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August 22, 2019

Ms. Bailey Taylor  
Enforcement Coordinator, Office of Water Quality  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317

Re: Mountain Home Corrective Action Plan  
Wastewater Collection System Third Quarter Report  
Permit #AR0021211  
AFIN: 03-00039

Dear Ms. Taylor:

With this letter we are submitting the Mountain Home Wastewater Collection System Third Quarter Report addressing the continued maintenance and additional compliance efforts, as described in the Corrective Action Plan, dated December 14, 2018, for reducing Sanitary Sewer Overflows.

If you have any questions, please feel free to call me at Garver or Alma Clark at the City of Mountain Home.

Sincerely,

GARVER, LLC

Kirby B. Rowland, P.E.  
Senior Project Manager

Cc: Honorable Mayor Hillrey Adams, City of Mountain Home  
Alma Clark, City of Mountain Home  
Terry Sanders, City of Mountain Home



# **Corrective Action Plan Mountain Home, Arkansas**

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## **WASTEWATER COLLECTION SYSTEM Third Quarter Report September 1, 2019**

NPDES Permit Number AR0021211  
AFIN: 03-00039



### Engineer's Certification

I hereby certify that this Corrective Action Plan, Third Quarter Report dated September 1, 2019, was prepared by Garver under my direct supervision for the City of Mountain Home.

Kirby B. Rowland, PE  
State of Arkansas PE License 5168





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## 1. Third Quarter Report

This report covers the three-month period from May 2019 to July 2019. Because this report is due September 1, 2019, the information for August 2019 could not be compiled in time for inclusion by the September 1<sup>st</sup> deadline. Subsequent quarterly reports will also reflect the 3-month period that will end one month before the report deadline.

### a. Wastewater System Maintenance

The following information updates items of equipment and work that has been done concerning the wastewater collection system maintenance to reduce sewer overflows.

- Work Crews

- Line Cleaning

Line cleaning records for this quarter are attached in APPENDIX A – LINE CLEANING RECORDS. Maps showing these areas that have been cleaned in the various parts of the City are highlighted and attached in APPENDIX B – LINE CLEANING MAPS.

- Closed Circuit Television (CCTV)

CCTV records for this quarter are attached in APPENDIX C – CCTV CAMERA EXAMINATION RECORDS.

- Repair / Maintenance

As problems are found through the inspections, work orders are produced to get the problems fixed. These work orders are attached in APPENDIX D – SEWER REPAIR AND REPLACEMENT RECORDS. These repairs reflect irregular sewer main conditions found during the line cleaning, CCTV, and smoke testing.

- Lift Stations

Lift station maintenance beyond the normal everyday inspections is typically done when a VACTOR truck is used to pump out wet wells when needed. Work done this quarter is shown in APPENDIX E – LIFT STATION MAINTENANCE RECORDS. Also included is the lift station run times for each month.



**(b) Additional Compliance Efforts to Reduce Sanitary Sewer Overflows (SSO's)**

The following is an update on the efforts in addition to the current ongoing measures that are being done to address the SSO's, as noted in the Corrective Action Plan (CAP) dated December 14, 2018.

- **Additional Assets**

The new VACTOR truck has been ordered but has not yet been delivered. It has a delivery date of August 2019.

The new CCTV Camera and flow measurement equipment are currently in use. This equipment has already shown how its use is facilitating finding areas that need attention for reducing potential overflows. As an example, using the flow testing equipment in the Village Green subdivision showed that approximately 50% of the sewer pipe, which is diapered concrete pipe, needs to be replaced and most of the manholes need some type of repair. Some easement clearing with tree removal is also needed. The Village Green subdivision flows into and through the Indian Creek subdivision to the Indian Creek Lift Station, which has the highest pump run times of all the lift stations in the wastewater system. Plans are in process to accomplish this work.

- **Fats, Oils, and Grease (FOG) Program**

The FOG outreach program is now ongoing. Information from each establishment is being compiled for inclusion into a computerized database for tracking each grease trap for grease removal and cleaning.

- **Clearing Right of Way**

Maintenance mowing and Right of Way inspection work continues to be done on the sewer right of way. Updated maps showing these right of way areas that have been cleaned in the various parts of the City are highlighted and attached in APPENDIX F – EASEMENT RIGHT OF WAY CLEANING MAPS.

- **Smoke Testing**

Work order detail sheets from the smoke testing continues and are attached in APPENDIX D – SEWER REPAIR AND REPLACEMENT RECORDS.

This work is being placed on a 3-year schedule such that the entire system will again be smoked tested in 2022.



**(c) Rainfall and Overflow Events**

For informational purposes, daily rainfall records are included in APPENDIX H – RAINFALL RECORDS, that were examined for any infrequent rainfall amounts that might have occurred that would influent potential overflow events.

No overflows occurred this quarter:

**2. Report Summary**

The City continues to accomplish the work proposed in the Corrective Action Plan dated December 14, 2018 and the January 14, 2019 letter to the Arkansas Department of Environmental Quality (ADEQ).

The Fourth Quarter Report will be submitted by December 1, 2019, and will encompass the months of August, September, and October 2019.

APPENDIX A  
LINE CLEANING RECORDS



### Sewer Maintenance Daily Information

Date: 5-29-19 Operator: James May Hours Worked 1.5  
 Laborer: John Beebe Hours Worked \_\_\_\_\_  
 Laborer: Walter Blumling Hours Worked \_\_\_\_\_  
 Laborer: Kevan T Hours Worked \_\_\_\_\_  
 Location / Address: thorn Chats W  
3-4-2-D

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_  
 Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_  
 Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	122-180	122-175	7:00	8:30	210	
2.	138-40	138-090	8:30	9:00	400	
3.	138-173	138-165	9:00	9:15	300	
4.	138-170	138-173	9:15	9:30	220	
5.	138-170	138-120	9:30	10:00	420	
6.	138-295	138-285	10:30	11:30	350	
7.	138-310	138-185	12:30	1:30	500	
8.	138-295	138-305	1:30	2:15	500	
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

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Turn this in to your foreman each morning.

## Sewer Maintenance Daily Information

Date: 5-30-19 Operator: John Beebe Hours Worked \_\_\_\_\_  
 Laborer: James Mue Hours Worked \_\_\_\_\_  
 Laborer: Garrett Babin Hours Worked \_\_\_\_\_

Location / Address: 6<sup>th</sup> Street and Bryant

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	138-305	138-310	8:00	9:00	280	
2.	<del>139-330</del>	<del>139-325</del>	9:00	9:15	220	
3.	139-330	138-315	9:15	9:30	500	
4.	139-340	139-330	9:30	9:45	500	
5.	153-240	153-235	11:00	11:30	450	
6.	139-340	138-139	1:00	2:15	400	
7.	139-345	139-340	2:15	2:45	550	
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info). Helped Kevin do dig up  
from 9:45 am to 11:00 am.

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 6-12-19

Operator: JAMES

Hours Worked \_\_\_\_\_

Laborer: CARRITT

Hours Worked \_\_\_\_\_

Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / (VacCon (circle))

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	138-190	138-195	7:30	8:15	400	
2.	138-120	138-115	8:15	8:45	100	
3.	138-270	138-277	8:45	9:30	500	
4.	138-070	138-065	9:30	10:00	300	
5.	138-070	Dead end	10:00	10:50	500	
6.	138-115	138-195	12:30	1:00	350	
7.	138-115	138-110	1:00	1:30	400	
8.	138-090	138-085	1:30	2:00	100	
9.	138-090	138-100	2:00	2:30	400	
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

## Sewer Maintenance Daily Information

Date: 5-13-19

Operator: James

Hours Worked \_\_\_\_\_

Laborer: Garrett

Hours Worked \_\_\_\_\_

Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable /  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	138-085	138-075	7:15	8:00	550	
2.	138-390	138-405	8:10	8:30	350	
3.	138-390	138-380	8:30	9:00	350	
4.	138-405	138-395	9:00	9:30	450	
5.	139-025	139-015	9:30	9:45	150	
6.	154-225	154-220	10:00	10:40	420	
7.	137-225	137-220	10:45	11:00	300	
8.	139-015	138-390	12:30	1:20	600	
9.	139-015	138-375	1:30	2:00	400	
10.	139-002	139-001	2:15	2:45	160	
11.					3,730	
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 6-18-19

Operator: JAMESON  
 Laborer: GARRET  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	137-240	137-230	10:00	10:45	450	
2.	137-230	121-375	12:30	1:50	350	
3.					800	
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

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 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

## Sewer Maintenance Daily Information

Date: 6-19-19

Operator: C. GARRETT

Laborer: NICK

Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_

Hours Worked \_\_\_\_\_

Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	122-455	122-452	7:10	8:00	300	
2.	123-015	123-010	8:00	8:45	300	
3.	122-450	122-445	8:50	9:30	510	
4.	<del>122-445</del>					
5.	122-457	122-445	9:30	10:00	350	
6.	122-440	122-510	10:40	11:30	250	
7.	122-090	122-085	12:15	1:06	450	
8.	122-090	122-457	1:06	1:30	106	
9.	122-090	122-460	1:35	2:00	550	
10.					5810	
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 6-20-19

Operator: J. JOHNSON  
 Laborer: C. CARROLL  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable /  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	123-393	123-395	7:10	8:00	350	
2.	123-395	123-405	8:10	8:45	400	
3.	122-395	123-365	8:50	9:30	500	
4.	122-395	122-390	9:30	10:00	450	
5.	122-385	122-375	10:30	11:00	430	
6.	122-375	122-372	11:00	11:50	470	
7.	122-390	123-360	12:40	1:30	470	
8.	123-360	123-362	1:35	2:00	65	
9.					3,135	
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 6-21-19

Operator: James Mung

Hours Worked \_\_\_\_\_

Laborer: Garrett Bowdoin

Hours Worked \_\_\_\_\_

Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_

Location / Address: Corner of Redford and Spring St.

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	123-345	123-343	8:00	8:30	230	
2.	23-347	123-345	8:30	9:00	400	
3.	122-060	122-055	9:00	9:30	470	
4.	23-360	123-347	10:30	11:30	470	
5.	123-320	123-322	12:30	1:30	300	
6.	123-320	123-215	1:30	2:15	470	
7.	123-320	123-330	2:15	3:00	430	
8.					2,770	
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

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Turn this in to your foreman each morning.



