



Emergency Access Route

April 14, 2025

Community Meeting

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Agenda

- 1** The Community Wildfire Protection Plan (CWPP)
- 2** The Emergency Access Route's function within the CWPP
- 3** Emergency Access Route's History
- 4** Frequently Asked Questions
- 5** Q&A
- 6** Summary

CWPP (Community Wildfire Protection Plan)



The Fire District is at **high risk** for large, high-severity wildfires due to dense forest conditions, dry and hot weather, and strong, gusty winds.



Increasing drought and warming temperatures exacerbate wildfire risk in the area.



Genesee Fire Rescue and residents in the GFPD must prepare for large wildfire events. **Proactive work is imperative.**



There are currently **no areas within GFPD that could serve as a fully safe area** to shelter in place due to steep slopes and heavy fuel loads.

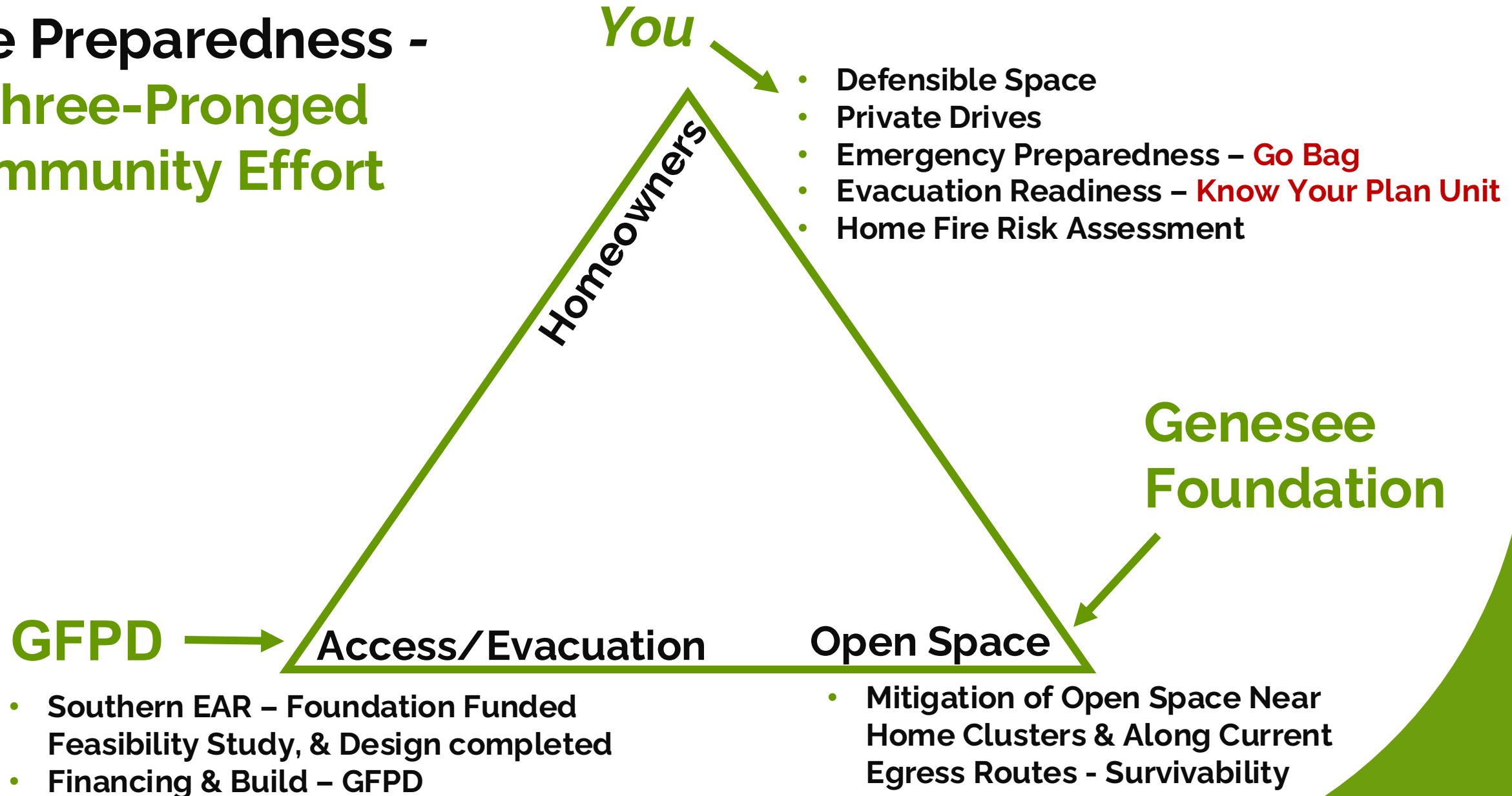


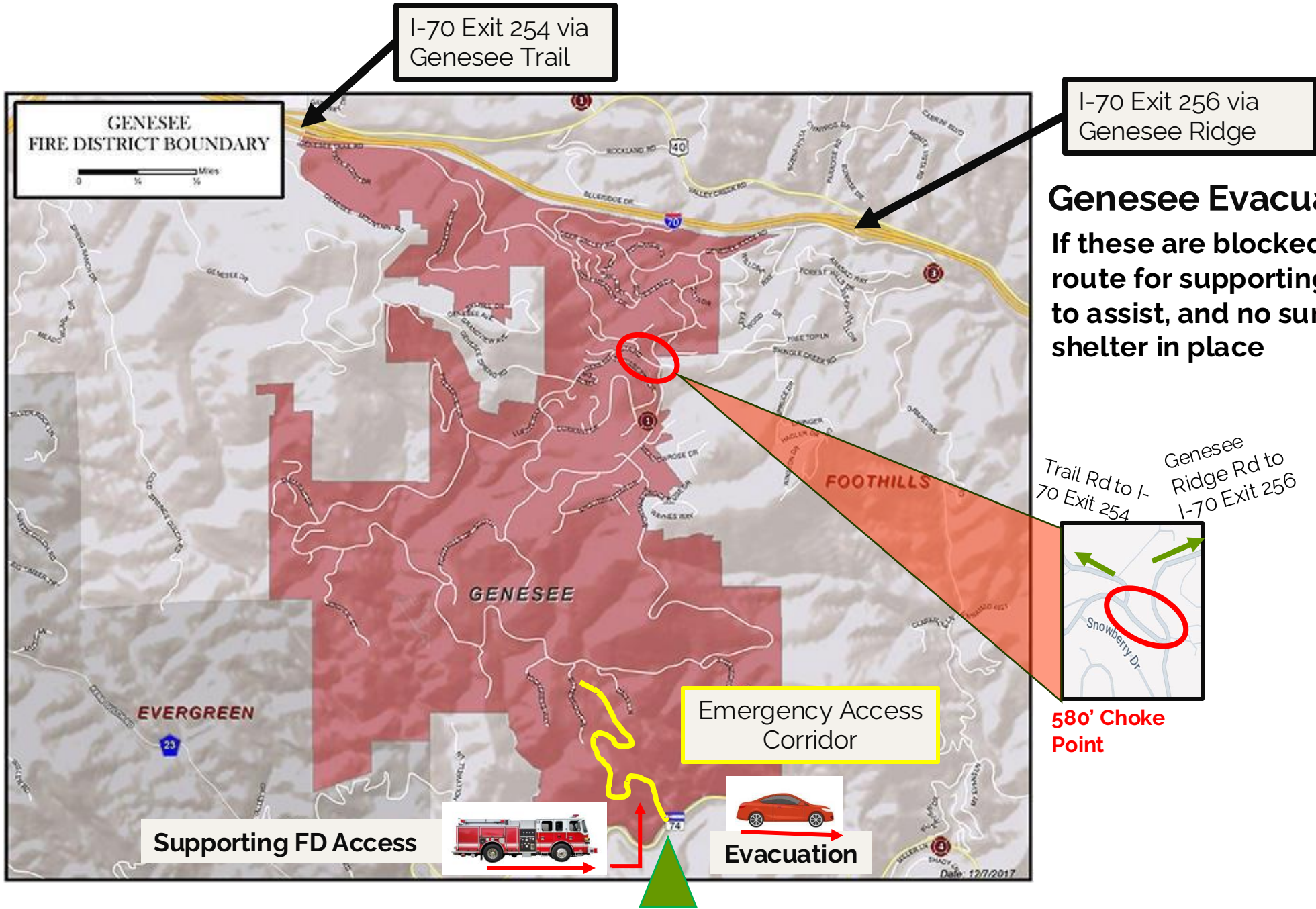
Models suggest that under our present egress structure (to I70) **estimated evacuation times are 3.5-4 hours** for most of Genesee.

