



Neffs Canyon Debris Basin Feasibility Study

Public Meeting

Project Information

Neffs Creek, located in the southeast portion of Millcreek, is part of an active alluvial fan that was recently studied by the Federal Emergency Management Agency (FEMA) to better define the alluvial fan flood hazards in the area. The updated Flood Insurance Rate Map (FIRM) went into effect in November 2021. An active alluvial fan on a FIRM has several ramifications that include the requirement to purchase flood insurance for properties with mortgages and restrictive building requirements (i.e. no walk out basements, remodels must be less than 50% of fair market value of the structure or the entire structure must be brought up to current FEMA zone requirements, and new construction must meet FEMA building restrictions). The only way to remove the alluvial fan flood hazards from the FEMA FIRM is to design and construct a structural flood mitigation facility at the apex of the fan which will collect debris and remove the flood flow path uncertainties associated with alluvial fans.

Public Meeting

The public is invited to attend, discuss, and submit comments during the public meeting.

December 15, 2021
Time: 6:00 to 7:30 pm
Millcreek City Hall
Promise Room
3330 South 1300 East
Millcreek, Utah

Written comments must be received by
February 28, 2022

Contact Information

All comments regarding this Project should be direct to:

Dan Drumiler, P.E.

Millcreek City
Address: 3330 South 1300
East
Millcreek, UT 84106
Phone (801) 214-2714
Email: ddrumiler@millcreek.us

Comments may be mailed or emailed to the above address on or prior to February 28, 2022.

Purpose of Study

The purpose of the Neffs Canyon Debris Basin Feasibility Study is to evaluate alternative methods that could potentially be implemented to:

- Mitigate the recurring flood problems and possible debris flow hazards associated with the Neffs Creek alluvial fan, and
- Eliminate the alluvial fan floodplain recently defined on the FEMA FIRM.

Constraints for Flood Mitigation Alternatives

Each of the potential flood mitigation alternatives considered in this study met the following constraints:

1. Project improvements could not impact USFS Wilderness area
2. Project improvements could not impact existing homes and structures on private property
3. The project improvements on USFS land must meet USFS requirements
4. Flows up to 15 cfs would be maintained in the existing channel during periods of runoff on Neffs Creek
5. Improvements would need to address site geologic and geotechnical issues (Wasatch Fault, landslides, limited debris flows, etc.)
6. Improvements would eliminate the alluvial fan flood hazards associated with a 100-year runoff event defined on the new FEMA FIRM.

Mitigation Alternatives

Five mitigation alternatives were evaluated that could potentially mitigate the recurring flooding and existing debris flow hazards associated with the Neffs Creek alluvial fan which would allow the Neffs Creek alluvial fan flood hazards on the new FEMA FIRM to be eliminated. The alternatives considered include the construction of dry detention/debris basins on USFS land that would convey runoff from a typical 100-year flood event and convey runoff from a typical 500-year flood event to a point where it could be partially dispersed into city streets. The mitigation alternatives analyzed include:

1. Debris Basin Dam and Storm Drain in Street
2. Debris Basin Dam and Improve Existing Channel
3. Below-Grade Debris Basin and Storm Drain in Street
4. Below-Grade Debris Basin and Improve Existing Channel
5. Debris Basin in Wilderness Area (Currently Not Feasible)

A Do Nothing (No Mitigation) was also considered.

