Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, Oregon 97070

Telephone number: (503) 570-0800 Fax number: (503) 570-0855

Memorandum

Date: **September 15, 2016**

To: **Steve Adams, P.E.**
City of Wilsonville

From: **Fred Small**

RE: **SW Boones Ferry to SW Brown Road Corridor Plan: Natural Resource Concerns**
(PHS #5929)

The City of Wilsonville is implementing a study to determine the best alignment for a proposed new road connection linking SW Boones Ferry Road with SW Brown Road to the west. This new east-west connection will increase connectivity in this area of Wilsonville and help relieve traffic congestion on Wilsonville Road near the Interstate-5 interchange. The new alignment will also improve alternative modes of transportation in the area, as well as enhance the local economy by filling a gap in the road network.

Four route variations are currently proposed, each of which converge at the west end to connect with SW Brown Road, and also intersect with a southward extension of SW Kinsman Road. However, in order to connect with SW Boones Ferry Road, a single route converges with SW 5th Street while the other three routes converge at SW Bailey Street, all before crossing the P & W Railroad right-of-way (Figure 1).

As part of this study, it is imperative that any potential natural resource impacts from the potential alignments be examined in order to rank the least to most viable alternatives. As such, the following discussion describes current conditions within the study area, assesses their significance in terms of local, state, and federal regulations, and then addresses which elements are most likely to influence the project design.

EXISTING CONDITIONS

The study area includes several distinct and current land uses, including agricultural production (primarily hazelnut orchards and a variety of row crops), dispersed and multi-family residential, mixed manufacturing/ commercial (Wilsonville Concrete and OrePac most notable among other businesses), and municipal use (City of Wilsonville water treatment plant). The Coffee Lake Creek riparian corridor roughly divides the study area into primarily agricultural (west of creek) and industrial/urbanizing (east of creek) areas, there are undeveloped open spaces scattered throughout.

Relatively few of the undeveloped areas are comprised of particularly notable vegetation communities. The short length of SW Brown Road that adjoins the alignments is bordered by an overstory of mature non-native oaks (*Quercus* sp.), while the remainder of all the alignments west of the Coffee Lake Creek riparian area primarily pass through hazelnut orchards, cultivated fields, or existing roadways. However, both of the southern alignments run parallel with and may potentially encroach into a portion of the Arrowhead Creek riparian/SROZ buffer.

East of the Coffee Lake Creek riparian area, the alignments primarily pass through small stands or individuals of common street tree plantings. Exceptions include the southernmost alignment connecting to SW 5th Street, which will closely pass, and possibly impact, the northern edge of a mixed forest stand containing the riparian area for an unnamed tributary to the Willamette River. The mixed forest includes mature bigleaf maple (*Acer macrophyllum*), Douglas fir (*Pseudotsuga menziesii*), and sweet cherry (*Prunus avium*). In addition, the three SW Bailey Street alignments could impact several mature Douglas fir trees within the OrePac property.

Regulated Waterways

Of particular note from a natural resource perspective, Coffee Lake Creek flows roughly north to south through the study area. Its central location will necessitate a new crossing for the primary east-west road alignment, as well as a reconstructed crossing for the southward Kinsman Road extension (the existing SW OrePac Avenue will be redesigned to connect to Kinsman Road north of the new crossing).

Coffee Lake Creek is a perennial stream that originates in the Tonquin Scablands to the north of the City between Tualatin and Sherwood. Its course has been highly modified for much of its length, particularly where it has been straightened and channelized within the broad Coffee Lake Creek wetlandssouth of SW Boeckman Road. However, it is confined to a relatively narrow channel from the basin southward to its confluence with the Willamette River. Anadromous fish, including Upper Willamette River (UWR) Chinook salmon and UWR steelhead, have both been documented in the lower reach of Coffee Lake Creek; however, a barrier to upstream travel by anadromous fish has been documented on the Wilsonville Concrete property below the project area.

There are two other waterways in the project vicinity: Arrowhead Creek, which is southwest of the proposed southern alignments; and an unnamed seasonal drainageway located within a forested area west of the SW 5th Street railroad crossing. Both south alternative routes run parallel to the Arrowhead Creek buffer in the western portion of the project. In addition, the unnamed drainageway may or may not be sufficiently south of the 5th Street alignments to avoid all impacts; as such, further investigation will be necessary to determine the need for any permits.

