



HEARINGS EXAMINER MEETING AGENDA
Wednesday, September 23, 2015, 6:00 PM
City Municipal Center, 616 NE 4th Avenue

I. CALL TO ORDER

II. INTRODUCTION AND INSTRUCTIONS

III. AGENDA ITEMS

A. Meadows Subdivision (File #SUB15-01)

Details: The Meadows Subdivision is a 15-lot single-family residential subdivision. The applicant requests preliminary plat approval to subdivide approximately 3.8 acres of residentially zoned land (R-7.5) into 15 single-family residential lots ranging in size from 5,248 square feet to 9,000 square feet. The proposal includes a stormwater detention facility, a wetland and buffer, and a private road that is accessed off of NW Sierra Street.

Presenter: Lauren Hollenbeck

Recommended Action: Staff recommends that the Hearings Examiner review the application materials, together with any testimony received at the public hearing and render a decision consistent with the applicable city codes and state laws. Staff finds that this application has the ability to meet code requirements as conditioned in this report and recommends APPROVAL of the preliminary plat for Meadows Subdivision (SUB15-01). The "Exhibit List" continues on pages 2 and 3.

 [Staff Report for Meadows Subdivision \(SUB15-01\)](#)

[Exhibit 01 Application Form](#)

[Exhibit 02 Pre Applicaiton Notes](#)

[Exhibit 03 Applicant's narrative](#)

[Exhibit 04 Preliminary Stormwater Report](#)

[Exhibit 05 Traffic Assessment Report](#)

[Exhibit 06 Wetland Delineation and Assessment Report](#)

[Exhibit 08 DAHP to Fox letter](#)

[Exhibit 09 SEPA Checklist](#)

[Exhibit 10 Original drawings](#)

[Exhibit 11 Incompleteness review letter](#)

[Exhibit 12 Grosz to Johnson letter re City wetland comments](#)

[Exhibit 13 PLS Engineering to Hollenbeck letter](#)

[Exhibit 14 Revised project narrative](#)

[Exhibit 15 Preliminary Wetland Buffer Mitigation Plan](#)

[Exhibit 16 Revised drawings](#)

[Exhibit 17 Acheson to Wes email](#)

[Exhibit 18 Proof of sign posting](#)

[Exhibit 19 Technically Complete Letter](#)

[Exhibit 20 Maguire public comment email](#)

[Exhibit 21 Hollenbeck to Johnson letter](#)

[Exhibit 22 Notice of Application](#)

[Exhibit 23 Revised Preliminary Wetland Delineation and Assessment Report](#)

[Exhibit 24 Revised Preliminary Wetland Buffer Mitigation Plan](#)

[Exhibit 25 Hollenbeck to Johnson letter](#)

[Exhibit 26 SEPA MDNS](#)

[Exhibit 27 SEPA MDNS distribution cover letter](#)

[Exhibit 28 Kronholm SEPA public comment letter](#)

[Exhibit 29 Ecology SEPA comment letter](#)

[Exhibit 30 PLS Engineering to Hollenbeck letter](#)

[Exhibit 31 Planning Solutions to Hollenbeck letter](#)

[Exhibit 32 Revised project narrative](#)

[Exhibit 33 Revised drawings](#)

[Exhibit 34 Johnson to Hollenbeck SEPA comment letter](#)

[Exhibit 35 Notice of Public Hearing](#)

[Exhibit 36 GIS septic system and water well map](#)

[Exhibit 37 Adopted Ordinance 2691](#)

[Exhibit 38 Ecology Email to Hollenbeck - SEPA Review](#)

[Exhibit 39 Plat Alternatives](#)

[Exhibit 40 Hollenbeck to Baumann re tree survey](#)

[Exhibit 41 Notice of Public Hearing RESCHEDULED](#)

[Exhibit 42 Jones Traffic Comment Email](#)

IV. ADJOURNMENT

NOTE: The City of Camas welcomes and encourages the participation of all of its citizens in the public meeting process. A special effort will be made to ensure that persons with special needs have opportunities to participate. For more information, please call (360) 834-6864.

STAFF REPORT
Meadows Subdivision
 (File# SUB15-01)

Staff Report Date: September 16, 2015

Proposal:	To subdivide 3.8 acres into 15 single-family residential lots.	
To:	Hearings Examiner	Hearing Date: September 1, 2015
Location:	The site is located at the northwest corner of the intersection of NW 43 rd Avenue and NW Sierra Street in the SW ¼ of Section 34, Township 2 North, Range 3 East, Willamette Meridian (WM); and described at tax parcels 177893-000 & 177902-000. The site is zoned Residential 7,500 (R-7.5).	
Applicant:	Travis Johnson PLS Engineering 2008 C Street Vancouver, WA 98663	Owner: Lacamas Meadows, LLC
Application Submitted:	February 12, 2015	
Application Resubmitted:	May 6, 2015 & August 6, 2015	
Deemed Complete:	June 3, 2015	
Notice of Application:	Mailed: June 12, 2015 Published and Posted: June 16, 2015	
Notice of Public Hearing:	Mailed and Posted: August 17, 2015 and September 3, 2015 Published: August 18, 2015 and September 8, 2015	
SEPA Determination:	The City issued a Mitigated Determination of Nonsignificance (MDNS) on July 21, 2015, with a comment and appeal period that ended on August 4, 2015. No appeals were filed.	
Notice of SEPA:	Mailed and Posted: July 20, 2015 Published: July 21, 2015	

Mailed: to property owners within 300-feet of site; Published: in the Camas-Washougal Post Record; Posted: at City Hall, Camas Library, Camas Post Office

APPLICABLE LAW

The application was submitted on February 12, 2015, and the applicable codes are those codes that were in effect at the date of application, Camas Municipal Code Chapters (CMC): Title 16 Environment, Title 17 Land Development; and Title 18 Zoning; Specifically, Chapter 17.11 Subdivisions, Chapter 18.07 Use Authorization, Chapter 18.09 Density and Development, Chapter 18.55 Administrative Provisions, Chapter 3.88 (Impact Fees), and Chapter 16.51 General Provisions of Critical Areas. **[Please note that this report indicates CMC language with *italicized type*.]**

I. BACKGROUND

Application has been made to the City of Camas for preliminary plat approval for a 15-lot single-family residential subdivision located at the northwest corner of the intersection of NW 43rd Avenue and NW Sierra Street. The preliminary plat proposal would segregate 3.8 acres into 15 lots ranging in size from 5,428 square feet to 9,000 square feet. The proposal includes tracts for a wetland and its associated buffer, a stormwater detention facility and a private road that is accessed off of NW Sierra Street (See Exhibit 33).

NW Sierra Street and NW 43rd Avenue border the property to the south and east. Single-family residential homes abuts the property to the north and east. The subject property and the adjacent properties are zoned R-7.5 except the properties to the north in the Lake Pointe Subdivision are zoned Single-Family Residential 12,000 (R-12). The site is relatively flat and slopes gradually to a wetland located in the northwest corner of the site which is part of a larger wetland that extends beyond the property boundary to the north. Several significant trees are located throughout the site; a tight row of significant trees border NW 43rd Avenue and a portion of NW Sierra Street. There are two existing homes on the property along with several outbuildings, which will all be demolished with the development.

The proposed preliminary plat does or can comply with the applicable standards of the Camas Municipal Code (CMC) and Revised Code of Washington (RCW).

II. ANALYSIS AND FINDINGS OF FACT FOR SUBDIVISION APPROVAL CRITERIA CMC§17.11.030(D)

1. CMC§17.11.030(D) The proposed subdivision is in conformance with the Camas Comprehensive Plan, Parks and Open Space Comprehensive Plan, Neighborhood Traffic Management Plan, and any other City adopted plans.

The applicant's narrative (See Exhibit 32) at pages 5 and 6 identifies that the proposed subdivision is in conformance with the Comprehensive Plan, 2014 Parks, Recreation and Open Space Plan (Parks Plan), Neighborhood Traffic Management Plan and any other City adopted plans.

To facilitate alternative housing choices, affordable housing and ageing readiness within the City of Camas, accessory dwelling units (ADU's) are an allowed use within the residential zones and should not be precluded in CC&R's. The proposed subdivision will help accommodate the projected growth through utilization of existing land. The proposed houses, when built, will provide housing opportunities to meet the needs of the community in accordance with the Housing element of the Comprehensive Plan.

The 2014 Parks, Recreation and Open Space Comprehensive Plan identifies a portion of the T-7 local trail within the project vicinity. The east-west section of this local trail was installed on the south side of NW 43rd Avenue, from NW Sierra Street to NW Astor Street, as part of the improvements associated with the Hidden Terrace subdivision to the south. A short north-south unimproved section of the T-7 trail remains adjacent to the subject property along NW Sierra Street. The T-7 trail is not Park Impact Fee (PIF) creditable and will not be maintained by the City. The applicant has proposed using the sidewalk to be installed with the improvements on NW Sierra Street as the T-7 trail connector, which has been approved by the City's Parks & Recreation Manager (See Exhibit 17). The City standards for sidewalks adjacent to a collector or arterial street is a minimum of 6-feet in width, which meets the width requirements of the Parks, Recreation and Open Space Comprehensive Plan for the local T-7 trail connector.

The Neighborhood Traffic Management Plan (NTM) identifies the need for installation of acceptable traffic calming features when a proposed development will create 700 Average Daily Trips (ADT) or more. This project is expected to generate 144 ADT and therefore is not subject to this requirement.

Findings: Staff finds that the proposed project can or will be compatible with the aforementioned City adopted plans.

2. CMC§17.11.030(D) Provisions have been made for water, storm drainage, erosion control and sanitary sewage disposal for the subdivision that are consistent with current standards and plans as adopted in the Camas Design Standard Manual.

Water: An 18-inch diameter water main is currently located in NW Sierra Street and in NW 43rd Avenue. The applicant is proposing to connect to this water line and extend an 8-inch diameter water line within private road (Tract B) to serve the proposed lots. Staff recommends a condition of approval that the applicant construct the 8 inch diameter waterline and provide to the City adequate access and utility easements over private road Tract B.

Existing wells, septic tanks and septic drain fields: CMC 17.19.030.A.3 requires abandonment of existing wells, septic tanks and septic drain fields. A Clark County GIS search revealed two septic systems, one on each lot (See Exhibit 36). City Finance Department confirmed neither house is currently billed for City water nor sewer which leads staff to believe both homes are being served on site. If existing water wells, septic tanks and/or septic drain fields are located on the property, staff recommends a condition of approval that the applicant properly abandon or decommission those in accordance with State and County guidelines prior to final plat approval. Transfer of any existing water rights to the City of Camas will also be required as part of the well(s) abandonment.

Storm Drainage: At page 9 of the applicant’s narrative, stormwater from the proposed subdivision will be collected by storm water inlets in the road then routed via underground storm conveyance pipes to an on-site stormwater detention facility located at the northwest corner of the project site. The proposed location for the facility is at a low point of the project site adjacent to and within the outer portion of a wetland buffer, which is consistent with the provisions of CMC 16.53.050.C.3. The stormwater will outfall to this wetland.

At page 11 of the applicant’s narrative is an exception request to the 30-foot setback requirement for the stormwater facility from the road pursuant to CMC 17.09.030.F.6. Because the stormwater facility is located at the low point of the site, staff finds the applicant’s request acceptable on the condition that enhanced landscaping and screening measures are provided to make the facility attractive and unobtrusive as possible. The applicant should submit a final landscaping plan that will include fencing and landscaping of the proposed on-site stormwater facility.

Erosion Control: Erosion Control measures should be provided during the site improvements contemplated for this subdivision in accordance with adopted City standards, required state NPDES construction stormwater permits and per the ESC plans that will ultimately be submitted to the City for review and approval prior to any ground disturbance.

The applicant will be required to submit erosion control plans for review and approval prior to any ground disturbance. Additionally, the applicant shall be required to provide an erosion control bond for 200 percent of the cost of the erosion control measures and obtain all necessary permits from the Department of Ecology.

Sanitary Sewage: The proposed lots will be served by a Septic Tank Effluent Pump (S.T.E.P) pressurized sewer system that will require installation of individual 1,500 gallon two compartment concrete underground tanks at the time of home construction. The tanks will retain the solids and a small submersible pump will pump the effluent into the pressure sewer system that is designed to serve the development. Consistent with other S.T.E.P tanks and City standards, the City will maintain the individual S.T.E.P tanks and liquid level alarm once home construction is completed. The individual lot owners will be responsible for the cost and installation of the individual systems consistent with the City of Camas Design Standards Manual. A right of entry for each lot should be granted to the City for the inspection and maintenance of the S.T.E.P systems at the time of final platting. A note should be placed on the face of the final plat identifying the individual lots that will require the

S.T.E.P systems and the right of entry. The applicant should also provide adequate access and utility maintenance easements over the private road tract to the City for the maintenance of the proposed S.T.E.P system. Conditions of approval are warranted to this effect.

There is currently no sewer service available in NW 43rd Avenue that is capable of serving additional undeveloped properties to the west of this site. As such, and in accordance with CMC 17.19.040.C.2.e, the applicant will be required to extend the proposed S.T.E.P main line from the private street to NW 43rd Avenue terminating the S.T.E.P main at the west boundary of the proposed development.

Findings: Staff finds that adequate provisions can or will be made for water, storm drainage, erosion control and sanitary sewage disposal which are consistent with the Camas Municipal Code and the Camas Design Standard Manual.

