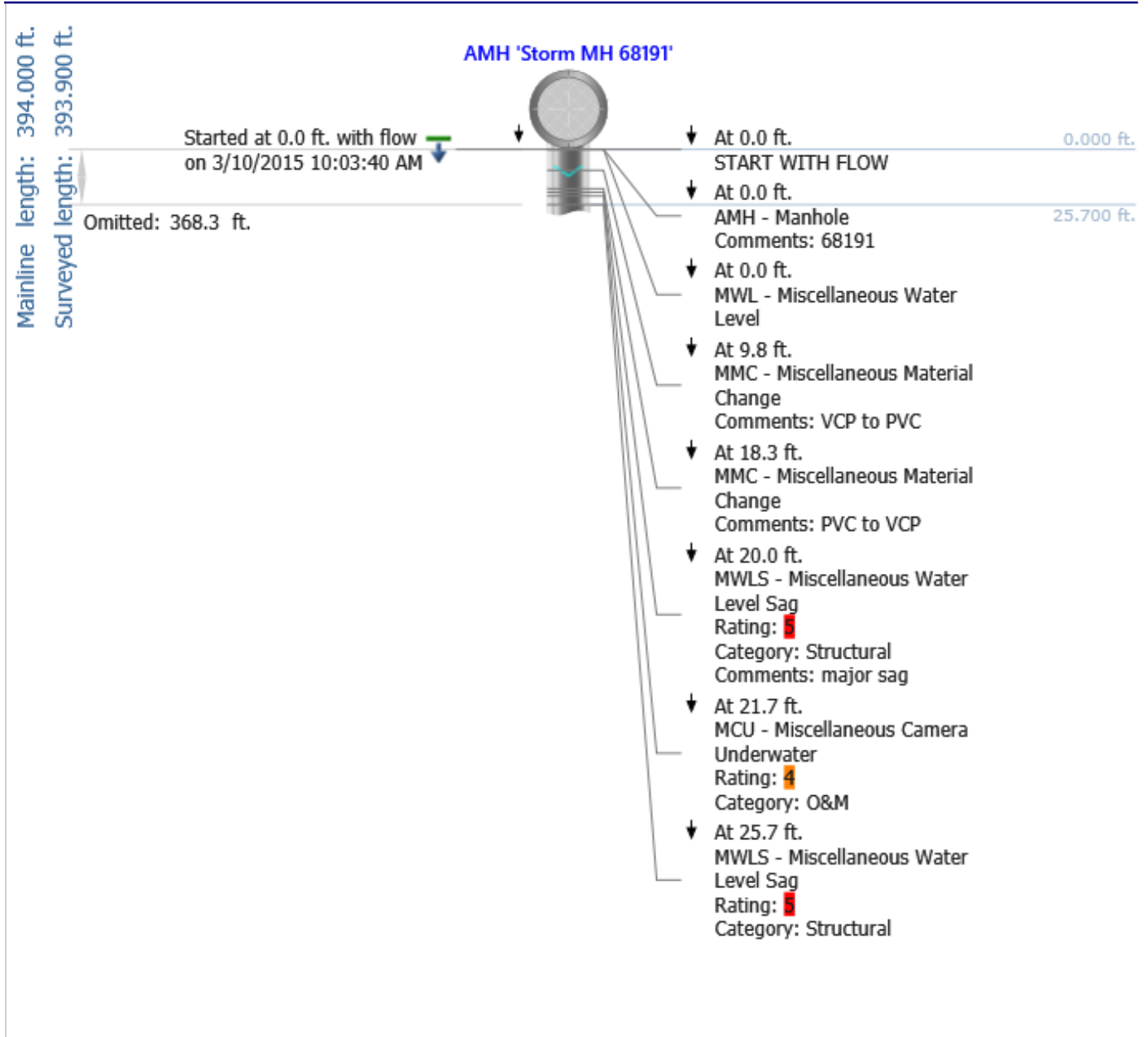




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run and Map

Project name:	Mainline ID: <b>2644</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>HIGH-McCULLOUGH to S Orchard</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>3/10/2015 10:03 AM</b>	Material:	<b>5</b>	<b>D</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	



Project name: Mainline ID: 2644

Start date/time:

Direction:

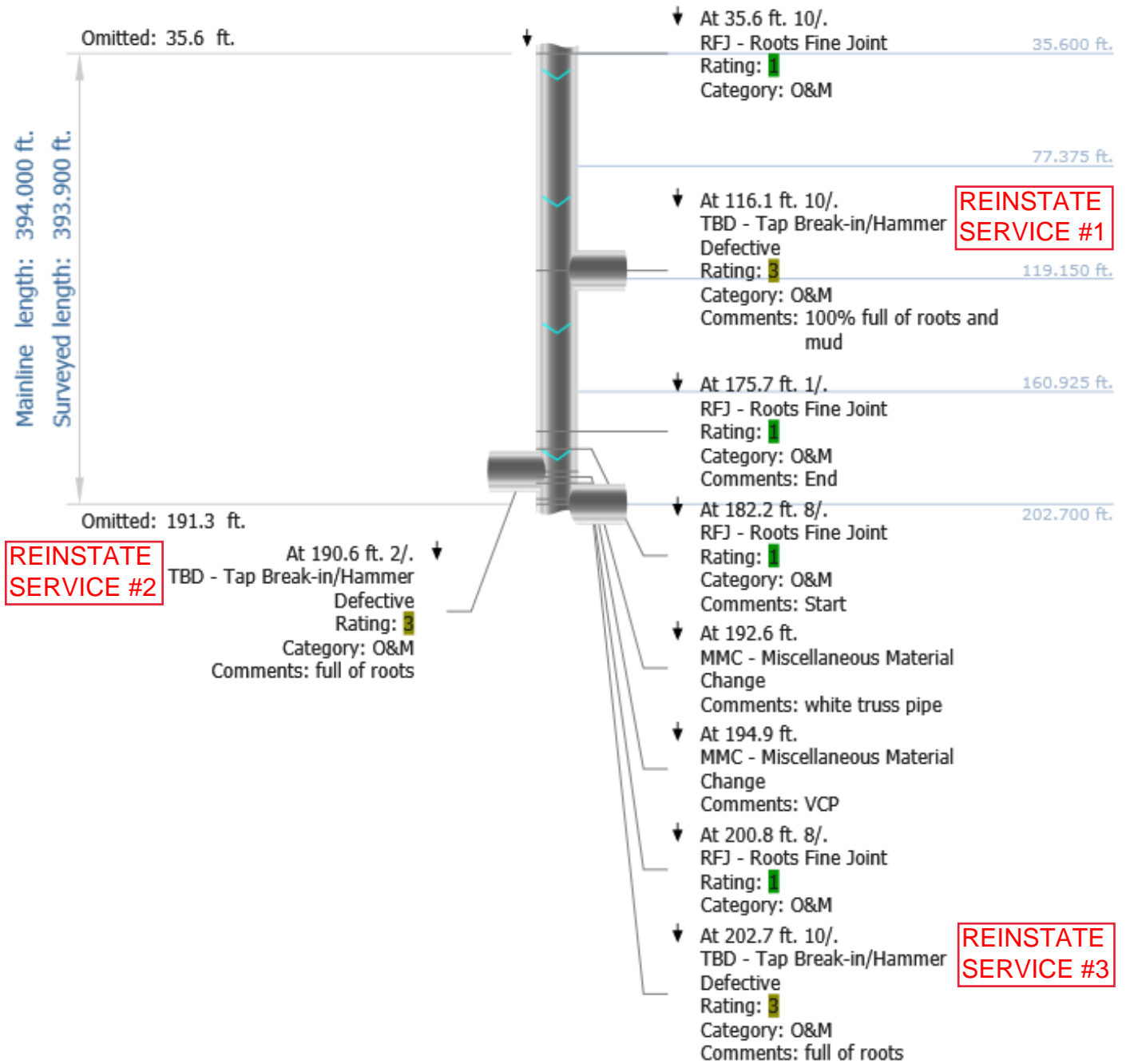
Urbana 2014 Storm Sewer Cleaning & TV Project

3/10/2015 10:03 AM

D

Weather:

5



Project name: Mainline ID: 2644

Start date/time:

Direction:

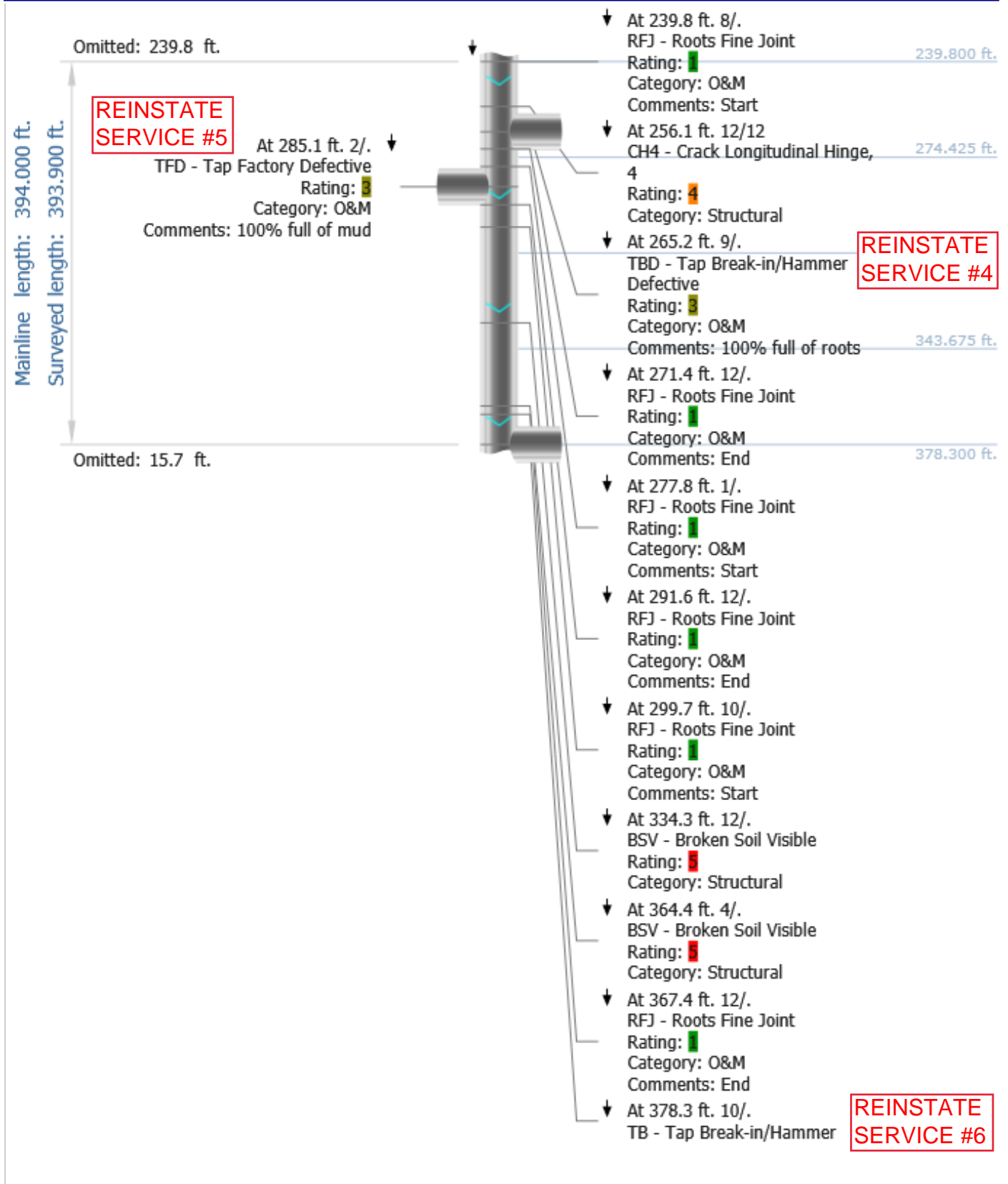
Urbana 2014 Storm Sewer Cleaning & TV Project

3/10/2015 10:03 AM

D

Weather:

5



Project name:

Mainline ID: **2644**

Start date/time:

Direction:

**Urbana 2014 Storm Sewer  
Cleaning & TV Project**

**3/10/2015 10:03 AM**

**D**

Weather:

**5**

Mainline length: 394.000 ft.  
Surveyed length: 393.900 ft.

Omitted: 378.3 ft.



AMH 'Storm MH 68189'

- At 378.3 ft. 10/.
- BSV - Broken Soil Visible
- Rating: █
- Category: Structural
- Comments: by SC
- At 393.9 ft.
- ACB - Access Point Catch Basin
- Comments: 68189

378.300 ft.

394.000 ft.

**Some observations have distance greater than the pipe length**



Project name: Mainline ID: **2644**

Start date/time:

Direction:

**Urbana 2014 Storm Sewer  
Cleaning & TV Project**

**3/10/2015 10:03 AM**

**D**

Weather:

**5**

Stopped at 394.1 ft. with flow  
on 3/10/2015 11:48:44 AM



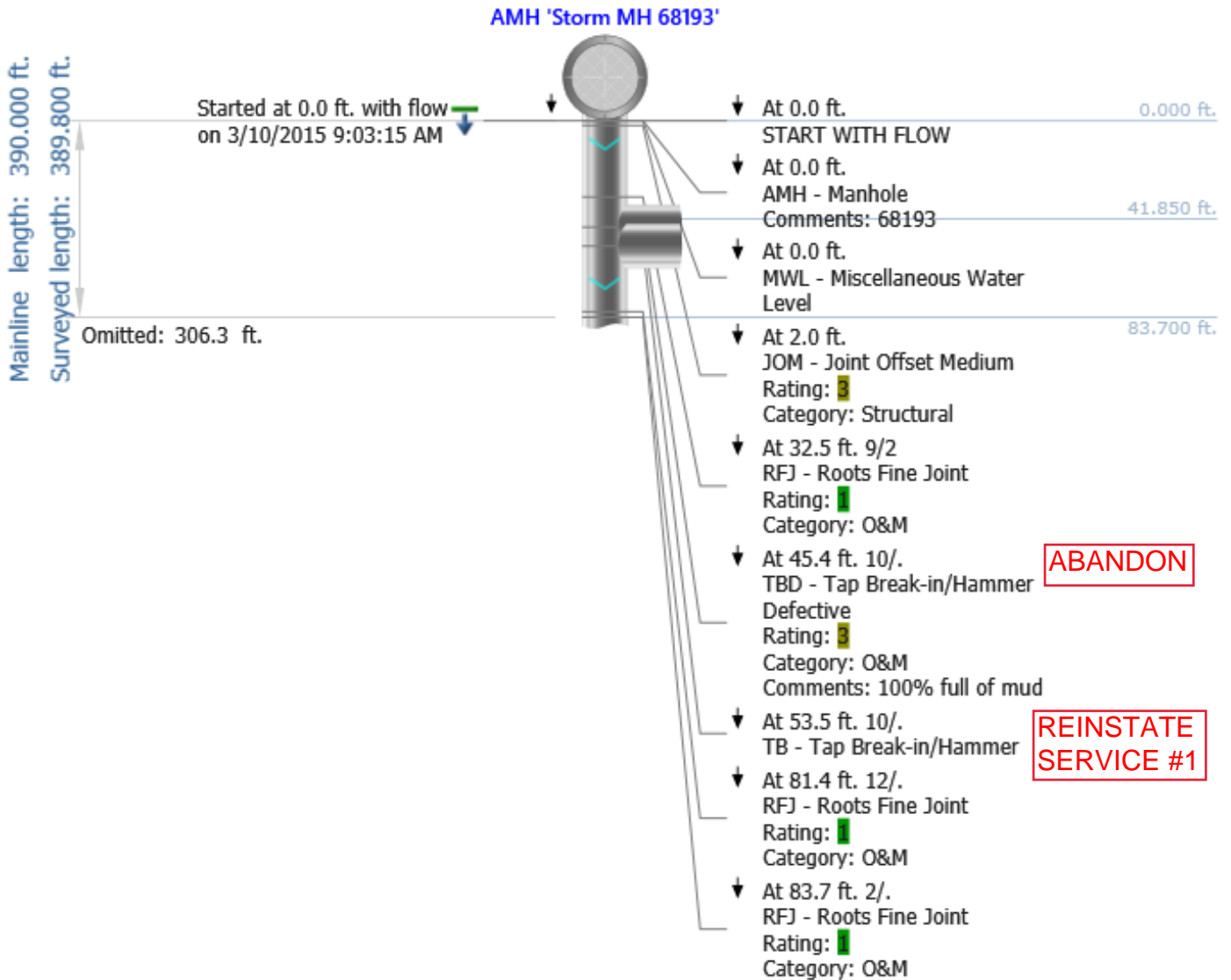
At 394.1 ft.  
STOP



CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2645</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>W High St from Birch to McCullough</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>3/10/2015 9:03 AM</b>	Material:	<b>5</b>	<b>C</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	



Project name:

Mainline ID: 2645

Start date/time:

Direction:

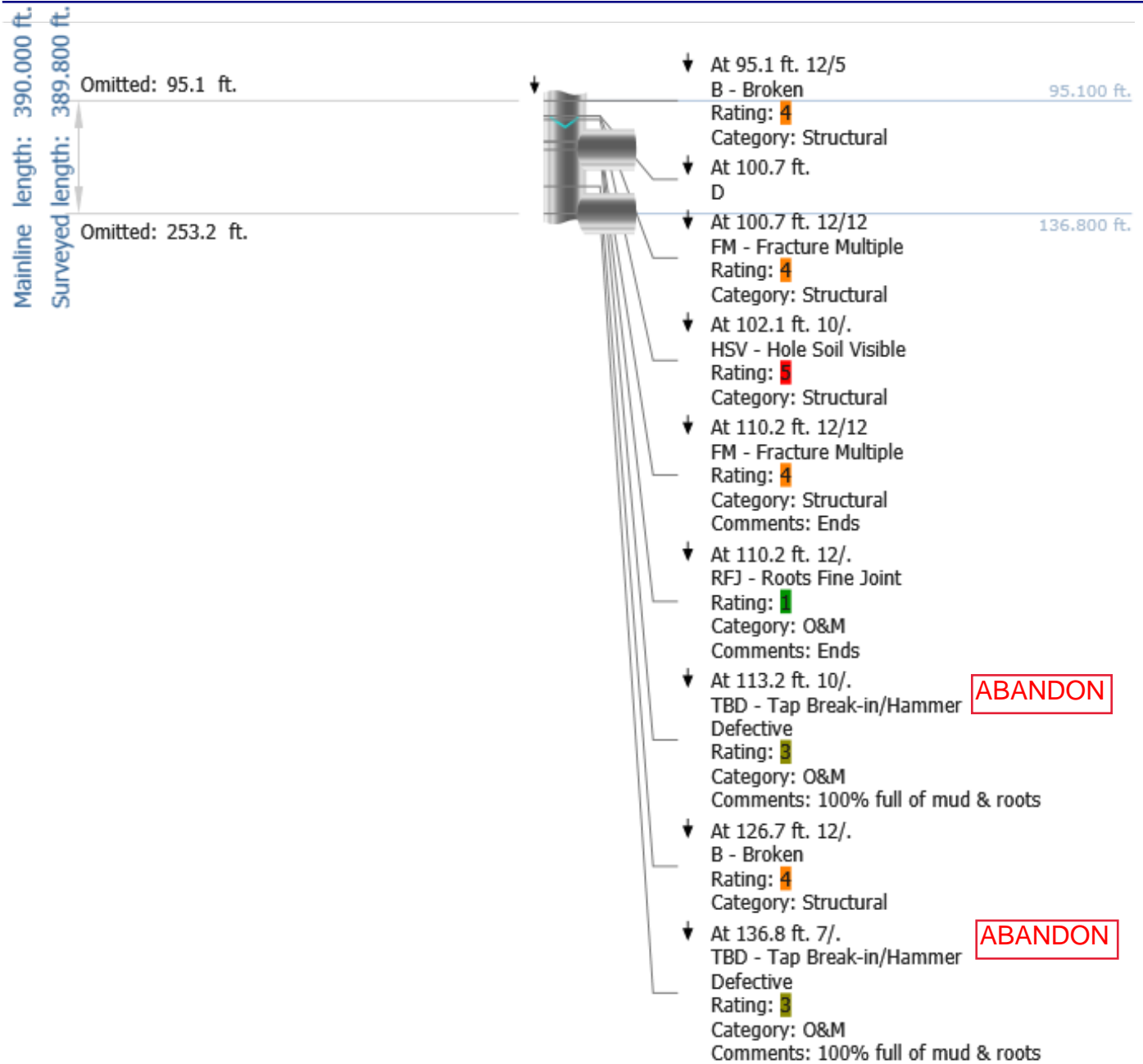
**Urbana 2014 Storm Sewer  
Cleaning & TV Project**

**3/10/2015 9:03 AM**

**D**

Weather:

**5**



Project name: Mainline ID: 2645

Start date/time:

Direction:

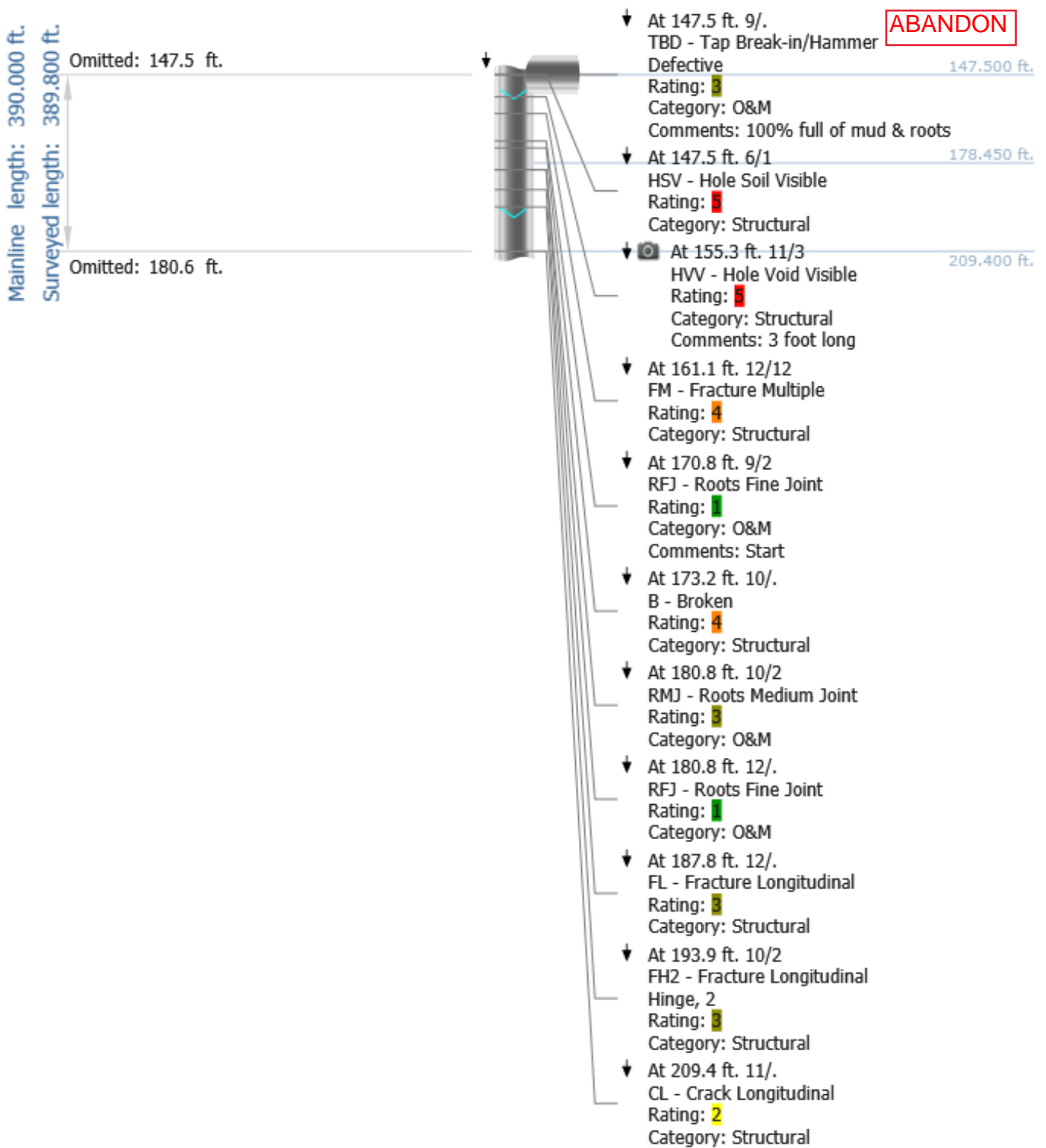
Urbana 2014 Storm Sewer Cleaning & TV Project

3/10/2015 9:03 AM

D

Weather:

5



Project name:

Mainline ID: 2645

Start date/time:

Direction:

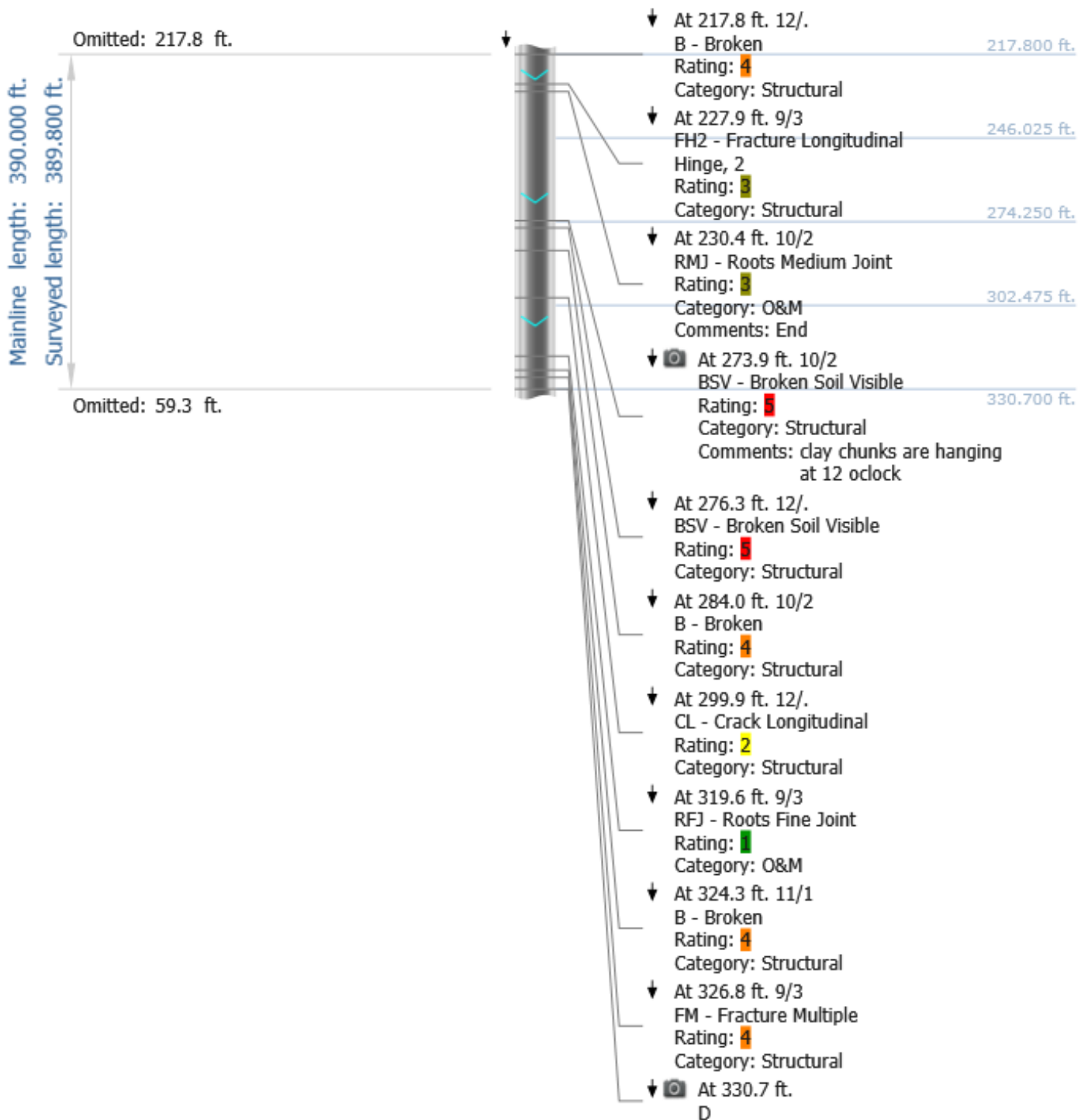
**Urbana 2014 Storm Sewer Cleaning & TV Project**

**3/10/2015 9:03 AM**

**D**

Weather:

**5**



Project name: Mainline ID: 2645

Start date/time:

Direction:

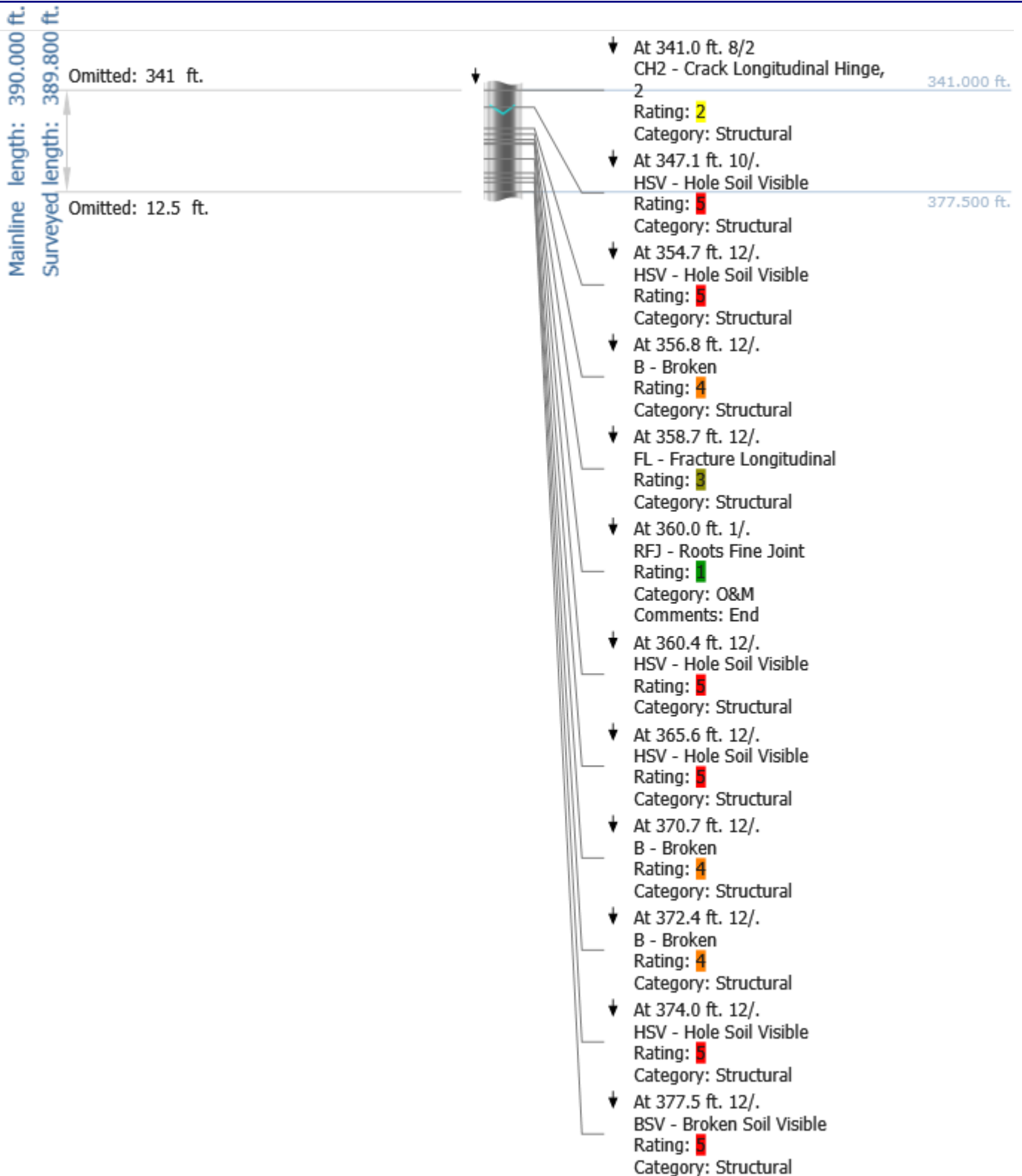
**Urbana 2014 Storm Sewer Cleaning & TV Project**

3/10/2015 9:03 AM

D

Weather:

5



Project name: Mainline ID: 2645

Start date/time:

Direction:

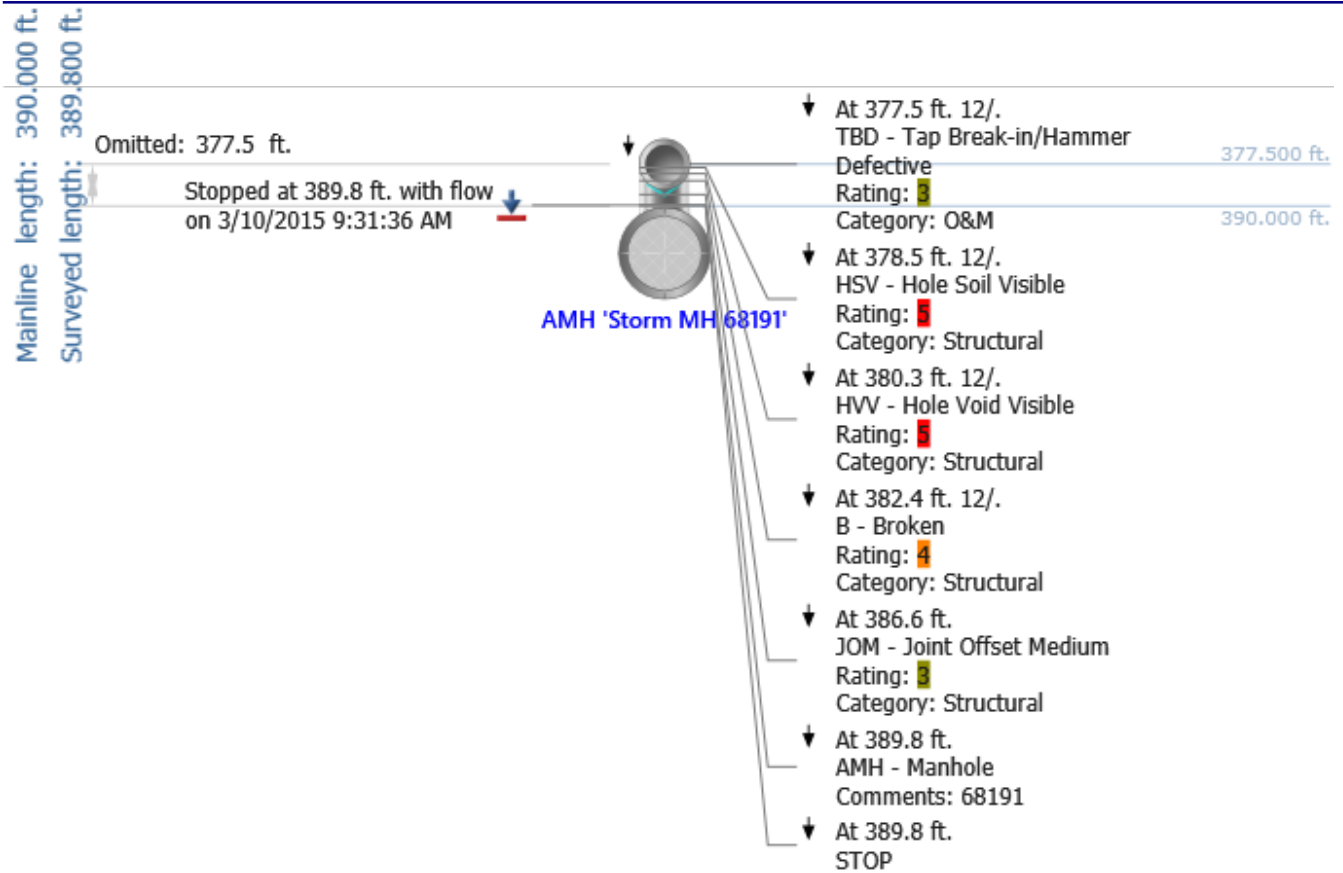
**Urbana 2014 Storm Sewer Cleaning & TV Project**

**3/10/2015 9:03 AM**

**D**

Weather:

**5**

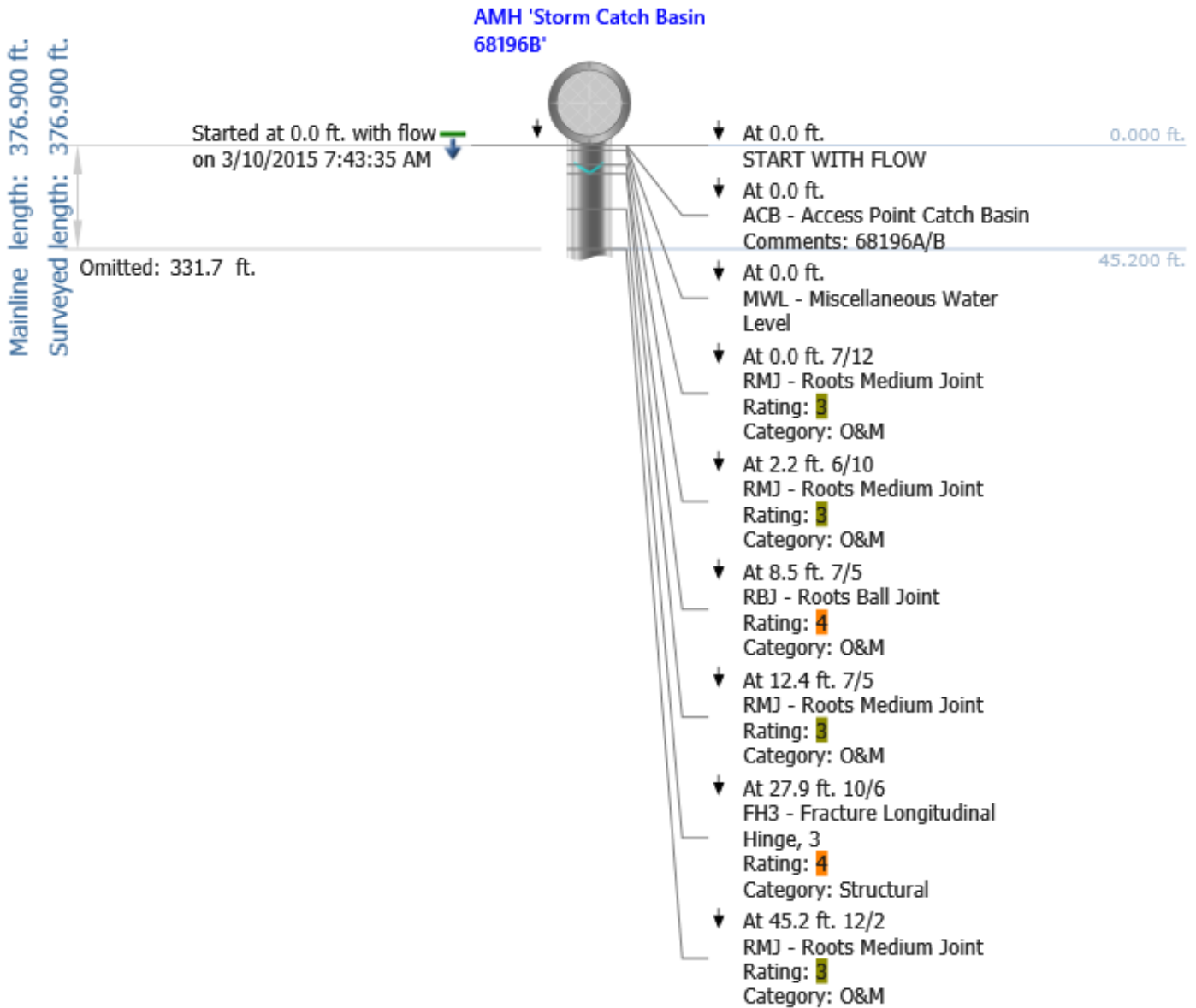




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2647</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>.W High St from Cedar to Birch</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>3/10/2015 7:43 AM</b>	Material:	<b>5</b>	<b>C</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	





Project name: Mainline ID: 2647

Start date/time:

Direction:

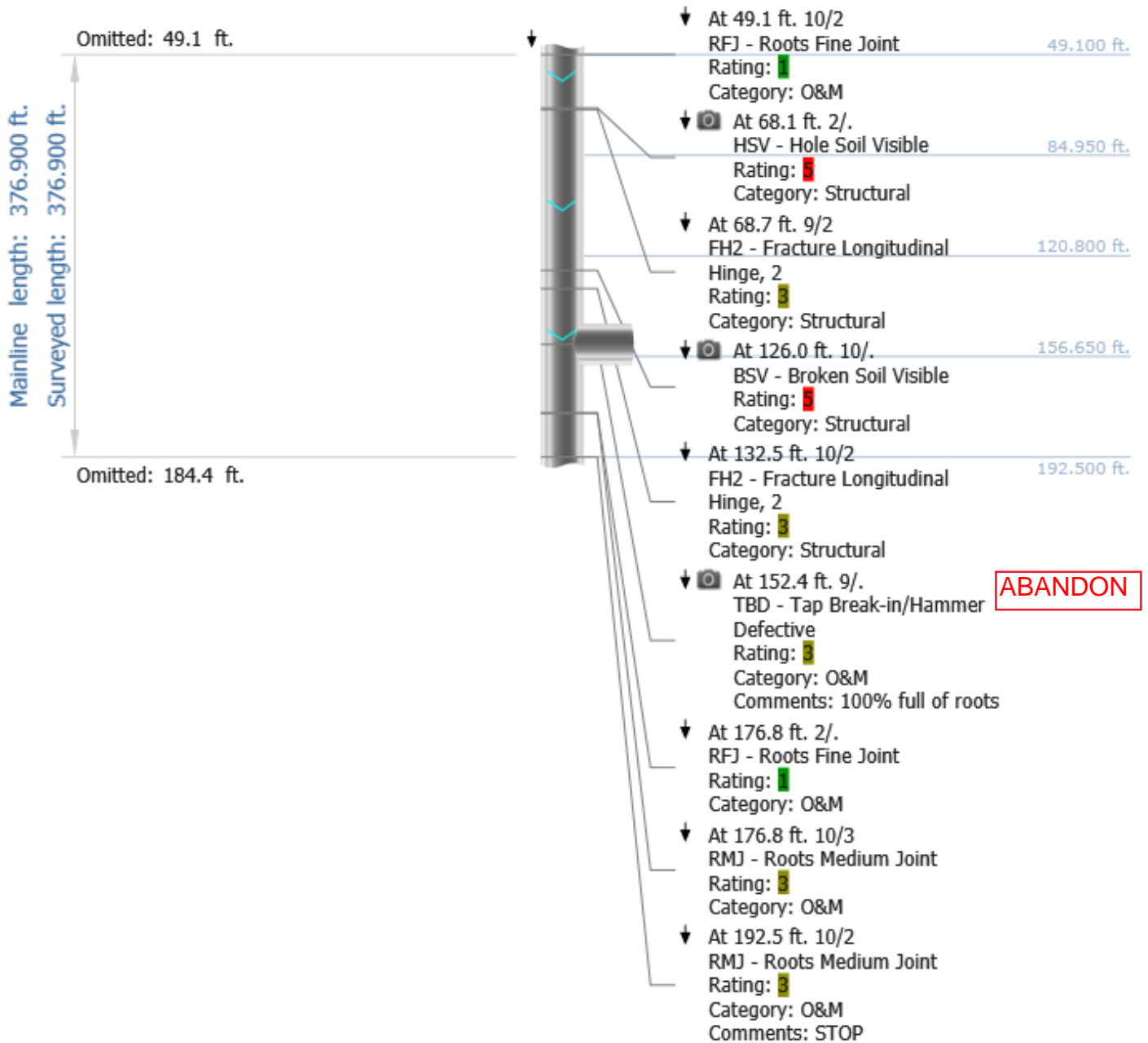
**Urbana 2014 Storm Sewer Cleaning & TV Project**

3/10/2015 7:43 AM

D

Weather:

5



ABANDON

Project name: Mainline ID: 2647

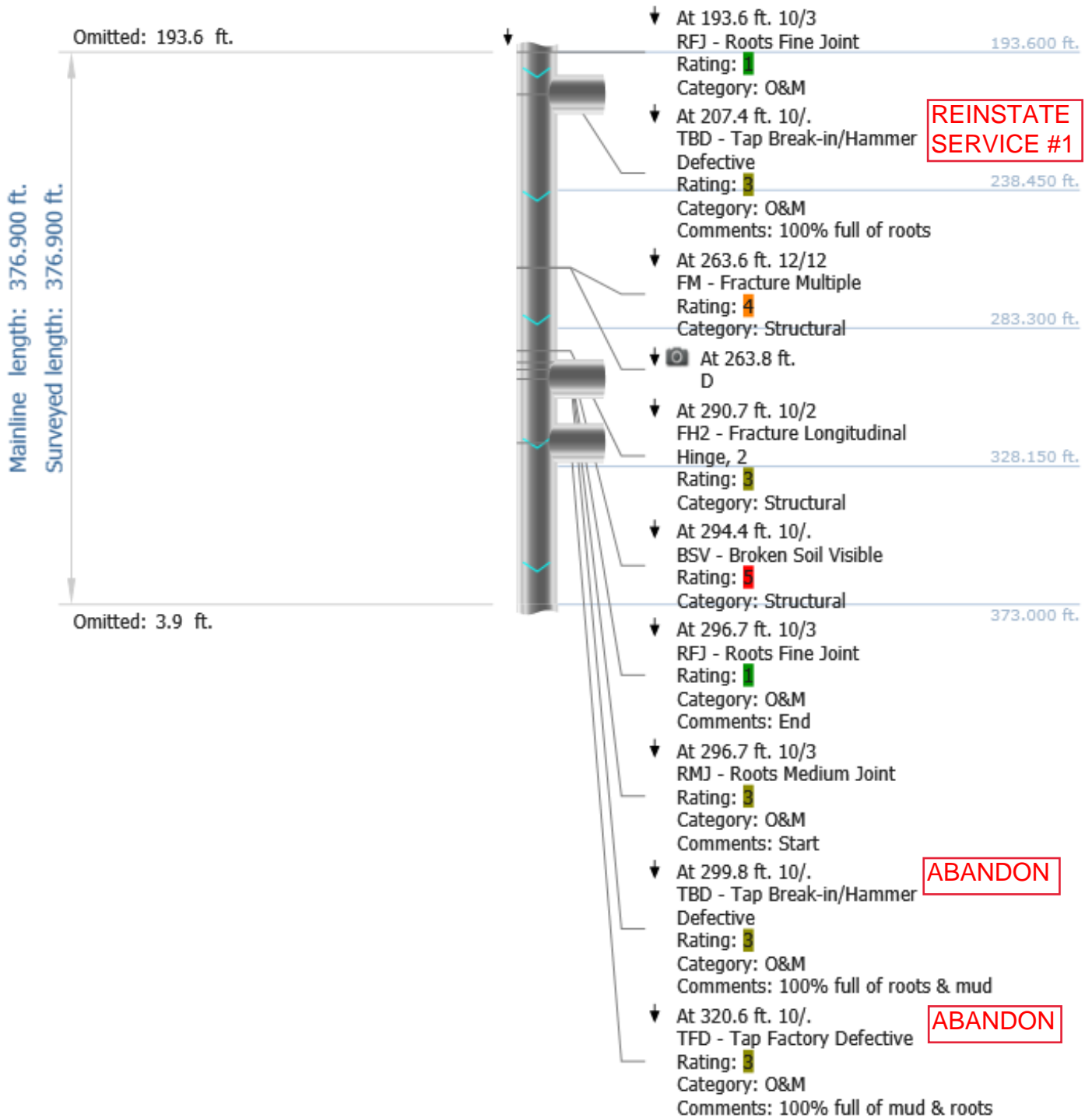
Start date/time: 3/10/2015 7:43 AM

Direction: D

Urbana 2014 Storm Sewer Cleaning & TV Project

Weather:

5



Project name:

Mainline ID: **2647**

Start date/time:

Direction:

**Urbana 2014 Storm Sewer  
Cleaning & TV Project**

**3/10/2015 7:43 AM**

**D**

Weather:

**5**

Mainline length: 376.900 ft.  
Surveyed length: 376.900 ft.

Omitted: 373 ft.

