



PUBLIC NOTICE

**U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT**

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APPLICATION FOR PERMIT Sunnyside Exploratory Drilling Project

Public Notice/Application No.: SPL-2020-00103

Project: Sunnyside Exploratory Drilling Project

Comment Period: March 3 through April 1, 2021

Project Manager: Kathleen Tucker; (602) 230-6956; Kathleen.A.Tucker@usace.army.mil

Applicant

Rick Trotman
Arizona Standard, LLC.
510-815 W. Hastings St.
Phoenix, Arizona 85012

Contact

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Location

The Sunnyside exploratory drilling project is within the Patagonia Mountains near the town of Patagonia, Santa Cruz County, AZ. The cadastral location for the project area is Township 22 South, Range 15 East, Sections 24 and 25; Township 22 South, Range 16 East, Sections 30-33; and Township 23 South, Range 16 East, Sections 4-6 (Gila and Salt River Base Line and Meridian) as depicted on the US Geological Survey (USGS) Patagonia, Arizona (1981), Cumero Canyon, Arizona (1981), and Harshaw, Arizona (1982) 7.5' topographic quadrangles. The project midpoint in decimal degrees is 31.476825° N, -110.744610° W, NAD 83.

Activity

Project activities proposed within the survey area, which totals approximately 228.68 acres, include the construction of up to 30 drill pads, improvements to existing system and non-system access roads, and construction of a new temporary low-standard access road to provide access to the drilling locations. The proposed drilling program will be completed over the course of a 7-year period. Improvements to 6.8 miles of existing system roads and 3.7 miles of existing non-system (administratively decommissioned) roads and construction a 0.6- mile-long temporary low standard non-system access road. (see attached drawings). In many cases, the existing road alignment crosses the same waters of the US (WOUS) multiple times and is located coincident with the stream channel. The proposed activity would impact a total of 4 jurisdictional waters which include wetlands. Approximately 0.5017 acres of non-wetland waters (within 4 washes) and 0.0568 acres of wetlands (4 washes) will be impacted as a direct result of road improvements and construction activities associated with the proposed project. No drill pads, laydown yards, turnouts, or other project facilities would be located within wetlands or other WOUS; thus, none would be affected.

For more information see Additional Project Information section below.

Submittal of Public Comments

Interested parties are hereby notified an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). We invite you to review today's public notice and provide views on the proposed work. By providing substantive, site-specific comments to the Corps Regulatory Division, you provide information that supports the Corps' decision-making process. All comments received during the comment period become part of the record and will be considered in the decision. This permit will be issued, issued with special conditions, or denied under Section 404 of the Clean Water Act.

During the Coronavirus Health Emergency, Regulatory Program staff are teleworking. Please do not mail hard copy documents, including comments to any Regulatory staff.

Instead, your comments should be submitted electronically to:

Kathleen.A.Tucker@usace.army.mil. Should you have any questions or concerns about the Corps' proposed action or our comment period, you may contact Kathleen Tucker directly at (602) 230-6956.

The mission of the U.S. Army Corps of Engineers Regulatory Program is to protect the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. The Regulatory Program in the Los Angeles District is executed to protect aquatic resources by developing and implementing short- and long-term initiatives to improve regulatory products, processes, program transparency, and customer feedback considering current staffing levels and historical funding trends.

Corps permits are necessary for any work, including construction and dredging, in the Nation's navigable water and their tributary waters. The Corps balances the reasonably foreseeable benefits and detriments of proposed projects, and makes permit decisions that recognize the essential values of the Nation's aquatic ecosystems to the general public, as well as the property rights of private citizens who want to use their land. The Corps strives to make its permit decisions in a timely manner that minimizes impacts to the regulated public.

During the permit process, the Corps considers the views of other Federal, state and local agencies, interest groups, and the general public. The results of this careful public interest review are fair and equitable decisions that allow reasonable use of private property, infrastructure development, and growth of the economy, while offsetting the authorized impacts to the waters of the United States. The permit review process serves to first avoid and then minimize adverse effects of projects on aquatic resources to the maximum practicable extent. Any remaining unavoidable adverse impacts to the aquatic environment are offset by compensatory mitigation requirements, which may include restoration, enhancement, establishment, and/or preservation of aquatic ecosystem system functions and services.

Evaluation Factors

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Factors that will be considered include conservation, economics,

aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR Part 230) as required by Section 404 (b)(1) of the Clean Water Act.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Preliminary Review of Selected Factors

EIS Determination- A preliminary determination has been made an environmental impact statement is not required for the proposed work.

Water Quality- The applicant is required to obtain water quality certification, under Section 401 of the Clean Water Act, from the Arizona Department of Environmental Quality. Section 401 requires any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers prior to permit issuance.

Cultural Resources- Consultation under Section 106 of the National Historic Preservation Act has been initiated by the Forest Service with the State Historic Preservation Office (SHPO) and the appropriate Native American Tribes regarding the proposed Project's effect on cultural resources.

Endangered Species- Formal consultation under Section 7 of the ESA has been initiated by the Forest Service with the U.S. Fish & Wildlife Service (USFWS).

Public Hearing- Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state with particularity the reasons for holding a public hearing.

Proposed Activity for Which a Permit is Required

Basic Project Purpose- The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the Corps to determine whether the applicant's project is water dependent (i.e., requires access or proximity to or siting within the special aquatic site to fulfill its basic purpose). Establishment of the basic project purpose is necessary only when the proposed activity would discharge dredged or fill material into a special aquatic site (e.g., wetlands, pool and riffle complex, mudflats, coral reefs). The basic project purpose for the proposed project is to **improve and construct access roads** within the Patagonia Mountains. The project is **not** water dependent.

Overall Project Purpose- The overall project purpose serves as the basis for the Corps' 404(b)(1)

alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall project purpose for the proposed project is to improve and construct access roads in order to evaluate the location, concentration, and quality of mineralization within a contiguous block of land within the Patagonia Mountains.

Additional Project Information

Baseline information- The project area is entirely located on public lands administered by the United States Forest Service (USFS), within the Sierra Vista Ranger District of the Coronado National Forest (CNF). The survey area is located within the northern portion of the Patagonia Mountains. Elevation within the project area ranges between approximately 4,800 and 5,500 feet above mean sea level. Mining activity has occurred in the past in various parts of the survey area, as evidenced by abandoned mine adits and tailings. Ongoing mining activities occur at Hermosa Mine, which is located at the junction of Harshaw Road and Flux Canyon Road. The Project is located within two 12-digit hydrologic units (HUs); the Middle Sonoita Creek (HU 150503010206) and Harshaw Creek (HU 150503010203) subwatersheds of the larger Sonoita Creek Basin. The drainage area of Middle Sonoita Creek and Harshaw Creek subwatersheds is about 62 square miles (mi²) and 33 mi², respectively.

Major Streams near the Project Area include Flux Canyon, Alum Gulch, Humboldt Canyon, and Harshaw Creek. The primary tributary to the portion of Alum Gulch near the Project Area is Humboldt Canyon, the mouth of which is between the January Adit and the World's Fair Mine. As is typical in an arid climate, these streams are generally intermittent or ephemeral. Field observations confirm that these streams and their associated tributaries are ephemeral and that groundwater (from springs and mine adits) is the sole source of flow during baseflow conditions for these streams. No flow gaging stations exist on any of these streams.

The Project Area is located within the Madrean evergreen woodland biotic community (Brown and Lowe 1980). Pine-oak woodlands occur at relatively higher elevations and on north-facing slopes, while evergreen oak woodlands and scrub grasslands tend to occur at lower elevations and on south-facing slopes. The most common tree and shrub species in the Project Area include Emory oak (*Quercus emoryi*), silverleaf oak (*Quercus hypoleucoides*), blue oak (*Quercus oblongifolia*), Arizona white oak (*Quercus arizonica*), border pinyon (*Pinus discolor*), ponderosa pine (*Pinus ponderosa*), velvet mesquite (*Prosopis velutina*), velvet pod mimosa (*Mimosa dysocarpa*), fragrant sumac (*Rhus aromatica*), and alligator juniper (*Juniperus deppeana*). Other common tree and shrub species within the Project Area include one-seed juniper (*Juniperus monosperma*), Fremont cottonwood (*Populus fremontii*), Arizona sycamore (*Platanus wrightii*), shrub live oak (*Quercus turbinella*), point-leaf manzanita (*Arctostaphylos pungens*), sotol (*Dasylirion wheeleri*), Palmer's agave (*Agave palmeri*), banana yucca (*Yucca baccata*), catclaw acacia (*Senegalia greggii*), ocotillo (*Fouquieria splendens*), and common sotol (*Dasylirion wheeleri*). Understory species include grasses such as sideoats grama (*Bouteloua curtipendula*) and beargrass (*Xerophyllum tenax*).

Soils in the Project Area consist of igneous- and volcanic-derived cobbly loams with components of clay or sand that are interspersed with rock outcroppings and underlain by andesite and dacite (Ludington *et al.* 2005; USDA 2010). Three primary soil map units are present within the Project Area: Faraway-rock outcrop complex, 30 to 60 percent slopes; Rock outcrop-Lithic Haplustolls association; and Lampshire-Graham-Rock outcrop association, steep (USDA 2019).

Project description- The Project is a mineral exploration investigation drilling program that will be completed over the course of a 7-year period. The Project will evaluate the location, concentration,

and quality of mineralization within a contiguous block of land within the Patagonia Mountains. The following outlines the steps of the proposed Project:

- Maintain system road surface where necessary.
- Improve up to 6.8 miles of existing system roads and 3.7 miles of existing non-system (administratively decommissioned). Construct up to 0.6 mile of new temporary low standard non-system access roads.
- Remove brush, limbs, and trees where necessary along access roads and drill sites to allow access of drill rigs, water trucks, and other support equipment.
- Construct up to 30 drill pads and associated sumps, install sediment controls, transport equipment and supplies to the drill pads, and set up equipment. During the exploration drilling campaign, no more than 2 drill pads at a time will be active.
- Undertake exploration drilling on a 24/7 (two 12-hour shifts) rotational work schedule with intermittent breaks.
- Log and sample each drill hole, drill cuttings and core.
- Complete/abandon the drill holes as described herein.
- Reclaim concurrently each drill pad and related temporary low-standard access roads after exploration program is completed and results evaluated.
- Remove all equipment from the Project Area.

Proposed Mitigation– The proposed mitigation may change because of comments received in response to this public notice, the applicant's response to those comments, and/or the need for the project to comply with the 404(b)(1) Guidelines. In consideration of the above, the proposed mitigation sequence (avoidance/minimization/compensation), as applied to the proposed project is summarized below:

Avoidance: The proposed project has been designed to include the placement of drill sites, laydown yards, road turnouts, and water storage areas outside of wetlands, floodplains, and other WOUS. The locations of wetlands, floodplains, and other WOUS would be shown on plans sheets and demarcated in the field as no work zones using orange construction fencing.

Minimization: The proposed temporary bypass road has also been sited so as to minimize impacts to wetlands and other WOUS and the width of all upgraded roads has been reduced to a minimum of 14 feet in order to reduce the impact to wetlands and other WOUS, while still providing adequate passage for vehicles and other equipment used for the proposed drilling program. To minimize impacts to wetlands and other WOUS, each individual road crossing has been evaluated in the field by a Forest Service road engineer and site-specific construction recommendations were made for each crossing, so as to maintain the stability and condition of the road over the long term, while at the same time, reducing the potential for increased erosion and sedimentation delivery to adjacent wetlands and other WOUS.

To further minimize impacts to down-gradient wetlands and other WOUS, additional sediment and erosion control measures will be implemented to avoid indirect impacts due to sediment runoff associated with road construction and improvements. Silt fencing and other BMPs will be used to prevent erosion and capture sediment.

Arizona Standard will stabilize and reseed temporarily disturbed areas to prevent erosion and to promote vegetation growth. Arizona Standard will conduct concurrent reclamation by reclaiming drill sites as associated activities are completed. Newly constructed temporary access roads and laydown yards will be reclaimed at the completion of the proposed drilling program. Approximately 3.5 miles of

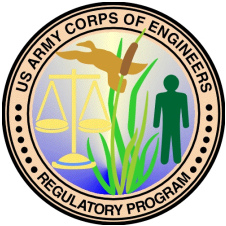
upgraded roads will be physically decommissioned by Arizona Standard prior to completion of the Project.

Compensation: Impacts to the wetlands and other WOUS will be compensated through a mitigation payment to an in-lieu fee program in Arizona.

Proposed Special Conditions

The following list is comprised of proposed Permit Special Conditions, which are required of similar types of projects: To be determined.

For additional information please call Kathleen Tucker of my staff at (602) 230-6956 or via e-mail at Kathleen.A.Tucker@usace.army.mil. This public notice is issued by the Chief, Regulatory Division.



Regulatory Program Goals:

- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
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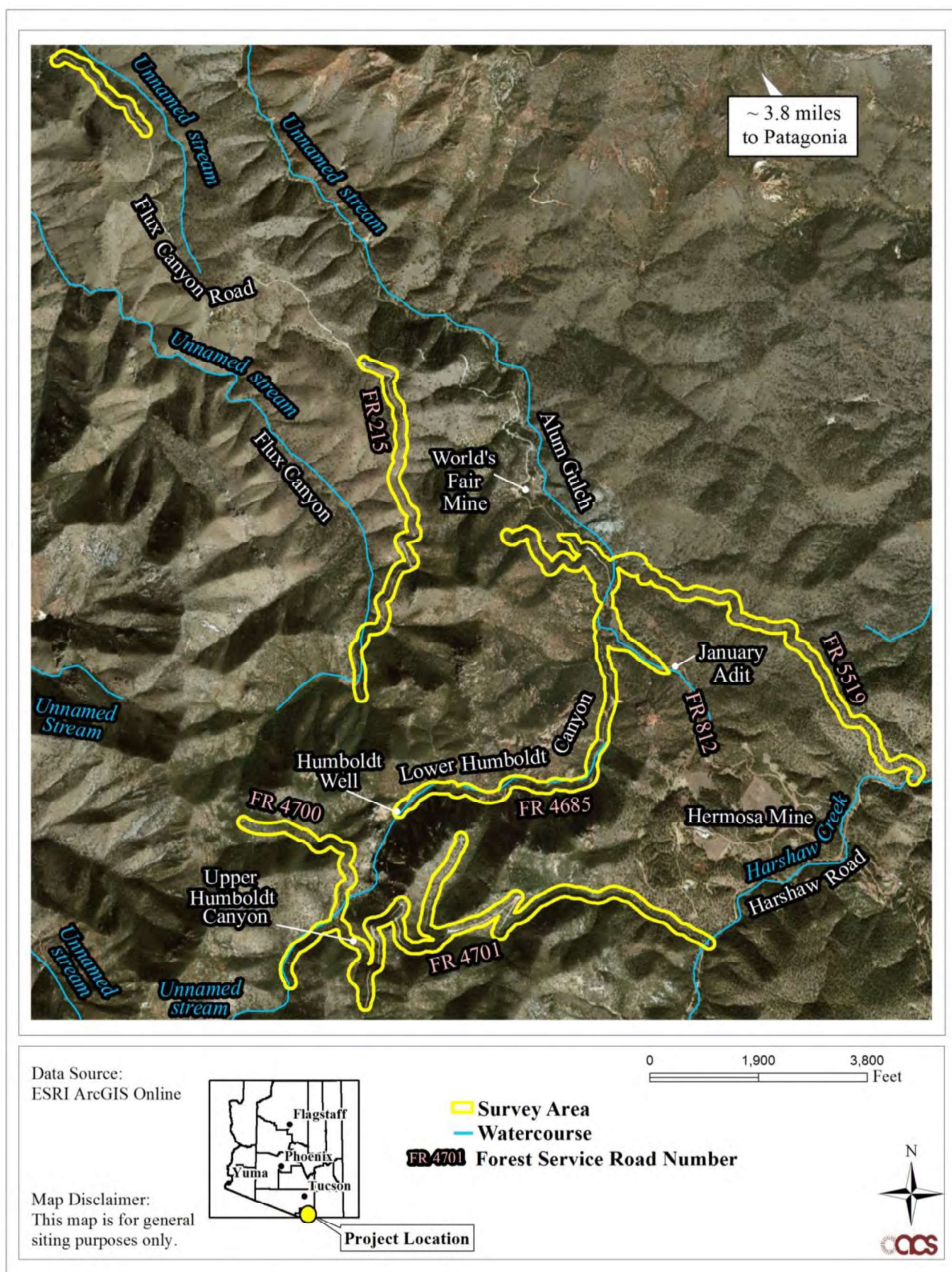


Figure 1. Project and State Vicinity Map

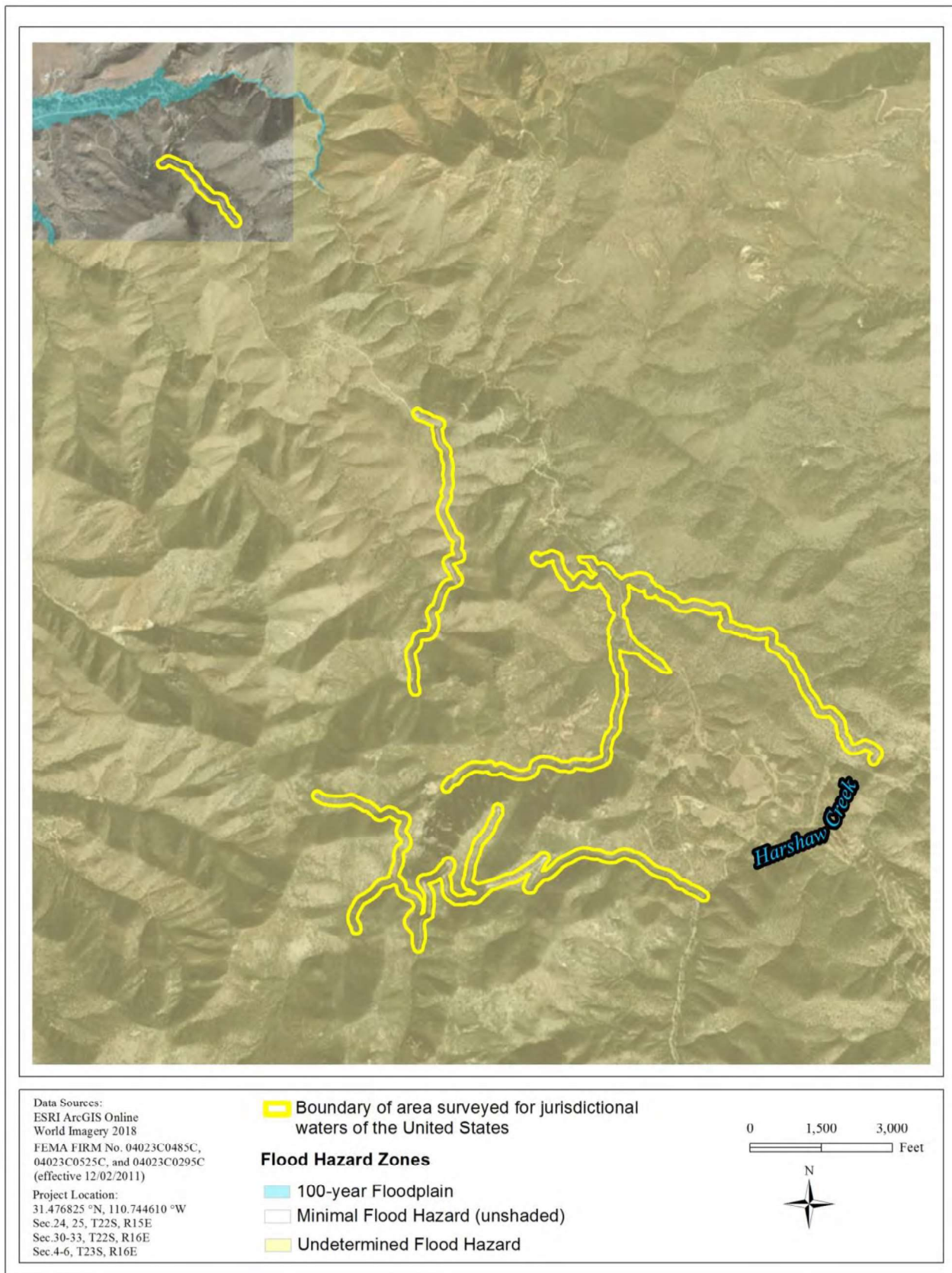
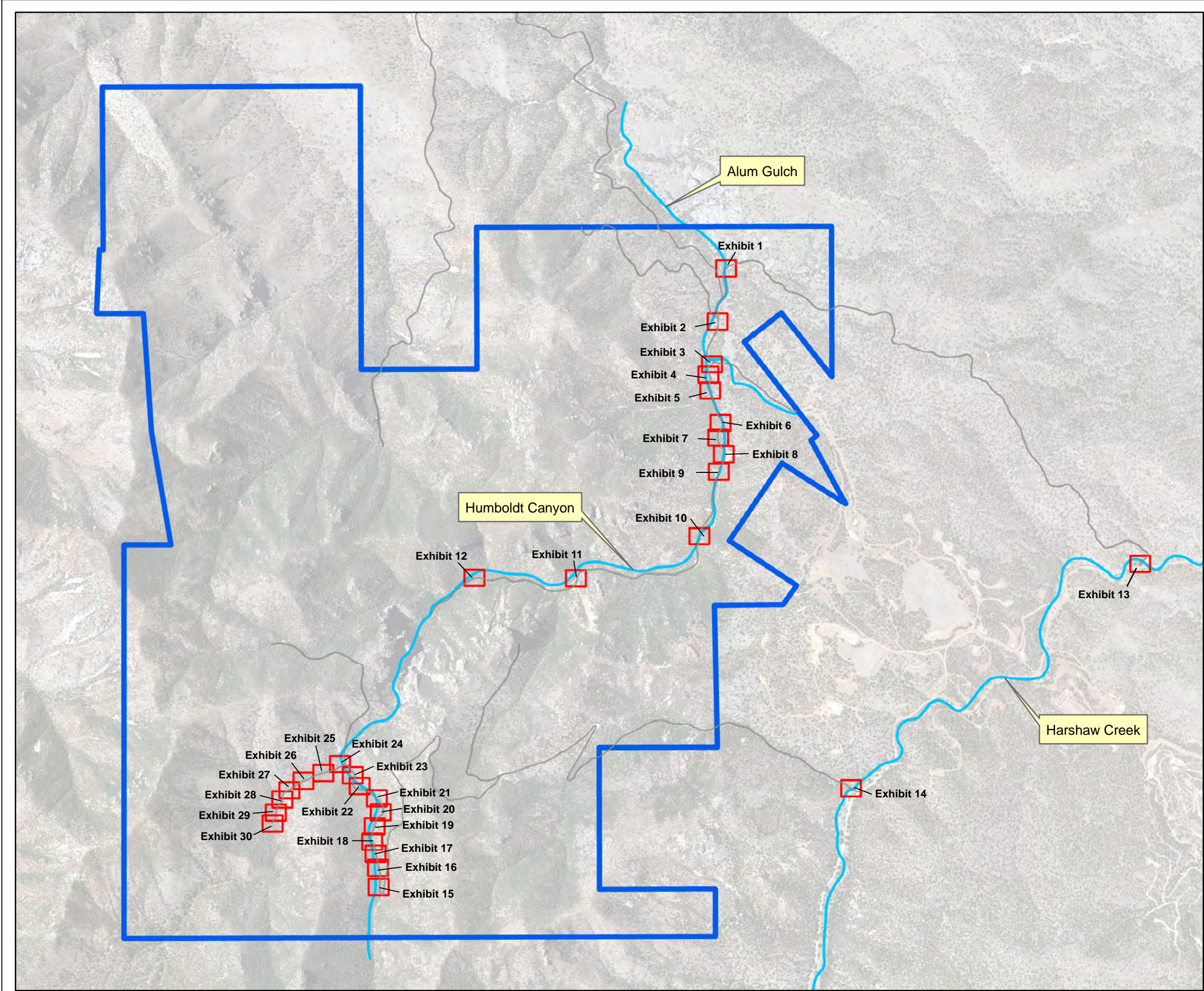



