

CITY OF ISSAQUAH
MITIGATED DETERMINATION OF NONSIGNIFICANCE (MDNS)

Description of Proposal: Construct a 5-story building with 146 senior apartment units and associated services. The building would be over a single level of partially below-grade parking with 32 garage spaces and 78 surface parking spaces.

The 6.09 site includes approximately 1.8 acres of creek and wetland buffers, reducing the developable site area to 4.29 acres. Schneider Creek, a Class 2 stream with salmonids, flows south to north along the east site boundary. The proposal would reduce the 100-foot stream buffer to 75 feet and enhance the reduced buffer with native plantings. The proposal includes additional buffer area for minor utility (1,890 SF) and trail buffer encroachments (1,092 SF). Schneider Creek flows through a previously-created wetland mitigation area located on the southeast part of the site, which is already protected in a separate tract.

The site would be accessed from a drive off Newport Way NW. A paved pedestrian trail and bridge over Schneider Creek would provide a connection to the Gateway apartment development, located to the east of the subject site. Site address is 2450 Newport Way NW.

Proponent:	Greg Van Patten The Wolff Company 6710 E Camelback Rd, Suite 100 Scottsdale, AZ. 85251	Matt Corsi Urban Evolution 911 East Pike St, Ste 310 Seattle, WA. 98122
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Permit Number: SDP15-00005 – Gateway Senior Housing

Location of Proposal: 2450 Newport Way NW
Site is bounded on the north by I-90 and to the west by Newport Way NW

Lead Agency: City of Issaquah

Determination: The lead agency has determined this proposal would not have a probable significant adverse impact on the environment. An environmental impact statement is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

Comment/Appeal Period: This Mitigated Determination of Nonsignificance is issued under WAC 197-11-340(2) and 197-11-680(3)(a)vii, and is based on the proposal being conditioned as indicated below. There is a 21-day combined comment/appeal period for this determination, between **January 14, 2016 and February 4, 2016**. Anyone wishing to comment may submit written comments to the Responsible Official. The Responsible Official will reconsider the determination based on timely comments. Any person aggrieved by this determination may appeal by filing a Notice of Appeal with the City of Issaquah Permit Center. Appellants should prepare specific factual objections. Copies of the environmental determination and other project application materials are available from the Issaquah Development Services Department, 1775 12th Avenue NW.

Appeals of this SEPA determination must be consolidated with appeal of the underlying permit, per IMC 18.04.250.

Notes:

1. This threshold determination is based on review of the Plan Set including civil, landscape, critical area and architectural plans received October 28, 2015; Critical Areas Study and Conceptual

Mitigation Plan (Talasaea Consultants) received October 28, 2015; Traffic Impact Analysis (TENW) dated September 21, 2015 and Addendum dated January 11, 2016; Pedestrian Crossing Study (TSI) dated October 21, 2015; Geotechnical Report (GeoEngineers) dated October 28, 2015; Steep Slope Exemption Memo (GeoEngineers) dated January 5, 2016; Introductory Drainage Report (Triad Associates) dated September 22, 2015; Preliminary Habitat/Species Assessment (SoundEarth Strategies) dated November 21, 2012; Cultural Resource Investigation (Archaeological Landscapes) dated October 2015; Washington State Department of Archaeology and Historic Preservation (DAHP) letter dated November 12, 2015; SEPA environmental checklist received October 28, 2015; and other documents in the file.

- 2) Issuance of this threshold determination does not constitute approval of the project proposal. The proposal will be reviewed for compliance with all applicable City of Issaquah codes, which regulate development activities, including the Central Issaquah Plan, Critical Area Regulations, Building Codes, Clearing and Grading Ordinance, and Surface Water Design Manual.

Findings:

1. Land Use: The site is zoned Village Residential (VR). It is located within the Central Issaquah Plan area, the plan was adopted by the City Council in April 2013. The goal of the plan is to transition the Central Issaquah area to a higher density, mixed-use, pedestrian-oriented area. The proposed senior housing development is generally consistent with the Central Issaquah Plan vision and the VR zoning. The proposal will be evaluated in detail for compliance with the Central Issaquah Plan policies and standards under the Site Development Permit.
2. Steep slopes - There are steep slopes over 40% along the west site boundary adjacent to Newport Way NW. The Critical Area Regulations allow for 2 limited exemptions for steep slope hazard areas; slopes meeting the exemptions are not considered regulated steep slopes that must be protected and require buffers. The limited exemptions in IMC 18.10.580 include: 1) slopes 40% and steeper which have a vertical elevation change of less than 20 feet: 2) any slope which has been created through previous, legal grading activities. A geotechnical memo (GeoEngineers, January 5, 2016) concluded slopes on the site over 40% qualify for the steep slope exemptions. Steep slope areas either have less than 20 feet in elevation change, or where slopes exceed 20 feet in elevation change the slopes were created during the road construction of Newport Way NW. Typical road construction practices during the time were to cut material from the upslope and place it on the downslope (referred to as side-cast fill). The memo includes cross-sections showing the likely original ground surface and the over-steepening due to fill placement.

Wetlands: Talasaea Consultants has investigated the site for wetlands on multiple occasions over the past 14 years; evaluating plant species, soil characteristics and hydrologic indicators, using the routine methodology for wetland delineations as required by the Army Corps of Engineers. No wetlands have been identified on the subject site outside the "WSDOT Mitigation Area." (Talasaea Consultants, October 23, 2015)

The subject site slopes up from Schneider Creek and the topography, plants and soils differ from the adjacent Gateway Apartment site located to the east and on the east side of Schneider Creek. The Gateway Apartment site has an extensive system of agricultural drain tiles to maintain agriculture use on the site, which effectively modified the wetland hydrology and the soils are mapped as hydric soils. The Gateway Senior Housing site is higher topographically and upper development area of the site is not mapped with hydric soils.

The Washington State Department of Transportation (WSDOT) established a conservation area and easement located on the southeast part of the subject site in 2002, to mitigate for off-site wetland

impacts. The conservation easement includes a created wetland area and associated wetland buffer adjacent to Schneider Creek. The project would not impact the WSDOT Mitigation Area.

3. Schneider Creek: Schneider Creek is a Class 2 stream with salmonids and it flows from south to north along the east side of the site. The stream originates on Cougar Mountain, in unincorporated King County, approximately 3,000 feet to the east of Newport Way NW and enters the site through a 2.5 foot diameter culvert under Newport Way NW. The outfall of the culvert is perched approximately 2 feet and poses a barrier to fish migration upstream of the site. Approximately 900 linear feet of Schneider Creek flows through the project site, 480 feet of the channel is located within the existing "WSDOT Mitigation Area." Schneider Creek exits the property and flows parallel to I-90 before going through a 3.5-foot diameter culvert under I-90 and West Lake Sammamish Parkway, and then flows approximately 650 feet into Lake Sammamish. The width of the channel on-site averages approximately 6 feet, the streambed consists predominantly of gravel and sand, and the channel lacks large woody debris (LWD).

According to the Critical Areas Report (Talasaea Consultants, October 23, 2015), fish usage studies have identified cutthroat trout and coho salmon fry in Schneider Creek. A King County study of Lake Sammamish kokanee (*Blueprint for the Restoration and Enhancement of Lake Sammamish Kokanee Tributaries, 2014*) found that Schneider Creek does not support significant numbers of kokanee spawners. The lower reach from the lake has a very low gradient and fine substrates and therefore does not currently provide kokanee spawning habitat. Some spawning activity was observed on the stream segment flowing parallel to West Lake Sammamish Parkway. The Critical Area Report concludes that the segment of Schneider Creek on the subject site is limited in its ability to provide winter rearing or refugia habitat for anadromous fish because of the gradient of the stream, the current channel morphology and lack of pools.