Stopped at 376.9 ft. with flow  
on 3/10/2015 8:28:24 AM

AMH 'Storm MH 68193'

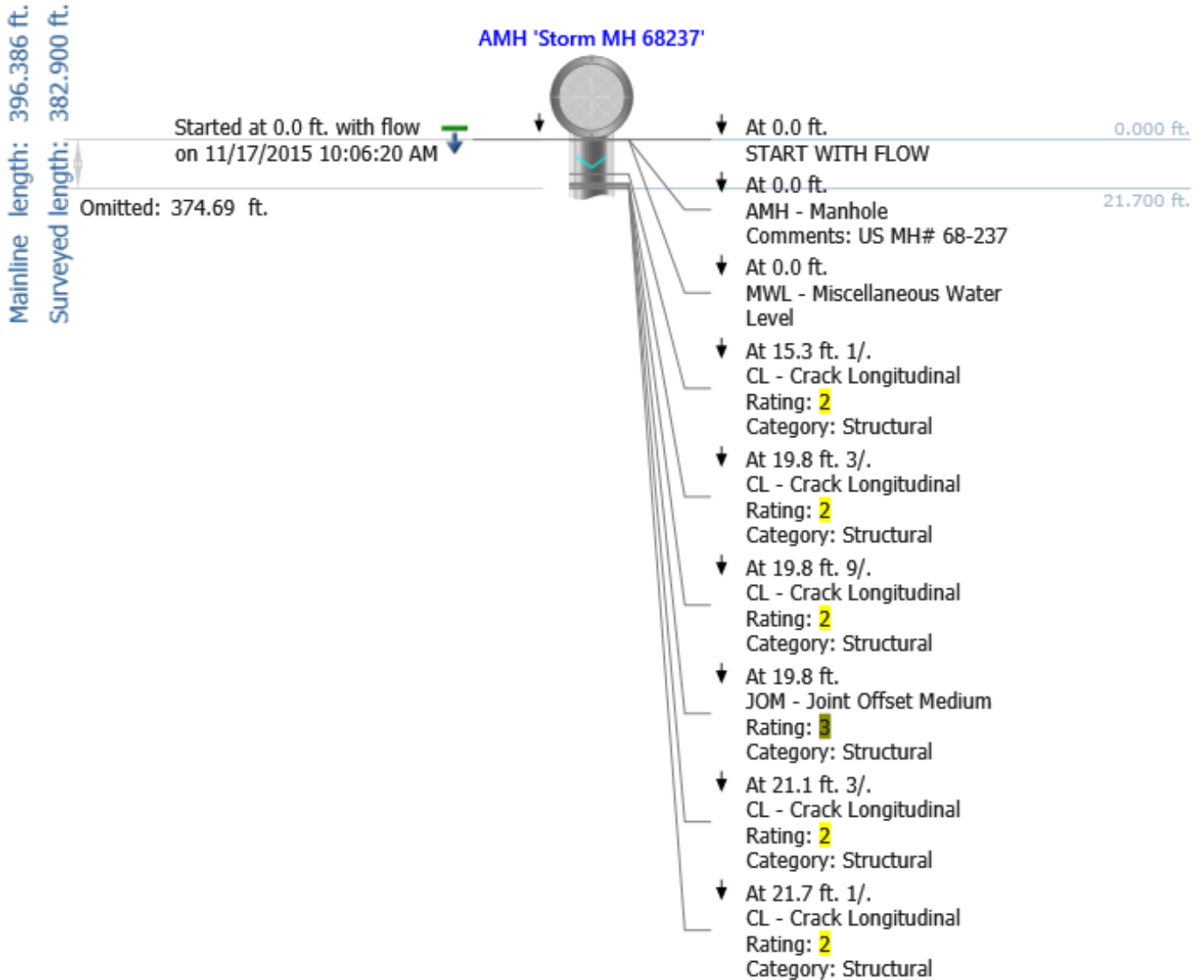
- ↓ At 373.0 ft.  
MMC - Miscellaneous Material 373.000 ft.  
Change 376.900 ft.  
Comments: VCP to White truss pipe
- ↓ At 373.0 ft. 10/3  
RMJ - Roots Medium Joint  
Rating: █  
Category: O&M  
Comments: End
- ↓ At 376.9 ft.  
AMH - Manhole  
Comments: 68193
- ↓ At 376.9 ft.  
STOP



CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2696</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>D</b>	Weather:	Location code:
<b>11/17/2015 10:06 AM</b>	Material:	<b>3</b>	
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	



Project name: Mainline ID: 2696

Start date/time:

Direction:

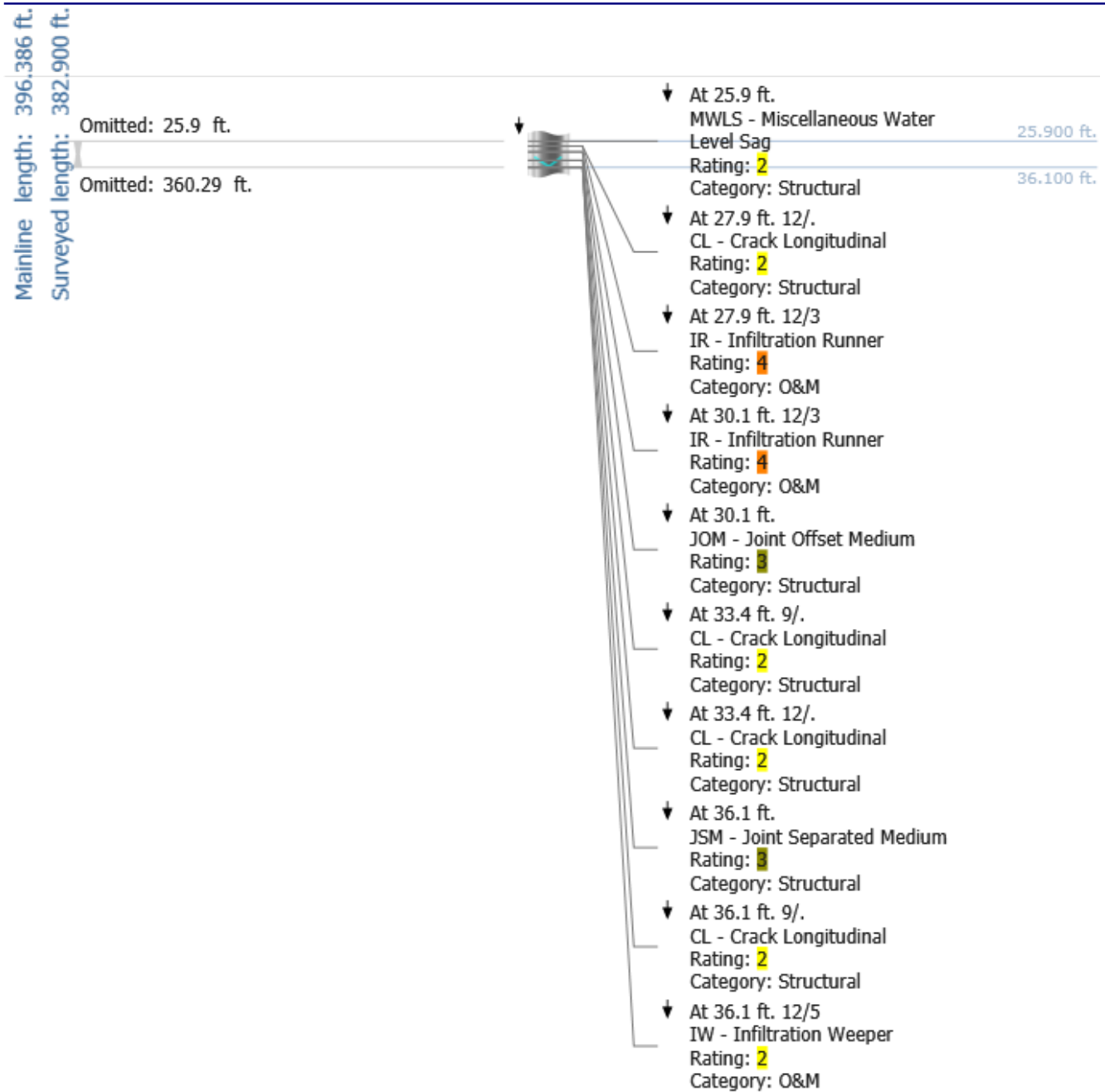
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

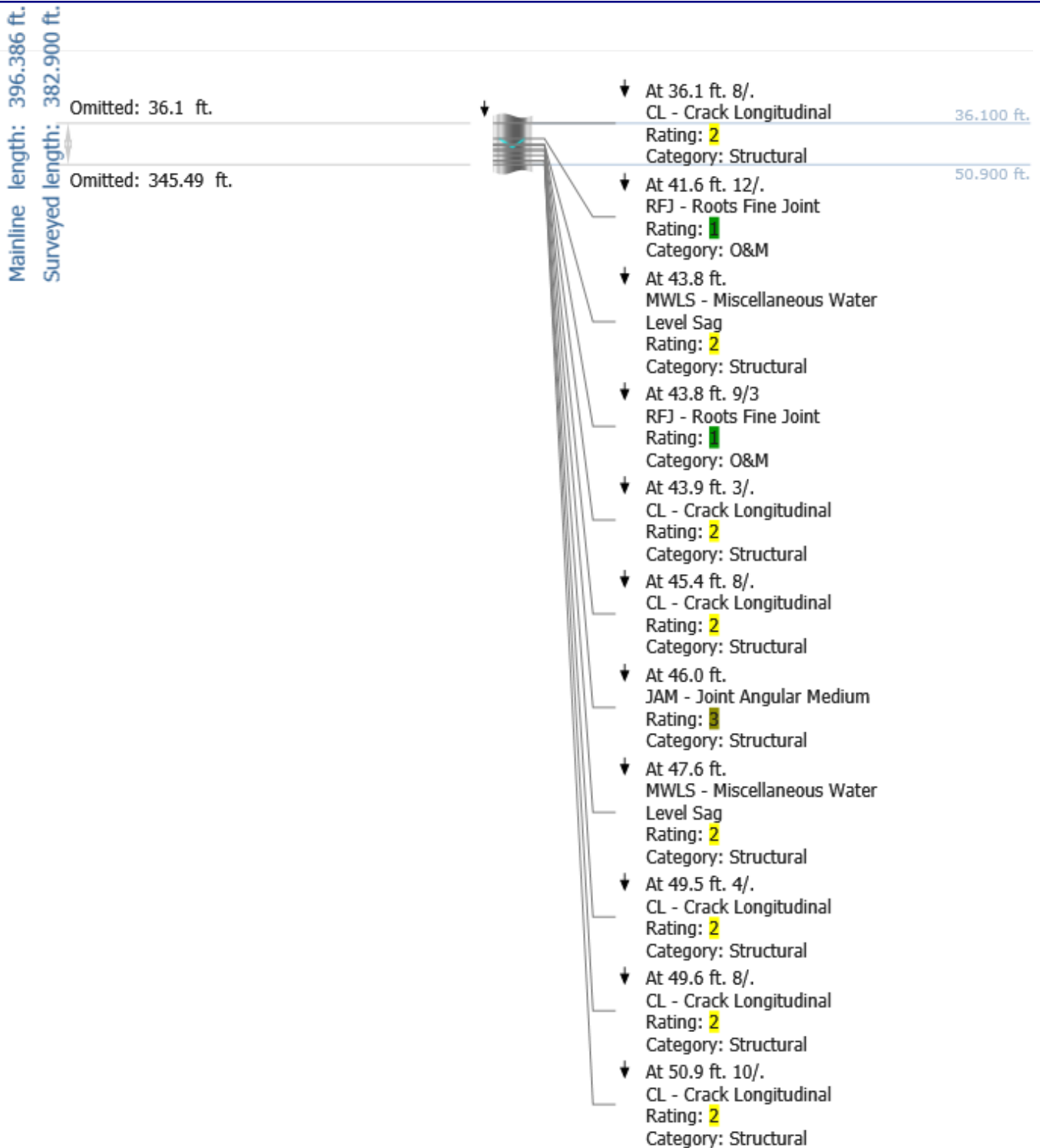
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

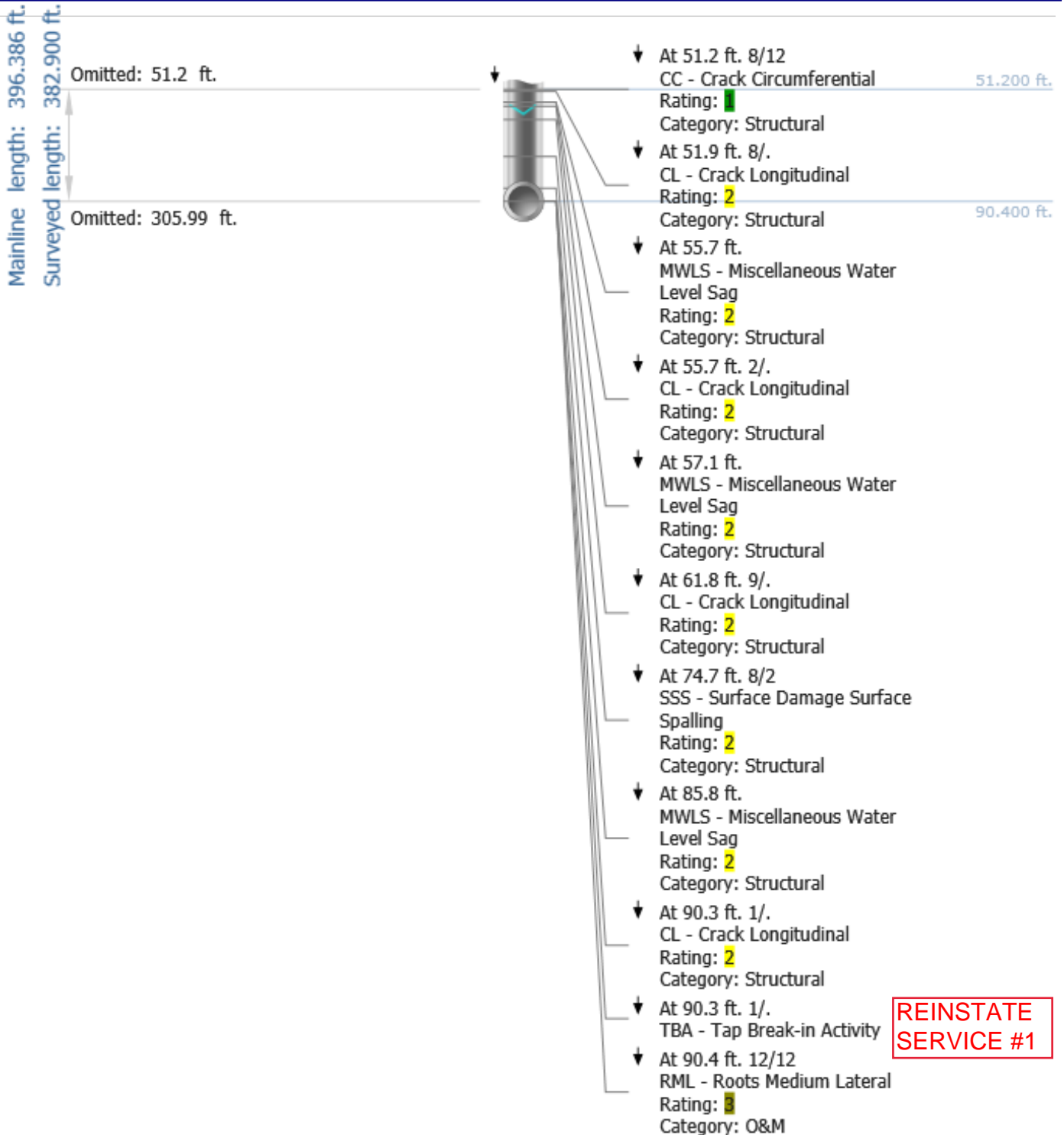
Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

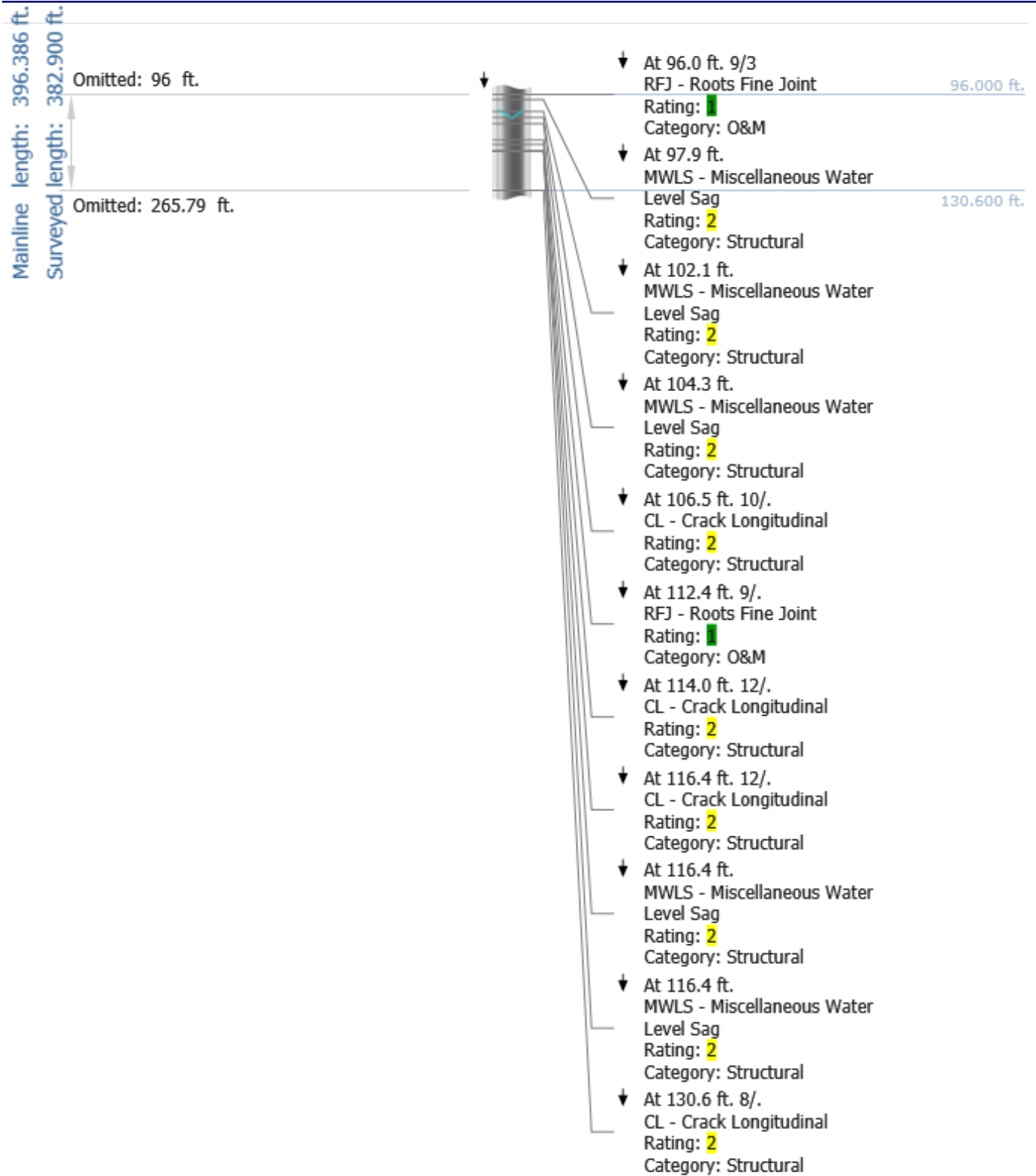
Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 10:06 AM

D

Weather:

3





Project name: Mainline ID: 2696

Start date/time:

Direction:

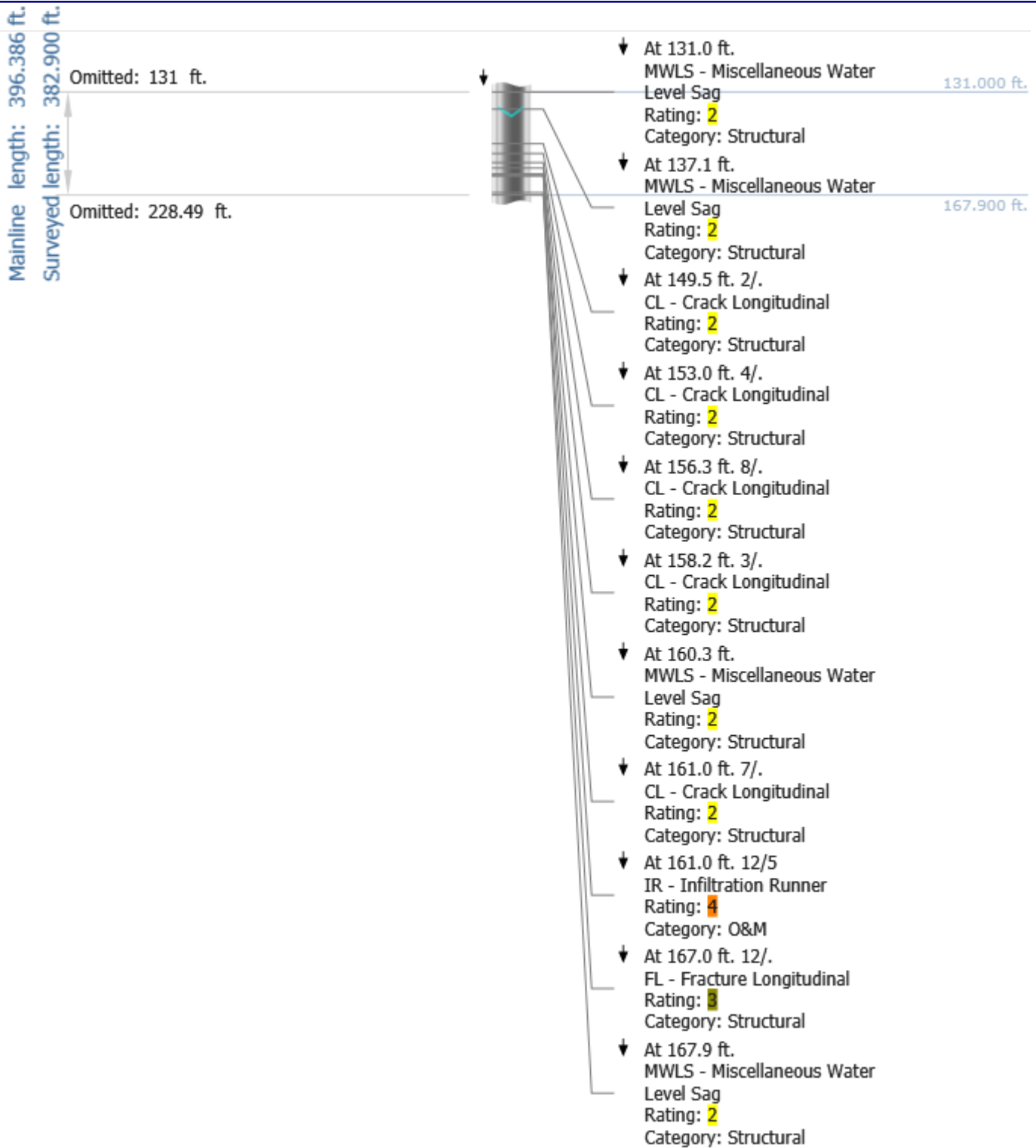
Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 10:06 AM

D

Weather:

3

Mainline length: 396.386 ft.  
Surveyed length: 382.900 ft.

Omitted: 167.9 ft.

Omitted: 218.99 ft.

At 167.9 ft. 6/.	CL - Crack Longitudinal	167.900 ft.
	Rating: 2	
	Category: Structural	177.400 ft.
At 169.1 ft. 12/.	ID - Infiltration Dripper	
	Rating: 3	
	Category: O&M	
At 171.1 ft. 12/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 171.2 ft. 12/5	IW - Infiltration Weeper	
	Rating: 2	
	Category: O&M	
At 171.2 ft. 2/3	RFJ - Roots Fine Joint	
	Rating: 1	
	Category: O&M	
At 173.2 ft. 1/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 173.2 ft. 1/.	RFJ - Roots Fine Joint	
	Rating: 1	
	Category: O&M	
At 173.2 ft.	MWLS - Miscellaneous Water Level Sag	
	Rating: 2	
	Category: Structural	
At 175.3 ft. 1/3	RFJ - Roots Fine Joint	
	Rating: 1	
	Category: O&M	
At 175.3 ft. 8/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 176.9 ft. 8/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 177.4 ft. 4/7	B - Broken	
	Rating: 4	
	Category: Structural	

Project name: Mainline ID: 2696

Start date/time:

Direction:

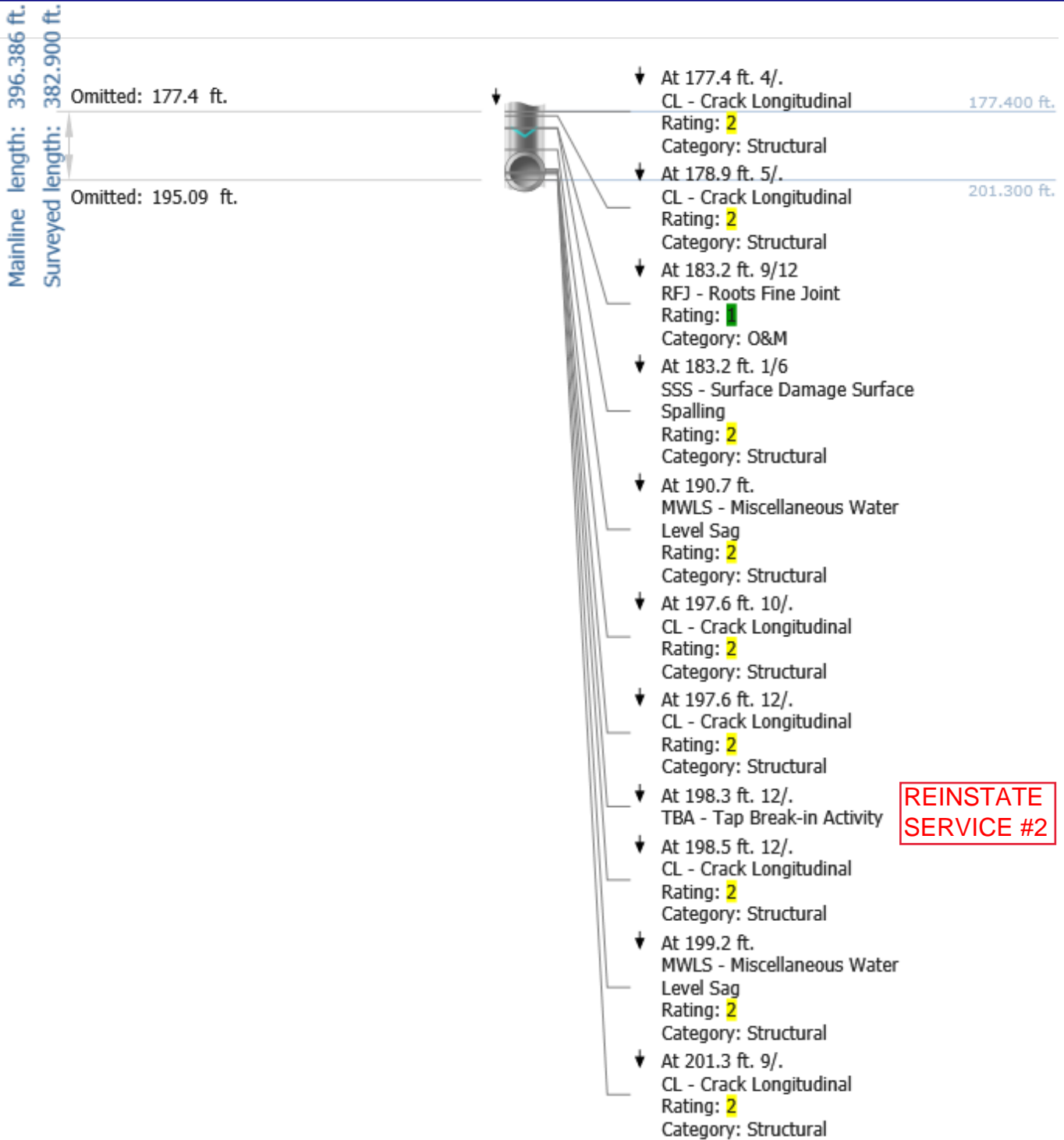
Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

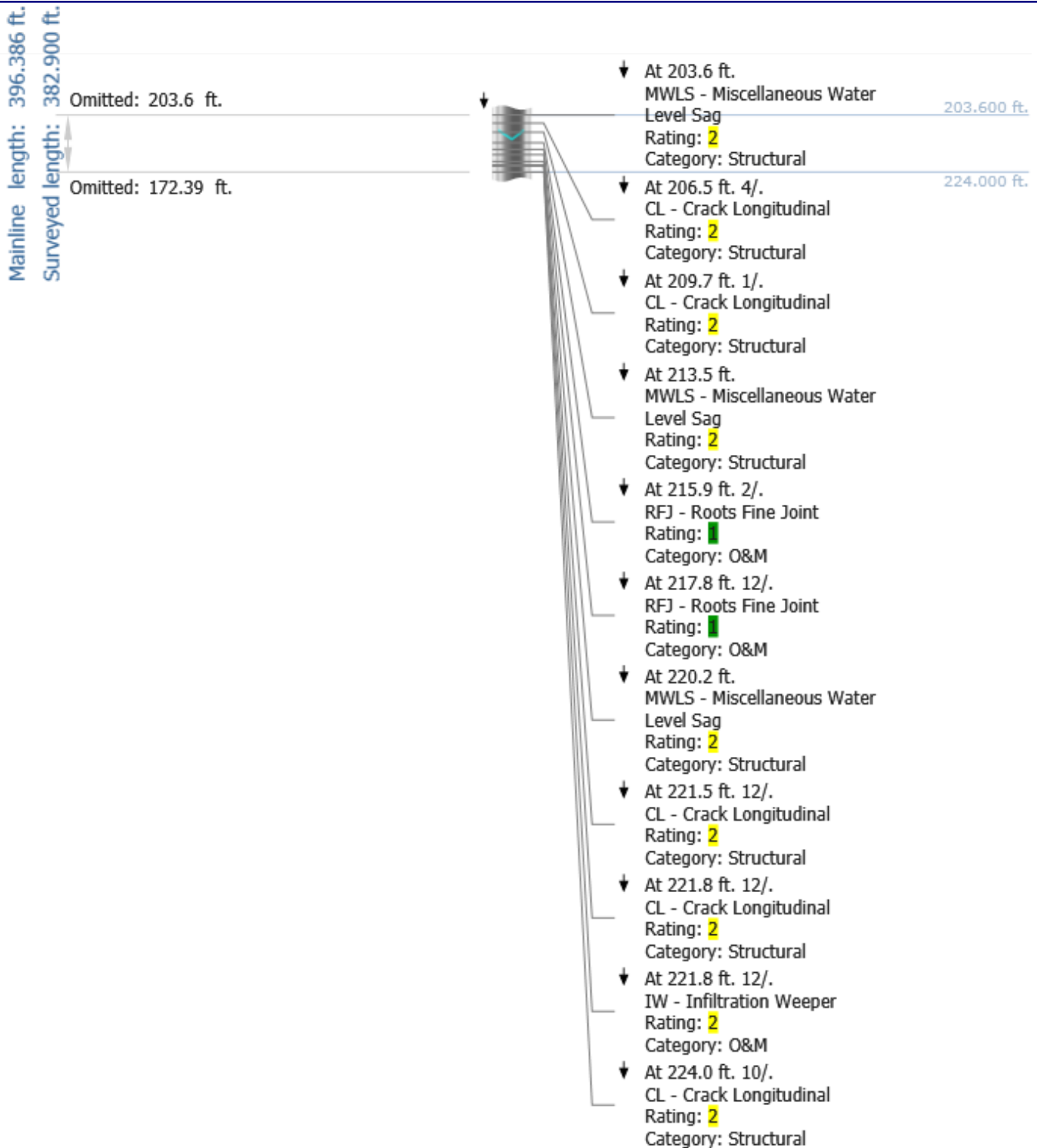
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/17/2015 10:06 AM

D

Weather:

3



Project name:

Mainline ID: 2696

Start date/time:

Direction:

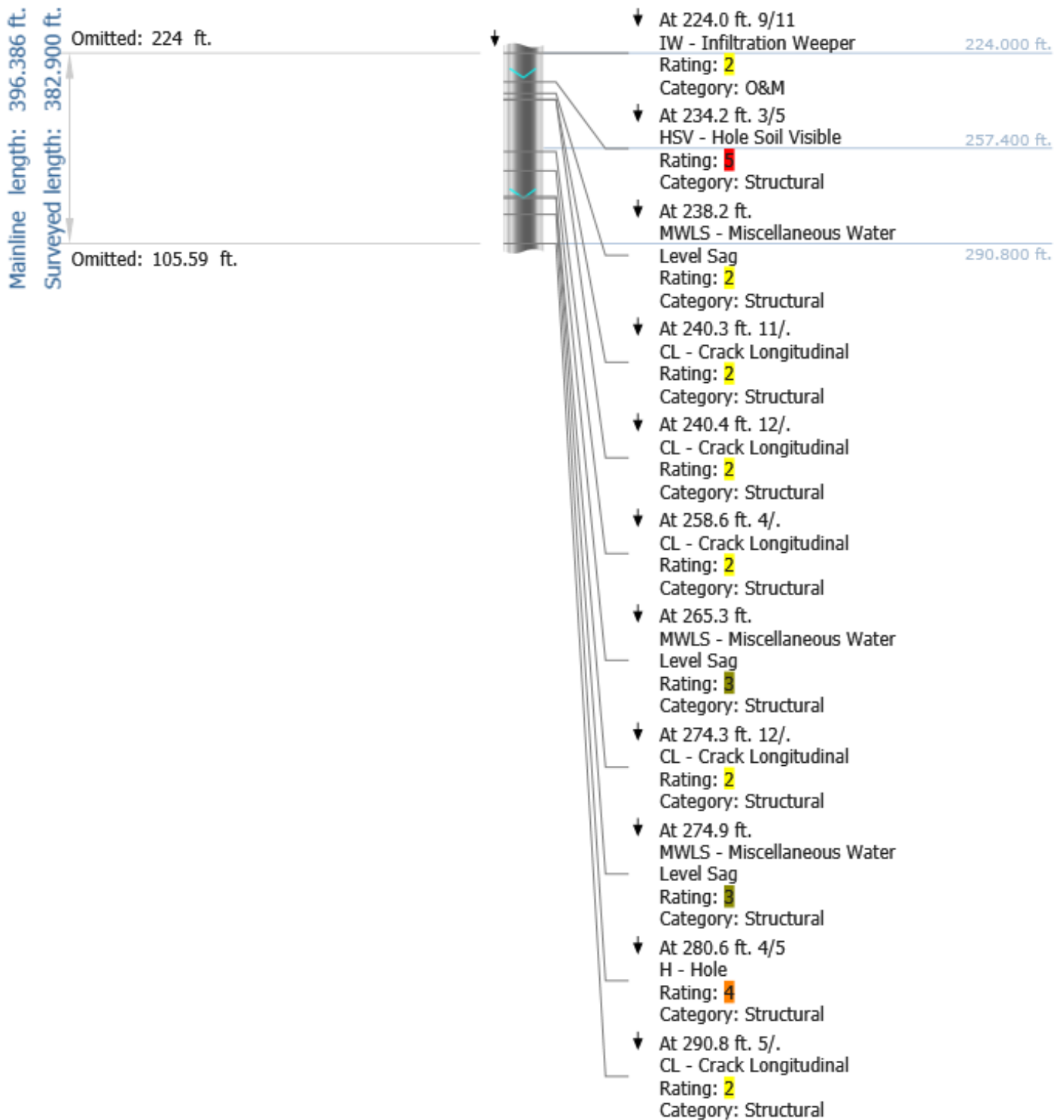
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

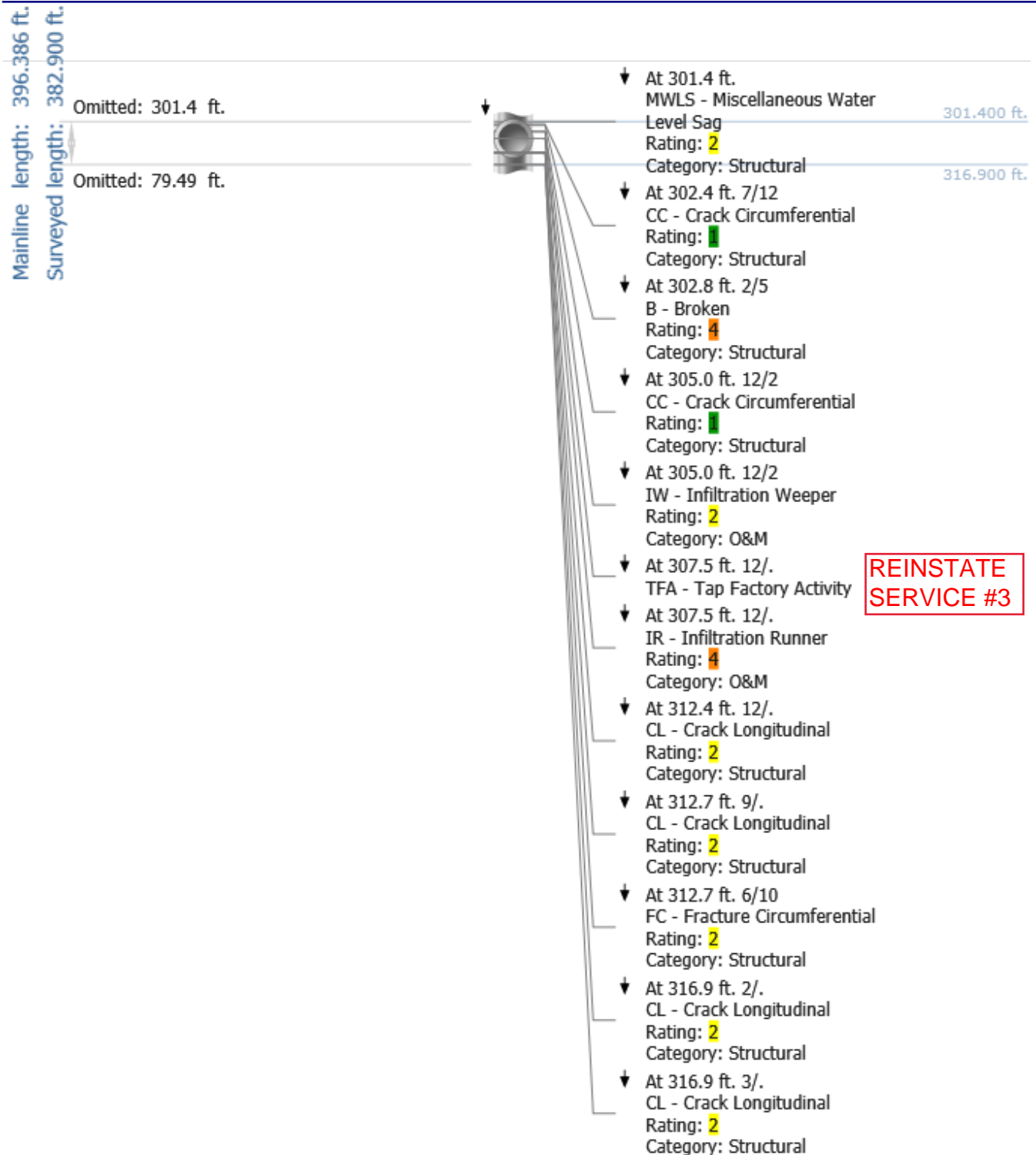
Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

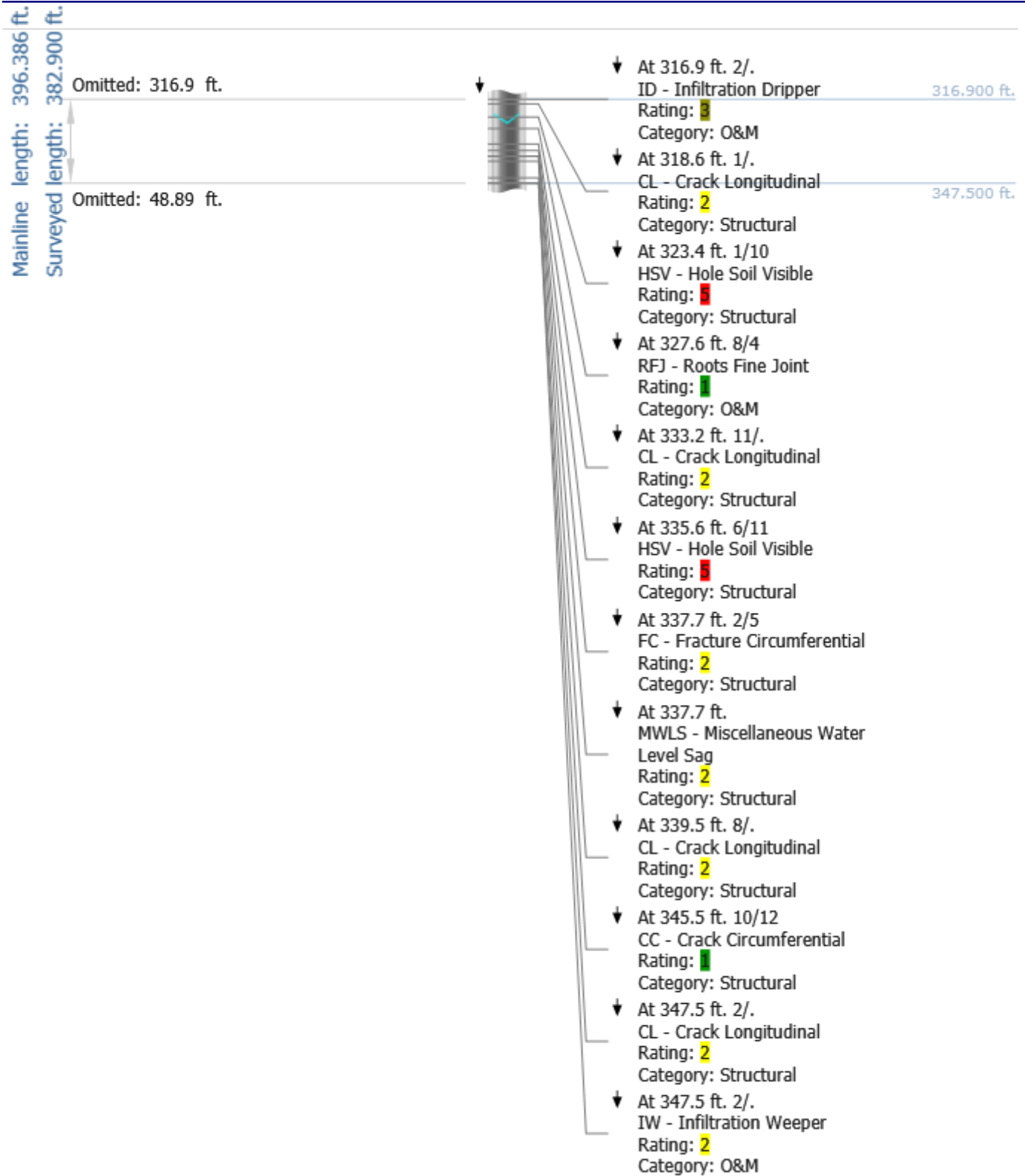
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/17/2015 10:06 AM

D

Weather:

3



Project name: Mainline ID: 2696

Start date/time:

Direction:

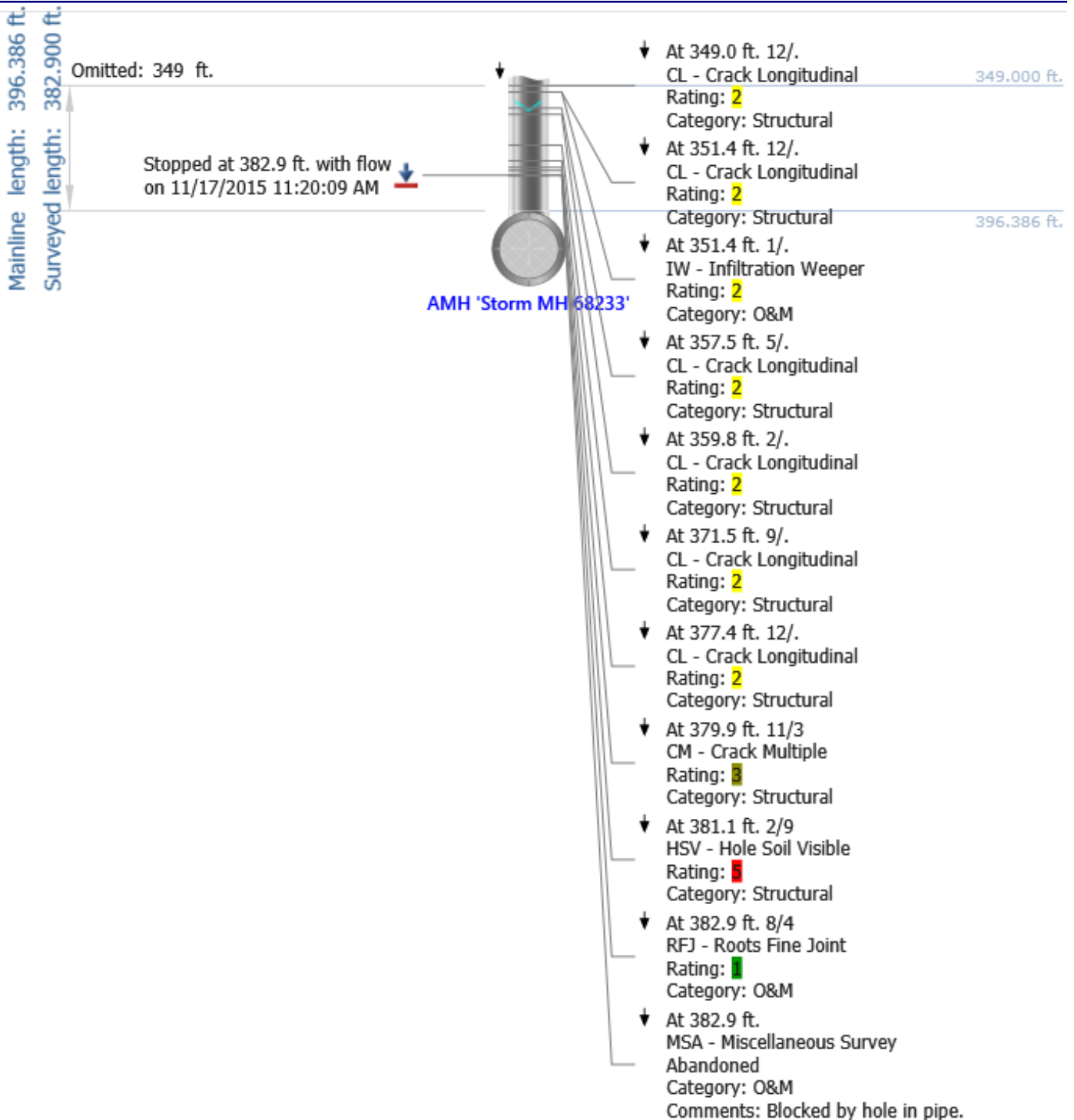
Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 10:06 AM

D

Weather:

3



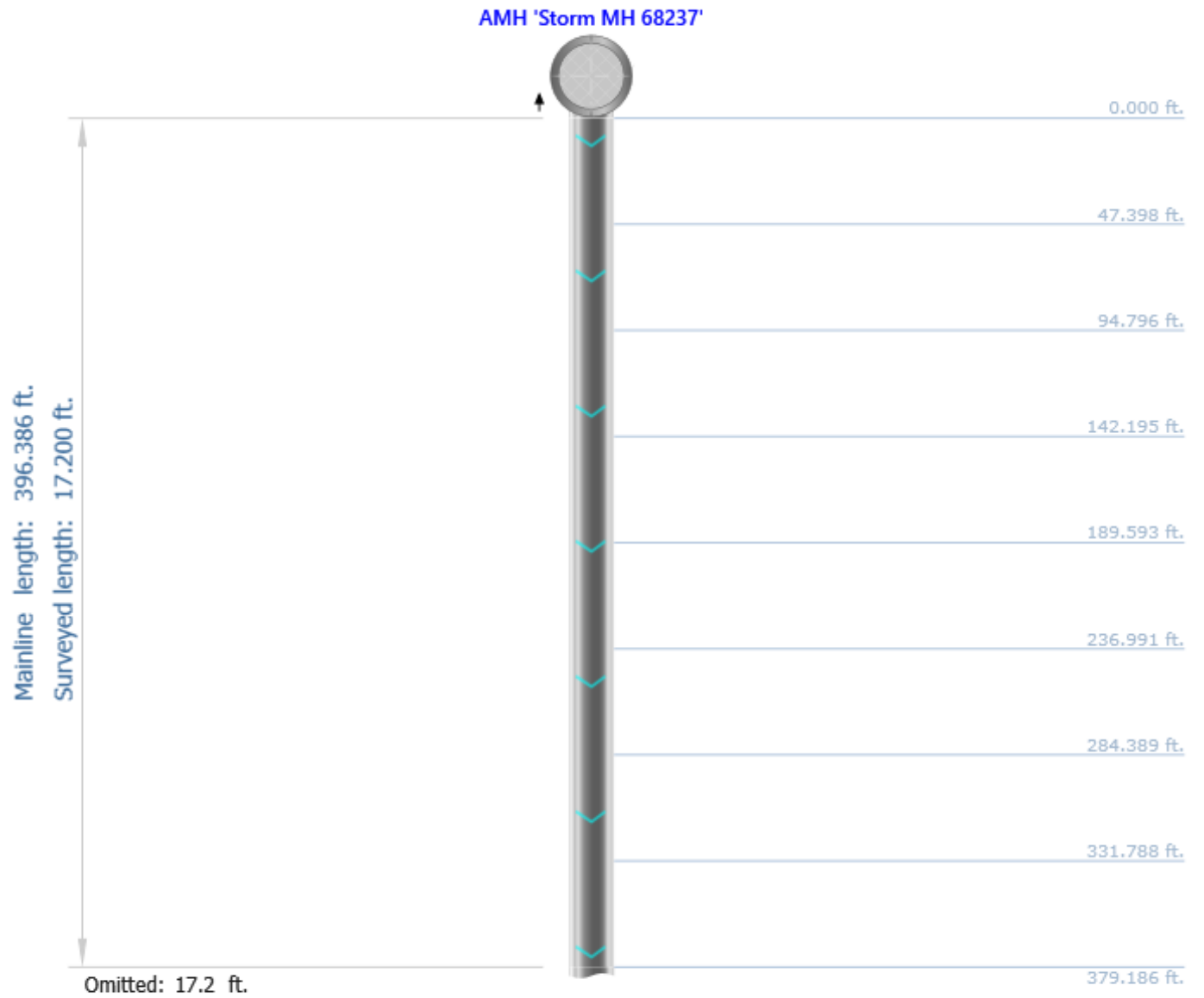




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2696</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>U</b>	Weather:	Location code:
<b>11/17/2015 12:23 PM</b>	Material:	<b>3</b>	
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	



Project name: Mainline ID: 2696

Start date/time:

Direction:

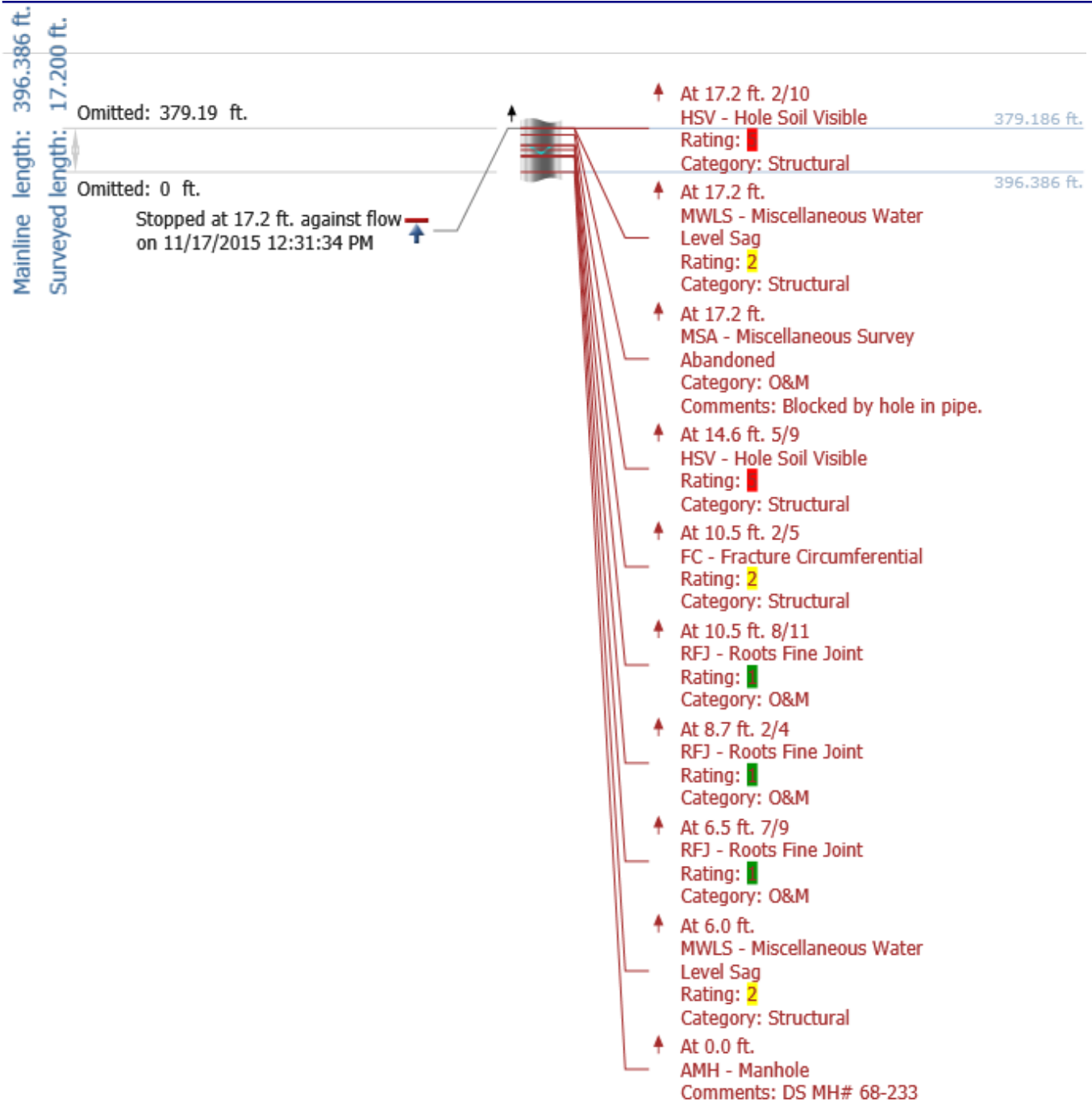
Urbana 2015 Storm Sewer Cleaning & TV Project

11/17/2015 12:23 PM

U

Weather:

3



Project name:

Mainline ID: **2696**

Start date/time:

Direction:

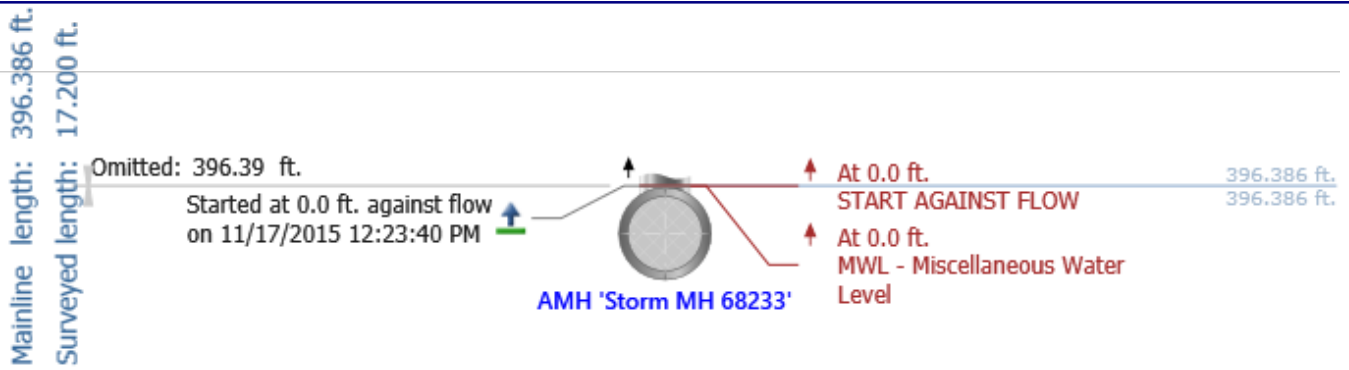
**Urbana 2015 Storm Sewer  
Cleaning & TV Project**

**11/17/2015 12:23 PM**

**U**

Weather:

**3**

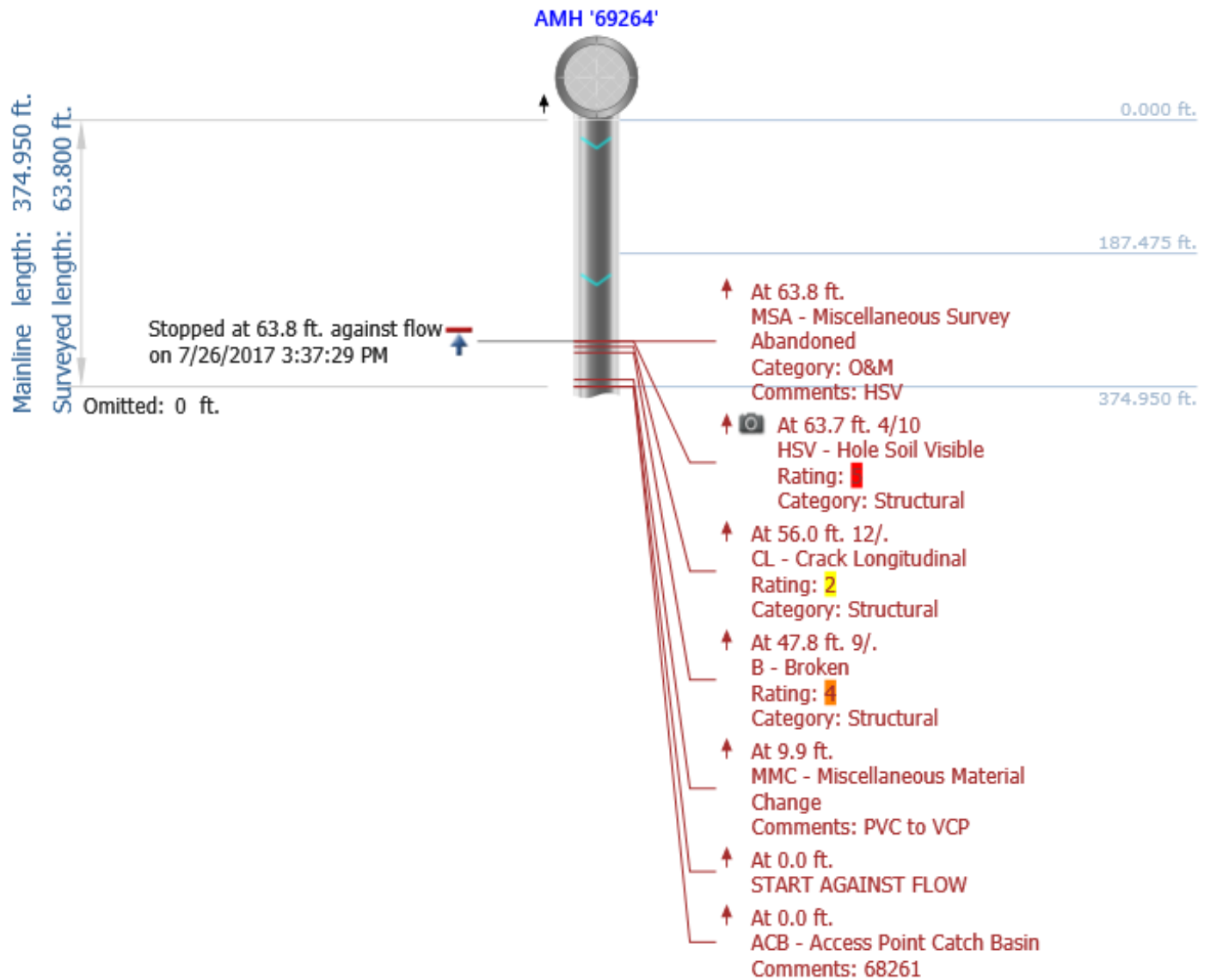




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2702</b>	City: <b>Urbana</b>	Street: <b>W Oregon</b>
Start date/time: <b>7/26/2017 3:32 PM</b>	Direction: <b>U</b>	Weather: <b>1</b>	Location code:
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>8 in.</b>	Width:



Project name: Mainline ID:

Start date/time:

Direction:

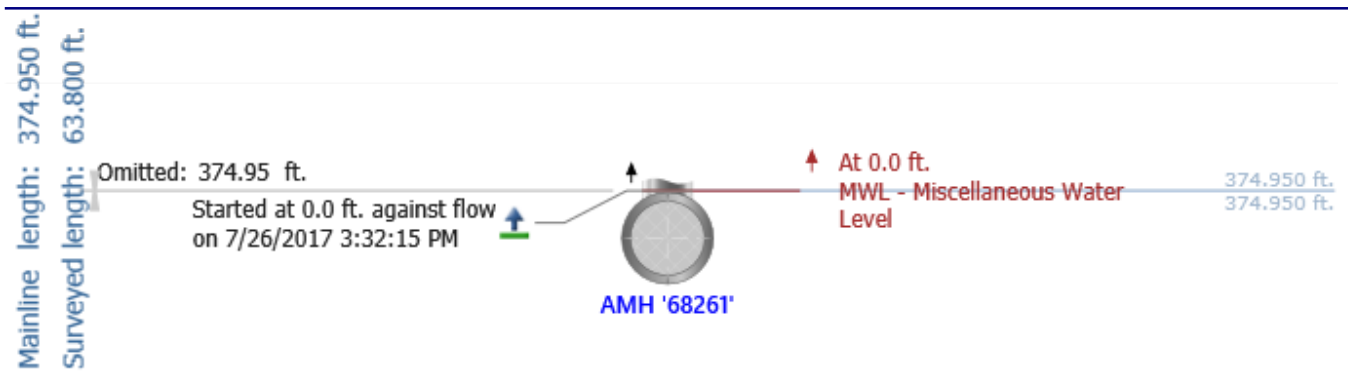
**Urbana 2016 Storm Sewer 2702  
Cleaning & TV Project**

**7/26/2017 3:32 PM**

**U**

Weather:

**1**

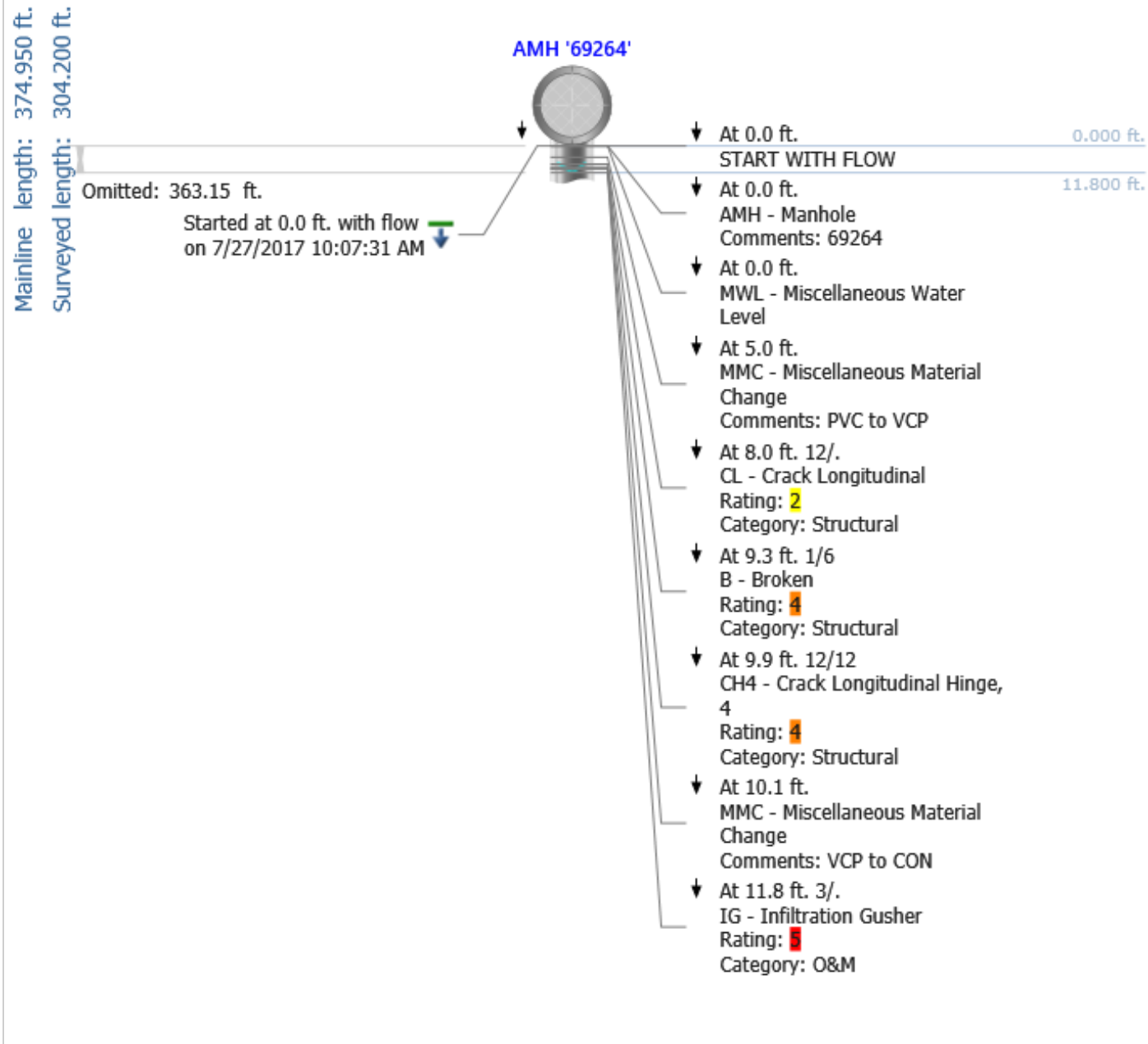




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2702</b>	City: <b>Urbana</b>	Street: <b>W Oregon</b>
Start date/time: <b>7/27/2017 10:07 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>8 in.</b>	Width:



Project name: Mainline ID:

Start date/time:

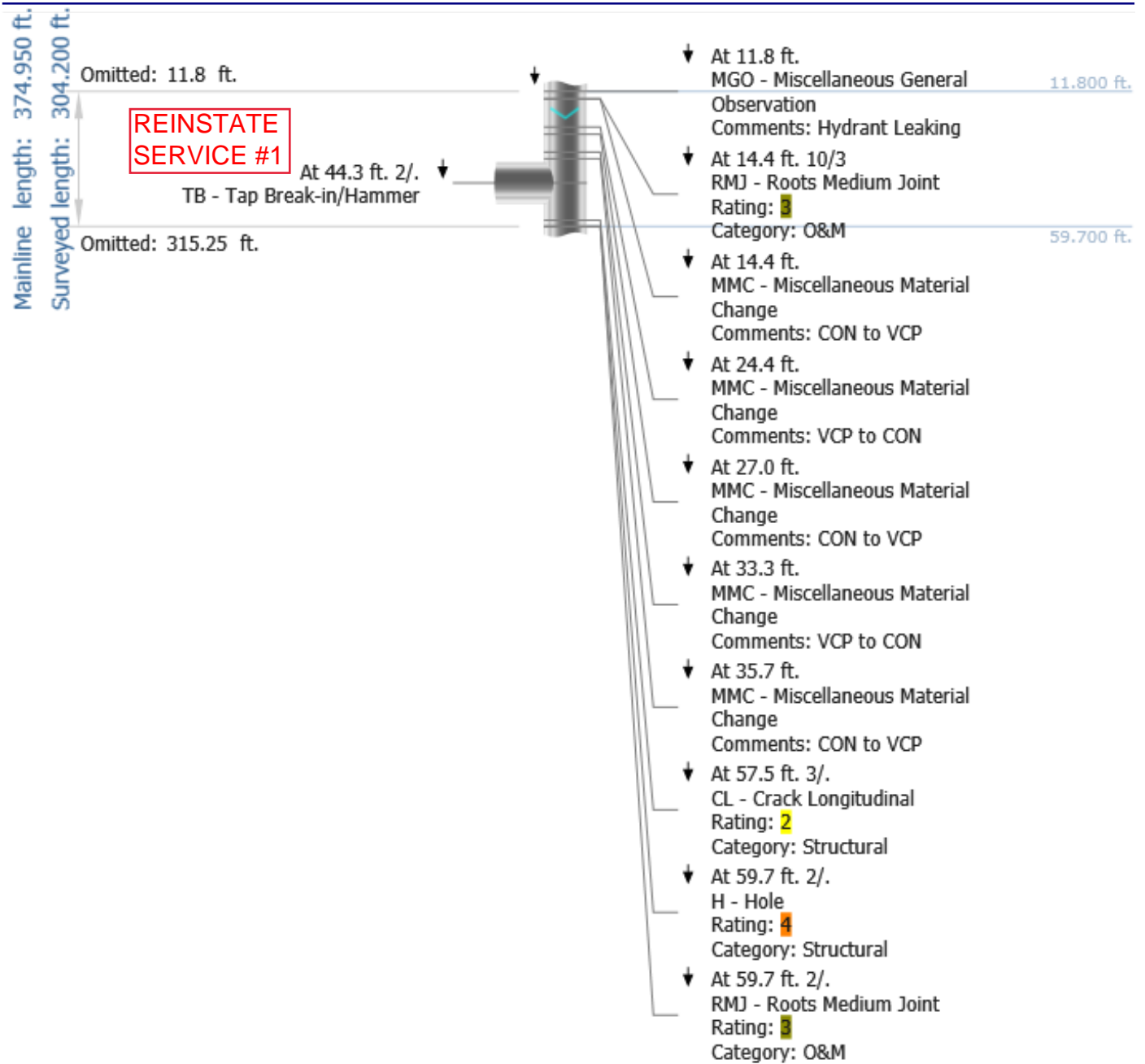
Direction:

**Urbana 2016 Storm Sewer 2702  
Cleaning & TV Project**

**7/27/2017 10:07 AM**

**D**

Weather:



Project name: Mainline ID:

Start date/time:

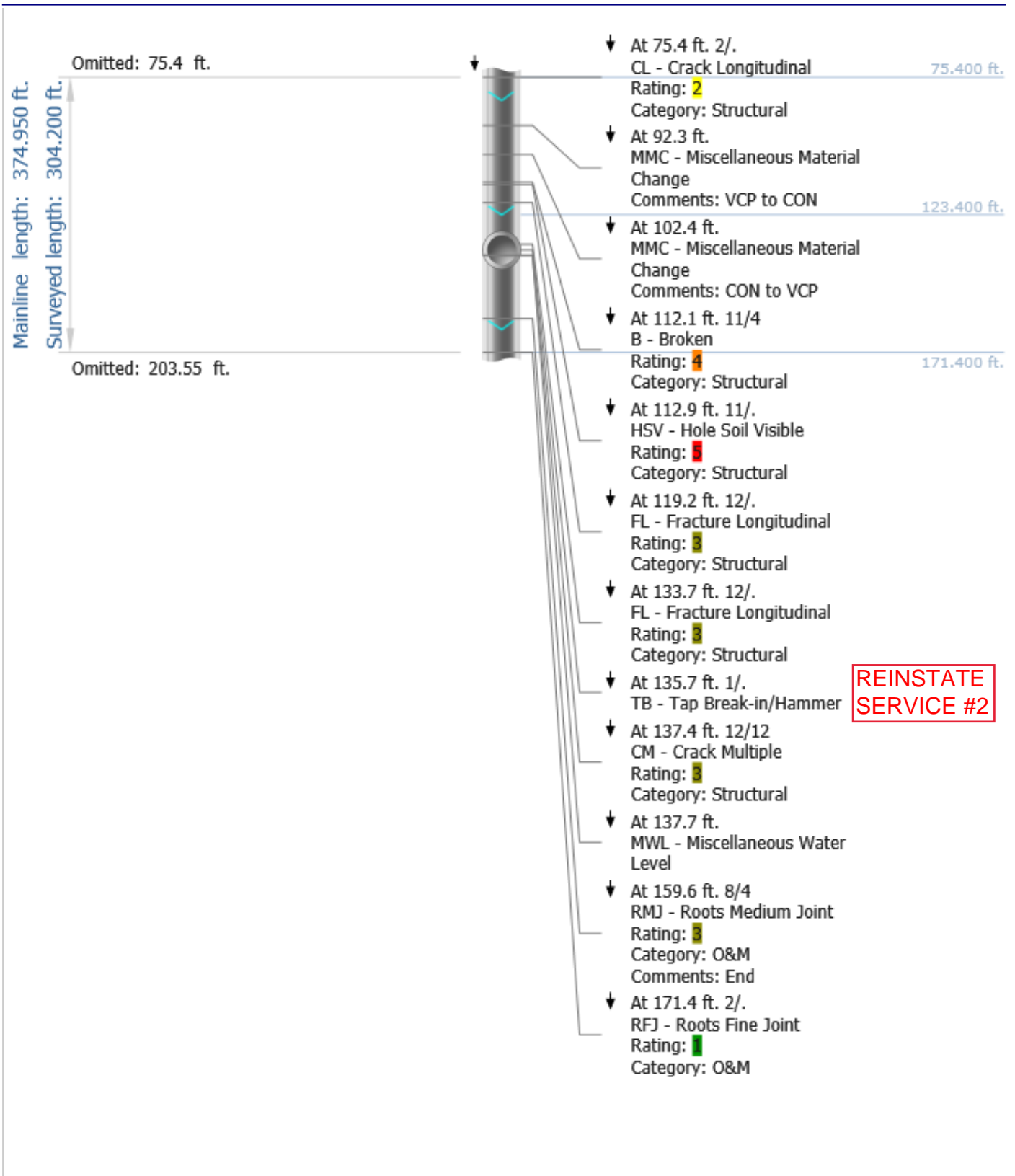
Direction:

**Urbana 2016 Storm Sewer 2702  
Cleaning & TV Project**

**7/27/2017 10:07 AM**

**D**

Weather:





Project name: Mainline ID:

Start date/time:

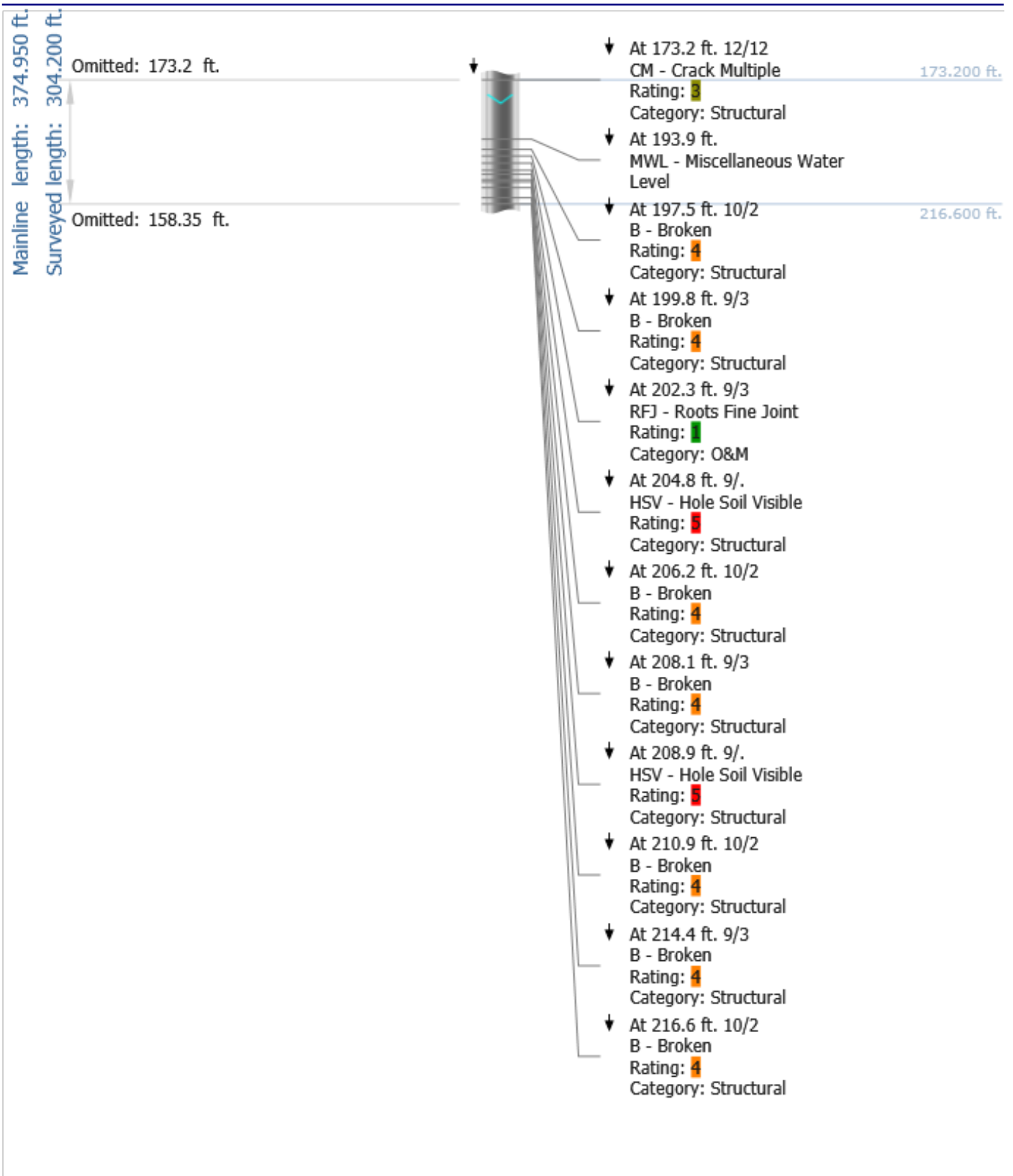
Direction:

**Urbana 2016 Storm Sewer 2702  
Cleaning & TV Project**

**7/27/2017 10:07 AM**

**D**

Weather:



Project name: Mainline ID:

Start date/time:

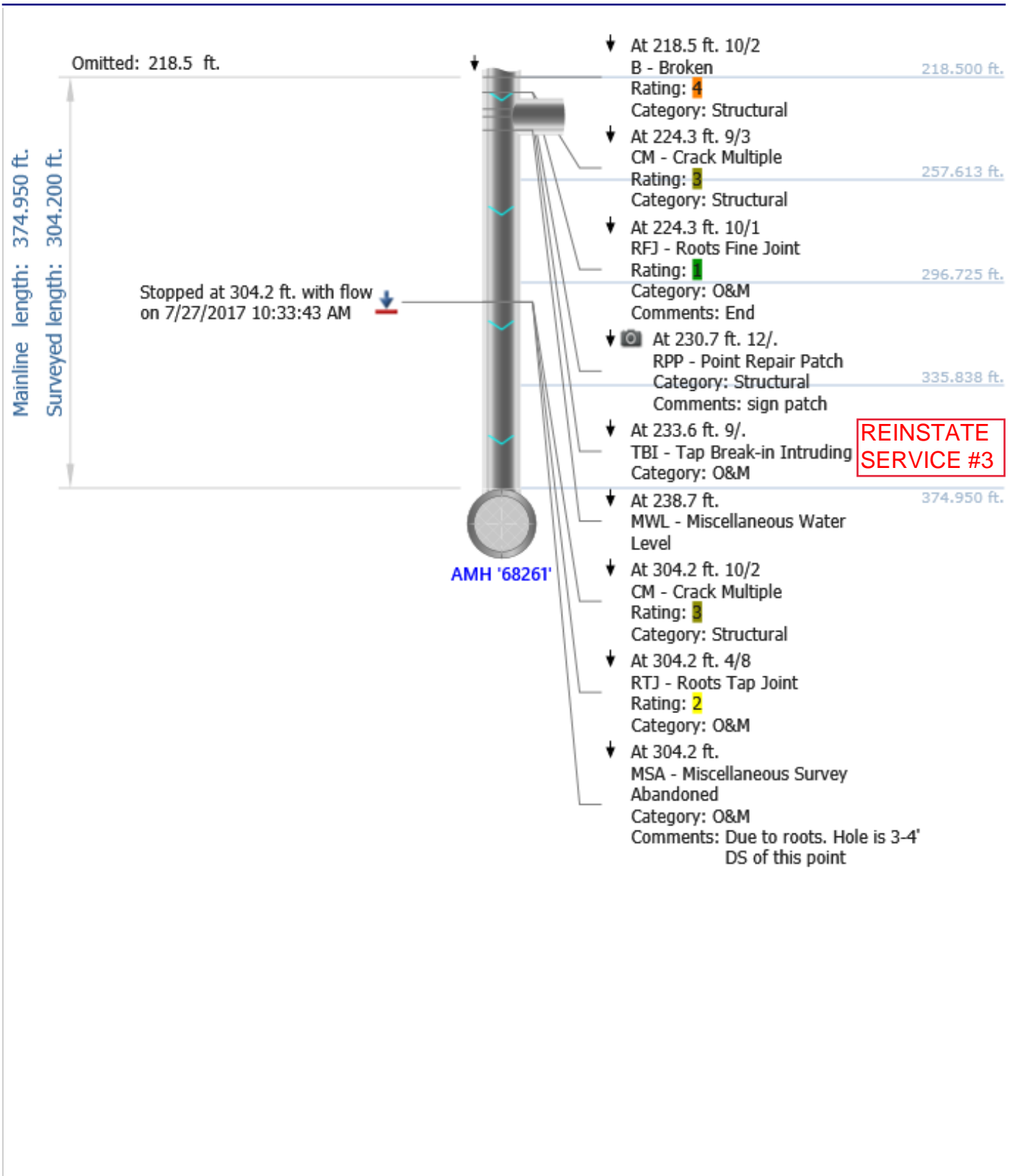
Direction:

**Urbana 2016 Storm Sewer 2702  
Cleaning & TV Project**

**7/27/2017 10:07 AM**

**D**

Weather:

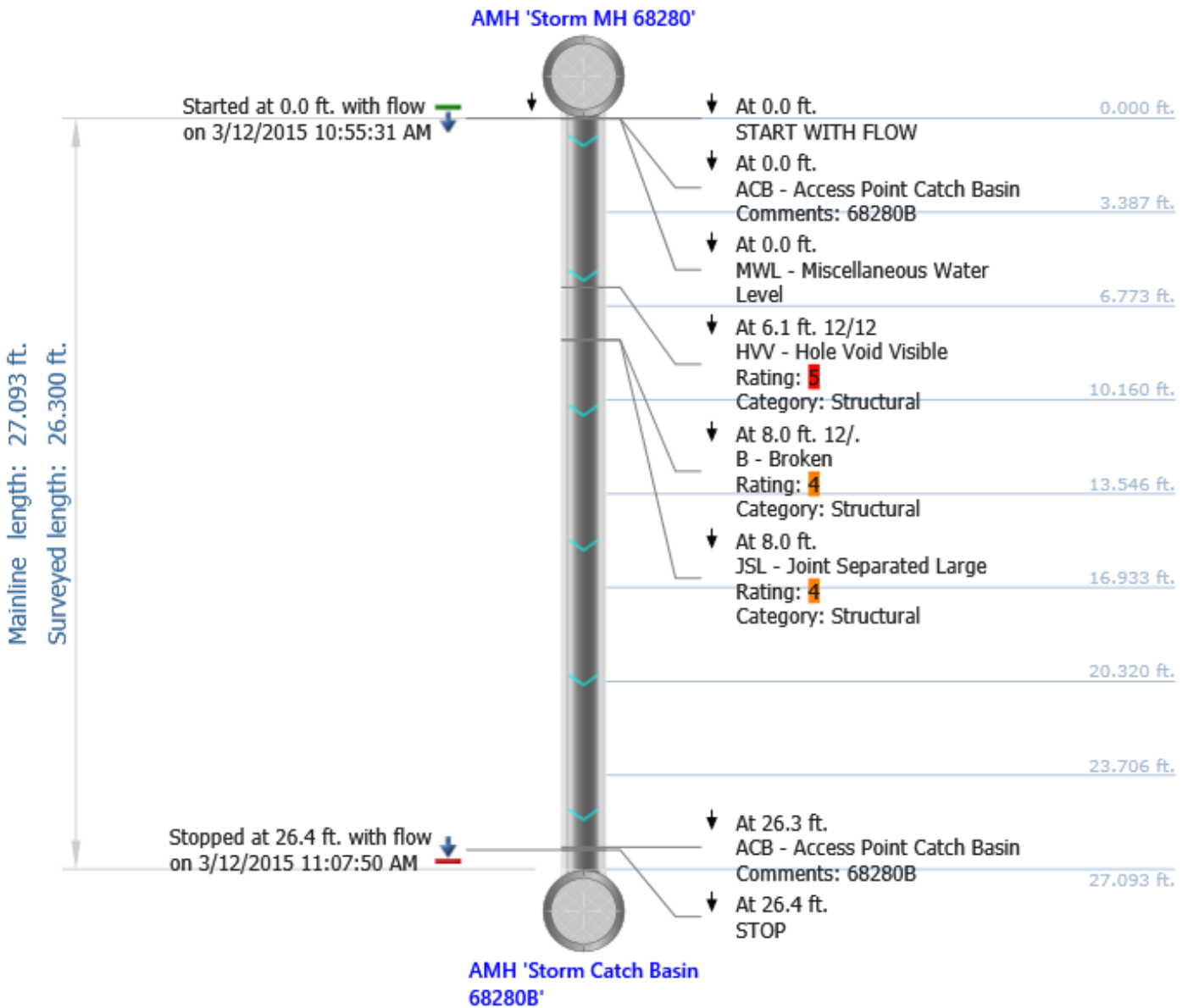




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2737</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction: <b>D</b>	<b>Urbana</b>	<b>W Nevada and S McCullough</b>
Start date/time:	Material: <b>VCP</b>	Weather: <b>5</b>	Location code: <b>C</b>
<b>3/12/2015 10:55 AM</b>	Shape: <b>C</b>	Height: <b>8 in.</b>	Width:

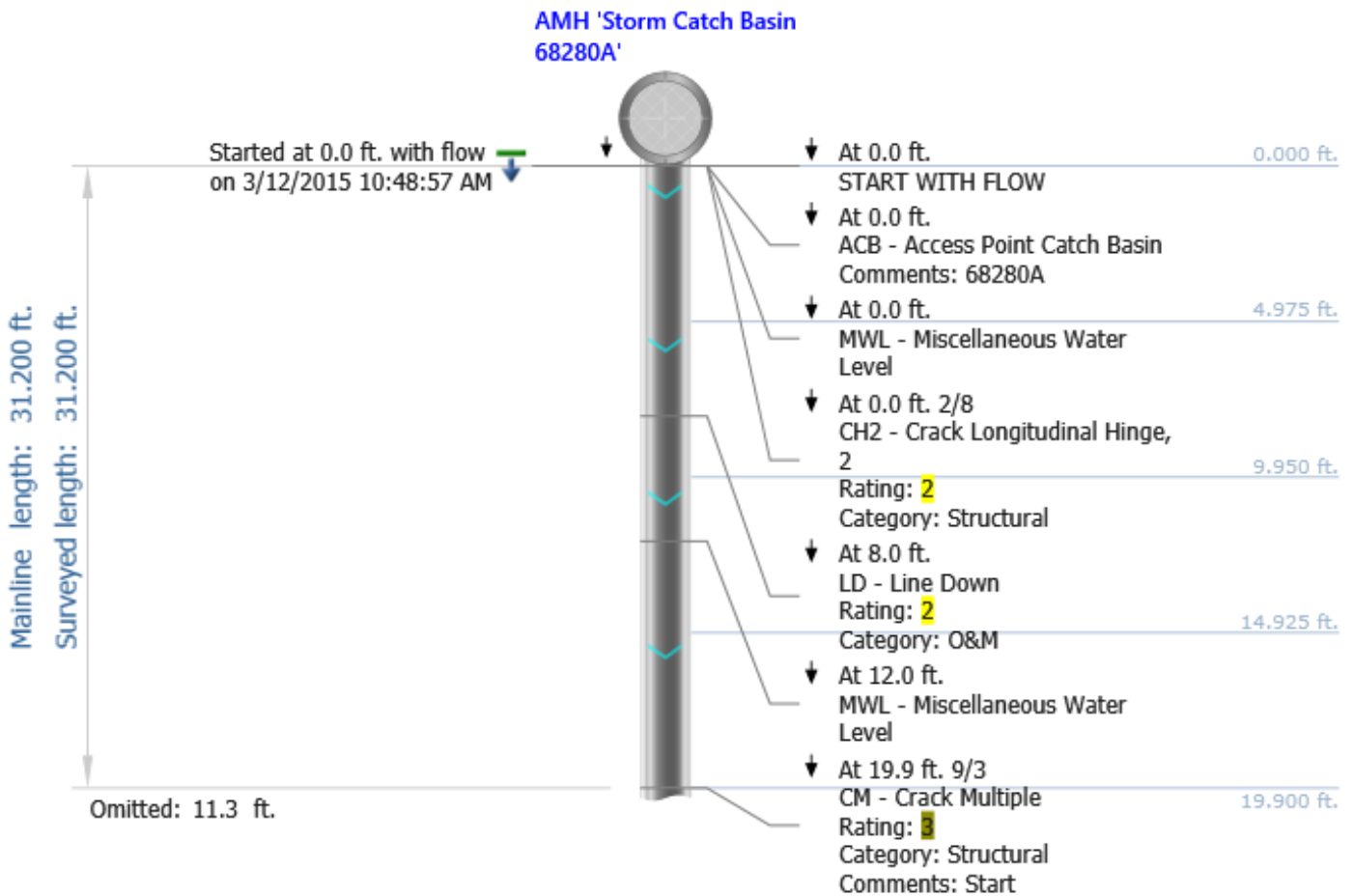




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2739</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>W Nevada St</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>3/12/2015 10:48 AM</b>	Material:	<b>5</b>	<b>C</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	



Project name: Mainline ID: 2739

Start date/time:

Direction:

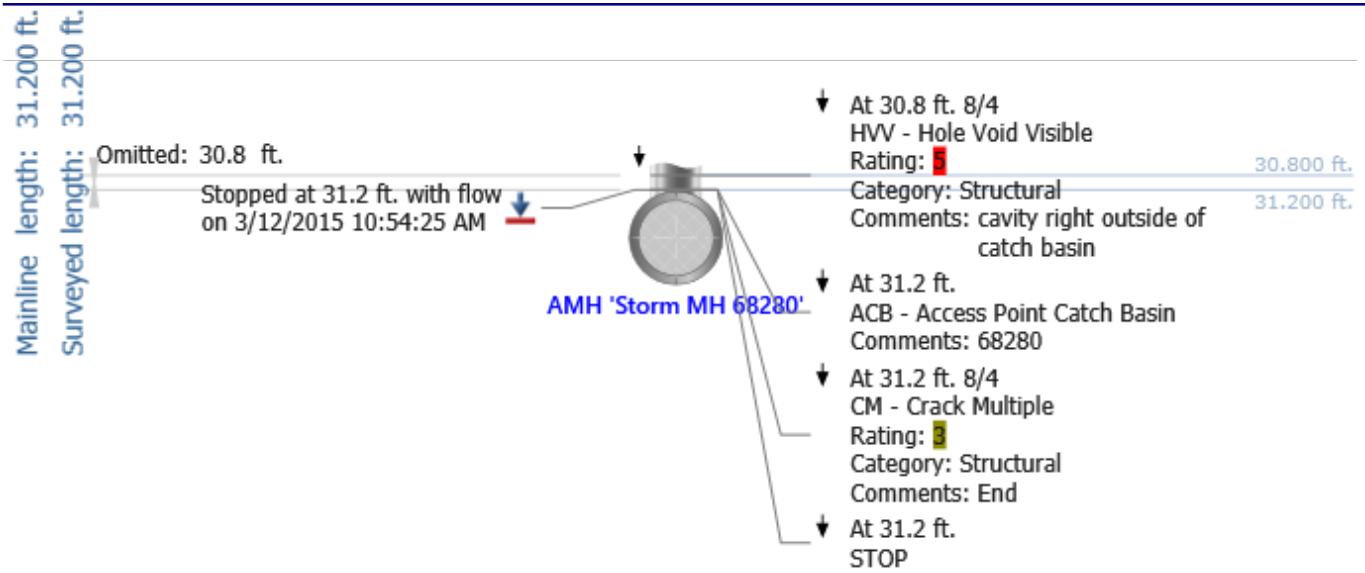
**Urbana 2014 Storm Sewer Cleaning & TV Project**

3/12/2015 10:48 AM

D

Weather:

5

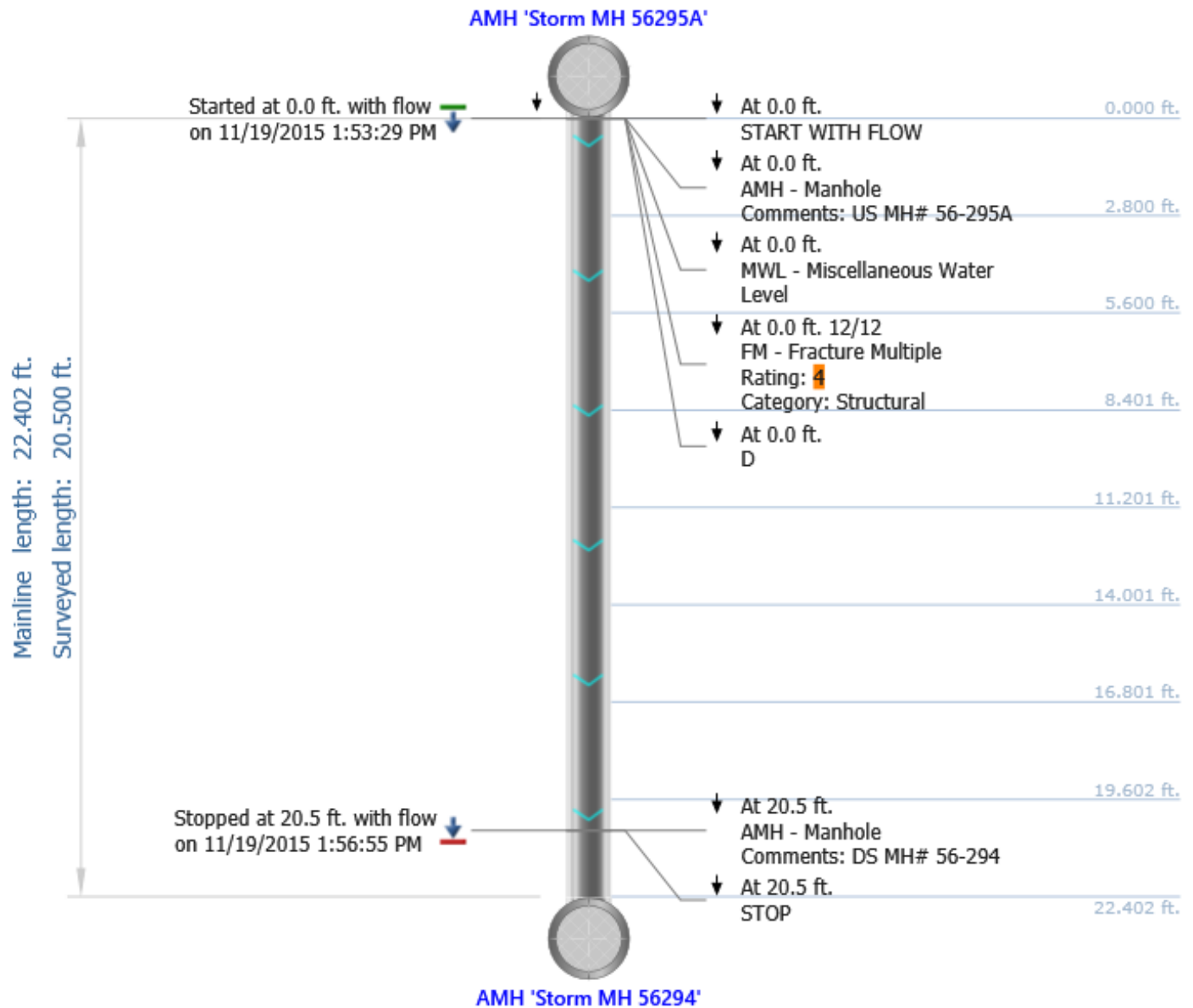




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2772</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>D</b>	Weather:	Location code:
<b>11/19/2015 1:53 PM</b>	Material:	<b>1</b>	
Shape:	<b>RCP</b>	Height:	Width:
<b>C</b>		<b>10 in.</b>	

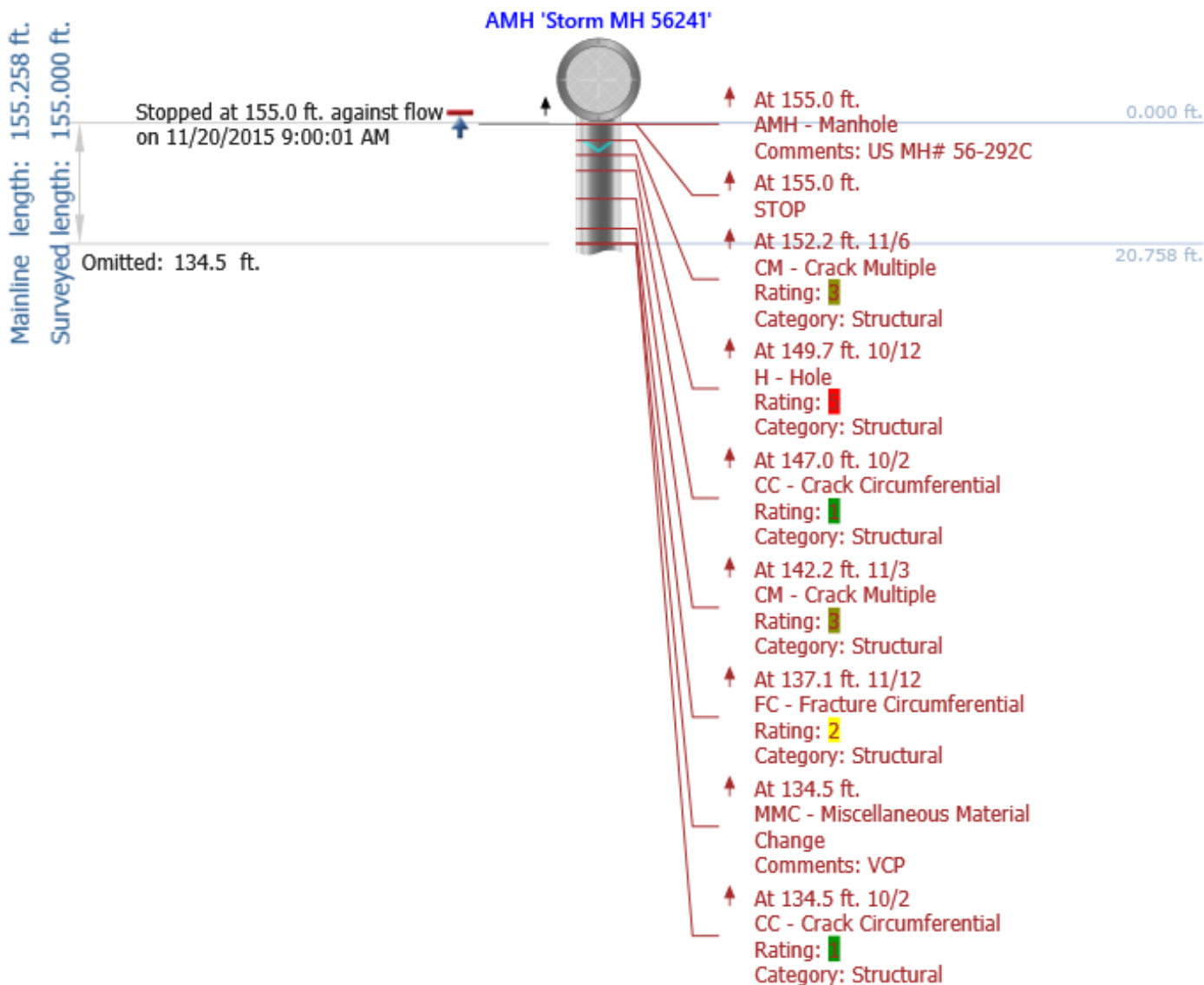




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2775</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>U</b>	Weather:	Location code:
<b>11/20/2015 8:25 AM</b>	Material:	<b>1</b>	
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>10 in.</b>	



Project name: Mainline ID: 2775

Start date/time:

Direction:

**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/20/2015 8:25 AM

U

Weather:

1





Project name: Mainline ID: 2775

Start date/time:

Direction:

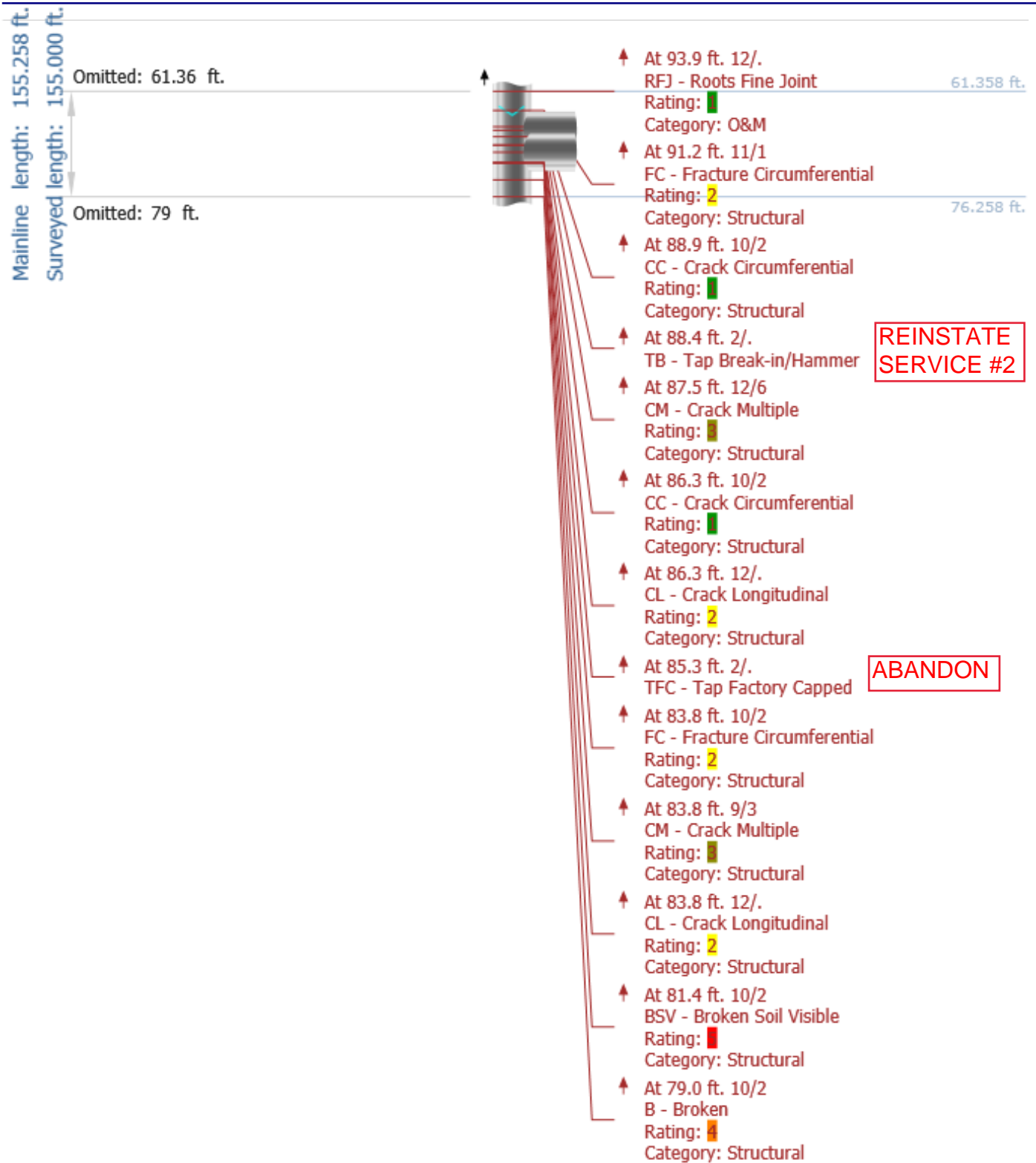
Urbana 2015 Storm Sewer Cleaning & TV Project

11/20/2015 8:25 AM

U

Weather:

1



Project name: Mainline ID: 2775

Start date/time:

Direction:

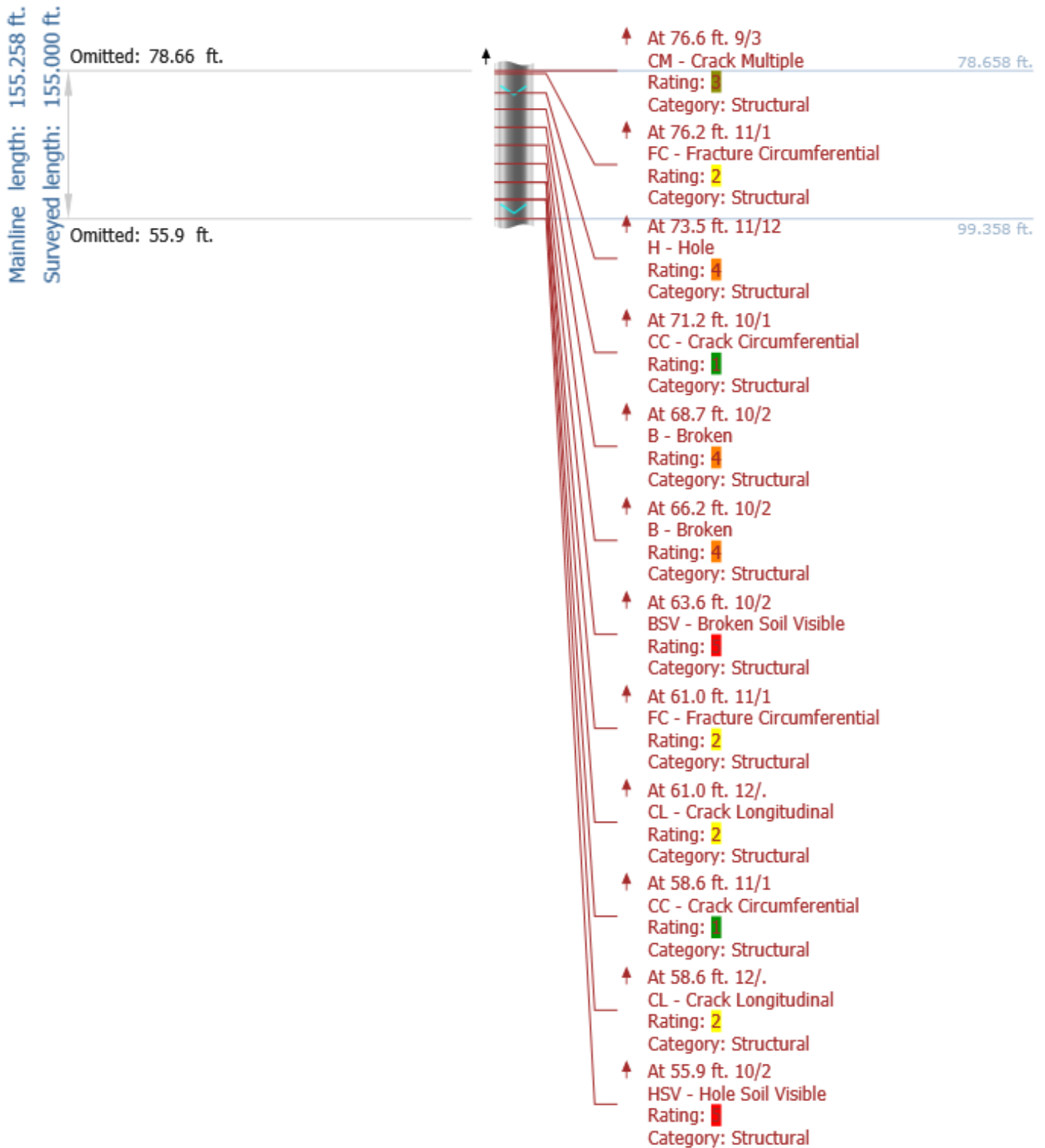
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/20/2015 8:25 AM

U

Weather:

1



Project name: Mainline ID: 2775

Start date/time:

Direction:

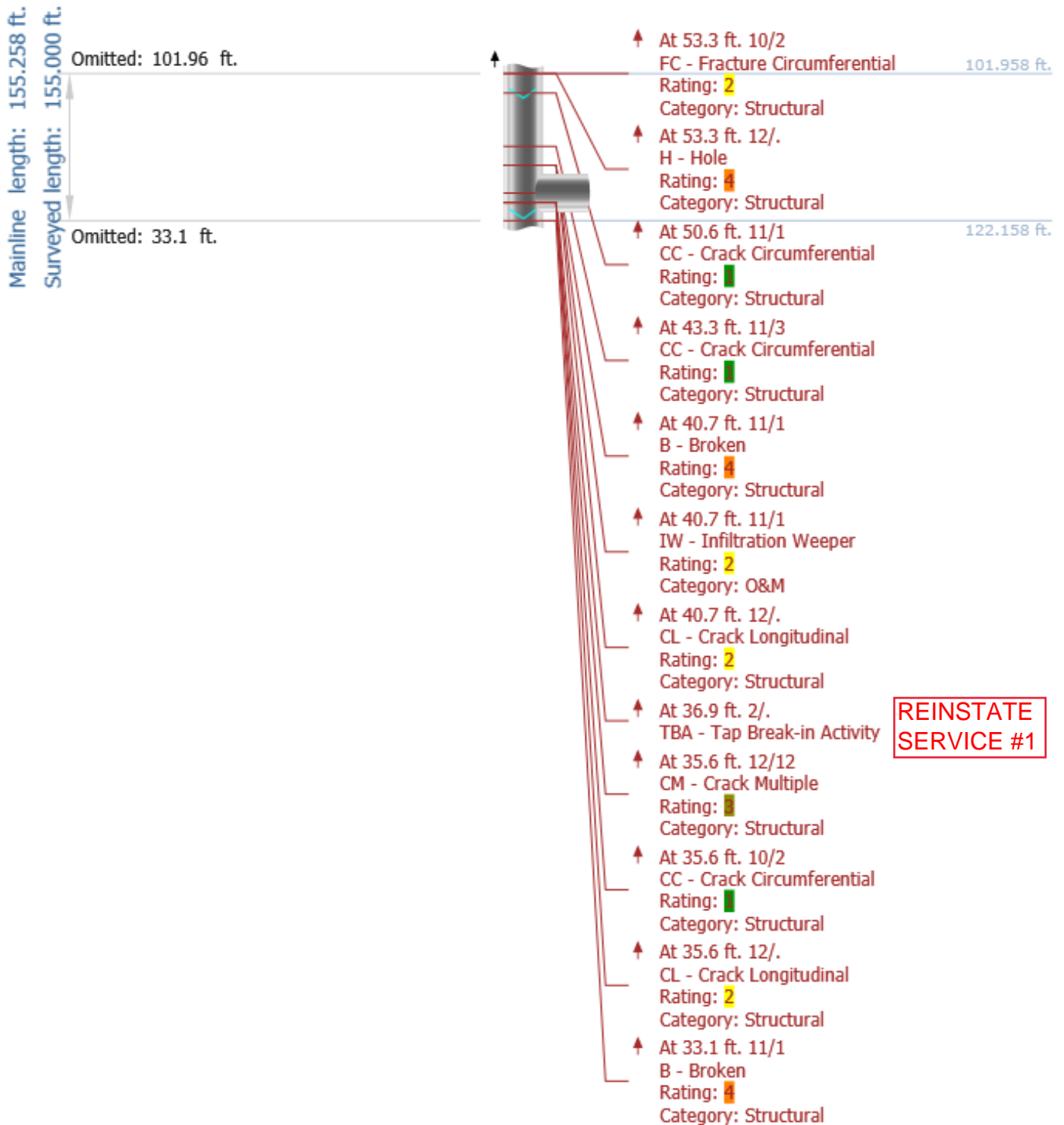
Urbana 2015 Storm Sewer Cleaning & TV Project

11/20/2015 8:25 AM

U

Weather:

1



Project name: Mainline ID: 2775

Start date/time:

Direction:

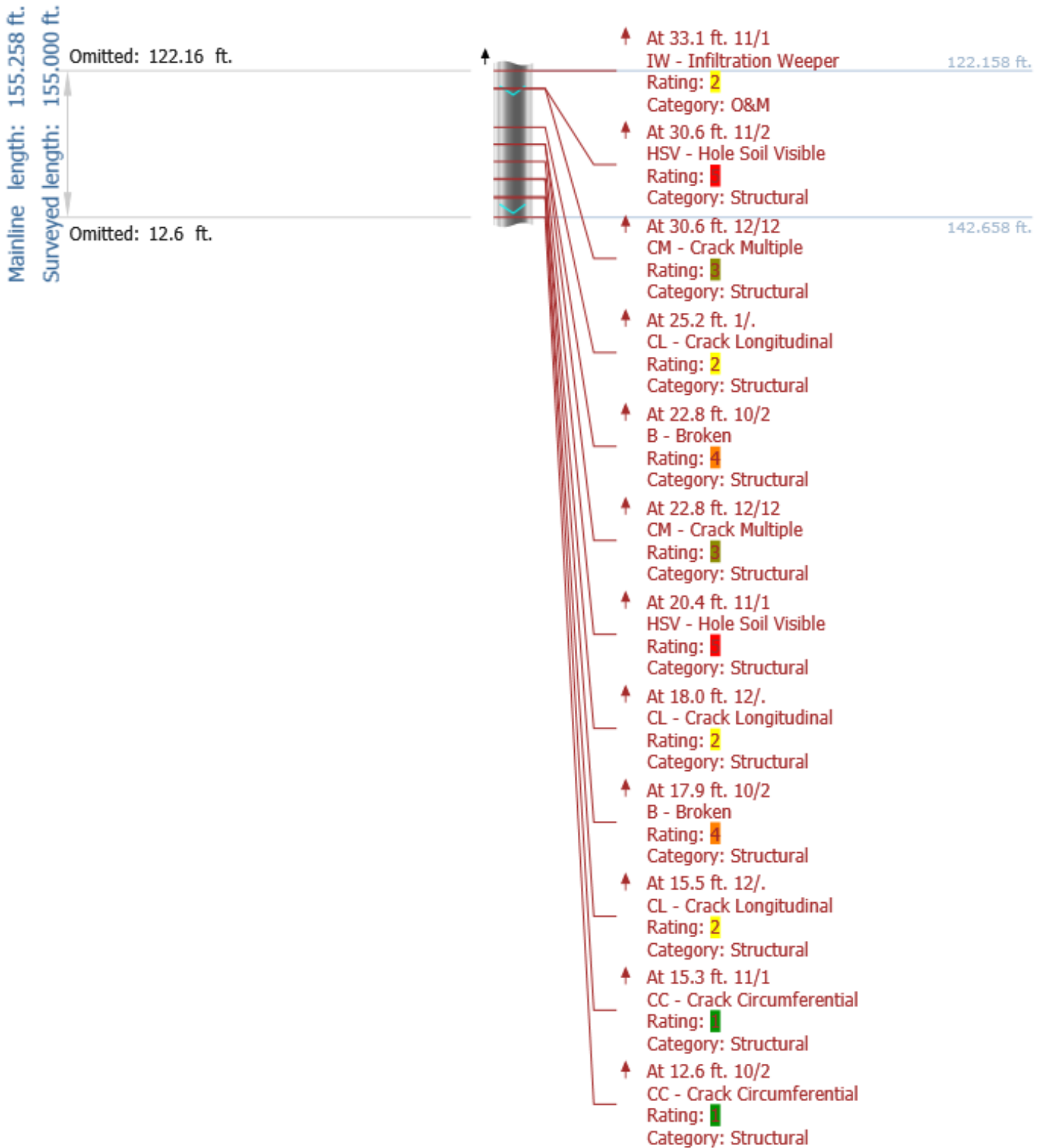
**Urbana 2015 Storm Sewer  
Cleaning & TV Project**

11/20/2015 8:25 AM

U

Weather:

1



Project name: Mainline ID: 2775

Start date/time:

Direction:

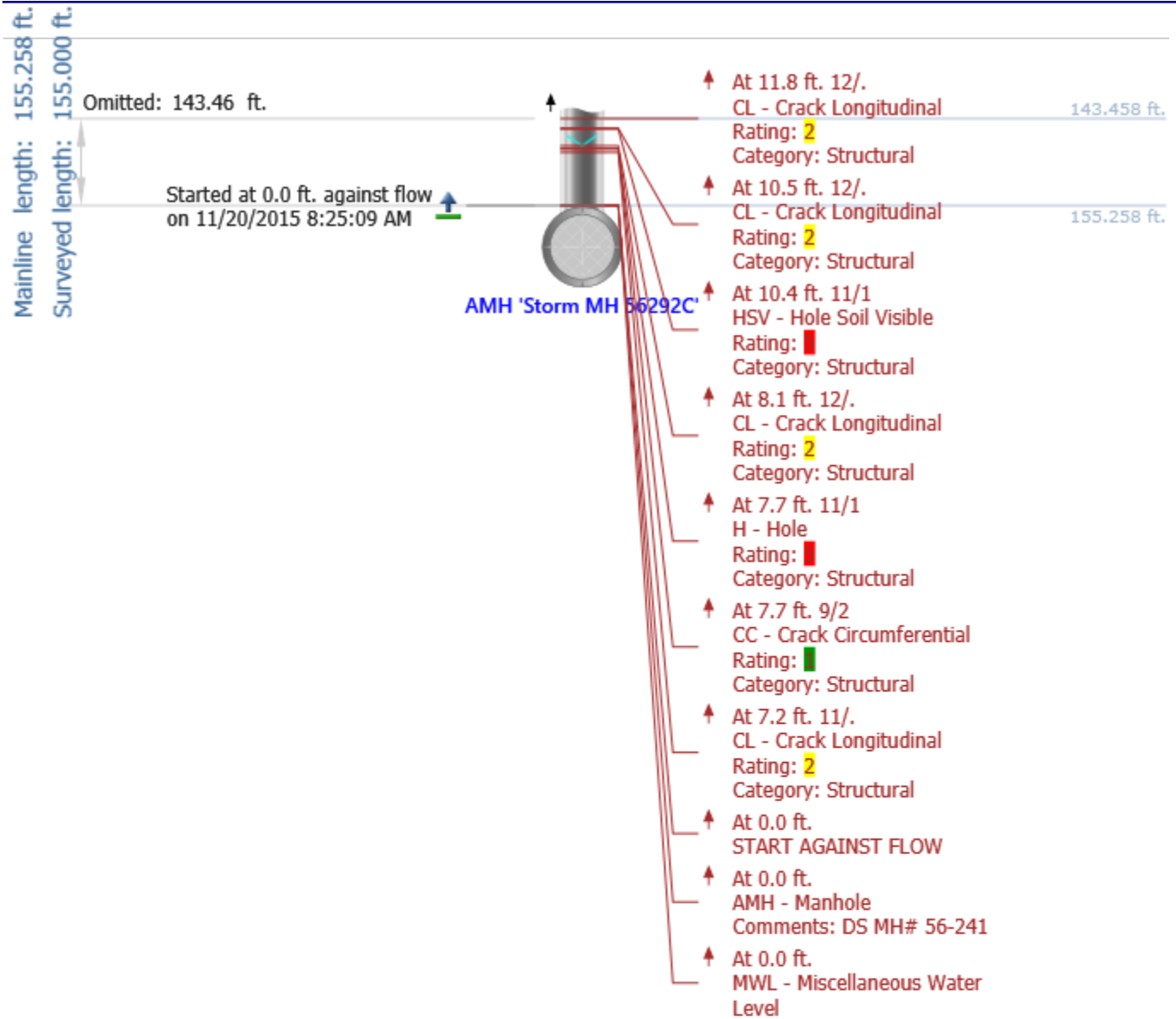
Urbana 2015 Storm Sewer Cleaning & TV Project

11/20/2015 8:25 AM

U

Weather:

1

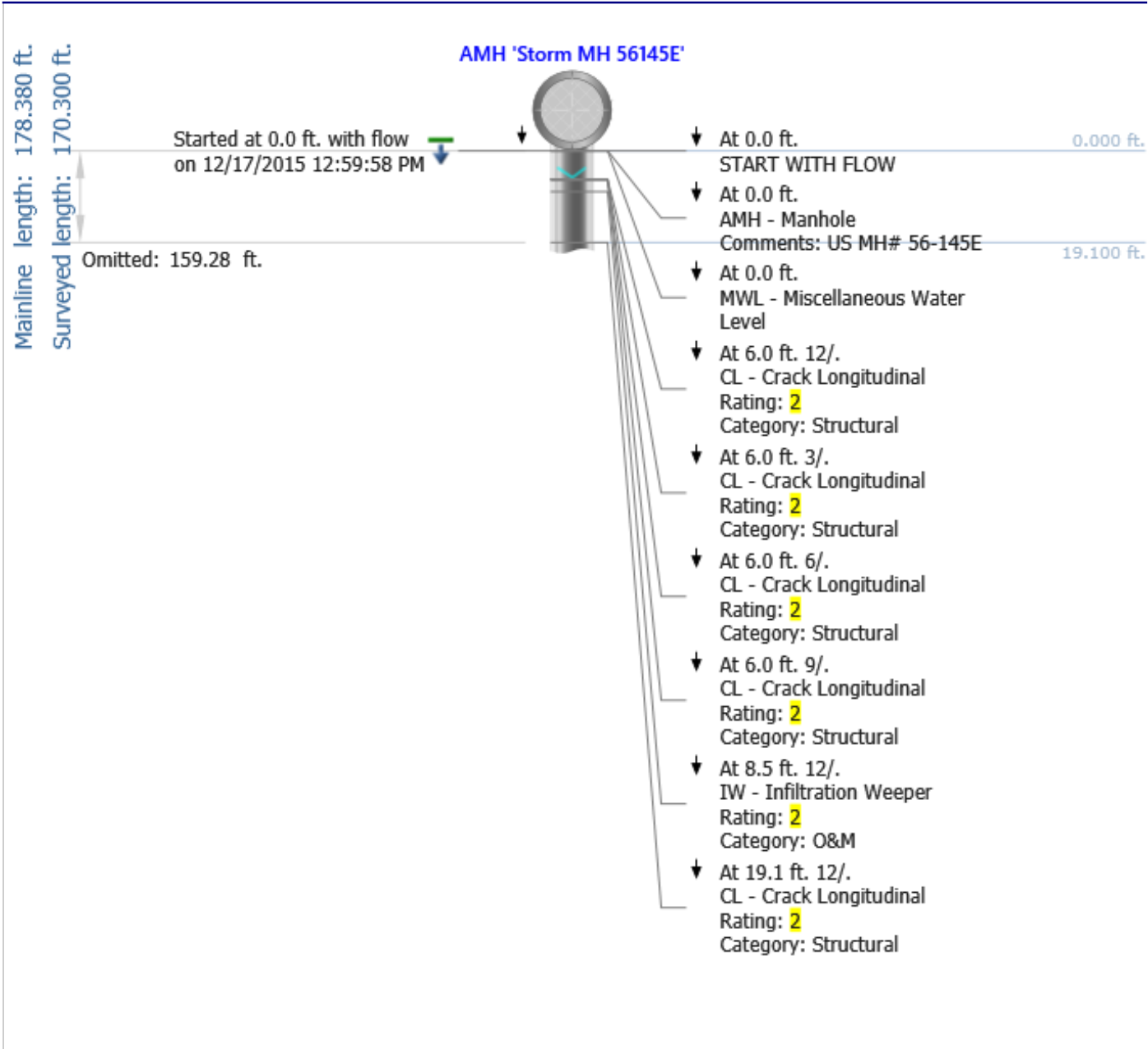




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2798</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>D</b>	Weather:	Location code:
<b>12/17/2015 12:59 PM</b>	Material:	<b>1</b>	
Shape:	<b>RCP</b>	Height:	Width:
<b>C</b>		<b>12 in.</b>	



Project name: Mainline ID: 2798

Start date/time:

Direction:

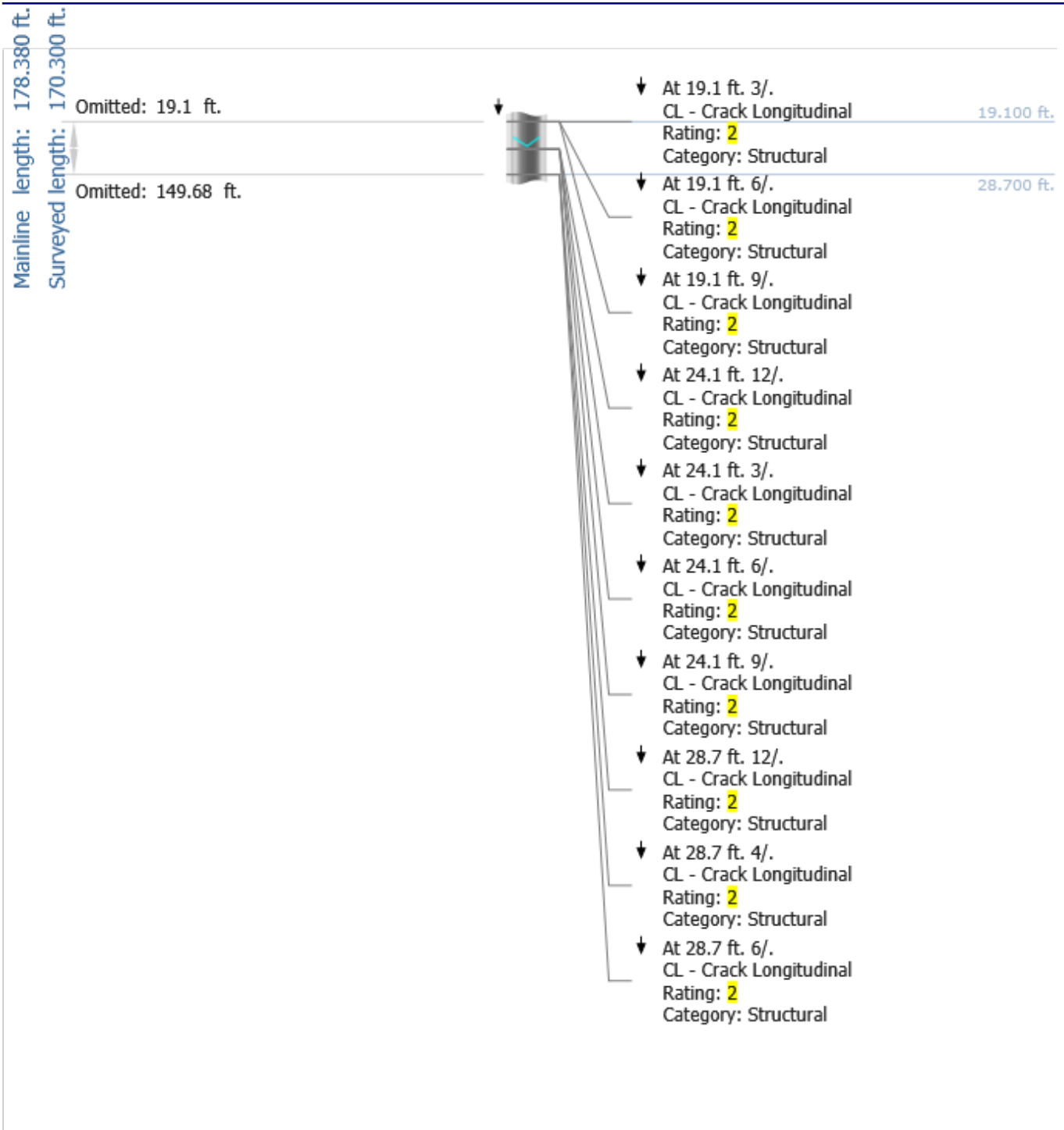
**Urbana 2015 Storm Sewer Cleaning & TV Project**

12/17/2015 12:59 PM

D

Weather:

1



Project name: Mainline ID: 2798

Start date/time:

Direction:

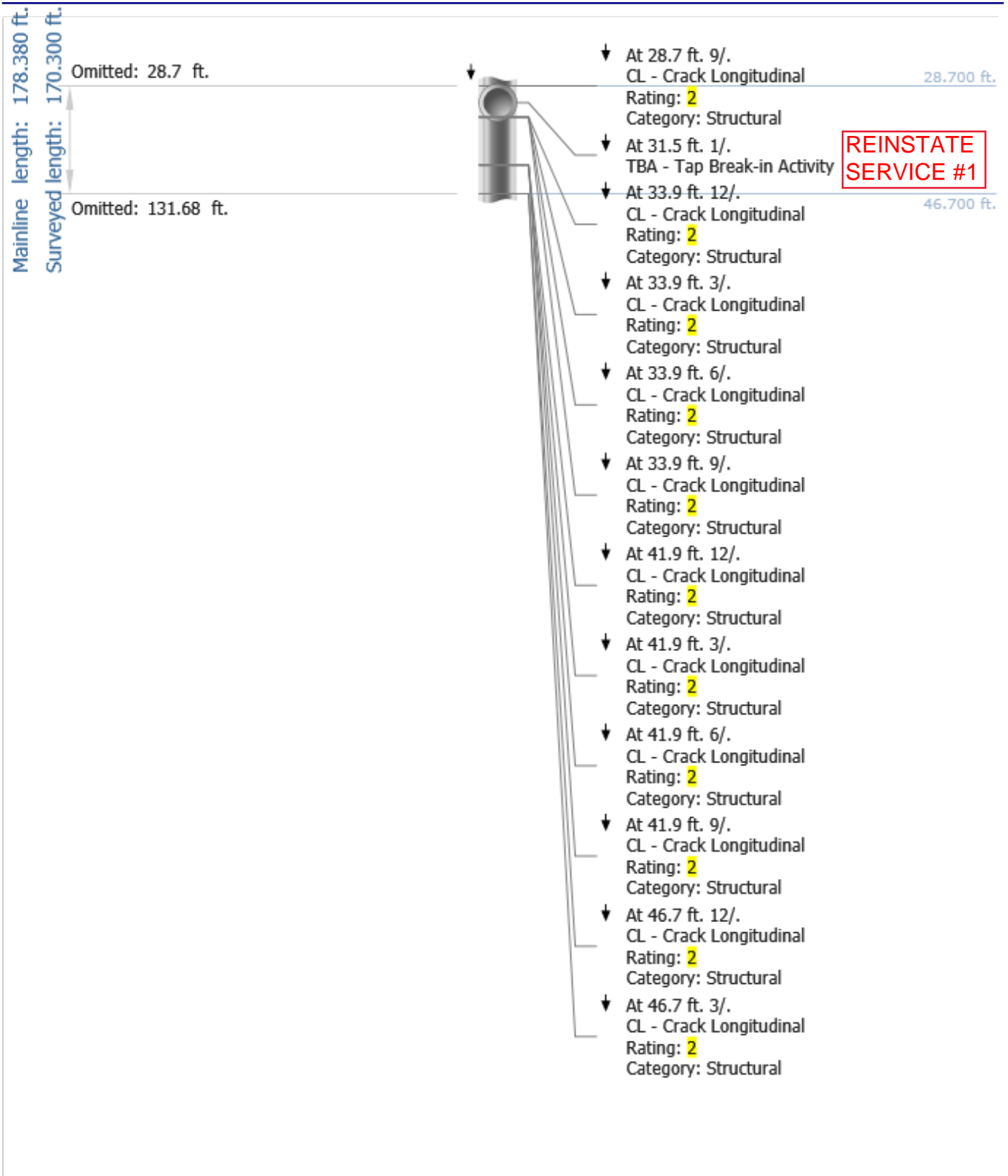
Urbana 2015 Storm Sewer Cleaning & TV Project

12/17/2015 12:59 PM

D

Weather:

1





Project name: Mainline ID: 2798

Start date/time:

Direction:

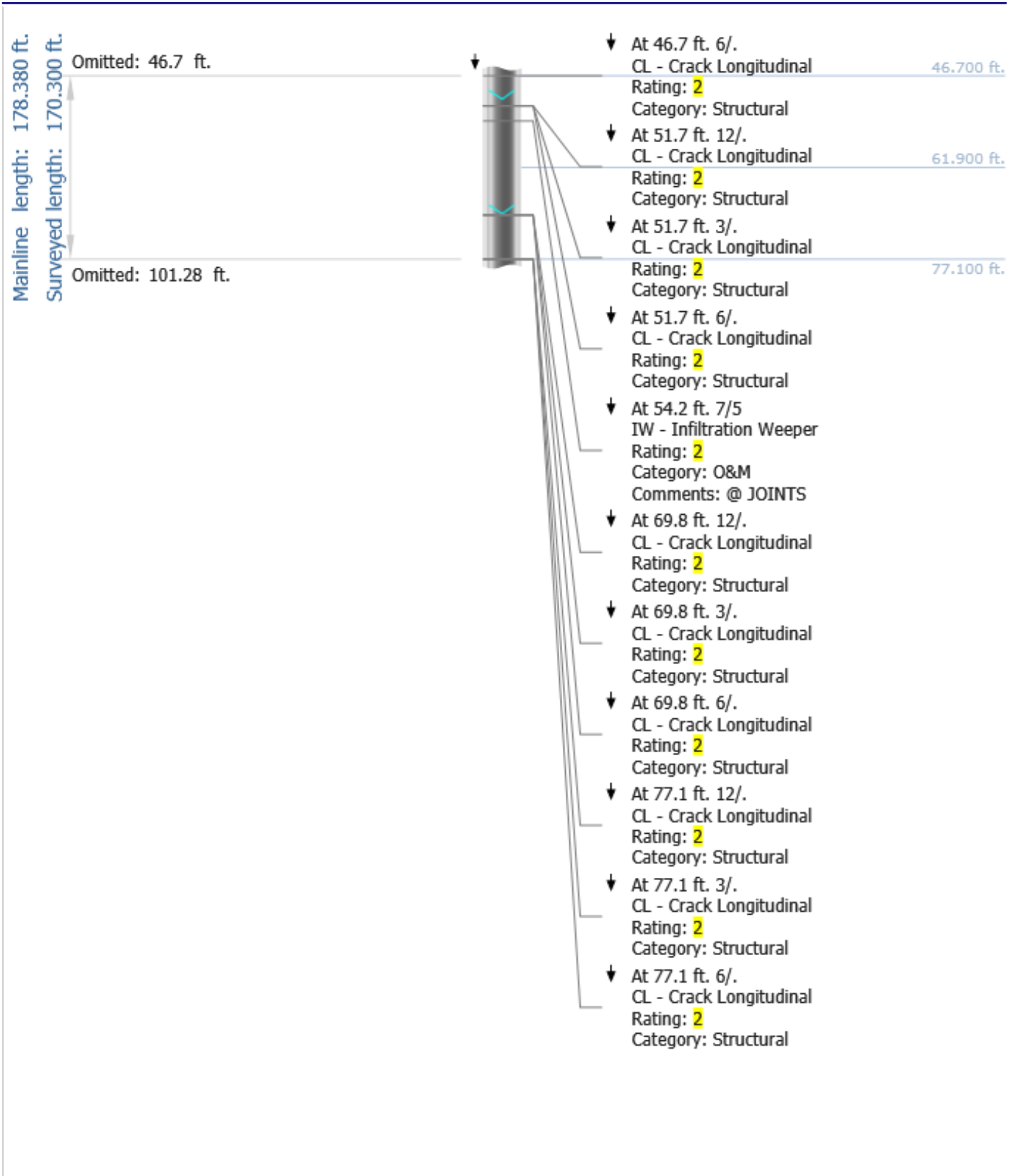
Urbana 2015 Storm Sewer Cleaning & TV Project

12/17/2015 12:59 PM

D

Weather:

1



Project name: Mainline ID: 2798

Start date/time:

Direction:

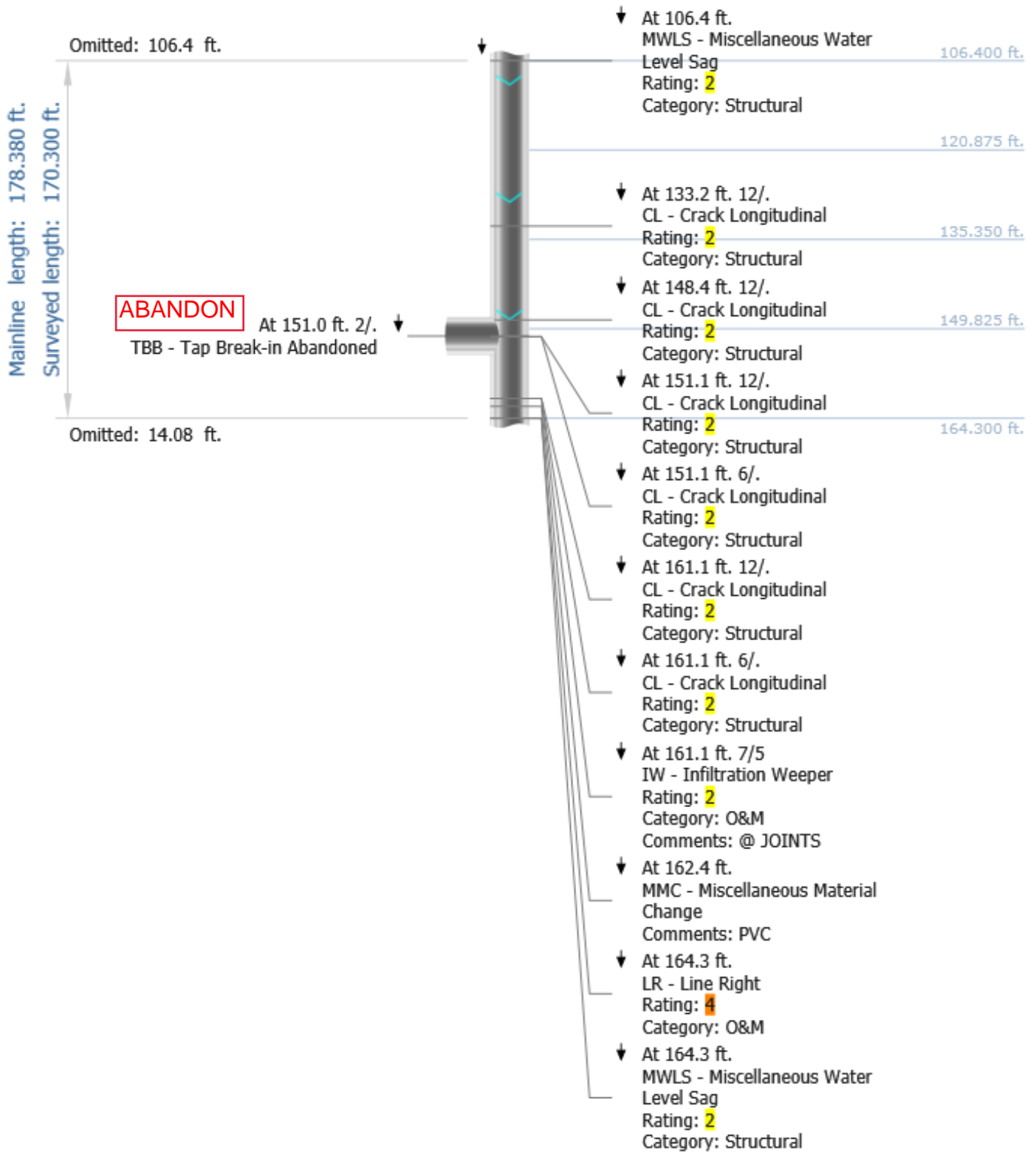
**Urbana 2015 Storm Sewer Cleaning & TV Project**

12/17/2015 12:59 PM

D

Weather:

1



Project name: Mainline ID: 2798

Start date/time:

Direction:

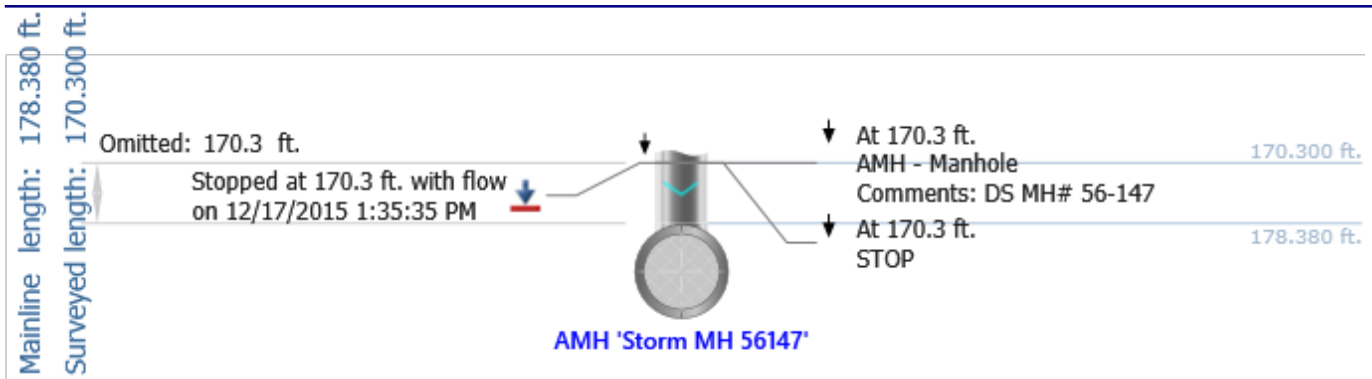
**Urbana 2015 Storm Sewer Cleaning & TV Project**

12/17/2015 12:59 PM

D

Weather:

1

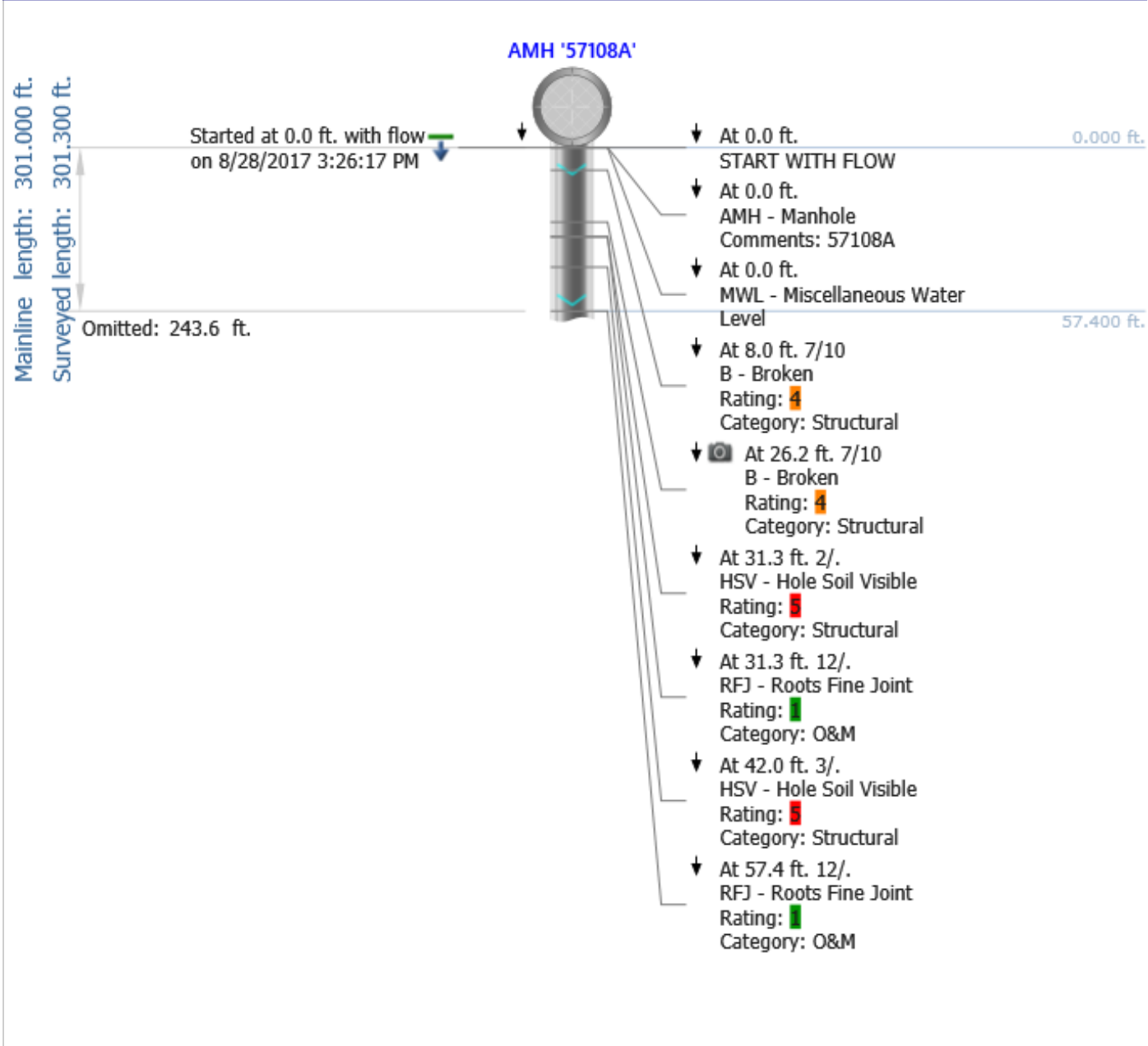




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	<b>2825</b>	<b>Urbana</b>	<b>Hill St &amp; Lincoln</b>
Start date/time:	Direction:	Weather:	Location code:
<b>8/28/2017 3:26 PM</b>	<b>D</b>		<b>C</b>
Shape:	Material:	Height:	Width:
<b>C</b>	<b>VCP</b>	<b>8 in.</b>	



Project name: Mainline ID:

Start date/time:

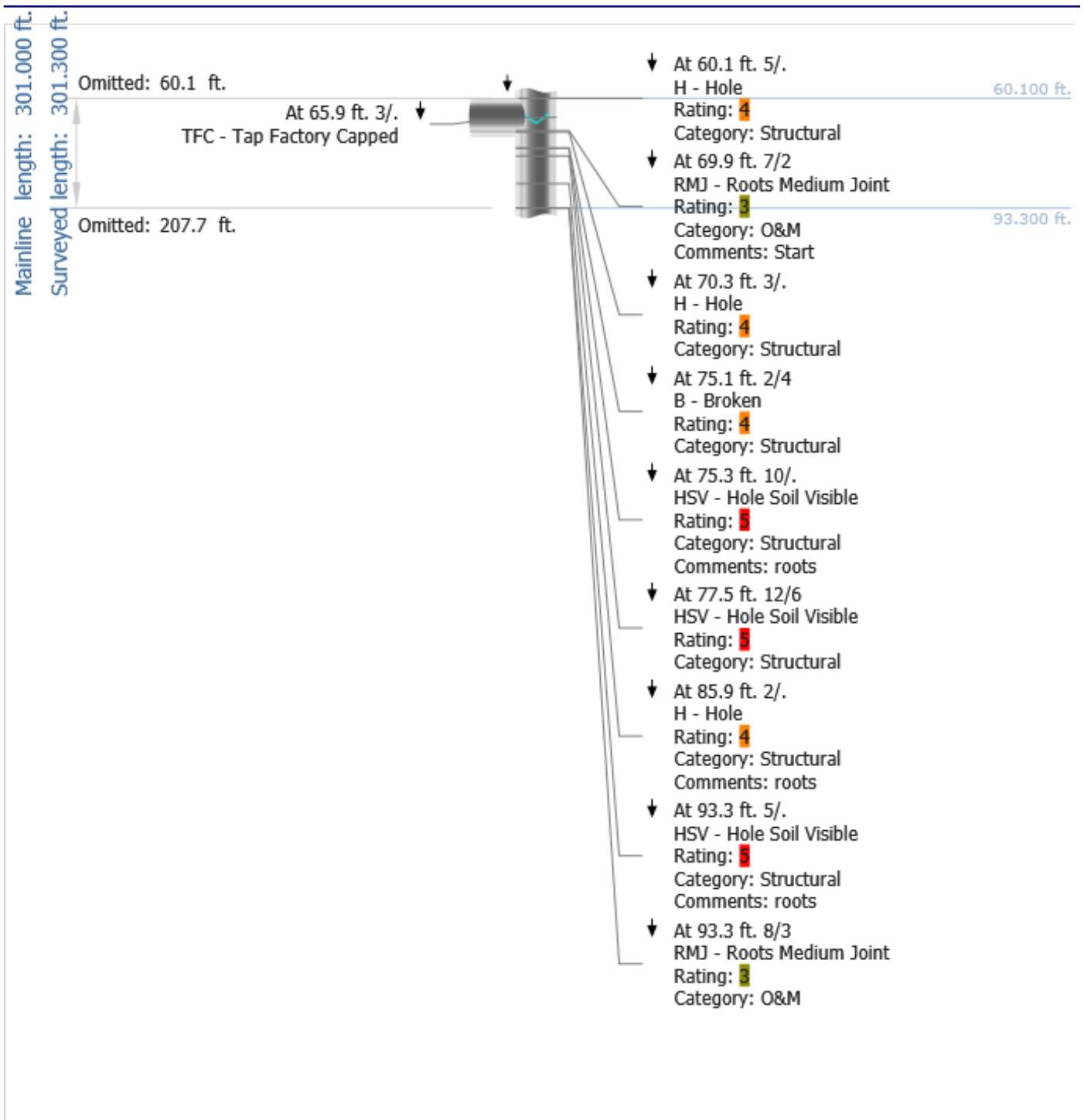
Direction:

**Urbana 2016 Storm Sewer 2825  
Cleaning & TV Project**

**8/28/2017 3:26 PM**

**D**

Weather:



Project name: Mainline ID:

Start date/time:

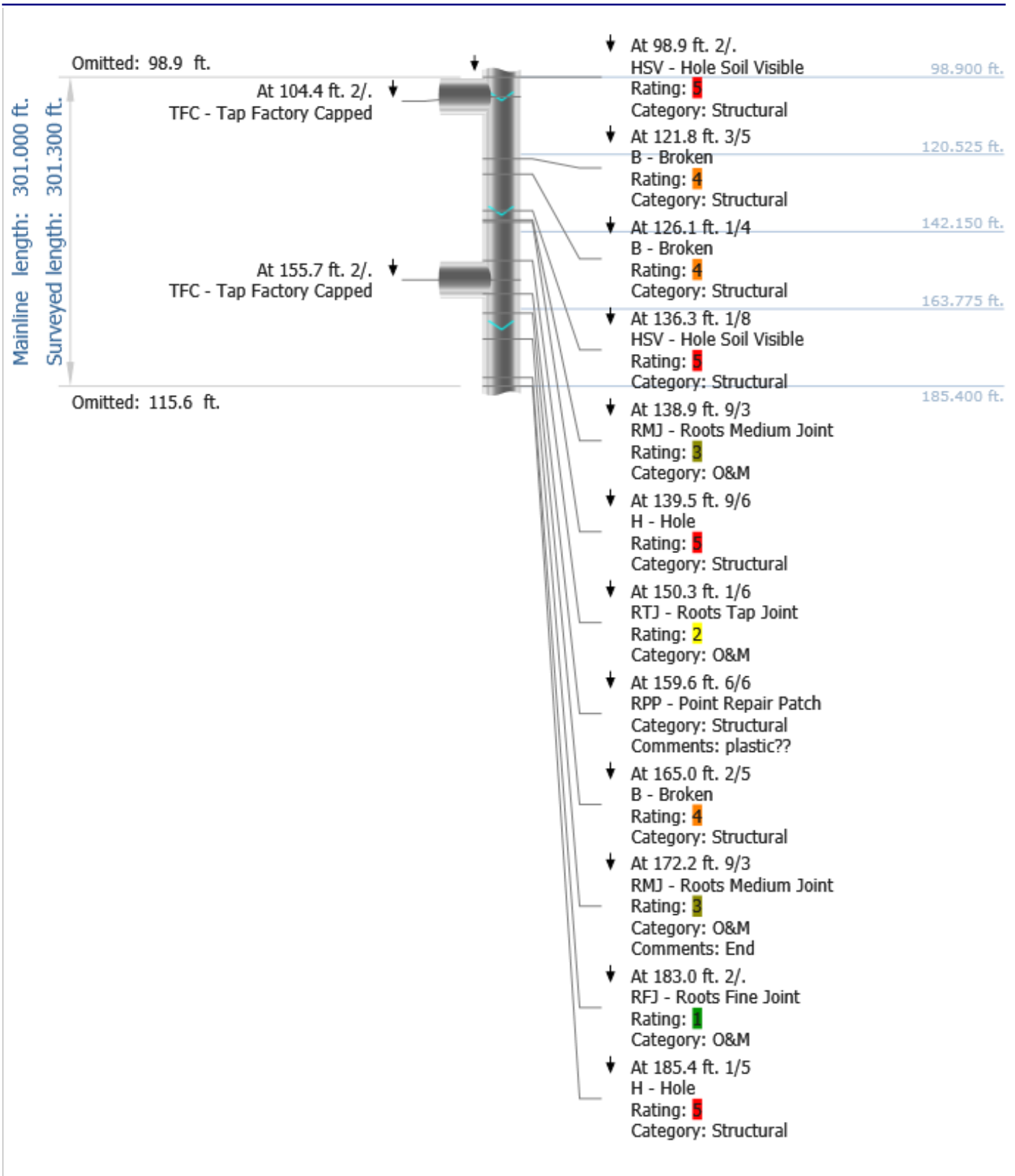
Direction:

**Urbana 2016 Storm Sewer 2825  
Cleaning & TV Project**

**8/28/2017 3:26 PM**

**D**

Weather:



Project name: Mainline ID:

Start date/time:

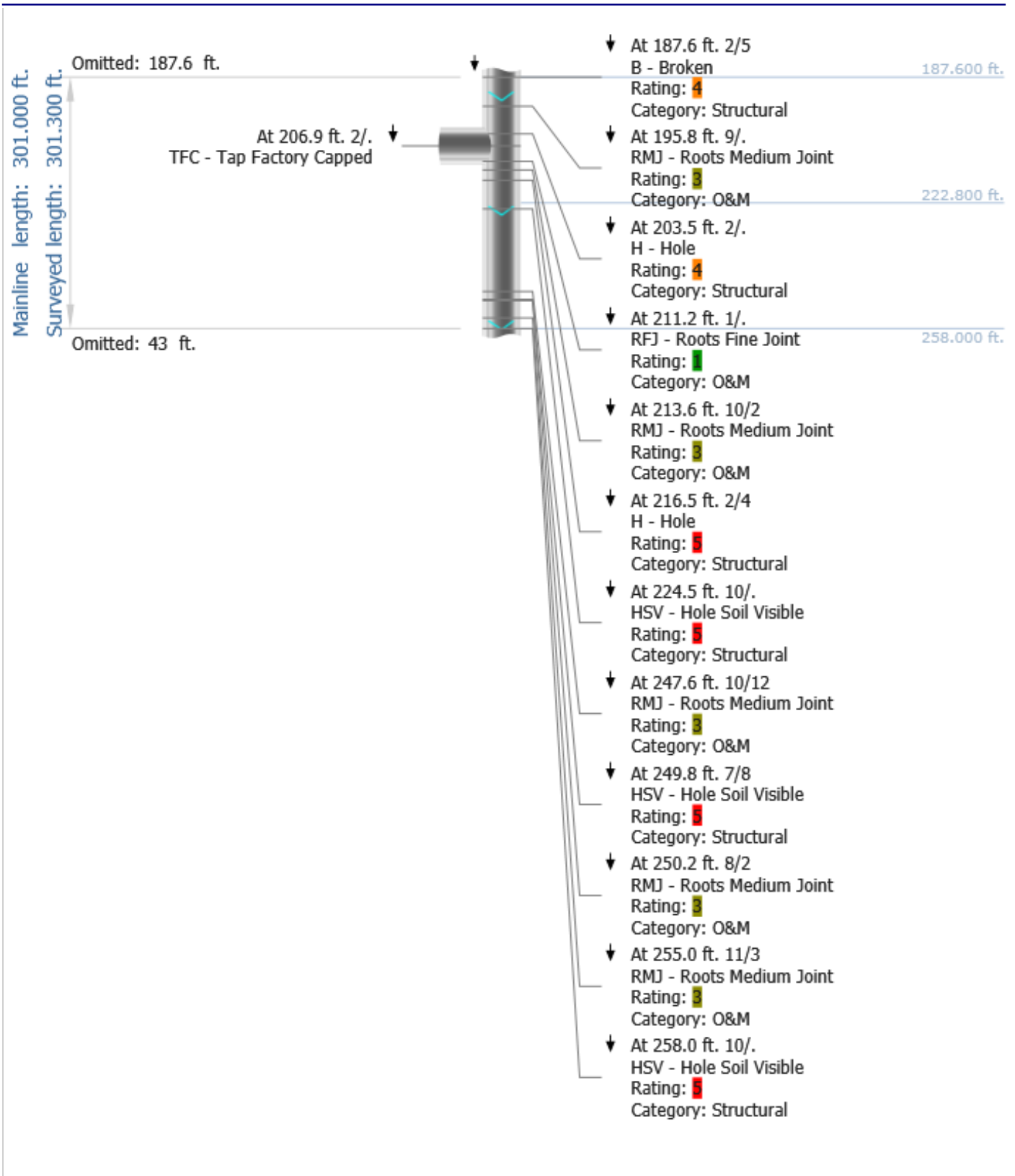
Direction:

**Urbana 2016 Storm Sewer 2825  
Cleaning & TV Project**

**8/28/2017 3:26 PM**

**D**

Weather:



Project name: Mainline ID:

Start date/time:

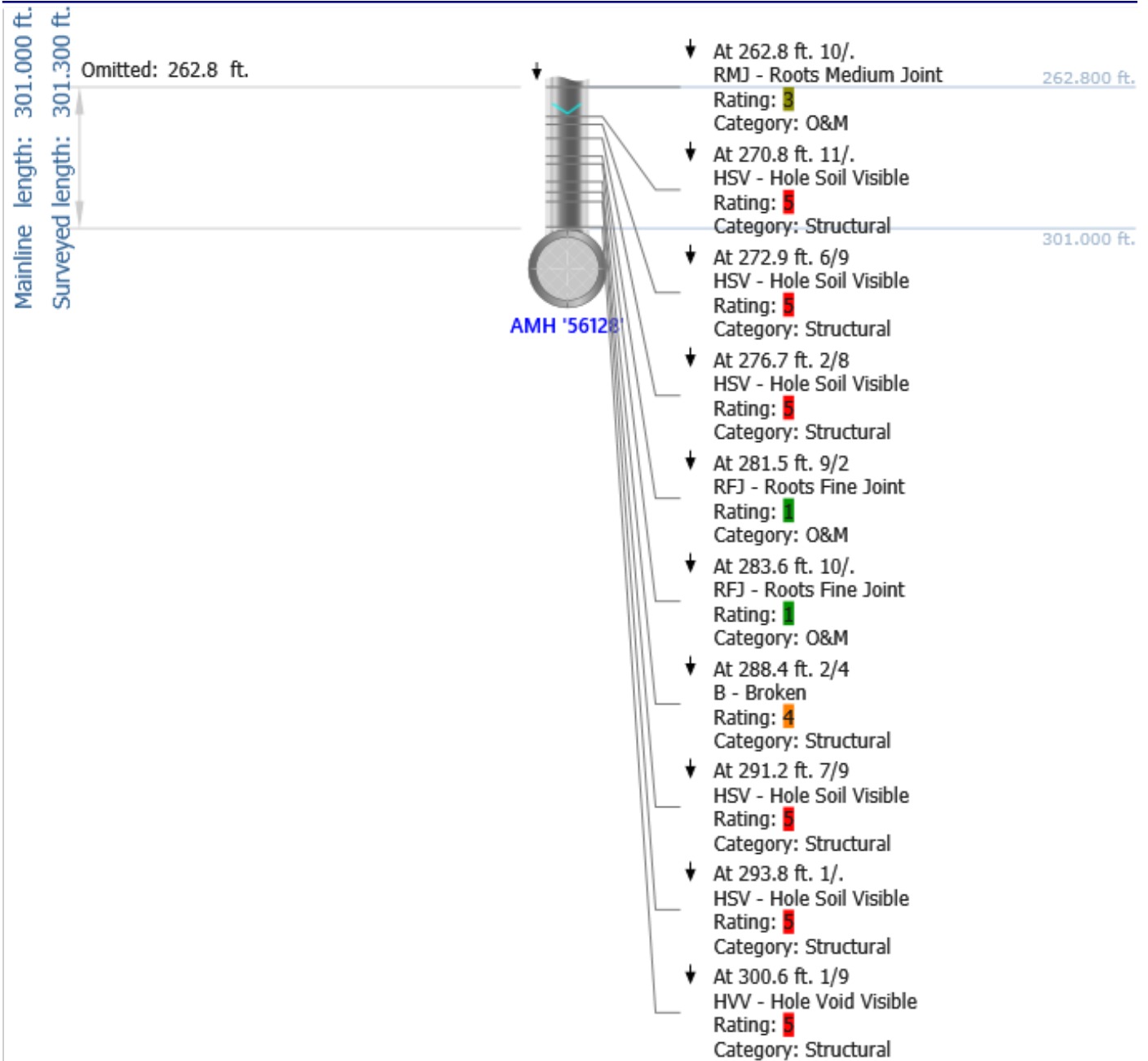
Direction:

**Urbana 2016 Storm Sewer 2825  
Cleaning & TV Project**

**8/28/2017 3:26 PM**

**D**

Weather:



**Some observations have distance greater than the pipe length**



Project name:

Mainline ID:

Start date/time:

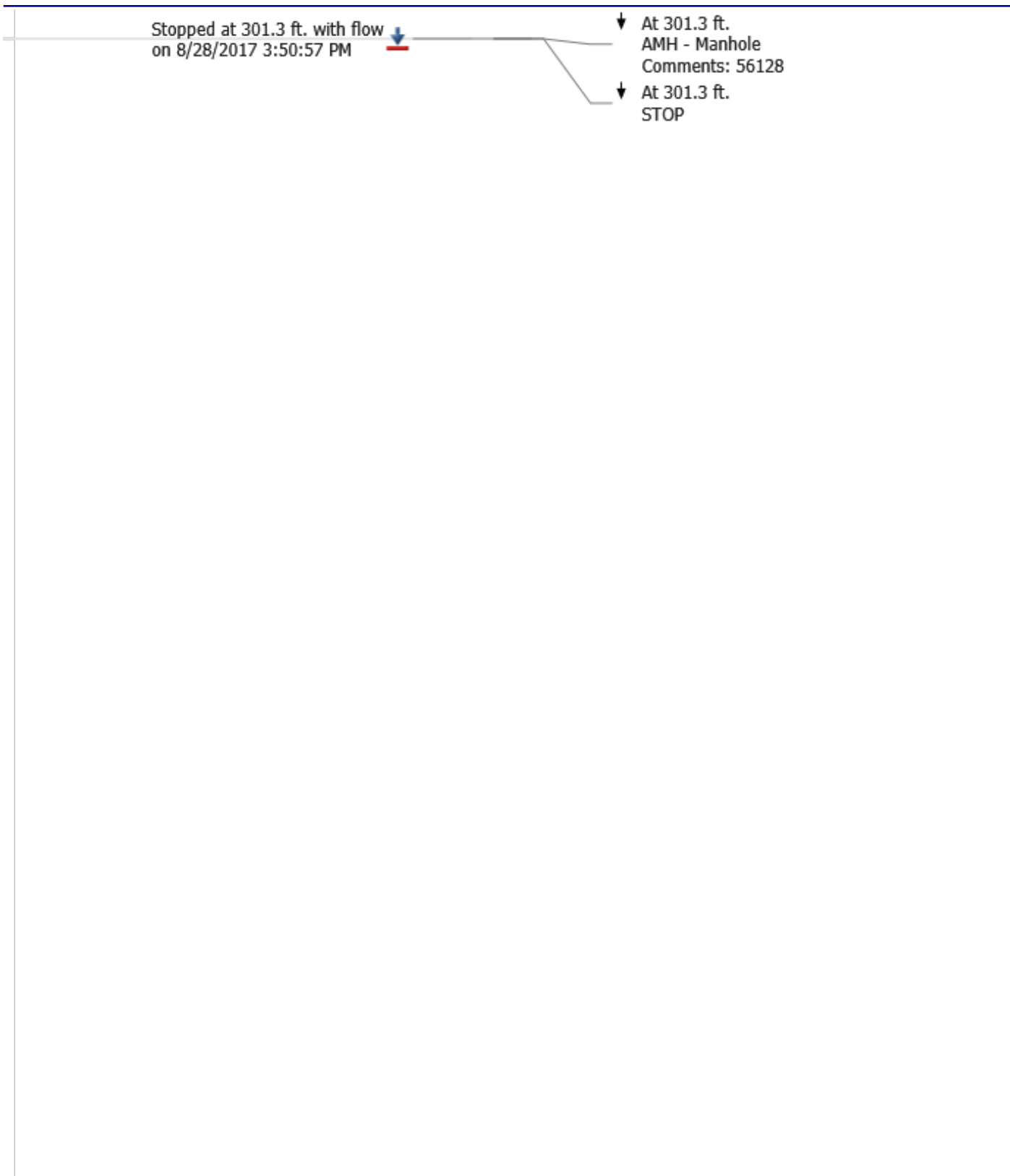
Direction:

**Urbana 2016 Storm Sewer 2825  
Cleaning & TV Project**

**8/28/2017 3:26 PM**

**D**

Weather:

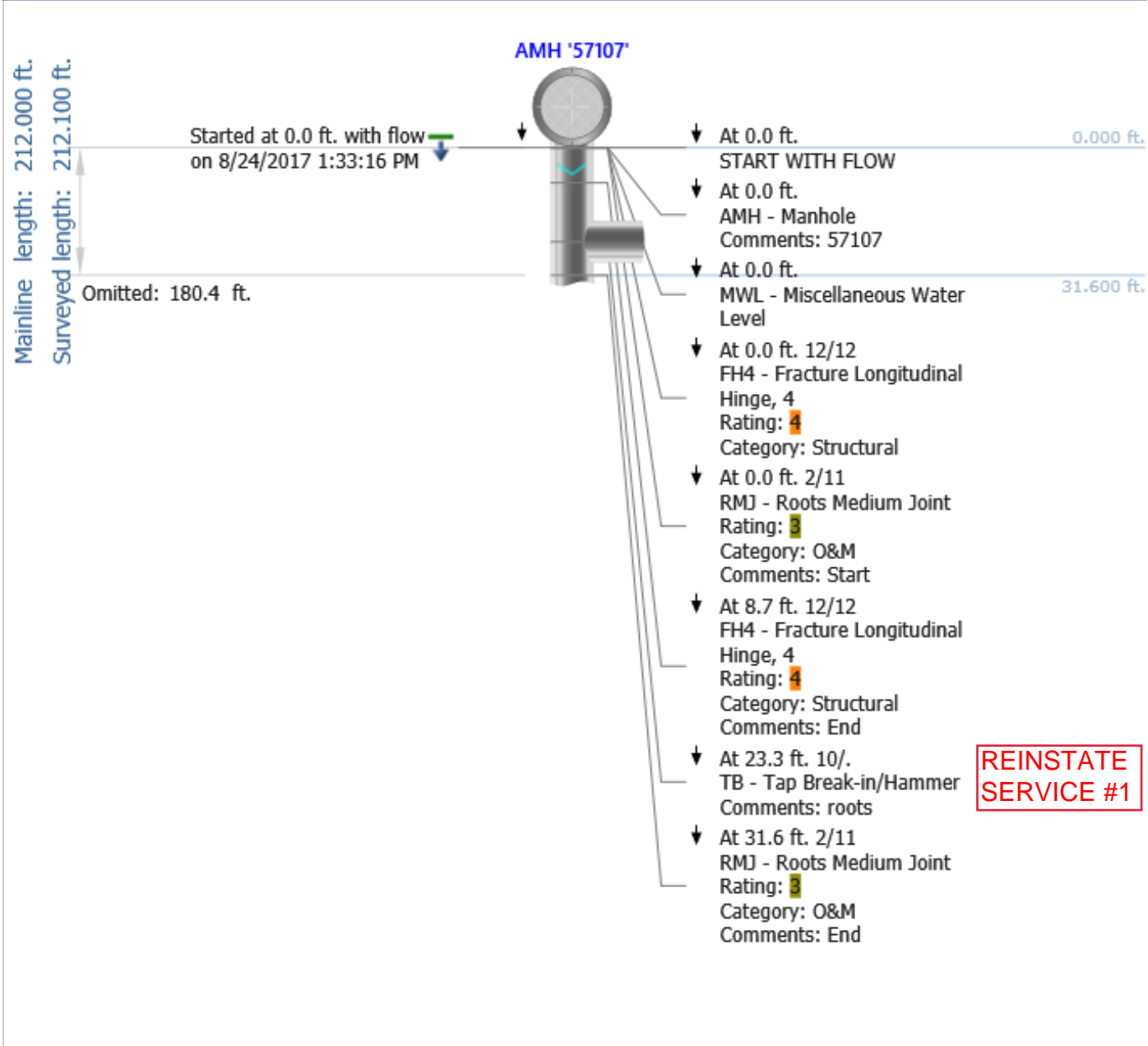




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2828</b>	City: <b>Urbana</b>	Street: <b>N Busey Ave</b>
Start date/time: <b>8/24/2017 1:33 PM</b>	Direction: <b>D</b>	Weather:	Location code: <b>D</b>
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>12 in.</b>	Width:



Project name: Mainline ID:

Start date/time:

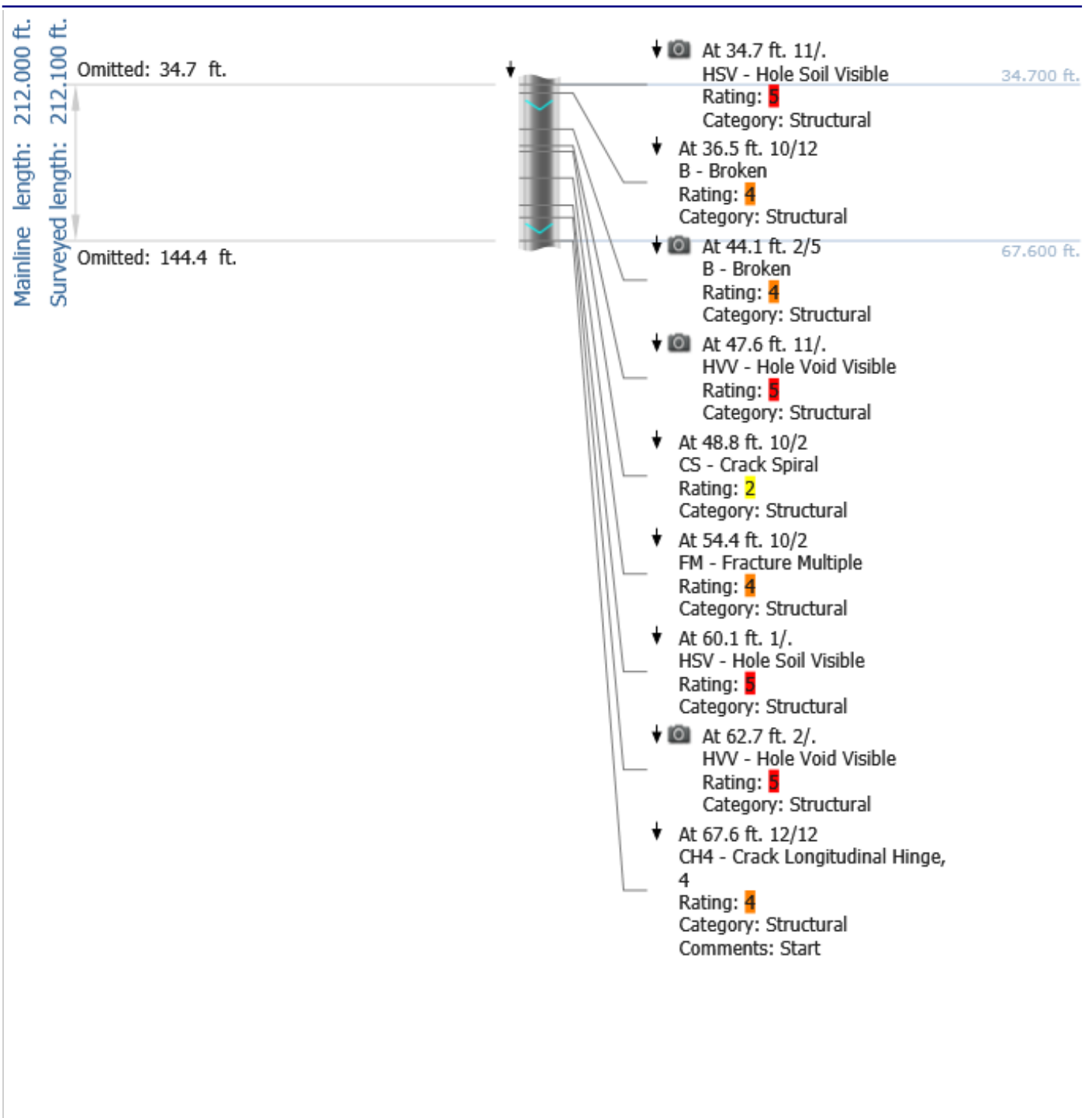
Direction:

**Urbana 2016 Storm Sewer 2828  
Cleaning & TV Project**

**8/24/2017 1:33 PM**

**D**

Weather:



Project name: Mainline ID:

Start date/time:

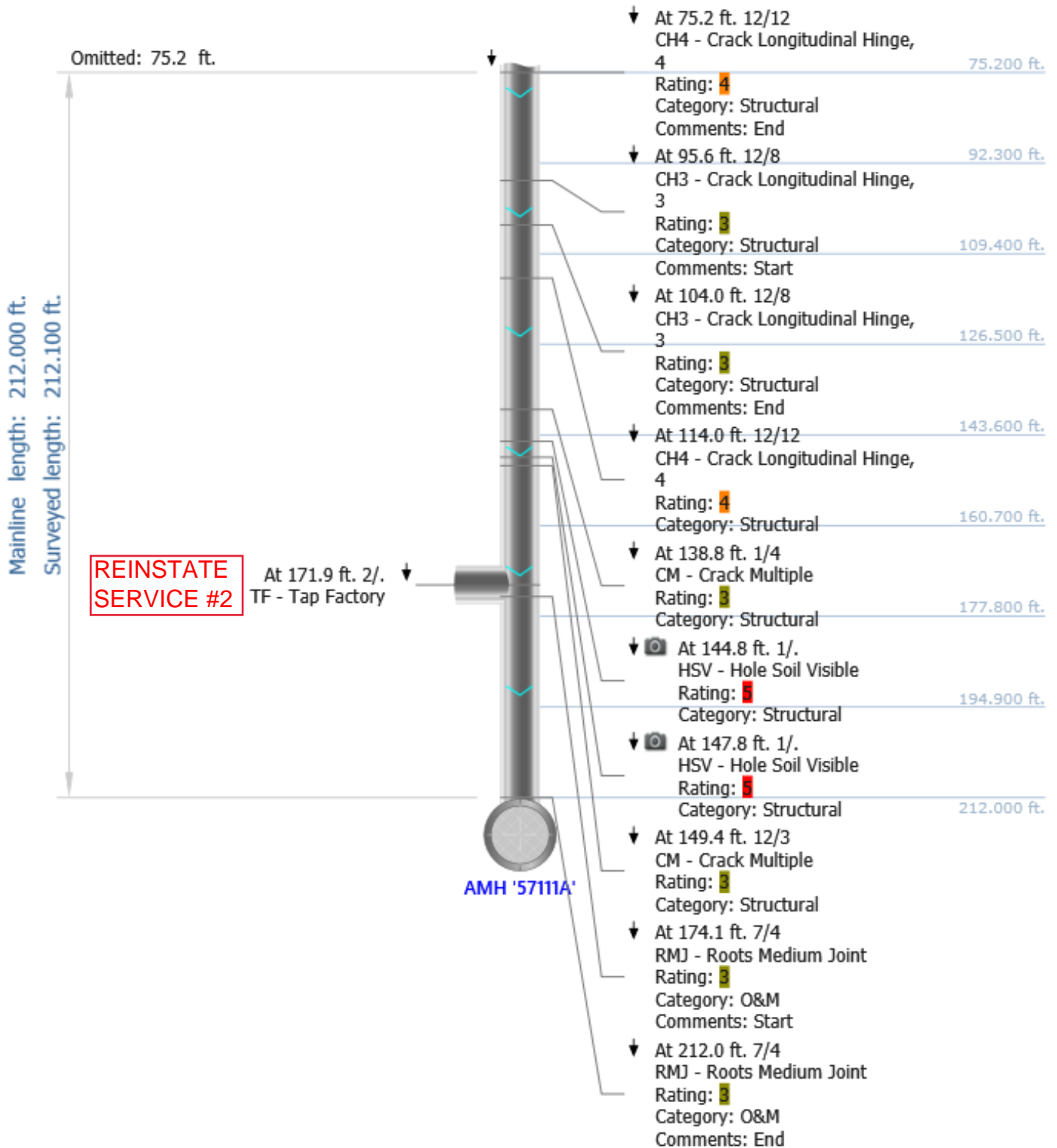
Direction:

**Urbana 2016 Storm Sewer 2828  
Cleaning & TV Project**

**8/24/2017 1:33 PM**

**D**

Weather:



**Some observations have distance greater than the pipe length**

Project name:

Mainline ID:

Start date/time:

Direction:

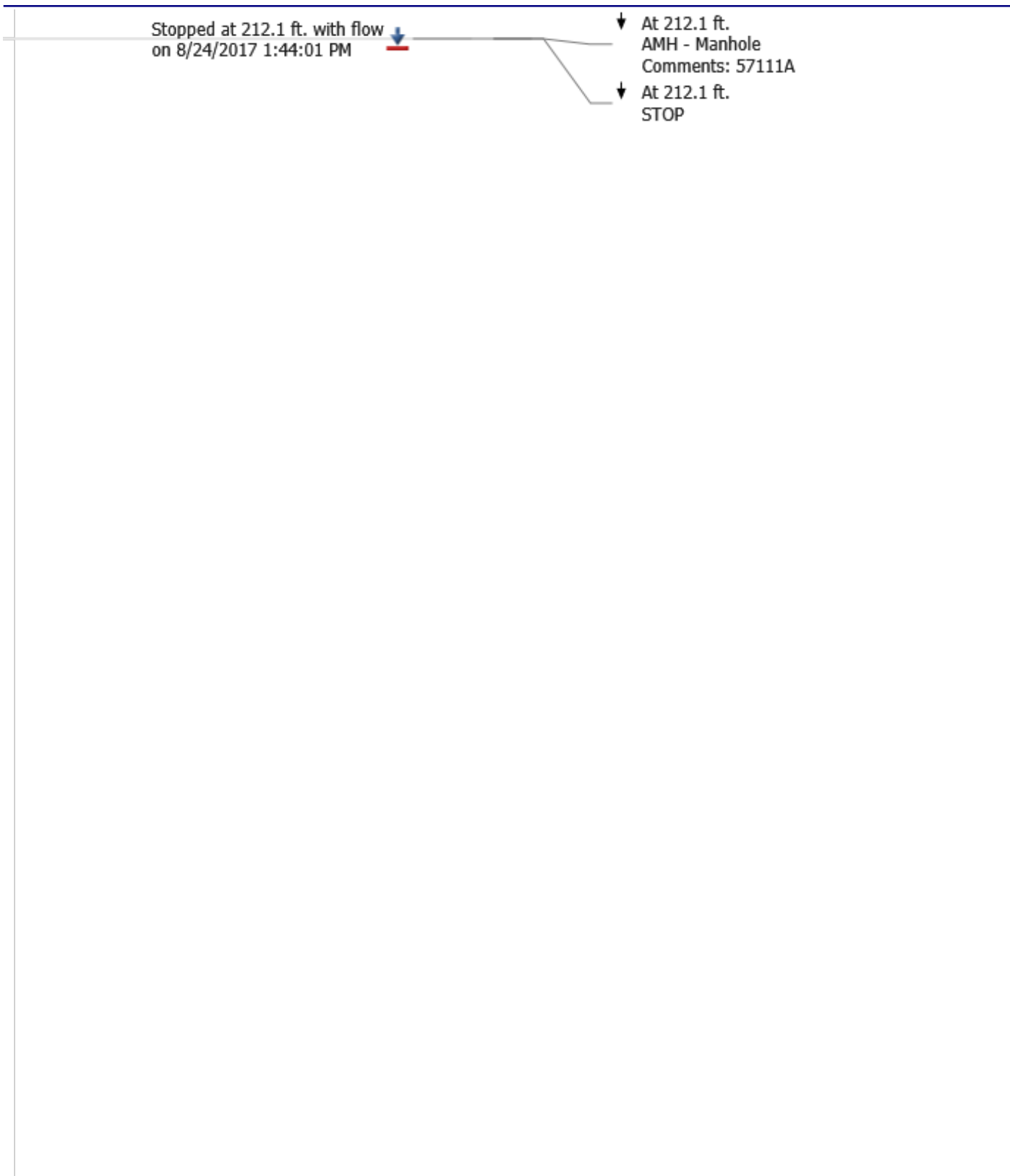
**Urbana 2016 Storm Sewer 2828**

**8/24/2017 1:33 PM**

**D**

**Cleaning & TV Project**

Weather:

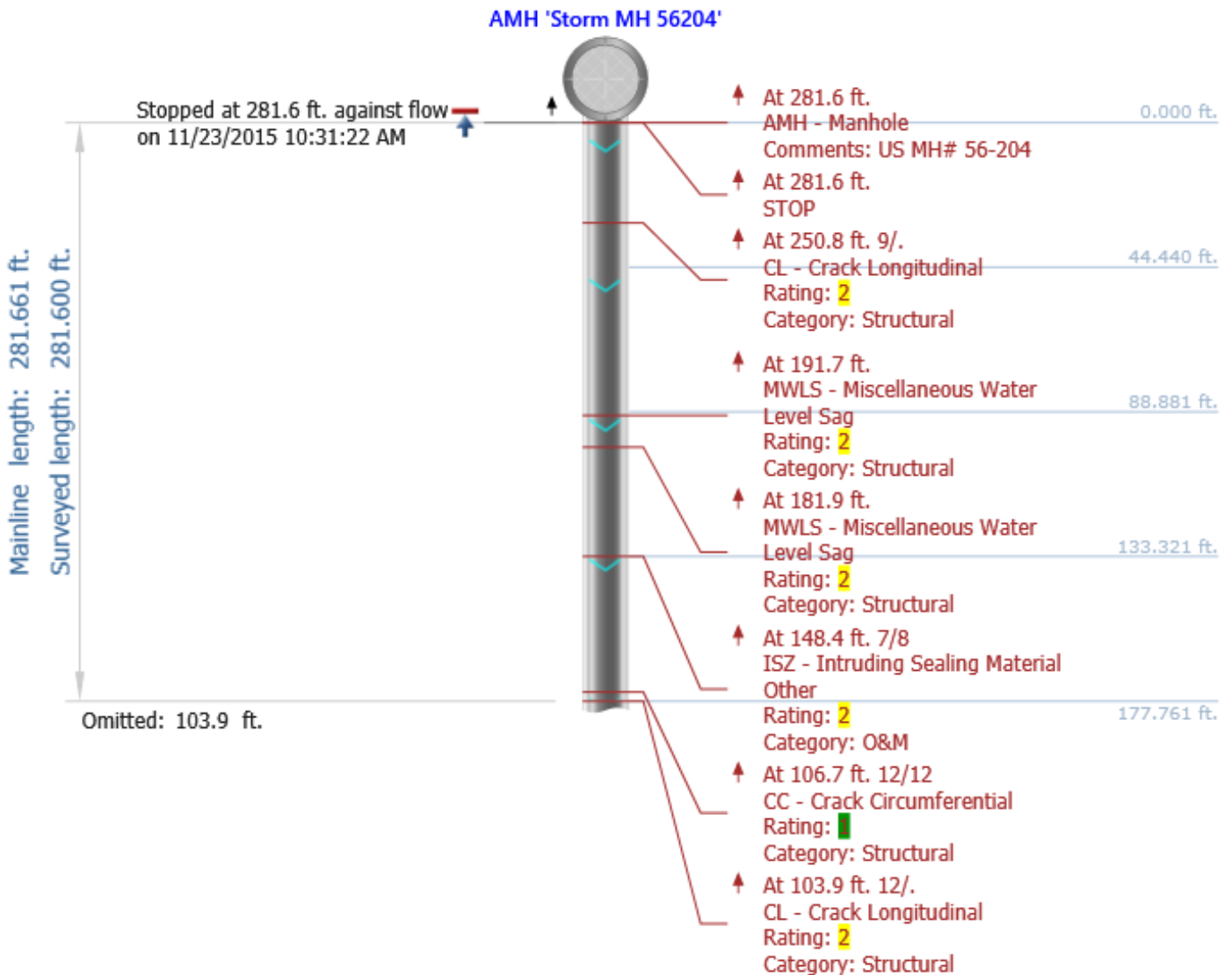




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>2858</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>U</b>	Weather:	Location code:
<b>11/23/2015 10:07 AM</b>	Material:	<b>1</b>	
Shape:	<b>RCP</b>	Height:	Width:
<b>C</b>		<b>12 in.</b>	



Project name: Mainline ID: 2858

Start date/time:

Direction:

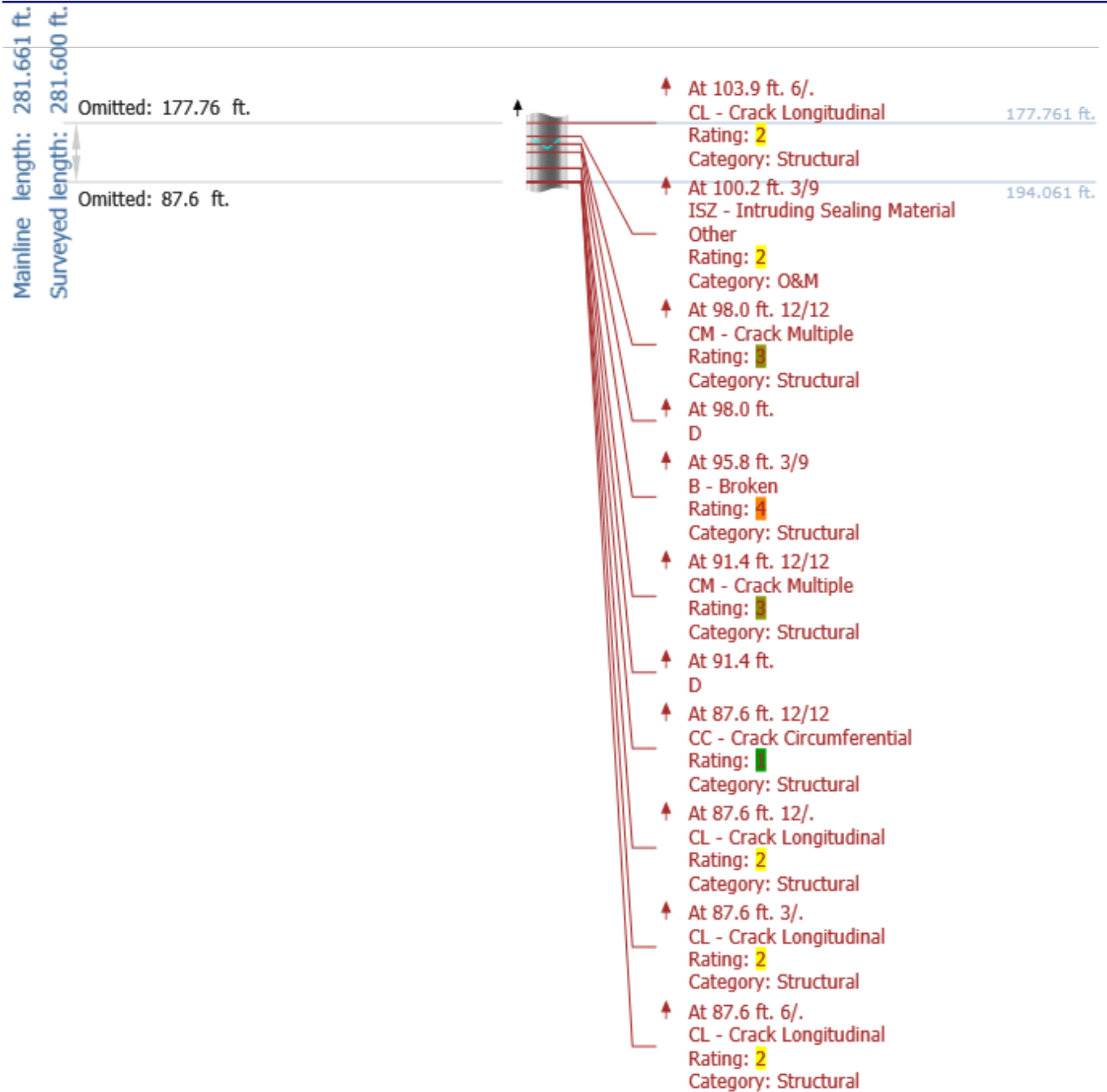
Urbana 2015 Storm Sewer Cleaning & TV Project

11/23/2015 10:07 AM

U

Weather:

1



Project name: Mainline ID: 2858

Start date/time:

Direction:

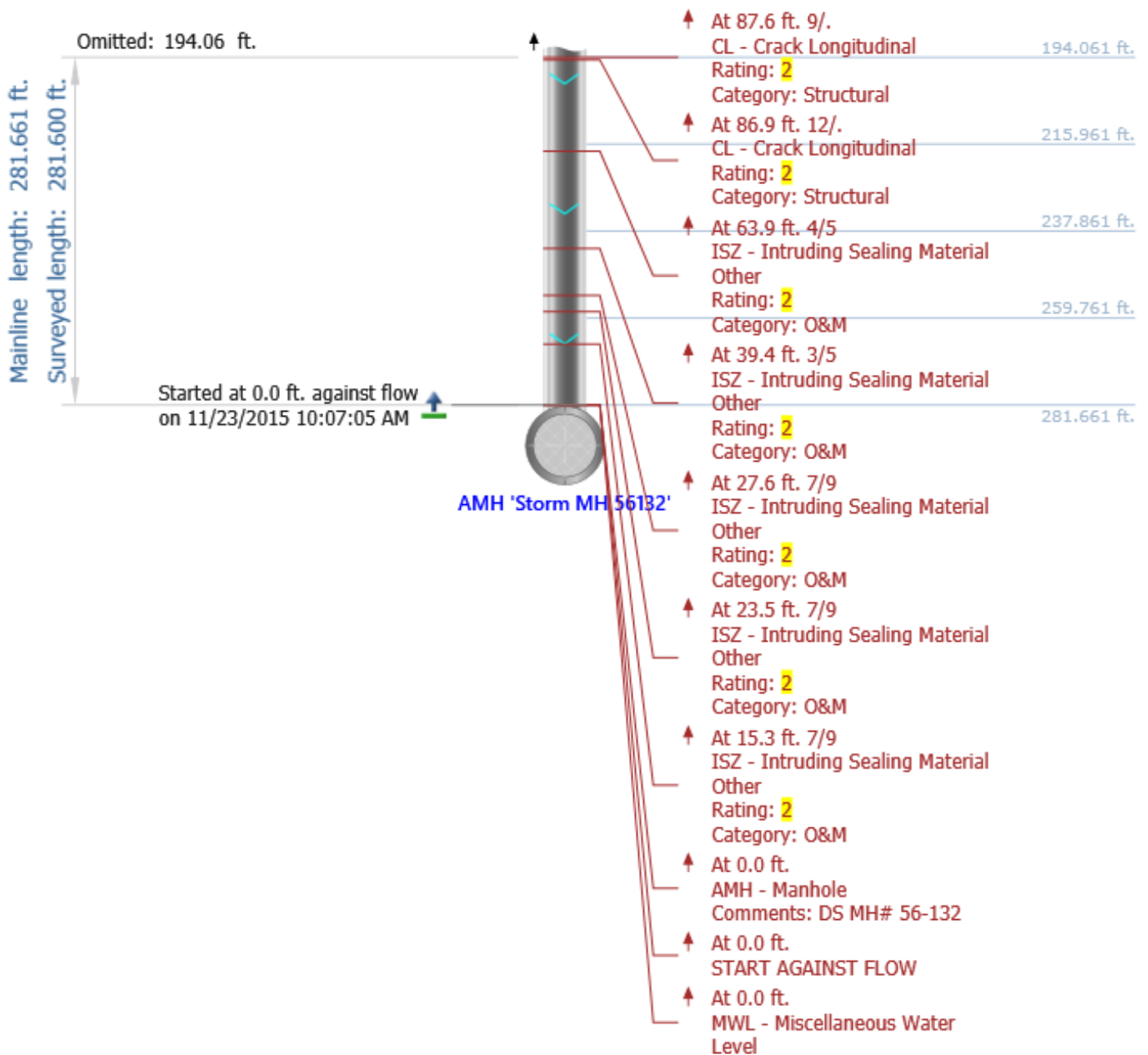
Urbana 2015 Storm Sewer Cleaning & TV Project

11/23/2015 10:07 AM

U

Weather:

1



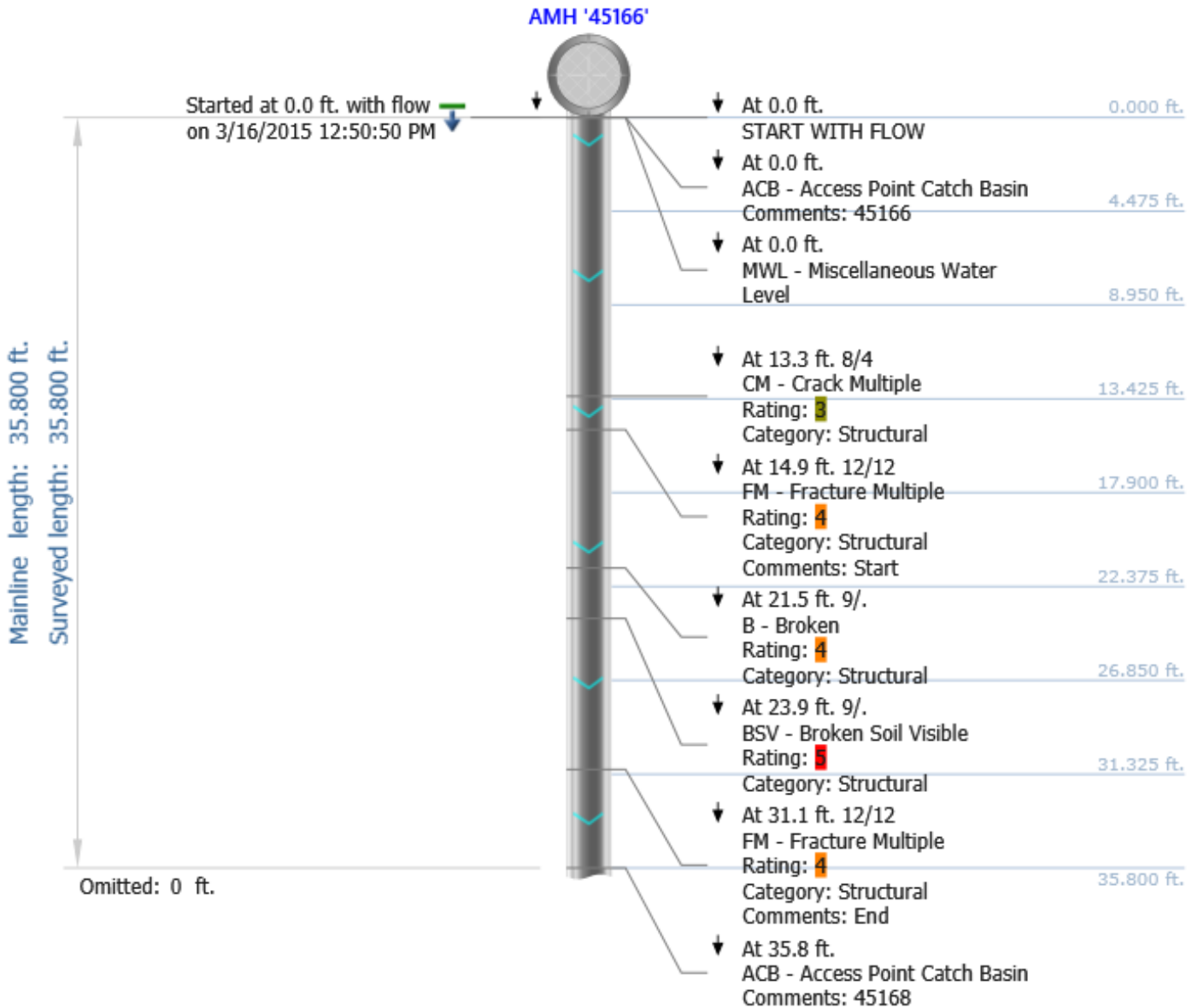




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>2886</b>	City: <b>Urbana</b>	Street: <b>Dublin From Romine to N Matthews</b>
Start date/time: <b>3/16/2015 12:50 PM</b>	Direction: <b>D</b>	Weather: <b>5</b>	Location code: <b>C</b>
Shape: <b>C</b>	Material: <b>CL</b>	Height: <b>10 in.</b>	Width:



Project name: Mainline ID:

Start date/time:

Direction:

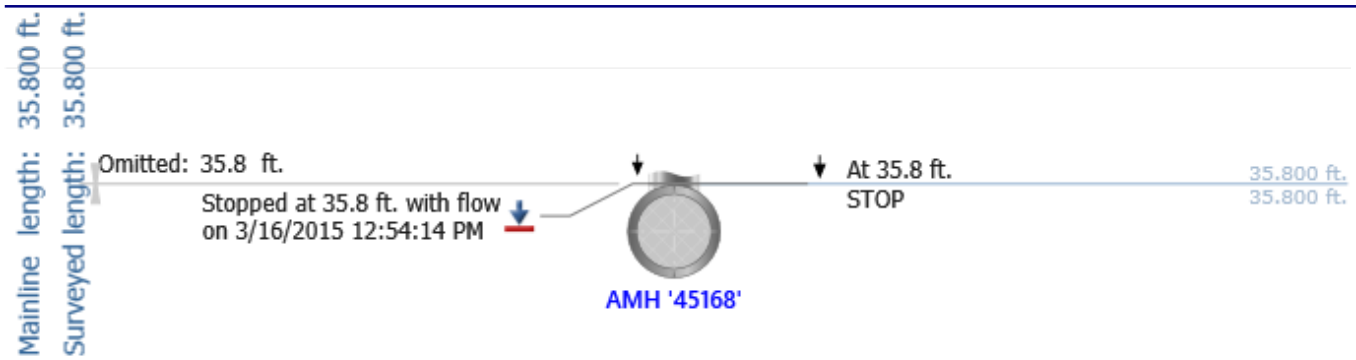
**Urbana 2014 Storm Sewer 2886  
Cleaning & TV Project**

**3/16/2015 12:50 PM**

**D**

Weather:

**5**

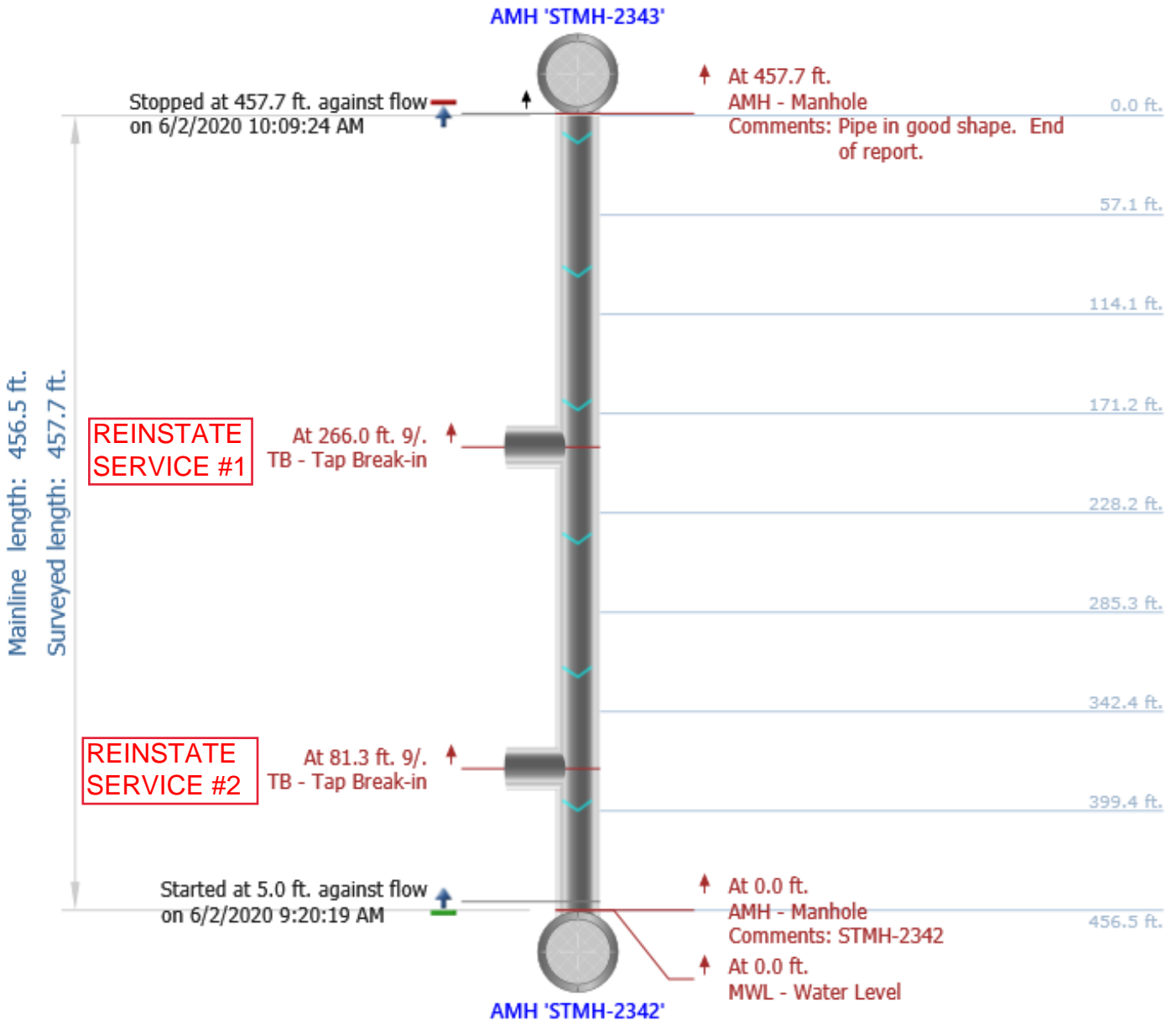




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2020 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-3069</b>	City: <b>URB</b>	Street: <b>S Lincoln Ave</b>
Start date/time: <b>6/2/2020 9:20 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>12 in.</b>	Width:

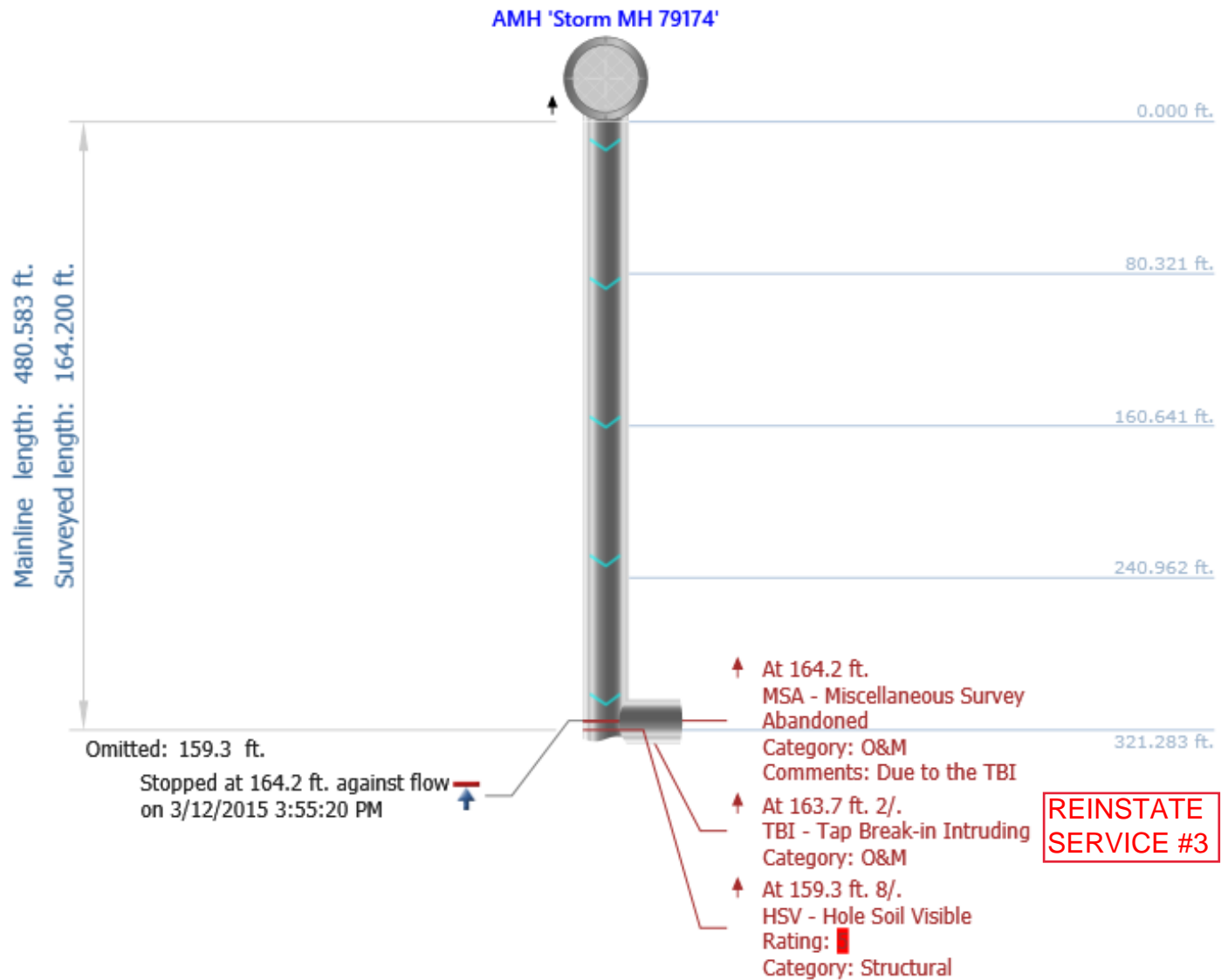




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>3119</b>	City: <b>Urbana</b>	Street: <b>W Michigan Ave</b>
Start date/time: <b>3/12/2015 3:46 PM</b>	Direction: <b>U</b>	Weather: <b>5</b>	Location code: <b>D</b>
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>8 in.</b>	Width:



Project name:

Mainline ID: 3119

Start date/time:

Direction:

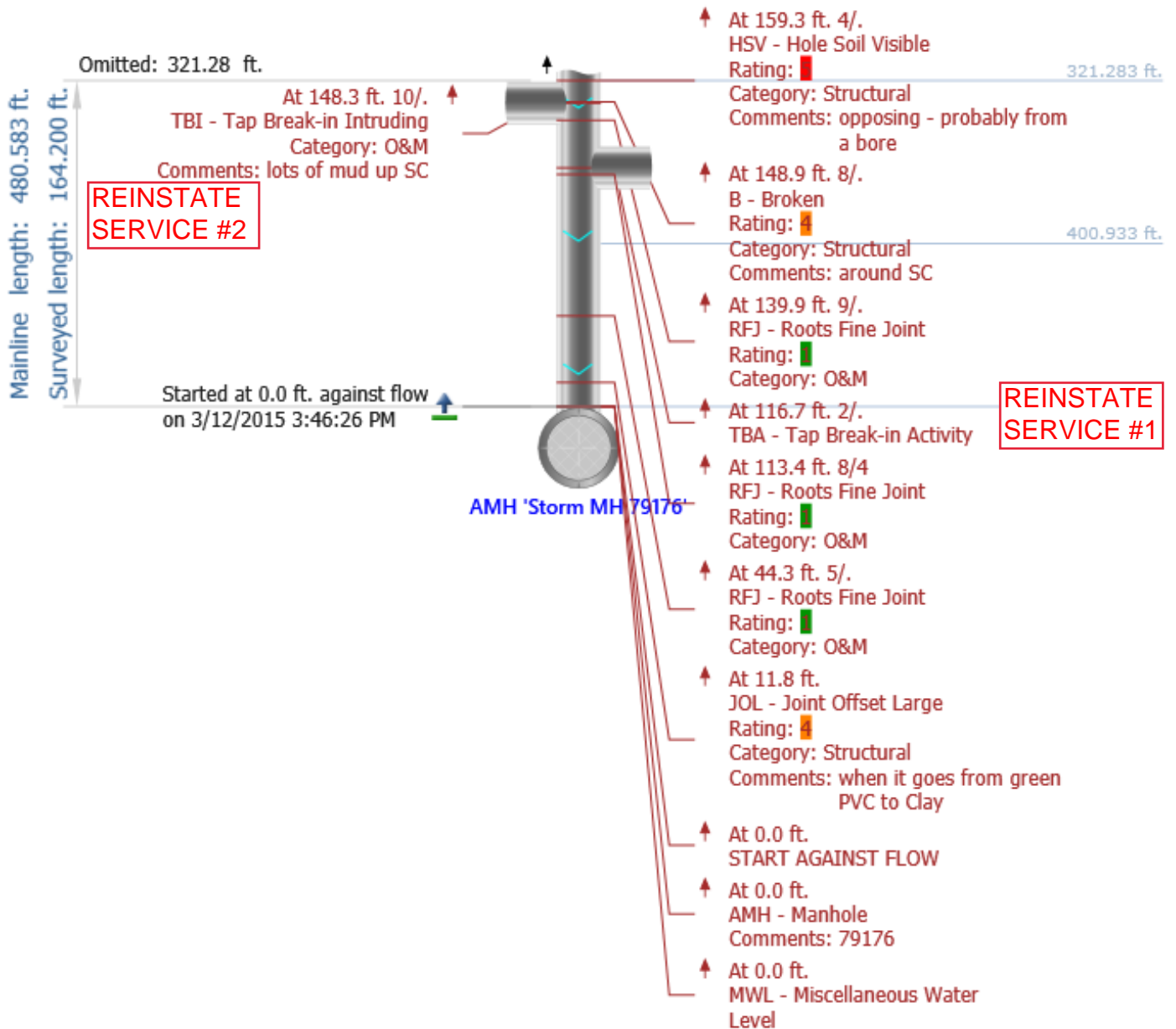
**Urbana 2014 Storm Sewer Cleaning & TV Project**

3/12/2015 3:46 PM

U

Weather:

5

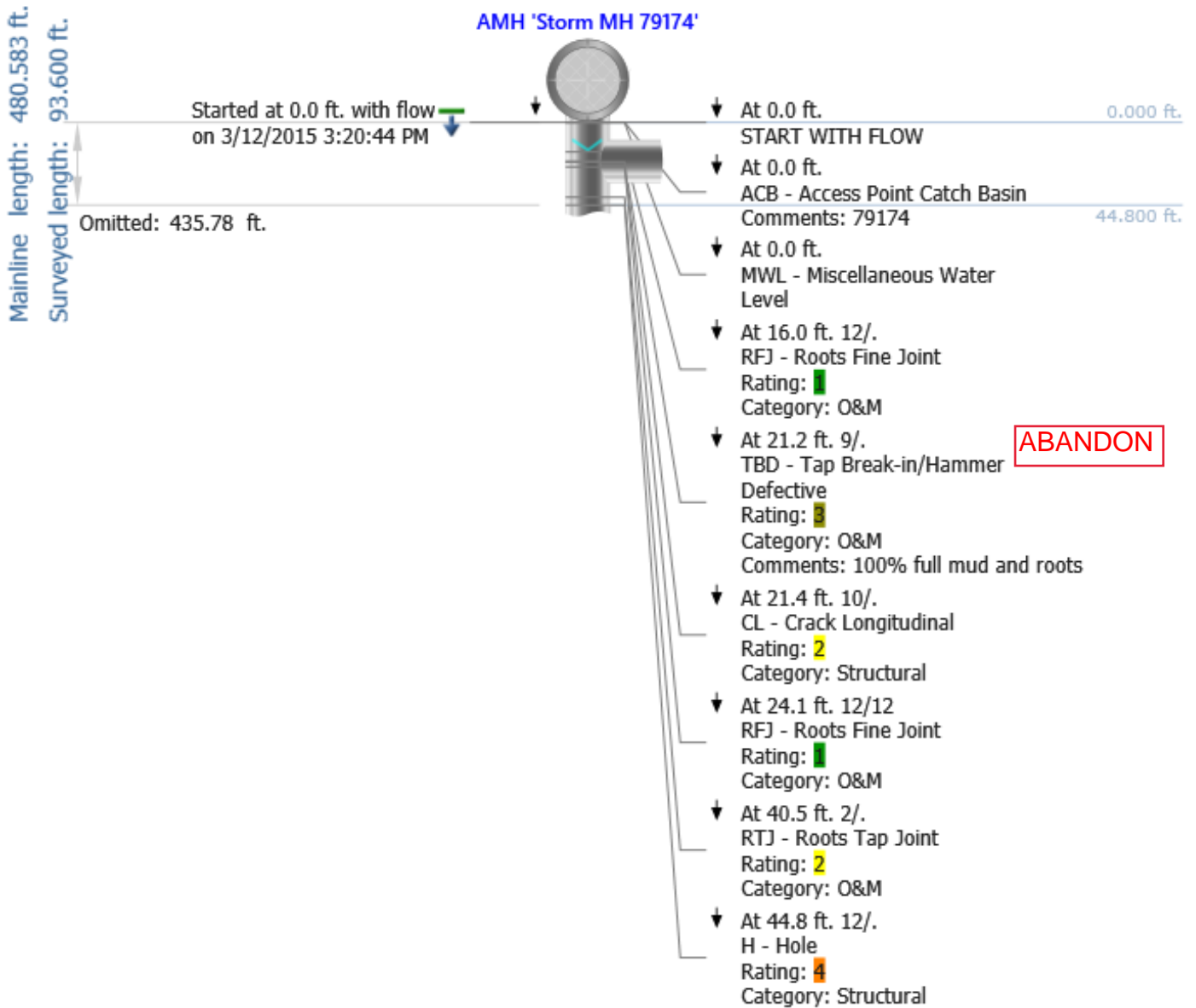




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>3119</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>W Michigan Ave</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>3/12/2015 3:20 PM</b>	Material:	<b>5</b>	<b>D</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	



Project name:

Mainline ID: 3119

Start date/time:

Direction:

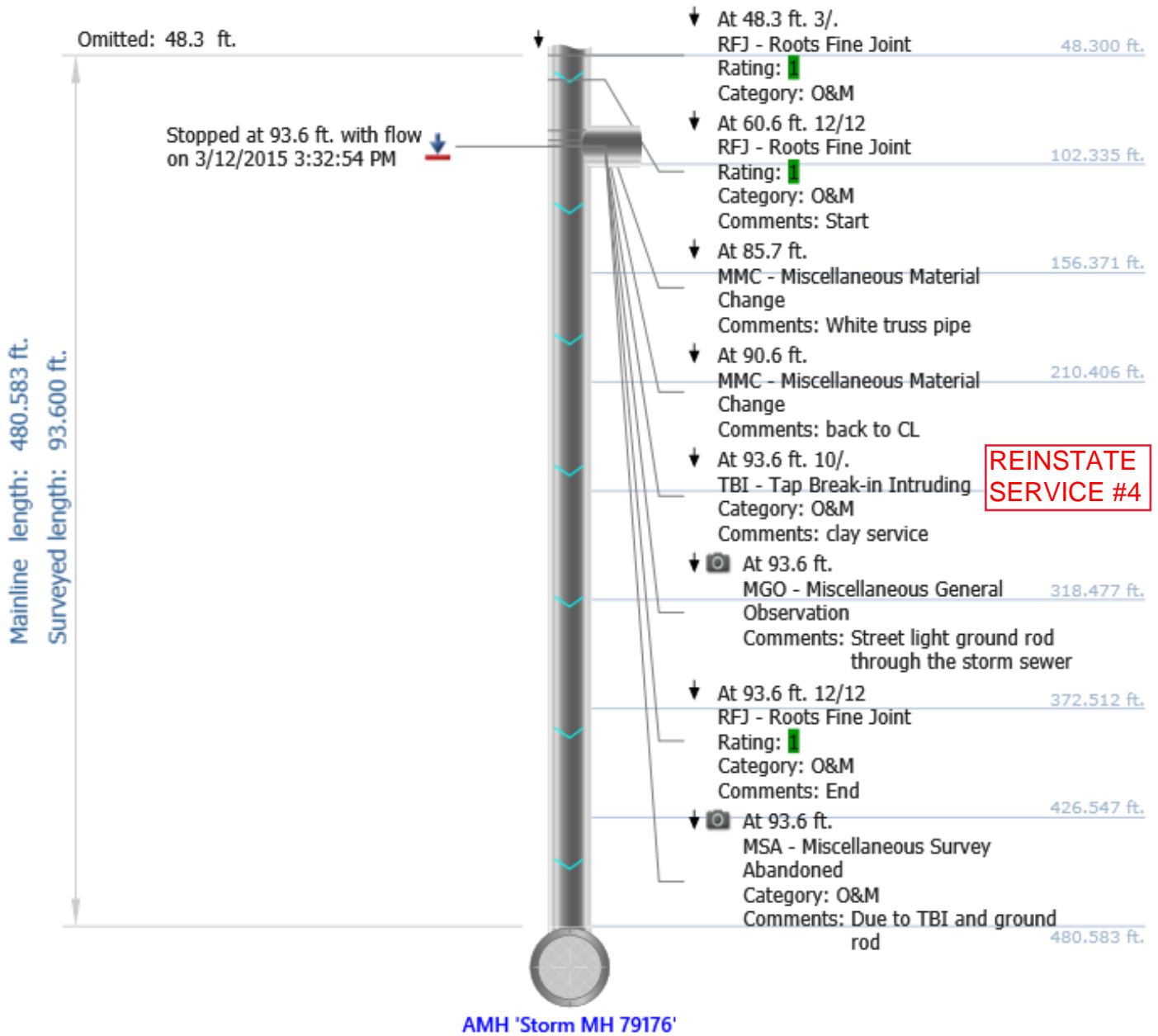
**Urbana 2014 Storm Sewer Cleaning & TV Project**

3/12/2015 3:20 PM

D

Weather:

5

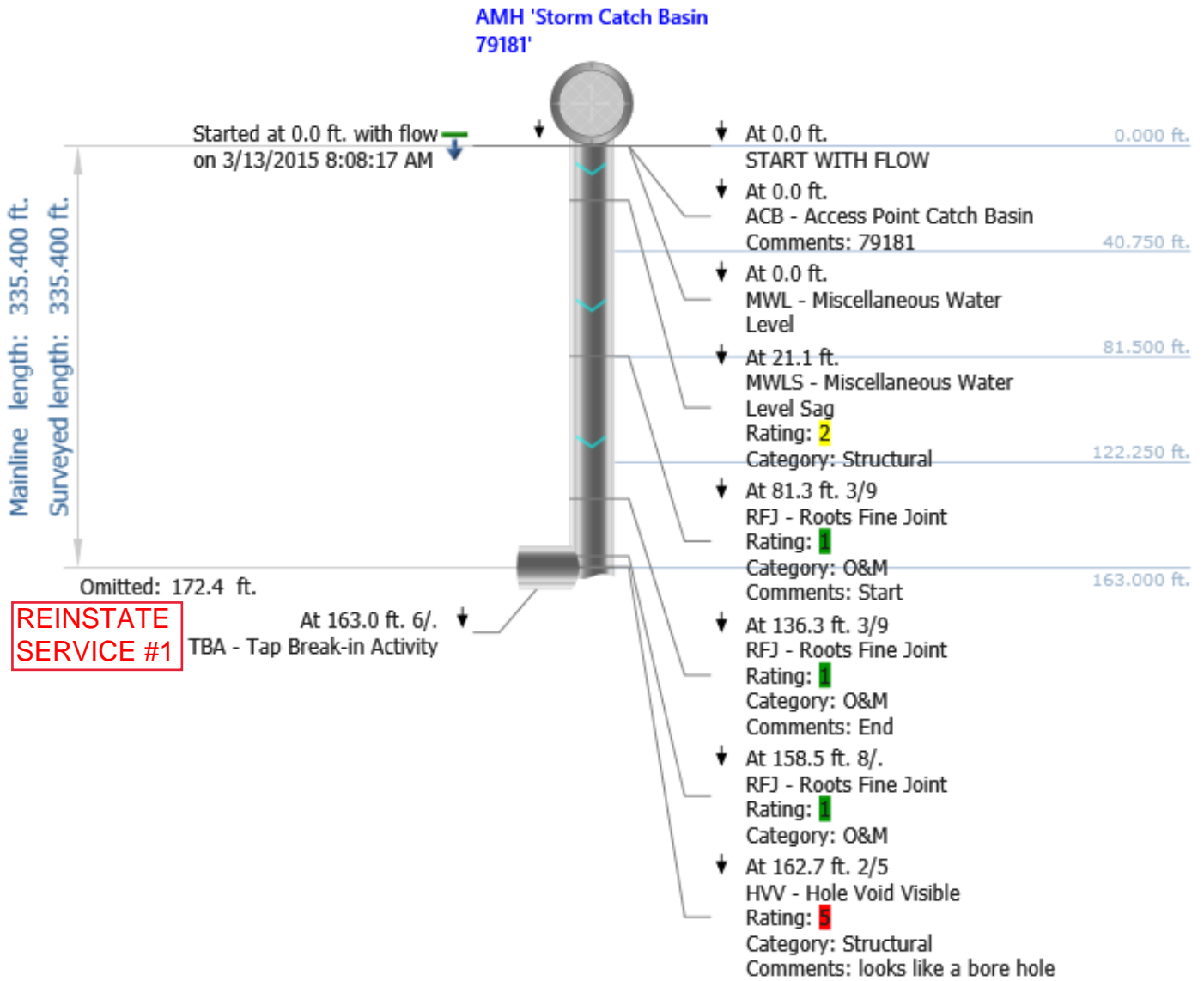




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>3126</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>Carle Ave &amp; W Michigan Ave</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>3/13/2015 8:08 AM</b>	Material:	<b>5</b>	<b>C</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>8 in.</b>	





Project name:

Mainline ID: 3126

Start date/time:

Direction:

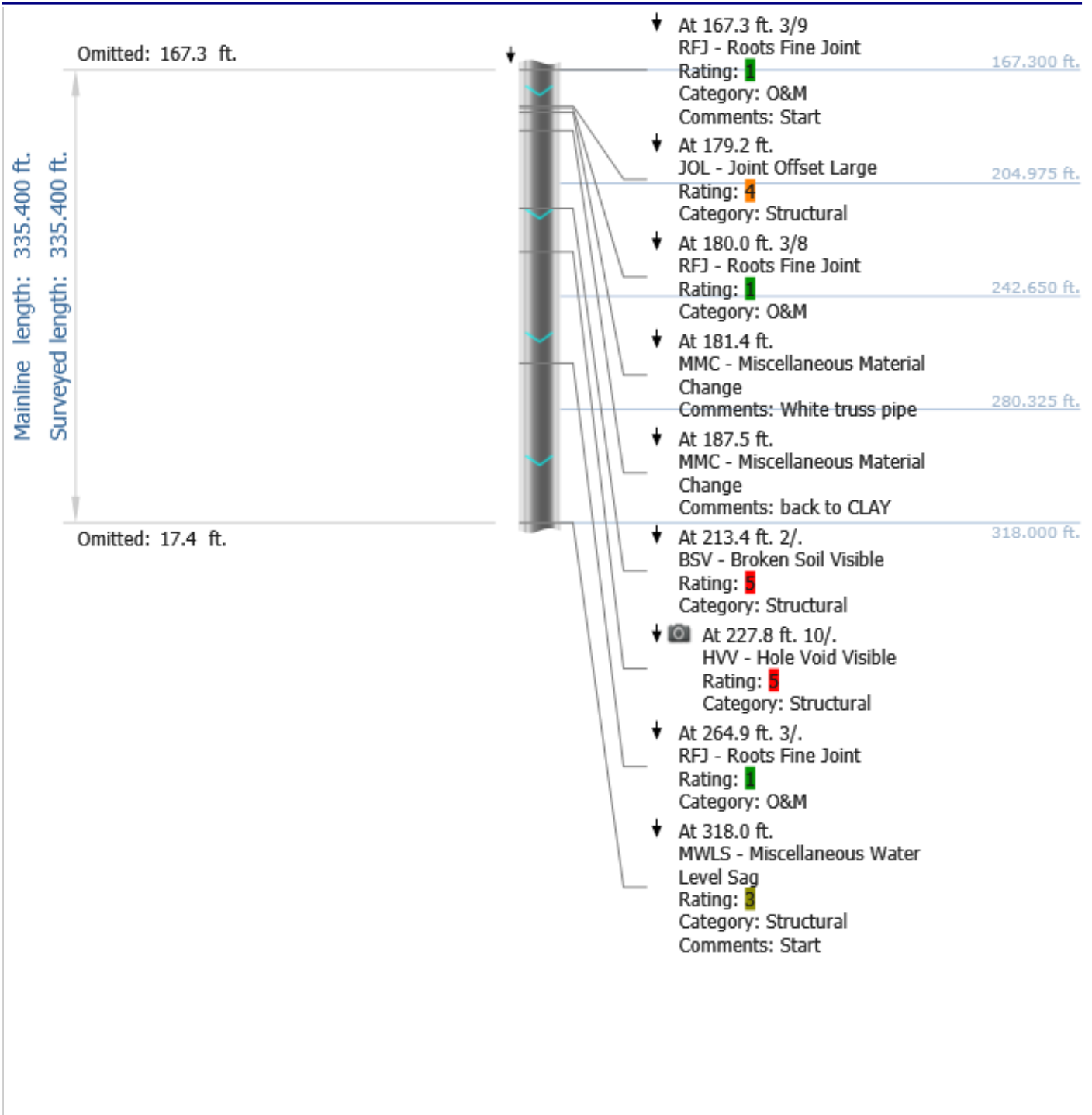
**Urbana 2014 Storm Sewer Cleaning & TV Project**

3/13/2015 8:08 AM

D

Weather:

5



Project name: Mainline ID: 3126

Start date/time:

Direction:

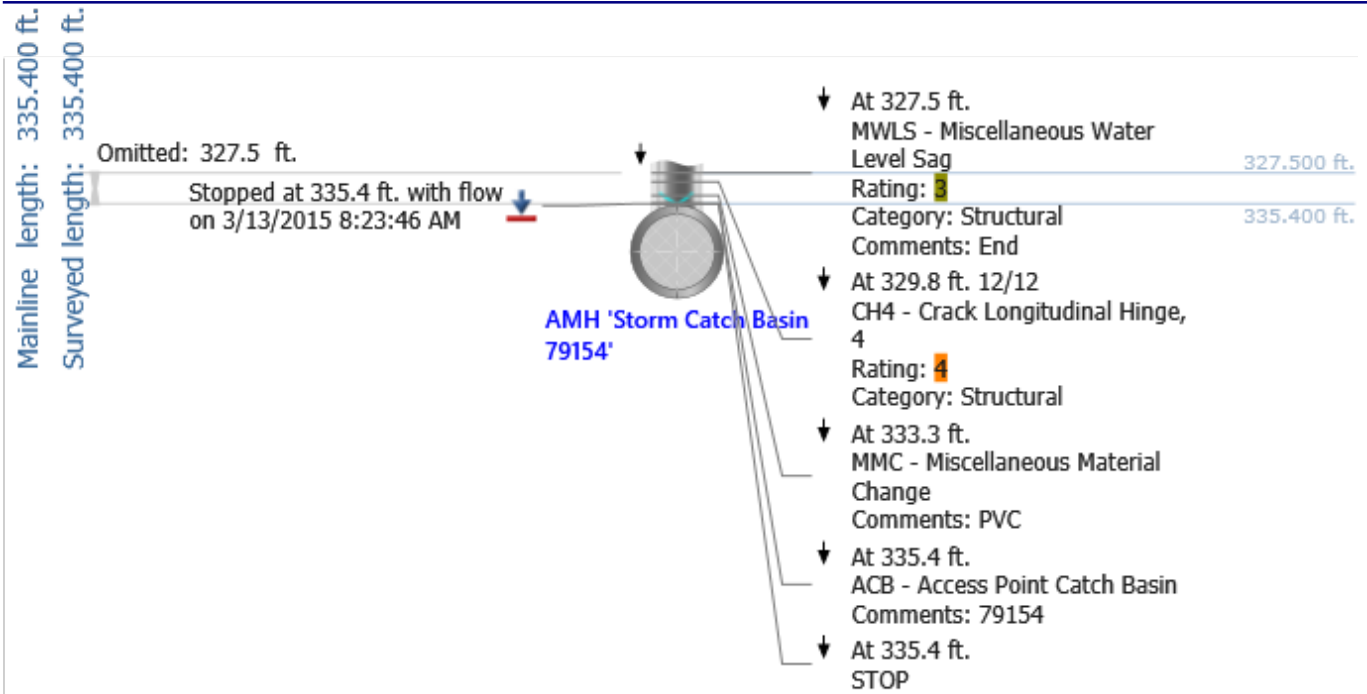
Urbana 2014 Storm Sewer Cleaning & TV Project

3/13/2015 8:08 AM

D

Weather:

5

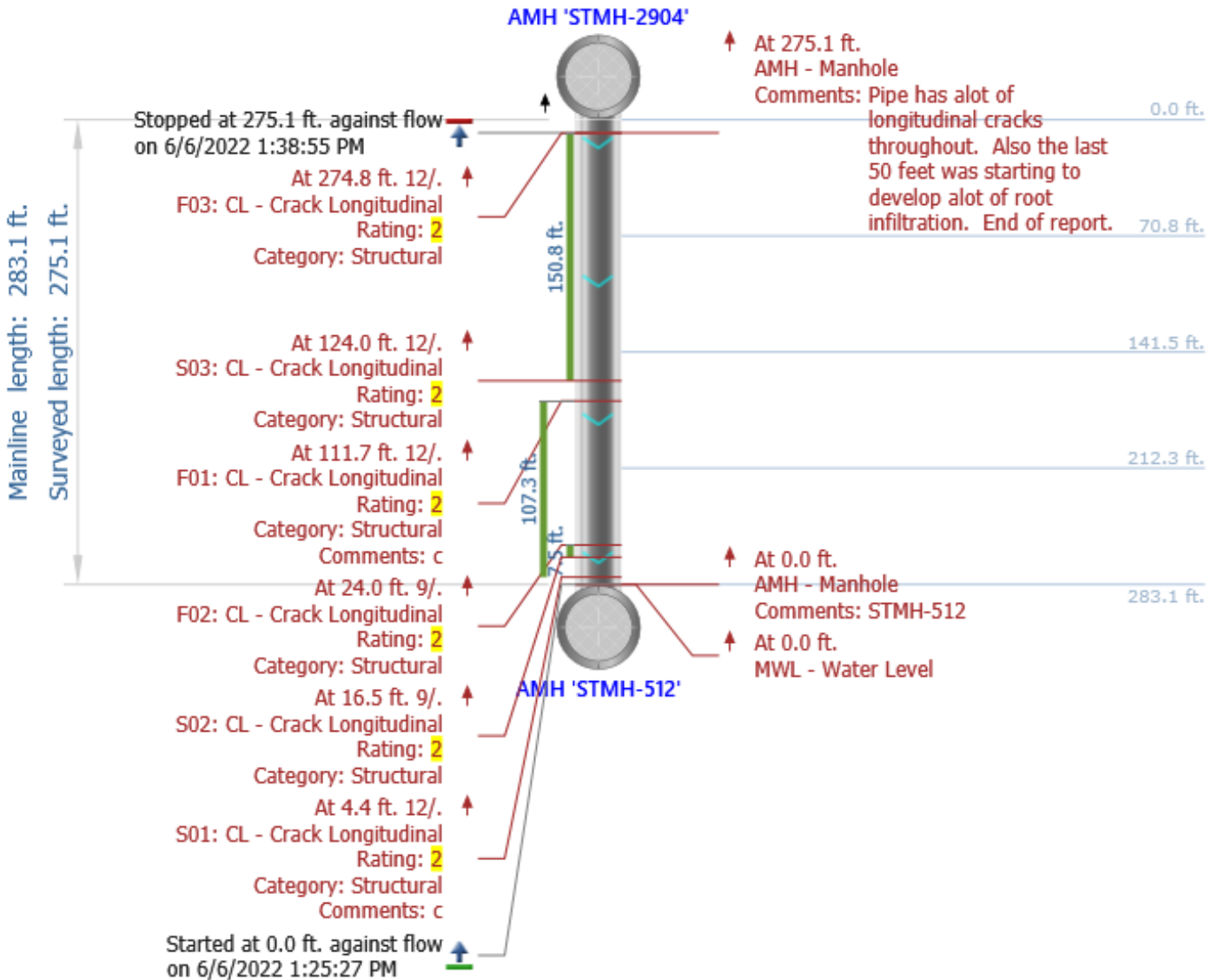




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-4113</b>	City: <b>URB</b>	Street: <b>Anderson St (going south)</b>
Start date/time: <b>6/6/2022 1:25 PM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>21 in.</b>	Width:

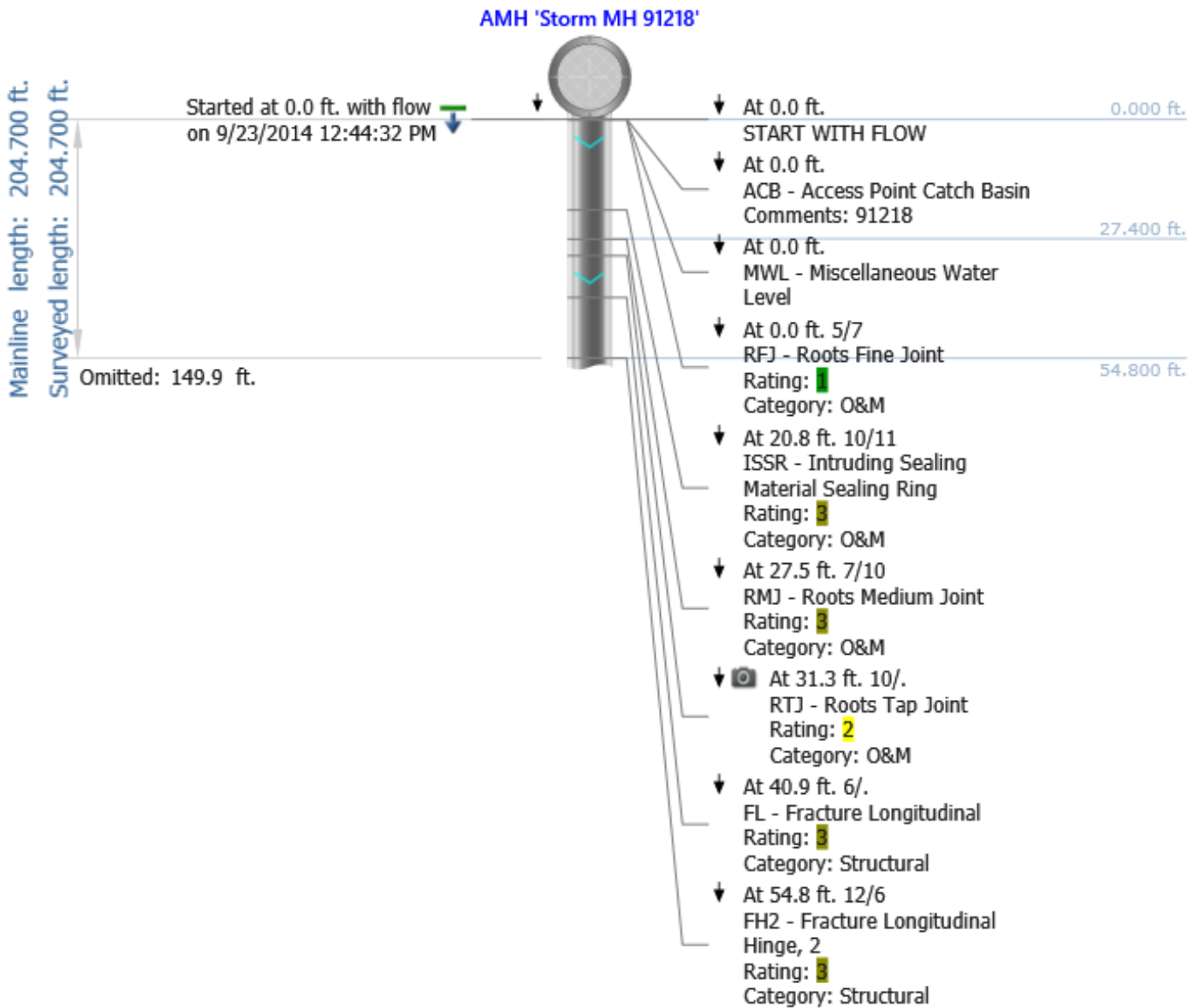




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>4166</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>E Mumford Drive</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>9/23/2014 12:44 PM</b>	Material:	<b>5</b>	
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>15 in.</b>	



Project name:

Mainline ID: 4166

Start date/time:

Direction:

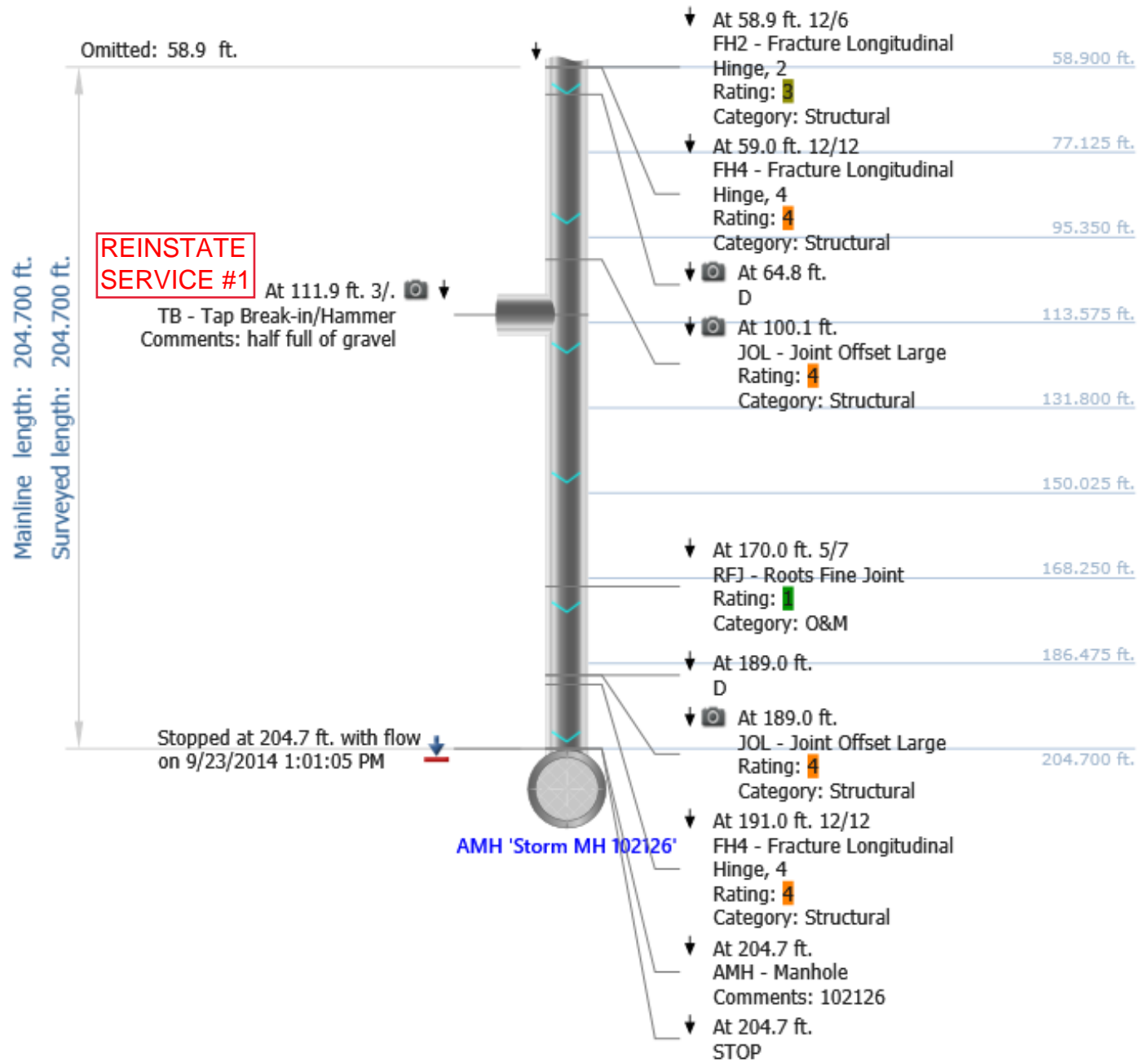
**Urbana 2014 Storm Sewer Cleaning & TV Project**

9/23/2014 12:44 PM

D

Weather:

5

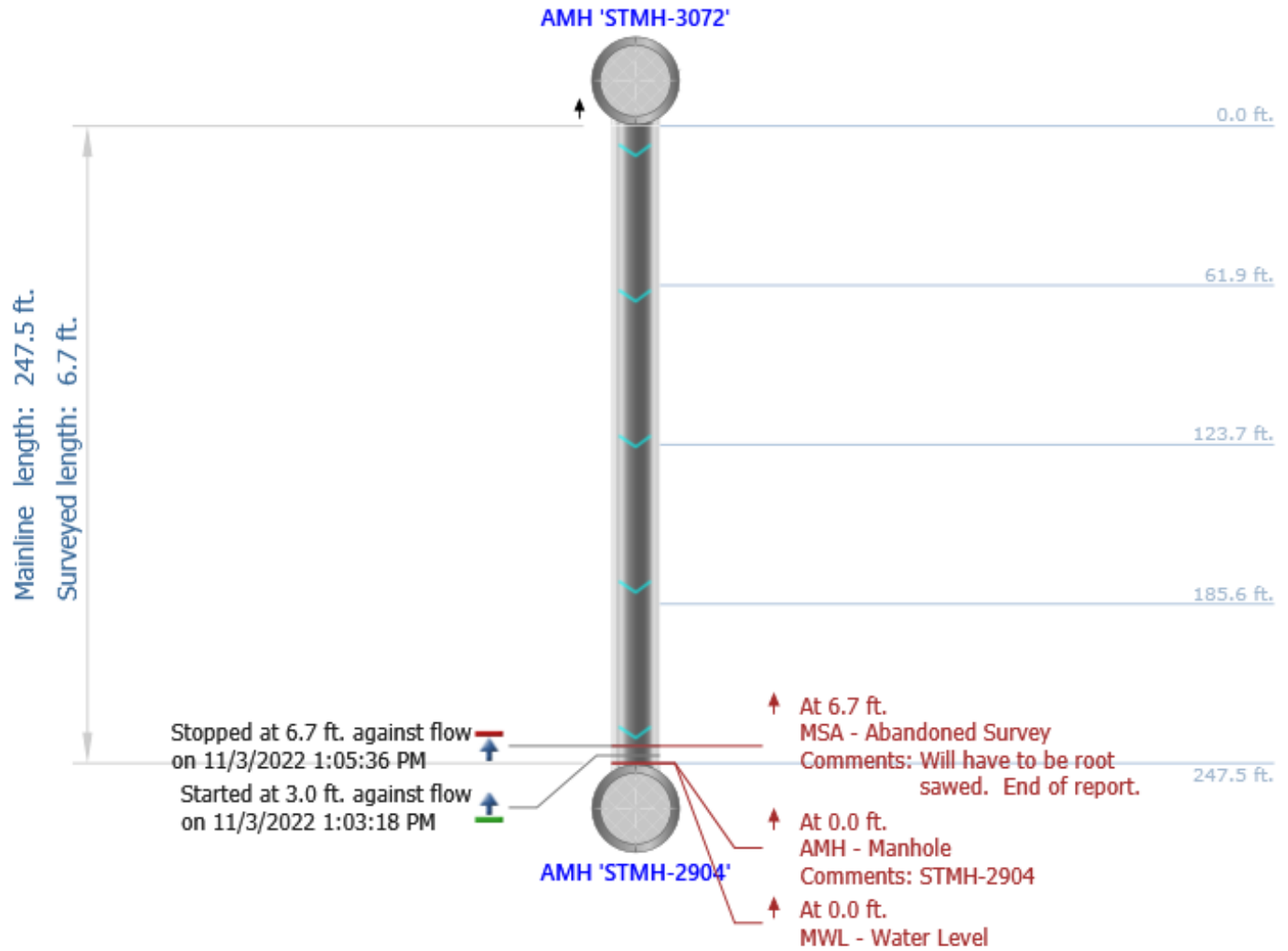




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-4440</b>	City: <b>URB</b>	Street: <b>702 Colorado (going East)</b>
Start date/time: <b>11/3/2022 1:03 PM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>RCP</b>	Height: <b>15 in.</b>	Width:

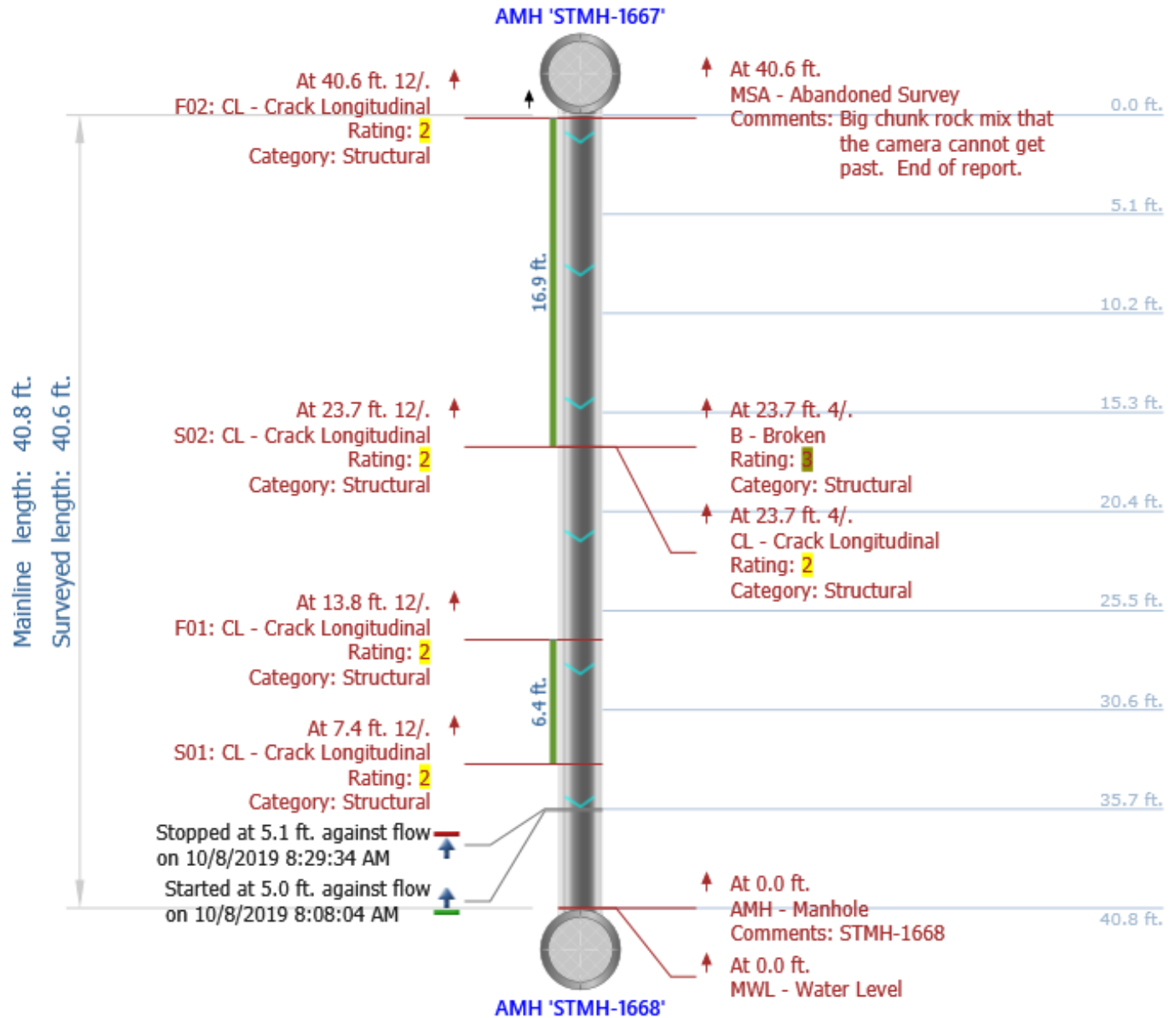




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2019 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-5558</b>	City: <b>URB</b>	Street: <b>E High St</b>
Start date/time: <b>10/8/2019 8:08 AM</b>	Direction: <b>U</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>CT</b>	Height: <b>24 in.</b>	Width:

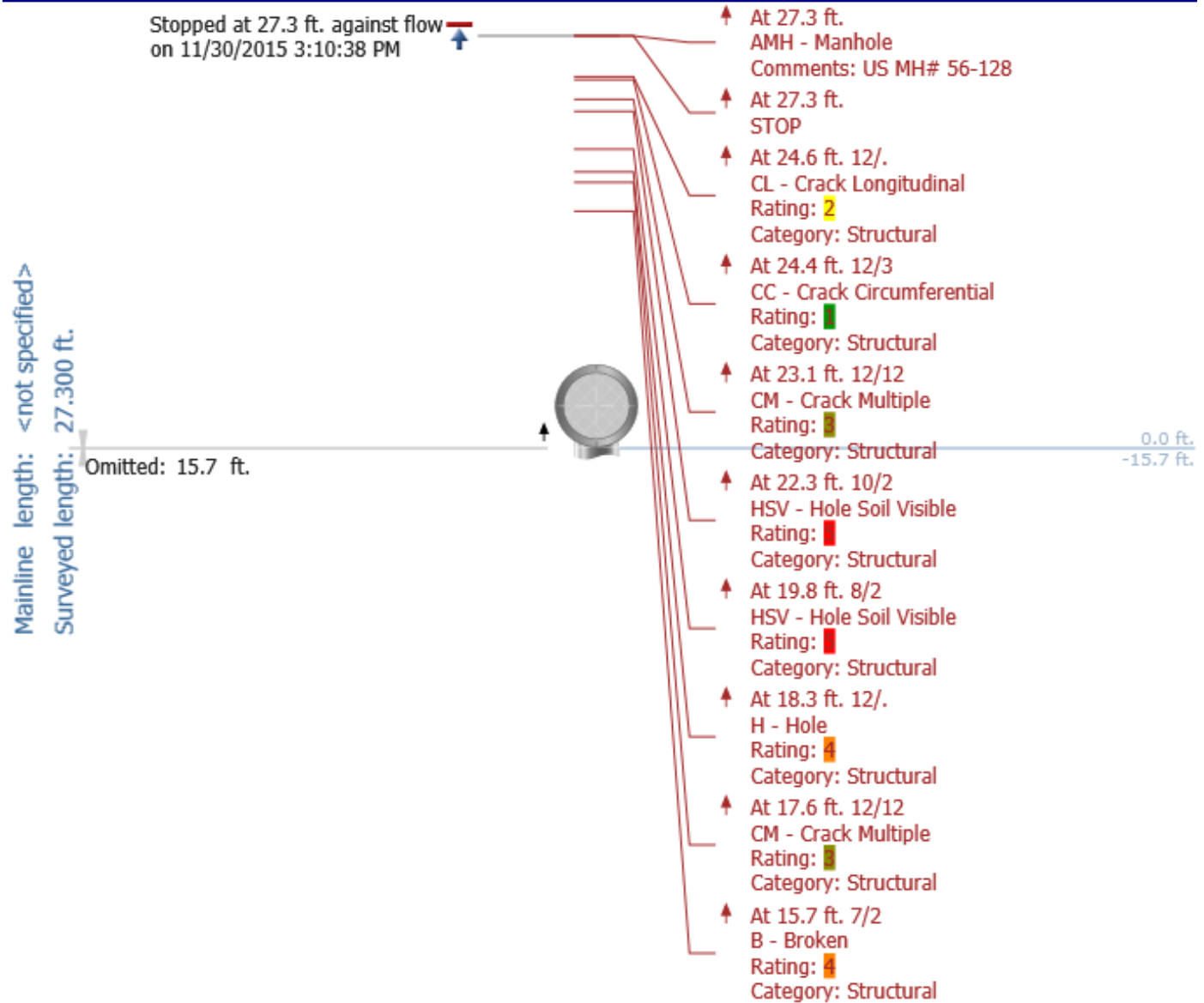




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>6106</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>U</b>	Weather:	Location code:
<b>11/30/2015 3:00 PM</b>	Material:	<b>3</b>	
Shape:		Height:	Width:
<b>C</b>		<b>12 in.</b>	





Project name: Mainline ID: 6106

Start date/time:

Direction:

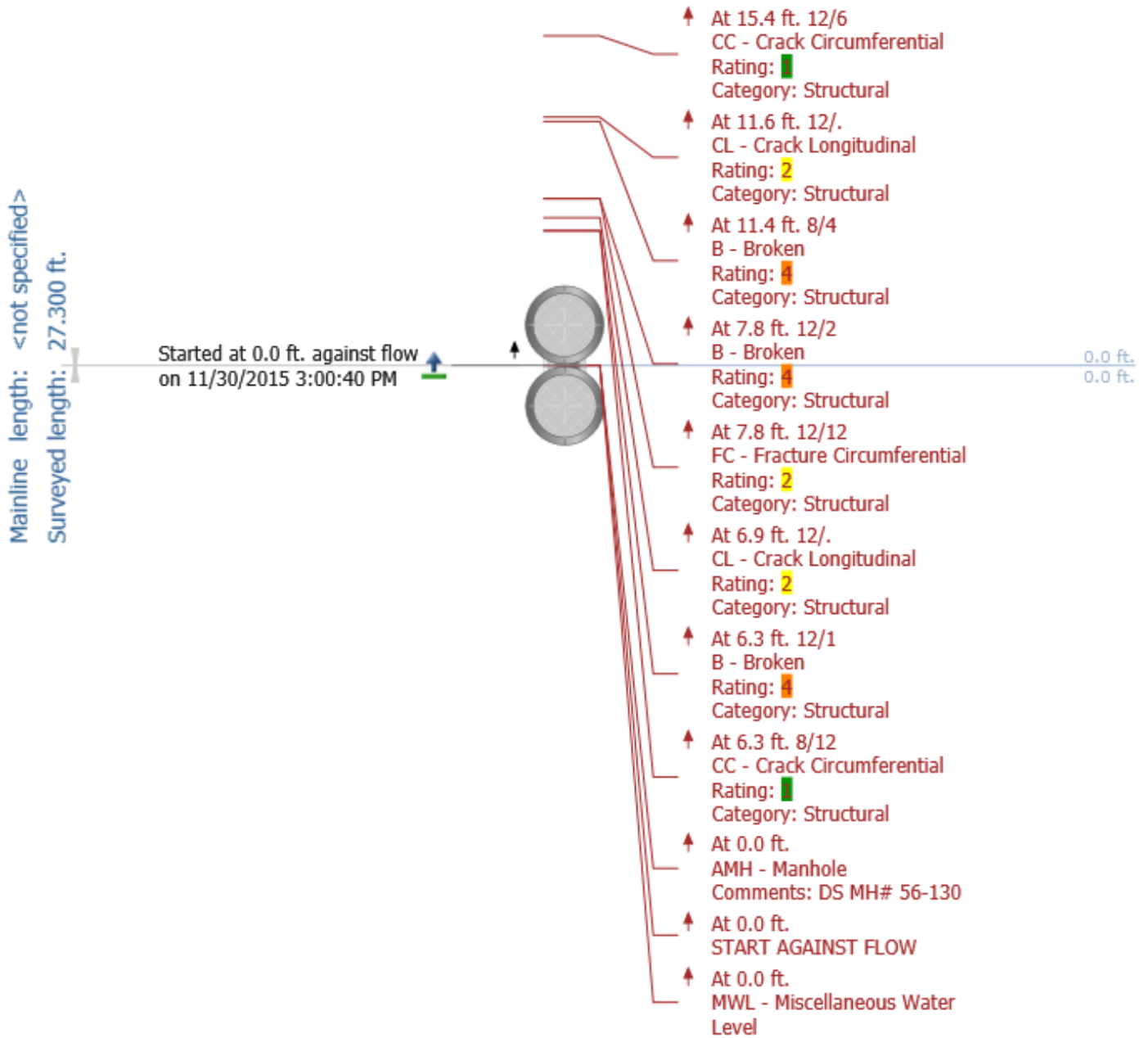
Urbana 2015 Storm Sewer Cleaning & TV Project

11/30/2015 3:00 PM

U

Weather:

3

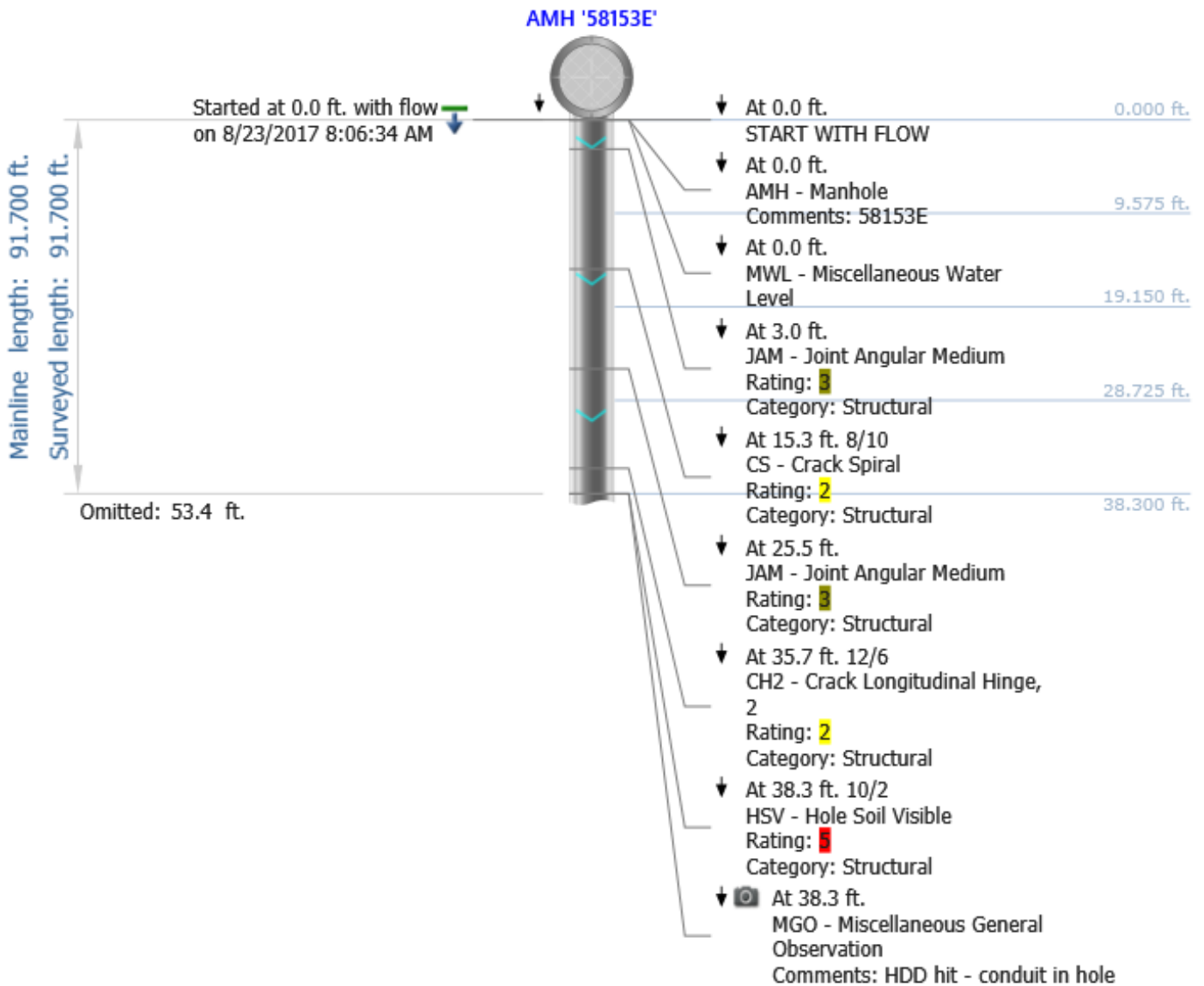




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>Urbana 2016 Storm Sewer Cleaning &amp; TV Project</b>	<b>6531</b>	<b>Urbana</b>	<b>W Park &amp; Crystal Lake Park</b>
Start date/time:	Direction:	Weather:	Location code:
<b>8/23/2017 8:06 AM</b>	<b>D</b>		<b>C</b>
Shape:	Material:	Height:	Width:
<b>C</b>	<b>VCP</b>	<b>10 in.</b>	



Project name: Mainline ID:

Start date/time:

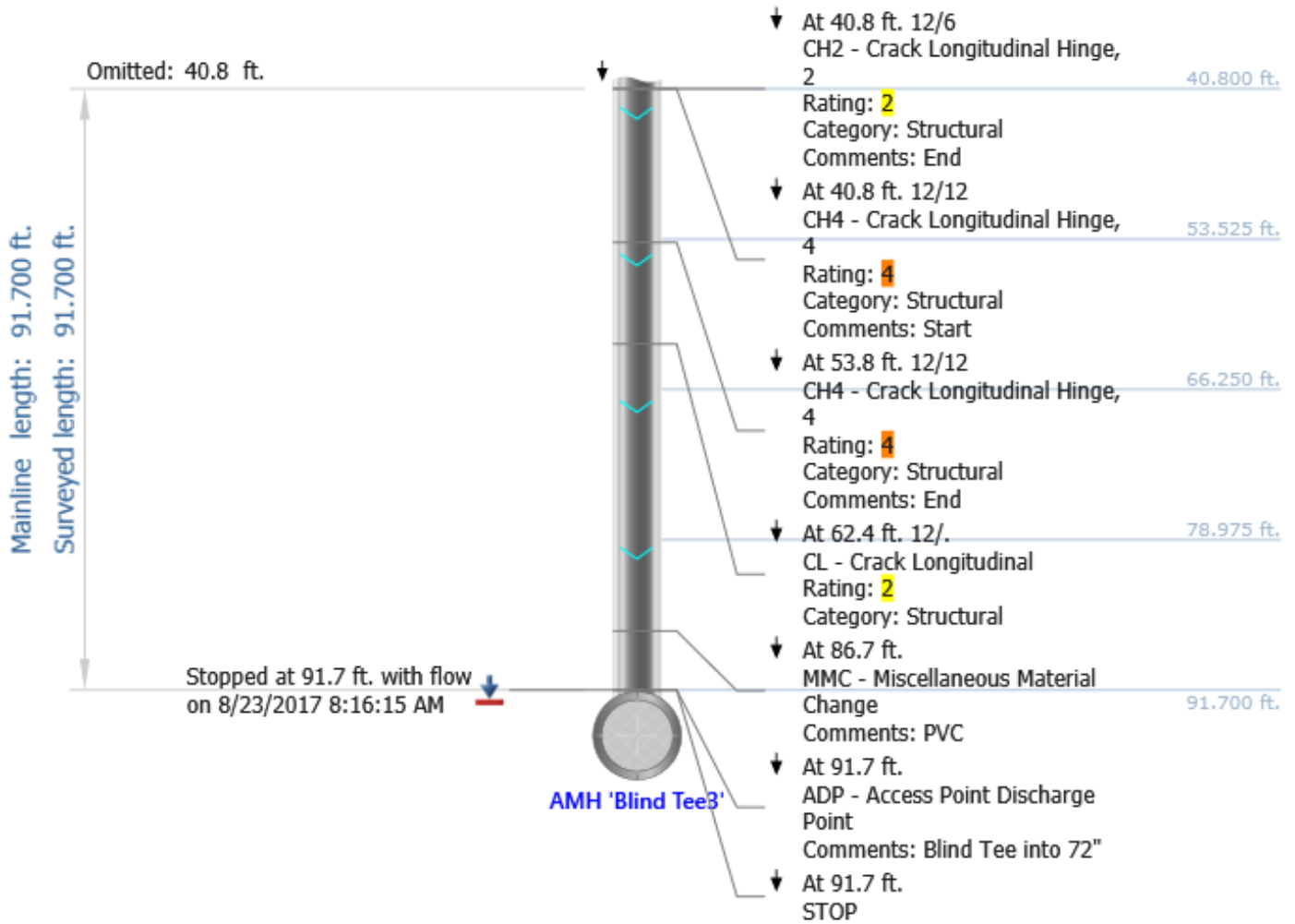
Direction:

**Urbana 2016 Storm Sewer 6531  
Cleaning & TV Project**

**8/23/2017 8:06 AM**

**D**

Weather:

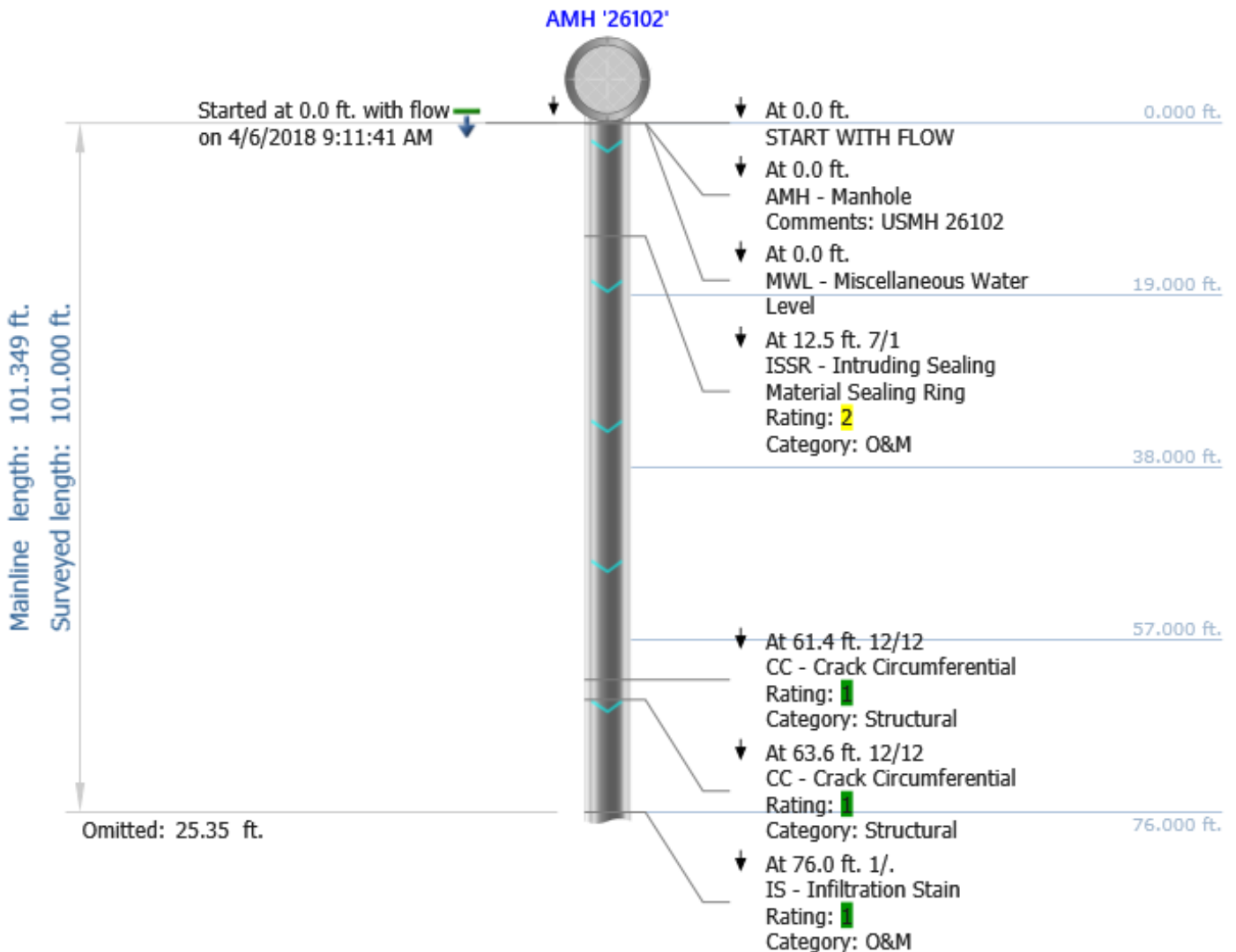




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>Urbana 2017 Storm Sewer Cleaning &amp; TV Project</b>	<b>6639</b>	<b>Urbana</b>	
Start date/time:	Direction:	Weather:	Location code:
<b>4/6/2018 9:11 AM</b>	<b>D</b>	<b>1</b>	
Shape:	Material:	Height:	Width:
<b>C</b>	<b>RCP</b>	<b>12 in.</b>	



Project name: Mainline ID:

Start date/time:

Direction:

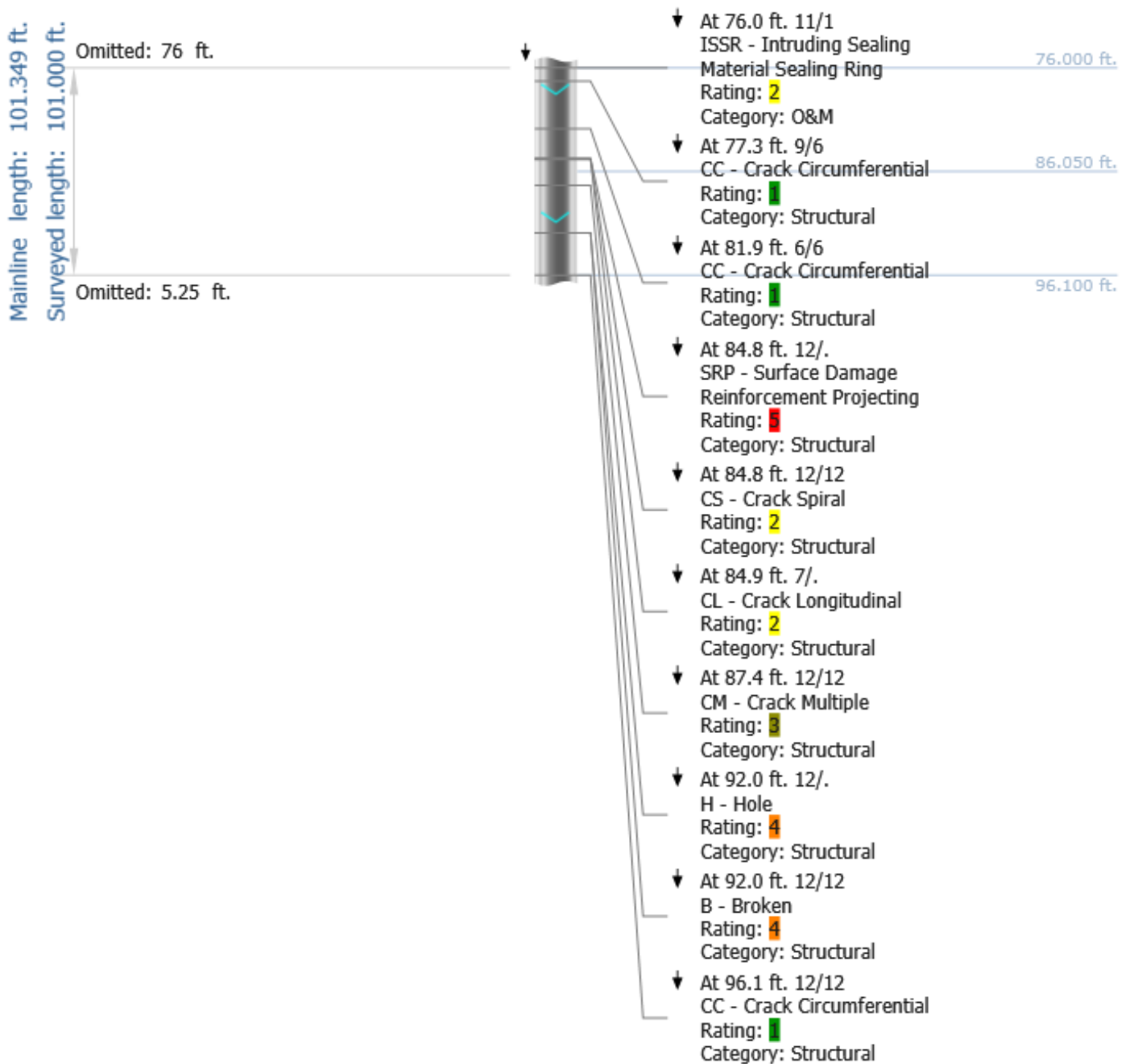
**Urbana 2017 Storm Sewer 6639  
Cleaning & TV Project**

**4/6/2018 9:11 AM**

**D**

Weather:

1



Project name: Mainline ID:

Start date/time:

Direction:

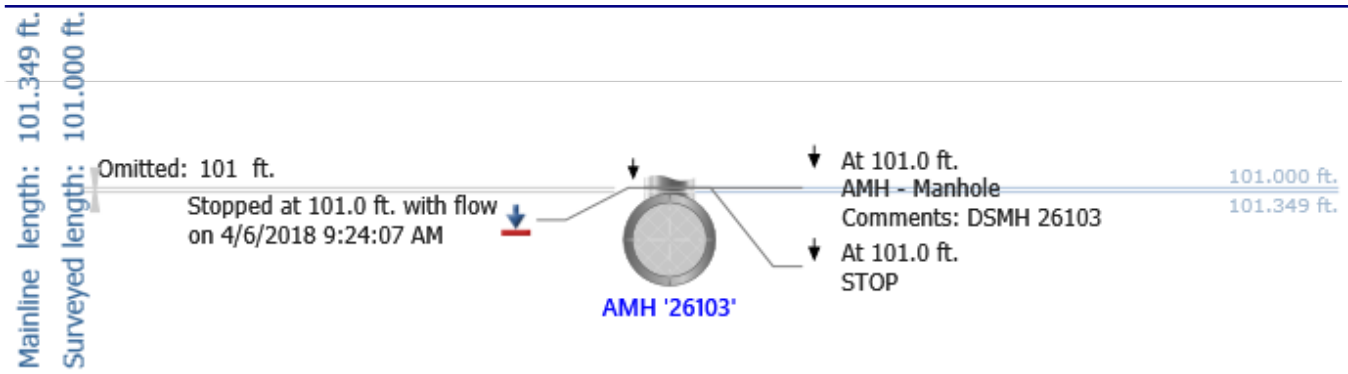
**Urbana 2017 Storm Sewer 6639  
Cleaning & TV Project**

