

SANITARY SEWERS

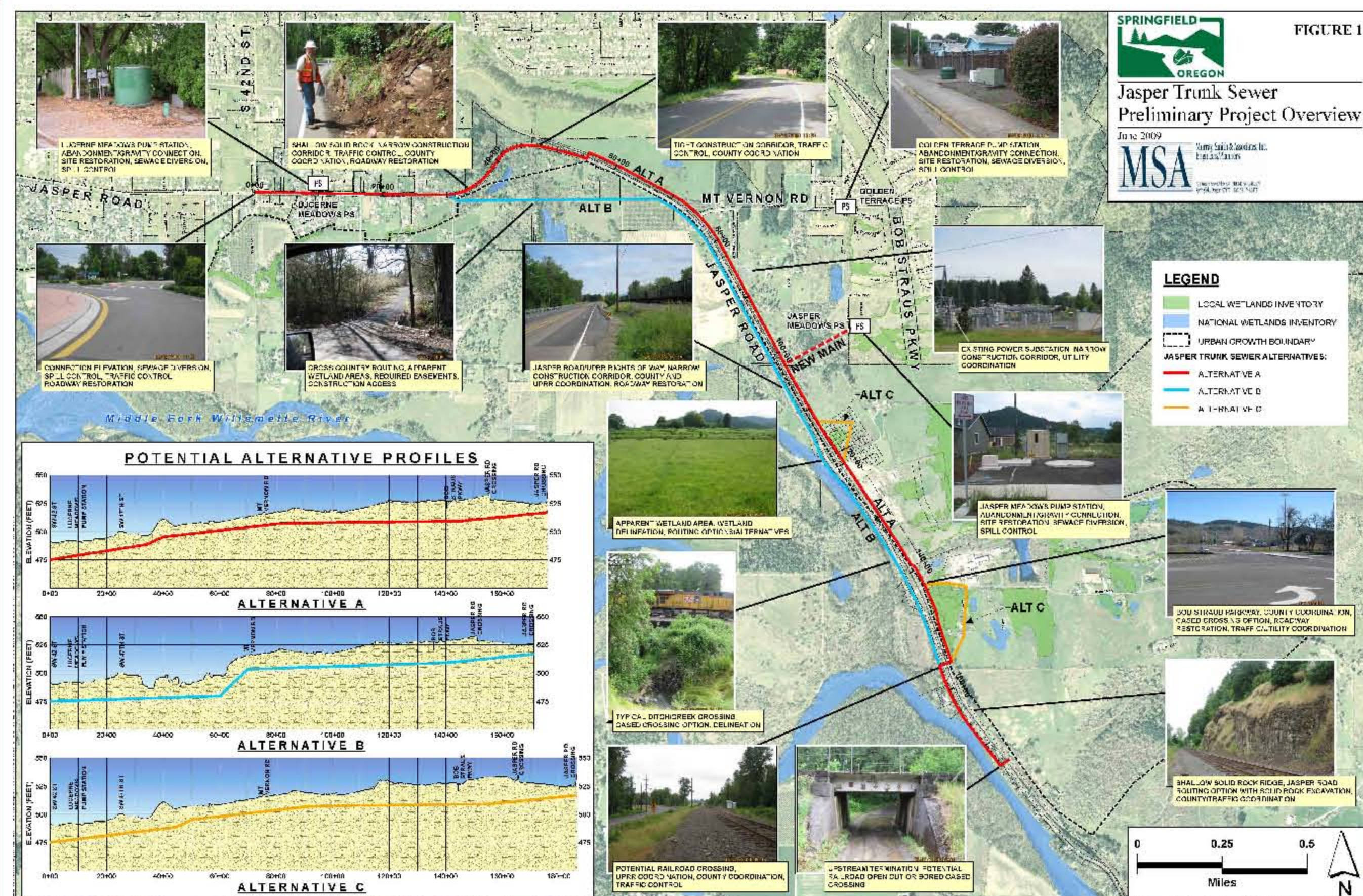


JENNE ROAD – PLEASANT VALLEY INTERCEPTOR, CITY OF GRESHAM, OR

- 9,500-foot long, 24- to 36-inch diameter trunk sewer
- Piping up to 20 feet deep
- Inverted sewer crossing of Johnson Creek
- Sized to accommodate build-out flows in the Pleasant Valley area
- Corps of Engineers/DSL 404 wetland, NOAA fisheries and Water Quality Resource Area (WQRA) permits for creek crossing wetlands work
- City of Portland Parks Bureau permit for Springwater Trail Linear Park
- Traffic control and detour plan development for closure of road by City of Portland and Multnomah County
- Kelly Creek Trunk Sewer Feasibility Evaluation
- Hydraulic and routing analyses

JASPER ROAD TRUNK SEWER, CITY OF SPRINGFIELD, OR

- 20,000 feet of new gravity trunk sewer ranging from 27 to 30 inches in diameter
- Serve unserved area in southeast Springfield
- Allow for abandonment of three sewage pump stations
- Extension of gravity sewer service into developing area
- Routing challenges included roadway, parallel railroad, utilities and wetlands
- Routing alternatives analysis, hydraulic modeling
- Highway, railroad permitting and environmental permitting
- Property acquisition



SEWER SYSTEM CAPACITY IMPROVEMENTS "K", CITY OF EVERETT, WA

- Analysis to select most favorable alternative to increase capacity
- Cost effective, phased approach
- 3,100 feet of 20-inch diameter force main extension
- 3,700 feet of 30-, 24-, and 18-inch diameter gravity sewer
- 35 feet deep construction
- 350 feet of trenchless construction
- Creek crossing and work adjacent to wetlands
- Minimized impacts to community and businesses
- Minimal change orders (<0.1%)