Habitat Management Plan

for the
City of Spokane's Peaceful Valley Trail

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Preface

The attached Habitat Management Plan (HMP) has been developed pursuant to the City of Spokane Municipal Code (Section 17E.020.090) and details the proposed construction/development activities, mitigation strategies, listed sensitive species and habitats, and current habitat conditions that fall within the defined project study area. This HMP also outlines Best Management Practices (BMPs) that will be implemented as the project is constructed. It should be noted that the proposed native replantings outlined in the plan are preliminary conceptual designs and final designs have not been performed by J-U-B Engineers, Inc. The native replanting measures coupled with the reseeding specifications and details shown are intended for habitat functionality only.

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Introduction

Pursuant to the City of Spokane Municipal Code (Section 17E.020.090), this report documents the required biological parameters associated with the proposed Peaceful Valley Trail project. This trail project parallels the left bank (or south bank) of the Spokane River, a short distance west of downtown Spokane, Washington. The proposed trail alignment is located within Sections 13, 18 and 24, Township 25 N, Range 42 E, Spokane County, Washington (see the Vicinity Map, Appendix A, Item #1).The overarching goal of this report is to develop an HMP that is commensurate with the anticipated project action.

This report contains comprehensive information that enables all of the applicable regulatory agencies (e.g. the Washington Department of Fish & Wildlife (WDFW), Washington State Department of Ecology (DOE) and City of Spokane Planning Department) the convenience of reviewing one document. The following elements are presented in this HMP: 1) the proposed construction/development activities; 2) the current habitat conditions that exist within the project footprint; 3) a vegetation impact analysis; and, 4) a biological assessment, which describes the listed sensitive species and habitats that exist in the proposed action area. This report also outlines planned best management practices (BMPs) and planned mitigation measures intended to maintain habitat conditions and ecological functions established prior to the proposed project action. In summary, this HMP details the environmental permitting baseline information required for regulatory agencies and project stakeholders to make informed decisions about the proposed project action.

Description of the Proposed Project Action

This project will construct approximately 1¼ miles of paved trail separated from the street system (as far as practical), paralleling the south side of the Spokane River between the Sandifur Bridge at People's Park, and Glover Field at the intersection of Water Avenue and Cedar Street (see the attached Aerial Overview Exhibits, Appendix A, Item #2). A future segment will connect further east from Glover Field to Spokane Falls Blvd at Monroe Street. The trail will be Americans with Disabilities Act (ADA) compliant, and constructed of materials that will comply with accessibility and shoreline regulations. In general, the trail will be built of either Portland cement concrete or hot mix asphalt. Specific segments of the trail may require special treatments such as boardwalk facilities suspended over steep slopes or permeable paving. The trail will be 10 feet wide throughout the entire alignment and will generally utilize existing guardrails and fencing on the downhill side of the trail in areas with steep slopes (see the Typical Cross Section Exhibits, Appendix A, Item #3). The overall concept of this trail segment stems from "The Great Spokane River Gorge Strategic Master Plan."

A portion of the proposed trail (between the Elm Street / Main Avenue intersection and the Ash Street / Water Avenue intersection) was originally planned to follow the shoreline of the Spokane River (see Sheet 4 of the Aerial Overview Exhibits); however, property acquisitions would be required before this section can be constructed. Until the required property acquisitions are obtained, the proposed trail alignment will follow Main Avenue and Ash Street in this area. The anticipated impacts and proposed mitigation measures associated with the future alignment have been included in this plan so that the additional alignment may be constructed as soon as the property acquisitions are processed.

The proposed project actions associated with the trail would include: paving parking areas at both ends of the trail, installing a new boat launch stemming from the back side of the existing playground at Glover Field, constructing restroom facility improvements at Glover Field,

installing decorative landscaping to replace existing jersey barriers, constructing a stormwater swale adjacent to the proposed trailhead parking lot nearest People's Park, and building interpretive and way-finding kiosks along the trail. Educational kiosks are envisioned at key locations along the trail to share the history of the valley, with particular emphasis on native history.

The boat launch is planned to be a formal slide-type facility for general public use and for commercial venues to access the Spokane River (see Sheet 5 of Aerial Overview Exhibits for location of the proposed boat launch). The photograph on this page illustrates a typical design of a slide-type boat launch. A restroom facility, vehicle unloading turn-around, and boat staging area are also envisioned along with the boat launch facility. The area reserved for the boat launch turn-around and staging area has been illustrated on Sheet 5 of the Aerial Overview Exhibits (see Appendix A, Item # 2).

Defined Project Action Area

The anticipated project footprint was the primary element used to define the project action area. The project's action area includes the project footprint and all areas surrounding the project footprint where construction activities could affect the environment, directly, indirectly, or through interrelated or interdependent actions. Because the temporary construction related noise impacts have been determined to be the farthest reaching project impacts, the project's action area is defined as: the limits of physical disturbance (including staging areas) plus a horizontal buffer equivalent to terrestrial noise impacts.

The anticipated construction equipment includes: compactors, excavators, backhoes, graders, and dump trucks for hauling materials. The most prevalent construction noise source would come from equipment powered by internal combustion engines (usually diesel). Noise from equipment used on this project would likely peak at approximately 89 decibels (dBA) when measured from a distance of 15 meters (50 feet) (WSDOT 2015).

The proposed project footprint is situated adjacent to and nearby existing roadways that receive consistent traffic. The ambient or background noise for the entire project action area is associated with the truck traffic on the existing roads; which correlates to a background sound of approximately 75 dBA (WSDOT 2015). To define the horizontal extent of the project related to temporary construction noise effects, Table 1 (an attenuation table) has been developed.

Table 1 - Noise Attenuation Table.

Distance from Site (feet)	Construction Noise (-6.0 dBA)[1]
50	89
100	83
200	77
400	71

Note: (1) The project action area is characterized as having "hard site" conditions.

Table 1 shows that the temporary construction noise levels should reach background or ambient sound levels at a distance less than 400 feet from the project limits of disturbance. Based on this information, the project action area has been defined as the project footprint plus a 400 foot radius. The total area encompassed by the project action area equates to approximately 121 acres. The extents of the defined project action area will be applied to sensitive species and habitats that warranted consideration, as discussed later in this HMP.

Habitat Assessment

This assessment documents the current habitat within the project action area, identifies recommended BMPs and prescribes mitigation measures. A field review of the site was conducted by Vincent Barthels, Biologist from J-U-B Engineers, Inc., on March 24 and April 10, 2015, to document the general habitat present. Photos were taken during the site visit to document the conditions within the project footprint (see Photo Inventory, Appendix C).

The Web-based Soil Survey (accessed at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx) was referenced to document the dominant mapped soil types in the project action area. The dominant soil types within the project footprint consist of a mixture of loamy sands and rocky complexes. The project footprint falls within the elevation range of 1,700 to 1,800 feet above sea level.

The National Wetlands Inventory (NWI) Map and the Department of Natural Resources (DNR) Forest Practice Water Typing Maps were referenced to identify mapped waterway systems within the project action area (see Appendix B, Items #1 & #2). The NWI Map identifies the Spokane River and associated banks as an R2UBH (riverine, lower perennial, unconsolidated bottom) stream feature. All wetland features within the project action area are associated with the Spokane River. The DNR map identifies the Spokane River as a Type S (Shoreline of the State) open water feature. Areas waterward of the ordinary high water mark (OHWM) of the Spokane River are not anticipated to be modified or encroached upon as a result of the proposed project actions.

The Spokane River would not be directly impacted by the proposed project actions; however, several areas of established woody vegetation would need to be removed to construct the proposed trail. The removal of these areas of woody vegetation would be considered an impact to the Spokane River riparian buffer zone. The anticipated woody riparian impacts have been documented in a separate memo (see Appendix A, Item #4). The woody vegetation that would need to be removed would be replaced with native plantings in accordance with Title 17E of the Spokane Municipal Code (Section 17E.060.260). Please refer to the Vegetation Conservation and Replacement section of this report for further details regarding vegetation impacts.

Plant communities within the project footprint consist of manicured residential lawns and various types of trees, shrubs and grasses along the shoreline of the Spokane River. Vegetative species that exist within the project footprint include: apple trees (*Malus spp.)*, Australian pine (*Casuarina equisetifolia)*, black hawthorn (*Crataegus douglasii)*, black locust (*Robinia pseudoacacia*), chokecherry (*Prunus virginiana)*, creeping juniper hedge (*Juniperus horizontalis)*, Douglas fir (*Pseudotsuga menziesii)*, Eurasian rose (*Rosa eglanteria*), golden currant (*Ribes aureum*), honeysuckle (*Lonicera spp.)*, lilac (*Syringa vulgaris*), London planetree (*Platanus hybrida*), mother oak (*Quercus spp.)*, ninebark (*Physocarpus capitatus*), Norway maple (*Acer*

platanoides), oceanspray (*Holodiscus discolor*), Oregon grape (*Mahonia aquifolium)*, peachleaf willow (*Salix amygdaloides)*, ponderosa pine (*Pinus ponderosa*), serviceberry (*Amelanchier alnifolia*), snowberry (*Symphoricarpos albus)* and Wood's rose (*Rosa woodsii*).

The project action area provides functional and suitable habitat for a number of terrestrial and aquatic species. Some of the known wildlife species for the defined project action area include, but are not limited to: California quail (*Callipepla californica);* cottontail rabbits (*Sylvilagus floridanus*); crows (*Corvus corax*); fly catchers (*Tyrannidae spp.);* meadow larks (*Sturnella neglecta*); moose (*Alces alces*); northern flicker (*Colaptes auratus*); red-tailed hawk (*Buteo jamaicensis);* robins (*Turdus migratorius*); whitetail deer (*Odocoileus virginianus*); mule deer (*Odocoileus hemionus*); wild turkey (*Meleagris gallopavo*); rainbow trout (*Oncorhynchus mykiss*); westslope cutthroat (*Oncorhynchus clarki lewisi*); and various songbirds (e.g. *Fringillidae spp., Spizella spp.*).

The Spokane River and associated riparian zone in the defined project action area provides high quality and viable wildlife habitat; and, the species richness and diversity amongst the established native riparian vegetative community would be characterized or rated as high. Some non-native woody vegetation (e.g. black locust or Norway maple) recruitment is evident as well as some annual weedy species [e.g. spotted knapweed (*Centaurea maculosa*) and toad flax (*Linaria vulgaris*)]. Annual weedy species occupy less than 5% of the overall ground cover within the project footprint. Overall, the ecological habitat character of the project action area is in good shape.

Vegetation Conservation and Replacement

In order to complete the proposed project actions, some established woody vegetation removal and/or disturbance would be necessary. In accordance with City of Spokane Municipal Code, as well as additional planning guidance set forth in the City of Spokane's Comprehensive Plan, vegetated areas within the shoreline jurisdictional area are protected in order to achieve no net loss of shoreline ecological functions (see the attached Project Summary Exhibits for the limits of the shoreline jurisdictional area). Generally speaking, the shoreline jurisdiction extends 200 feet landward of the OHWM.

An area's shoreline environmental designation depicts the horizontal extents that shoreline vegetation shall be protected. The shoreline environmental designation of the project footprint is defined as "Urban Conservancy." The Urban Conservancy designation aims to "protect and restore ecological functions of open space, flood plain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses" (City of Spokane 2012). This type of environmental designation requires that standards are established for shoreline stabilization, vegetation conservation, water quality, and shoreline modifications in order to ensure that new developments do not result in a net loss of shoreline ecological functions or further degrade other shoreline values. The City of Spokane implements these standards through the Spokane Municipal Code, namely Chapter 17E.060 "Shoreline Regulations."

Chapter 17E.060 of the Spokane Municipal Code provides guidance related to vegetation removal near the shoreline of the Spokane River, and is dependent on specific reaches of the river. Table 2 (on page 7) establishes the specified width of Riparian Habitat Areas (RHAs), which dictates

that vegetation removal is specifically prohibited unless the project is required for public health and safety. This project is a public safety project, which improves pedestrian access along this stretch of the Spokane River.

The proposed project footprint is associated with Zone 2 within Table 2. The restricted use or buffer area of the Spokane River in this region is specified as the 100-year floodplain, or 130 feet from the OHWM (whichever is greater). Portions of the proposed project footprint (including necessary vegetation removal) would occur within the specified restriction/buffer area; however, the proposed project is in fact warranted with regard to public safety and therefore should be allowed.

Table 2 – Shoreline Buffer Areas (Table 17E.020-4 of Spokane Municipal Code as shown in Section 17E.020.050).

Zone Number	Upstream Limit	Downstream Limit	RHA Width	Restrictions
1	Eastern City Limits	Greene Street Bridge	Outer edge of 100-year floodplain, the channel migration zone, or 250 feet, whichever is greater	No improvements of any kind or vegetation removal within 250 feet of the OHWM (unless invasive vegetation removal is called for in a HMP) *
2(1)	Greene Street Bridge	Confluence With Latah Creek	Outer edge of 100-year floodplain or 130 feet, whichever is greater	No improvements of any kind or vegetation removal within 130 feet of the OHWM (unless invasive vegetation removal is called for in a HMP) *
3	Confluence With Latah Creek	T.J. Meenach Bridge	Outer edge of 100-year floodplain, the channel migration zone, or 250 feet, whichever is greater	No improvements of any kind or vegetation removal within 250 feet of the OHWM (unless invasive vegetation removal is called for in a HMP) *
4	T.J. Meenach Bridge	Western City Limit	Outer edge of 100-year floodplain, the channel migration zone, or 250 feet, whichever is greater	No improvements of any kind or vegetation removal within 250 feet of the OHWM (unless invasive vegetation removal is called for in a HMP) *
5(1)	Latah Creek - Inland Empire Bridge	Confluence With Spokane River	Outer edge of 100-year floodplain or 130 feet, whichever is greater	No improvements of any kind or vegetation removal within 130 feet of the OHWM (unless invasive vegetation removal is called for in a HMP) *
6	Latah Creek - Southern City Limits	Inland Empire Bridge	Outer edge of 100-year floodplain, the channel migration zone, or 250 feet, whichever is greater	No improvements of any kind or vegetation removal within 250 feet of the OHWM (unless invasive vegetation removal is called for in a HMP) *

* Vegetation may be removed if deemed necessary to protect public health and safety.