### Sewer Maintenance Daily Information

Date: 6-27-19

Operator: James  
 Laborer: Garet  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	123-310	123-303	7:15	8:00	470	
2.	123-310	122-577	8:10	9:00	470	
3.	120-120	120-115	10:00	11:00	450	
4.	136-052		11:15	12:00	200	
5.	123-185	123-180	12:30	1:00	110	
6.	123-185	123-183	1:00	1:45	120	
7.					1820	
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

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 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 6-28-19

Operator: JAMESON  
 Laborer: GARETT  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable /  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	123-210	123-203	7:15	8:00	100	
2.	122-555	123-170	8:15	8:45	470	
3.	122-555	122-550	8:45	9:30	200	
4.	122-215	122-210	9:30	10:30	470	
5.	122-227	122-225	10:30	11:00	150	
6.	123-325	123-215	12:30	1:30	470	
7.	122-225	122-220	1:35	2:15	200	
8.	122-030	122-205	2:20	2:35	300	
9.	122-030	122-025	2:35	2:50	300	
10.	122-030	122-255	2:50	3:10	450	
11.					3110	
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-2-19

Operator: Jameson  
 Laborer: Grace B  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable /  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	154-040	154-050	1:00	1:50	350	
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-3-19

Operator: JACKSON  
 Laborer: CARROLL  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	122-135	122-130	7:15	8:00	200	
2.	122-135	?	8:00	<del>9:00</del>	150	
3.	122-145	122-140	9:15	9:45	300	
4.	122-145	122-135	9:45	10:30	300	
5.	122-170	122-145	10:30	11:15	250	
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

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Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-8-19

Operator: Jones  
 Laborer: CHARLETT  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable ( VacCon ) (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	Cleaned Port	A Potties	7:10	8:30		
2.	171-650	171-140	8:30	9:30	400	
3.	Cleaned Port	A Potties	9:40	10:30		
4.	Dumped At	sewer Potties	10:45	11:25		
5.	120-365	120-374	12:15	1:07	470	
6.	121-305	120-360	1:10	1:50	230	
7.	121-290	121-300	2:00	2:20	250	
8.					1,350	Feet Ran.
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-9-19

Operator: JAMES

Hours Worked \_\_\_\_\_

Laborer: GARRETT

Hours Worked \_\_\_\_\_

Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_

Location / Address: MH

Portable  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	106-150	106-135	7:00	7:30	470	
2.	106-145	106-090	8:00	8:30	470	
3.	?	?	8:35	8:50	300	
4.	106-090	106-065	9:00	9:30	470	
5.	106-065	106-050	9:35	9:45	470	
6.	106-050	106-040	10:00	10:30	470	
7.	106-050	106-052	10:30	11:00	220	
8.	106-135	106-130	11:00	11:25	250	
9.	106-130	106-095	11:30	12:00	250	
10.	106-130	?	12:30	12:40	70	
11.	?	160-095?	12:50	1:10	470	
12.	122-160	122-155	1:20	1:45	120	
13.	122-160	122-150	1:45	2:10	470	
14.	106-005	106-015	2:20	3:00	470	
15.	106-123	106-121	3:00	3:10	470	5,440

Comments (problem areas or customer info).

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Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-16-19

Operator: James

Hours Worked \_\_\_\_\_

Laborer: Ciprietti

Hours Worked \_\_\_\_\_

Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	153-255	153-265			470	
2.	153-265	153-260			470	
3.	?	?			200	
4.	?	153-260			200	
5.	154-050	154-045			460	
6.	154-040	154-050			470	
7.	153-250	137-046			470	
8.	153-250	153-245			150	
9.	154-040	153-250			470	
10.	154-005	138-267			290	
11.	154-005	154-040			340	
12.	138-263	138-265			300	
13.	138-267	138-266			100	
14.	138-266	End 40004			330	
15.						5,340

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
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 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-11-19

Operator: Garrett  
 Laborer: \_\_\_\_\_  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	153-410	153-405	7:10	7:30	330	
2.	169-080	153-405	7:30	8:15	470	
3.	169-080	169-075	8:20	8:35	175	
4.	169-075	169-070	8:40	9:25	370	
5.	169-065	169-060	9:25	10:00	300	
6.	169-060	169-055	10:20	11:00	220	
7.	169-055	16-9-050	11:00	11:25	350	
8.	153-415	169-080	11:25	12:00	470	
9.	153-415	153-425	12:40	1:00	470	
10.	153-360	153-420	1:20	1:45	470	
11.	<del>153-360</del>					
12.	153-360	153-355	1:50	2:30	450	
13.	153-370	153-365	2:30	2:50	220	
14.	153-375	153-370	2:50	3:10	470	
15.						4,765

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.



### Sewer Maintenance Daily Information

Date: 7-12-19

Operator: JAMES  
 Laborer: CHAPPEL  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	153-430	?			260	
2.	153-380	153-430			470	
3.	153-380	153-375			470	
4.	169-200	?			End of line	
5.	169-185	169-200				
6.	169-190	169-185			470	
7.	169-195	169-190			480	
8.	169-195	153-380			450	
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-15-19

Operator: James  
 Laborer: Cherem  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	Dumped trench at sewer plant					
2.	Balls were stuck, worked on trench					
3.	Cleaned + Picked up Poeta Potties on square.					
4.	Cleaned Poeta Potties at Parks					
5.	Cleaned Poeta Potties at Jobsites					
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
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 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-16-19

Operator: JAMES  
 Laborer: GARRET  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	Cleanout	MH # 121-355				
2.	154-012	154-010			400	
3.	154-070	153-310	hole was too small			for nozzle.
4.	154-070	154-067			400	
5.	154-065	154-060			470	
6.	154-065	153-310			300	
7.	Removed Broken service that fell into man hole					blocking the main
8.	154-025	154-070			470	
9.	154-025	154-020			470	
10.	154-033	154-030			170	
11.	153-440	154-033			470	
12.	153-440	153-442			200	
13.	169-125	153-165			470	
14.	169-130	169-125			470	
15.	169-135	169-130			250	

Comments (problem areas or customer info).

MH # 154-070 on the corner of 12<sup>th</sup> + South is  
Badly Cracked and needs replaced.

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-16-19

Operator: JAMES  
 Laborer: CHARLIE  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	169-145	169-135			470	
2.	170-303	170-304			470	
3.	170-302	170-303			470	
4.	169-215	169-210			450	
5.	169-225	?			450	
6.						7,150
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-17-19

Operator: JAMES  
 Laborer: Garrett  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable /  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	120-148	120-149			470	
2.	?	?			400	
3.	?	?			470	
4.	169-225	169-220			470	
5.	169-230	169-225			200	
6.	169-230	169-165			470	
7.	169-270	169-275			100	
8.	169-270	169-250			450	
9.	189-060	?			470	
10.	189-015	189-060			470	
11.	189-015	189-020			200	
12.	Sucked up some base for Kevin					
13.						
14.						
15.						

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-18-19

Operator: James  
 Laborer: Clawett  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_  
 Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_  
 Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	120-148	120-149			470	
2.	189-005	189-015			470	
3.	189-005	189-215			470	
4.	188-005	188-230			470	
5.	188-005	189-005			300	
6.	188-010	188-005			100	
7.	188-015	188-010			230	
8.	188-015	188-250			260	
9.	188-020	188-015			470	
10.	188-020	188-270			230	
11.	188-027	188-025			50	
12.	188-025	188-020			250	
13.	188-027	188-034			470	3,817
14.	121-180	121-183			0	
15.	Helped LEAK CREW for a few hours					

Comments (problem areas or customer info).

121-180 has roots blockage, tried root saw but didn't  
fit, taking track reel first thing in the morning.

Turn this in to your foreman each morning.



### Sewer Maintenance Daily Information

Date: 7-24-19

Operator: JAMES  
 Laborer: GARRETT  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_  
 Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_  
 Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	095-085	095-115			470	
2.	095-007	095-037			470	
3.	111-001	095-007			470	
4.	111-007	111-001			280	
5.	111-007	095-002			380	
6.	111-013	111-007			470	
7.	111-025	111-019			100	
8.	095-025	095-031			470	
9.	095-013	095-031			470	
10.	095-013	095-019			430	
11.	111-025	095-013			470	
12.	111-025	111-019			140	
13.	111-040	111-041			470	
14.	111-031	111-040			470	
15.	111-031	111-025			250	5,760

Comments (problem areas or customer info).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.



### Sewer Maintenance Daily Information

Date: 7-25-19

Operator: James  
 Laborer: James  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable /  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	110-040	110-046			260	
2.	110-036	110-040			470	
3.	094-060	094-065			380	
4.	094-002	094-060			470	
5.	110-001	94-002			470	
6.	<del>110-005</del>					
7.	110-001	110-005			470	
8.	110-009	110-001			470	
9.	110-016	110-09			470	
10.	110-016	110-036			470	
11.	110-016	110-021			270	
12.					4,400	
13.						
14.						
15.						

Comments (problem areas or customer info).

Manhole # 110-016 has a cave in, ground sunk  
in around manhole concrete, and mud and clay are in  
the manhole bottom.

Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-26-14

Operator: JAMES  
 Laborer: GAURETA  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable /  VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_  
 Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_  
 Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

#	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	Dropped off, cleaned + filled		4p	Postit Potties	on the	Squeeze.
2.	094-108	094-120			250	
3.	094-102	094-108			260	
4.	094-057	094-102			470	
5.	094-055	094-057			300	
6.	094-053	094-055			150	
7.	094-050	094-052			50	
8.	094-050	094-053			350	
9.	094-045	094-050			380	
10.	094-040	094-045				
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

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Turn this in to your foreman each morning.

### Sewer Maintenance Daily Information

Date: 7-30-14

Operator: James  
 Laborer: Garrett  
 Laborer: \_\_\_\_\_

Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_  
 Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	138-155	138-130			300	
2.	138-155	138-150			470	
3.	138-155	138-160			300	
4.	138-185	138-155			300	
5.	138-185	138-140			470	
6.	<del>138-180</del>					
7.	138-185-	138-180			350	
8.	138-210	138-185			300	
9.	138-210	138-205			470	
10.	138-210	137-400			470	
11.	137-375	137-340			125	
12.	137-375	137-370			125	
13.	137-340	137-380			470	
14.	137-370	137-365	unit is	clogged		3,850
15.	Helped Kevin with a dig up					

Comments (problem areas or customer info).

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 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Turn this in to your foreman each morning.

## Sewer Maintenance Daily Information

Date: 7-31-19 Operator: James May Hours Worked \_\_\_\_\_  
 Laborer: \_\_\_\_\_ Hours Worked \_\_\_\_\_  
 Laborer: \_\_\_\_\_ Hours Worked \_\_\_\_\_

Location / Address: \_\_\_\_\_  
 \_\_\_\_\_

Portable / VacCon (circle)

Feet of sewer line cleaned regular maintenance: \_\_\_\_\_

Feet of sewer line cleaned due to stop-ups: \_\_\_\_\_

Number of stop-ups: \_\_\_\_\_

Location of manholes cleaned (put "s" next to stopped up manholes)

\* Device - (RS for Root Saw / N for Nozzle / Etc).

