

Update on Tusayan Drainage Master Plan

Tusayan Town Council
October 13, 2026



Presentation Overview

1. Update on Tusayan Drainage Master Plan

- Chris Duzsa, PE, Civiltec Engineering
- Joe Loverich, PE, JE Fuller Hydrology

2. Update on FLAP, BUILD & PROTECT Grants

- Shaun Pooyouma, District Program Manager

3. Update on SMART Grant

- Shaun Pooyouma, District Program Manager
- Greg Clifton, Town Manager

4. Next Steps

- Greg Clifton, Town Manager
- Lucinda Andreani, District Consultant



In-Town Flood Mitigation 60% Plans and DCR

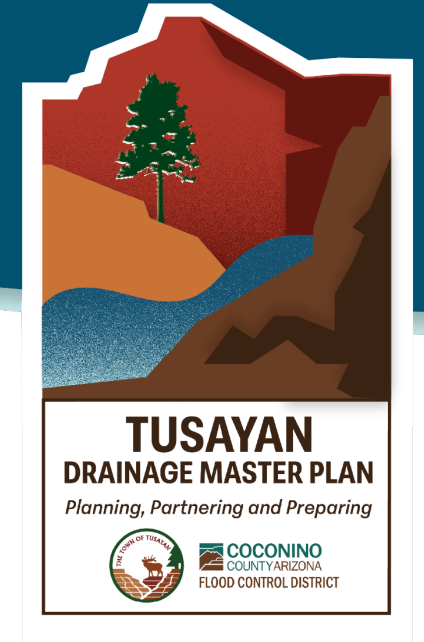
Chris Dusza, PE

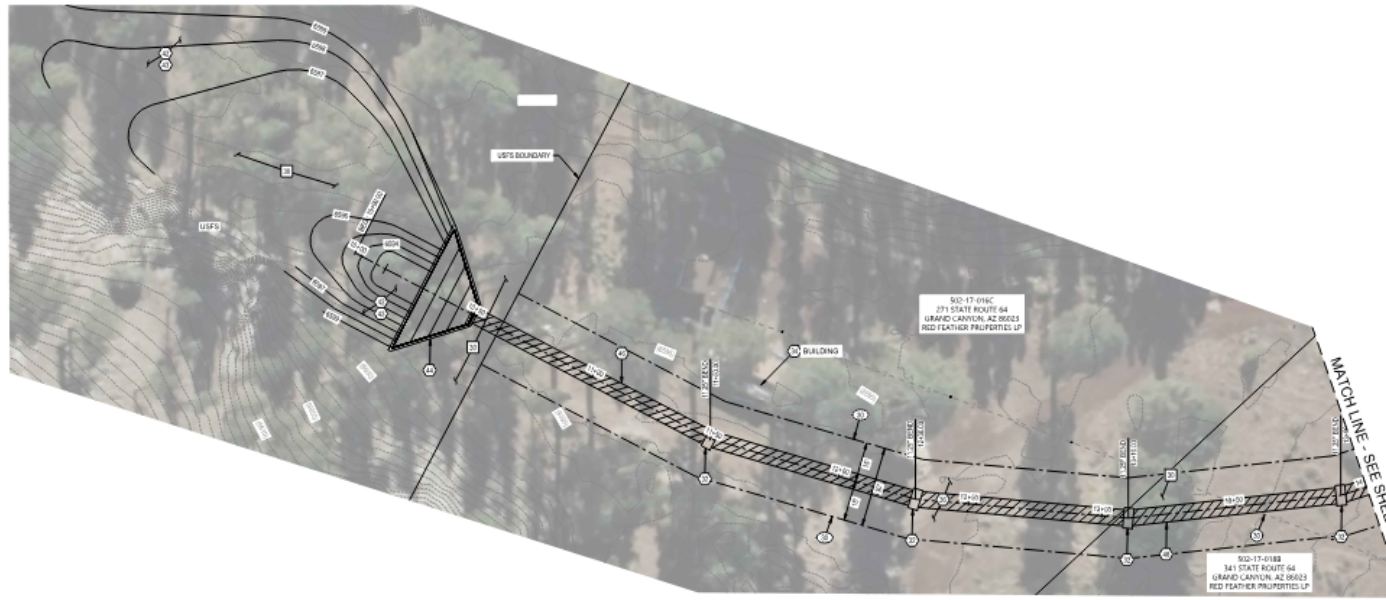
Civiltec Engineering, Inc.



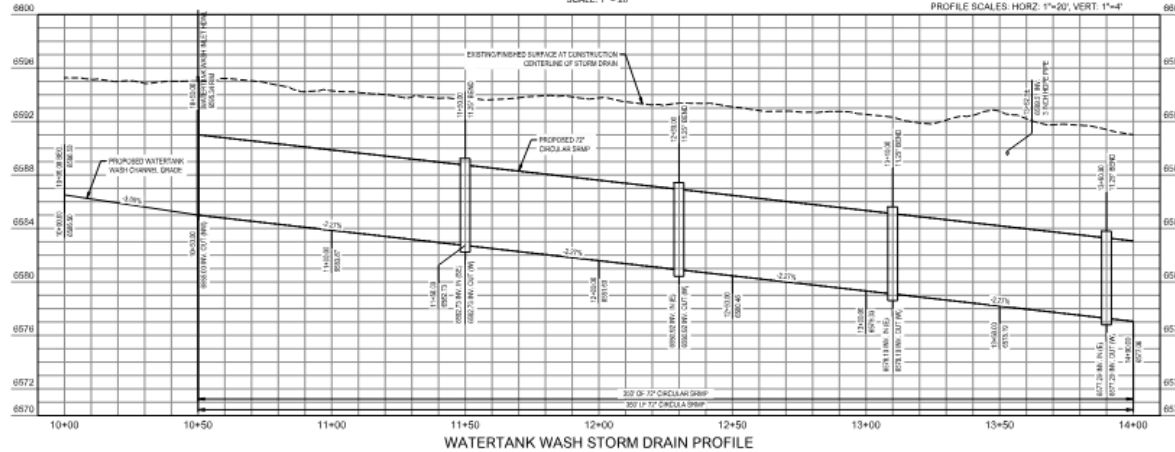
Project Status Update

- Tusayan Drainage Master Plan completed
- In-Town Geotechnical Work completed
- On-Forest Geotechnical Work completed
- Utility Designating and Locating completed
- Field Survey for property monuments and Design Survey completed
- 60% Plans and Design Concept Report completed for In-Town flood mitigation improvements
- Significant progress on completing the necessary studies and analyses for the Tusayan Pines Flood Retarding Structure





WATERTANK WASH STORM DRAIN
SCALE: 1" = 20'



WATERTANK WASH STORM DRAIN PROFILE

NOTES		
CONSTRUCTION	QTY.	
32 FURNISH AND INSTALL PREPARED STORM DRAIN BENDS AS SHOWN	BA	
34 PROTECT IN PLACE	MP	
36 RESTORE GRAVEL DRIVEWAY	SV	
42 GRAVE AREA AS SHOWN	CT CUT	
44 HYDROSEED ALL AREAS DISTURBED BY CONSTRUCTION	AC	
46 CONSTRUCT NEW WATERTANK STORM DRAIN PUMP STRUCTURE FOR DETENTION BASIN	LS	
48 CONSTRUCT NEW 72" DIAM CIRCULAR STORM DRAIN	LP	
REMOVALS	QTY.	
38 REMOVE EXISTING TREES AND VEGETATION AS NEEDED	LS	
UTILITIES	QTY.	
39 PROTECT IN PLACE	MP	
EASEMENTS / RIGHT-OF-WAY	QTY.	
35 NEW DRAINAGE EASEMENT	MP	

NOTICE TO CONTRACTORS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES TO REMAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES TO REMAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES TO REMAIN.

