



October 20, 2011

Parsons Brinckerhoff
999 Third Avenue, Suite 2200
Seattle, WA 98104-4020

Attn: Mr. Ken Oswell

**RE: SIGNIFICANT TREE RECONNAISSANCE LETTER REPORT
FOR THE NE 4TH STREET/120TH AVENUE NE CORRIDOR PROJECT
BELLEVUE, WASHINGTON**

Shannon & Wilson was contracted by Parsons Brinckerhoff to conduct a significant tree reconnaissance within the clearing limits of the NE 4th Street /120th Avenue NE Corridor Project in Bellevue, Washington (hereafter referred to as “the site”) (Figure 1). The purpose of this reconnaissance was to identify significant trees on site that may provide habitat for pileated woodpecker and be regulated as “habitat associated with species of local importance” under the City of Bellevue’s critical areas regulations. This letter describes the findings of our significant tree reconnaissance.

Pileated woodpeckers are cavity nesters and excavate large cavities in snags or large decaying live trees. According to the Washington State Department of Fish and Wildlife’s Priority Habitats and Species Program, pileated woodpeckers that reside in urbanizing areas occupy remnant patches of forest, parks, and green-belts and forage for food on a variety of substrates, including large- and small-diameter evergreen or deciduous trees and snags.

Habitat that is associated with species of local importance (such as the pileated woodpecker) is regulated under the Bellevue City Code (BCC), Part 20.25H Critical Areas Overlay District. Significant trees on the site that were not installed as part of the landscaping may provide existing or future habitat for pileated woodpeckers and are likely considered “habitat associated with species of local importance” by the City.

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METHODS

Biologists from Shannon & Wilson conducted site visits on September 29 and 30, 2011, and October 6, 2011, to identify significant trees within the extent of potential clearing on site. The extent of potential clearing on site was identified in the field using maps and computer-aided design files that were provided by Parsons Brinckerhoff.

Significant trees were identified in the field using the Bellevue City Code (BCC) definition. Under BCC 20.50.046, a significant tree is defined as, “A healthy evergreen or deciduous tree, eight inches in diameter or greater, measured four feet above existing grade.” Dead or dying trees (snags) are not included in the City’s definition of significant trees. However, snags can provide important habitat for pileated woodpeckers and, therefore, we included them in our tree count if they were greater than 8 inches in diameter (as measured 4 feet above the ground).

Where trees were accessible, tree diameters were determined using a measuring tape calibrated to measure diameter wrapped around the trunks 4 feet above the upslope side of the trees. Diameters were visually estimated when trees could not be approached. Approximate tree locations were recorded using a Trimble® GeoXM™ (GeoExplorer® 2008 series) hand-held global positioning system device coupled with ESRI ArcPad® 7.1.1.

RESULTS

We observed 388 significant trees as defined by the BCC and one snag on site, for a total of 389 observations. Significant trees were observed in landscaping strips along sidewalks and parking lots, as well as in naturalized patches of land in both wetlands and uplands. During our fieldwork, we categorized trees based on whether they were installed as landscaping (herein referred to as “landscape trees”) or were naturally occurring native trees (herein referred to as “natural trees”). Of the trees and snags observed on site, 253 were landscape trees and 136 were natural trees (Table 1, Figure 1). The sum of tree diameters is provided in Table 1 to allow the reader to estimate average tree diameter.

Landscape trees consisted of pines (*Pinus* sp.), London plane trees (*Platanus hybrida*), red maple (*Acer rubrum*), Norway maple (*Acer platanoides*), oaks (*Quercus* spp.), sweet gum (*Liquidambar styraciflua*), Douglas-fir (*Pseudotsuga menziesii*), cherry and/or plum (*Prunus* spp.), cedars (*Cedrus* spp.), giant sequoia (*Sequoiadendron giganteum*), locust (*Robinia* sp.), white birch (*Betula pendula*), elm (*Ulmus pumila*), common hawthorne (*Crateagus monogyna*), western hemlock (*Tsuga heterophylla*), and spruce (*Picea* sp.).

