

MH # 4848-374
859 N. Maus
Approx depth = 8.4 ft

MH # 4848-373
831 N. Maus
Approx depth = 8.6 ft

MH # 4848-372
Approx depth = 8.1 ft

Install 658 lf of 8" Cured-in-Place Liner

SITE 1

SHEET 3 OF 55







Video Inspection Master Report

2/24/2012

8:38 AM

US Structure: 4848-374 859 N MAUS LN Date Insp: 5/8/2009 Basin: W06A
 DS Structure: 4848-373 831 N MAUS LN Dir Televised: Downstream To Upstream

Pipe Information

Dia: 8 Material: VCP Length: 320.0 Slope: 0.400

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | | Remain (gpm) |
|--------|-------------|----------|--|-------------------------------|--------|--------------|------------|--------|-------|--------------|
| | | | | | | | Est. (gpm) | Struct | Clean | |
| 1 | | 0.0 | TV AGAINST FLOW | 4848-373 DS Manhole | 1 | | | | | |
| 2 | | 0.5 | | Infiltration | 3 | 0.000 | 0 | 0 | 0.000 | |
| 3 | | 3.8 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 4 | | 7.5 | 831 S MAUS LANE | Break-In Conn / full of roots | 3 | 0.004 | 2 | 0 | 0.004 | |
| 5 | | 9.7 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 6 | | 28.1 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 7 | | 40.1 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 8 | | 46.1 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 9 | | 52.2 | <u>(if not addressed, wye is sealed off)</u> Wye Service | | 1 | 0.000 | 0 | 0 | 0.000 | |
| 10 | | 58.5 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 11 | | 70.4 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 12 | | 73.6 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 13 | | 76.5 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 14 | | 79.5 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 15 | | 82.5 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 16 | | 84.1 | 840 S NORMAN AVE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 17 | | 85.5 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 18 | | 88.5 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 19 | | 92.5 | 839 S MAUS LANE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 20 | | 103.6 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 21 | | 116.0 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 22 | | 118.7 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 23 | | 124.7 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 24 | | 131.0 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 25 | | 131.0 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 26 | | 134.0 | Joint | Offset | 4 | 0.030 | 60 | 0 | 0.030 | |
| 27 | | 136.8 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 28 | | 140.1 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 29 | | 146.2 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 30 | | 147.2 | 845 S MAUS LANE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 31 | | 149.2 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 32 | | 155.3 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 33 | | 157.9 | 846 S NORMAN AVE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 34 | | 161.3 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 35 | | 170.1 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 36 | | 197.6 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |

Video Inspection Master Report

2/24/2012

8:38 AM

US Structure: 4848-374 859 N MAUS LN Date Insp: 5/8/2009 Basin: W06A
 DS Structure: 4848-373 831 N MAUS LN Dir Televised: Downstream To Upstream

| | | | | | | | | | |
|----|-------|------------------|--|----------------------------|---|-------|----|----|-------|
| 37 | 200.6 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 38 | 203.7 | | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 |
| 39 | 206.7 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 40 | 213.5 | 853 S MAUS LANE | | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 |
| 41 | 215.6 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 42 | 218.6 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 43 | 221.6 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 44 | 224.7 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 45 | 227.8 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 46 | 230.6 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 47 | 233.7 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 48 | 236.9 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 49 | 239.8 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 50 | 243.0 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 51 | 245.8 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 52 | 249.0 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 53 | 252.0 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 54 | 254.3 | 852 S NORMAN AVE | | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 |
| 55 | 258.1 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 56 | 264.1 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 57 | 270.3 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 58 | 273.4 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 59 | 279.4 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 60 | 285.4 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 61 | 288.5 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 62 | 300.8 | Joint | | Offset | 1 | 0.000 | 0 | 0 | 0.000 |
| 63 | 301.0 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 64 | 302.0 | 853 S MAUS LANE | | Break-In Conn / protruding | 4 | 0.008 | 60 | 0 | 0.008 |
| 65 | 307.1 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 66 | 316.9 | | | Debris | 4 | 0.000 | 0 | 25 | 0.000 |

The debris is silt entering the line north of MH 4848-374. That line will be replaced "by others" prior to the CIPP project.