	MH # From	MH # To	Time Started	Time Ended	Footage	* Device
1.	MH-137-475	Plant end clean out			140	
2.	138-005	137-475			200	
3.	138-010	138-025			250	
4.	138-010	138-015			250	
5.	138-025	138-020			200	
6.	138-025	138-020			470	
7.	1					
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Comments (problem areas or customer info).

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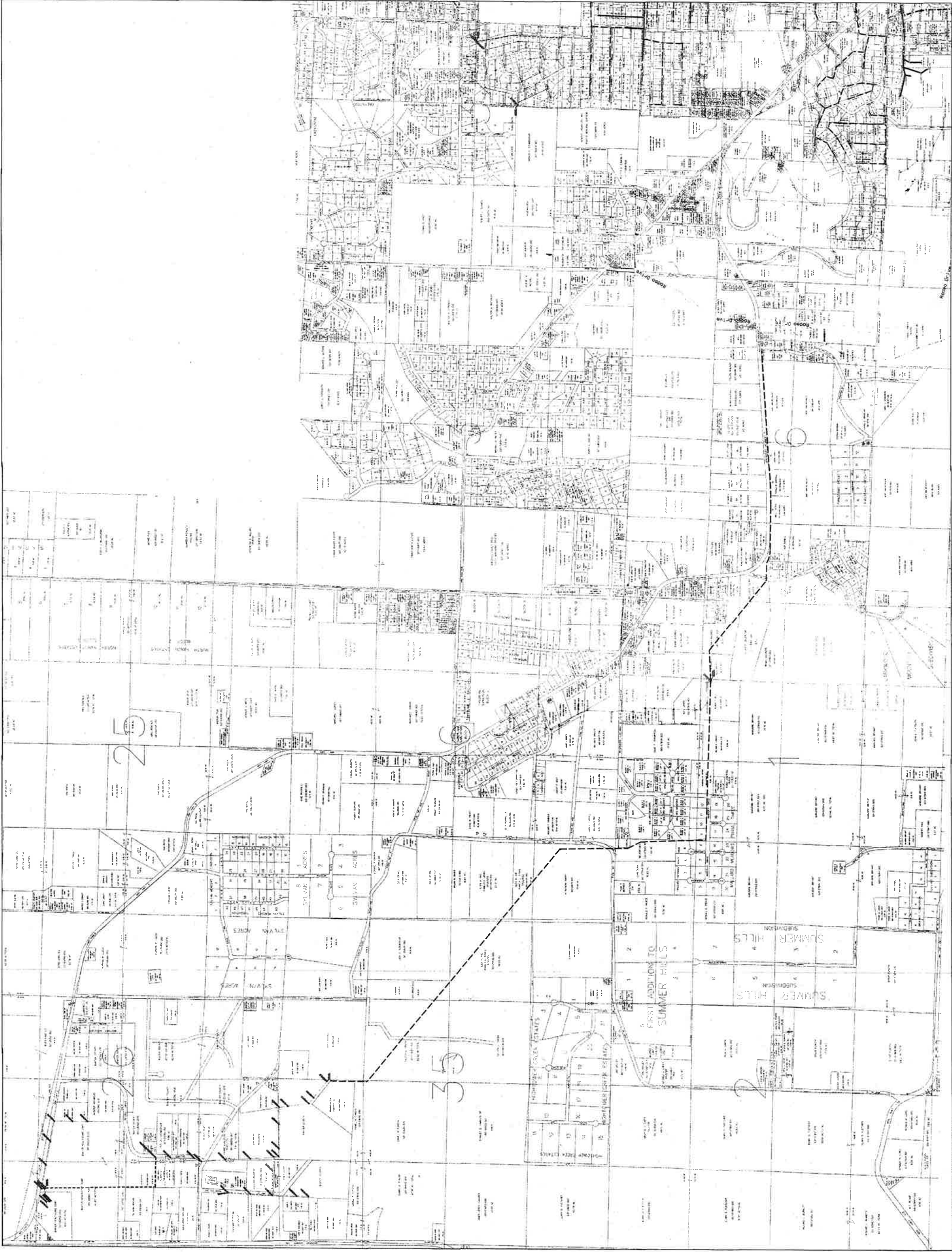
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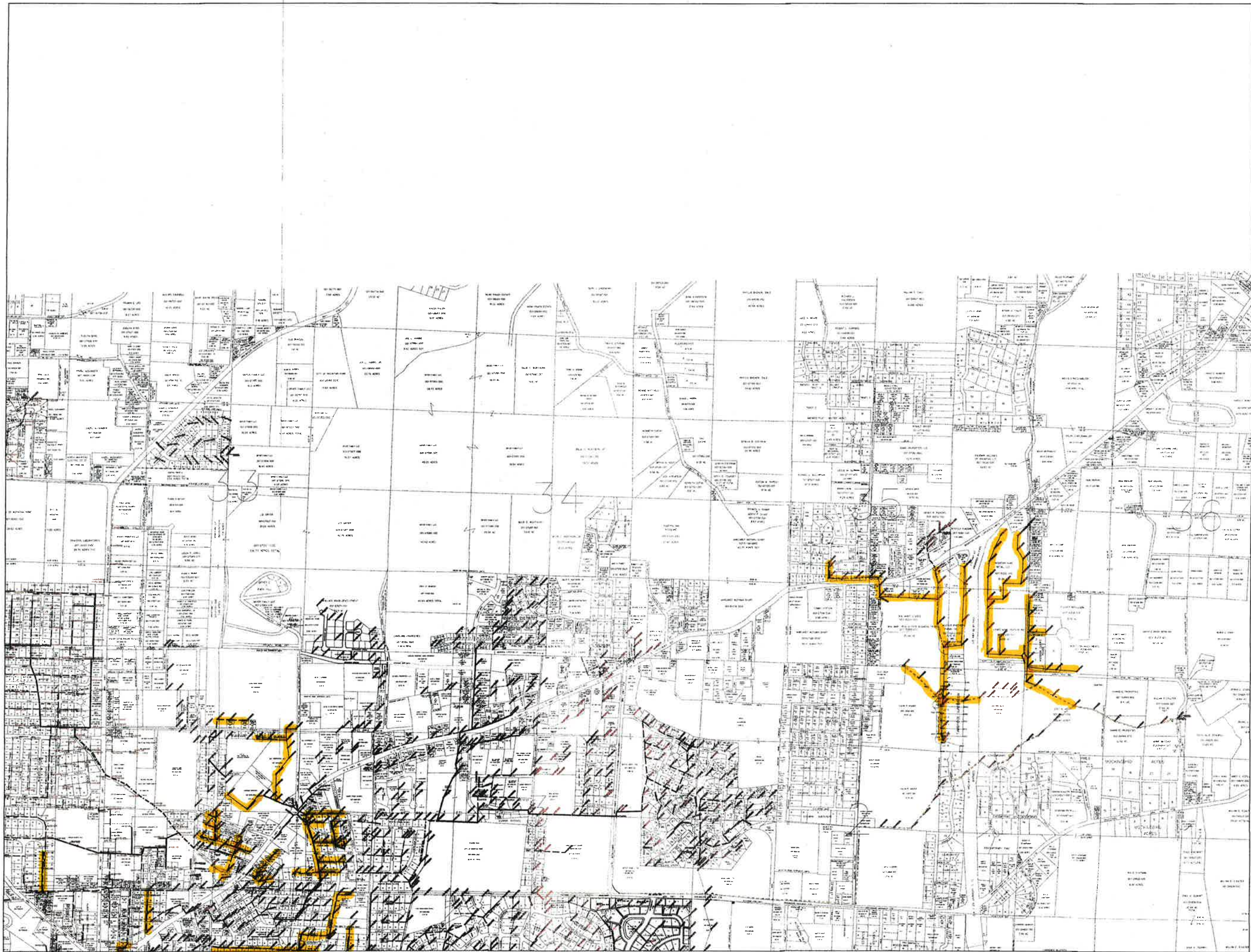


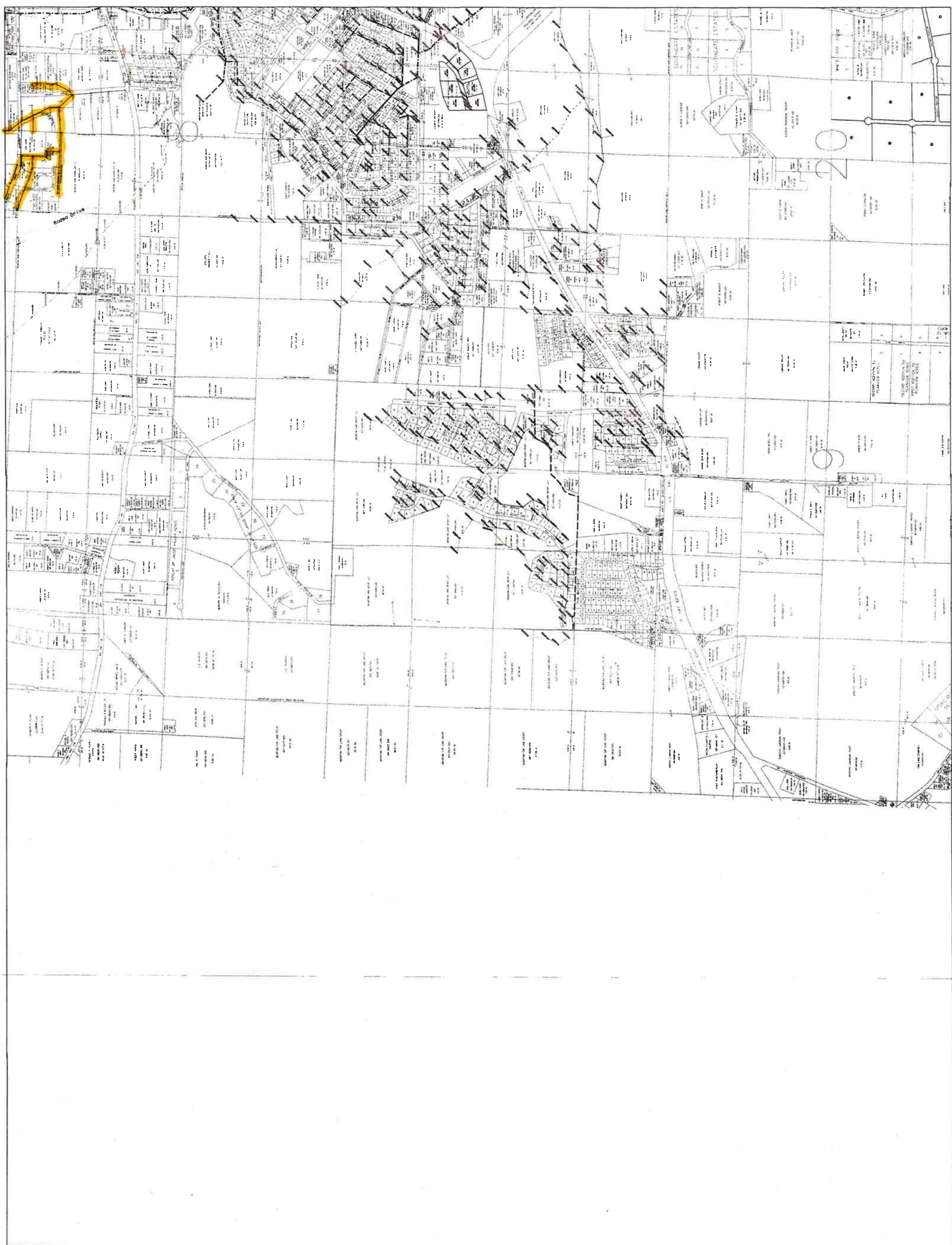
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Turn this in to your foreman each morning.