**TABLE 1
 SUMMARY OF SIGNIFICANT TREES AND SNAGS**

Significant Trees and Snags	In Wetlands/Wetland Buffers		Outside of Wetlands/Wetland Buffers		Total Trees
	Quantity	Sum of Diameters (in)	Quantity	Sum of Diameters (in)	
Landscape Trees	3	80	250 ¹	3,090	253
Natural Trees	62	890	74	860	136
Total	65	970	324	3,950	389

Notes:

¹ This quantity includes the one snag observed on site.
 in = inches

Natural trees consisted of black cottonwood (*Populus balsamifera*), big leaf maple (*Acer macrophyllum*), Douglas-fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), red alder (*Alnus rubra*), Pacific madrone (*Arbutus menziesii*), Pacific willow (*Salix lucida*), Sitka willow (*Salix sitchensis*), and paper birch (*Betula papyrifera*).

CONCLUSION

The loss of significant landscape trees due to roadway construction is permitted per BCC 20.20.900(D)(1) and will not impact habitat associated with species of local importance. Therefore, no mitigation is required for removal of landscape trees. The City of Bellevue (City), however, is proposing street trees be planted along the entire length of the NE 4th Street/120th Avenue NE Corridor Project consistent with the City’s Bel-Red Subarea Plan for treatment of arterial streets. Per BCC 20.25D.110(B)(3)(d), these street trees would be installed along both sides of the 1.6-mile corridor at a maximum of 30-foot intervals.

Project construction will likely remove 136 natural significant trees, which may have the potential to provide existing or future habitat for the pileated woodpecker. The City would likely consider these trees to be habitat associated with species of local importance and require mitigation for these trees. We also understand that mitigation for removal of the trees that are currently within wetlands and wetland buffers will be satisfied by compliance with the City’s wetland and wetland buffer mitigation requirements.

Of the 136 natural significant trees, 62 are located in wetlands or wetland buffers and will require no mitigation in addition to the wetland and wetland buffer mitigation. However, 74 natural significant trees are located outside of wetlands or wetland buffers. Therefore, mitigation

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for removal of these 74 natural significant trees would be needed to reduce the potential for adverse affects to potential pileated woodpecker habitat.

We recommend mitigation for loss of natural significant trees at a one-to-one ratio of trees removed to trees and/or snags installed. Installed snags would provide immediate habitat for pileated woodpeckers and live native trees at least 6 feet in height at time of planting would provide future habitat trees.

Due to construction staging, natural significant trees will be mitigated in different locales and at different times. The natural significant trees on the steep slope in the proposed NE 4th Street portion of the corridor would be mitigated as close to the impacted steep slope areas as possible. The project team has tentatively identified a City-owned property approximately nine blocks from the impacted steep slope area that may be used for this mitigation. Mitigation of the natural significant trees impacted by construction of the NE 7th Street to NE 12th Street portion of the corridor will be included with the Wetland A buffer mitigation. Mitigation of the natural significant trees impacted during the NE 12th Street to Northup Way portion of the corridor will be included with the wetland and wetland buffer mitigation plan(s) for construction in that portion of the corridor. Mitigation will be conducted generally in concurrence with associated impacts at each locale, or as required in permit conditions.

CLOSURE

The findings and conclusions documented in this letter have been prepared for specific application to this project and have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our agreement. The conclusions and recommendations presented in this letter are professional opinions based on interpretation of information currently available to us, and are made within the operational scope, budget, and schedule constraints of this project. No warranty, express or implied, is made.

Parsons Brinckerhoff

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Shannon & Wilson, Inc. has prepared the enclosed, "Important Information About Your Biological Assessment (BA)/Biological Evaluation (BE) Report," to assist you and others in understanding the use and limitations of our reports. Although this document was not written specifically for this significant tree reconnaissance or this project, it should be useful in assisting you and others in understanding the use and limitations of our reports.

Sincerely,

SHANNON & WILSON, INC.