The EAR's Role - Myth and Fact

- **Myth:** “Proponents of the EAR are selling it as the ultimate solution, and it will make us safe in any wildfire situation”
- **Fact** (in the FAQs):
 - **Genesee Fire:** How the route would be used depends very much on the specifics of the wildfire event. The existence of the Emergency Access Route would give the Incident Commander overseeing the wildfire response much greater operational flexibility.
 - **Genesee Foundation:** An important tool for firefighting • Gives emergency equipment the ability to enter Genesee Fire Protection District from both the North (I-70) and the South (Highway 74). • Allows evacuation to both the North and South. • The options it provides will improve both emergency response time and evacuation times.

Fire Preparedness - A Three-Pronged Community Effort





Genesee Evacuation Routes

If these are blocked, there is no route for supporting departments to assist, and no survivable area to shelter in place

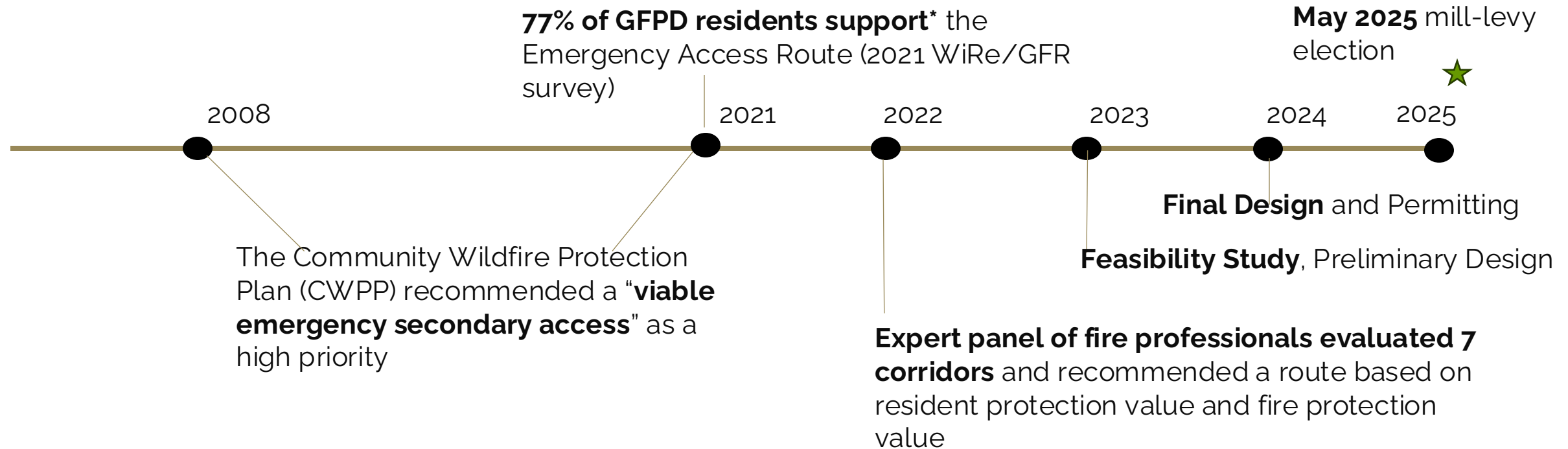
Why don't we just shelter-in-place?

At present, according to both the former and current GFR Chief, there is nowhere in Genesee for residents to shelter-in-place.

GFR is currently evaluating feasibility of creating shelter-in-place locations.



Emergency Access Route Timeline



★ WiRe/GFR Survey results

- Extremely Acceptable - 41%
- Very Acceptable - 18%
- Moderately Acceptable - 18%
- Slightly Acceptable - 14%
- Not at All Acceptable - 10%



Community Support

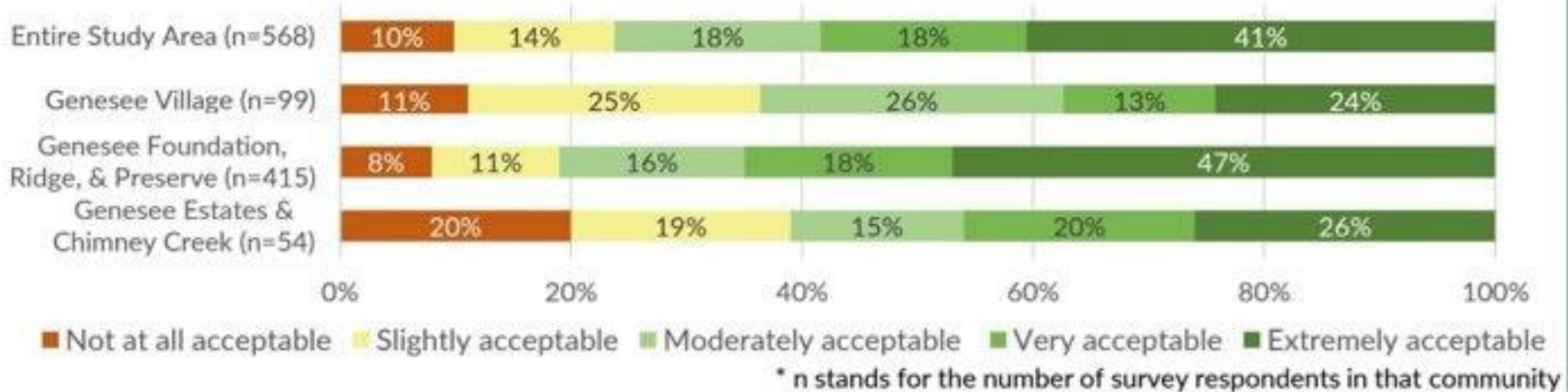
In 2021, a household survey was conducted for the GFPD. One of the questions was, 'Would you support the construction of a new emergency evacuation road?'



What we might do in the future: Build an emergency road!



Would you support the construction of a new emergency evacuation road?
Most survey respondents indicated support. Here's the breakdown by community:



2022 Corridor Study – Evaluation Criteria

Genesee Fire and Safety Committee, aided by 3 Fire Professionals*, evaluated seven corridors for:

- **Resident Evacuation Route Value** (Capacity, avoiding bottlenecks, reduce exposure to loss of key path, avoid direction of prevailing winds, and areas with increased accident potential)
- **Fire Protection Value** (Response time, Strategic Fire Protection value, Fire Breaks)
- **Probability of Success** (available land rights, permission required from private property owners for easements and mitigation)

* Paul Admundson – Battalion Chief, Denver Fire with 20 years wildland fire experience, including Evergreen

