Department of Community Services
Land Use and Transportation Planning Program
www.multco.us/landuse

1600 SE 190th Avenue, Portland Oregon 97233-5910 • PH. (503) 988-3043 • Fax (503) 988-3389

NOTICE OF DECISION

This notice concerns a Planning Director Decision on the land use case(s) cited and described below.

Case File: T2-2013-3002

Permit: Significant Environmental Concern Permit - Water Resources (SEC-wr)

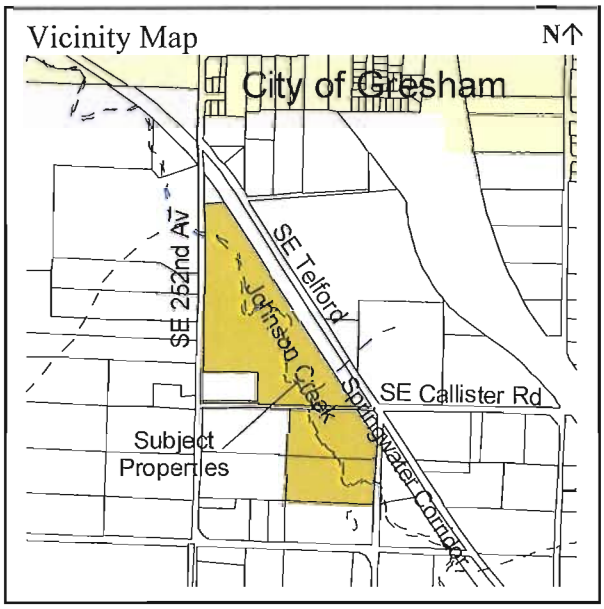
Location: 25673 SE McNutt Road
Tax Lots 1900, 2200, 2300 Section 23, Township 1S, Range 3E, W.M.
R993230120, R092604380, R092604430

Applicants: Metro

Owners: Metro, Multnomah County

Base Zone: Multiples Use Agriculture – 20

Overlays: SEC-h, SEC-wr, Flood Hazard;



Summary: Install large woody debris structures for bank and channel stabilization. Reconnect local floodplain areas with high flows, invasive plant removal and re-vegetation.

Decision: Approved with Conditions

Unless appealed, this decision is effective Friday, November 22, 2013, at 4:00 PM.

Issued by:

By: Don Kienholz, Planner

For: Karen Schilling- Planning Director

Date: Friday, November 8, 2013

Opportunity to Review the Record: A copy of the Planning Director Decision, and all evidence submitted associated with this application, is available for inspection, at no cost, at the Land Use Planning office during normal business hours. Copies of all documents may be purchased at the rate of 30-cents per page. The Planning Director Decision contains the findings and conclusions upon which the decision is based, along with any conditions of approval. For further information on this case, contact Don Kienholz, Staff Planner at 503-988-3043, ext. 29270.

Opportunity to Appeal: This decision may be appealed within 14 days of the date it was rendered, pursuant to the provisions of MCC 37.0640. An appeal requires a $250.00 fee and must state the specific legal grounds on which it is based. To obtain appeal forms or information on the procedure, contact the Land Use Planning offices at 1600 SE 190th Avenue (Phone: 503-988-3043). This decision cannot be appealed to the Land Use Board of Appeals until all local appeals are exhausted.

This decision is final at the close of the appeal period, unless appealed. The deadline for filing an appeal is Friday, November 22, 2013 at 4:00 pm.

Applicable Approval Criteria: Multnomah County Code (MCC): 37.0560 Code Compliance, 36.0005 Lot of Record, 36.2870 Lot of Record, 36.2820 MUA-20 Allowed Uses, 36.4550 General Requirements, 36.4555 Water Resources Approval Criteria.

Copies of the referenced Multnomah County Code (MCC) and Multnomah County Road Rules (MCRR) sections can be obtained by contacting our office at 503-988-3043 or by visiting our website at http://www.co.multnomah.or.us/landuse or http://web.multco.us/transportation-planning.

Scope of Approval

1. Approval of this land use permit is based on the submitted written narrative(s) and plan(s). No work shall occur under this permit other than that which is specified within these documents. It shall be the responsibility of the property owner(s) to comply with these documents and the limitations of approval described herein.

2. **This land use permit expires two years from the date the decision is final pursuant to MCC 37.0690(A) as applicable. The property owner may request to extend the timeframe within which this permit is valid, as provided under MCC 37.0695, as applicable. The request for a permit extension must be submitted prior to the expiration of the approval period.**

Conditions of Approval

The conditions listed are necessary to ensure that approval criteria for this land use permit are satisfied. Where a condition relates to a specific approval criterion, the code citation for that criterion follows in parenthesis.

Note: Once this decision is final, application for building permits, if applicable, may be made with the City of Gresham. When ready to have building permits signed off, the applicant shall call the Staff Planner, Don Kienholz, at (503) 988-3043 ext. 29270, for an appointment for review and approval of the conditions and to sign the building permit plans. Please note, Multnomah County must review and sign off the building permits before the applicant submits building plans to the City of Gresham. Three (3)

sets each of the site plan and building plans are needed for building permit sign off. At the time of building permit review, a fee of $61.00 may be collected. In addition, an erosion control inspection fee of $82.00 may be required.

1. **Staging of equipment or vehicles shall occur no closer than 150-feet from the stream or water body [MCC 36.4545(G)].**

2. **Any equipment or vehicle working in stream shall be inspected daily prior to entering the water body to ensure there are no leaks or hazardous materials present [MCC 36.4545(G)].**

3. **Nuisance plans listed in MCC 36.4550(C) shall be removed from the development area and are prohibited from being planted.**

4. **Vegetation planted as part of the habitat restoration and enhancement shall be native plants as proposed in the narrative [MCC 36.4555(D)(6)].**

5. **Prior to work commencing, and through the duration of the project, equipment access areas shall be clearly flagged to prevent equipment from encroaching into the water resource areas other than what is necessary to construct the woody debris structures and the placement of boulders [MCC 36.4555(D)(7)].**

Notice to Mortgagee, Lien Holder, Vendor, or Seller:
ORS Chapter 215 requires that if you receive this notice it must be promptly forwarded to the purchaser.

Findings of Fact

FINDINGS: Written findings are contained herein. The Multnomah County Code (MCC) criteria and Comprehensive Plan Policies are in **bold** font. Staff analysis and comments are identified as '**Staff:**' and address the applicable criteria. Staff comments may include a conclusionary statement in *italic*.

1.00 Project Description:

Staff: The applicant is seeking approval for a restoration project along Johnson Creek that will stabilize stream banks by adding woody debris structures, reconnecting stream flows to the floodplain and enhancing riparian habitat (Exhibits A.4 through A.15). The project will occur in the Multiple Use Agriculture-20 zone and within the Significant Environmental Concern overlays for Water Resources. The project sites are located adjacent to the Springwater Corridor north of SE McNutt Road and adjacent to the unimproved SE. Callister right-of-way.

2.00 Code Compliance

MCC 37.0560 CODE COMPLIANCE AND APPLICATIONS.

Except as provided in subsection (A), the County shall not make a land use decision approving development, including land divisions and property line adjustments, or issue a building permit for any property that is not in full compliance with all applicable provisions of the Multnomah County Land Use Code and/or any permit approvals previously issued by the County.

(A) A permit or other approval, including building permit applications, may be authorized if:

(1) It results in the property coming into full compliance with all applicable provisions of the Multnomah County Code. This includes sequencing of permits or other approvals as part of a voluntary compliance agreement; or

(2) It is necessary to protect public safety; or

(3) It is for work related to and within a valid easement over, on or under an affected property.

Staff: There are no known code compliance issues associated with the three involved properties and as such the County has the authority to issue this land use decision. Parcel 2 has a dwelling that was permitted in 1994 (Exhibit B.6).

Criteria met.

3.00 Lot of Record:

MCC 36.0005 Lot of Record

Lot of Record – Subject to additional provisions within each Zoning District, a Lot of Record is a parcel, lot, or a group thereof that, when created or reconfigured, (a) satisfied all applicable zoning laws and (b) satisfied all applicable land division laws, or (c) complies with the criteria for the creation of new lots or parcels described in MCC 33.7785. Those laws shall include all required zoning and land division review procedures, decisions, and conditions of approval.

(a) "Satisfied all applicable zoning laws" shall mean: the parcel, lot, or group thereof was created and, if applicable, reconfigured in full compliance with all zoning minimum lot size, dimensional standards, and access requirements.

(b) "Satisfied all applicable land division laws" shall mean the parcel or lot was created:

1. By a subdivision plat under the applicable subdivision requirements in effect at the time; or

2. By a deed, or a sales contract dated and signed by the parties to the transaction, that was recorded with the Recording Section of the public office responsible for public records prior to October 19, 1978; or

3. By a deed, or a sales contract dated and signed by the parties to the transaction, that was in recordable form prior to October 19, 1978; or

4. By partitioning land under the applicable land partitioning requirements in effect on or after October 19, 1978; and

5. "Satisfied all applicable land division laws" shall also mean that any subsequent boundary reconfiguration completed on or after December 28, 1993 was approved under the property line adjustment provisions of the land division code. (See Date of Creation and Existence for the effect of property line adjustments on qualifying a Lot of Record for the siting of a dwelling in the EFU and CFU districts.)

(c) Separate Lots of Record shall be recognized and may be partitioned congruent with an "acknowledged unincorporated community" boundary which intersects a Lot of Record.

1. Partitioning of the Lot of Record along the boundary shall require review and approval under the provisions of the land division part of this Chapter, but not be subject to the minimum area and access requirements of this district.

2. An "acknowledged unincorporated community boundary" is one that has been established pursuant to OAR Chapter 660, Division 22.

* * *

MCC 36.2870 LOT OF RECORD.

(A) In addition to the Lot of Record definition standards in MCC 36.0005, for the purposes of this district the significant dates and ordinances for verifying zoning compliance may include, but are not limited to, the following:

(1) July 10, 1958, SR zone applied;

(2) July 10, 1958, F-2 zone applied;

(3) December 9, 1975, F-2 minimum lot size increased, Ord. 115 & 116;

(4) October 6, 1977, MUA-20 zone applied, Ord. 148 & 149;

(5) October 13, 1983, zone change from EFU to MUA-20 for some properties, Ord. 395;

(6) May 16, 2002, Lot of Record section amended, Ord. 982.