3. CMC§17.11.030 (D) Provisions have been made for road, utilities, street lighting, street trees and other improvements that are consistent with the Six-Year Street Plan, the Camas Design Standards Manual and other State adopted standards and plans;

Exterior Roads: The site is bordered on the south by NW 43rd Avenue and on the east by NW Sierra Street. Both streets are marginal access routes that have been designated as collector streets in the Comprehensive Plan at Appendix “F” at Figure 6. As such, residential access to these streets is not allowed and subject to the requirements of CMC 17.19.040.B.11.c. As marginal access routes these streets also require the applicant to provide reverse frontage lots with suitable depth, appropriate fencing within landscaping or masonry walls contained in a non-access reservation with a minimum 10-foot width along the real property line, or such other treatment as may be necessary for adequate protection of residential properties and separation from traffic. The applicant’s landscape plan (See Exhibit 33) provides landscaping and fencing but not does not provide the minimum 10-feet in accordance with CMC 17.19.040.B.11.c. As such staff recommends as a condition of approval that prior to engineering plan and final plat approval, the applicant will need to submit a landscaping and fencing plan for NW 43rd Ave and NW Sierra that includes a 10-foot wide landscape strip with trees every 30-feet on center (2-inch cal min.), 3-foot tall shrubs that form a continuous screen, groundcover plants that fully cover the remainder of the landscaped area, and a 6-foot tall sight-obscuring fence.

NW 43rd Ave:

The northerly half of NW 43rd Avenue adjacent to the site is an unimproved rural road lacking sidewalk, bike lanes, street lighting or stormwater control. At page 14 and 15 of the applicant’s narrative is an exception request to the required minimum 37-foot half width right-of-way and the minimum 23 foot half width pavement at the location of required turn lanes on a two lane collector/arterial street. The applicant is proposing the exception due to the east-west orientation of lot 10, which will have a side yard setback adjacent to NW 43rd Avenue. Additionally the parcel is narrow in the north-south direction with lot 10 located adjacent to the actual future west bound left turn pocket location on NW 43rd Avenue at NW Utah Street. The applicant would likely lose one lot if required to provide the entire 37 foot half width ROW dedication and improvement at this future turn lane.

Staff finds that with the proposed 12 foot dedication in this area, the applicant is dedicating sufficient land for public right of way purposes and will install an acceptable half width street improvement that will provide an east bound 11-foot wide lane, a west bound 11-foot wide lane and an 11-foot wide center lane with two 5-foot wide bike lanes once the frontage improvements are completed.

NW Sierra Street:

Site access is provided by a private street off of NW Sierra Street as shown on the preliminary plat. The access will be located between NW 45th Avenue, which is approximately 285 feet to the north and NW 43rd Avenue, which is approximately 315 feet to the south. These two intersections are currently separated by approximately 600 feet, as such, staff finds that it will be impossible for the applicant to meet the minimum spacing requirement of 330 feet identified in the 2003 TIF update. As a result, an exception request to the minimum access spacing requirements in CMC 17.23 was requested at page 12 of the applicant's narrative.

Access to the site from NW 43rd Avenue would require the northerly extension of NW Utah Street. Unfortunately, this is not an option as NW Utah Street is located west of the subject property and would require improvements on property that is not being proposed for development at this time and is under different ownership. Therefore, staff supports the applicant's exception request as the applicant has, to the maximum extent feasible, met the intent of the access spacing requirements.

At page 13 of the applicant's narrative, an exception request was also submitted for the requirement to install a north bound left turn lane on NW Sierra Street at the proposed access site. NW Sierra Street is currently a 36-foot wide paved street with no parking on either side. Staff notes that a 10-foot wide north bound left turn lane would allow for a 13 foot wide north and south bound travel lane that would be sufficiently wide enough to provide a shared bike and travel lane through the turn pocket area. Therefore, staff recommends a condition of approval that the applicant modify the existing pavement striping in NW Sierra Street to provide for a north bound turn lane acceptable to the City.

Interior Road: The proposed private access (Tract B) will meet the Private Street standard "D" of Table 17.19.040.1 of the CMC. The private road will be located within a 48-foot wide tract and will include 28 feet of pavement and two detached 5-foot wide sidewalks consistent with standard "D". Per CMC 17.19.040.A.2, adequate and reasonable provisions will need to be made for the ownership, maintenance and repair of storm utilities and the proposed private streets. In accordance with the provisions of CMC 17.19.040.A.7, homes accessed from a private street require automatic sprinklers installed per NFPA 13D or 13R. Per CMC 17.19.040.A.9, the applicant should make adequate provisions for parking enforcement recorded within a private covenant to ensure emergency vehicle access. These provisions shall be noted on the final plat and included in the CC&R's.

At page 14 of the applicant's narrative is an exception request to the required minimum centerline curve radius of 70 feet per CMC 17.19.040.B.12.c. The applicant is proposing two 60 foot radius centerline curves instead. Staff supports the applicant's exception request and recommends a condition of approval that prior to final plat approval the applicant be required to demonstrate that adequate sight distance will be provided through the curves.

As noted in the Traffic Summary provided by Charbonneau Engineering, LLC sight distance in both directions at the access location on NW Sierra Street is currently restricted due to the trees and shrubs located on the site's frontage. The minimum required sight distance for a posted speed of 25mph is 280 feet. Prior to final plat approval, the applicant needs to demonstrate this standard can or will be met.

Utilities, Street Lighting, Street Trees, and Other Improvements: The proposed water, sanitary sewer, storm drainage systems are shown on the preliminary utility plans. The franchise utilities, (gas, power, telephone, cable, etc.), will be located underground as required within the 6' public utility easement that will be created over the proposed lots at the time of final platting.

LED Street lighting will be installed along all street frontages within and adjacent to the proposed development. Street lighting on the interior street will be metered separately and all responsibility for future maintenance and operation of street lights will be the responsibility of the Homeowners Association.

CMC 17.19.030.F.1 requires a minimum of one 2" diameter tree planted in the planter strip or front yard of each dwelling unit. The proposed street tree locations are shown on the Tree Plan, Sheet L1 (See Exhibit 33) in compliance with CMC 17.190.030.F.1. The location of these trees should be shown on the final site improvement plans along with the enhanced landscaping to screen the stormwater facility. The applicant will also be required to provide acceptable fencing and landscaping along NW 43rd Avenue and NW Sierra Street in accordance with CMC 17.19.040.B.11.c.

The proposed average lot size falls below 7,400 square feet and as such, in accordance with the requirements of CMC 17.19.040 B 10c, the applicant has made provisions for an additional three off street parking spaces adjacent to lot 12 as shown in proposed Tract B. Subject to the requirements of CMC 18.13.060.A and E, parking areas are to be landscaped at all perimeters and planter areas should provide a five-foot minimum width of clear planting space. Therefore, staff recommends a condition of approval that this landscaping be included in the final landscape plans submitted at the time of final engineering plan review.

Findings: Staff finds that as discussed and detailed in the Staff Comments noted under approval criteria #2 above (Water, Storm Drainage, Sanitary Sewage Disposal), and per the submitted application materials, the applicant can or will make adequate provisions for Utilities, Street Lighting, Street Trees and other improvements that are consistent with the six-year street plan, the Camas Design Standard Manual and other state adopted standards and plans.

4. CMC§17.11.030(D) Provisions have been made for dedications, easements and reservations;

The preliminary utility plan submitted with this application shows adequate provisions have been made for appropriate water, sewer and stormwater easements. The applicant is also providing appropriate storm and sanitary sewer easements over Lots 8, 9 and 10 that will allow extension of the storm and sewer lines south from the internal roadway to NW 43rd Ave. As stated under criteria #2 in this staff report, a right of entry for each lot should be granted to the City for the inspection and maintenance of the S.T.E.P systems at the time of final platting. A note should be placed on the face of the final plat identifying the individual lots that will require the S.T.E.P systems and the right of entry. The applicant should also provide adequate access and utility maintenance easements over the private road tract to the City for the maintenance of the proposed S.T.E.P system.

The proposed private road, including the three parking stalls adjacent to lot 12, the wetland and its associated buffer and stormwater facility tracts are proposed to be owned and maintained by the Homeowners Association. The applicant indicates that all necessary easements and dedications will be noted on the final plat at the time of final platting.

Findings: Staff finds that adequate provisions for dedications, easements and reservations can or will be made by the applicant at the time of final platting.

5. CMC§17.11.030(D) The design, shape and orientation of the proposed lots are appropriate to the proposed use.

Lot sizes: The subject property is located within the R-7.5 zone and the application meets the single-family development standards of CMC §18.09.040 Table 2. The applicant proposes to utilize density transfer provisions of the code per CMC 18.09.060.C which allows for a range of lot sizes from 5,250 square feet to 9,000 square feet in the R-7.5 zone if the proposed land division sets aside a tract for the protection of a critical area. The preliminary plat proposes to set aside the wetland and buffer in a tract. The abutting Lake Pointe Subdivision to

the north are larger lots and therefore proposed lot 15 is proposed at the maximum lot size allowed for the zone designation in accordance with CMC 18.09.080.B.

Lot dimensions: The required minimum lot width of 60-feet and depth of 80-feet including the 40-foot by 40-foot building envelopes are met and shown on the preliminary plat meet or exceed the code requirement. CMC 18.09.040.C- Table 2 specifies that *“Setbacks are based on average lot sizes (not zone specific)”*. The average lot size for the proposed development falls under the R-6 density range which requires a 20-foot front yard setback, a 5-foot side yard and corner lot rear yard setback, a 20-foot side yard setback flanking a street and a 25-foot rear yard setback, with the exception of Lots 3 and 10 as discussed below. Staff recommends a condition of approval that all building envelopes and setbacks should be shown on the final plat.

Double-frontage lots: The preliminary plat proposed double frontage lots at 1, 2, and 4-9. In accordance with CMC 17.19.030.D.6, *“an additional 20-feet of lot depth or a ten foot-landscape tract with ten-foot additional lot depth, or a combination of both to achieve 20-foot additional depth, shall be provided to buffer residential development from a traffic arterial or collector”*. The applicant is providing adequate lot depth that meets this requirement.

As discussed throughout this staff report, access to NW 43rd Avenue and NW Sierra Street (both marginal streets) is restricted in order to minimize traffic congestion and provide a separation of through and local traffic in accordance with CMC 17.19.040.B.11.c which states, *“In addition to restricting access, where a residential development abuts or contains an existing or proposed marginal street, the city may also require reverse frontage lots with suitable depth, appropriate fencing and landscaping or masonry walls contained in a non-access reservation with a minimum ten-foot width along the real property line, or such other treatment as may be necessary for adequate protection of residential properties and for separation of through and local traffic.”* In compliance with this code requirement, the applicant should provide appropriate fencing and landscaping as required under criteria #3 along the back of Lots 1-9 including the side of Lot 3. If the Applicant proposes a tract, the setbacks should be measured from the edge of the tract and the tract should be owned and maintained by the Homeowner’s Association. With the additional lot depth provided for the double frontage lots and the larger building envelopes provided on the lots than what is required by code, the reverse frontage lots shown on the preliminary plat exhibit sufficient area to accommodate this requirement. Due to the orientation of Lot 10, staff will accept a fence at the back of the sidewalk along NW 43rd Avenue adjacent to lot 10 in lieu of providing landscaping.

Corner lots: Lot 3 is considered a restricted corner lot as Lot 3 will not have the ability to access from the side yard as it is adjacent to NW Sierra Street, which is designated as a collector street on the City of Camas Transportation Comprehensive Plan map. In accordance with CMC 17.19.030.D.8, *“Corner lots restricted from access on side and yard flanking street shall be treated as interior lots and conform to front, side and rear yard interior setbacks of CMC Chapter 18.09.”* Furthermore, with the future development immediately to the west, i.e. the possible future extension of NW Utah Street, Lot 10 will also become a restricted corner lot. As a result, setbacks for Lots 3 and 10 should be as follows: Front 20-feet, Side 5-feet and Rear 25-feet and should be included as a note on the final plat

Findings: The proposed lot dimensions conform to the requirements of the R-7.5 zone for Density Transfer Lots. Lot 3 and 10 should reflect interior lot setbacks in conformance to the restricted corner lot provisions and a 10-foot tract or easement with appropriate landscaping and fencing should be provided along the back of Lots 1-9.

6. CMC§17.11.030(D) *The subdivision complies with the relevant requirements of the Camas land development and zoning codes, and all other relevant local regulations;*

CMC Chapter 16.07.025 SEPA- Environmentally sensitive areas: A SEPA checklist was submitted and a MDNS was issued for the proposed development due to the presence of environmentally sensitive areas on the property. The mitigation measures identified in the SEPA MDNS should be complied with (See Exhibit 26).

CMC Chapter 16.31 Archaeological Resource Protection: The State Department of Archaeology & Historic Preservation reviewed the applicant's Archaeological Determination Report and concurred that no further archaeological work is required. A note should be added on the face of the final plat that includes the inadvertent discovery language as stated in the State Department of Archaeology & Historic Preservation letter (See Exhibit 8).

CMC Chapter 16.51 Wetlands: A wetland delineation and assessment report (See Exhibit 23) identified a Category IV wetland of low habitat function with a 50-foot buffer at the northwest corner of the site. The applicant avoided impacting the wetland area to the extent practical through demonstration of alternative site plans as shows on Exhibit 39. A Preliminary Wetland Buffer Mitigation Plan (See Exhibit 24) has been submitted that is contingent upon temporarily impacting 6,345 square feet to the outer portion of the wetland buffer for construction of the stormwater facilities and permanently impacting 20 square feet of buffer area for the placement of a manhole and stormwater outfall. The Preliminary Wetland Buffer Mitigation Plan is consistent with criteria in CMC 16.53.050.C.3 for the placement of stormwater facilities within the buffer of a wetland in addition to the mitigation, maintenance and monitoring requirements of CMC 16.53. The applicant should provide a detailed construction plan in accordance with CMC 16.61.030.F for the wetland and buffer Tract A.

