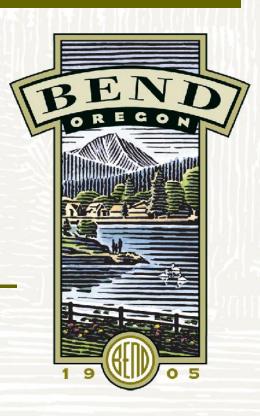
City of Bend Sewage Collection System Status

SIAG Presentation



July 19, 2012

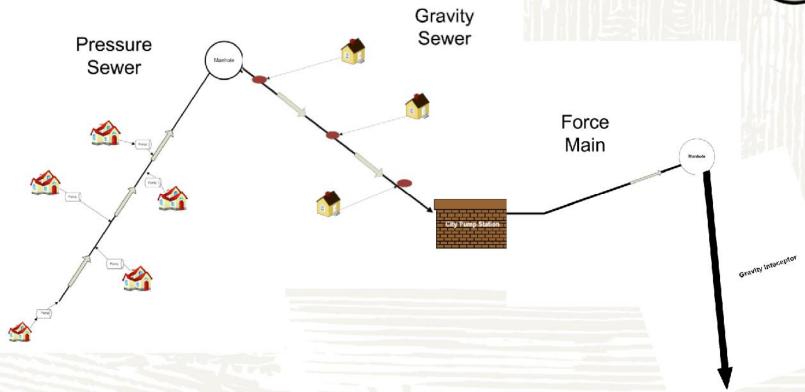
Existing Infrastructure and Assets



- □430 Miles of sewer mains
- □90 sewer pumping stations
- □246 home pumping stations
- □System contains 4 different types of collection systems
- □Collect 6.5 million gallons per day

Simplified Sewer System





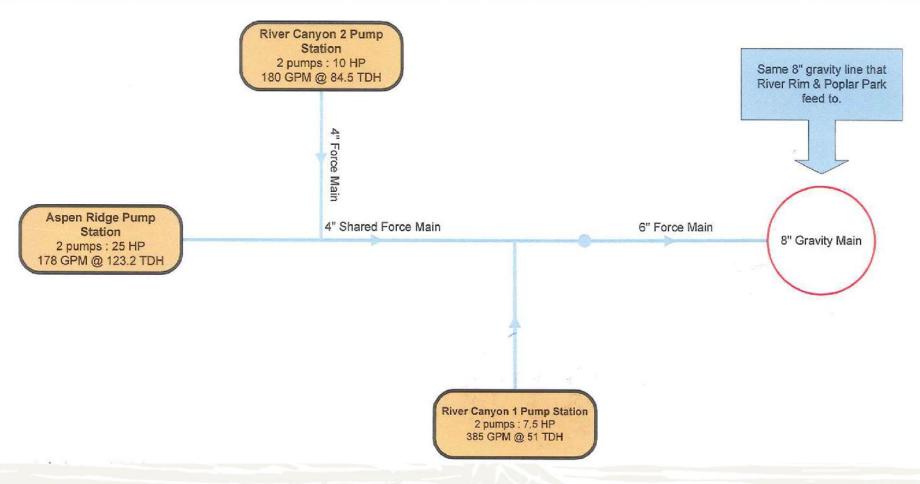
Problems with City Collections System





Problems with City Collections System





Problems with City Collections System N. Fire Station 4" Shared Glen Vista Force Main 6" Shared Force Main Service Station Rimrock #1, #2, #4, #5 HALEWAY RD 8" Gravity Shared With Riverhouse 6" Shared ForceMain *Surcharging Issues* Deschutes Bus. Wyndemere 6" Shared Force Main Empire Estates EMPIRE AVE 8" Shared Force Main NORWOOD 6" Shared Force Main Sawyer Riversedge DENO RIVERMALL AVE Riverhouse