Video Inspection Master Report

2/24/2012

8:38 AM

US Structure: 4848-373 831 N MAUS LN Date Insp: 5/8/2009 Basin: W06A
 DS Structure: 4848-372 9700 W DELANO ST Dir Televised: Downstream To Upstream

Pipe Information

Project No. : K-053 Dia: 8 Material: VCP Length: 337.0 Slope: 0.400

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | | Remain (gpm) |
|--------|-------------|----------|-------------------|----------------------------|--------|--------------|------------|--------|-------|--------------|
| | | | | | | | Est. (gpm) | Struct | Clean | |
| 1 | | 0.0 | | 4848-372 DS Manhole | 1 | | | | | |
| 2 | | 46.9 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 3 | | 47.3 | | Crack-Horizontal | 2 | 0.002 | 2 | 0 | 0.002 | |
| 4 | | 48.8 | 800 S NORMAN AVE | Break-In Conn / protruding | 3 | 0.004 | 2 | 0 | 0.004 | |
| 5 | | 58.9 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 6 | | 65.1 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 7 | | 95.4 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 8 | | 96.2 | 9700 W DELANO AVE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 9 | | 101.7 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 10 | | 104.7 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 11 | | 120.0 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 12 | | 123.0 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 13 | | 125.4 | 811 S MAUS LANE | Break-In Conn / protruding | 4 | 0.008 | 60 | 0 | 0.008 | |
| 14 | | 127.3 | 812 S NORMAN AVE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 15 | | 135.3 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 16 | | 141.7 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 17 | | 144.3 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 18 | | 165.9 | Joint | Offset | 4 | 0.030 | 60 | 0 | 0.030 | |
| 19 | | 178.3 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 20 | | 183.9 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 21 | | 190.1 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 22 | | 193.1 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 23 | | 196.2 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 24 | | 199.2 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 25 | | 200.2 | 817 S MAUS LANE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 26 | | 202.2 | Joint | Offset | 4 | 0.030 | 60 | 0 | 0.030 | |
| 27 | | 208.3 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 28 | | 209.2 | 818 S NORMAN AVE | Break-In Conn | 3 | 0.004 | 2 | 0 | 0.004 | |
| 29 | | 214.5 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 30 | | 217.5 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 31 | | 220.5 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 32 | | 226.6 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 33 | | 230.0 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 34 | | 232.8 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 35 | | 236.0 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |

Video Inspection Master Report

2/24/2012

8:38 AM

US Structure: 4848-373 831 N MAUS LN Date Insp: 5/8/2009 Basin: W06A
 DS Structure: 4848-372 9700 W DELANO ST Dir Televised: Downstream To Upstream

| | | | | | | | | | |
|----|-------|------------------|--|------------------------------------|---|-------|----|---|-------|
| 36 | 239.0 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 37 | 241.9 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 38 | 245.0 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 39 | 248.3 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 40 | 251.2 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 41 | 257.1 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 42 | 259.8 | 825 S MAUS LANE | | PVC Break-In Conn | 2 | 0.002 | 0 | 0 | 0.002 |
| 43 | 269.1 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 44 | 272.8 | 826 S NORMAN AVE | | Break-In Conn / packed w/roots | 3 | 0.004 | 2 | 0 | 0.004 |
| 45 | 275.3 | | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 |
| 46 | 278.2 | | | Roots | 3 | 0.008 | 5 | 8 | 0.008 |
| 47 | 281.4 | | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 |
| 48 | 281.4 | | | Roots | 3 | 0.008 | 5 | 8 | 0.008 |
| 49 | 284.1 | | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 50 | 287.3 | | | Roots | 3 | 0.008 | 5 | 8 | 0.008 |
| 51 | 287.4 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 52 | 293.3 | | | Roots | 3 | 0.008 | 5 | 8 | 0.008 |
| 53 | 293.3 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 54 | 296.5 | | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 55 | 299.5 | | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 56 | 305.7 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 57 | 311.6 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 58 | 320.9 | | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 |
| 59 | 327.0 | | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 |
| 60 | 329.6 | 834 S NORMAN AVE | | Break-In Conn / protruding / roots | 3 | 0.004 | 2 | 0 | 0.004 |
| 61 | 333.0 | Joint | | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 62 | 338.5 | | | 4848-373 US Manhole | 2 | 0.000 | 0 | 0 | 0.000 |

Chipper

Caddy

Install 505 lf of 8" Cured-in-Place Liner

- ' 55 lf from MH 4848-377 to MH 4848-375
- ' 55 lf from MH 4848-376 to MH 4848-375
- ' 395 lf from MH 4848-375 to MH 4848-374

Murdock

MH # 4848-374
859 N. Maus Lane
Approx depth = 8.4 ft

MH # 4848-376
Approx depth = 9.1 ft

MH # 4848-375
Approx depth = 10.1 ft

MH # 4848-377
Approx depth = 9.3 ft

9901

9900

395'

859

320'