CMC Section 17.19.030.A Environmental Regulations: relates to the preservation of significant trees and states, "In addition to meeting the requirement of CMC Chapter 18.31, Tree Regulations, every reasonable effort shall be made to preserve existing significant trees and vegetation, and integrate them into the land use design." CMC 18.31.080.B further states, "Preservation of groups of significant trees, rather than individual trees shall be preferred." Out of the 143 trees on site, the applicant has proposed to protect 21 trees within the wetland tract. Outside of the wetland tract, staff identified groups of significant trees that could potentially be preserved and integrated into the land use design (See Exhibit 40). In response, the applicant provided a narrative (See Exhibit 30) that stated because the location of the majority of significant trees are located along NW 43rd Avenue and NW Sierra Street frontages, their root systems could be severely impacted by the required road widening and street frontage improvements. Furthermore, any remaining trees scattered throughout the site could potentially be susceptible to windthrow. Staff recognizes not all significant trees on site can be preserved due to the conflicts with the required frontage improvements/sidewalks, internal private road and building envelopes. However, any significant tree that is able to be preserved should be placed in a conservation easement or other permanent mechanism acceptable to the city.

Findings: Staff finds that the proposal can or will comply with the relevant environmental regulations per CMC Title 16 Environment. The SEPA mitigation measures should be added to the conditions of approval.

7. CMC§17.11.030(D). *Appropriate provisions are made to address all impacts identified by the transportation impact study;*

The applicant was notified by staff at the pre-application meeting that a Traffic Impact Study (TIS) would be required based on the proposed 18 lots. During refinement of the project layout and based on staff comments, the lot count dropped from 18 lots to 15 lots. The applicant's traffic engineer, Charbonneau Engineering, contacted city staff regarding the TIS and staff instructed Charbonneau to provide a Traffic Summary for the

project rather than a full TIS. Staff requested the Traffic Summary quantify the trip generation from the proposed development and evaluate adequate sight distance at the proposed access off of NW Sierra Street.

The Traffic Summary indicated that currently the minimum sight distance of 280 feet for a posted speed limit of 25mph was not available in either direction due to existing site vegetation and therefore should be removed during site improvements to provide for adequate sight distance. Prior to final plat approval, the applicant should demonstrate that adequate sight distance is available at the proposed intersection prior to final plat approval.

Findings: Staff finds that as proposed the roadways in the area have adequate existing capacity for the proposed trips that this project will generate and can or will demonstrate adequate sight distance is available at the site access intersection.

8. CMC§17.11.030(D) Appropriate provisions for maintenance of commonly owned private facilities have been made;

The applicant indicates at page 8 of the narrative that they will make adequate provisions for the maintenance of privately owned facilities. A Homeowner’s Association will be required for this development to ensure there are adequate and appropriate measures in place for the perpetual maintenance of the stormwater detention facility tract, the wetland tract, the private road, and the required private fencing and landscaping along NW 43rd Avenue and NW Sierra Street.

Findings: Staff would recommend the applicant be required to place a note on the face of the plat that identifies the specific ownership and maintenance responsibilities for all tracts.

9. CMC§17.11.030(D) Appropriate provisions in accordance with RCW 58.17.110, are made for (a) the public health, safety, and general welfare, and (b)The public use and interest will be served by the platting of such subdivision and dedication;*

The applicant is proposing privately owned and maintained tracts for a wetland and its associated buffer, a stormwater facility and a private road. Furthermore, the applicant is providing adequate and appropriate utilities for stormwater, water, and sanitary sewer that will be dedicated to the public. The applicant will also provide sidewalks with the proposed street construction for adequate pedestrian mobility.

To provide for adequate protection of residential properties and for the separation of through and local traffic on NW 43rd Ave and NW Sierra Street, the applicant should provide appropriate fencing and landscaping within a 10-foot landscape tract or easement along the back of lots 1-9 as discussed under criteria #5 above.

Findings: Staff finds that the public use and interest will be served with the completion of the proposed development. The public street system will be further expanded and enhanced by improving neighborhood connectivity and circulation.

10. CMC§17.11.030(D) The application and plans shall be consistent with the applicable regulations of the adopted comprehensive plans, shoreline master plan, state and local environmental acts and ordinances in accordance with RCW36.70B.030.

Findings: Per the applicant’s narrative Staff concurs that the proposed subdivision can or will meet the requirements of RCW 58.17 and other applicable state and local laws that are in at the time of final platting. The final plat will be processed in accordance with the requirements of CMC 17.21.060.

III. PUBLIC COMMENTS

As of the writing of this staff report, staff received comments from the public regarding traffic and SEPA, which are included in Exhibits 20, 28 and 29.

IV. CONCLUSIONS

Based on the above findings and discussion provided in this staff report, staff concludes that the Meadows Subdivision (15-01) should be approved, because it does comply with the applicable standards if all of the conditions of approval are met.

V. RECOMMENDATION

Staff recommends APPROVAL of the preliminary plat of Meadows Subdivision (SUB 15-01) subject to the following conditions of approval *in addition to* the conditions of the SEPA (SEPA 15-03) permit:

Standard Conditions of Approval

1. All construction plans will be prepared in accordance with City of Camas standards. The plans will be prepared by a licensed civil engineer in Washington State and submitted to the City for review and approval.
2. Underground (natural gas, CATV, power, street light and telephone) utility plans shall be submitted to the City for review and approval prior to approval of the construction plans.
3. The applicant will be required to purchase all permanent traffic control signs, street name signs, street lighting and traffic control markings and barriers for the improved subdivision.
4. A 3% construction plan review and inspection fee shall be required for this development. The fee will be based on an engineer’s estimate or construction bid. The specific estimate will be submitted to the City for review and approval. The fee will be paid prior to the construction plans being signed and released to the applicant. Under no circumstances will the applicant be allowed to begin construction prior to approval of the construction plans.
5. Any entrance structures or signs proposed or required for this project will be reviewed and approved by the City. All design will be in accordance with applicable City codes. The maintenance of the entrance structure will be the responsibility of the homeowners.
6. A homeowner’s association (HOA) will be required for this development. The applicant will be required to furnish a copy of the CC&R’s for the development to the City for review and approval. Specifically, the applicant will need to make provisions in the CC&R’s for maintenance of the stormwater detention and treatment facilities, the storm drainage system, street lighting, fencing, landscaping, irrigation, parking areas, retaining walls, private roads and tracts or easements outside of the City’s right of way if applicable.

7. Any entrance structures or signs proposed or required for this project will be reviewed and approved by the City. All designs will be in accordance with applicable City codes. The maintenance of the entrance structure will be the responsibility of the owners.
8. In the event that any item of archaeological interest is uncovered during the course of a permitted ground disturbing action or activity, all ground disturbing activities shall immediately cease and the applicant shall notify the Public Works Department and DAHP.
9. Final plat and final as-built construction drawing submittals shall meet the requirements of the CMC 17.11.060, CMC 17.01.050 and the Camas Design Standards Manual for engineering as-built submittals.
10. The applicant shall remove all temporary erosion prevention and sediment control measures from the site at the end of the two-year warranty period, unless otherwise directed by the Public Works Director.
11. Building permits shall not be issued prior to the City's final acceptance of the improvements and the final plat is recorded.

Special Conditions of Approval

12. The applicant shall grant an access and utility easement to the City of Camas for access, inspection and maintenance of the water and S.T.E.P sanitary sewer system over the private road Tract B.
13. The applicant shall construct the 8 inch diameter waterline within private road Tract B.
14. Existing water wells, septic tanks and septic drain fields shall be properly abandoned in accordance with State and County guidelines prior to final plat approval. Additionally, any water rights associated with the abandoned well(s) shall be transferred to the City.
15. Prior to final engineering plan and final plat approval, the applicant shall submit to the City for review and approval by the community development director or designee, a final landscaping plan that details the location, number, plant species proposed, irrigation, plant notes, fencing notes and associated details for the fencing and landscaping work associated with the stormwater detention pond and the landscaping and fencing along NW 43rd Avenue and NW Sierra Street, including the landscaping for the three parking stalls adjacent to lot 12 and the street trees.
16. The applicant shall extend the S.T.E.P sewer main from the private street into NW 43rd Avenue and terminating the S.T.E.P main at the west boundary of the site.
17. The individual lot owners shall be responsible for the cost and installation of the individual S.T.E.P sewer systems consistent with the City of Camas Design Standards Manual.
18. The applicant shall modify the existing pavement striping in NW Sierra Street to provide for a north bound left turn lane acceptable to the City.
19. Automatic sprinklers installed per NFPA 13D or 13R shall be required in all new residential structures.
20. Provisions for parking enforcement acceptable to the Fire Marshal shall be included in the CC&R's at the time of final platting.
21. The applicant shall demonstrate to the City's satisfaction that the minimum sight distance of 280 feet will be available at the site access intersection and NW Sierra Street prior to final plat approval.
22. No construction spoils shall be placed on building lots. Any fill material placed on lots must be engineered structural fill, unless placed in the front or rear setback to a maximum of 6 inches in total depth.
23. The development shall comply with the Camas Municipal Code (CMC) 17.21.030 for any land disturbing activity. The applicant shall submit an erosion prevention/sediment control plan in accordance with

CMC 17.21.030 for any land disturbing activity that disturbs an acre or more or adds 5,000 square feet or more of impervious surface. In accordance with CMC 17.21.030, the applicant shall be required to furnish to the City an approved form of security (e.g. Erosion Control Bond). The bond is to be in the amount of 200% of the engineer's estimated cost of the erosion prevention/sediment control measures, including associated labor.

24. A note shall be added to the final plat stating that each new dwelling will be subject to the payment of appropriate impact fees at the time of building permit issuance.
25. Prior to the Building Department issuing a Certificate of Occupancy, each lot shall install a minimum of one tree to be located in the planter strip of each lot, as approved on the final plat. Trees shall be a minimum of two inch diameter at breast height.
26. Required trees shall be maintained in good health, and shall be promptly replaced (within six months) if damaged or in poor health, and a note to this effect shall be on the final plat document.
27. Street lighting on the interior street shall be metered separately and future maintenance and operation of street lights will be the responsibility of the Homeowners Association.
28. The applicant shall provide a detailed construction plan in accordance with CMC§16.61.030(F), for Tract "A".
29. Prior to engineering plan and final plat approval, the applicant shall submit to the City for review and approval by the community development director or designee a landscaping and fencing plan for NW 43rd Ave and NW Sierra that includes a 10-foot wide landscape strip with trees every 30-feet on center (2-inch cal min.), 3-foot tall shrubs that form a continuous screen, groundcover plants that fully cover the remainder of the landscaped area, and a 6-foot tall sight-obscuring fence.
30. The applicant shall provide appropriate fencing and landscaping as required under condition 29 along the back of Lots 1-9 including the side of Lot 3. If the Applicant proposes a tract, the setbacks shall be measured from the edge of the tract. The tract or easement shall be owned and maintained by the Homeowner's Association.
31. All building envelopes and setbacks shall be shown on the final plat.

Proposed Plat Notes

1. A homeowner's association (H.O.A) will be required for this development. Copies of the CC&R's shall be submitted and on file with the City of Camas.
2. Private road Tract B, including the three parking stalls, and the stormwater facility detention pond Tract C shall be owned and maintained by the H.O.A.
3. Tract A, the wetland and buffer, shall be owned and maintained by the H.O.A. and shall remain in its natural state unless otherwise approved by the City Council. Maintenance and monitoring of Tract A are provided within "The Meadows Subdivision Preliminary Wetland Buffer Mitigation Plan," (June 30, 2015) as prepared by the Resource Company.
4. The following setbacks shall apply to lots 3 and 10: Front yard 20-feet, Side yard 5-feet, Rear yard 25-feet. All other lots shall comply with the follows setbacks: Front yard 20-feet Side and Corner lot Rear yard 5-feet, Side yard flanking a street 20-feet, Rear yard 25-feet.
5. No further short platting or subdividing will be permitted once the final plat has been recorded.
6. A final occupancy permit will not be issued by the Building Department until all subdivision improvements are completed and accepted by the City.

7. The lots in this subdivision are subject to traffic impact fees, school impact fees, and park/open space impact fees. Each new dwelling unit will be subject to the payment of appropriate impact fees at the time of building permit issuance or as otherwise provided by the city.
8. Prior to the Building Department issuing a Certificate of Occupancy, each lot shall install a minimum of one 2" caliper tree to be located in the planter strip or front yard of each lot, as specified on the plat. Specified trees shall be maintained in good health, and damaged or dying trees shall be promptly replaced (within six months) by the homeowner.
9. Street lighting on the private road Tract B shall be metered separately and maintenance and operation of those street lights shall be the responsibility of the Homeowners Association.
10. Automatic fire sprinkler systems designed and installed in accordance with NFPA 13D are required in all structures.
11. Illegally parked vehicles may be subject to towing or other private parking enforcement measures in accordance with the provisions outlined in the HOA documents.
12. All costs associated with the installation of the S.T.E.P. systems for each lot will be the responsibility of the individual lot owners.
13. A right of entry is hereby granted to the City of Camas for access, inspection and maintenance of the water and S.T.E.P sanitary sewer system over the private road Tract B.
14. Should archaeological materials (e.g. cones, shell, stone tools, beads, ceramics, old bottles, hearth, etc.) be observed during project activities, all work in the immediate vicinity should stop and the State Department of Archaeology and Historic Preservation (360-586-3065), the City planning office, and the affected Tribe(s) should be contacted immediately. If any human remains are observed, all work should cease and the immediate area secured. Local law enforcement, the county medical examiner (360-397-8405), State Physical Anthropologist, Department of Archaeology and Historic Preservation (360-586-3534), the City planning office, and the affected Tribe(s) should be contacted immediately. Compliance with all applicable laws pertaining to archaeological resources (RCW 27.53, 27.44 and WAC 25-48) and human remains (RCW 68.50) is required. Failure to comply with this requirement could constitute a Class C Felony.

Final SEPA Conditions (SEPA 15-03)

1. Stormwater treatment and runoff control shall be design in accordance with the requirements of the 2005 Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.
2. The applicant shall provide a 50-foot setback as measured from the wetland delineation boundary and shall place the wetland and buffer in a tract.
3. The stormwater facility shall be built on the outer edge of the buffer and not degrade the existing buffer function, and shall be designed to blend in with the natural landscape.
4. Temporary construction fencing shall be installed around the critical area prior to earthwork.
5. Prior to final acceptance of site improvements, permanent continuous fencing and signage along the wetland buffer boundary, with text provided by the City, shall be installed.