Jason Puffett – Genesee Fire Protection District Chief

Pete Anderson – Retired Chief, West Metro Fire Rescue

2022 Corridor Study - Alternative Routes Considered

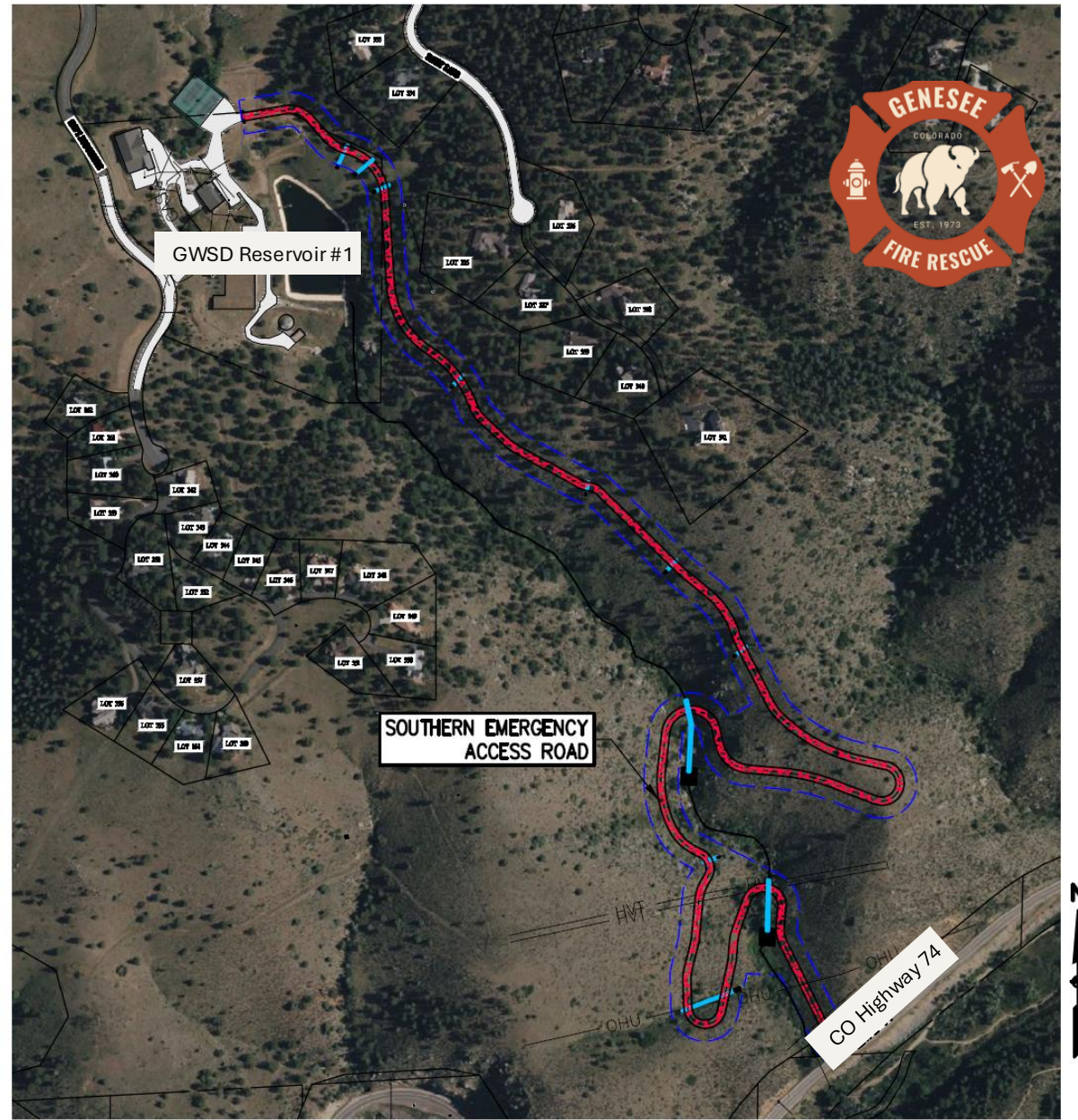
1. Daisy Lane to Highway 74
2. East Montane to Clarence Lane to Grapevine Road - through Idledale to Highway 74
3. Pinedrop Lane to Highway 74
4. Chokecherry Lane to I-70 via Genesee Park Road
5. Shingle Creek Road to Grapevine Road - through Idledale to Highway 74
6. King Ranch – from Tamarac (or Northridge Ct. or Holly Ct.) to I-70 via Cold Springs Gulch Road
7. Genesee Water & Sanitation District (GWSD) Campus to Highway 74

Highest Rated: #7. GWSD (Corridor between Bitterroot and Daisy) to Highway 74

- ✓ Traverses Genesee Foundation/GWSD property, eliminating the need to acquire access rights from multiple private property owners;
- ✓ Requires less mitigation than any route traversing forested and narrow county or private drives;
- ✓ Can accommodate a two-lane road for both ingress of fire equipment and egress of residents;
- ✓ Provides a route for firefighters to defend GFPD from wind-driven fires from south and west.

Genesee Emergency Access Route Final Design

- 1.1 Miles 2-lane, natural surface road; 492' Elevation change
- Gated, controlled by Genesee Fire and JeffCo Sheriff. Used **only** for emergencies and training
- Funded by Bonds (Issue B, May 6 Election) issued by GFPD; repaid through Property Taxes
- 6 month \pm Construction duration



Frequently Asked Questions

The Estimate

Engineer's/Design-Assist Consultant Estimate 2024	\$6,480,000		(incl \$98k Material Testing)
Inflated to 2025 (5%)	\$ 6,800,000		
Bond Counsel	\$ 60,000		
Bond Rating	\$ 20,000		
Election Expenses	\$ 40,000		
Underwriter Fee	\$ 60,000		
GFPD Counsel (Const Docs and Bond)	\$ 15,000		
Engineer- Const. Phase Services/Record Dwgs/Easements	\$ 20,000		
Owner's Rep/Const Manager (if Req'd)	\$ 13,750		
Capitalize Genesee Foundation Design Costs (a Choice)	\$ 110,870		
Capitalize Genesee Fire Design Costs (a Choice)	\$ 97,000		
Subtotal	\$ 7,236,620		\$207,870
Contingency	\$ 763,380	10.5%	\$763,380
Bond Issue B Total	\$ 8,000,000		\$971,250 13.4%

GFPD Mill-Levy Workbook with 2024 Assessed Valuation

Mill-Levy Calculator

Mill Levy for EAR 4.972
 Property Tax Required Annually \$ 515,349

2024, Payable in 2025 Residential Assessment Rate (RAR) 6.37%
 Non-Residential Rate 29.00%

Rates Set by JeffCo

District Assessed Value \$103,649,230
 Residential Assessed Value \$89,138,338
 Non-Residential Assessed Value \$14,510,892

District Actual Value \$1,058,041,140
 Residential Actual Value \$1,026,621,457
 Non-Residential Actual Value \$31,419,683

Loan Amount	\$8,000,000
Estimated Interest Rate	5.00%
Term (Yrs)	30
Term (months)	360
Rate per month	0.416667%
PMT (mo.)	-\$42,946
PMT (annual)	-\$515,349
Total Loan Cost to GFPD	-\$15,460,463

Mills Will Adjust to meet Debt Service

Could be 4.5 to 5%

JeffCo Records

Property Tax = (Mill Levy x 0.001) x Assessed Value
 GFPD Property Tax Revenue/year - Total \$515,349
 GFPD Property Tax Revenue/year - Residential \$443,200
 GFPD Property Tax Revenue/year - Non-Residential \$72,149

Cost to Residential per \$100,000 of Actual Value: \$31.67
 Cost to Non-Residential per \$100,000 of Actual Value: \$144

Example: \$1M (Actual Value) Home Cost/Year = \$316.72
 \$1M (Actual Value) Home Cost/Month = \$26.39
 \$1M Home Cost over 30 years = \$9,501.58


Spreadsheet Available
 on Foundation Website

What will the EAR cost me?

Read your home's Actual Cost off your Property Tax Bill

Increase to Residential Property Tax per Year =
$$\text{Actual Cost} / \$100,000 \times \$31.67$$

So, for a \$1M Home, about \$317/year

**JEFFERSON**
COUNTY COLORADO

REAL PROPERTY TAX STATEMENT
Tax Year / Payable
2023 2024

Gerald "Jerry" DiTullio
County Treasurer
100 Jefferson County Pkwy 2520
Golden CO 80419-2520
303-271-8330
www.jeffco.us/treasurer

PIN: 300176080 **TAG: 4527** **Mort Code:**

Property Address: [REDACTED]
Current Owner: [REDACTED]

Legal Description
Section 24 Township 04 Range 71 Qtr NE
SubdivisionCd 273000 SubdivisionName GENESEE FLG #13 PARCEL 1 AMD
EX SUR NO 1 Block Lot 0024 Size: 20473 Tract Value: 470

Full legal description may not be shown on this statement. See reverse side of this form for additional information.