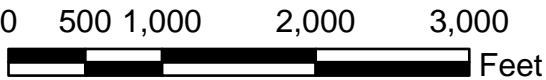
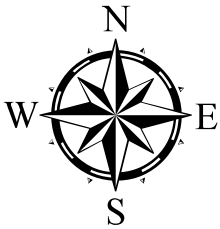


Figure 2. Preliminary Jurisdictional Delineation Survey Area, Aerial, and FEMA Floodplain Map



LEGEND

-  Claim Area Boundary
-  Exhibit Extent
-  Project Area Access Roads

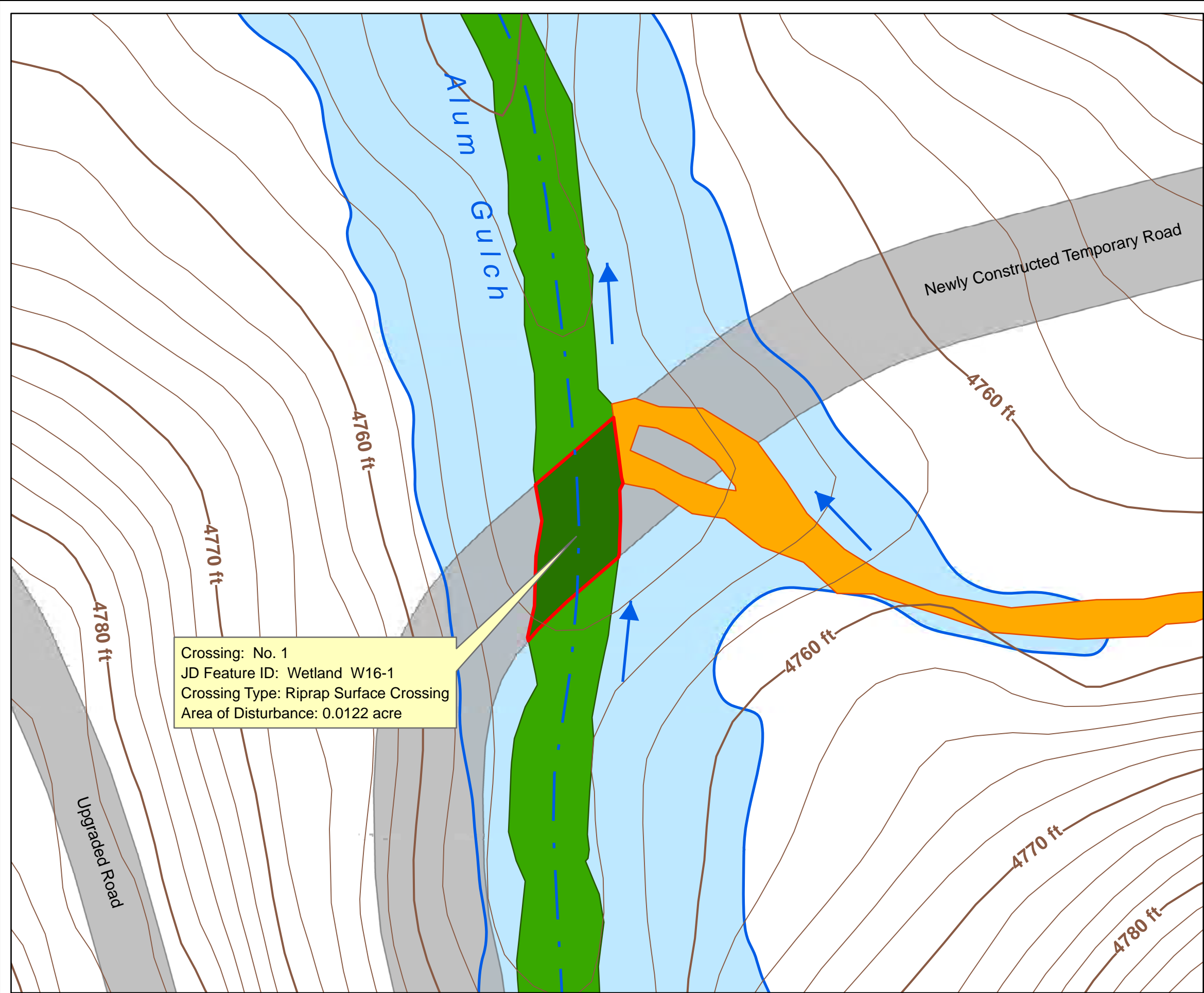


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Sunnyside Exploratory Drilling Project

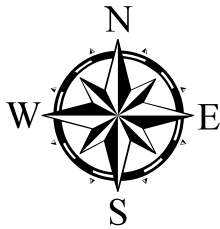
Exhibit A1

Overview Map Showing Location of Proposed Road/JD Feature Crossings



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded & Newly Constructed Road
- Ephemeral Wash
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

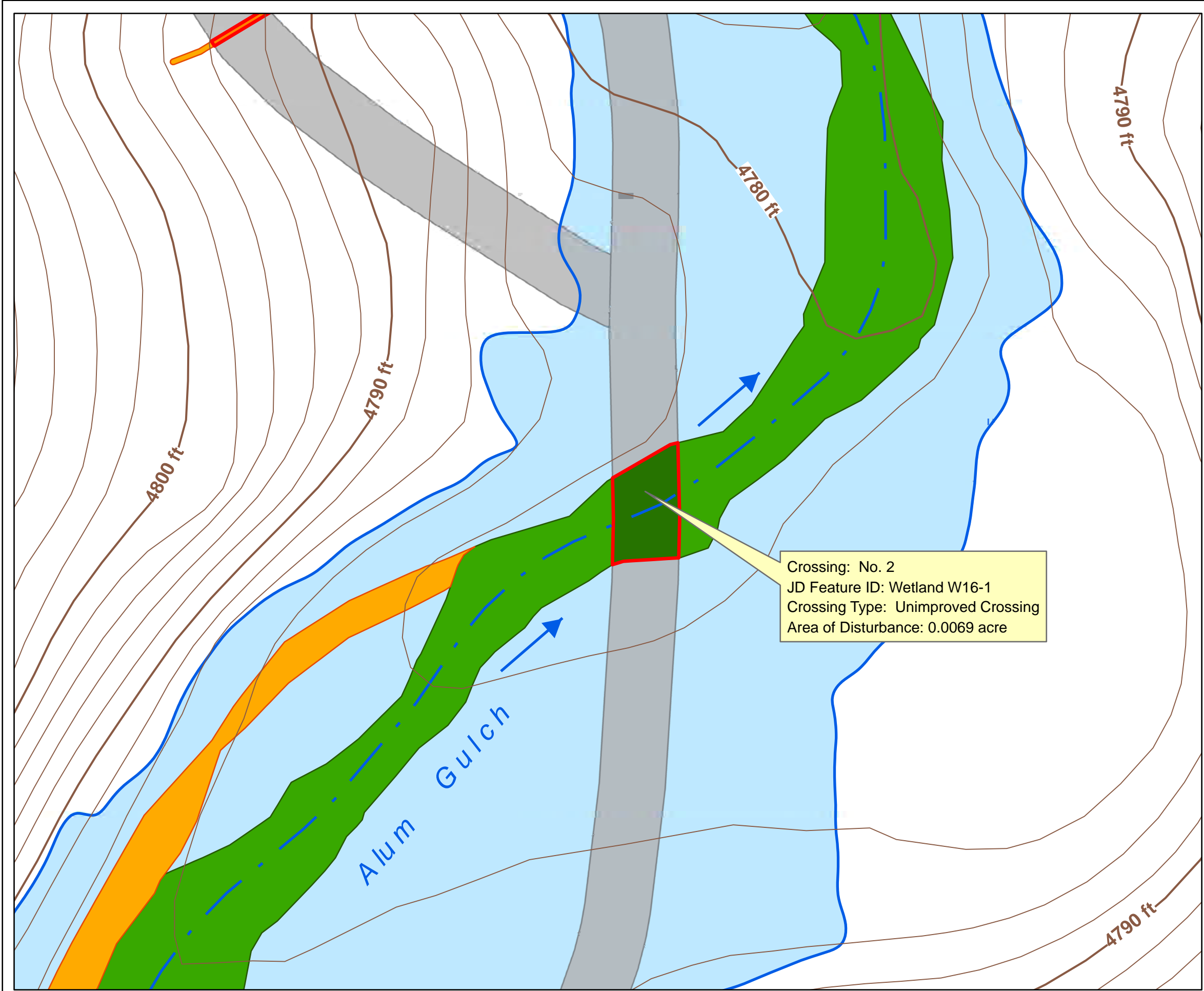


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Sunnyside Exploratory Drilling Project

Exhibit 1

Crossing 1



Crossing: No. 2
JD Feature ID: Wetland W16-1
Crossing Type: Unimproved Crossing
Area of Disturbance: 0.0069 acre

LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

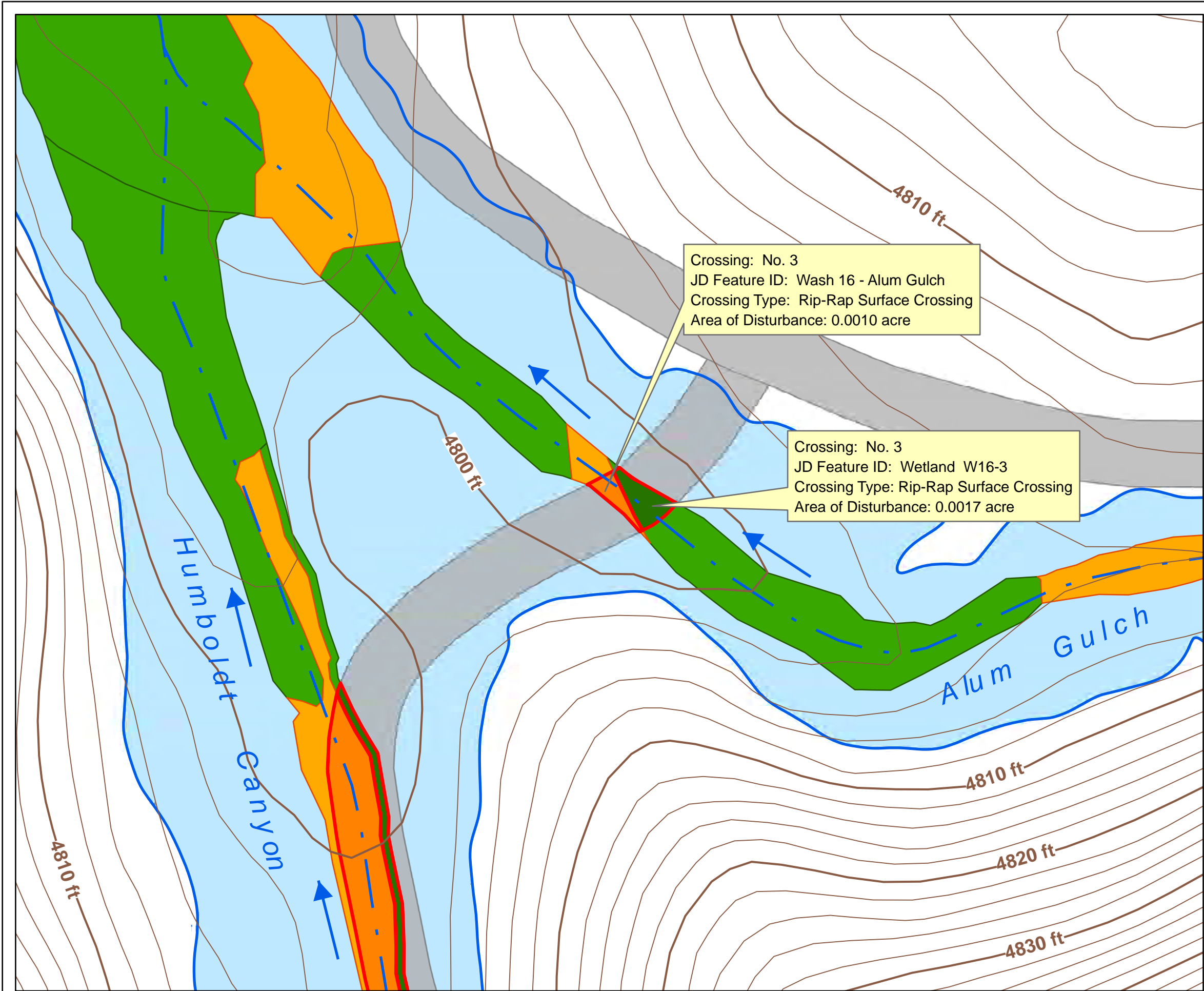


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Sunnyside Exploratory Drilling Project

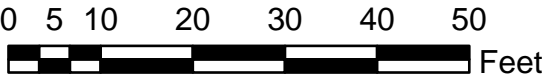
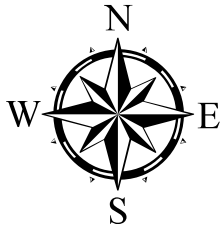
Exhibit 2

Crossing 2



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

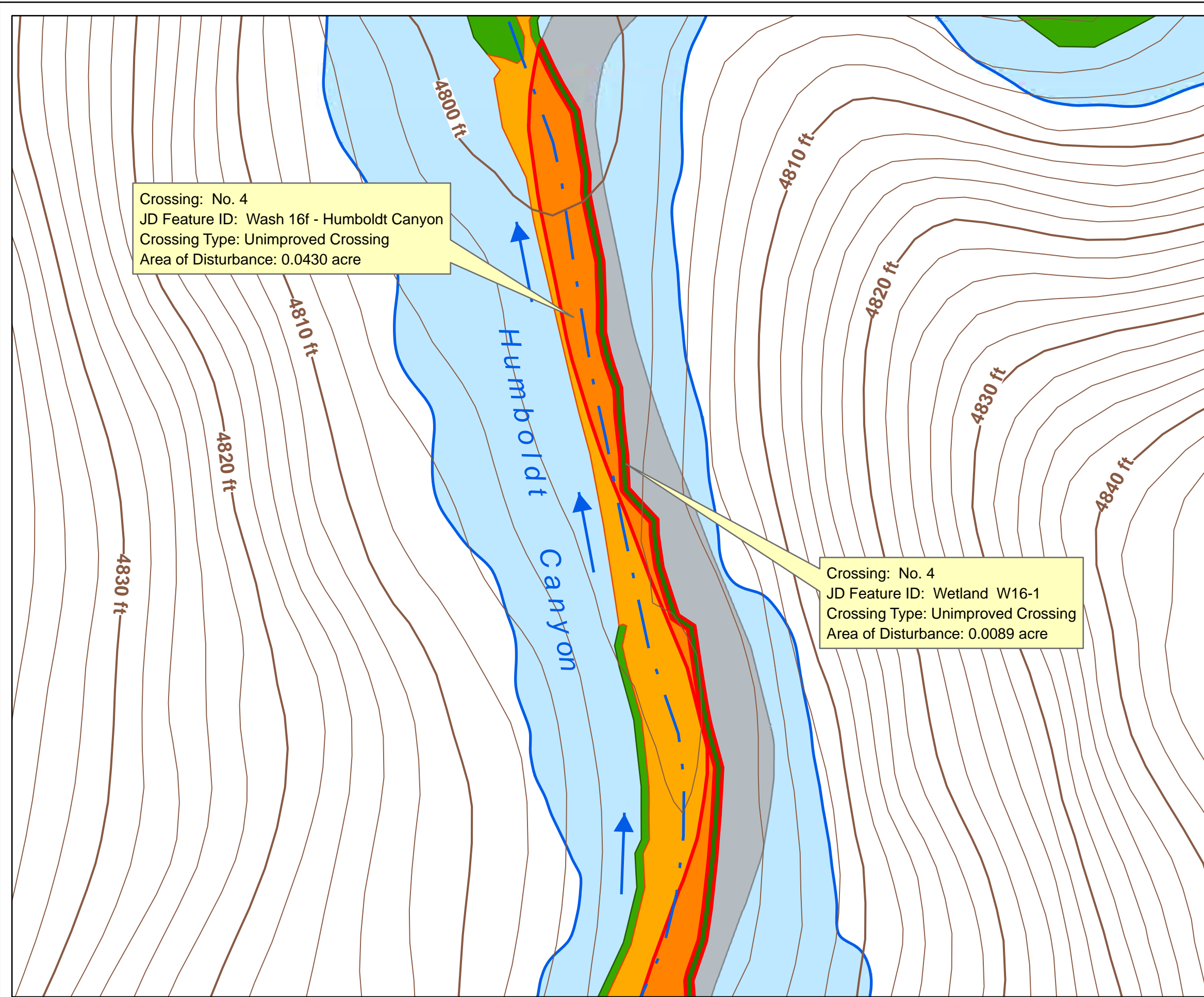


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Sunnyside Exploratory Drilling Project

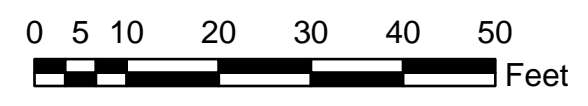
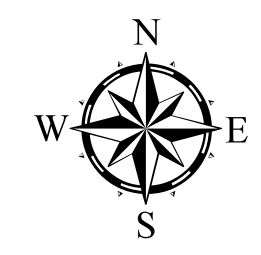
Exhibit 3