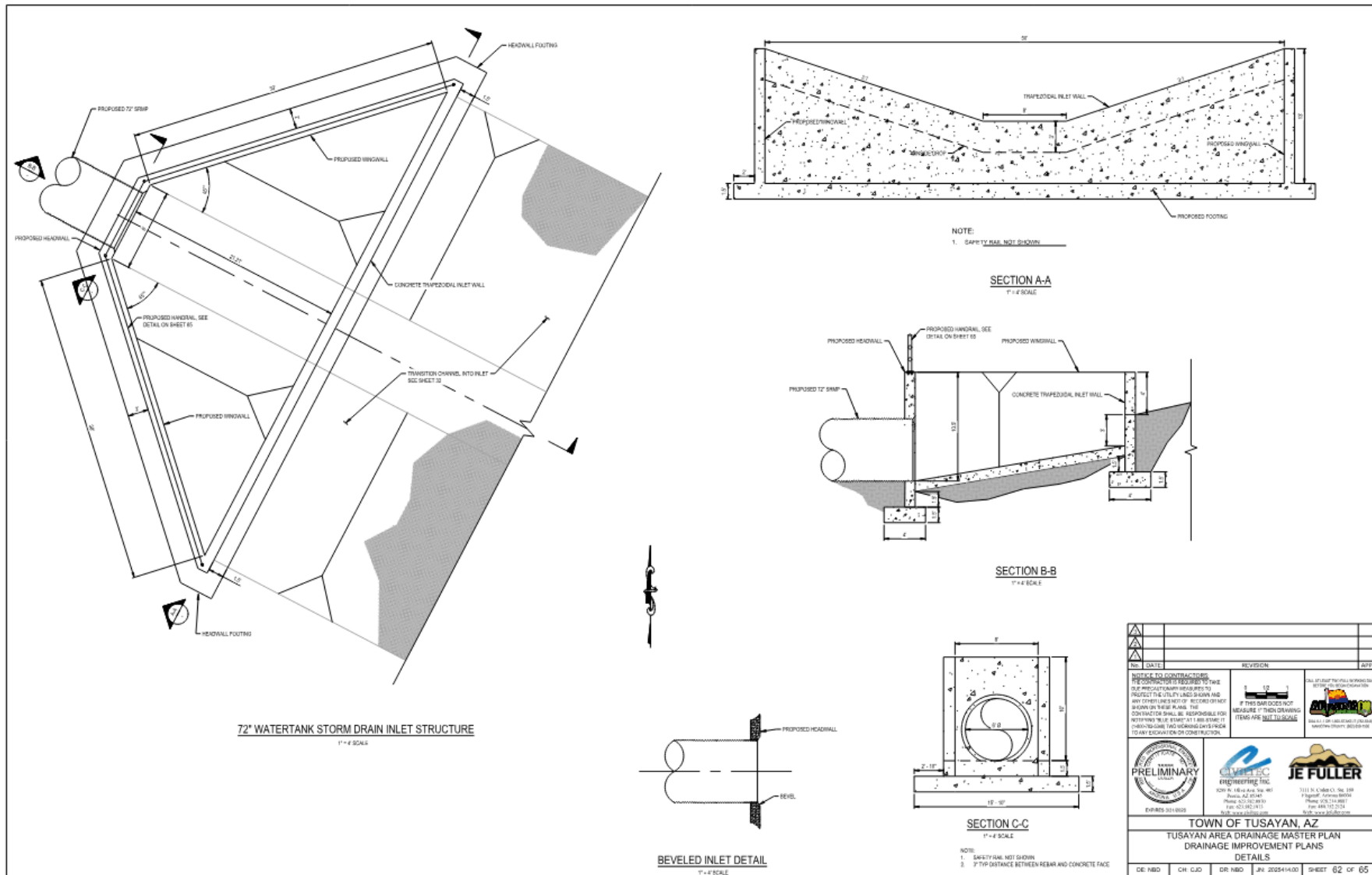
PRELIMINARY

TOWN OF TUSAYAN, AZ
TUSAYAN AREA DRAINAGE MASTER PLAN
DRAINAGE IMPROVEMENT PLANS
WATERTANK STORM DRAIN PLAN & PROFILE

DE: NBD CH: CJD DR: NBD JV: 2024/14/20 SHEET 33 OF 65

TUSAYAN DRAINAGE MASTER PLAN
Planning, Partnering and Preparing

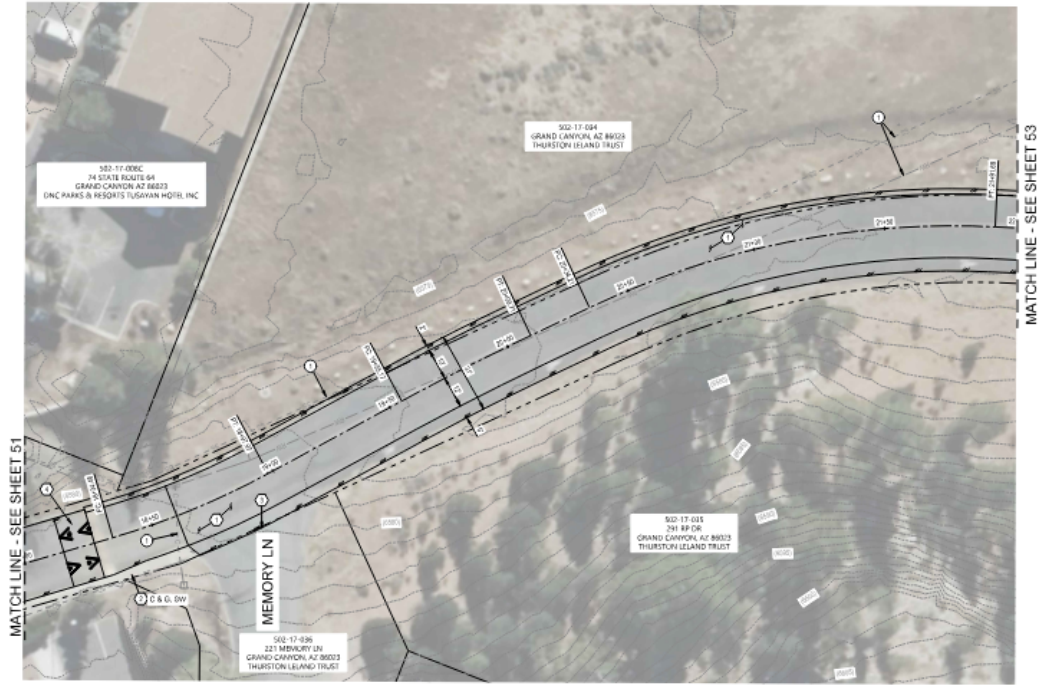
COCONINO COUNTY ARIZONA
FLOOD CONTROL DISTRICT



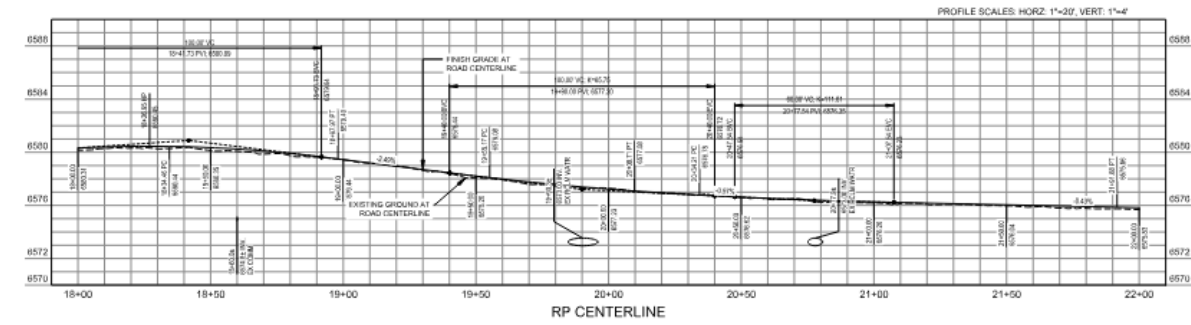
**TUSAYAN
DRAINAGE MASTER PLAN**
Planning, Partnering and Preparing



**COCONINO
COUNTY ARIZONA**
FLOOD CONTROL DISTRICT

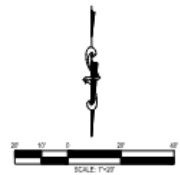


RP DRIVE PLAN VIEW
SCALE: 1" = 20'



RP CENTERLINE

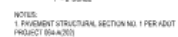
NOTES	
CONSTRUCTION	QTY.
1. CONSTRUCT NEW ROAD PER TYPICAL SECTIONS ON SHEET 51	51
2. PROTECT IN PLACE	MS
3. SAWCUT AND JOIN CASTING PAVEMENT	MS
4. CONSTRUCT NEW RESIDENTIAL SPEED HUMP PER M&D DETAIL 575 ON 05 SHEET 12	SA
REMOVALS	QTY.
SEE STORM DRAIN PLAN SHEETS FOR REMOVALS	
UTILITIES	QTY.
1. PROTECT IN PLACE	MS
EASEMENTS / RIGHT-OF-WAY	QTY.