(B) A Lot of Record which has less than the minimum lot size for new parcels or lots, less than the front lot line minimums required, or which does not meet the access requirement of MCC 36.2885, may be occupied by any allowed use, review use or conditional use when in compliance with the other requirements of this district.

(C) Except as otherwise provided by MCC 36.2860, 36.2875, and 36.4300 through 36.4360, no sale or conveyance of any portion of a lot, other than for a public purpose, shall leave a structure on the remainder of the lot with less than minimum lot or yard requirements or result in a lot with less than the area or width requirements of this district.

(D) The following shall not be deemed to be a lot of record:

(1) An area of land described as a tax lot solely for assessment and taxation purposes;

(2) An area of land created by the foreclosure of a security interest.

(3) An area of land created by court decree.

Staff: The findings below demonstrate each property is a lot of record:

Parcel 1, Tax Lot 1900: The subject parcel was part of a county approved property line adjustment in 2010 (County case T2-2010-710). Completing the approved property line adjustment ensured that the new parcel satisfied the MUA-20 zoning requirements and the land division code. As such, the parcel is a lot of record.

Parcels 2 and 3, Tax Lots 2200 and 2300): Parcels 2 and 3 are part of the Botefuhr Tracts subdivision, Lots 81 and 80, respectively. Botefuhr Tracts was platted in 1915 (Exhibit B.5). In 1915, there were no zoning requirements. Land division requirements were in place for subdivisions and the official platting of the subdivision means the county accepted the plat. As such, Parcels 2 and 3 are lots of record.

Criteria met. All parcels are lots of record

4.00 Multiple Agricultural Use-20:

A. **MCC 36. 2820 ALLOWED USES**

(D) Public and private conservation areas and structures for the protection of water, soil, open space, forest and wildlife resources.

Staff: The proposed habitat and flood plain restoration and enhancement is an allowed use.

Criterion met.

B. **MCC 36.2855 DIMENSIONAL STANDARDS AND DEVELOPMENT REQUIREMENTS.**

All development proposed in this district shall comply with the applicable provisions of this section.

1. **(A) Except as provided in MCC 36.2860, 36.2870, 36.2875, and 36.4300 through 36.4360, the minimum lot size shall be 20 acres.**

   Staff: The proposal does not include any land divisions so minimum lot size is not applicable.

   Criterion met.

2. **(B) That portion of a street which would accrue to an adjacent lot if the street were vacated shall be included in calculating the area of such lot.**

   Staff: A land division is not proposed therefore lot area is not applicable.

   Criterion met.

3. **(C) Minimum Yard Dimensions – Feet**

Front	Side	Street Side	Rear
30	10	30	30

   Maximum Structure Height – 35 feet

   Minimum Front Lot Line Length – 50 feet.

   Staff: No buildings are proposed. Therefore, setback and building height requirements are not applicable.

   Criterion met.

4. **(D) The minimum yard requirement shall be increased where the yard abuts a street having insufficient right-of-way width to serve the area. The county Road Official shall determine the necessary right-of-way widths based upon the county "Design and Construction Manual" and the Planning Director shall determine any additional yard requirements in consultation with the Road Official.**

   Staff: No buildings are proposed. Therefore yard requirements are not triggered.

   Criterion met.

5. **(E) Structures such as barns, silos, windmills, antennae, chimneys or similar structures may exceed the height requirement if located at least 30 feet from any property line.**

   Staff: No buildings are proposed. Therefore height limitations are not applicable.

   Criterion met.

6. **(F) On-site sewage disposal, storm water/drainage control, water systems unless these services are provided by public or community source, required parking, and yard areas shall be provided on the lot.**

(1) Sewage and stormwater disposal systems for existing development may be off-site in easement areas reserved for that purpose.

(2) Stormwater/drainage control systems are required for new impervious surfaces. The system shall be adequate to ensure that the rate of runoff from the lot for the 10 year 24-hour storm event is no greater than that before the development.

Staff: No impervious surface is proposed nor are any restrooms. As such, septic and stormwater are not reviewed.

Criterion met.

7. **(G) Grading and erosion control measures sufficient to ensure that visible or measurable erosion does not leave the site shall be maintained during development. A grading and erosion control permit shall be obtained for development that is subject to MCC Chapter 29.**

Staff: The applicant has submitted a grading and erosion control permit to ensure appropriate erosion control measures are in place. That permit satisfies this requirement.

Criterion met.

8. **(H) New, replacement, or expansion of existing dwellings shall minimize impacts to existing farm uses on adjacent land (contiguous or across the street) by:**

(1) Recording a covenant that implements the provisions of the Oregon Right to Farm Law in ORS 30.936 where the farm use is on land in the EFU zone; or

(2) Where the farm use does not occur on land in the EFU zone, the owner shall record a covenant that states he recognizes and accepts that farm activities including tilling, spraying, harvesting, and farm management activities during irregular times, occur on adjacent property and in the general area.

Staff: A dwelling is not included with the application request.

Criterion met.

9. **(I) Agricultural structures and equine facilities such as barns, stables, silos, farm equipment sheds, greenhouses or similar structures that do not exceed the maximum height requirement may have a reduced minimum rear yard of less than 30 feet, to a minimum of 10 feet, if:**

(1) The structure is located at least 60 feet from any existing dwelling, other than the dwelling(s) on the same tract, where the rear property line is also the rear property line of the adjacent tract, or

(2) The structure is located at least 40 feet from any existing dwelling, other than the dwelling(s) on the same *tract*, where the rear property line is also the side property line of the adjacent *tract*.

(3) Placement of an agricultural related structure under these provisions in (I) do not change the minimum yard requirements for future dwellings on adjacent property.

Staff: No agricultural structures or buildings are proposed as part of the application.

Criterion met.

5.00 Significant Environmental Concern Permit:

A. **MCC 36.4550 GENERAL REQUIREMENTS FOR APPROVAL IN AREAS DESIGNATED AS SEC-WR OR SEC-H.**

The requirements in this section shall be satisfied for development in the SEC-wr and SEC-h areas in addition to the provisions of 36.4555 or 36.4560 as applicable.

1. **(A) Areas of erosion or potential erosion shall be protected from loss by appropriate means. Appropriate means shall be based on current Best Management Practices and may include restriction on timing of soil disturbing activities.**

   Staff: The applicant's narrative discusses the Best Management Practices that will be implemented throughout the project. Those practices include:
   - Performing work only during ODFW's in water work window of July 15 through August 31, coinciding with Johnson Creek's low summer flow.
   - Revegetate stream bank and disturbed areas immediately following construction of the woody debris structures.
   - Use of erosion control native seed mix.
   - Use of straw wattles.
   - Staging and cleaning of equipment over 150-feet from a water body.
   - Daily inspection of fluid leaks on equipment.
   - Regular cleaning of equipment used in-stream.

   The listed practices are addressed in the conditions of approval and as conditioned will help prevent erosion and protect the stream during the project.

   Criterion met.

2. **(B) Outdoor lighting shall be of a fixture type and shall be placed in a location so that it does not shine directly into undeveloped water resource or habitat areas. Where illumination of a water resource or habitat area is unavoidable, it shall be minimized through use of a hooded fixture type and location. The location and illumination area of lighting needed for security of utility facilities shall not be limited by this provision.**

Staff: Lighting is not proposed as part of the project.

Criterion met.

3. **(C) The following nuisance plants, in addition to the nuisance plants defined in 36.4510, shall not be used as landscape plantings within the SEC-wr and SEC-h Overlay Zone:**

Scientific Name	Common Name
Chelidonium majus	Lesser celandine
Cirsium arvense	Canada Thistle
Cirsium vulgare	Common Thistle
Clematis ligusticifolia	Western Clematis
Clematis vitalba	Traveler's Joy
Conium maculatum	Poison hemlock
Convolvulus arvensis	Field Morning-glory
Convolvulus nyctagineus	Night-blooming Morning-glory
Convolvulus seppium	Lady's nightcap
Cortaderia selloana	Pampas grass
Crataegus sp. except C. douglasii	hawthorn, except native species
Cytisus scoparius	Scotch broom
Daucus carota	Queen Ann's Lace
Elodea densa	South American Water-weed
Equisetum arvense	Common Horsetail
Equisetum telemateia	Giant Horsetail
Erodium cicutarium	Crane's Bill
Geranium roberianum	Robert Geranium
Hedera helix	English Ivy
Hypericum perforatum	St. John's Wort
Ilex aquafolium	English Holly
Laburnum watereri	Golden Chain Tree
Lemna minor	Duckweed, Water Lentil

Scientific Name	Common Name
Loentodon autumnalis	Fall Dandelion
Lythrum salicaria	Purple Loosestrife
Myriophyllum spicatum	Eurasian Watermilfoil
Phalaris arundinacea	Reed Canary grass
Poa annua	Annual Bluegrass
Polygonum coccineum	Swamp Smartweed
Polygonum convolvulus	Climbing Binaweed
Polygonum sachalinense	Giant Knotweed
Prunus laurocerasus	English, Portugese Laurel
Rhus diversiloba	Poison Oak
Rubus discolor	Himalayan Blackberry
Rubus laciniatus	Evergreen Blackberry
Senecio jacobaea	Tansy Ragwort
Solanum dulcamara	Blue Bindweed
Solanum nigrum	Garden Nightshade
Solanum sarrachoides	Hairy Nightshade
Taraxacum otficinale	Common Dandelion
Ultricularia vuigaris	Common Bladderwort
Utica dioica	Stinging Nettle
Vinca major	Periwinkle (large leaf)
Vinca minor	Periwinkle (small leaf)
Xanthium spinoseum	Spiny Cocklebur
various genera	Bamboo sp.

Staff: Nuisance plant removal in the development area shall be a condition of approval.