APPENDIX B  
LINE CLEANING MAPS











APPENDIX C  
CCTV CAMERA EXAMINATION RECORDS













































**TV VAN E333 DAILY** Date: 6-12-19 Time in: 7:00 Time out: 3:30

Raining

Time:	MH From:	MH To:	Feet:
7:00 - 8:00	Paper work		
8:00 - 9:00	went to Kevin's job to get my woppers back, had to go back to the shop to get them out of his personal truck		
9:00 - 10:00	cut some limbs around MH 125-155		
10:00 - 10:15	Break		
10:15 - 11:00	went and knock on customers doors to talk to them about getting in their yards to finish up w/ob NO Answer		
11:00 - 12:00	look at some more lines to TV in Village Green		
12:00 - 12:30	Lunch		
12:30 - 1:30	Talked to customer on Eagle <sup>1808</sup> Dr about getting in yard and per customer she didnt want me in there today because of the rain		
1:30 - 2:00	Talked to customer on 1827 fairway, about getting in his yard, preferred me to wait little because of the rain.		
2:00 - 2:15	break		

**Break & Lunch**

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**Comments/Observations**

2:15 - 3:00 - Print out maps of area to tv.

3:00 - 3:30 - Paper work for today

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**TV VAN E333 DAILY** Date: 6-13-19 Time in: 7:00 Time out: 3:30

Time:	MH From:	MH To:	Feet:
7:00 - 8:00	Getting stuff	to TV on 62	
8:00 - 9:15	137-250	137-255	65
9:15 - 11:45	137-260	137-255	234 Locate MH
11:45 - 1:30	137-225	137-220	271
1:30 - 2:00	Clean camera off		
2:00 - 2:15	Break		
2:15 - 3:00	go look at MH at 5 <sup>N</sup> and 62	talked to Kevin + Dewey + Lori	
3:00 - 3:30	print out and Burn DVD		

**Break & Lunch**

Comments/Observations		

NO Lunch

MH 137-260 the lid broke, replaced and trace cable to MH 137-255 and locate MH



























**TV VAN E333 DAILY** Date: 7-18-19 Time in: 7:00 Time out: 3:30

Time:	MH From:	MH To:	Feet:
7:00 - 8:00	Change wheels and set up camera & print out daily		
8:00 - 9:30	120-152	120-148	145 missing MH, marked out
9:30 - 12:00	120-148	120-149	191 locate out
12:00 - 12:30	Lunch		
12:30 - 1:00	121-180	CO 121-183	⊙ Roots blocking line
1:00 - 1:30	Printed out the pic of Roots and take to Lonnie		
1:30 - 2:00	Gave print out to Lonnie, check MH on Howard St		
2:00 - 2:15	Break		
2:15 - 3:00	print out Daily & maps for next W/O's from Alma		
3:00 - 3:30	print out & Burn DVD		

**Break & Lunch**

<b>Comments/Observations</b>		

TV lines for Dewey from W/O # 155038 and locate and mark out MH for to be raised.

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APPENDIX D  
SEWER REPAIR AND REPLACEMENT RECORDS

## CITY OF MOUNTAIN HOME WATER DEPARTMENT

### Work Order Report

#### Detail

Date : 8/7/2019 4:00:25 PM  
 User Name : alma

<b>Work Order</b>	: 153695	SEWER MAIN UPGRADE	<b>Account Number</b>	:
<b>Start Date</b>	: 5/7/2019	MEADOWBROOK DRIVE	<b>Book.Sequence</b>	:
<b>Completion Date</b>	: 5/31/2019	MOUNAIN HOME AR 72653	<b>Status</b>	: Closed
<b>Create Date</b>	: 5/7/2019			
<b>Total Price</b>	: 68,890.31		<b>Total Cost</b>	: 36,622.54

#### Miscellaneous Usage

Description	Estimated Usage	Actual Usage	Unit Cost	Unit Price	Total Cost	Total Price
BASE (NCAQ)	1.00	1.00	517.53	517.53	517.53	517.53
FINES (NCAQ)	1.00	1.00	1,206.80	1,206.80	1,206.80	1,206.80
FINES (NCAQ)	1.00	1.00	1,939.77	1,939.77	1,939.77	1,939.77
FINES (NCAQ)	1.00	1.00	918.22	918.22	918.22	918.22
FINES (NCAQ)	1.00	1.00	1,907.52	1,907.52	1,907.52	1,907.52
<b>Total</b>			6,489.84	6,489.84	6,489.84	6,489.84

<b>Work Order</b>	: 153734	R/M SEWER MAIN	<b>Account Number</b>	:
<b>Start Date</b>	: 5/9/2019	DODD ST	<b>Book.Sequence</b>	:
<b>Completion Date</b>	: 6/11/2019	MOUNTAIN HOME AR 72653	<b>Status</b>	: Closed
<b>Create Date</b>	: 5/9/2019			
<b>Total Price</b>	: 0.00		<b>Total Cost</b>	: 0.00

<b>Work Order</b>	: 153774	TV SEWER MAIN	<b>Account Number</b>	:
<b>Start Date</b>	: 5/10/2019	VILLAGE GREEN	<b>Book.Sequence</b>	:
<b>Completion Date</b>	: 5/24/2019	MOUNTAIN HOME AR 72653	<b>Status</b>	: Closed
<b>Create Date</b>	: 5/10/2019			
<b>Total Price</b>	: 17.65		<b>Total Cost</b>	: 17.65

<b>Work Order</b>	: 153924	R/M SEWER MAIN	<b>Account Number</b>	:
<b>Start Date</b>	: 5/17/2019	DODD ST	<b>Book.Sequence</b>	:
<b>Completion Date</b>	: 5/22/2019	MOUNTAIN HOME AR 72653	<b>Status</b>	: Closed
<b>Create Date</b>	: 5/17/2019			
<b>Total Price</b>	: 4,003.22		<b>Total Cost</b>	: 3,488.97

<b>Work Order</b>	: 154203	R/M SEWER MAIN	<b>Account Number</b>	:
<b>Start Date</b>	: 5/29/2019	2ND ST	<b>Book.Sequence</b>	:
<b>Completion Date</b>	: 5/29/2019	MOUNTAIN HOME AR 72653	<b>Status</b>	: Closed
<b>Create Date</b>	: 5/29/2019			
<b>Total Price</b>	: 206.78		<b>Total Cost</b>	: 183.61



## CITY OF MOUNTAIN HOME WATER DEPARTMENT

### Work Order Report

#### Detail

Date : 8/7/2019 4:00:25 PM

User Name : alma

Work Order	: 154219		R/M SEWER MAIN	Account Number	:
Start Date	: 5/29/2019	DODD ST	Job Code : 5RMSM	Book.Sequence	:
Completion Date	: 6/11/2019	MOUNTAIN HOME AR 72653	Printed : ✓	Status	: Closed
Create Date	: 5/29/2019				
Total Price	: 16,203.25			Total Cost	: 14,184.70

Work Order	: 154234		R/M SEWER SERVICE LINE	Account Number	:
Start Date	: 5/31/2019	WALKER ST	Job Code : 5RMSL	Book.Sequence	:
Completion Date	: 6/5/2019	MOUNTAIN HOME AR 72653	Printed : ✓	Status	: Closed
Create Date	: 5/31/2019				
Total Price	: 129.86			Total Cost	: 108.94

Work Order	: 154311		SEWER MAIN UPGRADE	Account Number	:
Start Date	: 6/3/2019	MEADOWBROOK DRIVE	Job Code : 5SMUPG	Book.Sequence	:
Completion Date	: 6/28/2019	MOUNTAIN HOME AR 72653	Printed : ✓	Status	: Closed
Create Date	: 6/3/2019				
Total Price	: 139,668.88			Total Cost	: 68,871.59

#### Miscellaneous Usage

Description	Estimated Usage	Actual Usage	Unit Cost	Unit Price	Total Cost	Total Price
GRASS SEED (GREGG)	1.00	1.00	277.83	277.83	277.83	277.83
<b>Total</b>			277.83	277.83	277.83	277.83

Work Order	: 154350		SEWER MAIN REPLACEMENT	Account Number	:
Start Date	: 6/4/2019	WADE ST	Job Code : 5SMREPLACE	Book.Sequence	:
Completion Date	: 6/4/2019	MOUNTAIN HOME AR 72653	Printed : ✓	Status	: Closed
Create Date	: 6/4/2019				
Total Price	: 560.59			Total Cost	: 560.59

#### Miscellaneous Usage

Description	Estimated Usage	Actual Usage	Unit Cost	Unit Price	Total Cost	Total Price
HOT MIX (TLQ)	1.00	1.00	560.59	560.59	560.59	560.59
<b>Total</b>			560.59	560.59	560.59	560.59

Work Order	: 154596		R/M SEWER MAIN	Account Number	:
Start Date	: 6/11/2019	2ND ST	Job Code : 5RMSM	Book.Sequence	:
Completion Date	: 6/14/2019	MOUNTAIN HOME AR 72653	Printed : ✓	Status	: Closed
Create Date	: 6/11/2019				
Total Price	: 1,959.35			Total Cost	: 1,777.48

#### Miscellaneous Usage

Description	Estimated Usage	Actual Usage	Unit Cost	Unit Price	Total Cost	Total Price
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## CITY OF MOUNTAIN HOME WATER DEPARTMENT

### Work Order Report

#### Detail

Date : 8/7/2019 4:00:25 PM

User Name : alma

CONCRETE (MHC)	1.00	1.00	207.90	207.90	207.90	207.90
<b>Total</b>			207.90	207.90	207.90	207.90