Crossing 3



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

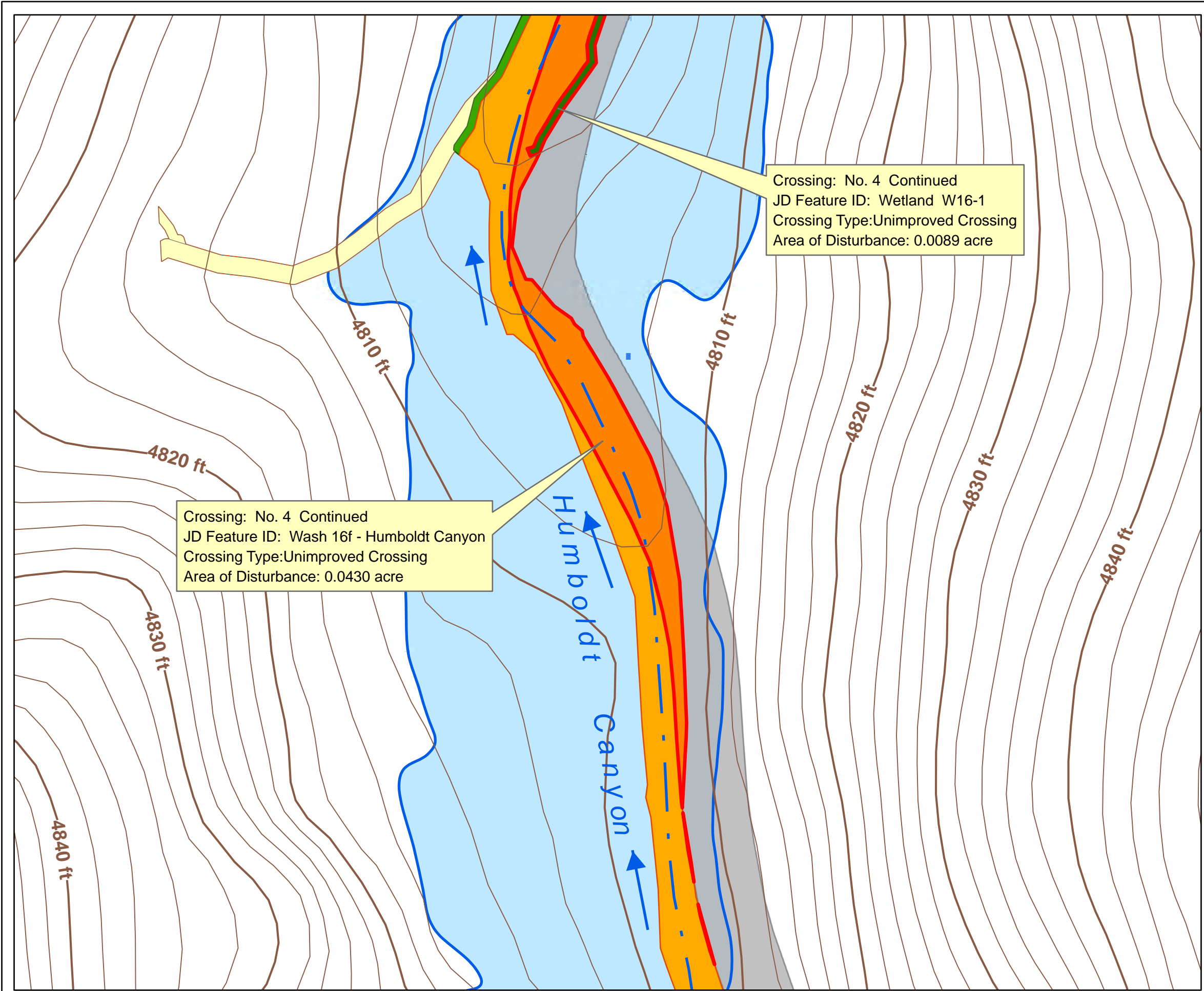


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Sunnyside Exploratory Drilling Project

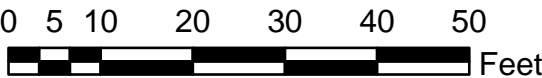
Exhibit 4

Crossing 4



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- Ephemeral Wash
- 100-Year Floodplain - 95% CI
- Flow Direction

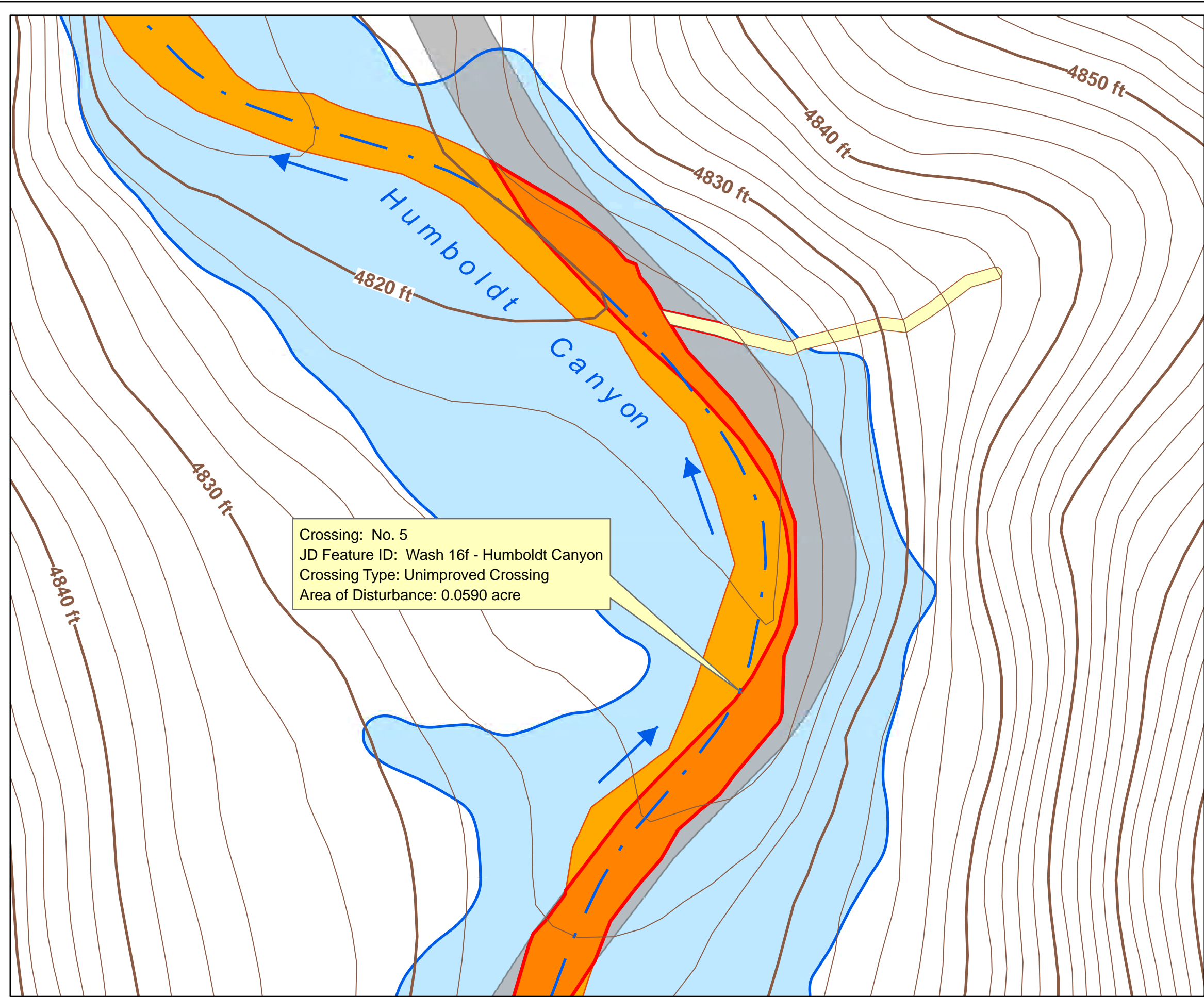


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Sunnyside Exploratory Drilling Project

Exhibit 5

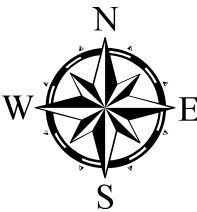
Crossing 4 Continued



Crossing: No. 5
JD Feature ID: Wash 16f - Humboldt Canyon
Crossing Type: Unimproved Crossing
Area of Disturbance: 0.0590 acre

LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- Ephemeral Wash
- 100-Year Floodplain - 95% CI
- Flow Direction



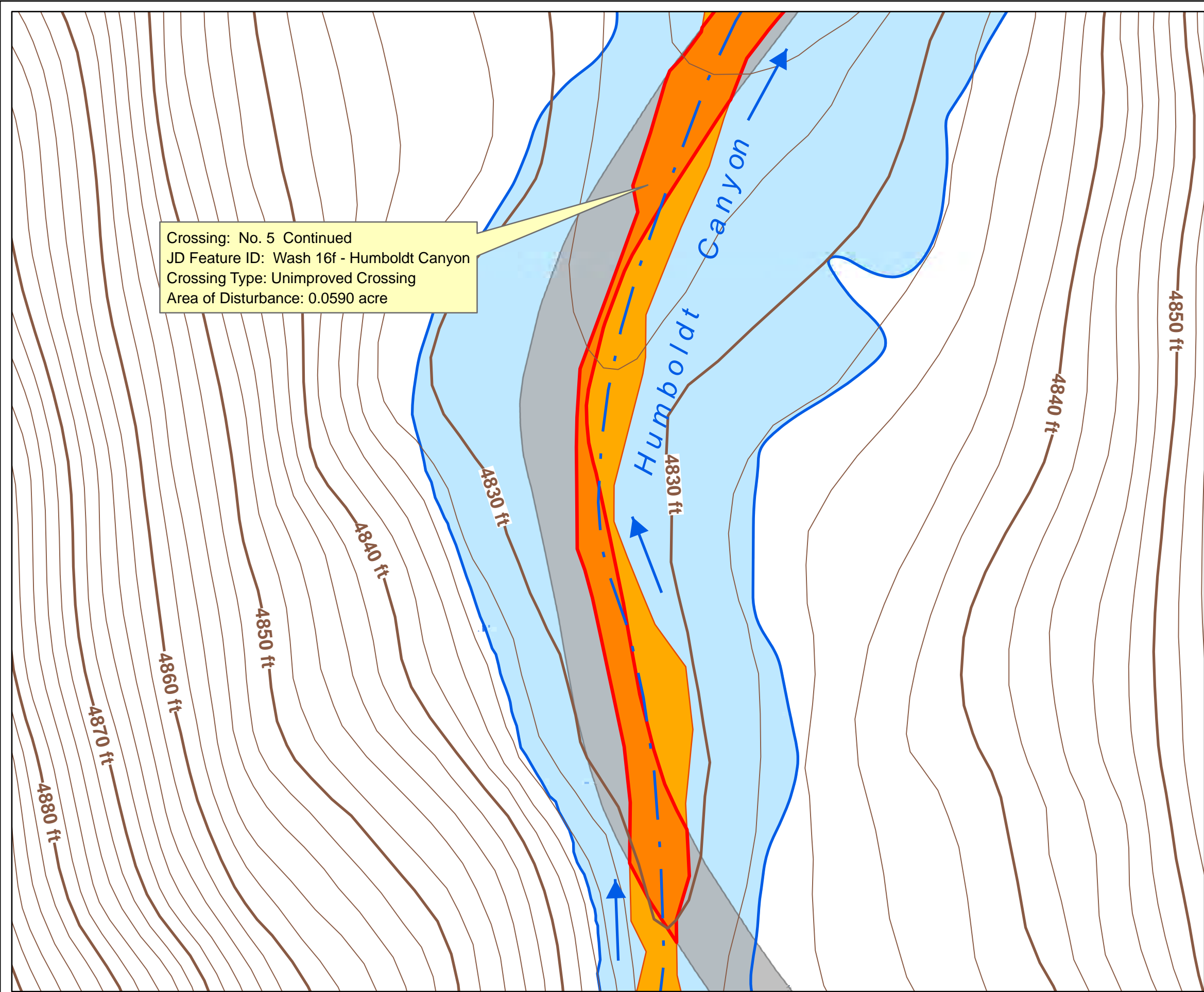
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Sunnyside Exploratory Drilling Project

Exhibit 6
Crossing 5

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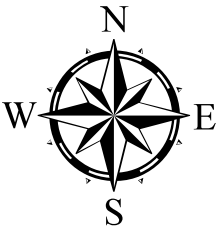
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Crossing: No. 5 Continued
JD Feature ID: Wash 16f - Humboldt Canyon
Crossing Type: Unimproved Crossing
Area of Disturbance: 0.0590 acre

LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

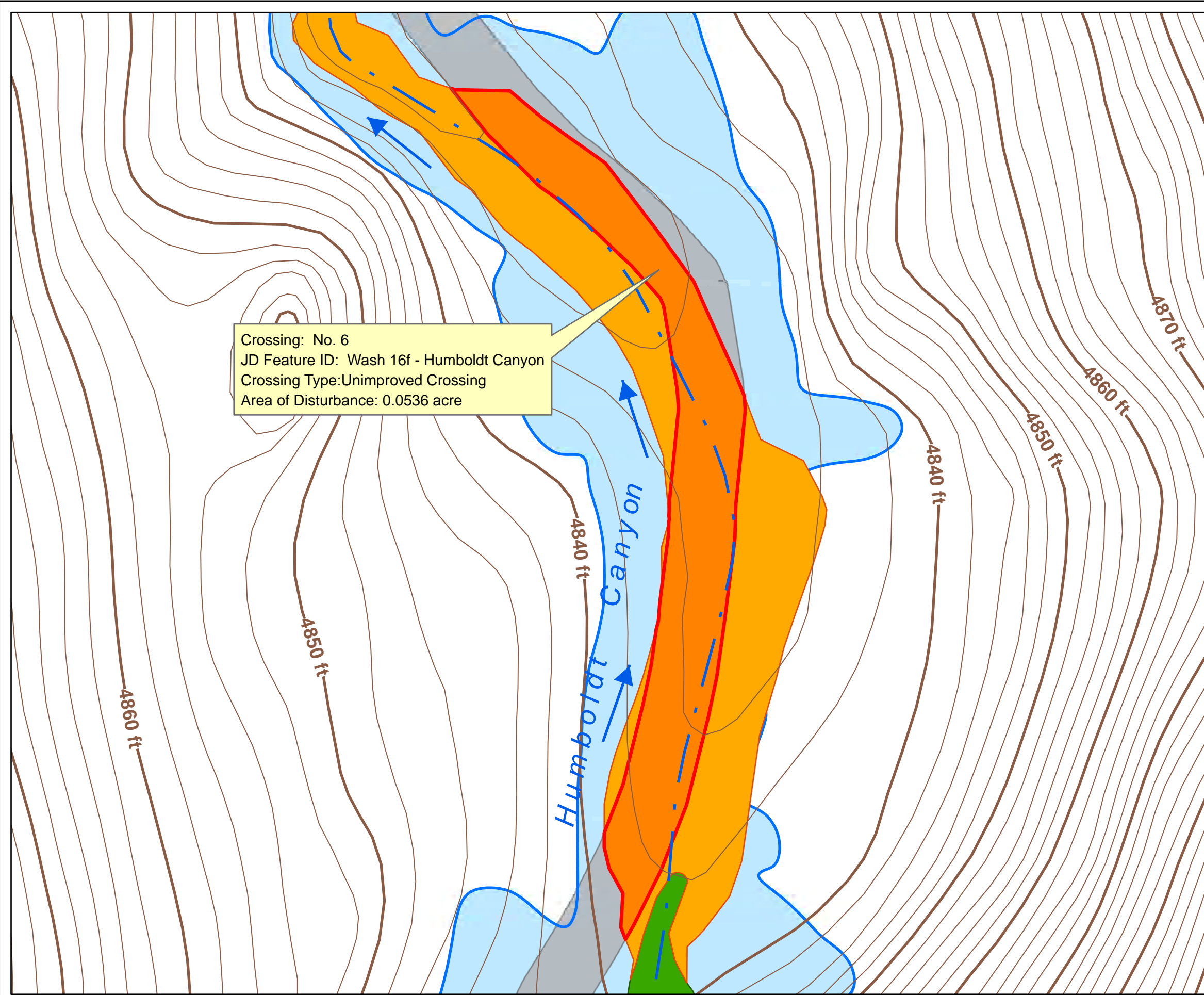


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Sunnyside Exploratory Drilling Project

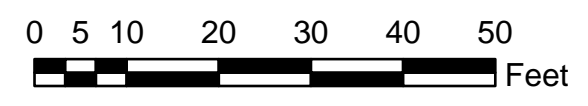
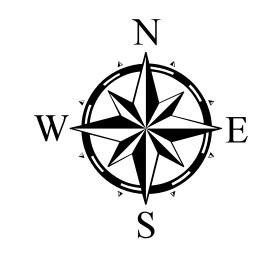
Exhibit 7

Crossing 5 Continued



LEGEND

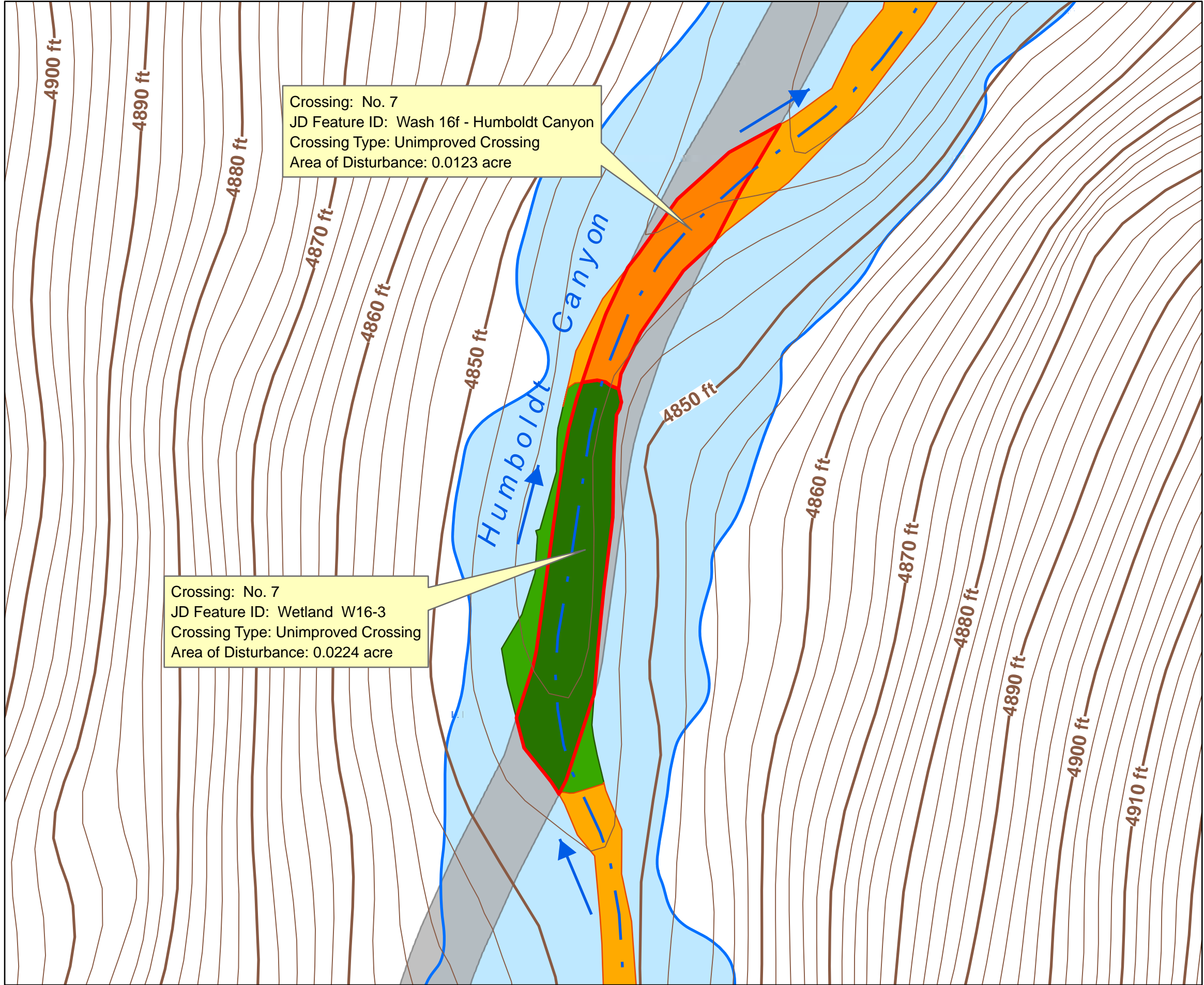
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- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



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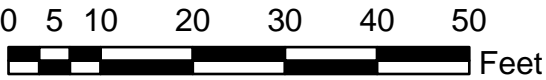
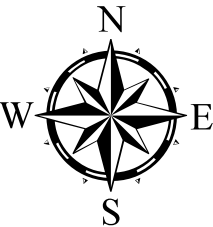
Sunnyside Exploratory Drilling Project

Exhibit 8 Crossing 6



LEGEND

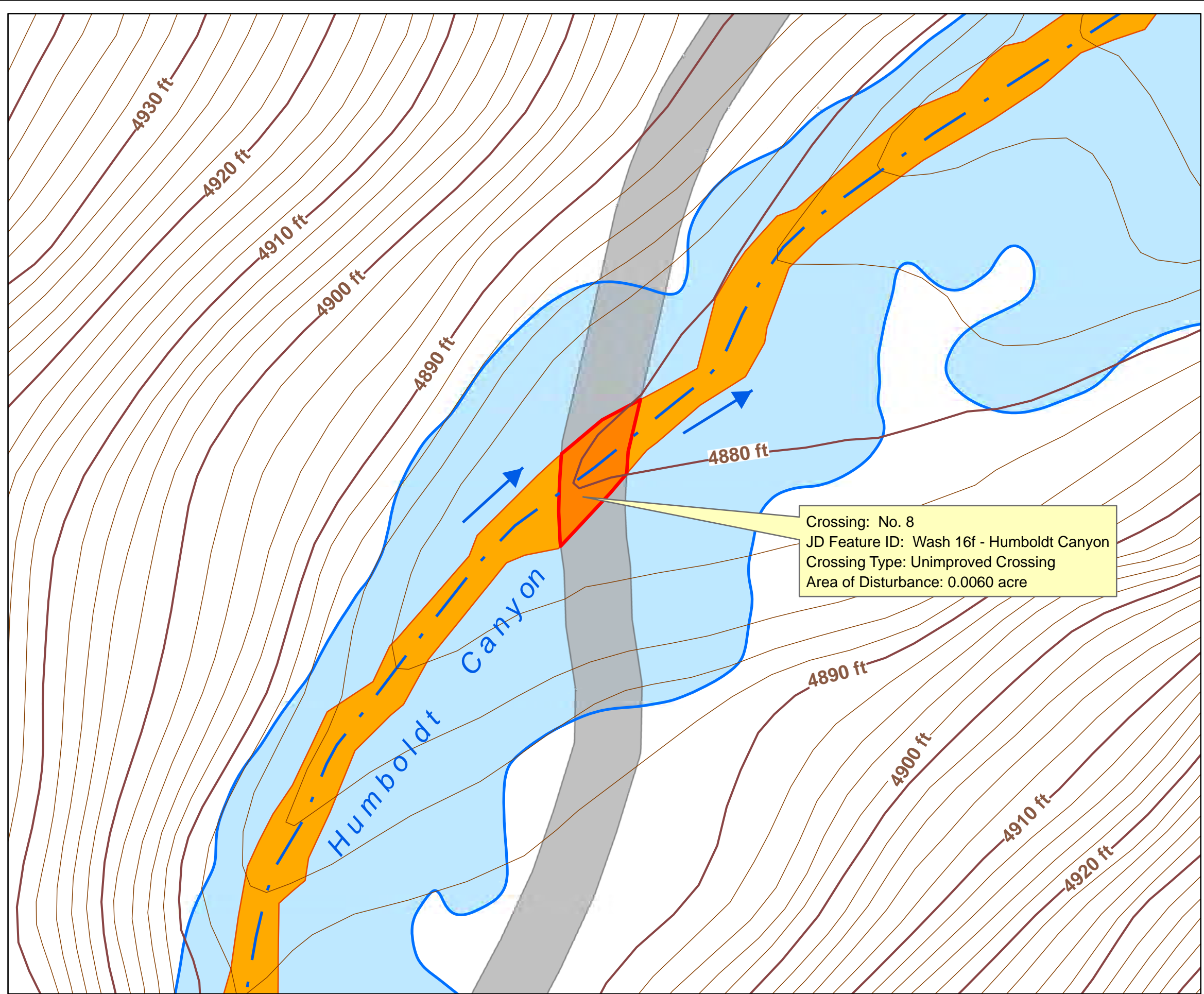
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- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



