

# North Shore Substation

Design Public Meeting

February 16, 2022



# Meeting Purpose & Outline

- Project overview
- Introduction to Visual Resource Management (VRM) Principles
- Viewshed analysis for North Shore Substation site
- Landscape and design concepts
- Stakeholder feedback & questions
- Next steps



# Purpose / Overview of Project

- Chelan PUD has been working with the community since 2015 to site and build a new substation on the North Shore of Lake Chelan.
- The two substations currently serving the North Shore (Union Valley & Wapato) are nearing capacity.
- A new substation will ensure reliability for existing customers and accommodate growth on the North Shore.
- Henderson Rd. site selected in 2017 with community and Advisory Committee input.



# Substation Coverage Areas

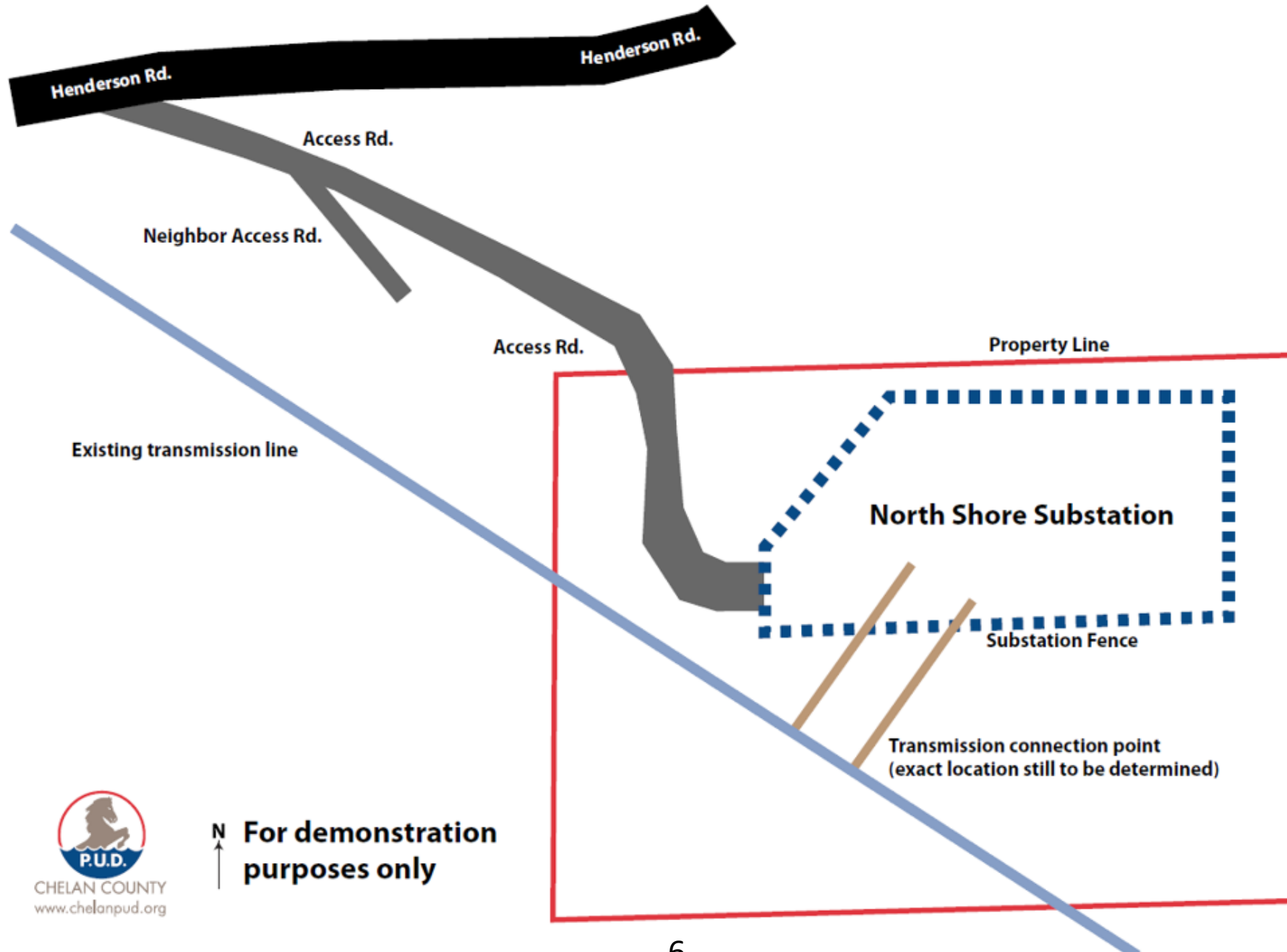
Approximate coverage area with North Shore Sub Online







**North Shore  
Substation Site**



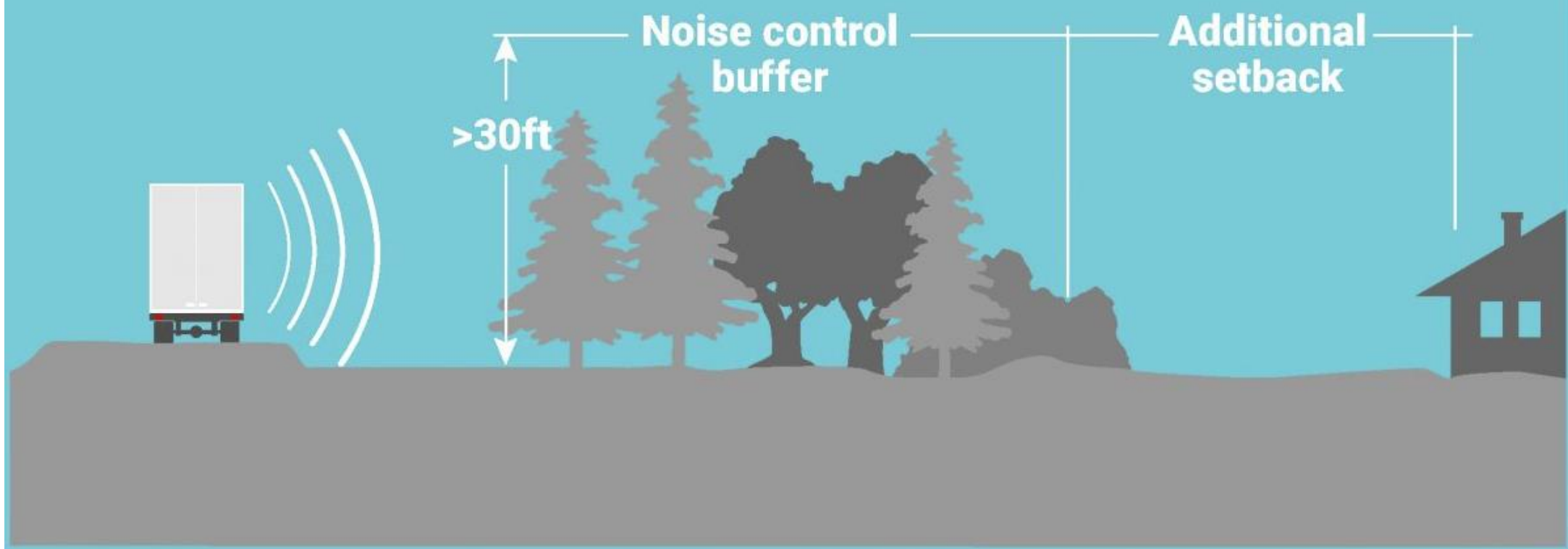


# Example Substation (Ohme)



# Additional Mitigations

**50% reduction or 10-15 dBa per 100ft of buffer width.**





# Visual Resource Management Principles



The character of a landscape is the overall impression created by its unique combination of visual components (such as land, vegetation, water, and structures).



