

**Town of Los Altos Hills
Sanitary Sewer Collection System Progress Report
Contract Year 2015**

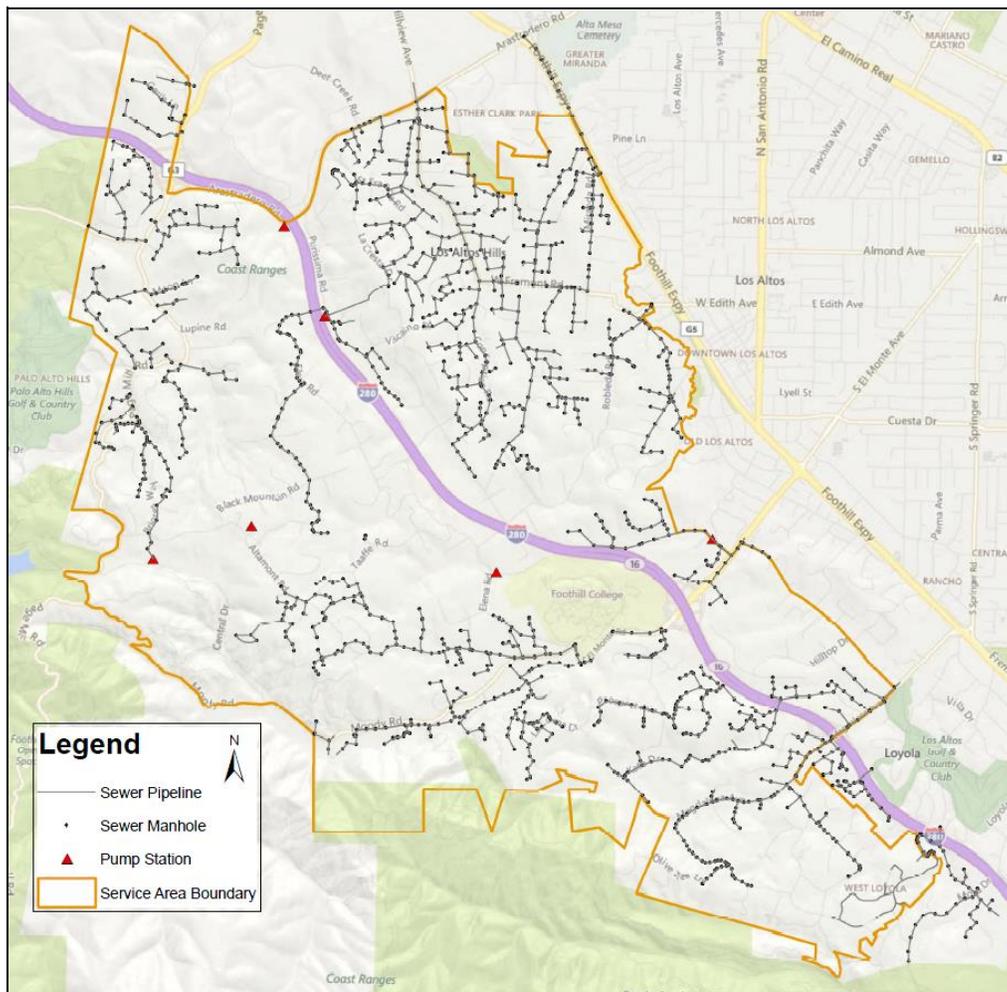
**Reporting Month: September 2015
Report Date: November 19, 2015**

I. INTRODUCTION

Figure 1 shows the Town of Los Altos Hills sewer system.

- Area served: 8.4 sq miles
- Miles of sewer pipelines: 56
- Number of residential parcels: 1,750
- Number of non-residential connections: 8

Figure 1. Town of Los Altos Hills Sewer System



II. PUBLIC WORKS DIRECTOR/CITY ENGINEER HIGHLIGHTS

a. SEWER SYSTEM MAINTENANCE HIGHLIGHTS

During the month of September 2015, the Town’s sewer maintenance contractor, West Bay Sanitary District (West Bay), completed all contract tasks on schedule. This month a meeting was held between the Town, West Bay, and V.W. Housen & Associates to discuss Sewer Maintenance Activities from the previous contract year and the new approach for the current contract year that started August 1, 2015. No significant issues were noted during cleaning, CCTV inspection, or pump station inspections. However, a category 3 SSO event (i.e., less than 1,000 gallons that does not reach a surface water or storm drain) occurred at one of the manholes caused by debris.