Tax Authority/Other Charges	\$ per thousand of assessed value Tax Mill Levy	Original Amount Due	Valuation	Actual	Assessed
R1 SCHOOL BOND REDEMPTION FUND	5.9060	\$425.19	Total	\$1,129,516	\$71,993
R1 SCHOOL GENERAL FUND	38.6200	\$2,780.37	Messages	6.37	
*COUNTY GENERAL FUND	19.1660	\$1,379.82			
*DEPT OF SOCIAL SERVICES	1.1690	\$84.16			
DEVELOPMENTAL DISABILITY FUND	1.0000	\$71.99			
LIBRARY FUND	4.5000	\$323.97			
*ROAD & BRIDGE FUND	1.1430	\$82.29			
GENESEE FIRE PROTECTION DIST	10.1180	\$728.43			
GENESEE WATER & SAN DIST	7.6540	\$551.03			
HIGHLAND RESCUE TEAM AMBULANCE	3.5000	\$251.98			
*LAW ENFORCE AUTHORITY	2.5390	\$182.79			
Sub Total	95.3150	\$6,862.02			
Total		\$6,862.02			

Messages

- Jeffco Treasurer is open Monday - Thursday 7:30 AM - 5 PM. County offices are closed on Fridays.
- Contact the Assessor for property value information at www.jeffco.us/assessor or 303-271-8600.
- Online payments <https://treasurerpropertysearch.jeffco.us>
- Please put your 9-digit PIN number from the coupon on the check.
- To pay by phone, have your 9-digit PIN and call 1-866-898-2919

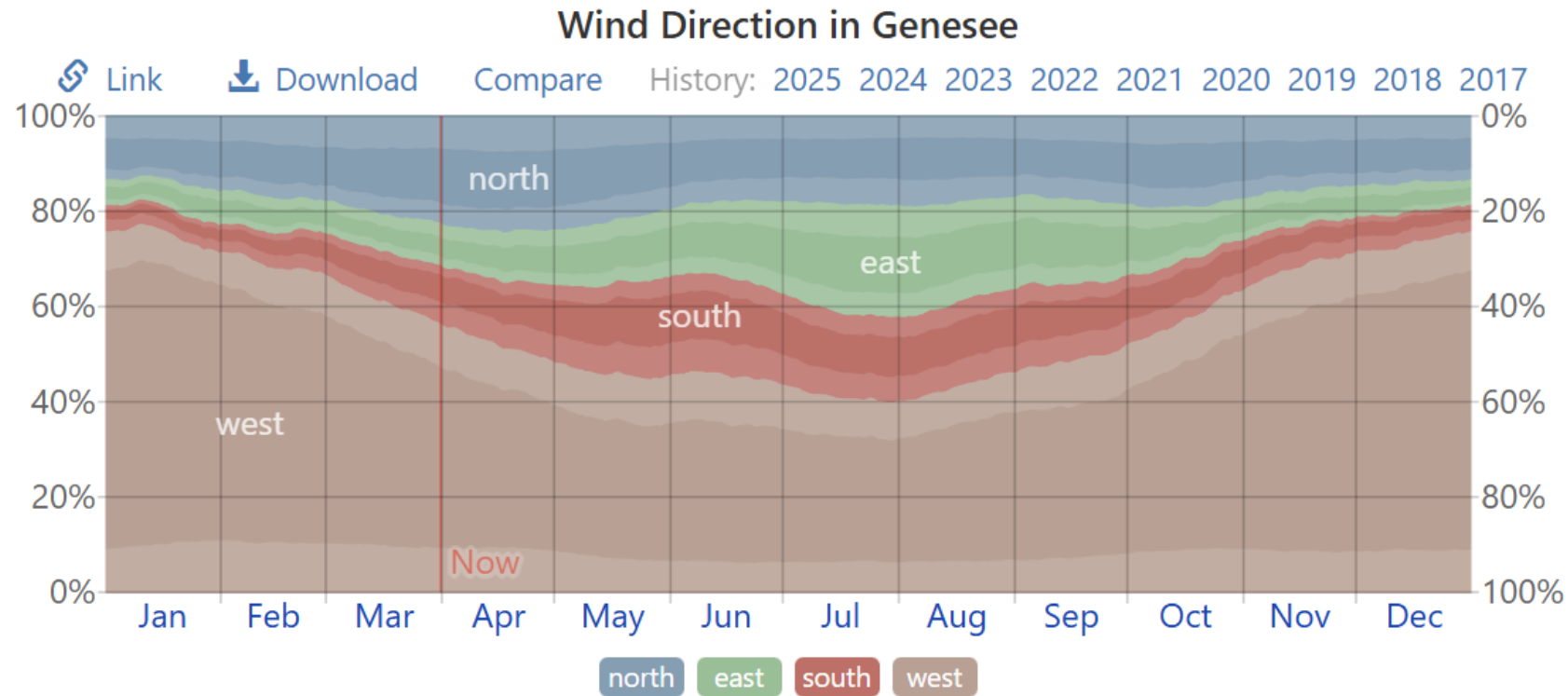
Type	Charge/Adjustment
Original	\$6,862.02
Exemptions/Credit	\$0.00
Current Tax Year Amount	\$6,862.02
Payments	\$0.00
Current Year Taxes Due	\$6,862.02

* Represents a Mill Levy Reduction

THIS IS THE ONLY NOTICE THAT YOU WILL RECEIVE

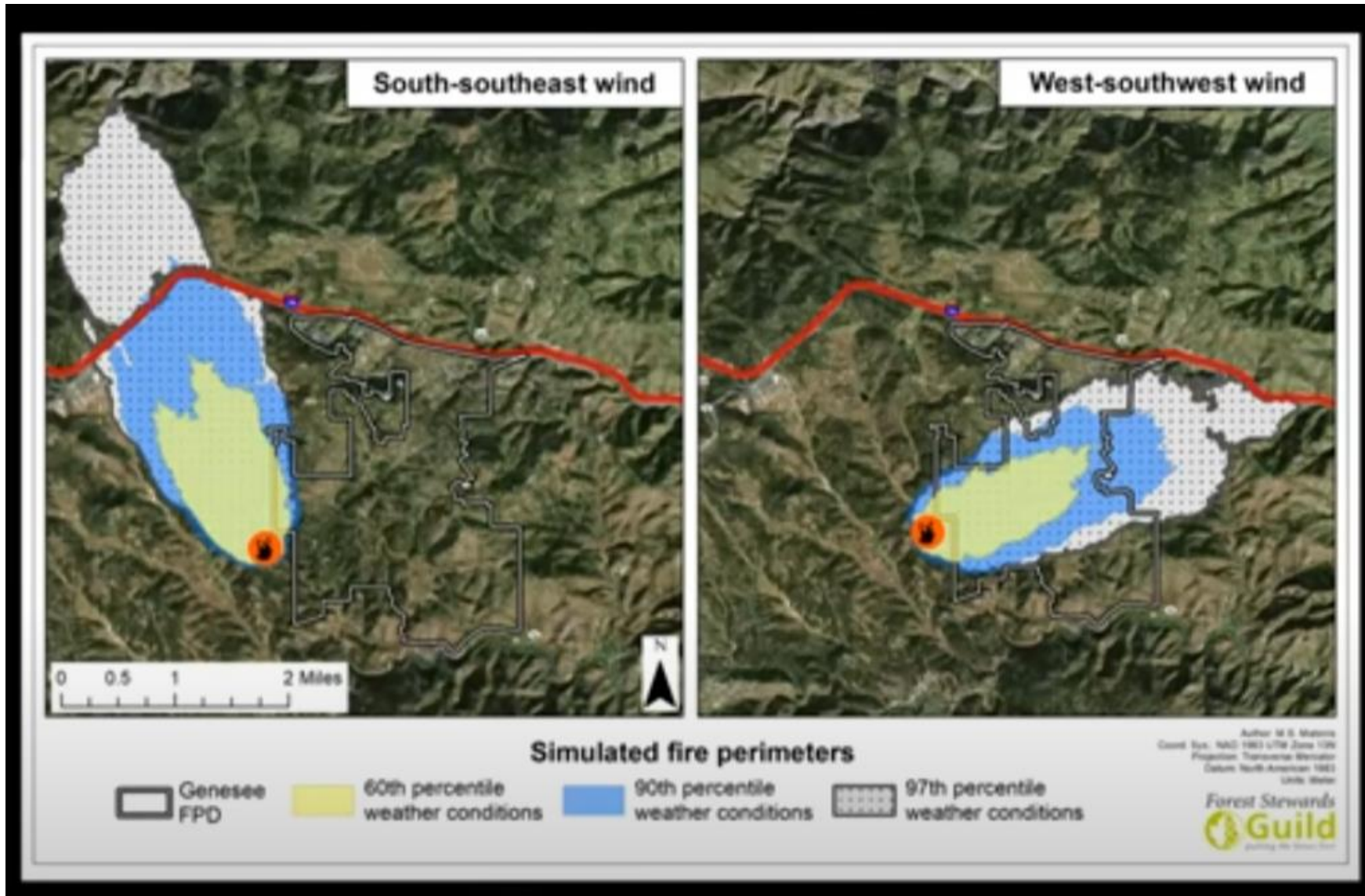
Winds in Genesee do not always come from the Southwest

The predominant average hourly wind direction in Genesee is from the west throughout the year.



