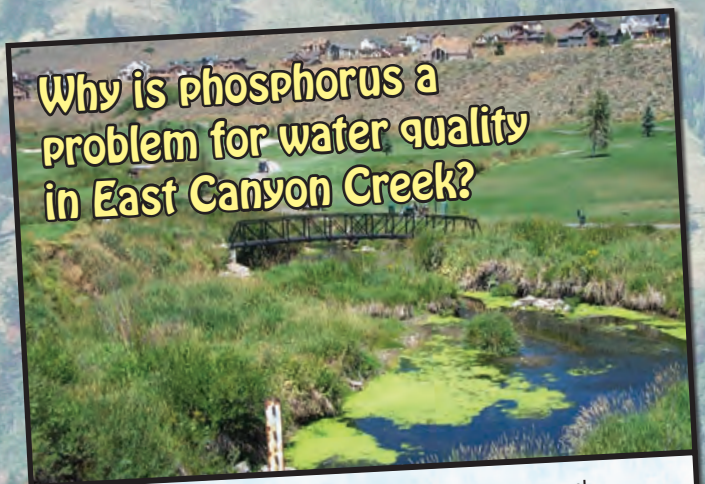
Is your project located on a phosphorus-rich soil?

Reducing Impacts to Water Quality

Why is phosphorus a problem for water quality in East Canyon Creek?



Phosphorous is a nutrient that contributes to the growth of aquatic plants and algae. While some algal growth is welcomed, excessive growth can be harmful. As algae decompose they remove oxygen from the surrounding water. With lower levels of oxygen, our fish are stressed and may suffocate.

Soils overlying the Park City Phosphoria Formation are naturally phosphorus-rich

A major source of phosphorus in the East Canyon watershed is runoff from construction sites, especially those that occur on the Park City Phosphoria Formation. A natural geologic component of the mountains found near Park City, the Phosphoria Formation has exceptionally high concentrations of phosphorus (on the order of 10 – 100 times background concentrations). As storm water erodes the soil on the Formation, it flows ultimately into East Canyon Creek and Reservoir and degrades water quality.

Advanced mitigation measures to include on permits for construction on phosphorus-rich soils

