

City and County of Honolulu
2010 Wastewater Consent Decree

Civil No. 94-00765 DAE-KSC

Annual Report

Year One

(July 1, 2010 – June 30, 2011)



Prepared by:

The Department of Environmental Services

Submitted:

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Acronyms and Abbreviations

Acronym	Description
ARV	Air Relief Valve
CCH	City and County of Honolulu
CD	Consent Decree
CCTV	Closed-Circuit Television
CIP	Capital Improvement Program
CMMS	Computerized Maintenance Management System
CSM	Division of Collection System Maintenance
DDC	Department of Design and Construction
DOH	State of Hawaii Department of Health

Acronym	Description
DOT	State of Hawaii Department of Transportation
DPP	Department of Planning and Permitting
ENV	Department of Environmental Services
EPA	United States Environmental Protection Agency
EPS	Effluent Pump Station
EQ	Division of Environmental Quality
FCA	Flange coupling adaptor
FM	Force Main
FOG	Fats, Oils and Grease
FSE	Food Service Establishment
FTE	Full-Time Equivalent
GI	Grease Interceptor
GIS	Geographic Information System
GRD	Grease Removal Device
I/I	Infiltration and Inflow
IDIQ	Indefinite Delivery, Indefinite Quantity
IPS	Influent Pump Station
LOW	Letter of Warning
M&C	Department of Environment Services, Division of Environmental Quality, Monitoring and Compliance Branch
mgd	Million gallons per day
N/A	Not applicable
NASSCO	National Association of Sewer Service Companies
NOV	Notice of Violation

Acronym	Description
NTP	Notice to Proceed
O&M	Operation and Maintenance
PACP	Pipeline Assessment and Certification Program
PMH	Pressure Manhole
PTF	Preliminary Treatment Facility
RC	Department of Environmental Services, Division of Environmental Quality, Regulatory Control Branch
ROW	Right-of-way
R&R	Rehabilitation and Replacement
SCP	Spill Contingency Plan
SOP	Standard Operating Procedure
SSO	Sanitary Sewer Overflow
TBD	To Be Determined
WDV	Waste Discharge Violation
WTD	Division of Wastewater Treatment and Disposal
WWPS	Wastewater Pump Station
WWTP	Wastewater Treatment Plant

Introduction

On December 17, 2010 a consent decree was entered among the City and County of Honolulu, the United States Environmental Protection Agency, and the Hawaii Department of Health and several non-governmental organizations. The consent decree outlines a program of improvements to the wastewater collection and treatment systems on the island of Oahu.

This Annual Report has been prepared by the City and County of Honolulu (CCH) pursuant to Paragraph 34 of the 2010 Wastewater Consent Decree (CD) to describe the progress achieved in implementing these improvements. Paragraphs 34.c and 34.d of the CD describe the information that is to be included in the Annual Report. This Annual Report summarizes CCH's progress during Year One of the CD ending on June 30, 2011.

This Annual Report is available on CCH's web site at <http://www1.honolulu.gov/env/www/>.

Annual Report Structure

The content and structure of the Annual Report are based on the requirements set forth in Paragraphs 11 through 33. The Annual Report's sections appear in alphabetical order ("A" through "V") and correspond to Paragraphs 11 through 33 of the CD, however: Paragraph 21 of the CD addresses the modification of construction deadlines and, since there are no modifications to report, this paragraph is not included in the Annual Report.

The CD identifies several types of requirements, including

- Compliance milestones
- Interim compliance milestones
- Performance requirements
- Annual performance requirements
- Other CD due dates.

A. Force Main Spill Contingency Program (Paragraph 11)

Small Force Main Tankering (Paragraph 11.a)

CCH has maintained no less than 1.6 million gallons per day (mgd) tankering capacity in good working order at all times. In the event a CCH vehicle is unavailable for any reason, CCH maintains a list of contractors available to provide tankering capacity. During Year One CCH did not utilize contractors to provide tankering capacity during any small force main spill events.

Large Force Mains (Paragraph 11.b)**Flow Diversion Equipment (Paragraph 11.b.ii)****Table 1. Flow Diversion Equipment Requirements**

Requirement	Due Date	Status
Awa Street Force Main Flow Diversion Equipment	12/17/2012	
Fort DeRussy Force Main Flow Diversion Equipment	12/17/2012	
Kaneohe Bay Force Main #1 Flow Diversion Equipment	12/17/2012	
Kunia Force Main Flow Diversion Equipment	12/17/2012	

Flow Diversion Planning (Paragraph 11.b.iii)**Table 2. Flow Diversion Planning Requirements**

Requirement	Due Date	Status
Kamehameha Highway Force Main Flow Diversion Plan	12/17/2011	A draft plan has been written and is on schedule to be submitted by 12/17/2011.
Ewa Beach Force Main Flow Diversion Plan	12/31/2014	
Halawa Force Main Flow Diversion Plan	12/31/2014	
Waimalu Force Main Flow Diversion Plan	12/31/2015	

Lualualei Force Main (Paragraph 11.b.iv)**Table 3. Lualualei Force Main Requirements**

Requirement	Compliance Milestone	DDC Serial Number	Status
Lualualei Parallel Dry Force Main Construction	Complete Construction: 12/31/2013	08-0100	Construction NTP issued 10/11/2010. Construction in progress.

Spill Contingency Planning (Paragraph 11.c)

Small Force Main Spill Contingency Planning (Paragraph 11.c.i)

Table 4. Small Force Main Spill Contingency Planning Requirements

Requirement	Due Date	Status
Small Force Main Spill Contingency Plan - Programmatic	12/17/2011	A draft programmatic Spill Contingency Plan has been written and is on schedule to be submitted by 12/17/2011.
Small Force Main Spill Contingency Plan – Maintain Copy at Each Associated Pump Station	6 months after EPA and DOH approval of Programmatic Spill Contingency Plan	

Large Force Main Spill Contingency Planning (Paragraph 11.c.ii)

Table 5. Large Force Main Spill Contingency Planning Requirements

Requirement	Due Date	Status
Ewa Beach Force Main Spill Contingency Plan	12/17/2011	A draft SCP has been written and is on schedule to be submitted on or before 12/17/2011.
Halawa Force Main Spill Contingency Plan	12/17/2011	A draft SCP has been written and is on schedule to be submitted on or before 12/17/2011.
Kamehameha Highway Force Main Spill Contingency Plan	12/17/2011	A draft SCP has been written and is on schedule to be submitted on or before 12/17/2011.
Lualualei Force Main Spill Contingency Plan	12/17/2011	A draft SCP has been written and is on schedule to be submitted on or before 12/17/2011.
Kailua Heights Force Main Spill Contingency Plan	6/17/2012	
Kailua Road Force Main Spill Contingency Plan	6/17/2012	
Ahuimanu Force Main Spill Contingency Plan	12/17/2012	
Niu Valley Force Main Spill Contingency Plan	12/17/2012	

Spill Contingency Plans Required by 2007 Stipulated Order (Paragraph 11.c.iii)

As reflected in the CD, six site-specific spill contingency plans were submitted to EPA and DOH for review and approval prior to the lodging of the CD. EPA and DOH provided comments on November 16, 2010, and CCH prepared revised versions of the six spill contingency plans listed in this sub-paragraph and submitted them to EPA and DOH on January 12, 2011. EPA and DOH conditionally approved the six spill contingency plans on May 27, 2011. Based on EPA comments, CCH prepared revised versions of the spill contingency plans and submitted them to EPA and DOH on August 31, 2011.

Table 6. Spill Contingency Plans Required by 2007 Stipulated Order

Requirement	Due Date	Status
Ala Moana Force Main No. 2 Spill Contingency Plan	N/A	Submitted to EPA and DOH for review and approval 1/12/2011. EPA provided comments and conditional approval 5/27/2011. Resubmitted to EPA and DOH on 8/31/2011. EPA and DOH approval or comments due 11/29/2011.
Beachwalk Force Main Spill Contingency Plan	N/A	Submitted to EPA and DOH for review and approval 1/12/2011. EPA provided comments and conditional approval 5/27/2011. Resubmitted to EPA and DOH on 8/31/2011. EPA and DOH approval or comments due 11/29/2011.
Hart Street Force Main Spill Contingency Plan	N/A	Submitted to EPA and DOH for review and approval 1/12/2011. EPA provided comments and conditional approval 5/27/2011. Resubmitted to EPA and DOH on 8/31/2011. EPA and DOH approval or comments due 11/29/2011.
Kahala Force Main Spill Contingency Plan	N/A	Submitted to EPA and DOH for review and approval 1/12/2011. EPA provided comments and conditional approval 5/27/2011. Resubmitted to EPA and DOH on 8/31/2011. EPA and DOH approval or comments due 11/29/2011.
Kaneohe/Kailua Force Main Spill Contingency Plan	N/A	Submitted to EPA and DOH for review and approval 1/12/2011. EPA provided comments and conditional approval 5/27/2011. Resubmitted to EPA and DOH on 8/31/2011. EPA and DOH approval or comments due 11/29/2011.
Waimalu Force Main Spill Contingency Plan	N/A	Submitted to EPA and DOH for review and approval 1/12/2011. EPA provided comments and conditional approval 5/27/2011. Resubmitted to EPA and DOH on 8/31/2011. EPA and DOH approval or comments due 11/29/2011.

Drills and Annual Reviews of Spill Contingency Plans (Paragraph 11.c.iv)

CCH performed a drill of the spill contingency plan on the Kaneohe/Kailua force main on September 16, 2010. CCH prepared a summary report and submitted it to EPA and DOH on March 30, 2011.

Considering the timing of the conditional approval of the original six spill contingency plans, and that the Kaneohe/Kailua Force Main Spill Contingency Plan was approved subject to one minor condition, EPA and DOH agreed to accept this drill in satisfaction of the Year One requirement.

Table 7. Requirements for Spill Contingency Plan Drills

Requirement	CD Year	Compliance Milestone	Status
All of the following must be drilled by 6/30/2016:			
Kaneohe/Kailua Force Main Spill Contingency Plan Drill	Year One	6/30/2011	Completed 9/16/2010.
Spill Contingency Plan Drills for Ala Moana Force Main No. 2, Beachwalk Force Main, Hart Street Force Main, Kahala Force Main, and Waimalu Force Main	Year Two	6/30/2012	
	Year Three	6/30/2013	
	Year Four	6/30/2014	
	Year Five	6/30/2015	
	Year Six	6/30/2016	
All of the following must be drilled by 6/30/2020:			
Spill Contingency Plan Drills for Ahuimanu Force Main, Ewa Beach Force Main, Halawa Force Main, Kailua Heights Force Main, Kailua Road Force Main, Kamehameha Highway Force Main, Lualualei Force Main, and Niu Valley Force Main	Year Seven	6/30/2017	
	Year Eight	6/30/2018	
	Year Nine	6/30/2019	
	Year Ten	6/30/2020	
Note: SCPs will be reviewed annually and revised as necessary to address any changed conditions.			

B. Force Main Condition Assessments and Follow-Up Action Plans (Paragraph 12)

Condition Assessment Reports Pursuant to 2007 Stipulated Order (Paragraph 12.a)

As reflected in the CD, six site-specific force main condition assessment reports were submitted to EPA and DOH for review and approval prior to the lodging of the CD. EPA and DOH provided comments on

November 16, 2010, and CCH prepared revised versions of these six force main condition assessment reports and submitted them to EPA and DOH on January 13, 2011. EPA and DOH approved these reports on May 18, 2011. CCH is proceeding with implementation of the follow-up action plans.

Table 8. Condition Assessment Reports Pursuant to 2007 Stipulated Order

Requirement	Due Date	Status
Ala Moana Force Main No. 2 Condition Assessment Report	N/A	EPA and DOH approved this report on 5/18/2011.
Beachwalk Force Main Condition Assessment Report	N/A	EPA and DOH approved this report on 5/18/2011.
Hart Street Force Main Condition Assessment Report	N/A	EPA and DOH approved this report on 5/18/2011.
Kahala Force Main Condition Assessment Report	N/A	EPA and DOH approved this report on 5/18/2011.
Kaneohe/Kailua Force Main Condition Assessment Report	N/A	EPA and DOH approved this report on 5/18/2011.
Waimalu Force Main Condition Assessment Report	N/A	EPA and DOH approved this report on 5/18/2011.

The individual follow-up items are shown below.

Table 9. Ala Moana Force Main No. 2 Repairs, Rehabilitation and Improvements

Requirement	Compliance Milestone	Status
Horizontal bend at Sta. 23+00 (Bend #1) interim repair	Complete Construction: 9/30/2009	Construction completed 8/9/2009.
Horizontal bend at Sta. 23+00 (Bend #1) permanent repair	Design NTP: 9/30/2009 Complete Construction: 9/30/2012	Notice to Proceed (NTP) for design for the permanent repair at Bend #1 was issued on 8/31/2009. Construction contract executed 6/23/2011.
New pressure manhole (PMH) at WWPS	12/31/2008	Completed 4/15/2008.

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Requirement	Compliance Milestone	Status
Cathodic protection system - replace rectifier and anode bed	12/17/2013	Construction started 8/31/2011. This requirement is also addressed in CD Paragraph 13.c.
Clean grease at SI headworks entrance 78" FM	9/30/2012	CCH has contracted with a consultant to plan grease removal for Ala Moana FM No. 2. The work is being performed under DDC serial number 08-0075. Design NTP issued 3/23/2009.
PS#2 Surge Control Improvements	Design NTP: 12/31/2015 Complete Construction: 12/31/2020	

Table 10. Ala Moana Force Main No. 2 Future Assessments

Requirement	Due Date	Status
Inspection of Force Main No. 2 from Pressure Manhole #2A to the Ala Moana WWPS No. 2	9/30/2009	Completed 8/18/2009.
Inspection of 800-foot segment of Force Main No. 2 on Sand Island from Pressure Manhole #2C to Pressure Manhole #2E	9/30/2009	Completed 9/22/2009.
Settlement Monitoring Plan	9/30/2009	Settlement monitoring plan completed 8/27/2009 and updated 12/29/2009.
PS #2 Venturi meter UT testing	12/31/2012	CCH has contracted with a consultant to perform all the follow-up actions for Ala Moana FM No. 2. The work is being performed under DDC serial number 08-0075. Design NTP issued 3/23/2009.
Additional condition assessment of problem areas	6/30/2011	Submitted to EPA and DOH for approval on 6/29/2011. EPA and DOH comments due 9/29/2011. This requirement is also addressed in CD Paragraph 15.

Table 11. Ala Moana Force Main No. 2 Operation and Maintenance Elements

Requirement	Frequency	Status
Interim operation of PS#1/FM#1 system	Continuous	Normal operation is Force Main FM No. 1 lead and Force Main No. 2 lag as needed during wet weather and emergencies, until the permanent repair to the bend at Station 23+00 is completed.
Remove grease from crown FM#2 near Sand Island WWTP	One-time	CCH has contracted with a consultant to plan grease removal for Ala Moana FM No. 2. The work is being performed under DDC serial number 08-0075. Design NTP issued 3/23/2009.
Backflush venturi meter	Weekly	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.3
Exercise venturi pit gate valve	Weekly	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.3
Measure and record voltage and current output of rectifier	Monthly	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.5
Inspect and exercise manual air bleeders	Quarterly	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.2
Complete survey of cathodic protection system and rectifier adjustment as necessary	Annual	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.5

Table 12. Beachwalk Force Main Repairs, Rehabilitation and Improvements

Requirement	Compliance Milestones	Status
Rehabilitate and/or replace three existing air bleeder assemblies, at approximate locations Stations 17+95, 37+60, and 58+62	12/31/2011	Completed 8/26/2011.

Table 13. Beachwalk Force Main Future Assessments

Requirement	Due Date	Status
Valve vault condition assessment report	9/30/2012	
Force main condition assessment report	9/30/2017	

Table 14. Beachwalk Force Main Operation and Maintenance Elements

Requirement	Frequency	Status
Inspect and exercise valves and appurtenances	In accordance with CCH’s FM O&M Plan	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.2
Monitor excavations near thrust block at Station 8+37	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Monitor excavations near force main	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Slow draining and filling operations	During draining and filling	This work is performed as part of standard operations.
Settlement protection program	Continuous	ENV has generated a 500-foot buffer in GIS around the force main and provided this information to Department of Planning and Permitting (DPP). When projects are proposed within this corridor, DPP consults with DDC on potential impacts to the force main.

Table 15. Hart Street Force Main Repairs, Rehabilitation and Improvements

Requirement	Compliance Milestones	Status
Install internal pipe seals at approximate locations Station 47+87, 31+23, 31+07, and 30+91	Design NTP: 12/31/2011 Complete Construction: 12/31/2014	Design in progress. NTP for design issued 12/31/2010. Project is being implemented under DDC Serial Number 11-0035, Phase 2.
Coat interior of RCP/HDPE transition flange coupling adaptor (FCA) near Sand Island WWTP	Design NTP: 12/31/2011 Complete Construction: 12/31/2014	Design in progress. NTP for design issued 12/31/2010. Project is being implemented under DDC Serial Number 11-0035, Phase 2.

Requirement	Compliance Milestones	Status
Install PMH vaults and air bleeders at approximate locations Station 18+15, 28+80 , and 43+87	Design NTP: 12/31/2012 Complete Construction: 12/31/2016	Design in progress. NTP for design issued 12/31/2010. Project is being implemented under DDC Serial Number 11-0035, Phase 2.
Replace FM connection and install valves	Design NTP: 12/31/2011 Complete Construction: 12/31/2013	Planning and Design NTP issued 12/31/2010. Project is being implemented under DDC Serial Number 10-0090, Phase 1. This requirement is also included in CD Paragraph 16.

Table 16. Hart Street Force Main Future Assessments

Requirement	Due Date	Status
Follow-up internal inspection of the force main	12/31/2019	
Inspect external FM appurtenances	12/31/2019	

Table 17. Hart Street Force Main Operation and Maintenance Elements

Requirement	Frequency	Status
Exercise sluice gate at Sand Island WWTP and 12-inch blow-off valve at Station 43+33	In accordance with CCH’s FM O&M Plan	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.3
Monitor excavations near thrust blocks	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Monitor excavations near the force main	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Draining and filling operations conducted slowly	During draining and filling	This work is performed as part of standard operations.

Table 18. Kahala Force Main Repairs, Rehabilitation and Improvements

Requirement	Compliance Milestone	Status
Install PVC liner in discharge manhole	3/31/2012	Design sketches and specifications have been completed. The work is expected to be performed by a contractor under an IDIQ work order.
Remove air injection piping connection and pressure grout surrounding soil	12/31/2012	Completed 8/31/2010
Re-coat pipe under Kahala Avenue Bridge	12/31/2012	Design sketches and specifications have been completed. CCH plans to complete the work in house, and is currently developing a schedule for the work.

Table 19. Kahala Force Main Future Assessments

Requirement	Due Date	Status
24" diameter FM condition assessment report	9/30/2018	

Table 20. Kahala Force Main Operation and Maintenance Elements

Requirement	Frequency	Status
Inspect and exercise valves and appurtenances	In accordance with CCH's FM O&M Plan	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.3
Monitor excavation near thrust blocks	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Monitor excavations near force main	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Pipe coating inspection on exposed pipes on the bridge and in the vaults	Every two years	

Table 21. Kaneohe/Kailua Force Main Repairs, Rehabilitation and Improvements

Requirement	Compliance Milestones	Status
Recoat above-ground piping at Kaneohe EPS discharge pipe	12/31/2015	Design sketches and specifications are under development.
Repair cement mortar lining of field closure at Sta. 84+34	12/31/2018	
Note: CCH is in discussions with EPA and DOH about a potential CD modification that includes the construction of a gravity sewer tunnel to replace the Kaneohe/Kailua FM. If the NTP for the construction of the gravity sewer is issued before 12/31/2015, then the cement mortar lining repair will no longer be needed.		

Table 22. Kaneohe/Kailua Force Main Future Assessments

Requirement	Due Date	Status
Force main condition assessment report	9/30/2017	
Air Relief Valve (ARV) study	6/30/2012	A consultant is conducting the study and is on schedule to be completed by the deadline.
Note: CCH is in discussions with EPA and DOH about a potential CD modification that includes the construction of a gravity sewer tunnel to replace the Kaneohe/Kailua FM. If the NTP for the construction of the gravity sewer is issued before 9/30/2017, then the Force Main Condition Assessment will no longer be needed.		

Table 23. Kaneohe/Kailua Force Main Operation and Maintenance Elements

Requirement	Frequency	Status
Inspect and exercise valves and appurtenances	In accordance with CCH's FM O&M Plan	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.3
Monitor excavations near thrust blocks	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Monitor excavations near the force main	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Slow draining and filling	During draining and filling operations	This work is performed as part of standard operations.

Requirement	Frequency	Status
Adjust check valves	In accordance with CCH's O&M Plan for Kaneohe EPS	This work is performed as part of standard operations.

Table 24. Waimalu Force Main Repairs, Rehabilitation and Improvements

Requirement	Compliance Milestone	Status
Rehabilitate and/or replace air bleeder assembly at Station 388+50	Complete Construction: 9/30/2013	Design sketches and specifications have been completed.

Table 25. Waimalu Force Main Future Assessments

Requirement	Due Date	Status
Valve vault condition assessment	9/30/2012	
Cast iron condition assessment report	9/30/2013	
Force Main CCTV from discharge manhole at time of air bleeder appurtenance replacement	9/30/2013	
Force main condition assessment report	9/30/2018	

Table 26. Waimalu Force Main Operation and Maintenance Elements

Requirement	Frequency	Status
Inspect, flush, and exercise valves and appurtenance	In accordance with CCH's FM O&M Plan	This work is performed as a routine part of the Force Main O&M Program, Section 4.4.3
Monitor excavations near thrust block at Station 387+25	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.
Monitor excavations near the force main	Continuous	This is standard practice for DDC to be on site during excavation. They are notified by DPP as standard procedure when a trenching permit is issued.