Schneider Creek, a Class 2 stream with salmonids, requires a 100-foot buffer width and a 15-foot building setback from the edge of the buffer. The applicant proposes to reduce the stream buffer to 75 feet, with enhancement of the reduced buffer area with native riparian plants. The buffer reduction to 75 feet is allowed in the City's Critical Area Regulations (IMC 18.10.790.D). The buffer is presently maintained with pasture grasses and the proposed enhancement with native riparian plants would significantly improve buffer conditions and functions over the existing conditions. The stream buffer enhancement area totals approximately 53,024 SF. The entire, reduced 75-foot stream buffer shall be planted at a planting density consistent with IMC 18.10.790.D; a minimum planting density of 10 feet on-center for trees and 5 feet on-center for shrubs.

Enhancement of the stream buffer with native tree and shrub species would improve fish and wildlife habitat on the site; by providing shade/cover to maintain cool water temperatures, increase plant species diversity and structure, provide organic inputs to support macroinvertebrates and insects, and eventually to supply wood recruitment to the stream. The stream buffer enhancement plans also include habitat features for wildlife such as snags, buried rootwads and stumps.

A split rail fence is shown on the plans at the edge of the stream buffer with critical area signs; intended to limit human and pet use of the stream buffer area.

The proposal includes buffer averaging (additional buffer area) for encroachments into the stream buffer; encroachments include minor utility construction (1,890 SF), a paved pedestrian trail (1,092 SF) which would bridge over Schneider Creek to connect to the Gateway Apartment site, and additional buffer area (2,841 SF) to compensate for off-site Gateway Apartment stream buffer encroachments (paved and soft-surface trails). The stream buffer encroachments total 5,696 SF and 6,520 SF of added buffer area is proposed, over the minimum required 1:1 ratio.

A pedestrian bridge would cross Schneider Creek to connect the Gateway Senior Housing site to the Gateway Apartment site. Buffer averaging is proposed for the paved trail within the stream buffer (see above). Bridge details are not included in the application. The bridge structure shall span the stream and the supporting foundation or abutments shall be outside the ordinary high water mark (OHWM) of the stream, and the bridge crossing shall not reduce the flood capacity of the stream. This will be verified on construction permits. The bridge will require Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife (WDFW). The applicant shall provide a copy of the approved HPA prior to beginning construction.

5. Wildlife habitat – A preliminary habitat/species assessment (SoundEarth Strategies, November 21, 2012) was conducted for the adjacent Gateway Apartment site, located directly east of the subject site. Due to the close proximity of the sites, the findings in the report also apply to the subject Gateway Senior Housing site. The assessment reviewed the Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) list and Priority Habitat Maps. The report concludes that there are no endangered species reported on or in the vicinity of site. However, the Marbled murrelet, a threatened species, has been detected in the section and the communal roosting area for the Townsend’s big-eared bat is shown on the site, a candidate species on the WDFW Threatened and Endangered Species list. Priority habitat areas identified on the site include Schneider Creek and the palustrine wetlands. The proposal would enhance the stream buffer of Schneider Creek, significantly improving the wildlife habitat over the existing site conditions, creating a continuous wildlife corridor through the site and effectively mitigating for wildlife habitat impacts.
6. Stormwater – A Drainage Report (Triad Associates, September 22, 2015) was prepared to identify potential problems upstream and downstream of the site, and the stormwater facility flow control and water quality design. The project will be required to meet standards of the 2009 King County Surface Water Design Manual with the 2011 City of Issaquah Addendum. The standards require stormwater flows to mimic or even reduce the flow intensities or rates of pre-developed conditions.

Stormwater runoff would be conveyed to a below-grade detention vault located on the northeast side of the site. The detention/wet vault in conjunction with a modular wetland filter would remove up to 50% of the total zinc and phosphorus to comply with the Sensitive Lake Protection Water Quality standards for Lake Sammamish. Lake Sammamish is considered an impaired water body due to existing phosphorus levels. The additional wetland filter vault or StormFilter vaults have been specifically designed for phosphorus removal. Stormwater would be discharged in a dispersal trench in the stream buffer of Schneider Creek.
7. Noise – The site is adjacent to Interstate-90 (I-90) which generates noise from vehicles and is an existing noise source that may affect the project. The proposed building has been oriented to minimize the number of dwelling units facing toward I-90. The closest residential unit is setback 125 feet from the I-90 right-of-way to reduce noise impacts. The applicant is considering evergreen plantings as a possible noise barrier. Construction of the project would generate noise during weekday work hours. Noise from the completed project would be minimal.
8. Cultural and Historic Resources – A Cultural Resource Investigation (Archaeological Landscapes, October 2015) was prepared for the Gateway Apartments development, located to the east of the subject site. The report also evaluated the subject site; the site was included in the “area of potential effect” (APE). The purpose of the survey is to determine the presence of surface and subsurface archaeological resources as well as historic buildings and structures that are eligible for listing on the National Register of Historic Places (NRHP). There is an existing house (D.E. Hokanson House) on

the site that was constructed in 1922 and a Historic Inventory Report for the house is included in the report. The report concluded the structure is not eligible for listing in the NRHP based upon its architectural qualities or associations. The Washington State Department of Archaeology and Historic Preservation (DAHP) concurred that the D.E. Hokanson House is not eligible for listing in the NRHP and no further documentation or protection is required (DAHP letter, November 12, 2015). No cultural resources have been identified on the subject site. A cultural resource site was identified off-site on the east side of Schneider Creek. In the event that cultural resources are encountered during project-related excavation activities, all work in the immediate area of the find shall be halted until a qualified Archaeological Monitor can assess and evaluate the find.

9. Traffic: A Traffic Impact Analysis (TENW; September 21, 2015, January 11, 2016) was completed to document trip generation from the proposal and to evaluate the level of service (LOS) and safety and operations of the site access drive off Newport Way NW. The report estimates the proposal would result in 502 new weekday daily trips; with 29 weekday AM peak hour trips (10 entering, 19 exiting) and 37 weekday PM peak hour trips (20 entering, 17 exiting).

Under the City's new concurrency standards (adopted by Ordinance #2733, effective February 2, 2015), individual development applications are not required to evaluate their project traffic impacts on the local street system, provided a proposal is consistent with the City's planned growth that was assumed and previously evaluated in the traffic concurrency model. The City completed a system-wide transportation concurrency assessment for future planned growth and road improvements were identified to mitigate for the corresponding planned growth. According to the City's traffic model, adopted level of service (LOS) standards would be maintained and development projects would be concurrent provided the identified road improvements are constructed. A transportation impact fee was calculated to fund the road improvements identified in the concurrency model and on the City's Transportation Improvement Program (TIP). Development proposals can therefore mitigate for their traffic impacts by payment of the traffic impact fee.

The subject development proposal is consistent with the growth assumptions included in the traffic concurrency model. Therefore, the proposed development can withdraw trips from the "trip bank" that was calculated for concurrency and can mitigate their traffic impacts by payment of the traffic impact fee.

The project applicant is required to construct new half-street improvements along their property frontage on Newport Way NW, consistent with City road standards and the *Central Issaquah Plan* which identifies this section of Newport Way NW as a "Parkway." The improvements would consist of a 10-foot wide vehicle travel lane, a 12-foot-wide center median turn lane, a 5-foot bicycle lane, 5-foot landscape strip, and a 10-foot shared multi-modal (bicycle, pedestrian) path.

The main access into the development is proposed from a single access drive off Newport Way NW, located approximately 1,100 feet north of the intersection of Pacific Elm Drive and Newport Way NW. The Traffic Impact Study (TIA) evaluated turn movements entering and exiting the site, sight distance and the level of service (LOS) of the access drive. The analysis assumed the required frontage and channelization improvements described above. A right-turn lane into the site was not recommended based on the anticipated low volume of right turns (10 vehicles) during the weekday PM peak hour. Newport Way NW would be widened to include a center turn lane consistent with the "Parkway" street standard in the *Central Issaquah Plan* and consistent with planned channelization and frontage improvements for the nearby Gateway Apartments project. The center turn lane would provide for left turns into and out of the site. The addition of a center turn lane on Newport Way NW would provide additional capacity and reduce delays compared to the existing 2-lane road. The project's Newport Way NW improvements would extend the center turn lane/landscape median

south from the site access drive to Pine Cone Dr. The improvements shall also address the transitions and the alignment and geometry of this intersection.