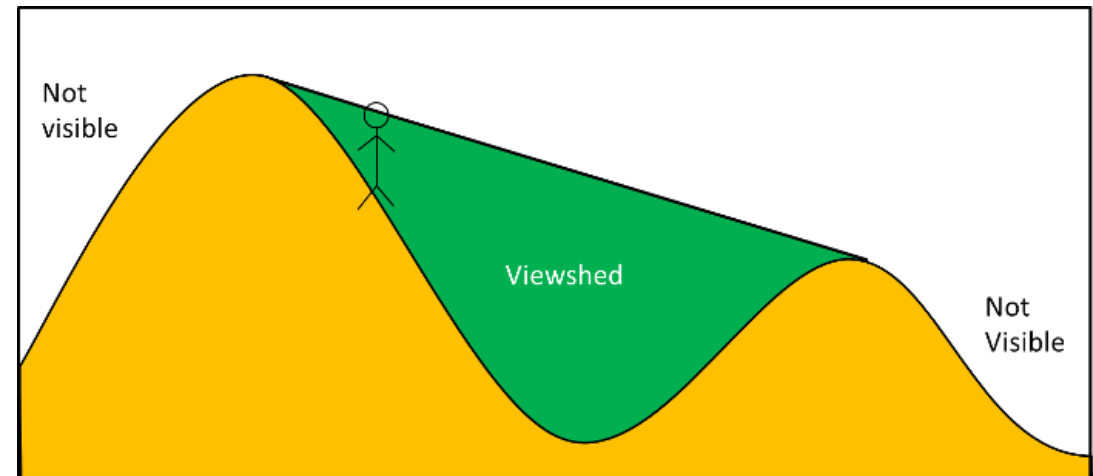
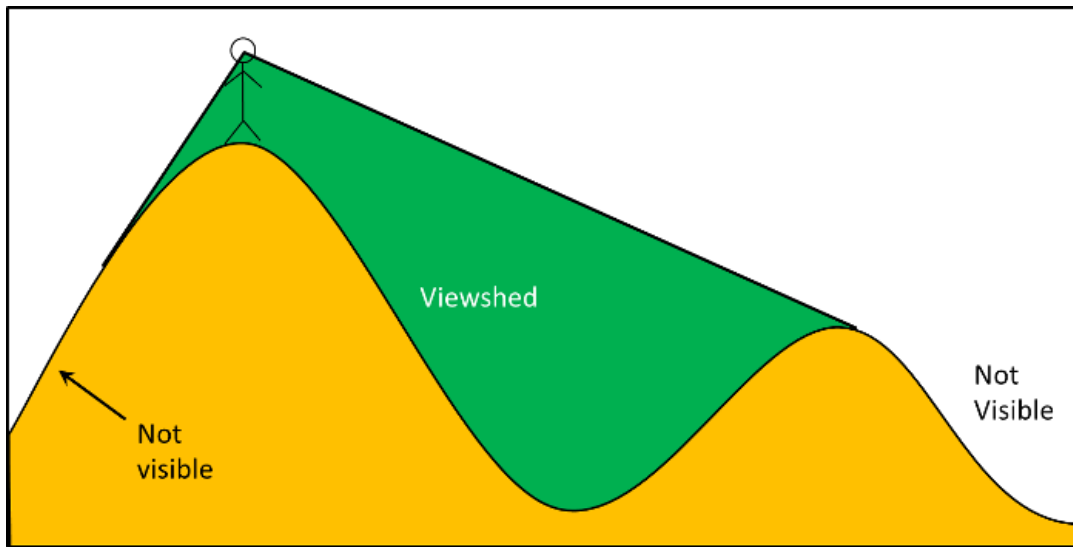
# Visual Resource Management Principles

1. Viewing distance (Viewshed)
2. Angle/Direction of observation (Viewshed)
3. Length of time in view
4. Relative size or scale (Composition)
5. Season of use
6. Light conditions (Composition)
7. Recovery time
8. Spatial relationships
9. Atmospheric conditions
10. Motion



# Viewshed

- Area seen from a given point.



# Viewshed Magnitude

- The cumulative # of observation points seen.





# Viewshed Distance Zones

## Background

## Middle ground

## Foreground





# Distance & Composition Affects Acuity



- As viewing distance increases, the project becomes less visually dominant and color value decreases toward uniformity





# Viewshed Magnitude

- The cumulative # of observation points seen.





