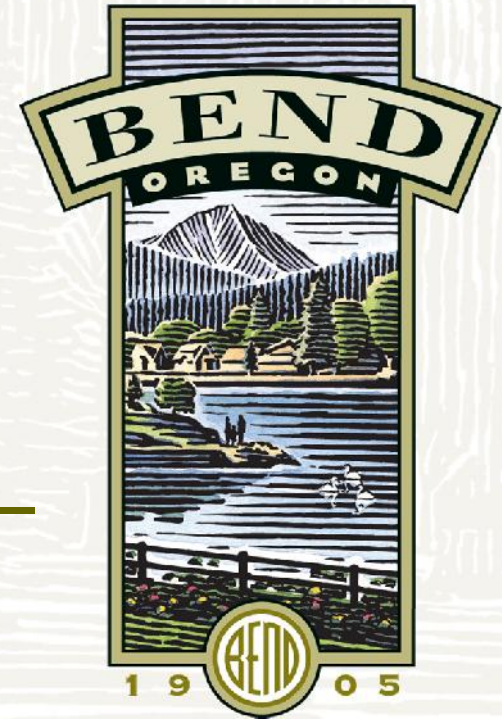


City of Bend Sewage Collection System Status

SIAG Presentation



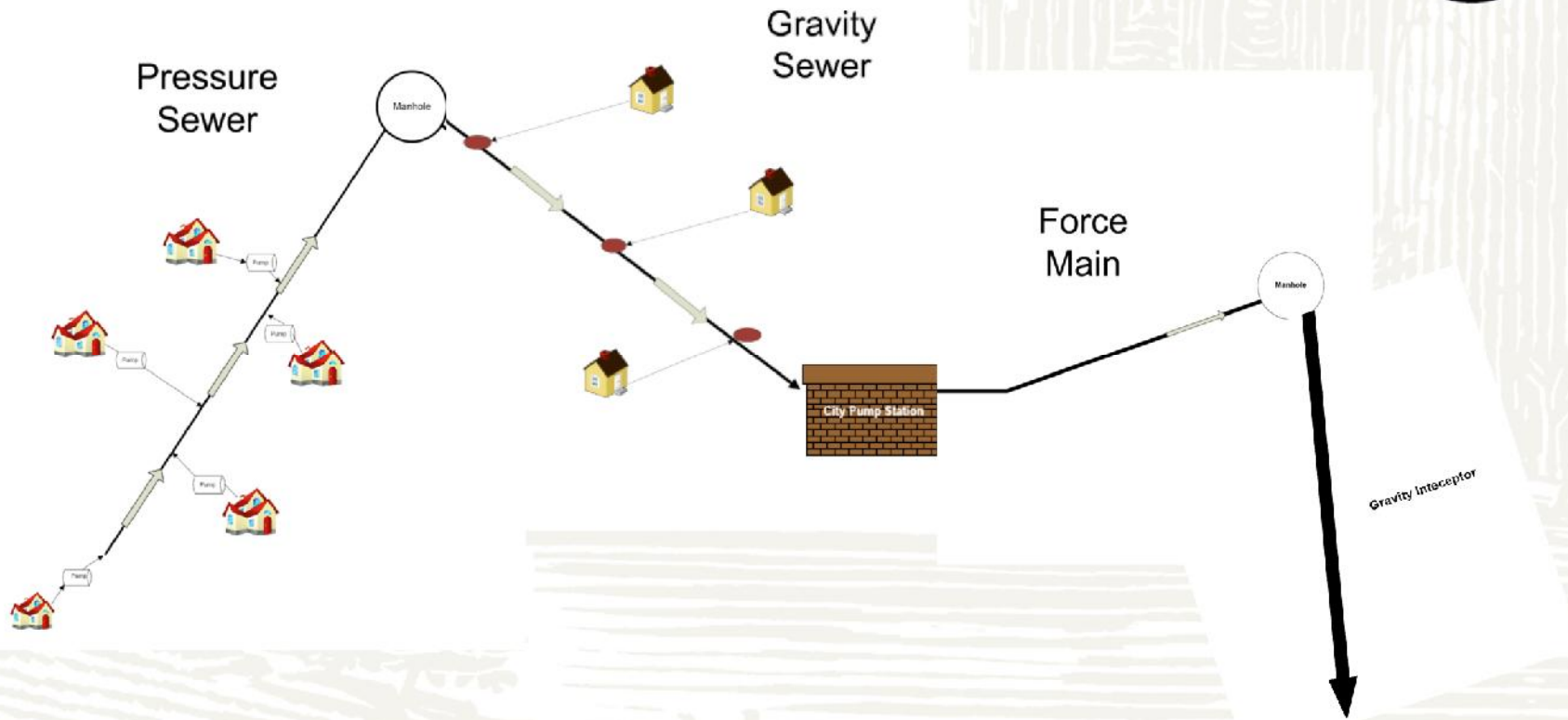
July 19, 2012

Existing Infrastructure and Assets