(1) Riparian Segment Zones 2 and 5 shall extend to the outer edge of the one hundred year floodplain or consist of the width of one hundred thirty feet, whichever is greater, unless it is deemed by the director that an approved habitat management plan shows the site potential tree height (SPTH) to be less than one hundred thirty feet. Under this provision no improvements of any kind or vegetation removal (unless invasive vegetation removed is called for in the habitat management plan) will be allowed within the one hundred thirty feet or the site potential tree height, unless for public health and safety.

Vegetation removal within the RHA would require vegetation replacement efforts. Section 17E.060.260 of the Spokane Municipal Code provides guidance on required replacement ratios that must be implemented if vegetation is to be removed from RHAs. Table 3 below summarizes the vegetation mitigation requirements based on the specific vegetation type and size. Additionally, pursuant to Section 12.02.904(C) the City's tree committee (i.e. Jeff Perry as the City's lead arborist) has the authority to regulate and permit the planting, pruning, removal, replacement, and maintenance of all street trees.

Table 3 – Shoreline Vegetation Replacement Requirements (Table 17E.060-1 of Spokane Municipal Code as shown in Section 17E.060.260).

Vegetation Removed	Replacement Ratios
Native Deciduous Trees Less Than 6" Caliper	1:1 replacement ratio; Replacement tree(s) must be a minimum 2" caliper
Native Deciduous Trees Over 6" Caliper	2:1 replacement ratio; Replacement tree(s) must be a minimum 2" caliper
Native Evergreen Trees Less Than 6" Caliper	1:1 replacement ratio; Replacement trees(s) must be a minimum 2" caliper
Native Evergreen Trees Over 6" Caliper	2:1 replacement ratio; Replacement trees must be a minimum 2" caliper
Native Shrubs	1:1 replacement ratio; Replacement shrub(s) must be at a minimum 12" - 18" in diameter (at head)
Native Groundcover	1:1 replacement ratio: Replacement groundcover(s) must be at a minimum 4" in diameter (at pot)

Note: Table 17E.060-1 specifies that deciduous trees shall be replaced with trees with minimum caliper size of 2.5" and evergreen trees shall be replaced with trees with a minimum caliper size of 4"; however, following the directions of Jeff Perry (the City of Spokane selected lead arborist) the minimum caliper sizes of these tree replacements were changed to 2".

In order to more accurately quantify the required amount of replacement plantings, an alternative planting replacement schedule has been proposed in this HMP that models the requirements described in Table 3. Based on past experiences, smaller evergreen tree plantings (i.e. caliper measurements less than 1") typically have a much better survival rate than the larger plantings. Because of this experience, this HMP proposes replacing evergreen trees that have a caliper measurement (or diameter at breast height (DBH)) less than or equal to 6" with a larger quantity of smaller trees (i.e. 2-gallon nursery sized plantings). Also, in order to better quantify the required mitigation plantings, it is assumed that replacement shrub plantings would be planted at a rate of one 5-gallon planting every 50 square feet, native ground gover would be replaced at a rate of one 10-cubic inch planting plug for every 50 square feet, and that a 4" DBH tree is equivalent to a 25-gallon nursery sized tree planting. Furthermore, it is understood that a number of non-native trees will need to be removed as a result of the proposed project actions. While the non-native vegetation does not have the same ecological value as the native species, mitigation for removal of the non-native vegetation is still warranted because of the habitat that it provides. Because of the lower ecological value associated with the non-native species, this HMP proposes that the non-native vegetation be replaced with a ratio equal to 50% of what is detailed for native tree replacement. The proposed alternate replacement planting methods have been detailed in Table 4.

Table 4 – Alternate Vegetation Replacement Ratios.

Vegetation Removed	Replacement Ratios
Native Deciduous Trees Less Than 6" Caliper	One 5-gallon nursery sized deciduous tree planting for every 1" of DBH (maintaining 1:1 replacement ratio)
Native Deciduous Trees Greater Than 6" Caliper	Two 25-gallon nursery sized deciduous tree planting for every 4" of DBH (maintaining 2:1 replacement ratio)
Native Evergreen Trees Less Than 6" Caliper	Two 2-gallon nursery sized evergreen tree planting for every 1" of DBH (maintaining 1:1 replacement ratio)
Native Evergreen Trees Greater Than 6" Caliper	Two 25-gallon nursery sized evergreen tree planting for every 4" of DBH (maintaining 2:1 replacement ratio)
Native shrubs	One 5-gallon nursery sized shrub planting for every 50 square feet of impacted shrubs (maintaining 1:1 replacement ratio)
Native groundcover	One 10-cubic inch planting plug for every 50 square feet of impacted native herbaceous layer (maintaining 1:1 replacement ratio)
Non-native Trees and Shrubs	50% of the ratios described for native tree replacements.

In terms of quantified woody vegetation impacts, the loss of 308 trees with a DBH of 1-6" (132 of which are non-native), 54 trees with DBH greater than 6" (38 of which are non-native), and 4,905 square feet of shrub canopy cover or peachleaf willow to be pruned (1,070 square feet of which is non-native) represent the worst case scenario (i.e. a 100% loss) (see the Anticipated Vegetation Impacts Memo, Appendix A, Item #4). The total anticipated vegetation impacts, as well as the proposed mitigation planting efforts have been detailed in Table 5.

Table 5 – Proposed Woody Vegetation Replacement Plantings.

Type of Vegetation Impact	Total Impact	Proposed Mitigation Replanting
Native deciduous trees with DBH less than or equal to 6"	104" cumulative DBH	104 5-gallon nursery sized deciduous tree plantings
Native deciduous trees with DBH greater than 6"	0" cumulative DBH	None
Non-native deciduous trees with DBH less than or equal to 6"	350" cumulative DBH	175 5-gallon nursery sized deciduous tree plantings
Non-native deciduous trees with DBH greater than 6"	471" cumulative DBH	118 25-gallon nursery sized deciduous tree plantings
Native evergreen trees with DBH less than or equal to 6"	207" cumulative DBH	414 2-gallon nursery sized evergreen tree plantings
Native evergreen trees with DBH greater than 6"	240" cumulative DBH	120 25-gallon nursery sized evergreen tree plantings
Non-native evergreen trees with DBH less than or equal to 6"	0" cumulative DBH	None
Non-native evergreen trees with DBH greater than 6"	12" cumulative DBH	3 25-gallon nursery sized evergreen tree plantings
Native shrubs	3,835 square feet	77 5-gallon nursery sized shrub plantings
Non-native shrubs	1,070 square feet	11 5-gallon nursery sized shrub plantings

In addition to the anticipated woody vegetation impacts, some areas of the proposed trail alignment would require removal of several areas of ponderosa pine steppe habitat, including associated understory plants (e.g. lupine, balsamroot, arnica, etc.). These understory plants

make up an herbaceous groundcover that consists of various native forbs and grasses. The total area of native herbaceous groundcover that is anticipated to be impacted equates to approximately 0.50 acres for the worst case scenario. The specific areas of anticipated herbaceous groundcover impacts correlate to: 0.32 acres north of Clarke Ave. on the western portion of the trail; 0.03 acres for retaining walls on the western portion of the trail; 0.13 acres for retaining walls on the eastern portion of the trail; and, 0.02 acres for the proposed boat launch location at Glover Field. Based on coordination with the WDFW, an appropriate replacement ratio for the native herbaceous ground cover would be to plant one 10-cubic inch native forb planting plug for every 50 square feet of anticipated impact. Based on the proposed herbaceous groundcover replacement strategy, a total of 436 native forb planting plugs would be necessary.

The recommended plant species that will be used within the project footprint are all known to occur within the project vicinity. These recommendations are intended to create an aesthetically pleasing and functioning habitat. Table 6 outlines the re-plantings prescribed for this project.

Table 6 – Proposed Shoreline Vegetation Replacement Plantings.

Common Name	Scientific Name	Size or Condition	Quantity
TREES			
Black Hawthorn	*Crataegus douglasii*	25-gallon or greater	39
		5-gallon or greater	46
Black cottonwood	*Populus trichocarpa*	25-gallon or greater	40
		5-gallon or greater	46
Peachleaf willow	*Salix amygdaloides*	25-gallon or greater	39
		5-gallon or greater	46
Ponderosa pine	*Pinus ponderosa*	25-gallon or greater	123
		2-gallon or greater	414
Serviceberry	*Amelanchier alnifolia*	5-gallon or greater	141
SHRUBS			
Chokecherry	*Prunus virginiana*	5-gallon or greater	8
Ninebark	*Physocarpus capitatus*	5-gallon or greater	28
Oceanspray	*Holodiscus discolor*	5-gallon or greater	8
Oregon Grape	*Mahonia aquifolium*	5-gallon or greater	8
Snowberry	*Symphoricarpos albus*	5-gallon or greater	28
Wood's rose	*Rosa woodsii*	5-gallon or greater	8
PLANTING PLUGS			
Arrowleaf balsamroot	*Balsamorhiza sagittata*	10-cubic inch plug	150
Big leaf lupine	*Lupinus polyphyllus*	10-cubic inch plug	60
Blue lupine	*Lupinus sericeus*	10-cubic inch plug	60
Common yarrow	*Achilea millefolium*	10-cubic inch plug	106
Silver lupine	*Lupinus argenteus*	10-cubic inch plug	60

The total number of proposed replacement plantings equates to 414 2-gallon tree plantings, 279 5-gallon tree plantings, 241 25-gallon tree plantings, 88 5-gallon shrubs, and 436 10-cubic inch planting plugs. The six areas where the proposed plantings would be installed are illustrated on the Aerial Overview Exhibits (see Appendix A, Item #2), and consist of the following areas:

- Glover Field Park – planting adjacent the trail's path along the ball field's outfield fence line, between the existing playground equipment and where the existing trail begins its ascent to Main St.
- City-owned park property along the river north of Water Ave. The Peaceful Valley Neighborhood representatives will be consulted to assist with boundaries.
- Between Cedar and the Maple Street bridge.
- Between Water Ave. cul-de-sac to the west and Ash St.
- Between Ash Street and the Maple Street bridge.
- Between Clarke Ave. and Main Ave. on the east side of Elm St.

Cumulatively, the prescribed mitigation planting areas encompass approximately 1.45 acres for woody vegetation plantings, and 0.50 acres for native forb plantings. The total area required for these plantings is based on providing approximately 50 square feet for both 2-gallon and 5-gallon tree plantings, 50 square feet for 5-gallon shrub plantings, 100 square feet for 25-gallon tree plantings, and 50 square feet for native forb planting plugs. The planting areas depicted on the Aerial Overview Exhibits show a slightly larger area (1.6 acres for woody vegetation, and 0.56 acres for native forb plantings) because there are small amounts of existing woody vegetation within the designated areas that would be retained. The placement of the individual plantings would be mostly random; however, upland tree plantings (e.g. ponderosa pines) would typically be planted toward the up-gradient side of the planting areas, whereas riparian species (such as cottonwoods and willows) would be planted nearest to the Spokane River. Native forb planting plugs would be planted in separate designated areas; however, some interspersing and or transitioning between the areas would be expected (see the Aerial Overview Exhibits, Appendix A, Item #2). Appropriate planting installation techniques are outlined on the Tree Planting Details and Supplemental Planting Notes (see Appendix A, items #5 and #6, respectively). The proposed planting areas may require some soil amendments in the areas that have experienced a lot of previous compaction, and irrigation must be provided to the areas during dry months for at least the first 2-3 growing seasons to ensure establishment of the plantings. The majority of the proposed planting areas already have existing water service that can be utilized for irrigation; however, the planting area along Elm St. will require a new connection to the water lines that exist at the property.

Ten years of vegetation monitoring is suggested post construction. The overall goal is to have the re-plantings maintained as necessary to ensure a minimum survival rate of 80% ten years after planting. Plantings that are unsuccessful during this period will be removed and replaced.

After the trees and shrubs have been established for a period of no less than ten years, the site would be considered part of the zero landscape area, meaning additional monitoring or maintenance efforts would no longer be warranted.

An initial photo inventory of the project site should be recorded from several pre-determined photo points. For ten years, the status of the project site should be summarized in a yearly report, with photos taken annually from the established photo points, beginning one year after the completion of the project. Annual reports should be submitted to the City of Spokane Planning Department.

Noxious weeds within the project footprint would be identified and eliminated using an appropriate herbicide treatment (e.g. AquamasterTM or similar suitable product) or by hand pulling coupled with the proper disposal of the noxious weeds. The selected herbicide treatment shall be approved to work in close proximity to aquatic settings. Furthermore, if herbicides are applied, then the application must be completed in accordance with the directions on the label of the product. If hand methods are sought out, then the pulled noxious weeds must be disposed of at a waste to energy location within Spokane County. Areas where noxious weeds are eliminated in high densities (i.e. > 1,000 square feet) would be reseeded with native grass seed mix towards the end of the growing season.

ESA Federally Listed Species

Overview

Similar to a biological assessment, this section of the HMP describes the threatened or endangered species that may occur within the defined project action area.