<b>Work Order</b>	: 154660		R/M REPLACE MANHOLE LID	<b>Account Number</b>	:
<b>Start Date</b>	: 6/13/2019	HICKORY ST	<b>Job Code</b>	: 5R/MLID	<b>Book.Sequence</b>
<b>Completion Date</b>	: 6/14/2019	MOUNTAIN HOME AR 72653	<b>Printed</b>	: ✓	<b>Status</b>
<b>Create Date</b>	: 6/13/2019				: Closed
<b>Total Price</b>	: 173.42			<b>Total Cost</b>	: 166.32

<b>Work Order</b>	: 154698		RAISE MANHOLE	<b>Account Number</b>	:
<b>Start Date</b>	: 6/17/2019	6TH ST	<b>Job Code</b>	: 5RMH	<b>Book.Sequence</b>
<b>Completion Date</b>	: 6/19/2019	MOUNTAIN HOME AR 72653	<b>Printed</b>	: ✓	<b>Status</b>
<b>Create Date</b>	: 6/17/2019				: Closed
<b>Total Price</b>	: 1,012.27			<b>Total Cost</b>	: 874.20

<b>Work Order</b>	: 154768		MANHOLE REHAB	<b>Account Number</b>	:
<b>Start Date</b>	: 6/19/2019	10TH ST	<b>Job Code</b>	: 5MHRB	<b>Book.Sequence</b>
<b>Completion Date</b>	: 7/8/2019	MOUNTAIN HOME AR 72653	<b>Printed</b>	: ✓	<b>Status</b>
<b>Create Date</b>	: 6/19/2019				: Closed
<b>Total Price</b>	: 258.28			<b>Total Cost</b>	: 211.86

<b>Work Order</b>	: 154912		RAISE MANHOLE	<b>Account Number</b>	:
<b>Start Date</b>	: 6/25/2019	NORTH ST	<b>Job Code</b>	: 5RMH	<b>Book.Sequence</b>
<b>Completion Date</b>	: 7/23/2019	MOUNTAIN HOME AR 72653	<b>Printed</b>	: ✓	<b>Status</b>
<b>Create Date</b>	: 6/25/2019				: Closed
<b>Total Price</b>	: 8,038.84			<b>Total Cost</b>	: 6,610.10

<b>Work Order</b>	: 154913	LARRY BARRA	R/M SEWER SERVICE LINE	<b>Account Number</b>	: 00009144
<b>Start Date</b>	: 6/24/2019	1025 SOUTH ST	<b>Job Code</b>	: 5RMSL	<b>Book.Sequence</b>
<b>Completion Date</b>	: 6/26/2019	MOUNTAIN HOME AR 72653	<b>Printed</b>	: ✓	<b>Status</b>
<b>Create Date</b>	: 6/25/2019				: Closed
<b>Total Price</b>	: 535.07			<b>Total Cost</b>	: 474.70

<b>Work Order</b>	: 155146		SEWER MAIN UPGRADE	<b>Account Number</b>	:
<b>Start Date</b>	: 7/2/2019	MEADOWBROOK DRIVE	<b>Job Code</b>	: 5SMUPG	<b>Book.Sequence</b>
<b>Completion Date</b>	: 7/31/2019	MOUNTAIN HOME AR 72653	<b>Printed</b>	: ✓	<b>Status</b>
<b>Create Date</b>	: 7/2/2019				: Closed
<b>Total Price</b>	: 2,570.55			<b>Total Cost</b>	: 2,570.55

	Miscellaneous Usage					
Description	Estimated Usage	Actual Usage	Unit Cost	Unit Price	Total Cost	Total Price

### CITY OF MOUNTAIN HOME WATER DEPARTMENT

#### Work Order Report

##### Detail

Date : 8/7/2019 4:00:25 PM  
 User Name : alma

4" ROCK (NCAQ)	1.00	1.00	59.43	59.43	59.43	59.43
BASE (NCAQ)	1.00	1.00	586.30	586.30	586.30	586.30
FINES (NCAQ)	1.00	1.00	618.80	618.80	618.80	618.80
FINES (NCAQ)	1.00	1.00	638.59	638.59	638.59	638.59
FINES, BASE (NCAQ)	1.00	1.00	600.33	600.33	600.33	600.33
HOT MIX (TLQ)	1.00	1.00	67.10	67.10	67.10	67.10
<b>Total</b>			<b>2,570.55</b>	<b>2,570.55</b>	<b>2,570.55</b>	<b>2,570.55</b>

<b>Work Order</b> : 155393	CHRIST COMMUNITY CHURCH	R/M SEWER MAIN	<b>Account Number</b> : 00017872
<b>Start Date</b> : 7/10/2019	1605 HWY 201 N #1	<b>Job Code</b> : 5RMSM	<b>Book.Sequence</b> : 4.2602
<b>Completion Date</b> : 7/11/2019	MOUNTAIN HOME AR 72653	<b>Printed</b> : ✓	<b>Status</b> : Closed
<b>Create Date</b> : 7/11/2019			
<b>Total Price</b> : 861.78			<b>Total Cost</b> : 775.97

<b>Work Order</b> : 155492	CEDAR ST	RAISE MANHOLE	<b>Account Number</b> :
<b>Start Date</b> : 7/16/2019	MOUNTAIN HOME AR 72653	<b>Job Code</b> : 5RMH	<b>Book.Sequence</b> :
<b>Completion Date</b> : 7/17/2019		<b>Printed</b> : ✓	<b>Status</b> : Closed
<b>Create Date</b> : 7/16/2019			
<b>Total Price</b> : 1,484.71			<b>Total Cost</b> : 1,275.96

<b>Work Order</b> : 155519	DODD ST	RAISE MANHOLE	<b>Account Number</b> :
<b>Start Date</b> : 7/17/2019	MOUNTAIN HOME AR 72653	<b>Job Code</b> : 5RMH	<b>Book.Sequence</b> :
<b>Completion Date</b> : 7/19/2019		<b>Printed</b> : ✓	<b>Status</b> : Closed
<b>Create Date</b> : 7/17/2019			
<b>Total Price</b> : 1,480.21			<b>Total Cost</b> : 1,305.82

<b>Work Order</b> : 155520	DRYER ST	RAISE MANHOLE	<b>Account Number</b> :
<b>Start Date</b> : 7/17/2019	MOUNTAIN HOME AR 72653	<b>Job Code</b> : 5RMH	<b>Book.Sequence</b> :
<b>Completion Date</b> : 7/19/2019		<b>Printed</b> : ✓	<b>Status</b> : Closed
<b>Create Date</b> : 7/17/2019			
<b>Total Price</b> : 169.28			<b>Total Cost</b> : 148.91

<b>Work Order</b> : 155613	GLENSTONE DR	R/M SEWER MAIN	<b>Account Number</b> :
<b>Start Date</b> : 7/23/2019	MOUNTAIN HOME AR 72653	<b>Job Code</b> : 5RMSM	<b>Book.Sequence</b> :
<b>Completion Date</b> : 7/23/2019		<b>Printed</b> : ✓	<b>Status</b> : Closed
<b>Create Date</b> : 7/23/2019			
<b>Total Price</b> : 2,143.99			<b>Total Cost</b> : 1,947.39

	Miscellaneous Usage					
Description	Estimated Usage	Actual Usage	Unit Cost	Unit Price	Total Cost	Total Price
BASE (NCAQ)	1.00	1.00	205.62	205.62	205.62	205.62

# CITY OF MOUNTAIN HOME WATER DEPARTMENT

## Work Order Report

### Detail

Date : 8/7/2019 4:00:25 PM

User Name : alma

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Total		205.62	205.62	205.62	205.62
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Total number of work orders listed : 21

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**CITY OF MOUNTAIN HOME WATER DEPARTMENT**  
**Work Order Report**  
**Summary**

Date : 8/7/2019 3:59:56 PM

User Name : alma

Work Order #	Account Number	Name	Cost				Total	Start Date	Completion Date	Status
			Stock	Labor	Equipment	Misc.				
153695			16,741.59	4,019.51	9,371.60	6,489.84	36,622.54	5/7/2019	5/31/2019	Closed
153734			0.00	0.00	0.00	0.00	0.00	5/9/2019	6/11/2019	Closed
153774			0.00	0.00	17.65	0.00	17.65	5/10/2019	5/24/2019	Closed
153924			581.13	1,003.04	1,904.80	0.00	3,488.97	5/17/2019	5/22/2019	Closed
154203			115.56	24.40	43.65	0.00	183.61	5/29/2019	5/29/2019	Closed
154219			4,621.74	2,964.16	6,598.80	0.00	14,184.70	5/29/2019	6/11/2019	Closed
154234			54.08	32.01	22.85	0.00	108.94	5/31/2019	6/5/2019	Closed
154311			39,475.15	8,727.41	20,391.20	277.83	68,871.59	6/3/2019	6/28/2019	Closed
154350			0.00	0.00	0.00	560.59	560.59	6/4/2019	6/4/2019	Closed
154596			616.94	367.44	585.20	207.90	1,777.48	6/11/2019	6/14/2019	Closed
154660			121.94	21.53	22.85	0.00	166.32	6/13/2019	6/14/2019	Closed
154698			157.56	367.44	349.20	0.00	874.20	6/17/2019	6/19/2019	Closed
154768			104.21	107.65	0.00	0.00	211.86	6/19/2019	7/8/2019	Closed
154912			1,196.34	2,170.96	3,242.80	0.00	6,610.10	6/25/2019	7/23/2019	Closed
154913	00009144	LARRY BARRA	119.80	135.40	219.50	0.00	474.70	6/24/2019	6/26/2019	Closed
155146			0.00	0.00	0.00	2,570.55	2,570.55	7/2/2019	7/31/2019	Closed
155393	00017872	CHRIST COMMUNITY CHURCH	373.14	167.13	235.70	0.00	775.97	7/10/2019	7/11/2019	Closed
155492			63.15	472.41	740.40	0.00	1,275.96	7/16/2019	7/17/2019	Closed
155519			145.83	419.59	740.40	0.00	1,305.82	7/17/2019	7/19/2019	Closed
155520			0.00	56.36	92.55	0.00	148.91	7/17/2019	7/19/2019	Closed
155613			0.00	542.07	1,199.70	205.62	1,947.39	7/23/2019	7/23/2019	Closed
<b>Total</b>			64,488.16	21,598.51	45,778.85	10,312.33	142,177.85			