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Sunnyside Exploratory Drilling Project

Exhibit 9
Crossing 7



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

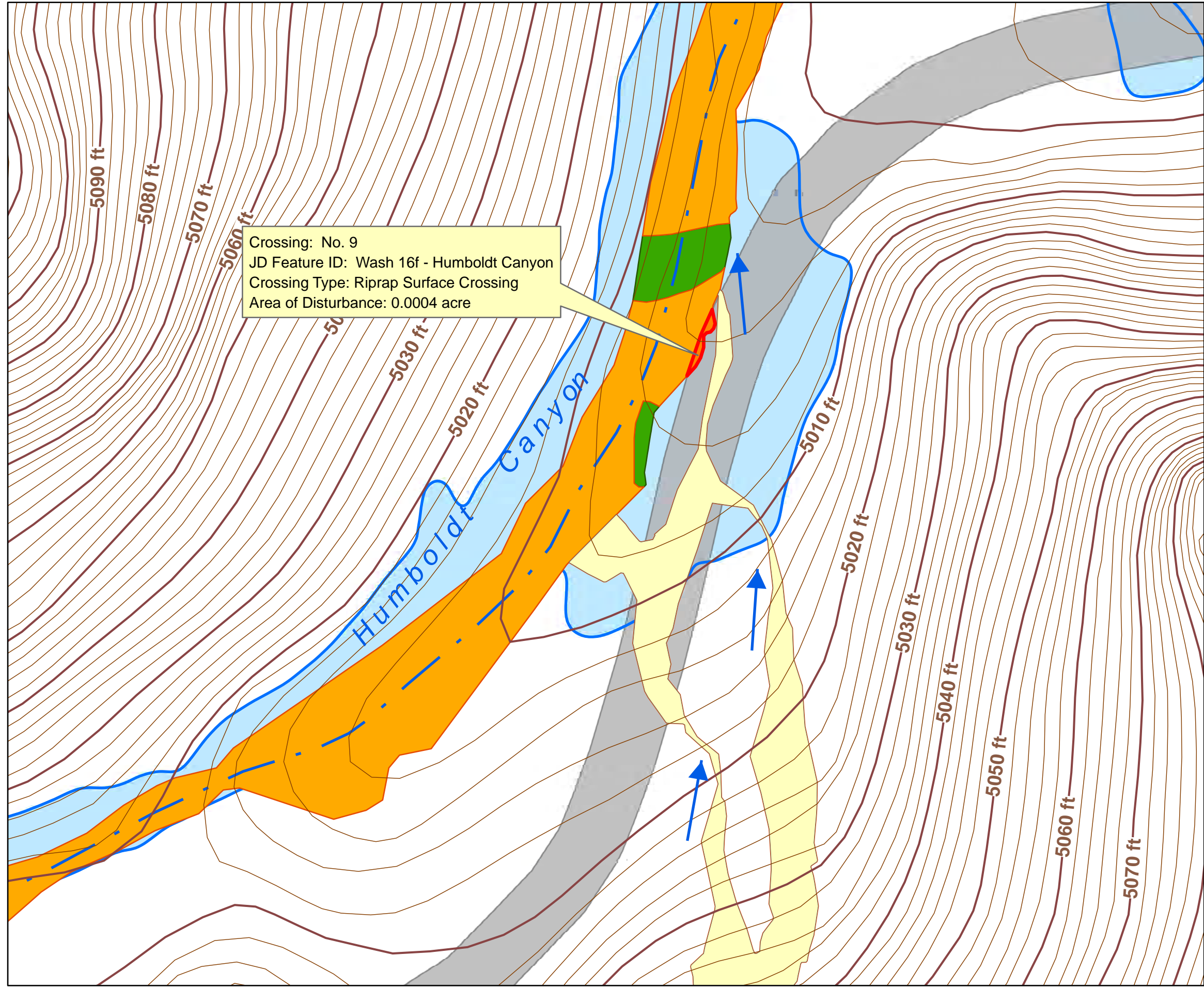


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Sunnyside Exploratory Drilling Project

Exhibit 10

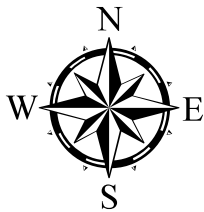
Crossing 8



Crossing: No. 9
JD Feature ID: Wash 16f - Humboldt Canyon
Crossing Type: Riprap Surface Crossing
Area of Disturbance: 0.0004 acre

LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- Ephemeral Wash
- 100-Year Floodplain - 95% CI
- Flow Direction

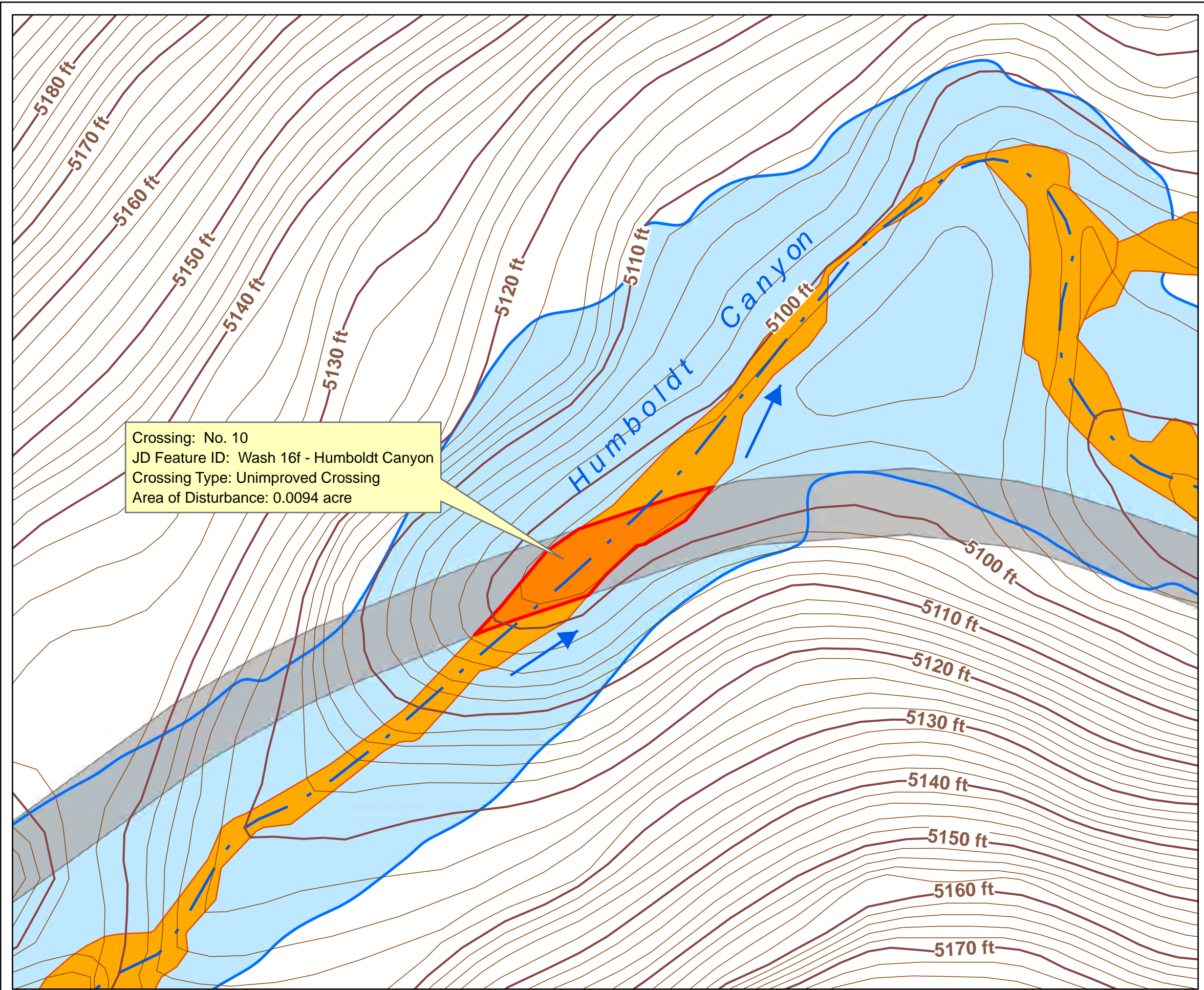


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Sunnyside Exploratory Drilling Project

Exhibit 11

Crossing 9



Crossing: No. 10
JD Feature ID: Wash 16f - Humboldt Canyon
Crossing Type: Unimproved Crossing
Area of Disturbance: 0.0094 acre

LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



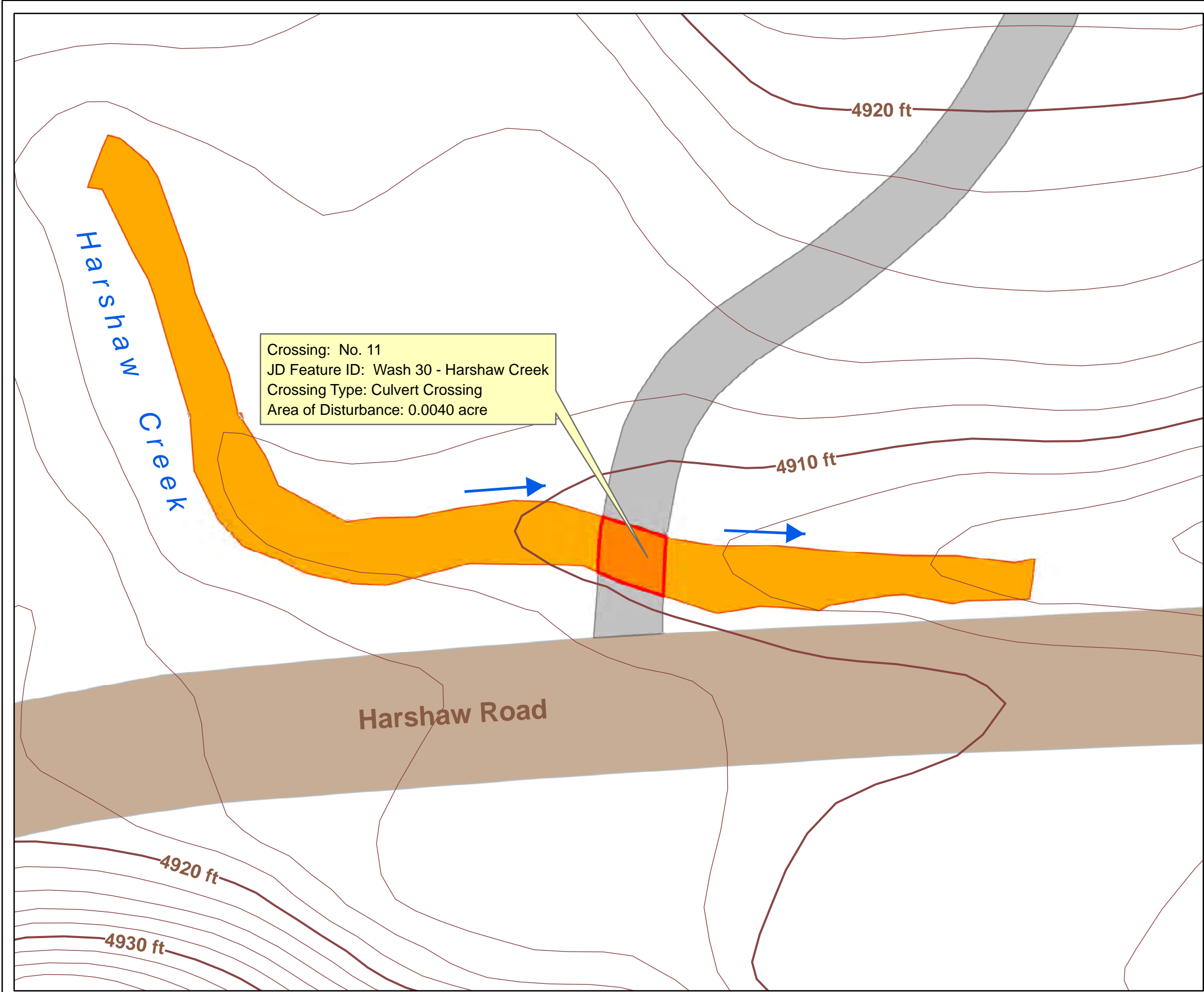
SCALE 1:250

Sunnyside Exploratory Drilling Project

Exhibit 12
Crossing 10

02/24/2021

Sheet 1 of 1



LEGEND

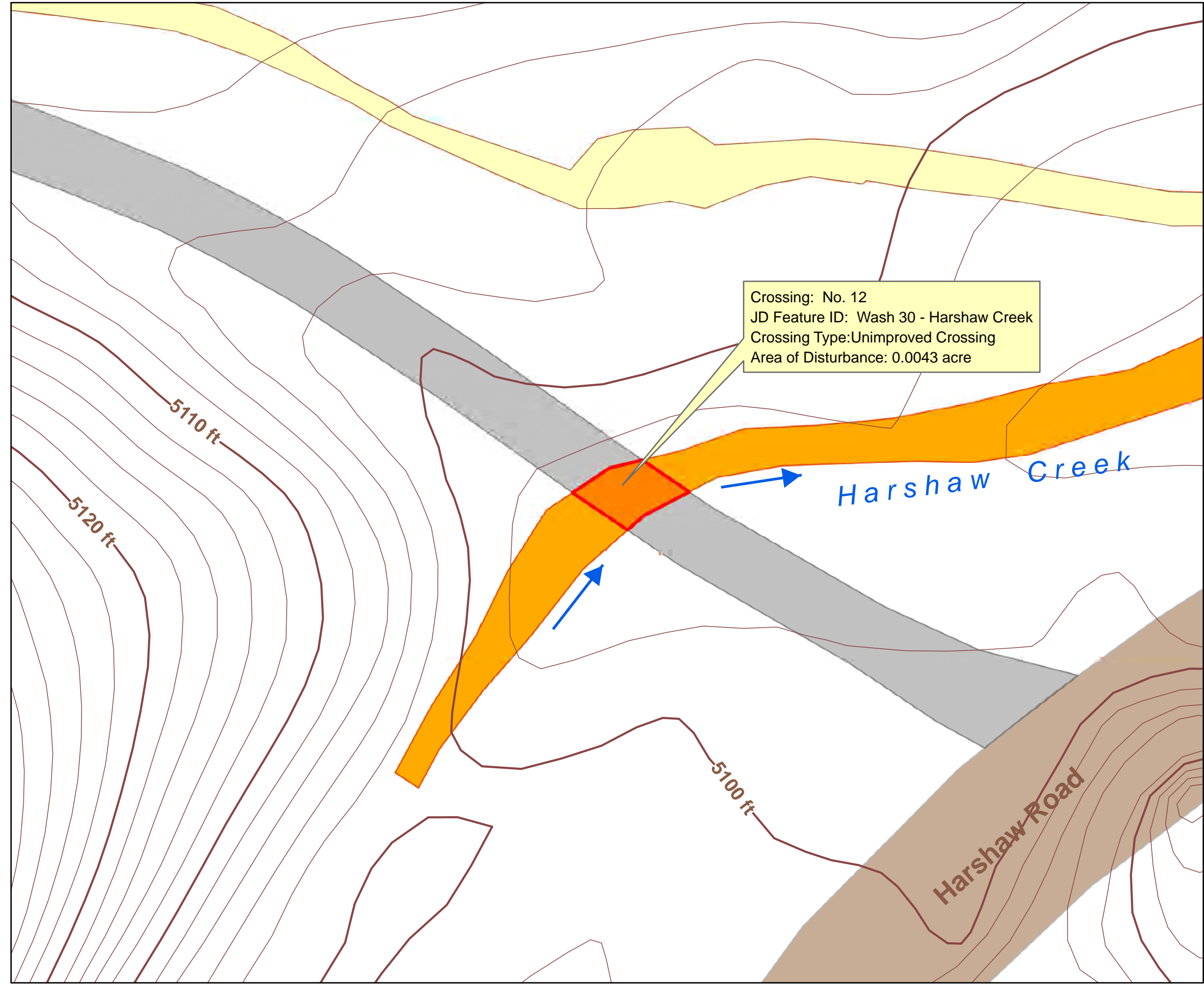
- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- Flow Direction



SCALE 1:250

Sunnyside Exploratory Drilling Project

Exhibit 13
Crossing 11



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- Ephemeral Wash
- 100-Year Floodplain - 95% CI
- Flow Direction

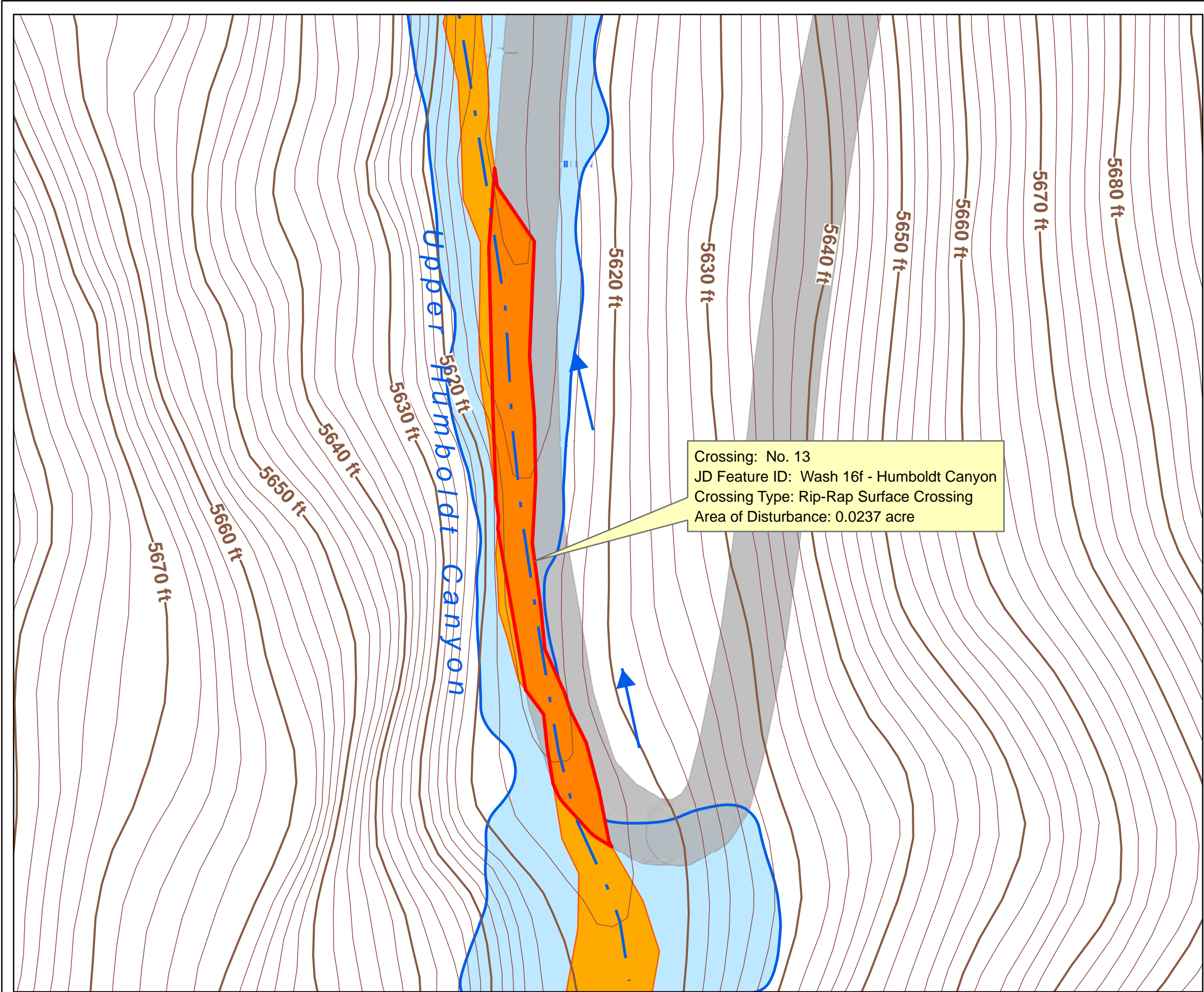


SCALE 1:250

Sunnyside Exploratory Drilling Project

Exhibit 14

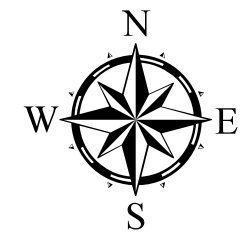
Crossing 12



Crossing: No. 13
JD Feature ID: Wash 16f - Humboldt Canyon
Crossing Type: Rip-Rap Surface Crossing
Area of Disturbance: 0.0237 acre

LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



SCALE 1:250

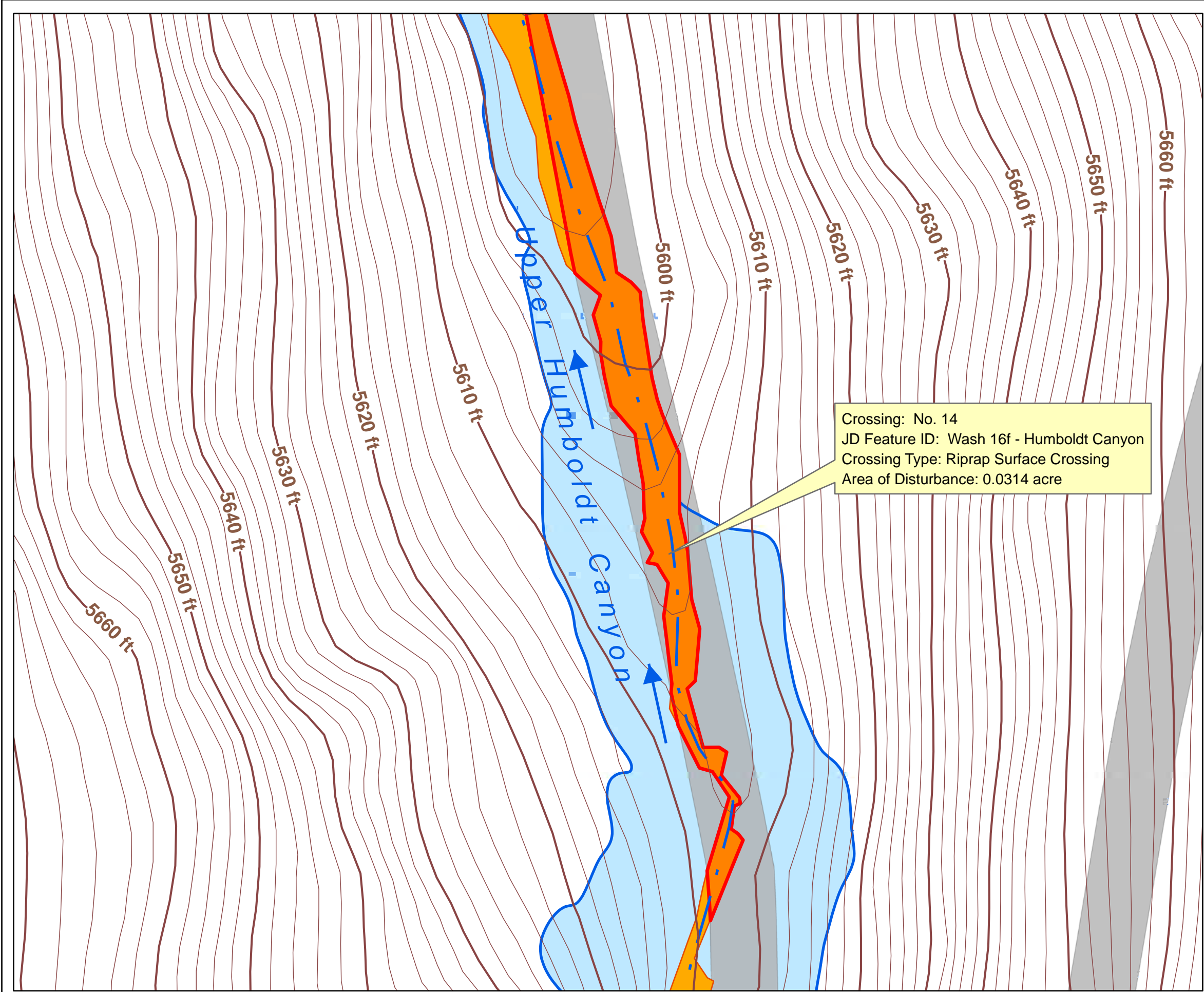
Sunnyside Exploratory Drilling Project

Exhibit 15

Crossing 13

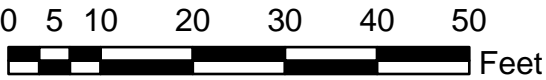
02/25/2021

Sheet 1 of 1



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

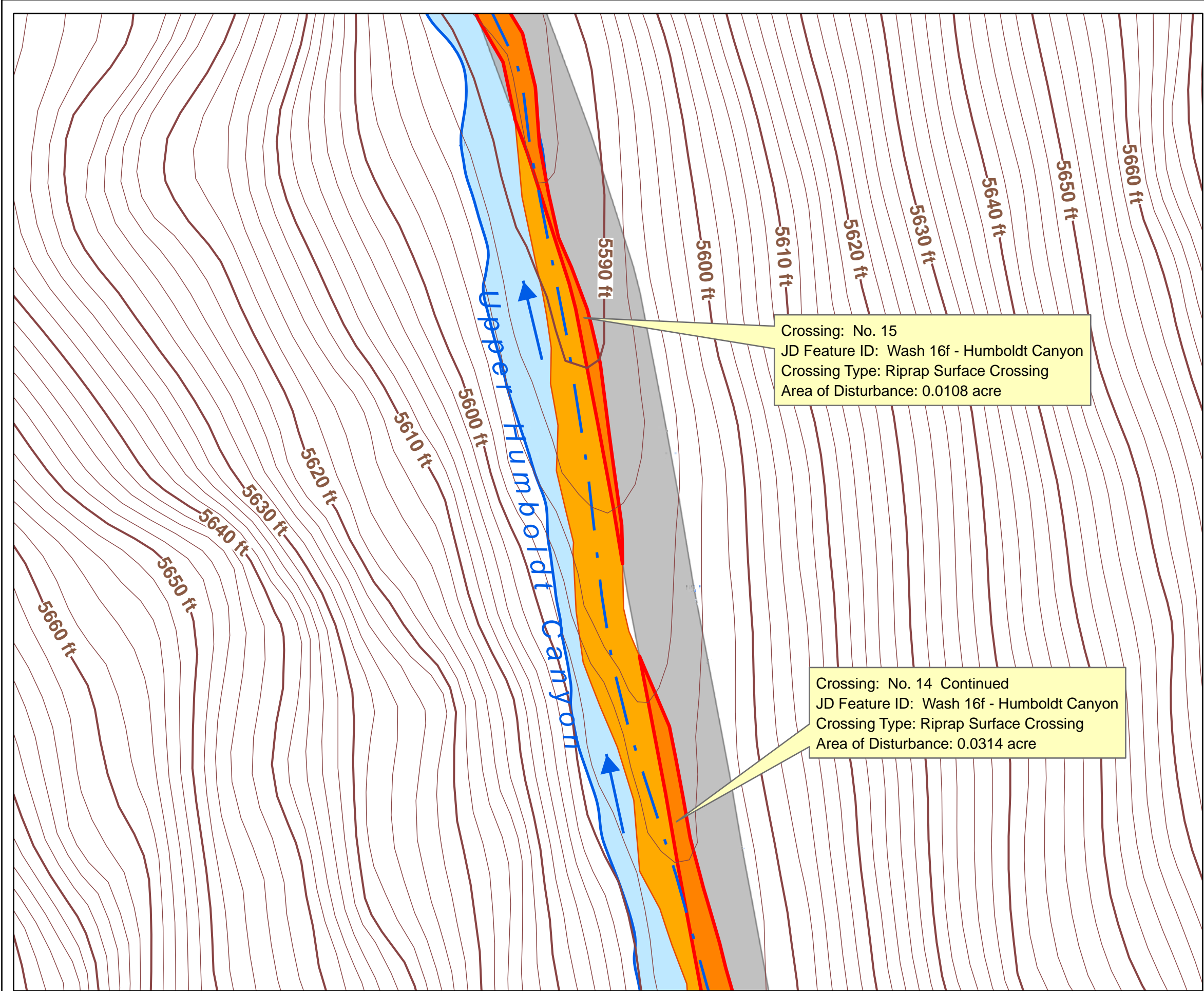


SCALE 1:250

Sunnyside Exploratory
Drilling Project

Exhibit 16

Crossing 14



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S, (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

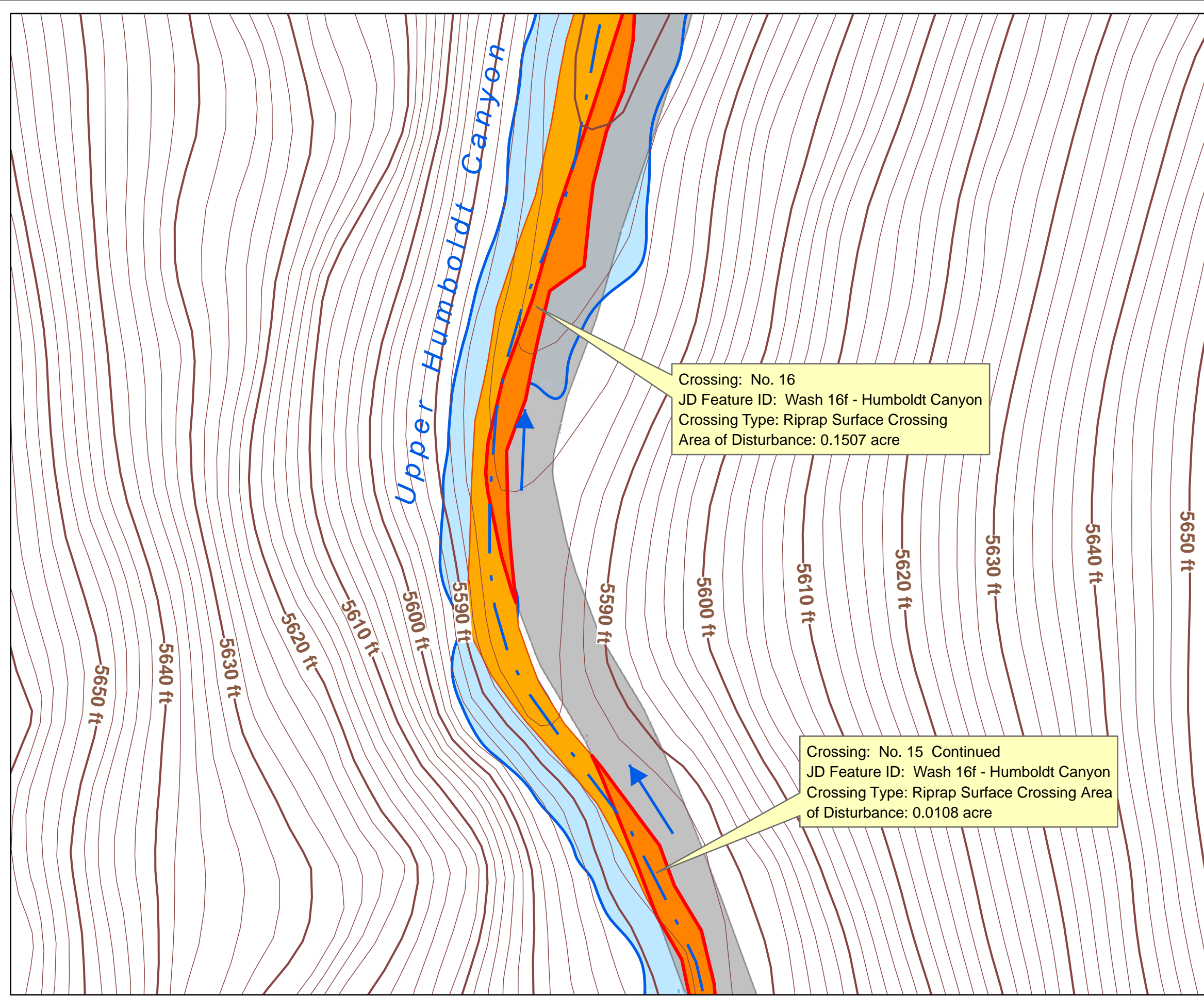


SCALE 1:250

Sunnyside Exploratory Drilling Project

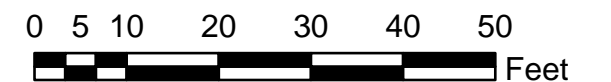
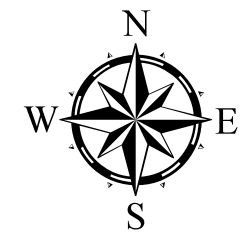
Exhibit 17

Crossing 14 Continued & 15



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Ephemeral Wash
- Wetland
- Impact Area - Ephemeral Wash
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