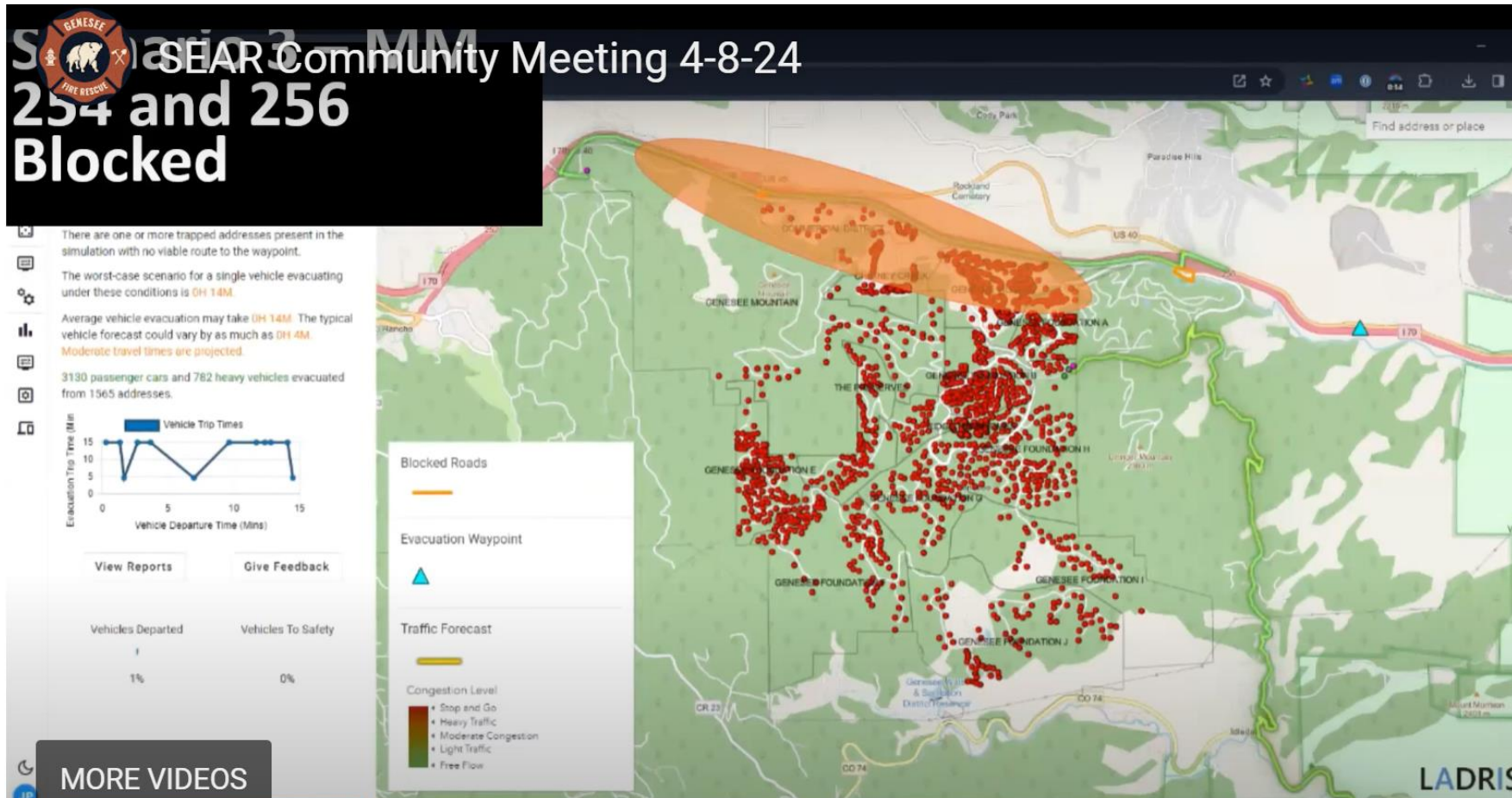
The percentage of hours in which the mean wind direction is from each of the four cardinal wind directions, excluding hours in which the mean wind speed is less than 1.0 mph. The lightly tinted areas at the boundaries are the percentage of hours spent in the implied intermediate directions (northeast, southeast, southwest, and northwest).

Ladris Modeling –Scenarios



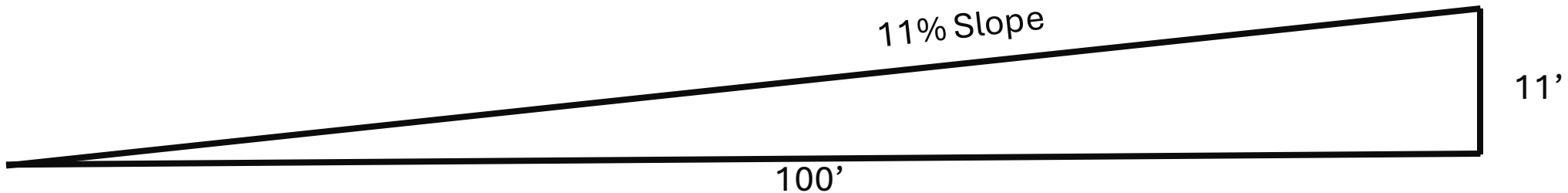
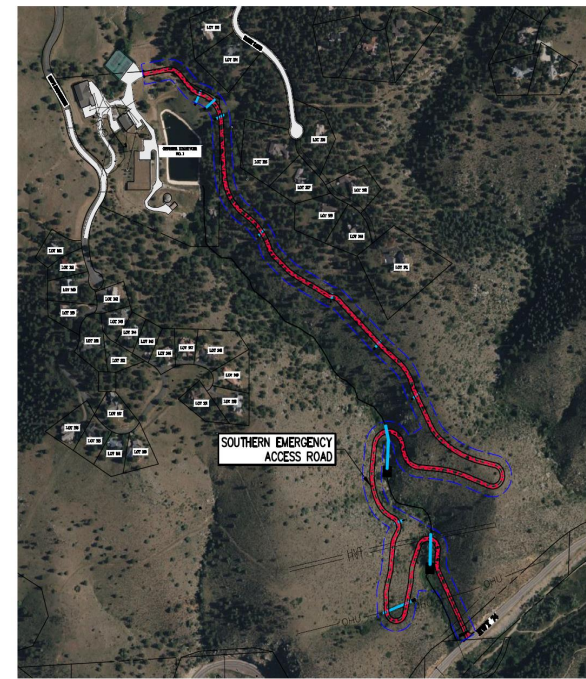
Same origin,
Different wind,
different impact.

Ladris Modeling – The Perfect Storm Scenario



11 % Slope

- Relatively straight section paralleling Daisy Lane is 11%
- Curves are 4% to 5%
- Slope = Rise/Run



- *CWPP and CDOT Roadway Design Guide: The maximum grade (slope) for a local rural road in a mountainous area with a speed limit of 20 mph is 16%*