# Viewshed Magnitude





# Composition: Color & Tone



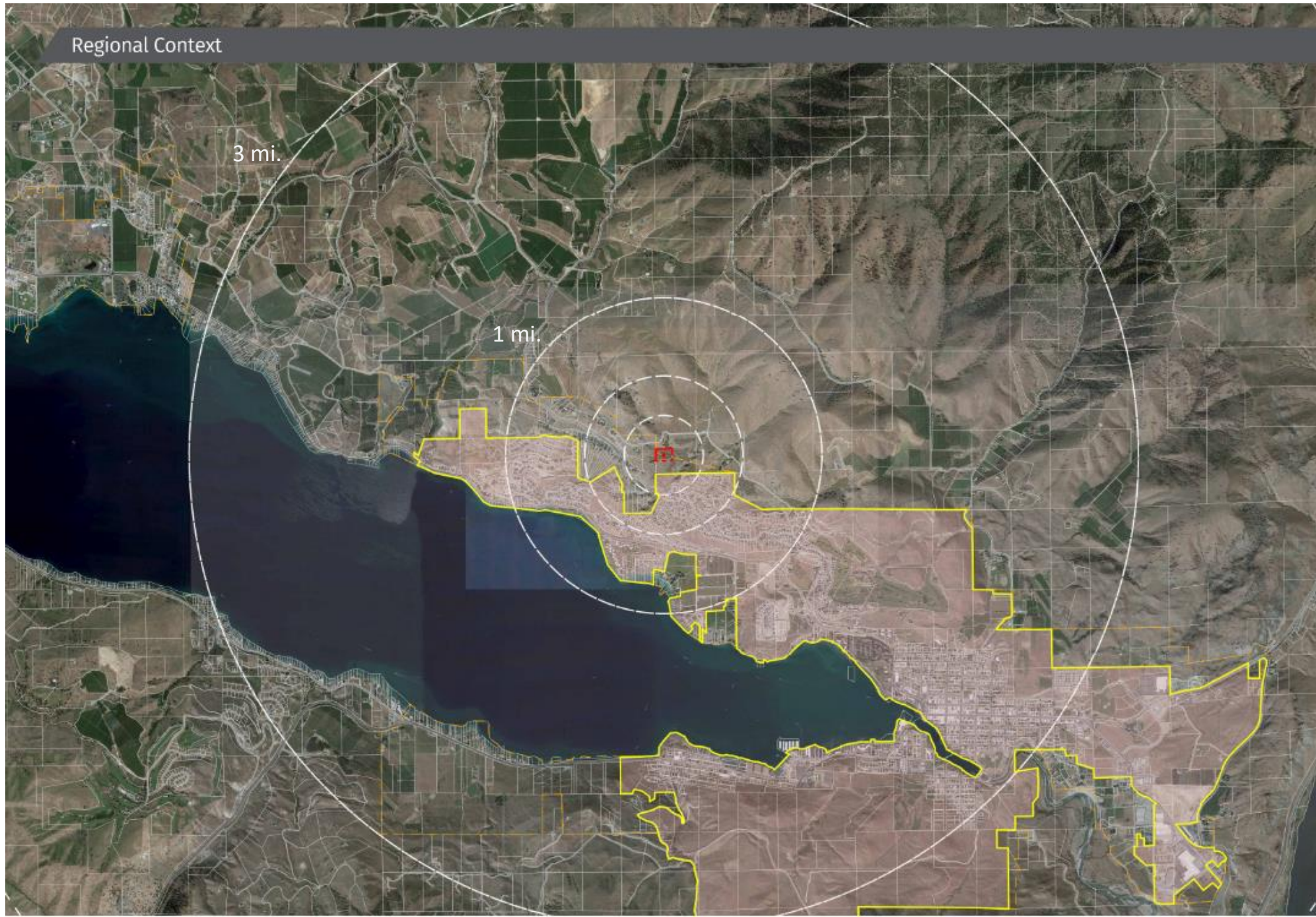


# Composition: Screening / Lessening Mass



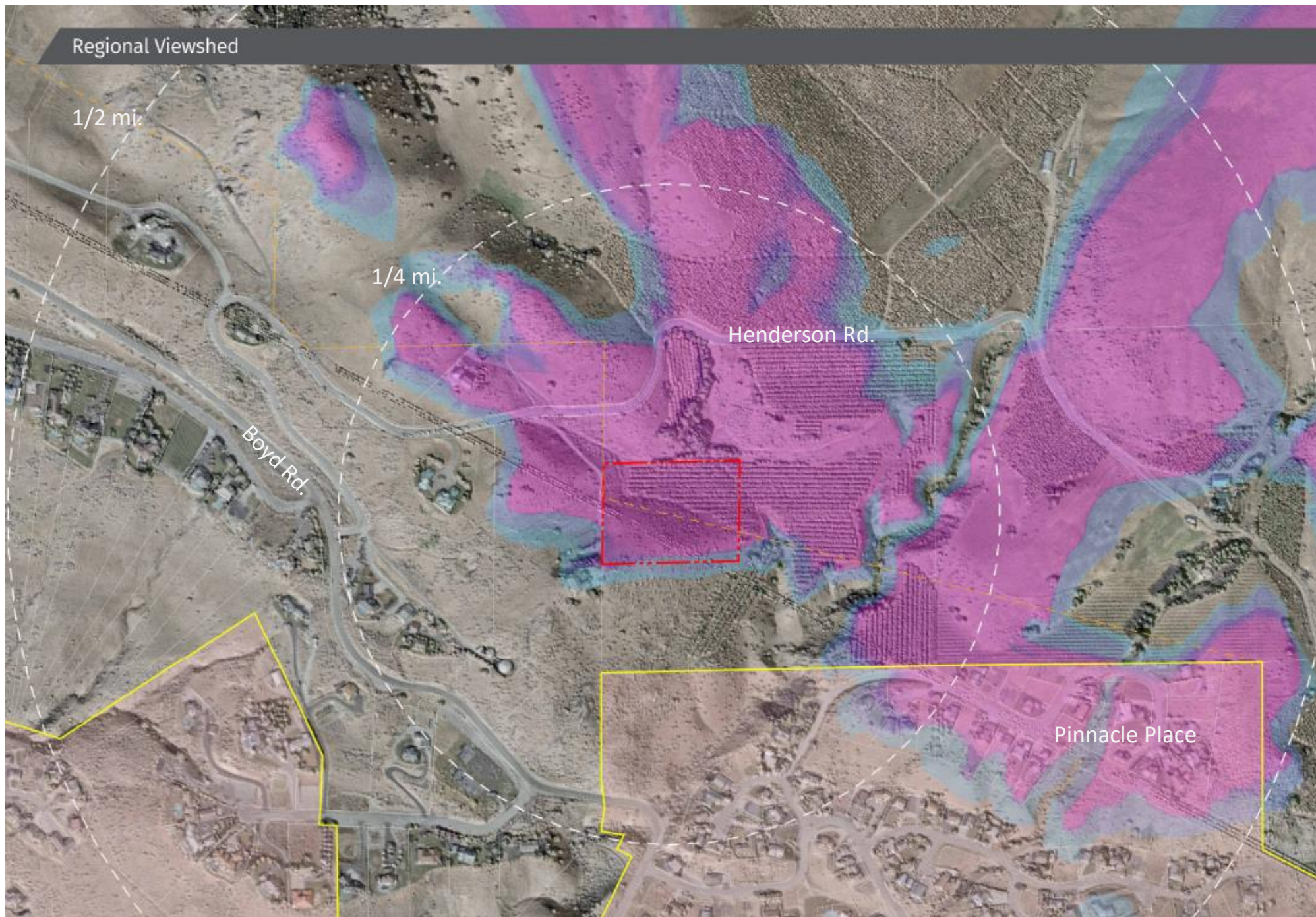


## Regional Context



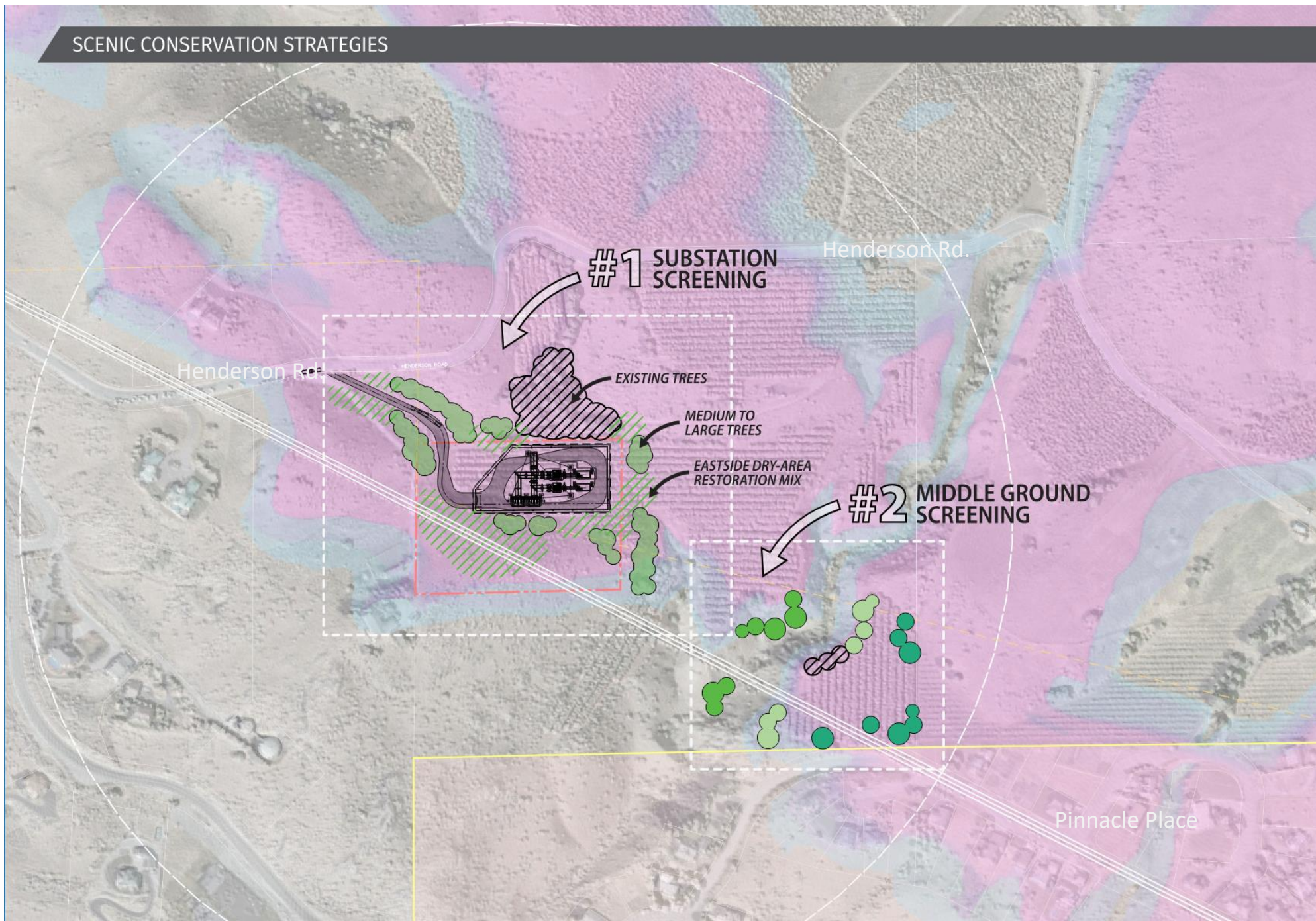


## Regional Viewshed





## SCENIC CONSERVATION