B. **MCC 36.4555 CRITERIA FOR APPROVAL OF SEC-WR PERMIT –WATER RESOURCE**

Except for the exempt uses listed in MCC 36.4520 and the existing uses pursuant to 36.4525, no development shall be allowed within a Water Resource Area unless the provisions of section (A) or (B) or (C) below are satisfied. An application shall not be approved unless it contains the site analysis information required in 36.4540(A) and (C), and meets the general requirements in 36.4550.

1. **(B) Alternatives Analysis - Development proposed within a Water Resource Area may be allowed if there is no alternative, when the other requirements of this district including the Development Standards of (D) and the provisions for Mitigation in (E) are met. The applicant shall prepare an alternatives analysis which demonstrates that:**

   a. **(1) No practicable alternatives to the requested development exist that will not disturb the Water Resource Area; and**

      Staff: Because the project includes restoration of segments of Johnson Creek, the project is dependant on the water resource that is protected under the SEC-wr. As such, there is no

alternative to the location of the proposed project. The project helps meet the intent and purpose of the SEC-wr by enhancing the environmental characteristics of the mapped resource.

Criterion met.

b. **(2) Development in the Water Resource Area has been limited to the area necessary to allow for the proposed use;**

Staff: The nature of the project is to enhance habitat and flood capacity and requires work in the water resource in order to be effective. Restoration and enhancement projects are allowed in the underlying zone. Because the project is for the enhancement of the habitat and floodplain, the development is limited to those areas that need to be improved from a habitat and floodplain perspective. The assessment performed by Henderson Environmental Design-Build found that the general area of the project is in "good" condition as defined in the code. Over the years there has been a coalition of groups (including the Johnson Creek Watershed Council, Oregon Department of Fish and Wildlife, City of Gresham Etc) working on improving the water resource and enhancing the riparian corridors. The proposed work within the stream and along the corridor will improve the fish habitat (which is as important as upland habitat) as well as flood capacity. As such, the proposed development is limited to the area necessary for the fish habitat improvement and enhancement.

Criterion met.

c. **(3) Development shall occur as far as practically possible from the stream; and**

Staff: The project meets the intent and purpose of the SEC code by enhancing the environmental characteristics of the mapped resource. Because of the nature of the project, the development cannot be done outside the stream. As such, it *is* as far as practically possible from the stream.

Criterion met.

d. **(4) The Water Resource Area can be restored to an equal or better condition; or**

Staff: As identified by Henderson Environmental Design-Build, the area around the development project is already in "good" condition.

Criterion met.

e. **(5) Any net loss on the property of resource area, function and/or value can be mitigated.**

Staff: There is no net loss to the resource area. All areas will remain in "good" condition and the project will enhance habitat and resources and improve the flood capacity of the creek.

Criterion met.

2. **(D) Development Standards – Development within the Water Resource Area shall comply with the following standards:**

   a. **(1) Development of trails, rest points, viewpoints, and other facilities for the enjoyment of the resource must be done in such a manner so as to minimize impacts on the natural resource while allowing for the enjoyment of the natural resource.**

      Staff: No facilities such as those mentioned in the criterion are proposed for the project.

      Criterion met.

   b. **(2) Development in areas of dense standing trees shall be designed to minimize the numbers of trees to be cut. No more than 50 percent of mature standing trees (of 6-inch DBH greater) shall be removed without a one-for-one replacement with comparable species. The site plan for the proposed activity shall identify all mature standing trees by type, size, and location, which are proposed for removal, and the location and type of replacement trees.**

      Staff: The applicant is not proposing to remove any trees as part of the project. The 'development' is for installing large woody debris structures in the creek and along the banks to improve fish habitat. Logs for the structures are to be imported in to the site, constructed and installed. Since no trees will be removed, no replacement is required.

      Criterion met.

   c. **(3) Areas of standing trees, shrubs, and natural vegetation will remain connected or contiguous, particularly along natural drainage courses, so as to provide a transition between the proposed development and the natural resource, to provide food, water, and cover for wildlife, and to protect the visual amenity values of the natural resource.**

      Staff: The area of the project has been determined to be in "good" condition which includes tree stands of 50% canopy closure and native trees, shrubs, and ground cover covering 85% of the area. Given that the development area is in "good" condition, the tree, shrub, and natural vegetation cover is and will remain connected and contiguous.

      Criterion met.

   d. **(4) The Water Resource Area shall be restored to "good condition" and maintained in accordance with the mitigation plan pursuant to (E) below and the specifications in Table 2.**

      Staff: The area of development is currently in "good" condition and will remain so after the woody debris structures and habitat is put in place.

      Criterion met.

   e. **(5) To the extent practicable, existing vegetation shall be protected and left in place. Work areas shall be carefully located and marked to reduce potential damage to the**

Water Resource Area. Trees in the Water Resource Area shall not be used as anchors for stabilizing construction equipment.

Staff: The proposed development does not include tree or vegetation removal, other than invasive plants. Equipment access areas will be flagged prior to the start of construction. With the proposed development isolated to the creek, this criterion is met.

Criterion met.

f. **(6) Where existing vegetation has been removed, or the original land contours disturbed, the site shall be revegetated, and the vegetation shall be established as soon as practicable. Nuisance plants, as identified in Table 1, may be removed at any time. Interim erosion control measures such as mulching shall be used to avoid erosion on bare areas. Nuisance plants shall be replaced with non-nuisance plants by the next growing season.**

Staff: Invasive vegetation is proposed to be removed if discovered on site. The applicant has stated that there will new vegetation planted throughout the project site as well. Native vegetation is proposed for the project and is a condition of approval. The project will create a 100-foot wide native riparian area.

Criterion met.

g. **(7) Prior to construction, the Water Resource Area shall be flagged, fenced or otherwise marked and shall remain undisturbed except as otherwise allowed by this district. Such markings shall be maintained until construction is complete.**

Staff: The applicant has stated that equipment access areas will be flagged throughout the duration of the project. This shall be a condition of approval.

Criterion met.

h. **(8) Stormwater quantity control and quality control facilities:**

(a) Stormwater management shall be conducted in a manner that does not increase the flow of stormwater to the stream above pre-development levels.

(b) The stormwater quantity control and quality control facility may only encroach a maximum of 25 feet into the outside boundary of the Water Resource Area of a primary water feature; and

(c) The area of encroachment must be replaced by adding an area equal in size and with similar functions and values to the Water Resource Area on the subject property.

Staff: No impervious surface is being added as a result of the project. Therefore, stormwater mitigation is not required.

Criterion met.

C. **(E) Mitigation – Mitigation shall be required to offset the impacts of development within the SEC-wr. This section establishes how mitigation can occur.**

(1) Mitigation Sequence. Mitigation includes avoiding, minimizing or compensating for adverse impacts to regulated natural resource areas.

(a) When a proposed use or development activity could cause adverse impacts to a natural resource area, the preferred sequence of mitigation as defined in 1. Through 5. Below shall be followed unless the applicant demonstrates that an overriding public benefit would warrant an exception to this preferred sequence.

1. **Avoiding the impact altogether by not taking a certain action or parts of actions on that portion of the site which contains the regulated natural resource area;**

2. **Minimizing impacts by limiting the degree or magnitude of the action and its implementation;**

3. **Compensating for the impact by repairing, rehabilitating, or restoring the affected environment;**

4. **Compensating for the impact by replacing, enhancing or providing substitute resources or environments onsite.**

5. **Compensating for the impact by replacing, enhancing or providing substitute resources or environments offsite.**

(b) When evaluating potential impacts to the natural resource, the County may consider whether there is an overriding public benefit, given:

1. **The extent of the public need for the proposed development ;**

2. **The functional values of the Water Resource Area that may be affected by the proposed development;**

3. **The extent and permanence of the adverse effects of the development on the Water Resource Area, either directly or indirectly;**

4. **The cumulative adverse effects of past activities on the Water Resource Area, either directly or indirectly; and**

5. **The uniqueness or scarcity of the Water Resource Area that may be affected.**

(2) Compensatory Mitigation: General Requirements. As a condition of any permit or other approval allowing development which results in the loss or degradation of regulated natural resource areas, or as an enforcement action, compensatory

mitigation shall be required to offset impacts resulting from the actions of the applicant or violator.

(a) Any person who alters or proposes to alter regulated natural resource areas shall restore or create natural resource areas equivalent to or larger than those altered in order to compensate for resource losses.

(b) The following ratios apply to the creation or restoration of natural resource areas. The first number specifies the amount of natural resource area to be created and the second specifies the amount of natural resource area to be altered or lost.

Creation (off-site)	**2:1**
Restoration (off-site)	**1.5:1**
Creation (on-site)	**1.5:1**
(Restoration (on-site)	**1:1**

(c) Only marginal or degraded water resource areas as described in Table 2 may be the subject of a restoration project proposed as part of a Mitigation Plan.

(d) Highest priority sites for mitigation are marginal or degraded corridors that are closest to a natural drainage, and areas which will increase contiguous areas of standing trees, shrubs, and natural vegetation along drainages.

(e) The off-site mitigation shall be as close to the development as is practicable above the confluence of the next downstream tributary, or if this is not practicable, within the watershed where the development will take place or as otherwise specified by the County.

(f) Compensation shall be completed prior to initiation of development where possible.

(g) In order to ensure that on-site mitigation areas are established and maintained, the property owner shall record the mitigation plan approval in the deed records of Multnomah County. In order to ensure that offsite mitigation areas will be protected in perpetuity, the owner shall cause a deed restriction to be placed on the property where the mitigation is required. The deed restriction shall be irrevocable unless a statement of release is signed by an authorized representative of Multnomah County.

(3) Mitigation Plan Standards – Natural re-source mitigation plans shall contain the following information:

(a) A description of adverse impacts that could be caused as a result of development.

(b) An explanation of how adverse impacts to resource areas will be avoided, minimized, and/or mitigated.

(c) A list of all responsible parties including, but not limited to, the owner, applicant, contractor or other persons responsible for work on the development site.

(d) A map drawn to scale, showing where the specific mitigation activities will occur.

(e) An implementation schedule, including timeline for construction, mitigation, mitigation maintenance, monitoring, reporting and a contingency plan. All in-stream work in fish-bearing streams must be done in accordance with the Oregon Department of Fish and Wildlife in-stream timing schedule.