ESA Consultation

In order to identify species of concern associated with the proposed project actions, a species list was obtained from the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) system (dated June 1st, 2015). According to the IPaC report (see Appendix B, Item #3), five species that are listed as "Endangered," "Threatened," "Candidate," or "Proposed Threatened" have potential to exist within the project action area. The species list summarized in Table 7 was derived from habitat conditions and potential species occurrence within the proposed project action area.

Table 7 – ESA Listed Species for the Project Action Area.

Common Name	Scientific Name	ESA Status	Effect Determination
Bull trout	*Salvelinus confluentus*	Threatened	No Effect
Canada lynx	*Lynx canadensis*	Threatened	No Effect
Spalding's silene	*Silene spaldingii*	Threatened	No Effect
Water howellia	*Howellia aquatilis*	Threatened	No Effect
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened	No Effect

To complement the IPaC ESA species listing, an information search was completed using the WDFW Priority Habitat and Species (PHS) database. The report generated from the PHS database search was used to further substantiate the potential presence of specific species (see WDFW PHS Report, Appendix B, Item #4).

The following subsections include species and habitat descriptions, as well as information regarding current use of the project area by the federally listed species that warrant ESA consideration.

Bull Trout and Critical Habitat

Bull trout are native chars and part of the salmonid family. They have grayish to dark green sides with white to pinkish spots. The fish is recognized by the white margins on its pectoral, ventral, and anal fins (Eddy and Underhill 1978). The dorsal fin lacks the spots that cover the back and sides of the body. Adults range from 8 inches to more than 2 feet in length. Bull trout that live in streams rarely exceed 4 pounds (USFWS 1998). Bull trout reach sexual maturity between four and seven years of age and are known to live as long as 12 years. They spawn in the fall in streams with cold, unpolluted water, clean gravel and cobble substrate, and gentle stream slopes (USFWS 1998). Bull trout eggs require a long incubation period, hatching in late winter or early spring. Some may live near areas where they were hatched; however, others migrate from streams to lakes a reservoirs a few weeks after emerging from the gravel. Bull trout habitat consists mainly of oligotrophic lakes and deep pools of pristine cold fluvial habitats in mountainous regions, mainly 45 to 55 degrees Fahrenheit (Sternberg 1996).

None of the proposed project activities would occur below the OHWM of the Spokane River. Furthermore, preventative measures would be taken to minimize the possibility of erosion and sedimentation affecting the Spokane River through implementation of BMPs outlined in this report (namely BMP #'s 5 and 6). Additionally, the presence of bull trout in the project action area is considered to be extremely rare or discountable.

Canada lynx

The Canada lynx is normally found in dense forested areas with an abundance of windfalls, swamps and brushy thickets (Maas 1997). Lynx require heavy cover for concealment when stalking prey. In addition, lynx are most likely to persist in areas that receive deep snow, for which the lynx is highly adapted (Maas 1997). In the western U.S., lynx occurrences generally are found only above 4,000 feet in elevation (McKelvey et al. 2000).

The project action area sits well below the typical elevation range of the Canada lynx. According to the PHS data, no occurrences of the Canada lynx have been documented within the project action area.

Spalding's Silene

Spalding's silene (sometimes called Spalding's catchfly) is an herbaceous perennial, 8-24 inches tall, typically with one stem, bearing 4 to 7 pairs of leaves that are 2 to 3 inches in length (Hitchcock et al. 1964). The light green foliage and stem are lightly to more typically densely covered with sticky hairs. The cream-colored flowers are arranged in a spiral at the top of the stem. The species begins to flower in mid- to late-July, with some individuals still flowering by early September. Spalding's silene generally occurs in native grasslands or Palouse Prairie habitats that are in reasonably good ecological condition. It is found most commonly in sites that are typically dominated by Idaho fescue, have sparse cover of snowberry, and are near scattered ponderosa pine trees (Washington National Heritage Program 2001). Populations have been found

on all aspects, although there seems to be a preference for slopes which face north. It occurs at elevations ranging from about 1,900 to 3,600 feet, and on flat to steep slopes. Soils are almost always productive silts/loams (loess) that are moderately deep and sometimes gravelly (Gamon 1991).

No evidence of Spalding's silene suitable habitat was observed during the site visit. The vegetative community observed within the project footprint does not coincide well with vegetative communities linked to known populations of Spalding's silene (i.e. minimal to no native grasslands or Palouse prairie habitat). According to the PHS data, there are no documented occurrences of the Spalding's silene within the proposed project action area.

Water Howellia

Water howellia is an aquatic plant that grows 4-24 inches in height. It has extensively branched, submerged or floating stems with narrow leaves (0.4-2 inches) in length. Two types of flowers are produced: small, inconspicuous flowers beneath the water surface, and emergent white flowers 0.08-0.11 inches in length. The plant is predominantly self-pollinating, and each fruit contains up to five large brown seeds (Shelly and Moseley 1988). Water howellia are associated with ponds and lakes in western Washington, western Oregon, northern Idaho, and western Montana. It typically occurs on the bottoms of the ponds along the shallower edges, where summertime depths were generally between 12 and 24 inches. Typically, there is little other vegetation where water howellia occurs, but it grows near mannagrass (*Glyceria spp.),* sedges (*Carex spp.),* and bur-reed (*Sparganium spp.)* and in ponds containing downed logs or snags (Shelly and Moseley 1988). This species is adversely affected by modification of riparian and wetland habitats.

The free flowing water within Spokane River is not conducive to the growth of water howellia. During the field investigation, which was not in the optimal survey timeframe, no evidence of suitable water howellia habitat was observed. The project area does not contain suitable habitat for water howellia. According to the PHS data, there are no documented occurrences of the water howellia within the proposed project action area.

Yellow-billed Cuckoo

The yellow-billed cuckoo, as the name suggests, has a yellow lower mandible (Alsop 2001). It has rufous wings which contrast against the gray-brown wing coverts and upperparts, and white underparts (Alsop 2001). Large white spots can be noted on its long black undertail (Alsop 2001). The yellow-billed cuckoo is also known as the raincrow because its call heralds the coming of summer rains. It is a neotropical migrant which winters in South America (NatureServe 2015). Breeding often coincides with the appearance of massive numbers of cicadas, caterpillars, or other large insects (NatureServe 2015; Ehrlich et al. 1992). Its incubation/nestling period is the shortest of any known bird because it is one of the last neotropical migrants to arrive in North America and chicks have very little rearing time before embarking on their transcontinental migration (NatureServe 2015). Cuckoos typically start their southerly migration by late August or early September. In the West, this cuckoo will nest in dense stands of tall cottonwood and willow riparian woodlands (NatureServe 2015; Harrison 1979). Their nesting home range may include 25 acres (10 hectares) or more of riparian woodland habitat (NatureServe 2015; Biosystems Analysis 1989).

There are no documented occurrences of the yellow-billed cuckoo within the vicinity of the proposed project action area; however, suitable habitat does exist within the riparian areas along the Spokane River. Some vegetation impacts are anticipated as a result of this project, but no cottonwood or willow forested stands are expected to be removed.

Analysis of Effects for ESA Listed Species

The following subsections address the potential project effects on ESA listed species.

Bull Trout and Critical Habitat

None of the proposed project activities would occur below the OHWM of the Spokane River. Therefore, a "no effect" determination for bull trout and its critical habitat is warranted.

Canada Lynx

The project action area does not contain suitable habitat for the Canada lynx. A "no effect" determination for Canada lynx is warranted for this project based on lack of suitable habitat.

Spalding's Silene

During the field investigation, the presence of Spalding's silene suitable habitat was not observed. The densely forested habitat of the project site does not align with the potential suitable habitat linked to this rare plant. A "no effect" determination for Spalding's silene is warranted for this project.

Water Howellia

Water howellia is not believed to exist within the project action area, based on field investigations, habitat considerations (i.e. free flowing water) and lack of documented occurrence within the general vicinity of the project. Therefore, a "no effect" determination is warranted for water howellia.

Yellow-billed Cuckoo

There are no documented occurrences of the yellow-billed cuckoo within the vicinity of the proposed project action area; however, suitable habitat does exist within the riparian areas along the Spokane River. Some vegetation impacts are anticipated as a result of this project, but no cottonwoods or willows are expected to be removed. Based on lack of documented occurrences, and scope of work, the proposed project has been determined to have no effect on the yellow-billed cuckoo.

Essential Fish Habitat

There is no Essential Fish Habitat (EFH) in Spokane County; namely, because the Spokane River is located upstream of Grand Coulee Dam. Grand Coulee Dam, built without fish mitigation features, virtually cut off all salmon and steelhead spawning habitat for the upper 620 miles of the Columbia River.

WDFW Priority Habitat and Species (PHS)

A review of the WDFW PHS database on May 29, 2015 generated a critical species and habitat list specific to the defined action area (see Appendix B, Item #4). Review of the PHS database resulted in the identification of four species and one habitat type that warrant consideration. The included species were derived from habitat conditions coupled with potential species occurrence in the project vicinity. The sensitive species and critical habitat list for this project

that resulted from consultation with the WDFW web based PHS Program is summarized in Table 8.

Table 8 - WDFW Listed Priority Habitat and Species.

Common Name	Scientific Name	ESA Status	Effect Determination
Biodiversity areas linked to riparian habitat	N/A	N/A	May Affect, Not Likely to Adversely Affect (NLAA)
Mule deer	*Odocoileus hemionus*	N/A	No effect
Northwest white-tailed deer	*Odocoileus virginianus*	N/A	No effect
Rainbow trout	*Oncorhynchus mykiss*	N/A	No effect
Westslope cutthroat	*Oncorhynchus clarkii lewisi*	N/A	No effect

Analysis of Effects Linked to PHS Listed Species and Habitats

The following subsections address the potential project effects on PHS listed species and riparian habitat.

Biodiversity areas linked to riparian habitat

Riparian habitat as defined by WDFW is "the area adjacent to flowing or standing freshwater aquatic systems. Riparian habitat encompasses the area beginning at the OHWM and extends to that portion of the terrestrial landscape that is influenced by, or that directly influences, the aquatic ecosystem. In riparian systems, the vegetation, water tables, soils, microclimate, and wildlife inhabitants of terrestrial ecosystems are often influenced by perennial or intermittent water. Simultaneously, adjacent vegetation, nutrient and sediment loading, terrestrial wildlife, as well as organic and inorganic debris influence the biological and physical properties of the aquatic ecosystem. Riparian habitat includes the entire extent of the floodplain and riparian areas of wetlands that are directly connected to stream courses or other freshwater." In the case of the Spokane River (Type S waterway), the riparian habitat is protected by a buffer area equal to the width of the 100-year mapped floodplain, or 130 feet (whichever is greater).

The proposed construction activities "may affect" riparian habitat because:

- Removal of woody riparian vegetation would occur to facilitate construction activities along vegetative portions of the proposed trail alignment.

The proposed construction activities are "not likely to adversely affect" riparian habitat because:

- Post-construction woody riparian vegetation would be re-planted to offset the anticipated impacts. A total of 1,022 re-plantings are prescribed as a form of compensatory mitigation.

Therefore, the proposed multi-use trail project yields a "NLTAA" determination on riparian habitat correlated to Biodiversity Areas.

Mule deer and white-tailed deer

Suitable winter range and foraging habitat for mule deer and white-tailed deer is present in the general project action area; however, the flow of traffic along the existing roadway network in the vicinity makes this less than ideal habitat. The project footprint is not likely an important travel corridor for deer moving along the Spokane River. It is unlikely that the project would impact any type of travel corridor function, or impact significant coverage of ideal habitat during the course of the construction. More ideal (less disturbed) habitat is available for foraging and/or hiding outside of the project footprint. Therefore, the proposed project yields a "no effect" determination for both mule deer and white-tailed deer based on habitat considerations.

Rainbow trout and westslope cutthroat trout

None of the proposed project activities would occur below the OHWM of the Spokane River. Furthermore, preventative measures would be taken to minimize the possibility of erosion and sedimentation affecting the Spokane River through implementation of BMPs outlined in this report (namely BMP #'s 5 and 6). Therefore, the proposed project would have no effect on both rainbow trout and westslope cutthroat trout based on the anticipated construction activities.

Summary of Analysis of Effects (ESA & PHS Listed Species and Habitats)

It is determined that the proposed construction activities and ongoing operations associated with the proposed project will have no direct and/or indirect effect on the following ESA and PHS species: bull trout, Canada lynx, mule deer, rainbow trout, Spalding's silene, water howellia, white-tailed deer, westslope cutthroat, and yellow-billed cuckoo. The proposed project "may affect, but not likely to adversely affect" riparian habitat based on the anticipated riparian woody vegetation losses. Potential affects to riparian habitat would be mitigated for and BMPs would be implemented to ensure habitat conditions are maintained associated with the proposed project actions. The prescribed BMPs are outlined in the next section of this HMP.

Planned Best Management Practices

BMPs would be in place to minimize direct, short-term construction impacts as well as any long term impacts associated with the ongoing operations of the proposed trail. Planned BMPs herein are intended to restore and preserve vegetative structure; and, minimize erosion and effects to sensitive species and habitats. These measures include ensuring proper maintenance and safety procedures are adhered to; re-seeding barren locations; and, aggressively controlling noxious weeds, specifically spotted knapweed and toadflax. BMPs are mandatory and would become part of the project actions as described herein.

BMPs include but are not limited to:

1) Earthwork and trail construction would occur only within the outlined limits of the defined project footprint.
2) The Contractor would have a Spill Prevention Plan approved and in place prior to any construction activities. Construction equipment, such as dump trucks or pickups, would be fueled offsite at a commercial facility.