SCALE 1:250

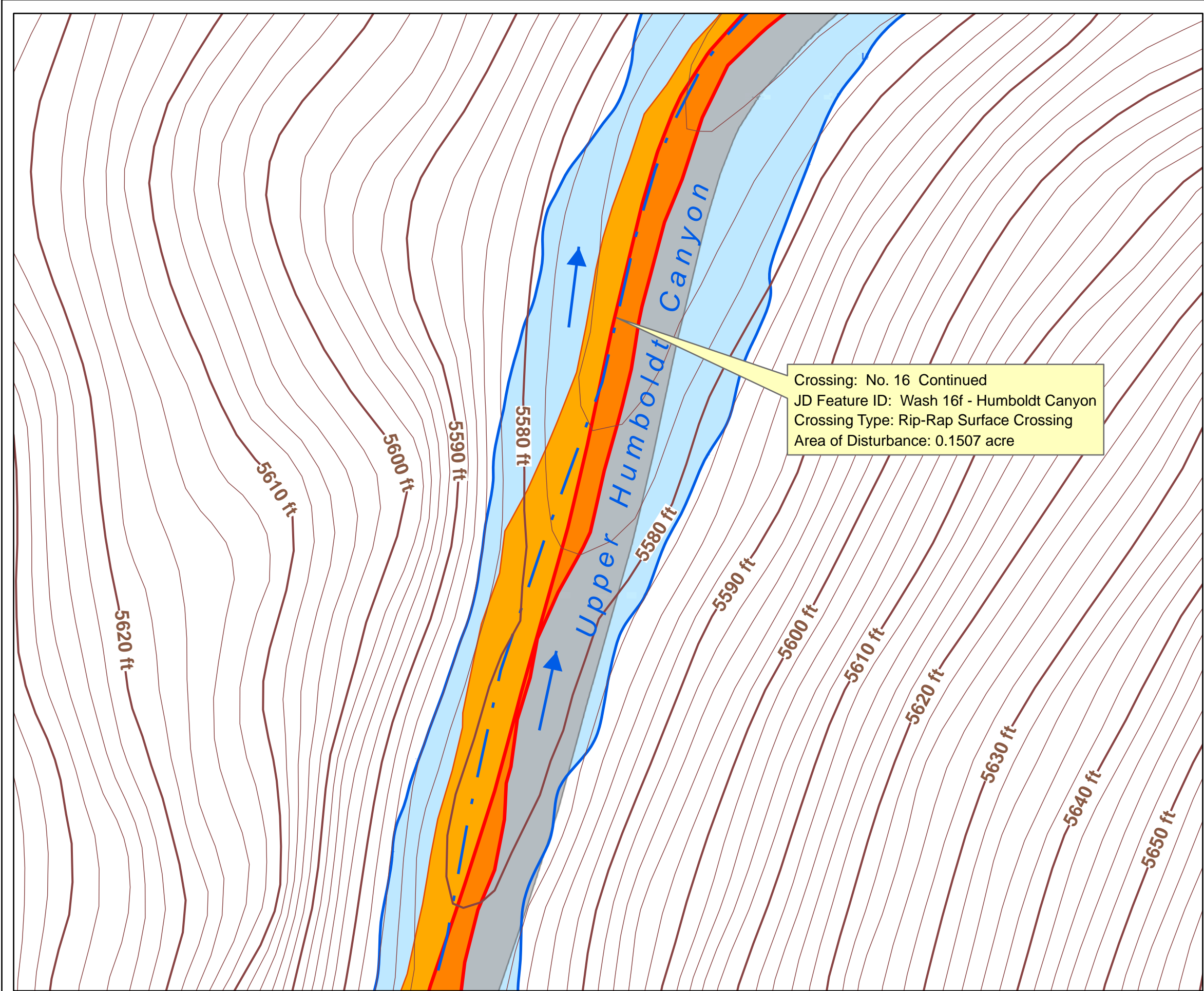
Sunnyside Exploratory Drilling Project

Exhibit 18

Crossing 15 Continued & 16

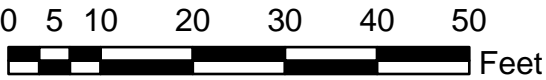
02/25/2021

Sheet 1 of 1



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

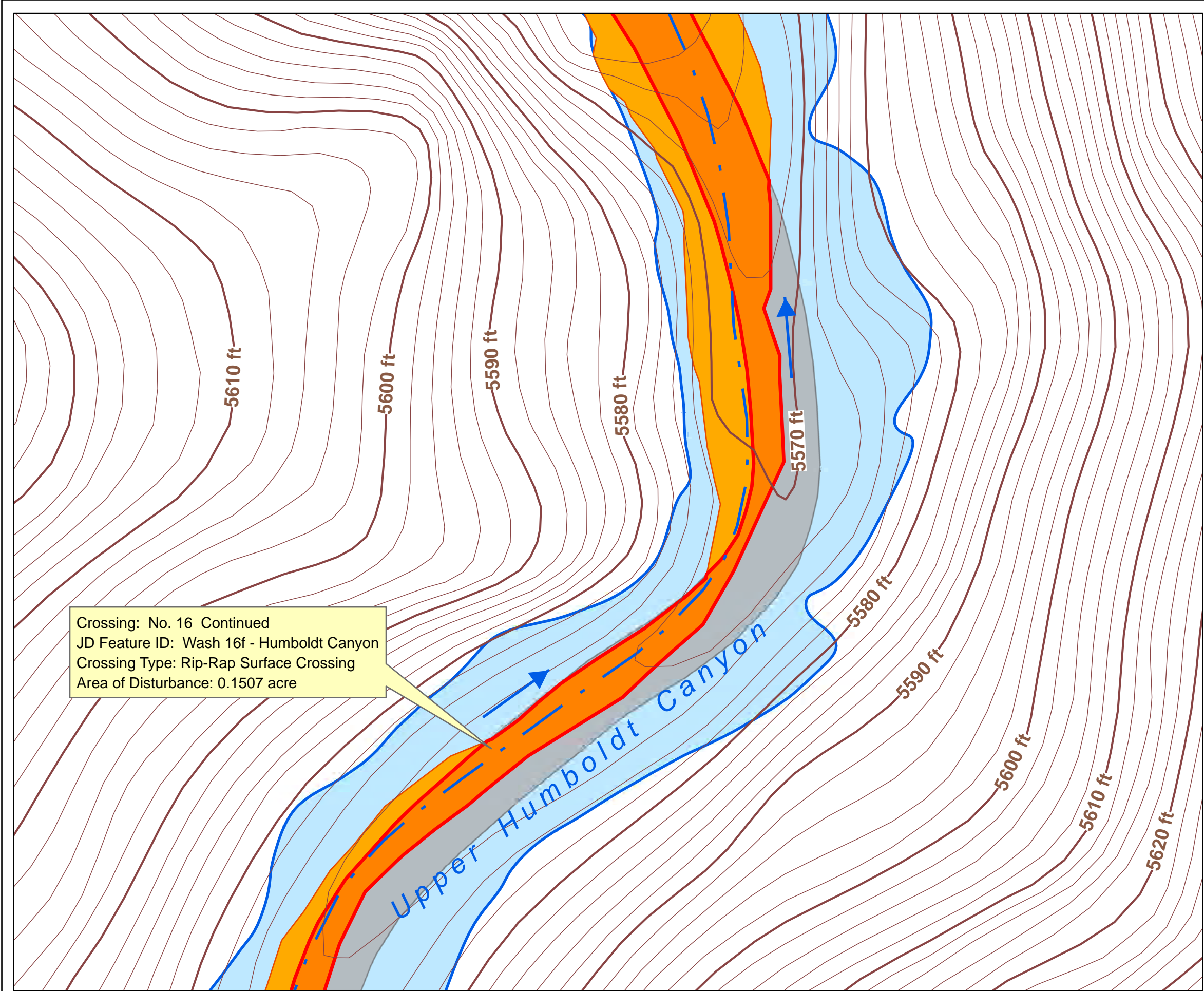


SCALE 1:250

Sunnyside Exploratory Drilling Project

Exhibit 19

Crossing 16 Continued



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

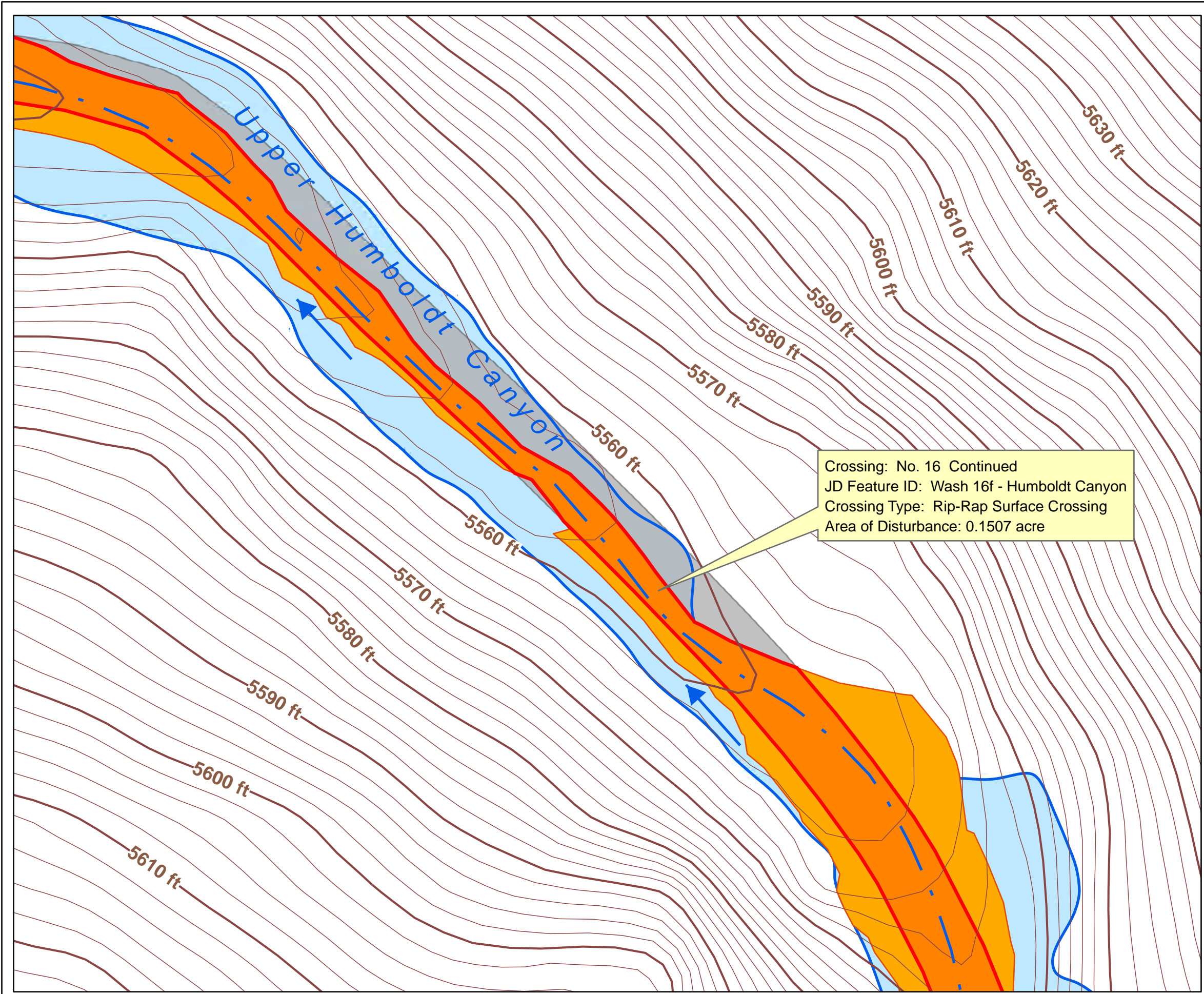


SCALE 1:250

Sunnyside Exploratory Drilling Project

Exhibit 20

Crossing 16 Continued



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

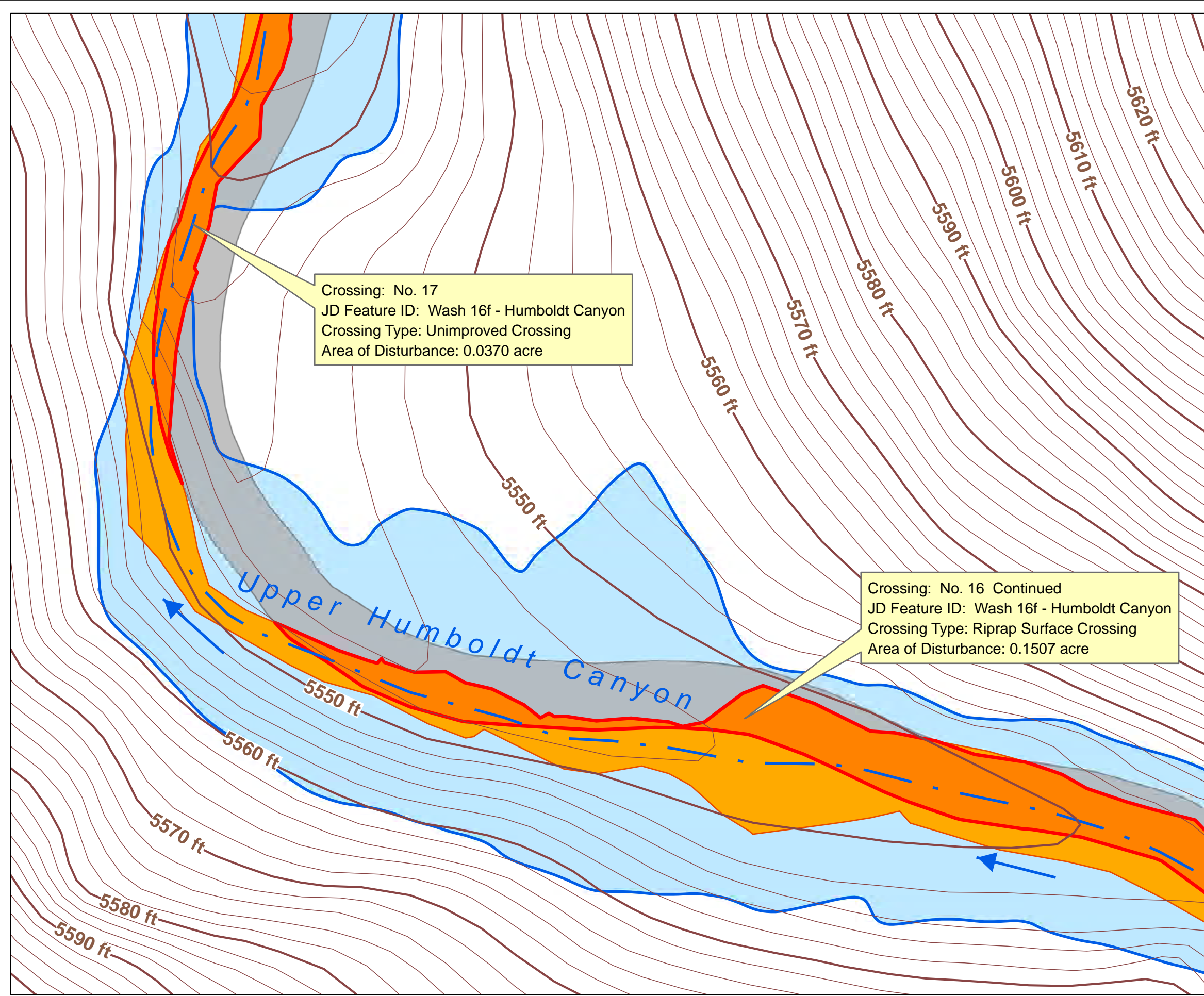


SCALE 1:250

Sunnyside Exploratory Drilling Project

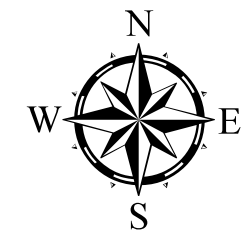
Exhibit 21

Crossing 16 Continued



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



SCALE 1:250

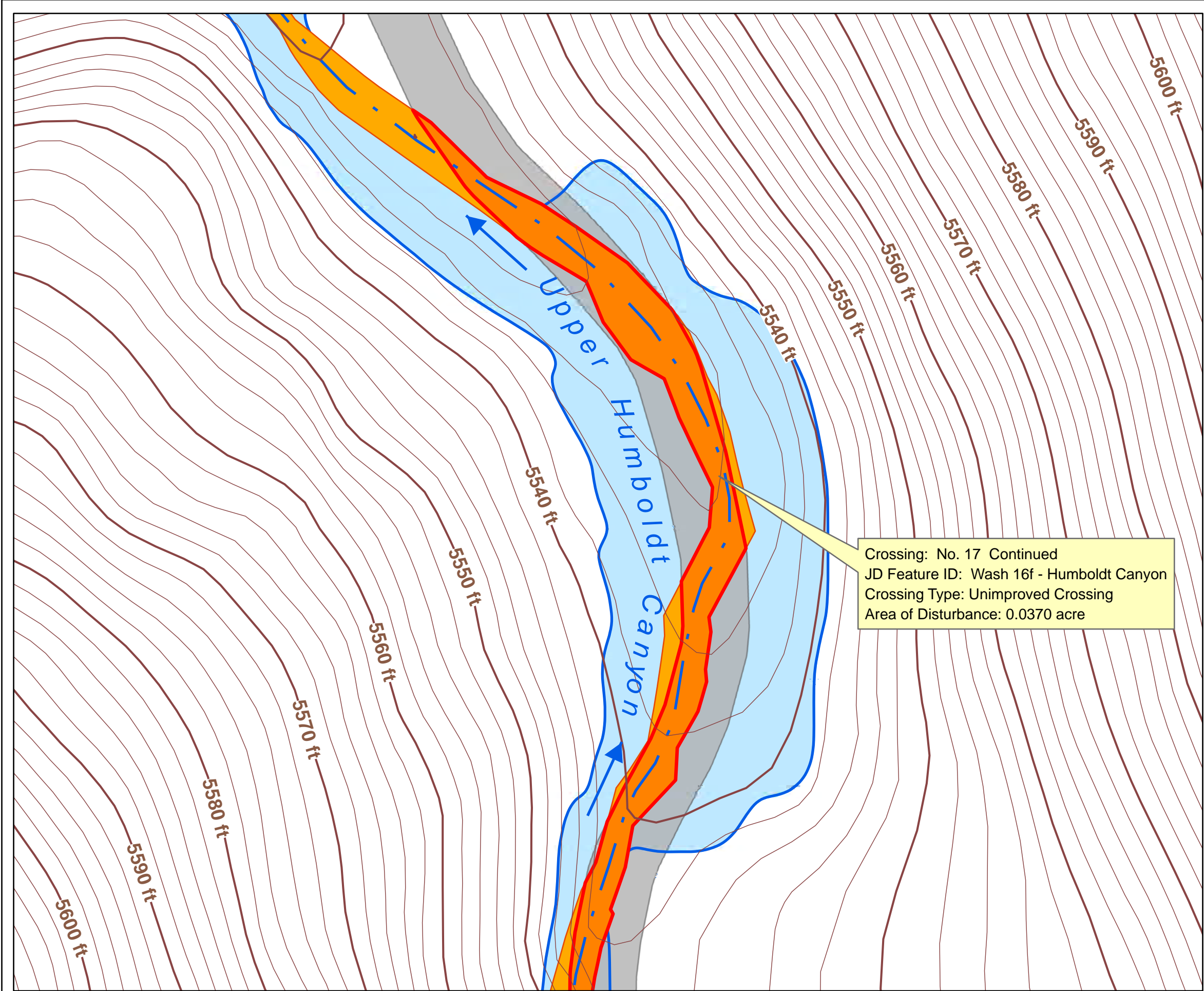
Sunnyside Exploratory Drilling Project

Exhibit 22

Crossing 16 Continued & 17

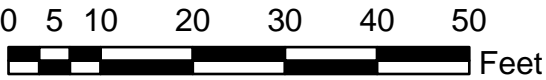
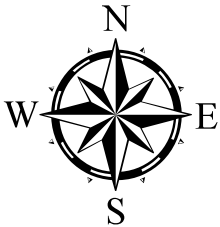
02/25/2021

Sheet 1 of 1



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



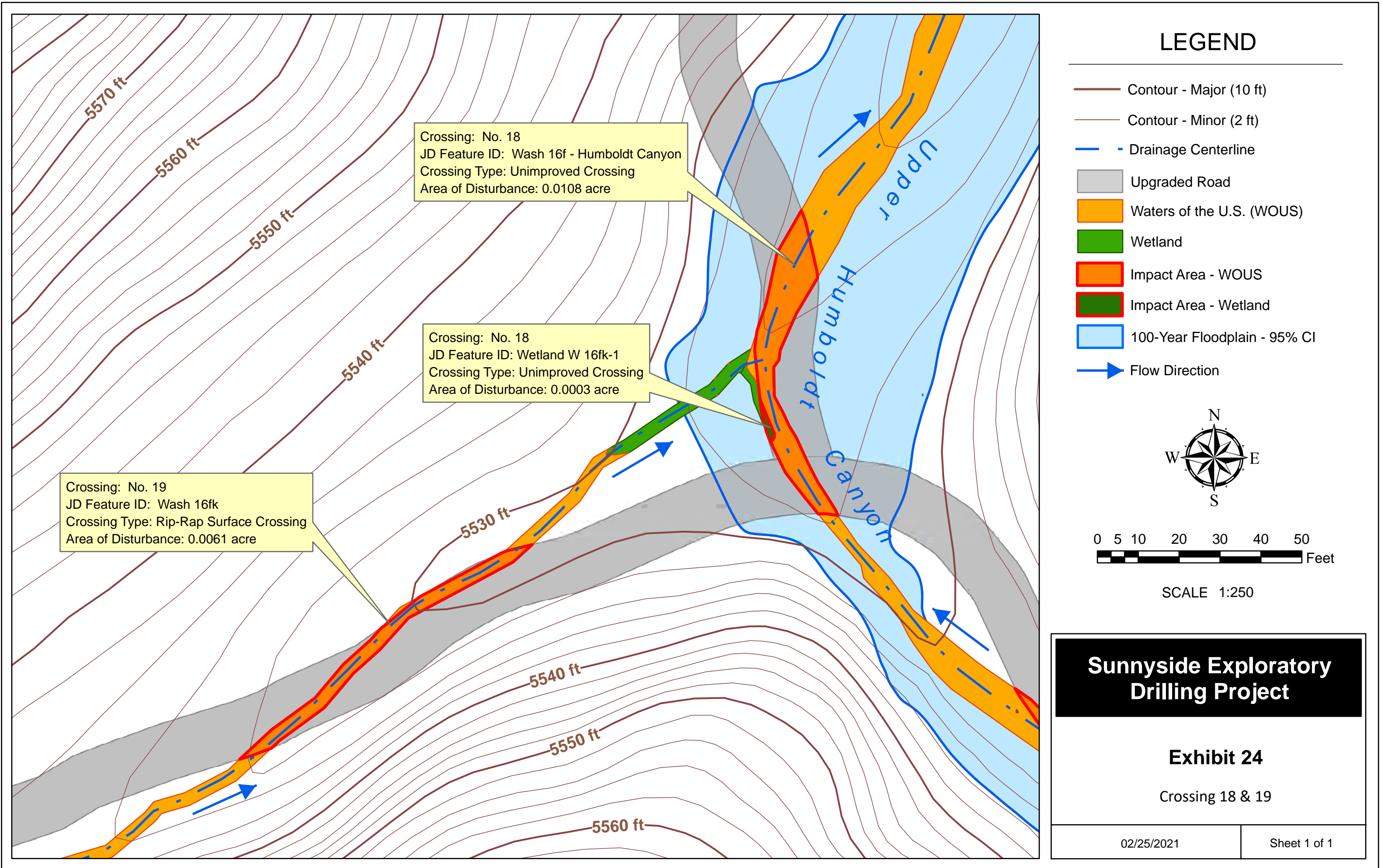
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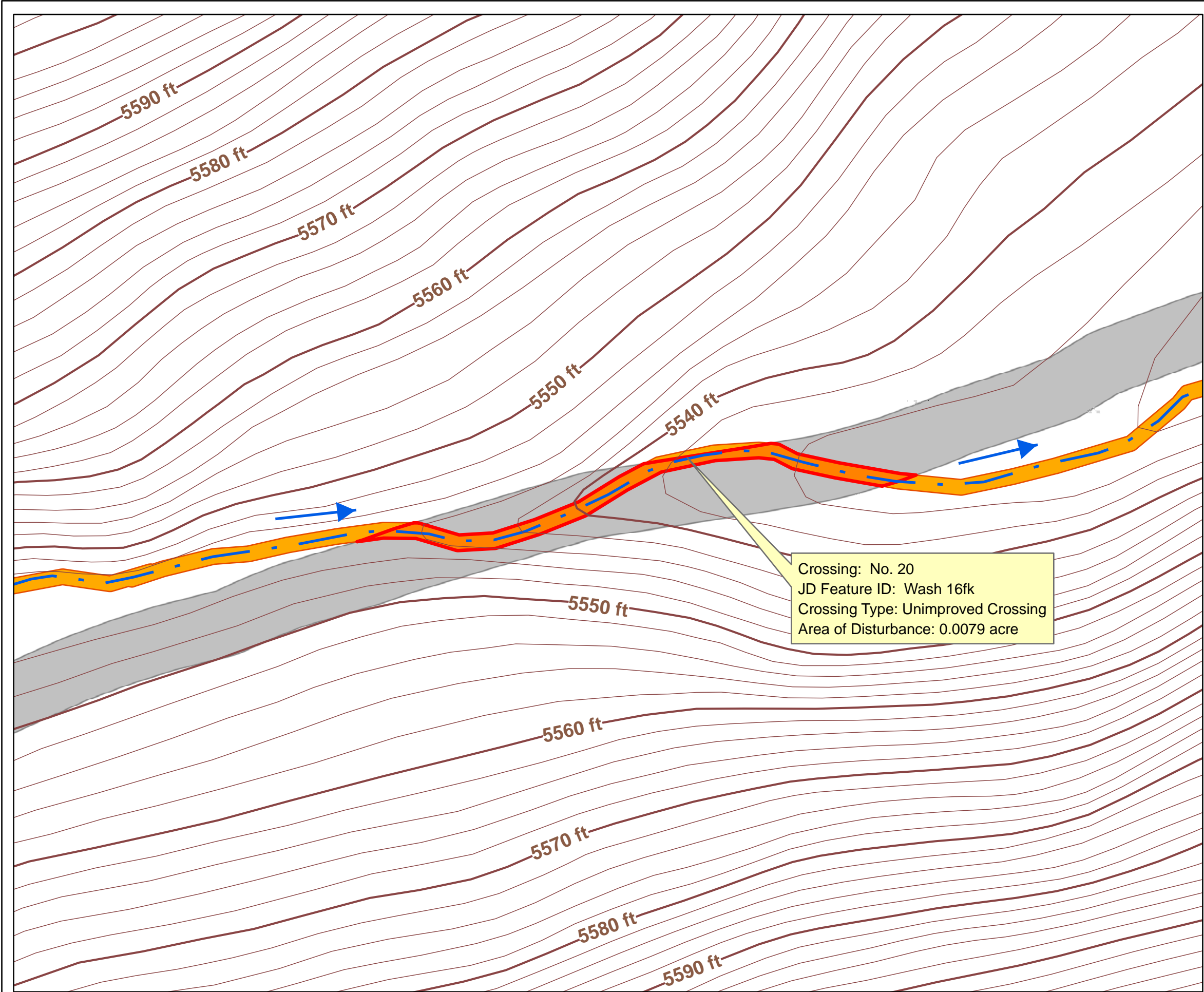
Crossing: No. 17 Continued
JD Feature ID: Wash 16f - Humboldt Canyon
Crossing Type: Unimproved Crossing
Area of Disturbance: 0.0370 acre