Staff: As described in previous findings, the proposed project will take place in an area determined to be in "good" environmental condition (A.8). The project will not remove trees or other native vegetation from the development area. The project will enhance and create fish habitat in the tributary of Johnson Creek and improve flood carrying capacity. The habitat enhancement will include adding large woody debris structures and boulders to create shade, crags, and protected areas. As such, no mitigation is required to off-set the project because the project will not result in the loss or degradation of a regulated natural resource area.

Criteria met.

6.00 Conclusion

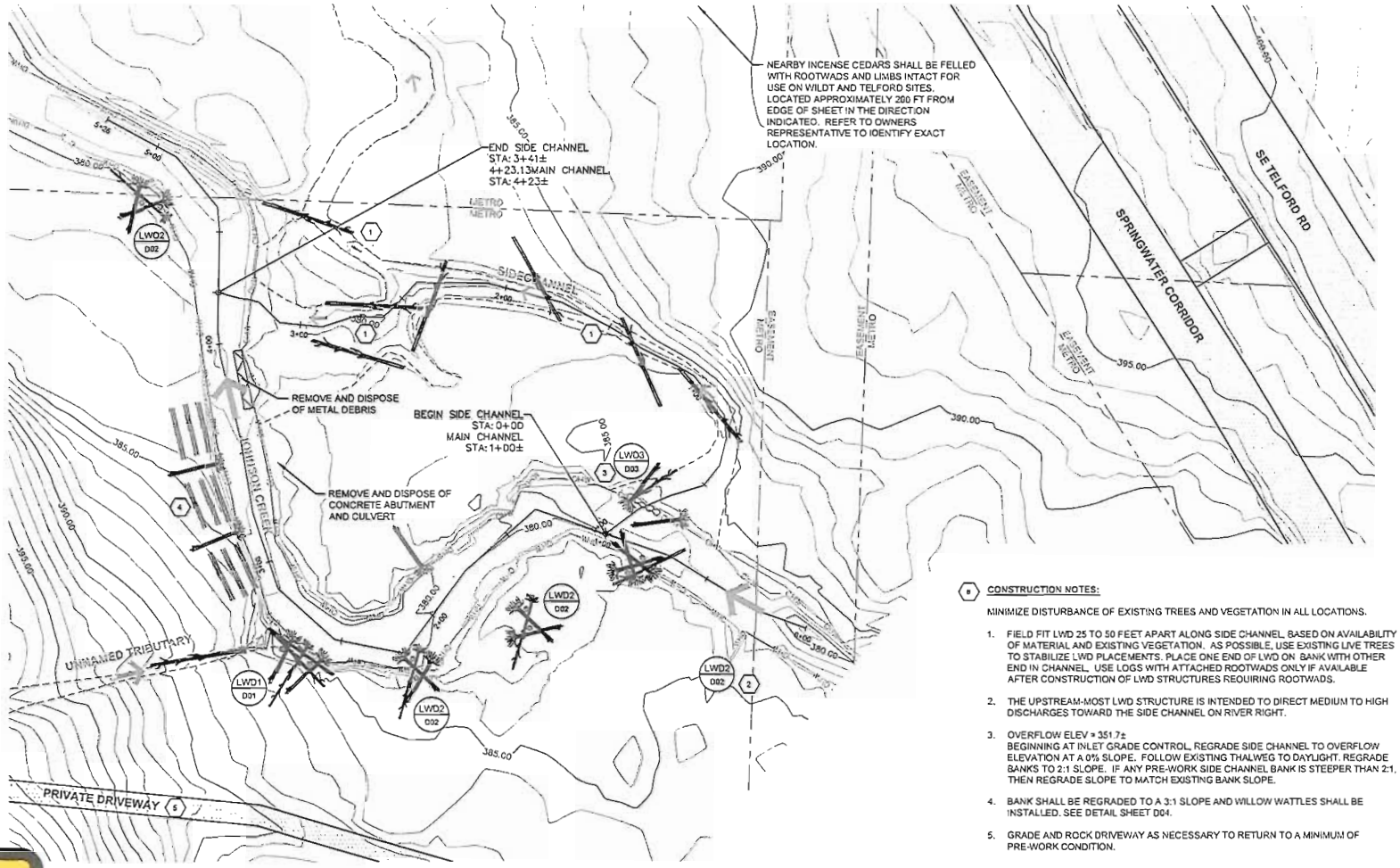
Based on the findings and other information provided above, the applicant has carried the burden necessary for the Significant Environmental Concern Permit for Water Resources to construct and enhance habitat in Johnson Creek and improve flood capacity in the Multiple Use Agriculture-20 zone. This approval is subject to the conditions of approval established in this report.

7.00 Exhibits

'A' Applicant's Exhibits
'B' Staff Exhibits
Exhibits with a "*"after the exhibit # have been included as part of the mailed decision. All other exhibits are available for review in Case File T2-2013-2889 at the Land Use Planning office.

Exhibit #	# of Pages	Applicant Exhibits
A.1	1	General Application Form
A.2	2	Email and Copy of Business Card of Kate Holleran, Natural Resources Steward, Metro, Demonstrating Authority to Authorize Application
A.3	5	Copy of PF-2013-2944 Notes
A.4*	1	July 26, 2013 Overall Site Plan of Parcel 1
A.5*	1	July 26, 2013 Overall Site Plan of Parcels 2 and 3
A.6	1	July 26, 2013 Legend Sheet G01
A.7	1	July 26, 2013 Existing Conditions Map for Parcels 2 and 3,

		Sheet C01
A.8*	1	July 26, 2013 Proposed Conditions Map for Parcels 2 and 3, Sheet C02
A.9*	1	July 26, 2013 Site Access and Erosion Control Map for Parcels 2 and 3, Sheet C03
A.10	1	July 26, 2013 Existing Conditions Map for Parcel 1, Sheet C04
A.11*	1	July 26, 2013 Proposed Conditions Map for Parcel 1, Sheet C05
A.12*	1	July 26, 2013 Site Access and Erosion Control Map for Parcel 1, Sheet C06
A.13*	3	July 26, 2013 Large Woody Debris Structure Plan View, Sheets D01 Through D03
A.14	1	July 26, 2013 Willow Wattle Staking Profile, Sheet D04
A.15	1	July 26, 2013 Construction Entrance Plan, Sheet D05
A.16	8	July 26, 2013 Narrative
A.17	1	July 26, 2013 Soil Map
A.18	2	Letters From Application to US Army Corps of Engineers and State Division of State Lands for Joint Permit Application
A.19	1	March 12, 2013 Letter From State Historic Preservation Office
A.20	2	Vegetative Conditions Narrative
A.21	3	Water Resource Area Certification Form
'B'		
B.1	6	Assessment and Taxation Information Sheets
B.2	2	Assessment and Taxation Maps
B.3	1	September 4, 2013 Complete Letter
B.4	6	September 11, 2013 Opportunity to Comment and Mailing List
B.5	1	Copy of Botefuhr Tracts Subdivision Plat From 1915
B.6	1	Copy of Building Permit for Dwelling on Parcel 2, 25673 SE McNutt Road



CONSTRUCTION NOTES:

MINIMIZE DISTURBANCE OF EXISTING TREES AND VEGETATION IN ALL LOCATIONS.

1. FIELD FIT LWD 25 TO 50 FEET APART ALONG SIDE CHANNEL BASED ON AVAILABILITY OF MATERIAL AND EXISTING VEGETATION. AS POSSIBLE, USE EXISTING LIVE TREES TO STABILIZE LWD PLACEMENTS. PLACE ONE END OF LWD ON BANK WITH OTHER END IN CHANNEL. USE LOGS WITH ATTACHED ROOTWADS ONLY IF AVAILABLE AFTER CONSTRUCTION OF LWD STRUCTURES REQUIRING ROOTWADS.
2. THE UPSTREAM-MOST LWD STRUCTURE IS INTENDED TO DIRECT MEDIUM TO HIGH DISCHARGES TOWARD THE SIDE CHANNEL ON RIVER RIGHT.
3. OVERFLOW ELEV = 351.7± BEGINNING AT INLET GRADE CONTROL, REGRADE SIDE CHANNEL TO OVERFLOW ELEVATION AT A 0% SLOPE. FOLLOW EXISTING THALWEG TO DAYLIGHT. REGRADE BANKS TO 2:1 SLOPE. IF ANY PRE-WORK SIDE CHANNEL BANK IS STEEPER THAN 2:1, THEN REGRADE SLOPE TO MATCH EXISTING BANK SLOPE.
4. BANK SHALL BE REGRADED TO A 3:1 SLOPE AND WILLOW WATTLES SHALL BE INSTALLED. SEE DETAIL SHEET D04.
5. GRADE AND ROCK DRIVEWAY AS NECESSARY TO RETURN TO A MINIMUM OF PRE-WORK CONDITION.

25 0 25 50
SCALE IN FEET

1 / C02 PROPOSED CONDITIONS, PLAN VIEW
WILDT SITE

STRUCTURE CALLOUT REFERENCE

STRUCTURE TYPE SEE ABBREVIATIONS LIST

DETAIL SHEET NUMBER

STRUCTURE LAYOUT TABLE

MAIN CHANNEL

STATION	FEATURE	LOCATION	DETAIL SHEET	LOGS	ROOTWADS
0+85	LWD2	LEFT	D02	2	3
0+95	LWD3	RIGHT	D03	2	3
1+70	LWD2	LEFT	D02	2	3
2+20	LWO2	LEFT	D02	2	3
2+60	LWD1	LEFT	D01	5	3
4+90	LWD2	LEFT	D02	2	3

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JOHNSON CREEK RESTORATION PROJECT
WILDT AND TELFORD SITES
MULTNOMAH COUNTY, OREGON

WILDT SITE -
PROPOSED CONDITIONS
PLAN VIEW

1" AT FULL SIZE

FIELDWORK DATE:	WINTER 2013
DESIGN:	SS
DRAWN:	MM
CHECKED:	SS
PROJECT NUMBER	METRO 13-1
REVISION	01
DATE	05/08/13
SHEET NUMBER	C02
	SHT 03 OF 12

SUGGESTED WORK AREA ISOLATION PLAN

METHOD OF WORK ISOLATION

CONTRACTOR MAY NEED TO INSTALL AND MAINTAIN A STREAM DIVERSION AND DEWATERING SYSTEM TO ISOLATE PORTIONS OF THE PROPOSED WORK. THE WORK AREA MAY BE ISOLATED USING A FLOATING SILT CURTAIN INSTALLED AROUND THE WORK AREA. THE CONTRACTOR MAY INSTALL A "LAYFIELD FSC13" FLOATING SILT CURTAIN, OR APPROVED EQUAL. THE SILT CURTAIN WILL RETAIN FINE SILTS AND SEDIMENTS ON-SITE, AND WILL NOT ALLOW FISH TO ENTER THE WORK AREA.