3) Disturbance of native vegetation should be kept to a minimum. Wherever possible, riparian vegetation within the RHAs should be retained and protected; or replaced using native trees and shrubs (see Table 6).

4) Aggressive control of noxious weeds, namely knapweed and toadflax on disturbed areas would be required as part of this project. Noxious weeds within the site would be identified and vigorously eliminated using an appropriate herbicide treatment or by hand pulling coupled with the proper disposal of the noxious weeds. AquamasterTM or similar herbicide shall be utilized per the manufacturer's specifications to control the aforementioned species. If herbicide is to be used within 100 feet of the Spokane River, AquamasterTM or similar suitable product shall be employed per the manufacturer's specifications.

   Knapweed should be sprayed in spring or early summer before flower buds appear, to ensure plants do not produce seed after being sprayed. Spraying can also be done in the fall, to target rosettes that will overwinter. Spraying shall not occur when it is windy or raining or when rain is forecasted. Furthermore, if herbicides are applied, then the application must be completed in accordance with the directions on the label of the product. If hand methods are sought out, then the pulled noxious weeds must be disposed of at a waste to energy location within Spokane County. Areas where noxious weeds are eliminated in high densities (i.e. > 1,000 square feet) would be reseeded towards the end of the growing season with native grass seed mix such as blue-bunch wheatgrass or Idaho fescue with up to 10% wildflowers (e.g. lupine (*Lupinus sulphureus)* or arrowleaf balsamroot (*Balsamorhiza sagittata*)). All reseeding shall occur at a rate of 60 lbs/acre. If mechanical and/or chemical control of knapweed appears to be ineffective, biological control may be implemented. Two weevils that are host specific to knapweed, seedhead weevils (*Larinus minutus*/*obtusus*) and root borer weevils (*Cyphocleonous achates*) may be released onsite. It may take several years for the populations of these insects to grow large enough to effectively control the weed species.

5) Temporary erosion controls (TECs) (i.e. silt fences, silt curtains) would be implemented according to the final construction designs. TECs would generally be in place along the toe of the trail's embankment, above the OHWM nearest to any material stockpiling areas, and active working or fueling areas.

6) The project would include regular onsite observation of work and TECs. Any deficiencies in TECs must be addressed immediately.

7) All replacement planting areas would receive temporary irrigation systems that would be in place until the new plantings are established.

8) The irrigation system shall assign separate stations/zones to areas with differing watering requirements. Separate zones shall be provided for trees, shrubs, shady areas, sunny areas, drip irrigation areas, and sprinklers.

9) All irrigation trenches that are installed near existing trees shall be hand dug to minimize the potential of harming the trees root systems.

Conclusion

The proposed trail project actions are focused on providing a safe area for pedestrian passage while maintaining the pristine ecosystem. The prescribed BMPs and mitigation measures contained in this document would minimize effects to wildlife and the natural ecosystem.

The proposed project would likely require the removal of up to: 308 trees with a DBH of 1-6", 54 trees with DBH greater than 6", and 4,905 square feet of shrub canopy cover or peachleaf willow to be pruned. In order to mitigate necessary removal of woody vegetation within the Spokane River riparian buffer zone, a sufficient number of native replantings have been proposed. The total number of proposed plantings equates to: 414 2-gallon tree plantings, 279 5-gallon tree plantings, 241 25-gallon tree plantings, 88 5-gallon shrubs, and 436 10-cubic inch planting plugs; or, 1,458 total re-plantings.

Habitat and project action considerations, coupled with a low potential occurrence of listed species within the defined action area, yielded a "no effect" determination for all of the listed ESA and PHS species discussed in this report. Riparian habitat received a "may affect, not likely to adversely affect" determination because of required removal of the aforementioned woody vegetative assemblages. The prescribed BMPs and replacement plantings should offset these impacts.

The project would not yield any measurable effect on water quality in the Spokane River if BMPs are properly implemented. The prescribed weed control measures should maintain the natural ecosystem and combat the spread of noxious weeds in the proposed project action area. The prescribed BMPs and native re-plantings should maintain the ecological functions and values of the project footprint. Lastly, it should be noted that the final authority to adopt this plan, or the findings herein, rests with the appropriate regulatory agencies.

Respectfully submitted by:

6/30/15

Vincent J. Barthels, Biologist
J-U-B ENGINEERS, Inc.

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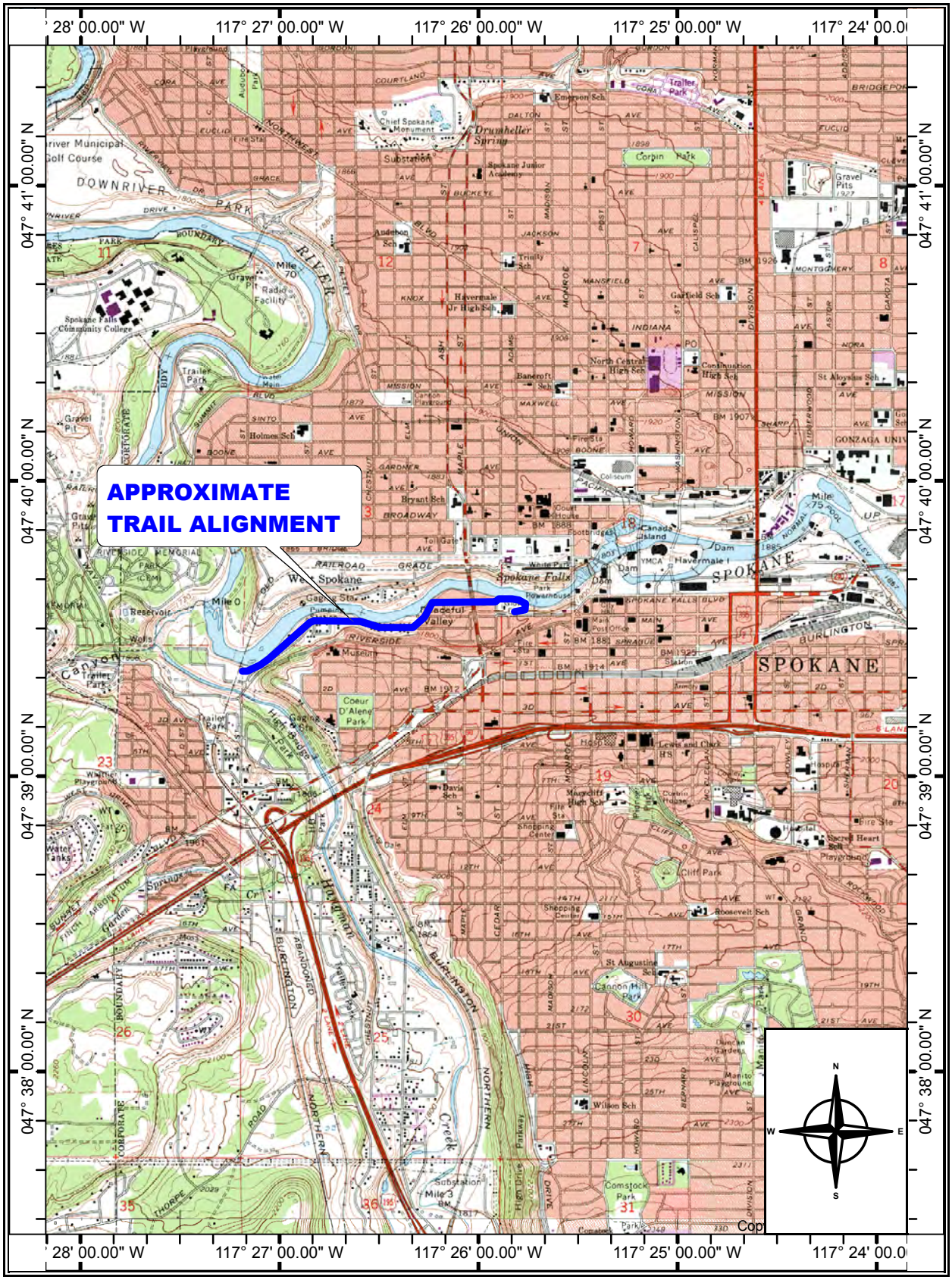
APPENDIX A



HORIZONTAL DATUM: NAD27 MAP: SPOKANE NW

J·U·B ENGINEERS, INC.

0 1000 2000 3000 4000 5000 6000
FEET

1 inch = 3,000 ft.

CONTOUR INTERVAL: 20 Feet

VICINITY MAP

SHEET 2

SHEET 3

SHEET 4

SHEET 5

SEGMENT 1 ↔ SEGMENT 2

SEGMENT 2 ↔ SEGMENT 3

SEGMENT 3 ↔ SEGMENT 4

SEGMENT 4 ↔ SEGMENT 5

Sandifur Bridge

Clarke

North St.

Spruce St.

Bennett

Clarke

Clarke

Riverside Drive

Maple St.

LEGEND

PROPOSED TRAIL ALIGNMENT

VEGETATION INVENTORY SEGMENT BOUNDARY

N

0 200 400

SCALE IN FEET

J-U-B ENGINEERS, INC.

LAST UPDATED: 6/24/2015
PLOT DATE: 6/24/2015
FILE: 70-15-011_ENV-101

PEACEFUL VALLEY TRAIL
CITY OF SPOKANE
AERIAL OVERVIEW EXHIBITS - SHEET 1 (SHEET INDEX)

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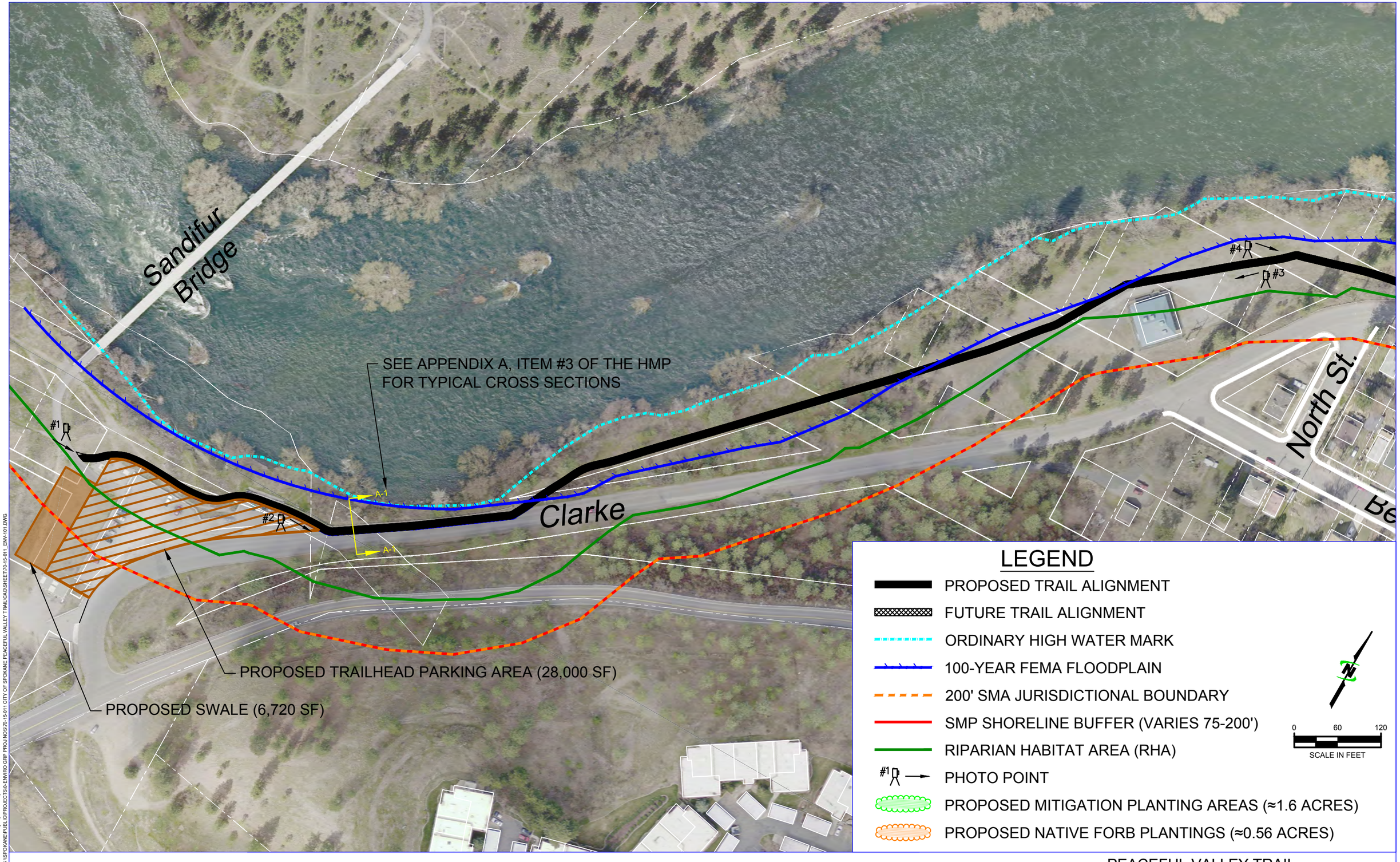

LEGEND

- PROPOSED TRAIL ALIGNMENT
- FUTURE TRAIL ALIGNMENT
- ORDINARY HIGH WATER MARK
- 100-YEAR FEMA FLOODPLAIN
- 200' SMA JURISDICTIONAL BOUNDARY
- SMP SHORELINE BUFFER (VARIES 75-200')
- RIPARIAN HABITAT AREA (RHA)
- #1 → PHOTO POINT
- PROPOSED MITIGATION PLANTING AREAS (≈1.6 ACRES)
- PROPOSED NATIVE FORB PLANTINGS (≈0.56 ACRES)

N

0 60 120
SCALE IN FEET

Plot Date/6/24/2015 9:24 AM Plotted By: Spencer Stephens
Date Created/4/9/2015 \\SPOKANE\PUBLIC\PROJECTS\0-ENVIRO GRP PROJ NOS\70-15-011 CITY OF SPOKANE PEACEFUL VALLEY TRAIL\CAD\SHEET\70-15-011_ENV-101.DWG

LAST UPDATED: 6/24/2015
PLOT DATE: 6/24/2015
FILE: 70-15-011_ENV-101

J-U-B ENGINEERS, INC.