Problems with City Collections System Known Issues: EMPIRE ESTATES, GLEN VISTA, NORTH FIRE STATION RIM ROCK #1 #2 #4 & #5, RIM ROCK RIDERS, RIVERS EDGE, 6" force main discharges into 8" gravity main Glen Vista Pump Station IVERHOUSE, SAWYER PARK, SERVICE STATION, WYNDEMERE shared with the Holiday Pump Station 6" force SHARED FORCE MAIN CONNECTIONS 2 pumps : 25 HP main, causing sever surcharging issues. 225 GPM @ 146.1 TDH Wyndemere Pump Station Gravity Odor Complaints have been received at the 3 pumps: 15 HP Sewer gravity sewer leading into the Wyndemere Pump 280 GPM @ 99 TDH Rim Rock Riders Pump 0 Shar Station Force Main Rim Rock #5 Pump Station 2 pumps : 20 HP 3" Pressure 150 GPM @ 100 TDH Sewer Gravity Force Private Sewer 4" Force Main Shared Rim Rock #4 Pump Station Rivers Edge Pump Enchant on Desch. Pump Station North Fire Station Pump Force Main Station 2 pumps: 7.5 HP Station Private 2 pumps : 30 HP 125 GPM @ 55 TDH 4" Shared (3 Home 150 GPM @ 133 TDH Sumps) Rim Rock #1 Pump Station 3" Force Main Shared Force Main 4" Force Main **Empire Estates Pump** Station 3" Pressure 2 pumps : 20 HP Gravity Sewer Private Main Shared 120 GPM @ 100 TDH Private Sewer Rim Rock #2 Pump Station 3" Force Main Private Gravity Sawyer Park Pump 8" Force Main Gravity Sewer Station Sewer Deschutes Business Park 2 pumps : 18 HP Pump Station 00 Shared Force Main 2" Pressure Sewer 3" Force Service Station Pump Tumalo Heights Pump Gravity Station Station Sewer 2 pumps: 2 HP 120 GPM @ 20 TDH Main 4" Force Main 6" Shared Force Main 8" Gravity Riverhouse Pump Station Main 3" Pressure Sewer 3" Pressure Sewer 4" Pressure Sewer 3" Pressure Sewer 4" Pressure Sewer Private Same 8" line Private Private Private Private Private (Cascade Holiday and Village Mall) Highland feed to.

