APPLE VALLEY RESTORATION

Concept Design - Base Alternative

Concept Goal

The goal of the Apple Valley Restoration project is to enhance floodplain connectivity on the eastern side of North St. Vrain Creek. Currently, this overbank area is only activated at around a 10-year or higher event. The project will increase the frequency at which this overbank area is activated to enhance stream function as well as habitat for terrestrial and aquatic species.

BASE ALTERNATIVE

Project Benefits:

- **Creates seasonal wetlands and aquatic habitat**
- **Supports fishkill population recovery**
- **Improves river corridor habitat adjacent to Steamboat Mountain**
- **Increases native vegetation diversity for all wildlife**
- **Improves water quality and groundwater recharge**
- **Enhances flood and post-wildfire resilience**

LEGEND

- Parcel Boundary
- Water Pipeline (abandoned)
- Overhead Power Line
- 100-Year Floodplain
- Floodway
- Site Access Road

Base Improvements

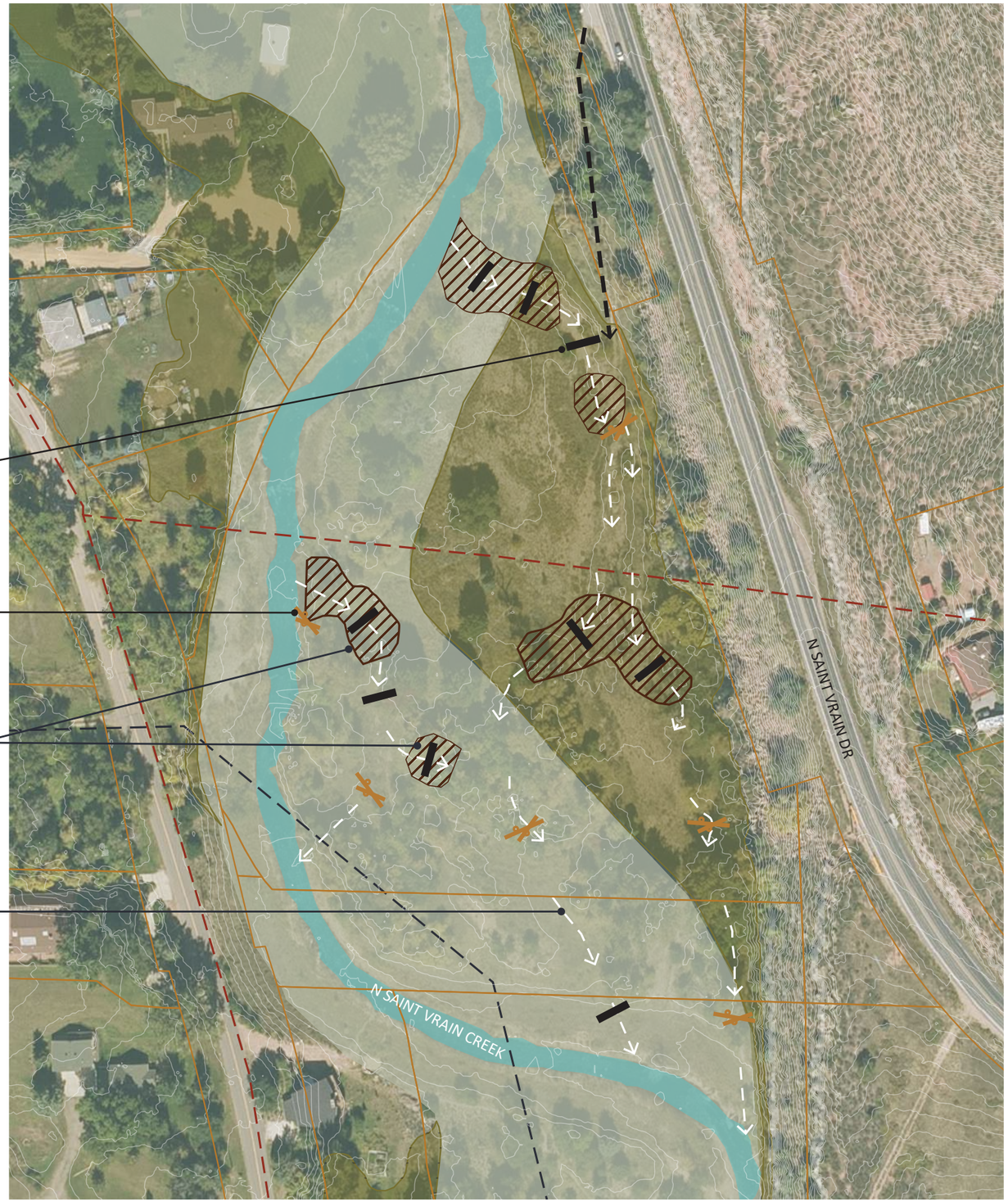
- Reconnection Grading Area
- Large Wood Structure
- Log Grade Control

Log grade control - Large logs partially buried in flowpath to provide roughness and protect against scour.

Large wood structure - Complex of trunks and rootwads that helps pool water, trap sediment, and improve aquatic habitat.

Reconnection grading areas - Strategic grading to help flow move onto, and throughout the floodplain.

Seasonal flow path - Existing high flow paths that will become more active via the reconnection grading areas. Minimal to no grading will occur within the seasonal flow path.



APPLE VALLEY RESTORATION

Concept Design - Enhanced Alternative

Concept Goal

This alternative builds directly on the base concept by retaining all habitat, water quality, and resilience benefits, while expanding their scale and complexity. It increases the extent and diversity of terrestrial aquatic habitats.