A summary of completed tasks is provided in Table 1, below. More detailed information is provided later in this report, and is also shown in the attached maps.

Table 1. Summary of Completed Tasks (Contract Year August 2015 – July 2016)

Task	Month of September 2015	Contract Year to Date	Compare to One Year Goal
Sewer Cleaning <ul style="list-style-type: none"> • Biennial (24-month) and Annual (12-month) Schedule • High Frequency (<12-month) • Other, Unscheduled Cleaning 	<ul style="list-style-type: none"> • 1.7 miles • 0 miles • 0 miles 	<ul style="list-style-type: none"> • 3.6 miles • 0 miles • 0 miles 	14.1% of Goal (16.7% of Time Elapsed)
Pump Station <ul style="list-style-type: none"> • Preventive Maintenance • Unscheduled repairs 	<ul style="list-style-type: none"> • 4X • 0 	<ul style="list-style-type: none"> • 8X • 0 	16.7% of Goal
CCTV Inspection <ul style="list-style-type: none"> • Routine Schedule (30mos) • Other Unscheduled CCTV 	<ul style="list-style-type: none"> • 0 miles • 1.9 miles 	<ul style="list-style-type: none"> • 1.1 mile • 2.7 miles 	21.2% of Goal
SSO Response <ul style="list-style-type: none"> • No. of SSOs – Sewer Mains 	<ul style="list-style-type: none"> • 1 	<ul style="list-style-type: none"> • 1 	N/A

Sewer cleaning mileages shown were derived from Lucity CMMS database by VWHA, and may be different than footages that are reported in the West Bay monthly reports. These footages do not reflect additional cleaning passes performed by West Bay for individual pipe segments.

Figure 2a shows previous contract year (PREV) cleaning results and current contract year (CURR) cleaning progress for the Town's pipes. Since August 1, 2014, 39.2 percent of the pipes within the Town's collection system have been cleaned. Cleaning results from the previous contract year are shown in this chart. The two primary maintenance issues found in the pipes within the system from the previous year were debris and roots. Debris found in pipes comprised of gravel, rock, paper, rags, egg shells, ground, grit, mud, and other solids. During the previous year, 18.55 percent of the cleaned pipes had debris, 8.5 percent had roots, and 5.85 percent had clear results.

Figure 2a. Cleaning Progress as of September 30, 2015

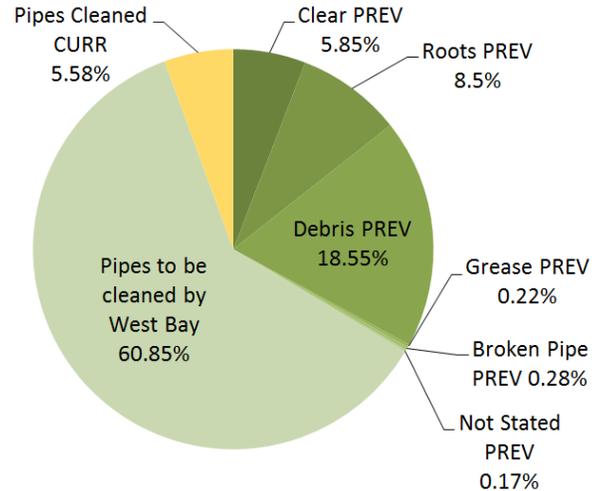


Figure 2b shows cleaning results for the Town's pipes for the current contract year only. Figure 2b expands the wedge shown in yellow in Figure 2a. In September 2015, 32.7 percent of the cleaned pipes had debris, 12.9 percent had roots, 5.9 percent had grease, and 9.9 percent had clear results. There was no mention of broken pipe debris found during the September cleaning period.

Figure 2b. Cleaning Results for the Current Year to Date. (Chart represents 5.58% of system).

