

STAGECOACH AREA DRAINAGE MASTER PLAN



Technical Team



Stagecoach Community Center
February 22, 2023

What is an Area Drainage Master Plan? (ADMP)

- ⦿ Planning-level study of flooding hazards within a watershed
 - Multiple watercourses
- ⦿ Goals:
 - Develop a comprehensive understanding of the drainage existing conditions
 - Develop alternative mitigation solutions
- ⦿ Exclusions
 - Groundwater assessments (quality, quantity)
 - Future development plans

Stagecoach ADMP

- Project funding

- FEMA Cooperative Technical Partner (CTP) grant
- CWSD Funding Administrator
- Lyon County – in-kind leverage



Stagecoach ADMP

Storey

Meeker
Pond

70 square miles

Stagecoach

US Highway 50

US Highway 50 E

439

50

Silver Springs

Talapoosa

US Highway 50

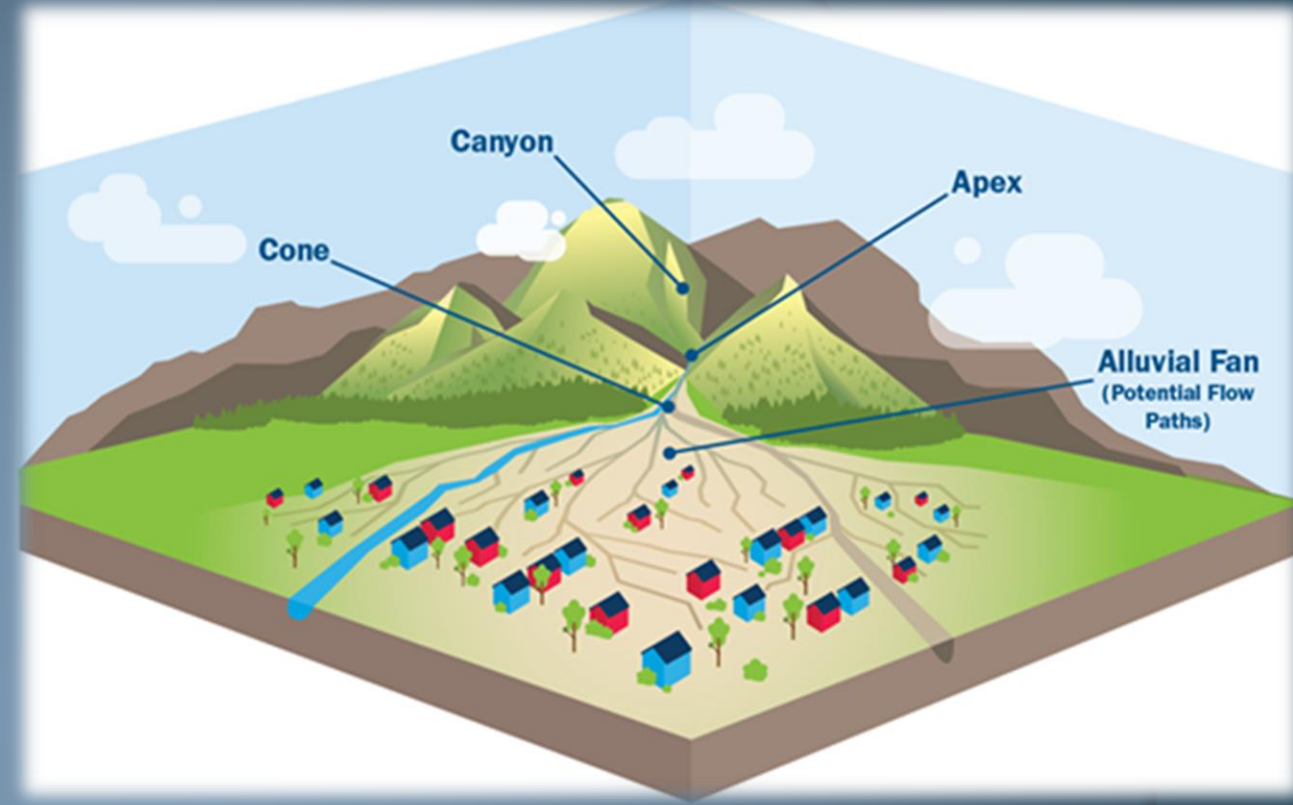
95

Weeks
Churchill

ADMP Study Area

● Complex Characteristics

- Active Alluvial Fans
- Distributary Flooding
- Sedimentation
- Closed basin system (playa)
 - Misfits Flat