Brooke O'Neill

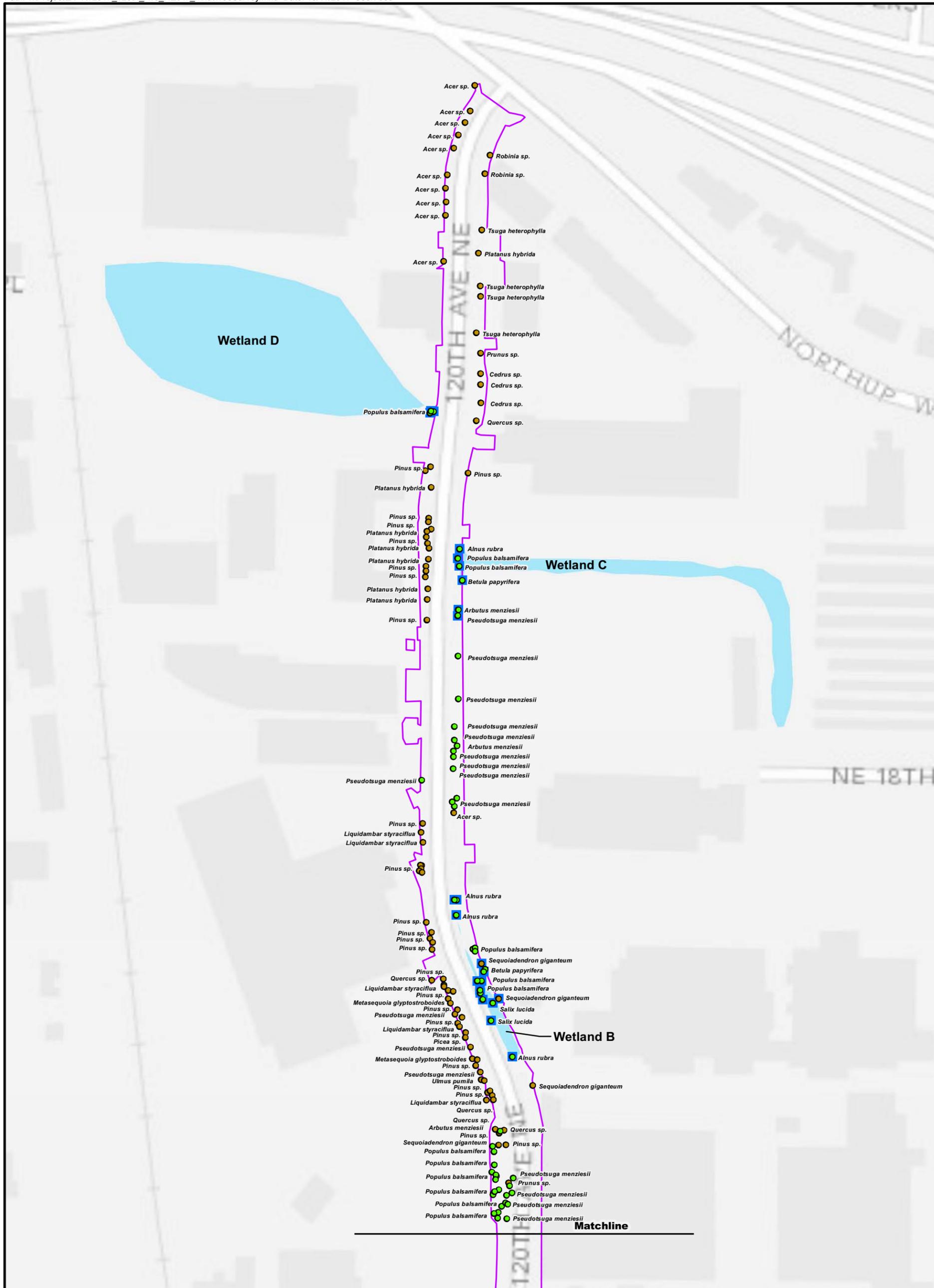
Biologist

BEO:SCC:BSK/beo

Enc: Figure 1 – Significant Tree Reconnaissance (3 sheets)
Important Information About Your Biological Assessment (BA)/Biological Evaluation
(BE) Report

Significant Tree Inventory and Habitat Analysis

Path: T:\Project\21-1\12317_120th_Ave_NE\AV_mxd\TreeSurvey.mxd Date: 10/11/2011 User: beo



Legend

- Significant Tree or Snag
 - Landscape Tree
 - Natural Tree
 - Trees within Wetland or Wetland Buffer
- Limits of Clearing
- Wetland

Note: Tree locations were recorded using GPS and visual estimation. Locations are approximate and have not been professionally surveyed. Limits of clearing based cut/fill lines and proposed features as provided by Parsons Brinckerhoff on 09/26/2011.