INSTRUCTIONS TO CONTRACTORS: THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE OF ALL UTILITIES PRIOR TO ANY EXCAVATION OR CONSTRUCTION.									
REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION</th> <th>APP.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	REVISION	APP.				
NO.	DATE	REVISION	APP.						
PRELIMINARY CIVILTEC ENGINEERING INC. 1201 N. 18th Ave. Ste. 401 Phoenix, AZ 85016 Phone: 602.521.4010 Fax: 602.521.4011 www.civiltec.com JE FULLER ENGINEERING INC. 7111 N. 18th Ave. Ste. 100 Phoenix, AZ 85016 Phone: 602.521.4010 Fax: 602.521.4011 www.jefuller.com									
TOWN OF TUSAYAN, AZ TUSAYAN AREA DRAINAGE MASTER PLAN DRAINAGE IMPROVEMENT PLANS RP DRIVE ROAD PLAN & PROFILE									
DE: NBD	CH: CJD	DR: NBD	JN: 2023/11/03	SHEET 52 OF 65					

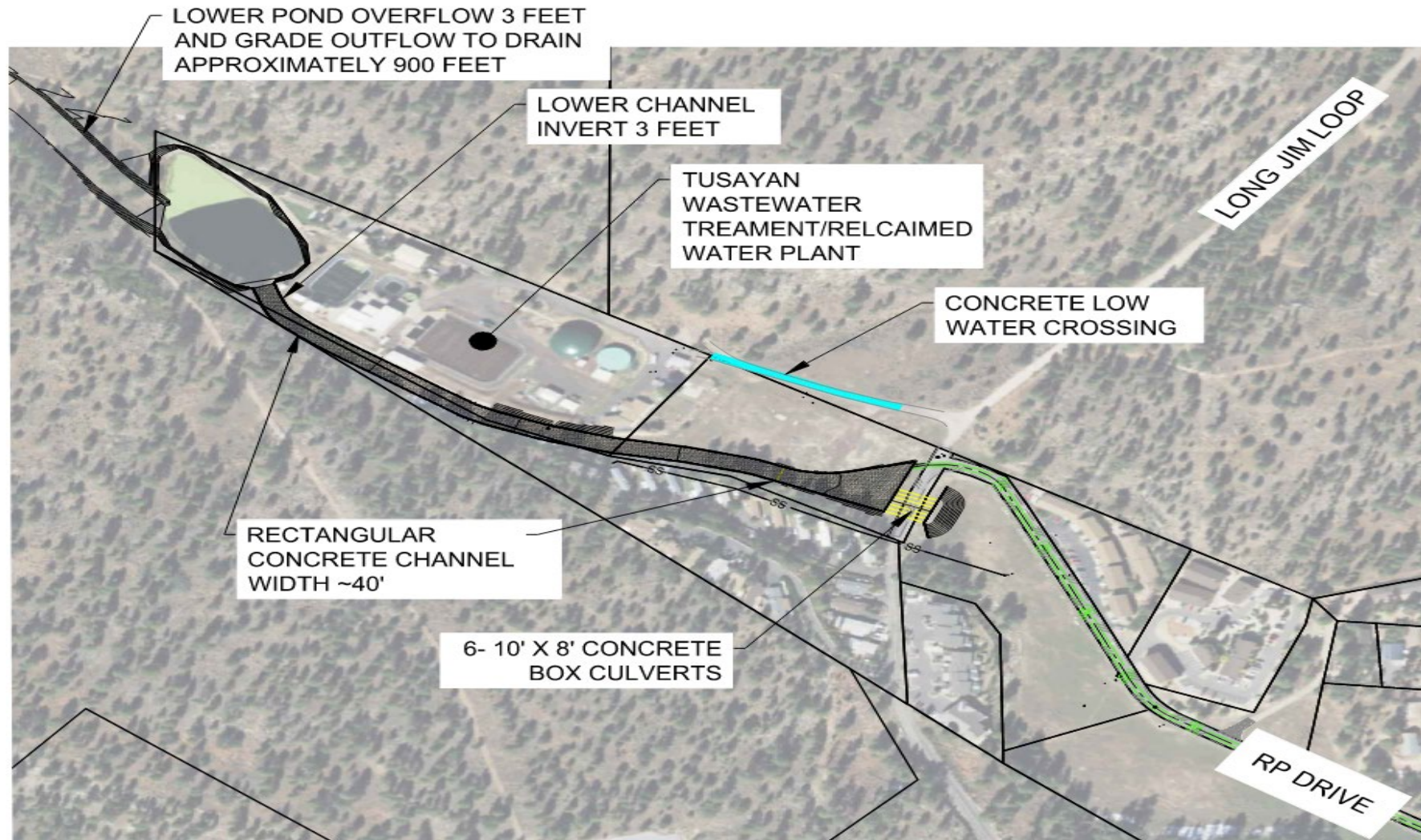
TUSAYAN DRAINAGE MASTER PLAN
Planning, Partnering and Preparing

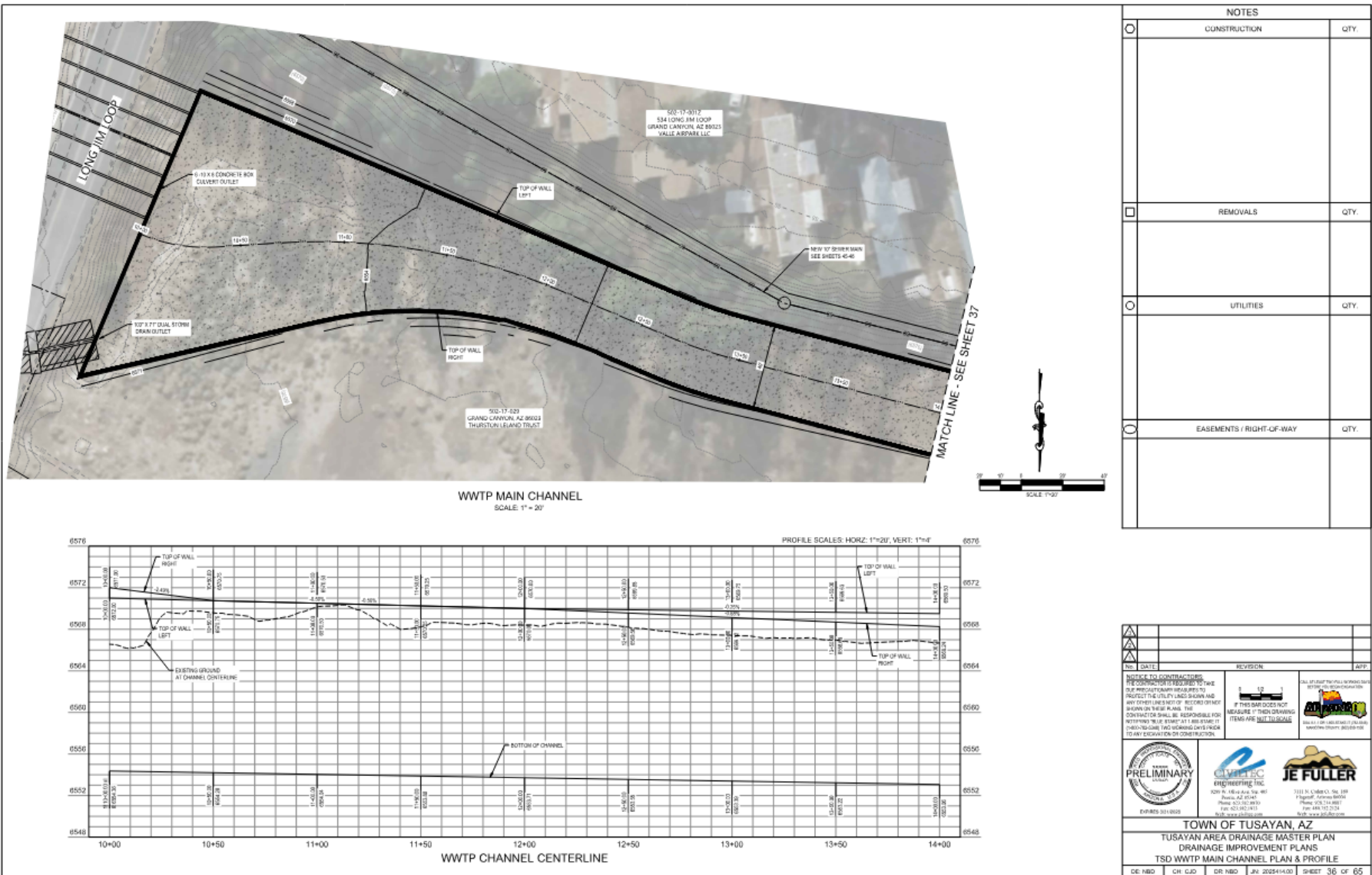
COCONINO COUNTY ARIZONA
FLOOD CONTROL DISTRICT