STRATEGIES



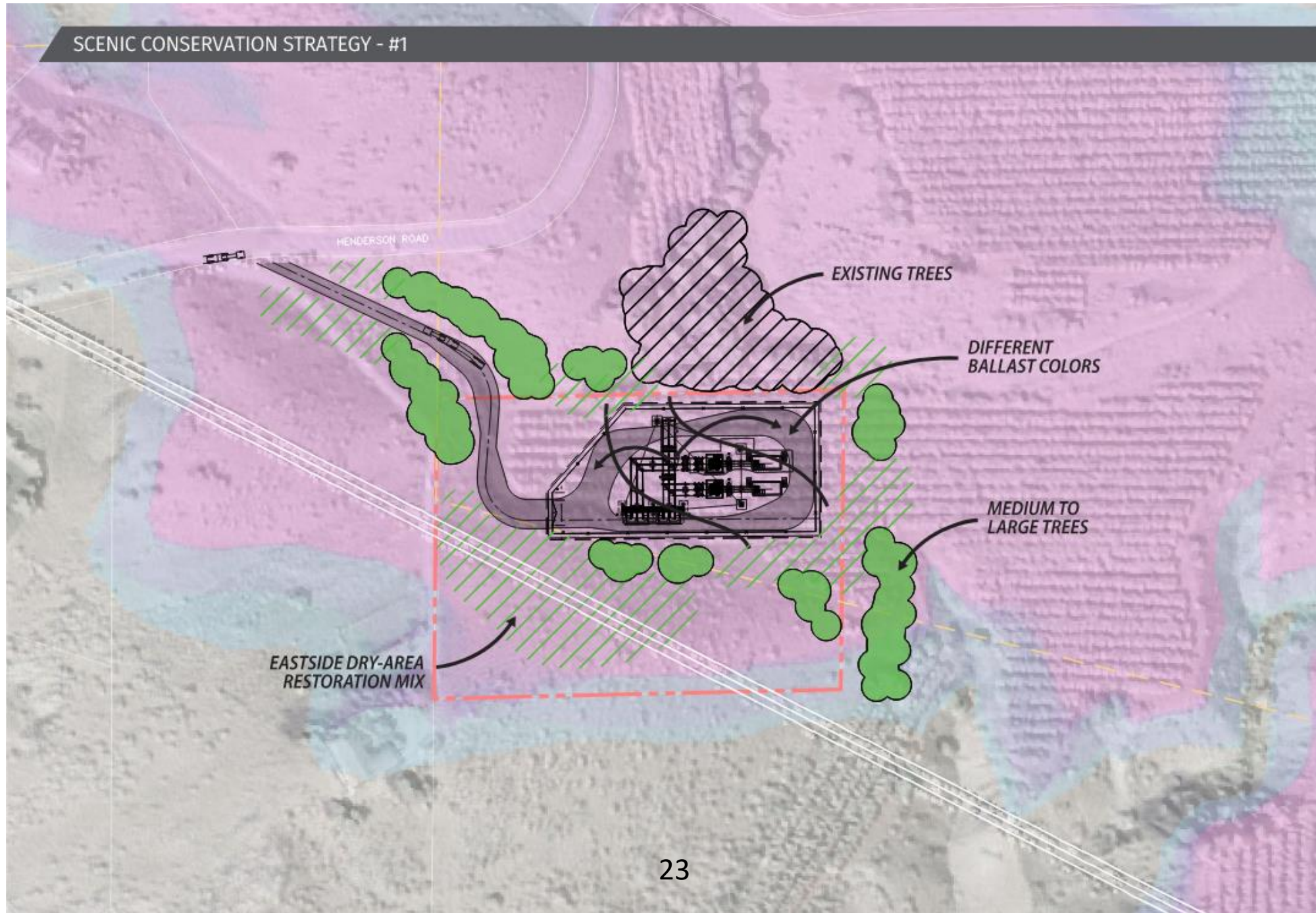


# Landscape Screening & Contrast



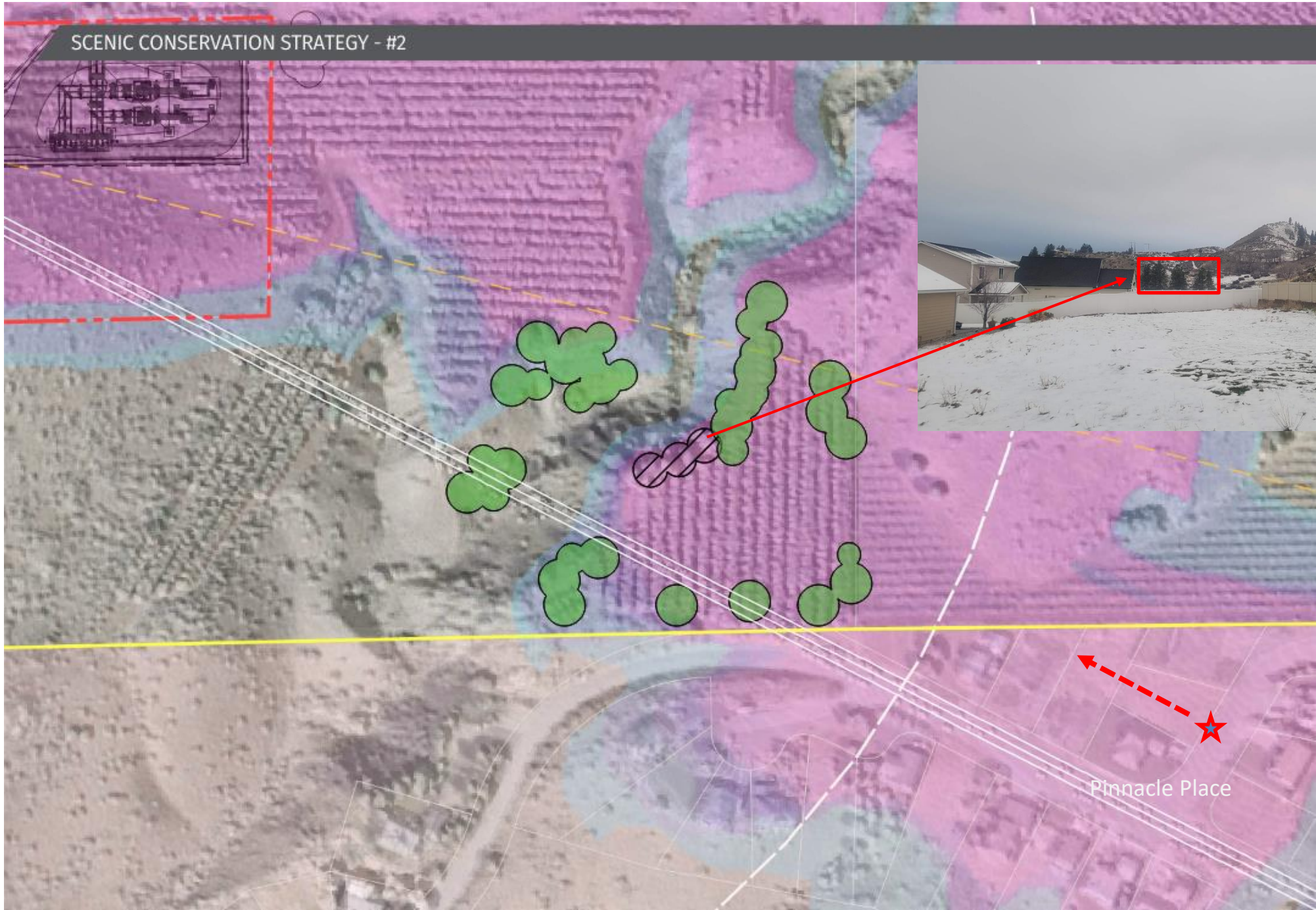


## SCENIC CONSERVATION STRATEGY - #1



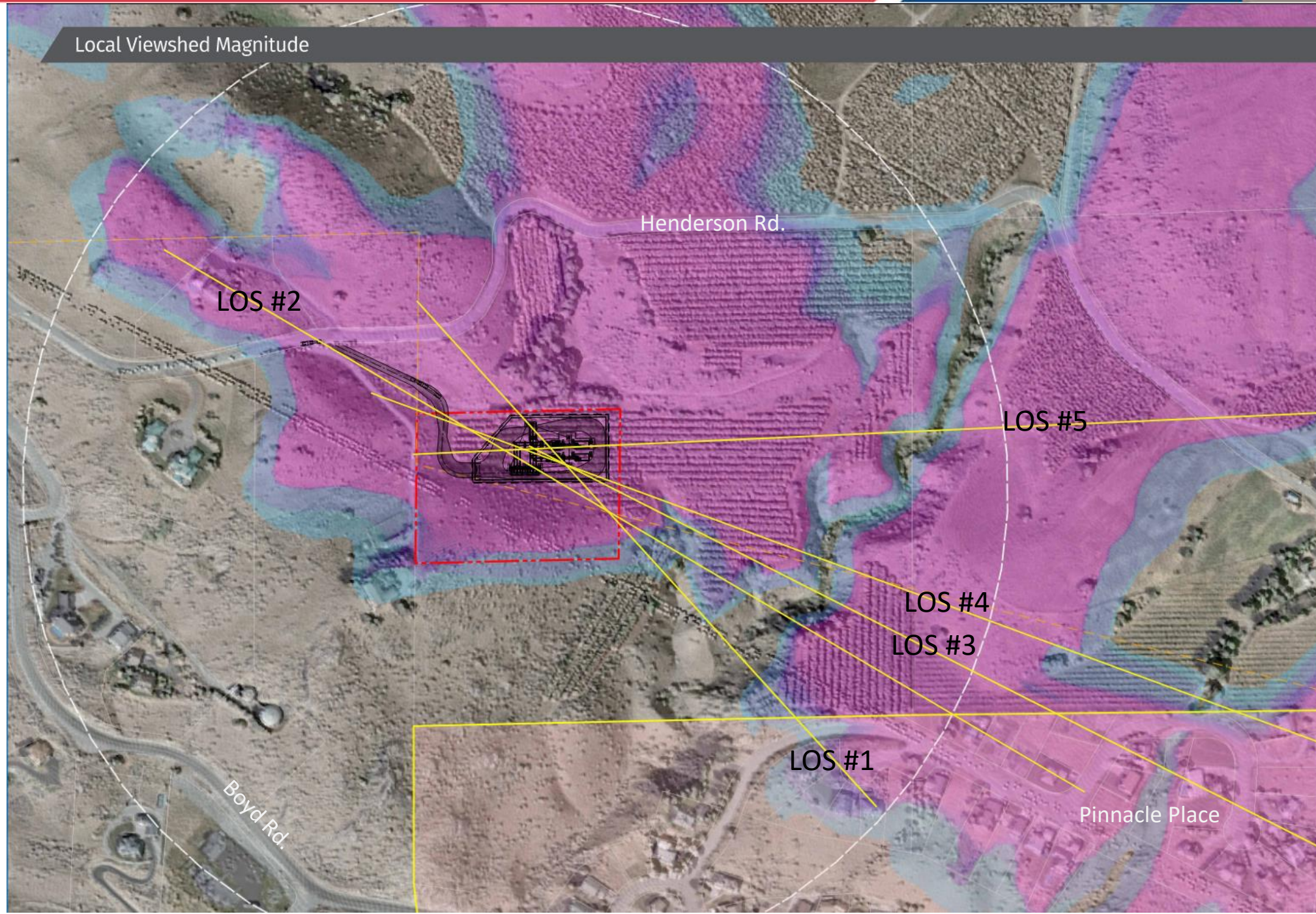


## SCENIC CONSERVATION STRATEGY - #2



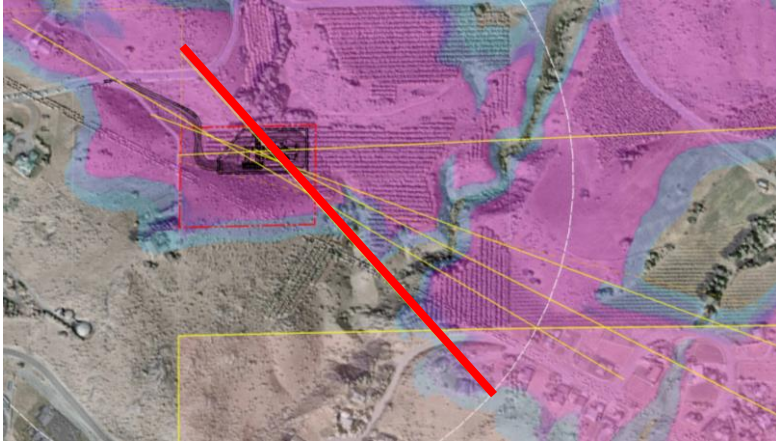