PEACEFUL VALLEY TRAIL
CITY OF SPOKANE
AERIAL OVERVIEW EXHIBITS - SHEET 2

SEE APPENDIX A, ITEM #3 OF THE HMP
FOR TYPICAL CROSS SECTIONS

North St.

Spruce St.

Bennett

Clarke

#3 #4 #5 #6 #7

LEGEND

- PROPOSED TRAIL ALIGNMENT
- FUTURE TRAIL ALIGNMENT
- ORDINARY HIGH WATER MARK
- 100-YEAR FEMA FLOODPLAIN
- 200' SMA JURISDICTIONAL BOUNDARY
- SMP SHORELINE BUFFER (VARIES 75-200')
- RIPARIAN HABITAT AREA (RHA)
- #1 PHOTO POINT
- PROPOSED MITIGATION PLANTING AREAS (≈1.6 ACRES)
- PROPOSED NATIVE FORB PLANTINGS (≈0.56 ACRES)

N

0 60 120
SCALE IN FEET

Plot Date/6/24/2015 9:24 AM Plotted By: Spencer Stephens
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LAST UPDATED: 6/24/2015
PLOT DATE: 6/24/2015
FILE: 70-15-011_ENV-101

J-U-B ENGINEERS, INC.

PEACEFUL VALLEY TRAIL
CITY OF SPOKANE
AERIAL OVERVIEW EXHIBITS - SHEET 3

FUTURE TRAIL ALIGNMENT

NOTE: VEGETATIVE IMPACTS AND MITIGATION PLANTING FOR THE FUTURE TRAIL ALIGNMENT HAS BEEN ACCOUNTED FOR IN THE CURRENT PLANS.

Water Ave.

Main Ave

Ash St.

Elm St.

Clarke

Clarke

#8

#9

#10

#11

LEGEND

- PROPOSED TRAIL ALIGNMENT
- FUTURE TRAIL ALIGNMENT
- ORDINARY HIGH WATER MARK
- 100-YEAR FEMA FLOODPLAIN
- 200' SMA JURISDICTIONAL BOUNDARY
- SMP SHORELINE BUFFER (VARIES 75-200')
- RIPARIAN HABITAT AREA (RHA)
- #1 PHOTO POINT
- PROPOSED MITIGATION PLANTING AREAS (≈1.6 ACRES)
- PROPOSED NATIVE FORB PLANTINGS (≈0.56 ACRES)

N

0 60 120

SCALE IN FEET

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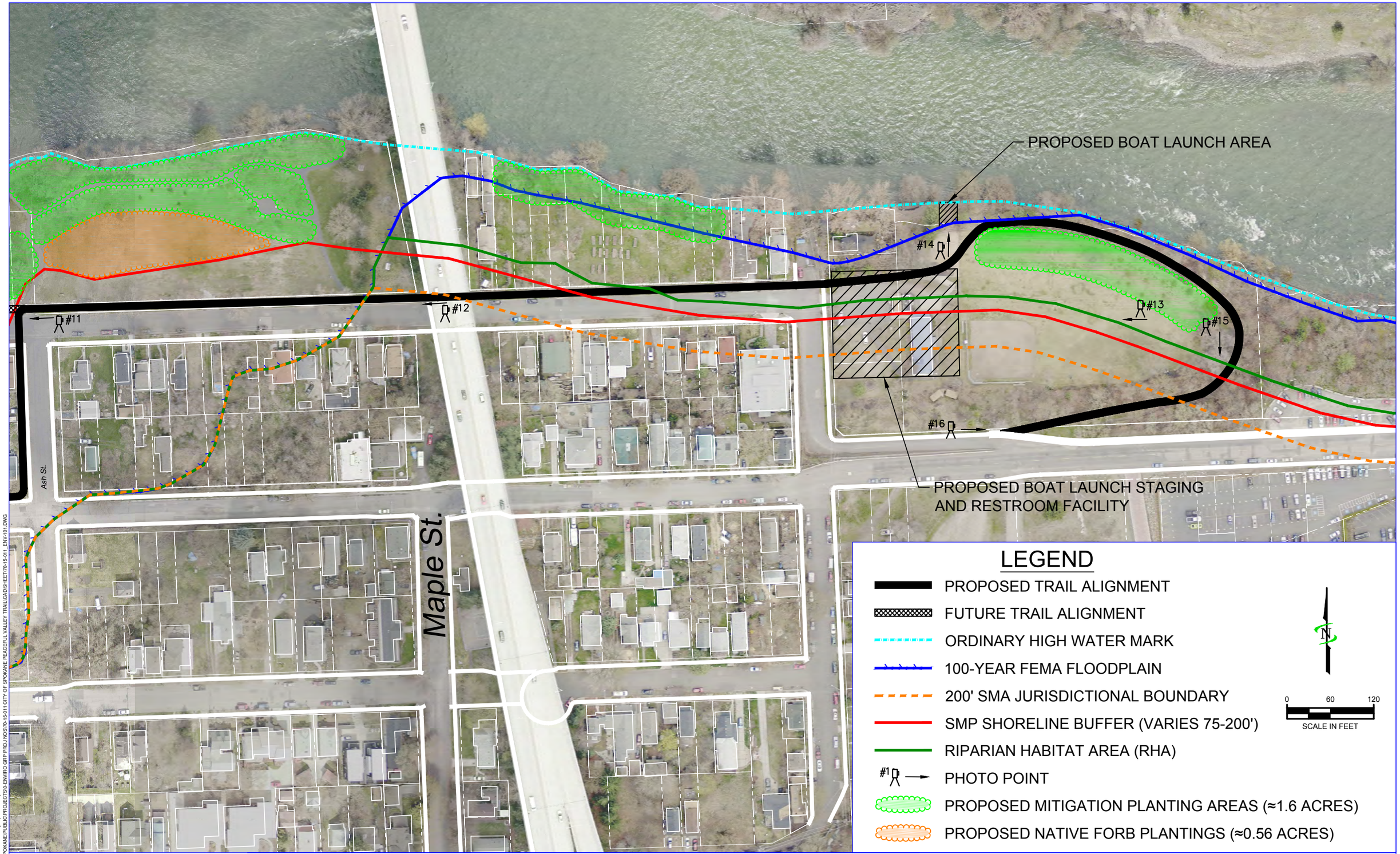
LAST UPDATED: 6/24/2015
PLOT DATE: 6/24/2015
FILE: 70-15-011_ENV-101

J-U-B ENGINEERS, INC.

PEACEFUL VALLEY TRAIL
CITY OF SPOKANE
AERIAL OVERVIEW EXHIBITS - SHEET 4



LEGEND

- PROPOSED TRAIL ALIGNMENT
- FUTURE TRAIL ALIGNMENT
- ORDINARY HIGH WATER MARK
- 100-YEAR FEMA FLOODPLAIN
- 200' SMA JURISDICTIONAL BOUNDARY
- SMP SHORELINE BUFFER (VARIES 75-200')
- RIPARIAN HABITAT AREA (RHA)
- #1 PHOTO POINT
- PROPOSED MITIGATION PLANTING AREAS (≈1.6 ACRES)
- PROPOSED NATIVE FORB PLANTINGS (≈0.56 ACRES)

N

0 60 120
SCALE IN FEET

PEACEFUL VALLEY TRAIL
CITY OF SPOKANE
AERIAL OVERVIEW EXHIBITS - SHEET 5

JUB
J-U-B ENGINEERS, INC.

LAST UPDATED: 6/24/2015
PLOT DATE: 6/24/2015
FILE: 70-15-011_ENV-101

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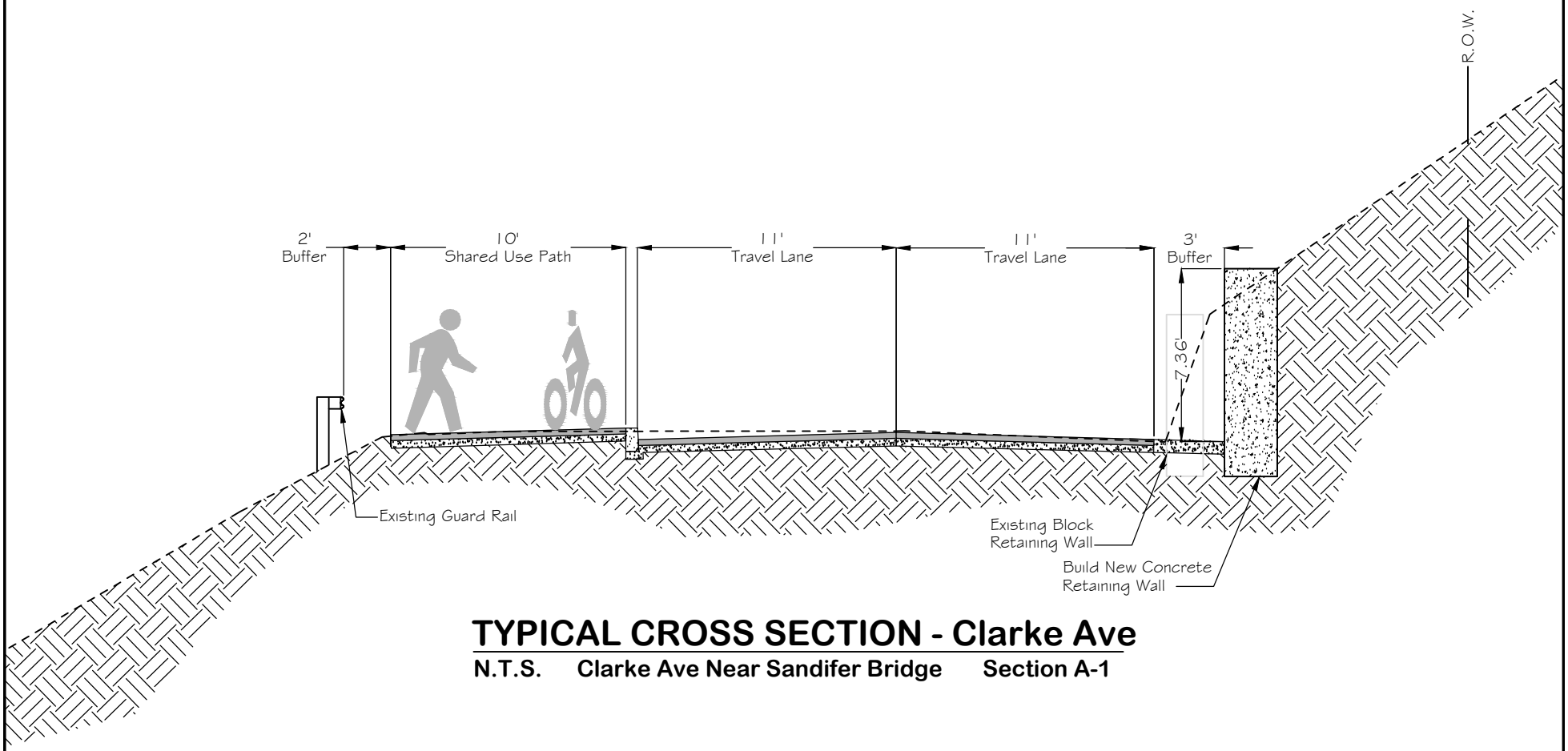
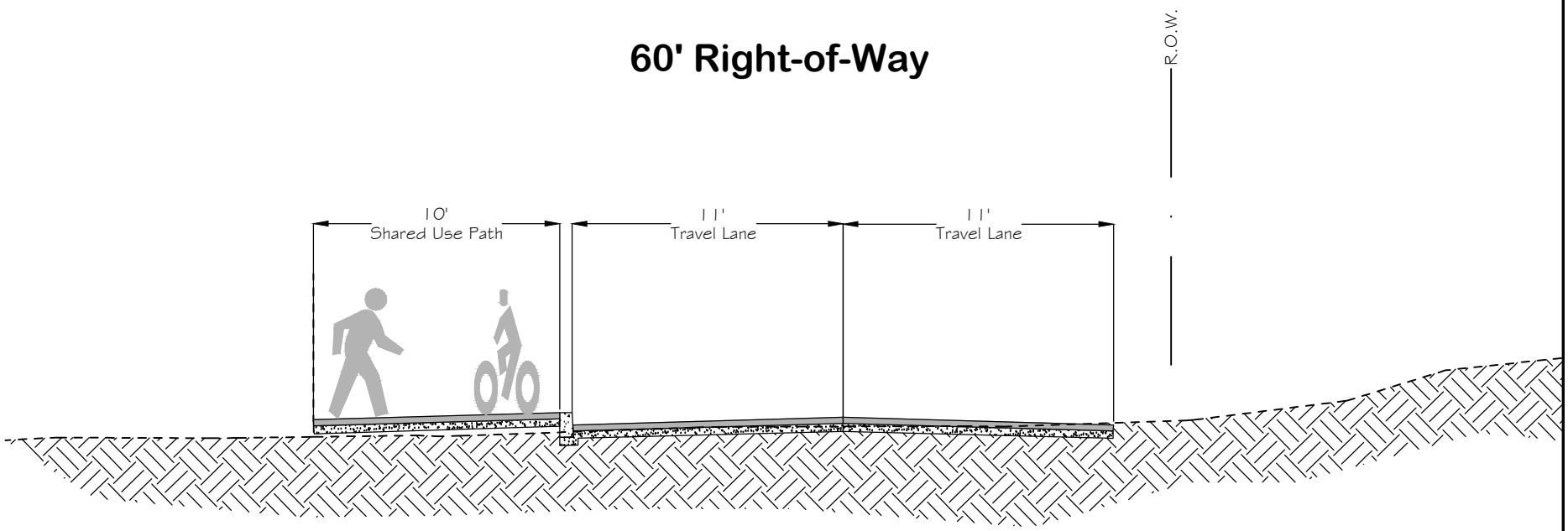


TYPICAL CROSS SECTION - Clarke Ave

N.T.S. Clarke Ave Near Sandifer Bridge Section A-1

60' Right-of-Way



TYPICAL CROSS SECTION - Clarke Ave

N.T.S. **Clarke Ave along S-Curve** **Section B-10**

J-U-B ENGINEERS, Inc.