Requirement	Frequency	Status
Slow draining and filling	During draining and filling operations	This work is performed as part of standard operations.

Additional Condition Assessment Reports (Paragraph 12.b)

Table 27. Additional Condition Assessment Reports

Requirement	Due Date	Status
Aliamanu No. 1 and 2 Force Main Condition Assessment Report	12/31/2010	The report was transmitted to EPA and DOH on 12/30/2010. EPA provided comments and conditional approval on 5/31/2011. CCH resubmitted to EPA and DOH on 7/29/2011. EPA and DOH approval or comments due 10/27/2011.
Lualualei Force Main Condition Assessment Report	12/31/2010	The report was submitted to EPA and DOH on 12/30/2010. EPA provided comments and conditional approval on 5/27/2011. CCH resubmitted to EPA and DOH on 8/31/2011. EPA and DOH approval or comments due on 11/29/2011.
Ahuimanu Force Main Condition Assessment Report	12/31/2010	The report was submitted to EPA and DOH on 12/30/2010. EPA provided comments and conditional approval on 5/31/2011. CCH revised report and response to comments due 10/31/2011.
Awa Street Force Main Condition Assessment Report	12/31/2013	
Kaneohe Bay No. 3 Force Main Condition Assessment Report	12/31/2013	
Kunia Force Main Condition Assessment Report	12/31/2013	
Kailua Road Force Main Condition Assessment Report	12/31/2013	
Ewa Beach Force Main Condition Assessment Report	12/31/2014	
Halawa Force Main Condition Assessment Report	12/31/2014	

Final approval has not yet been received for the revised condition assessment reports and follow-up action plans for the Aliamanu No. 1 and 2, Lualualei, and Ahuimanu Force Mains. When that approval is received, CCH will implement the follow-up action plans in those reports.

C. Force Main Maintenance and Spill Prevention Programs (Paragraph 13)

Operation and Maintenance Program (Paragraph 13.a)

CCH is implementing the force main O&M program outlined in CD Appendix E. The specific requirements in CD Appendix E are summarized below.

Table 28. Force Main Operation and Maintenance Program Requirements

Section	Requirement	Frequency	Status
4.1	Surface Marking	Continuous	CCH has purchased several varieties of surface markers and signs for installation in the various surface conditions that exist. In a pilot program, CCH installed markers on several force mains, subsequently some have been vandalized. In addition, CCH has received approval from the Hawaii Department of Transportation (DOT) for markers that are suitable for installation in State rights-of-way. CCH anticipates installing markers on all exposed sections of force mains by the end of 2011. A schedule and plan for installation of additional markers has been developed.
4.2	Location Information	Continuous	DPP issues trenching permits for projects in CCH rights-of-way. DPP notifies DDC when underground activities are to be conducted near a force main. DDC provides inspectors to verify that measures are being implemented to protect force mains.
4.3	Performance Testing	12 months	Performance Testing Procedures have been developed for conducting annual force main performance tests and are being finalized for adoption. Parameters associated with the performance of the force mains will be monitored and evaluated for comparison to both design conditions and previous performance evaluations. Data indicating a decrease in a force main's performance will be further evaluated. CCH anticipates completing an initial performance test on all force mains by 12/17/2011.

Section	Requirement	Frequency	Status
4.4.1	Force Main Right-of-Way Inspection	3 – 6 months for buried and elevated 5 years for underwater	Force main rights-of-way inspections are accomplished by travelling the rights-of-way and making note of any unusual conditions. Rights-of-way inspections were performed on all buried and elevated force mains during Year One. Inspection log sheets have been developed to provide standardized procedures and data collection.
4.4.2	Air and Vacuum Relief Valves - Inspect, Test, and Flush	3 months (or as determined based on field observations)	ARVs were tested during Year One. Valves that were found to be non-functioning or intentionally kept permanently closed were removed from the list of valves to be exercised and flushed, but they continue to be visually inspected. Based on performance test results and other information, all ARVs will be considered either for replacement with manual air bleed valves or replacement in kind. Work orders for the inspections are generated from CCH’s maintenance management system, and inspection log sheets have been developed to provide standardized procedures and data collection.
4.4.3	Isolation (Inlet) and Blow-Off Valves	12 months	<p>Inspection and exercising of isolation valves continues to be a standard procedure that is performed on a weekly to monthly basis. All functioning isolation valves were exercised during Year One. Non-functioning isolation valves are evaluated for possible repair or replacement. Inspection log sheets have been developed to provide standardized procedures and data collection.</p> <p>Inspection of blow-off valves is being conducted on an annual basis. All blow-off valves are intentionally kept permanently closed.</p>
4.4.4	Significant Rainfall Event (SRE)	As needed	CCH has identified force main areas that would potentially be subject to SRE conditions. Once SRE force main areas are field-verified, inspections of the field-verified areas will be completed within 48 hours after cancellation a Flood Warning. Inspection log sheets have been developed to provide standardized procedures and data collection.

Section	Requirement	Frequency	Status
4.4.5	Corrosion Protection – Measure Pipe-to-Soil Potential and System Current	Electrolysis test stations: 12 months Sacrificial anodes: 3 months Impressed current: 3 months (or as determined based on field observations)	A study of the condition of the known cathodic protection systems has been completed, which included initial inspections of the systems on the Ala Moana, Pearl City, and Waipahu Force Mains. These three systems will have repairs performed as part of the requirements in CD paragraph 13.c. Corrosion protection systems that have been determined to be non-functional are considered in a "non-functional" mode, and measurements are not collected.
4.4.6	Pipe and Discharge Manhole/Structure Condition Including Coating	12 months	Visual inspections of the internal pipe at the discharge manhole/ structure and the discharge manhole/structure itself will be done on an annual basis. CCH anticipates that each discharge manhole will be inspected by 12/17/2011.
4.5.1	Sulfide Monitoring	12 months	Sulfide monitoring, either through atmospheric hydrogen sulfide monitoring or total dissolved sulfides of the effluent, will be conducted at the discharge manhole/structure of each force main on an annual basis. CCH anticipates making an initial measurement at each discharge manhole by 12/17/2011, in coordination with the discharge manhole inspections from Section 4.4.6. The data will be compiled and reviewed by a qualified corrosion engineer. Inspection log sheets have been developed to provide standardized procedures and data collection.
4.5.2	High Velocity Flushing - Pump Stations with Single Force Mains	Weekly	As part of the standard procedures currently employed by CCH, force mains associated with pump stations with a single force main are high velocity flushed on a weekly basis, with a velocity of at least 3 feet per second. Procedures include allowing the wetwell to fill and then turning on multiple pumps to achieve the required velocity. Records of the flushing event are recorded in log books at the pump stations.

Section	Requirement	Frequency	Status
4.5.3	High Velocity Flushing - Pump Stations with Multiple Force Mains	Weekly (each force main)	<p>As part of the standard procedures currently employed by CCH, force mains associated with pump stations with multiple force mains are high velocity flushed on a weekly basis, with a velocity of at least 3 feet per second, so that each force main is flushed every other week.</p> <p>Procedures include allowing the wetwell to fill and then turning on multiple pumps to achieve the required velocity. Valves are opened and/or closed to isolate and flush multiple force mains. Records of the flushing event are recorded in log books at the pump stations.</p>
5	Emergency Operations	As needed	<p>As part of the standard procedures currently employed by CCH, emergency operations and procedures are undertaken in the event of a force main failure. Emergency operations and procedures are included in the spill contingency plans and flow diversion plans and will be included in additional spill contingency plans and flow diversion plans to be developed.</p>
5.1	Emergency Recovery Features - All-Weather Access to Valves, Pressure Manholes and Discharge Manholes / Structures	Continuous	<p>CCH is identifying locations where installation of gravel or paved access roads is needed to provide all-weather access for personnel or vehicles in order to perform repairs to the force main system. Access to these areas will be provided as needed.</p>
5.2	Emergency Recovery Features - Pressure Manholes	As needed on new and rehabilitated force mains	<p>Pressure manholes, spaced at approximately every 1,000 feet as determined by the design conditions, will be considered on newly constructed force mains.</p> <p>When rehabilitation of an existing force main occurs, pressure manholes will be considered and installed as needed where appropriate. Pressure manholes may not be appropriate on systems with backup force mains or other spill contingency plans.</p>
6.1	Predictive Maintenance	As issues are identified.	<p>Data collected from the ROW inspections, pipe and discharge manhole/structure inspections, and effluent sulfide monitoring will be used to hone the predictive maintenance program.</p>

Section	Requirement	Frequency	Status
6.2	Preventive Maintenance - Force Main Cleaning	Varied	Results from the ARV inspections, Isolation and Blow-off valve inspections, Corrosion Protection inspections and pipe and discharge manhole/structure inspections will be used to hone the frequency of preventive maintenance procedures. As data from the annual performance testing is gathered and reviewed, methods and frequencies of force main cleaning will be established.
6.3	Corrective Maintenance	Continuous	As part of the standard procedures currently employed by CCH, corrective maintenance procedures are followed such that planned repairs are completed as categorized and prioritized within the WTD work order system.
6.4	Reactive Maintenance	Continuous	As part of the standard procedures currently employed by CCH, reactive maintenance procedures are followed such that unplanned repairs are completed as categorized and prioritized within the WTD work order priority system. Unplanned reactive maintenance can be a Priority 1 if the repair is considered an Emergency/Regulatory Violations/Safety concern, or a Priority 2 if the repair is considered as Urgent.
6.5	Spare Parts	Continuous	As part of the standard procedures currently employed by CCH, an inventory of spare parts is maintained in the store rooms of the various regions in order to provide timely support for maintenance and repairs. The spare parts list is based on the asset management listings, and the repair lists in the spill contingency plans. As parts are deployed for use, the inventory is replenished.

Overflow Structures (Paragraph 13.b)

CCH has updated its design standards to suspend sections related to overflow structures. This change was made through the issuance of a letter dated March 11, 2009 to all design consultants in CCH’s consultant database. The letter is also posted on the ENV website with the design standards. The letter suspended the sections of the design standards that referred to designed overflow structures. CCH is preparing a report on force main overflow structures that will include an inventory and a recommendation as to whether the structure is necessary to minimize risk to public health and safety. This report is being prepared in connection with the report on pump station overflow structures, required under CD Paragraph 24.f. It is scheduled to be submitted to EPA and DOH for review and approval on or before the deadline of December 17, 2011.

Table 29. Force Main Overflow Structure Requirements

Requirement	Due Date	Status
Force Main Overflow Structure Design Standards Update	12/17/2010	Completed. Letter issued 3/11/2009.
Force Main Overflow Structure Report	12/17/2011	A consultant is under contract to prepare the report.
Force Main Overflow Structure Closure Project	One year after Force Main Overflow Structure Report is approved by EPA	

Cathodic Protection Systems (Paragraph 13.c)

A study of existing cathodic protection systems installed for the Ala Moana, Pearl City, and Waipahu force mains was submitted to EPA and DOH on June 17, 2011.

Table 30. Cathodic Protection System Requirements

Requirement	Compliance Milestones	DDC Serial Number	Status
Ala Moana Force Main Cathodic Protection System Report	6/17/2011	08-0565	Completed. Report submitted to EPA and DOH 6/17/2011.
Pearl City Force Main Cathodic Protection System Report	6/17/2011	08-0565	Completed. Report submitted to EPA and DOH 6/17/2011.
Waipahu Force Main Cathodic Protection System Report	6/17/2011	08-0565	Completed. Report submitted to EPA and DOH 6/17/2011.
Ala Moana Force Main Cathodic Protection Project	12/17/2013	08-0565	Construction started 8/31/2011.
Pearl City Force Main Cathodic Protection Project	12/17/2013	08-0565	Construction started 8/31/2011.
Waipahu Force Main Cathodic Protection Project	12/17/2013	08-0565	Construction started 8/31/2011.

Kaneohe Bay WWPS #2 Force Main (Paragraph 13.d)

Table 31. Kaneohe Bay WWPS #2 Force Main Requirements

Requirement	Compliance Milestones	DDC Serial Number	Status
Construct a new Kaneohe Bay WWPS #2 Force Main	Design NTP: 12/31/2013 Construction NTP: 12/31/2015 Complete Construction: 12/31/2016	08-0744	Planning in progress.

D. Beachwalk Force Main Projects (Paragraph 14)

Table 32. Beachwalk Force Main Requirements

Requirement	Compliance Milestone	DDC Serial Number	Status
Construction of Permanent Force Main	Complete Construction: 12/31/2012	00-0519	Construction NTP 11/30/2009. Construction in progress.

CCH is currently using the temporary Beachwalk Force Main and the existing Beachwalk Force Main interchangeably.

E. Ala Moana Force Main Projects (Paragraph 15)

CCH completed an additional condition assessment of problems areas on the Ala Moana Force Main No. 2 that were identified during the first condition assessment, and submitted the report to EPA and DOH for review and approval on June 29, 2011. CCH is proceeding with construction of Ala Moana Force Main No. 3.

Table 33. Ala Moana Force Main Assessment Requirements

Requirement	Due Date	Status
Ala Moana Force Main No. 2 Additional Condition Assessment of Problem Areas	6/30/2011	Report submitted to EPA and DOH on 6/29/2011. EPA and DOH approval or comments due 9/27/2011.

Table 34. Ala Moana Force Main Construction Requirements

Requirement	Due Date	DDC Serial Number	Status
Ala Moana Force Main No. 3 Construction	Construction NTP: 7/31/2012 Complete Construction: 12/31/2014	06-0065	Design is complete and request for construction bids was advertised 6/13/2011.

F. Old Hart Street Force Main - Maintenance and Improvements (Paragraph 16)

CCH is proceeding with construction of a permanent connection between the Old Hart Street Force Main and the Hart Street WWPS to facilitate switching flows to the Old Hart Street Force Main more quickly for use of the Old Hart Street Force Main as a backup for the Hart Street WWPS. CCH is maintaining the Old Hart Street Force Main as a backup to handle emergency flows to the extent possible.

Table 35. Hart Street Force Main Requirements

Requirement	Compliance Milestones	DDC Serial Number	Status
Hart Street Force Main – Permanent connection between new WWPS and old FM	Replace Connection: 12/31/2013	10-0090	Planning and Design NTP was issued 12/31/2010, in compliance with interim compliance milestone deadline of 12/31/2011 established by follow-up action plan.

G. Kaneohe/Kailua Force Main Project (Paragraph 17)

The CD requires the construction of a new Kaneohe/Kailua Force Main by December 31, 2014. CCH has identified a gravity tunnel as a cost effective alternative to the new Kaneohe/Kailua Force Main. CCH, EPA, and DOH are currently in discussions to modify the CD to incorporate the construction of a gravity tunnel, and to delete the following projects currently included in Paragraph 18.f and Appendix F:

- KK-TP-01 Kaneohe/Kailua Wastewater Facilities (aka Kailua RWWTP Upgrade)
- KK-TP-02 Kaneohe/Kailua Wastewater Facilities (aka Kailua Area Storage)
- KK-TP-03 Kaneohe WWPTF Improvement and Equalization Facility (aka Kaneohe WWPTF Storage)

Until this change is finalized, based on consultation with EPA and DOH, the bid advertisement for the construction of the new force main project has been put on-hold, with EPA and DOH agreement that the deadlines for this project will be modified.

Table 36. Kaneohe/Kailua Force Main Requirements

Requirement	Compliance Milestones	DDC Serial Number	Status
Kaneohe/Kailua Force Main No. 2 Construction	TBD	06-0088	Suspended

H. 1999 Final Sewer I/I Plan Projects (Paragraph 18)

The projects in Paragraph 18 were originally identified in the 1999 Infiltration/Inflow (I/I) Plan. These projects have changed over time as the result of further planning and design efforts by CCH. By tracking the individual sewer segments associated with each CD line item, CCH is able to accurately report on the status of each CD requirement.

Compliance Milestone: Complete Construction 12/31/2011 (Paragraph 18.b)

CCH maintains a database of the sewer segments that are associated with each of these projects, so that the history of each project and each sewer segment can be tracked. This database was used to define the sewer segments that are included in the three projects in Paragraph 18.b. In two cases the sewer segments had been moved to other projects.

Table 37. Paragraph 18.b Requirements (Complete Construction December 31, 2011)

Requirement	DDC Serial Number	Notes	Status
SI-CS-05 Kalihi Valley Reconstructed Sewer (aka Kalihi Valley Relief Sewer)	05-0284	This included one pipe segment, SewerID 250497. That sewer segment has been completed as part of project 08-0329.	Construction completed 4/1/2011.

Requirement	DDC Serial Number	Notes	Status
SI-CS-36 Kalihi/Nuuanu Area Sewer Rehabilitation (aka Lanakila Ave. Relief Sewer), portion	08-0285	This included two sewer segments, SewerID 278874 and 280867. The sewer segments were completed as part of the IDIQ2 Project – See Appendix H	Construction completed 9/19/2008.
SI-CS-63A Sand Island Basin Misc. Sewer Rehabilitation (aka Sand Island Structural Rehabilitation-Phase 1)	05-0284	This included one pipe segment, SewerID 294754. That sewer segment has been completed as part of project 02-1301.	Construction completed 12/31/2008.

Compliance Milestone: Complete Construction 12/31/2013 (Paragraph 18.c)

Table 38. Paragraph 18.c Requirements (Complete Construction December 31, 2013)

Requirement	DDC Serial Number	Status
HN-CS-10B Waimalu Sewer Rehabilitation/Reconstruction - 7D01C (aka Honouliuli Sewer Rehabilitation - 7D01C)	09-0149	Construction NTP 11/1/2010. Construction in progress.
HN-CS-13 Waimalu Sewer Rehabilitation/Reconstruction - 7D01C (aka Waimalu Sewer Replacement)	09-0149	Construction NTP 11/1/2010. Construction in progress.
HN-TP-01 Honouliuli WWTP Upgrade	03-0417	Construction completed 7/31/2010.
KK-PS-01 Enchanted Lakes Wastewater Pump Station Upgrade	02-1305	Construction NTP 9/15/2009. Construction in progress.

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Requirement	DDC Serial Number	Status
SI-CS-51A Sewer Manhole and Pipe Rehabilitation at Various Locations (aka Republican St.-Nimitz Hwy-Awa Structural Rehabilitation - Phase 1)	02-1304	Construction NTP 9/7/2010. Construction in progress.
SI-CS-53 Ala Moana Blvd./Auahi St. Sewer Rehabilitation (aka Auahi St. Structural Rehabilitation)	05-0653	A portion of this work was completed 10/17/1997. The remaining portion will be completed under DDC serial number 05-0271 or under 11-0136.
SI-CS-53 Ala Moana Blvd./Auahi St. Sewer Rehabilitation (aka Auahi St. Structural Rehabilitation 6' x 6' Box)	05-0271	Design in progress for 6-foot by 6-foot box portion. New DDC serial number 11-0136 will be created for 6-foot by 6-foot box along Auahi Street. New DDC serial number 11-0429 will be created for 14-inch sewer along Ward.
SI-CS-54 Ala Moana Blvd./Auahi St. Sewer Rehabilitation (aka Ala Moana Blvd.-24 Structural Rehabilitation)	05-0271	Design in progress. New DDC Serial number 11-0113 will be created for 24-inch sewer along Ala Moana Blvd.
SI-CS-55 Ala Moana Blvd./Auahi St. Sewer Rehabilitation (aka Ala Moana Blvd.-36 Structural Rehabilitation)	05-0271	Design in progress. New DDC serial number 11-0136 will include abandonment of 36-inch sewer.
SI-CS-57 Ala Moana Blvd. Sewer Reconstruction (aka Ala Moana Blvd.-16 Structural Rehabilitation)	03-0412	Construction completed 4/4/2011.
SI-CS-59 Waikiki Sewer Rehabilitation/Reconstruction	04-1159	Construction contract executed 7/28/2011.
SI-PS-14 Kuliouou Sewer Rehabilitation and WWPS Modification (aka Kuliouou WWPS Modification)	08-0098	Construction completed 4/7/2010.
WH-TP-01 Wahiawa Wastewater Treatment Plant Influent Pump Station Upgrade and Equalization Facility (aka Modify IPS and New Storage at Wahiawa WWTP)	02-1306	Construction NTP 7/6/2009. Construction in progress.
WM-CS-02 Waimanalo Sewer Rehabilitation	06-0354	Construction began 1/2/2006. Construction in progress.

Compliance Milestone: Complete Construction 12/31/2014 (Paragraph 18.d)

Table 39. Paragraph 18.d Requirements (Complete Construction December 31, 2014)

Requirement	DDC Serial Number	Status
HN-TP-02 Mililani WWPTF Storage and Headworks Upgrade (aka Mililani WWPTF Upgrade)	00-0564	Construction NTP 4/12/2010. Construction in progress.
SI-CS-09 Kahanu St., School St., and Umi St. Relief Sewers (aka School St. Relief Sewer)	04-1147	Construction NTP 12/14/2009. Construction in progress.
SI-CS-18 Kalaniana'ole Highway Sewer	04-1454	Construction NTP 10/15/2009. Construction in progress.
SI-CS-37 Kahanu St., School St., and Umi St. Relief Sewers (aka Umi St. Relief Sewer)	10-0037	Construction NTP 12/7/2009. Construction in progress.
SI-CS-37 Kahanu St., School St., and Umi St. Relief Sewers (aka Umi St. Relief Sewer)	04-1147	Construction NTP 12/14/2009. Construction in progress.
SI-CS-38 Kahanu St., School St., and Umi St. Relief Sewers (aka Kahanu St. Relief Sewer)	08-0890	Construction completed 3/26/2011.
SI-CS-38 Kahanu St., School St., and Umi St. Relief Sewers (aka Kahanu St. Relief Sewer)	04-1147	Construction NTP 12/14/2009. Construction in progress.
SI-CS-62 Kalaniana'ole Highway Sewer (aka Kalaniana'ole Hwy Structural Rehabilitation)	04-1454	Construction NTP 10/15/2009. Construction in progress.
SI-PS-16 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 1 WWPS Upgrade - Phase 1)	08-0729	Construction NTP 11/30/2009. Construction in progress.
SI-PS-17 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 2 WWPS Upgrade - Phase 1)	08-0729	Construction NTP 11/30/2009. Construction in progress.