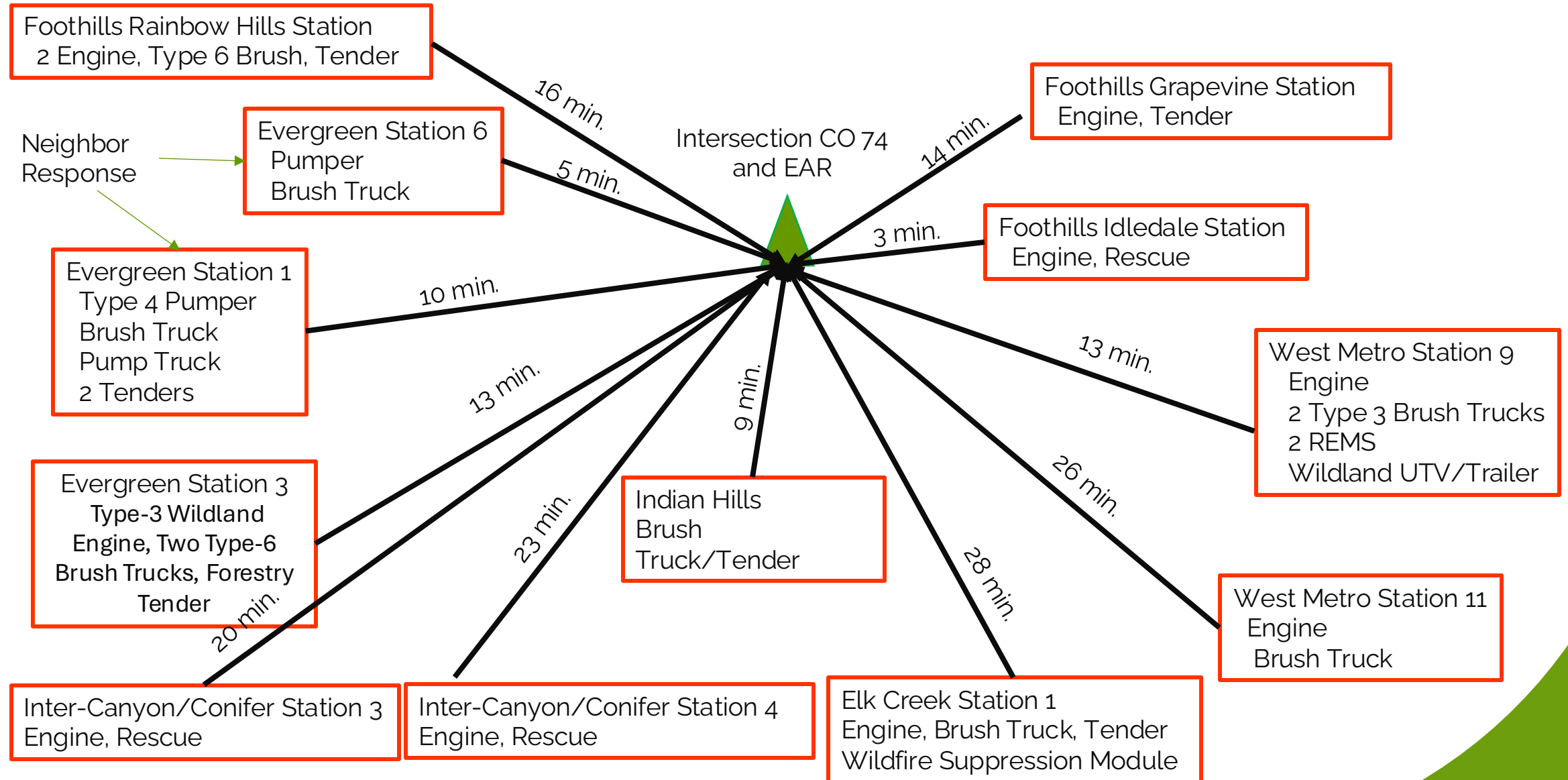
Access for Firefighting Resources Mission

- The design meets all the Fire Marshal's criteria for slopes and curve radii.
- By NFPA, Type 3,4 and 6 Wildland/Brush trucks and tenders can climb 25%



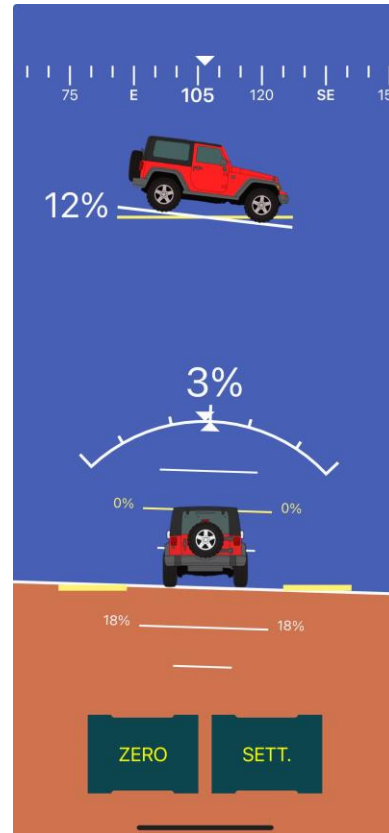
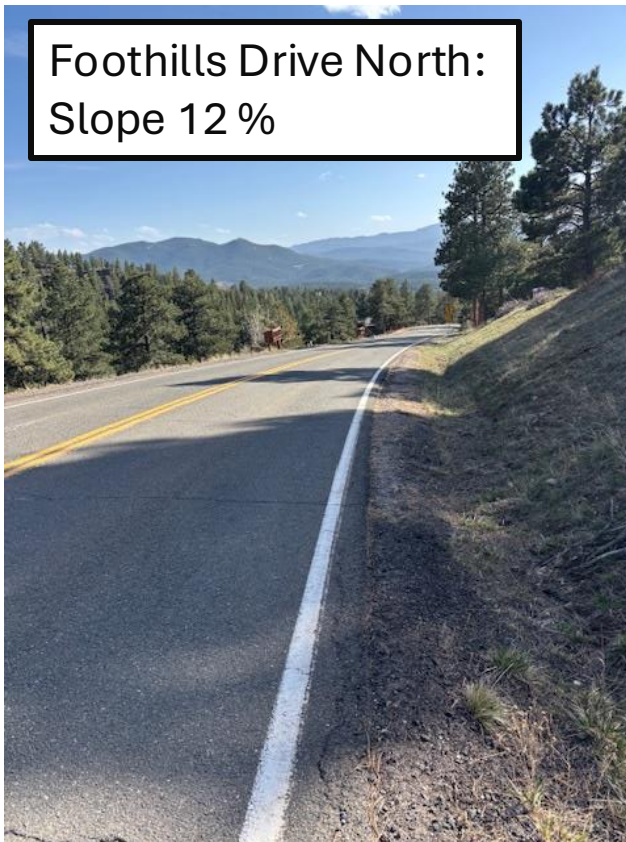
- Bitterroot intersection is not an obstacle for fire apparatus

Who could come help? Resources within 30 min. travel (not response) time



Evacuation Mission – 11% Max Slope

- The normal routes to I-70 are the best ways out – If they aren't blocked. The EAR is for emergencies.
- Topography: 492' of elevation change in 5836' (11% max.; 4%-5% on curves; Avg. 8.5%).
- Speed dictated by conditions -- visibility, traffic volume, Sheriff control



Elevation
7513'
-7483'
30'

$$30' / 245' \times 100 = 12\%$$

Q&A

Project has been endorsed by...



Jefferson County Sheriff's Office



Evergreen Fire and Rescue




Highland Rescue Team



State of Colorado
Division of Fire
Prevention and
Control

Upcoming Information Opportunity

Wednesday, April 30, 2025, 6:00 PM

- Genesee Fire Rescue, 23455 Currant Drive. Hosted by Fire Chief Boyles
 - Information and Q&A sessions on GFPD's upcoming ballot issues, including the Emergency Access Route.
 - Meet the Candidates.
- 

Genesee Fire Protection District Election May 6, 2025

- Absentee Ballots already out
- Ballots mailed to voters April 14 - 21
- Genesee Fire Board Election – all 5 positions
- Three Issues:
 - Issue A: Mill-levy increase for GFPD Operating, Recruiting/Retaining/Training Firefighters
 - Issue B: Up to \$8M for the Emergency Access Route
 - Issue C: Waive Property Tax Limit to permit use of Issue A
- Drop off ballots at Genesee Fire Station Monday through Friday between 7 AM and 4 PM (7 AM to 7 PM on May 6) or mail to 23455 Currant Drive, Golden, CO 80401
- Ballots returned by mail must be received by Genesee Fire Protection District by May 6, 2025

Election May 6, 2025

Genesee Foundation supports Genesee Fire and Rescue and recommends **Vote “YES”** on Issue B

Please review GFPD candidates' information on the GFPD website



BACKUP SLIDES

Concerns - Emergency Access Route (EAR)

- Why should GFPD/GFR own the road? Why not Genesee Foundation? (or somebody else)?
- Doesn't the EAR benefit primarily Genesee Foundation(GF)? Shouldn't GF pay at least a higher proportion of the EAR's cost?
- Why don't we just shelter in place?
- What happens if the construction costs more than estimated? Will GFR have to make up the deficit?
- What about the "ZAK Dirt Reservoir Cost Overrun"
- What happens if property values/assessments go down? Doesn't paying off the EAR debt take funds away from GFR's essential services and puts firefighters in danger?
- Who maintains the Road? How can GFR pay for maintenance without impacting our mission?
- GFPD/GFR's mill-levy will be so high that it will be an obstacle to merging with other districts
- There will be chaos during an emergency. Won't the EAR contribute to the chaos?
- Don't we need a comprehensive plan on how to use the EAR in conjunction with our emergency operations?
- Won't this steep mountain road be unsafe?