Maus Lane

Cindy

Norman

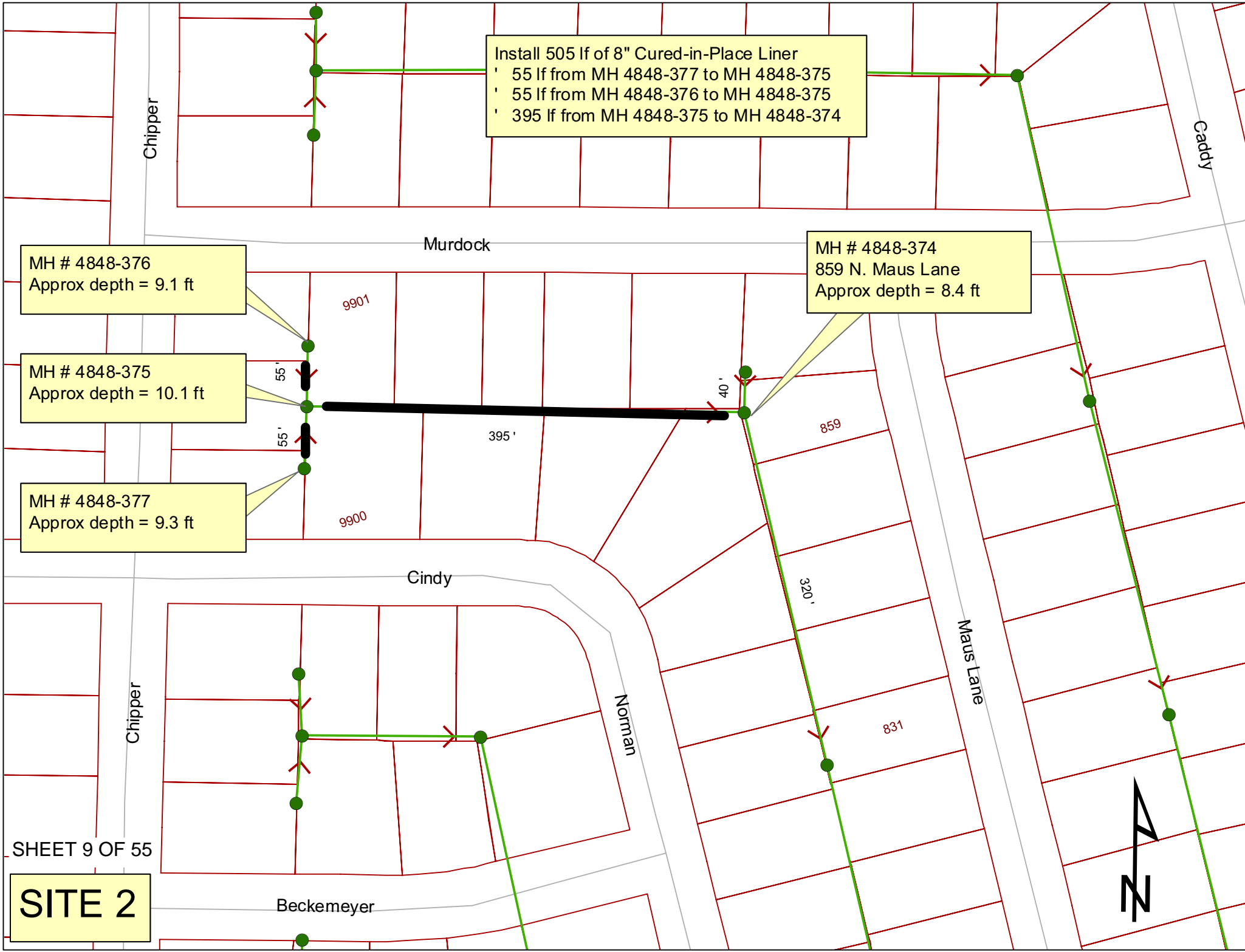
831

Chipper

SHEET 9 OF 55

SITE 2

Beckemeyer





N CHIPPER LN

W MURDOCK AVE

9901

9900

859

856

9710

W CINDY LN

N NORMAN AVE

N MAUS LN

N

US Structure: 4848-377 9900 W CINDY ST Date Insp: 5/6/2009 Basin: W06A
 DS Structure: 4848-375 9900 W CINDY ST Dir Televised: Downstream To Upstream

Pipe Information

Shape: Round Length Status: Project No. : K-053
 Dia/Ht: 8 Material: VCP Index:
 Length: 55.0 Slope: 0.400 DVD 484