Sunnyside Exploratory Drilling Project

Exhibit 23

Crossing 17 Continued





LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

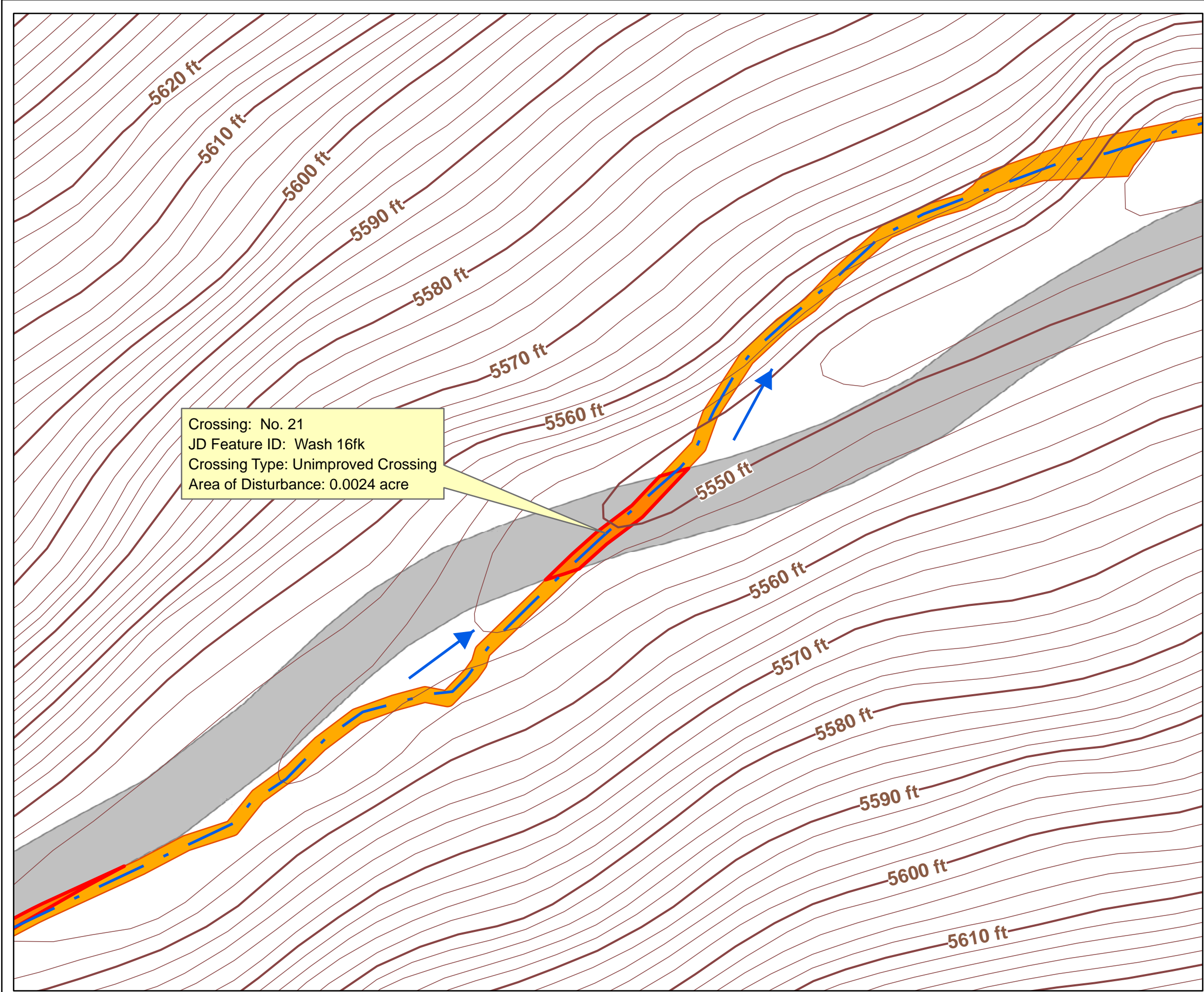


SCALE 1:250

Sunnyside Exploratory Drilling Project

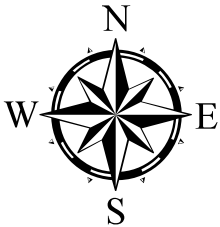
Exhibit 25

Crossing 20



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



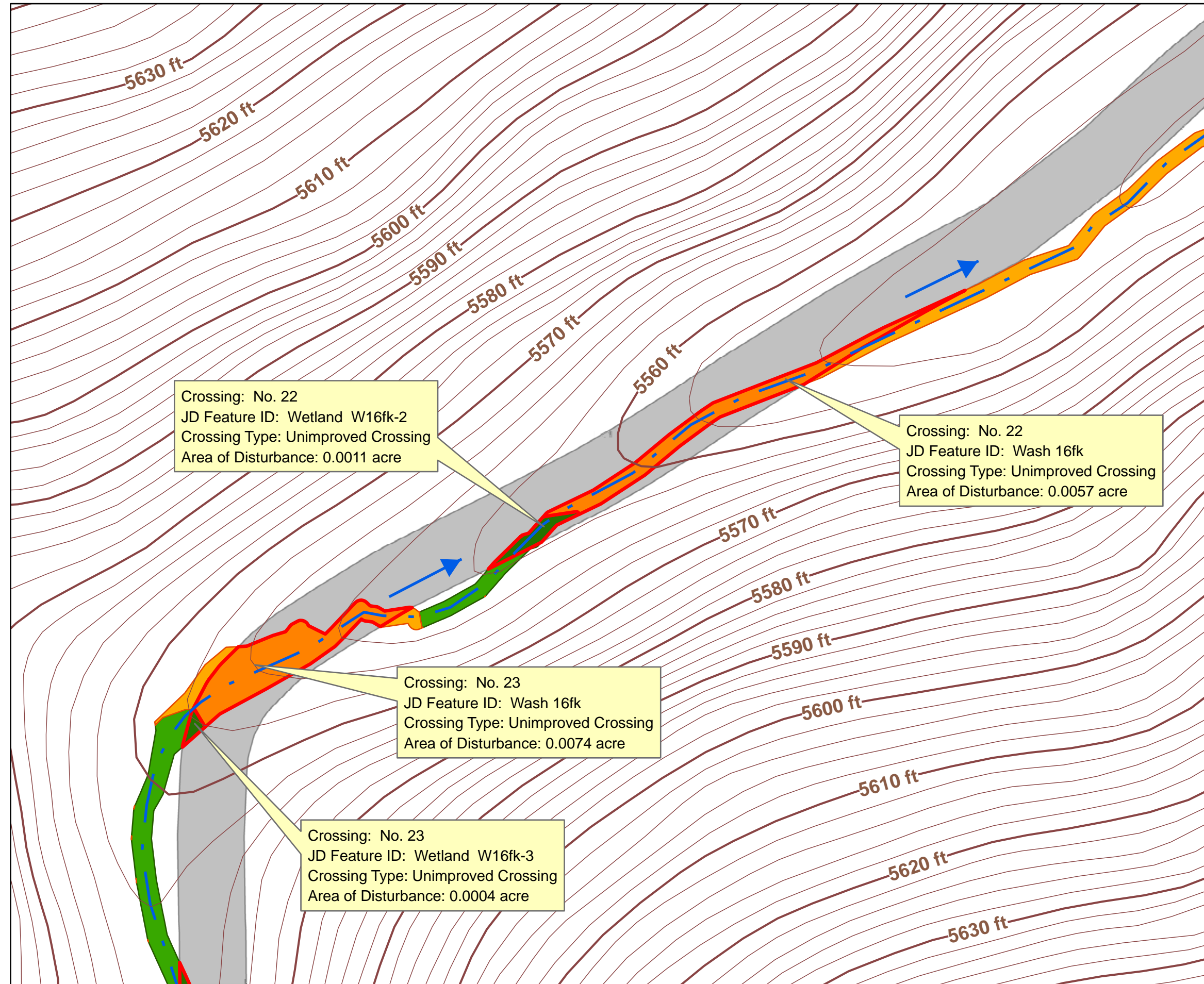
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SCALE 1:250











Sunnyside Exploratory Drilling Project

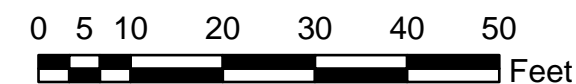
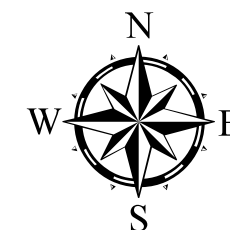
Exhibit 26

Crossing 21



LEGEND

-  Contour - Major (10 ft)
-  Contour - Minor (2 ft)
-  Drainage Centerline
-  Upgraded Road
-  Waters of the U.S. (WOUS)
-  Wetland
-  Impact Area - WOUS
-  Impact Area - Wetland
-  100-Year Floodplain - 95% CI
-  Flow Direction



SCALE 1:250

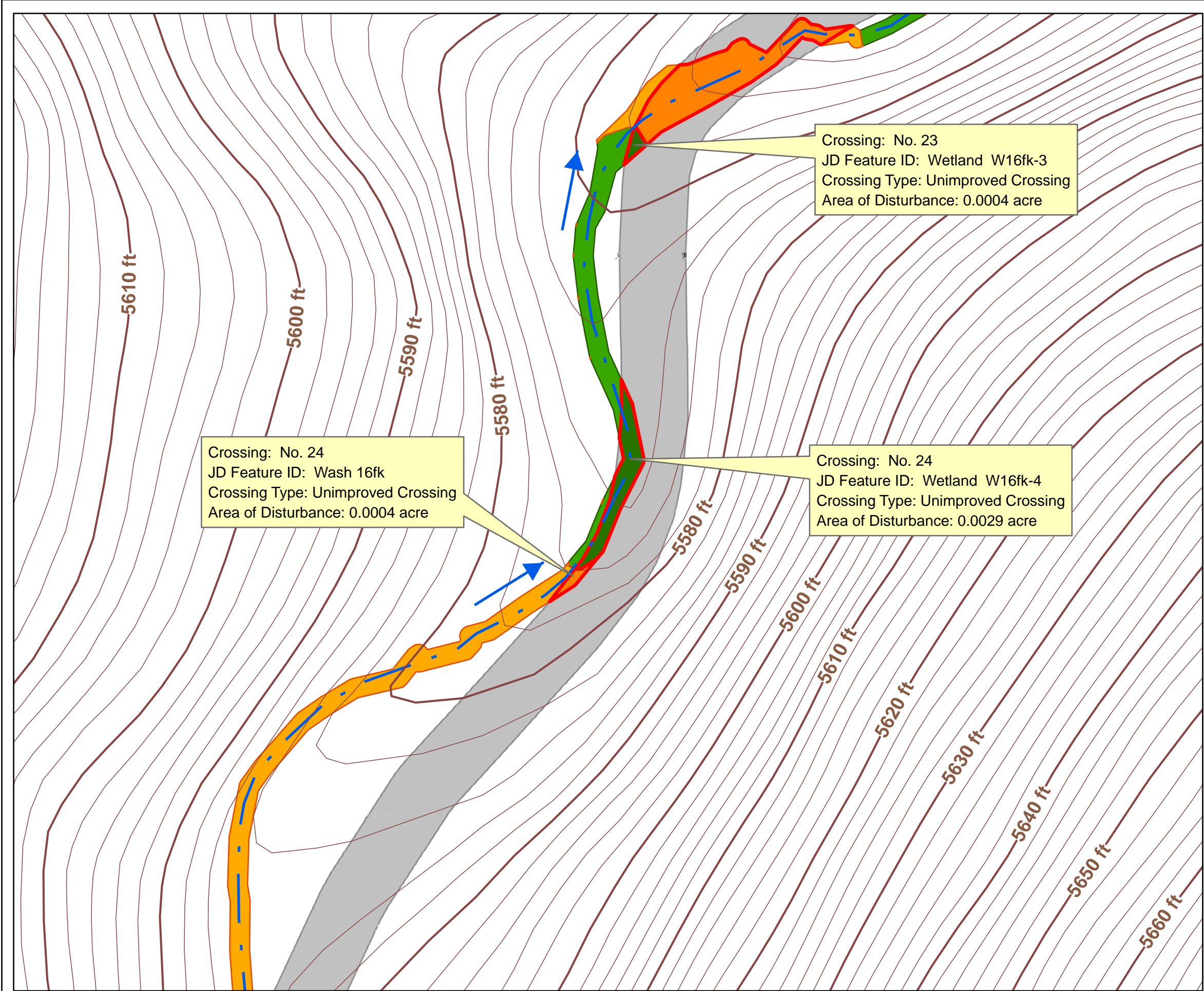
Sunnyside Exploratory Drilling Project

Exhibit 27

Crossing 22 & 23

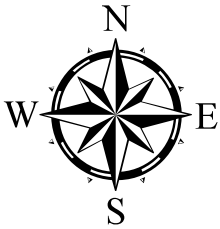
02/25/2021

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LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

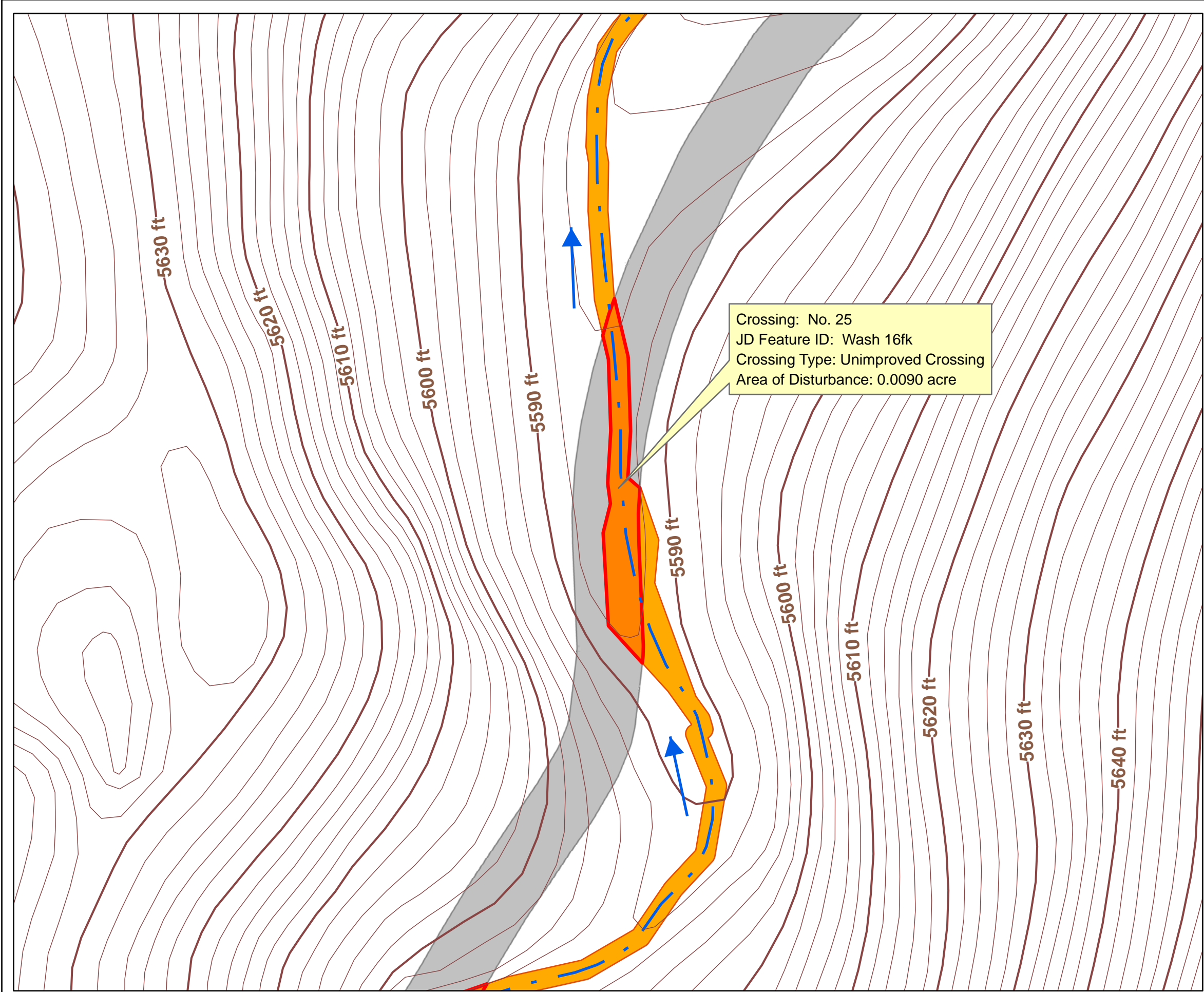


SCALE 1:250

Sunnyside Exploratory Drilling Project

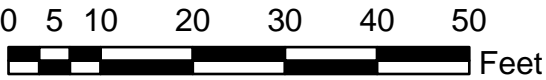
Exhibit 28

Crossing 23 & 24



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction

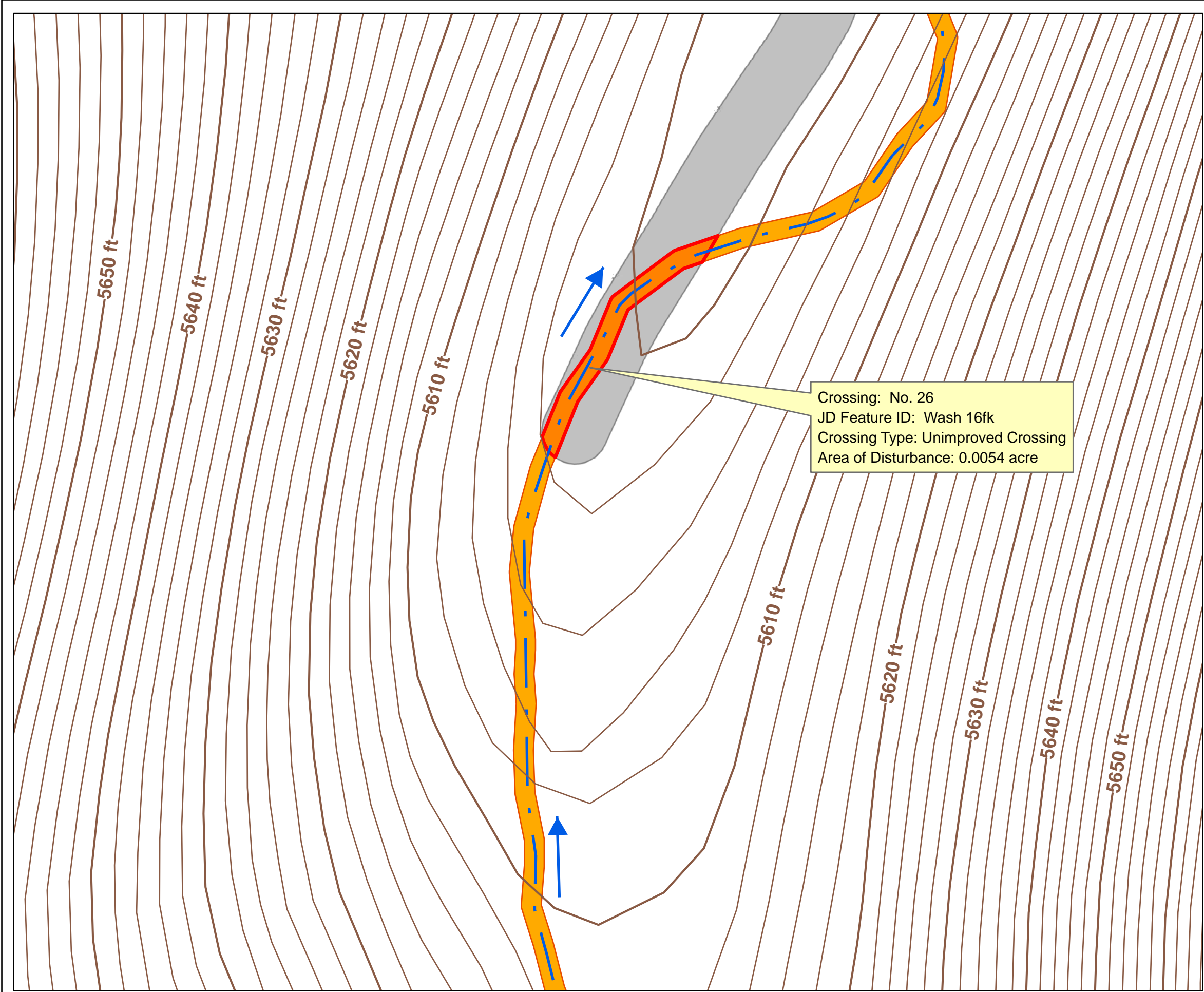


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Sunnyside Exploratory Drilling Project

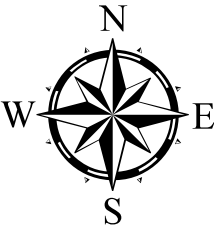
Exhibit 29

Crossing 25



LEGEND

- Contour - Major (10 ft)
- Contour - Minor (2 ft)
- Drainage Centerline
- Upgraded Road
- Waters of the U.S. (WOUS)
- Wetland
- Impact Area - WOUS
- Impact Area - Wetland
- 100-Year Floodplain - 95% CI
- Flow Direction