Memo

To: Eric Lester, P.E. (City of Spokane)

Copy: J-U-B File #: 70-15-011

From: Vincent Barthels, Biologist (J-U-B Engineers, Inc.)

Date: April 14, 2015

Subject: Inventory of anticipated woody vegetation impacts associated with the proposed Peaceful Valley Multi-Use Trail Project.

Overview

The anticipated impacts to woody vegetation associated with the proposed Peaceful Valley Multi-Use Trail construction activities have documented and quantified during the site visit conducted on April 10, 2015. The Aerial Overview Exhibit (located in Appendix A, item #2, of the Habitat Management Plan) illustrates the extent of the proposed project footprint along the Spokane River. Trees or saplings located within the anticipated project footprint with a diameter breast height (DBH) greater than 1 inch and shrubs with a canopy cover (CC) greater than 5 square feet were recorded. Vegetation encountered was keyed to species and assigned a classification or either native or non-native. These recorded measurements will be utilized in developing the prescribed mitigation measures for the proposed project.

For ease of counting and recording anticipated vegetation impacts, the trail project footprint was divided into five separate segments. The adjacent image illustrates the five different segments of the overall trail project. The approximate limits of the defined individual segments can be characterized as follows:

1) Peaceful Park Trailhead (western limit) to the Spruce Street Intersection;
2) Spruce Street Intersection to 150' west of Elm Street Intersection;
3) 150' west of Elm Street Intersection to Ash Street Intersection;
4) Ash Street Intersection to Glover Field (or Cedar Street Intersection); and,
5) Glover Field (or Cedar Street Intersection) to the eastern connection along Main Street.

The following subsections detail the inventoried woody vegetation within the anticipated impact area, which is correlated to five individual segments of the proposed trail alignment (*ordered in a west to east progression*).

1) Peaceful Park Trailhead (western limit) to the Spruce Street Intersection:

The trees or saplings that would be removed include:

- 96 Ponderosa pine (*Pinus ponderosa*), native – (DBHs are 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 2", 2", 2", 2", 2", 2", 2", 2", 2", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 4", 4", 4", 4", 4", 4", 4", 4", 4", 5", 5", 5", 5", 5", 6", 6", 8", 8", 11", 12",14", 14", 16", 16", 16", 17", 22" and 24").
- 30 Serviceberry (*Amelanchier alnifolia*), native - (DBHs are 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 2", 2", 2", 2", 2", 2", 3", 3", 3" and 3").
- 25 Black locust (*Robinia pseudoacacia*), non-native - (DBHs are 2", 2", 2", 2", 2", 2", 2", 3", 3", 3", 3", 3", 3", 3", 4", 4", 4", 5", 5", 5", 5", 5", 8", 8" and 9").
- 1 Norway maple (*Acer platanoides*), non-native – (DBH is 10").
- 12 Apple (*Malus spp.)*, non-native - (DBHs are 2", 2", 2", 2", 2", 2", 2", 3", 3", 4", 4" and 4").

The shrubs that would be removed include:

- 550 sq. ft. of Snowberry (*Symphoricarpos albus)* CC, native.
- 40 sq. ft. of Oregon grape (*Mahonia aquifolium)* CC, native.
- 360 sq. ft. of Ninebark (*Physocarpus capitatus*) CC, native.
- 90 sq. ft. of Wood's Rose (*Rosa woodsii*) CC, native.
- 300 sq. ft. of Chokecherry (*Prunus virginiana)* CC, native.
- 110 sq. ft. of Oceanspray (*Holodiscus discolor*) CC, native.
- 100 sq. ft. of Honeysuckle (*Lonicera spp.)* CC, non-native.

2) Spruce Street Intersection to 150' west of Elm Street Intersection:

The trees or saplings that would be removed include:

- 18 Ponderosa pine (*Pinus ponderosa*), native – (DBHs are 1", 1", 1", 1", 1", 1", 1", 1", 1", 2", 2", 2", 3", 3", 3", 4", 8" and 12").
- 30 Serviceberry (*Amelanchier alnifolia*), native - (DBHs are 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 2", 2", 2", 2", 2", 2", 2", 2", 3" and 3").
- 3 Douglas Fir (*Pseudotsuga menziesii)*, native - (DBHs are 1", 3" and 3")
- 3 Black locust (*Robinia pseudoacacia*), non-native - (DBHs are 3", 3" and 4").
- 5 Norway maple (*Acer platanoides*), non-native – (DBHs are 3", 5", 5", 8" and 11").

The shrubs that would be removed include:

- 400 sq. ft. of Snowberry (*Symphoricarpos albus)* CC, native.
- 330 sq. ft. of Oregon grape (*Mahonia aquifolium)* CC, native.
- 775 sq. ft. of Ninebark (*Physocarpus capitatus*) CC, native.
- 50 sq. ft. of Black hawthorn (*Crataegus douglasii)* CC, native.
- 50 sq. ft. of Chokecherry (*Prunus virginiana)* CC, native.
- 400 sq. ft. of Creeping juniper hedge (*Juniperus horizontalis)* CC, non-native.

**Note, final trail design shall attempt to avoid all trees with DBH of 12" or greater; however, anticipated impact estimates take into account the worst case scenario.*

3) 150' west of Elm Street Intersection to Ash Street Intersection:

The trees or saplings that would be removed include:

- 1 Ponderosa pine (*Pinus ponderosa*), native – (DBH is 16").
- 7 Black hawthorn (*Crataegus douglasii),* native – (DBHs are 1", 1", 1", 1", 2", 2" and 2").
- 63 Black locust (*Robinia pseudoacacia*), non-native - (DBHs are 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 2", 2", 2", 2", 2", 2", 2", 2", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 3", 4", 4", 4", 4", 4", 4", 4", 4", 4", 4", 5", 5", 5", 6", 6", 6", 8", 8", 8", 10", 10", 10", 12", 14" and 17").
- 35 Norway maple (*Acer platanoides*), non-native – (DBHs are 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 1", 2", 2", 2", 2", 3", 3", 3", 3", 3", 3", 4", 4", 4", 4", 4", 4", 4", 4", 5", 5", 8", 8", 10" and 17").
- 1 Australian pine (*Casuarina equisetifolia),* non-native - (DBH is 12").

The shrubs that would be removed include:

- 120 sq. ft. of Ninebark (*Physocarpus capitatus*) CC, native.
- 15 sq. ft. of Wood's Rose (*Rosa woodsii*) CC, native.
- 120 sq. ft. of Lilac (*Syringa vulgaris*) CC, non-native.

4) Ash Street Intersection to Glover Field (or Cedar Street Intersection):

The trees or saplings that would be removed include:

- 1 Ponderosa pine (*Pinus ponderosa*), native – (DBH is 14").
- 6 Serviceberry (*Amelanchier alnifolia*), native - (DBHs are 1", 1", 1", 1", 1" and 3").
- 6 Norway maple (*Acer platanoides*), non-native – (DBHs are 5", 18", 20", 20", 21" and 22").

The shrubs that would be removed include:

- 200 sq. ft. of Eurasian rose (*Rosa eglanteria*) CC, non-native.
- 250 sq. ft. of Lilac (*Syringa vulgaris*) CC, non-native.

5) Glover Field (or Cedar Street Intersection) to the eastern connection along Main Street:

The trees or saplings that would be removed include:

- 1 Mother Oak (*Quercus spp.),* non-native – (DBH is 37"). *We understand that this trees is of very high importance to both the surrounding neighborhood and the City, every effort will be made to minimize any impacts to this tree.*
- 1 Peach-leaf willow (*Salix amygdaloides),* native - *** (tree pruning only = 400 sq. ft. western CC)
- 17 Norway maple (*Acer platanoides*), non-native – (DBHs are 2", 3", 5", 6", 6", 6", 7", 7", 7", 7", 8", 8", 8", 9", 9", 10" and 11").
- 1 Black locust (*Robinia pseudoacacia*), non-native - (DBH is 12").

The shrubs that would be removed include:

- 50 sq. ft. of Snowberry (*Symphoricarpos albus)* CC, native.
- 10 sq. ft. of Black hawthorn (*Crataegus douglasii)* CC, native.
- 25 sq. ft. of Chokecherry (*Prunus virginiana)* CC, native.
- 40 sq. ft. of Golden currant (*Ribes aureum*) CC, native.
- 120 sq. ft. of Wood's Rose (*Rosa woodsii*) CC, native.

**Note, final trail design shall attempt to avoid all trees with DBH of 12" or greater; however, anticipated impact estimates take into account the worst case scenario.*

Summary Table:

Common Name of Woody Vegetation	Native/Non-Native	Total Number of Trees or Saplings with DBH > 1" (# of trees or saplings with DHB > 6")	Canopy Cover of shrubs and 1 riparian tree* [to be pruned] (square footage)
Apple	Non-Native	12 (0)	
Australian pine	Non-Native	1 (1)	
Black hawthorn	Native	7 (0)	60
Black Locust	Non-Native	92 (13)	
Chokecherry	Native		375
Creeping juniper hedge	Non-Native		400
Douglas fir	Native	3 (0)	
Eurasian rose	Non-Native		200
Golden currant	Native		40
Honeysuckle	Non-Native		100
Lilac	Non-Native		370
Mother oak	Non-Native	1 (1)	
Ninebark	Native		1255
Norway maple	Non-Native	64 (23)	
Oceanspray	Native		110
Oregon grape	Native		370
Peachleaf willow*	Native		400*
Ponderosa pine	Native	116 (16)	
Serviceberry	Native	66 (0)	
Snowberry	Native		1000
Wood's rose	Native		225

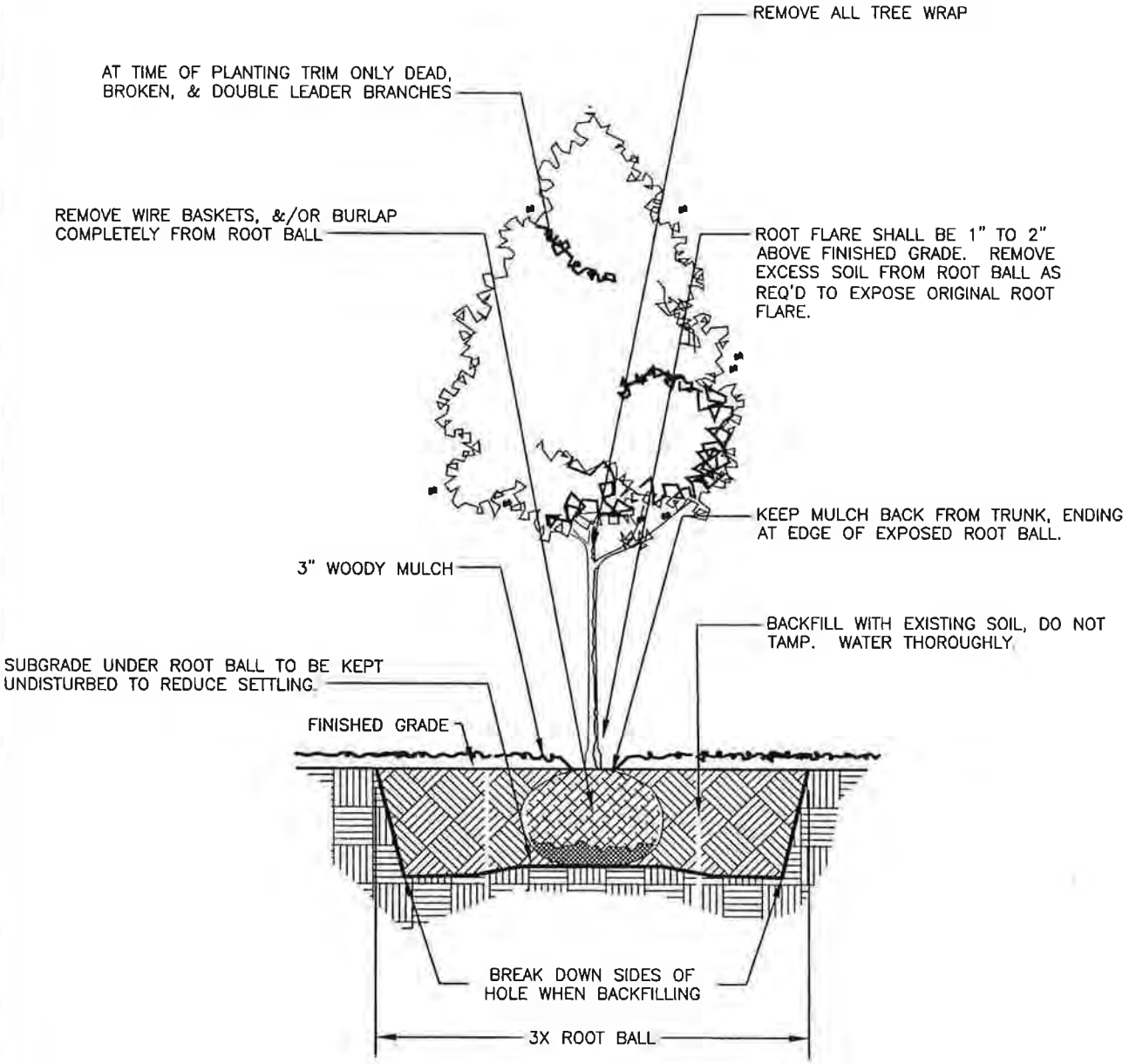
Total number of trees and saplings (between 1" - 6" DBH) = 308