Sight distance for vehicles exiting the access drive onto Newport Way NW was evaluated. The sight distance was reviewed based on City roadway standards for a minor arterial, which requires 500 feet for left-turns from a driveway and 430 feet for right-turns. The proposed access meets the minimum sight distance standards.

The level of service (LOS) of the drive access onto Newport Way NW was evaluated in the TIA. Project generated traffic during the weekday AM and PM peak hours was distributed to both directions on Newport Way NW based on existing travel patterns and recent turning movement counts. The City's traffic model provided similar trip distribution results. The LOS analysis included estimated future peak traffic volumes on Newport Way NW, including traffic growth from area "pipeline" projects and a 2% annual growth rate. The LOS analysis also assumed the proposed frontage improvements along Newport Way NW and a stop sign control at the drive access. The TIA concluded all turn movements at the site access onto Newport Way NW would operate at LOS B or better. The City's adopted standard is LOS D.

Bicycle lanes currently exist along both sides of Newport Way NW and would be maintained with future development and widening proposed at the site access. The *Central Issaquah Plan* identifies Newport Way NW as a "Parkway," including a center turn lane and bicycle lanes on both sides of the street. There is currently a pedestrian crosswalk on Newport Way NW, located to the south of the subject site at the north end of the intersection of Newport Way NW and Pine Cone Drive. The project's street improvements and channelization on Newport Way NW would extend to the existing crosswalk. The City prepared a *Pedestrian Crossing Study* (TSI, October 21, 2015) to evaluate priority public pedestrian crossings. The design and location of pedestrian crossings and crosswalks shall be consistent with the City's *Pedestrian Crossing Study*.

10. Bicycle and Pedestrian Facilities – The *Nexus Study for Bicycle and Pedestrian Facilities Mitigation Fees* (Henderson Young & Company, December 10, 2014) was adopted by the City Council, Ordinance #2733, effective February 2, 2015. The study quantifies the direct impact of new development on the current system of bicycle and pedestrian facilities and the additional demands from future growth to maintain the adopted level of service. The report uses trip generation rates based on the different land use types to quantify the impacts of new development. It also identifies 16 specific bicycle and pedestrian projects that are needed to support the City's level of service standard. Payment of mitigation fees as determined in the study may satisfy a development's requirement to mitigate their project impacts on the level of service standard. If the developer doesn't voluntarily use the methodology and mitigation fees as determined in the report, the developer may choose other methods to quantify and mitigate their impact including conducting a study of its impacts and identifying alternate means of mitigating impacts to achieve the adopted standards. The regional shared-use trail that will be constructed by the applicant is not one of the 16 bicycle/pedestrian projects identified in the report and therefore the applicant does not receive credit for this mitigation fee. The mitigation fee is presently \$462.75/apartment unit. The mitigation fee will be assessed with issuance of building permits and the actual cost of the mitigation fee will be the adopted fee in effect at the time of permit issuance. Applicant objections to the voluntary payment should be made during the SEPA comment period.
11. Public Services - The proposal would have a potential impact on public services, including police and general government buildings. IMC Chapter 3.74, Methods to Mitigate Development Impacts, provides alternatives to mitigate for direct impacts of proposed development. The City may approve a voluntary payment in lieu of other mitigation. Rate studies for police facilities and general

government buildings are included in IMC 18.10.260 as the City's SEPA policy base. The rate studies present the methodology and formulas for determining the amount of the mitigation fee commensurate with the proposed land use and project impacts. The current mitigation fee is \$78.56/multi-family unit for general government and \$154.35/multi-family unit for the police mitigation fee. The mitigation fee will be assessed with issuance of building permits and the actual cost of the mitigation fee will be the adopted fee in effect at the time of permit issuance. Applicant objections to the voluntary payment should be made during the SEPA comment period.

Mitigation Measures: The Mitigated Determination of Nonsignificance is based on the SEPA environmental checklist dated October 27, 2015 and supplemental technical information and reports listed in the Notes. The following SEPA mitigation measures shall be deemed conditions of the approval of the licensing decision pursuant to Chapter 18.10 of the Issaquah Land Use Code. All conditions are based on policies adopted by reference in the Land Use Code.

1. The Critical Area Regulations require the following measures:
 - 1) The outer extent of the critical area buffers shall be fenced in the field with installation of temporary erosion sedimentation control (TESC) measures, prior to beginning construction and maintained through the duration of construction activities.
 - 2) Permanent survey stakes using current survey standards shall be set to delineate the boundaries of the critical area buffers.
 - 3) Critical areas shall be fenced to limit encroachments from pedestrians and dogs. Fencing locations and details shall be shown on the final mitigation plans and subject to DSD approval. Critical area signs shall be installed along the fences to explain the type and value of the critical area.
 - 4) Critical areas and buffers shall be protected in perpetuity with a Native Growth Protection Easement (NGPE) recorded on the property title.
 - 5) A 5-year monitoring/maintenance period is required for the stream buffer enhancement. The applicant shall provide a bond amount equal to 50% of the cost of plants, labor and the 5-year monitoring/maintenance cost prior to final building permit approval.
2. Final stream buffer enhancement plans are required for approval by the Issaquah Development Services Department (DSD) prior to issuing construction permits. Final plans shall include a grading plan, planting plan and a 5-year monitoring/maintenance plan with performance standards for monitoring success of the enhancement planting. The plans shall meet King County Critical Areas Mitigation Guidelines for monitoring performance standards.
3. The entire, reduced 75-foot stream buffer shall be planted at a planting density consistent with IMC 18.10.790.D; a minimum planting density of 10 feet on-center for trees and 5 feet on-center for shrubs. The planting density shall be shown on the final stream buffer enhancement planting plan.
4. The applicant shall provide an as-built plan of the stream buffer enhancement and the consulting biologist shall verify in writing that the planting has been installed per plan prior to the final approval of building permits.
5. The bridge over Schneider Creek shall span the stream and the supporting foundation or abutments shall be outside the ordinary high water mark (OHWM) of the stream, and the bridge crossing shall not reduce the flood capacity of the stream. This will be verified on construction permits.

6. The bridge over Schneider Creek will require Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife (WDFW). The applicant shall provide DSD a copy of the approved HPA prior to beginning construction.
7. In the event that cultural resources are encountered during project-related excavation activities, all work in the immediate area of the find shall be halted until a qualified Archaeological Monitor can assess and evaluate the find.
8. The project's Newport Way NW improvements would extend the center turn lane/landscape median south from the site access drive to Pine Cone Dr. The improvements shall also address the transitions and the alignment and geometry of this intersection.
9. The project's street improvements and channelization on Newport Way NW would extend to the existing crosswalk located at the north end of the intersection of Newport Way NW and Pine Cone Drive. The City prepared a *Pedestrian Crossing Study* (TSI, October 21, 2015) to evaluate priority public pedestrian crossings. The design and location of pedestrian crossings and crosswalks shall be consistent with the City's *Pedestrian Crossing Study*.
10. The applicant shall mitigate for potential impacts on public services and bicycle and pedestrian facilities. The City may approve a voluntary payment in lieu of other mitigation. The current mitigation fee is \$78.56/multi-family unit for general government, \$154.35/multi-family unit for the police mitigation fee, and \$462.75/apartment unit for the bicycle/pedestrian mitigation fee. The mitigation fee will be assessed with issuance of building permits and the actual fee amount will be the adopted fee in effect at the time of permit issuance. Applicant objections to the voluntary payment should be made during the SEPA comment period.