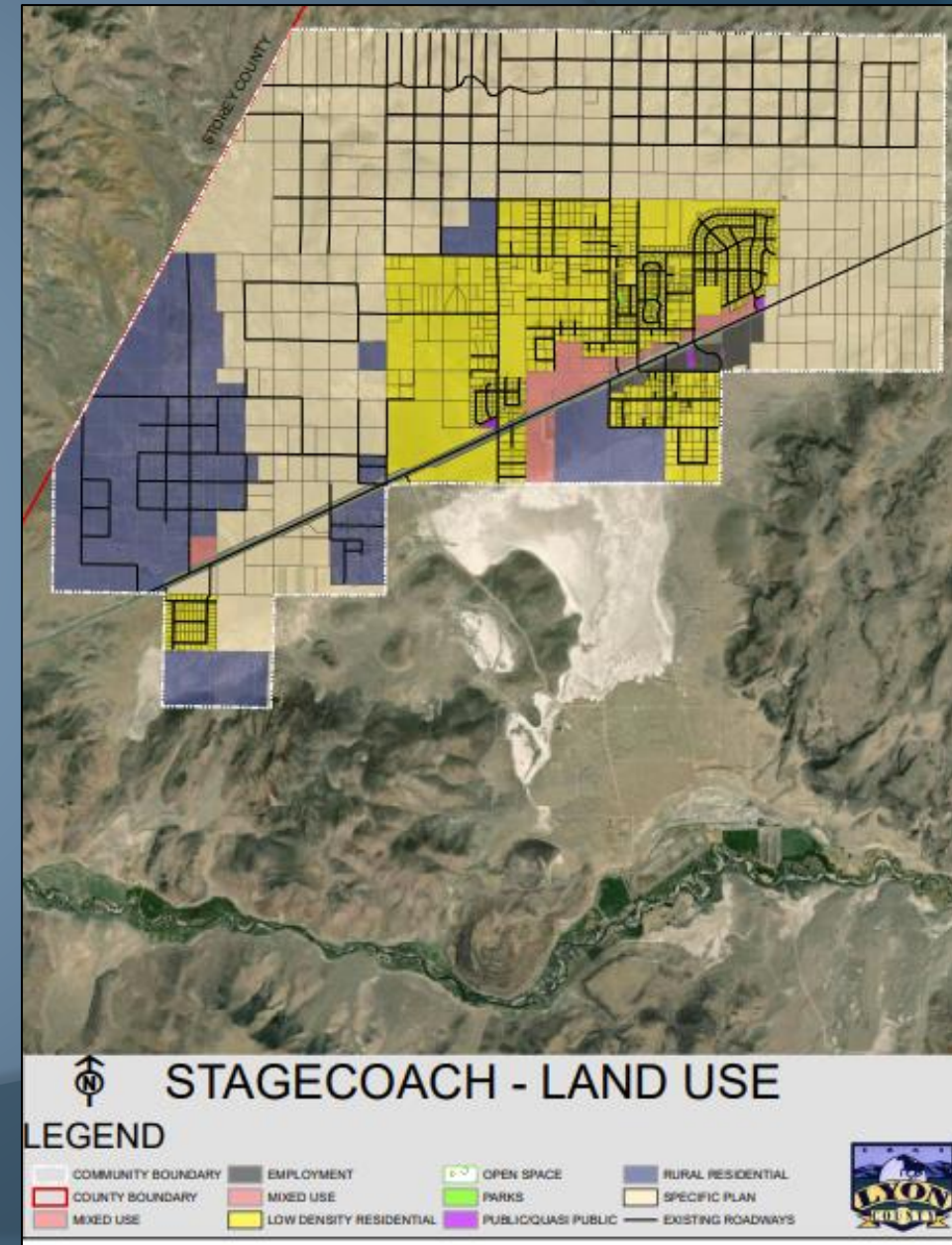


Seneca Road

ADMP Project Elements

• Data Collection

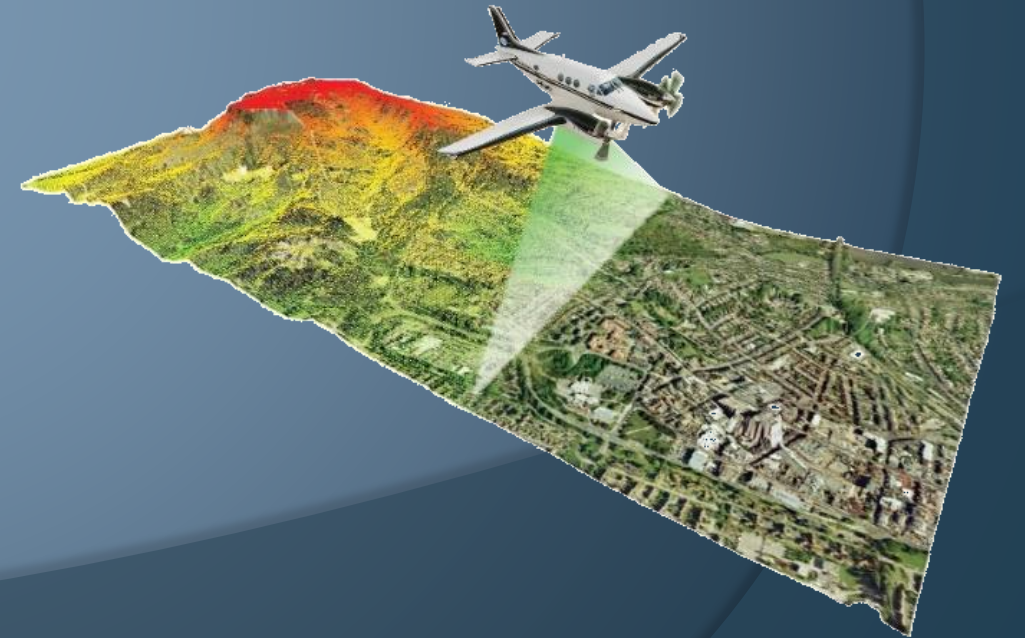
- USACE Alluvial Fan Study (2017)
- County Data (General Plans, drainage reports, land use, photos, mapping, etc.)
- NRCS Soils Mapping
- Geologic Mapping
- Historical Aerial Photography