Compliance Milestone: Complete Construction 2016 (Paragraph 18.e)

Table 40. Paragraph 18.e Requirements (Complete Construction December 31, 2016)

Requirement	DDC Serial Number	Status
HN-CS-04 Renton Road Sewer and Manhole Rehabilitation (portion: Eastern/Makakilo trunk)	N/A (private developer)	Planning in progress by developer's consultant
HN-CS-05B Leeward Area Sewer and Manhole Rehabilitation (aka Waipahu Manhole and Pipe Rehabilitation)	06-0090	Construction bids opened 3/31/2011.

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Requirement	DDC Serial Number	Status
HN-CS-05C Leeward Area Sewer and Manhole Rehabilitation (aka Ewa Manhole Rehabilitation)	06-0090	Construction bids opened 3/31/2011.
HN-CS-10A Waiiau Area Sewer Rehabilitation/Reconstruction (aka Honouliuli Sewer Rehabilitation - 7D01A)	06-0664	Design NTP 3/24/2011. Design in progress.
HN-CS-10C Foster Village Sewer Rehabilitation/Reconstruction (aka Honouliuli Sewer Rehabilitation - 7F05)	05-0275	Construction completed 7/22/2011.
KK-CS-04 Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Oneawa St. Structural Rehabilitation)	05-0281	Construction completed 2/22/2011.
KK-CS-06 Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kailua Beach Park Structural Rehabilitation)	05-0281	Construction completed 2/22/2011.
KK-CS-09 Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kaneohe Bay Drive Structural Rehabilitation)	08-0222	This work was completed under serial number 05-0281. Construction completed 2/22/2011.
KK-CS-12B Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kailua/Kaneohe Manhole and Pipe Structural Rehabilitation - Phase 2)	05-0281	Construction completed 2/22/2011.
KK-CS-12B Kailua/Kaneohe Sewer Manhole and Pipe Structural Rehabilitation (aka Kailua/Kaneohe Manhole and Pipe Structural Rehabilitation - Phase 2)	08-0455	Design NTP 6/21/2010. Design in progress.
SI-CS-30 Moiliili-Kapahulu Sewer Rehabilitation/Reconstruction (aka Date St. Relief Sewer)	06-0092	Construction contract executed 7/28/2011.
SI-CS-43 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka North King St. Relief Sewer)	06-0636	Planning in progress.
SI-CS-50 Airport Sewer Rehabilitation/Reconstruction (aka Airport Structural Rehabilitation)	06-0063	This project includes Phase 1 portion. Construction NTP 11/1/2010. Construction in progress.
SI-CS-50 Airport Sewer Rehabilitation/Reconstruction (aka Airport Structural Rehabilitation)	09-0464	This project includes Phase 2 portion. Planning NTP 6/30/2011. Planning in progress.
SI-CS-51B Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction & Kalihi/Nuuanu Area Sewer Rehabilitation (aka Republican St.-Nimitz Hwy-Awa Structural Rehabilitation-Phase 2)	05-0284	Planning in progress.

Requirement	DDC Serial Number	Status
SI-CS-51B Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction & Kalihi/Nuuanu Area Sewer Rehabilitation (aka Republican St.-Nimitz Hwy-Awa Structural Rehabilitation-Phase 2)	06-0636	Planning in progress.
SI-CS-52 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka Dillingham Blvd.-Iwilei Structural Rehabilitation)	05-0284	Planning in progress.
SI-CS-52 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka Dillingham Blvd.-Iwilei Structural Rehabilitation)	06-0636	Planning in progress.
SI-CS-58 Moiliili-Kapahulu Sewer Rehabilitation/Reconstruction (aka Moiliili-Kapahulu Structural Rehabilitation)	06-0092	Design in progress.
SI-CS-60 Old Sewer Tunnel Rehabilitation (aka Old Tunnel Structural Rehabilitation)	08-0107	Planning in progress.

Projects Requiring Further Study (Paragraph 18.f)

The 42 projects in Paragraph 18.f are being addressed through various planning contracts and facility plans. The projects that are not included in a DDC planning contract (identified as “NONE” in the DDC Serial Number column) are being addressed in on-going wastewater regional facility plans. These various contracts and facility plans will be submitted to EPA and DOH as they are completed. As provided in the CD, CCH’s evaluation of a project may result in a recommendation that the project be eliminated.

Table 41. Paragraph 18.f Requirements

Requirement	DDC Serial Number	Status
HN-CS-07 Honouliuli/Waipahu/Pearl City Wastewater Facilities (aka Waimalu Wastewater System Relief)	06-0667	Planning in progress.
HN-CS-08 Honouliuli/Waipahu/Pearl City Wastewater Facilities (aka Pearl City Trunk Sewer Relief)	06-0667	Planning in progress.
HN-CS-09 Pacific Palisades Diversion Sewer Line (aka Pacific Palisades Relief Sewer)	09-0393	Planning in progress.
HN-CS-14 Waipahu Sewer Replacement/Relief Sewer (aka Waipahu Sewer Replacement)	03-0440	Planning in progress.

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Requirement	DDC Serial Number	Status
HN-PS-01 Waipio WWPS Upgrade	06-0669	Planning in progress.
HN-PS-04 Honouliuli/Waipahu/Pearl City Wastewater Facilities (aka Pearl City WWPS Relief)	06-0667	Planning in progress.
KK-CS-01 Kalaheo Ave. Relief Sewer	08-0741	Planning in progress.
KK-CS-13 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Alii Shores Relief Sewer)	03-0414	This portion of the requirement was performed under serial number 03-0414. Construction completed 1/9/2009.
KK-CS-13 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Alii Shores Relief Sewer)	08-0095	Planning in progress.
KK-CS-15 Hele St. Sewer Relief/Rehabilitation (aka Hele St. Relief Sewer)	09-0532	Planning in progress.
KK-CS-20 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Kaha St. Relief Sewer)	08-0095	Planning in progress.
KK-CS-21 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Kahuhipa St. Relief Sewer)	08-0095	Planning in progress.
KK-CS-22 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Namoku St. Relief Sewer)	08-0095	Planning in progress.
KK-CS-23 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Puohala Relief Sewer)	08-0095	Planning in progress.
KK-CS-25 Kaneohe Sewer Relief/Rehabilitation, C2 Projects (aka Makahio St. Relief Sewer)	08-0095	Planning in progress.
KK-PS-02 Waikalua WWPS Upgrade	08-0115	Planning in progress.
KK-PS-10 Kahanahou Pump Station Upgrade	08-0734	Planning in progress.
KK-PS-12 Waikapoki WWPS Upgrade	06-0102	Planning in progress.
KK-TP-01 Kaneohe/Kailua Wastewater Facilities (aka Kailua RWWTP Upgrade)	NONE	Planning initiated but suspended; this project would be affected by proposed CD modification related to Kaneohe/Kailua tunnel.

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Requirement	DDC Serial Number	Status
KK-TP-02 Kaneohe/Kailua Wastewater Facilities (aka Kailua Area Storage)	NONE	Planning initiated but suspended; this project would be affected by proposed CD modification related to Kaneohe/Kailua tunnel.
KK-TP-03 Kaneohe WWPTF Improvements and Equalization Facility (aka Kaneohe WWPTF Storage)	06-0647	Planning initiated but suspended; this project would be affected by proposed CD modification related to Kaneohe/Kailua tunnel.
SI-CS-01 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Airport Relief Sewer)	04-1139	Planning in progress.
SI-CS-08 Iwilei/Kalihi Kai Sewer Rehabilitation/Reconstruction (aka Dillingham Blvd-Iwilei Relief Sewer), portion	06-0636	Planning in progress.
SI-CS-10 Chinatown Sewer Rehabilitation (aka College Walk-30 Replacement Sewer)	08-0083	Planning in progress.
SI-CS-15 Manoa Sewer Relief/Rehabilitation (aka Manoa Relief Sewer)	08-0102	Planning in progress.
SI-CS-17 Palolo Valley Sewer Rehabilitation (aka Palolo Relief Sewer)	08-0108	Planning in progress.
SI-CS-22 Chinatown Sewer Rehabilitation (aka River St. Relief Sewer)	08-0083	Planning in progress.
SI-CS-22 Chinatown Sewer Rehabilitation (aka River St. Relief Sewer)	08-0331	This portion of the work was completed under serial number 08-0331. Construction completed 9/10/2009.
SI-CS-27 Palolo Valley Sewer Rehabilitation (aka Waiomao Stream Relief Sewer)	08-0108 (assigned after CD publication)	Planning in progress.
SI-CS-28 Kalihi/Nuuanu Area Sewer Rehabilitation (aka Auwaiolimu St. Relief Sewer)	05-0284	Planning in progress.
SI-CS-29 Kalihi/Nuuanu Area Sewer Rehabilitation (southern makai portion) (aka Nuuanu Relief Sewer)	05-0284	Planning in progress.
SI-CS-36 Kalihi/Nuuanu Area Sewer Rehabilitation (aka Lanakila Ave. Relief Sewer), portion	05-0284	Planning in progress.
SI-CS-39 Kalihi/Nuuanu Area Sewer Rehabilitation (aka Kalani St. Relief Sewer), portion	05-0284	Planning in progress.
SI-CS-42 Dowsett Highlands Relief Sewer	05-0284	This work is duplicative of other work identified under DDC Serial Number 10-0212.

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Requirement	DDC Serial Number	Status
SI-CS-42 Dowsett Highlands Relief Sewer	10-0212 (assigned after CD publication)	Planning in progress.
SI-PS-01 Kamehameha Hwy WWPS Upgrade	09-0531	Planning in progress.
SI-PS-04 Awa Street WWPS Upgrade	10-0208	Planning in progress.
SI-PS-06 Sand Island WWTP and Sewer Basin Facilities (aka Ala Moana WWPS and Force Main; upgrade of WWPS to 2020 flows will be further evaluated; note: the force main work is included in Paragraph 15)	06-0065	This work is the Ala Moana Force Main No. 3, which is already addressed under CD Paragraph 15. Design in progress.
SI-PS-06 Sand Island WWTP and Sewer Basin Facilities (aka Ala Moana WWPS and Force Main; upgrade of WWPS to 2020 flows will be further evaluated; note: the force main work is included in Paragraph 15)	08-0074	Planning in progress.
SI-PS-16 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 1 WWPS Upgrade - Phase 2)	04-1139	Planning in progress.
SI-PS-17 Aliamanu Nos. 1 & 2 WWPS Upgrade and Relief Sewer (aka Aliamanu No. 2 WWPS Upgrade - Phase 2)	04-1139	Planning in progress.
WH-PS-02 Uwalu WWPS Upgrade	08-0113	Planning in progress.

Wet Weather I/I Assessment Update (Paragraph 18.g)

CCH is continuing its on-going development of a Wet Weather I/I Assessment Update. CCH has met all of the schedule requirements to date for the Wet Weather I/I Assessment Update and is on schedule to meet the future schedule requirements.

Table 42. Wet Weather I/I Assessment Update Schedule Requirements

Requirement	Due Date	Status
EPA/DOH Meeting to Discuss Data from Wet Weather Season 1	9/30/2010	Completed. This meeting was held on 9/14/2010 with CCH, EPA and DOH.
Complete Collection of Precipitation and Flow Monitoring Data	8/1/2011	Completed 6/30/2011.
EPA/DOH Meeting to Discuss Data from Wet Weather Season 2	9/30/2011	This meeting is scheduled per EPA and DOH agreement for 10/4/2011 with CCH, EPA and DOH.
EPA/DOH Meeting to Discuss Proposed Hydraulic Capacity Projects	4/1/2012	
Peak Flow Cost Effective Analysis Report	12/31/2012	

Table 43. Wet Weather I/I Assessment Update Submittal Requirements

Requirement	Due Date	Status
Draft Deferred Projects Report	12/31/2012	
Final Deferred Projects Report	11/30/2013	
Wet Weather I/I Assessment Update Report	12/31/2013	
Capital Improvement Plan Update	Compliance milestone: 12 months after approval of Final Deferred Projects Report	

I. Gravity Main Condition Assessment (Paragraph 19)

CCH is conducting a program of inspection and condition assessment for selected gravity mains. Inspections are being performed using closed-circuit television (CCTV) and the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) standard. During CCTV inspection, the camera operator codes each defect using the PACP system and generates a database with the severity of each defect. If there are defects that create an imminent risk of a spill, that information is flagged for immediate follow-up. After the initial assessment, the videos and databases are forwarded to CCH engineering staff for further review and development of rehabilitation and replacement projects.

CCH is currently performing an updated risk assessment of the pipe classes that present a disproportionate risk of SSOs. This assessment will be used to help select pipes for future CCTV inspection. The assessment is incorporating updated data on spill history, maintenance history, and observed patterns of infiltration and inflow.

During the period from January 1, 2009 through June 30, 2011 CCH performed closed-circuit television (CCTV) inspection and condition assessment on approximately 248 miles of gravity sewer. Final results are still being compiled for some inspection work, so this total may be revised. The progress is charted in Figure 1.

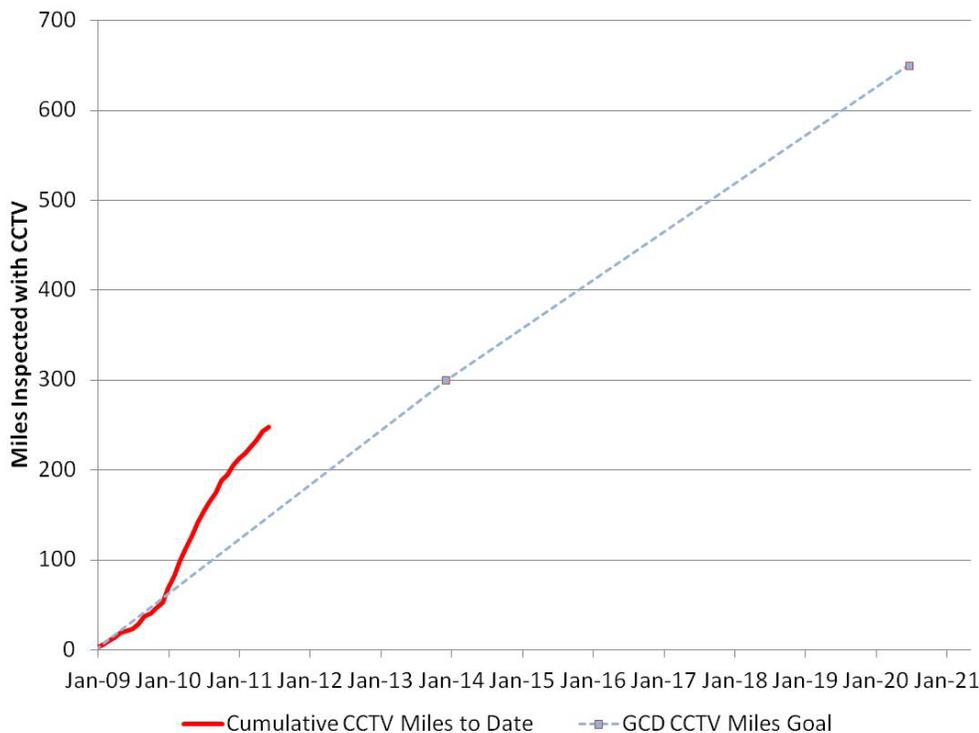
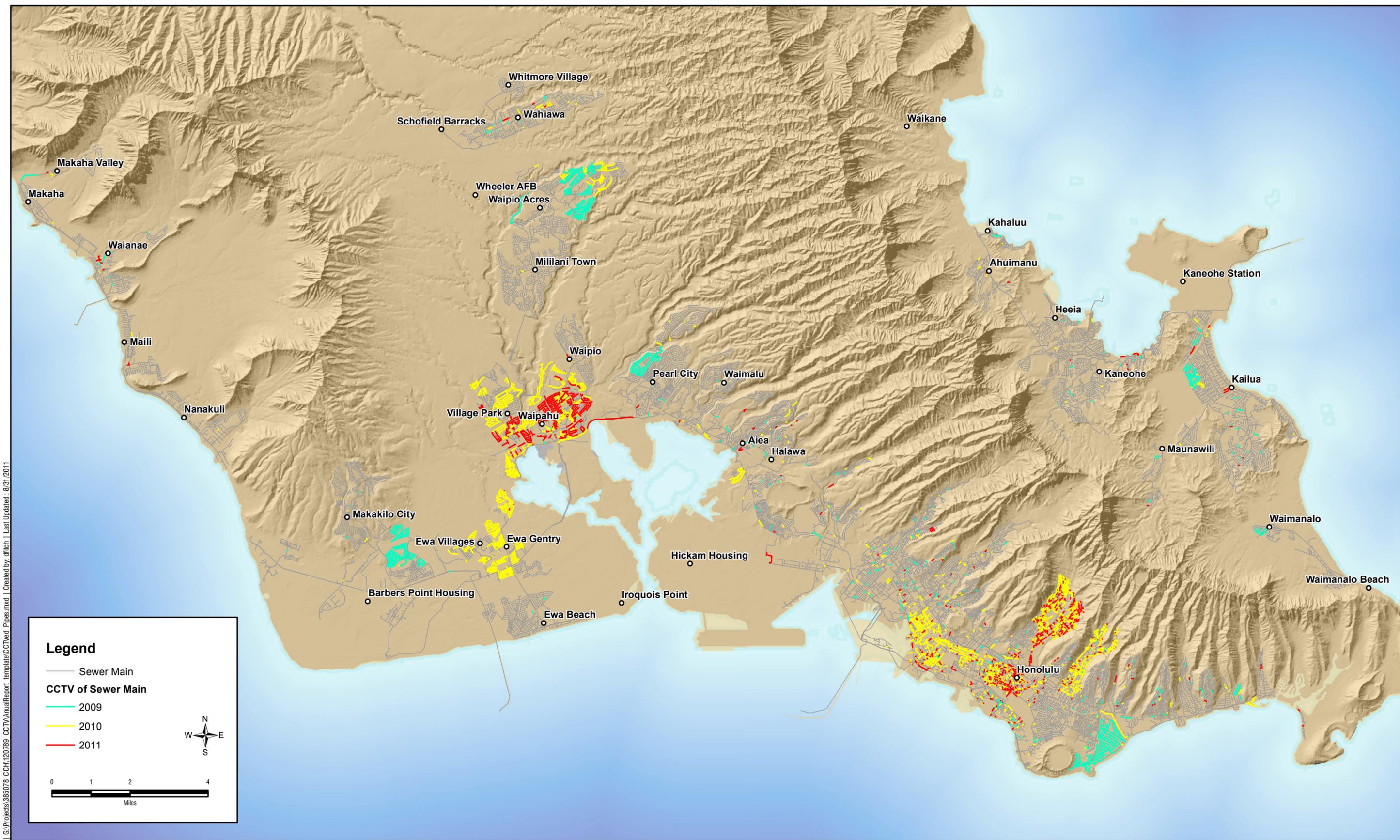


Figure 1. CCTV Inspection Miles Through June 30, 2011.

Table 44. Gravity Main Condition Assessment Requirements

Requirement	Due Date	Status
Gravity Main Condition Assessment - First 300 Miles (Performance Requirement)	12/17/2013	248 miles of inspection identified through Year One
Gravity Main Condition Assessment - Second 350 Miles (Performance Requirement)	6/30/2020	

The pipe segments that have been inspected using CCTV since January 1, 2009 are shown in Figure 2.



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Gravity Sewer Condition Assessment (January 1, 2009 through June 30, 2011)

J. Gravity Main Rehabilitation and Replacement Program (Paragraph 20)

CCH is proceeding with the gravity main rehabilitation and replacement projects identified in CD Appendix H. CCH has also completed work on other projects that allow additional miles of rehabilitation and replacement to be banked towards meeting the requirements of Years Four through Ten.

Rehabilitation and Replacement Plan (Paragraph 20.b)

CCH is beginning to develop a Rehabilitation and Replacement Plan for Years Four through Ten by evaluating condition assessment data gathered to date. The plan will describe CCH's program for identifying and addressing structural defects in gravity sewers. The primary source of data in developing the plan will be the condition assessment information that is gathered through CCTV inspection. CCH is developing a decision-making algorithm that can be used to process the NASSCO PACP defect codes gathered during the inspection and generate a preliminary recommendation for the repair, rehabilitation, or replacement of gravity sewer segments. These preliminary recommendations will then be reviewed by CCH engineers, who will make the final determination for each inspected segment. CCH will use this process to identify and prioritize rehabilitation and replacement work to be performed in CD Years Four through Ten.