# Local Viewshed Magnitude

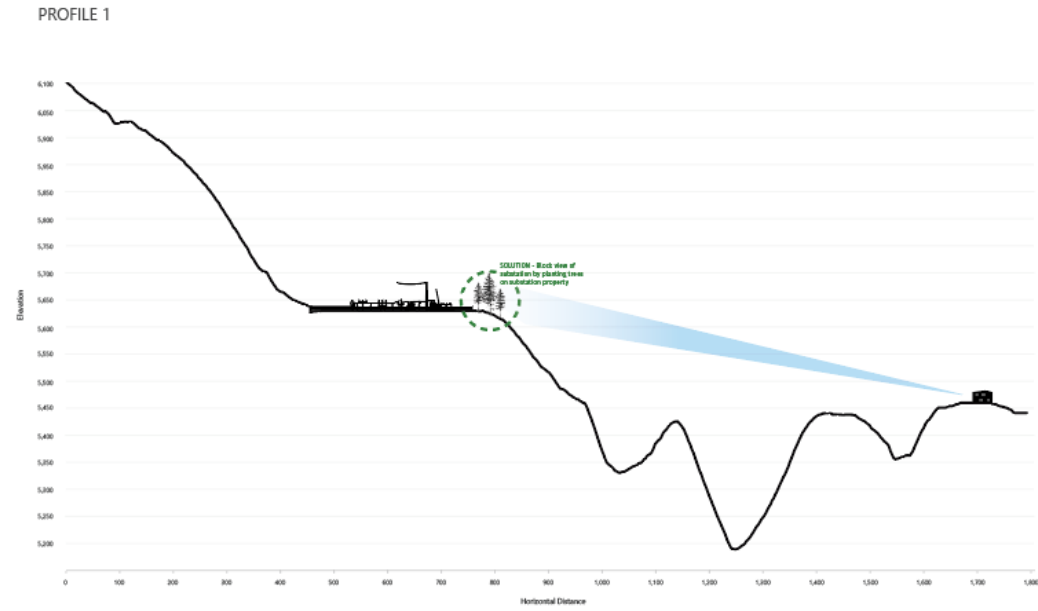




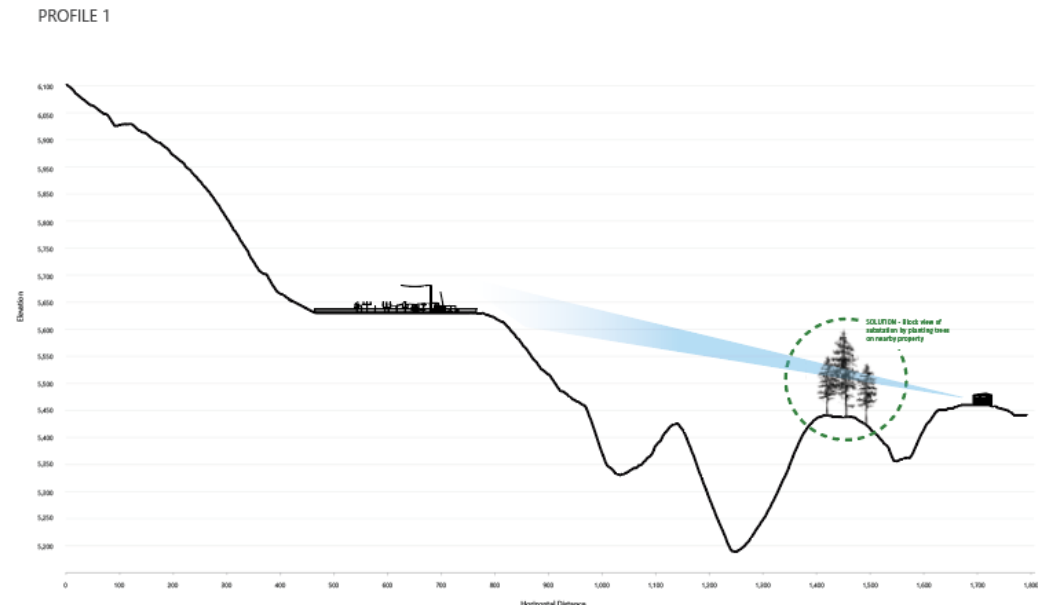
# Line of Sight #1



STRATEGY 1

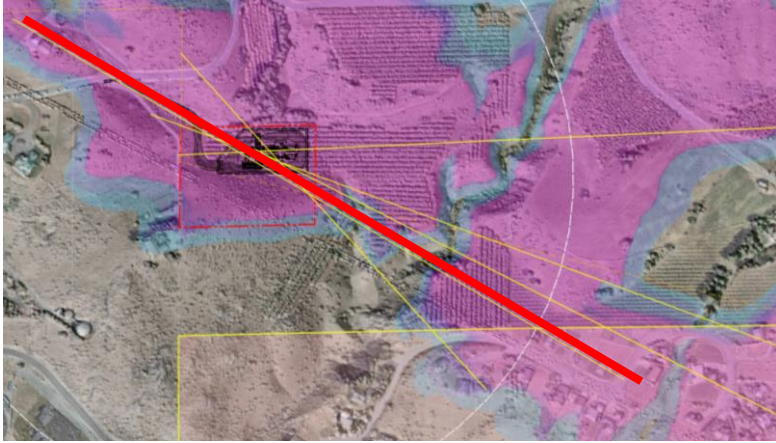


STRATEGY 2

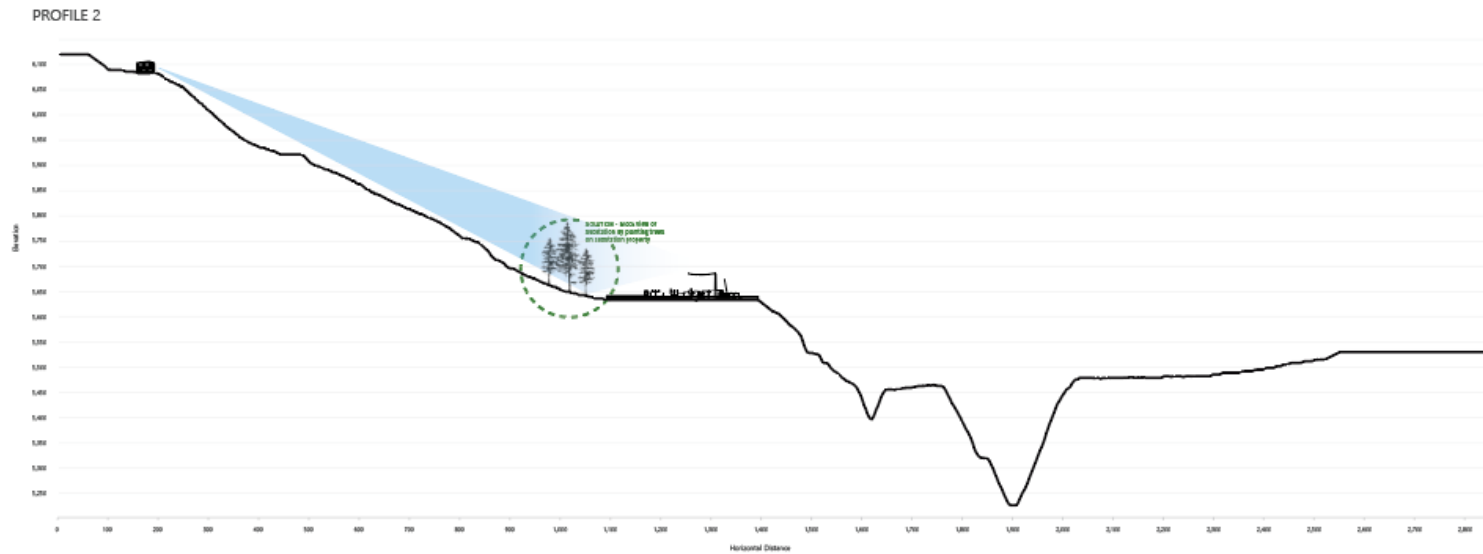




# Line of Sight #2

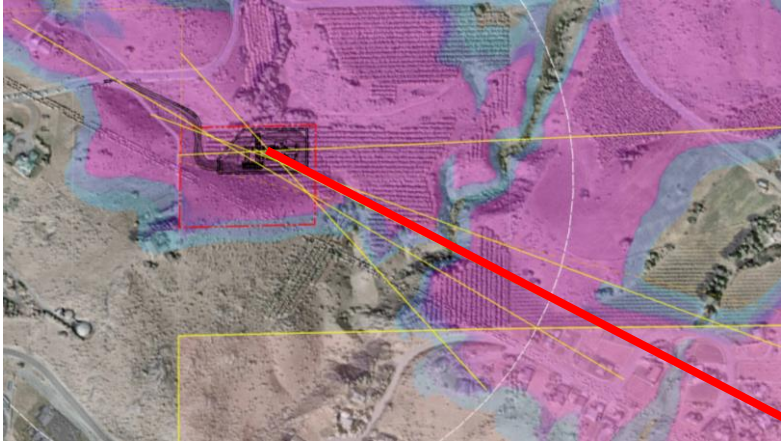