- 1" = 5' SCALE



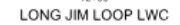




**TUSAYAN
DRAINAGE MASTER PLAN**
Planning, Partnering and Preparing



**COCONINO
COUNTY ARIZONA
FLOOD CONTROL DISTRICT**



			
No.	DATE	REVISION	APP.
NOTICE TO CONTRACTOR: PERFORM ALL WORK SHOWN ON THIS PLAN ACCORDING TO THE CITY OF TUSAYAN DRAINAGE MASTER PLAN AND THE TUSAYAN DRAINAGE IMPROVEMENT PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY EASEMENTS FOR ALL WORK SHOWN ON THIS PLAN.			
1" = 10' IF THIS MARK DOES NOT MEASURE TO THIS DRAWING ITEMS ARE NOT TO SCALE  CITY OF TUSAYAN 1000 N. 1ST AVENUE TUSAYAN, ARIZONA 86045 (928) 486-1234 WWW.CITYOF-TUSAYAN.ORG			
	 CABLETEC ENGINEERING, INC. 320 N. 10th Ave. Ste. 407 Phoenix, AZ 85004 Phone: (602) 942-8800 Fax: (602) 942-8801 www.cableteceng.com		 JE FULLER CO. 7215 N. 4th St. Ste. 100 Flagstaff, Arizona 86004 Phone: (928) 774-8807 Fax: (928) 774-8808 www.jefullerco.com
EXP. 06/30/2026			
TOWN OF TUSAYAN, AZ TUSAYAN AREA DRAINAGE MASTER PLAN DRAINAGE IMPROVEMENT PLANS RECLAIM LAND LOW WATER CROSSING			
DE. NBD	CH. CLD	DR. NBD	SHEET 48 OF 65