Northeast 4th Street /120th Avenue
Northeast Corridor Project
Bellevue, Washington

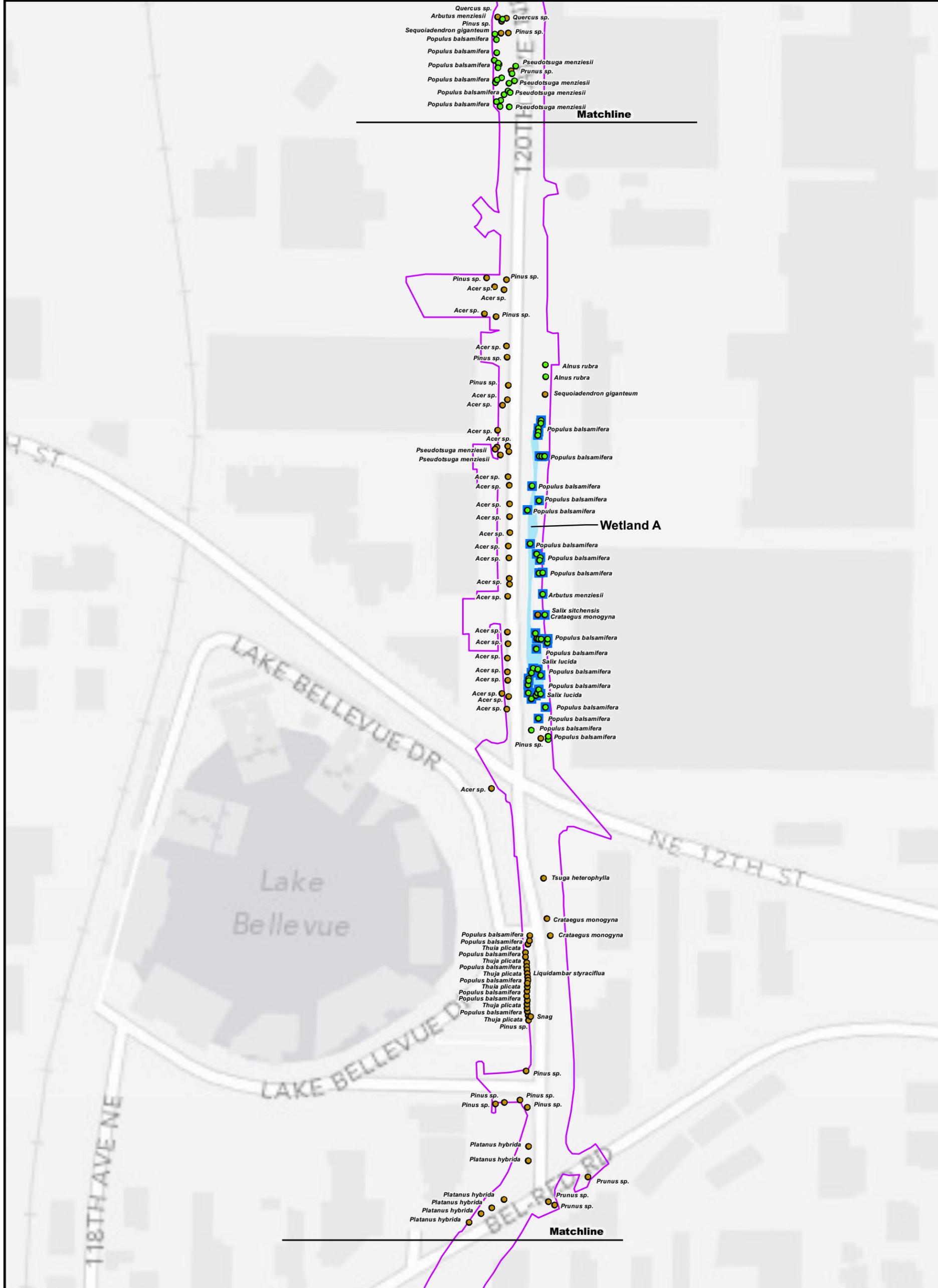
**SIGNIFICANT TREE
RECONNAISSANCE**

October 2011

21-1-12317-001

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

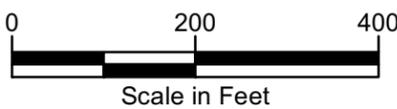
FIG. 1
Sheet 1 of 3



Legend

- Significant Tree or Snag
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Northeast 4th Street /120th Avenue
 Northeast Corridor Project
 Bellevue, Washington