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | | Remain (gpm) |
|--------|-------------|----------|--------------------|--|--------|---------------------|------------|--------|-------|--------------|
| | | | | | | | Est. (gpm) | Struct | Clean | |
| 1 | | 0.0 | | 4848-375 DS Manhole | 1 | tv against the flow | | | | |
| 2 | | 0.0 | Joint | Offset | 4 | 0.030 | 60 | 0 | 0.030 | |
| 3 | | 13.6 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 | |
| 4 | | 13.6 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 5 | | 16.7 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 6 | | 16.8 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 7 | | 19.7 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 8 | | 22.6 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 | |
| 9 | | 25.5 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 | |
| 10 | | 28.2 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 | |
| 11 | | 31.2 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 | |
| 12 | | 31.2 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 | |
| 13 | | 34.5 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 | |
| 14 | | 40.8 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 | |
| 15 | | 43.4 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 16 | | 46.9 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 17 | | 46.9 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 | |
| 18 | | 50.1 | | West Wye Service | 2 | 0.000 | 0 | 0 | 0.000 | |
| | | | | Ball of roots / may be sealed off – can't see | | | | | | |
| 19 | | 53.5 | 834 S CHIPPER LANE | W Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| | | | | Full of roots / jagged & rough tap pipe | | | | | | |
| 20 | | 53.5 | | Broken Pipe | 3 | 0.010 | 60 | 0 | 0.010 | |
| 21 | | 54.8 | | 4848-377 US Manhole | 2 | 0.000 | 0 | 0 | 0.000 | |
| | | | | Camera does not pan around to look at the manhole. | | | | | | |

Roots at joints

Video Inspection Master Report

2/24/2012

8:38 AM

US Structure: 4848-376 9901 W MURDOCK ST Date Insp: 5/6/2009 Basin: W06A
 DS Structure: 4848-375 9900 W CINDY ST Dir Televised: Downstream To Upstream

Pipe Information

Shape: Round Length Status: Project No. : K-053
 Dia/Ht: 8 Material: VCP Index:
 Length: 55.0 Slope: 0.400 Surface:

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | Remain (gpm) |
|--|-------------|----------|--------------------|------------------------|--------|--------------|------------|--------------|--------------|
| | | | | | | | Est. (gpm) | Struct Clean | |
| 1 | | 0.0 | | 4848-375 DS Manhole | 3 | 0.000 | 0 | 0 | 0.000 |
| 2 | | 3.0 | 842 S CHIPPER LANE | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 |
| Tap is protruding slightly and pipe is cracked all around the tap. Roots intruding from the cracks. Tap may be broken down. <u>REPLACEMENT OF 6 LF OF PIPE TO FIX TAP AND BROKEN PIPE PRIOR TO LINING / TO BE COMPLETED "BY OTHERS"</u> | | | | | | | | | |
| 3 | | 9.0 | | Wye Service Sealed off | 1 | 0.000 | 0 | 0 | 0.000 |
| 4 | | 9.0 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 5 | | 12.5 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 |
| 6 | | 18.3 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 7 | | 22.2 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 8 | | 22.2 | Joint | Offset | 2 | 0.000 | 0 | 0 | 0.000 |
| 9 | | 27.8 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 10 | | 36.9 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 11 | | 42.8 | | Roots | 2 | 0.004 | 2 | 4 | 0.004 |
| 12 | | 45.8 | 850 S CHIPPER LANE | W Wye Service | 1 | 0.000 | 0 | 0 | 0.000 |
| 13 | | 45.8 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 14 | | 49.7 | Joint | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 15 | | 54.5 | | 4848-376 US Manhole | 3 | 0.000 | 0 | 0 | 0.000 |
| Pipe is higher than floor of the manhole. A bench & invert will be constructed "by others" prior to lining. Camera does not pan around to look at the manhole. | | | | | | | | | |

