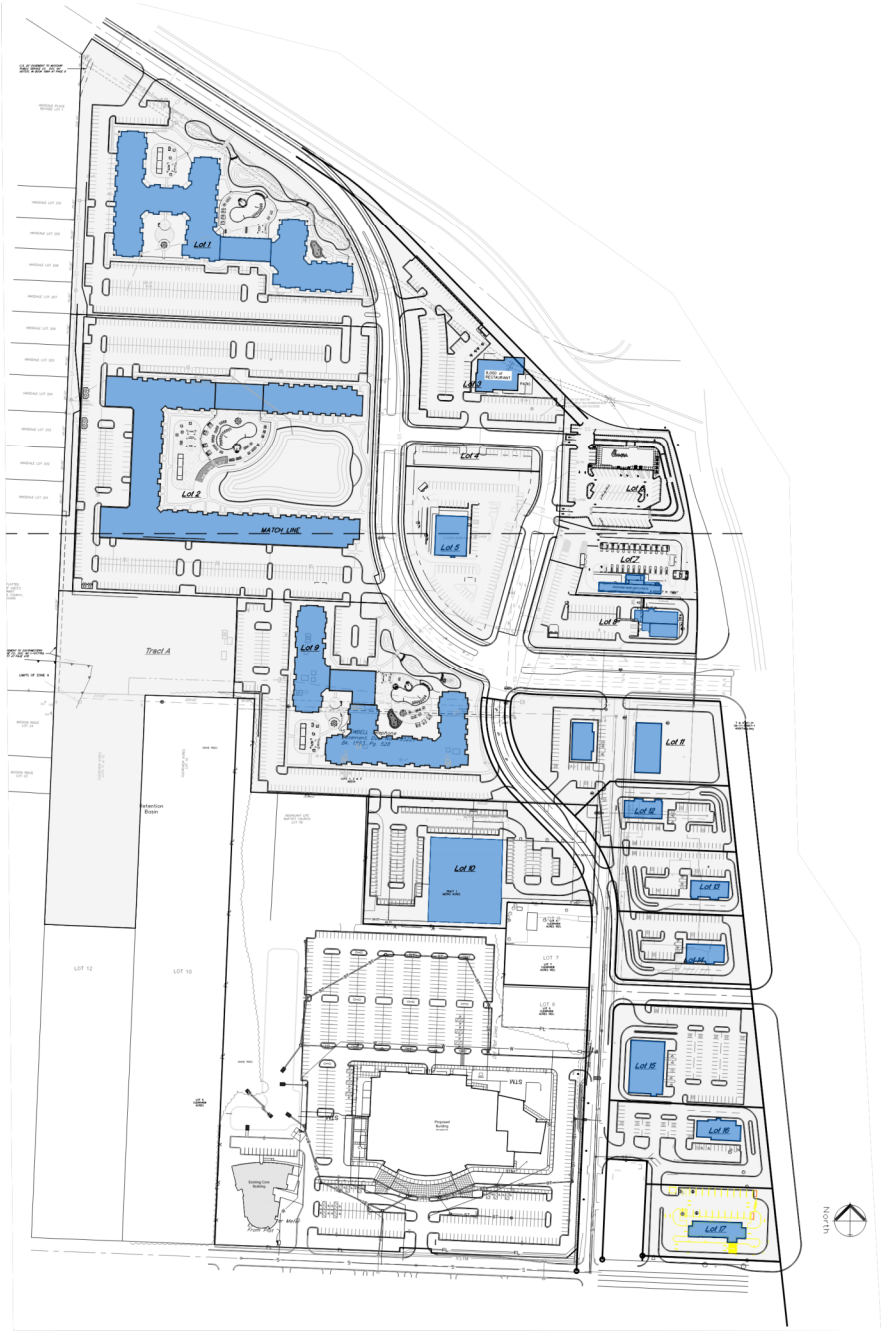
LEE'S SUMMIT
MISSOURI

Oldham Village Sanitary Sewer Memorandum

Flow projections for the proposed development were based upon the proposed layout submitted to the City on October 23, 2023, as shown below:



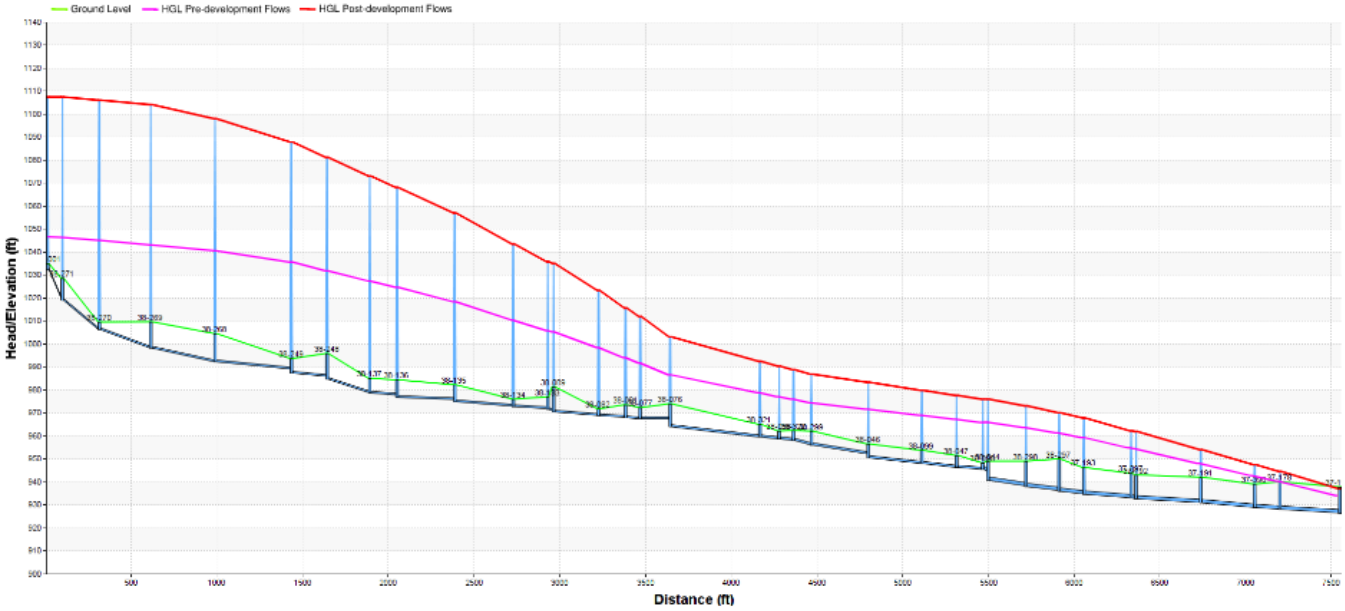
Water Utilities
1200 SE Hamblen Road | Lee's Summit, MO 64081 | P: 816.969.1900 | F: 816.969.1935 | LSwater.net

LEE'S SUMMIT
MISSOURI

The projected wastewater flows from the proposed development naturally flows to the Cedar Creek Watershed. The property drains to collection lines with known hydraulic constraints that were identified in the 2022 Wastewater Master Plan. Hydraulic modeling was completed for the proposed property. Projected flow for the commercial site was 0.44 MGD for a 10-year storm, based upon the current site layout plan. For the model, it was assumed that the 52-acre site connected at MH 38-269.