Total number of work orders listed

: 21

# SMOKE TEST & FLOW TESTING RESULTS - SEWER MAIN REPAIRS

ADDRESS	MANHOLE NUMBERS	WORK ORDER NUMBER	DATE MADE	ACTION THAT WILL BE TAKEN	DATE COMPLETED
01/01/19 TO 08/05/19					
E. 2ND ST / DALE ST	MH# 139-006 TO 139-025	151069	1/3/2019	NOTHING FOUND / RESMOKE & MARK	1/23/2019
E 2ND STREET	MH# 138-010 TO 138-012	151591	1/31/2019	ON SCHEDULE TO REPLACE SECTION OF LINE	1/31/2019
HWY 62 E	VACANT PROPERTY BY BUFFALO WILD WINGS	153028	4/10/2019	REPLACED 2 - 6" CLEAN OUT CAPS	4/15/2019
HWY 62 E	BEHIND CAPTAIN D'S	153029	4/10/2019	REPLACED HUB & CAP	4/15/2019
8TH ST	623 - OPEN FIELD NO HOUSE - CITY PROPERTY	151861	1/8/2019	CUT AND CAP AT PROPERTY LINE	5/9/2019
W 7TH ST	424 - MOUNTAIN HOME PD BUILDING	153153	4/16/2019	REPAIR PIPE AND REPLACE CAP	5/9/2019
HWY 62 W 1609	REPLACE CLEAN OUT CAP	153297	4/23/2019	REPLACE CLEAN OUT CAP	5/9/2019
LOCUST ST 609	CUSTOMER DECEASED	153465	4/29/2019	REPLACED CAP	5/9/2019
OZARK AVE	EMPTY LOT ACROSS FROM 1109 (CITY'S CLEAN OUT)	152169	3/5/2019	CAP LINE AT ROAD	5/28/2019
10TH STREET	MH# 154-050 TO 154-040 LINE	151608	2/1/2019	MAKE REPAIRS	6/13/2019
10TH STREET	MH# 154-040 REPAIR	154768	6/19/2019	MH REPAIRS	7/2/2019
OAK STREET	MH# 123-405 TO 123-395	151827	2/12/2019	MAKE REPAIRS	8/5/2019
BRENTWOOD	MH# 140-105 TO 140-100	151066	1/3/2019	TV & REPAIR	
LEATHERWOOD CIR	MH# 124-190 TO 124-195	151067	1/3/2019	MAKE REPAIRS	
1ST STREET	MH# 122-460 TO 123-015	151070	1/3/2019	MAKE REPAIRS	
2ND STREET	MH# 138-046 TO MH# 138-025 (2 REPAIRS)	151880	2/15/2019	REPAIR IN (2) SPACES.....	

ADDRESS	MANHOLE NUMBERS	WORK ORDER NUMBER	DATE MADE	ACTION THAT WILL BE TAKEN	DATE COMPLETED
05/01/19 TO 07/31/19					
VILLAGE GREEN	MH# 109-220 TO CO# 125-015, CO# 125-145, CO# 109-134	153774	5/10/2019	TV TO FIND PROBLEMS	5/24/2019
VILLAGE GREEN	MH# 109-085, MH 109-220, MH 109-215, MH 125-035, MH 125-110	153567	5/3/2019	MANHOLE REHAB - I & i	
VILLAGE GREEN	MH# 109-215 TO MH# 109-200 / MH# 109-215 TO MH# 109-220	153568	5/3/2019	TV TO FIND PROBLEMS	
VILLAGE GREEN	MH# 125-060 TO CO# 109-255	153773	5/10/2019	TV TO FIND PROBLEMS	
VILLAGE GREEN	MH# 125-035 TO CO# 125-120	153775	5/10/2019	TV TO FIND PROBLEMS	
VILLAGE GREEN	MH# 125-040 TO MH# 109-260	154165	5/28/2019	TV TO FIND PROBLEMS	

APPENDIX E  
LIFT STATION MAINTENANCE RECORDS



**YEAR 2019 MOUNTAIN HOME WASTEWATER PLANT LIFT STATION MONTHLY RUN TIMES**

LIFT STATION NAME	PUMP #	BEGINNING	ENDING	TOTAL RUN
		READING	READING	TIME
MAY				
IND PARK LS #1	PUMP #1	1181.5	1209.8	<b>28.3</b>
	PUMP #2	6171.3	6218.3	<b>47</b>
IND PARK LS #2	PUMP #1	265.8	310.2	<b>44.4</b>
	PUMP #2	2072.7	2118.5	<b>45.8</b>
IND PARK LS #3	PUMP #1	612.1	618.2	<b>6.1</b>
	PUMP #2	837.31	842.45	<b>5.14</b>
MONROE LS	PUMP #1	8383.1	8444.5	<b>61.4</b>
	PUMP #2	3637.6	3702.9	<b>65.3</b>
FRANKLIN LS	PUMP #1	2046.54	2071.49	<b>24.95</b>
	PUMP #2	3815.08	3836.31	<b>21.23</b>
WOODCREEK	PUMP #1	3602.4	3617.1	<b>14.7</b>
	PUMP #2	5729.01	5744.95	<b>15.94</b>
PARKWOOD LS	PUMP #1	1773.1	1783.9	<b>10.8</b>
	PUMP #2	1702.4	1712.8	<b>10.4</b>
INDIAN CREEK	PUMP #1	5050.4	5090.1	<b>39.7</b>
	PUMP #2	4977.9	5015.4	<b>37.5</b>
HWY 62 . LS	PUMP #1	211.27	212.97	<b>1.7</b>
	PUMP #2	194.27	197.9	<b>3.63</b>
CR 390 LS	PUMP #1	4314.4	4363.5	<b>49.1</b>
	PUMP #2	4401.7	4402.9	<b>1.2</b>
BIG CREEK LS	PUMP #1	524.2	530.89	<b>6.69</b>
	PUMP #2	497.25	503.91	<b>6.66</b>
CARLILE LS	PUMP #2	2563.5	2602.1	<b>38.6</b>
	PUMP #2	2595.6	2631.2	<b>35.6</b>

**YEAR 2019****MOUNTAIN HOME WASTEWATER PLANT LIFT STATION MONTHLY RUN TIMES**

		BEGINNING	ENDING	TOTAL RUN
		READING	READING	TIME
LIFT STATION NAME	PUMP #			JUNE
IND PARK LS #1	PUMP #1	1209.8	1231.1	<b>21.3</b>
	PUMP #2	6218.3	6254.3	<b>36</b>
IND PARK LS #2	PUMP #1	310.2	343.8	<b>33.6</b>
	PUMP #2	2118.5	2152.9	<b>34.4</b>
IND PARK LS #3	PUMP #1	618.2	622.2	<b>4</b>
	PUMP #2	0	4.49	<b>4.49</b>
MONROE LS	PUMP #1	8444.5	8493.5	<b>49</b>
	PUMP #2	3702.9	3750.3	<b>47.4</b>
FRANKLIN LS	PUMP #1	2071.49	2090.96	<b>19.47</b>
	PUMP #2	3836.31	3852.61	<b>16.3</b>
WOODCREEK	PUMP #1	3617.1	3630	<b>12.9</b>
	PUMP #2	5744.95	5758.4	<b>13.45</b>
PARKWOOD LS	PUMP #1	1783.9	1793.6	<b>9.7</b>
	PUMP #2	1712.8	1722.2	<b>9.4</b>
INDIAN CREEK	PUMP #1	5090.1	5361.1	<b>271</b>
	PUMP #2	5015.4	5311.8	<b>296.4</b>
HWY 62 . LS	PUMP #1	212.97	215.88	<b>2.91</b>
	PUMP #2	197.9	201.32	<b>3.42</b>
CR 390 LS	PUMP #1	4363.5	4400	<b>36.5</b>
	PUMP #2	4402.9	4412.3	<b>9.4</b>
BIG CREEK LS	PUMP #1	530.98	537.49	<b>6.51</b>
	PUMP #2	503.91	510.49	<b>6.58</b>
CARLILE LS	PUMP #2	0	29.1	<b>29.1</b>
	PUMP #2	0	27.3	<b>27.3</b>

# CITY OF MOUNTAIN HOME WATER DEPARTMENT

## FM Worksheet Listing

Date : 5/31/2019 11:35:59 AM  
 User Name : mhwwtp

Worksheet	: 4759				Worksheet Complete	<input type="checkbox"/>
Create Date	: 6/1/2019	Schedule	: WWMONSTA	WW MONTHLY LS MAINT		
Labor	: 2807	CHARLES SPIVEY				
Close Date	:					

Equipment	: WW365	CARLILE LIFT STATION				
Procedure	: WWVACST	VACUUM STATIONS	Location	: WASTEWATER PLANT		
Labor	: 2807	CHARLES SPIVEY	Procedure Complete			<input type="checkbox"/>
Work Order	:					
Notes	:					

Equipment	: WW370	MONROE LIFT STATION				
Procedure	: WWVACST	VACUUM STATIONS	Location	: WASTEWATER PLANT		
Labor	: 2807	CHARLES SPIVEY	Procedure Complete			<input type="checkbox"/>
Work Order	:					
Notes	:					

Equipment	: WW541	INDIAN CREEK LIFT STATION				
Procedure	: WWVACST	VACUUM STATIONS	Location	: WASTEWATER PLANT		
Labor	: 2807	CHARLES SPIVEY	Procedure Complete			<input type="checkbox"/>
Work Order	:					
Notes	:					

Equipment	: WW549	CR 390 LIFT STATION				
Procedure	: WWVACST	VACUUM STATIONS	Location	: WASTEWATER PLANT		
Labor	: 2807	CHARLES SPIVEY	Procedure Complete			<input checked="" type="checkbox"/>
Work Order	:					
Notes	:					

*Ramped out 6/25/19* *M.W.*

Job Description : R/M EQUIPMENT  
 Create Date : 06/04/2019 11:28 AM  
 Completion Date : 6/4/2019  
 Requested By : T SANDERS  
 Assigned To : CHARLES SPIVEY  
 Start Date : 5/31/2019  
 Start Time :  
 Completion Time :  
 Lot :  
 Appointment start time :

**Customer Information**  
 Account Number :  
 Parcel Number :  
 Book.Seq :  
 Cycle # :  
 Primary Phone : ( ) - x  
 Secondary Phone : ( ) - x  
 Block :  
 Appointment end time :  
 Priority :  
 Cost Center :  
 Signature required   
 # of Res. : 0

Project :  
 Phase :

Number	Name	Estimated Hours		Actual Labor		Labor Date	Price	OT Price	Extended Price
		Normal	Overtime	Normal	Overtime				
2807	CHARLES SPIVEY	2.00	0.00	2.00	0.00	5/31/2019	54.14	0.00	54.14

Code	Description	Equip Date	Equipment Usage		Cost	Extended Cost
			Estimated Usage	Actual Usage		
V366	2011 CHEVY SILVERAD	5/31/2019	1.00	1.00	20.80	20.80