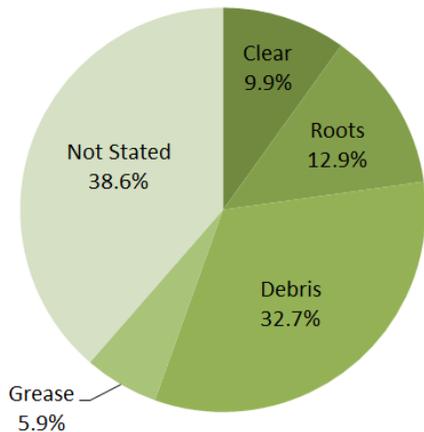
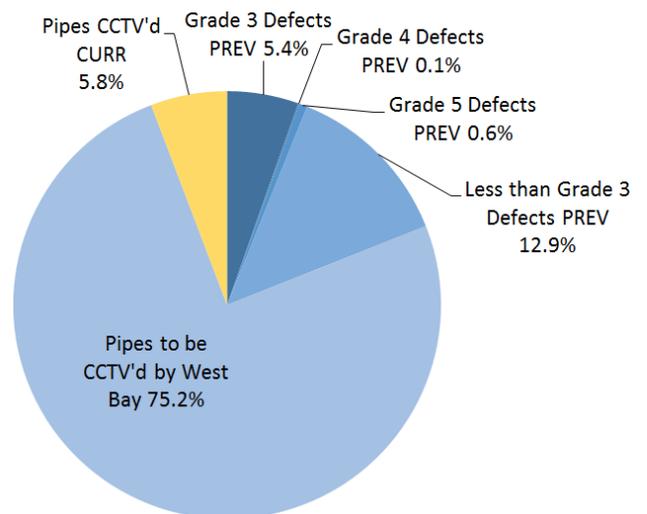


Figure 3a. CCTV Inspection Results as of September 30, 2015 (Structural Defects)



Figures 3a and 3b show CCTV inspection results for structural and O&M defects, respectively. As of September 2015, 24.8 percent of the system has been inspected. Of the 24.8 percent, 5.8 percent was inspected during the current year. During the previous year, 18.3 percent of the pipes that were inspected had National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) Structural Grade 3 defects or less. NASSCO PACP characterizes

Structural Grade 3 defects as requiring action in 10 or more years. The remaining 0.7 percent of pipes inspected in the prior year had structural Grade 4 or 5 defects, which are characterized by NASSCO as being likely to require action within 5 to 10 years.

Less than three percent of the inspected pipes have NASSCO PACP Operations and Maintenance (O&M) Grade 4 or 5 defects. These pipes have been or will be placed on the hot spot list until the O&M issues are resolved. The remaining 17 percent of inspected pipes have O&M defects of 3 or below. The remaining 75.2 percent of pipes in the system require inspection by West Bay.

Figures 4a and 4b show structural and O&M defects found during August 2015 inspections. These charts reflect results for 5.8 percent of the system. During this period, 38.5 percent of inspected pipes had no structural defects, 52.1 percent had Grade 3 defects or less, and 9.4 percent had Grade 4 or 5 defects.

Less than 5 percent of the pipes that were inspected in this new contract year have NASSCO PACP O&M Grade 4 and 5 defects. In addition, 59.7 percent have been recorded to have less than Grade 3 defects.

Figure 3b. CCTV Inspection Progress as of August 31, 2015 (O&M)

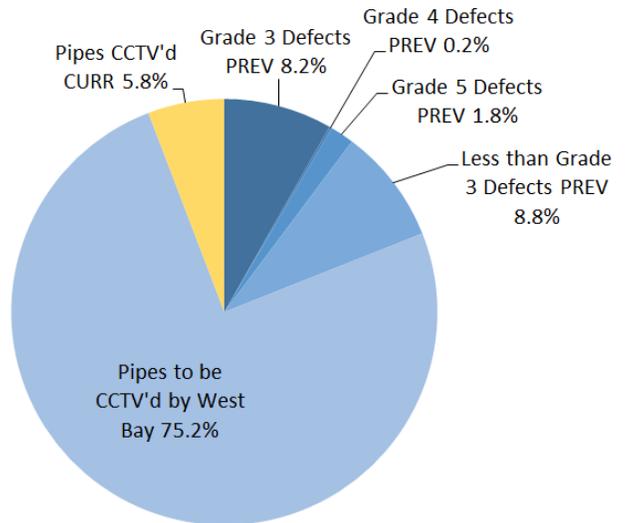


Figure 4a. CCTV Inspection Results CURR August 2015 – July 2016 (Structural). (Chart represents 5.8% of system).