TO FURTHER REDUCE IMPACTS OF IN-WATER WORK, THE CONTRACTOR SHALL NOT WORK MORE THAN 1 HOUR IN THE WATER AND THEN STAY OUT OF THE WATER FOR 2 HOURS BEFORE ENTERING THE WATER AGAIN. THIS CYCLE SHALL BE MAINTAINED THROUGHOUT THE PROJECT AND MAY BE MORE STRINGENT IF REQUIRED.

DEWATERING AND RE-WATERING SEQUENCE

INDIVIDUAL WORK AREAS MAY BE ISOLATED USING A FLOATING SILT CURTAIN THAT TRAPS SILT AND SEDIMENT WITHIN THE DISTURBED AREA. THE SILT CURTAIN MAY BE INSTALLED IN SUCH A MANNER TO ENSURE THAT NO FISH ARE CONTAINED WITHIN THE WORK AREA AND THAT THE WORK AREA IS ISOLATED FROM FLOWING WATER.

THE SILT CURTAIN, IF INSTALLED, WILL REMAIN IN PLACE OF THE DURATION OF WORK. AFTER THE WORK IN THE SPECIFIC ISOLATED WORK AREA IS COMPLETE, THE FLOATING SILT CURTAIN SHALL THEN BE REMOVED TO RE-WATER THE WORK AREA.

FISH RESCUE TO BE COORDINATED AND PERFORMED BY ODFW OR OTHER PERMITTED PARTY.

FLOW CONDITIONS DURING IN-WATER WORK

IN-WATER WORK WILL BE EXECUTED DURING THE "IN-WATER" WORK PERIOD AS ESTABLISHED BY THE OREGON DEPARTMENT OF FISH AND WILDLIFE. FLOW IN THE CHANNEL DURING THE IN-WATER WORK PERIOD IS EXPECTED TO BE LESS THAN 10 CFS.

EQUIPMENT AND MATERIALS LIST

THE CONTRACTOR SHALL HAVE THE FOLLOWING EQUIPMENT AND MATERIALS ON-SITE FOR THE DURATION OF THE CONSTRUCTION:
- SILT AND SEDIMENT FENCING
- FLOATING SILT CURTAIN
- STRAW BALES
- AN OIL-ABSORBING FLOATING BOOM AND ABSORBENT PADS
- SPILL PREVENTION KIT

POLLUTION & EROSION CONTROL NOTES

CONTRACTOR SHALL PREPARE AND HAVE ON-SITE A SPILL CONTAINMENT AND CONTROL PLAN WITH NOTIFICATION PROCEDURES, EQUIPMENT, SPECIFIC CLEANUP AND DISPOSAL INSTRUCTIONS FOR ALL PRODUCTS USED ON SITE.

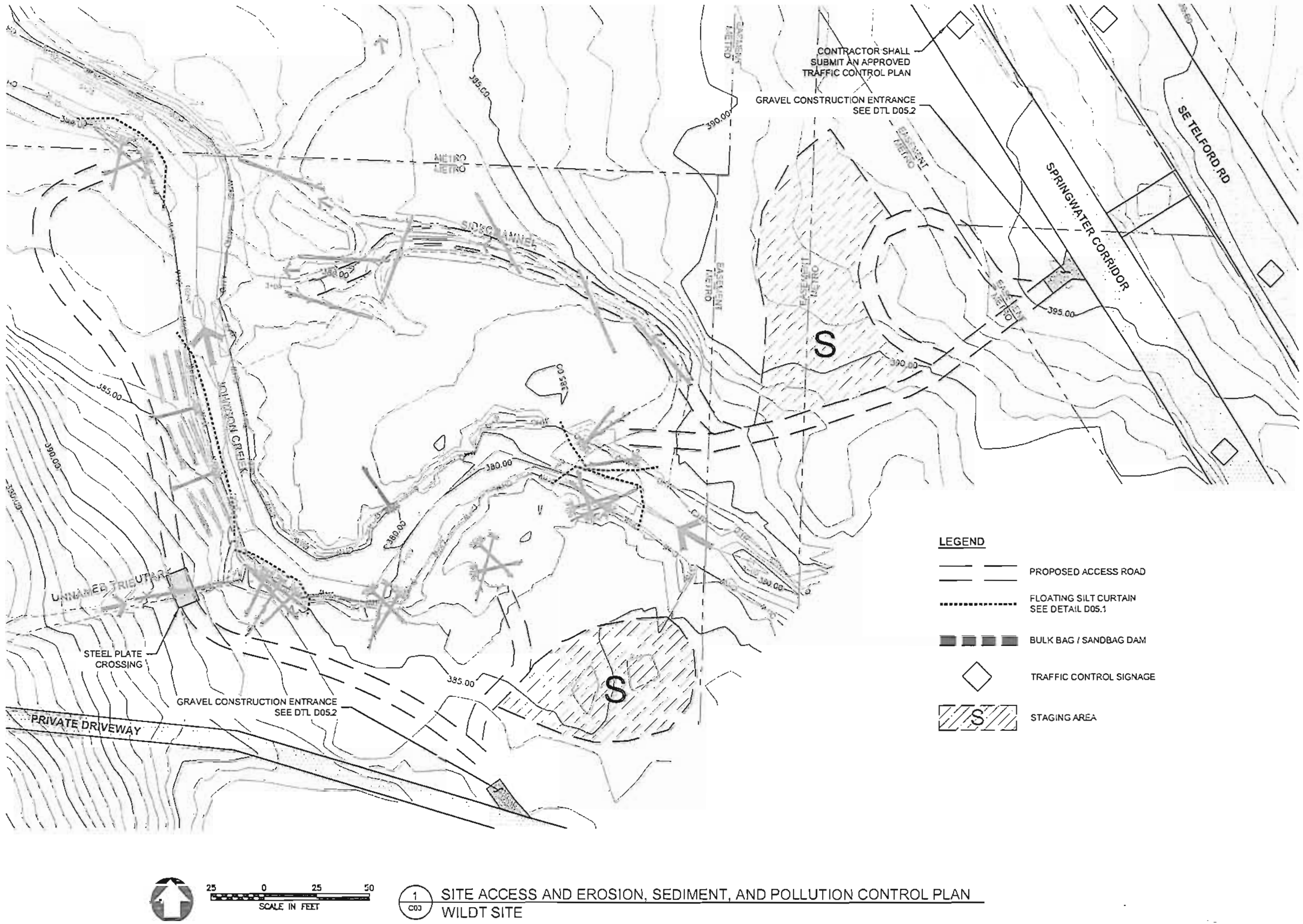
AT A MINIMUM, EROSION CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE INSPECTED WEEKLY. BASED ON INSPECTIONS, WORK CREWS SHALL MOBILIZE IMMEDIATELY TO MAKE REPAIRS OR INSTALL ADDITIONAL MEASURES, IF NECESSARY.

CONTRACTOR SHALL HAVE AN EMERGENCY SUPPLY OF SEDIMENT CONTROL MATERIALS ON HAND (SILT FENCE, STRAW BALES, ETC.), AN OIL ABSORBING FLOATING BOOM, AND ABSORBENT PADS.

STATIONARY EQUIPMENT, SUCH AS GENERATORS, WITHIN 150 FEET OF THE WATER SHALL BE DIAPERED TO PREVENT LEAKS.

ALL EQUIPMENT WITHIN 150 FEET OF WATER SHALL BE INSPECTED DAILY FOR FLUID LEAKS AND REPAIRED PRIOR TO USE IF A LEAK IS DETECTED. THE CONTRACTOR SHALL KEEP DAILY INSPECTION REPORTS IN A DIARY.

ALL EQUIPMENT SHALL BE WASHED PRIOR TO MOBILIZATION TO THE SITE TO MINIMIZE THE INTRODUCTION OF FOREIGN MATERIALS AND FLUIDS TO THE PROJECT SITE. ALL EQUIPMENT SHALL BE FREE OF OIL, HYDRAULIC FLUID, AND DIESEL FUEL LEAKS. TO PREVENT INVASION OF NOXIOUS WEEDS OR THE SPREAD OF WHIRLING DISEASE SPORES, ALL EQUIPMENT SHALL BE POWER WASHED OR CLEANED TO REMOVE MUD AND SOIL PRIOR TO MOBILIZATION INTO THE PROJECT AREA.