SEPA Responsible Official: Peter Rosen
Position/Title: Senior Environmental Planner
Address/Phone: P.O. Box 1307, Issaquah, WA 98027-1307 (425) 837-3094
Date: 1/14/2016 **Signature:**  _____

cc: Washington State Department of Ecology
Muckleshoot Indian Tribe
U.S. Army Corps of Engineers
Washington State Department of Fish and Wildlife
Washington State Department of Archeology and Historic Preservation (DAHP)
WSDOT, Ramin Pazooki
Parties of Record
Issaquah Development Services Department
Issaquah Parks and Public Works Engineering Departments

TAL-634C
Box

Final Biological Assessment Report



**South Sammamish Plateau Access Road And
I-90 Sunset Interchange Modifications EIS**

**Prepared by
David Evans and Associates, Inc.**

FEBRUARY 24, 1998

(Revised April 23 1999)

Where the small East Fork tributary stream is to be realigned through a new culvert in the vicinity of the eastbound I-90 on-ramp at East Sunset Way, work will be limited to the low-flow season. If the stream has no flow at the time of construction, silt fences will be installed downstream to intercept sediments carried by any stormwater runoff. If some flow remains in the stream, a sand bag and plastic sheeting dike will be built above the construction area. Water will be routed around the site through a temporary bypass tightline. Silt fences or sediment traps will be installed above the bypass outlet in order to remove sediment from any remnant streamflow or stormwater runoff.

The potential for toxic pollution will be controlled by requiring that all equipment be maintained and refueled on impervious surfaces where potential spills and stormwater runoff can be contained. A toxic spill response plan has been designed in order to contain any spills that occur (Appendix C). A water quality monitoring program will also be designed to sample above and below construction areas, before, during and after project construction.

Because of the potential for impacts during construction, mitigation will include erosion control observation. The duties of this erosion control observer would include daily physical monitoring of all temporary erosion and sedimentation control structures and downstream conditions within the project area. This observer will assist the contractor in implementing stream and wetland mitigation plan specifications. The erosion control observer will report to the construction inspector, freeing the inspector from these monitoring duties. The observer will also be the liaison regarding fisheries issues to the County, WDFW, the Muckleshoot Indian Tribe and others concerned with stream and wetland mitigation plan implementation and performance.

7.3 Conceptual Wetland Mitigation Plan

Compensation for direct wetland impacts would be provided by the creation of offsite, in-kind wetlands in the same basin (but in a different subbasin) at replacement ratios specified by local and state agencies.

The wetland mitigation site covers approximately 0.75 hectares (1.85 acres). Existing wetlands comprise approximately 10 percent of the site. The wetlands are dominated by reed canarygrass, creeping buttercup, creeping bentgrass, and Himalayan blackberry. This palustrine emergent seasonally saturated wetland is a category II wetland according to the Washington rating system and a class 2 wetland under the City of Issaquah rating system. The buffers would use 100 percent of this parcel.

The wetland mitigation concept plan described below has been developed for the U.S. Army Corps of Engineers Clean Water Act section 404 permit application for the project. The plan proposes to compensate for project impacts by creating diverse wetland habitat that consolidates affected functions into one larger wetland unit.

The wetland mitigation plan also includes in-stream structures to increase fisheries habitat in Schneider Creek. Fisheries opportunities in severely degraded Schneider Creek will be enhanced by the installation of woody debris, rocks, and other in-stream features consistent with Washington Department of Fish and Wildlife and City goals and requirements. Work in Schneider Creek will be done by hand and without diverting the flows in the creek.

7.3.1 WETLAND MITIGATION GOALS

The mitigation plan has the following mitigation goals:

- Designate preserved wetlands and their associated upland buffers as native growth protection easements (NGPE) to provide for long-term protection.
- Permanently protect 1.85 acres of the off-site mitigation area as NGPE.
- Compensate for 0.07 hectares (0.15 acres) of impact to forested and emergent wetlands by creating at least 0.14 hectares (0.30 acres) of forested wetlands offsite.
- Enhance existing wetland functions by planting native hydrophytic vegetation.
- Enhance fisheries habitat opportunities in Schneider Creek by installation of in-stream structures.
- Enhance existing low-grade wetland and stream buffers by replanting native vegetation in the disturbed buffer.
- Create hydrologic conditions that support the natural succession of native species.
- Avoid adverse impacts on remaining wetlands and buffers during construction.

7.3.2 NATIVE GROWTH PROTECTION EASEMENTS

Each preserved wetland along with its upland buffer has been designated as a native growth protection easement (NGPE). The upland buffers around the regulated wetlands would be either 7.62 meters (25 feet) or 15.24 meters (50 feet) wide. The entire 0.75-hectare (1.85-acre) wetland mitigation site also would be designated native growth protection easement (Figure 16).

Permanent signs would be placed along the native growth protection easement boundary to clearly mark its edge prior construction activities. Orange barrier fences would be constructed along this boundary to prevent encroachment into the native growth protection easement during construction activities. Additional temporary signs would be installed as needed. The native growth protection easement boundaries would be inspected, and any damaged areas would be repaired and all debris removed after construction activities have been completed.

7.3.3 WETLAND MITIGATION SITE SELECTION

The wetland mitigation area was selected for its location within the Issaquah Creek watershed, for its proximity to adequate hydrology sources, and because the upland area is abandoned pasture containing nonnative species. A portion of the property along Schneider Creek would be excavated to the appropriate grades for wetland creation (Figure 16).

7.3.4 CONSTRUCTION OBSERVATION

A wetland biologist or environmental designer would be employed to assist with the implementation of the construction plan because of the common practices of adjusting plans onsite. The wetland biologist would observe construction activities to assist in accomplishing the intent and specifications of the mitigation plan. The biologist would provide assistance and guidance for

meeting plan specifications to the general or landscape contractor. The biologist would also recommend modifications to the site plan based on unforeseen site conditions. Construction observation also ensures that excavation and planting areas have been properly staked.

7.3.5 WETLAND MITIGATION PERFORMANCE STANDARDS

The performance standards are:

- The existing wetlands, created and enhanced wetlands, and enhanced buffers would be designated as native growth protection easements and permanently marked in the field.
- Signage and barrier fences would be installed during construction to prevent inadvertent impacts in remaining wetlands.
- Total cover of all pioneering and planted trees and shrubs in the created wetland area would be at least 50 percent in year 3 and 80 percent in year 5 of the 5-year monitoring period.
- Total cover of all pioneering and planted trees and shrubs in the enhanced wetland area would be at least 50 percent in year 3 and 80 percent in year 5 of the 5-year monitoring period.
- Total cover of all pioneering and planted trees and shrubs in the buffer area would be at least 50 percent in year 3 and 80 percent in year 5 of the 5-year monitoring period.
- The created wetland would be colonized by at least one native tree species and one shrub species not in the planting schedule after 5 years.
- Aerial cover of invasive species would not exceed 20 percent after 5 years.

7.3.6 WETLAND MITIGATION MONITORING PROGRAM

Mitigation plantings would be monitored biannually (every other year) for 5 years. The initial monitoring would occur one year after planting in order to implement the one-year plant survival warranty to be provided by the landscape contractor.

Vegetation sampling for percent cover would occur during summer in the third and fifth years. In addition, permanent points would be established to photographically document the overall appearance of the mitigation area.

7.3.7 WETLAND MITIGATION CONTINGENCY PLAN

The contingency plan provides for replacing plants in order to achieve the performance standards. If warranted, a recommendation would be made for replacing dead plants with different native species. If total cover of designated invasive species exceeds 20 percent, then a weed control program would be implemented.

The contingency plan may be enacted in whole or in part, whenever the action is warranted by the monitoring reports. If the desired mitigation goals are not achieved, as measured by the monitoring program and performance standards, then a joint determination by the city, the county, and the project proponent may be made to implement the contingency plan.

7.3.8 WETLAND MITIGATION PERFORMANCE ASSURANCE

In order to ensure that the mitigation plan is properly implemented, including monitoring and contingencies, specific control measures would be included in the final plan. These measures would provide control by the city to ensure that the mitigation plan is implemented to the city's satisfaction without putting an undue burden on the project proponent.

7.4 Conceptual Stream Mitigation Plan

7.4.1 OVERVIEW

A conceptual stream mitigation plan has been designed to mitigate potential adverse impacts of the proposed project. The plan would include several types of in-stream features to enhance fish and riparian habitat in East Fork Issaquah Creek, as well as stream bank stabilization and establishment of riparian vegetation in stream bank areas (Figure 17). As shown in Figure 18, the plan would enhance approximately 365 lineal meters (1,200 lineal feet) of the creek in a continuous reach in areas just upstream and downstream of the project site.