6. Any disturbed areas shall be revegetated and a revegetation plan shall be submitted and approved by the City prior to construction plan approval.
7. Mitigation planting shall be installed prior to final plat approval.
8. A bond shall be posted or other surety secured for the estimated costs of maintenance and monitoring of the mitigation site pursuant to CMC Section 16.51.250.
9. All significant trees within the required wetland and its buffer outside of the stormwater facility encroachment shall be retained. These trees, including any significant trees to be retained outside of the wetland and stormwater areas, shall be placed in a conservation easement or other permanent mechanism acceptable to the city and shall be identified on the final plat.
10. Temporary construction fencing shall be provided around the drip line of any significant trees. The temporary fencing shall be in place prior to any earthwork activities and remain in place until final acceptance of site improvements.
11. Final grading and site plans shall include the location of significant trees and shall be consistent with the intent to retain these significant trees. Removal of significant trees shall only be authorized upon review and recommendation of a qualified biologist.
12. Only invasive species as identified by a qualified biologist may be removed within the delineated sensitive areas. If removal of plants is unavoidable as part of this development, then a vegetation removal permit is required pursuant to CMC 18.31.090.
13. To mitigate noise impacts to the surrounding area, construction activities shall be limited to 7:00am to 7:00pm, Monday through Friday, 8:00am to 5:00pm Saturdays, and no construction on Sundays or City observed holidays per CMC Section 9.32.050.A.5. Equipment shall be properly muffled to federal standards and are restricted to operation during construction hours.

VI. EXHIBIT LIST

Exhibit No.	Description	Date
1	Original application submittal materials: Application Form	Submitted 2/12/15
2	Pre Application notes (dated 8/21/14)	
3	Applicant's narrative (dated Jan. 2015)	
4	Preliminary Stormwater Report prepared by ELS Engineering (dated Jan. 2015)	
5	Traffic Assessment Report prepared by Charbonneau Engineering (dated 11/11/14)	
6	Wetland Delineation and Assessment Report prepared by the Resource Company (dated 6/13/14)	
7	Archaeological Determination prepared by Archaeological Services, LLC (dated 6/20/14). Note: Exempt from public disclosure RCW 42.56.300.	
8	Letter: DAHP to Fox re. archaeological survey (dated 10/23/14)	
9	SEPA checklist (dated 1/22/15)	
10	Original Drawings: Preliminary Plat Existing Conditions Plan Preliminary Grading Plan Preliminary Street & Utility Plan Existing Tree Survey Preliminary Landscape Plan Preliminary Landscape Details	
11	Incompleteness review letter: Hollenbeck to Johnson	3/10/15
12	Letter: Grosz to Johnson re City wetland comments	4/20/15
13	2nd application submittal materials: Letter: PLS Engineering to Hollenbeck re response to City comment letter (dated 5/6/15)	Submitted 5/6/15
14	Revised Project Narrative	
15	Preliminary Wetland Buffer Mitigation Plan report (dated 4/16/15)	
16	Revised Drawings: Preliminary Plat Preliminary Grading Plan Preliminary Street & Utility Plan Landscape Plan Existing Tree Survey	
17	Email: Acheson to Wes re T-7 trail connector	5/26/15
18	Proof of sign posting	6/3/15
19	Technically Complete Letter: Hollenbeck to Johnson	6/3/15
20	Emails: Maguire to Hollenbeck/Heigh re traffic	6/5/15
21	Letter: Hollenbeck to Johnson re critical areas report	6/10/15
22	Notice of Application	6/16/15
23	Revised Preliminary Wetland Delineation and Assessment	6/30/15
24	Revised Preliminary Wetland Buffer Mitigation Plan	6/30/15
25	Letter: Hollenbeck to Johnson re City preliminary plat review comments	7/6/15
26	SEPA MDNS	7/21/15

27	Cover letter: SEPA MDNS distribution	7/21/15
28	Public comment letter: Kronholm to City of Camas SEPA Official	8/4/15
29	Public comment letter: Department of Ecology to City of Camas SEPA Official	8/4/15
30	3 rd application submittal materials: Letter: PLS Engineering to Hollenbeck re response to City comment letter (dated 7/16/15)	Submitted 8/6/15
31	Letter: Planning Solutions Inc. to Hollenbeck re Tree Removal (dated 8/3/15)	
32	Revised Project Narrative	
33	Revised Drawings: Preliminary Plat Preliminary Grading Plan Preliminary Street & Utility Plan Existing Tree Survey Landscape Plan Landscape Details	
34	Letter: Johnson to Hollenbeck re SEPA public comments from Kronholm	
35	Notice of Public Hearing	8/13/15
36	GIS septic system and water well map	8/18/15
37	Adopted Ord 2691	
38	DOE to Hollenbeck email re SEPA	8/21/15
39	Alternate layout	
40	Email: Baumann to Hollenbeck re tree survey	4/7/15
41	Notice of Public Hearing Rescheduled	9/8/15
42	Jones traffic comment letter	9/16/15



Community Development Department | Planning
 616 NE Fourth Avenue | Camas, WA 98607
 (360) 817-1568 | www.cityofcamas.us

General Application Form

Case Number: SUB 15-01

Applicant Information

Applicant/Contact: Travis Johnson Phone: (360) 944-6519
 Address: 2008 C Street travis@plsengineering.com
Street Address E-mail Address
Vancouver WA 98663
City State ZIP Code

Property Information

Property Address: 2129 NW 43rd Ave + 4313 NW Sierra St. / 177893.000, 177902.000
Street Address County Assessor # / Parcel #
Camas WA
City State ZIP Code
 Zoning District R 7.5 Site Size 3.8 acres

Description of Project

Brief description:
construction of a new 15 lot single family detached residential subdivision on 3.8 acres in the R-7.5 residential zone of the City of Camas

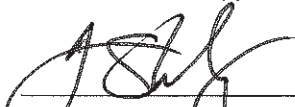
Are you requesting a consolidated review per CMC 18.55.020(B)? YES NO
 Permits Requested: Type I Type II Type III Type IV, BOA, Other

Property Owner or Contract Purchaser

Owner's Name: Strassenberg, Tom Phone: (360) 600-5532
Last First
 Address: 200 SE 197th Place
Street Address Apartment/Unit #
 E mail Address: Camas WA 98607
City State Zip

Signature

I authorize the applicant to make this application. Further, I grant permission for city staff to conduct site inspections of the property.

Signature:  Date: 1-22-15

Note: If multiple property owners are party to the application, an additional application form must be signed by each owner. If it is impractical to obtain a property owner signature, then a letter of authorization from the owner is required.

Date Submitted: <u>2/12/15</u>	Pre-Application Date: <u>2/2/15 (PA 14-26)</u>	Receipt #244528 Validation of Fees
Staff: <u>SF</u>	Related Cases # <u>SEPA 15-03, CA 15-01, ARCH 15-01</u>	



**Pre-Application Meeting
Lacamas Meadows Short Plat
File PA 14-26**

Thursday, August 21, 2014
1:30pm, Council Chambers
616 NE Fourth Avenue, Camas, WA 98607

Applicant / Contact:	Applicant: Travis Johnson	Owner: Tom Strassenberg
Representing City of Camas:	Sarah Fox, Sr. Planner Bob Cunningham, Building Official Randy Miller, Fire Marshal Wes Heigh, Project Manager	

Location: 4313 NW Sierra Street and 2129 NW 43rd Avenue
Tax Account: 177893-000 & 177902-000

Zoning: R-7.5

Description: Short plat two existing parcels (total 4.25-acre s) into 17 single family residential lots. Existing residence to remain on new Lot 8, all other structures to be removed.

NOTICE: Notwithstanding any representation by City staff at a pre-application conference, staff is not authorized to waive any requirement of the City Code. Any omission or failure by staff to recite to an applicant all relevant applicable code requirements shall not constitute a waiver by the City of any standard or requirement. [CMC 18.55.060 (C)] This pre-application conference shall be valid for a period of 180 days from the date it is held. If no application is filed within 180 days of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. [CMC 18.55.060 (D)] Any changes to the code or other applicable laws, which take effect between the pre-application conference and submittal of an application, shall be applicable. [CMC 18.55.060 (D)]. **A link to the Camas Municipal Code (CMC) can be found on the City of Camas website, <http://www.cityofcamas.us/> on the main page under “Business and Development”.**

Planning Division Sarah Fox | 360.817-7269

The applicant is proposing to subdivide a property using density transfer standards. We discussed alternative designs during the meeting, which staff suggested could be informally submitted as needed for more assistance. The following comments are in response to the submitted draft plan.

- 1) Fees will be based on the adopted fees at the time of application submittal. The current fees include the following (not all inclusive):
 - Preliminary plat \$6,055 + \$210 per lot
 - SEPA \$685
 - Critical areas \$650 (per type)
 - Fire Department Review \$300

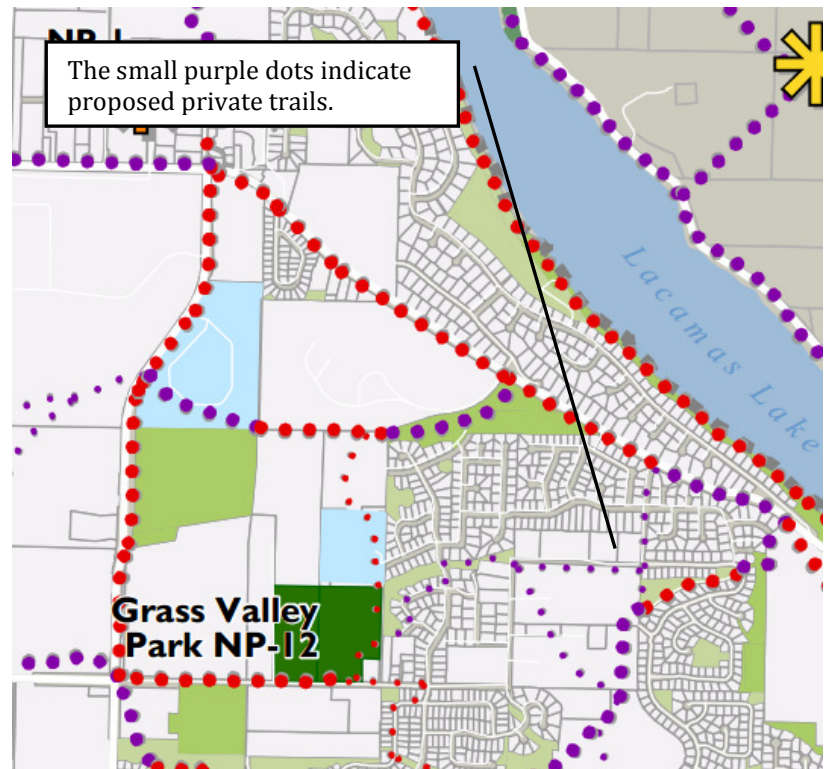
- 2) A preliminary plat application is TYPE III permit. There are both general application requirements at CMC§18.55.210, and specific requirements at CMC§17.11.040. The following is an excerpt from those requirements (see code section for full text):
1. A complete and signed SEPA checklist.
 2. A vicinity map showing location of the site;
 3. A survey of existing significant trees as required under CMC Section 18.31.080;
 4. All existing conditions shall be delineated;
 5. For properties with slopes of ten percent or greater a preliminary grading plan will be required with the development;
 6. Preliminary stormwater plan and report;
 7. For properties with development proposed on slopes of ten percent or greater a preliminary geotechnical report will be consistent with CMC Chapter 16.59;
 8. Clark County assessor's maps which show the location of each property within three hundred feet of the subdivision;
 9. Applicant shall furnish one set of mailing labels for all property owners as provided in CMC Section 18.55.110;
 10. Complete and submit a transportation impact study to determine the adequacy of the transportation system to serve a proposed development and to mitigate impacts of the proposal on the surrounding transportation system; and
 11. A narrative addressing ownership and maintenance of open spaces, stormwater facilities, public trails and critical areas, and the applicable approval criteria and standards of the Camas Municipal Code. It should also address any proposed building conditions or restrictions.
- 3) Critical area reports required.
- General requirements for critical areas reports are found at CMC§16.51.140. The city's code contains additional requirements for each type of critical area (e.g. wetlands).
 - Wetland report requirements are found at CMC§16.53.030. The preliminary report and analysis must include efforts to avoid impacts. Alternative layouts to indicate feasibility should be provided.
 - Tree preservation efforts are required if there are significant trees on site Tree survey must be conducted by biologist (include qualifications). The biologist will be required to review and coordinate tree preservation efforts with preliminary grading plans.
 - CMC 18.31 requires preservation of significant trees "to the extent practical", "healthy trees" and prefers "groups of significant trees". CMC§18.31.110 requires "mandatory preservation" in the form acceptable to the city. CMC§17.19.030 (A)(2) requires "every reasonable effort" to retain trees.
- 4) Proposed design included some lots that did not meet minimum dimensional standards of CMC 18.09 for lot width and lot area.
- 5) **Density Transfer.** There was discussion regarding eligibility for applying the density transfer standards for lot design. At CMC§18.09.060, it provides options for developments that retain critical areas in tracts, and if the development incorporates parks or trails. The development might also qualify for this provision given that the north side of the property is adjacent to a less dense residential zone of Residential-12,000 (R-12). CMC18.09.080 Lot Sizes, requires lots adjacent to the R-12 zone to be 9,000 square feet within the R-7.5 zone.
- 6) Parks and Trails. The property is shown on the adopted Parks, Open Space and Comprehensive Plan as the area for two trail connectors, not publicly owned, but rather connecting to the city's trail network (See map below).

- 7) Sales office locations should be proposed with preliminary plans. If sales offices are proposed with the Type III application, then time frames for operation of the temporary use can be approved for longer than the limits of typical temporary uses (6 months) if requested.