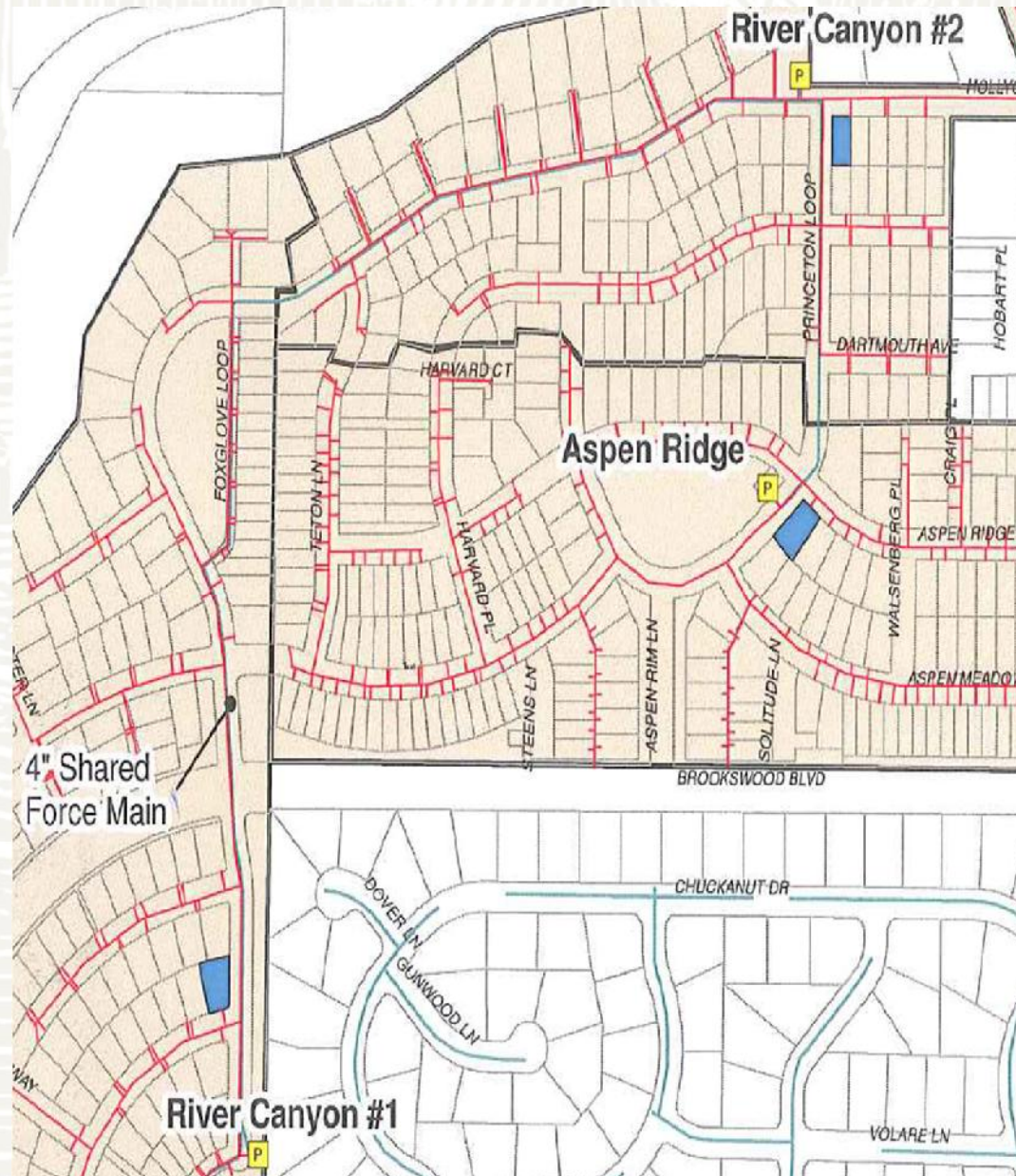


- ❑ 430 Miles of sewer mains
- ❑ 90 sewer pumping stations
- ❑ 246 home pumping stations
- ❑ System contains 4 different types of collection systems
- ❑ Collect 6.5 million gallons per day

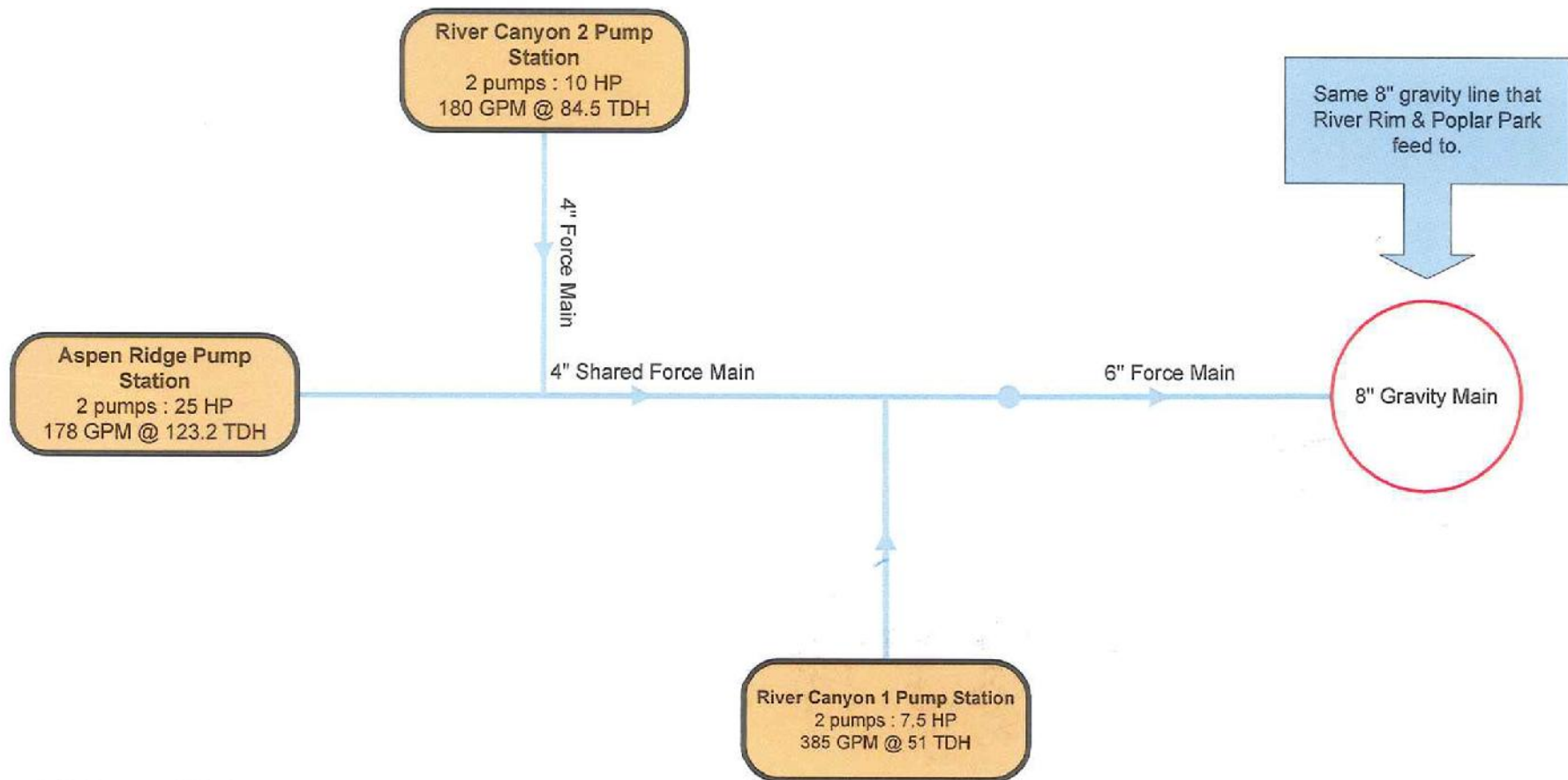
Simplified Sewer System



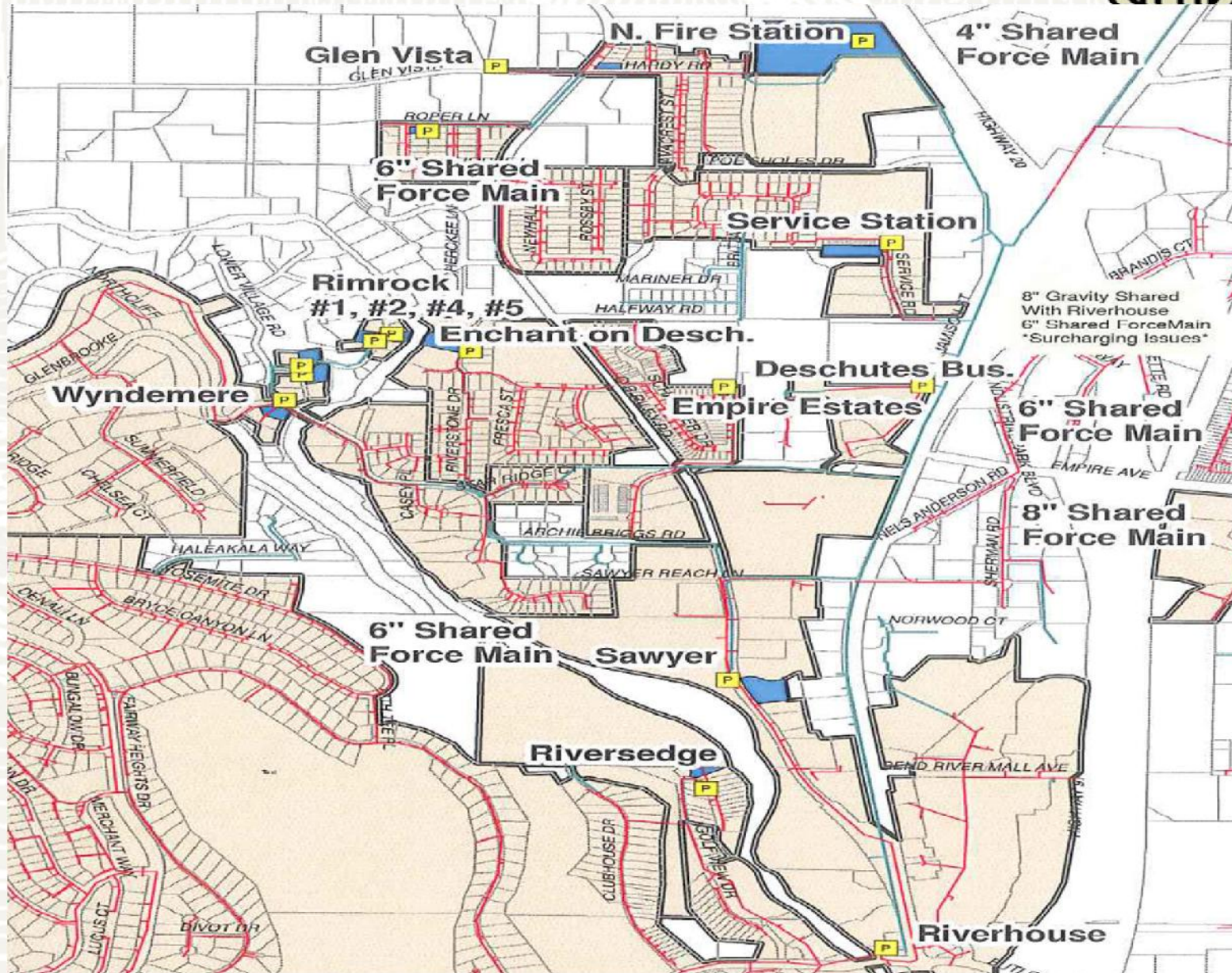
Problems with City Collections System



Problems with City Collections System



Problems with City Collections System



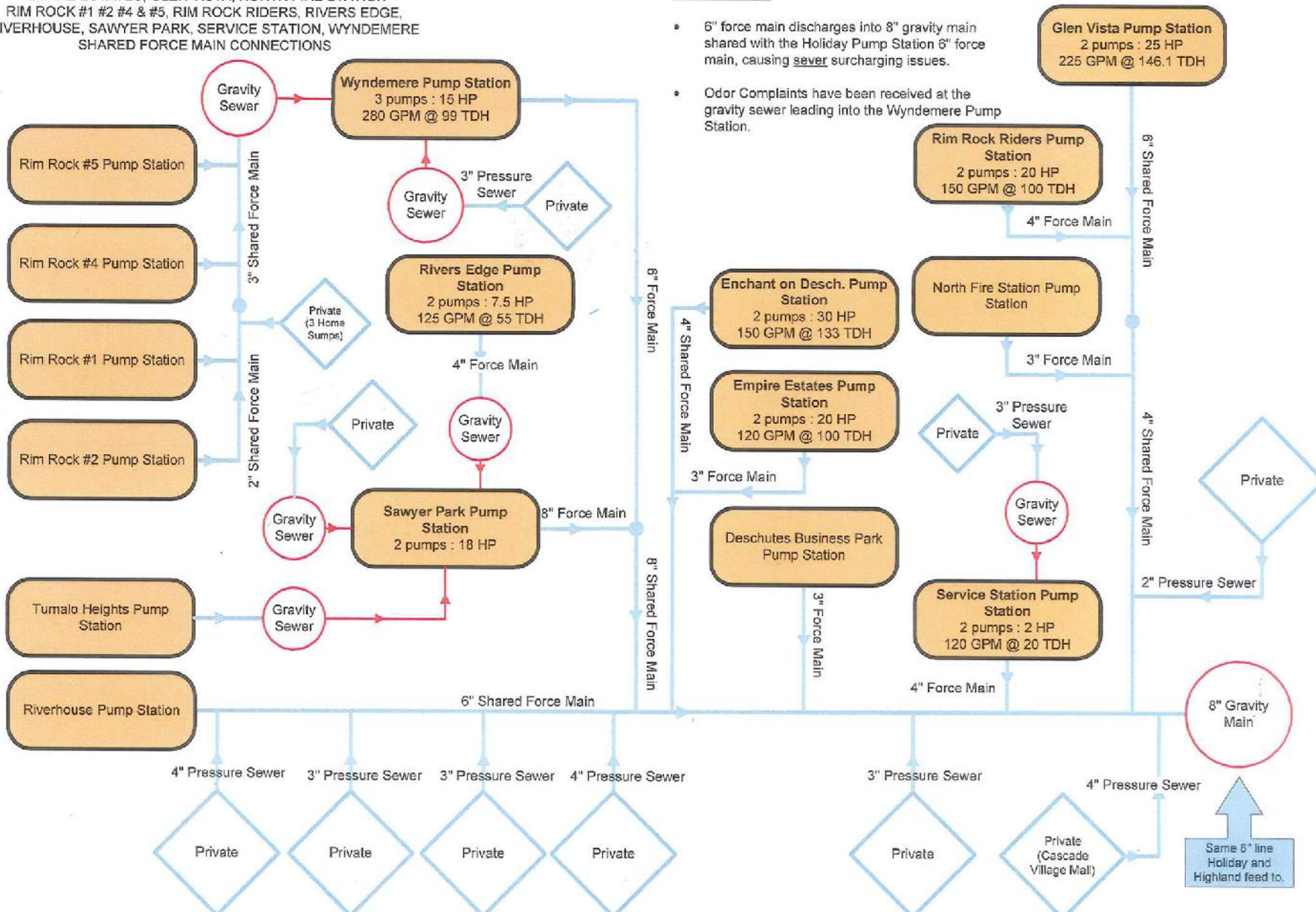


Problems with City Collections System

EMPIRE ESTATES, GLEN VISTA, NORTH FIRE STATION
RIM ROCK #1 #2 #4 & #5, RIM ROCK RIDERS, RIVERS EDGE,
IVERHOUSE, SAWYER PARK, SERVICE STATION, WYNDEMERE
SHARED FORCE MAIN CONNECTIONS

Known Issues:

- 6" force main discharges into 8" gravity main shared with the Holiday Pump Station 6" force main, causing sewer surcharging issues.
- Odor Complaints have been received at the gravity sewer leading into the Wyndemere Pump Station.