Rehabilitation and Replacement Program for Years One through Three (Paragraph 20.c)

CD Appendix H specifies a set of rehabilitation and replacement projects to be completed by the end of Year Three. These projects include portions of new sewer (newly constructed gravity main) and rehab sewer (gravity main that has been rehabilitated through a point repair or through the installation of an internal liner). CD Appendix H includes the estimated number of miles of new and rehabilitated sewer associated with each project. In some cases the actual mileage varied because of changes encountered during the construction process. The actual miles of new and rehabilitated sewer is reported for those projects that are considered complete. In the table below, the projects are listed in the same order as in CD Appendix H.

Table 45. Appendix H Requirements

Requirement	DDC Serial Number	CD New Miles	CD Rehab Miles	Actual New Miles	Actual Rehab Miles	Status
Alii Shores Structural Rehabilitation	03-0414	0	0.4335	0	0.4134	Construction completed 1/9/2009.
Amelia Street Relief Sewer	05-0980	0.2697	0	0.2002	0	Construction completed 12/16/2010.
Fort Weaver Road Manhole and Pipe Rehabilitation	03-0415	0.1498	0.8379	0.1498	0.9534	Construction completed 12/19/2007.
Halona Street Relief Sewer, Kalihi	02-1300	0.4545	0.3902	0.4438	0.5057	Construction completed 4/21/2009.
Houghtailing Street Area Sewer (SI-CS-06, SCIP 25, SMPR 25)	04-1144	0.5515	3.7519			Construction NTP 1/12/2009. Construction in progress.

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Requirement	DDC Serial Number	CD New Miles	CD Rehab Miles	Actual New Miles	Actual Rehab Miles	Status
Ilimalia Loop Mokapu Blvd Reconstructed Sewer	00-0534	0	0.5714	0	0.5606	Construction completed 8/7/2008.
Kailua/Kaneohe Sewer Rehabilitation - Ph 1 (KK-CS-09 portion, KK-CS-16 portion)	03-0418	0.0816	2.189	0.0218	2.1716	Construction completed 10/22/2010.
Kailuana Place Sewer Rehabilitation (SMPR 64)	02-1659	0.0227	0.9205	0	0.9426	Construction completed 3/27/2008.
Kalaheo Ave / Mokapu Road / Aikahi Loop Sewer Rehab (KK-ZZ-02 Portion)	06-0083	0	0.6439	0	0.64	Construction completed 2/22/2010.
Kalakaua Ave Sewer Rehabilitation - Kalakaua Ave portion (SMPR 27 portion)	02-1656	0.2775	0			Construction NTP 7/15/2010. Construction in progress.
Kalihi Valley Reconstructed Sewer (SI-CS-05 portion, SCIP 14 portion)	00-0550	0.268	0	0.2587	0	Construction completed 7/7/2010.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1A [Area 2A - Middle Kalihi]	06-0086	1.5795	0	1.55	0	Construction completed 4/1/2011.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1B [Area 2B - Middle Kalihi]	08-0328	0.7917	0	0.74	0	Construction completed 4/1/2011.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1C [Area 3 - Upper Kalihi]	08-0329	1.072	0	1.03	0	Construction completed 4/1/2011.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1D [Area 4, 7, & 8 - Lanakila, Punchbowl South and Pacific Hts]	08-0330	0.2481	0	0.25	0	Construction completed 11/17/2010.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1E [Area 5A - Lower Nuuanu]	08-0331	0.3144	0	0.33	0	Construction completed 9/10/2009.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1F [Area 5B - Lower Nuuanu]	08-0332	0.3314	0	0.3430	0	Construction completed 1/30/2009.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1G [Area 5C - Lower Nuuanu]	08-0333	0.5966	0	0.63	0	Construction completed 11/20/2009.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1H [Area 6 - Punchbowl North]	08-0334	0.392	0	0.4913	0	Construction completed 1/30/2009.
Kalihi/Nuuuanu Area Sewer Rehabilitation Phase 1I [Area 9 - Upper Nuuanu]	08-0335	0.2936	0	0.3487	0	Construction completed 2/13/2009.
Kaneohe Bay Drive Trunk Sewer Reconstruction (KK-CS-09 portion)	02-1286	0.3466	0.2633	0.3223	0.2059	Construction completed 8/26/2010.
Kapiolani Area Revised Sewer System (SCIP 16 portion, SCIP 26 portion, SMPR 12, SMPR 16)	00-0559	0.5244	0.3485	0.52	0.35	Construction completed 10/29/2009.
Kuliouou Sewer Rehabilitation and WWPS Modifications - Sewer Rehabilitation (SMPR 36 portion)	00-0561	0.2212	2.9892	0.12	2.98	Construction completed 4/22/2009.
Peterson Lane (SMPR 92, SMPR 73 p) and Pua Lane (SMPR 93) Sewer Rehabilitation	05-0457	0.7235	0.107	0.72	0.11	Construction completed 9/15/2009.

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Requirement	DDC Serial Number	CD New Miles	CD Rehab Miles	Actual New Miles	Actual Rehab Miles	Status
Renton Road Sewer and Manhole Rehabilitation (HN-CS-04)	03-0427	0	2.3616	0	2.36	Construction completed 8/26/2009.
Saint Louis Heights Sewer Rehabilitation (SCIP 04, SMPR 39, SI-CS-31)	02-1284	0.092	8.8733			Construction NTP 5/20/2007. Construction in progress.
Sand Island Basin Miscellaneous Sewer Rehabilitation, Phase 1 (SI-CS-63A, SI-CS-63B)	02-1301	0	0.3402	0	0.3400	Construction completed 12/31/2008.
Sewer Manhole & Pipe Rehabilitation At Various Locations - Ph I (HN-CS-05A, KK-CS-12A, KK-CS-12B prtn, WH-CS-01, WN-CS-01)	04-1994	0	0.0407	0	0.05	Construction completed 4/29/2009.
Waimalu Sewer Rehabilitation (Aiea) FY 09-06-29 [IDIQ2]	09-0653	0	0.4561	0	0.4509	Construction completed 10/1/2009.
Waimanalo Sewer Rehabilitation (WM-CS-01, WM-CS-02 portion)	03-0439	0.339	0	0.3411	0	Construction completed 12/16/2009.
Waipahu Street/Plantation Village Sewer Reconstruction (SCIP 24, SMPR 26)	02-1287	0.3985	0	0.44	0	Construction completed 4/30/2011.
Wanao Road/Keolu Drive Reconstructed Sewer (KK-CS-07, KK-ZZ-03)	02-1557	1.6746	0	1.5710	0	Construction completed 7/26/2010.
Wilhelmina Rise Sewer Rehabilitation (SCIP 01)	00-0607	0.0644	8.161			Construction NTP 6/1/2008. Construction in progress.
Ala Moana and Kapiolani Trunk Sewer Replace/Rehabilitation, Phase 1B,1C,1D (SI-CS-56) - Kapiolani Blvd Water and Sewer System Improvements	00-0516	0.2614	0.9848	0.48	0.98	Construction completed 10/29/2009.
Beretania Street 1617 (SUB 7736, McCully) FY08-12-20 [IDIQ2]	08-0459	0	0.1138	0	0.1114	Construction completed 11/12/2008.
Foster Village (Aliamanu) (HN-CS-10Cp) [IDIQ2] FY08-02-24	09-0135	0	2.2104	0	2.1795	Construction completed 9/13/2010.
Halekoa Drive 1509 (SUB 5254, Waialae) FY08-09-06 (SCIP02 portion) [IDIQ2]	08-0402	0	0.1141	0	0.1142	Construction completed 1/24/2008.
Houghtailing Street Area Sewer, Area 1 (Liliha) FY07-10-01 [IDIQ2]	08-0397	0	0.3379	0	0.3138	Construction completed 9/18/2008.
Houghtailing Street Area Sewer, Area 2 (Liliha) FY07-10-01 [IDIQ2]	09-0039	0	0.6489			Construction NTP 11/13/2007. Construction in progress.
Houghtailing Street Area Sewer, Area 3 (Liliha) FY07-10-01 (IDIQ2)	08-0398	0	0.9715			Construction NTP 2/1/2008. Construction in progress.
Kahala / Piliialoha Place 1687 (Moanalua) FY 09-11-17 (SMPR 84 Portion) [IDIQ2]	08-0982	0	0.1269	0	0.1256	Construction completed 4/7/2009.
Kahala Avenue 4783 (SUB 5281, 5285, Waialae) FY07-05-29 (SI-CS-61) [IDIQ2]	05-0278	0	0.2798	0	0.2737	Construction completed 7/19/2010.
Kalihi Valley Reconstructed Sewer, Area 1 [IDIQ2] (Kalihi) FY 07-09-24	08-0396	0	1.2896			Construction NTP 4/1/2008. Construction in progress.
Kalihi Valley Reconstructed Sewer, Area 2 [IDIQ2] FY 07-09-24	09-0040	0	0.5632			Construction NTP 6/1/2008. Construction in progress.

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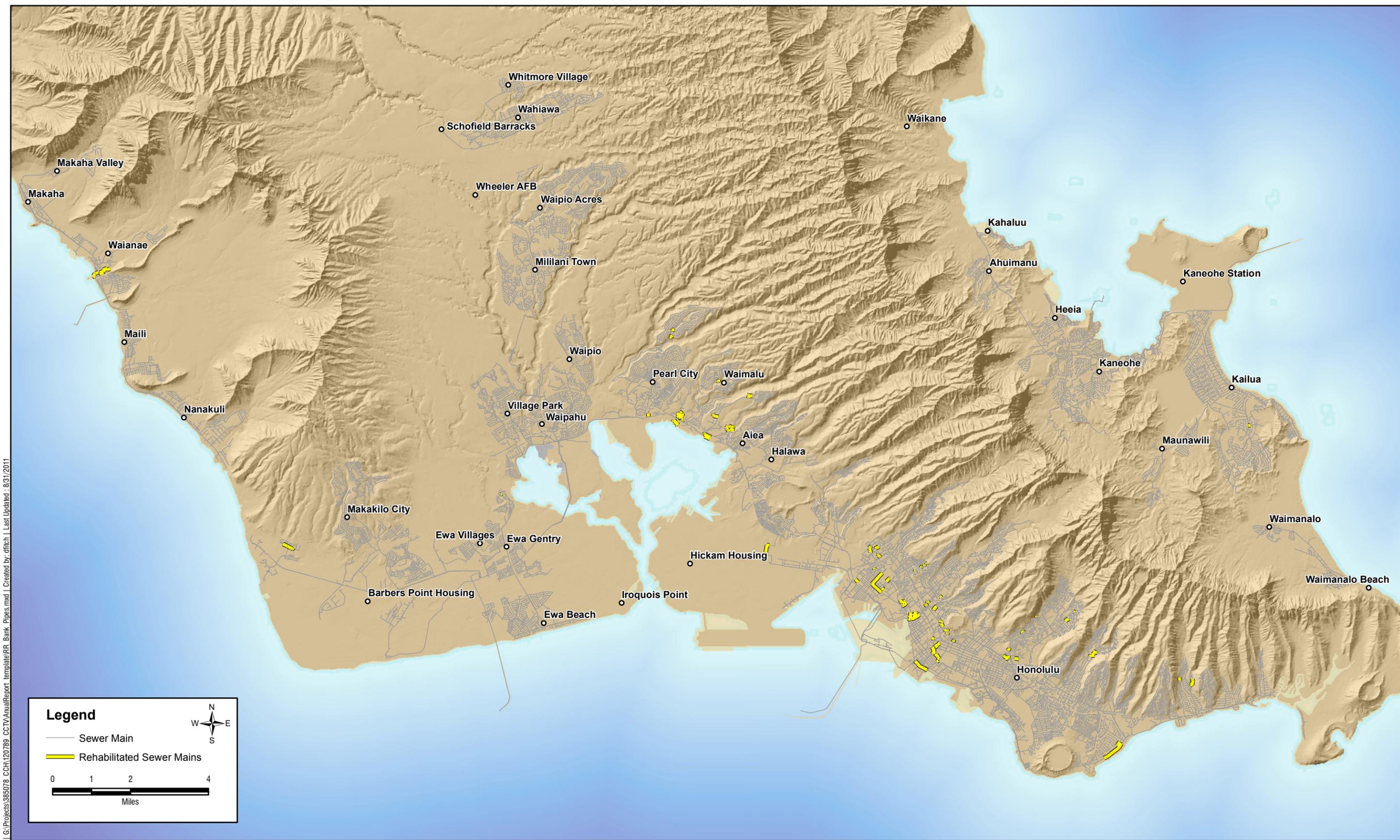
Requirement	DDC Serial Number	CD New Miles	CD Rehab Miles	Actual New Miles	Actual Rehab Miles	Status
Kalihi Valley Reconstructed Sewer, Area 3 [IDIQ2] (Kalihi) FY 07-09-24	09-0041	0	1.0969	0	1.0754	Construction completed 7/21/2010.
Kalihi Valley Reconstructed Sewer, Area 4 [IDIQ2] (Kalihi) FY 07-09-24	09-0042	0	0.7713			Construction NTP 6/1/2008. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 1 (Michels) [IDIQ2] FY07-07-20	08-0285	0	0.0571	0	0.0571	Construction completed 2/28/2008.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 2.1 (Insituform) [IDIQ2] FY07-07-20	08-0297	0	0.2965			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 2.3 (Insituform) [IDIQ2] FY07-07-20	08-0297	0	0.3138			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 2.4 (Insituform) [IDIQ2] FY07-07-20	08-0297	0	0.2449			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 2.5 (Michels) [IDIQ2] FY07-07-20	08-0285	0	0.0761	0	0.0761	Construction completed 4/1/2011.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 3.1 (Michels) [IDIQ2] FY07-07-27	08-0285	0	0.2185	0	0.2185	Construction completed 5/2/2008.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 3.3 (Insituform) [IDIQ2] FY07-07-27	08-0297	0	0.433			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 3.4 (Insituform) [IDIQ2] FY07-07-27	08-0297	0	0.2373			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 3.5 (Michels) [IDIQ2] FY07-07-27	08-0285	0	0.0462	0	0.0462	Construction completed 9/11/2008.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 4.1 (Michels) [IDIQ2] FY07-07-31	08-0285	0	0.2784	0	0.2784	Construction completed 6/4/2010.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 4.2 (Michels) [IDIQ2] FY07-07-31	08-0285	0	0.3083			Construction NTP 9/3/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 4.3 (Michels) [IDIQ2] FY07-07-31	08-0285	0	0.2348	0	0.2348	Construction completed 9/12/2008
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 5.3 (Insituform) [IDIQ2] FY07-08-01	08-0297	0	0.2213			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 6.2 (Insituform) [IDIQ2] FY07-08-01	08-0297	0	0.1786			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 6.4 (Insituform) [IDIQ2] FY07-08-01	08-0297	0	0.1443			Construction NTP 9/10/2007. Construction in progress.
Kalihi/Nuuuanu Area Sewer Rehabilitation, Area 7.2 (Insituform) [IDIQ2] FY07-08-06	08-0297	0	0.2856			Construction NTP 9/10/2007. Construction in progress.

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Requirement	DDC Serial Number	CD New Miles	CD Rehab Miles	Actual New Miles	Actual Rehab Miles	Status
Kaneohe Bay Drive 44-505 (SUB 4267, 4268, 4270, 4271, Kaneohe) FY07-05-17	08-0222	0	0.2978	0	0.2924	Construction completed 6/27/2008.
Kaneohe Bay Drive Trunk Sewer, Sewerline B (Kaneohe) FY07-09-13 [IDIQ2]	08-0394	0	0.3039	0	0.2928	Construction completed 2/16/2009.
Kilani Avenue 211/Illima Street 91 (SUB W186,Wahiawa) FY08-01-02 [IDIQ2]	08-0460	0	0.0909	0	0.0907	Construction completed 8/20/2008.
Komo Mai Drive 1860 (SUB 2094, 2095, Pearl City) FY08-06-13 [IDIQ2]	08-0462	0	0.2708	0	0.2555	Construction completed 1/16/2009.
Leighton Street 815 (SUB 5114, 5116, Kuliouou) FY08-06-18 (SMPR 21) [IDIQ2]	08-0210	0	0.2561	0	0.2528	Construction completed 8/14/2009.
Makalii Place 350, Kailua Road (SUB 4612, 4661, Kailua) FY-07-05-17 (KK-CS-06 portion)	08-0223	0	0.2129	0	0.2021	Construction completed 6/27/2008.
Mikiola Dr / Alakai St / Likeke Place (Kaneohe) FY-07-09-28 [IDIQ2]	08-0395	0	0.4053	0	0.3973	Construction completed 5/12/2010.
Mulehu Street 94-436 (SUB 0446, Mililani) FY09-09-30 (HN-CS-05B portion) [IDIQ2]	08-0981	0	0.0396	0	0.0398	Construction completed 10/7/2009.
Nanamoana Street 44-121 (SUB 3994, Kaneohe) FY07-06-06 [IDIQ2]	08-0260	0	0.0212	0	0.0373	Construction completed 12/13/2007.
Waialae Iki Unit III Swr Fac Rehab (SCIP 03, SMPR 31, 32, 33, 34) - Area 4 [IDIQ2] (Kuliouou) FY07-11-15	08-0408	0	0.5375	0	0.5006	Construction completed 3/5/2009.
Waialae Iki Unit III Swr Fac Rehab (SCIP 03, SMPR 31, 32, 33, 34) - Area 5 [IDIQ2] (Kuliouou) FY07-11-15	09-0043	0	0.2962	0	0.2953	Construction completed 2/17/2010.
Waialae Iki Unit III Swr Fac Rehab (SCIP 03, SMPR 31, 32, 33, 34) - Area 6 [IDIQ2] (Kuliouou) FY07-11-15	09-0044	0	0.2786	0	0.2544	Construction completed 3/24/2010.
Waimalu Sewer Rehabilitation Ph 1, 7D01C (HN-CS-10B)	02-1299	1.1761	0			Construction NTP 6/30/2008. Construction in progress.
Waimanalo Sewers (SUB HAWN, PRIV, 2017, 2013, Waimanalo) FY07-10-05 (WM-CS-01, WM-CS-02 portion) [IDIQ2]	08-0403	0	0.3705	0	0.3604	Construction completed 12/6/2008.
Waipahu Depot Street, Farrington Highway (SUB 0887, Waipahu) (HN-CS-05B portion)	08-0980	0	0.0145	0	0.0138	Construction completed 3/11/2009.

Banking of Excess Miles (Paragraph 20.e)

CCH maintains a database of sewer segments that have been addressed through rehabilitation and replacement projects. A report from this database is shown in Attachment A. For projects that are not identified in CD Appendix H, CCH is allowed under CD Paragraph 20.e to bank the additional miles of gravity main sewer addressed through rehabilitation and replacement projects. Banked miles can then be used towards meeting the requirements of Years Four through Ten. Through the end of Year One, CCH is proposing to bank 10 miles for this purpose. The specific sewer segments are identified in Attachment A and are shown in Figure 3.



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Pipe Segments Proposed for Addition to Rehabilitation and Replacement Bank

FIGURE 3

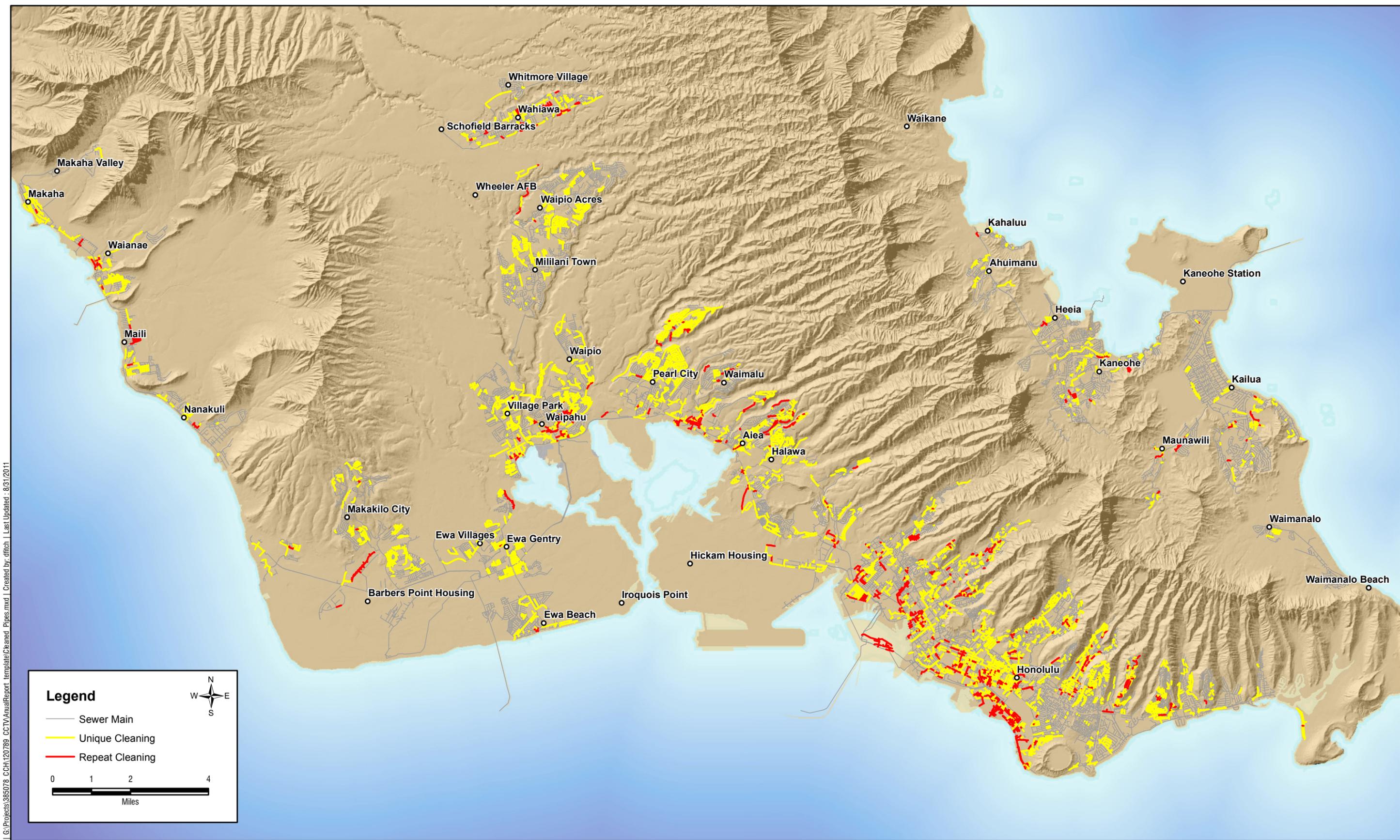
K. Gravity Main Cleaning and Maintenance Program (Paragraph 22)

Gravity Sewer Cleaning (Paragraph 22.a)

Table 46. Gravity Sewer Cleaning Requirements

Requirement	Annual Performance Requirement	Status
Gravity Main Cleaning and Maintenance Program	500 miles of cleaning 300 miles of unique cleaning	Completed for Year One: 574 miles of cleaning (flushing or rodding) 436 miles of unique cleaning

The pipes included in the gravity sewer cleaning program for Year One are shown in Figure 4.