SCALE 1:250

Sunnyside Exploratory
Drilling Project

Exhibit 30

Crossing 26

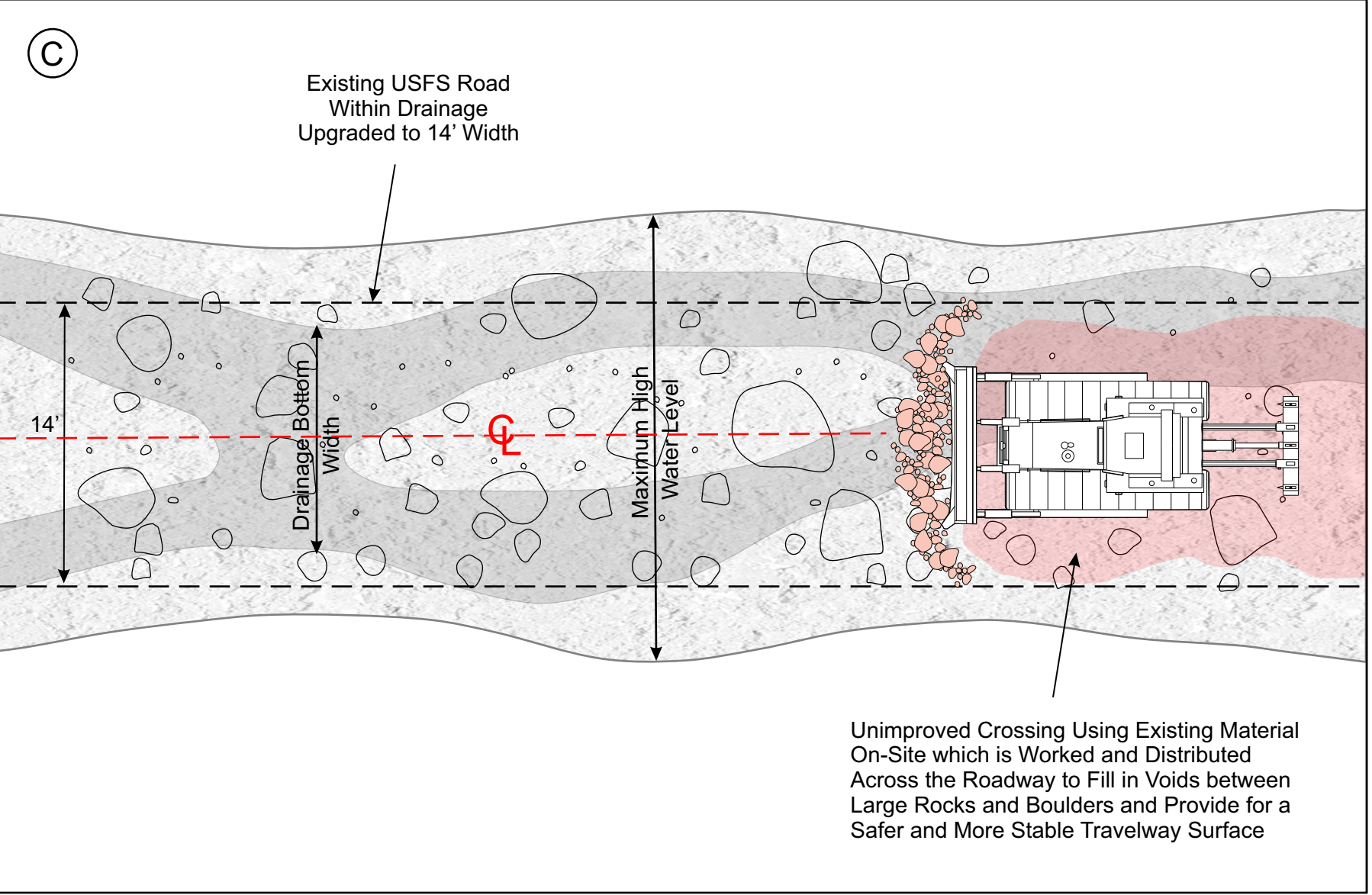
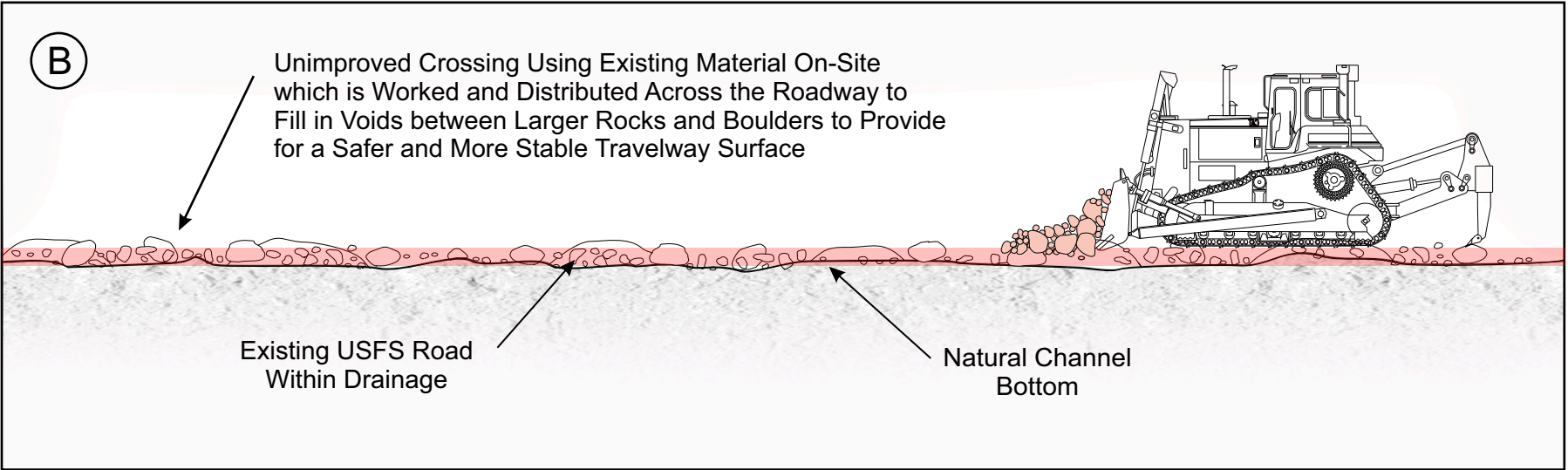
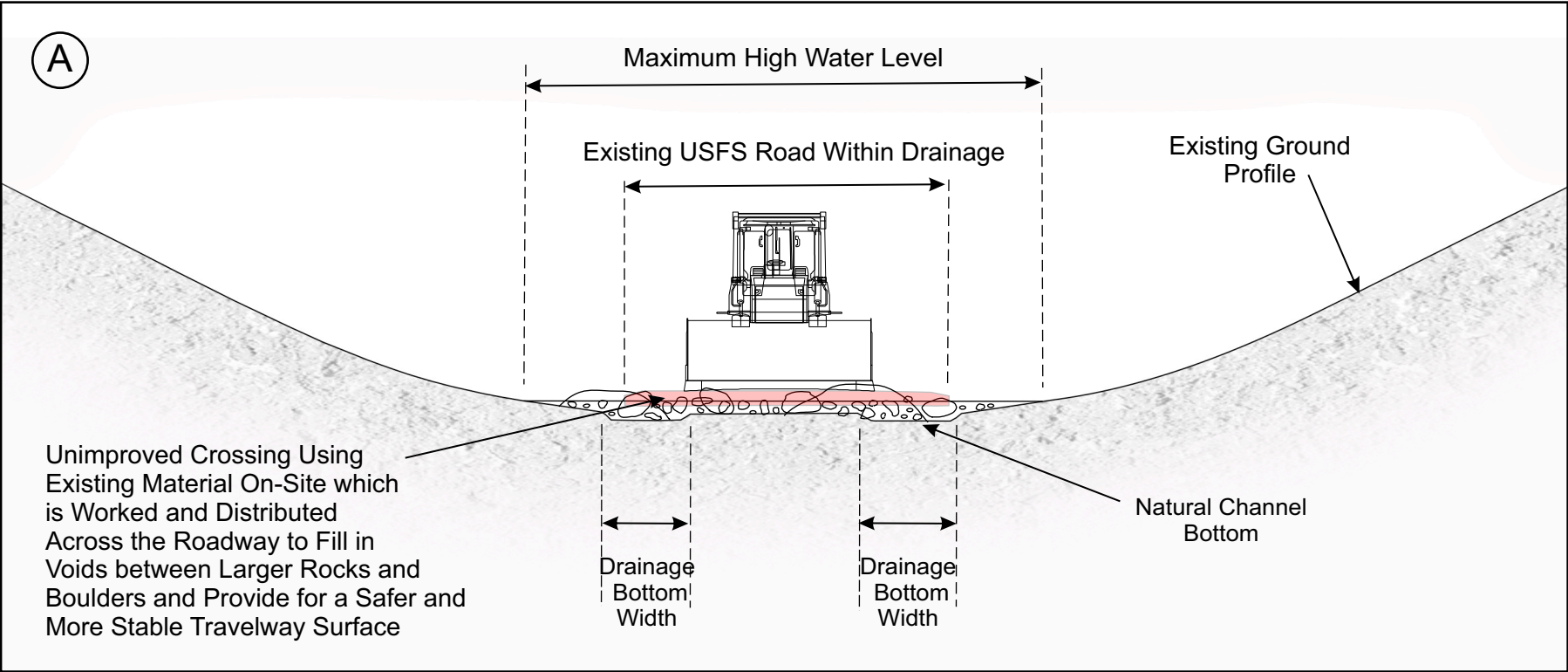


Exhibit 8: Cross Section Frontal View (A), Side View (B), and Plan View (C) of a Typical Unimproved Crossing

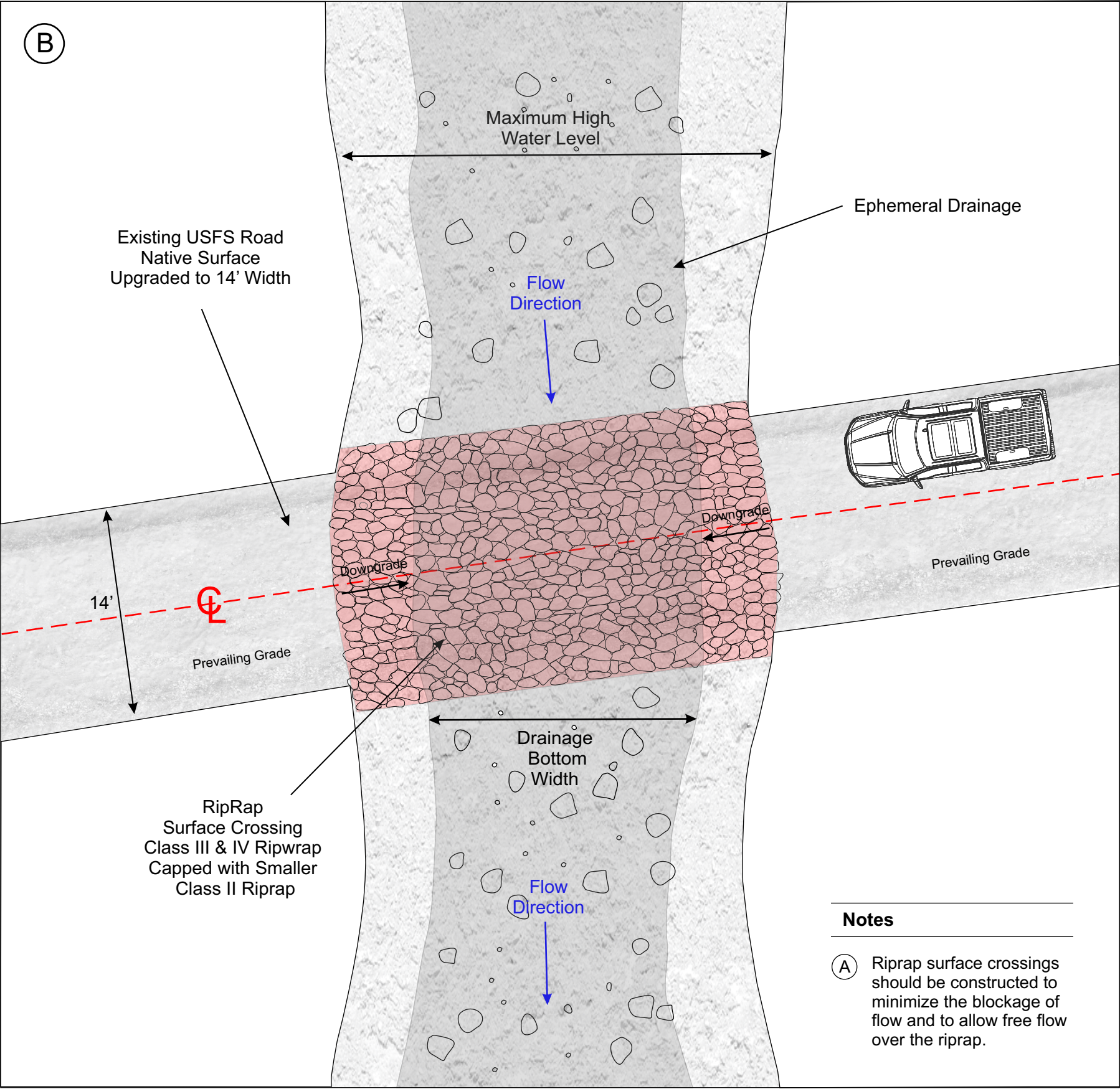
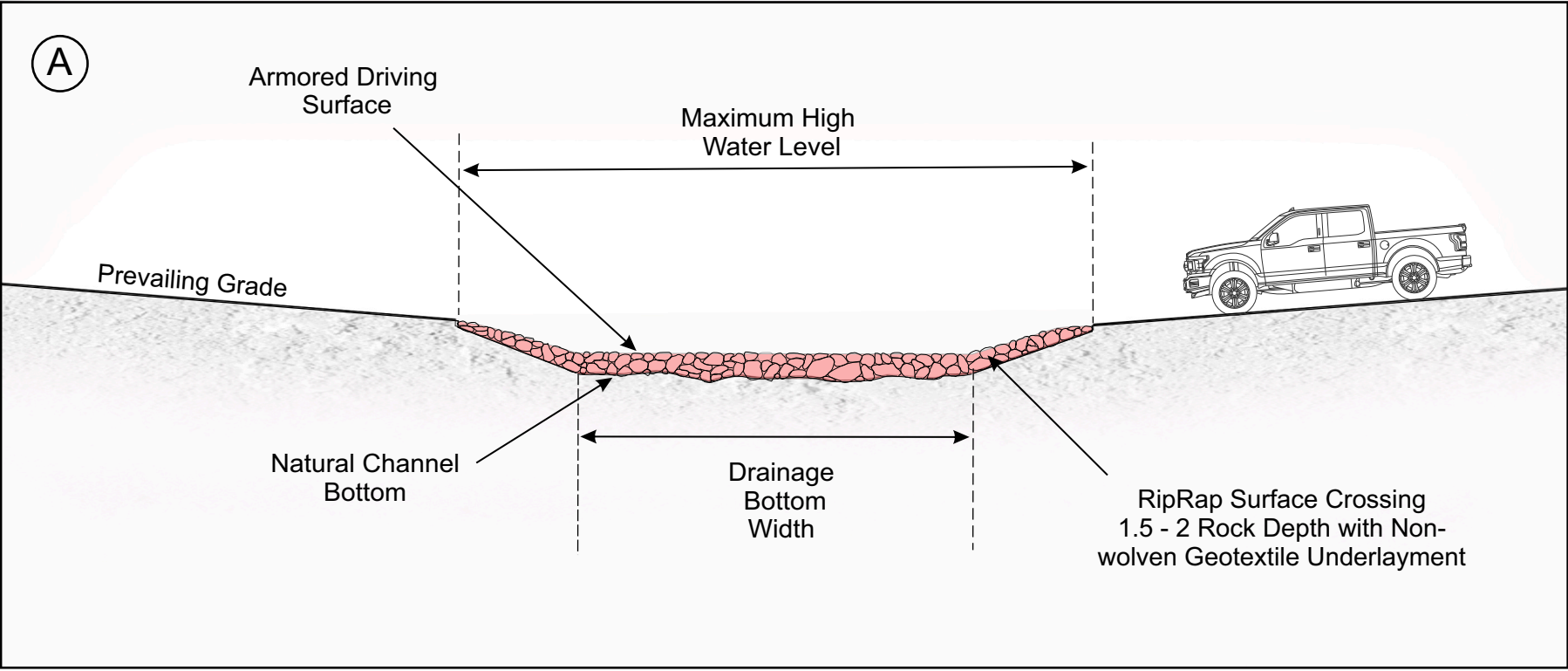


Exhibit 9: Cross Section (A) and Plan View (B) of Typical RipRap Surface Crossing

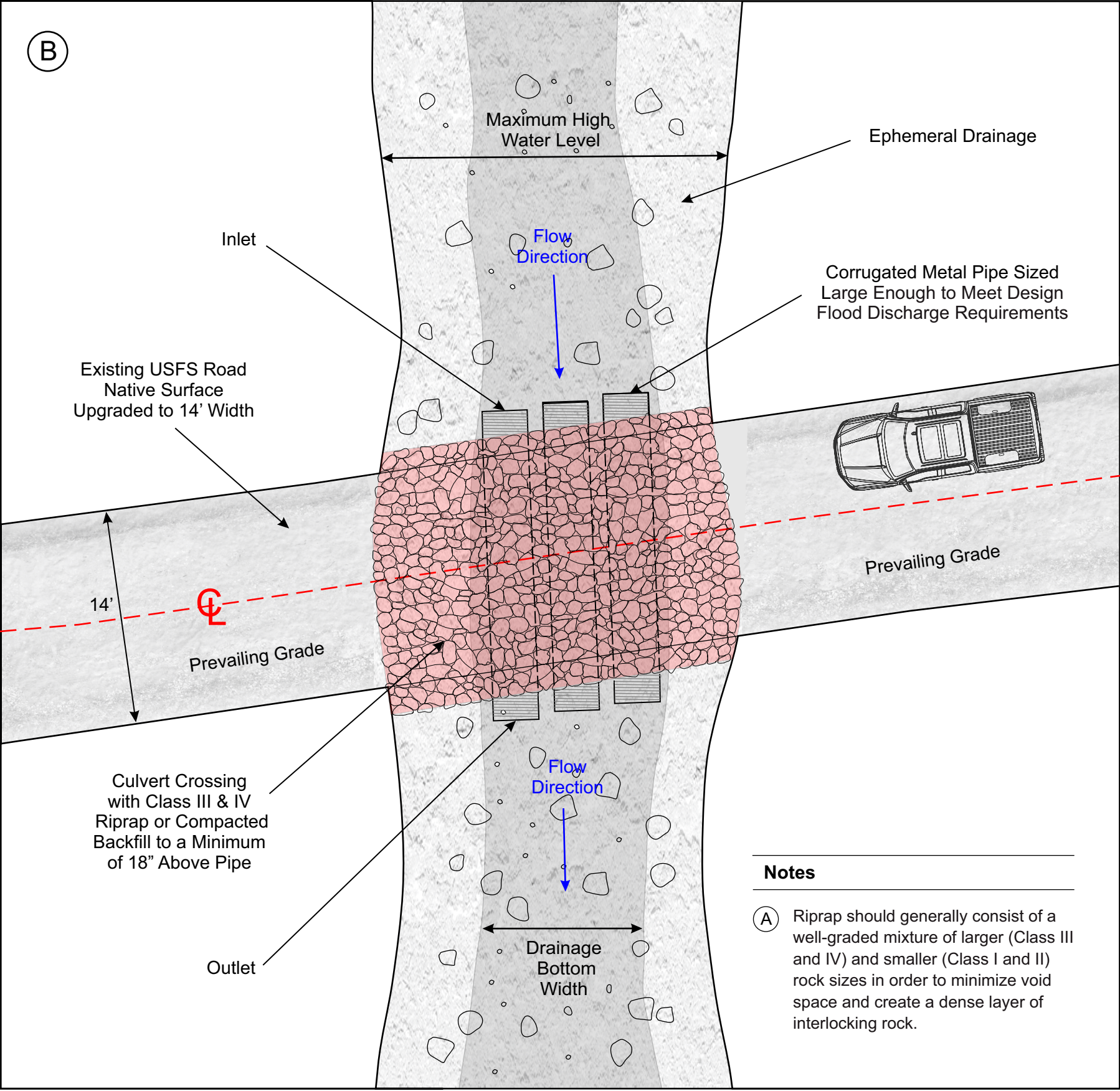
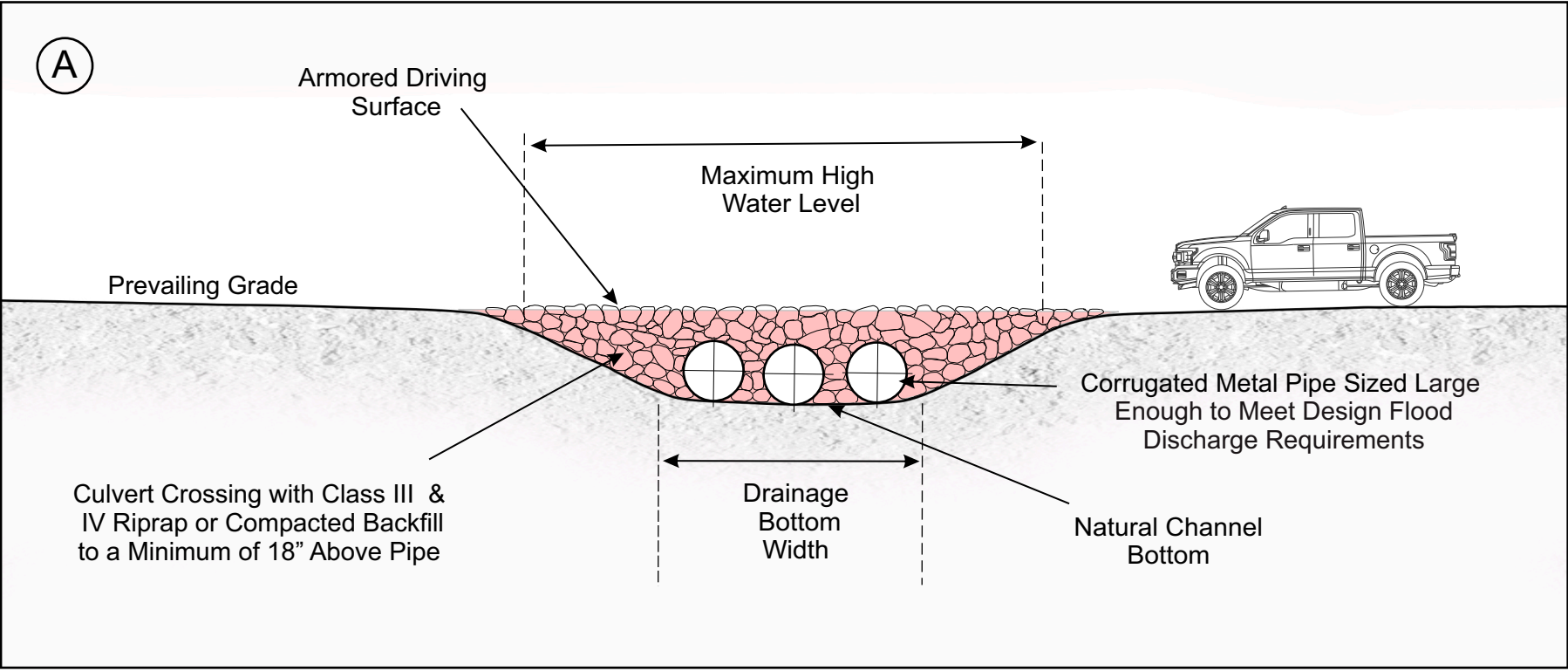


Exhibit 10: Cross Section (A) and Plan View (B) of a Typical Culvert Crossing