Roots at joints

Video Inspection Master Report

2/24/2012

8:38 AM

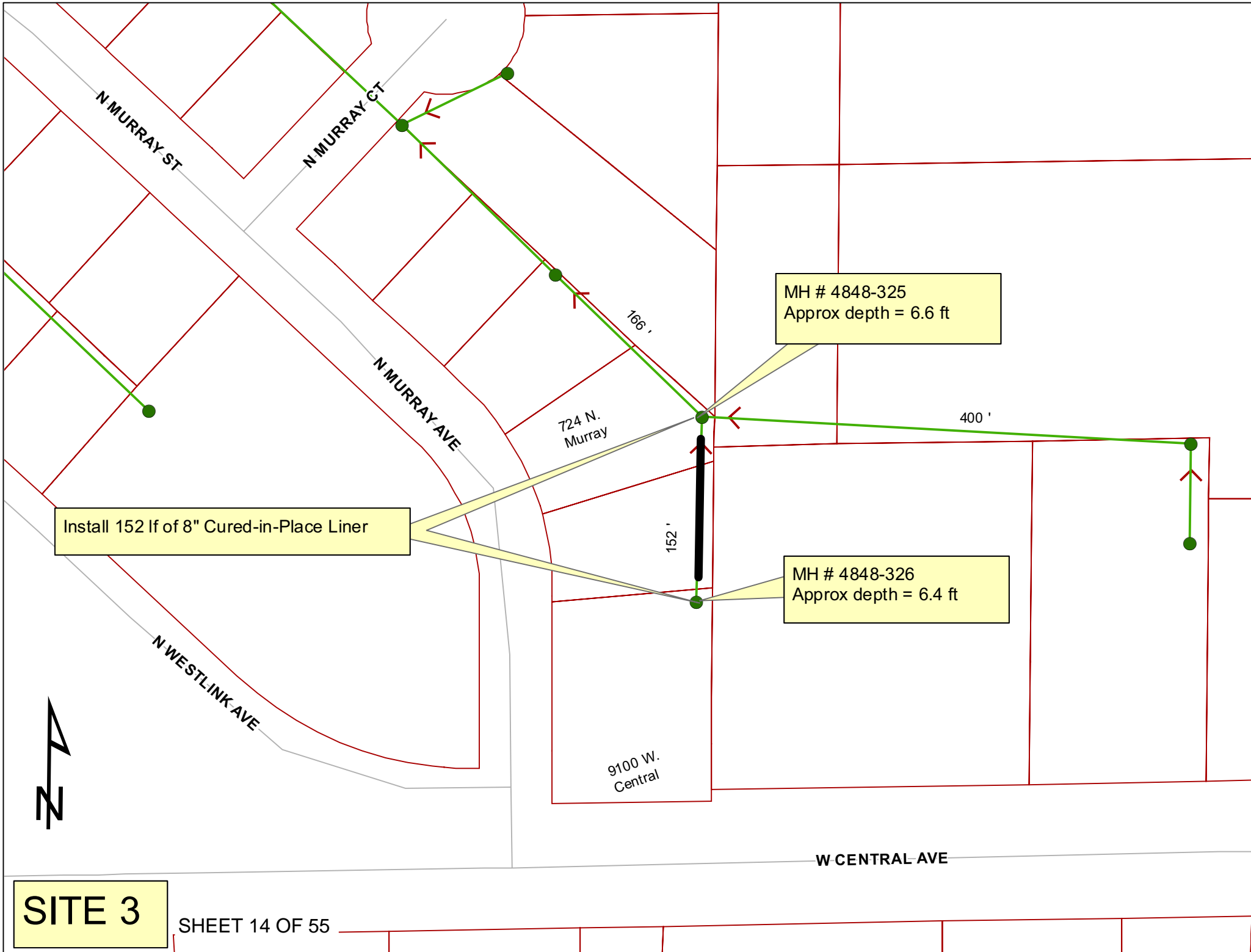
US Structure: 4848-375 9900 W CINDY ST Date Insp: 5/6/2009 Basin: W06A
 DS Structure: 4848-374 859 N MAUS LN Dir Televised: Upstream To Downstream

Pipe Information

Shape: Round Length Status: Project No. : K-053
 Dia/Ht: 8 Material: VCP Index:
 Length: 395.0 Slope: 0.400 DVD #0484