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Gravity Sewer Cleaning (July 1, 2010 through June 30, 2011)



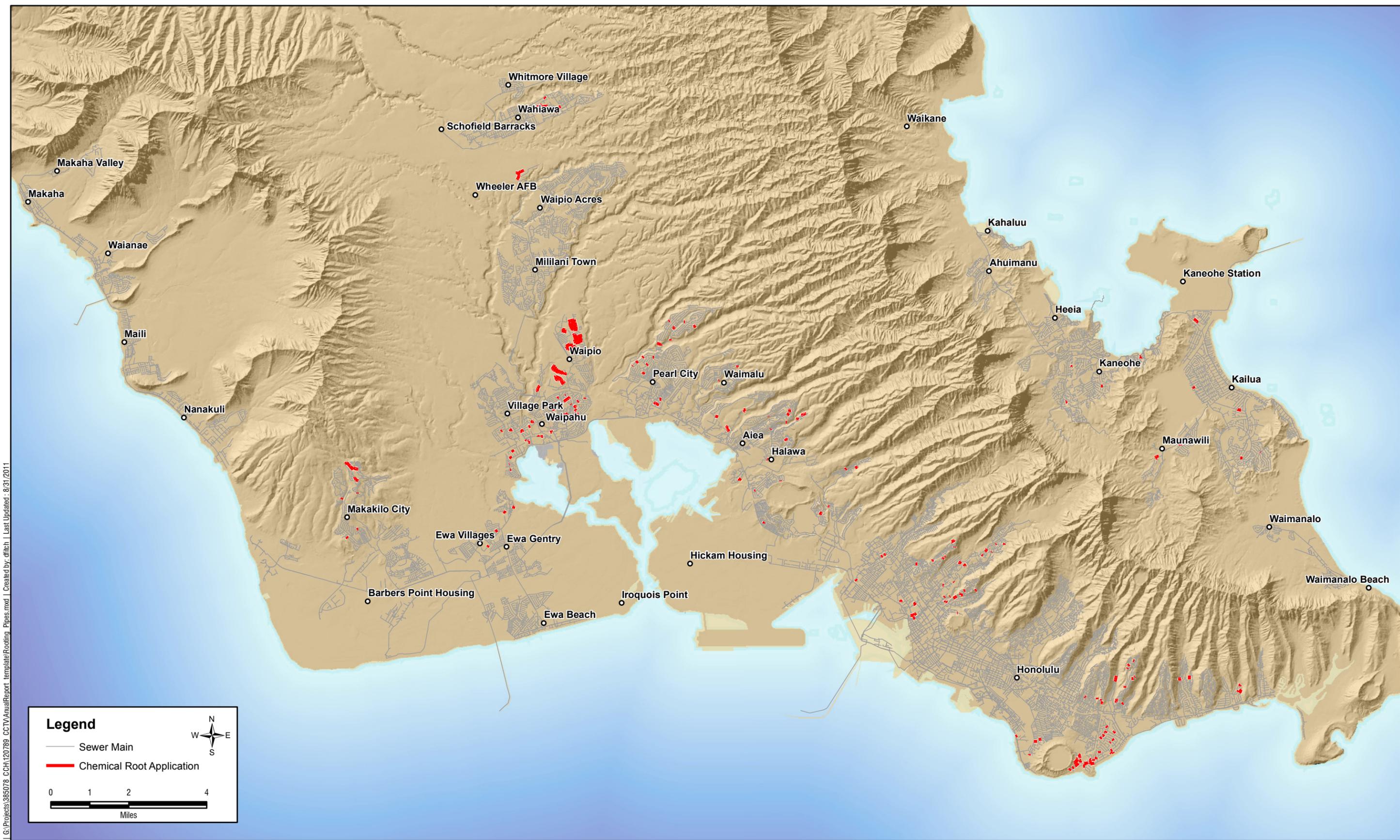
Chemical Root Control (Paragraph 22.b)

The root control process included mechanical root cleaning followed by chemical root treatment. CCH will monitor the effectiveness of the root treatment to help determine the future of the root control program.

Table 47. Chemical Root Control Requirements

Requirement	Due Date	Status
Gravity Main Cleaning and Maintenance Program - Root Control Work 15 Miles per Year	6/30/2011	Complete for Year One: 15.4 miles of root treatment
Gravity Main Cleaning and Maintenance Program - Root Control Work 15 Miles per Year	6/30/2012	
Gravity Main Cleaning and Maintenance Program - Meeting to Determine Future Root Control	5/31/2013	

A map of gravity sewer chemical root treatment performed during Year One is shown in Figure 5.



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Gravity Sewer Chemical Root Treatment (July 1, 2010 through June 30, 2011)



FIGURE 5

L. Commercial Fats, Oils, and Grease ("FOG") Control Program (Paragraph 23)

CCH recently completed a program manual describing activities to address Fats, Oils and Grease (FOG) in the collection system and submitted it to EPA and DOH on 6/15/2011. CCH continues its FOG Control Program to conduct inspections, enforce existing regulations, and maintain databases of enforcement activity as required by the CD and explained below.

General Requirements (Paragraph 23.a)

No Discharge without Permit (Paragraph 23.a.i)

CCH continues to prohibit Food Service Establishments (FSE) from discharging into CCH's wastewater system without a permit issued under the CCH Ordinances and Rules Relating to Grease Interceptor Program Compliance.

Annual Inspections (Paragraph 23.a.ii)

CCH continues to perform:

- a) Annual inspections of Grease Removal Devices (GRDs) previously in compliance with Grease Interceptor Rules (including sizing criteria); and
- b) Semi-annual inspection of all other GRDs (those not in compliance with the Grease Interceptor (GI) rules (including sizing criteria)).

Physical inspections include coring the Grease Removal Device to document compliance to the FOG Control Program and Grease Interceptor Rules, and review of maintenance logs and compliance with bar coding requirements.

During Year One CCH performed 5804 inspections of GRDs.

Special Investigations (Paragraph 23.a.iii)

CCH continues to perform special investigations of potential FOG sources that may have caused or contributed to a FOG-related SSO or triggered an Environmental Incident Report. Formal Enforcement Orders are issued within 60 days following completion of the special investigation for those FSEs identified to be the source of the FOG problem. Enforcement Orders require the establishment owner of the FOG problem to:

- a) come into full compliance with CCH's Grease Interceptor Rules; or
- b) cease operations in accordance with a CCH-approved compliance schedule.

During Year One, CCH performed 16 special investigations. These investigations led to enforcement actions or public education in residential areas, as appropriate.

Enforcement (Paragraph 23.a.iv)

Food Service Establishments not in compliance with the GI rules are issued appropriate enforcement action(s) for the specific violation in accordance with the Enforcement Response Plan that may require a Food Service Establishment to:

- a) Replace existing Grease Removal Device with a CCH-approved GRD as per Grease Interceptor Rules; or
- b) Cease operations in accordance with a CCH-approved compliance schedule.

During Year One CCH issued approximately 480 enforcement actions related to FOG. These actions included Waste Discharge Violations (WDVs), Letters of Warning (LOWs), and Notice of Violations (NOVs). In Year One 38 NOVs were issued, and CCH is continuing to escalate enforcement against those permit holders who have not been brought into compliance.

DOH New Business Licenses (Paragraph 23.a.vi)

Based on information from the DOH license lists, building permits, and other sources, CCH issued approximately 150 new permits during Year One to control FOG discharge to the collection system.

Program Manual (Paragraph 23.b)

CCH's Commercial FOG Control Program Manual was provided to EPA and DOH on June 15, 2011 in accordance with the CD. The Manual describes all aspects of the FOG Control Program as set forth in the CD.

M. Pump Station Projects (Paragraph 24)

Beachwalk WWPS Condition Assessment (Paragraph 24.a)

CCH is proceeding with improvements at the Beachwalk WWPS that were identified as follow-up items from the previously completed condition assessment report.

Table 48. Beachwalk WWPS Condition Assessment Follow-up Items

Requirement	DDC Serial Number	Compliance Milestones	Status
Repair Wet Well	08-0730	Construction NTP: 1/3/2011 Complete Construction: 12/31/2012	Construction NTP issued 10/11/2010. Construction in progress.
Replace Variable Speed Controls	08-0730	Construction NTP: 1/3/2011 Complete Construction: 12/31/2012	Construction NTP issued 10/11/2010. Construction in progress.

Requirement	DDC Serial Number	Compliance Milestones	Status
Repair Roof	08-0730	Complete Construction: 12/31/2012	Construction in progress.
Replace Level Control	08-0730	Complete Construction: 12/31/2012	Construction in progress.

Beachwalk Pump Station Upgrade (Paragraph 24.b)

CCH is currently evaluating the future need for the Beachwalk Pump Station.

Fort DeRussy Pump Station Upgrade (Paragraph 24.c)

CCH is currently evaluating the future need for the Fort DeRussy Pump Station.

Waimalu Pump Station Controller Upgrade (Paragraph 24.d)

CCH completed replacement of the controllers at the Waimalu Pump Station. The work was completed in June 2010, before the CD completion deadline of November 30, 2010.

Wet Weather Storage (Paragraph 24.e)

Equipment and procedures are in place to use existing storage at the Kaneohe PTF and the Ahuimanu PTF during wet weather events. The available storage volume is approximately 1.4 million gallons at the Kaneohe PTF and 600,000 gallons at the Ahuimanu PTF. As required by the CD, this storage volume is being used to reduce capacity-related overflows during wet weather events. CCH has calculated and documented the available storage volume in the existing structures and prepared flow schematics for each facility. During Year One the storage at the Kaneohe PTF was used during six rainfall events and the storage at the Ahuimanu PTF was used during ten events.

CCH is taking steps to decrease response time and maximize the use of storage at the Kaneohe PTF and the Ahuimanu PTF, including:

1. For Kaneohe PTF:
 - a. Unit 7 portable pump was replaced in June 2011 to increase pumping capacity to the storage tanks.
 - b. Automatic start switches for Unit 7 and Unit 8 flow diversion equipment were purchased and delivered on 07/20/11.
 - c. Additional work to be completed includes the installation of the automatic switch for Unit 8 portable pump, setting the float height in the wetwell of the Old Kawa Pump Station, and to set the on/off logic for the portable pumps.

2. For Ahuimanu PTF:

- a. Pumps were replaced on 8/24/2011 at the Old Final Clarifier storage tank, to automatically pump from the Old Final Clarifier storage tank to the Old Digester storage tank. Previously, pumping from one tank to the other was done manually.

Pump Station Overflow Structures (Paragraph 24.f)

CCH has updated its design standards to suspend sections related to overflow structures. This change was made by the issuance of a letter dated March 11, 2009 to all design consultants in CCH’s consultant database. The letter is also posted on the CCH website. The letter suspended the sections of the design standards that referred to designed overflow structures. CCH is preparing a report on pump station overflow structures that will include an inventory and a recommendation as to whether the structure is necessary to minimize risk to public health and safety. A single report is being prepared to address pump station overflow structures (Paragraph 24.f) and force main overflow structures (Paragraph 13.b). This report is on schedule to be submitted to EPA and DOH for review and approval on or before the deadline of December 17, 2011. After EPA and DOH review and approval, valves and other pump station appurtenances that are identified as necessary to minimize the risk to public health and safety will be integrated into the operation and maintenance manual for each individual pump station.

Table 49. Pump Station Overflow Structure Requirements

Requirement	Due Date	Status
WWPS Overflow Structures Design Standards Update	12/17/2010	Completed. Letter issued March 11, 2009.
WWPS Overflow Structures Closure Report	12/17/2011	A consultant is under contract to prepare this report. The report will identify the appurtenances to be permanently closed.
WWPS Overflow Structures Closure Project	One year after EPA approval of Overflow Structures Closure Report	

Pump Station Operation and Maintenance Manuals (Paragraph 24.g)

CCH has compiled the most recent O&M manual for each pump station. CCH has reviewed all the manuals and has developed a prioritized list of the manuals that need to be revised. A scope of work is being developed for a consultant to perform the necessary updates. CCH is on schedule to meet the deadline to review the pump station O&M manuals and update the manuals by December 17, 2012. When manuals are revised, updated copies will be distributed and maintained at each pump station, and the new plans will be implemented.

Pump Station Operations Training (Paragraph 24.h)**Table 50. Pump Station Operations Training Requirements**

Requirement	Due Date	Status
WWPS Standard Training Procedures Including SCPs	12/17/2011	The training procedures are being finalized. The training session is scheduled for November 2011.
WWPS Training Certification for Maintenance Staff	12/17/2012	

N. Sewer Laterals (Paragraph 25)***Inventory of Lower Laterals (Paragraph 25.a)***

CCH maintains a database of lower laterals in its Geographic Information System (GIS). The CCH GIS database contains a current and complete inventory of lower laterals. This database is updated when new lateral information becomes available.

Problem Lower Laterals (Paragraph 25.b)

The list of lower laterals with known issues that require maintenance is maintained in the CSM computerized maintenance management system database. CSM maintains a database of all reported problem lower laterals and the appropriate corrective action (repair, replacement or maintenance) to address the lateral issue is assigned. Once identified, the corrective action for such lateral is completed within two years. A summary of the problem laterals addressed in Year One is included in Attachment B.

Reporting of Lower Lateral Issues (Paragraph 25.c)

CSM staff report lower lateral issues observed during field work and complete the appropriate corrective action within 60 days when a lower lateral contributes to an SSO.

A memo dated May 23, 2011 was sent by CSM management to all CSM staff reiterating the requirement to report all lateral issues observed during field work.

A similar memo sent June 6, 2011 was issued by CSM management to its contractors directing them to report any lower lateral issues they may discover in the field. Construction drawing notes also remind CCH contractors to report lateral problems encountered in the field to the sewer trouble call number (808) 768-7272.

Corrective Action within 60 Days (Paragraph 25.d)

CSM conducts corrective action (repair, replacement, or maintenance) within 60 days if a lower lateral causes or contributes to an SSO. The laterals addressed in Year One are summarized in Attachment B.

Clean-out Cap Replacement Program (Paragraph 25.e)

The Cleanout Cap Replacement Program is currently in place and is continued as part of the smoke testing procedures. CSM records the number of clean-out caps it replaces, and maintains the record for at least five years.

Building Inspection Materials and Follow-up (Paragraph 25.f)

CCH has developed materials for building inspectors with the Department of Planning and Permitting (DPP) to assist in identifying illegal connections to the sanitary sewer system. These materials were disseminated before March 17, 2011 (90 days after the CD effective date).

When an inspection identifies an illegal connection, the DPP inspector informs the Regulatory Control Branch (RC) of ENV. CCH sends a Notice (return receipt requested) to the property owner of record indicating that corrective action, including certification of repair, must be taken within six months. Records of this correspondence and repair certifications are maintained in the Regulatory Control database for at least five years.

Smoke Testing and Follow-up(Paragraph 25.g)

As an annual performance requirement, CCH is to perform smoke testing on at least 19 miles of gravity sewers (mains and lower laterals) per year. During Year One, CCH performed four rounds of smoke testing using in-house crews. The testing covered 22 miles of gravity mains and 10 miles of lower laterals, for a total of 32 miles. The sewer assets and dates of testing were recorded in CCH's computerized maintenance management system and will be retained for at least five years.

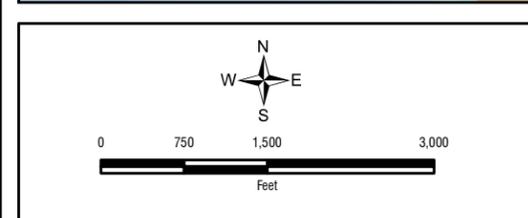
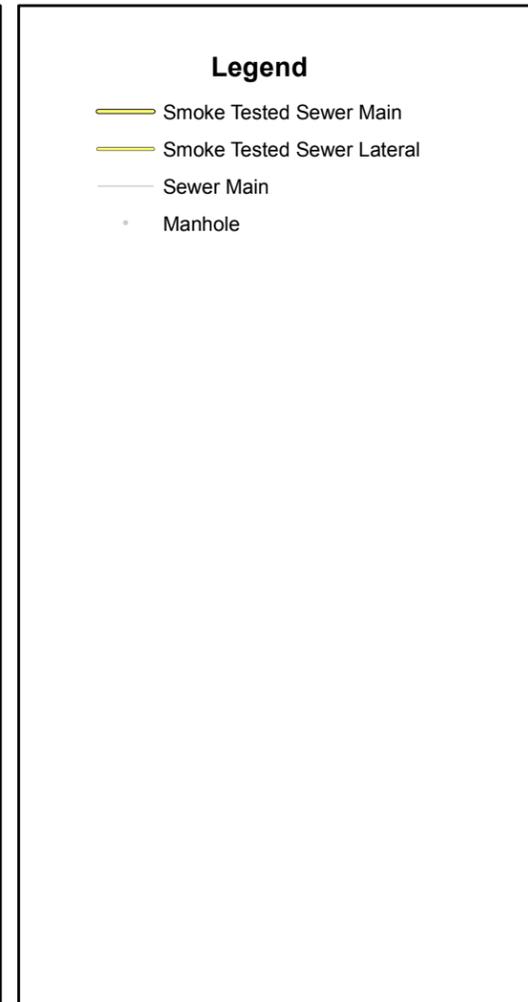
When smoke testing indicates an improper connection, CSM forwards the case to RC which issues a notice to the responsible party requiring them to

- 1) take corrective action to eliminate the improper connection within 6 months after receipt of notification, and
- 2) provide certification of completion of the required corrective action.

All records to this effect are maintained in the RC database for at least five years.

During Year One CCH identified two improper connections through the smoke testing program. The responsible parties were notified by RC. One of the connections has been corrected and verified, and one is currently under further investigation by CSM.

The areas of smoke testing performed in Year One are shown in Figure 6 and Figure 7.

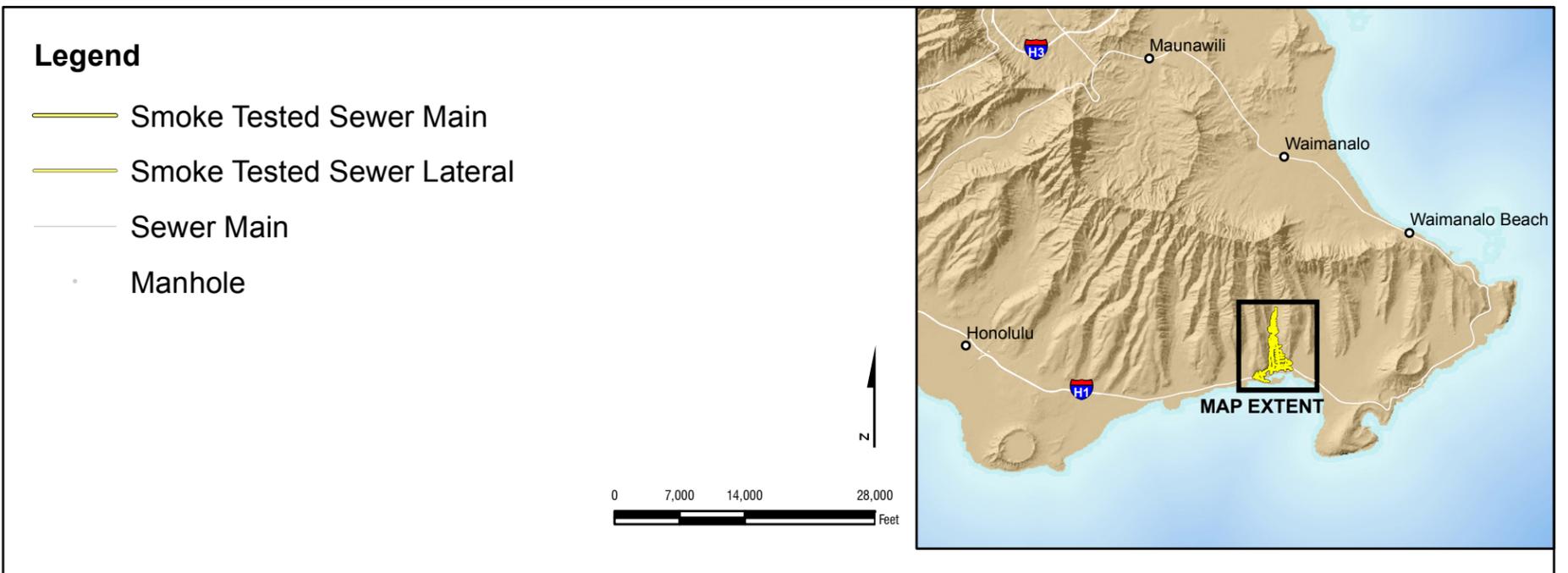


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Gravity Sewer Smoke Testing (July 1, 2010 through June 30, 2011) (1 of 2)

FIGURE 6



Gravity Main Smoke Testing (July 1, 2010 through June 30, 2011) (2 of 2)

FIGURE 7

O. Staffing Commitments (Paragraph 26)

CD Appendix I included a staffing plan for the gravity sewer function of CSM. That plan identified 20 non-field positions and 134 field positions, for a total of 154 employees. On February 14, 2011, CCH submitted an updated staffing plan to EPA and DOH. That plan identified 20 non-field positions and 140 field positions, for a total of 160 employees.