Total number of trees and saplings (greater than 6" DBH) = 54

Total number of trees and saplings (greater than 1" DBH) = 362

Total Canopy Cover of shrubs and 1 Peachleaf willow to be pruned = 4,905 square feet

**Note, final trail design shall attempt to avoid all trees with DBH of 12" or greater; however, anticipated impact estimates take into account the worst case scenario.*



NOTES:

1. TREES BURIED TOO DEEP, OR WITHOUT EXPOSING ROOT FLARE WILL BE REJECTED & SHALL BE REMOVED & REPLANTED AT PROPER DEPTH.
2. ALL 'ADVENTITIOUS ROOTS' AND 'SUCKERS' SHALL BE TRIMMED AWAY PRIOR TO PLANTING.
3. DEVIATIONS FROM THIS DETAIL SHALL ONLY BE ALLOWED WITH PERMISSION FROM THE CITY ARBORIST.
4. TREES NOT PLANTED IN CONFORMITY WITH THIS DETAIL WILL BE REJECTED BY THE CITY ARBORIST. REPLACEMENT OF REJECTED TREES WILL BE DONE AT THE CONTRACTOR'S EXPENSE & NOT BY THE CITY OF SPOKANE.

APPROVED BY

DIRECTOR, ENGINEERING SERVICES — TOM L. ARNOLD, P.E.

PRINCIPAL ENGINEER, DESIGN — GARY S. NELSON, P.E.

ADOPTED: 2/1986
REVISED: 05/2007
SUPERSEDES:
CHECKED BY: JAG
SCALE: NTS
DWG/REV. BY: RLB

TREE PLANTING DETAILS

ENGINEERING SERVICES
CITY OF SPOKANE, WASHINGTON

STANDARD PLAN No. V-101

SUPPLEMENTAL PLANTING NOTES:

1. ALL PLANT MATERIALS SHALL BE NATIVE TO THE SPOKANE COUNTY AREA. PLANT MATERIAL SHALL BE FROM NATIVE STOCK, NO CULTIVARS OR HORTICULTURAL VARIETIES WILL BE ALLOWED.
2. ALL PLANT MATERIAL SCHEDULED FOR INSTALLATION WILL BE IDENTIFIED IN THE PLANT SCHEDULE FOR THIS PROJECT. PROPOSALS FOR SUBSTITUTIONS REQUIRE THE APPROVAL OF THE PROJECT BIOLOGIST AND URBAN FORESTRY.
3. THE REQUIREMENTS OF ALL NURSERY GROWN PLANT MATERIALS ARE IDENTIFIED IN THE PLANT SCHEDULE, ALL PLANTS SHALL BE GROWN IN CONTAINERS. ONLY SOUND, HEALTHY, VIGOROUS PLANTS, FREE OF DEFECTS, DISEASE, AND ALL FORMS OF INFESTATIONS WILL BE ACCEPTED.
4. DIG, PACK, TRANSPORT, AND HANDLE ALL PLANTS WITH CARE TO ENSURE PROTECTION FROM INJURY. STORE PLANTS IN THE MANNER NECESSARY TO ACCOMMODATE THEIR HORTICULTURAL REQUIREMENTS. HEEL–IN PLANTS IF NECESSARY TO KEEP THEM FROM DRYING OUT.
5. REPLANTINGS SHALL BE KEPT SATURATED AND SHADED UNTIL THE ACTUAL TIME OF INSTALLATION. DO NOT ALLOW REPLANTINGS TO DRY OUT OR SIT IN THE SUN PRIOR TO OR DURING INSTALLATION. IMMEDIATELY SATURATE REPLANTINGS AFTER INSTALLATION TO AVOID CAPILLARY STRESS.

APPENDIX B

U.S. Fish and Wildlife Service
National Wetlands Inventory

Mar 19, 2015

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

- Digital Data

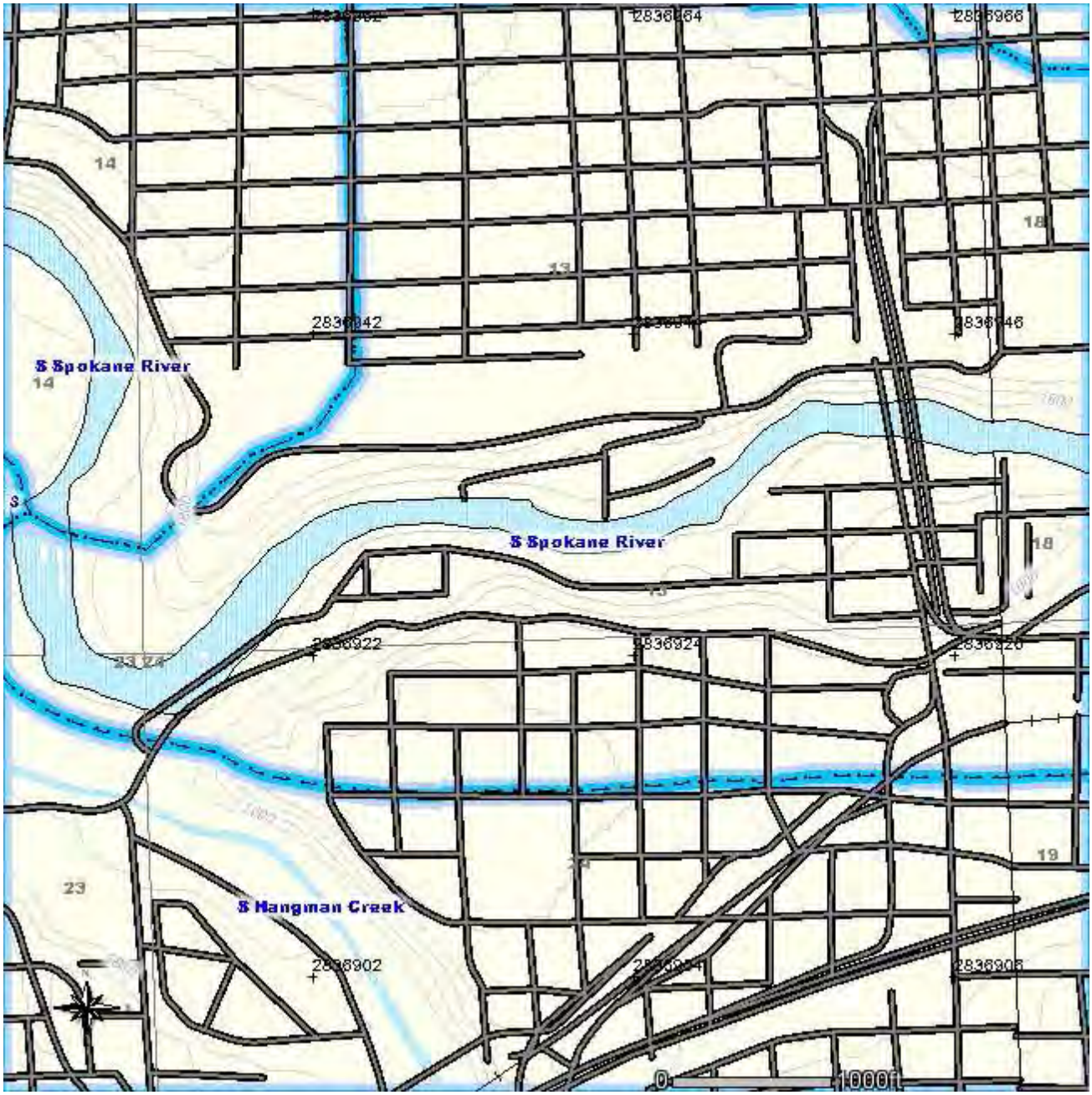
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

FOREST PRACTICE WATER TYPE MAP

TOWNSHIP 25 NORTH HALF 0, RANGE 42 EAST (W.M.) HALF 0, SECTION 13

Application #:_____



Thursday, March 19, 2015 3:47:26 PM
NAD 83
Contour Interval: 40 Feet

FPARS MAPS LEGEND

BOUNDARIES

- County Boundary
- Townships
- Section Survey Lines

WATER BODIES

- Open Water
- Flats/Gravel Bars
- Ice
- Man Made Feature
- Wet Area
- ? ? ? ? Unknown/Unclassified

ELEVATION

- 200 Contours, 40' interval

STREAMS

- F Stream Water Type S, F, N
- U U, unknown
- X X, non-typed per WAC 222-16
- * Water Type Change

TRANSPORTATION

- Paved Road
- Unpaved Road / Surface Unknown
- Abandoned Road (not on Activity map)
- Orphaned Road (not on Activity map)
- Trail
- Railroad

SITE CLASS – On Site Class Map only

- Site Class I
- Site Class II
- Site Class III
- Site Class IV
- Site Class V

SITE INDEX – On Site Class Map only

- Non-Commercial or Marginally Commercial
- No Data
- Red Alder

SLOPE– On Resource Map only

- Medium Slope Instability
- High Slope Instability

SOILS – On Resource Map only

- Hydric Soils
- Highly Unstable
- Highly Erodible
- Highly Unstable & Highly Erodible
- No Data or Gravel Pits

RAIN ON SNOW – On Resource Map only

- RS Rain on Snow
- SD Snow Dominant

WETLANDS – Resource& Water Type Maps only

- A A A A A A A A A A Type A
- FW FW FW FW Forested
- B B B B B B B B B B Type B
- OW OW OW OW other

OTHER

- WAU(Activity, Base & Water Type maps)
- WRIA(Activity, Base & Water Type maps)
- **Fire Shutdown Zones**(Activity & Base maps only)
- **Tribal Cultural Resources Contacts**(Activity & Base maps only)
- + Map Registration Tics (All map types)

Notes to Applicant or other user:

See the FPA/N instructions for Activity Map standards.

Site indices are based on the WA-DNR State Soil Survey. If the site index does not exist or indicates red alder, noncommercial, or marginally commercial species, the following apply:

a) If red alder is indicated and the whole RMZ width is within that site index, then use site class V. If red alder is indicated for only a portion of the RMZ width, or there is on-site evidence that the site has historically supported conifer, then use the site class for conifer in the most physiographically similar adjacent soil polygon.

b) In Western Washington, if there is no site index information, use the site class for conifer in the most physiographically similar adjacent soil polygon.

c) In Eastern Washington, if there is no site index information, assume site class III, unless site specific information indicates otherwise.

d) If the soil polygon indicates noncommercial or marginally commercial, then use site class V.

See Forest Practices Rules WAC 222-16-010 for a more complete definition of site class.

Disclaimer: Features shown on Forest Practices Application Review System (FPARS) maps represent data stored in the Washington State Department of Natural Resources (DNR) Geographic Information Systems database. As some of the data sets rely on outside sources of information, the DNR cannot accept responsibility for errors or omissions, and therefore there are no warranties that accompany this material.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington Fish and Wildlife Office
510 DESMOND DRIVE SE, SUITE 102
LACEY, WA 98503
PHONE: (360)753-9440 FAX: (360)753-9405
URL: www.fws.gov/wafwo/

Consultation Code: 01EWFW00-2015-SLI-0648 June 01, 2015
Event Code: 01EWFW00-2015-E-00535
Project Name: Peaceful Valley Trail

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website: http://wdfw.wa.gov/mapping/phs/ or at our office website: http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:
http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at http://www.fws.gov/pacific/eagle/for information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: http://www.nmfs.noaa.gov/pr/laws/mmpa/.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:
National Marine Fisheries Service:
http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment

Official Species List

Provided by:

Washington Fish and Wildlife Office
510 DESMOND DRIVE SE, SUITE 102
LACEY, WA 98503
(360) 753-9440
http://www.fws.gov/wafwo/