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | | Remain (gpm) |
|--------|-------------|----------|--------------------|---|--------|--------------|------------|--------|-------|--------------|
| | | | | | | | Est. (gpm) | Struct | Clean | |
| 1 | | 0.0 | | 4848-375 US Manhole | 2 | | 0.000 | 0 | 0 | 0.000 |
| 2 | | 12.5 | Joint | Offset | 2 | | 0.000 | 0 | 0 | 0.000 |
| 3 | | 45.3 | 9901 W MURDOCK AVE | Break-In Conn | 4 | | 0.008 | 60 | 0 | 0.008 |
| 4 | | 54.8 | 9900 W CINDY | Break-In Conn | 4 | | 0.008 | 60 | 0 | 0.008 |
| 5 | | 74.4 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 6 | | 77.2 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 7 | | 149.5 | 9825 W MURDOCK AVE | Break-In Conn | 2 | | 0.002 | 0 | 0 | 0.002 |
| 8 | | 153.3 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 9 | | 153.3 | 9810 W CINDY | Break-In Conn | 3 | | 0.004 | 2 | 0 | 0.004 |
| 10 | | 154.6 | | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 11 | | 155.9 | | Wye Service | 2 | | 0.000 | 0 | 0 | 0.000 |
| 12 | | 181.7 | Joint | Offset | 2 | | 0.000 | 0 | 0 | 0.000 |
| 13 | | 206.9 | 9817 W MURDOCK AVE | Break-In Conn | 4 | | 0.008 | 60 | 0 | 0.008 |
| 14 | | 226.8 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 15 | | 229.6 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 16 | | 265.9 | 9809 W MURDOCK AVE | Break-In Conn | 4 | | 0.008 | 60 | 0 | 0.008 |
| 17 | | 284.7 | 9800 W CINDY | Break-In Conn | 4 | | 0.008 | 60 | 0 | 0.008 |
| 18 | | 301.9 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 19 | | 305.2 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 20 | | 376.3 | | Wye Service | 1 | | 0.000 | 0 | 0 | 0.000 |
| 21 | | 384.1 | 9801 W MURDOCK AVE | Break-In Conn | 4 | | 0.008 | 60 | 0 | 0.008 |
| 22 | | 395.2 | | 4848-374 DS Manhole Manhole looks OK on the video. | 1 | | 0.000 | 0 | 0 | 0.000 |

Lots of roots at joints.
 All of the taps are rough & jagged VCP with roots around the tap or inside the tap.
 The "wye services" are all sealed off.