Small Basins Adjacent to Town 60% Plans and DCR

Joe Loverich, PE
JE Fuller Hydrology

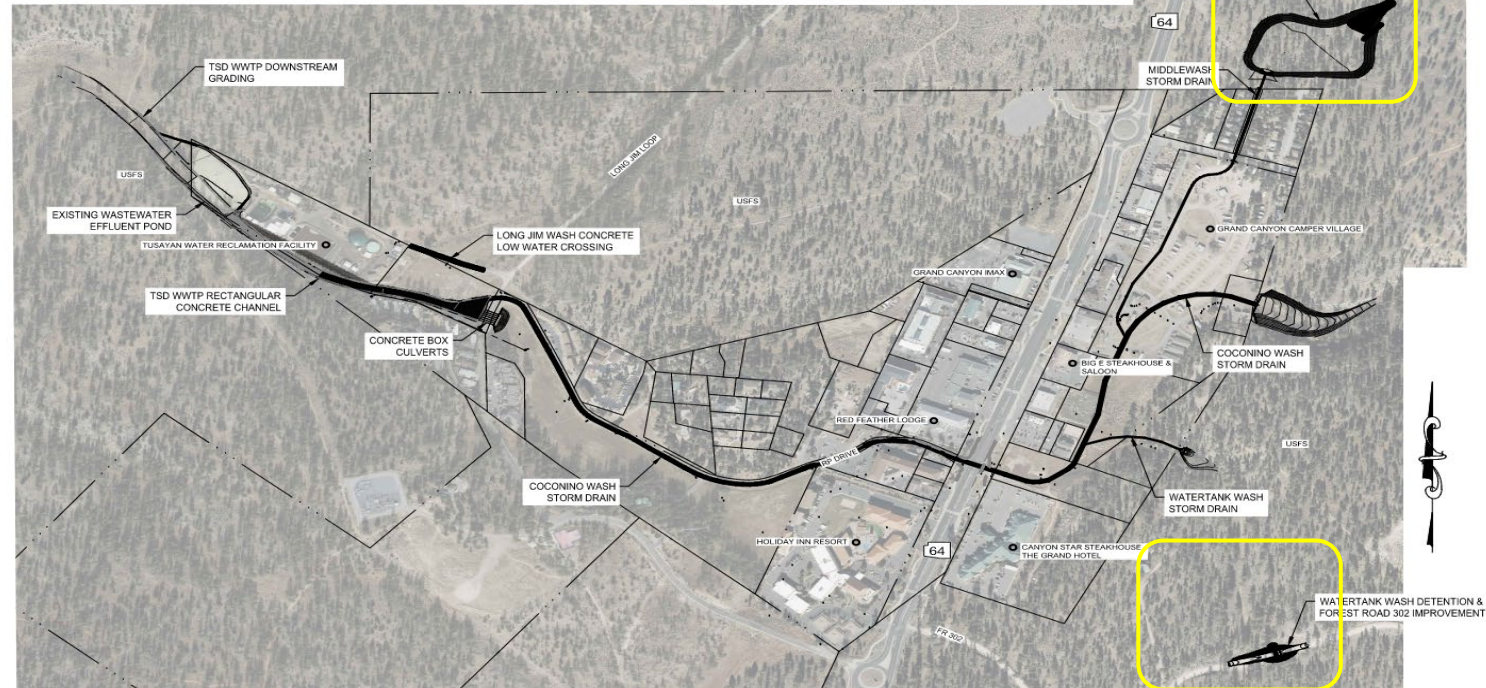




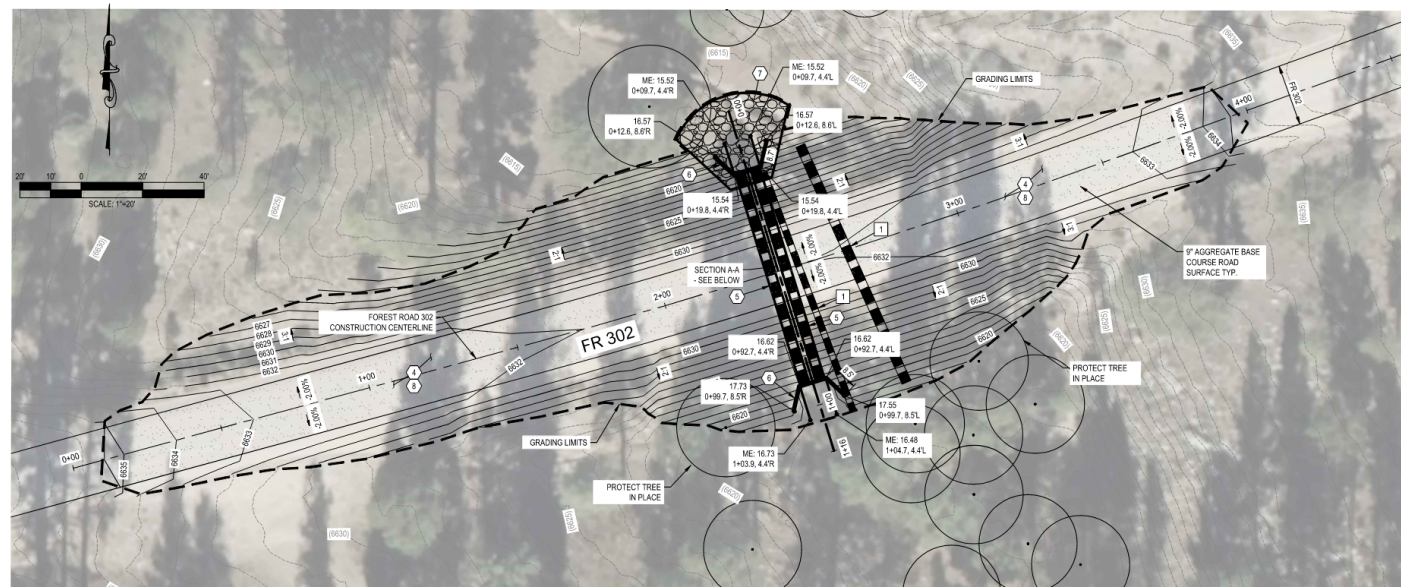
TOWN OF TUSAYAN, AZ

AREA DRAINAGE MASTER PLAN DRAINAGE IMPROVEMENT PLANS

A PORTION OF SECTION 24, TOWNSHIP 30N, RANGE 2E
GILA AND SALT RIVER BASE AND MERIDIAN, COCONINO COUNTY, ARIZONA

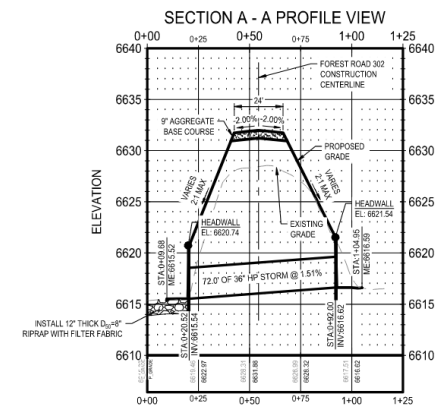
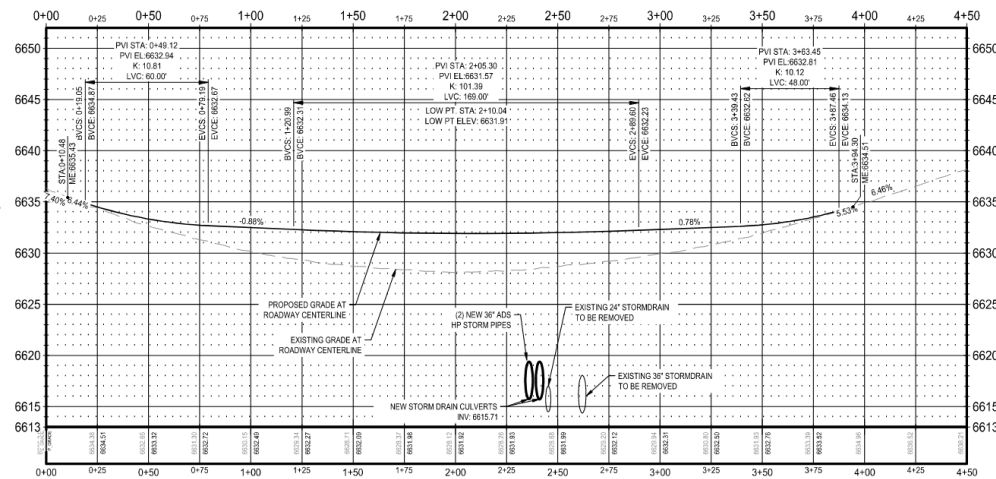


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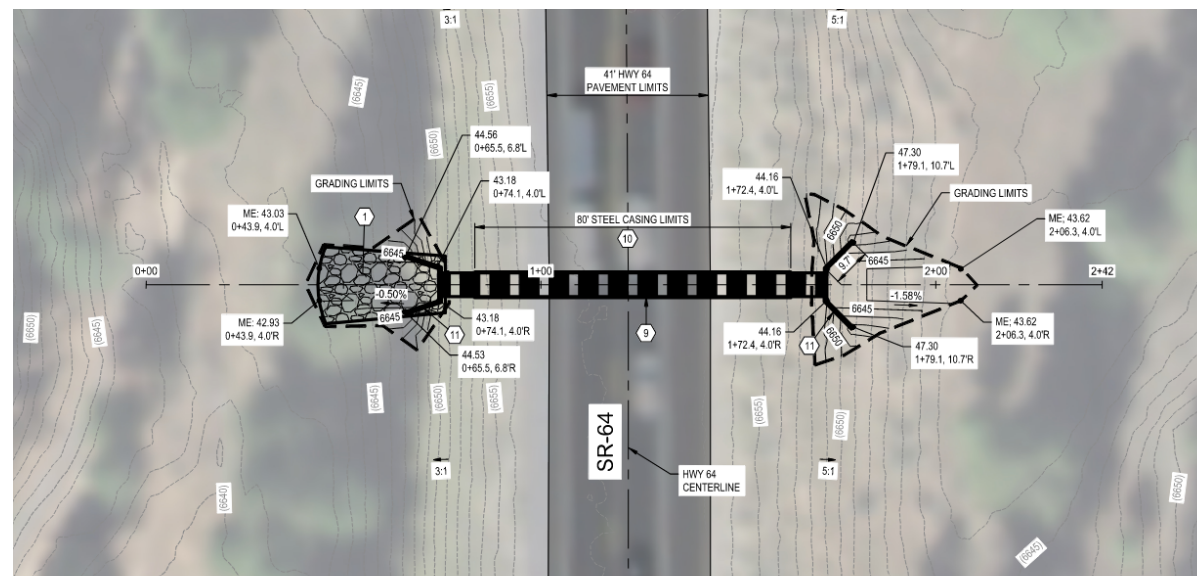
FOREST ROAD 302 GRADING - WATERTANK WASH
SCALE: 1" = 20'

NOTES:
1.) ACTUAL FINISHED GRADE ELEVATIONS AS SHOWN PLUS 6600
2.) GRADES ARE SHOWN TO BE AT TOP OF FINISH GRADE. CONTRACTOR IS RESPONSIBLE FOR ADJUST FOR SUBGRADE, GROUND MATERIALS AND OTHER TREATMENTS.