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



SCATTERGRAPH REPORT
Bend_003505

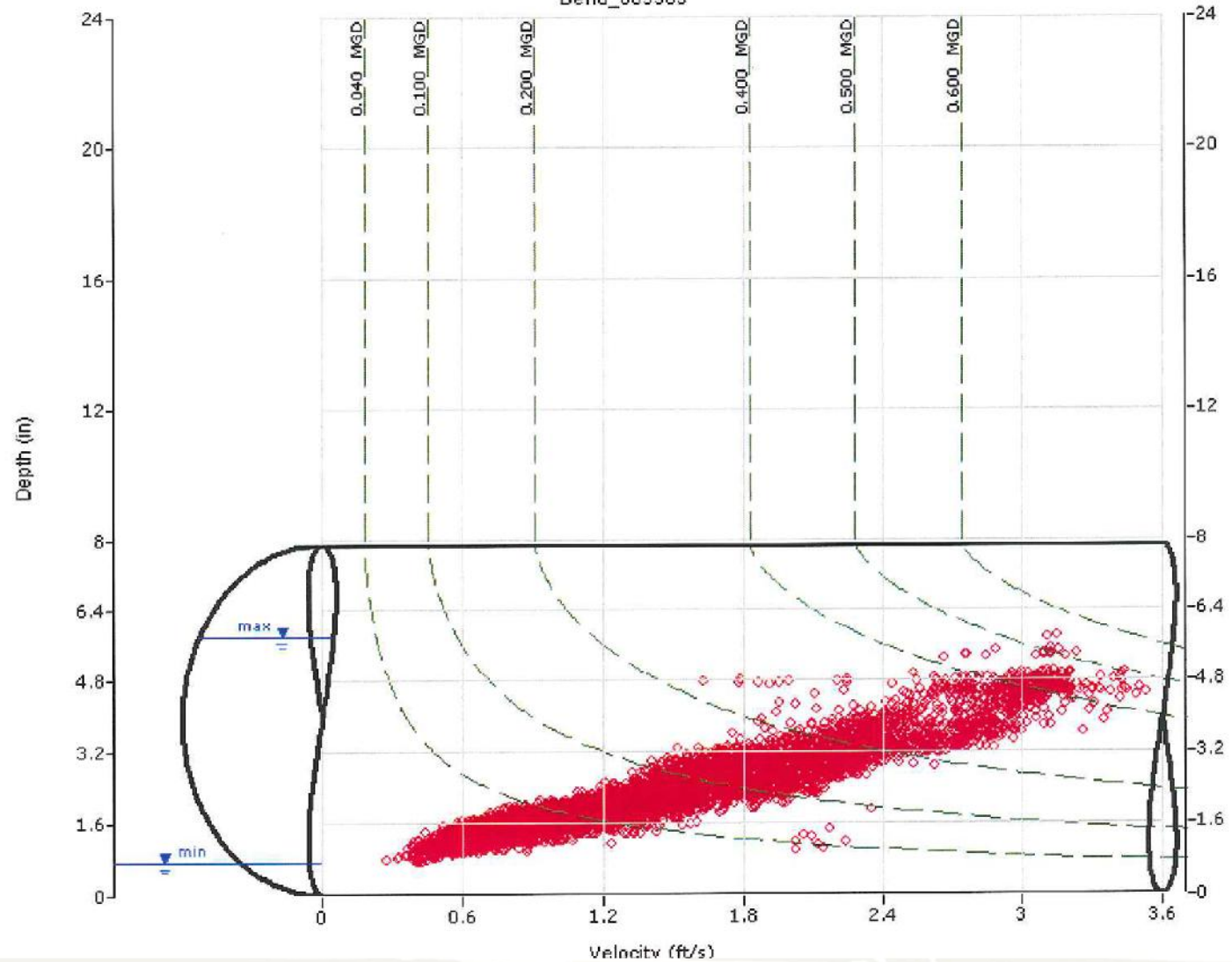
Flow Monitor
Bend_003505

Nominal Diameter
8-in

Report Period
4/8/2011
To
5/9/2011

Legend

- Depth - Velocity
- - - Iso-Q™
- - - Silt
- ▼ Min-Max Depth



Problem Flow Pipe



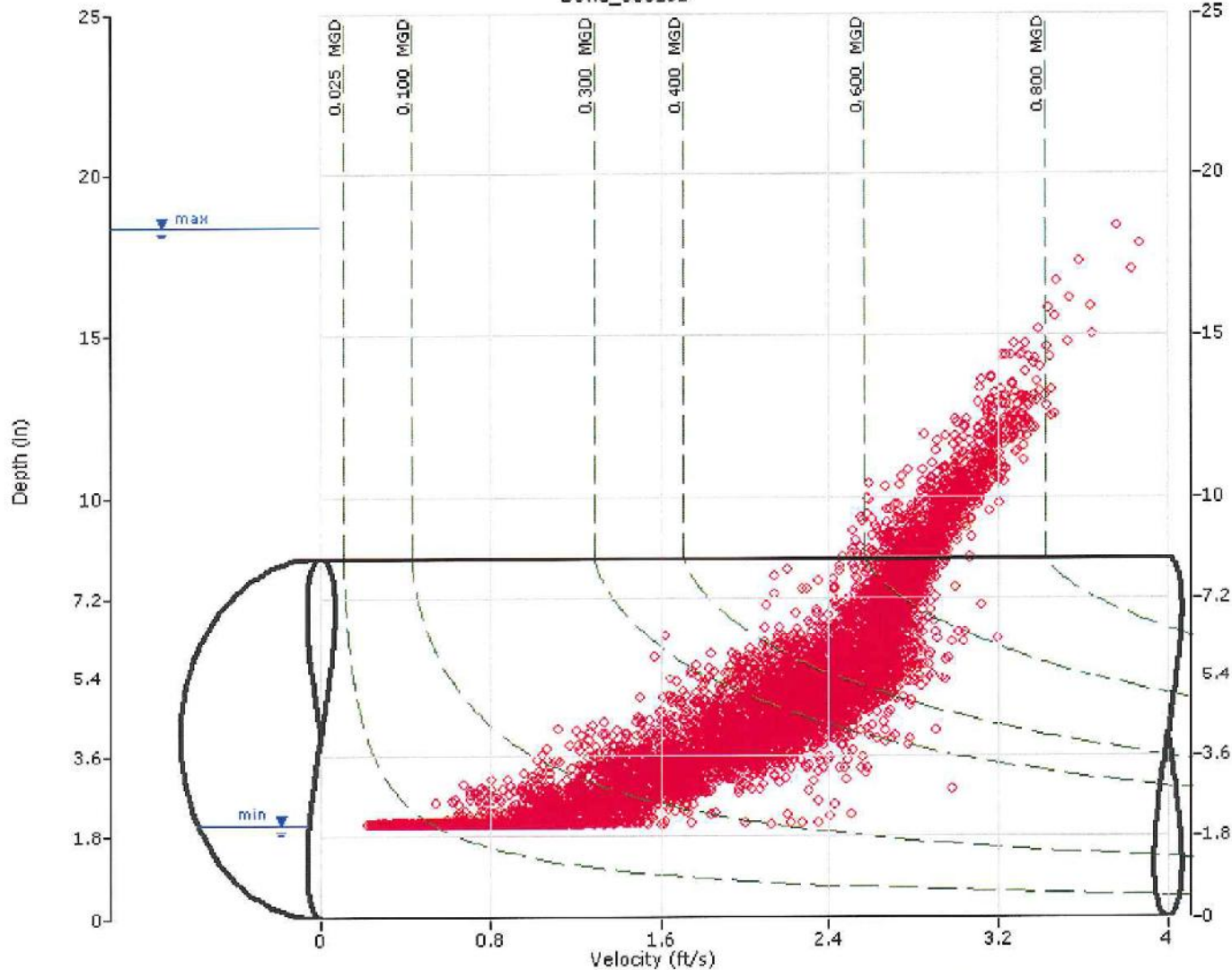