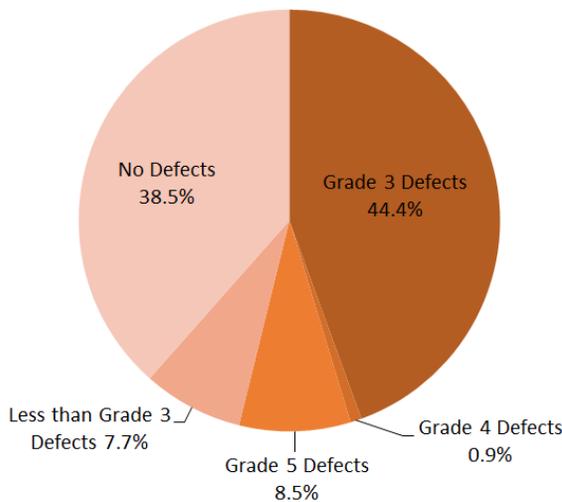


Figure 4b. CCTV Inspection Results CURR August 2015 – July 2016 (O&M). (Chart represents 5.8% of system).

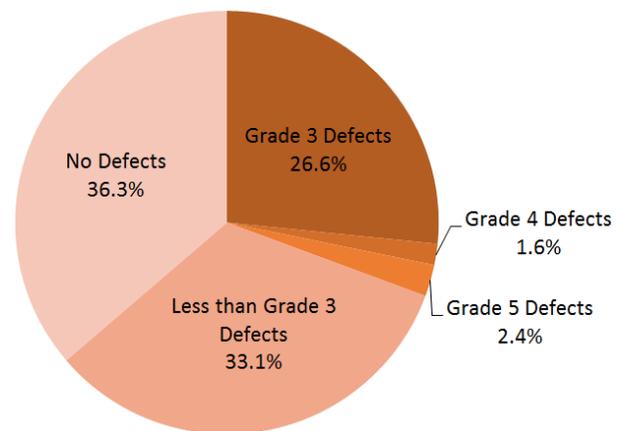


Table 2 on the following page shows SSOs to date by cause. Over the past 5 years, the predominant cause of SSOs has been roots. However, as indicated by the reduced number of SSOs in 2015, the use of chemical root control, combined with improved sewer maintenance methods in place by West Bay, have reduced root-related issues within the Town’s sewer system. During this reporting month, a Category 3 SSO event occurred in the Town’s system that appeared in one of the manholes located in Rhus Ridge Road south of Moody Road. The overflow was reported to be caused by debris present in the manhole.

Table 2. 2015 SSOs to September 30, by Cause

Cause of SSOs	2015	2014	2013	2012	2011
Root Intrusion	2	16	9	10	18
Debris	1	1	2	0	1
Grease	0	0	0	0	0
Structural	0	1	0	1	1
Pump Station Failure	0	0	0	1	0
Other	1	0	1	2	1
Total SSOs/yr	4	18	12	14	21

Attachment I includes maps providing additional information on cleaning and CCTV inspection results.

b. Summary of Meetings Held during Reporting Month

During the reporting month, a meeting was held between the Town, West Bay, and V.W. Housen & Associates to discuss Sewer Maintenance Activities from the previous contract year and the new approach for the current contract year that started August 1, 2015.

Key Meeting Summary Points

West Bay Maintenance Activities

- Current plan for new contract year is to clean and CCTV 10,000 LF of pipe per month + scope includes 3500 lf of additional clean.
- In prior year, West Bay prioritized video inspection in lines with problems and those with incomplete videos. Most of these lines are located in Branch 1&2 of the system.
- Now West Bay is working more systematically. Maintenance operations are completed one branch at a time. Maintenance crews start with cleaning followed by CCTV.
- West Bay has identified 68 pipe patches and 17 open trench repairs.

- Current equipment utilized by West Bay are a CCTV truck, vacuum truck, small truck w/ jetter
- West Bay mentioned the status of cleaning for the following branches in the system summarized in the table below:

Branch	Progress Status	Contract Year
1	100% complete	14-15
2	80% complete	14-15 & 15-16
3	Clean/CCTV after branch 2 and 5	16-17
4	Clean/CCTV after branch 2 and 5	16-17
5	In progress	15-16
6	Future plans pending	TBD
7	Future plans pending	TBD

GIS and Manhole Data Collection

- West Bay has not incorporated changes but will begin this month. For efficiency purposes, updates will occur on a monthly or quarterly basis, depending on the number of changes that are required after this initial update.
- VWHA will provide map and list of manholes to West Bay needed for data collection. The information gathered will be used for the hydraulic model.

c. Computerized Maintenance Management System (CMMS) Updates

During the reporting month, aside from routine input of cleaning and CCTV inspection progress to date, there were no further changes made to the CMMS.

d. Geographic Information System (GIS) and Progress on Manhole Data Collection

During the reporting month, West Bay made no changes to the Town’s sewer GIS maps. West Bay collected GIS map changes during work completed in the first year of the contract, and will incorporate these changes into the current maps by December 2015.