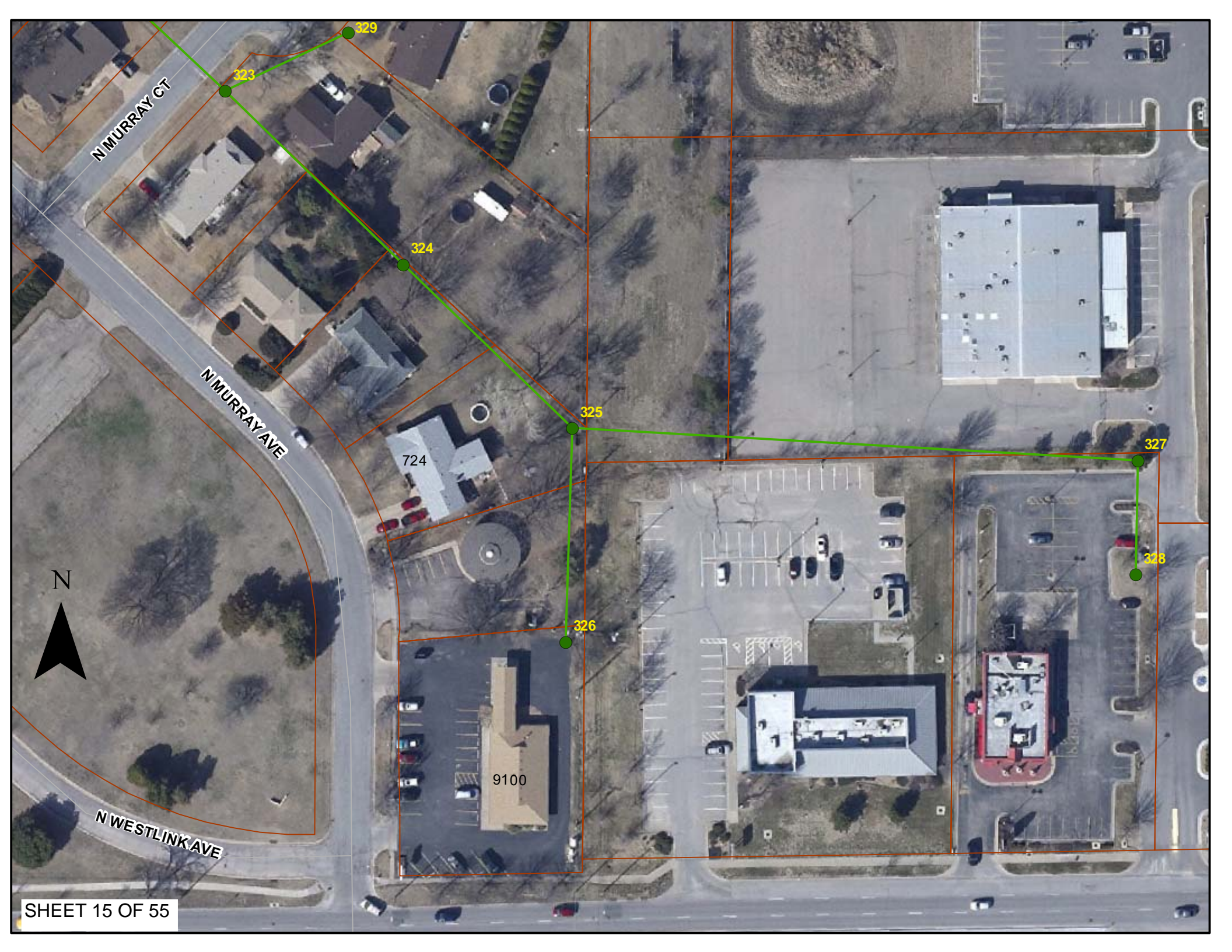
MH # 4848-325
Approx depth = 6.6 ft

Install 152 lf of 8" Cured-in-Place Liner

MH # 4848-326
Approx depth = 6.4 ft

SITE 3

SHEET 14 OF 55



N MURRAY CT

N MURRAY AVE

N WESTLINK AVE

N



329

323

324

325

724

326

9100

327

328

9101



Television Inspection Master Report

10/27/2009

1:53 PM

US Structure: 4848-326 **9100 W CENTRAL ST** **Date Insp:** 6/8/2009 **Basin:** W06A
DS Structure: 4848-325 **724 N MURRAY ST** **Dir Televised:** Upstream To Downstream

Pipe Information

Project No. : K-062 **Dia:** 8 **Material:** VCP
Length: 151.7 **Slope:** 0.002 **Rear Easement** **DVD #0494**

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | | Remain (gpm) |
|---|-------------|----------|----------|-----------------------|--------|--------------|------------|--------|-------|--------------|
| | | | | | | | Est. (gpm) | Struct | Clean | |
| 1 | | 0.0 | | 4848-326 / US Manhole | 1 | 0.000 | 0 | 0 | 0.000 | |
| 2 | | 6.0 | | Sealed Off Wye | 1 | 0.000 | 0 | 0 | 0.000 | |
| 3 | | 22.7 | | Heavy Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 4 | | 31.9 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 5 | | 47.4 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 6 | | 49.5 | | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 9000 WEST CENTRAL? / roots around the tap | | | | | | | | | | |
| 7 | | 52.3 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 8 | | 62.7 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 9 | | 67.6 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 10 | | 83.0 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 11 | | 98.2 | | Roots | 3 | 0.008 | 5 | 8 | 0.008 | |
| 12 | | 99.0 | | Sealed Off Wye | 1 | 0.000 | 0 | 0 | 0.000 | |
| 13 | | 101.4 | | Wye Service | 1 | 0.000 | 0 | 0 | 0.000 | |
| 720 NORTH MURRAY? | | | | | | | | | | |
| 14 | | 136.8 | | Wye Service | 5 | 0.000 | 400 | 0 | 0.000 | |
| 9000 WEST CENTRAL? / ball of roots | | | | | | | | | | |
| 15 | | 149.6 | | Break-In Conn | 4 | 0.008 | 60 | 0 | 0.008 | |
| 9000 WEST CENTRAL? / 1/2 full of roots | | | | | | | | | | |
| 16 | | 152.6 | | 4848-325 / DS Manhole | 1 | 0.000 | 0 | 0 | 0.000 | |

Some roots are fairly heavy.

MH # 4848-339
Approx depth = 6.1 ft

MH # 4848-340
Approx depth = 6.7 ft

MH # 4848-341
Approx depth = 7.5 ft

Westlink Ave

(drainage area)

150' PVC

395'

395' PVC

190'

9326

9218

9th Street North

Install 395 lf of 8" Cured-in-Place Liner

9411

Install 190 lf of 8" Cured-in-Place Liner

MH # 4848-338
Approx depth = 6.2 ft

MH # 4848-338
Approx depth = 6.2 ft

CIPP

Murray

Hickory



SITE 4

SHEET 17 OF 55



036

N MURRAY CT

184

187

188

190

189CO

185

339

340

341

9326

9218

349CO

347

348CO

337

W 9TH ST N

338

9411

278

279

280

277

336

N

SHEET 18 OF 55

WHICKORY LN

Television Inspection Master Report

1/25/2010

8:08 AM

US Structure: 4848-341 9218 W 9TH ST N Date Insp: 12/11/2008 Basin: W06A
 DS Structure: 4848-340 9326 W 9TH ST Dir Televised: Upstream to Downstream

Pipe Information

Project No. : K-063 Dia/Ht: 8 Material: VCP Length: 395.0 Slope: 0.400 Crew: 690 Tape ID: DVD #0460