STRATEGY 1

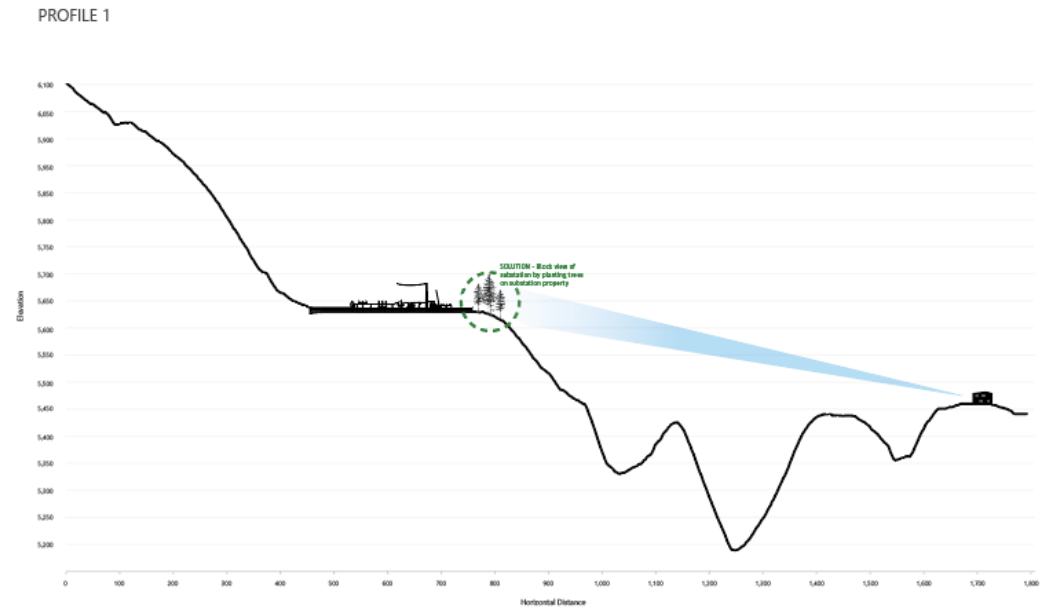




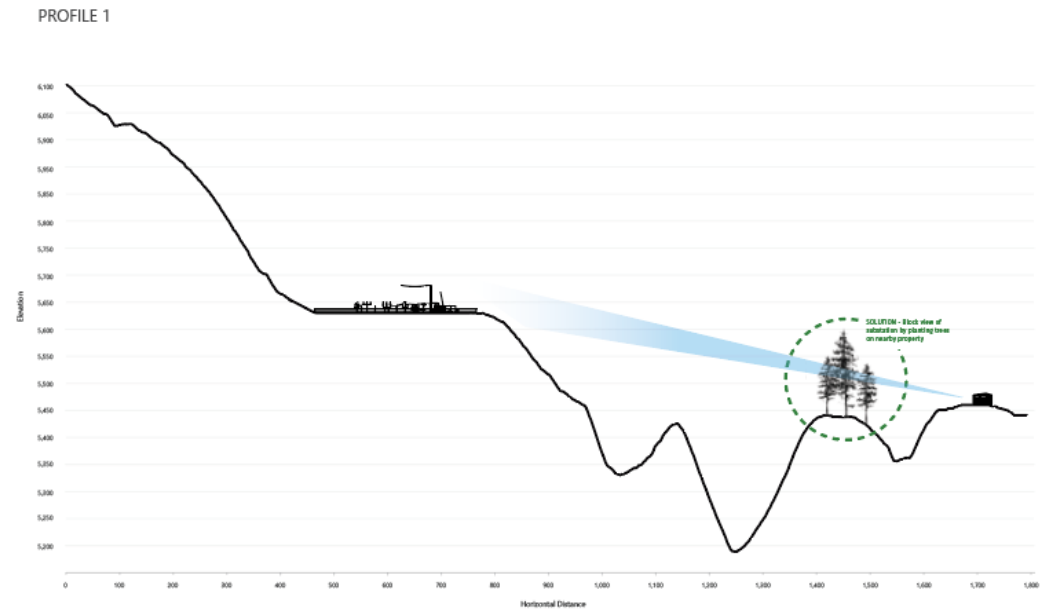
# Line of Sight #3



STRATEGY 1

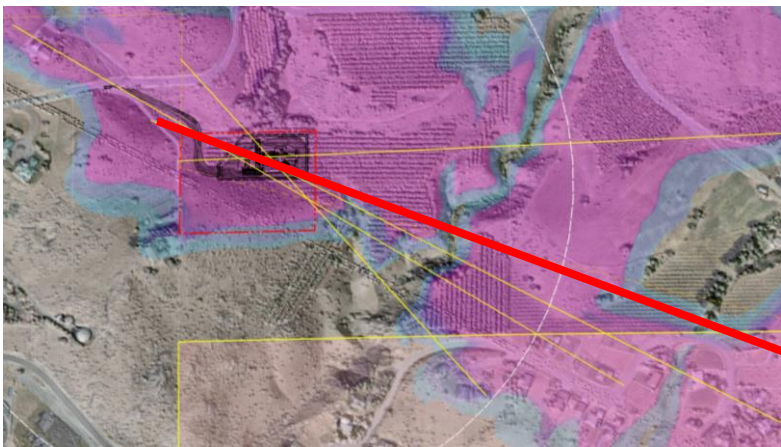


STRATEGY 2

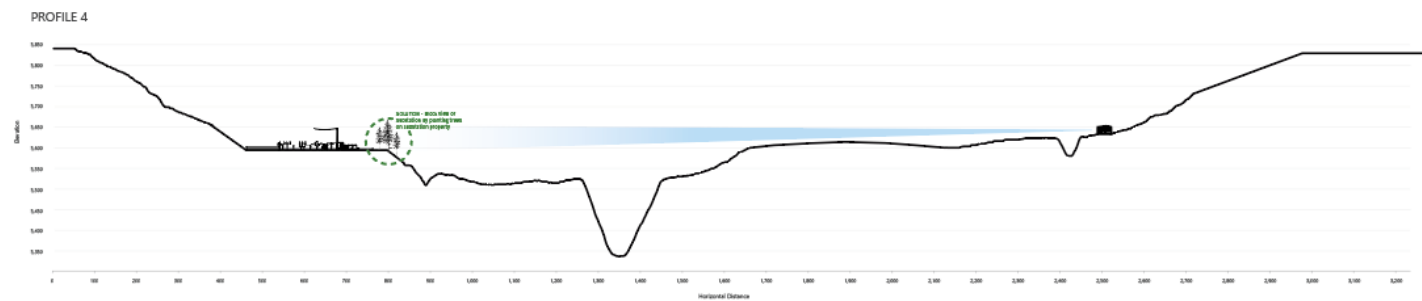




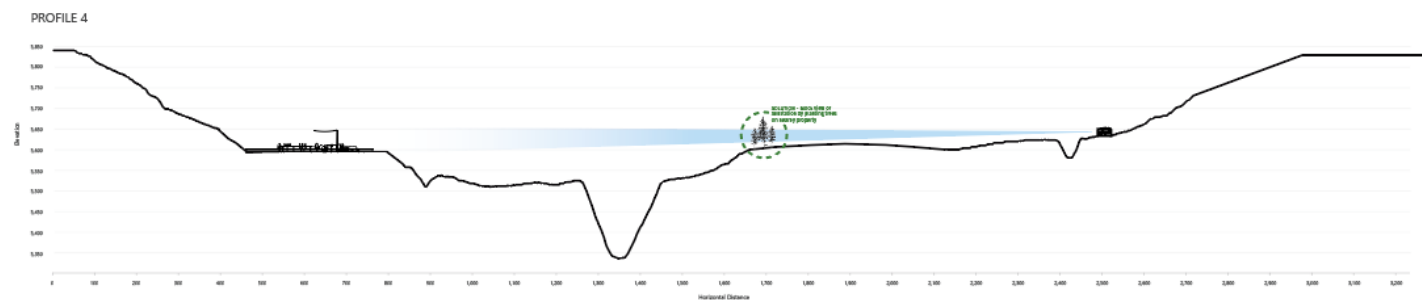
