CONDITION ASSESSMENT PROGRAM

Objectives:

The primary objectives of this program are to perform closed-circuit television (CCTV) inspections and structurally rate approximately 500 miles of sewer infrastructure each year. The televising will be prioritized to focus on those sewers with the most potential for repair needs. Maintenance history, past overflow records, sewer locations, and age will be some of the factors used to prioritize the televising schedule.

Goals:

Our goal is to improve the quality of the District's sewer infrastructure.

CCTV:

The Department of Public Works has selected a digital video pipeline inspection system. This system allows for the most consistent and thorough collection of data. Under this system, a CCTV van crew gathers video and data for each pipe segment to identify any deficiencies and engineers review the tapes and video logs to determine if the sewer facilities should be repaired or replaced immediately, or scheduled for future improvements.

Benefits:

This program utilizes state-of-the art digital video technology to inspect and identify the existing condition of the sewer collection system and to simplify a host of wastewater management tasks. This new system allows for the most consistent and thorough collection of data and helps comply with new State Water Resources Control Board Waste Discharge Requirements for sewer collection system owners and operators.

Rating System:

This program uses the Pipeline Assessment and Certification Program (PACP) rating system, which was developed by the National Association of Sewer Service Companies (NASSCO). PACP requires CCTV operators to code defects either by infrastructure or maintenance defect. Each defect code is assigned a grade of 1 to 5. With 1 being the least severe and 5 being the most severe defect. These grades only consider the internal pipe conditions obtained from the televised inspection. After a sewer segment has been inspected, several grading systems can be applied to determine the most severe pipe segments.

Condition Grading Systems:

One of the Condition Grading Systems we most commonly use is the Quick Rating. This indicates the number of occurrences for the TWO highest severity grades for each pipe segment for either maintenance or infrastructure defects. A grade of 1 indicates that a pipe segment is in excellent condition with minor defects and failure is unlikely in the foreseeable future, while a grade of 5 indicates that a pipe segment may require immediate attention. An example of a quick rating may be: 5249, where there are two defects with a grade 5 rating, and 9 defects with a grade 4 rating.

Using the Quick Ratings, we determine the priority list for our maintenance crews, and infrastructure repairs. We mainly consider sewer segments that have Quick Ratings, with 4100 or more for maintenance or repair. Sewer segments with infrastructure defects are reviewed for repair, and are sorted into three categories: 1- Immediate repair, 2- Scheduled repair within 10 years, and 3- May need repair after 10 years will be re-assessed during the next round of CCTV inspection.

A detailed breakdown of the five possible defect grades and their estimated time to failure is as follows:

Grade	Description	Estimated time to Failure
1	EXCELLENT: Minor Defects.	Unlikely in the foreseeable future
2	GOOD: Defects that have not begun to deteriorate.	20 years or more
3	FAIR: Moderate defects that will continue to deteriorate.	10 to 20 years
4	POOR: Severe defects that will become grade 5 defects within the foreseeable future.	5 to 10 years
5	IMMEDIATE ATTENTION: Defects requiring immediate attention.	Has failed or will likely fail within the next 5 years