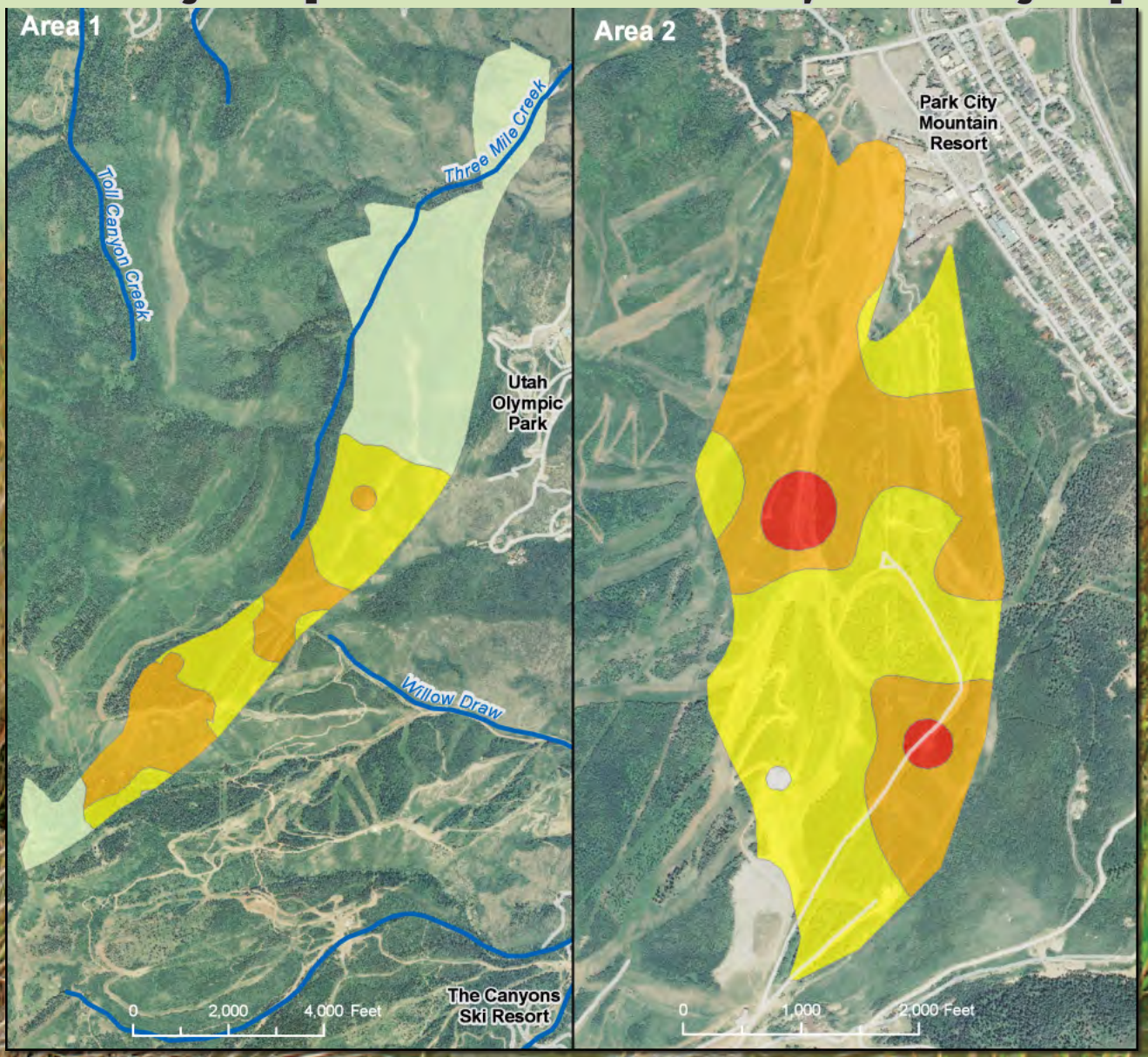
The following advanced Best Management Practices (BMPs) should be used for construction sites that occur on phosphorus-rich soils:

- *Exceptional care to minimize sediment runoff:*
  - *Minimize clearing*
  - *Schedule construction activities to reduce chance of large storm event during project*
  - *Phase construction to minimize soil exposure*
  - *Stabilize all exposed soils using erosion control materials such as silt screen fencing and mulches, mats, or blankets (straw, fiber, wood chips, coconut fiber matting)*
  - *Stabilize temporary stockpiles of soil*
- *Small projects (<10 acres): Build sediment traps or small infiltration basins with the aim to capture 100% of sediment runoff from the project site*
- *Large projects (>10 acres): Use stormwater detention ponds with outlets designed for release only in a 5-year (rather than a 2-year) 24-hour storm event*
- *Monitor runoff from project sites to ensure sediment loss from project site is minimal*
- *Plant native vegetation on all disturbed soils at project completion*
- *Contain sediment runoff until vegetation is reestablished*

Is your project in a location with naturally phosphorus-rich soils?

You can determine whether your project is located in a naturally phosphorus-rich soil using the maps on this handout or by visiting an interactive phosphorus mapping site at:

www.sbwrd.org/PhosphaticSoils OR www.eastcanyoncreek.org/maptool



High Phosphorus Soils in Snyderville Basin

Soil Phosphorous Concentration (mg/kg)*

- 0-1,000 mg/kg - Background
- No Data - Likely High
- 1,000-5,000 mg/kg - High
- 5,000-10,000 mg/kg - Very High
- 10,000-20,000 mg/kg - Extremely High
- Road
- Stream

*Source: East Canyon Creek Watershed Phosphorus Deposit Mapping Final Report, 2008

Imagery taken from National Agricultural Imagery Program (NAIP) natural color aerial photography 1-meter resolution, 2009.

For more information on BMPs and stormwater regulations, please visit one of the following websites:

Summit County Stormwater Ordinance 381:
www.co.summit.ut.us/engineering/downloads/381Afinal.pdf

Stormwater Resource Center:
http://www.stormwatercenter.net/test.htm