Engineering Division

Wes Heigh | 360.817.7237

- 8) Construction plans shall be prepared by a licensed Washington State engineer in accordance with City of Camas standards.
- 9) Per CMC 14.02 stormwater treatment and runoff control shall be designed in accordance with the 2005 Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.
- 10) This development is subject to the minimum improvement requirements identified in CMC 17.19.020.
- 11) Existing wells and septic tanks and septic drain fields shall be abandoned in accordance with state and county guide lines per CMC 17.19.020 (A3).
- 12) Proposed lots should have frontage on public streets, lot lines should be at right angles to the street or radial to curves per CMC 17.19.030 (D).
- 13) Flag lots shall meet the requirements of CMC 17.19.030 (D5).
- 14) Double frontage lots should be avoided per CMC 17.19.030 (D).
- 15) Street tree planting and landscaping of flag lots is required in accordance with CMC§17.19.030(F).
- 16) Stormwater facilities shall be located and landscaped per CMC 17.19.030 (F6) and CMC 17.19.040 (C3a).
- 17) Maintenance of the storm water facilities will be the responsibility of the Homeowners Association per CMC 17.19.040 (C3).
- 18) The applicant will be responsible for all traffic control signs, street name signs, pavement markings and street lighting per CMC 17.19.030 (I) (J).
- 19) The applicant will be responsible for the design and submittal of the utility plan showing the locations for underground power, telephone, gas, CATV, street lights and associated appurtenances.
- 20) Public street requirements are found in CMC 17.19.040 (B). For street grades, centerline curve radii, and curb return radii requirements see CMC 17.19.040 (B12). Minimum centerline curve radius is 70'.
- 21) ADA compliant pedestrian ramps and ADA compliant street



crossings are required. To provide ADA compliant pedestrian ramps and street crossings careful evaluation of street profile grades and intersection site grading will be required.

- 22) Half width street improvements and ROW dedication will be required along NW 43rd Avenue per CMC 17.19.040 (B2 & B5).
- 23) Streets should extend to the boundaries of the plat where appropriate to ensure access and circulation to neighboring properties per CMC 17.19.040 (B6a).
- 24) The applicant may be required to provide an access point on NW 43rd Avenue aligned with NW Utah St. to the south.
- 25) The application narrative shall specifically address the approval criteria CMC 17.11.030 (D) and CMC 18.23.100.
- 26) A 3% plan review and inspection fee will be required per resolution number 1023. The fee will be based on an engineer's estimate or construction bid. The fee is due prior to approved construction drawings being released by the City.
- 27) An erosion control bond will be required for all land disturbing activities of an acre or more per CMC 17.21.030.
- 28) A NPDES permit will be required for this project per Washington Department of Ecology requirements if more than one acre of land will be disturbed.
- 29) A traffic study will be required for this project in accordance with the City's adopted Traffic Impact Study Guidelines. The study shall include speed surveys, traffic counts, site distance evaluation, AM and PM peak volumes, trip distribution and assignment, signal warrants, turn pocket analysis, with and without project analysis for the current year, build out year and may include the future 5 year and 20 year analysis. Evaluation of additional off-site intersections will be required once trip generation and distribution information is determined, contact the City Engineer for specific intersections.
- 30) Regulations for installation of public improvements, improvement agreements, bonding, final platting and final acceptance can be found at CMC 17.21.
- 31) Exception requests to the requirements of Title 17 shall meet the requirements of CMC 17.23.

Fire Department

Randy Miller | 360.690.0469

- 1) Training burns on existing structures is available for evaluation if desired; please contact the Fire Marshal's Office for further information.
- 2) NFPA 13D Residential Fire Sprinklers are required in all new dwellings.
- 3) Underground storage tanks require a decommissioning permit with the FMO.
- 4) Address monuments are required for any flag lots or access driveway leaves the main road.
- 5) Fire Hydrant spacing requirements can be significantly increased when Residential Fire Sprinklers are installed.
- 6) Fire Impact Fees of .20 cents per sq. ft. are currently 100% waived when Residential Fire Sprinklers are installed.
- 7) For further information regarding pre-app notes or for Fire Marshal Permits please contact us at 360-834-6191.



PRELIMINARY SUBDIVISION NARRATIVE

FOR

MEADOWS SUBDIVISION

**SUBMITTED TO
THE CITY OF CAMAS**

January, 2015

GENERAL PROJECT INFORMATION

Applicant: Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607
(360)600-5532
E-mail: tstrassenberg@msn.com

Property Owners: Same as Applicant

Contact: PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
(360) 944-6519, Office
(360) 944-6539, Fax
E-mail: travis@plsengineering.com

Location: SW ¼ of Section 34, T2N, R3E, WM
Project Size: 3.78 acres
Zoning: R-7.5 – Single Family Residential
Comprehensive Plan: SFM (Single Family Medium)
Current Use: Two single-family homes
Tax Lot Information: 177893-000 & 177902-000
School District: Camas
Water District: City of Camas
Sewer District: City of Camas

SITE CHARACTERISTICS AND LOCATION AND PROJECT DESCRIPTION

The Meadows Subdivision proposes construction of a new 15 lot single family detached residential subdivision on 3.8 acres in the R-7.5 residential zone of the City of Camas. The project will be constructed in one phase. The site is located at the northwest corner of the intersection of NW 43rd Avenue and NW Sierra Street in the SW ¼ of Section 34, Township 2 North, Range 3 East. The subdivision is proposed on two parcels described as parcel numbers 177893-000 & 177902-000. Site addresses are 4313 NW Sierra Street and 2129 NW 43rd Avenue. The property is located within the Camas School District.

The site currently contains two single family residences along with a number of outbuildings. All existing buildings and both homes will be removed in association with the development. The remainder of the site contains brush and briars with scattered trees.

There is a Category IV wetland with a 50' buffer located in the northwest corner of the site. There is a wetland to the north located on the neighboring property and the 50' buffer from this wetland extends onto the site along the north property line.

The site is mapped by the Natural Resource Conservation Service (NRCS) as containing two soil types, Hesson clay loam and Odne silt loam. The Hesson soils cover the upper southern and western part of the site. The Odne soils are mapped in the northwest corner of the site in the location of the wetland and wetland buffer.

The property is bounded on the west by NW Sierra Street which will be the point of access for the development. Land to the north of the site is fully developed single family residential homes. Property to the west of is a 3.75 acre lot with one residence. The south property line is bound by NW 43rd Avenue.

In association with the development, NW 43rd Avenue will be widened along the south frontage of the site consistent with the City's 2-lane collector / arterial standard to provide a 30' half-width right-of-way with 28' half-width pavement and a 6' wide detached sidewalk. NW Sierra Street is an already improved roadway with 36' of total pavement width and 60' of existing right-of-way. The interior roadway providing access to the lots will be a 28' wide paved private road within a 48' Tract.

Sanitary sewer and water service to the site will be provided by the City of Camas. A stormwater facility will be constructed to provide treatment and quantity control for stormwater runoff resulting from the development. All of these utilities are described in further detail in a subsequent section of this narrative.

The following sections of this narrative describe how the proposal complies with applicable sections of the City of Camas code.

CAMAS MUNICIPAL CODE (CMC) SECTION 16.05: SEPA

A SEPA checklist has been prepared describing existing environmental conditions of the site and potential impacts resulting from the proposed development and explaining how potential impacts will be mitigated.

CMC SECTION 16.31: ARCHAEOLOGICAL RESOURCE PRESERVATION

Clark County GIS shows the site as having a moderate to high probability. An archaeological predetermination was completed by Archaeological Services LLC and determined that no archaeological materials were found. The predetermination was sent to the Department of Archaeology & Historic Preservation (DAHP) and a determination from DAHP stated that no further archaeological work is necessary

CMC SECTION 16.53: WETLANDS

As part of the preliminary design process, the site was reviewed by The Resource Company to determine if there were wetlands on the property and, if present, to delineate the extents of the wetlands. The site review resulted in the delineation of a Category IV wetland in the northwest corner of the property. The documentation related to the wetlands delineation and typing is covered in the Wetland Delineation and Assessment Report prepared by The Resource Company included in this application. Based on the Category IV rating for the wetland and the proposed residential subdivision use for the site, a 50' base wetland buffer is proposed in accordance with CMC 16.53.040. There is also an existing wetland buffer on the northwest corner of the project. The buffer from this wetland extends onto the site and is noted on the preliminary plat. To the extent feasible, the subdivision has been laid out to avoid impacts to the site's wetland and buffers.

Proposed residential lots and roadways are located outside of the base 50' buffer for the on-site and off-site wetlands. The stormwater facility does encroach into the wetland buffer as allowed per City CMC 16.53.050(C)(3). Because the wetlands are located in the lowest parts of the site, it is unavoidable that stormwater detention be located as near as possible to the wetlands in order to comply with City stormwater control requirements. The maximum side slope of proposed grading in the outer portions of the buffers is limited to 4 horizontal to 1 vertical per City requirements. No other impacts are proposed to the wetland and buffer and no mitigation is proposed.

CMC SECTION 17.11.030D: PRELIMINARY PLAT APPROVAL CRITERIA

Section 17.11.030D of the City's municipal code provides approval criteria for preliminary plat applications. This section of code includes a list of 10 approval criteria. The approval criteria are discussed below. In some cases, only a brief overview of how the proposal complies with the approval criteria is provided in this section of the narrative as further detail will be provided in subsequent sections. The 10 approval criteria are provided in a numbered list below followed by a discussion (see italic text) of how each criterion has been satisfied with the proposal.

1. The proposed subdivision is in conformance with the Camas comprehensive plan, parks and open space comprehensive plan, neighborhood traffic management plan, and any other city adopted plans;

The preliminary plat has been developed keeping in mind adopted City plans including the comprehensive plan, the parks and open space plan, and neighborhood traffic management. Chapter V of the City's comprehensive plan focuses on housing. A number of the policies of the comprehensive plan are applicable to this project.

One of those policies, Policy HO-4, is to encourage new residential development to achieve a substantial portion of the maximum density allowed. A strategy for accomplishing this goal is to allow on-site transfer of density on sites that are constrained by environmental features such that developable portions of the property can be used to a greater extent. The plat has been laid out in a manner to attempt to approach the maximum densities allowed by the R-7.5.

In addition to the housing section of the comprehensive plan, the environmental section (Chapter VI) is also applicable to this project. Most notably, Policy EN-6 calls for protection of environmentally sensitive areas that are not suitable for intensive use such as steep slopes and wetlands. As documented on the preliminary plat and in environmental reports submitted with this subdivision application, the site has been designed to minimize areas of wetland and buffer while at the same time working to develop the property at the intensities envisioned by the City's zoning.

Portions of the Transportation element of the comprehensive plan (Chapter VII) also apply to this project. Compliance with this portion of the comprehensive plan is largely dictated by compliance with the road standards, capital facilities plan, and other City engineering requirements. Notable policies from the comprehensive plan include TR-3 which calls for streets to be designed to serve their anticipated function, TR-4 which aims to develop a safe and accessible pedestrian and bicycle system, and TR-6 which calls for the development of neighborhood and local connections to provide adequate circulation into and out of neighborhoods.

The development of the layout for this site has recognized each of these comprehensive plan policies. NW 43rd Avenue along the site frontage is proposed with an 18' paved half-width consistent with the City's standard for a 2 lane collector / arterial. NW Sierra Street's frontage on the east side of the site will propose to construct a sidewalk, currently the roadway is fully improved. The proposed private road within the site is proposed to have sidewalks allowing for a developed pedestrian system. Finally, the site is developed to allow for connectivity between the property and potential future developments adjacent to the site. Additional right-of-way will be dedicated if and when the property to the west is developed which will allow the intersection to align with Utah Street across NW 43rd.

The site has also been designed with recognition of the City's current draft of their Parks, Recreation, and Open Space Comprehensive Plan update available on their

web site. The current plan shows a proposed trail that appears to be on the southern portion of the site along NW 43rd. The applicant will be installing 6' wide sidewalk to allow connectivity of this trail system.

2. Provisions have been made for water, storm drainage, erosion control and sanitary sewage disposal for the subdivision that are consistent with current standards and plans as adopted in the Camas Design Standard Manual;

Further discussion of the water, storm drainage, and sanitary sewer systems proposed for this site is provided later in this project narrative. The preliminary design for utilities to serve this site addresses improvements necessary to provide adequate utilities to serve the site. Erosion control measures including construction entrances, silt fencing, storm inlet protection, sediment traps and/or ponds, and protection of exposed soils will be incorporated into site construction drawings and the project will be required to obtain a construction stormwater NPDES permit from the Washington State Department of Ecology.

3. Provisions have been made for road, utilities, street lighting, street trees and other improvements that are consistent with the six-year street plan, the Camas Design Standard Manual and other state adopted standards and plans;

The proposed street layout including proposed right-of-way and pavement dimensions are shown in the preliminary drawings submitted as part of this preliminary plat application. Street trees are shown on the attached landscape plan and street lighting consistent with City standards will be documented on the final construction drawings. NW 43rd will be improved consistent with the City's 2 lane collector / arterial road standard. NW Sierra Street is fully improved, but will require sidewalk on the frontage. The interior roadway proposed will be a private road with 28' pavement within a 48' wide tract

4. Provisions have been made for dedications, easements and reservations;

Proposed right-of-way dedications are shown on the preliminary drawings. On-site utility easements that may be needed to provide utilities to each lot will be shown on the construction drawings with each phase of development. There are no known off-site easements known to be necessary at this time to serve the site with utilities or for other purposes.

5. The design, shape and orientation of the proposed lots are appropriate to the proposed use;

The layout of the proposed subdivision took into account the onsite environmental constraints to develop a preliminary plat that has lot sizes and dimensions meeting or

exceeding the minimum allowed through density transfer in the R-7.5 zone. The layout proposes to utilize the density transfer provisions of Camas's code

6. The subdivision complies with the relevant requirements of the Camas land development and zoning codes, and all other relevant local regulations;

Discussion of the site's compliance with the City's land development and zoning codes is provided throughout this narrative and through the other documents submitted as part of the subdivision application including the preliminary plat and the various reports completed by the consultant team.