1 / C03 SITE ACCESS AND EROSION, SEDIMENT, AND POLLUTION CONTROL PLAN
WILDT SITE

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MULTNOMAH COUNTY, OREGON

WILDT SITE -
ACCESS, STAGING, AND
EROSION, SEDIMENT, AND POLLUTION CONTROL

FIELDWORK DATE:	WINTER 2013
DESIGN:	SS
DRAWN:	MM
CHECKED:	SS
PROJECT NUMBER	METRO 13-1
REVISION 01	DATE 05/08/13
SHEET NUMBER	C03
SHT 04 OF 12	

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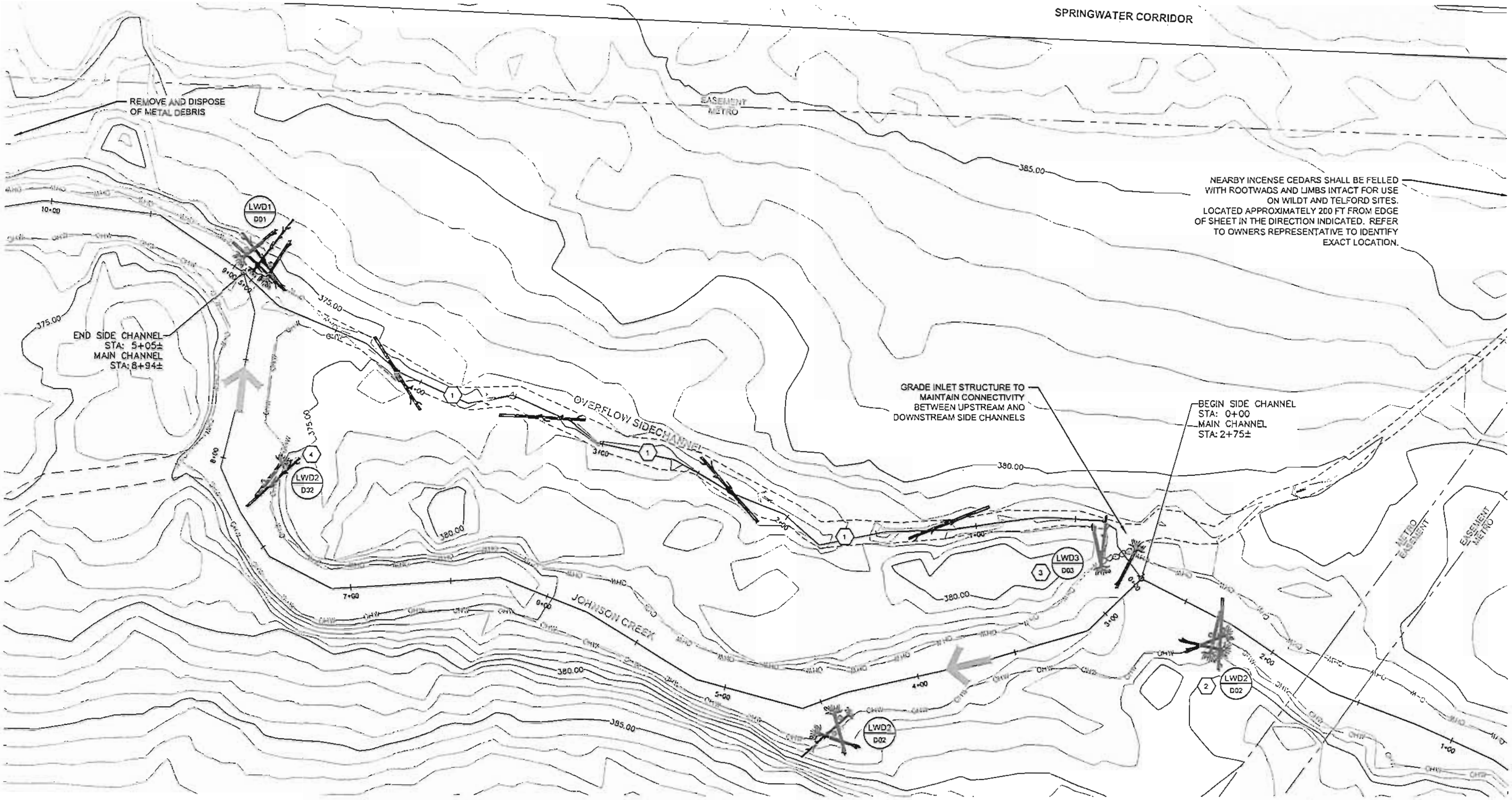

25 0 25 50
SCALE IN FEET

1 / C05 PROPOSED CONDITIONS, PLAN VIEW
TELFORD SITE

CONSTRUCTION NOTES

MINIMIZE DISTURBANCE OF EXISTING TREES AND VEGETATION IN ALL LOCATIONS.

1. FIELD FIT LWD 25 TO 50 FEET APART ALONG SIDE CHANNEL, BASED ON AVAILABILITY OF MATERIAL. USE LOCAL TREES FOR STABILIZATION OF LOGS AS POSSIBLE. PLACE ONE END OF LWD ON BANK WITH OTHER END IN CHANNEL. USE ROOTWADS ONLY IF AVAILABLE AFTER CONSTRUCTION OF LWD STRUCTURES.
2. THE UPSTREAM-MOST STRUCTURE IS INTENDED TO DIVERT MEDIUM TO HIGH DISCHARGES ACROSS THE STREAM TOWARD THE OVERFLOW SIDE CHANNEL ON RIVER RIGHT.
3. OVERFLOW ELEV TO BE DETERMINED AT 60% DESIGN LEVEL. THE DESIGN INTENT OF THE LWD STRUCTURE AT THE SIDE CHANNEL INLET IS TO CONTROL THE GRADE AT THE INLET. DIRECT MEDIUM TO HIGH DISCHARGES FROM THE MAINSTEM INTO THE SIDE CHANNEL, AND RETAIN THE CONNECTIVITY BETWEEN THE UPSTREAM AND DOWNSTREAM SIDE CHANNELS DURING LOW FLOWS.
4. THE DESIGN INTENT OF THIS STRUCTURE IS TO DIRECT MEDIUM TO HIGH DISCHARGES TOWARD THE SIDE CHANNEL ON RIVER LEFT.

STRUCTURE CALLOUT REFERENCE

STRUCTURE TYPE SEE ABBREVIATIONS LIST
DETAIL SHEET

STRUCTURE LAYOUT TABLE

MAIN CHANNEL					
STATION	FEATURE	LOCATION	DETAIL SHEET	LOGS	ROOTWADS
2+30	LWD2	LEFT	D02	2	2
2+80	LWD3	RIGHT	D03	1	2
4+50	LWD2	LEFT	D02	2	1
7+90	LWD2	RIGHT	D02	1	2
8+90	LWD1	RIGHT	D01	3	2

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MULTNOMAH COUNTY, OREGON

TELFORD SITE-
PROPOSED CONDITIONS
PLAN VIEW

1" AT FULLSIZE

FIELDWORK DATE:	WINTER 2013
DESIGN:	SS
DRAWN:	MM
CHECKED:	SS
PROJECT NUMBER	METRO 13-1
REVISION 01	DATE 05/08/13
SHEET NUMBER	C05
SHT 06 OF 12	

EXHIBIT 4.11

SUGGESTED WORK AREA ISOLATION PLAN

METHOD OF WORK ISOLATION

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EQUIPMENT AND MATERIALS LIST

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- STRAW BALES
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- SPILL PREVENTION KIT

POLLUTION & EROSION CONTROL NOTES

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AT A MINIMUM, EROSION CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE INSPECTED WEEKLY. BASED ON INSPECTIONS, WORK CREWS SHALL MOBILIZE IMMEDIATELY TO MAKE REPAIRS OR INSTALL ADDITIONAL MEASURES, IF NECESSARY.

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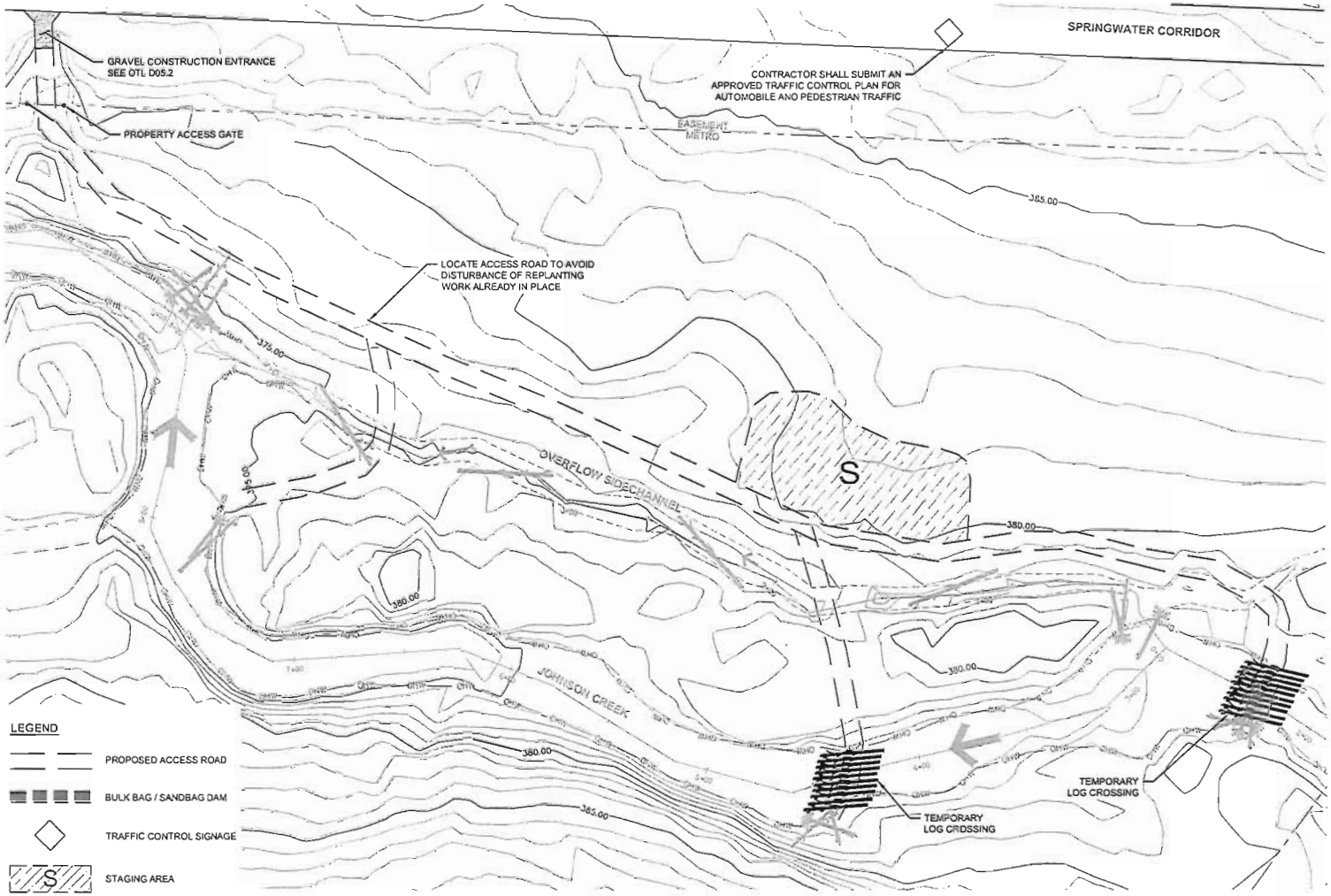
ALL EQUIPMENT WITHIN 150 FEET OF WATER SHALL BE INSPECTED DAILY FOR FLUID LEAKS AND REPAIRED PRIOR TO USE IF A LEAK IS DETECTED. THE CONTRACTOR SHALL KEEP DAILY INSPECTION REPORTS IN A DIARY.