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | | Remain (gpm) |
|--------|-------------|----------|-------------------------|----------------------------------|--------|--------------|------------|--------|-------|--------------|
| | | | | | | | Est. (gpm) | Struct | Clean | |
| 1 | | 0.0 | US Manhole | 4848-341 | | | | | | |
| 2 | | 5.1 | South / 9218 W 9TH ST N | 4" Break In Connection | 3 | | 0.004 | 2 | 0 | 0.004 |
| 3 | | 27.2 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 4 | | 59.7 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 5 | | 71.9 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 6 | | 77.0 | South / 9226 W 9TH ST N | 4" Break In Connection | 2 | | 0.002 | 0 | 0 | 0.002 |
| 7 | | 78.1 | Joint | Offset | 3 | | 0.010 | 20 | 0 | 0.010 |
| 8 | | 90.3 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 9 | | 98.6 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 10 | | 102.6 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 11 | | 106.7 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 12 | | 110.8 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 13 | | 114.9 | Joint | Roots | 4 | | 0.010 | 10 | 25 | 0.010 |
| 14 | | 123.0 | Joint | Roots | 4 | | 0.010 | 10 | 25 | 0.010 |
| 15 | | 127.1 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 16 | | 131.1 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 17 | | 135.1 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 18 | | 147.5 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 19 | | 151.3 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 20 | | 155.5 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 21 | | 159.6 | Joint | Roots | 2 | | 0.004 | 2 | 4 | 0.004 |
| 22 | | 163.7 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 23 | | 164.7 | South | 4" Clay Wye Connection (active?) | 1 | | 0.000 | 0 | 0 | 0.000 |
| 24 | | 166.0 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 25 | | 166.3 | South / 9300 W 9TH ST N | 4" Break In Connection | 4 | | 0.008 | 60 | 0 | 0.008 |
| 26 | | 169.8 | Joint | Roots | 3 | | 0.008 | 5 | 8 | 0.008 |
| 27 | | 185.9 | Joint | Roots | 2 | | 0.004 | 2 | 4 | 0.004 |
| 28 | | 247.9 | South | 4" Clay Wye Connection (active?) | 1 | | 0.000 | 0 | 0 | 0.000 |
| 29 | | 248.5 | South / 9310 W 9TH ST N | 4" Break In Connection | 3 | | 0.004 | 2 | 0 | 0.004 |
| 30 | | 318.2 | Joint | Offset | 3 | | 0.010 | 20 | 0 | 0.010 |
| 31 | | 320.6 | South / 9318 W 9TH ST N | 4" Break In Connection | 4 | | 0.008 | 60 | 0 | 0.008 |
| 32 | | 323.2 | South | 4" Clay Wye Connection (active?) | 1 | | 0.000 | 0 | 0 | 0.000 |
| 33 | | 364.9 | Joint | Offset | 3 | | 0.010 | 20 | 0 | 0.010 |
| 34 | | 400.2 | DS Manhole | 4848-340 | | | | | | |

Video Inspection Master Report

2/23/2012

2:34 PM

US Structure: 4848-339 994 N MURRAY ST Date Insp: 12/11/2008 Basin: W06A

DS Structure: 4848-338 980 N MURRAY ST Dir Televised: Down to Up

Pipe Information

| | | | | | |
|---------|-------|----------------|-------|---------------|-------|
| Shape: | Round | Length Status: | | Project No. : | K-063 |
| Dia/Ht: | 8 | Material: | VCP | Index: | |
| Length: | 190.0 | Slope: | 0.400 | Surface: | |

| Obs. # | VTR Counter | Distance | Location | Description | Rating | Obsrvd (gpm) | Ratings | | | Remain (gpm) |
|--------|-------------|----------|------------|------------------------|----------|--------------|------------|--------|-------|--------------|
| | | | | | | | Est. (gpm) | Struct | Clean | |
| 1 | | 0.0 | DS Manhole | 4848-338 | 1 | | 0.000 | 0 | 0 | 0.000 |
| 2 | | 7.0 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 3 | | 23.5 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 4 | | 32.4 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 5 | | 35.4 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 6 | | 38.8 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 7 | | 56.9 | Joint | | Offset | 3 | 0.010 | 20 | 0 | 0.010 |
| 8 | | 105.2 | West | 4" Clay Wye Connection | Active?? | 1 | 0.000 | 0 | 0 | 0.000 |
| 9 | | 169.7 | US Manhole | 4848-339 | | 1 | 0.000 | 0 | 0 | 0.000 |