As mentioned previously, the applicant is proposing to utilize density transfer to result in a site layout that respects the environmental constraints of the property. The 15 lots proposed on the site falls below the maximum density that would be allowed within the R-7.5 zone. The maximum densities allowed, based on dwelling units per gross acre, is 5.8 DU/acre and the proposed density is 3.97 DU/acre, which is well below the maximum allowed.

Minimum lot widths and depths of 60' and 80' are proposed throughout the site. These dimensional standards are consistent with those permitted through density transfer in the R-7.5 zone.

In addition to modifications to lot dimensional standards discussed above, a few additional variances to the City standards are requested for this project. First, the applicant is requesting a reduction in the street side yard setback from the 20' identified in CMC 18.09.040 Table 2 to 15'. The standard 20' setback unnecessarily increases the size of lots necessary at intersections in order to provide a functional building envelope. A reduction to a 15' street side setback does not result in a safety hazard. Sight distance at intersections is measured at a point 15' from the edge of the intersecting roadway, so a 15' side yard building setback would not result in the building encroaching into the necessary intersection sight distance. Camas's standard for a 20' street side yard setback exceeds the requirements of other jurisdictions in Clark County. Clark County, the City of Vancouver, and the City of Washougal all have 10' required street side yard setbacks while Ridgefield utilizes a 15' standard. Given the other environmental constraints on this property, the requirement for a 20' street side yard setback would further impede the applicant's ability to develop this site at the densities established by the zoning of the properties included in the development.

The remaining modifications of standards that are being requested for this project are an exception from a left turn lane required in the City of Camas Design Standard Manual and an exception to the 70' centerline Radius requires by CMC 17.19.040(B)(12)(c). Additional exception requests will be discussed in detail in the

sections of the narrative related to stormwater and transportation later in this document.

7. Appropriate provisions are made to address all impacts identified by the transportation impact study;

A traffic assessment report was prepared by Charbonneau Engineering and made two safety recommendations. The first is a stop control at the new intersection of the proposed private road and NW Sierra Street. The second is the sight distance at this same intersection does not currently meet the minimum AASHTO minimum requirements. The applicant proposes a stop condition at this intersection and once all of the existing vegetation is removed and the sidewalk is installed minimum sight distance requirements will be met.

8. Appropriate provisions for maintenance of commonly owned private facilities have been made;

Provisions for maintenance of commonly owned private facilities associated with the development will be incorporated into the Homeowner's Association documents when they are developed. HOA documents and CC&R's have not yet been developed for the site since the ultimate homebuilder or builders that will be involved with the project have not yet been determined. It is best to delay preparation of these documents so that the ultimate builders involved with site development can provide their input.

9. Appropriate provisions, in accordance with RCW 58.17.110, are made for:

- a. The public health, safety, and general welfare and for such open spaces, drainage ways, streets, or roads, alleys or other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and school grounds and all other relevant facts, including sidewalks and other planning features that assure safe conditions at schools bus shelter/stops, and for students who walk to and from school, and;
- b. The public use and interest will be served by the platting of such subdivision and dedication;

3

Satisfaction of the requirements of RCW 58.17.110 is provided through the information provided in the preliminary subdivision application. The application materials discuss such issues as potable water, sanitary waste, storm drainage, and roadways in depth. Regarding parks and recreation, the project is located in an area where significant recreational opportunities are available in close proximity including Lacamas Lake and Lacamas Lake Park. Additionally, park impact fees will be paid at the time of building permits. These fees help fund local recreation opportunities.

It is anticipated students will be bussed to schools in the Camas School District. Sidewalks throughout the subdivision will provide adequate, safe access to school bus stops.

Platting of this site is consistent with the comprehensive plan and the zoning of the subject properties. The development of the property will result in the payment of impact fees, utility connection fees, and taxes used to support the public services of the community.

10. The application and plans shall be consistent with the applicable regulations of the adopted comprehensive plans, shoreline master plan, state and local environmental acts and ordinances in accordance with RCW 36.70B.030.

As mentioned previously, the proposed development is consistent with the comprehensive plan. The site is not located within any designated shoreline areas. The environmental documents submitted with this land use application demonstrate the ability of the project to comply with applicable environmental acts and ordinances.

STORMWATER

Compliance with the City's stormwater regulations is addressed in the Preliminary Stormwater Report submitted as part of the land use application. Per the pre-application conference notes issued by the City for this project, stormwater quantity control for the site will be provided in accordance with the requirements of the 2005 Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.

Stormwater runoff from the site will increase as a result of the construction of the future homes, driveways, and roads. The water will be collected by storm inlets in the road system and then directed by storm sewer piping to a stormwater facility located on the site which will mitigate the impacts of the construction by providing treatment and detention of the runoff. Detention and treatment will be accomplished with a combined detention-wetpond. The stormwater will outfall to the wetlands in the northwest corner of the site.

The applicant is requesting one code exception related to the site's stormwater facilities as mandated by CMC 17.19.030(F)(6). That section of the City's code typically requires stormwater facilities to be set back a minimum of 30 feet from streets. More than 37% of the total area of this development is dedicated to open space, stormwater facilities, and public rights-of-way. The addition of a 30' stormwater facility setback would only cause to further increase the already substantial percentage of the site dedicated to those uses. Additionally, requiring this setback would increase the need for additional retaining walls at the stormwater facility in order to fit the facilities into the available space. The applicant is unsure if this exception is necessary because the proposed roadway will be private and owned and maintained by the Meadows Subdivision Home Owners Association, there is no public right-of-way to be setback from.

SANITARY SEWER & WATER UTILITIES

The site is within the water and sanitary sewer service areas of the City of Camas and the site will connect to the City's public sewer and water systems. Both water and sewer will be extended into the property from NW Sierra Street and individual sewer laterals and water services will be stubbed to each individual lot.

TRANSPORTATION

In laying out the proposed road system to serve the site, careful consideration was given to the City's various transportation comments through the pre-application stage, e-mails and meetings. The interior roadway is proposed to be a private roadway with 28' of pavement within a 48' wide tract. The private roadway will dead end into a City approved hammerhead.

Several access points into the site were reviewed and determined to be either inefficient for the site dimension or created unsafe traffic conditions. It was determined with ongoing communication with staff that connection to NW 43rd would be the most viable option. The connection point doesn't meet the minimum intersection spacing between the proposed intersection and the existing intersection to the north and south. Minimum intersection spacing is 330' for a 2-lane collector/arterial roadway per the City of Camas Design Standard Manual (CCDSM). The applicant would like to request an exception for the reduction in the required intersection spacing. Based on Clark County GIS the intersection to the north (Sierra/45th) is measured at approximately 285' to the proposed intersection and the intersection to the south per the attached plans is approximately 315'. Both are slightly under the minimum spacing and pose no traffic safety risk and will not hinder the traffic capacity or circulation of NW Sierra, therefore the applicant requests approval of the exception.

The second exception request is to not install a turn lane at the proposed intersection as required by footnote 2 under the table labeled "General Guidelines for Geometry of Roadway within the CCDSM. This footnote requires and left turn lane at every intersection for roadways classified as a 2-lane arterial/collector. Left turn lanes do help traffic circulation when warranted at intersections, but for short dead end roadways with low volumes a left turn lane isn't warranted. Based on the 144 average daily trips proposed with the development the applicant requests that an exception to the CCDSM be approved.

The third exception is to CMC 17.19.040(B)(12)(c) which requires a minimum centerline radius of 70'. The proposed private road has a reverse curve with both curves having a 60' radius. Given that the proposed road has been designed as a dead end with a hammer-head, traffic speeds should be substantially reduced. Furthermore, the tighter radius promotes safety by slowing vehicles in a residential setting. The proposed modified design standard to be used in this project have been demonstrated to be successful at several locations within the City of Camas and in countless applications in Clark County under similar residential settings with no resulting reduction in safety, therefore the applicant requests approval of the proposed exception.

PLS ENGINEERING

PRELIMINARY STORMWATER REPORT

Meadows Subdivision
Camas, Washington

Prepared by:

**PLS Engineering
Consulting Engineers and Planners
2008 C Street
Vancouver, WA 98663
PH: (360) 944-6519
travis@plsengineering.com**

Prepared for:

**Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607
PH: (360) 60-8726
tstrasenberg@msn.com**

Submitted: January, 2015

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Appendix C – Maintenance & Operation Manual – **Prepared at Final Design**

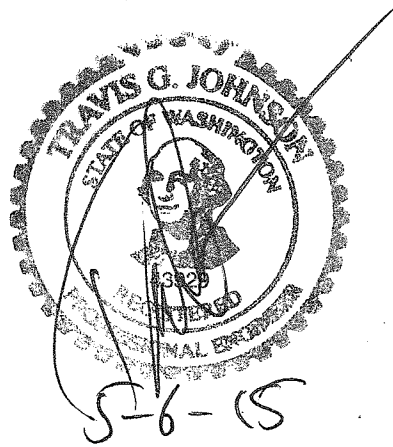
Appendix D – Stormwater Pollution Prevention Plan SWPPP - **Prepared at Final Design**

CERTIFICATE OF ENGINEER

Meadows Subdivision

Preliminary Stormwater Report

The technical information and data contained in this report was prepared under the direction and supervision of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.



This document was:

Prepared by:

A handwritten signature in black ink, which appears to read "Travis Johnson".