Regulated Wetlands

PHS reviewed the available documentation of area soils, the City's Natural Resource Inventory and Significant Resources Overlay Zone (SROZ) mapping, and other online sources to determine the likelihood of encountering any potentially regulated wetlands within the study area. The Natural Resources Conservation Service (NRCS) has not mapped any hydric soils in the study area. In addition, the City's SROZ mapping, which includes both the previously inventoried resources and required buffers, does not indicate any water resources besides the riparian areas

described above. As such, it is highly unlikely that any significant wetlands are present within the study area, particularly outside of the mapped SROZ boundaries (Figure 2).

Regulated Wildlife Habitat Areas

In addition to regulated water resources and their buffers, the City's SROZ boundaries typically include those contiguous upland habitats that have high wildlife value. The outer SROZ boundary, as a consequence, can be wider than the required water resource buffer in order to include a forested wildlife habitat area. For instance, the riparian boundary near the confluence of Coffee Lake Creek and Arrowhead Creek is significantly broader than slightly upstream on either drainage, which may reflect a deeper and wider ravine associated with the combined streams, while also including the contiguous upland forested wildlife habitat. Likewise, the previously described forested stand near the SW 5th Avenue connection provides the required riparian buffer to the unnamed seasonal drainageway, while also providing high quality upland wildlife habitat within the City's SROZ mapping (note: this capital project will be exempt from SROZ buffer requirements).

POTENTIAL CONSTRAINTS BY ALIGNMENT

The primary concern with each of the alignments is the crossing of Coffee Lake Creek, since constructing a new bridge is necessary in all cases. Figure 2 depicts the SROZ resource areas potentially impacted by each alignment. Although there are likely to be significant advantages to a more northerly crossing of the channel (the southerly alignments will impact a generally wider, less impacted riparian area), the channel morphology and substrate conditions of each alignment cannot be assumed without further geotechnical studies. As such, obtaining the necessary federal and state permits may be more or less complicated by the varying structural requirements at each location.

Necessary Resource Permits

Any fill or removal of material below the Ordinary High Water line of Coffee Lake Creek (or in wetlands if any are encountered) will require permits from the US Army Corps of Engineers and the Oregon Department of State Lands. The federal permit addresses Section 404 of the federal Clean Water Act (CWA), while the state permit addresses its Removal-Fill rules (OAR 141-085). Other regulatory agencies that review and provide input to this permitting process include the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries, as well as the Oregon Department of Fish and Wildlife (ODFW). Potential water quality impacts are reviewed by the Oregon Department of Environmental Quality (ODEQ), which acts on behalf of the federal Environmental Protection Agency (EPA) to assure that federal CWA requirements are met by regulating all stormwater generated from new impervious surfaces, as well as any construction-related runoff. A cultural resources study will also be required, as both state and federal agencies mandate that tribal and historic preservation interests be addressed and that significant resources not be disturbed.

The bridge crossing will potentially impact a stream with documented salmonid habitat relatively close to its confluence with the Willamette River; however, a barrier to upstream travel by anadromous fish has been documented on the Wilsonville Concrete property below the project area. Nevertheless, since the fisheries agencies will be influential in bridge authorization at this location, the City should assure that the bridge design meets all applicable conditions of the

SLOPES programmatic biological opinion for Stormwater, Transportation or Utilities which specifically address Endangered Species Act (ESA) fisheries issues.

Compensatory mitigation for any stream impacts will likely be required in order to gain agency approval; this may take the form of riparian enhancement or restoration activities within the same stream or nearby in the same watershed. If any wetlands are encountered and cannot be avoided, the resulting impacts are likely to be very minor and readily mitigated through purchase of mitigation bank credits. The closest mitigation bank is the Mud Slough Wetland Mitigation Bank, which currently sells credits (at a 1:1 ratio of impact to mitigation) for approximately $85,000 per credit.

Please feel free to contact us with any questions or concerns.