**4/6/2018 9:11 AM**

**D**

Weather:

**1**

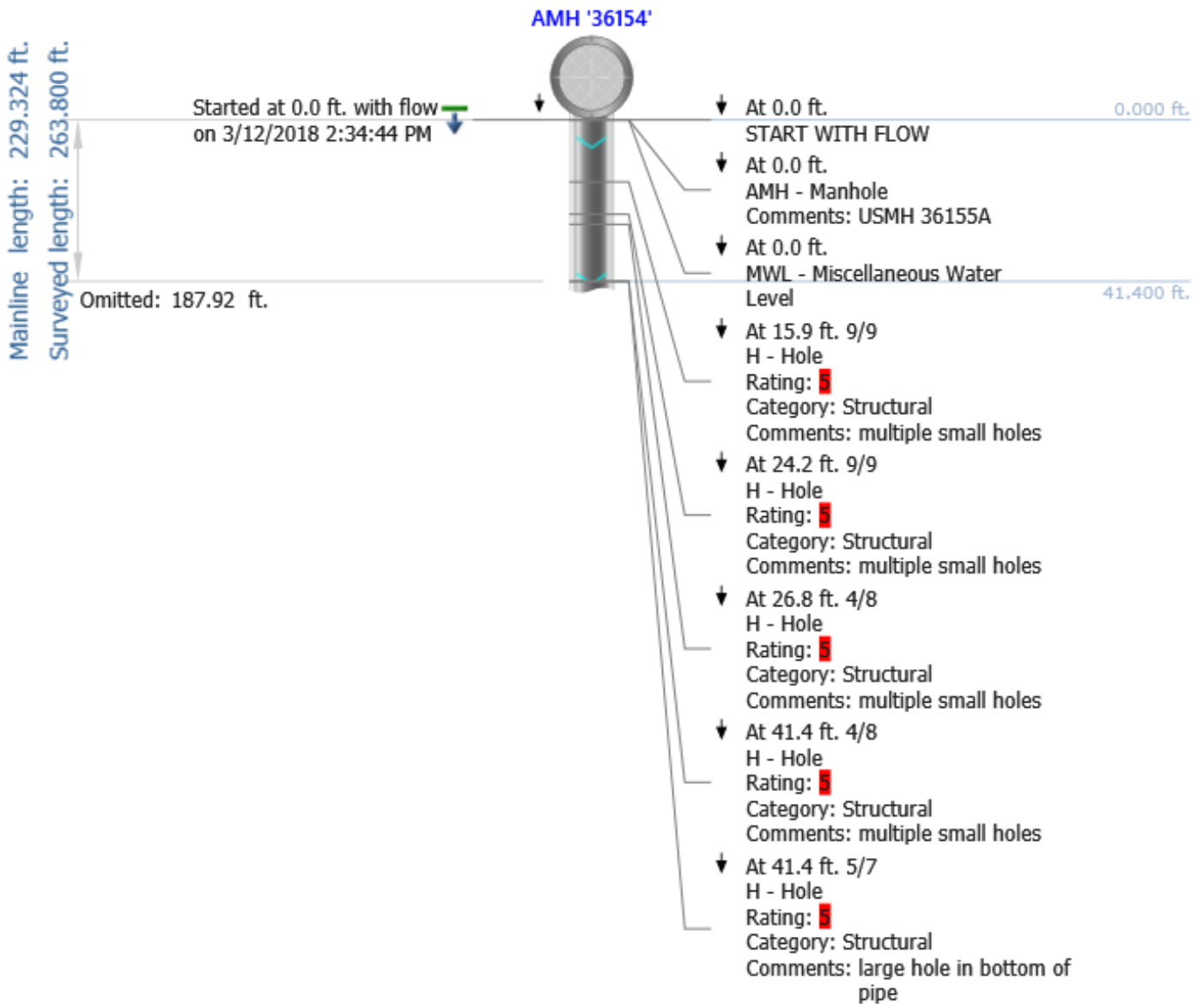




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID:	City:	Street:
<b>Urbana 2017 Storm Sewer Cleaning &amp; TV Project</b>	<b>7373</b>	<b>Urbana</b>	
Start date/time:	Direction:	Weather:	Location code:
<b>3/12/2018 2:34 PM</b>	<b>D</b>	<b>1</b>	
Shape:	Material:	Height:	Width:
<b>C</b>		<b>15 in.</b>	



Project name: Mainline ID:

Start date/time:

Direction:

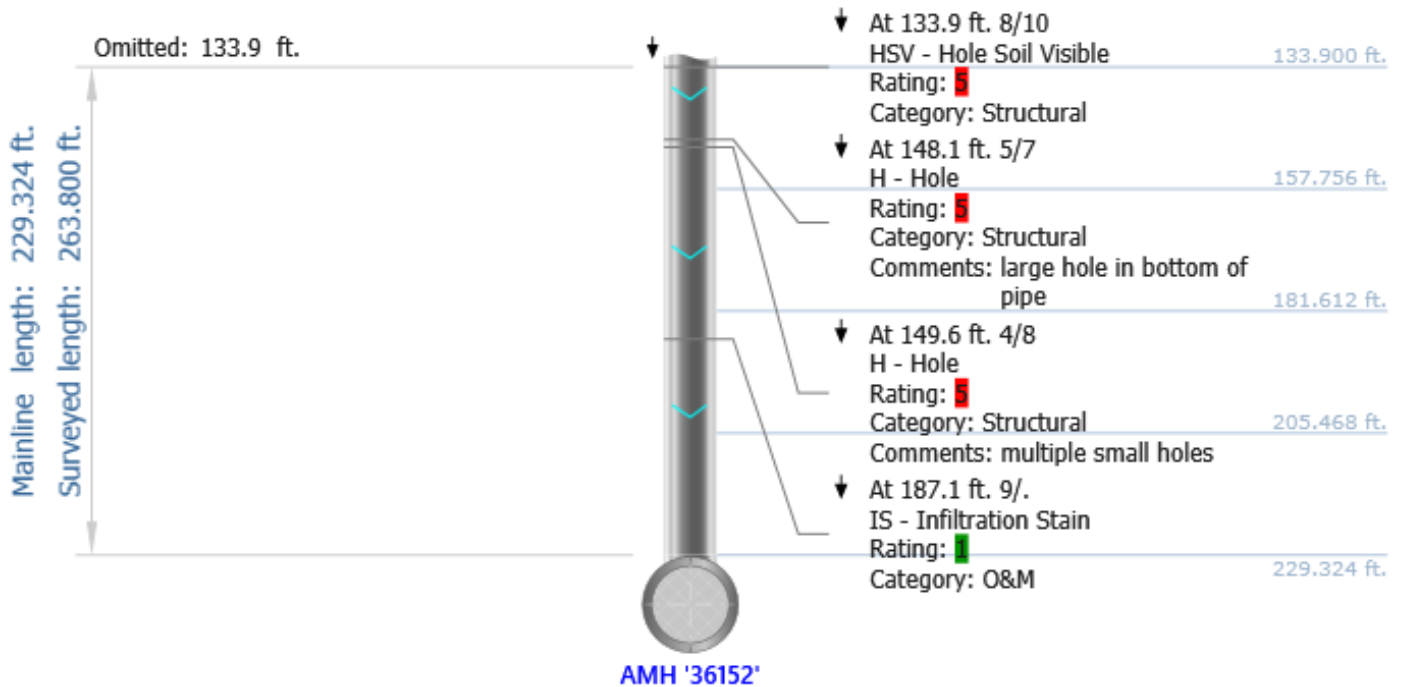
**Urbana 2017 Storm Sewer 7373  
Cleaning & TV Project**

**3/12/2018 2:34 PM**

**D**

Weather:

**1**



**Some observations have distance greater than the pipe length**



Project name: Mainline ID:

Start date/time:

Direction:

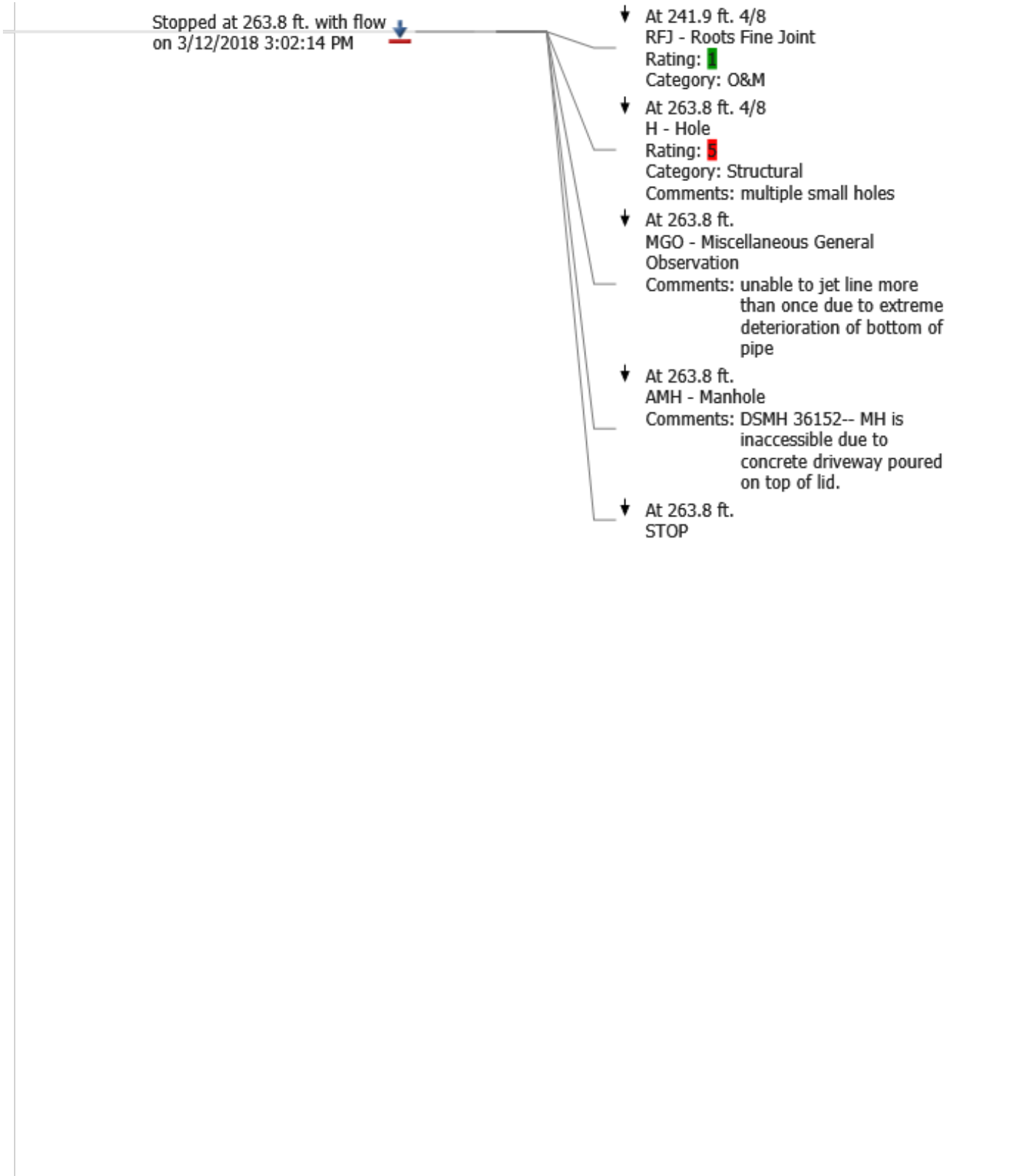
**Urbana 2017 Storm Sewer 7373  
Cleaning & TV Project**

**3/12/2018 2:34 PM**

**D**

Weather:

**1**

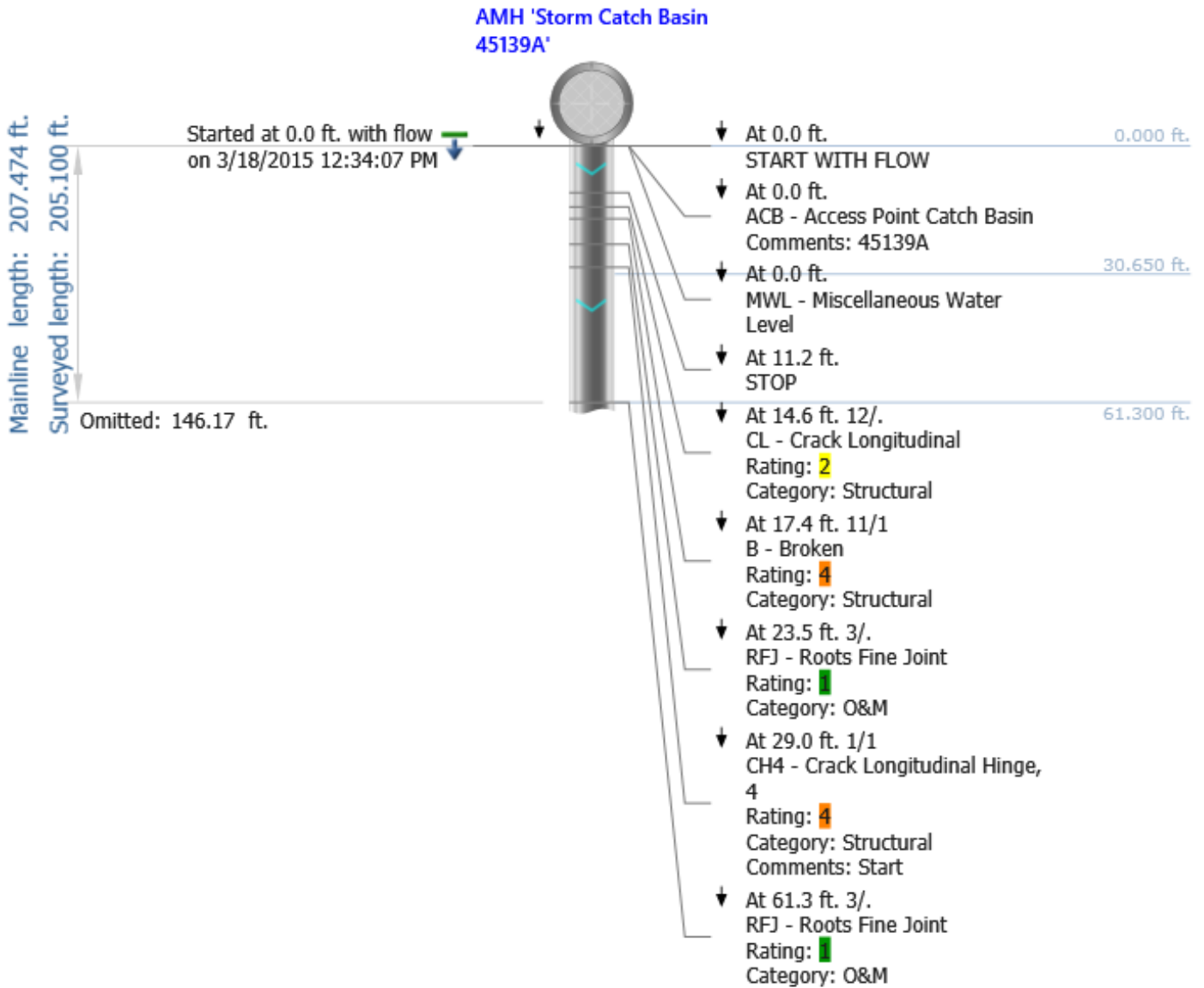




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>7518</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>Eads St</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>3/18/2015 12:34 PM</b>	Material:	<b>5</b>	<b>D</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>12 in.</b>	



Project name:

Mainline ID: 7518

Start date/time:

Direction:

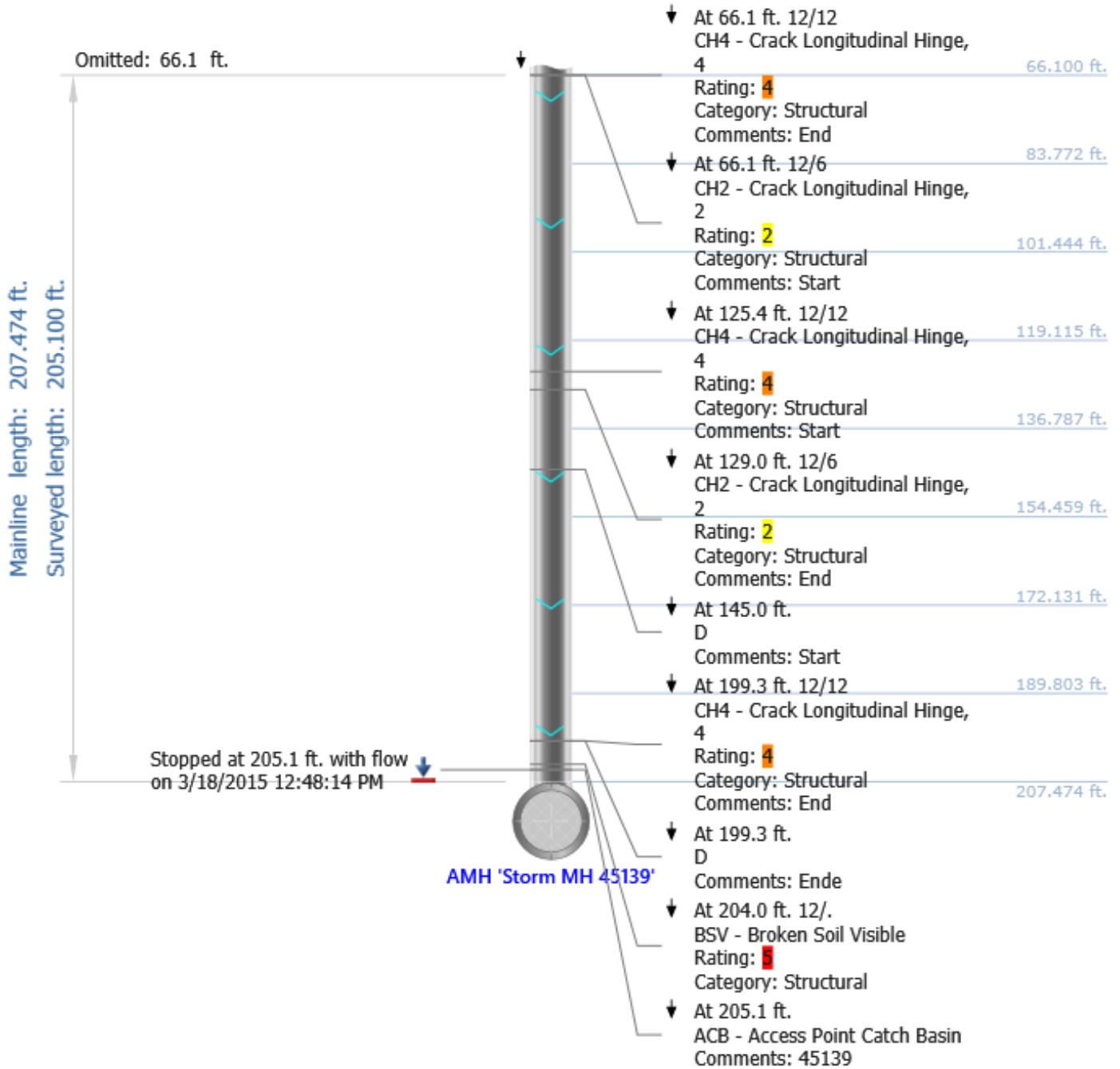
**Urbana 2014 Storm Sewer Cleaning & TV Project**

3/18/2015 12:34 PM

D

Weather:

5

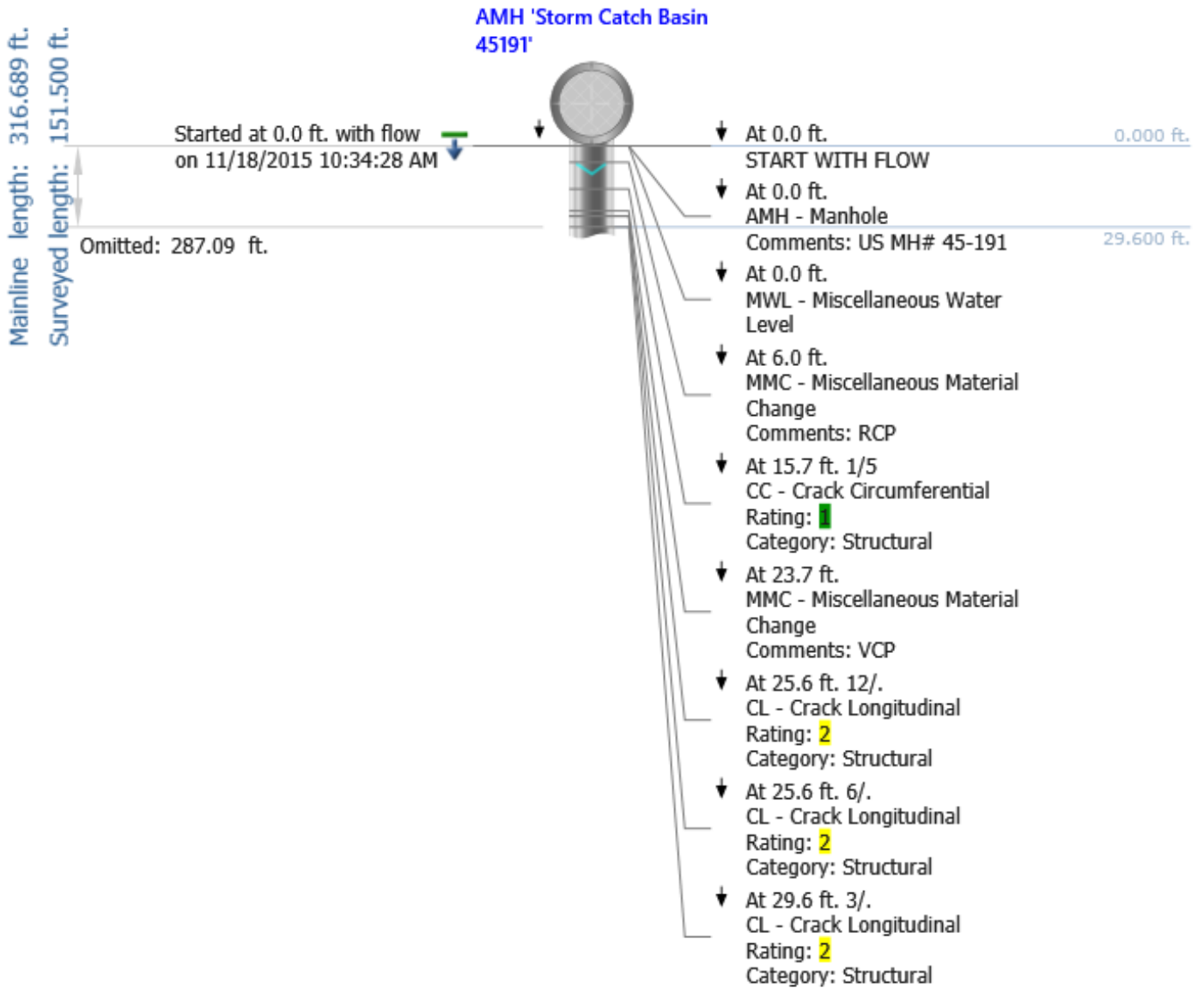




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>7534</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction: <b>D</b>	<b>Urbana</b>	
Start date/time:	<b>11/18/2015 10:34 AM</b>	Weather:	Location code:
Shape:	Material:	<b>3</b>	
<b>C</b>		Height:	Width:
		<b>10 in.</b>	



Project name: Mainline ID: 7534

Start date/time:

Direction:

Urbana 2015 Storm Sewer Cleaning & TV Project

11/18/2015 10:34 AM

D

Weather:

3

Mainline length: 316.689 ft.  
Surveyed length: 151.500 ft.

Omitted: 29.6 ft.

Omitted: 278.79 ft.

At 29.6 ft. 9/.	CL - Crack Longitudinal	29.600 ft.
	Rating: 2	
	Category: Structural	37.900 ft.
At 31.8 ft. 4/7	HSV - Hole Soil Visible	
	Rating: 5	
	Category: Structural	
At 31.8 ft. 12/12	B - Broken	
	Rating: 4	
	Category: Structural	
At 31.8 ft.	D	
At 31.8 ft. 11/1	HSV - Hole Soil Visible	
	Rating: 5	
	Category: Structural	
At 33.8 ft. 2/5	CC - Crack Circumferential	
	Rating: 1	
	Category: Structural	
At 33.8 ft. 12/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 33.8 ft. 6/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 33.8 ft. 3/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 33.8 ft. 9/.	CL - Crack Longitudinal	
	Rating: 2	
	Category: Structural	
At 37.9 ft.	MMC - Miscellaneous Material Change	
	Comments: RCP	

Project name: Mainline ID: 7534

Start date/time:

Direction:

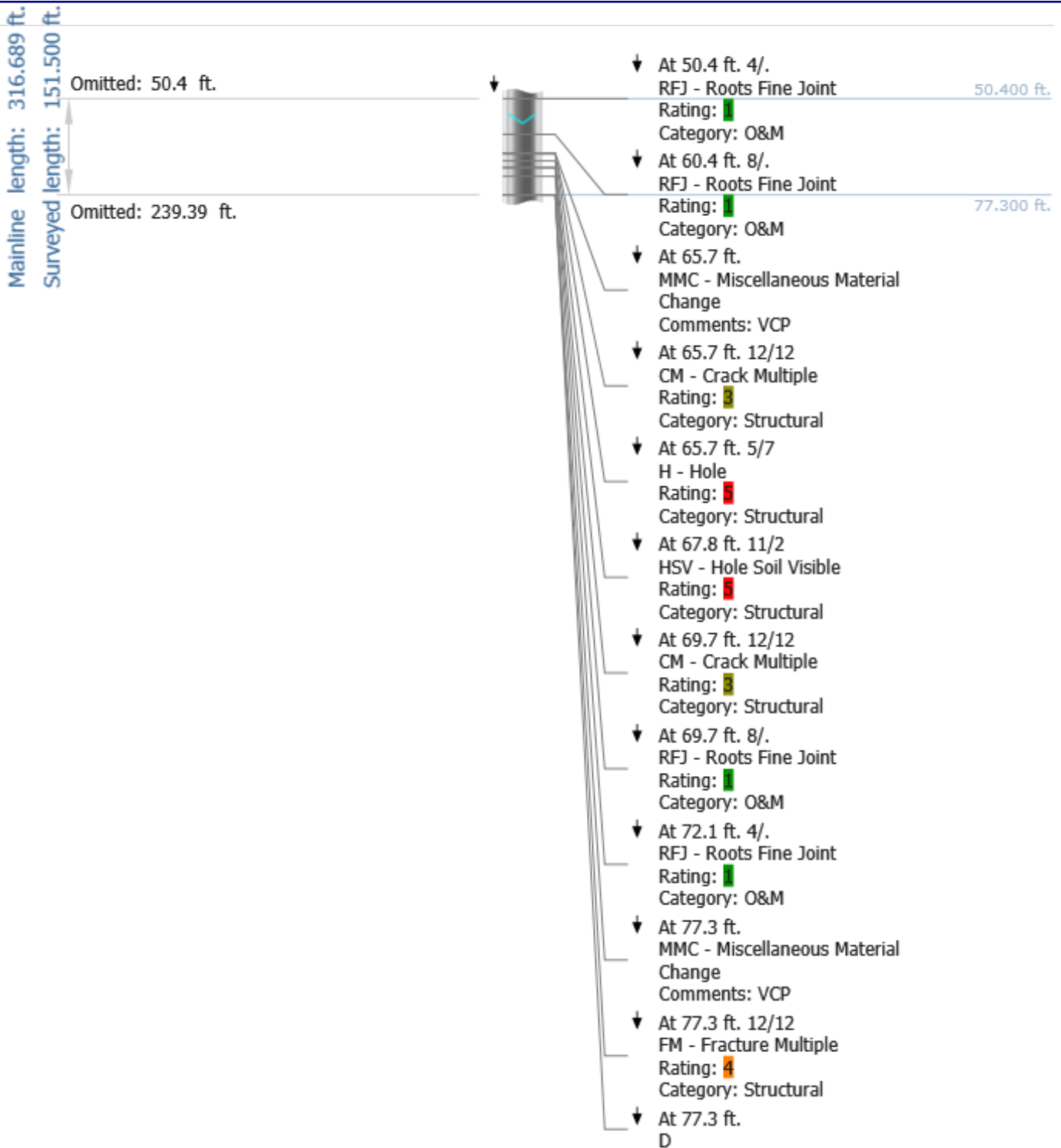
Urbana 2015 Storm Sewer Cleaning & TV Project

11/18/2015 10:34 AM

D

Weather:

3



Project name: Mainline ID: 7534

Start date/time:

Direction:

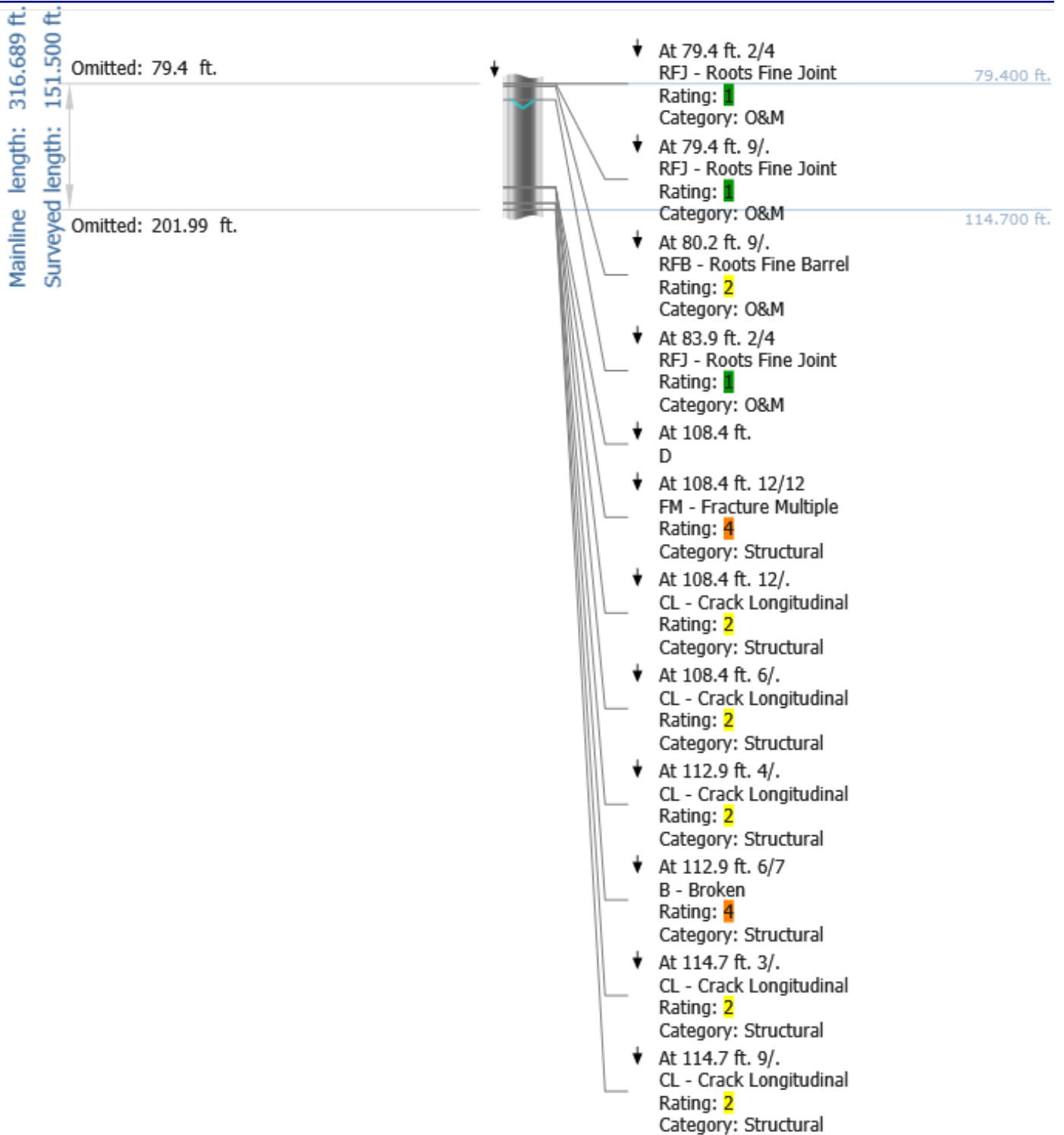
Urbana 2015 Storm Sewer Cleaning & TV Project

11/18/2015 10:34 AM

D

Weather:

3



Project name: Mainline ID: 7534

Start date/time:

Direction:

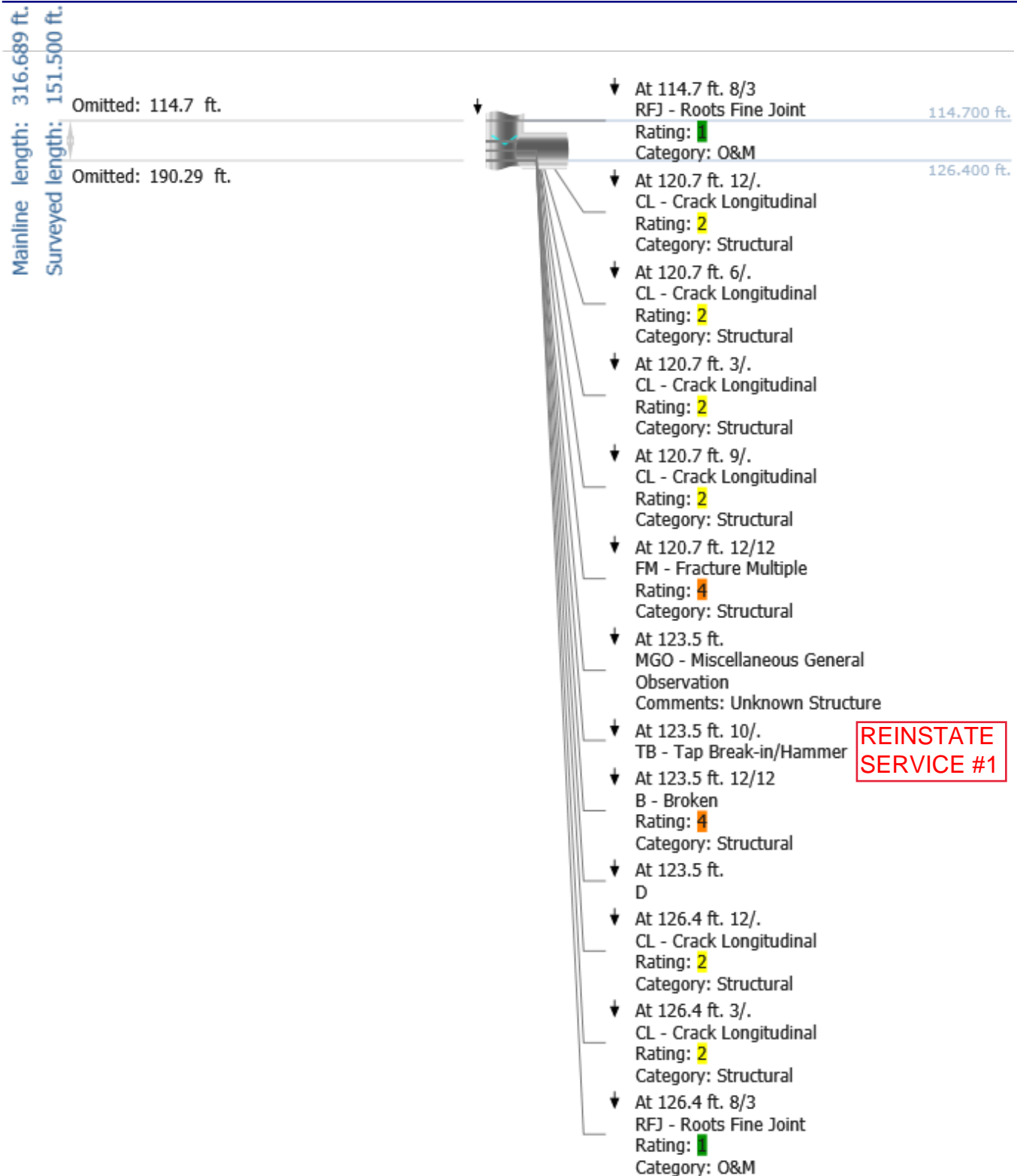
Urbana 2015 Storm Sewer Cleaning & TV Project

11/18/2015 10:34 AM

D

Weather:

3





Project name:

Mainline ID: **7534**

Start date/time:

Direction:

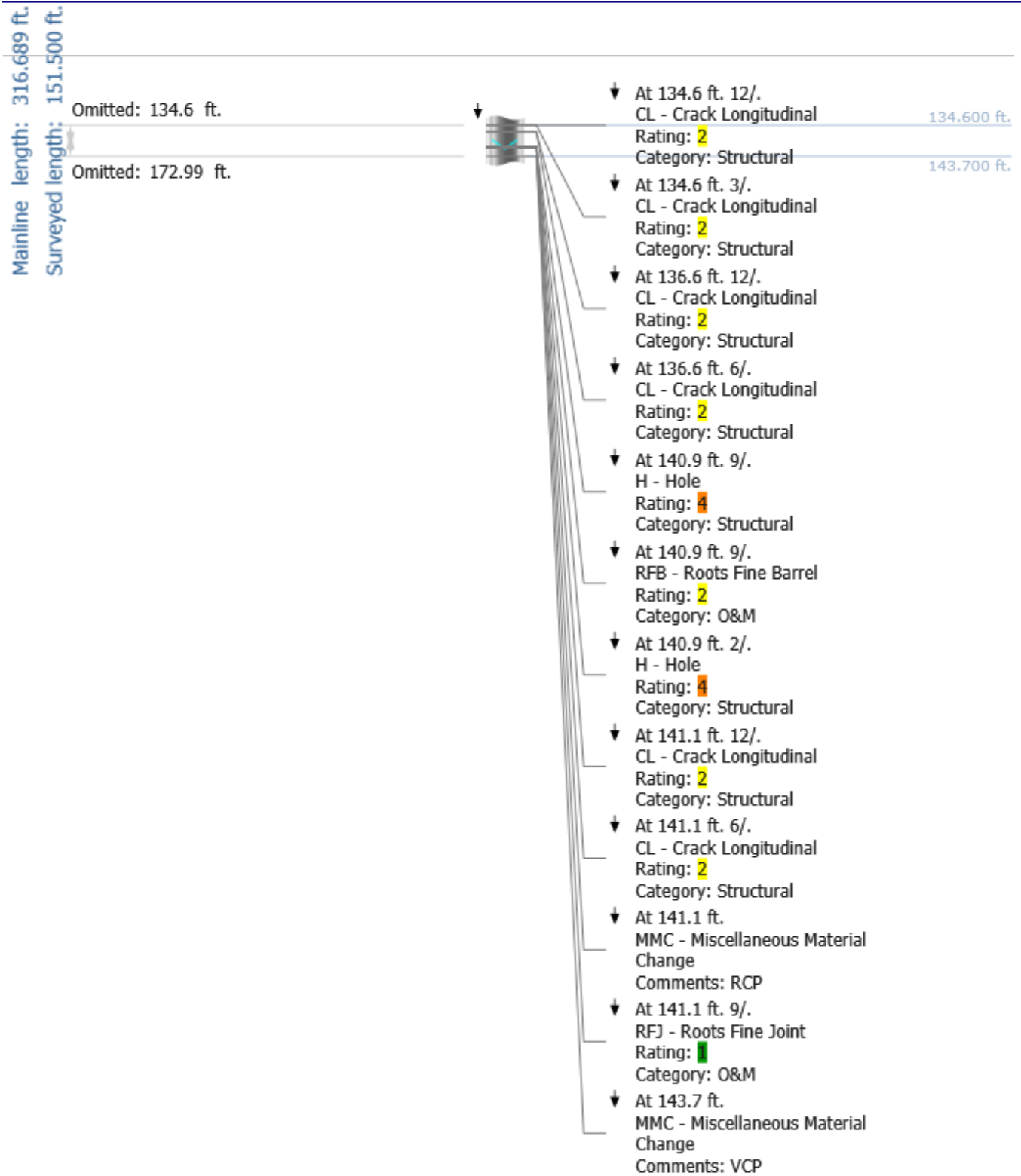
**Urbana 2015 Storm Sewer  
Cleaning & TV Project**

**11/18/2015 10:34 AM**

**D**

Weather:

**3**



Project name: Mainline ID: 7534

Start date/time:

Direction:

Urbana 2015 Storm Sewer Cleaning & TV Project

11/18/2015 10:34 AM

D

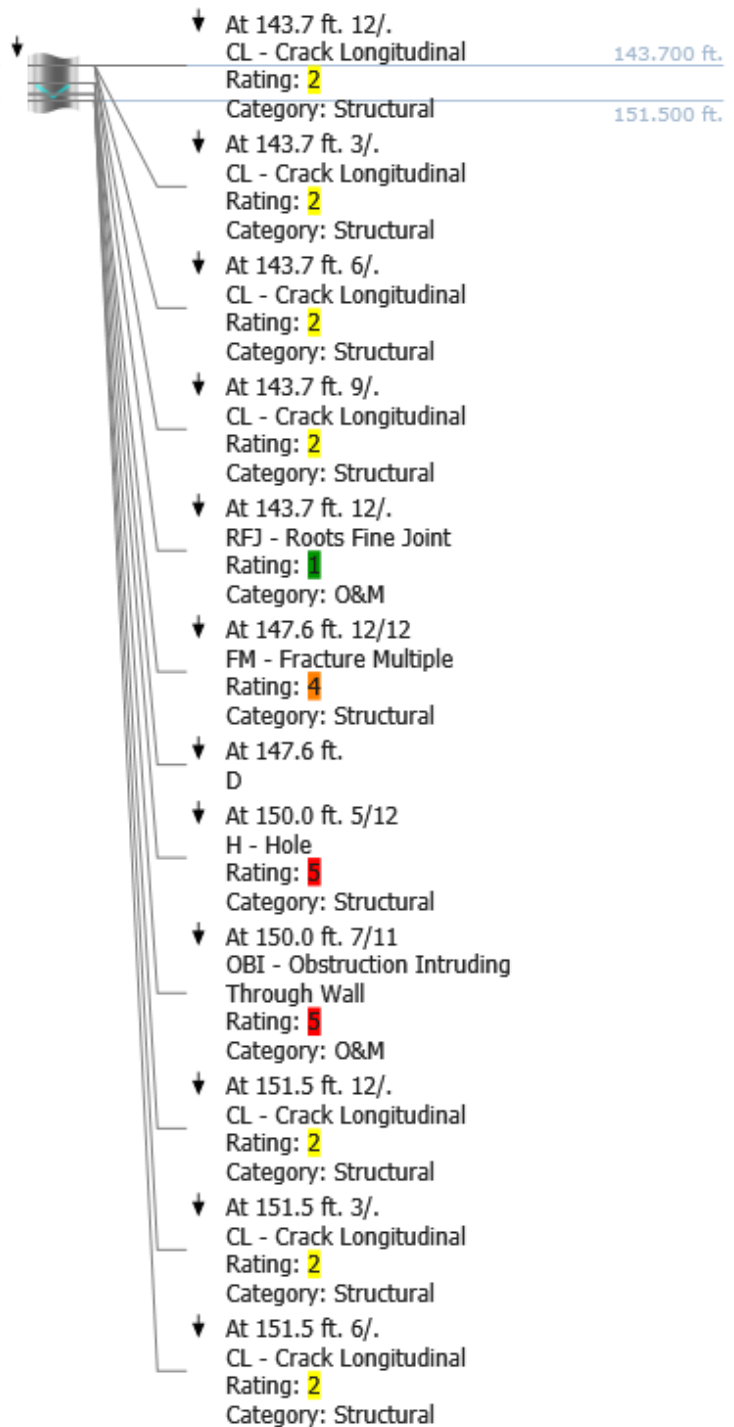
Weather:

3

Mainline length: 316.689 ft.  
Surveyed length: 151.500 ft.

Omitted: 143.7 ft.

Omitted: 165.19 ft.



Project name: Mainline ID: 7534

Start date/time:

Direction:

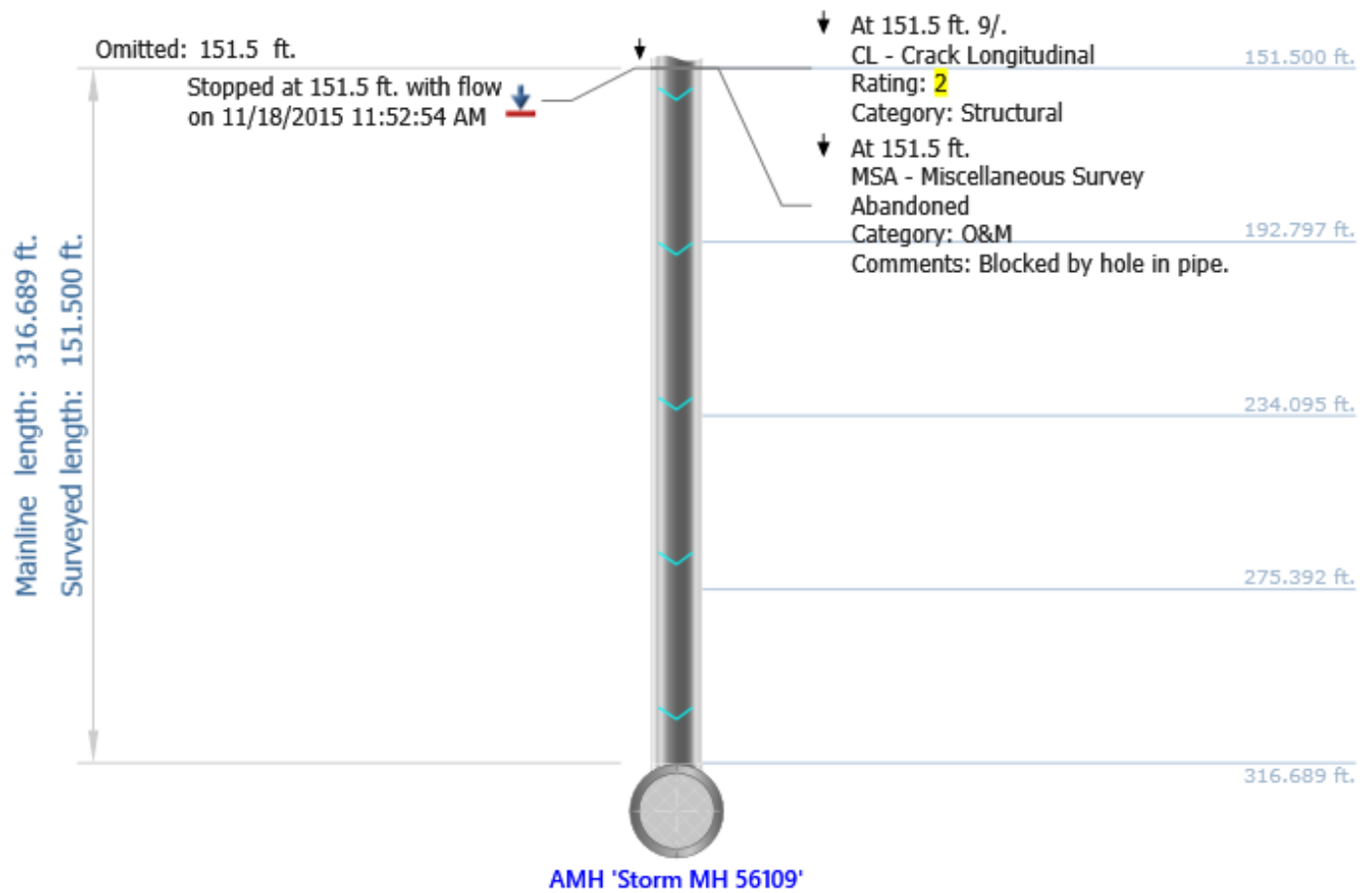
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/18/2015 10:34 AM

D

Weather:

3

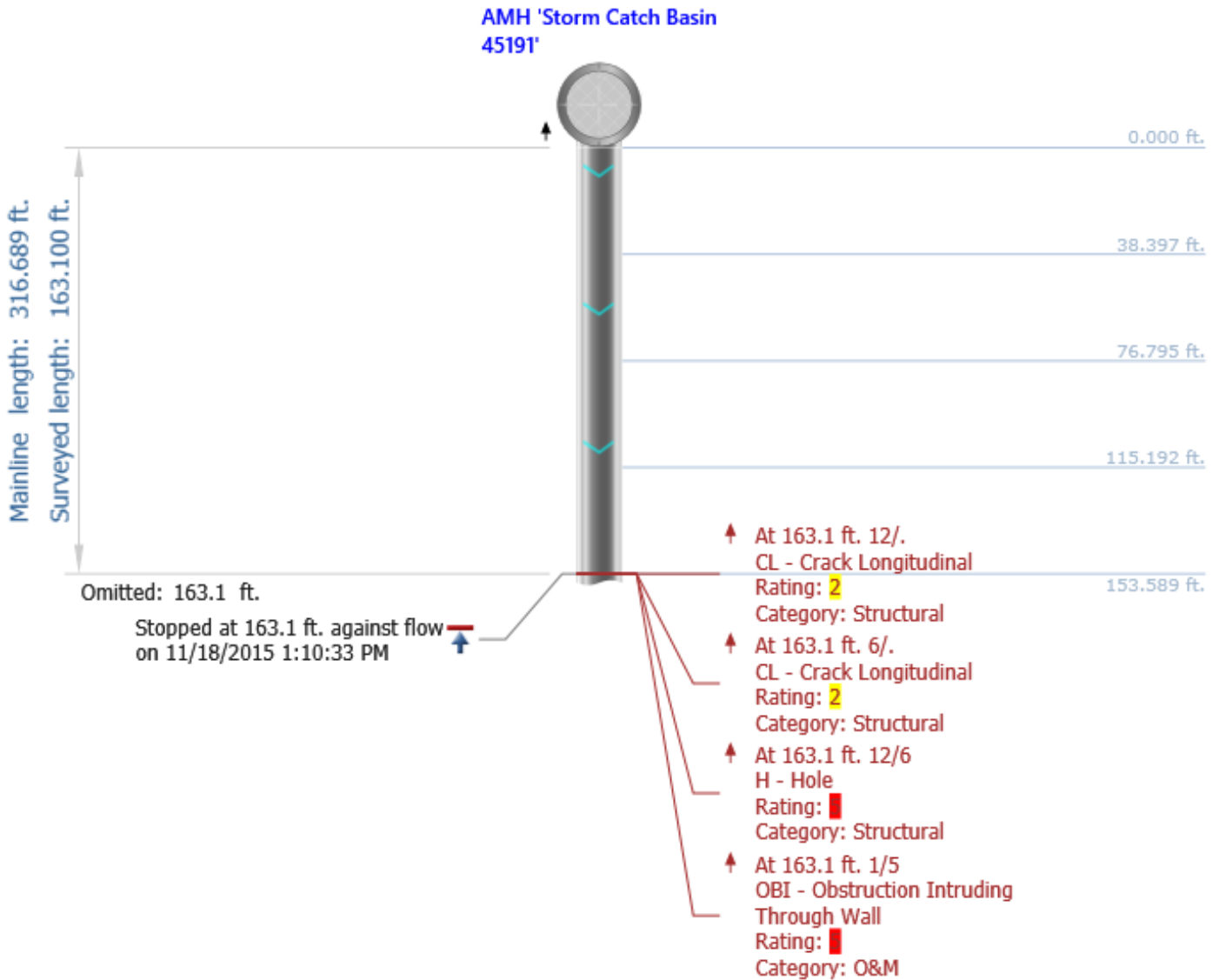




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>7534</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>U</b>	Weather:	Location code:
<b>11/18/2015 12:42 PM</b>	Material:	<b>1</b>	
Shape:		Height:	Width:
<b>C</b>		<b>10 in.</b>	



Project name: Mainline ID: 7534

Start date/time:

Direction:

Urbana 2015 Storm Sewer Cleaning & TV Project

11/18/2015 12:42 PM

U

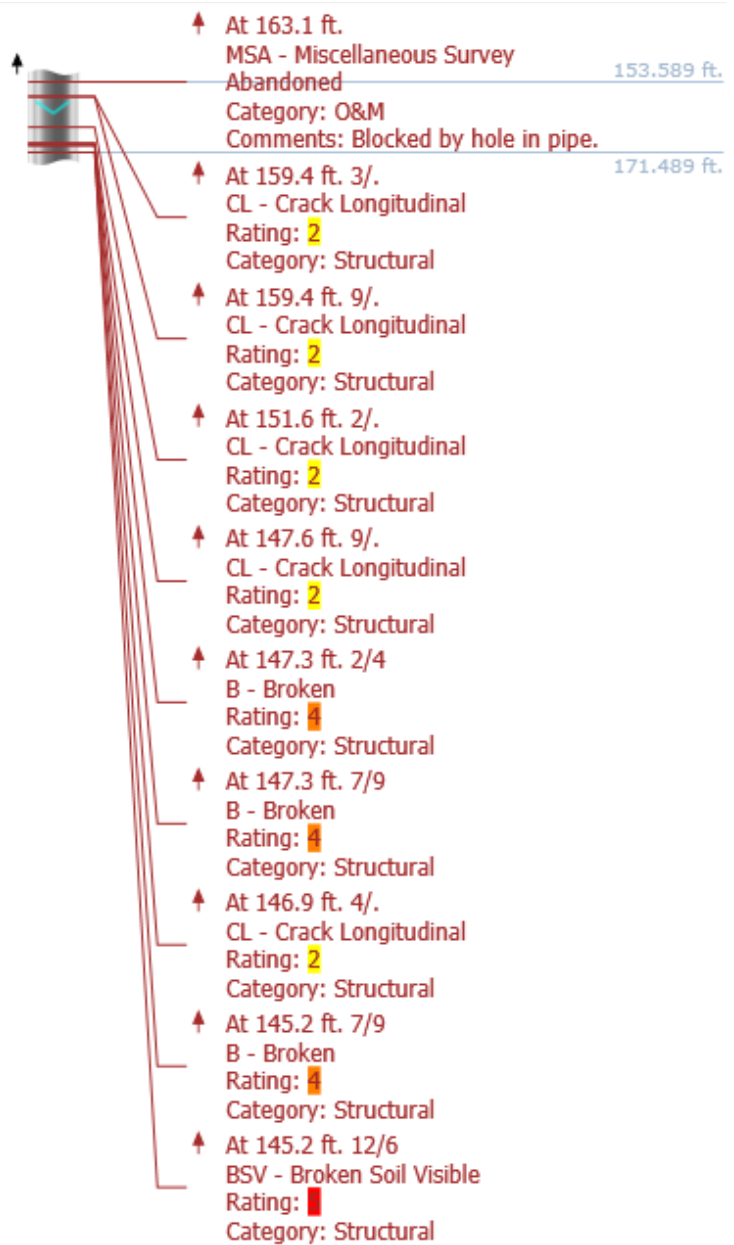
Weather:

1

Mainline length: 316.689 ft.  
Surveyed length: 163.100 ft.