VWHA had compiled manholes that will be important for development of the hydraulic model. A map and a list of manholes will be provided to West Bay needed for data collection by mid November 2015.

e. Maintenance Planning

During the reporting month, no issues were identified to warrant changes to the Town’s cleaning or CCTV inspection program. West Bay will continue to clean basins that have the highest risk for maintenance-related SSOs, including Branch 5 and the remainder of Branch 2, as defined by the Town’s GIS maps. VWHA is currently reviewing other branches in the system as part of maintenance planning, and will provide recommendations to the Town and West Bay by October 31, 2015.

f. Other

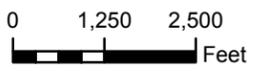
This section provides updates on the Town’s sewer system management activities that are completed in addition to operations, maintenance, and SSO response.

Staff Support Activities	Progress	Comments
2015 Sewer Capital Improvements <ul style="list-style-type: none"> • Percent Completion • Line replacement • Spot repairs 	<ul style="list-style-type: none"> • 100% • 2,735 LF • 192 LF 	<ul style="list-style-type: none"> • The 2015 Sewer Capital Improvement Project is complete.
SSMP 3 rd Party Review	<ul style="list-style-type: none"> • Town has entered into a contract with Humphrey Consulting for 3rd party review of the Town’s SSMP. • Audit began on July 2015 	<ul style="list-style-type: none"> • Expected completion date is December 2015
2016 Sewer CIP	<ul style="list-style-type: none"> • VWHA is collecting data through July 31, 2015 for development of program 	<ul style="list-style-type: none"> • The program will be developed using data collected through July 31, 2015 • A draft pipeline and pump station CIP will be provided to Town staff for discussion by December 2015.
Cleaning program	<ul style="list-style-type: none"> • VWHA is reviewing current cleaning program to prioritize basins to receive cleaning in the latter part of 2016. 	<ul style="list-style-type: none"> • Recommendations will be developed in collaboration with West Bay and included in the 2015-16 West Bay sewer maintenance program. • Preliminary results will be presented to Town staff for discussion by October 31, 2015.
2015-16 Hot Spot program	<ul style="list-style-type: none"> • VWHA is reviewing the current hot-spot cleaning program. Due to the small 	<ul style="list-style-type: none"> • Recommendations for the ongoing program will be developed in conjunction with cleaning program review.

Town of Los Altos Hills
 Sewer Collection System Maintenance Progress Report
 September 2015

Staff Support Activities	Progress	Comments
	<p>number of SSOs that have occurred in 2015, substantive changes to the program are not anticipated.</p>	<ul style="list-style-type: none"> • Preliminary results will be presented to Town staff for discussion by October 31, 2015.
<p>CCTV inspection program</p>	<ul style="list-style-type: none"> • VWHA is reviewing the current CCTV inspection program 	<ul style="list-style-type: none"> • Recommendations for the ongoing program will be developed in collaboration with West Bay and included in the annual 2015-16 West Bay sewer maintenance program. • Preliminary results will be presented to Town staff for discussion by October 31, 2015.
<p>Sanitary Sewer Master Plan</p> <ul style="list-style-type: none"> • Manhole data collection • 2015-16 wet weather flow data 	<ul style="list-style-type: none"> • The task will be initiated by West Bay after agreement on the manholes requiring data. • The Town has contracted with V&A Consulting to obtain system flow data 	<ul style="list-style-type: none"> • Beginning of Fall 2015, WBSD will collect manhole rim elevations, as well as depth-to-invert measurements for all pipes entering/leaving each manhole that is identified as needed for development of the sewer hydraulic model. • If sufficient rainfall occurs and the required data is collected, Town staff will move forward with consultant procurement for the Sewer System Master Plan update.