**SIGNIFICANT TREE
 RECONNAISSANCE**

October 2011

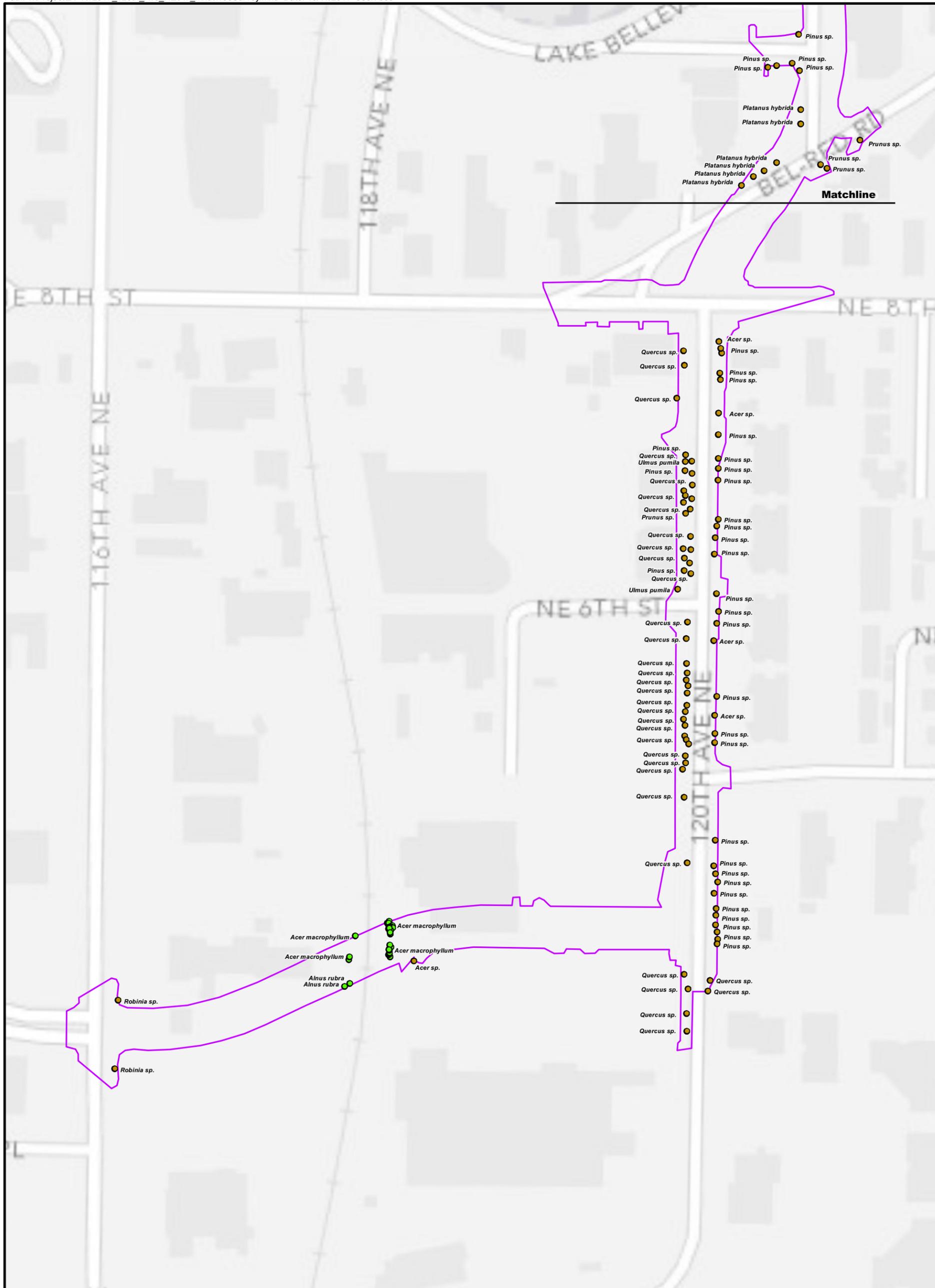
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SHANNON & WILSON, INC.
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 1
 Sheet 2 of 3

Significant Tree Inventory and Habitat Analysis

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Legend

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Northeast 4th Street /120th Avenue
Northeast Corridor Project
Bellevue, Washington

**SIGNIFICANT TREE
RECONNAISSANCE**

October 2011

21-1-12317-001

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 1
Sheet 3 of 3

Date: October 20, 2011To: Mr. Ken OswellParsons Brinckerhoff

IMPORTANT INFORMATION ABOUT YOUR BIOLOGICAL ASSESSMENT (BA)/BIOLOGICAL EVALUATION (BE) REPORT

A BA OR BE IS BASED ON PROJECT-SPECIFIC FACTORS.