SCATTERGRAPH REPORT Bend_003151

Flow Monitor
Bend_003151

Nominal Diameter
8-in

Report Period
4/9/2011
To
5/9/2011

Legend
○ Depth - Velocity
--- Iso-Q™
- - - Silt
▼ Min-Max Depth



Critical Manhole in System



Cascade Village Shopping Center

Bend Parkway / Hwy 97

Site access

Site access looking north

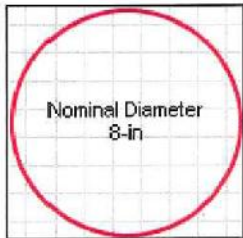
Flow Profile of Critical Manhole



SCATTERGRAPH REPORT

Bend_003157

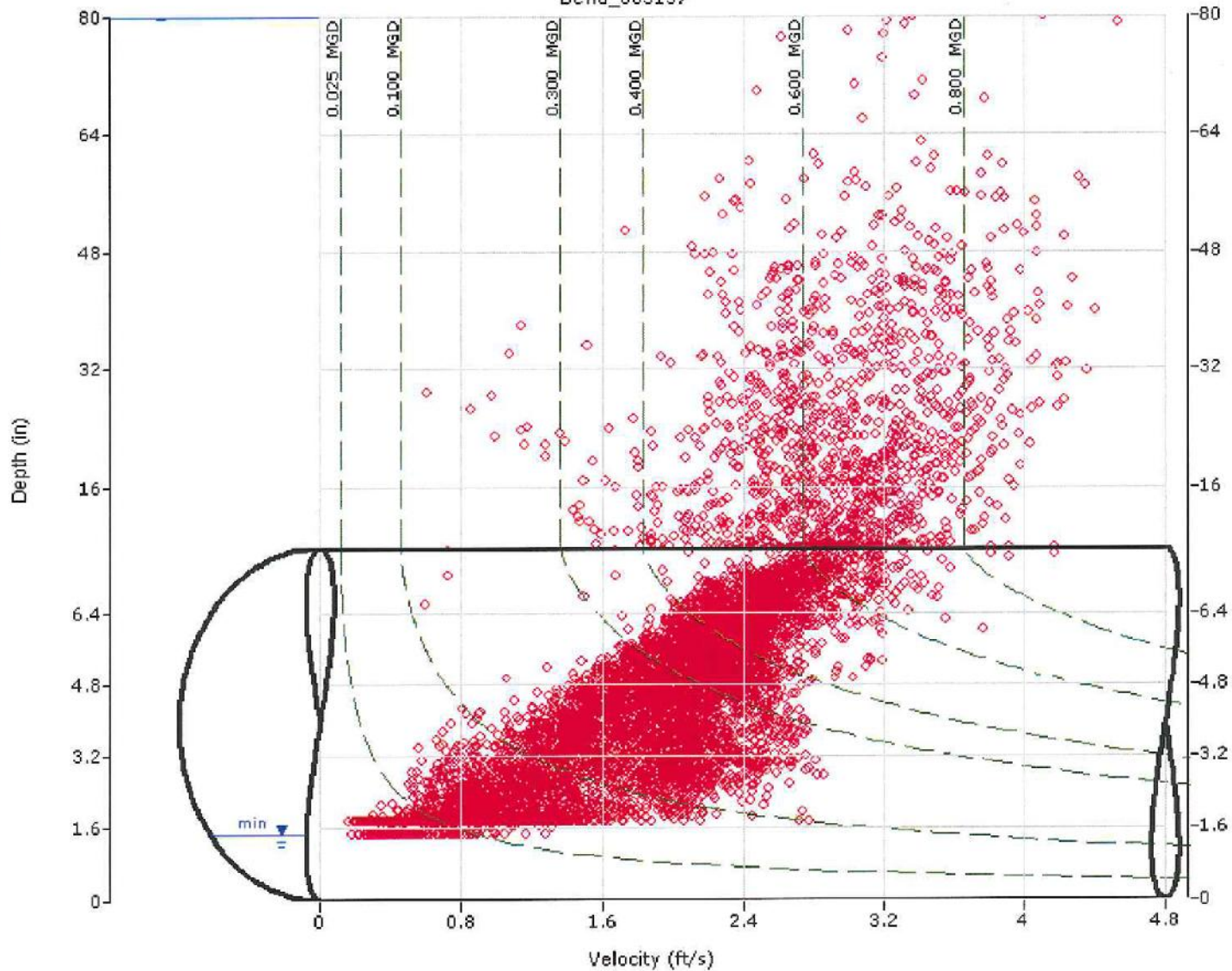
Flow Monitor
Bend_003157



Report Period
4/9/2011
To
5/9/2011

Legend

- Depth - Velocity
- - - Iso-Q™
- - - Silt
- ▽ Min-Max Depth

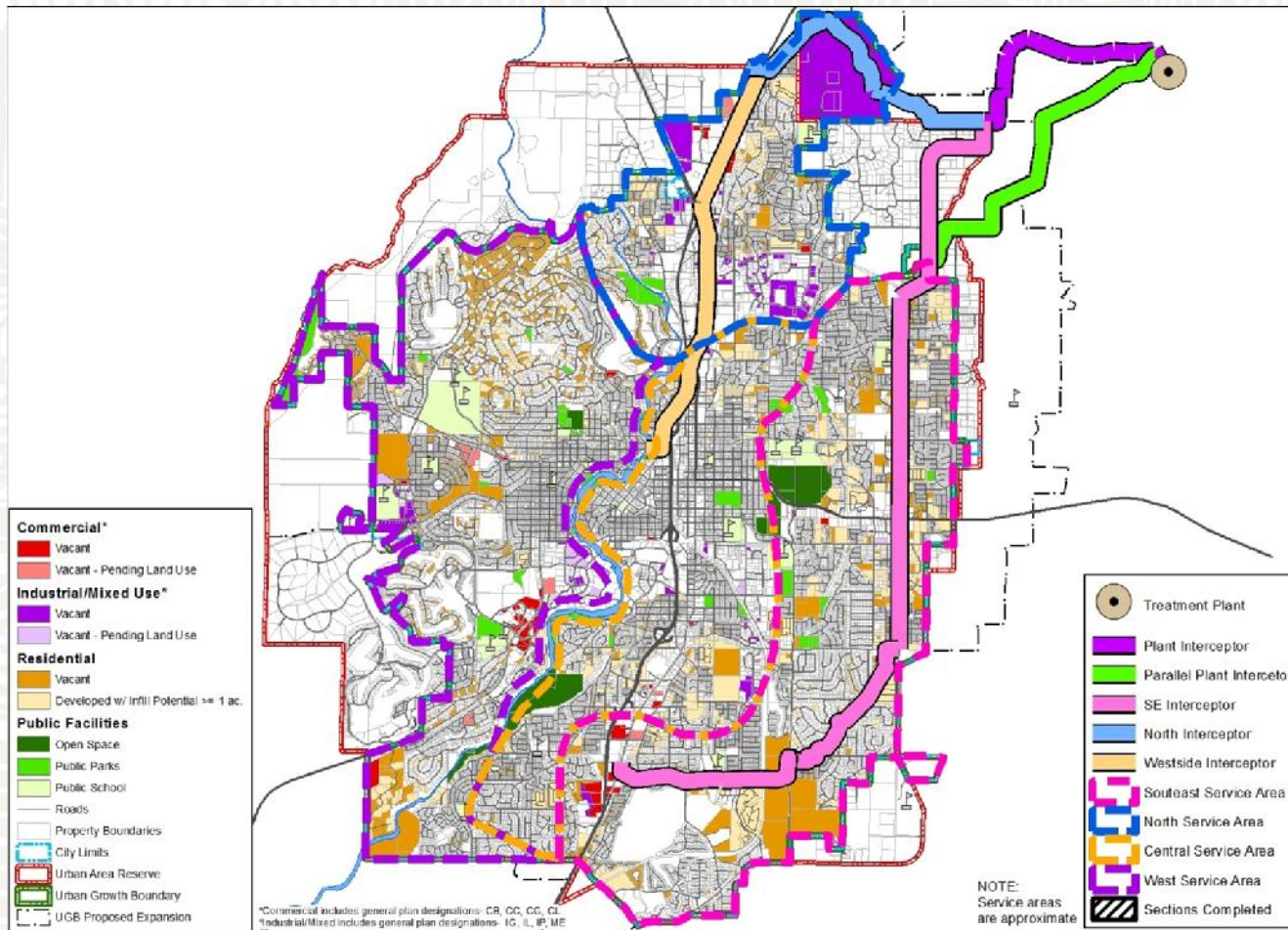




Collection System Master Plan

- 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