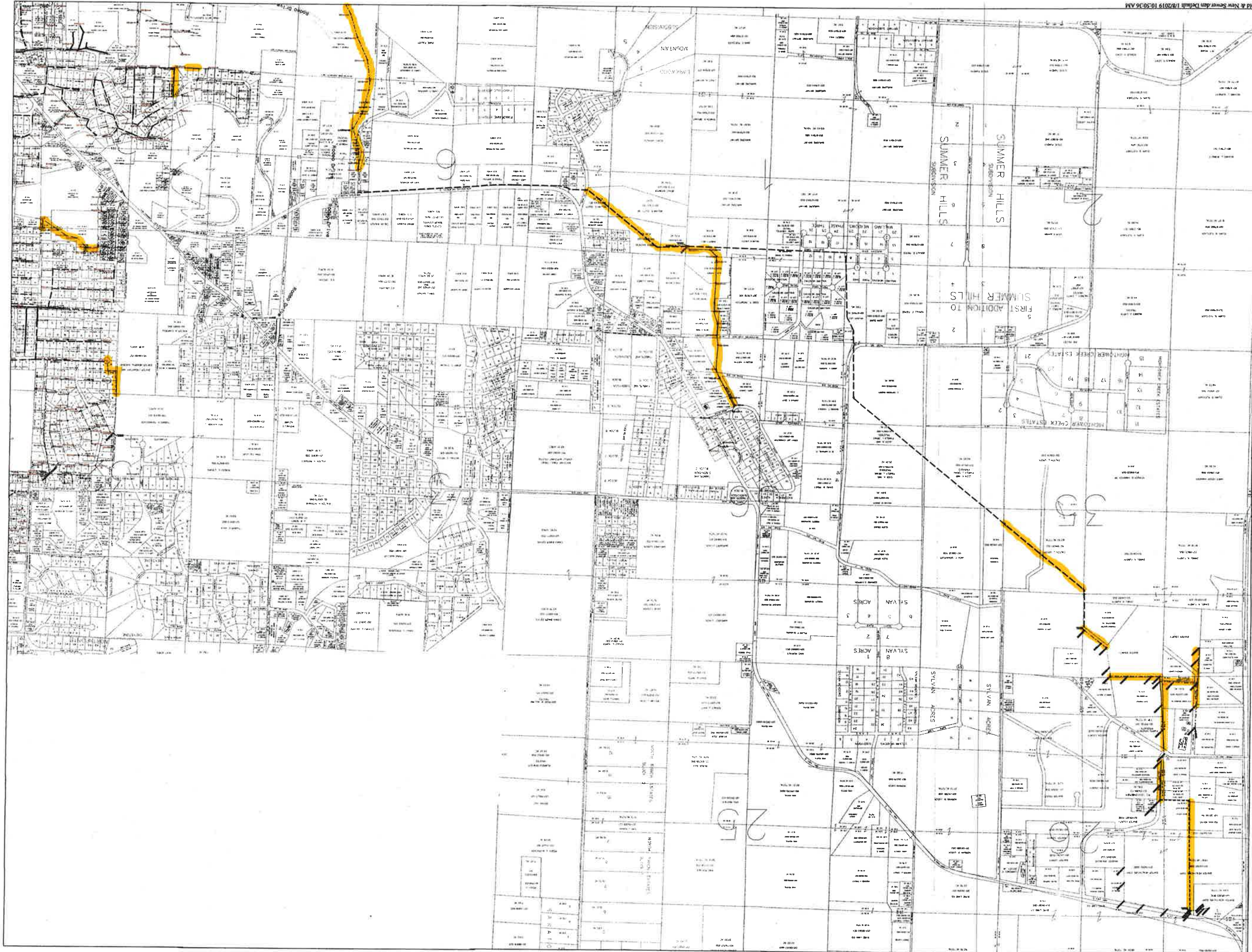
**Comments**  
 REPLACE TIMERS AT CARLILE LIFT STATION.....TS  
 USE TWO TIMERS FROM STOCK.

Completion Date : 6/4/2019 Completed By : TS Total Cost : \$74.94  
 (Including Labor)

Closed

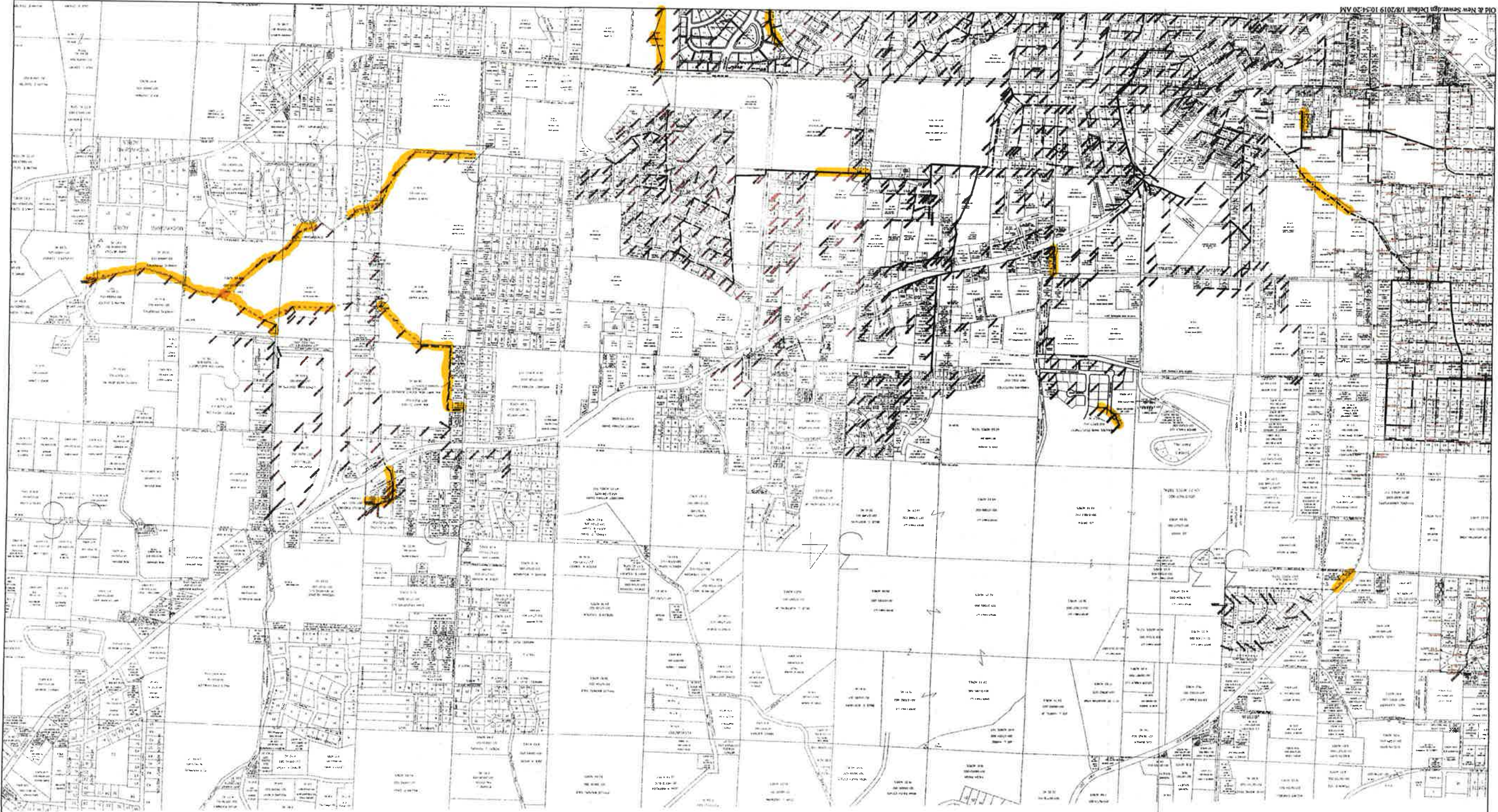
<b>YEAR 2019</b>		<b>MOUNTAIN HOME WASTEWATER PLANT LIFT STATION MONTHLY RUN TIMES</b>		
		<b>BEGINNING</b>	<b>ENDING</b>	<b>TOTAL RUN</b>
		<b>READING</b>	<b>READING</b>	<b>TIME</b>
<b>LIFT STATION NAME</b>	<b>PUMP #</b>	<b>JULY</b>		
IND PARK LS #1	PUMP #1	1231.1	1246.9	15.8
	PUMP #2	6254.3	6280	25.7
IND PARK LS #2	PUMP #1	343.8	367.2	23.4
	PUMP #2	2152.9	2178.7	25.8
IND PARK LS #3	PUMP #1	622.2	625	2.8
	PUMP #2	4.49	7.1	2.61
MONROE LS	PUMP #1	8493.5	8527.1	33.6
	PUMP #2	3750.3	3782.8	32.5
FRANKLIN LS	PUMP #1	2090.96	2102.59	11.63
	PUMP #2	3852.61	3863.18	10.57
WOODCREEK	PUMP #1	3630	3641.8	11.8
	PUMP #2	5758.4	5771.17	12.77
PARKWOOD LS	PUMP #1	1793.6	1802.2	8.6
	PUMP #2	1722.2	1730.5	8.3
INDIAN CREEK	PUMP #1	5361.1	5439.5	78.4
	PUMP #2	5311.8	5394.7	82.9
HWY 62 . LS	PUMP #1	215.88	217.88	2
	PUMP #2	201.32	203.99	2.67
CR 390 LS	PUMP #1	4400	4400	0
	PUMP #2	4412.3	4467.6	55.3
BIG CREEK LS	PUMP #1	537.49	545.48	7.99
	PUMP #2	510.49	518.26	7.77
CARLILE LS	PUMP #2	29.1	44.6	15.5
	PUMP #2	27.3	42.1	14.8