Omitted: 153.59 ft.

Omitted: 145.2 ft.



Project name: Mainline ID: 7534

Start date/time:

Direction:

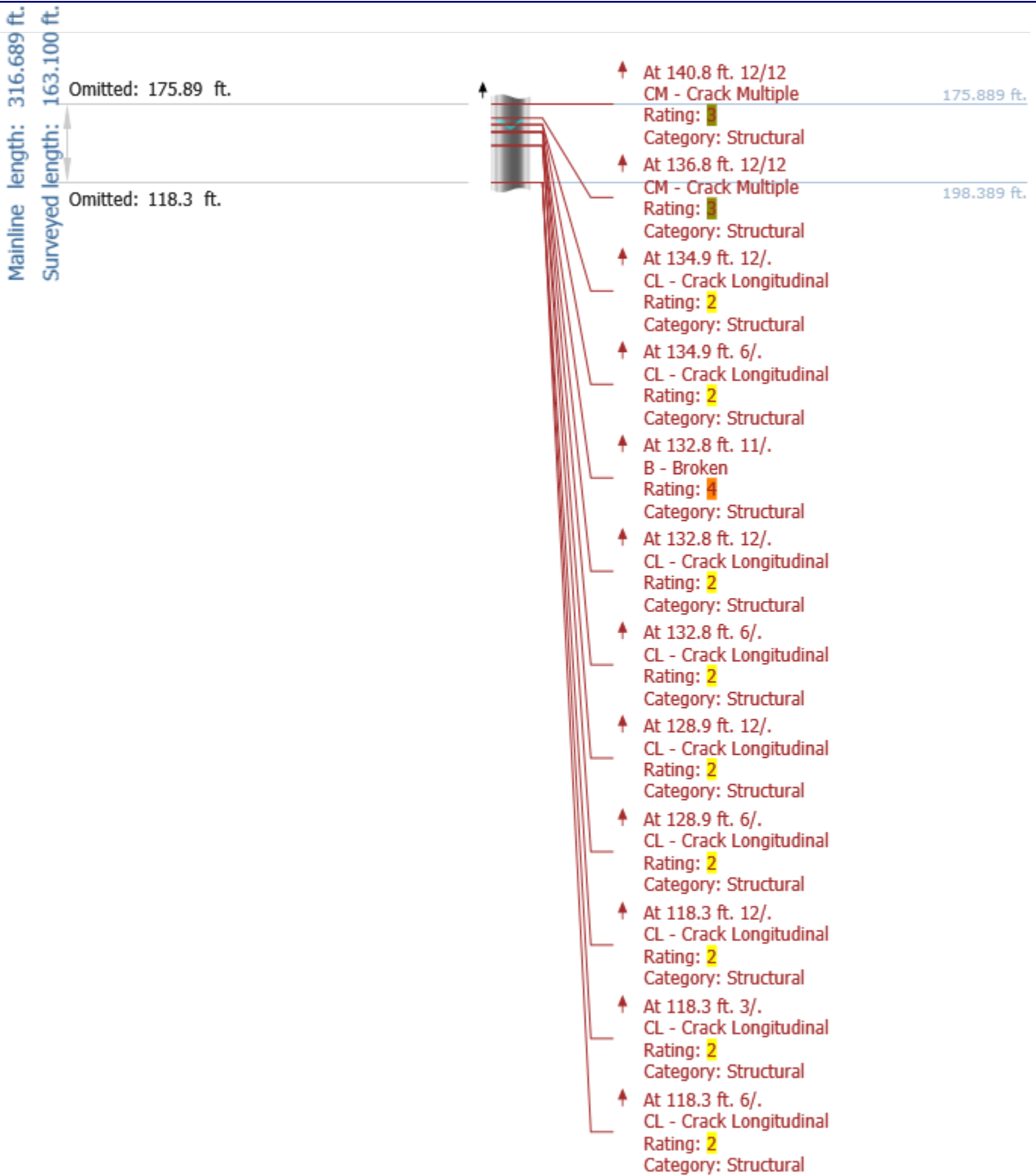
**Urbana 2015 Storm Sewer Cleaning & TV Project**

11/18/2015 12:42 PM

U

Weather:

1



Project name:

Mainline ID: **7534**

Start date/time:

Direction:

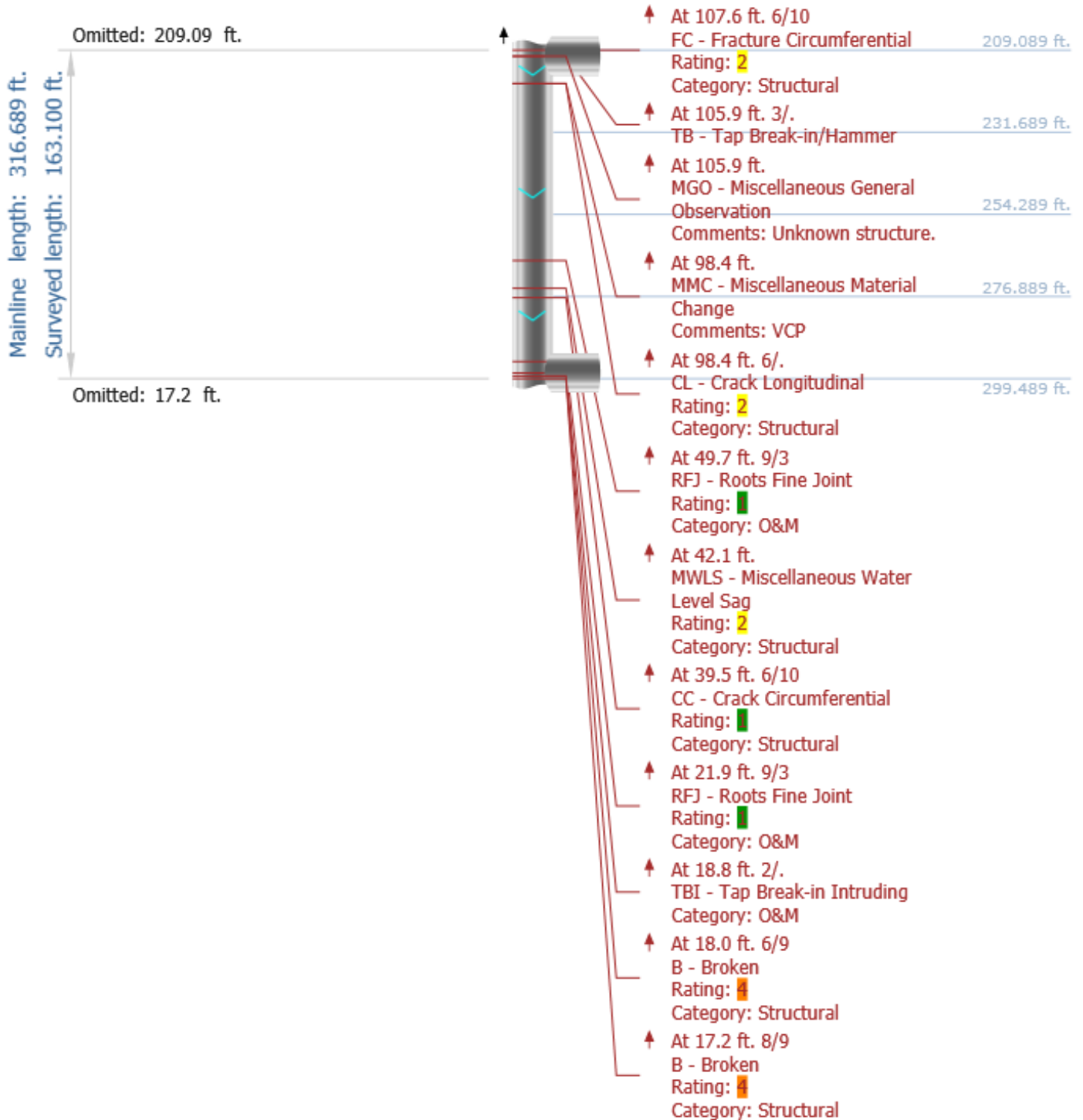
**Urbana 2015 Storm Sewer  
Cleaning & TV Project**

**11/18/2015 12:42 PM**

**U**

Weather:

**1**



Project name: Mainline ID: 7534

Start date/time:

Direction:

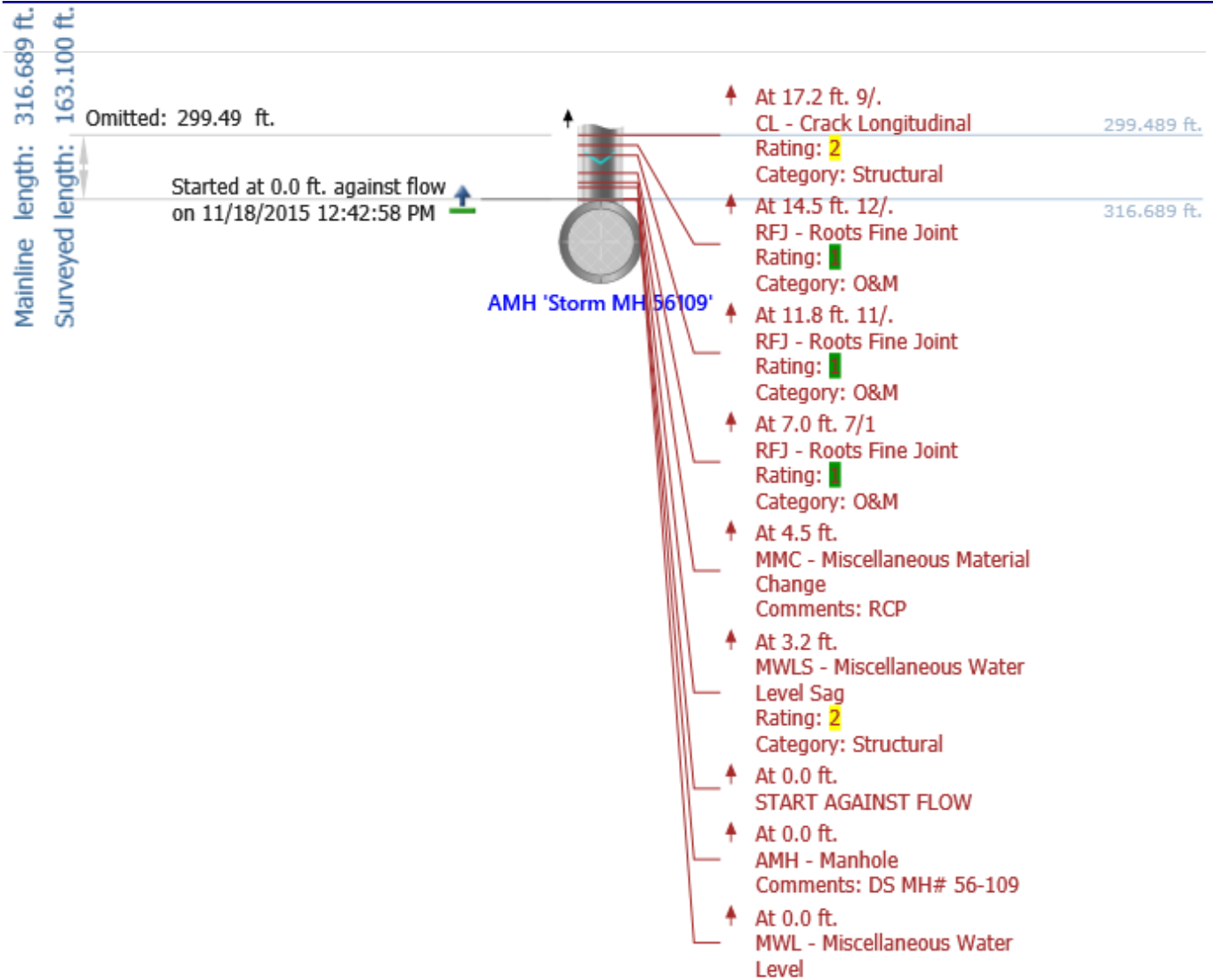
Urbana 2015 Storm Sewer Cleaning & TV Project

11/18/2015 12:42 PM

U

Weather:

1



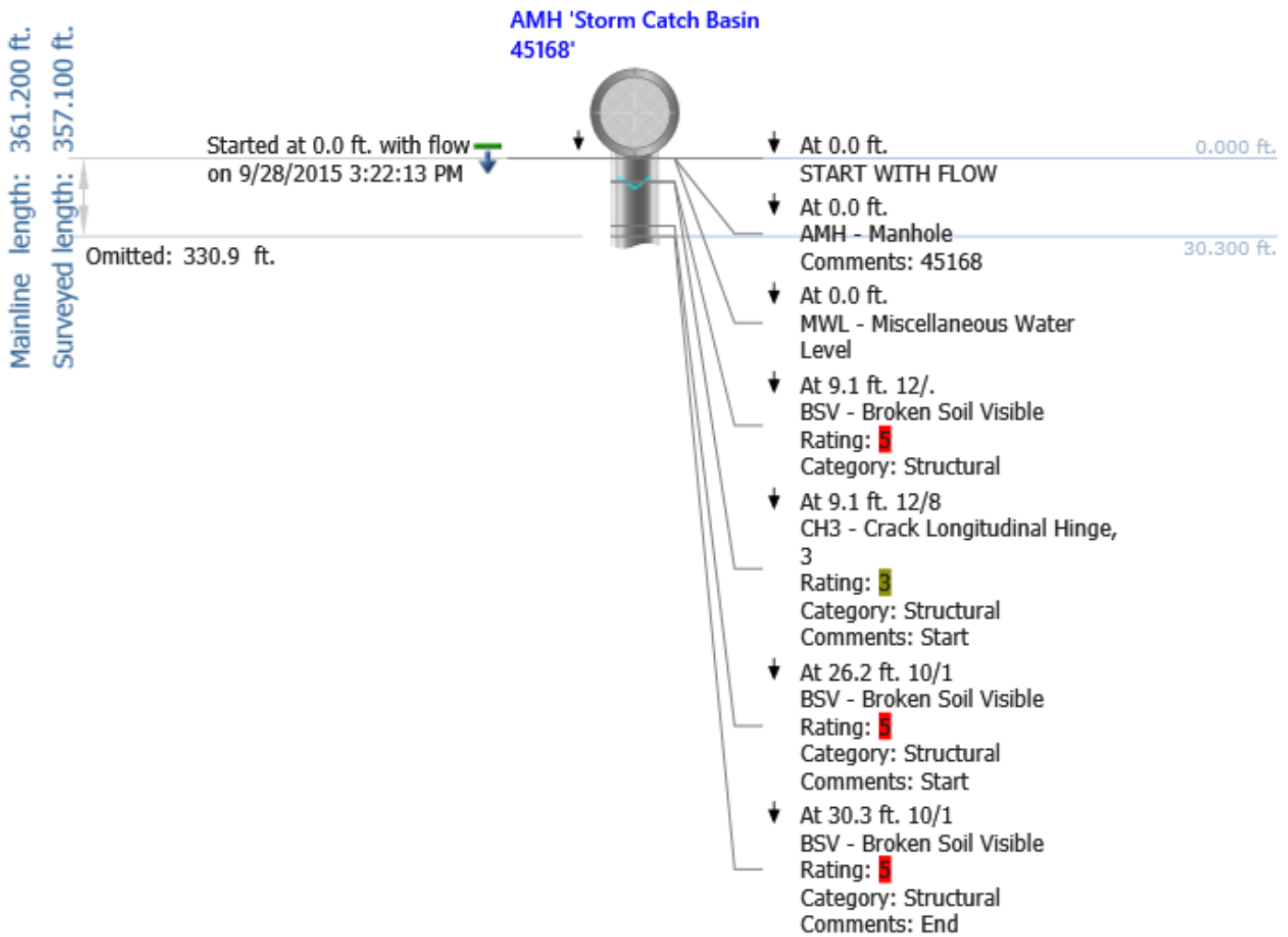




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>7642</b>	City:	Street:
<b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	<b>Dublin from Romine to Matthews</b>
Start date/time:	<b>D</b>	Weather:	Location code:
<b>9/28/2015 3:22 PM</b>	Material:	<b>5</b>	<b>D</b>
Shape:	<b>VCP</b>	Height:	Width:
<b>C</b>		<b>10 in.</b>	



Project name: Mainline ID: 7642

Start date/time:

Direction:

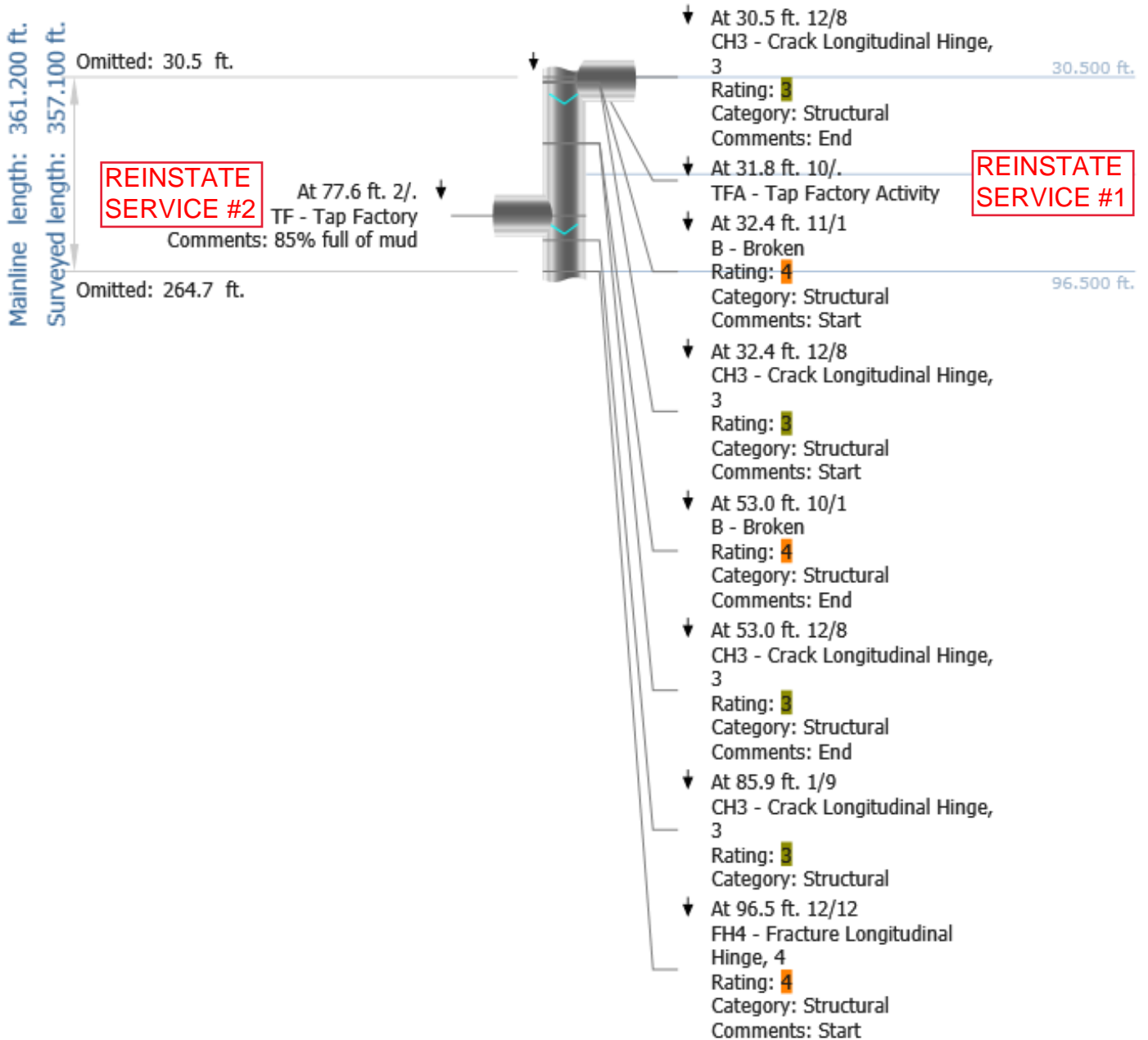
Urbana 2014 Storm Sewer Cleaning & TV Project

9/28/2015 3:22 PM

D

Weather:

5



Project name: Mainline ID: 7642

Start date/time:

Direction:

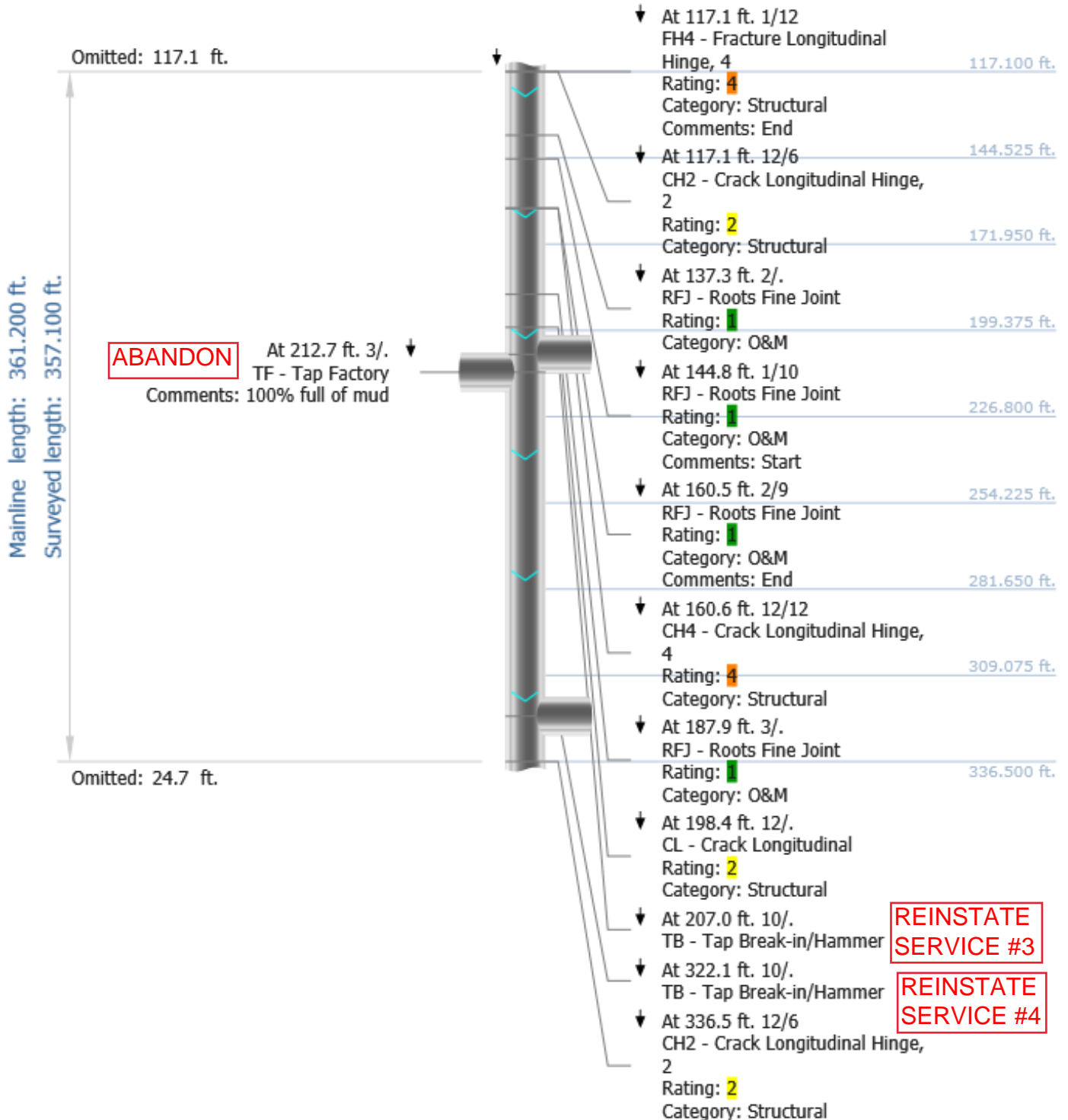
Urbana 2014 Storm Sewer Cleaning & TV Project

9/28/2015 3:22 PM

D

Weather:

5



Project name: Mainline ID: 7642

Start date/time:

Direction:

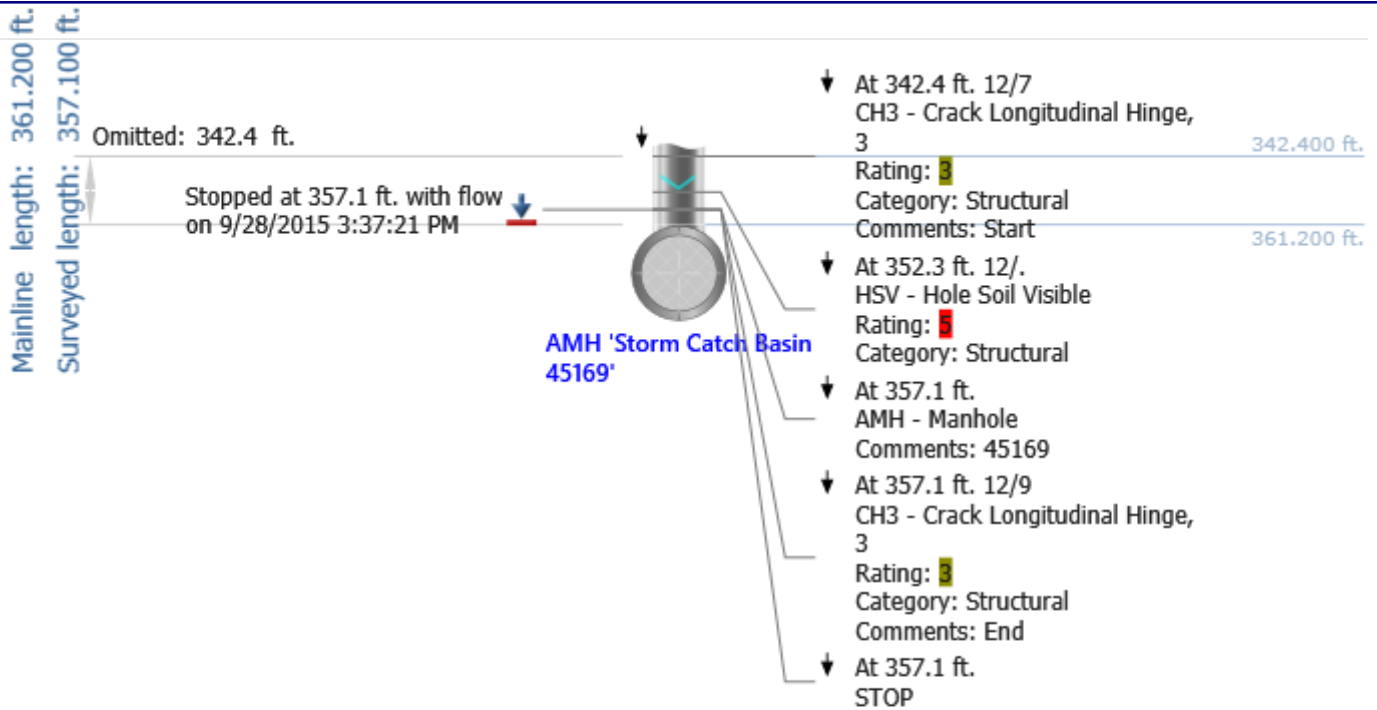
**Urbana 2014 Storm Sewer Cleaning & TV Project**

9/28/2015 3:22 PM

D

Weather:

5

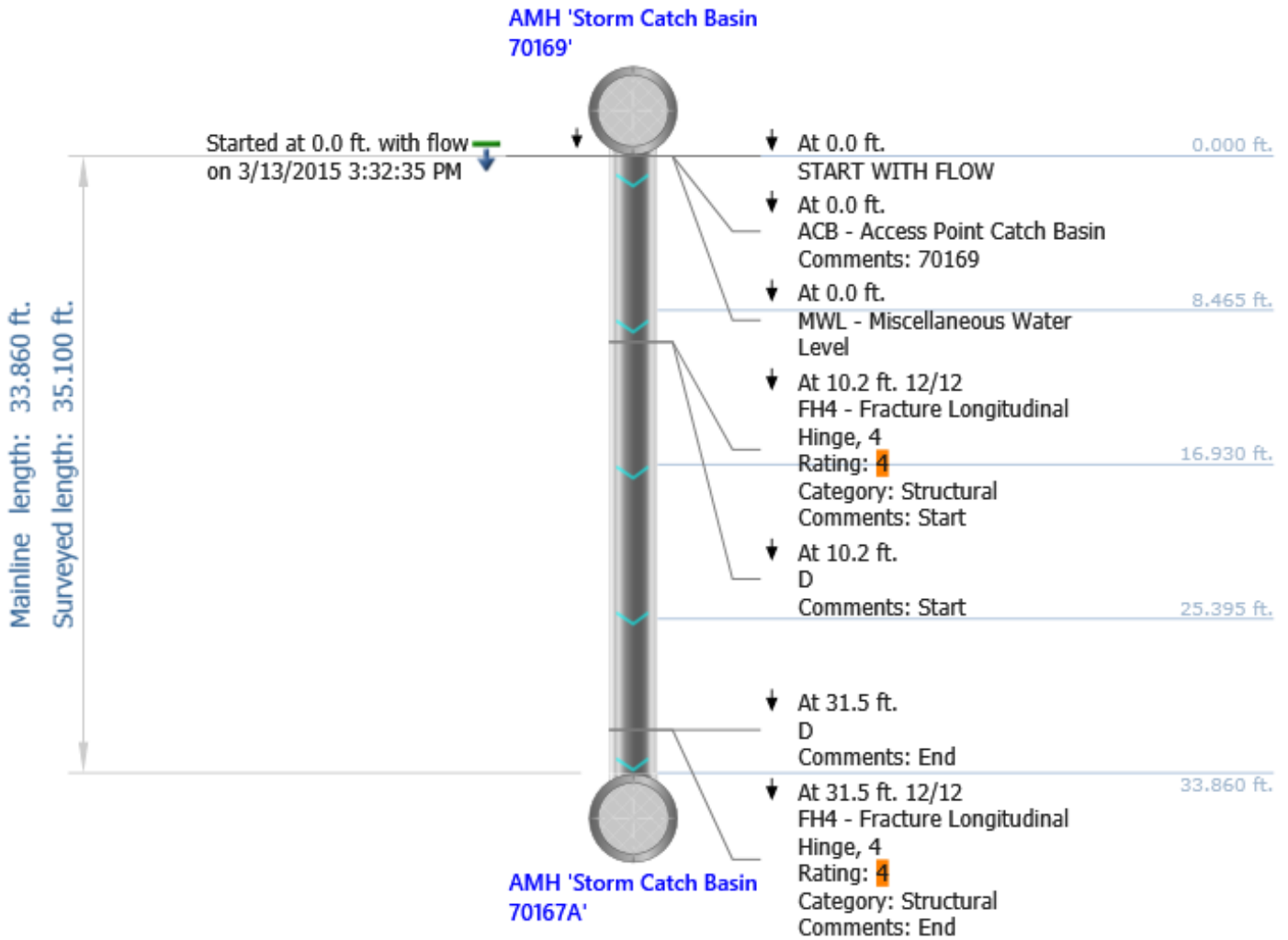




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>Urbana 2014 Storm Sewer Cleaning &amp; TV Project</b>	Mainline ID: <b>7776</b>	City: <b>Urbana</b>	Street: <b>E Illinois St</b>
Start date/time: <b>3/13/2015 3:32 PM</b>	Direction: <b>D</b>	Weather: <b>5</b>	Location code: <b>C</b>
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>21 in.</b>	Width:



**Some observations have distance greater than the pipe length**

Project name:

Mainline ID: **7776**

Start date/time:

Direction:

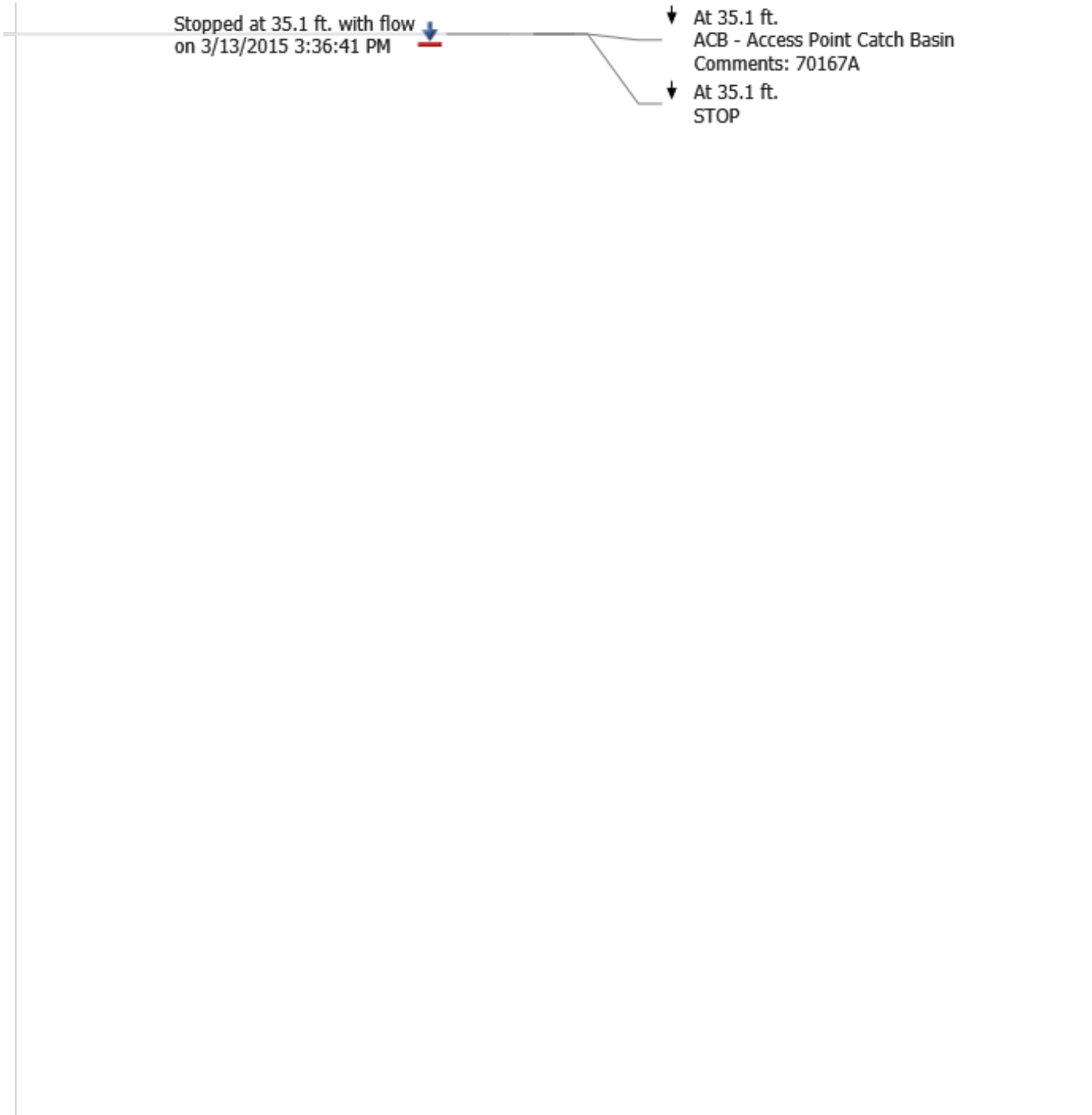
**Urbana 2014 Storm Sewer  
Cleaning & TV Project**

**3/13/2015 3:32 PM**

**D**

Weather:

**5**

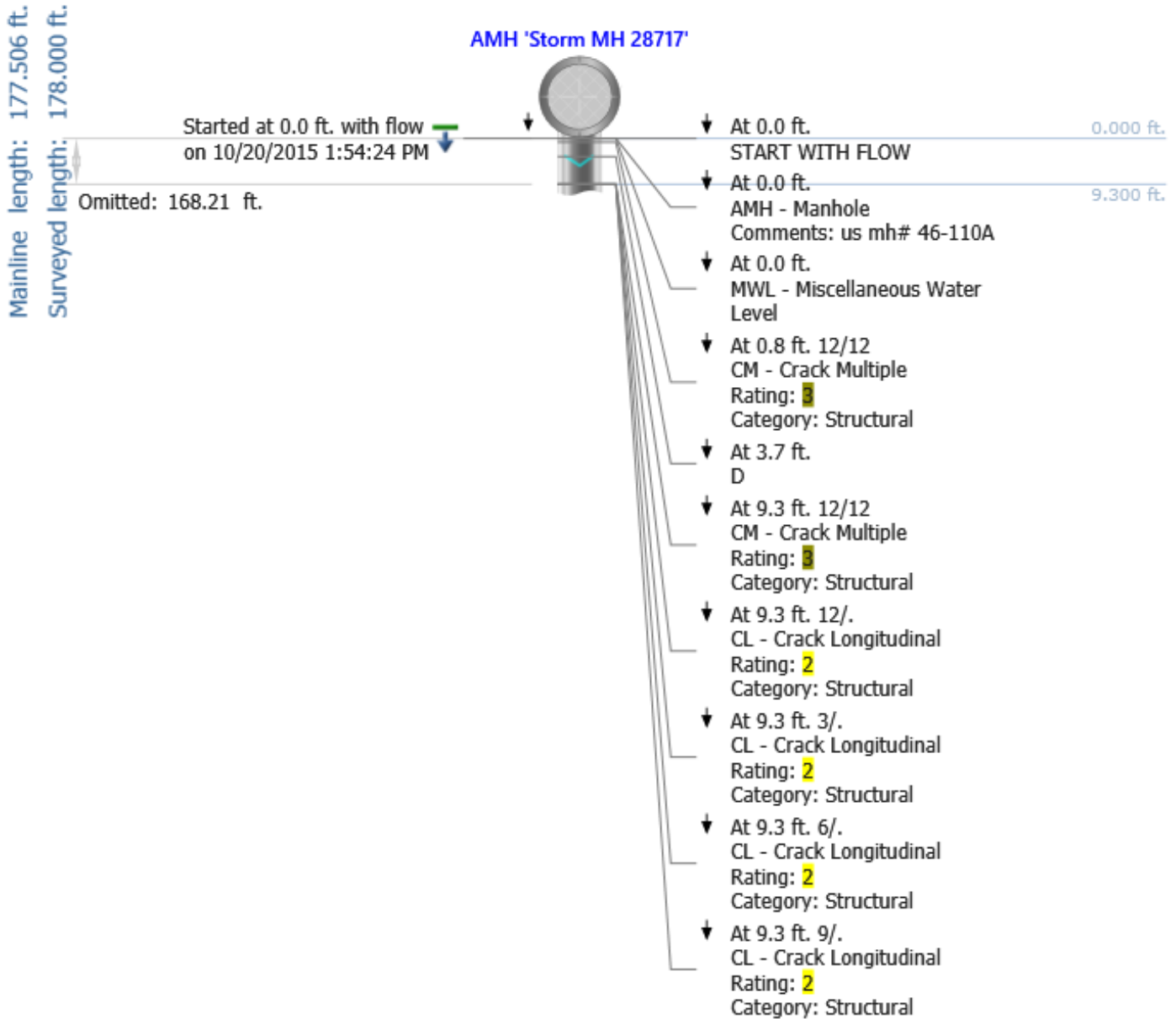




CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name:	Mainline ID: <b>9604</b>	City:	Street:
<b>Urbana 2015 Storm Sewer Cleaning &amp; TV Project</b>	Direction:	<b>Urbana</b>	
Start date/time:	<b>D</b>	Weather:	Location code:
<b>10/20/2015 1:54 PM</b>	Material:		
Shape:		Height:	Width:
<b>C</b>		<b>12 in.</b>	



Project name:

Mainline ID: 9604

Start date/time:

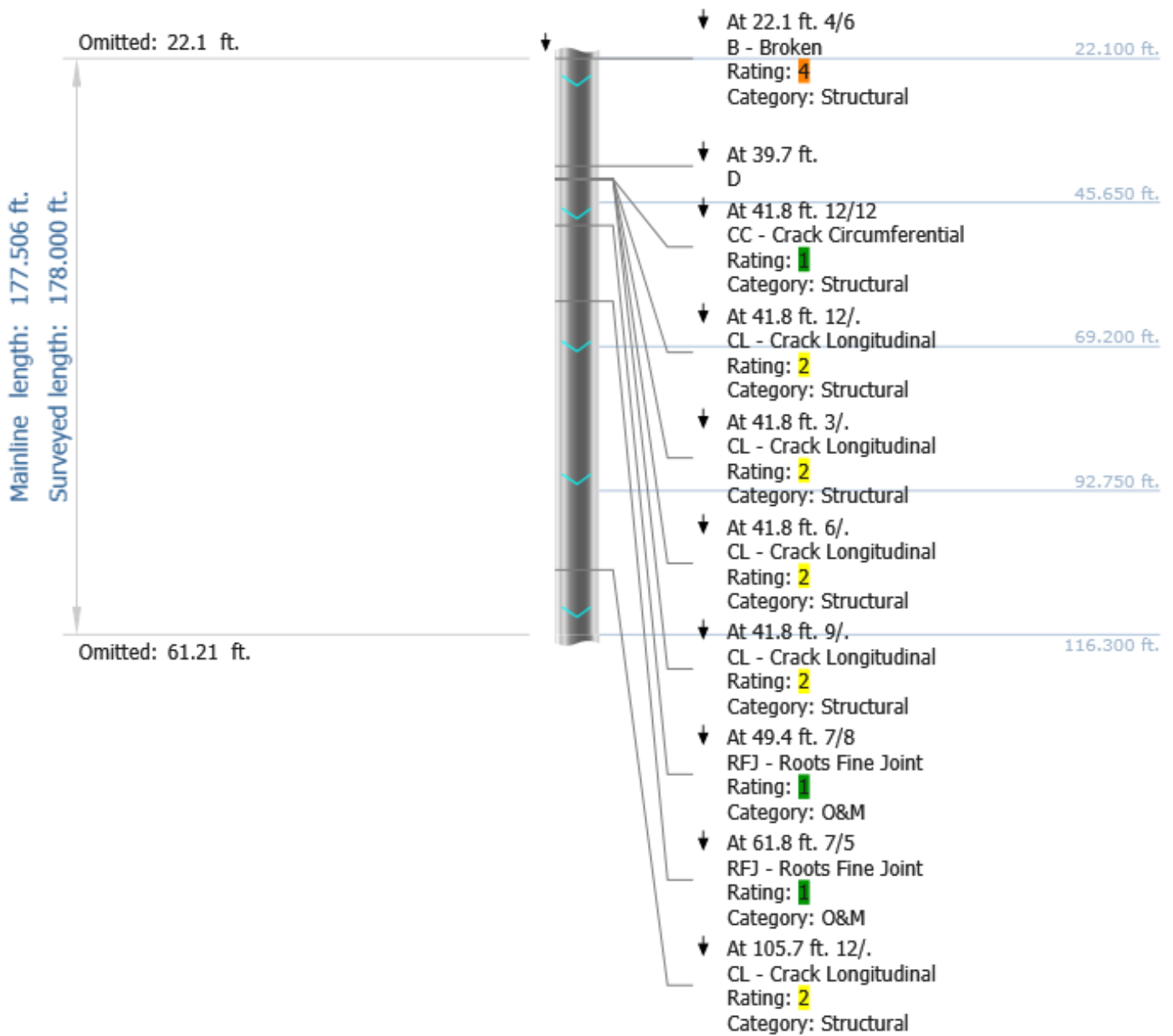
Direction:

**Urbana 2015 Storm Sewer  
Cleaning & TV Project**

10/20/2015 1:54 PM

D

Weather:





Project name:

Mainline ID: 9604

Start date/time:

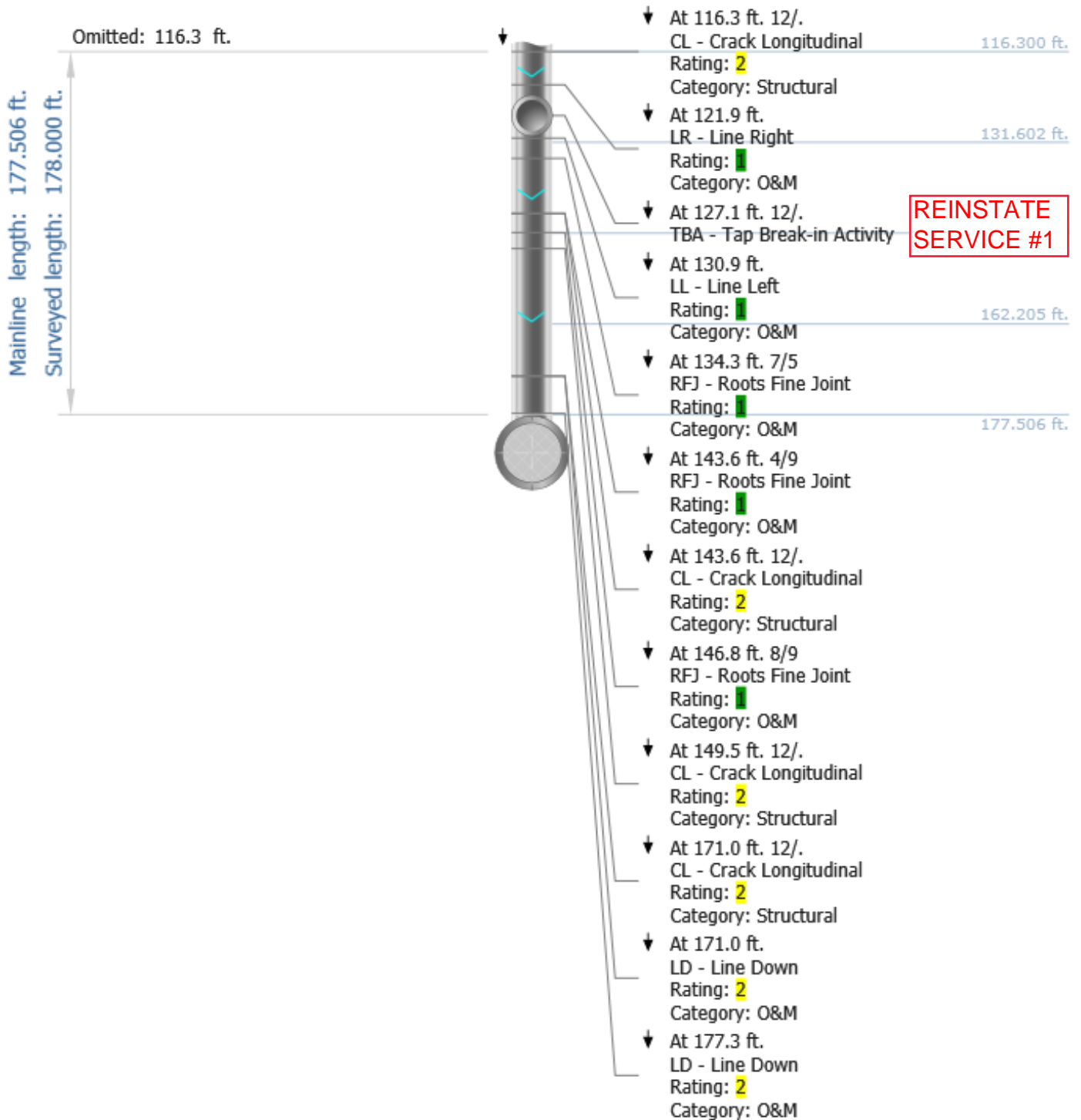
Direction:

**Urbana 2015 Storm Sewer Cleaning & TV Project**

10/20/2015 1:54 PM

D

Weather:



**REINSTATE SERVICE #1**

**Some observations have distance greater than the pipe length**

Project name:

Mainline ID: **9604**

Start date/time:

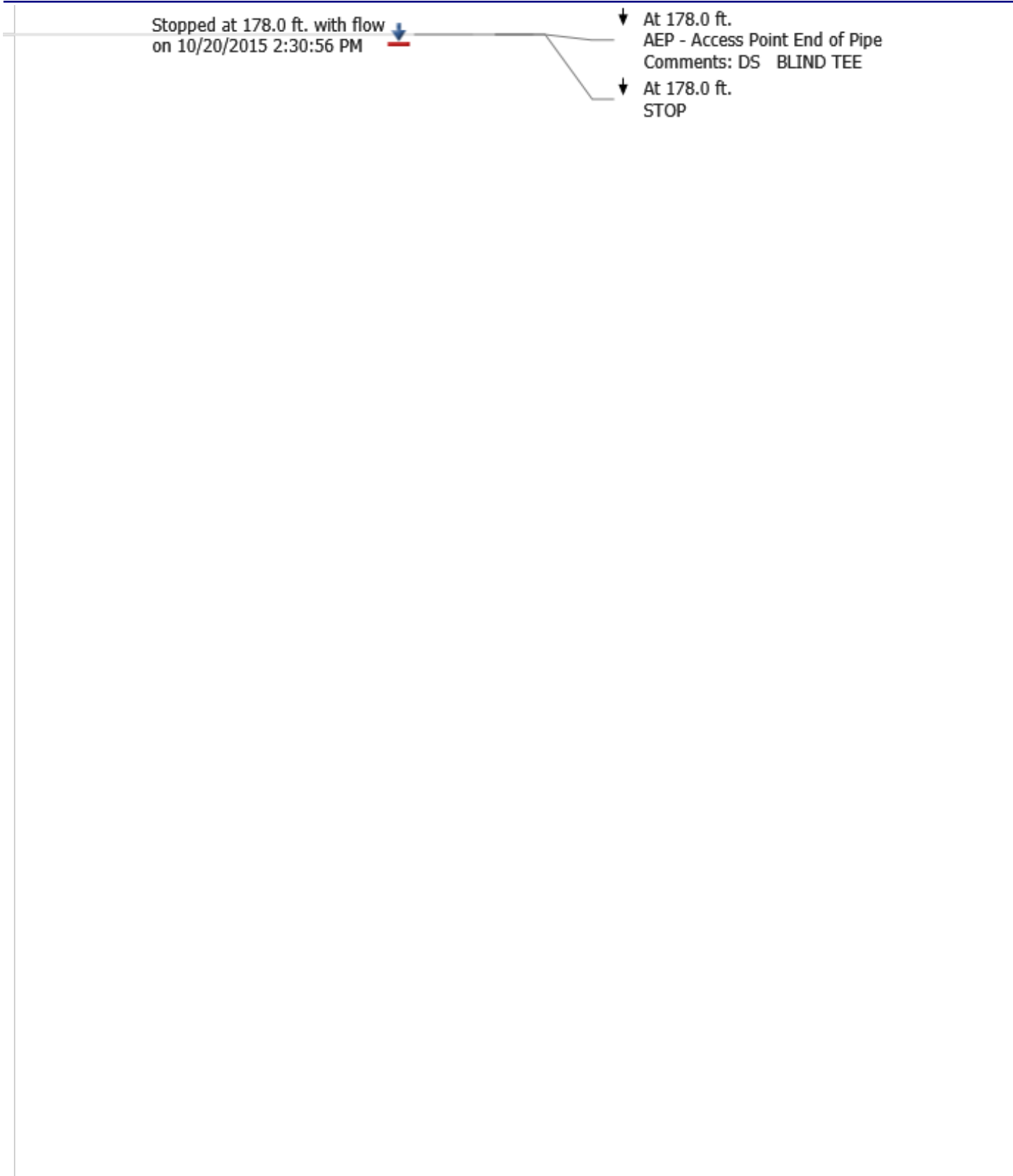
Direction:

**Urbana 2015 Storm Sewer  
Cleaning & TV Project**

**10/20/2015 1:54 PM**

**D**

Weather:



Stopped at 178.0 ft. with flow  
on 10/20/2015 2:30:56 PM

At 178.0 ft.  
AEP - Access Point End of Pipe  
Comments: DS BLIND TEE

At 178.0 ft.  
STOP



CUES, Inc.  
 3600 Rio Vista Avenue  
 Orlando, FL 32805  
 Phone: 407-849-0190  
 Fax: 407-425-1569

## Main Inspections Pipe Run

Project name: <b>2021 Miscellaneous TV</b>	Mainline ID: <b>STMGRAV-10405</b>	City: <b>URB</b>	Street: <b>910 Springfield (downstream)</b>
Start date/time: <b>1/13/2023 8:44 AM</b>	Direction: <b>D</b>	Weather:	Location code:
Shape: <b>C</b>	Material: <b>VCP</b>	Height: <b>8 in.</b>	Width:

