

Carmel Area Wastewater  
District (CAWD)

# Carmel Meadows Gravity Sewer Replacement Project

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November 16, 2023



# What do we Want Out of a Pipeline?

- A pipeline should be able to accommodate known flow conditions.
- A pipeline should be reliable.
- A pipeline should have reasonable drivable access for inspection and maintenance.
- A pipeline should be able to be repaired when possible.  
(Future)

# Replace in Place Project (KJ Project)



**Kennedy/Jenke Consultants**

CARMEL AREA WASTEWATER DISTRICT  
CARMEL MEADOWS GRAVITY SEWER

**ALTERNATIVE ALIGNMENTS**  
**JULY 2013**

(FWY) 1399011\FIG-02



# Pumping Project (SRT Project)



# How Were the Alignments Evaluated

- Constructability
- Operations and Maintenance
- Lifecycle

# — Constructability

- KJ Project
  - » Large equipment in narrow workspace
  - » Steep Slopes
  - » Significant clearing and grading
  - » Significant TCE's required
  - » Work likely needed to be performed from below
  - » Long term bypass pumping
- SRT Project
  - » Ejector pumps needed in narrow easement
  - » Pipeline removal
  - » Pump Station in Mariposa Dr.

# Existing Alignment Photos



# Existing Alignment Photos





# Operation & Maintenance

- KJ Project
  - » Very challenging access
  - » Safety risk
  - » Steep Slopes
  - » TCE's required to perform future repair work
  - » More clearing and grading needed in the future for major repairs
- SRT Project
  - » More regular maintenance required
  - » Pump and ejector stations do not require entrance into the steep terrain
  - » Pump Station in Mariposa Dr. is easily accessible

# — Lifecycle

Most pipeline projects are designed with a 50-to-100-year lifecycle.

- KJ Project
  - » Unpredictable lifecycle
  - » Risk of damage due to future slides or downed trees
  - » Variables outside the District's control (environmental conditions)
- SRT Project
  - » Monitoring and maintenance necessary to meet lifecycle goals

# Existing Alignment Photos



# Conclusion

- SRT Project is the most reliable system for the residents
- Recommendations for evaluation by the District
  - » Combine the four ejector pump stations into one or two
  - » Investigate running conduit from Calle La Cruz pump station for backup power to all pumpstations