CCH is currently implementing the staffing plan outlined in CD Appendix I and will be working towards implementation of the recently updated staffing plan. As of June 17, 2011, CSM had 17 non-field positions filled with 3 vacancies. There were 104 field positions filled with 30 vacancies. The overtime hours performed by field staff and the calculation of equivalent employees are shown in Table 51.

Table 51. Year One Overtime Calculation

Total Field Overtime Hours for January through April, 2011	Average Field Overtime Hours per Month	Monthly Hours per FTE	Equivalent FTEs
10,326.25	2,581.563	144	17.9
Calculation of monthly hours per FTE is based on: 2080 total hours per year - 168 vacation hours per year - 104 holiday hours per year - 80 sick hour per year 1728 available hours per year = 144 available hours per month			

For January through April overtime amounted to 17.9 full-time equivalent employees, all of which were field positions. The total number of equivalent filled positions amounted to 17 non-field and 121.9 field positions, for a total of 138.9 equivalent employees. This number equates to 90 percent of the level (154 employees) identified in Appendix I, therefore meeting the requirement in Paragraph 26.a. While CCH had contractor support during Year One, contractor support has not been included in this staffing because CCH met the required staffing levels without including contractor support.

Table 52. Staffing Commitments

Requirement	Due Date	Status
Collection System Staffing: Revised Staffing Plan Report	2/15/2011	Submitted to EPA and DOH for review and approval 2/14/2011. EPA approval received 7/5/2011.
Collection System Staffing: Maintain Staffing Level Annually	1/1/2012	

P. Equipment Commitments (Paragraph 27)

Table 53. Equipment Commitments

Requirement	Required Number	Due Date	Status
Vactors	10	6/17/2012	CSM currently has 14 vactors
Cesspool Trucks	5	6/17/2012	CSM currently has 5 cesspool trucks
Rodders	8	6/17/2012	CSM currently has 10 junior rodders and one rodding machine
CCTV Vans	4	6/17/2012	CSM currently has 5 CCTV vans
Tankers (within WTD)	4	6/17/2012	WTD currently has 4 tankers

Q. Odor Issues (Paragraph 28)

CCH continues to publicize its odor complaint hotline (808) 768-7272 and records trouble calls in its maintenance management system, where the information is maintained for at least five years.

CCH publishes the Trouble Hotline telephone number on its external web site and local telephone directory. All calls related to odors are tracked in the CSM computerized maintenance management system (CMMS). Follow-up and/or resolution for each complaint is also tracked in the database system. During Year One, CCH received and investigated approximately 140 odor complaints. CCH investigated each complaint and took appropriate follow-up actions as needed. In most cases the odor could not be identified as attributable to the wastewater collection system. When a collection system issue was identified, CCH took appropriate actions including applying silicone seal around manhole lids or cleaning the sewer main.

R. Spill Response, Monitoring, and Reporting (Paragraph 29)

CCH is currently updating its procedures for spill response, monitoring, and reporting and is on schedule to submit a report to EPA and DOH for review and approval on or before December 17, 2011.

S. Honouliuli Wastewater Treatment Plant (Paragraph 30)

CCH has withdrawn its appeal of EPA's denial of a permit for the Honouliuli WWTP. CCH has submitted a NPDES permit application to DOH and is proceeding with facility planning for secondary treatment at the Honouliuli WWTP.

T. Sand Island Wastewater Treatment Plant (Paragraph 31)

CCH has withdrawn its appeal of EPA's denial of a permit for the Sand Island WWTP. CCH has submitted a NPDES permit application to DOH and is proceeding with facility planning for secondary treatment at the Sand Island WWTP.

U. Treatment Plant Interim Effluent Limits (Paragraph 32)

The CD includes interim effluent limits for total suspended solids (TSS) and bio-chemical oxygen demand (BOD) for the Sand Island and Honouliuli treatment plants. Data for these constituents and compliance with these limits are reported in the Discharge Monitoring Report (DMR) provided monthly to EPA and DOH.

V. Treatment Plant Operation and Maintenance (Paragraph 33)

During Year One CCH prepared updated operations and maintenance (O&M) manuals for the Sand Island and Honouliuli treatment plants. These manuals were submitted to EPA and DOH for review and approval on June 17, 2011 in compliance with the CD requirement and are currently under review by EPA and DOH.

Attachment A

Pipe Segments in R&R Program

The CD paragraph 34.d.iii notes that for the Annual Report:

For each gravity main rehabilitated or replaced, CCH shall provide the following information:

- (a) the pipe identification number;
- (b) whether the pipe was repaired, rehabilitated or replaced;
- (c) the length of the gravity main claimed as credit towards the R/R Plan mileage requirements and the length of repair, rehabilitation or replacement performed;
- (d) the pipe material;
- (e) the diameter of the pipe;
- (f) the original installation date of the gravity main at issue;
- (g) the most recent condition assessment of the gravity main prior to its rehabilitation or replacement; and
- (h) a map depicting the location of each gravity main rehabilitated or replaced.

This information is shown for the gravity mains that are being proposed for addition to the rehabilitation and replacement bank in the table that follows.

CITY AND COUNTY OF HONOLULU • WASTEWATER CONSENT DECREE • YEAR ONE REPORT

Project ID	SEWERID	Material	Diameter	GIS Length	Installation Date	Activity Type	Activity Date	Activity Feet	Prior CCTV Inspection
1149	376209	VCP	12	170	4/17/1952	Rehabilitation	8/25/2009	167	8/24/2009
1149	376262	VCP	12	210	4/17/1952	Rehabilitation	8/25/2009	206	8/24/2009
1149	376318	VCP	12	180	4/17/1952	Rehabilitation	8/25/2009	178	8/24/2009
1149	376340	VCP	6	212	2/8/1932	Rehabilitation	4/1/2010	210	4/1/2010
1149	376350	VCP	6	362	2/8/1932	Rehabilitation	3/17/2010	364	3/17/2010
1149	376353	VCP	6	215	2/8/1932	Rehabilitation	4/1/2010	214	4/1/2010
1150	376129	VCP	12	174	5/31/1962	Rehabilitation	12/2/2009	174	8/19/2009
1150	376184	VCP	12	42	6/30/1962	Rehabilitation	12/2/2009	42	8/19/2009
1150	376207	TCP	12	79	6/30/1951	Rehabilitation	8/20/2009	79	4/24/2009
1150	376212	VCP	12	240	4/17/1952	Rehabilitation	8/20/2009	237	4/24/2009
1151	419574	VCP	6	121	6/30/1955	Rehabilitation	4/9/2010	122	4/7/2010
1151	419618	VCP	6	80	6/30/1955	Rehabilitation	4/12/2010	81	4/7/2010
1151	419646	VCP	8	232	6/30/1955	Rehabilitation	4/12/2010	234	4/7/2010
1152	379542	TCP	24	146	4/15/1919	Rehabilitation	5/15/2011	146	1/27/2011
1152	379583	TCP	24	520	4/15/1919	Rehabilitation	5/15/2011	519	1/31/2011
1152	380637	TCP	24	542	4/15/1919	Rehabilitation	5/15/2011	540	1/31/2011
1152	685612	VCP	24	50	12/30/1991	Rehabilitation	5/16/2011	50	2/1/2011
1152	685696	UNK	24	341		Rehabilitation	5/16/2011	322	1/31/2011
1152	685701	TCP	24	45		Rehabilitation	5/16/2011	45	1/31/2011
1152	685721	TCP	24	316	4/15/1919	Rehabilitation	5/16/2011	341	1/27/2011
1153	269132	VCP	8	253	12/1/1938	Rehabilitation	6/21/2010	253	6/4/2010
1153	269263	VCP	8	288	12/1/1938	Rehabilitation	6/21/2010	291	6/18/2010
1155	541722	VCP	8	59	9/14/1979	Rehabilitation	1/29/2010	58	1/8/2010
1155	541737	VCP	8	138	9/14/1979	Rehabilitation	1/29/2010	138	1/8/2010
1155	541740	VCP	8	123	12/4/1964	Rehabilitation	8/18/2010	124	1/8/2010
1155	541747	VCP	8	20	12/4/1964	Rehabilitation	8/18/2010	21	1/8/2010
1155	542030	CIP	10	33	12/4/1964	Rehabilitation	1/20/2010	39	1/8/2010
1155	542032	VCP	10	105	12/4/1964	Rehabilitation	1/20/2010	106	1/8/2010
1155	542663	VCP	10	245	12/4/1964	Rehabilitation	1/20/2010	239	1/8/2010
1155	542675	VCP	8	166	12/4/1964	Rehabilitation	8/18/2010	164	1/8/2010
1155	4000570	VCP	10	150	12/4/1964	Rehabilitation	1/20/2010	129	1/8/2010
1157	342974	TCP	8	320		Rehabilitation	1/29/2010	316	1/27/2010
1157	343082	TCP	6	37		Rehabilitation	1/28/2010	32	1/27/2010
1159	305546	VCP	15	213	6/30/1971	Rehabilitation	9/17/2010	212	12/1/2009
1159	305620	VCP	15	251	10/27/1965	Rehabilitation	9/17/2010	252	12/1/2009
1159	305712	VCP	15	161	10/27/1965	Rehabilitation	9/17/2010	157	12/1/2009
1160	343481	TCP	8	398		Rehabilitation	12/16/2010	386	4/14/2010
1160	3005622	UNK	8	414		Rehabilitation	12/16/2010	404	12/15/2010
1174	478805	VCP	21	247	3/29/1954	Rehabilitation	11/12/2010	242	12/1/2009
1174	478844	VCP	21	193	3/29/1954	Rehabilitation	11/11/2010	191	12/1/2009
1174	478874	VCP	21	168	3/29/1954	Rehabilitation	11/11/2010	163	11/8/2010
1174	478906	VCP	21	220	3/29/1954	Rehabilitation	11/11/2010	216	12/1/2009
1174	480710	VCP	21	223	3/29/1954	Rehabilitation	11/12/2010	221	11/8/2010
1175	481200	VCP	24	102	6/30/1952	Rehabilitation	10/28/2010	101	12/1/2009
1175	481232	VCP	24	163	1/7/1952	Rehabilitation	10/28/2010	161	10/28/2010
1175	481263	VCP	24	245	1/7/1952	Rehabilitation	10/28/2010	243	12/1/2009
1175	481305	VCP	24	190	1/7/1952	Rehabilitation	10/28/2010	188	10/26/2010
1175	481329	VCP	24	265	1/7/1952	Rehabilitation	10/28/2010	261	10/26/2010
1175	481349	VCP	24	266	1/7/1952	Rehabilitation	11/13/2010	265	12/1/2009

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Project ID	SEWERID	Material	Diameter	GIS Length	Installation Date	Activity Type	Activity Date	Activity Feet	Prior CCTV Inspection
1175	481360	VCP	24	192	1/7/1952	Rehabilitation	11/13/2010	191	12/1/2009
1175	481376	VCP	24	256	1/7/1952	Rehabilitation	11/13/2010	252	12/1/2009
1175	481383	VCP	24	104	1/7/1952	Rehabilitation	11/13/2010	119	10/29/2010
1175	481387	VCP	24	227	1/7/1952	Rehabilitation	10/28/2010	226	10/26/2010
1176	268582	TCP	8	236	6/30/1910	Rehabilitation	1/28/2011	231	1/27/2011
1176	268684	TCP	8	334	9/6/1906	Rehabilitation	3/15/2011	331	1/27/2011
1176	268872	TCP	10	212	9/6/1906	Rehabilitation	3/15/2011	209	3/7/2011
1176	268988	TCP	10	239	9/6/1906	Rehabilitation	3/15/2011	234	3/7/2011
1176	269145	TCP	10	258	9/6/1906	Rehabilitation	3/15/2011	251	3/8/2011
1176	269273	TCP	10	222	9/6/1906	Rehabilitation	3/15/2011	222	3/8/2011
1176	269368	TCP	12	258	9/6/1906	Rehabilitation	3/15/2011	256	3/9/2011
1176	269490	TCP	12	232	9/6/1906	Rehabilitation	2/18/2010	230	12/11/2009
1176	269603	VCP	15	171	6/30/1938	Rehabilitation	12/9/2009	167	12/1/2009
1176	269679	VCP	15	187	3/10/1939	Rehabilitation	12/11/2009	178	11/30/2009
1176	269770	VCP	15	166	3/10/1939	Rehabilitation	3/15/2011	166	3/10/2011
1176	269859	VCP	15	174	3/10/1939	Rehabilitation	12/9/2009	166	12/1/2009
1176	269941	VCP	15	167	3/10/1939	Rehabilitation	12/9/2009	165	12/1/2009
1176	270012	VCP	18	248	6/30/1951	Rehabilitation	3/26/2011	243	3/21/2009
1176	270020	VCP	15	175	3/10/1939	Rehabilitation	12/9/2009	171	12/1/2009
1176	270101	VCP	15	166	3/10/1939	Rehabilitation	12/11/2009	171	12/1/2009
1176	270170	VCP	15	175	3/10/1939	Rehabilitation	12/10/2009	176	12/1/2009
1176	270249	VCP	15	166	3/10/1939	Rehabilitation	12/10/2009	167	12/2/2009
1176	270315	VCP	15	121	6/30/1938	Rehabilitation	12/10/2009	116	12/2/2009
1177	573297	VCP	8	137	11/27/1968	Rehabilitation	11/25/2009	135	9/28/2009
1177	573302	VCP	8	85	11/27/1968	Rehabilitation	11/25/2009	85	9/28/2009
1177	573314	VCP	8	63	11/27/1968	Rehabilitation	11/25/2009	64	9/28/2009
1177	573325	VCP	6	150	8/18/1969	Rehabilitation	5/27/2010	153	9/29/2009
1177	605599	VCP	8	88	11/27/1968	Rehabilitation	11/25/2009	85	9/28/2009
1177	605623	VCP	8	182	11/27/1968	Rehabilitation	11/25/2009	177	9/28/2009
1177	4000520	VCP	6	145	8/18/1969	Rehabilitation	5/26/2010	147	9/29/2009
1177	4000521	VCP	6	160	8/18/1969	Rehabilitation	5/26/2010	158	9/29/2009
1178	590156	VCP	12	45	3/18/1965	Rehabilitation	8/30/2010	47	8/5/2010
1178	590182	VCP	12	92	3/18/1965	Rehabilitation	8/30/2010	87	8/5/2010
1178	590225	VCP	12	172	3/18/1965	Rehabilitation	8/30/2010	171	8/5/2010
1178	590999	VCP	6	98	3/18/1965	Rehabilitation	8/13/2010	97	8/4/2010
1179	481128	VCP	8	241	1/7/1952	Rehabilitation	8/18/2010	239	8/10/2010
1179	481168	VCP	12	160	1/7/1952	Rehabilitation	9/13/2010	158	8/18/2010
1179	481184	VCP	12	180	1/7/1952	Rehabilitation	9/13/2010	179	8/18/2010
1179	481215	VCP	12	264	1/7/1952	Rehabilitation	9/13/2010	236	9/2/2010
1179	481238	VCP	12	189	1/7/1952	Rehabilitation	9/13/2010	189	9/2/2010
1181	363943	VCP	6	54	6/3/1969	Rehabilitation	9/23/2009	58	6/22/2009
1181	363956	VCP	6	252	6/3/1969	Rehabilitation	9/24/2009	228	6/22/2009
1191	268079	TCP	6	182	6/30/1923	Rehabilitation	6/5/2009	182	10/23/2008
1196	244636	TCP	8	97	7/29/1921	Rehabilitation	4/27/2009	88	5/1/2008
1203	313088	TCP	6	210	6/30/1940	Rehabilitation	3/25/2010	207	5/1/2008
1203	313409	TCP	8	213	6/30/1921	Rehabilitation	11/18/2009	206	6/4/2009
1204	289915	TCP	8	221		Rehabilitation	5/8/2009	219	5/1/2008
1206	313815	TCP	8	314		Rehabilitation	10/8/2009	306	6/12/2009
1206	313824	TCP	8	241		Rehabilitation	10/9/2009	232	6/12/2009
1207	314255	TCP	6	73	6/30/1915	Rehabilitation	5/8/2009	70	5/8/2009

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1209	314876	TCP	6	180		Rehabilitation	5/12/2009	294	1/21/2009
1209	314907	TCP	6	155		Rehabilitation	6/27/2009	152	1/21/2009
1209	315111	TCP	6	281		Rehabilitation	6/26/2009	276	3/30/2009
1209	315195	TCP	6	201		Rehabilitation	6/26/2009	195	3/30/2009
1209	315671	VCP	6	271		Rehabilitation	5/6/2009	277	1/20/2009
1211	315513	TCP	6	167		Rehabilitation	10/13/2009	164	6/2/2008
1211	342588	TCP	6	142		Rehabilitation	10/13/2009	134	6/2/2008
1211	357055	TCP	6	167		Rehabilitation	2/10/2009	167	10/17/2008
1214	244301	TCP	8	182	7/29/1921	Rehabilitation	11/24/2010	182	2/1/2010
1214	244305	TCP	6	219	7/29/1921	Rehabilitation	2/28/2011	219	2/2/2010
1214	244512	VCP	8	200	7/29/1921	Rehabilitation	2/5/2010	199	2/1/2010
1214	244567	VCP	8	200	7/29/1921	Rehabilitation	2/5/2010	196	2/1/2010
1214	244760	VCP	8	89	5/15/1964	Rehabilitation	2/10/2010	89	2/4/2010
1214	244801	VCP	8	116	5/15/1964	Rehabilitation	2/10/2010	116	2/4/2010
1214	244847	VCP	8	71	5/15/1964	Rehabilitation	2/10/2010	74	2/4/2010
1214	244869	VCP	8	161	5/15/1964	Rehabilitation	2/10/2010	156	2/4/2010
1214	244927	VCP	8	121	5/15/1964	Rehabilitation	2/10/2010	111	2/4/2010
1214	245566	VCP	8	198	7/29/1921	Rehabilitation	11/24/2010	197	2/1/2010
1214	245568	TCP	6	32	6/30/1922	Rehabilitation	3/29/2011	30	2/2/2010
1214	3005822	UNK	6	182	7/29/1921	Rehabilitation	2/28/2011	186	2/2/2010
1214	4044888	VCP	8	34		Rehabilitation	2/10/2010	36	2/4/2010
1215	620078	VCP	10	170	1/6/1967	Rehabilitation	3/24/2011	165	8/17/2010
1215	620104	VCP	10	197	11/30/1962	Rehabilitation	3/14/2011	196	8/17/2010
1215	620108	VCP	8	78	11/30/1962	Rehabilitation	8/23/2010	77	8/17/2010
1215	620128	VCP	8	228	11/30/1962	Rehabilitation	3/10/2011	226	8/17/2010
1215	620148	VCP	8	215	11/30/1962	Rehabilitation	3/31/2011	213	3/15/2011
1215	620157	VCP	8	242	11/30/1962	Rehabilitation	8/24/2010	241	8/17/2010
1215	620177	VCP	8	239	11/30/1962	Rehabilitation	3/31/2011	238	3/15/2011
1215	620272	VCP	8	237	8/18/1983	Rehabilitation	3/8/2011	236	8/17/2010
1215	620273	VCP	8	228	11/30/1962	Rehabilitation	3/25/2011	225	3/15/2011
1215	620536	VCP	8	265	8/18/1983	Rehabilitation	3/7/2011	232	8/17/2010
1215	620537	VCP	8	225	8/18/1983	Rehabilitation	3/28/2011	221	3/15/2011
1223	344239	TCP	8	286		Rehabilitation	6/2/2010	280	10/9/2009
1223	344395	TCP	8	274		Rehabilitation	6/2/2010	271	10/9/2009
1223	344415	TCP	8	41		Rehabilitation	5/18/2010	41	10/9/2009
1223	344425	VCP	8	150	6/30/1986	Rehabilitation	6/22/2010	150	10/7/2009
1223	344440	VCP	21	103	6/30/1966	Rehabilitation	5/17/2010	104	10/9/2009
1223	344471	TCP	8	286		Rehabilitation	5/6/2010	287	10/7/2009
1223	344511	VCP	10	149	6/30/1966	Rehabilitation	10/8/2009	60	10/8/2009
1223	344581	TCP	8	250	11/20/1928	Rehabilitation	5/18/2010	249	10/8/2009
1223	344614	TCP	8	192	11/20/1928	Rehabilitation	5/17/2010	193	10/9/2009
1223	344664	TCP	8	66	11/20/1928	Rehabilitation	5/17/2010	74	10/8/2009
1223	344687	TCP	8	66	11/20/1928	Rehabilitation	5/17/2010	67	10/9/2009
1223	344695	TCP	8	217	11/20/1928	Rehabilitation	5/14/2010	217	10/8/2009
1223	344726	TCP	8	157	2/24/1939	Rehabilitation	5/14/2010	157	10/8/2009
1223	344774	TCP	8	247	11/20/1928	Rehabilitation	5/13/2010	250	11/3/2009
1223	344865	TCP	8	76		Rehabilitation	5/13/2010	76	11/9/2009
1223	345258	TCP	8	33		Rehabilitation	5/13/2010	32	11/3/2009
1223	345259	TCP	10	250		Rehabilitation	5/21/2010	231	5/20/2010
1223	4026598	VCP	10	337	6/15/1990	Rehabilitation	10/9/2009	339	10/9/2009