- Rainfall and Streamflow Records
- Resident videos/photos and documentation



ADMP Project Elements

● Mapping and Survey

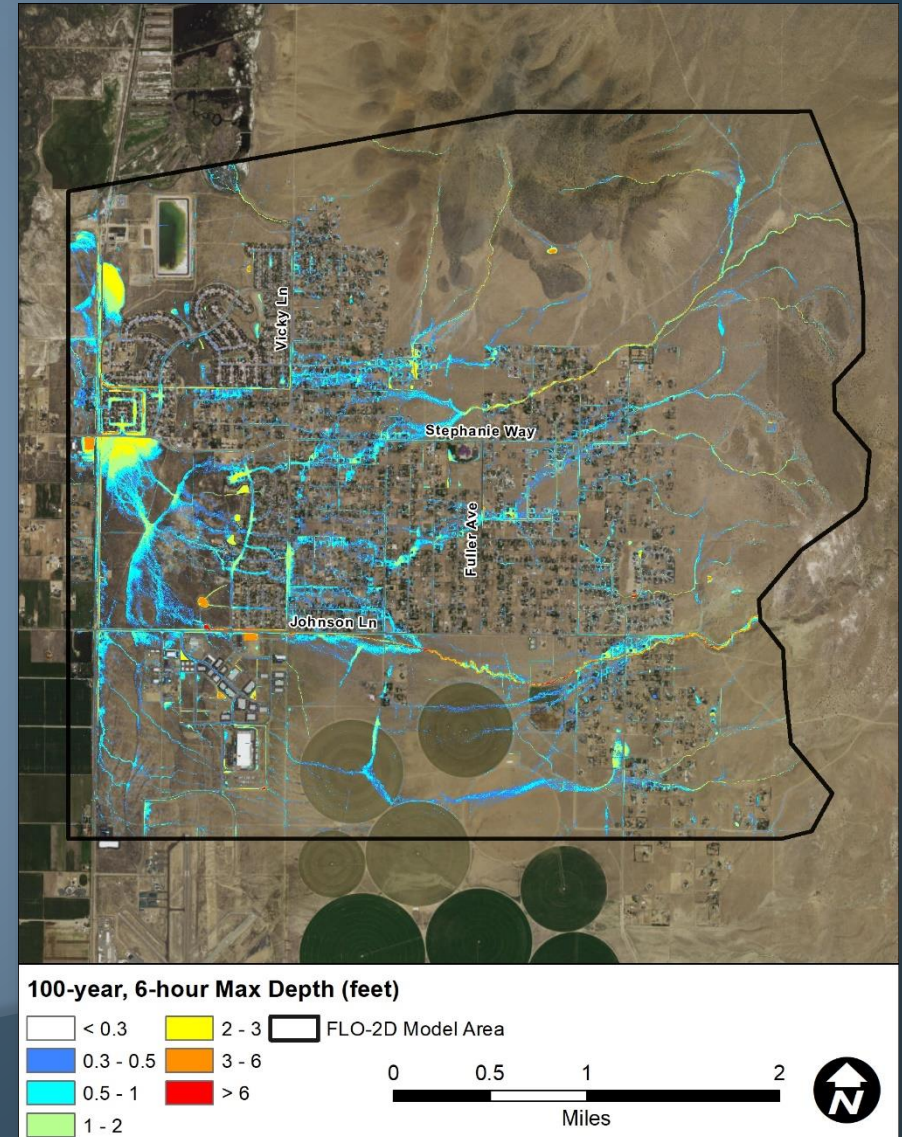
- High-resolution LiDAR mapping (USGS)
 - Light Detection and Ranging
- Existing drainage infrastructure inventory
 - Culverts
 - Bridges