Correctly Functioning Manhole





Surcharged Manhole in Dry Weather





Overflow Due to Wet Weather





Bolted Down Manhole Lids





Sewer Overflow





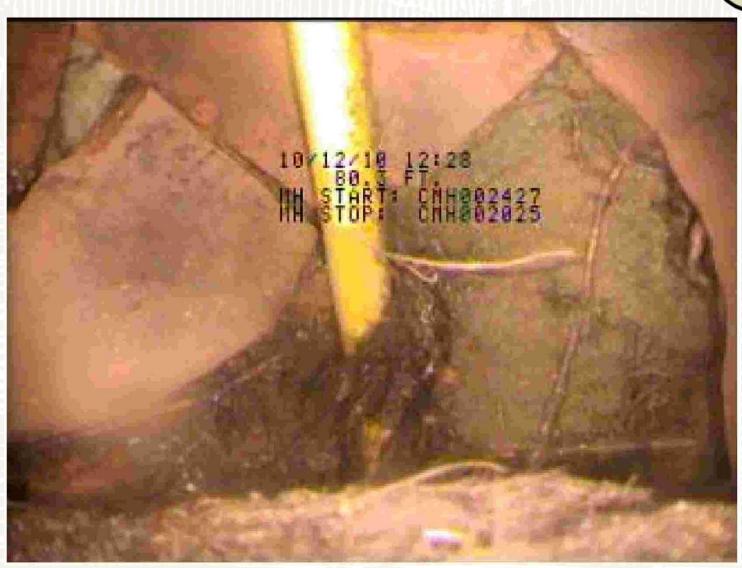
Line Collapse





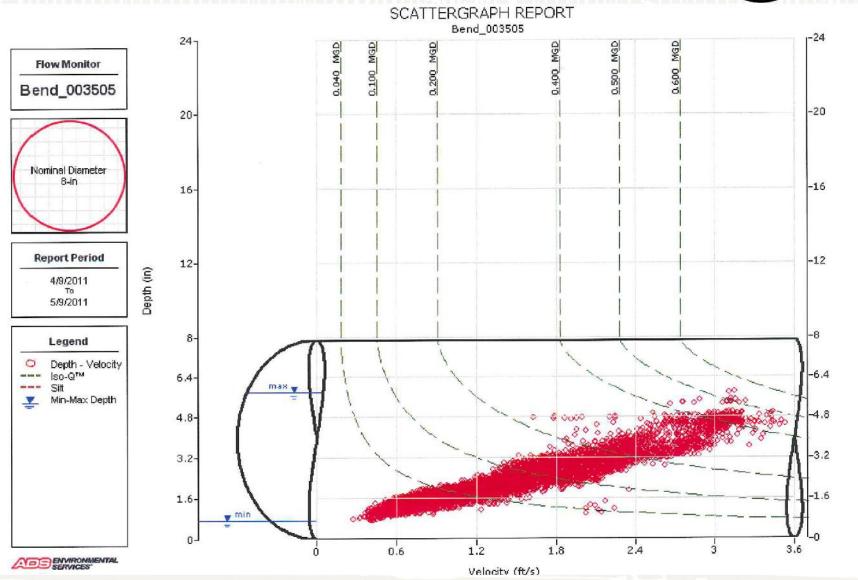
Gas Line Through Sewer Line





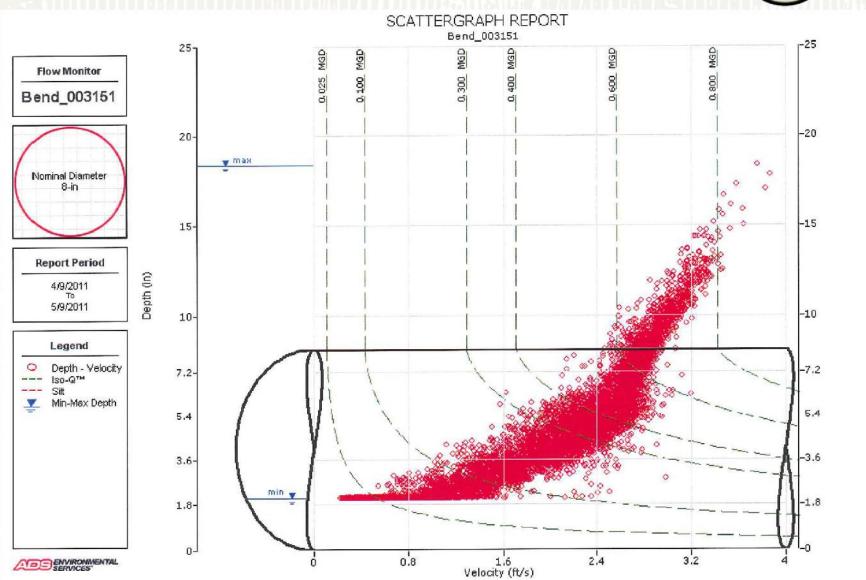
Correctly Functioning Pipe





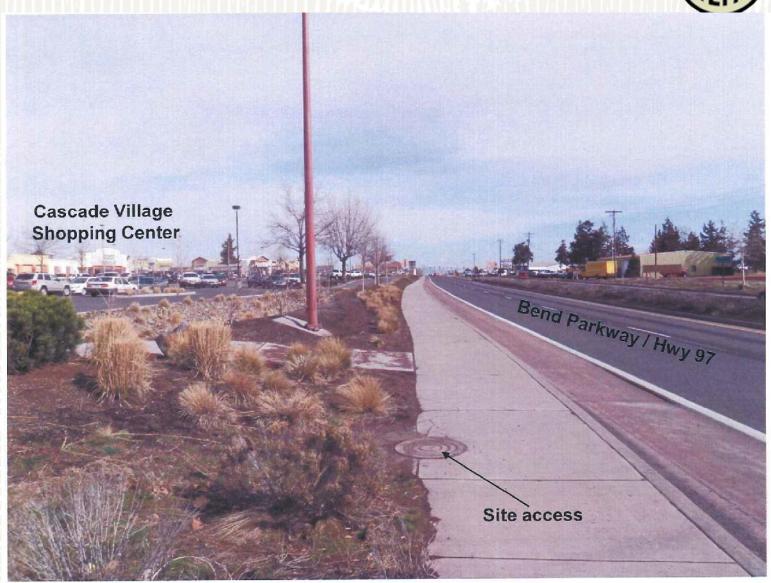
Problem Flow Pipe





Critical Manhole in System

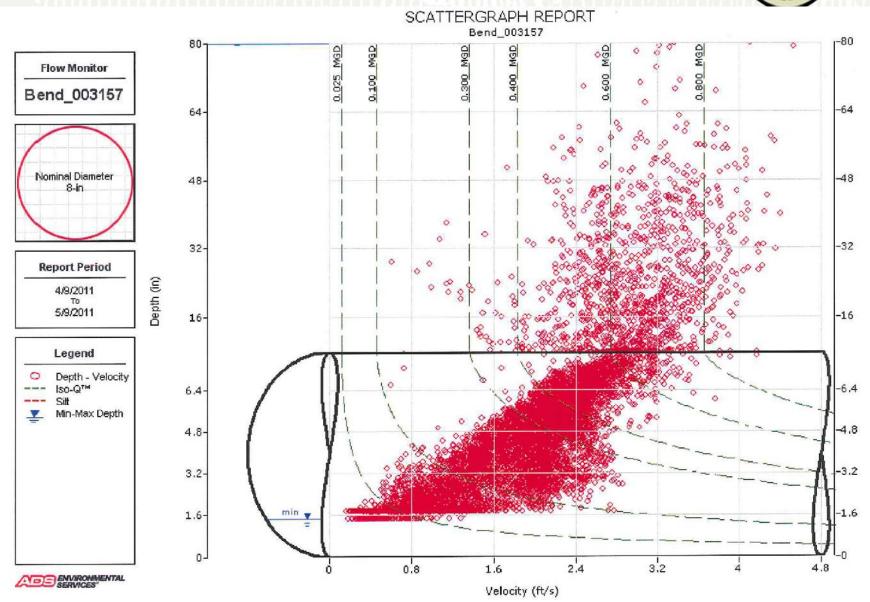




Site access looking north

Flow Profile of Critical Manhole





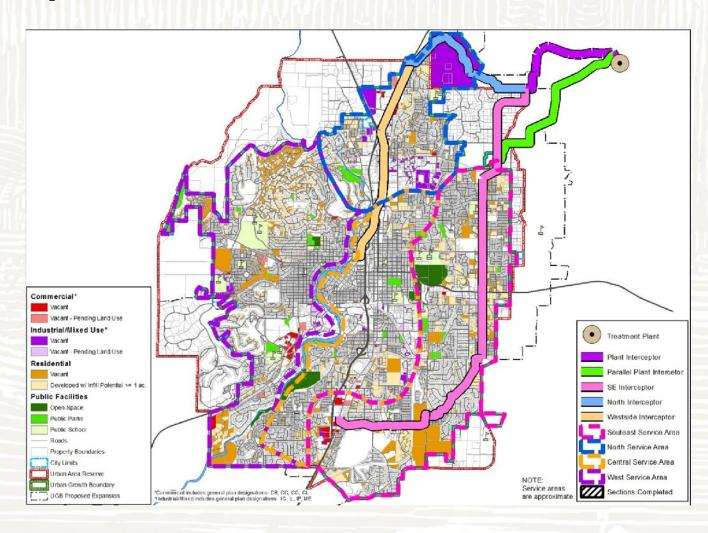
Collection System Master Plan



- ☐ Focused on customers within existing UGB
- ☐ Intent was on alleviating problem areas
- ☐ Capacity issues addressed
- ☐ Improved access for unsewered areas
- □ Implementation Plan
- ☐ Major interceptors to reduce demand on city core
- □ CSMP recommendation was to shift to gravity conveyance of wastewater

North & Complete Central Interceptors & Service Areas





Summary



- Areas of serious problems that need immediate Solution
- Areas that are at capacity limit economic growth opportunity
- Areas with failing septic systems