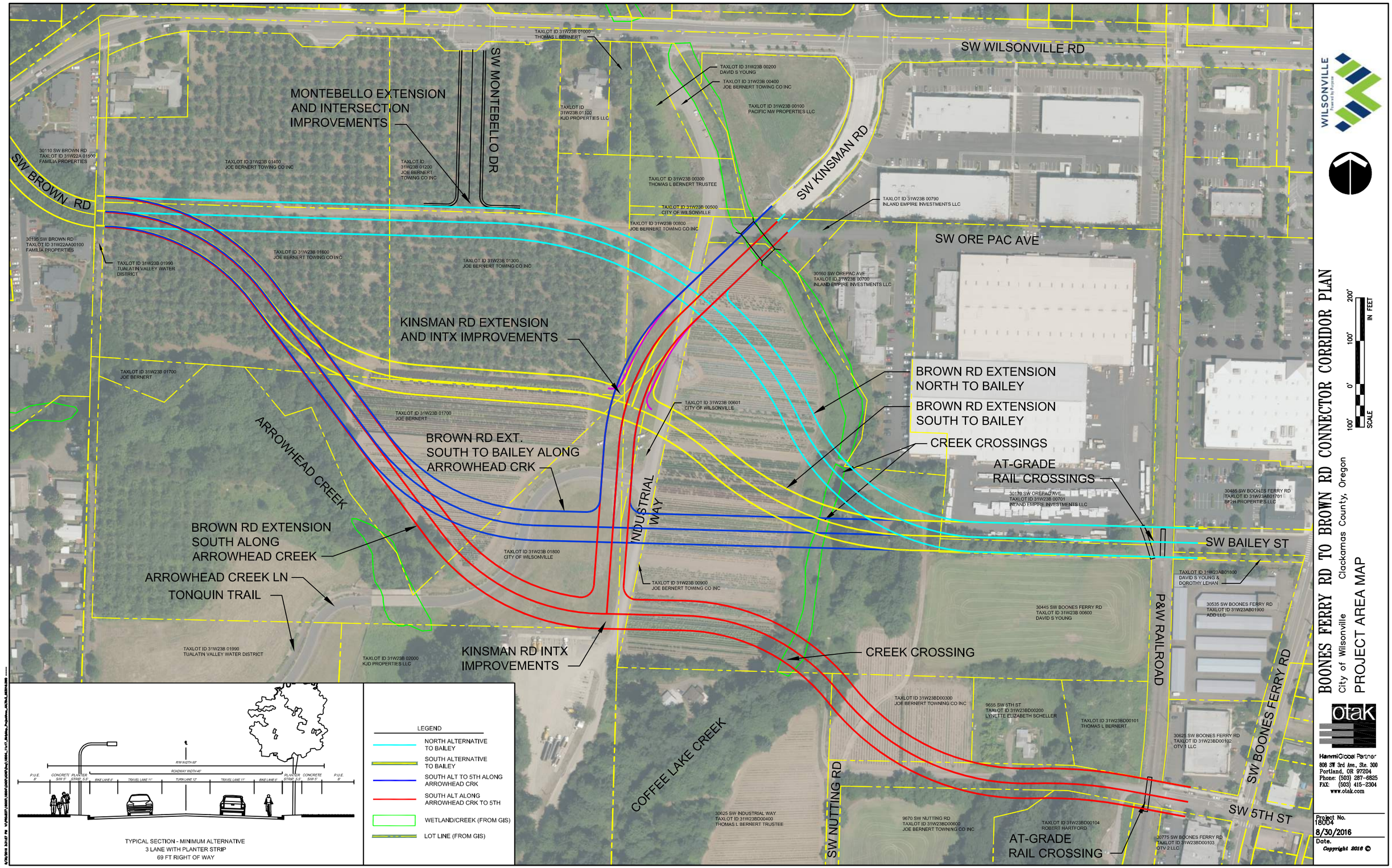
SW WILSONVILLE RD
SW MONTEBELLO DR
MONTEBELLO EXTENSION AND INTERSECTION IMPROVEMENTS
SW BROWN RD
SW KINSMAN RD
SW ORE PAC AVE
KINSMAN RD EXTENSION AND INTX IMPROVEMENTS
BROWN RD EXTENSION NORTH TO BAILEY
BROWN RD EXTENSION SOUTH TO BAILEY
CREEK CROSSINGS
AT-GRADE RAIL CROSSINGS
ARROWHEAD CREEK
BROWN RD EXT. SOUTH TO BAILEY ALONG ARROWHEAD CRK
INDUSTRIAL WAY
SW BAILEY ST
BROWN RD EXTENSION SOUTH ALONG ARROWHEAD CREEK
ARROWHEAD CREEK LN
TONQUIN TRAIL
KINSMAN RD INTX IMPROVEMENTS
CREEK CROSSING
P&W RAILROAD
SW BOONES FERRY RD
COFFEE LAKE CREEK
SW NUTTING RD
SW 5TH ST
AT-GRADE RAIL CROSSING
TYPICAL SECTION - MINIMUM ALTERNATIVE
3 LANE WITH PLANTER STRIP
69 FT RIGHT OF WAY
LEGEND
NORTH ALTERNATIVE TO BAILEY
SOUTH ALTERNATIVE TO BAILEY
SOUTH ALT TO 5TH ALONG ARROWHEAD CRK
SOUTH ALT ALONG ARROWHEAD CRK TO 5TH