Town of Los Altos Hills Sanitary Sewer Collection System Map Sewer Basins (Branches)

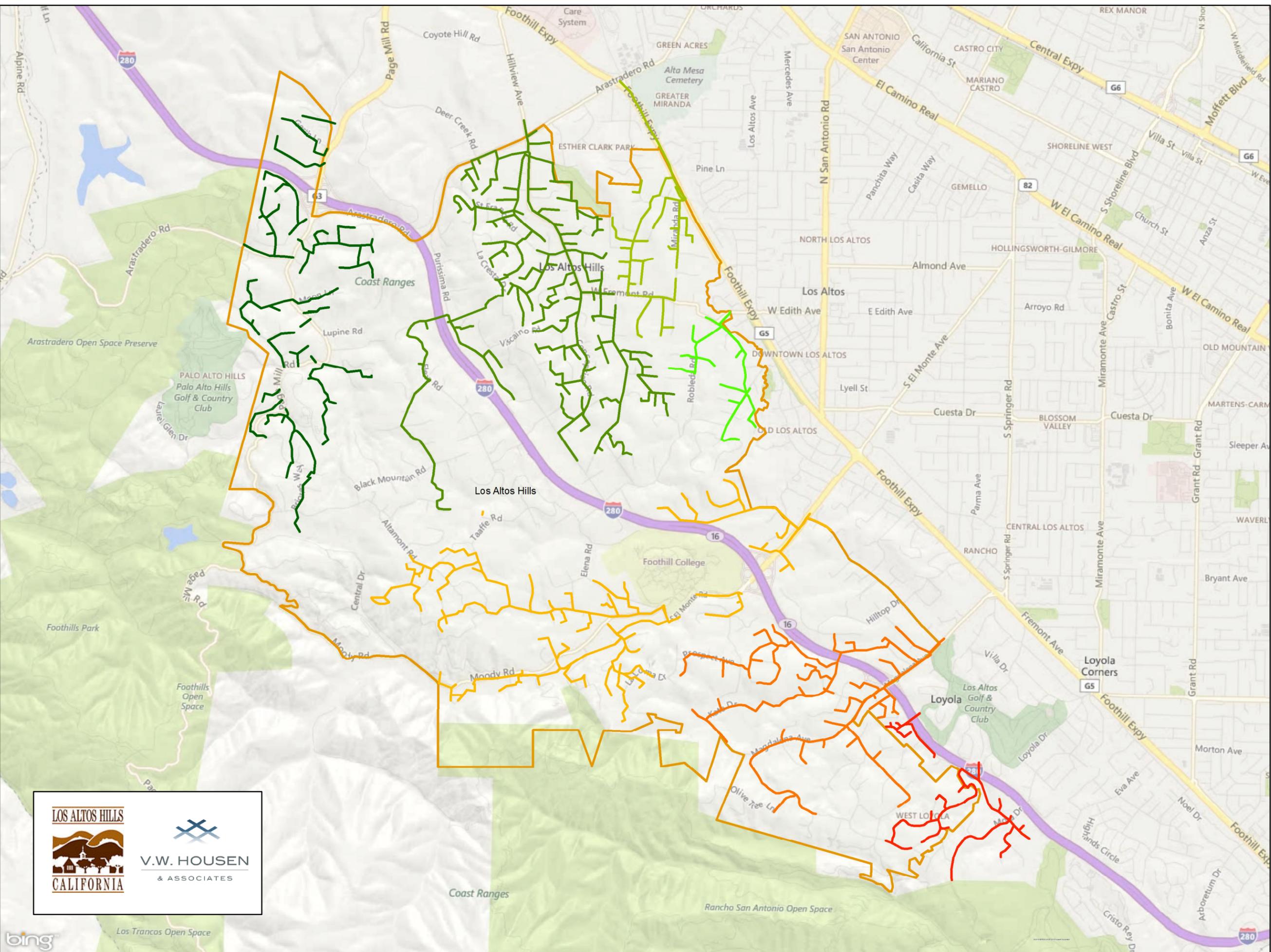


Legend

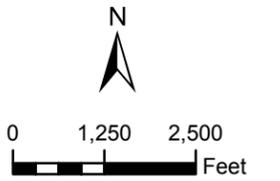
- Branch 1
- Branch 2
- Branch 3
- Branch 4
- Branch 5
- Branch 6
- Branch 7
- LAH Boundary