ALL EQUIPMENT SHALL BE WASHED PRIOR TO MOBILIZATION TO THE SITE TO MINIMIZE THE INTRODUCTION OF FOREIGN MATERIALS AND FLUIDS TO THE PROJECT SITE. ALL EQUIPMENT SHALL BE FREE OF OIL, HYDRAULIC FLUID, AND DIESEL FUEL LEAKS. TO PREVENT INVASION OF NOXIOUS WEEDS OR THE SPREAD OF WHIRLING DISEASE SPORES, ALL EQUIPMENT SHALL BE POWER WASHED OR CLEANED TO REMOVE MUD AND SOIL PRIOR TO MOBILIZATION INTO THE PROJECT AREA.



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SCALE IN FEET

1 / C06 SITE ACCESS AND EROSION, SEDIMENT, AND POLLUTION CONTROL PLAN
TELFORD SITE

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MULTNOMAH COUNTY, OREGON

TELFORD SITE -
ACCESS, STAGING, AND
EROSION, SEDIMENT, AND POLLUTION CONTROL

FIELDWORK DATE:	WINTER 2013
DESIGN:	SS
DRAWN:	MM
CHECKED:	SS
PROJECT NUMBER	METRO 13-1
REVISION	01
DATE	05/08/13
SHEET NUMBER	C06
	SHT 07 OF 12

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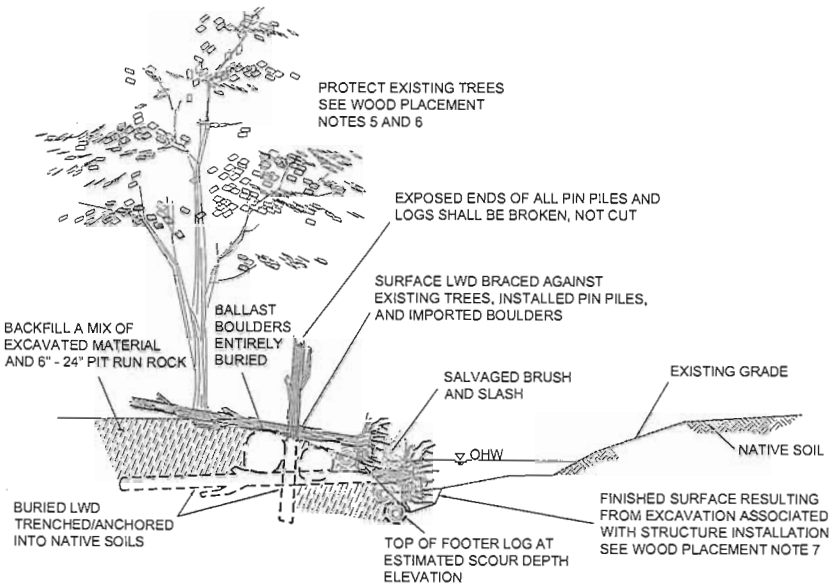
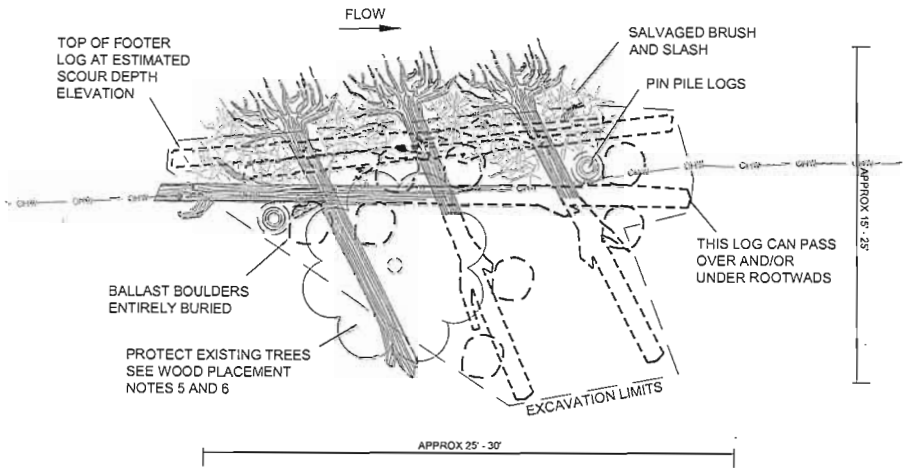
EXHIBIT
4.12



1 / D01 LWD1, TYP - SECTION VIEW
NTS



2 / D01 LWD1, TYP - PLAN VIEW
NTS

GENERAL NOTES

THE DESIGN INTENT OF THE LWD1 STRUCTURE IS TO PROTECT A LENGTH OF VULNERABLE BANK FROM EROSION WHILE PROVIDING ENHANCED SALMONID HABITAT AT ALL FLOW REGIMES.

IN TERMS OF CONSTRUCTION, LWD1 DIFFERS FROM LWD2 IN THAT IT REQUIRES ROOTWADS. IT IS STABILIZED BY BURIED BALLAST ROCK, AND A LARGE PORTION OF THE STRUCTURE IS BURIED INTO THE BANK. IN CONTRAST, LWD2 IS LARGELY UNBURIED AND DOES NOT REQUIRE ROOTWADS OR BALLAST ROCK.

LWD SPECIFICATION

1. LWD SHALL CONSIST OF WHOLE OR PARTIAL TREES OR LOGS SALVAGED FROM ONSITE CONSTRUCTION REMOVAL ACTIVITIES OR PROVIDED BY CONTRACTOR AND/OR OWNER.
2. SEE SPECIFICATIONS FOR SOURCES, NUMBER, AND SIZE OF LWD.
3. WOOD LENGTHS GREATER THAN 30 FEET ARE PREFERRED AND WHOLE TREES ARE BEST.
4. TREES SHALL BE HANDLED TO MAXIMIZE WOOD LENGTH.
5. SALVAGED TREES SHALL NOT BE LIMBED UNLESS APPROVED BY OWNERS REPRESENTATIVE.
6. SOME CUTTING OF LWD PIECES MAY BE REQUIRED DURING PLACEMENT TO MATCH LOCATION AND SETTING.
7. TREE LENGTH ADJUSTMENTS WILL BE DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. EXCESS SOIL SHALL BE SHAKEN OR WASHED FROM THE ROOT WADS TO PREVENT FINE SEDIMENT FROM ENTERING BODIES OF WATER DURING WOOD PLACEMENT.
9. EXPOSED ENDS OF LOGS SHALL BE BROKEN, NOT CUT, TO PROVIDE A MORE NATURAL AESTHETIC.

WOOD PLACEMENT

SIZE, LOCATION AND ORIENTATION OF LARGE WOOD PLACEMENTS SHOWN FOR BID PURPOSES. FINAL LOCATION AND ORIENTATION WILL DEPEND UPON THE SIZE AND SHAPE OF THE MATERIAL DELIVERED OR SALVAGED.

1. LARGE WOOD AND BALAST PLACEMENTS TO BE FIT IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE.
2. WOOD PLACEMENTS SHALL CONSIDER BALLASTING NEEDS DURING CONSTRUCTION. (BALLASTING CALCULATIONS, MATERIALS, AND METHODS TO BE INCLUDED IN DESIGN ITERATIONS BEYOND 60%.)
3. WHENEVER POSSIBLE, SURFACE WOOD SHOULD BE PLACED PERPENDICULAR TO EACH OTHER WITH THE LOWEST PIECE FACING THE DIRECTION OF THE LARGEST FLOW FORCE DURING FLOOD STAGE.
4. NO LIVING TREES SHALL BE BARKED (DAMAGED) DURING THE PLACEMENT OF IMPORTED WOOD MATERIAL. MINIMIZE COMPACTING SOIL WITHIN THE DRIP LINE OF LIVING TREES.
5. EXCAVATION AND STRUCTURES SHALL AVOID ROOT ZONES OF EXISTING TREES TO EXTENT POSSIBLE.
6. IN-CHANNEL EXCAVATION ASSOCIATED WITH INSTALLATION OF STRUCTURES SHALL BE MINIMIZED.
7. PIN PILES SHALL BE CONSTRUCTED FIRST FOLLOWED BY BRUSH WRACKS AND SURFACE LWD. SURFACE LWD SHALL BE PLACED ON THE UPSTREAM SIDE OF PIN PILES.