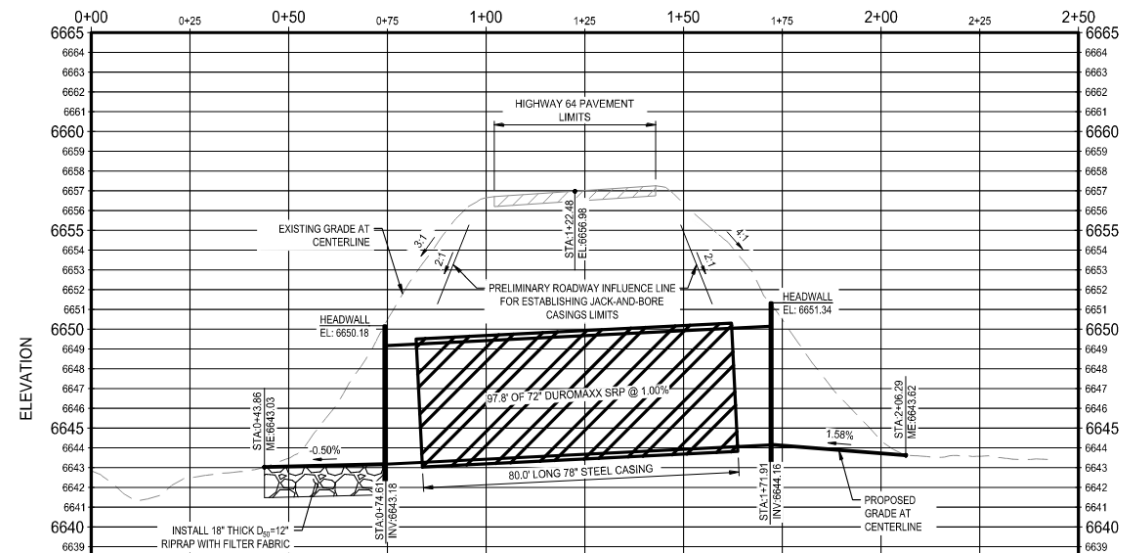


**TUSAYAN
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HIGHWAY 64 CULVERT
SCALE: 1" = 20'



On-Forest Flood Retarding Structure

Joe Loverich, PE

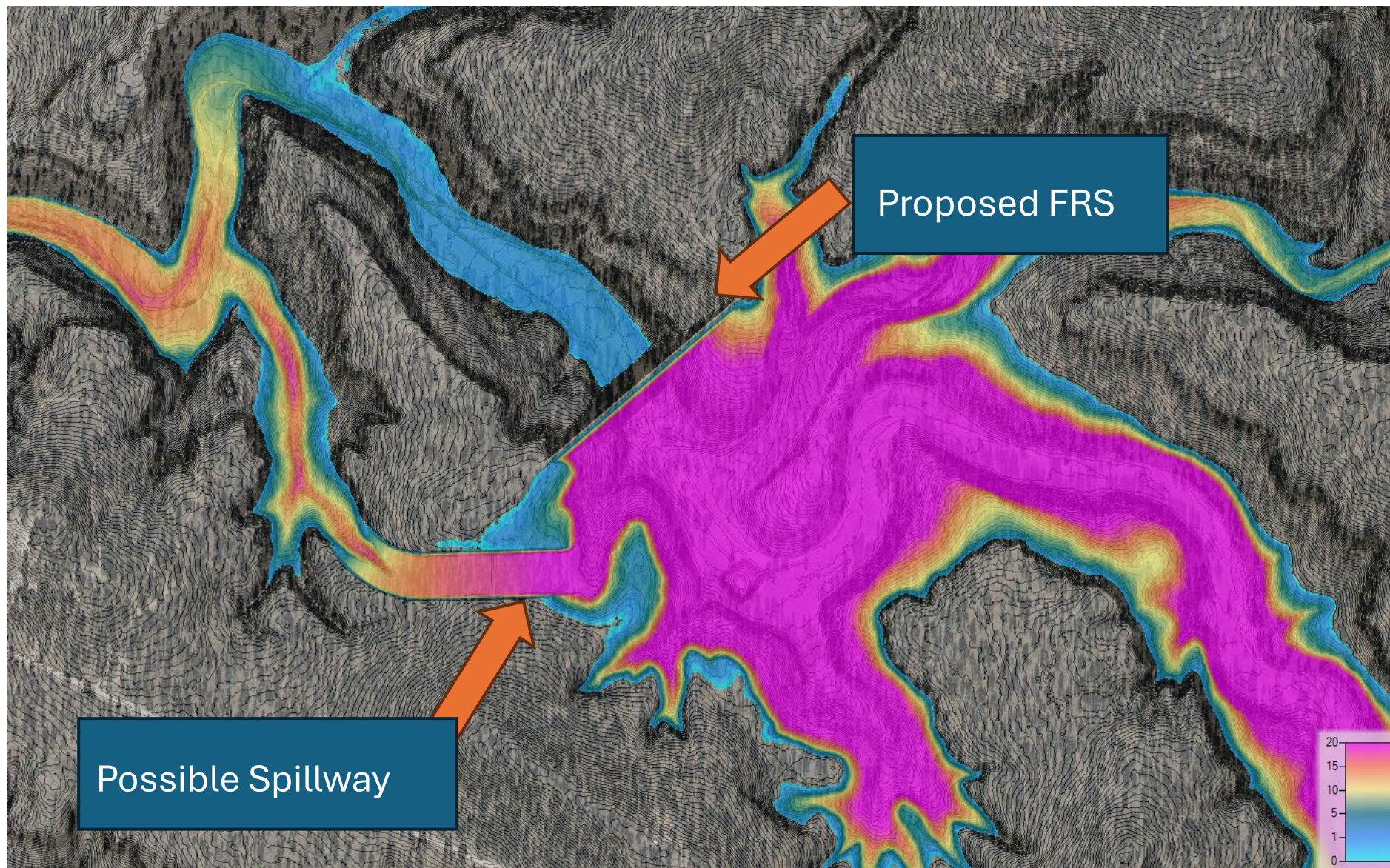
JE Fuller Hydrology



Project Status Update

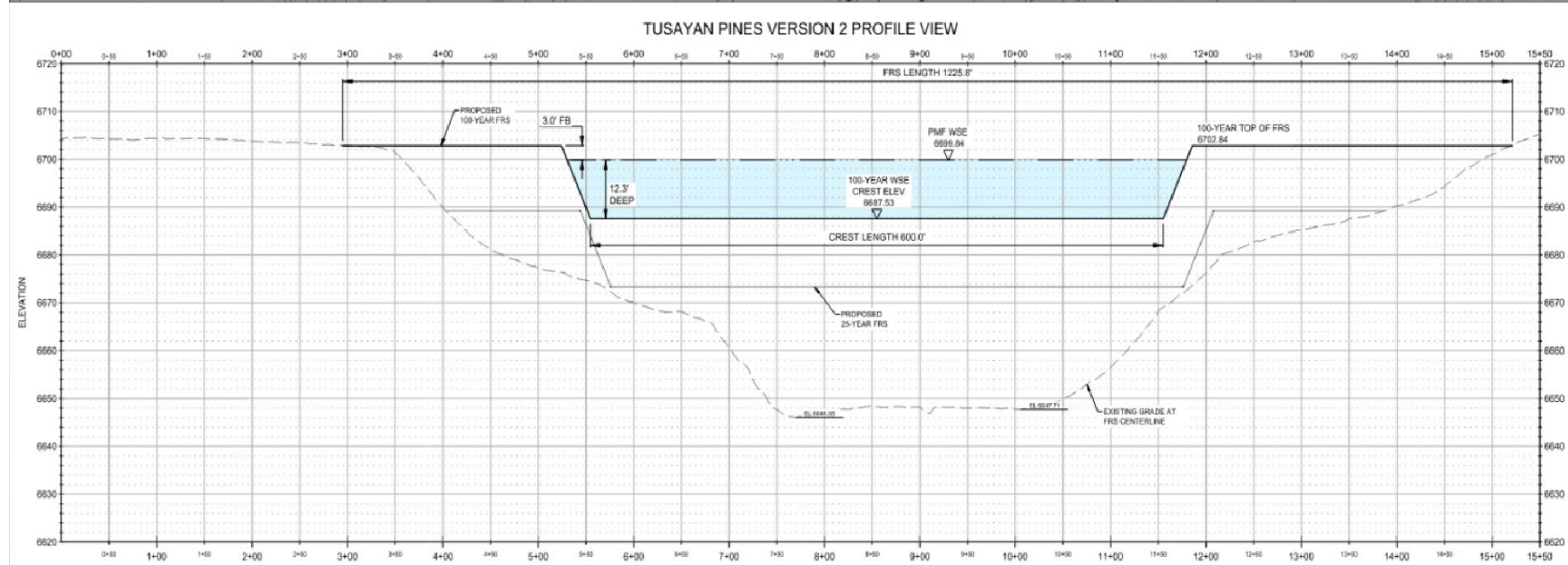
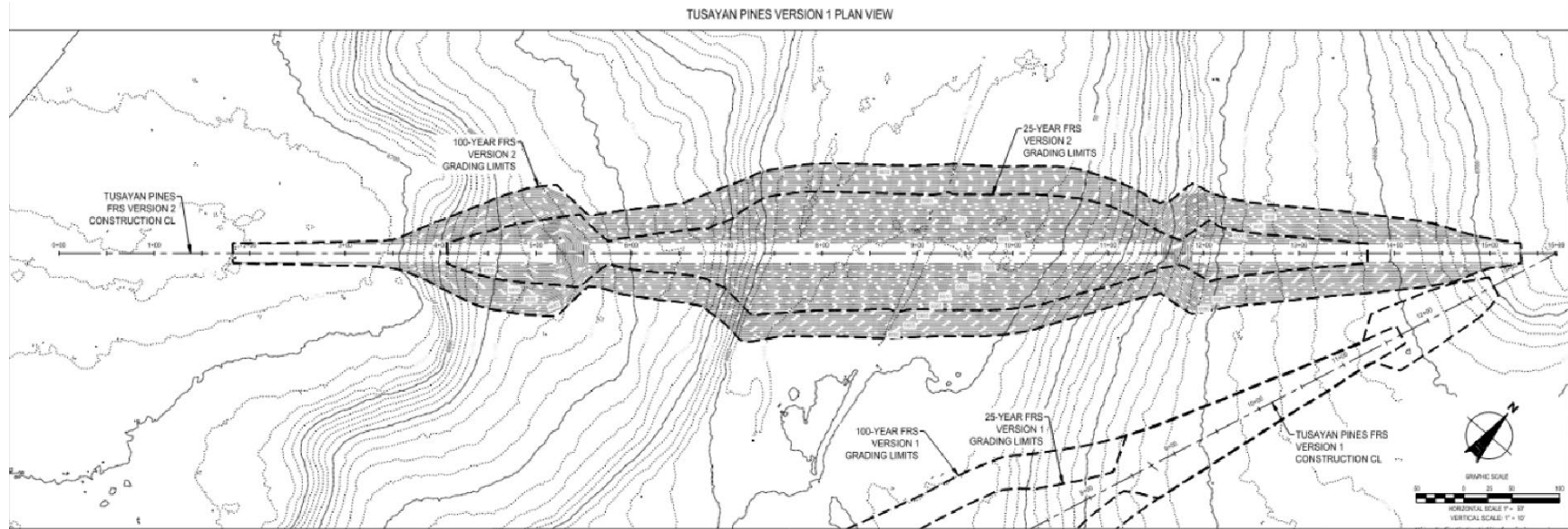
- Evaluating FRS embankment and spillway configuration alternatives
- Scheduling additional geotechnical investigations to preliminarily determine bedrock extents (week of Oct 19th) for FRS and spillway locations.
- Scheduling additional cultural resource surveys to cover alternative dam and spillway areas.
- Conceptual value engineering FRS configurations regarding storm event mitigation (25-year vs 100-year) and construction materials (earthen vs Roller Compacted Concrete).