The in-stream mitigation plan is based primarily on the introduction of large woody debris and the creation of a pool-riffle stream type. All proposed features, except for in-stream rocks, would be bioengineered solutions. Large woody debris consists of logs with root wads still attached. Both horizontal and vertical root wad structures are planned. The root structures create scour basins, which provide in-stream fish cover and flow refuge areas. Large rocks located in the center of the channel are proposed as turning rocks to direct flow and to create scour basins for fish flow refuge. The stream bank stabilization area would include approximately 20 to 30 root-wad structures. Other in-stream features would include 20 logs or root wads in the banks and six turning rock structures in the stream channel.

The bulkheads and rock walls of the stream banks in the former residential areas adjacent to the stormwater facility would be removed. Large woody debris would be installed and banks would be stabilized with live-branch cuttings layered between biostabilized soil layers. The adjacent stream buffer and other stream buffer areas would be restored and enhanced with riparian vegetation. The plan also proposes the construction of a backwater channel on the existing bar on the north side of the creek. This channel would provide rearing and overwintering habitat for juvenile coho salmon and other fish species. Stream bank areas totaling approximately 0.72 hectare (1.9 acres) would be restored and enhanced.

Table 8 summarizes the estimated impacts and proposed mitigation measures for the proposed project.

Based on an agreement between the WDFW and WSDOT, the existing concrete sack weirs installed in the 1970s as part of I-90 construction would be replaced. WDFW has identified these weirs as the source of fish passage problems. The stream mitigation plan would include a log weir system with heights between weirs at 25 centimeters (0.8 feet). This new weir system will be part of the final stream mitigation plan.

MITIGATION GOALS

The purpose of this mitigation plan is to compensate for 0.07 hectare (0.15 acre) of forested and scrub/shrub wetland that is proposed to be impacted as part of the construction of the new Sunset Interchange on I-90 in Issaquah, Washington.

This mitigation plan includes five major features:

1. Create wetland at a 2:1 mitigation to impact ratio;
2. Enhancement of the existing on-site wetland;
3. Restoration of .57 hectare (1.4 acres) of wetland and stream buffers;
4. Fisheries enhancements to Schneider Creek;
5. Permanently protect 1.85 acres in a Native Growth Protection Easement (NGPE).

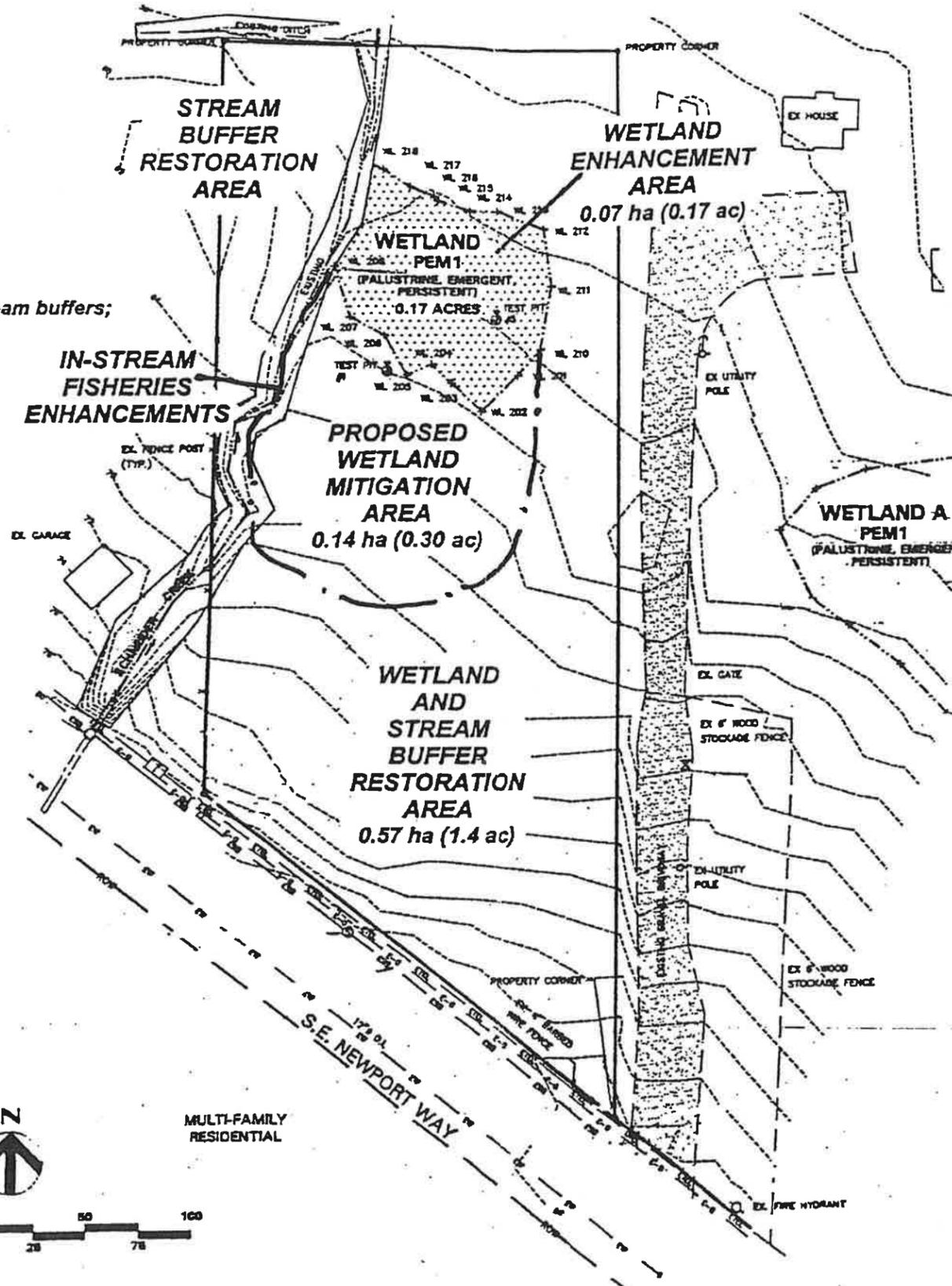
The plan will create 0.14 hectare (0.30 acre) of forested wetland. Construction of the wetland creation area will require excavation of 0.5 – 1.5 meters (1.5 – 5 feet) of existing soil to intercept groundwater seeps. This mitigation plan will expand the boundaries of the existing on-site wetland. The mitigation wetland will continue the wetland's connection with Schneider Creek.

The plan also proposes to enhance the vegetative community and wildlife values of the existing wetland by removal of existing blackberry and other invasive plants, and installation of native riparian tree, shrub and emergent plants. This work will not require modifying the ground elevations in the existing wetland.

Restoration of 0.57 hectare (1.40 acres) of wetland and stream buffer is also proposed. Restoration will be accomplished by the removal of existing masses of blackberry and agricultural grasses and the installation of dense plantings of native trees, shrubs and grasses.

Fisheries opportunities in severely degraded Schneider Creek will be enhanced by the installation of woody debris, rocks and other in-stream features consistent with Washington Department of Fish and Wildlife and City goals and requirements.

The site will be protected in perpetuity by its designation as a Native Growth Protection Easement (NGPE), the provisions of the Federal Clean Water Act, and the policies and requirements of the proponent agencies.