WETLAND/CREEK (FROM GIS)
LOT LINE (FROM GIS)
WILSONVILLE
BOONES FERRY RD TO BROWN RD CONNECTOR CORRIDOR PLAN
City of Wilsonville
Clackamas County, Oregon
PROJECT AREA MAP
SCALE
IN FEET
otak
HanmiGlobal Partner
808 SW 3rd Ave., Ste. 300
Portland, OR 97204
Phone: (503) 287-6825
FAX: (503) 415-2304
www.otak.com
Project No.
18004
8/30/2016
Date.
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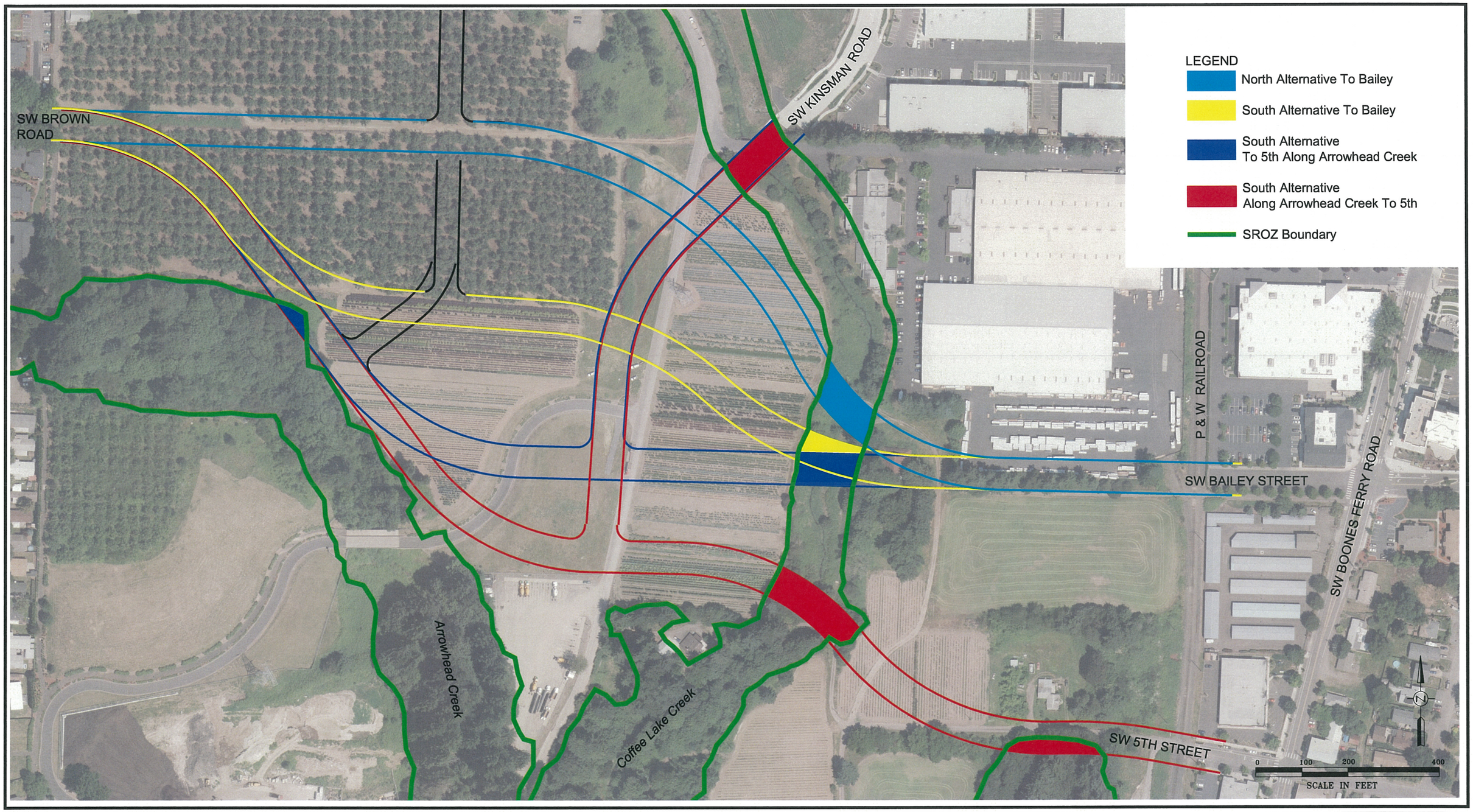
Figure 1



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Plan Provided By
OTAK Hanmi Global Partners

SROZ Boundaries and Potential Impact Areas From Plan Alternatives
Boones Ferry Road to Brown Road Connector Corridor Plan - Wilsonville, Oregon

FIGURE
2

9-15-2016

X:\Project Directories\5900\5929 East-West Connector\AutoCAD\Plot Dwgs\Fig1 SROZ.dwg, 9/15/2016 1:30:35 PM