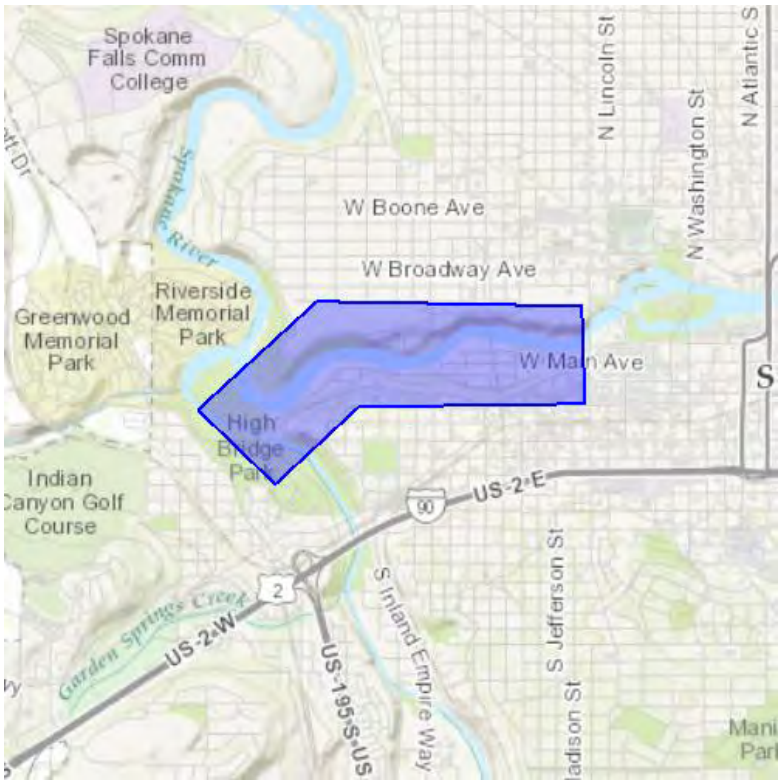
Consultation Code: 01EWFW00-2015-SLI-0648
Event Code: 01EWFW00-2015-E-00535

Project Type: ** OTHER **

Project Name: Peaceful Valley Trail
Project Description: Peaceful Valley Trail

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-117.46041297912598 47.65631142306589, -117.45015621185304 47.66258381288077, -117.42732524871826 47.662294779221824, -117.42702484130858 47.656629396441296, -117.44655132293701 47.65642704997189, -117.4537181854248 47.652004138405346, -117.46041297912598 47.65631142306589)))

Project Counties: Spokane, WA

Endangered Species Act Species List

There are a total of 5 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Yellow-Billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS	Threatened	Proposed	
Fishes			
Bull Trout *(Salvelinus confluentus)* Population: U.S.A., conterminous, lower 48 states	Threatened	Final designated	
Flowering Plants			
Spalding's Catchfly *(Silene spaldingii)*	Threatened		
Water howellia *(Howellia aquatilis)*	Threatened		
Mammals			
Canada Lynx *(Lynx canadensis)* Population: (Contiguous U.S. DPS)	Threatened	Final designated	

Critical habitats that lie within your project area

There are no critical habitats within your project area.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
PRIORITY HABITATS AND SPECIES REPORT

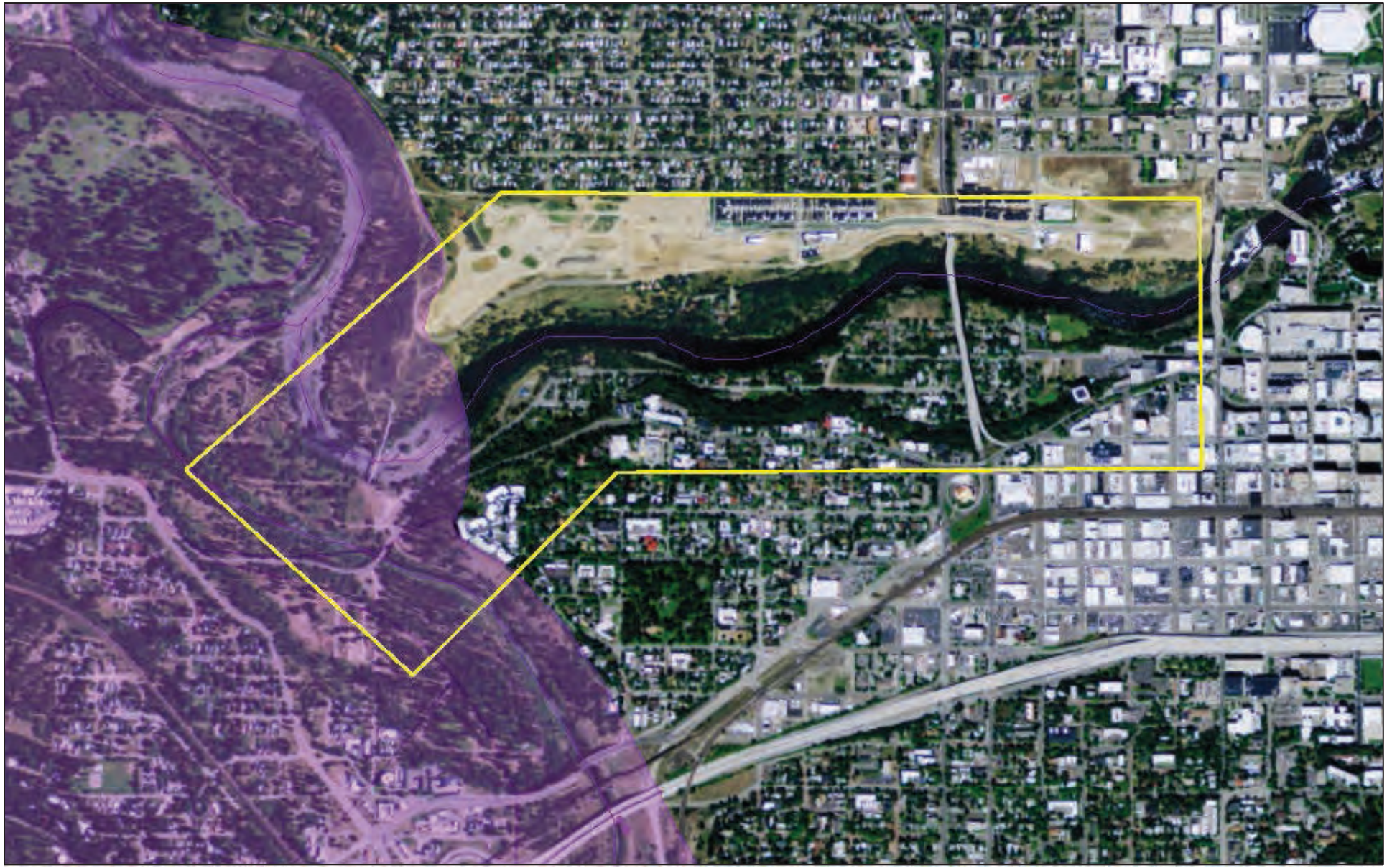
SOURCE DATASET: PHSPlusPublic
REPORT DATE: 05/29/2015 3.43

Query ID: P150529154132

Common Name / Scientific Name / Notes	Site Name / Source Dataset / Source Record / Source Date	Priority Area / Occurrence Type / More Information (URL) / Mgmt Recommendations	Accuracy	Federal Status / State Status / PHS Listing Status	Sensitive Data / Resolution	Source Entity / Geometry Type
Biodiversity Areas And	SPOKANE AND LITTLE PHSREGION 920026	Terrestrial Habitat N/A http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Biodiversity Areas And	LOWER HANGMAN CREEK PHSREGION 903035	Terrestrial Habitat N/A http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Mule deer Odocoileus hemionus	LINCOLN-SPOKANE MULE PHSREGION 920012	Regular Concentration Regular concentration http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Northwest white-tailed deer Odocoileus virginianus	LAKE ROOSEVELT WHITE - PHSREGION 920017	Regular Concentration Regular concentration http://wdfw.wa.gov/publications/pub.php?	1/4 mile (Quarter	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Rainbow Trout Oncorhynchus mykiss	Hangman Creek FISHDIST 896	Occurrence/Migration Occurrence/migration http://wdfw.wa.gov/wlm/diversty/soc/soc.htm http://wdfw.wa.gov/publications/pub.php?	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Rainbow Trout Oncorhynchus mykiss	Spokane River FISHDIST 1927	Occurrence/Migration Occurrence/migration http://wdfw.wa.gov/wlm/diversty/soc/soc.htm http://wdfw.wa.gov/publications/pub.php?	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Westslope Cutthroat Oncorhynchus clarki lewisi	Spokane River FISHDIST 1934	Occurrence/Migration Occurrence/migration http://wdfw.wa.gov/wlm/diversty/soc/soc.htm http://wdfw.wa.gov/publications/pub.php?	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines

Common Name	Site Name	Priority Area	Accuracy	Federal Status	Sensitive Data	Source Entity
Scientific Name	Source Dataset	Occurrence Type		State Status	Resolution	Geometry Type
	Source Record	More Information (URL)		PHS Listing Status		
Notes	Source Date	Mgmt Recommendations				

WDFW Test Map



May 29, 2015

PHS Report Clip Area
PT
LN
AS MAPPED
SECTION
QTR-TWP
TOWNSHIP

1:19,842

0 0.15 0.3 0.6 mi
0 0.275 0.55 1.1 km

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and

APPENDIX C

Photo Inventory

The following 16 photos were taken on April 10th, 2015, and are ordered in a progression from the western end of the proposed trail alignment to the eastern end.

Photo 1: Looking easterly at the western terminus of the proposed trail alignment.

Photo 2: Looking easterly along Clarke Avenue near the western project terminus. In this area the proposed trail would follow the northern edge of Clarke Avenue (on the left side of the road in this photo).

Photo 3: Looking southwesterly along the proposed trail alignment where the trail would pass by a City of Spokane utilities building (near the intersection of Clarke Avenue and Bennett Avenue).

Photo 4: Looking easterly along the proposed trail alignment immediately west of the North Street / Clarke Avenue intersection.

Photo 5: Looking westerly along the proposed trail alignment immediately east of the Spruce Street / Clarke Avenue intersection. In this section the trail would be situated along the northern edge of Clarke Avenue (on the right side of the road in this photo).

Photo 6: Looking easterly immediately east of the Spruce Street / Clarke Avenue intersection. At this location, the trail would be situated along the northern edge of Clarke Avenue (on the left side of the road in this photo). In this area the roadway alignment would be offset toward the south (or toward the right in this photo).

Photo 7: Looking westerly near the property with the physical address of 2114 W Clarke Avenue. At this location the trail would be situated along the northern edge of Clarke Avenue (on the right side of the road in this photo).

Photo 8: Looking westerly immediately west of the Clarke Avenue / Elm Street intersection. At this location the trail would be situated along the northern edge of Clark Avenue (on the right side of the road in this photo).

Photo 9: Looking southerly at the area northwest of the Clarke Avenue / Elm Street intersection. At this location the trail would be situated along the western edge of Elm Street (on the left side of the road in this photo).

Photo 10: Looking easterly near the Elm Street / Main Avenue intersection. At this location the trail would be situated along the northern edge of Main Avenue (on the left side of the road in this photo).

Photo 11: Looking westerly near the Ash Street / Water Avenue intersection. At this location the proposed trail would cross Water Avenue (on the west side of Ash Street), and would continue east along the north side of Water Avenue.

Photo 12: Looking westerly along the proposed trail alignment (on the north side of Water Avenue). This photo was taken directly underneath the Maple Street Bridge. Ornamental trees in this area would be retained.

Photo 13: Looking westerly at the Glover Field park. In this area the proposed trail alignment would travel around the perimeter of the park (on the right side of this photo) and would circle around to connect to Main Avenue.

Photo 14: Looking northerly at the Spokane River near the northern edge of Glover Field (north of the existing playground). At this location the proposed trail alignment would follow the perimeter of the northern edge of Glover Field.

Photo 15: Looking southerly at the area where the proposed trail alignment would circle around the eastern edge of Glover Field to connect to Main Avenue along this existing dirt trail.

Photo 16: Looking easterly at the area where the proposed trail alignment would connect to Main Avenue, along the northern sidewalk.

APPENDIX D

Vincent Barthels

From: Divens, Karin A (DFW) <Karin.Divens@dfw.wa.gov>
Sent: Monday, June 15, 2015 11:10 AM
To: Palmquist, Tami
Cc: Vincent Barthels; Sikes, Jeremy (ECY)
Subject: RE: RE: Draft Habitat Management Plan (HMP) - Peaceful Valley Trail - for your review, comment and approval

WDFW has reviewed the Peaceful Valley Trail draft Habitat Management Plan. In general the plan, the ratios and the plants proposed are supported and the chosen location of the slide rails for launching fit well with avoidance of impacts. The proposal to try to treat the noxious weeds and restablish natives is great. This may require some soil amendments in the areas where there has been a lot of compaction. Irrigation of the replanted areas will also be important to ensure establishment and survival through at least the first 2-3 growing seasons in the hot,dry months. I did not see reference to irrigating in the document.

One other element that need addressing is replacement of the ponderosa pine/lodgepole pine steppe habitat, including association understory plants (e.g. lupine, balsamroot, arnica, etc.) that will impacted by encroachment along W Clarke Avenue. I may have missed it in the HMP, but this was a really nice and intact native slope that Ecology and WDFW expressed concern about. There should be a ratio for replacement/restoration within the project area to offset this specific impact.

Thank you for the opportunity to comment –
Karin

Karin A. Divens - Habitat Biologist
Washington Department of Fish and Wildlife
2315 N Discovery Place
Spokane Valley, WA 99260
(509) 892-1001 x 323

From: Palmquist, Tami [mailto:tpalmquist@spokanecity.org]
Sent: Monday, June 08, 2015 4:37 PM
To: Sikes, Jeremy (ECY); Divens, Karin A (DFW)
Subject: FW: RE: Draft Habitat Management Plan (HMP) - Peaceful Valley Trail - for your review, comment and approval

The City would like comments back on the HMP by June 17th. Let me know if there is an issue with that. Thank you.

Tami Palmquist, AICP, CFM | Associate Planner | City of Spokane
509.625.6157 | *fax* 509.625.6013 |

From: Lester, Eric
Sent: Monday, June 08, 2015 4:34 PM
To: Palmquist, Tami; Perry, Jeff; Jones, Garrett
Cc: Blankenagel, Brandon
Subject: RE: RE: Draft Habitat Management Plan (HMP) - Peaceful Valley Trail - for your review, comment and approval

All-