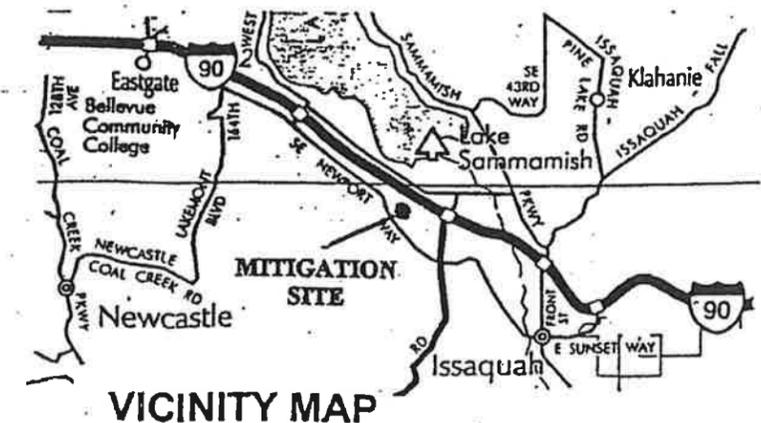


PROPOSED WETLAND CREATION & ENHANCEMENT PLANT LIST

Common Name	Scientific Name
Trees	
Sitka spruce	<i>Picea sitchensis</i>
Black cottonwood	<i>Populus balsamifera</i>
Oregon ash	<i>Fraxinus latifolia</i>
Western red cedar	<i>Thuja plicata</i>
Willow	<i>Salix</i> spp.
Shrubs	
Red-osier dogwood	<i>Cornus sericea</i>
Pacific ninebark	<i>Physocarpus capitatus</i>
Salmonberry	<i>Rubus spectabilis</i>
Herbaceous	
Small-fruited bulrush	<i>Scirpus microcarpus</i>
Slough sedge	<i>Carex obnupta</i>
Slender rush	<i>Juncus tenuis</i>

PROPOSED BUFFER AREA PLANT LIST

Trees	
Oregon ash	<i>Fraxinus latifolia</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
Bigleaf maple	<i>Acer macrophyllum</i>
Red alder	<i>Alnus rubra</i>
Willow	<i>Salix</i> spp.
Shrubs	
Snowberry	<i>Symphoricarpos albus</i>
Indian plum	<i>Oemleria cerasiformis</i>
Nootka rose	<i>Rosa nutkana</i>
Black twinberry	<i>Lonicera involucrata</i>
Red-osier dogwood	<i>Cornus sericea</i>
Oregon grape	<i>Mahonia aquifolium</i>
Salal	<i>Gaultheria shallon</i>



Conceptual Wetland Mitigation Plan
South SPAR and Sunset Interchange Modifications

Contract Plans

For Construction of:

SR 90

MP 18.07 VICINITY

I-90 SUNSET I/C MODIFICATIONS STAGE 2

KING COUNTY

VOLUME 2 OF 4

F. A. PROJECT NOS. HP-IM-0901(416) & LOCAL



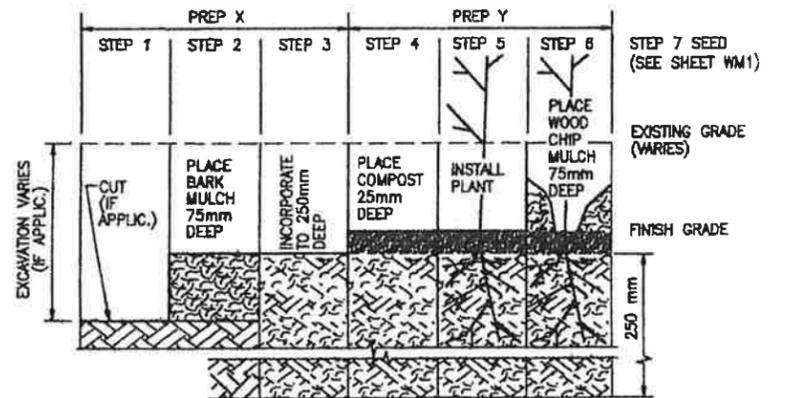
Washington State Department of Transportation

C. 6910

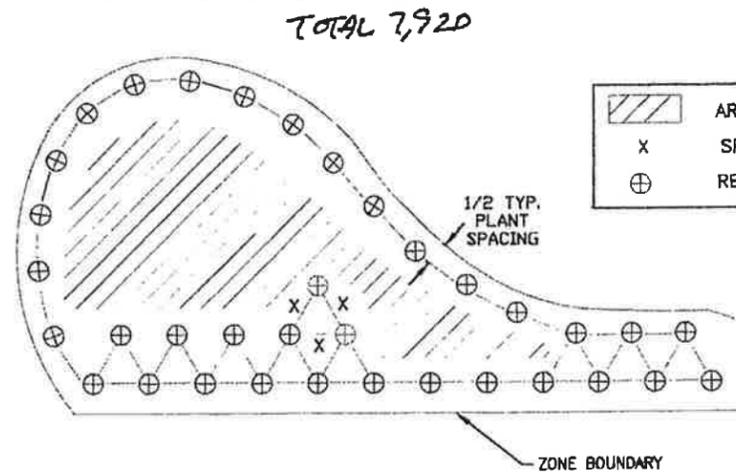
PLANTING ZONE SPECIFICATIONS

BOTANICAL / COMMON NAME A.S.N.S. SPACING QUANTITY PER PLANTING ZONE (SEE LANDSCAPE PLAN FOR CORRESPONDING ZONES)