ADMP Project Elements

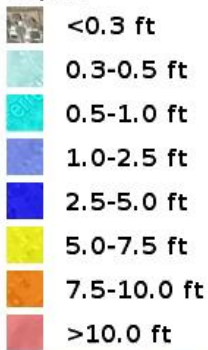
Hydrologic and Hydraulic Modeling

- Where do flood flows come from?
 - Rainfall & Runoff
 - Storms
 - 5-year, 25-year, 100-year storms
- Where does the storm runoff go?
 - Two-Dimensional hydraulic model (FLO-2D)
 - Latest technology
 - Best tool for complex, urban flooding
 - High resolution, detailed results
 - Flow Depth
 - Flow Velocity

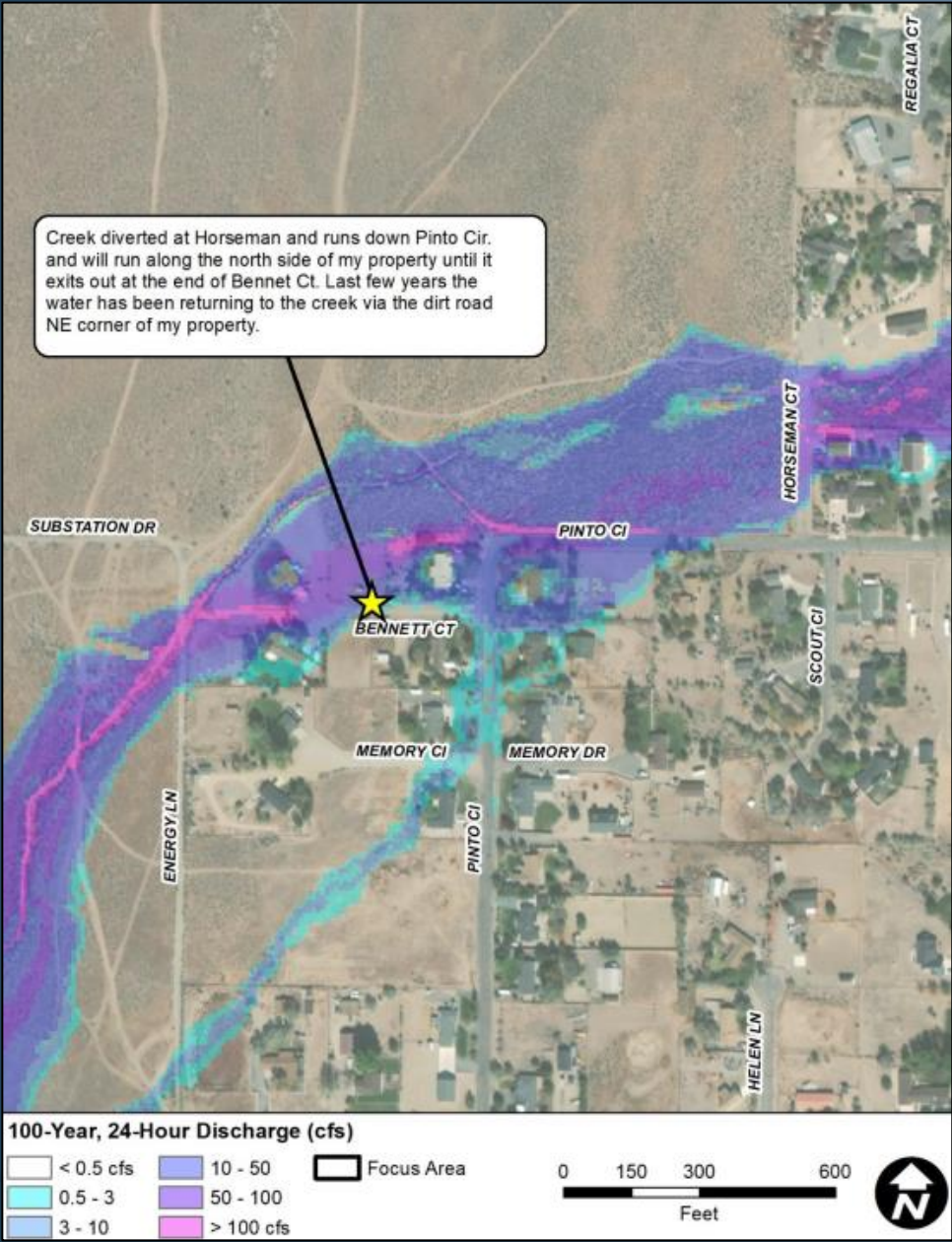




Animation Legend
depth



Resident videos/photos and documentation



ADMP Project Elements

● Sedimentation Assessment

- Sediment has been issue historically
 - Clog roadside ditches
 - Clog culverts
 - Debris in roadways