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1223	4026600	VCP	10	301	6/15/1990	Rehabilitation	10/9/2009	305	10/9/2009
1223	4026602	VCP	10	22	6/15/1990	Rehabilitation	10/9/2009	26	10/9/2009
1223	4026603	VCP	10	40	6/15/1990	Rehabilitation	10/9/2009	39	10/9/2009
1228	603760	VCP	8	111	6/8/1973	Rehabilitation	12/15/2009	110	10/1/2009
1228	603764	VCP	8	114	6/8/1973	Rehabilitation	12/30/2009	112	10/2/2009
1228	603766	VCP	8	79	6/8/1973	Rehabilitation	12/15/2009	79	10/1/2009
1228	603771	VCP	8	124	6/8/1973	Rehabilitation	12/16/2009	122	10/1/2009
1228	603778	VCP	8	104	6/8/1973	Rehabilitation	12/30/2009	104	10/2/2009
1228	603780	VCP	8	97	6/8/1973	Rehabilitation	12/16/2009	95	10/1/2009
1228	603789	VCP	8	83	6/8/1973	Rehabilitation	12/29/2009	81	10/1/2009
1228	603794	VCP	8	127	6/8/1973	Rehabilitation	2/9/2010	126	10/2/2009
1228	603807	VCP	8	79	6/8/1973	Rehabilitation	12/29/2009	80	10/1/2009
1228	603820	VCP	8	130	6/8/1973	Rehabilitation	2/9/2010	130	10/2/2009
1228	603827	VCP	8	113	6/8/1973	Rehabilitation	12/29/2009	112	10/1/2009
1228	603839	VCP	8	81	6/8/1973	Rehabilitation	1/6/2010	79	10/2/2009
1228	606350	VCP	10	65	5/5/1970	Rehabilitation	1/26/2010	62	9/30/2009
1228	606359	VCP	10	74	5/5/1970	Rehabilitation	1/26/2010	71	9/30/2009
1228	606369	VCP	10	110	5/5/1970	Rehabilitation	1/26/2010	108	9/30/2009
1228	619954	VCP	10	280	5/5/1970	Rehabilitation	1/27/2010	278	9/30/2009
1228	619958	VCP	10	146	6/8/1973	Rehabilitation	1/7/2010	142	10/2/2009
1228	619960	VCP	8	77	6/8/1973	Rehabilitation	1/6/2010	77	10/2/2009
1228	619974	VCP	8	165	6/8/1973	Rehabilitation	1/6/2010	164	10/2/2009
1228	619980	VCP	12	128	5/5/1970	Rehabilitation	2/9/2010	128	10/2/2009
1230	419657	VCP	6	150	6/30/1955	Rehabilitation	8/14/2009	145	7/25/2007
1230	419698	VCP	6	77	6/30/1955	Rehabilitation	8/14/2009	69	7/25/2007
1230	419719	VCP	8	133	6/30/1955	Rehabilitation	4/1/2009	132	7/25/2007
1230	419766	VCP	8	237	6/30/1955	Rehabilitation	4/1/2009	237	7/25/2007
1230	419830	VCP	8	238	6/30/1955	Rehabilitation	4/3/2009	236	7/26/2007
1230	419842	VCP	8	245	6/30/1955	Rehabilitation	4/1/2009	246	7/26/2007
1230	419898	VCP	8	38	6/30/1955	Rehabilitation	4/3/2009	40	7/25/2007
1230	419910	VCP	8	94	6/30/1956	Rehabilitation	4/3/2009	95	7/26/2007
1230	419913	VCP	8	141	6/30/1955	Rehabilitation	4/3/2009	137	7/26/2007
1233	2012886	VCP	8	128	9/25/1992	Rehabilitation	7/7/2010	128	7/7/2010
1235	644690	VCP	10	250	7/13/1973	Rehabilitation	1/4/2010	241	10/2/2009
1235	644723	VCP	10	250	7/13/1973	Rehabilitation	1/4/2010	252	9/30/2009
1235	644742	VCP	10	166	7/13/1973	Rehabilitation	1/4/2010	166	10/1/2009
1235	644752	VCP	8	133	7/13/1973	Rehabilitation	9/25/2009	129	9/16/2009
1235	644755	VCP	8	75	6/30/1964	Rehabilitation	1/4/2010	42	9/17/2009
1235	644759	VCP	8	166	6/30/1964	Rehabilitation	10/2/2009	216	9/17/2009
1235	644770	VCP	8	27	6/30/1964	Rehabilitation	10/2/2009	11	9/16/2009
1235	644777	VCP	8	268	6/30/1964	Rehabilitation	10/2/2009	269	9/16/2009
1235	644785	VCP	8	268	6/30/1964	Rehabilitation	10/2/2009	267	9/16/2009
1235	644787	VCP	8	119	6/30/1964	Rehabilitation	9/24/2009	118	9/16/2009
1238	324728	VCP	6	56	1/9/1970	Rehabilitation	3/23/2010	52	8/13/2007
1238	368399	VCP	6	52	1/9/1970	Rehabilitation	4/6/2010	74	8/13/2007
1238	368418	VCP	6	153	1/9/1970	Rehabilitation	4/6/2010	154	8/13/2007
1240	364454	TCP	6	41	6/30/1922	Rehabilitation	5/26/2011	43	4/1/2011
1240	364469	VCP	8	191	2/5/1954	Rehabilitation	4/6/2011	192	4/1/2011
1240	364475	TCP	6	183	6/30/1922	Rehabilitation	5/26/2011	187	4/1/2011
1240	364542	TCP	6	175	6/30/1922	Rehabilitation	4/5/2011	174	4/1/2011

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1240	364616	TCP	6	189	6/30/1922	Rehabilitation	5/26/2011	171	4/1/2011
1240	364631	VCP	6	112	12/17/1980	Rehabilitation	5/18/2011	110	4/1/2011
1240	364715	TCP	10	147	6/30/1912	Rehabilitation	4/7/2011	146	4/1/2011
1240	364730	TCP	10	64	6/30/1912	Rehabilitation	5/27/2011	61	4/1/2011
1240	364741	TCP	10	143	6/30/1912	Rehabilitation	4/8/2011	144	4/1/2011
1240	364748	TCP	10	32	6/30/1912	Rehabilitation	5/27/2011	31	4/1/2011
1240	365342	TCP	10	272	6/30/1912	Rehabilitation	5/25/2011	271	4/12/2011
1240	369593	TCP	10	269	6/30/1912	Rehabilitation	5/24/2011	264	4/12/2011
1240	3013454	VCP	8	142	6/30/1954	Rehabilitation	4/6/2011	132	4/1/2011
1245	255697	TCP	6	133	6/30/1927	Rehabilitation	5/11/2011	133	5/6/2009
1245	255809	TCP	6	100	6/30/1927	Rehabilitation	5/16/2011	72	5/14/2009
1245	277681	TCP	6	118	11/7/1928	Rehabilitation	5/13/2011	117	5/15/2009
1245	277928	TCP	6	126	6/27/1927	Rehabilitation	6/16/2011	71	5/14/2009
1245	286449	TCP	6	169	11/7/1928	Rehabilitation	5/13/2011	169	5/7/2009
1250	598067	RCP	21	14	10/19/1966	Rehabilitation	5/11/2009	13	4/22/2009
1250	598073	RCP	21	428	10/19/1966	Rehabilitation	5/28/2009	417	4/20/2009
1252	570378	VCP	8	129	1/11/1974	Rehabilitation	4/29/2010	134	8/8/2007
1252	570411	VCP	6	112	1/11/1974	Rehabilitation	4/30/2010	86	8/8/2007
1252	570445	VCP	8	91	1/11/1974	Rehabilitation	4/29/2010	92	8/8/2007
1252	570465	VCP	8	133	1/11/1974	Rehabilitation	4/29/2010	128	8/8/2007
1252	570469	VCP	8	41	1/11/1974	Rehabilitation	4/29/2010	44	8/8/2007
1253	603646	UNK	8	148	6/14/1970	Rehabilitation	6/8/2010	148	5/11/2010
1253	603672	UNK	8	107	6/14/1970	Rehabilitation	6/8/2010	109	5/11/2010
1253	603675	UNK	8	180	6/14/1970	Rehabilitation	6/8/2010	176	5/11/2010
1253	603680	UNK	12	107	12/10/1969	Rehabilitation	9/10/2010	101	6/3/2010
1253	603681	UNK	12	277	12/10/1969	Rehabilitation	9/1/2010	277	6/3/2010
1253	603684	VCP	12	30	12/10/1969	Rehabilitation	9/1/2010	28	6/3/2010
1257	262663	VCP	6	213	6/30/1960	Rehabilitation	3/30/2011	202	1/28/2011
1257	262680	VCP	6	238	6/30/1960	Rehabilitation	3/30/2011	233	1/28/2011
1265	238298	RCP	15	241	6/30/1959	Rehabilitation	9/17/2010	241	9/15/2010
1265	238299	RCP	15	195	6/30/1959	Rehabilitation	9/17/2010	194	9/15/2010
1265	238301	RCP	15	150	6/30/1959	Rehabilitation	9/17/2010	146	9/15/2010
1265	238305	RCP	15	249	6/30/1959	Rehabilitation	9/17/2010	247	9/15/2010
1265	238306	RCP	15	250	6/30/1959	Rehabilitation	9/8/2010	251	9/8/2010
1265	238307	RCP	15	240	6/30/1959	Rehabilitation	9/8/2010	240	9/8/2010
1265	238308	RCP	15	193	6/30/1959	Rehabilitation	9/9/2010	192	9/9/2010
1265	238309	RCP	15	30	6/30/1959	Rehabilitation	9/9/2010	28	9/9/2010
1275	189609	TCP	6	178		Rehabilitation	12/16/2009	180	6/19/2009
1275	189617	TCP	6	305		Rehabilitation	12/16/2009	294	4/2/2009
1275	189626	TCP	6	108		Rehabilitation	12/16/2009	111	4/2/2009
1275	189629	UNK	6	290		Rehabilitation	12/4/2009	223	3/31/2009
1275	189638	UNK	6	210		Rehabilitation	12/4/2009	222	3/31/2009
1275	189640	UNK	6	185		Rehabilitation	12/4/2009	200	4/1/2009
1275	189646	UNK	8	210		Rehabilitation	12/14/2009	187	12/14/2009
1275	189656	UNK	8	375		Rehabilitation	4/22/2009	306	4/21/2009
1275	189657	VCP	10	308	9/28/1967	Rehabilitation	4/21/2009	304	4/21/2009
1275	189666	UNK	6	368		Rehabilitation	4/21/2009	292	3/31/2009
1275	189676	UNK	6	345		Rehabilitation	4/21/2009	298	4/1/2009
1275	189980	UNK	8	155		Rehabilitation	12/14/2009	150	12/14/2009
1275	192053	PVC	6	165		Rehabilitation	12/16/2009	167	6/18/2009

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1275	192056	VCP	8	299	11/5/1959	Rehabilitation	4/22/2009	295	4/2/2009
1275	192060	TCP	6	188		Rehabilitation	12/16/2009	185	6/18/2009
1275	192062	TCP	6	245		Rehabilitation	12/16/2009	252	6/19/2009
1275	192065	VCP	8	134	11/5/1959	Rehabilitation	4/22/2009	134	4/2/2009
1275	192067	VCP	8	139	11/5/1959	Rehabilitation	4/22/2009	138	4/15/2009
1275	4061162	VCP	6	114		Rehabilitation	12/16/2009	110	6/19/2009
1276	600198	VCP	8	209	6/30/1957	Rehabilitation	2/28/2011	204	1/5/2011
1276	600208	VCP	6	182	6/30/1957	Rehabilitation	3/2/2011	180	1/5/2011
1276	600210	VCP	8	78	6/30/1957	Rehabilitation	1/19/2011	78	12/2/2010
1276	600231	VCP	8	238	6/30/1957	Rehabilitation	1/20/2011	239	1/5/2011
1276	600245	VCP	8	109	6/30/1957	Rehabilitation	1/19/2011	109	12/2/2010
1276	600248	VCP	8	209	6/30/1957	Rehabilitation	2/28/2011	208	1/5/2011
1276	600249	VCP	8	260	6/30/1957	Rehabilitation	1/13/2011	263	12/2/2010
1276	600272	VCP	8	127	6/30/1957	Rehabilitation	2/21/2011	129	12/2/2010
1276	600299	VCP	8	83	6/30/1957	Rehabilitation	1/21/2011	82	12/2/2010
1276	600302	VCP	8	176	6/30/1957	Rehabilitation	2/25/2011	172	1/5/2011
1276	600324	VCP	8	286	6/30/1957	Rehabilitation	1/25/2011	293	12/2/2010
1276	600329	VCP	6	137	6/30/1957	Rehabilitation	3/1/2011	136	1/5/2011
1276	600334	VCP	8	194	6/30/1957	Rehabilitation	1/13/2011	193	12/2/2010
1276	600340	VCP	8	144	6/30/1957	Rehabilitation	2/28/2011	140	1/5/2011
1276	600379	VCP	8	220	6/30/1957	Rehabilitation	1/14/2011	218	12/2/2010
1276	600401	VCP	8	151	6/30/1957	Rehabilitation	1/18/2011	151	12/2/2010
1277	600535	VCP	8	25	6/30/1957	Rehabilitation	12/3/2010	24	11/30/2010
1277	600589	VCP	8	93	6/30/1957	Rehabilitation	12/3/2010	88	11/30/2010
1277	4039226	PVC	8	224	5/25/2005	Rehabilitation	12/6/2010	216	11/30/2010
1278	600598	VCP	8	264	2/24/1977	Rehabilitation	1/6/2011	263	11/30/2010
1278	600613	VCP	8	39	2/24/1977	Rehabilitation	1/6/2011	38	11/30/2010
1278	600654	VCP	8	119	6/30/1957	Rehabilitation	12/10/2010	118	11/30/2010
1278	600672	VCP	6	140	6/30/1977	Rehabilitation	1/6/2011	143	1/6/2011
1278	600692	VCP	6	137	6/30/1957	Rehabilitation	1/6/2011	134	12/13/2010
1278	600723	VCP	8	248	6/30/1977	Rehabilitation	1/6/2011	249	11/30/2010
1278	600742	VCP	8	245	6/30/1957	Rehabilitation	12/13/2010	246	11/30/2010
1278	600837	VCP	8	256	6/30/1957	Rehabilitation	12/13/2010	255	11/30/2010
1278	600896	VCP	8	196	6/30/1977	Rehabilitation	1/6/2011	195	11/30/2010
1283	62429	VCP	8	282	6/30/1960	Rehabilitation	10/4/2010	267	3/5/2009
1285	324560	VCP	6	79	4/11/1958	Rehabilitation	4/5/2010	76	3/31/2010
1285	324561	VCP	6	51	4/11/1958	Rehabilitation	4/5/2010	42	3/31/2010
1285	329361	TCP	8	115	6/30/1949	Rehabilitation	3/31/2010	118	3/24/2010
1285	329724	TCP	8	207	6/30/1951	Rehabilitation	3/29/2010	207	3/24/2010
1285	329758	TCP	8	228	6/30/1951	Rehabilitation	3/30/2010	227	3/24/2010
1285	330600	TCP	8	124	6/30/1951	Rehabilitation	3/29/2010	124	3/24/2010
1290	305383	VCP	10	254	12/13/1968	Rehabilitation	2/25/2011	252	12/6/2010
1290	305461	VCP	10	184	12/13/1968	Rehabilitation	2/25/2011	191	12/6/2010
1290	305513	VCP	10	230	12/13/1968	Rehabilitation	2/25/2011	220	12/6/2010
1290	305529	TCP	10	413	6/30/1929	Rehabilitation	2/25/2011	415	12/5/2010
1290	305608	TCP	10	226	6/30/1926	Rehabilitation	2/25/2011	223	12/7/2010
1290	305633	TCP	12	107	6/30/1929	Rehabilitation	2/25/2011	106	12/6/2010
1290	305637	TCP	8	320	6/30/1919	Rehabilitation	2/25/2011	0	12/5/2010
1290	305679	VCP	10	185	6/30/1963	Rehabilitation	2/25/2011	4	12/6/2010
1290	305703	TCP	12	319	6/30/1929	Rehabilitation	2/25/2011	321	12/10/2010

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Project ID	SEWERID	Material	Diameter	GIS Length	Installation Date	Activity Type	Activity Date	Activity Feet	Prior CCTV Inspection
1290	305768	VCP	15	29	10/27/1965	Rehabilitation	2/25/2011	23	12/7/2010
1290	305782	VCP	15	32	10/27/1965	Rehabilitation	2/25/2011	32	1/10/2011
1290	305786	TCP	10	77	6/30/1926	Rehabilitation	2/25/2011	71	12/6/2010
1290	305789	VCP	10	10	6/30/1963	Rehabilitation	2/25/2011	12	12/7/2010
1290	305800	TCP	10	226	6/30/1926	Rehabilitation	2/25/2011	279	12/6/2010
1290	305841	VCP	15	162	10/27/1965	Rehabilitation	2/25/2011	160	12/7/2010
1290	305855	TCP	10	267	6/30/1926	Rehabilitation	2/25/2011	260	12/7/2010
1290	305873	VCP	15	40	10/27/1965	Rehabilitation	2/25/2011	37	12/8/2010
1290	4066103	VCP	12	37	6/30/1963	Rehabilitation	2/25/2011	73	12/8/2010
1299	31021	RCP	24	173		Rehabilitation	6/21/2011	160	6/21/2011
1300	304542	TCP	8	307	6/30/1925	Rehabilitation	6/7/2011	263	5/31/2011
1300	304683	TCP	8	159	6/30/1927	Rehabilitation	6/7/2011	159	2/28/2011
1300	304853	VCP	8	250	5/14/1971	Rehabilitation	6/8/2011	248	5/31/2011
1300	304945	VCP	8	243	5/14/1971	Rehabilitation	6/15/2011	242	5/31/2011
1300	304999	VCP	8	205	6/30/1926	Rehabilitation	6/15/2011	136	5/31/2011
1300	3005878	TCP	8	270		Rehabilitation	6/9/2011	269	5/31/2011
1300	3005882	TCP	8	265		Rehabilitation	6/14/2011	266	5/31/2011

Attachment B

Problem Laterals Addressed in Year One

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
1309	ROOTING	5/7/2011	36.4
1463	ROOTING	5/7/2011	0
7000	ROOTING	8/18/2010	29
10145	ROOTING	12/8/2010	2
12015	ROOTING	12/15/2010	16
12129	ROOTING	12/15/2010	23.5
12129	ROOTING	6/16/2011	23.5
12130	ROOTING	12/15/2010	46
40623	ROOTING	2/22/2011	0
43096	ROOTING	8/19/2010	16.5
43096	ROOTING	2/22/2011	16.5
43220	ROOTING	8/19/2010	28.6
43220	ROOTING	2/22/2011	28.6
43277	ROOTING	8/19/2010	26.5
43277	ROOTING	2/22/2011	26.5
43366	ROOTING	2/22/2011	9.8
46437	ROOTING	8/19/2010	0
46437	ROOTING	2/24/2011	0
46437	ROOTING	6/16/2011	35.03
52190	ROOTING	12/8/2010	38.5
52190	ROOTING	3/14/2011	38.5
52190	ROOTING	6/16/2011	38.5
52533	ROOTING	8/18/2010	49.5
52533	ROOTING	2/24/2011	49.5
52533	ROOTING	6/16/2011	49.5
52537	ROOTING	8/18/2010	9
52537	ROOTING	3/14/2011	9
52537	ROOTING	6/16/2011	9
53080	ROOTING	1/3/2011	18
53252	ROOTING	1/3/2011	27
53302	ROOTING	1/3/2011	18.6
64249	ROOTING	12/8/2010	0
64249	ROOTING	3/14/2011	0
64249	ROOTING	6/16/2011	21.89
64293	ROOTING	6/16/2011	32.02
64546	ROOTING	8/18/2010	0
65349	ROOTING	12/15/2010	7
67397	ROOTING	8/18/2010	0
67397	ROOTING	12/8/2010	0

