SEWER PUMP STATION ELECTRICAL ENCLOSURES

City Council Workshop
April 20, 2017

Sewer System Summary

- The City operates 43 sewage pump stations.

- Fifteen stations constructed between 1955 and 1983 due for replacement

- Ten stations constructed in the 1990s due for upgrades or replacement

- Eighteen stations rebuilt since 2000

- Four stations in design for 2017 and 2018 replacement

Pump Station Varieties

4802 Ocean Beach Highway

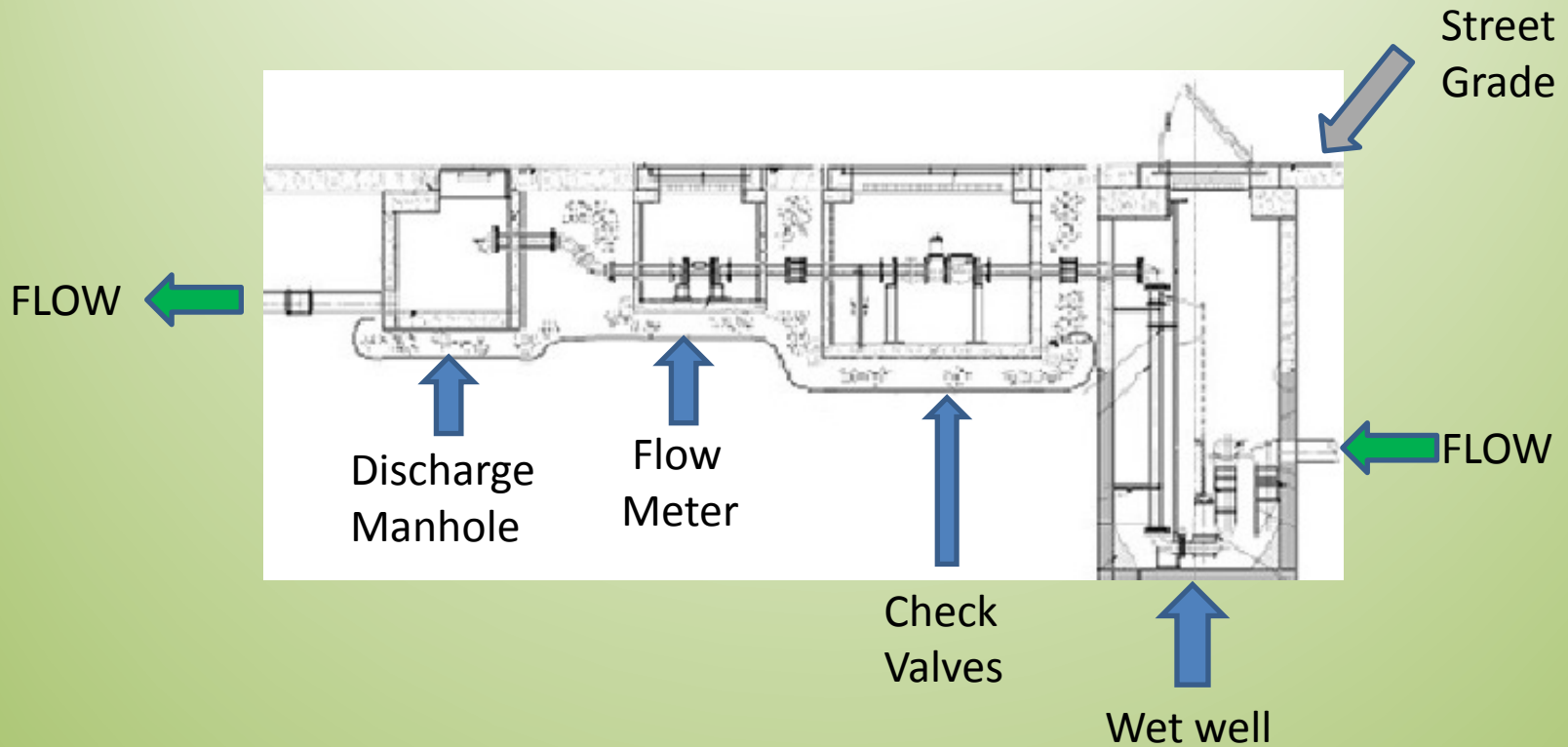
1900 33rd

4711 Merlin

2725 32nd

1403 Midland

5345 Oriole

38th & Oak – Controls in vault

Small Pump Station
Below Grade Components

Street Grade

FLOW

FLOW

Discharge Manhole

Flow Meter

Check Valves

Wet well

Small Pump Station
Above Grade Components

- Weatherproof electrical control cabinet

- Electrical air gap enclosure

- SCADA antenna

- Water supply backflow device

- Emergency power connection
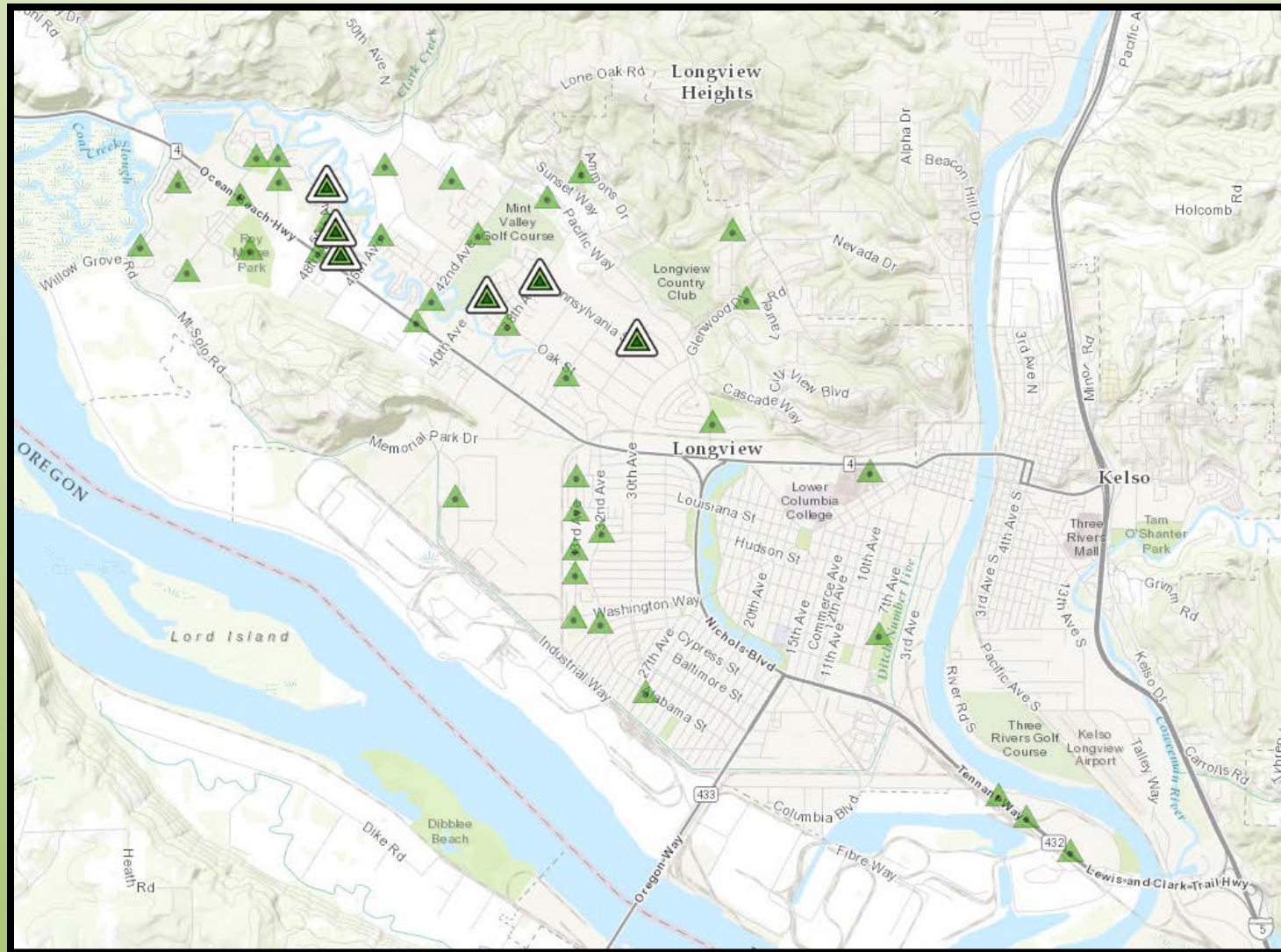
- PUD meter

- Optional security and weather enclosure

Electrical Enclosure Siting Challenges

- Proximity to residence
- Line of sight between window and street
- Occupy notable portion of a property's street frontage
- Driveway line of sight
- Utility Conflicts
- Traffic safety during PS maintenance
- Worker safety during PS maintenance

➢ Six pump stations identified as challenging locations:

2725 32nd	2626 38th	4711 Merlin
2277 48th	4014 Oak	2506 50th

Pump Station Locations

Pump Stations

Challenging Sites for PS Upgrades

Electrical Enclosure Siting Challenges
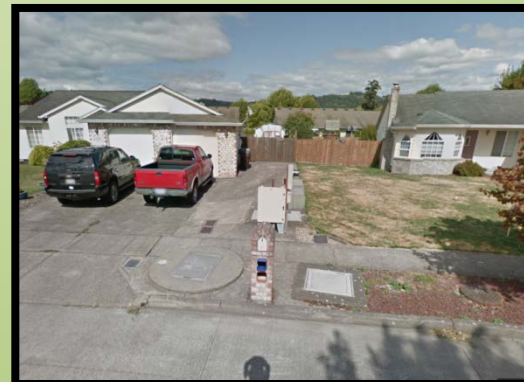

2725 32nd

2277 48th

2626 38th

4014 Oak

4711 Merlin

2506 50th

Concrete Block Enclosure Pros and Cons

PROS

- Improves worker safety
- Increases component life
- Improves security
- Less industrial appearance

CONS

- Increased facility footprint
- Increased height and width of visual barrier
- Additional expense – average cost $20,000

RECOMMENDATIONS

- Use three-sided masonry enclosures
- Omit enclosures where homeowners object or space is inadequate
- Landscape vegetation may be added to reduce visual impact of enclosure
- Enclosure color may be changed