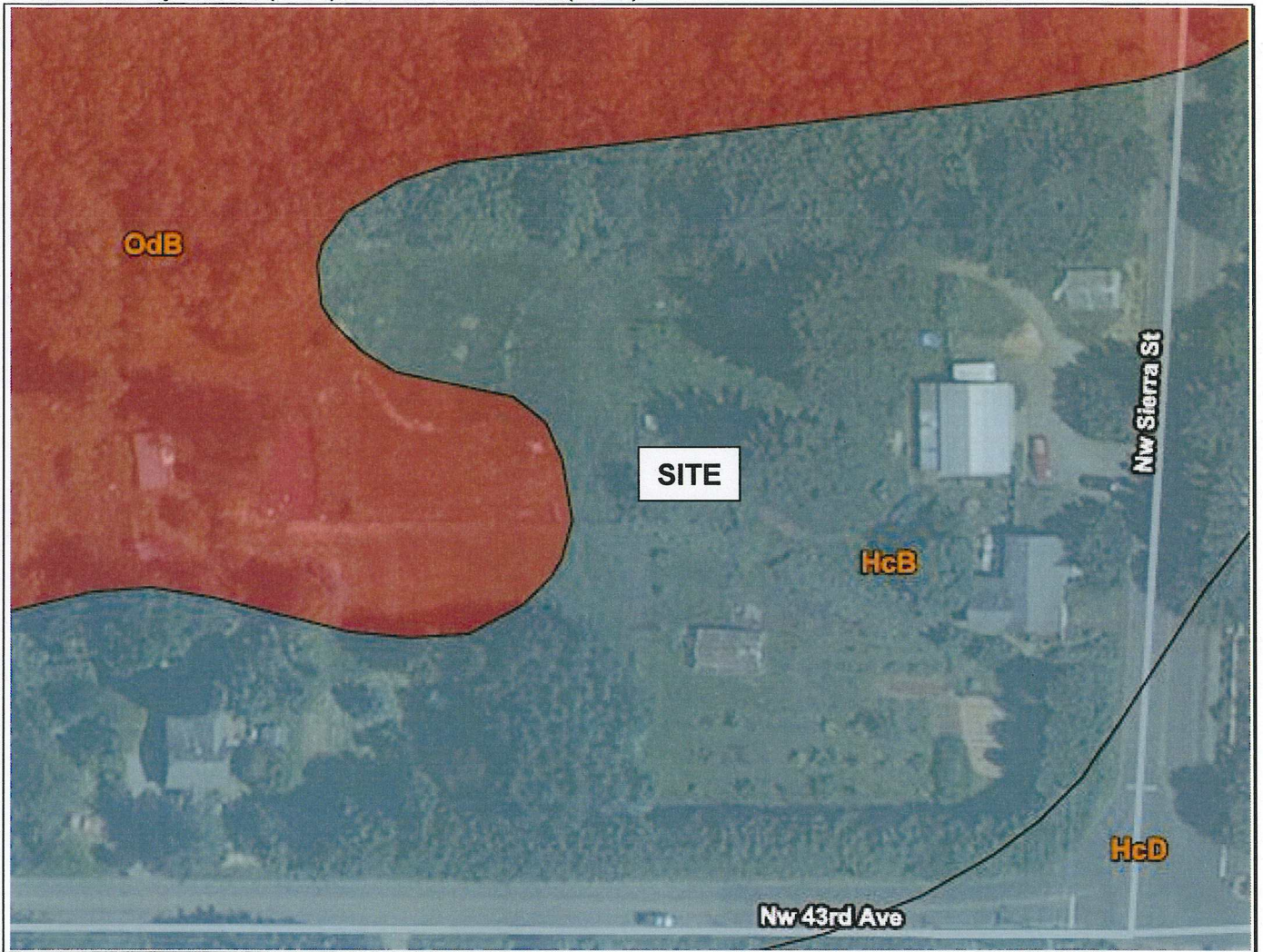
Travis Johnson, PE

Vicinity Map

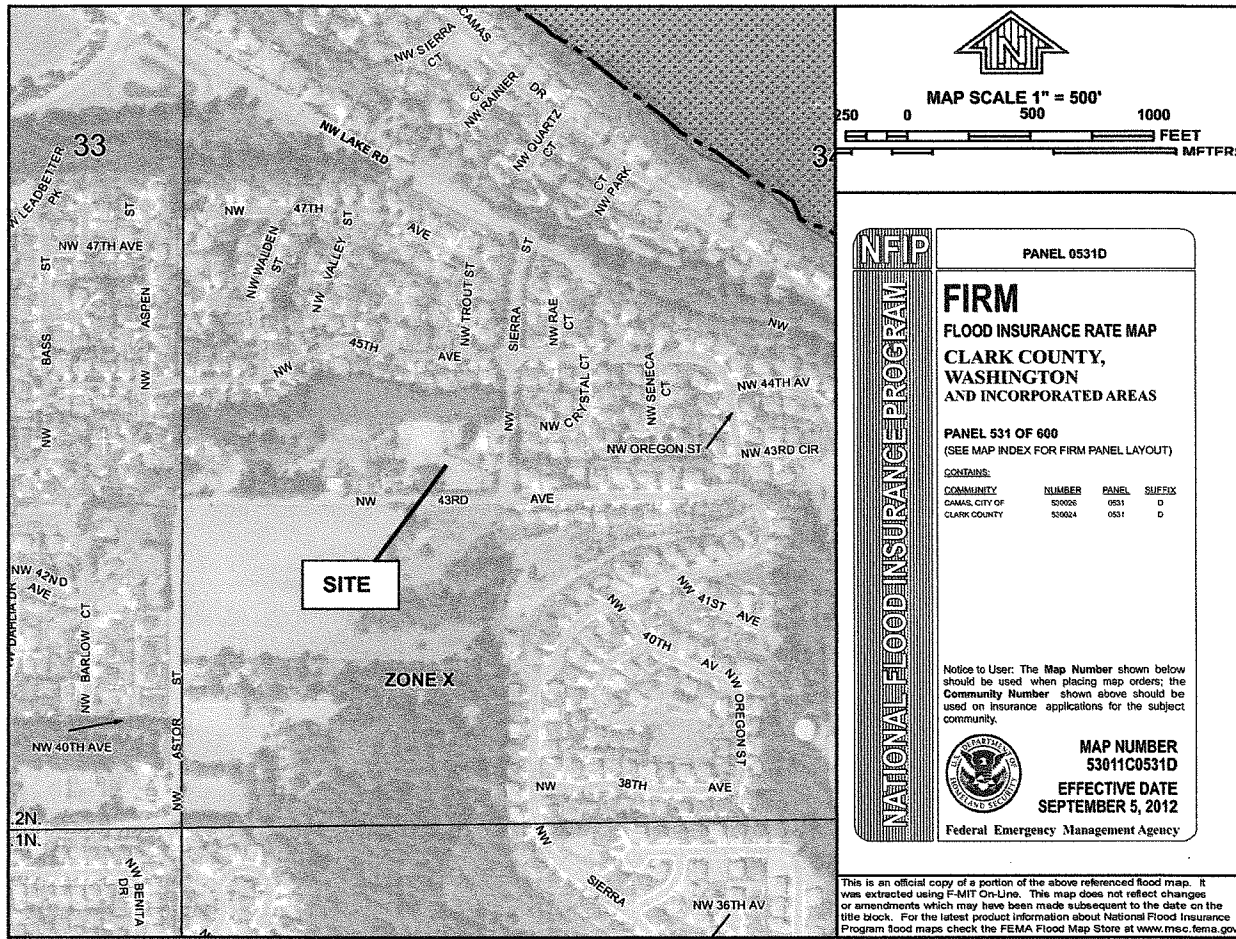


Soils Map

Hesson Clay Loam (HcB), Odne Silt Loam (OdB)



Floodplain Mapping FEMA Flood Insurance Rate Map



TECHNICAL INFORMATION REPORT

Section A – Project Overview

The development proposes to divide 3.78 acres into 15 single-family lots. The site is described as parcel numbers 177893-000 and 177902-000, and the site is located in the SW ¼ of Section 34, T2N, R3E, WM, in the northwest quadrant of the intersection of NW 43rd Avenue and NW Sierra Street.

The property includes two homes with several outbuildings. One home is proposed to remain on lot 2 and the other home and all remaining outbuildings will be demolished.

The site's topography generally directs surface runoff from the southeast to the northwest corner of the property where a Class IV wetland is located. The site slopes at approximately 2%-4%.

There are no known agricultural drain tiles or areas of potential slope instability. The surveyors located one septic system for the home that will remain and Clark County GIS flags the other home as having a septic system. All wells and septic systems will be abandoned with the construction of the development.

The site's development plan proposes to grade the site to intercept all site runoff and direct it to the proposed stormwater system which will collect the runoff from the development and will treat and detain the stormwater with a combined wetpond/detention pond that will outfall the stormwater to the wetlands matching the hydrological period.

Construction of the site will involve completing half-width improvements to NW 43rd Avenue and adding sidewalk on NW Sierra Street. A reduced roadway section will be constructed for the internal private roadway. Sewer, water, storm and dry utilities will be installed and extended to each individual lot. Nearly all existing vegetation will be removed except the trees that are proposed to remain within the wetlands.

Section B – Minimum Requirements

There is less than 35% existing impervious surface on the site and the project will add more than 5,000 square feet of impervious surface, therefore minimum requirements 1-9 will apply to this project.

Description	Area
Existing Impervious Surface	0.5668
New Impervious Surface	2.1425
Replaced Impervious Surface	N/A
Native Vegetation converted to Lawn	1.6578
Native Vegetation converted to Pasture	N/A
Land Disturbing Activity	3.9236

Section C – Soils Evaluation

As indicated by the Natural Resources Conservation Service (NRCS) soils map located near the front of this report, the soil types mapped for the area are Hesson Clay Loam (Hcb) and Odne Silt Loam (OdB). These soil types do not generally drain adequately to allow for infiltration of stormwater runoff to be used as a BMP. The Hesson soils are considered hydrologic soils group (HSG) C soils and the Odne soils are hydrologic soils group (HSG) D.

Section D – Source Control

As a single family residential development, this project does not necessitate any special source control measures due to abnormal risks associated with the project. Appropriate source control responsibilities will fall primarily on the future homeowners that will live in the development.

Section E – Onsite Stormwater Management BMPs

The stormwater runoff from the site will be routed to a wetpond to meet minimum requirements for water quality treatment. The wetpool volume was calculated from the 6-month 24-hour storm event from the Western Washington Hydrology Model and made 1.5 times larger to meet the Camas Stormwater Design Standards Manual and the 2005 Stormwater Management Manual for Western Washington, Volume 5, for phosphorous control.

Section F – Runoff Treatment Analysis and Design

As mentioned in Section D above the runoff from the developed site will be treated by a wetpond. The wetpool volume was calculated from the 6-month 24-hour storm event from the Western Washington Hydrology Model and made 1.5 times larger to meet the Camas Stormwater Design Standards Manual and the 2005 Stormwater Management Manual for Western Washington, Volume 5, for phosphorous control.

Section G – Flow Control Analysis and Design

The site has one threshold drainage area (TDA) and one detention facility to meet the minimum flow control requirements of the TDA. Calculations are provided in Appendix B.

Section H – Wetland Protection

There is a Class IV wetland in the northwest corner of the site which is also the location of the outfall for the proposed storm facility. The flow control facility was designed by comparing the existing conditions with developed conditions to maintain the hydrological flow to the wetlands.

Section I – Other Permits

Approval of Preliminary construction drawings and building permits will be required to finalize the development.

Section J – Conveyance Systems Analysis and Design

Conveyance calculations will be provided with the final design.

Section K – Off-Site Analysis

The outfall from the storm facility will sheet flow the stormwater to the wetlands and will then disperse through the native vegetation. No additional offsite analysis will be required.

Section L – Approval Conditions Summary

Currently no conditions have been prepared for this development.

Section M – Special Reports and Studies

A critical areas report was prepared and delineates wetland in the northwest corner of the site. The report has been submitted with the development application.

Section N – Maintenance and Operations Manual

The proposed storm facility will be owned and maintained Meadows Subdivision Home Owners Association. During final design a Maintenance and Operations Manual will be prepared.

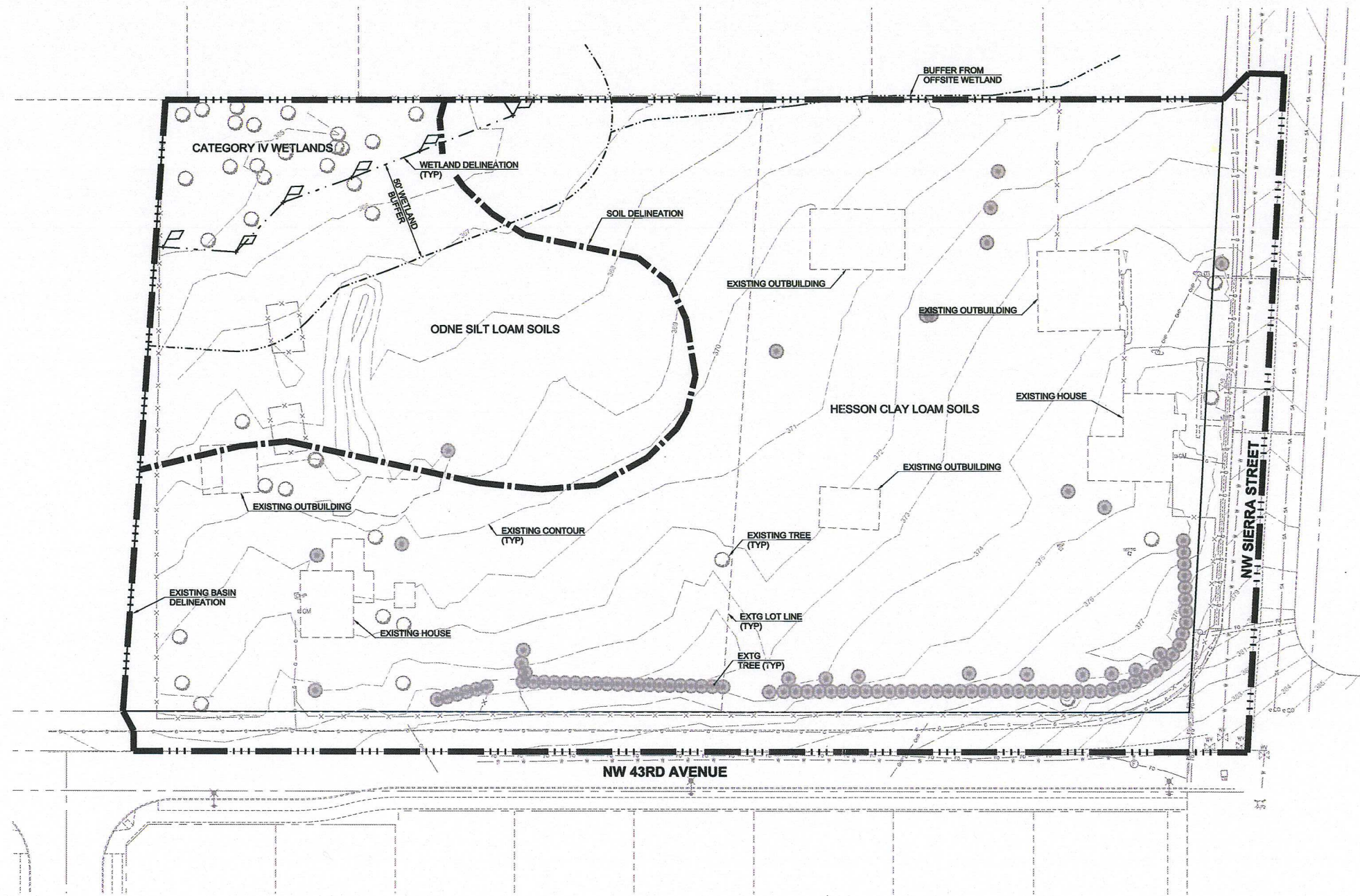
APPENDIX A BASIN MAPS

APPENDICES

*PLS Engineering
Job #2402*

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE

PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

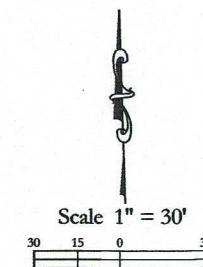
Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.



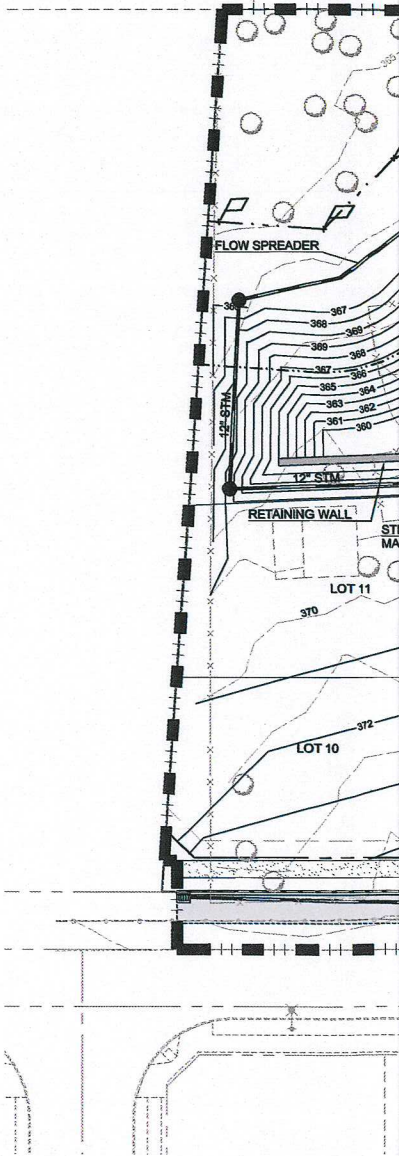
Pre Development Basin Plan For:

Meadows Subdivision

A Subdivision Located In Camas, Washington

Revisions	
A	
B	
C	
D	
E	
F	

Project No.	2402
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AJG



VICINITY MAP
NOT TO SCALE

PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.