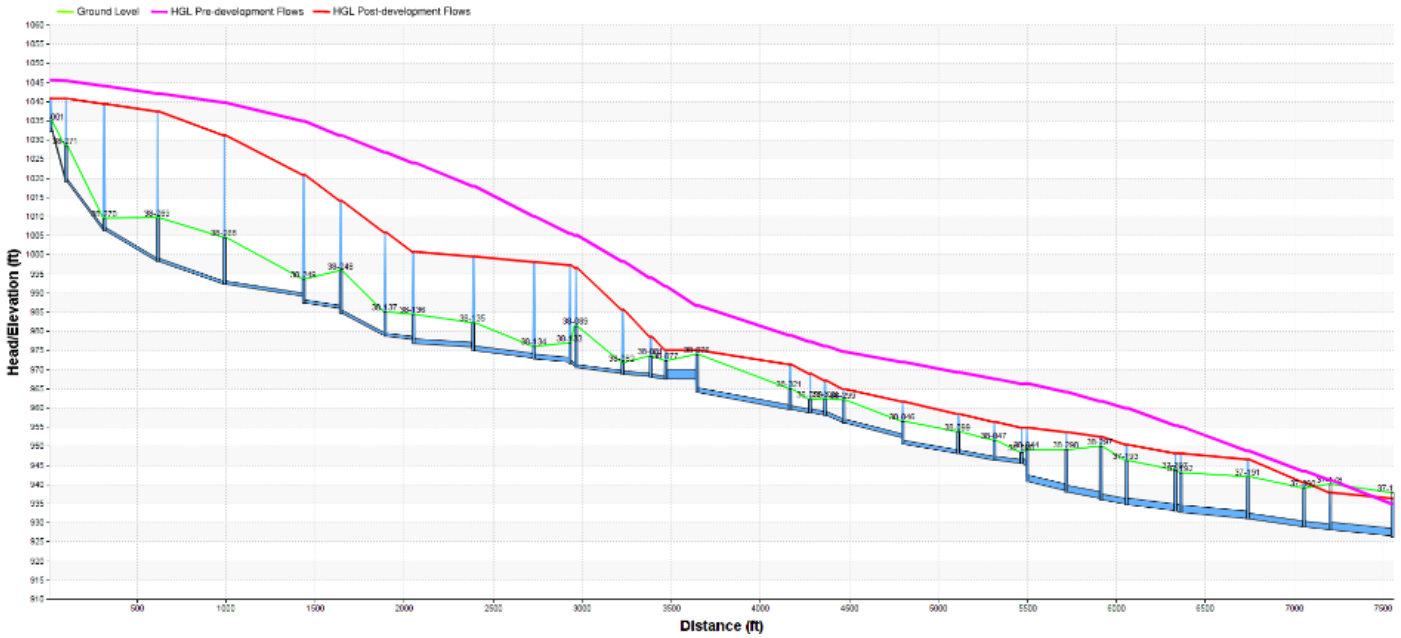
The hydraulic model was updated to include the projected flow to determine the impact on the existing hydraulic system. Below is a comparison of the hydraulic profile under the existing flow scenario for a 10-year storm event with and without the flow from the proposed development. The pink line indicates the hydraulic grade line under existing conditions while the red line is the hydraulic grade line for the system with the proposed flow included. For this scenario, as well as all other scenarios, the hydraulic profile is shown from MH 39-001, just upstream of the tie-in location to MH 38-269, to the location where this stretch of sewer connects to the Cedar Creek Interceptor at MH 37-177. A series of projects have been completed over the last decade to improve hydraulic capacity in the Cedar Creek Interceptor, therefore, the Cedar Creek Interceptor was not included in the hydraulic evaluation.

Cedar Creel Watershed
Pre- and Post-Development Comparison
Existing Flow (10-yr Storm)
and Existing Flow with Oldham Village Development



As stated earlier, the Wastewater Master Plan identified these segments as being hydraulically constrained under existing conditions. Improvements were recommended with sizing based upon a 20-year development period. Under the Wastewater Master Plan, the estimated cost of these improvements is $2,940,000, in 2022 dollars.

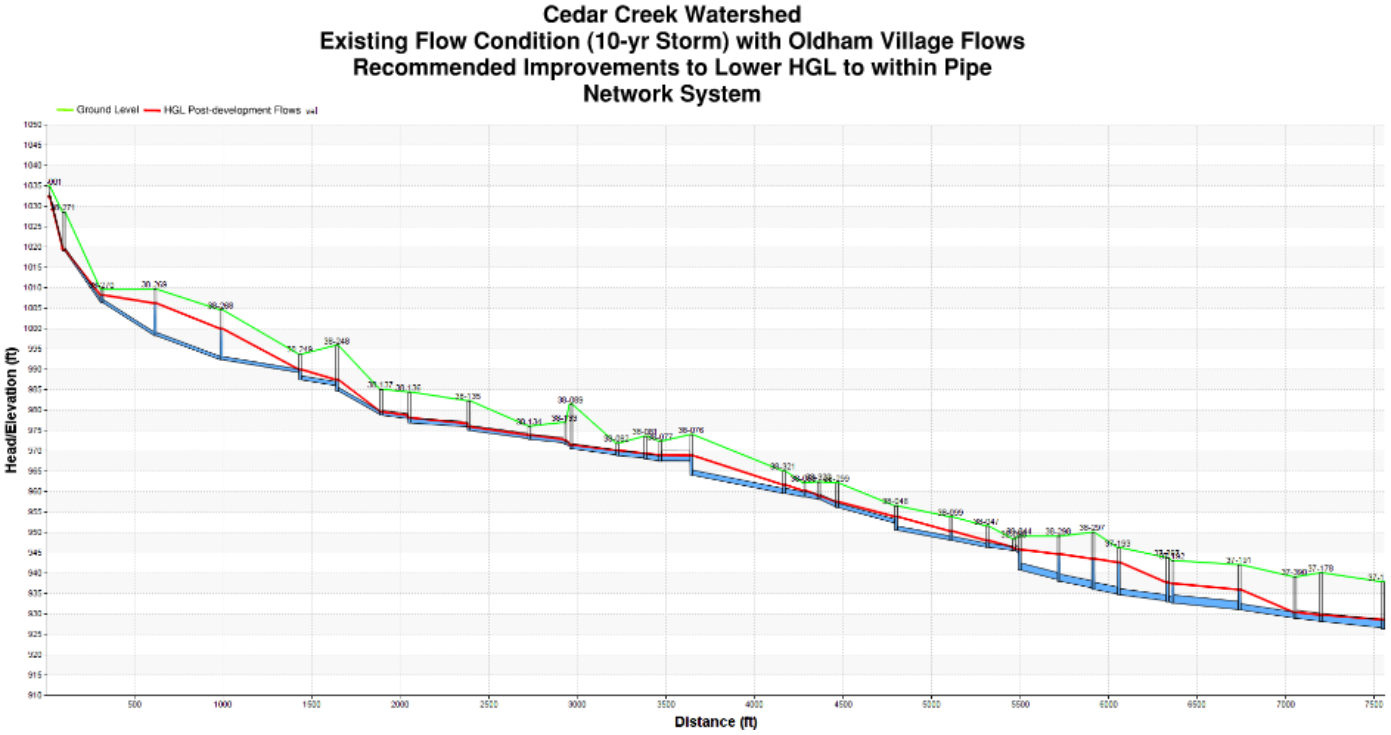
Cedar Creek Watershed
Existing Flow Condition (10-yr Storm) Plus Oldham Village Flows
Recommended Improvements to Maintain Current Conditions



