IS THERE A MORE EFFICIENT WAY?

LOWER LATERAL AREA INSPECTION PROGRAM

AGUSTIN LOPEZ, PE
PRESENTATION OVERVIEW

- SASD
- LOWER LATERAL AREA INSPECTION PROGRAM (LLAIP)
- SUMMARY
- NEXT STEPS
- QUESTIONS
SASD

- **Service Area**

- **Official Counts**
  - Main Line: 3,100 miles
  - Lower Laterals: 1,500 miles
  - Pump Stations: 105
  - Service Connections: 297,000
  - Population Served: 1.2 Million
M I S S I O N
To protect public health and the environment by efficiently and effectively collecting sewage for our community

V I S I O N
Setting the bar for essential sewage collection services
LOWER LATERAL AREA INSPECTION PROGRAM

BACKGROUND

- **Purpose** ➞ Reduce the potential for sanitary sewer overflows
- **Scope** ➞ Survey and document cleanout locations, clean lower laterals (LLs) as needed, and inspect LLs with CCTV
- **Goal** ➞ 10,000 inspections per year
- **Schedule** ➞ Start summer 2015, with estimated completion fall 2019
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- **PROJECTS**
  - **Contractor ➔** Collected data on paper, inspected LLs with CCTV, cleaned LLs as needed, and submitted video files in external hard drives
  - **SASD ➔** Reviewed videos and returned hard drives
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- **Scope Change**
  - Consent Decree ➔ Led to an increase in inspections from 10,000 to approximately 100,000 per year
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**Challenges**

- **Data Collection** ➔ How to reduce errors?
- **WO Creation/Updating** ➔ How to quickly create and update WOs in mass?
- **TVI Submittals** ➔ How to quickly receive and review large amounts of video files?
- **Project Management** ➔ How to manage projects efficiently?
Lower Lateral Area Inspection Program

The Solution

Continually asking if there was a better way led to the following:

- **Data Collection** ➔ ArcGIS Collector and FME
- **WO Creation/Updating** ➔ MaxOut ➔ Mx Loader
- **TVI Submittals** ➔ Review process change ➔ SacDrive ➔ contractor staff
- **Project Management** ➔ Exploration of software program
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- **ArcGIS Collector**
  - A mobile data collection application
  - Web maps
  - Data captured in field
  - Desktop/laptop web maps available

### Benefits

<table>
<thead>
<tr>
<th>Efficient data collection</th>
<th>Real-time data</th>
<th>Eliminated paper maps</th>
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<tbody>
<tr>
<td>Eliminated transferring data from paper</td>
<td>Single data source</td>
<td>Multiple field users</td>
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LOWER LATERAL AREA INSPECTION PROGRAM

- **Feature Manipulation Engine (FME)**
  - Converts data into different formats
  - Automates data collection
  - Provides one project sheet

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<thead>
<tr>
<th>Benefits</th>
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<tbody>
<tr>
<td>Takes data from Collector into Excel</td>
<td>Replaces project tracking sheet</td>
</tr>
<tr>
<td>Reduces errors</td>
<td>Automates tasks</td>
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<td></td>
<td>Communicates with multiple data bases</td>
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LOWER LATERAL AREA INSPECTION PROGRAM

- **MaxOut**
  - In-house program for creating WOs
  - Uses Excel and Maximo

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<tr>
<td>Improves the creation of WOs</td>
<td>Saves time</td>
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<tr>
<td>Updated as Maximo updated</td>
<td>Creates 2-3 WOs per minute</td>
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LOWER LATERAL AREA INSPECTION PROGRAM

- **Mx Loader**
  - Discovered after concerns with MaxOut
  - Creates and updates WOs using Excel spreadsheet

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<tr>
<td>Super fast, up to 13 WOs created per min</td>
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<tr>
<td>WO creation and updating done in background</td>
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- **TVI REVIEW PROCESS CHANGE**
  - Three priority ratings developed
    - P1, severe pipe defects
    - P2, moderate pipe defects
    - P3, none to light pipe defects
  - Temporary Contractor Staff Hired
    - Trained quickly & reviewed thousands of TVIs

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<thead>
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<td>Repaired assets in need quicker</td>
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- **SacDrive**
  - Sacramento County instructed to stop usage of Drop Box
  - Sacramento County developed its own version

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<tr>
<td>Quicker submittal of video files</td>
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<tr>
<td>We own data</td>
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LOWER LATERAL AREA INSPECTION PROGRAM

- **ELEMENTS XS**
  - Exploring a more efficient way to complete our work
  - Asset management software for Engineering Design
  - Will not replace current asset management system

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<td>Map-based asset management</td>
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<tr>
<td>Custom reports</td>
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Lower Lateral Area Inspection Program

- **Bundle Project Administration**
  - Uses ArcGIS web maps
  - Customizable for more efficient project management
  - Utilizes Collector and FME

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<tr>
<td>Utilizes current staff</td>
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<tr>
<td>Create/Update WOs automated</td>
</tr>
<tr>
<td>Customizable for PMs, CMID, and Contractor</td>
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<tr>
<td>Minimal cost</td>
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<tr>
<td>Time savings to set up and maintain</td>
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<td>Available now</td>
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SUMMARY

CONCLUSION

- SASD Engineering Design has improved efficiency:
  - Significantly reducing time in completing WOs
  - Eliminating paper maps
  - Reducing potential for errors with one data source
  - Adding costs to WOs quicker
  - Standardizing project management
  - Building projects quicker
Next Steps

- **LLAIP**
  - After completion, a targeted approach will be in place to better identify and inspect lower laterals

- **ELEMENTS**
  - Will move forward with process to purchase

- **Bundle Project Administration**
  - Will continue to use until final decision is made with elements xs
QUESTIONS?