ENHANCED ALTERNATIVE

Project Benefits:
(in addition to base alternative benefits)

- **Expands seasonal wetlands and aquatic habitat types**
- **Increases habitat diversity through microtopography**
- **Creates floodplain habitat and resilience with added wood and snags**

LEGEND

- Parcel Boundary
- Water Pipeline (abandoned)
- Overhead Power Line
- 100-Year Floodplain
- Floodway
- Site Access Road

Base Improvements

- Reconnection Grading Area
- Large Wood Structure
- Log Grade Control

Additional Enhancements

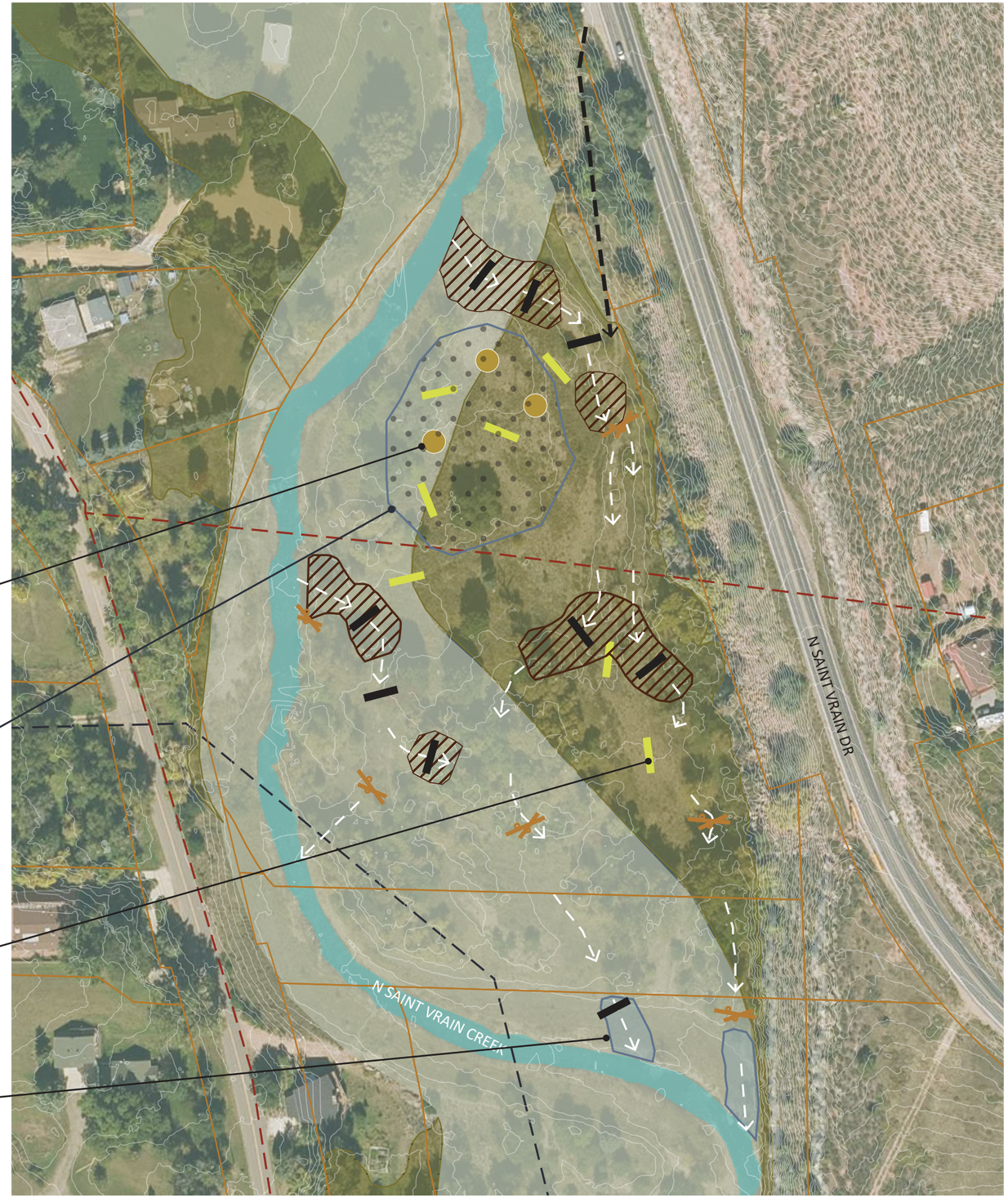
- Standing Snag
- Floodplain Wood
- Backwater Habitat Areas
- Proposed Microtopography Area (small-scale variations in grading- subtle bumps/depressions)

Standing snag - Large trunk of wood extending high out of the ground, providing perching habitat for raptors and other birds.

Microtopography - Small-scale variations in the ground surface, typically from a few inches to a foot. It creates diverse microhabitats and contributes to ecological function, soil health, and maintaining moisture levels.

Floodplain wood - Trunks and branches placed on and partially buried in the ground, providing wildlife habitat and contributing organic matter (carbon) to the soil.

Backwater habitat areas - Excavated backwater areas for fish to utilize for refuge while also providing wetland habitat.



APPLE VALLEY RESTORATION

KEY DESIGN FEATURES

backwater habitat

backwater habitat

microtopography

large wood structure

reconnection grading areas
-during construction

reconnection grading areas
- after construction

reconnection grading areas
- with seasonal flow

vegetation & wildlife

standing snag

vegetation & wildlife