Seneca Road



Seneca Road

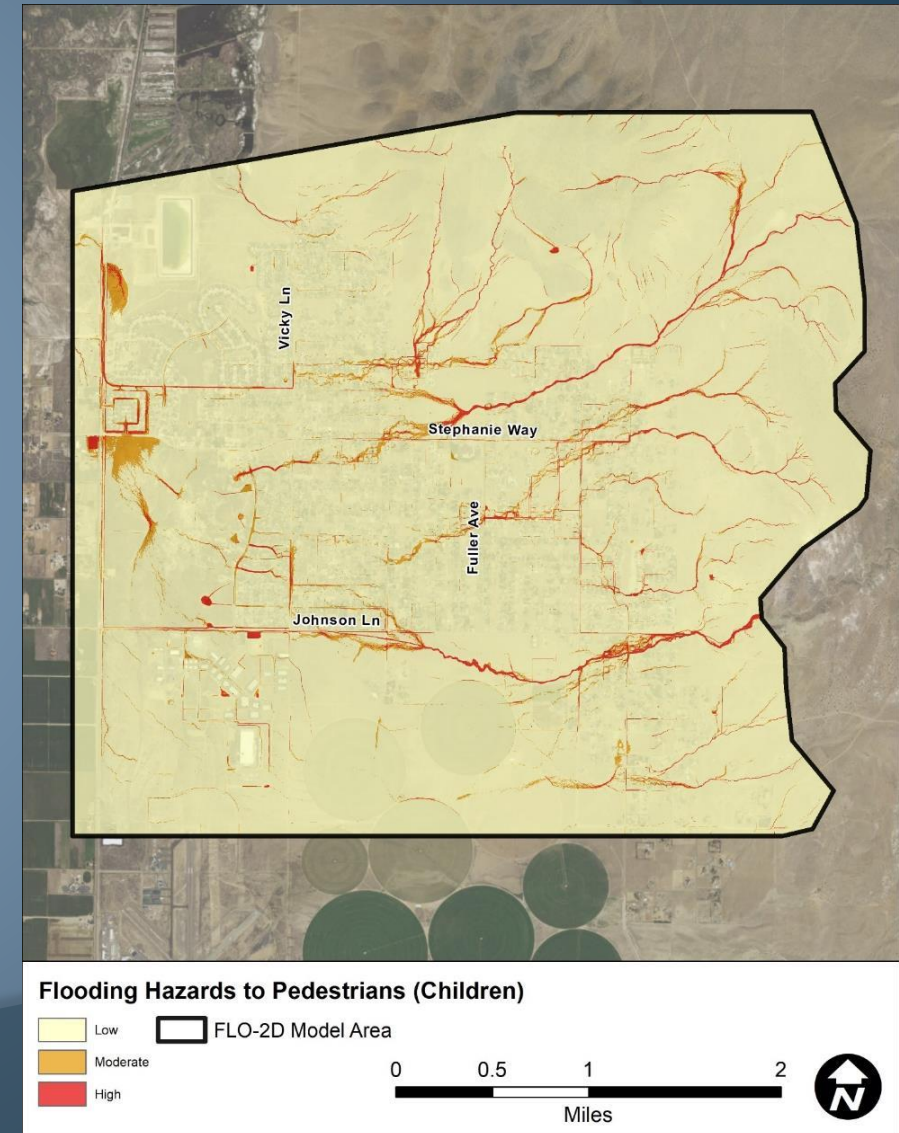
Cheyenne Trail



ADMP Project Elements

● Flooding Hazard Classification

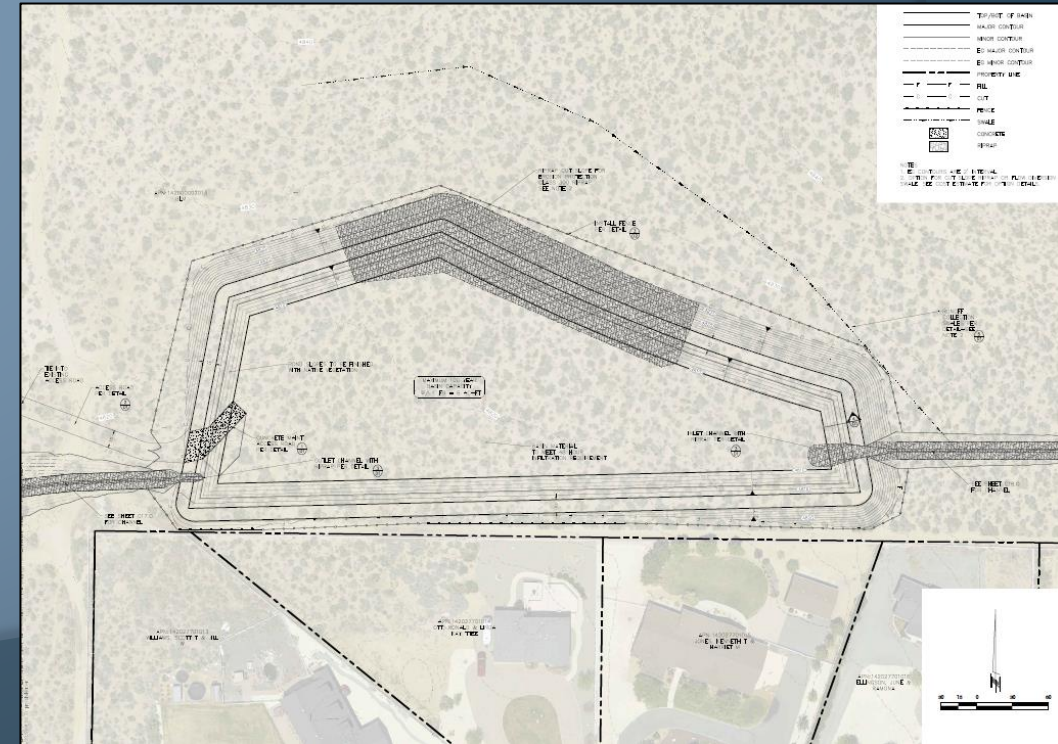
- Define areas of flood risk
 - Pedestrians
 - Vehicles
 - Buildings



ADMP Project Elements

Alternatives Formulation

- Mitigation for the 25-year storm
- Mitigation for the 100-year storm
- Mitigation for sediment
- Conceptual Design Plans



ADMP Project Elements

Public Meetings and Outreach

- Open House – Tonight
 - Introduce Project
 - Hear your experiences, get your input on where problems frequently occur
- Meeting #2 – Summer 2024
 - Present project results, mitigation alternatives
- CWSD Board and Lyon County Board
 - Summer 2024