An evaluation was completed to determine impact on the existing system of the proposed development and the recommended improvements to maintain the current system conditions, i.e. maintain the status quo. The results are indicated on the hydraulic profile shown below, with the pink line again representing the existing flow condition, with no improvements, and the red line indicating the hydraulic grade line for the system including the proposed flow and recommended improvements. A map of the proposed improvements is attached. The pipe segments were sized for the ultimate flow condition. For estimating purposes, unit costs were matched with the unit costs used for the Wastewater Master Plan and inflated to 2023 dollars. The estimated cost of improvements to offset the proposed flow is $1,488,400.

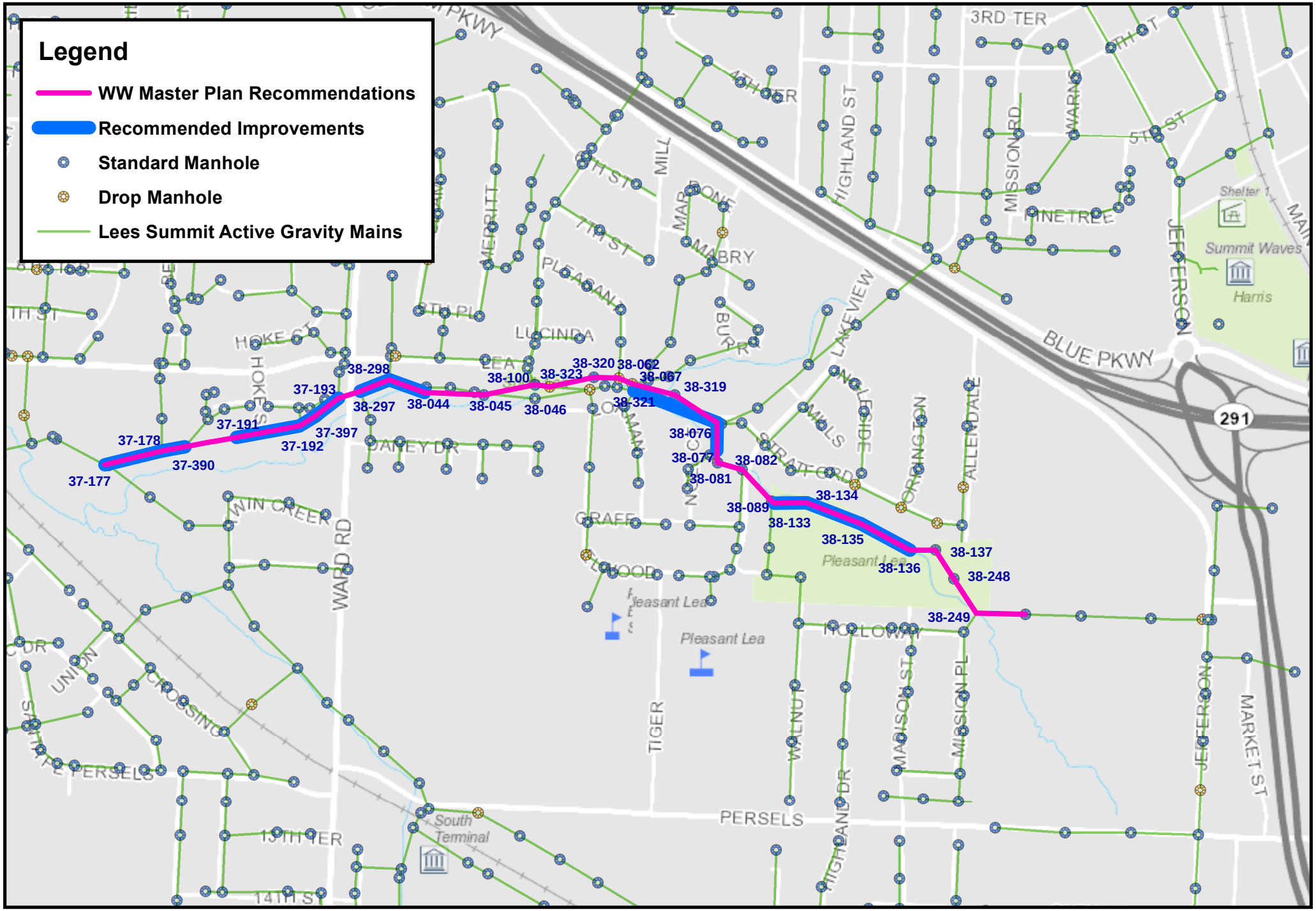
An evaluation was completed to determine the extent of improvements to provide the extra capacity needed for the existing flow plus the proposed development flow and to lower the hydraulic grade line to within the pipe network system. The evaluation assumed that minimal surcharging would be allowed and pipe segments were sized for the ultimate flow condition. For estimating purposes, unit costs were matched with the