APPENDIX F  
EASEMENT RIGHT OF WAY CLEANING MAPS

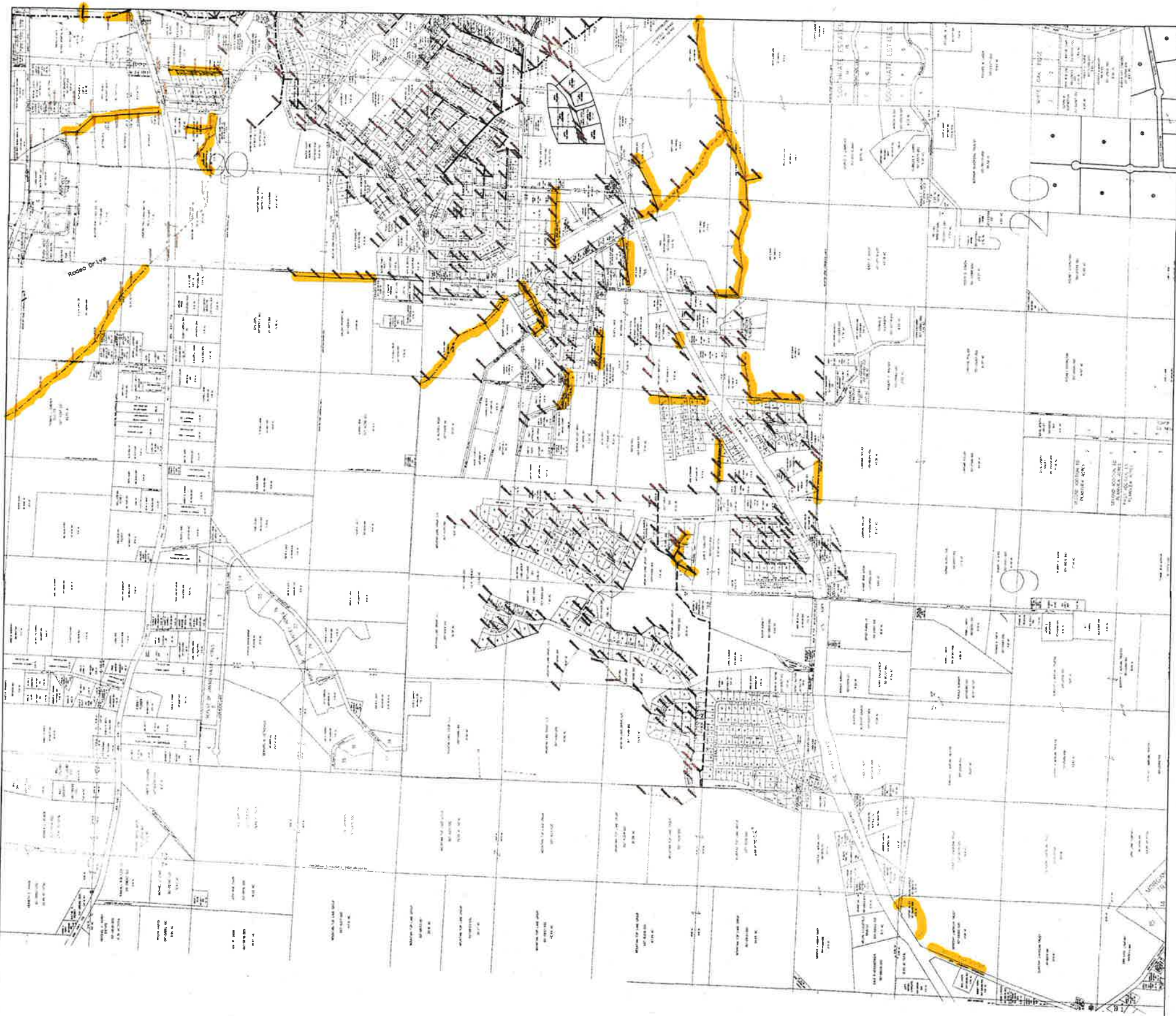


*Map - Casswell Clearing*

014 & New Development Detail 1/8/2019 10:50:26 AM









APPENDIX G  
RAINFALL RECORDS

Month/Yr MA-1 2019

# Influent

Day	Weather		Side #1	Side #2	NH-N T-N-T mg/l	BOD			PHOS		TSS		VSS	
	Precip	Type	NRPS Flow MGD	NRPS Flow MGD		MGD Flow	mg/l	lbs	mg/l	lbs	mg/l	lbs	mg/l	% VSS
1	1.56	R	2.596	2.558	3.9	4.243	28.5	1,009			45	1,592	35	78%
2	.87	R	2.593	2.223		5.605			1.63	115.4				
3	0.6	R	2.545	2.316		7.330								
4			2.390	2.134		7.391								
5			2.521	2.087		5.016								
6	.12	R	2.523	2.226		4.390								
7			2.501	2.221		7.047								
8	.61	R	2.360	1.955	9.2	3.899	43.5	1,415			57	1,854	54	95%
9			2.579	1.994		5.139			6.65	236.8				
10	0.1	R	2.698	2.111		3.761								
11	0.2	R	2.515	1.982		3.706								
12			2.586	1.927		5.001								
13			2.558	2.014		2.677								
14			2.528	1.909		3.250								
15			2.588	1.924	12.4	3.705	36.0	1,112			53	1,638	51	96%
16			2.604	2.018		3.191			4.53	114.9				
17			2.698	2.098		3.082								
18	.42	R	2.460	1.841		2.520								
19	.02	R	2.521	1.848		2.912								
20			2.605	1.959		2.996								
21	.35	R	2.551	1.869		2.487								
22			2.544	1.959	13.6	2.449	43.5	888			159	3,248	147	92%
23			2.523	2.000		2.947			3.97	92.7				
24			2.560	1.994		2.967								
25			2.539	1.956		1.705								
26			2.580	1.965		1.532								
27			2.521	1.925		1.663								
28			2.532	1.878		1.407								
29	1.14	R	2.557	2.045	17.4	1.469	57.0	625			84	1,029	76	90%
30	.36	R	2.821	2.296		1.991			3.39	95.0				
31			3.023	2.381		2.748								
Min.														
Max.														
Avg.	1.53	R	79.703	63.743	11.3	3.556	41.7	1010	4.03	131.0	80	1,872	72.6	90%
Total	6.35	R	2.571	2.056	56.5	116.226	2085	5049	20.17	654.8	398	9,361	363	

\* c - clear w - windy cl - cloudy  
ca - calm r - rain s - snow

lbs. = mg/l x 8.34 x flow in MGD

SVI = 30

% removal =  $\frac{\text{Influent} - \text{Effluent}}{\text{Influent}} \times 100$

F/M = lb:

% VSS =  $\frac{\text{VSS}}{\text{TSS}} \times 100$

Month/Yr JUNE 2019

### Influent

Day	Weather		Side #1	Side #2	NH <sub>4</sub> -N T-N-T mg/l	BOD		PHOS		TSS		VSS		
	Precip	Type	MWRS Flow MGD	MWRS Flow MGD		mg/l	lbs	mg/l	lbs	mg/l	lbs	mg/l	% VSS	
1			2.573	2.048		2.639								
2			2.779	2.198		2.273								
3			2.916	2.215		2.292								
4	.01	R	3.019	2.270		2.380								
5			3.215	2.414	17.5	2.364	51.0	1,006		51	1,006	48	94%	
6	.82	R	2.777	2.171		2.531			7.67	139.4				
7	1.09	R	1.880	1.423		3.878								
8			1.829	1.423		3.968								
9			2.509	1.942		5.171								
10			2.500	1.961		4.688								
11			2.608	2.025		3.376								
12	.16	R	2.579	2.045	13.0	3.368	34.5	969		46.5	1,306	43.5	94%	
13			2.504	1.861		2.398			3.73	98.6				
14			2.408	1.919		2.533								
15			2.212	1.704		1.940								
16	.01	R	2.044	1.593		1.876								
17	.11	R	2.353	1.831		1.576								
18	.02	R	2.582	2.002		1.862								
19	.01	R	2.630	1.961	15.4	1.980	46.5	768		61	1,007	57	93%	
20			2.606	1.953		2.717			5.14	114.5				
21	.01	R	2.593	1.931		2.403								
22	1.06	R	2.594	1.996		2.288								
23	1.89	R	2.571	1.945		3.672								
24	.15	R	2.606	1.915		8.319								
25			2.600	1.960		4.881								
26	.66	R	2.590	1.971		4.112	42.0	1,440		62.5	3,143	54.5	87%	
27			2.624	1.949		4.356			4.10	100.0				
28			2.613	1.956		3.945								
29			2.582	1.932		3.410								
30			2.565	1.885		3.463								
31														
Min.														
Max.														
Avg.	0.46	R	2.549	1.946	15.3	3.223	43.5	1,046	5.16	128.1	55.3	1,366	50.8	92%
Total	6.00	R	76.471	58.379	45.9	96.689	174	4,183	20.64	562.5	221	5,462	203	

\* c - clear w - windy cl - cloudy  
ca - calm r - rain s - snow

lbs. = mg/l x 8.34 x flow in MGD  
% removal =  $\frac{\text{Influent} - \text{Effluent}}{\text{Influent}} \times 100$

SVI = 30

F/M = lb:

% VSS =  $\frac{\text{VSS}}{\text{TSS}} \times 100$   
TSS

Month/Yr JULY 2019

# Influent

Day	Weather		Side #1	Side #2	NH <sub>3</sub> -N T-N-T mg/l	BOD		PHOS		TSS		VSS		
	Precip	Type	NRAS Flow MGD	NRAS Flow MGD		MGD Flow	mg/l	lbs	mg/l	lbs	mg/l	lbs	mg/l	
1	.14	R	2.616	1.986		3.680								
2	.08	R	2.619	1.957	13.2	3.495	100.5	2929			170	4,955	152	89
3	.01	R	2.695	2.025		2.482			7.83	185.6				
4	.63	R	2.760	2.037		2.347								
5	.42	R	2.782	2.046		2.879								
6			2.712	1.979		2.686								
7	.01	R	2.704	2.028		2.138								
8			2.681	2.035		2.329								
9			2.685	2.016		2.266								
10	.38	R	2.686	2.030	16.5	2.250	120.0	2252			210	3,941	188	90
11			2.686	1.956		2.312			8.23	168.8				
12			2.688	2.075		2.255								
13	.09	R	2.640	2.037		2.045								
14	.02	R	2.649	2.083		1.996								
15	.2	R	2.653	1.979		1.895								
16	.04	R	2.693	1.917		2.257								
17			2.673	1.921	17.4	1.985	142.5	2359			231	3,824	209	90
18			2.684	2.026		1.992								
19			2.704	2.042		2.042			9.43	173.8				
20			2.586	1.943		1.896								
21			2.712	2.038		2.055								
22	.25	R	2.767	2.086		2.939								
23			2.551	1.881		2.399								
24			2.656	1.972	20.2	2.136	144.0	2565			453	8,070	396	87
25			2.645	1.950		1.586			20.20	380.7				
26			2.615	1.950		2.052								
27			2.545	1.897		1.361								
28			2.595	1.929		1.412								
29	.07	R	2.588	1.937		1.345								
30			2.710	1.996		1.804								
31	.02	R	2.576	1.927	21.0	1.923	176.0	2742	7.01	128.6	235	3,769	212	90
Min.														
Max.														
Avg.	.17	R	2.664	1.990	17.7	2.199	135.6	2,569	10.54	207.5	260	4,912	231	89
Total	2.36	R	82.606	61.678	88.3	68.179	678	12,847	52.7	1,037.5	1,299	24,559	1,157	

\* c - clear w - windy cl - cloudy  
ca - calm r - rain s - snow

lbs. = mg/l x 8.34 x flow in MGD  
% removal =  $\frac{\text{Influent} - \text{Effluent}}{\text{Influent}} \times 100$

SVI:

F/M:

% VSS =  $\frac{\text{VSS}}{\text{TSS}} \times 100$