Tusayan Pines FRS





Tusayan Pines FRS



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Seismic Refraction



Flood Modeling

Joe Loverich, PE

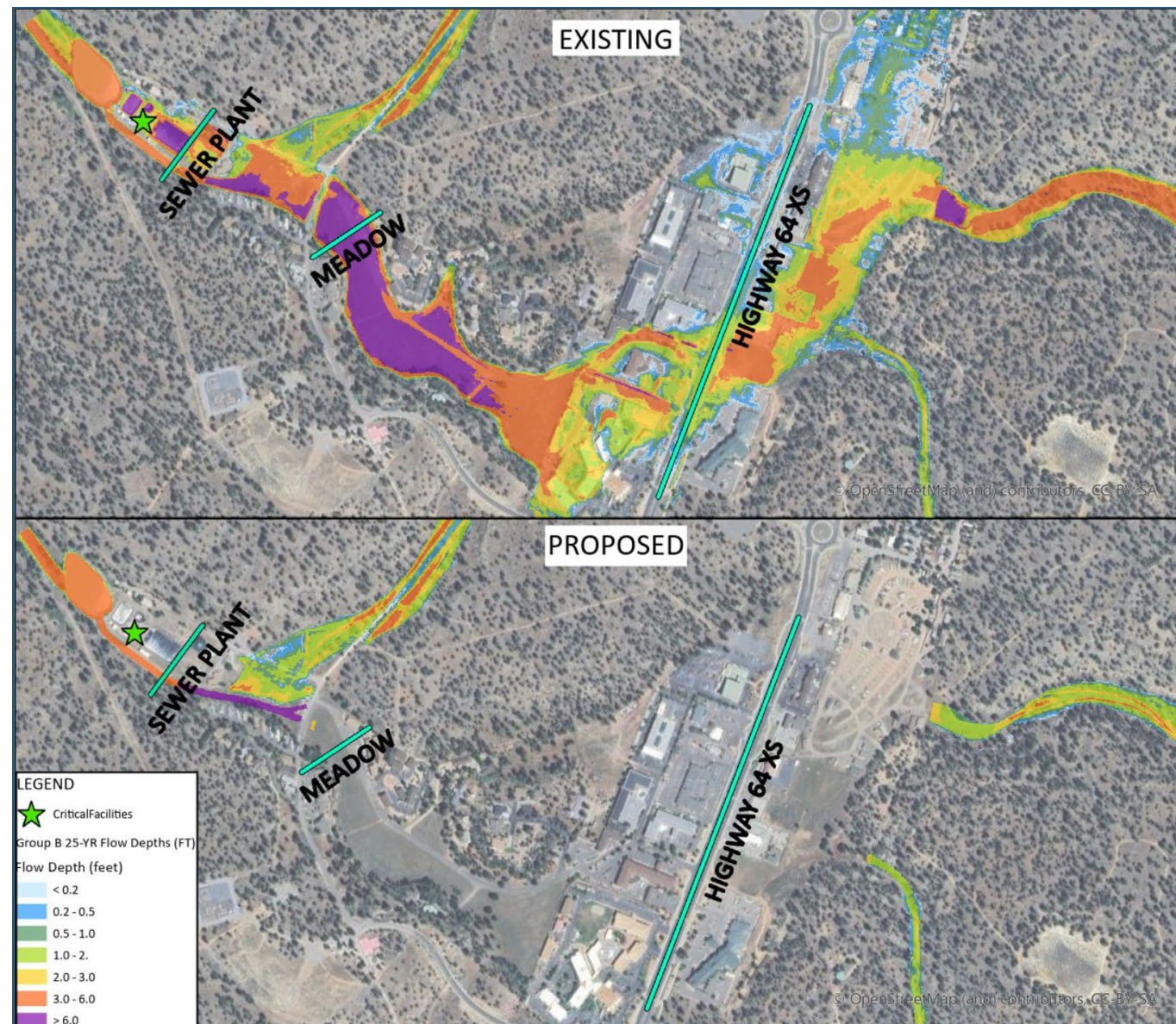
JE Fuller Hydrology



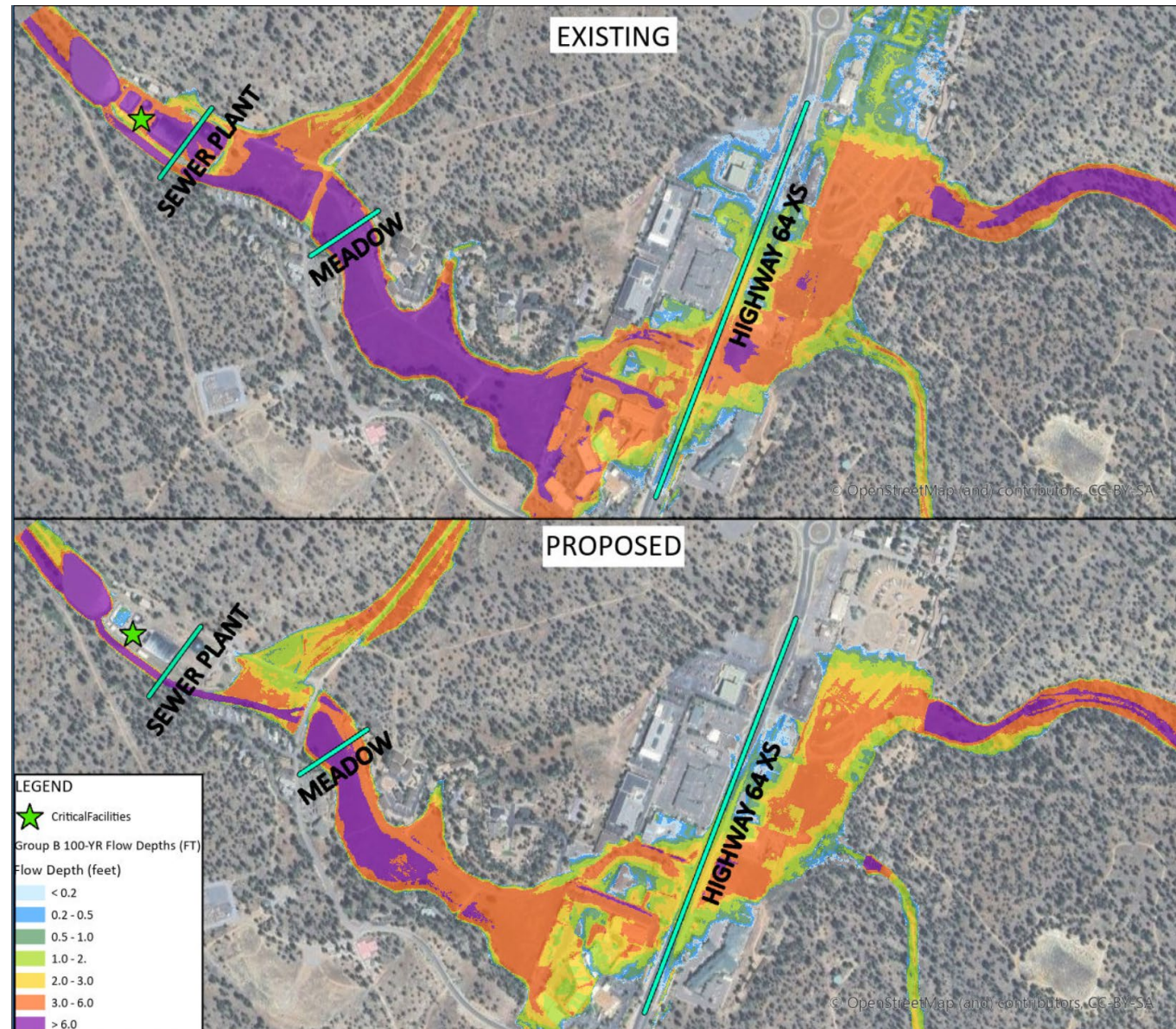
Modeling Results for Proposed Improvements

LOCATION	DESIGN STORM (yr)
SR-64	25
COCONINO WASH UPSTREAM OF WWTP	25
WWTP	100
MIDDLE WASH	100
WATERTANK WASH	100





25-Year Results



100-Year Results



PROTECT Grant Status

Shaun Pooyouma

Flood Control District

Program Manager



Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT)

- Nationally Competitive Dept. of Transportation Grant
- Submitted Same Project as BUILD Grant
- Requested Amount will be \$21.7 million in Federal Funding
 - Proposing a \$5.4 million Grant Match (\$1.9 million from District/ \$3.5 million from Town of Tusayan)
- Benefit/Cost Analysis Required - 2.61 BCA Ratio
- Application Submitted October 9, 2026



AZ SMART Grant Status & Financial Update

Greg Clifton, Town Manager

Shaun Pooyouma, Flood Control
District Program Manager



AZ SMART Grant Funding Status

- AZ SMART Grant Award - \$2,391,500
- Engineering Contract to Civiltec - \$2 million