Why should GFPD/GFR own the road?

Why not Genesee Foundation (GF)? (or somebody else)?

- The Emergency Access Road is one tool to enhance life safety.
- GFPD/GFR has the mission of Life Safety. GF does not.
- GFPD is a Special Government District with:
 - Bonding capacity backed by mill-levy/Property Taxes (Property taxes are tax-deductible by GFPD residents)
 - Governmental Immunity from Liability Lawsuits
- GF is a non-profit HOA with:
 - HOA dues as the primary source of revenue. No bonding or loan capacity. HOA fees not tax-deductible
 - No Governmental Immunity
- Someone else? Who else needs this Emergency Access Route? Representatives of the County and State have indicated no funds are available.

Doesn't the EAR benefit primarily Genesee Foundation(GF)? Shouldn't GF pay at least a higher proportion of the EAR's cost?

- Fire can come from any source, any direction.
- A vehicle fire from I-70 or a fire started in the Village, Chimney Creek or Genesee Mountain can impact Exits 254, 256, or both. An alternate access for supporting fire departments, and an alternate evacuation route benefits all of GFPD. Plus, the EAR provides an alternate escape route for firefighters.
- Genesee Foundation has 59% of the residences in GFPD and pays (and will continue to pay) 78%-82% of the residential property taxes used by GFR

Why Is It Needed?



Elephant Butte Fire (2020)

- A secondary access road was recommended in the Community Wildfire Protection Plan (CWPP) prepared in 2008 and updated in 2021.
- The addition of a secondary ingress/egress route is a critical tool that, when coupled with roadway mitigation, increases roadway survivability for both residents and first responders.
- Provides an access route for emergency responders to help defend Genesee
- Provides a secondary means of egress - the primary access if the I-70 evacuation route is compromised.
- Gives firefighters a safe way to escape should fire conditions warrant it.

The Emergency Access Route Benefits All GFPD Residents

- How it is used depends on the specifics of the fire.
- The primary evacuation route for all residents will generally be via Exits 254 and 256 to I-70.
- If Fire District residents, including those living in Genesee Village or Chimney Creek, cannot access I-70, their only means of evacuation will be via the Emergency Access Route.
- Benefits to the entire District unrelated to evacuation:
 - Emergency ingress from the South, allowing more firefighting resources to access the District from South to defend property throughout the District.
 - The Emergency Access Route gives firefighters a safe route for escape so that they have the option to defend the District from a wildfire approaching from the South/West.

How Will the EAR be Used?

- Designed and constructed to be safely navigated by passenger vehicles, law enforcement vehicles, and fire apparatus during an emergency
- Will not be used for public transport, public recreation, or other day to day use
- Will only be used for emergency ingress and egress, maintenance/mitigation, and as well as periodic training for firefighters and law enforcement personnel
- Will be access-controlled at both ends with gates, signage, locks, and monitoring
- Gates will be controlled by the Genesee Fire Protection District and the Jefferson County Sheriff's Department
- In the event of an emergency, the Jeffco Sheriff would control usage and the exit to Highway 74

What will the EAR cost me? (for those who like detail)

Cost depends on parameters when bonds are sold:

Principal of EAR Loan:	\$8,000,000	(Max; less if not required)
Term:	30 years,	360 months
Interest Rate:	Estimate 5%	(could be 4.5 ± %)
Residential Assessment Rate (RAR)	6.37 in 2024;	RAR can change annually)
And your home's Actual Value as assessed by Jefferson County;		
(also can change)		

At 2024 rates, a \$1M Actual Value home would be assessed at \$63,700

Cost to Resident per \$100,000 Actual Value = \$31.67

	<u>\$500,000 Home</u>	<u>\$1,000,000 Home</u>	<u>\$2,000,000 Home</u>
Increase to Residential Property Rax per Year:	\$158/yr.	\$317/yr.	\$633/yr.
Increase to Residential Property Rax per Month:	\$13/mo.	\$26/mo.	\$53/mo.

Commercial Property is also taxed. Full Spreadsheet and those values available on request

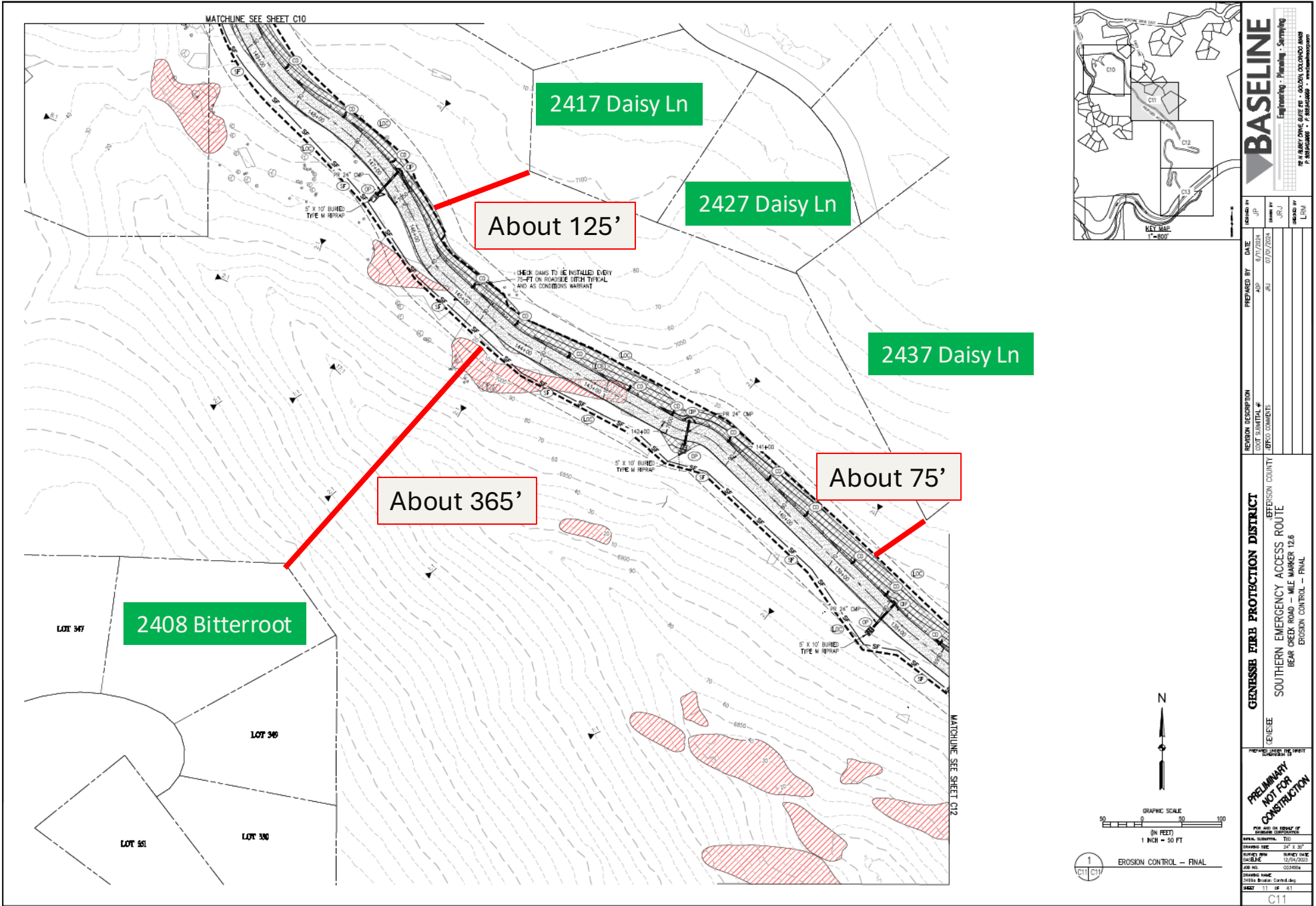
What happens if the construction costs more than estimated? Will GFR have to make up the deficit?