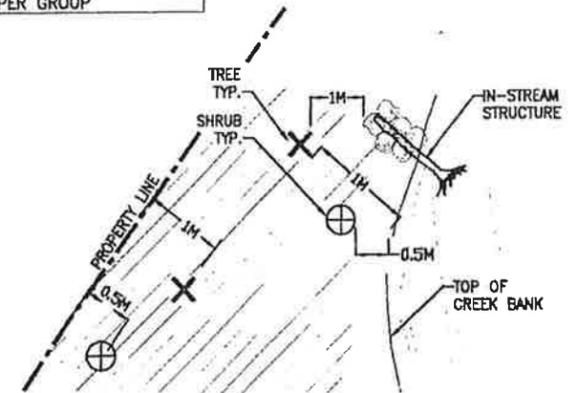
BOTANICAL / COMMON NAME	A.S.N.S.	SPACING	QUANTITY PER PLANTING ZONE							TOTAL	SPECIFICATIONS	NOTES
			ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7			
TREES			1A	1B								
CRATAEGUS DOUGLASII/BLACK HAWTHORN	1.1.3.3	2 O.C.	3	7		5	5	5		• 25	0.65 HT.; 0.25 MIN. RS; BR	INSTALL RANDOMLY MAX. 3 PER GROUP
PSEUDOTSUGA MENZIESII/DOUGLAS FIR	3.1.2.4	3 O.C.		40	15					• 55	1 HT.; 0.25 MIN. RS; #6 CONT.	RANDOMLY SPACE 2 TREE HEIGHTS MIN 2'-MAX. 10' PER GROUP
PICEA SITCHENSIS/SITKA SPRUCE	1.1.3.1	3 O.C.	5	10		5	5	3		• 28	1 HT.; 0.25 MIN. RS; #6 CONT.	
THUJA PLICATA/WESTERN RED CEDAR	3.1.2.4	3 O.C.	9	16		10			3	• 43	1 HT.; B&B	INSTALL IN LOW FLAT AREAS NEAR CREEK
FRAXINUS LATIFOLIA/OREGON ASH	1.1.3.1	3 O.C.	9	16		10	5	4	6	• 50	0.65 HT.; 0.25 MIN. RS; BR	2-5 PER GROUP
POPULUS BALSAMIFERA/BLACK COTTONWOOD	1.1.3.1	3 O.C.	2	3	5					• 10	0.65 HT.; 0.25 MIN. RS; BR	2-3 PER GROUP
TSUGA HETEROPHYLLA/WESTERN HEMLOCK	3.1.2.4	2 O.C.		10	5					• 15	1 HT.; 0.25 MIN. RS; #6 CONT.	2-3 PER GROUP
ACER MACROPHYLLUM/BIG LEAF MAPLE	1.1.3.1	3 O.C.	3	7	20	5				• 35	1 HT.; 0.25 MIN. RS; #6 CONT.	INSTALL RANDOMLY MAX. 2 PER GROUP
SHRUBS												
MALUS FUSCA/WESTERN CRABAPPLE	1.1.3.3	1.5 O.C.				5			4	• 9	0.65 HT.; 0.25 MIN. RS; BR	INSTALL RANDOMLY MAX. 3 PER GROUP
ACER CIRCINATUM/VINE MAPLE	1.1.3.3	1.5 O.C.	10	20						• 30	0.65 HT.; 0.25 MIN. RS; BR	INSTALL RANDOMLY 2-4 PER GROUP
SAMBUCUS RACEMOSA/RED ELDERBERRY	2.1.3.5	1 O.C.	17	33	45	50			30	• 175	0.9 HT.; 0.3 MIN. RS; BR	INSTALL RANDOMLY 2-4 PER GROUP
SYMPHORICARPOS ALBUS/SNOWBERRY	2.1.3.4	1 O.C.	68	132	250	150				• 630	0.45 HT.; 0.23 MIN. RS; BR	5-15 PER GROUP
RUBUS SPECTABILIS/SALMONBERRY	2.1.3.5	1 O.C.				50			10	• 60	0.65 HT.; 0.25 MIN. RS; BR	3-5 PER GROUP
ROSA NUTKANA/NOOTKA ROSE	2.1.3.4	1.5 O.C.	51	99	250	115				• 515	0.6 HT.; 0.25 MIN. RS; BR	5-15 PER GROUP
CORNUS SERICEA/RED-OSIER DOGWOOD	2.1.3.3	1.5 O.C.	85	165	50	25	100		20	• 505	0.6 HT.; 0.25 MIN. RS; BR	3-5 PER GROUP
HOLIDISCUS DISCOLOR/OCEANSPRAY	2.1.3.4	1 O.C.			50	50				• 100	0.6 HT.; 0.25 MIN. RS; BR	2-4 PER GROUP
CORYLUS CORNUTA/CALIFORNIA HAZELNUT	2.1.3.4	1.5 O.C.	10	20	20	30				• 80	0.6 HT.; 0.25 MIN. RS; #5 CONT.	MAX. 2 PER GROUP
PHYSOCARPUS CAPITATUS/PACIFIC NINEBARK	2.1.3.5	1.5 O.C.	17	33		25			20	• 95	0.65 HT.; 0.25 MIN. RS; #6 CONT.	3-5 PER GROUP
MAHONIA NERVOSA/OREGON GRAPE	4.1.3.4	1 O.C.	17	33	100	75				• 225	0.3 HT.; 0.15 MIN. RS; BR	5-10 PER GROUP
LONICERA INVOLUCRATA/BLACK TWINBERRY	2.1.3.4	1 O.C.	26	49		60			10	• 145	0.65 HT.; 0.25 MIN. RS; BR	3-5 PER GROUP
SALIX LUCIDA SSP. LASIANDRA/PACIFIC WILLOW	2.1.3.5	1.5 O.C.							15	• 15	0.65 HT.; 0.25 MIN. RS; BR	3-5 PER GROUP
SALIX SCOULERIANA/SCOULER'S WILLOW	2.1.3.6	1.5 O.C.	19	36		20				• 75	0.65 HT.; 0.25 MIN. RS; BR	3-5 PER GROUP
HERBACEOUS & EMERGENT PLANTS												
ATHYRIUM FILIX-FEMINA/LADY FERN	6.5	0.5 O.C.					35		10	• 45	0.3 HT.; 0.15 MIN. RS; #1 CONT.	INSTALL IN GROUPS MIN. 20, MAX. 100 PER GROUP
CAREX DEWEYANA/DEWEY'S SEDGE	6.5	0.5 O.C.					50	40		• 90	BR	INSTALL IN GROUPS MIN. 20, MAX. 100 PER GROUP
CAREX LYNGBYEI/SLOUGH SEDGE	6.5	0.5 O.C.					100	50		• 150	BR	INSTALL IN GROUPS MIN. 20, MAX. 100 PER GROUP
CAREX STIPATA/SAWBEAK SEDGE	6.5	0.5 O.C.					100	75		• 175	BR	INSTALL IN GROUPS MIN. 20, MAX. 100 PER GROUP
SCIRPUS MICROCARPUS/SMALL-FRUITED BULRUSH	6.5	0.5 O.C.					290	150		• 440	BR	INSTALL IN GROUPS MIN. 20, MAX. 100 PER GROUP
JUNCUS TENUIS/SLENDER RUSH	6.5	0.5 O.C.					95	50		• 145	BR	INSTALL IN GROUPS MIN. 20, MAX. 100 PER GROUP
TOTAL			351	679	840	525	320	685	415	150	• 3955	



A PLANTING AREA PREP. X&Y/SCHEDULE OF WORK DETAIL
WM2 NOT TO SCALE SECTION



B TYPICAL PLANT SPACING DETAIL
WM2 NOT TO SCALE PLAN



C ZONE 7 PLANT SPACING DETAIL
WM2 NOT TO SCALE PLAN

NOTES:

1. THE TOTAL PLANT QUANTITY ON THIS PAGE REPRESENTS THE PLANTS FOR STREAM BUFFER RESTORATION ONLY. SEE SHEETS PP3 AND SL5 FOR ADDITIONAL PLANT QUANTITIES.
2. PLANT MATERIAL SPACING SHALL BE AS SHOWN ON TYPICAL LAYOUT ON SHEET SL7. SPACE BETWEEN TREES SHALL BE 3M MINIMUM WITHIN MIX.
3. SEED ALL AREAS WITHIN PLANTING ZONES EXCEPT OVER PLANTING PITS.

KEY TO ABBREVIATIONS

BB = BALLED & BURLAPPED BR = BARE ROOT CONT. = CONTAINER HT = HEIGHT
MIN. = MINIMUM O.C. = ON CENTER RS = ROOT SPREAD

NOTE:
ALL PLANT SPACING & SIZE SPECIFICATIONS ARE IN METERS UNLESS OTHERWISE NOTED.

Design Engr.				REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
Supervisor				10	WASH			
Designed by	KIRK HACKLER	10/00		JOB NUMBER				
Checked by	KIRK HACKLER	10/00		CONTRACT NO.				
Detailed by	B POULSEN, J ARYANA	10/00						
Prelim. Design Engr.								
Preliminary Plan by								
Architect/Specialist	DATE	REVISION	BY	APP'D	DATE			

Washington State
Department of Transportation

PB PARSONS BRINCKERHOFF

Osborn Pacific Group Inc.

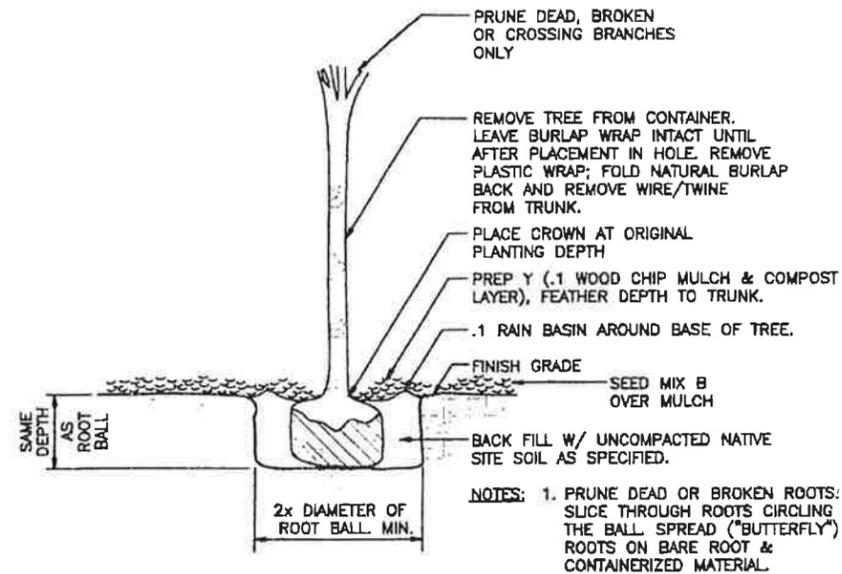
STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