LOS ALTOS HILLS
CALIFORNIA

V.W. HOUSEN
& ASSOCIATES

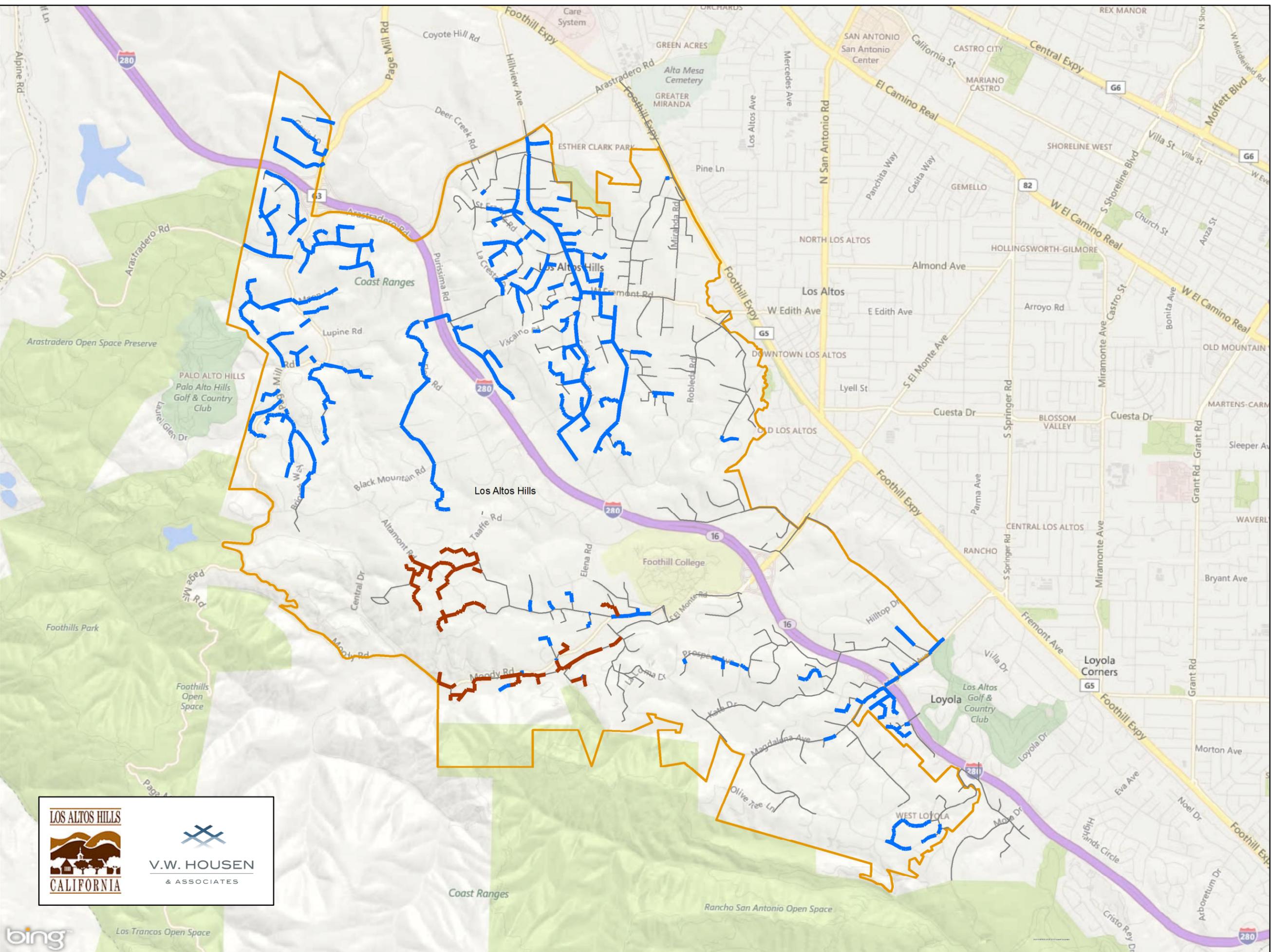


Town of Los Altos Hills
 Sanitary Sewer Collection System Map
 Pipes Cleaned from Aug 2014 - Sep 2015

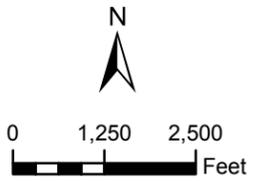


Legend

- Qtr 1 (Aug 15 - Jul 16)
- Prev Yr (Aug 14 - Jul 15)
- Town of Los Altos Hills
- LAH Boundary




Town of Los Altos Hills
 Sanitary Sewer Collection System Map
 Pipes CCTV'd from Aug 2014 - Sep 2015



Legend

- Qtr 1 (Aug 15 - Jul 16)
- Prev Yr (Aug 14 - Jul 15)
- Town of Los Altos Hills
- LAH Boundary