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
68029	ROOTING	12/15/2010	22
68030	ROOTING	12/15/2010	10
80523	ROOTING	6/16/2011	38.9
80945	ROOTING	6/16/2011	5
80967	ROOTING	6/16/2011	5
80996	ROOTING	6/16/2011	5
81010	ROOTING	6/16/2011	5
100737	ROOTING	8/19/2010	16
100745	ROOTING	8/19/2010	41
106922	ROOTING	1/12/2011	38
106922	ROOTING	6/22/2011	38
106982	ROOTING	1/12/2011	38
106982	ROOTING	6/22/2011	38
110755	REPAIR	4/1/2011	2
110856	ROOTING	12/8/2010	0
112195	ROOTING	5/31/2011	12.64
115304	ROOTING	12/22/2010	10
115304	ROOTING	5/31/2011	10
115391	ROOTING	1/3/2011	10
115391	ROOTING	6/22/2011	10
115565	ROOTING	12/22/2010	5
115565	ROOTING	5/31/2011	5
115569	ROOTING	1/12/2011	25
115569	ROOTING	6/22/2011	25
115577	ROOTING	12/22/2010	35
115577	ROOTING	5/31/2011	35
115603	ROOTING	5/31/2011	36.5
116015	ROOTING	12/8/2010	36
116015	ROOTING	5/31/2011	36
133880	REPAIR	1/26/2011	0
133942	REPAIR	1/26/2011	0
136648	ROOTING	12/6/2010	17
138438	ROOTING	2/22/2011	18
142484	ROOTING	8/17/2010	4
142849	ROOTING	8/16/2010	24
142851	ROOTING	8/16/2010	14
142883	ROOTING	8/16/2010	18
151708	ROOTING	8/17/2010	10.5
151708	ROOTING	5/16/2011	10.5

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
151730	ROOTING	8/17/2010	22.3
154424	ROOTING	12/30/2010	22
154424	ROOTING	6/16/2011	22
154477	ROOTING	1/12/2011	16
154678	ROOTING	12/30/2010	21.5
154742	REPAIR	10/6/2010	5
156155	ROOTING	12/6/2010	15.5
156397	ROOTING	12/6/2010	9
156427	ROOTING	8/17/2010	62.6
156428	ROOTING	12/6/2010	5
156428	ROOTING	6/16/2011	5
156505	ROOTING	12/6/2010	20
157547	ROOTING	8/16/2010	17
157558	ROOTING	8/16/2010	10.5
166562	ROOTING	6/16/2011	20
170001	ROOTING	12/30/2010	18.5
170001	ROOTING	6/16/2011	18.5
170023	ROOTING	12/16/2010	24.5
170023	ROOTING	6/17/2011	24.5
170605	ROOTING	8/17/2010	121.8
170605	ROOTING	12/16/2010	121.8
170605	ROOTING	3/14/2011	121.8
170606	ROOTING	6/17/2011	3
187082	ROOTING	10/22/2010	46
187084	ROOTING	10/22/2010	10
187098	ROOTING	10/22/2010	22
187109	ROOTING	10/22/2010	22
187121	ROOTING	10/22/2010	30
187121	ROOTING	5/16/2011	30
187129	ROOTING	10/22/2010	22
189506	FLUSHING	6/22/2011	3
192080	REPAIR	8/5/2010	8
196829	ROOTING	2/3/2011	17
196829	ROOTING	6/1/2011	17
216763	REPAIR	6/2/2011	6
219054	ROOTING	8/19/2010	19
219054	ROOTING	2/3/2011	19
219062	ROOTING	8/19/2010	36
219062	ROOTING	2/3/2011	36

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
219529	REPAIR	6/16/2011	5
224097	REPAIR	5/12/2011	3
226599	ROOTING	4/11/2011	26
229637	REPAIR	5/5/2011	10
229660	REPAIR	6/23/2011	4
229660	REPAIR	6/29/2011	23
229825	ROOTING	11/4/2010	0
229825	ROOTING	2/16/2011	0
229825	ROOTING	5/16/2011	12
230181	ROOTING	2/16/2011	0
231460	ROOTING	2/16/2011	0
231460	ROOTING	5/16/2011	31
232758	REPAIR	4/8/2011	3.58
235136	ROOTING	9/9/2010	0
235136	ROOTING	6/11/2011	7
235144	ROOTING	3/23/2011	12
238202	ROOTING	3/14/2011	0
238202	ROOTING	6/16/2011	34.57
239381	ROOTING	12/8/2010	0
239381	ROOTING	3/14/2011	0
239381	ROOTING	6/16/2011	39.57
240286	ROOTING	8/17/2010	43
240286	ROOTING	2/16/2011	43
240287	ROOTING	8/17/2010	8.5
240287	ROOTING	2/16/2011	8.5
250544	REPAIR	10/20/2010	0
250565	REPAIR	10/12/2010	226
250614	REPAIR	10/22/2010	0
251042	ROOTING	12/1/2010	0
251042	ROOTING	6/11/2011	10
251182	ROOTING	6/11/2011	18
251826	ROOTING	1/7/2011	11
251826	ROOTING	4/4/2011	11
251827	ROOTING	4/4/2011	0
254987	ROOTING	12/6/2010	0
255113	ROOTING	12/6/2010	0
255292	REPAIR	5/3/2011	1
255337	ROOTING	12/6/2010	0
255350	ROOTING	3/23/2011	12

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
255664	ROOTING	12/6/2010	0
257315	ROOTING	8/12/2010	82
257315	ROOTING	3/23/2011	101
257897	ROOTING	12/7/2010	0
257952	REPAIR	9/15/2010	4
259780	ROOTING	9/18/2010	45
259911	ROOTING	3/23/2011	3
259955	ROOTING	7/10/2010	6.5
259955	ROOTING	4/8/2011	15
259959	ROOTING	4/8/2011	30
259962	ROOTING	7/10/2010	12
259962	ROOTING	4/8/2011	18
259963	ROOTING	12/4/2010	7
260043	ROOTING	7/10/2010	7
260043	ROOTING	4/8/2011	10
277738	RODDING	5/27/2011	15.55
277958	FLUSHING	12/20/2010	0
277958	FLUSHING	3/11/2011	0
277958	FLUSHING	6/13/2011	48.55
278724	REPAIR	12/7/2010	1.5
280797	FLUSHING	5/11/2011	95
280797	FLUSHING	5/12/2011	95
286663	ROOTING	9/18/2010	48
287760	ROOTING	8/12/2010	0
287760	ROOTING	3/17/2011	0
287866	ROOTING	9/18/2010	15
295113	ROOTING	4/8/2011	41
295115	ROOTING	4/8/2011	6.2
295252	ROOTING	10/23/2010	0
295265	ROOTING	10/23/2010	0
295275	ROOTING	10/23/2010	0
295289	ROOTING	10/23/2010	0
295426	ROOTING	9/18/2010	60
295428	ROOTING	9/18/2010	14
304891	ROOTING	12/1/2010	0
305408	FLUSHING	11/18/2010	0
305408	REPAIR	12/1/2010	16
305408	ROOTING	3/16/2011	0
305894	ROOTING	3/22/2011	58

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
306200	REPAIR	4/14/2011	10
306416	REPAIR	4/27/2011	16
313420	REPAIR	8/16/2010	5
313485	REPAIR	1/11/2011	22
314273	RODDING	1/22/2011	158
314621	ROOTING	9/11/2010	0
315112	ROOTING	3/28/2011	0
319745	REPAIR	2/8/2011	191
320646	ROOTING	7/10/2010	89
320691	ROOTING	4/18/2011	3
320706	ROOTING	7/10/2010	114
323916	ROOTING	11/19/2010	0
323916	ROOTING	4/9/2011	57
323935	ROOTING	3/12/2011	30
323959	ROOTING	2/19/2011	18
323983	ROOTING	2/19/2011	30
324441	ROOTING	3/12/2011	90
329494	ROOTING	2/19/2011	45
329798	ROOTING	3/12/2011	9
329838	ROOTING	6/11/2011	24.87
329854	ROOTING	2/19/2011	0
329856	ROOTING	1/22/2011	77
329887	ROOTING	2/19/2011	53
329963	ROOTING	4/5/2011	0
330142	ROOTING	12/4/2010	18
330142	ROOTING	5/28/2011	28
332159	ROOTING	2/19/2011	16
332393	ROOTING	3/23/2011	56
332454	ROOTING	3/22/2011	9.4
332461	ROOTING	3/22/2011	21
343039	ROOTING	8/12/2010	24
343039	ROOTING	3/21/2011	0
343053	ROOTING	5/7/2011	22
345134	ROOTING	8/12/2010	0
345134	ROOTING	5/7/2011	24.38
355840	ROOTING	3/17/2011	50
357378	REPAIR	3/15/2011	9.8
363024	REPAIR	4/5/2011	1.42
363256	ROOTING	8/12/2010	6

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
363256	ROOTING	3/21/2011	12
363262	ROOTING	8/12/2010	94
363262	ROOTING	3/21/2011	12
363815	ROOTING	3/21/2011	0
363946	ROOTING	1/19/2011	6
364228	ROOTING	2/19/2011	15
364447	ROOTING	5/7/2011	27.15
364741	REPAIR	8/17/2010	143.05
368450	ROOTING	1/19/2011	32
368893	ROOTING	4/18/2011	12
368979	ROOTING	4/21/2011	103
369317	ROOTING	12/4/2010	20
369577	REPAIR	9/8/2010	5
373063	REPAIR	12/14/2010	2.67
376008	ROOTING	3/22/2011	0
376522	ROOTING	8/14/2010	97
384182	FLUSHING	1/11/2011	20
384609	FLUSHING	10/17/2010	32.8
384609	FLUSHING	3/17/2011	32.8
384638	FLUSHING	10/17/2010	32.8
384638	FLUSHING	3/17/2011	32.8
389600	ROOTING	1/19/2011	97
390267	ROOTING	12/4/2010	0
390283	ROOTING	12/4/2010	70
390283	ROOTING	5/28/2011	70
390846	REPAIR	8/30/2010	192
390898	REPAIR	8/30/2010	192
390898	ROOTING	12/4/2010	12
390898	ROOTING	5/28/2011	0
391410	ROOTING	4/5/2011	8
392338	ROOTING	2/4/2011	7
396334	REPAIR	7/14/2010	10.6
396644	ROOTING	11/6/2010	9
396644	ROOTING	6/11/2011	19
401736	REPAIR	12/14/2010	1.42
413553	ROOTING	8/30/2010	50
413553	ROOTING	11/6/2010	28
413553	ROOTING	3/28/2011	38
413564	RODDING	1/10/2011	3.2

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
413660	ROOTING	2/5/2011	27
413751	ROOTING	2/18/2011	73
413756	ROOTING	2/5/2011	19
413829	ROOTING	9/11/2010	51
413904	ROOTING	2/5/2011	4.4
414150	ROOTING	2/18/2011	45
414222	ROOTING	4/5/2011	0
416494	ROOTING	3/26/2011	5.5
416617	ROOTING	3/12/2011	7.5
416729	ROOTING	2/18/2011	50
416735	RODDING	8/19/2010	5
416761	ROOTING	3/12/2011	28.4
416783	ROOTING	3/12/2011	37
419368	ROOTING	10/2/2010	0
419481	ROOTING	10/2/2010	24
419507	ROOTING	2/5/2011	7
420162	ROOTING	10/2/2010	35
420247	ROOTING	10/2/2010	46
420249	ROOTING	10/2/2010	36
423156	ROOTING	2/5/2011	14.5
423672	ROOTING	12/3/2010	3.5
423672	ROOTING	4/20/2011	3.5
426132	ROOTING	1/22/2011	24
426141	ROOTING	1/22/2011	17.8
426167	ROOTING	1/22/2011	18.2
426182	ROOTING	1/22/2011	15
426202	ROOTING	1/22/2011	16
426307	ROOTING	1/22/2011	25
426316	ROOTING	1/22/2011	28
436379	ROOTING	3/23/2011	0
437268	ROOTING	9/1/2010	0
437268	ROOTING	6/11/2011	67
437470	FLUSHING	2/28/2011	76
437506	RODDING	2/28/2011	60
452666	ROOTING	3/23/2011	14
452722	ROOTING	11/6/2010	7
452738	ROOTING	11/6/2010	32
453115	ROOTING	4/4/2011	0
453275	ROOTING	1/7/2011	26

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
453311	ROOTING	1/7/2011	8
454496	ROOTING	7/31/2010	86
454496	ROOTING	5/28/2011	86
457942	ROOTING	2/5/2011	45
458019	ROOTING	2/18/2011	1.5
458047	ROOTING	2/5/2011	6
461930	ROOTING	3/26/2011	0.1
462089	ROOTING	3/12/2011	0.1
462129	ROOTING	11/6/2010	22
462129	ROOTING	4/9/2011	36
462134	ROOTING	1/8/2011	5
462181	ROOTING	10/3/2010	0
462181	ROOTING	4/20/2011	0.1
462203	ROOTING	1/8/2011	8
462205	ROOTING	1/8/2011	10
462206	ROOTING	1/8/2011	0
462223	ROOTING	1/8/2011	27
462259	ROOTING	3/12/2011	16
462273	ROOTING	1/8/2011	0
462282	ROOTING	3/26/2011	10
462285	ROOTING	3/26/2011	10
462307	ROOTING	3/26/2011	6
462354	ROOTING	1/8/2011	6
462555	ROOTING	9/11/2010	12
462555	ROOTING	6/27/2011	0
462576	ROOTING	5/27/2011	26.5
462734	ROOTING	9/11/2010	18
462734	ROOTING	5/27/2011	10.5
465750	ROOTING	11/6/2010	14
465750	ROOTING	4/9/2011	23
468021	ROOTING	2/5/2011	8
472389	ROOTING	12/3/2010	5
472392	ROOTING	12/6/2010	43
472471	REPAIR	11/17/2010	14
478905	ROOTING	4/8/2011	14
481920	REPAIR	1/6/2011	3
482259	ROOTING	4/9/2011	24
482271	ROOTING	4/9/2011	22
489939	ROOTING	1/12/2011	24

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
489939	ROOTING	6/22/2011	24
497927	FLUSHING	5/16/2011	220
497927	REPAIR	5/19/2011	7
515132	ROOTING	10/23/2010	15.5
515132	ROOTING	1/3/2011	15.5
515132	ROOTING	4/20/2011	15.5
515132	ROOTING	5/17/2011	15.5
515132	ROOTING	6/22/2011	15.5
527512	ROOTING	10/19/2010	5
527512	ROOTING	5/17/2011	5
527741	ROOTING	10/14/2010	30
532572	ROOTING	3/10/2011	16.6
532580	ROOTING	12/21/2010	17
532580	ROOTING	6/1/2011	17
541745	ROOTING	11/4/2010	32
541745	ROOTING	5/17/2011	32
542542	REPAIR	12/10/2010	5.2
549753	ROOTING	3/10/2011	38.5
565260	ROOTING	3/10/2011	24
569262	ROOTING	12/21/2010	5
569262	ROOTING	6/1/2011	5
569365	REPAIR	3/17/2011	80.4
570927	ROOTING	2/3/2011	20
579082	ROOTING	3/10/2011	16
579082	ROOTING	3/16/2011	0
579087	ROOTING	3/10/2011	21
579087	ROOTING	3/16/2011	0
590013	ROOTING	12/22/2010	16.3
590013	ROOTING	6/1/2011	16.3
590291	FLUSHING	1/25/2011	16
590422	ROOTING	6/1/2011	6
590583	ROOTING	1/11/2011	8
590583	ROOTING	4/18/2011	8
590583	ROOTING	6/22/2011	8
590586	ROOTING	1/11/2011	25
590586	ROOTING	4/18/2011	25
590586	ROOTING	6/22/2011	25
597282	ROOTING	1/3/2011	1
597914	ROOTING	5/31/2011	15.5

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
598078	ROOTING	10/26/2010	86
598078	ROOTING	1/11/2011	86
598078	ROOTING	4/18/2011	86
598078	ROOTING	6/22/2011	86
598080	ROOTING	10/26/2010	8
598080	ROOTING	1/3/2011	8
598080	ROOTING	4/18/2011	8
598080	ROOTING	6/22/2011	8
601004	FLUSHING	8/31/2010	82
601004	ROOTING	1/12/2011	82
601004	FLUSHING	6/21/2011	82
601013	FLUSHING	8/31/2010	82
601013	ROOTING	1/11/2011	82
601013	FLUSHING	6/21/2011	82
608950	ROOTING	4/18/2011	7
608962	ROOTING	4/18/2011	3
608980	ROOTING	4/18/2011	3
609801	ROOTING	10/25/2010	22.8
609801	ROOTING	4/18/2011	22.8
609973	REPAIR	9/21/2010	6
610006	RODDING	3/21/2011	8
611006	ROOTING	4/18/2011	2
613365	RODDING	11/19/2010	71
617612	ROOTING	12/21/2010	27
617612	ROOTING	6/1/2011	27
620328	FLUSHING	8/30/2010	65
620330	FLUSHING	12/16/2010	98
620351	FLUSHING	8/30/2010	75
620390	FLUSHING	8/30/2010	56
620451	FLUSHING	12/29/2010	0
620542	FLUSHING	12/29/2010	19
623506	ROOTING	10/26/2010	7
641239	RODDING	1/25/2011	6.7
641239	ROOTING	2/3/2011	6.7
643492	ROOTING	5/16/2011	21
645353	ROOTING	7/20/2010	15
645353	ROOTING	6/27/2011	15
645354	ROOTING	7/20/2010	10.5
645354	ROOTING	6/27/2011	10.5

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
646935	ROOTING	8/18/2010	12.3
646935	ROOTING	2/3/2011	12.3
648649	ROOTING	8/13/2010	6
648649	ROOTING	5/16/2011	6
648656	ROOTING	8/13/2010	11
648656	ROOTING	5/16/2011	11
648757	REPAIR	8/9/2010	4
648777	ROOTING	1/11/2011	15
648777	ROOTING	6/27/2011	15
670170	ROOTING	11/6/2010	26.5
670188	REPAIR	5/10/2011	3.67
670369	ROOTING	11/20/2010	17
670388	ROOTING	3/23/2011	0
670660	ROOTING	2/5/2011	21.5
672523	REPAIR	7/29/2010	204
673516	ROOTING	3/22/2011	0
674647	REPAIR	5/20/2011	9
681410	ROOTING	4/8/2011	19
689734	REPAIR	12/3/2010	11.25
689734	REPAIR	3/20/2011	0
691046	REPAIR	8/24/2010	15
695773	REPAIR	7/9/2010	6.9
695856	ROOTING	8/14/2010	26
695856	ROOTING	5/7/2011	26
695917	ROOTING	8/14/2010	57
695929	ROOTING	8/21/2010	2
696205	REPAIR	10/6/2010	5
696787	ROOTING	3/28/2011	11
696889	ROOTING	8/21/2010	16
697245	ROOTING	8/21/2010	4
697262	ROOTING	8/14/2010	79
697263	ROOTING	8/14/2010	6
697321	ROOTING	8/21/2010	36.5
697321	ROOTING	5/7/2011	36.5
697439	ROOTING	8/21/2010	18
697439	ROOTING	5/7/2011	11
697472	ROOTING	7/31/2010	0
697472	ROOTING	5/7/2011	46
697651	ROOTING	8/21/2010	10

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
697755	ROOTING	2/18/2011	0.1
697799	ROOTING	2/18/2011	0.1
697857	ROOTING	8/21/2010	11
697857	ROOTING	5/28/2011	7
697894	ROOTING	8/21/2010	47
705681	ROOTING	7/31/2010	12
705681	ROOTING	5/7/2011	12
706114	ROOTING	4/5/2011	52
706114	ROOTING	6/6/2011	0
706299	ROOTING	1/7/2011	16
710866	ROOTING	12/8/2010	10.5
710866	RODDING	3/21/2011	10.5
710866	ROOTING	3/21/2011	10.5
710866	ROOTING	5/31/2011	10.5
710912	ROOTING	12/8/2010	10.5
710912	RODDING	3/21/2011	10.5
710912	ROOTING	3/21/2011	10.5
710912	ROOTING	5/31/2011	10.5
716104	ROOTING	11/20/2010	71
716111	ROOTING	11/20/2010	5
716141	ROOTING	3/23/2011	8
716196	ROOTING	3/23/2011	0
716309	ROOTING	3/26/2011	0
716480	ROOTING	4/9/2011	19
716648	ROOTING	11/20/2010	7
1002595	ROOTING	9/18/2010	0
1002595	ROOTING	6/11/2011	14
1004275	ROOTING	10/19/2010	6.5
1004275	ROOTING	5/17/2011	6.5
2010971	ROOTING	12/6/2010	21
2010971	ROOTING	6/16/2011	21
2031882	ROOTING	10/2/2010	28.3
2041170	ROOTING	4/20/2011	24
2041170	ROOTING	6/27/2011	24
2041171	ROOTING	4/20/2011	15
2041171	ROOTING	6/27/2011	15
3002083	ROOTING	4/27/2011	19
3002083	ROOTING	5/17/2011	19
3002083	ROOTING	6/22/2011	19

Lower Lateral Sewer ID	Corrective Action	Activity Date	Activity Feet
3002189	ROOTING	4/27/2011	10.5
3002189	ROOTING	5/31/2011	10.5
3002189	ROOTING	6/22/2011	10.5
3003016	ROOTING	3/10/2011	45
3004977	ROOTING	2/4/2011	23
3005364	FLUSHING	10/25/2010	54
3005364	ROOTING	12/4/2010	167
3005364	FLUSHING	4/6/2011	40
3005364	FLUSHING	5/2/2011	58
3005364	ROOTING	5/28/2011	167
3005364	RODDING	6/8/2011	58
3010488	REPAIR	5/16/2011	10
3010783	ROOTING	12/21/2010	12
3010783	ROOTING	6/1/2011	12
4001724	REPAIR	5/23/2011	4
4021967	ROOTING	4/4/2011	10
4029397	ROOTING	9/18/2010	15
4046066	ROOTING	3/22/2011	14
4056344	ROOTING	11/20/2010	0
4060002	ROOTING	10/2/2010	0
4060005	ROOTING	10/2/2010	0
4060024	ROOTING	4/8/2011	30
4060033	ROOTING	12/1/2010	14
4065434	ROOTING	8/26/2010	0
4065434	ROOTING	5/28/2011	4



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