BA's and BE's are based on a unique set of project-specific factors. These typically include the specific location of the project, the general nature of the project, and the property involved, its size, and its configuration; historical use and practice; the location of the project on the site and its orientation; and the level of additional risk the client assumed by virtue of limitations imposed upon the study. The jurisdiction over Threatened and Endangered (T&E) species is shared between the National Marine Fisheries Service (NMFS) and the U.S. Department of Fish and Wildlife Service (USFWS). As a result, one or more agencies will have jurisdiction over a particular aspect of your project with sometimes confusing regulations. It is necessary to involve a consultant who understands which agency(s) has jurisdiction over each species and what the agency(s) requirements are for that species. To help reduce or avoid potential costly problems, have the consultant determine how any factors or regulations (which can change subsequent to the report) may affect the recommendations.

Unless your consultant indicates otherwise, your report should not be used:

- ▶ If the size or configuration of the proposed project is altered.
- ▶ If the location or orientation of the proposed project is modified.
- ▶ If there is a change of ownership.
- ▶ For application to an adjacent site.
- ▶ For construction at an adjacent site or on site.
- ▶ Following floods, earthquakes, or other acts of nature.

Fisheries consultants cannot accept responsibility for problems that may develop if they are not consulted after factors considered in their reports have changed. Therefore, it is incumbent upon you to notify your consultant of any factors that may have changed prior to submission of our final report.

Determining the effects of projects on T&E species (called "determinations of effect") made by Shannon & Wilson are considered preliminary until determinations are agreed to by the appropriate agencies. Written concurrence with the determination of effect must be received from either NMFS or the USFWS. Only these agencies can provide this concurrence.

"DETERMINATIONS OF EFFECT" ARE PROFESSIONAL OPINIONS.

Site investigations identify habitat conditions at only those points where investigations are performed and when they are performed, but the physical means of obtaining data preclude the determination of precise conditions. Consequently, the information obtained is intended to be sufficiently accurate for determining project impacts, but is subject to interpretation. Additionally, data derived through sampling are extrapolated by the consultant who then renders an opinion about overall conditions, the likely reaction to proposed construction activity, and/or appropriate design. Even under optimal circumstances, actual conditions may differ from those thought to exist because no consultant, no matter how qualified, and no investigative program, no matter how comprehensive, can reveal what is hidden by earth, rock, and time. Nothing can be done to prevent the unanticipated, but steps can be taken to help reduce their impacts. For this reason, most experienced owners retain their consultants through the construction stage to identify variances, to conduct additional evaluations that may be needed, and to recommend solutions to problems encountered on site.

NATURAL CONDITIONS CAN CHANGE.

Since natural systems are dynamic systems affected by both natural processes and human activities, changes in conditions may be expected. Therefore, BA's and BE's cannot remain valid for an indefinite period of time. For example, a U.S. Army Corps of Engineers' permit is valid for only two years. If a period of years have passed since the BA or BE was completed, the owner is advised to have the consultant reexamine the conditions to assess if the determinations are still accurate.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or water fluctuations may also affect conditions and, thus, the continuing adequacy of the BA or BE. The consultant should be kept apprised of any such events and should be consulted to determine if additional evaluation is necessary.

THE BA OR BE IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when plans are developed based on misinterpretation of a BA or BE. To help avoid these problems, the consultant should be retained to work with other appropriate professionals to explain relevant ecological, geological, and other findings, and to review the adequacy of plans and specifications relative to these issues.

DATA FORMS SHOULD NOT BE SEPARATED FROM THE BA OR BE.

If data forms are part of the assessment or evaluation, then the final data forms are developed by the consultant based on interpretation of field sheets (assembled by site personnel); only final data forms customarily are included. These data forms should not, under any circumstances, be drawn for inclusion in other drawings because drafters may commit errors or omissions in the transfer process. Although photographic reproduction eliminates this problem, it does nothing to reduce the possibility of misinterpreting the forms. When this occurs, delays, disputes, and unanticipated costs are frequently the result.

To reduce the likelihood of data form misinterpretation, contractors, engineers, and planners should be given ready access to the complete BA or BE. Those who do not provide such access may proceed under the mistaken impression that simply disclaiming responsibility for the accuracy of information always insulates them from attendant liability. Providing the best available information to contractors, engineers, and planners helps prevent costly problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because a BA or BE is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in written transmittals. These are not exculpatory clauses designed to foist the consultant's liabilities onto someone else; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your BA or BE, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

THERE MAY BE OTHER STEPS YOU CAN TAKE TO REDUCE RISK.

Your consultant will be pleased to discuss other techniques or designs that can be employed to mitigate the risk of delays and to provide a variety of alternatives that may be beneficial to your project.

Contact your consultant for further information.