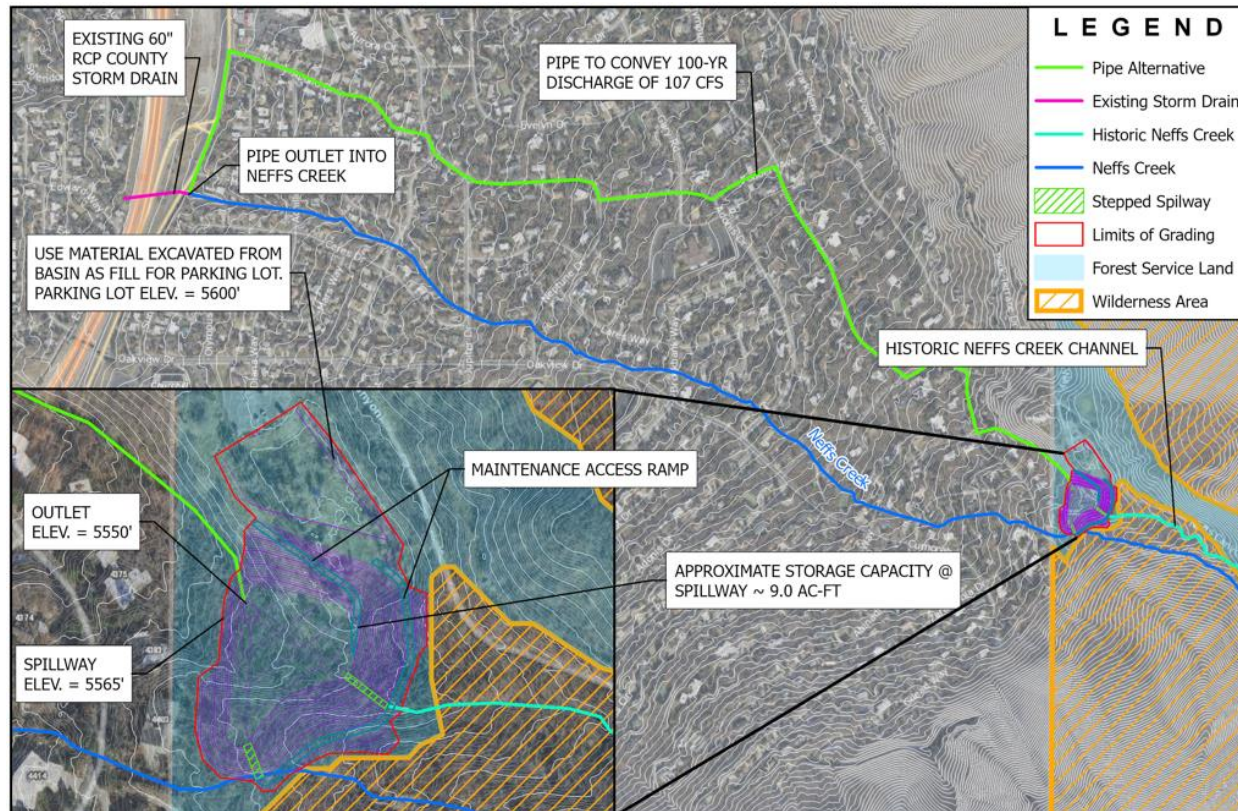


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Recommended Alternative

The *Below-Grade Debris Basin and Storm Drain in Street* is the recommended flood mitigation alternative. This alternative includes the construction of a debris/detention basin at the apex of the alluvial fan. The outlet pipeline from that facility would connect to a new storm drain that would be constructed in public streets. The proposed new storm drain would convey runoff from at least the 100-year flood event to a point where it would discharge into Neffs Creek near Wasatch Blvd. A schematic of the recommended alternative is shown below.



This is the preferred alternative since it has minimal visual impacts, has fewer property impacts to residents adjacent to the creek downstream, the alternative could include an improved canyon trailhead parking lot with firefighting facilities for public lands, and it has the lowest estimated construction cost.

What Happens Next?

The following steps must be completed to proceed with the implementing the recommended flood mitigation alternative:

- Obtain conditional approval from FEMA that proposed improvements will mitigate the 100-year flood hazard
- Obtain funds for final design and construction (complete an environmental assessment for the USFS, work out permits/issues with USFS, obtain needed pipeline easements on private property, complete final design)
- Perform a more detailed geologic/geotechnical analyses
- Construct the debris basin and storm drain
- Obtain a Letter of Map Revision from FEMA to eliminate alluvial fan 100-year flood hazard