- The Emergency Access Route is a simple civil project at Final Design.
- Recommended Contingency for final design civil projects is 5% (simple) to 10% (complex)
- Genesee Foundation contracted with Baseline Engineering, plus a Design-Assist consultant to develop a detailed 2024 cost estimate of \$6.5M, inflated by 5% to \$6.8M in 2025.
- At the \$8M Issue B Budget, the contingency is >\$750,000, or 10%+
- In addition, we have the choice of not capitalizing the design costs (\$208,000), bringing contingency to \$971,000, almost 13.4%
- If cost proposals exceed budget, we won't award the contract

Evacuation Mission – 11% Max Slope



Guanella Pass Road
Max 12.1% Slope



BASELINE
Engineering - Planning - Surveying
700 N. ARMY DRIVE, SUITE 200 • GOLDEN, COLORADO 80401
P. 303.266.0000 • F. 303.266.0001 • www.baselineinc.com

DATE	6/7/2024
PREPARED BY	JPL
REVISION DESCRIPTION	LOT SUBMITTAL #
DATE	07/22/2024
BY	JPL
DATE	
BY	
DATE	
BY	

GENESSEE FIRE PROTECTION DISTRICT
SOUTHERN EMERGENCY ACCESS ROUTE
BEAR CREEK ROAD - MILE MARKER 12.6
EROSION CONTROL - FINAL

PRELIMINARY
NOT FOR
CONSTRUCTION
C11

What about the “ZAK Dirt GWSD Reservoir cost overrun”?

- Complexity:
 - Reservoir #1 was a more complex project: A concrete dam, instrumentation, liner, pumps, electrical
 - EAR: A dirt road, culverts/wingwalls, rip-rap, guardrails, 2 gates
- Project Delivery:
 - Reservoir Design Engineer: W.W. Wheeler Reservoir Contractor: ZAK Dirt
 - EAR: Baseline Engineering EAR Contractor: TBD, Competitive Selection
- Government Oversight/Regulations:
 - Reservoir: Complex project. Colorado Dam Safety office directed post-award changes
 - EAR: Simple project; Minimal Government Oversight
- Causes of Reservoir Cost Increase:
 - Depth to competent rock required spillway redesign; more excavation and dewatering, concrete.
 - State imposed regulations after contract award that added cost
 - GWSD took advantage of already mobilized Contractor to add beneficial scope beyond original contract
 - Storage increased from 46 to 51 acre-feet
- ZAK initiated no changes, performed the original scope as bid, and delivered the added work economically

What happens if property values/assessments go down? Does paying off the EAR debt take funds away from GFR's essential services and puts firefighters in danger?

Scenario 1: No Bond Issue B, No EAR, No Effect.

- A recession occurs, reducing GFR's fixed mill-levy operating revenues by 10%*
- Pre-Recession budget: \$1,100,000
- Recession Budget: $(0.90) \times \$1,100,000 = \$990,000$;

Conclusion: GFR must find a way to operate with \$110,000 less Tax Revenues, but there was no impact from an EAR or Bond Issue

*

Long-term, property values, assessments, and tax revenues will go up, but recessions happen. Historically housing assessments/taxes typically go down 2% to 4% in a recession. In a bubble market, they may go down more (e.g., Florida condos after subprime mortgage bubble)

Does the Emergency Access Route (EAR) put GFR at Risk if Property Assessments/Taxes go down?

Scenario 2: Bond Issue B passes. EAR is built and requires all \$8M; Recession lowers existing General Fund tax revenues to 90%

- GFR's Normal Mill-levy Operating Revenues again reduced by 10% to \$990,000
- With Level Debt Service, EAR Mill-Levy is Guaranteed to meet annual EAR Debt, \$530,000

Conclusion: GFR has an Emergency Access Route and is no worse off financially than in Scenario 1. No funds are required from Operating Budget for EAR Debt Service

Does the EAR potentially hurt GFR if Property Assessments/Taxes go down?

Scenario 3: Bond Issue B passes. EAR is built for \$7.5M (all expenses);
Recession lowers tax revenues to 90%

- Operating Revenues again reduced by 10% down to \$990,000. No change.
- GFRPD has \$500,000 remaining bonding capacity for other capital requirements
If GFRPD chooses to issue the extra bonds, with Level Debt Service, Mill-Levy is
Guaranteed to meet Total (EAR + other capital needs)

Conclusion: GFRPD has an Emergency Access Route, and has the capacity to raise another \$500,000 for other capital expenses, mitigating effect of recession

Who maintains the Road? How can GFR pay for maintenance without impacting our mission?

- Genesee Foundation will mitigate areas outside GFPD's easement as part of normal Open Space Management.
- Maintenance of a natural surface road; Grading and compacting every 2 to 3 years, adjusting riprap, mitigating encroaching saplings
- Example: A natural surface road in Evergreen that takes daily heavy traffic from large vehicles.
- Estimated Cost: <\$20,000 every 2 to 3 years
- Maintenance can be included in the Bond



Does a high mill-levy from the EAR hurt GFR's ability to merge with other Districts?

- 2025 Mill-Levies:
 - GFR: 10.1180 + Highland Rescue Team 3.50
 - Evergreen Fire: 11.4590
 - Foothills Fire: 9.7110 + Highland Rescue Team 3.50
- No, in a merger, each District (and its Taxpayers) keeps their own Mill-Levy

2025 Budgets:

GFR: General Fund revenues:	\$ 1,049,933
Evergreen: General Fund revenues:	\$11,028,744
Foothills: General Fund revenues:	\$ 1,361,755

source: GFR Counsel

There will be chaos during an emergency. Won't the EAR contribute to the chaos?

- Yes, there will be chaos. Not everyone will get the alerts, not everyone will react immediately, few will have to-go bags, many factors will delay evacuation
- Chaos can be mitigated by training, practice alerts, education, infrastructure
- How does having an alternative route for supporting firefighting resources to come in, and for residents to evacuate, increase chaos?

Don't we need a comprehensive plan on how to use the EAR in conjunction with the rest of our emergency operations?

- Yes. The existing plan is the 2021 Comprehensive Wildfire Protection Plan (CWPP)
- With all new tools, procedures, and equipment, GFPD must continue to revise its planning to fulfill its Life Safety Mission. Training exercises will verify plan's effectiveness.

Contract - Supplementary Conditions

Objective: Complete in as short a duration as reasonable to reduce impact on community without major increase in cost

- Work Days: Up to the Contractor, but Mon-Sat allowed
- Work Hours: Up to the Contractor, but 0730-1800 allowed
- No holidays excluded
- Noise 80 dB(A)
- Vibration



Ladris Modeling – Evacuation Times

		Estimated Total Travel Time (H:MM)			
		Sunrose (Genesee Village)	Chimney Creek (Chimney Creek Dr)	Genesee Mtn (Twisted Pine)	Genesee Foundation (Stonecrop)
CURRENT	Baseline	0:57	1:07	1:39	1:19
	Scenario 1: Exit 254 Blocked	1:23	1:20	1:35	1:34
	Scenario 2: Exit 256 Blocked	3:42	1:10	0:50	3:49
	Scenario 3: Exit 254, 256 and Grapevine Blocked	Shelter in Place	Shelter in Place	Shelter in Place	Shelter in Place
	Scenario 4: Genesee Vista and Ridge Blocked	1:03	1:13	1:05	Shelter in Place
SEAR	Baseline	0:58	1:19	1:05	1:12
	Scenario 1: Exit 254 Blocked	1:07	1:08	1:22	1:21
	Scenario 2: Exit 256 Blocked	1:18	0:50	0:47	1:54
	Scenario 3: Exit 254, 256 and Grapevine Blocked	5:07	5:06	5:09	2:35
	Scenario 4: Genesee Vista and Ridge Blocked	0:51	0:50	0:46	1:40

RE VIDEOS

Elk Creek Wildland Suppression Module



Rapid Extraction Module Support



Water from GWSD

[illegible]
$$300 \text{ gpm}/449 \text{ gpm/cfs} = 0.67 \text{ cubic feet/second (cfs)}$$

EAR Main culverts sized for 500-year storm, 895 cfs

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“However, there are possible areas ...where blasting (or a machine mounted jackhammer) will be needed ... but that is only an approximation. ...This geologic complexity makes it nearly impossible to accurately predict where blasting is needed. However, some approximate contingency for blasting is appropriate for preparing feasibility-level cost estimates.”

Since this report, Preliminary and Final Design has changed the alignment and profile to:

- Avoid rock outcrops,
- Reduce cut depth (10' and under) while reducing slope
- Cross rock outcrops with fill
- Include \$1.5M for rock excavation



In consultation with contractors, we are confident that dozer rippers and track-mounted jackhammers will excavate the rock and blasting will not be required.