- \$1,970,462 authorized as of July 2026 to Civiltec; includes design to 100% construction documents for in-town improvements, 30%+ engineering for the FRS, geotechnical work, both on-forest and in-town environmental processes, and utility locating in-town
- \$1,206,702 submitted for reimbursement to ADOT and been paid back to the Town of Tusayan



AZ SMART Grant Funding Status

- Current rough estimate is that there will be about \$350,000 in remaining AZ SMART grant funds (including remaining Engineering Contract funding), which can contribute to, but will not fully cover, reaching 60% engineering of the Flood Retarding Structure.



Next Steps

Greg Clifton, Town Manager

Lucinda Andreani, Flood Control
District Consultant



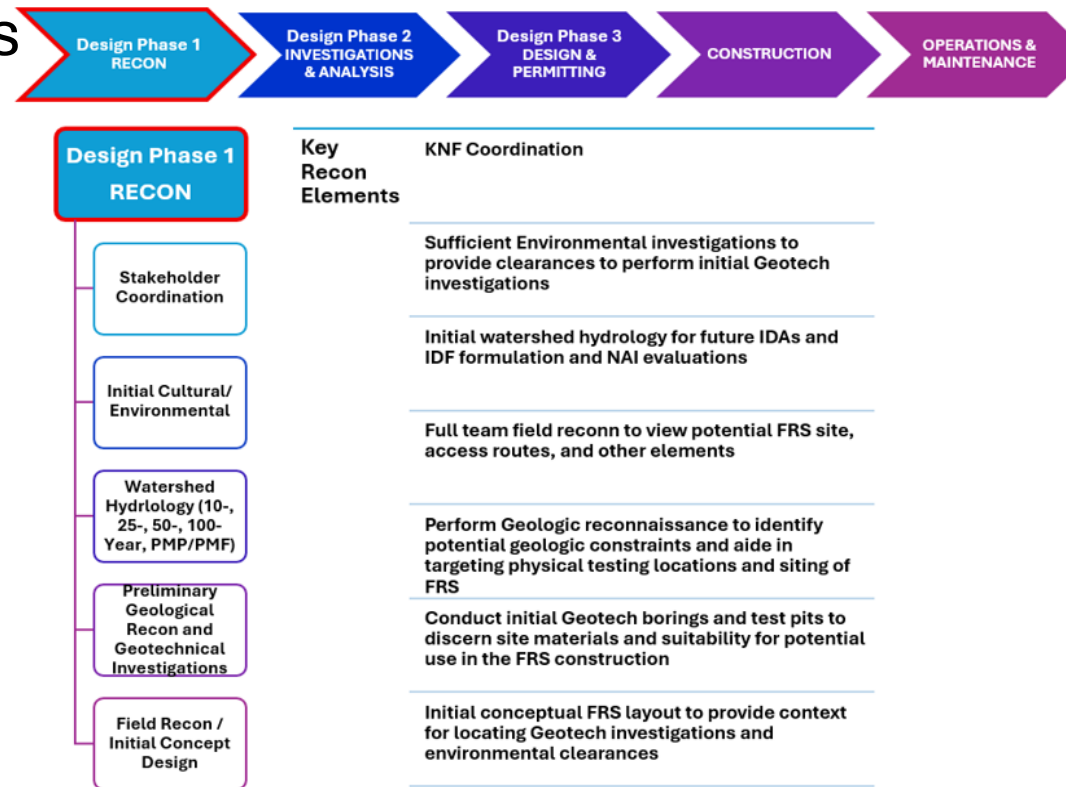
Completing Engineering

- Complete in-town engineering by December 31, 2026
- Utilize remaining funds in the Engineering Contract to complete the in-town engineering including the three small basins adjacent to town as well as progressing toward 60% level engineering of the FRS
- Additional funding will be needed to complete the FRS engineering



Tusayan Pines FRS Status Update

- Tusayan Pine FRS design is on a separate path and schedule from the rest of the in-town engineering.
- Data Collection and 30% Design Complete.
- 60% Design is underway, target completion March 2027.
- Approx. \$720,244 Engineering Cost for 60% Design.



Questions/Comments