KIRK H. HACKLER
CERTIFICATE NO. 631

SR90
SUNSET I/C MODIFICATION
WETLAND MITIGATION SITE

WETLAND PLANTING DETAILS

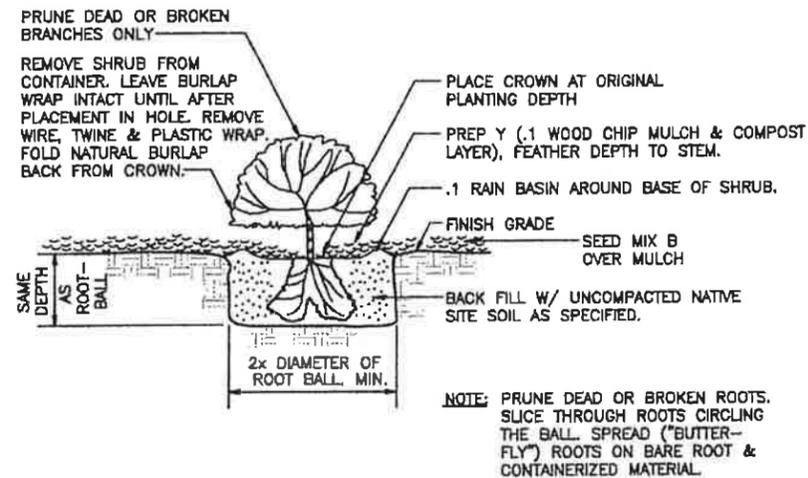
SHEET NO
WM2
SHEET 225 OF 765 SHEETS



A DECIDUOUS TREE PLANTING

WM3 NOT TO SCALE

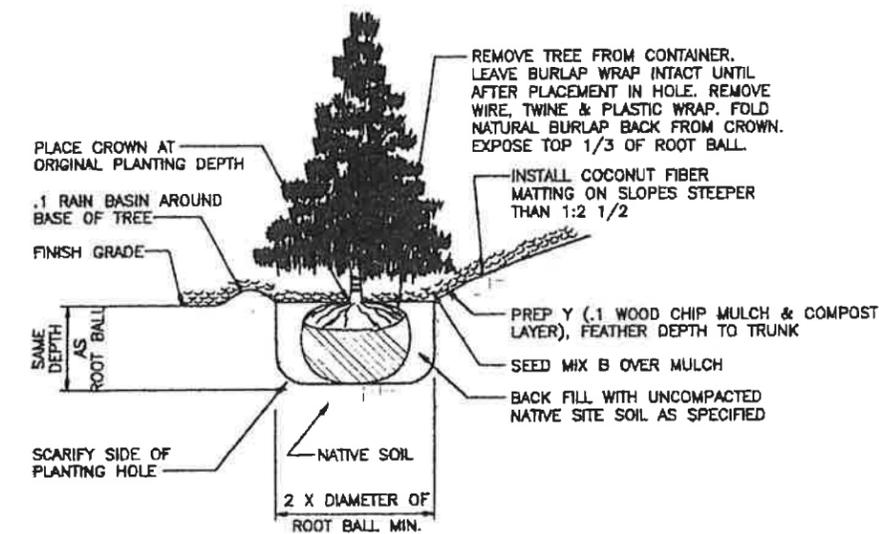
SECTION



B SHRUB PLANTING

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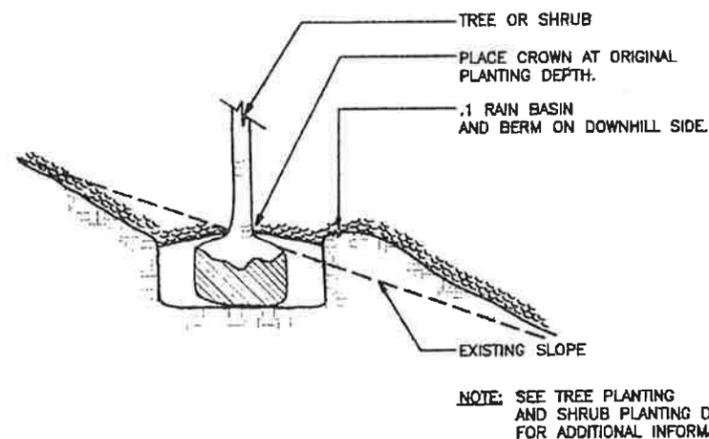
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E EVERGREEN TREE PLANTING

WM3 NOT TO SCALE

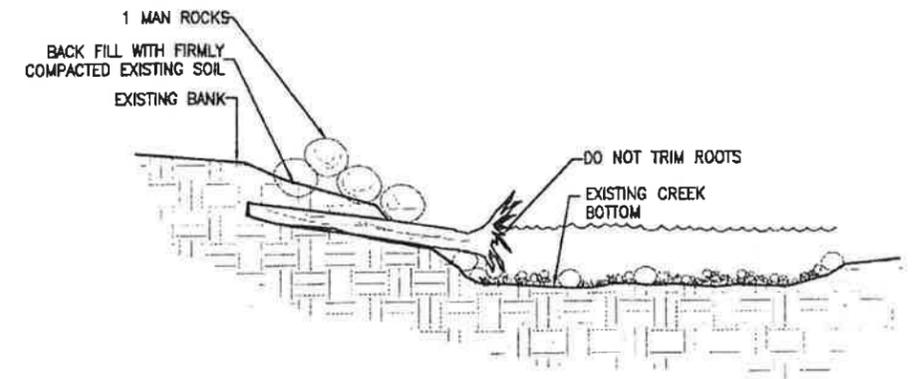
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F EXISTING SLOPE PLANTING

WM3 NOT TO SCALE

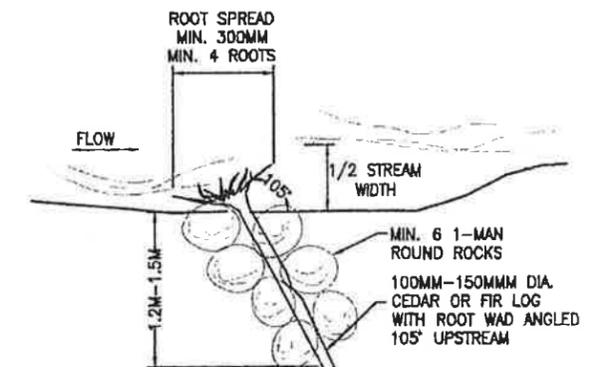
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C IN STREAM LOG

WM3 NOT TO SCALE

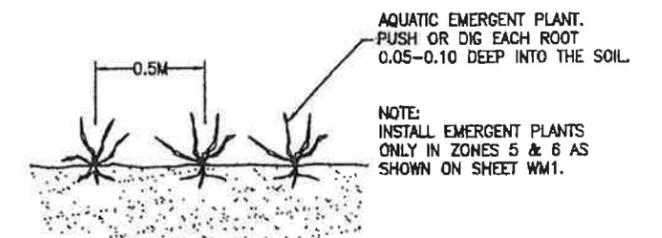
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D IN STREAM LOG

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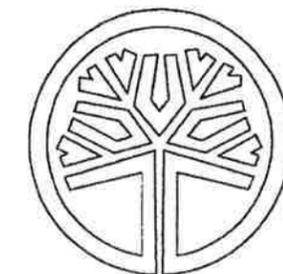
SECTION



G EMERGENT PLANTING

WM3 NOT TO SCALE

SECTION



STATE OF WASHINGTON
REGISTERED PROFESSIONAL ARCHITECT
KIRK H. HACKLER
CERTIFICATE NO. 631

DESIGN ENGR.	DESIGNED BY	CHECKED BY	DATE	REVISION	BY	APP'D	DATE	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	KIRK HACKLER	KIRK HACKLER	10/00					10	WASH			
	B POULSEN, J ARYANA		10/00									

Washington State
Department of Transportation

PB PARSONS BRINCKERHOFF

CEBORNI PACIFIC GROUP INC.

SR90
SUNSET I/C MODIFICATION
WETLAND MITIGATION SITE
WETLAND PLANTING DETAILS

SHEET NO.
WM3
SHEET 226 OF 264 SHEETS