## Line of Sight #4



## STRATEGY 1

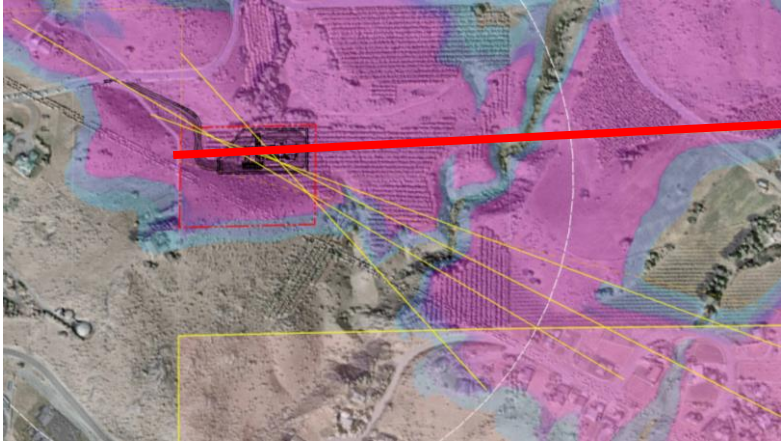


## STRATEGY 2

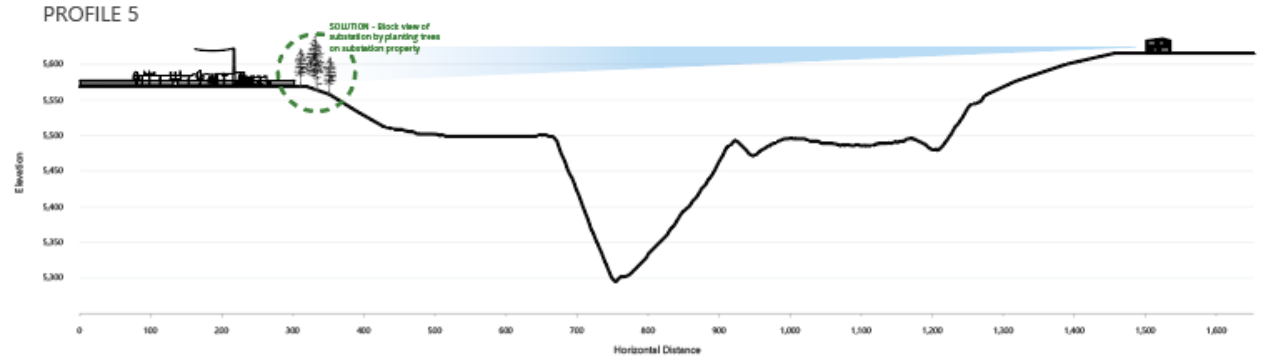




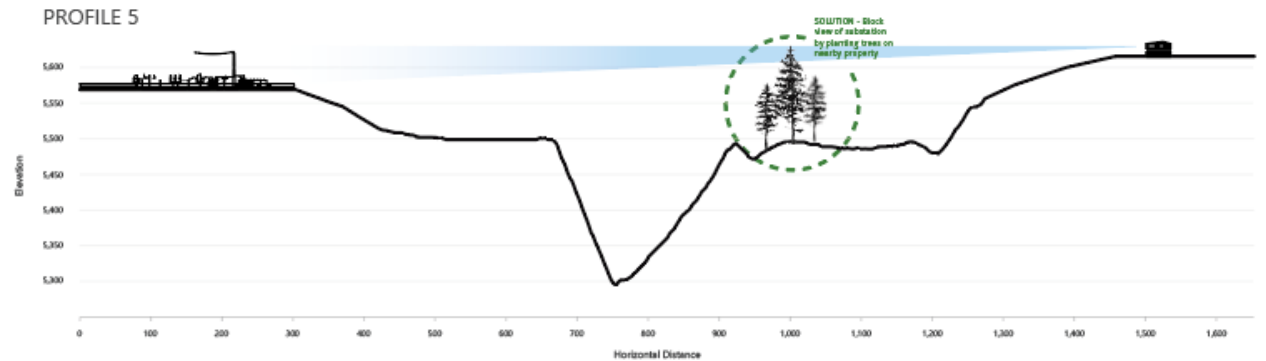
# Line of Sight #5



STRATEGY 1



STRATEGY 2





# Questions?





# Next Steps

- Feb/March: Use this feedback to develop a preferred design
- Late March: Share preferred design with stakeholders and PUD Commissioners
- Late March: Conditional Use Permit application
- July: Construction Contract Award
- August: Construction outreach to stakeholders
- September: Site prep work



# North Shore Substation Design Outreach Timeline