unit costs used for the Wastewater Master Plan and inflated to 2023 dollars. The results of the evaluation are indicated below and the estimated cost of the improvements is approximately $2,192,500.



A summary of each scenario's improvements is included in the table below. It should be noted that the pipe segments listed in the table below do not include all of the recommended improvements included in the estimated cost of improvements in the Wastewater Master Plan.

Segment		Existing Diameter (in)	Recommended Improvements		
			WW Master Plan Recommendations (in)	Existing Plus Oldham Village Flow to Maintain Current Performance (in)	Existing Plus Oldham Village, HGL within Pipe System (in)
38-268	38-249	10	12		
38-249	38-248	10	12		12
38-248	38-137	10	15		15
38-137	38-136	10	15		15
38-136	38-135	10	15	15	15
38-135	38-134	10	15	15	15
38-134	38-133	10	15	15	15
38-133	38-089	10	15		
38-089	38-082	10	15		15
38-082	38-081	10	15		15
38-081	38-077	10	15		15
38-077	38-076	10	30	30	30
38-076	38-321	12	18	15	15
38-076	38-319	12	18		
38-319	38-067	12	18		
38-067	38-062	12	18		
38-062	38-320	12	18		
38-320	38-323	12	18		
38-323	38-100	12	18		
38-100	38-045	18	21		
38-045	38-044	18	21		
38-321	38-058	12	15		15
38-058	38-322	12	15		15
38-322	38-299	12	15		15
38-299	38-046	12	18		
38-046	38-099	12	18		
38-099	38-047	12	18		
38-047	38-098	12	18		
38-098	38-044	18	21		
38-044	38-298	18	21	21	21
38-298	38-297	18	21	21	21
38-297	37-193	18	21		
37-193	37-397	18	21	21	21
37-397	37-192	18	21		
37-192	37-191	18	24	24	24
37-191	37-390	18	24		
37-390	37-178	18	24	24	24
37-178	37-177	18	24	24	24
37-177	37-176	18	24		24


Legend
WW Master Plan Recommendations
Recommended Improvements
Standard Manhole
Drop Manhole
Lees Summit Active Gravity Mains
37-177
37-178
37-390
37-191
37-192
37-193
37-397
38-298
38-297
38-044
38-045
38-046
38-100
38-323
38-320
38-062
38-067
38-319
38-321
38-076
38-077
38-082
38-081
38-089
38-133
38-134
38-135
38-136
38-137
38-248
38-249
BLUE PKWY
291
WARD RD
TIGER
PERSELS
MARKET ST
Pleasant Lea
Summit Waves
Harris
South Terminal
WATER UTILITIES
LEE'S SUMMIT
Sanitary Sewer Evaluation Study
N
0 245 490 980 Feet