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DETAILS 1 - LWD1

1" AT FULLSIZE

FIELDWORK DATE:	WINTER 2013
DESIGN:	SS
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PROJECT NUMBER	METRO 13-1
REVISION	01
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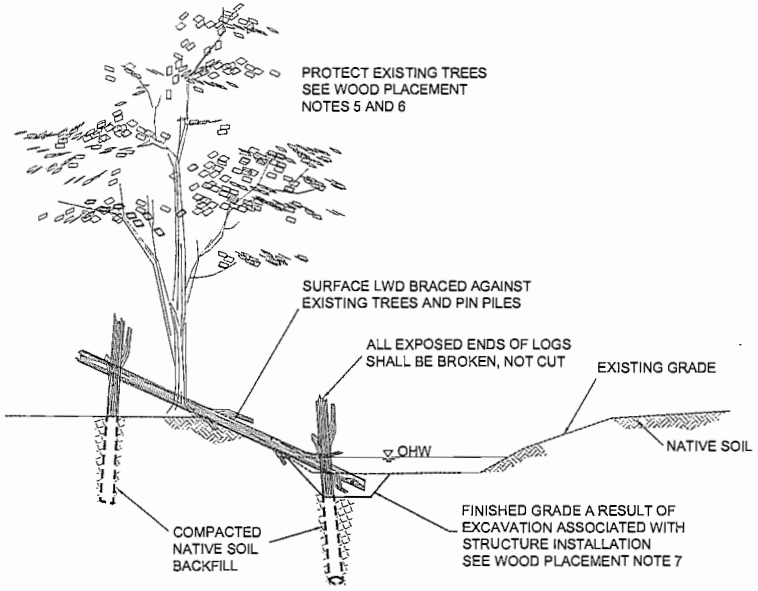
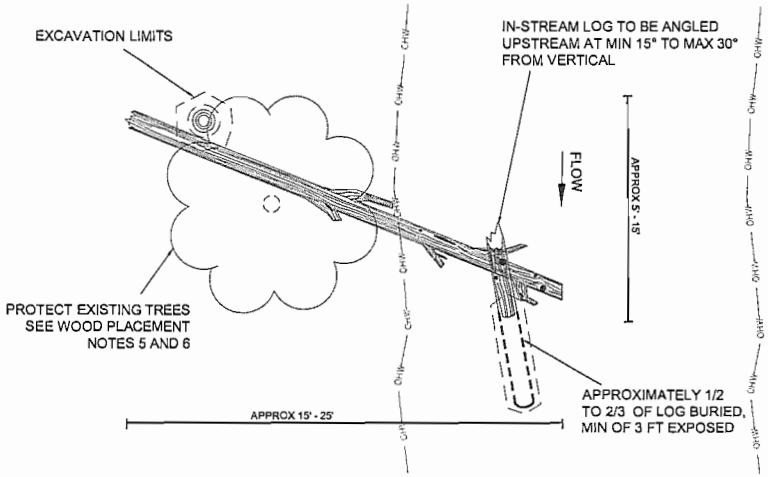
SHT 08 OF 12	



1 / D02 LWD2, TYP - SECTION VIEW
NTS



2 / D02 LWD2, TYP - PLAN VIEW
NTS

GENERAL NOTES

THE DESIGN INTENT OF THE LWD2 STRUCTURE IS TO PROVIDE ENHANCED SALMONID HABITAT AT ALL FLOW REGIMES WHILE MINIMIZING SITE DISTURBANCE NECESSARY FOR INSTALLATION.

IN TERMS OF CONSTRUCTION, LWD2 DIFFERS FROM LWD1 IN THAT ONLY THE PIN PILES ARE BURIED, AND BALLAST ROCK AND ROOTWADS MAY BE USED BUT ARE NOT REQUIRED. IN CONTRAST, LWD2 IS MOSTLY BURIED AND REQUIRES BOTH BALLAST ROCK AND ROOTWADS.

LWD SPECIFICATION

1. LWD SHALL CONSIST OF WHOLE OR PARTIAL TREES OR LOGS SALVAGED FROM ONSITE CONSTRUCTION REMOVAL ACTIVITIES OR PROVIDED BY CONTRACTOR AND/OR OWNER.
2. SEE SPECIFICATIONS FOR SOURCES, NUMBER, AND SIZE OF LWD.
3. WOOD LENGTHS GREATER THAN 30 FEET ARE PREFERRED AND WHOLE TREES ARE BEST.
4. TREES SHALL BE HANDLED TO MAXIMIZE WOOD LENGTH.
5. SALVAGED TREES SHALL NOT BE LIMBED UNLESS APPROVED BY OWNERS REPRESENTATIVE.
6. SOME CUTTING OF LWD PIECES MAY BE REQUIRED DURING PLACEMENT TO MATCH LOCATION AND SETTING.
7. TREE LENGTH ADJUSTMENTS WILL BE DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. EXCESS SOIL SHALL BE SHAKEN OR WASHED FROM THE ROOT WADS TO PREVENT FINE SEDIMENT FROM ENTERING BODIES OF WATER DURING WOOD PLACEMENT.
9. EXPOSED ENDS OF LOGS SHALL BE BROKEN, NOT CUT, TO PROVIDE A MORE NATURAL AESTHETIC.

WOOD PLACEMENT

SIZE, LOCATION AND ORIENTATION OF LARGE WOOD PLACEMENTS SHOWN FOR BID PURPOSES. FINAL LOCATION AND ORIENTATION WILL DEPEND UPON THE SIZE AND SHAPE OF THE MATERIAL DELIVERED OR SALVAGED.

1. LARGE WOOD AND BALAST PLACEMENTS TO BE FIT IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE.
2. WOOD PLACEMENTS SHALL CONSIDER BALLASTING NEEDS DURING CONSTRUCTION. (BALLASTING CALCULATIONS, MATERIALS, AND METHODS TO BE INCLUDED IN DESIGN ITERATIONS BEYOND 60%.)
3. WHENEVER POSSIBLE, SURFACE WOOD SHOULD BE PLACED PERPENDICULAR TO EACH OTHER WITH THE LOWEST PIECE FACING THE DIRECTION OF THE LARGEST FLOW FORCE DURING FLOOD STAGE.
4. NO LIVING TREES SHALL BE BARKED (DAMAGED) DURING THE PLACEMENT OF IMPORTED WOOD MATERIAL. MINIMIZE COMPACTING SOIL WITHIN THE DRIP LINE OF LIVING TREES.
5. EXCAVATION AND STRUCTURES SHALL AVOID ROOT ZONES OF EXISTING TREES TO EXTENT POSSIBLE.
6. IN-CHANNEL EXCAVATION ASSOCIATED WITH INSTALLATION OF STRUCTURES SHALL BE MINIMIZED.

HENDERSON
Environmental Design-Build Professionals
200 N STATE STREET, SUITE 103 PH (503) 699-8899
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30% DESIGN

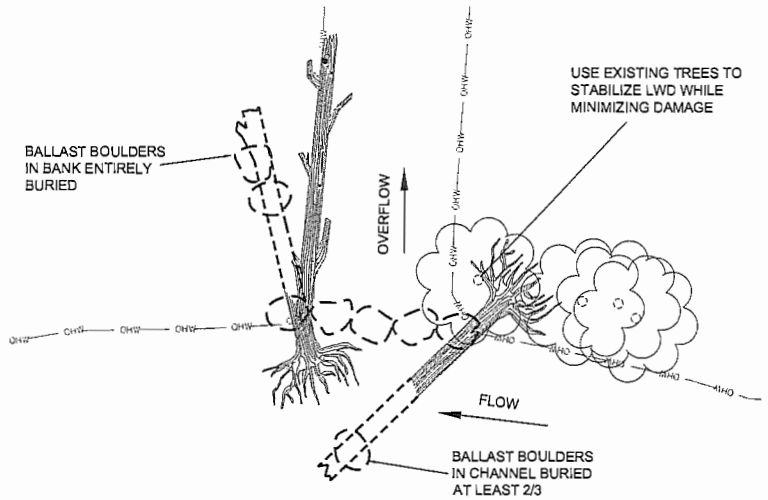
METRO

JOHNSON CREEK RESTORATION PROJECT
WILDT AND TELFORD SITES
MULTNOMAH COUNTY, OREGON

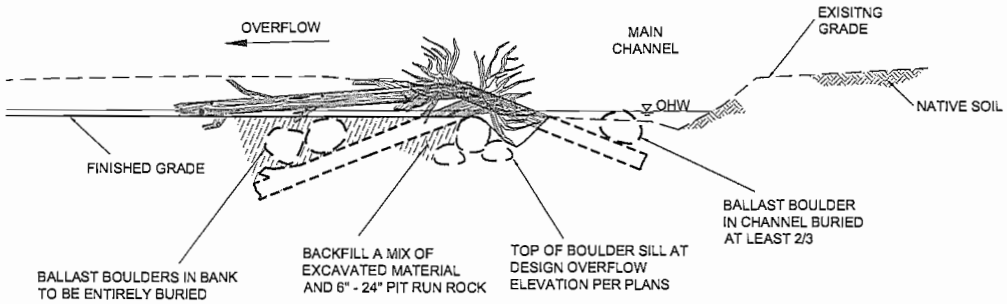
DETAILS 2 - LWD2

1" AT FULLSIZE

FIELDWORK DATE:	WINTER 2013
DESIGN:	SS
DRAWN:	MM
CHECKED:	SS
PROJECT NUMBER	METRO 13-1
REVISION	01
DATE	05/08/13
SHEET NUMBER	D02
	SHT 09 OF 12



1 / D03 LWD3, TYP - PLAN VIEW
NTS



2 / D03 LWD3, TYP - PROFILE VIEW
NTS

GENERAL NOTES

THE DESIGN INTENT OF THE LWD3 STRUCTURE IS TO DIRECT MEDIUM TO HIGH DISCHARGES INTO A SIDE CHANNEL WHILE CONTROLLING THE GRADE AT THE SIDE CHANNEL INLET.

LWD SPECIFICATION

1. LWD SHALL CONSIST OF WHOLE OR PARTIAL TREES OR LOGS SALVAGED FROM ONSITE CONSTRUCTION REMOVAL ACTIVITIES OR PROVIDED BY CONTRACTOR AND/OR OWNER.
2. SEE SPECIFICATIONS FOR SOURCES, NUMBER, AND SIZE OF LWD.
3. WOOD LENGTHS GREATER THAN 30 FEET ARE PREFERRED AND WHOLE TREES ARE BEST.
4. TREES SHALL BE HANDLED TO MAXIMIZE WOOD LENGTH.
5. SALVAGED TREES SHALL NOT BE LIMBED UNLESS APPROVED BY OWNERS REPRESENTATIVE.
8. SOME CUTTING OF LWD PIECES MAY BE REQUIRED DURING PLACEMENT TO MATCH LOCATION AND SETTING.
7. TREE LENGTH ADJUSTMENTS WILL BE DIRECTED BY THE OWNER'S REPRESENTATIVE.
8. EXCESS SOIL SHALL BE SHAKEN OR WASHED FROM THE ROOT WADS TO PREVENT FINE SEDIMENT FROM ENTERING BODIES OF WATER DURING WOOD PLACEMENT.
9. EXPOSED ENDS OF LOGS SHALL BE BROKEN, NOT CUT, TO PROVIDE A MORE NATURAL AESTHETIC.

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30% DESIGN

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DETAILS 3 - LWD3

1" AT FULLSIZE

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