Post Development Basin Plan For:
Meadows Subdivision
A Subdivision Located In Camas, Washington

Revisions

A					
B					
1					
2					
3					
4					

Project No. 2402

SCALE: H: 1" = 30'
V: N/A

DESIGNED BY: TGI
DRAFTED BY: TGI
REVIEWED BY: AJG

2

2

APPENDIX B

DRAINAGE CALCULATIONS

WWHM4
PROJECT REPORT

Project Name: 2402 Final
Site Name: Meadows Subdivision
Site Address:
City :
Report Date: 1/29/2015
Gage : Lacamas
Data Start : 1948/10/01
Data End : 2008/09/30
Precip Scale: 1.30
Version : 2015/01/08

Low Flow Threshold for POC 1 : 50 Percent of the 2 Year

High Flow Threshold for POC 1: 50 year

PREDEVELOPED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

<u>Pervious Land Use</u>	<u>Acres</u>
SG3, Field, Flat	2.7575
SG4, Forest, Flat	.9346

Pervious Total 3.6921

<u>Impervious Land Use</u>	<u>Acres</u>
ROADS FLAT	0.3963
ROOF TOPS FLAT	0.1705

Impervious Total 0.5668

Basin Total 4.2589

Element Flows To:

Surface Interflow Groundwater

MITIGATED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

<u>Pervious Land Use</u>	<u>Acres</u>
SG4, Forest, Flat	.4605
SG3, Lawn, Flat	1.6578

Pervious Total 2.1183

<u>Impervious Land Use</u>	<u>Acres</u>
ROADS FLAT	1.0133
ROOF TOPS FLAT	0.6198
DRIVEWAYS FLAT	0.1722
POND	0.3372

Impervious Total 2.1425

Basin Total 4.2608

Element Flows To:

Surface	Interflow	Groundwater
Trapezoidal Pond 1	Trapezoidal Pond 1	

Name : Trapezoidal Pond 1
Bottom Length: 282.91 ft.
Bottom Width: 28.29 ft.
Depth: 4 ft.
Volume at riser head: 0.4554 acre-ft.
Side slope 1: 3 To 1
Side slope 2: 3 To 1
Side slope 3: 3 To 1
Side slope 4: 3 To 1
Discharge Structure
Riser Height: 2 ft.
Riser Diameter: 18 in.
Orifice 1 Diameter: 3.41 in. Elevation: 0 ft.
Orifice 2 Diameter: 4.8 in. Elevation: 1.334 ft.
Orifice 3 Diameter: 2.85 in. Elevation: 1.5 ft.

Element Flows To:

Outlet 1 Outlet 2

Pond Hydraulic Table

<u>Stage(ft)</u>	<u>Area(ac)</u>	<u>Volume(ac-ft)</u>	<u>Discharge(cfs)</u>	<u>Infilt(cfs)</u>
0.0000	0.183	0.000	0.000	0.000
0.0444	0.185	0.008	0.064	0.000
0.0889	0.187	0.016	0.091	0.000
0.1333	0.189	0.024	0.111	0.000
0.1778	0.191	0.033	0.128	0.000

0.2222	0.193	0.041	0.144	0.000
0.2667	0.195	0.050	0.157	0.000
0.3111	0.197	0.059	0.170	0.000
0.3556	0.199	0.068	0.182	0.000
0.4000	0.201	0.076	0.193	0.000
0.4444	0.203	0.085	0.203	0.000
0.4889	0.204	0.095	0.213	0.000
0.5333	0.206	0.104	0.223	0.000
0.5778	0.208	0.113	0.232	0.000
0.6222	0.210	0.122	0.240	0.000
0.6667	0.212	0.132	0.249	0.000
0.7111	0.214	0.141	0.257	0.000
0.7556	0.216	0.151	0.265	0.000
0.8000	0.218	0.160	0.273	0.000
0.8444	0.220	0.170	0.280	0.000
0.8889	0.222	0.180	0.287	0.000
0.9333	0.224	0.190	0.295	0.000
0.9778	0.226	0.200	0.302	0.000
1.0222	0.228	0.210	0.308	0.000
1.0667	0.230	0.220	0.315	0.000
1.1111	0.232	0.231	0.321	0.000
1.1556	0.234	0.241	0.328	0.000
1.2000	0.236	0.251	0.334	0.000
1.2444	0.238	0.262	0.340	0.000
1.2889	0.240	0.273	0.346	0.000
1.3333	0.242	0.283	0.352	0.000
1.3778	0.244	0.294	0.485	0.000
1.4222	0.246	0.305	0.543	0.000
1.4667	0.248	0.316	0.590	0.000
1.5111	0.250	0.327	0.652	0.000
1.5556	0.252	0.338	0.716	0.000
1.6000	0.254	0.350	0.765	0.000
1.6444	0.256	0.361	0.809	0.000
1.6889	0.258	0.372	0.850	0.000
1.7333	0.260	0.384	0.887	0.000
1.7778	0.262	0.395	0.922	0.000
1.8222	0.264	0.407	0.956	0.000
1.8667	0.266	0.419	0.988	0.000
1.9111	0.268	0.431	1.018	0.000
1.9556	0.270	0.443	1.048	0.000
2.0000	0.272	0.455	1.076	0.000
2.0444	0.274	0.467	1.241	0.000
2.0889	0.276	0.479	1.518	0.000
2.1333	0.278	0.492	1.868	0.000
2.1778	0.281	0.504	2.277	0.000
2.2222	0.283	0.517	2.737	0.000
2.2667	0.285	0.529	3.242	0.000
2.3111	0.287	0.542	3.789	0.000
2.3556	0.289	0.555	4.374	0.000
2.4000	0.291	0.568	4.996	0.000
2.4444	0.293	0.581	5.650	0.000
2.4889	0.295	0.594	6.337	0.000
2.5333	0.297	0.607	7.055	0.000
2.5778	0.299	0.620	7.802	0.000
2.6222	0.301	0.634	8.577	0.000
2.6667	0.303	0.647	9.379	0.000
2.7111	0.306	0.661	10.20	0.000

2.7556	0.308	0.674	11.06	0.000
2.8000	0.310	0.688	11.94	0.000
2.8444	0.312	0.702	12.84	0.000
2.8889	0.314	0.716	13.76	0.000
2.9333	0.316	0.730	14.71	0.000
2.9778	0.318	0.744	15.68	0.000
3.0222	0.320	0.758	16.67	0.000
3.0667	0.323	0.773	17.69	0.000
3.1111	0.325	0.787	18.72	0.000
3.1556	0.327	0.801	19.78	0.000
3.2000	0.329	0.816	20.85	0.000
3.2444	0.331	0.831	21.94	0.000
3.2889	0.333	0.845	23.06	0.000
3.3333	0.335	0.860	24.19	0.000
3.3778	0.338	0.875	25.34	0.000
3.4222	0.340	0.890	26.51	0.000
3.4667	0.342	0.906	27.69	0.000
3.5111	0.344	0.921	28.90	0.000
3.5556	0.346	0.936	30.12	0.000
3.6000	0.348	0.952	31.36	0.000
3.6444	0.350	0.967	32.62	0.000
3.6889	0.353	0.983	33.89	0.000
3.7333	0.355	0.999	35.18	0.000
3.7778	0.357	1.014	36.48	0.000
3.8222	0.359	1.030	37.81	0.000
3.8667	0.361	1.046	39.14	0.000
3.9111	0.364	1.063	40.50	0.000
3.9556	0.366	1.079	41.87	0.000
4.0000	0.368	1.095	43.25	0.000
4.0444	0.370	1.111	44.65	0.000

ANALYSIS RESULTS

Predeveloped Landuse Totals for POC #1

Total Pervious Area:3.6921

Total Impervious Area:0.5668

Mitigated Landuse Totals for POC #1

Total Pervious Area:2.1183

Total Impervious Area:2.1425

Flow Frequency Return Periods for Predeveloped. POC #1

<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.674033
5 year	1.030712
10 year	1.286933
25 year	1.630709
50 year	1.900192
100 year	2.180432

Flow Frequency Return Periods for Mitigated. POC #1

<u>Return Period</u>	<u>Flow (cfs)</u>
2 year	0.362699
5 year	0.520077
10 year	0.645481
25 year	0.830574
50 year	0.989526
100 year	1.168059

Annual Peaks for Predeveloped and Mitigated. POC #1

<u>Year</u>	<u>Predeveloped</u>	<u>Mitigated</u>
1949	0.536	0.530
1950	0.616	0.339
1951	1.016	0.347
1952	0.570	0.402
1953	0.707	0.297
1954	1.194	0.312
1955	0.590	0.289
1956	1.187	0.924
1957	0.936	0.318
1958	0.704	0.374
1959	0.398	0.251
1960	0.385	0.305
1961	0.952	0.588
1962	0.622	0.286
1963	0.726	0.312
1964	0.687	0.320
1965	0.642	0.552
1966	0.776	0.316
1967	0.770	0.301
1968	0.952	0.327
1969	1.066	0.615
1970	3.140	0.944
1971	0.365	0.279
1972	0.586	0.318
1973	0.594	0.329
1974	1.014	0.892
1975	0.479	0.316
1976	0.853	0.329
1977	0.184	0.252
1978	1.287	0.722
1979	0.767	0.340
1980	0.436	0.295
1981	1.143	0.596
1982	0.795	0.643
1983	1.391	0.340
1984	0.418	0.301
1985	0.326	0.328
1986	0.380	0.279
1987	0.761	0.482
1988	0.336	0.300
1989	0.386	0.255
1990	0.345	0.259
1991	0.841	0.294
1992	0.844	0.263
1993	1.010	0.361

1994	0.640	0.521
1995	0.538	0.777
1996	1.360	0.828
1997	1.424	1.050
1998	1.067	0.300
1999	0.788	0.507
2000	0.534	0.230
2001	0.259	0.212
2002	1.303	0.301
2003	0.940	0.411
2004	0.332	0.284
2005	0.376	0.291
2006	0.633	0.301
2007	0.381	0.558
2008	0.673	0.296

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	3.1401	1.0500
2	1.4243	0.9442
3	1.3913	0.9243
4	1.3604	0.8923
5	1.3032	0.8283
6	1.2866	0.7771
7	1.1937	0.7218
8	1.1866	0.6433
9	1.1428	0.6151
10	1.0673	0.5962
11	1.0662	0.5881
12	1.0155	0.5580
13	1.0143	0.5522
14	1.0103	0.5301
15	0.9522	0.5208
16	0.9520	0.5072
17	0.9397	0.4815
18	0.9360	0.4111
19	0.8528	0.4022
20	0.8441	0.3737
21	0.8407	0.3607
22	0.7953	0.3467
23	0.7881	0.3399
24	0.7756	0.3395
25	0.7705	0.3391
26	0.7672	0.3294
27	0.7613	0.3290
28	0.7262	0.3278
29	0.7071	0.3268
30	0.7037	0.3200
31	0.6870	0.3183
32	0.6729	0.3176
33	0.6418	0.3164
34	0.6400	0.3162
35	0.6332	0.3121
36	0.6217	0.3115
37	0.6156	0.3051
38	0.5945	0.3013

39	0.5897	0.3011
40	0.5857	0.3011
41	0.5700	0.3007
42	0.5376	0.3001
43	0.5364	0.2997
44	0.5341	0.2968
45	0.4787	0.2961
46	0.4359	0.2949
47	0.4181	0.2942
48	0.3981	0.2908
49	0.3861	0.2889
50	0.3849	0.2856
51	0.3809	0.2843
52	0.3801	0.2794
53	0.3762	0.2789
54	0.3648	0.2630
55	0.3446	0.2591
56	0.3357	0.2551
57	0.3320	0.2522
58	0.3259	0.2511
59	0.2586	0.2299
60	0.1840	0.2120

POC #1

The Facility PASSED

The Facility PASSED.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.3370	1210	1180	97	Pass
0.3528	1060	699	65	Pass
0.3686	920	632	68	Pass
0.3844	800	584	73	Pass
0.4002	701	542	77	Pass
0.4160	615	511	83	Pass
0.4318	559	487	87	Pass
0.4475	500	453	90	Pass
0.4633	452	422	93	Pass
0.4791	417	403	96	Pass
0.4949	380	374	98	Pass
0.5107	345	339	98	Pass
0.5265	315	293	93	Pass
0.5423	292	267	91	Pass
0.5581	273	234	85	Pass
0.5739	251	212	84	Pass
0.5897	236	189	80	Pass
0.6054	215	179	83	Pass
0.6212	197	166	84	Pass
0.6370	182	155	85	Pass
0.6528	166	147	88	Pass
0.6686	151	136	90	Pass
0.6844	146	128	87	Pass
0.7002	134	120	89	Pass
0.7160	124	114	91	Pass
0.7318	114	100	87	Pass
0.7475	110	92	83	Pass

0.7633	103	85	82	Pass
0.7791	95	72	75	Pass
0.7949	87	64	73	Pass
0.8107	78	55	70	Pass
0.8265	72	49	68	Pass
0.8423	70	42	60	Pass
0.8581	63	40	63	Pass
0.8739	60	34	56	Pass
0.8897	58	28	48	Pass
0.9054	53	25	47	Pass
0.9212	50	22	44	Pass
0.9370	46	17	36	Pass
0.9528	41	14	34	Pass
0.9686	36	13	36	Pass
0.9844	34	10	29	Pass
1.0002	33	8	24	Pass
1.0160	27	6	22	Pass
1.0318	26	4	15	Pass
1.0476	25	1	4	Pass
1.0633	22	0	0	Pass
1.0791	18	0	0	Pass
1.0949	17	0	0	Pass
1.1107	15	0	0	Pass
1.1265	15	0	0	Pass
1.1423	15	0	0	Pass
1.1581	14	0	0	Pass
1.1739	14	0	0	Pass
1.1897	12	0	0	Pass
1.2054	11	0	0	Pass
1.2212	11	0	0	Pass
1.2370	10	0	0	Pass
1.2528	10	0	0	Pass
1.2686	10	0	0	Pass
1.2844	10	0	0	Pass
1.3002	9	0	0	Pass
1.3160	8	0	0	Pass
1.3318	8	0	0	Pass
1.3476	8	0	0	Pass
1.3633	7	0	0	Pass
1.3791	7	0	0	Pass
1.3949	6	0	0	Pass
1.4107	6	0	0	Pass
1.4265	5	0	0	Pass
1.4423	5	0	0	Pass
1.4581	5	0	0	Pass
1.4739	5	0	0	Pass
1.4897	5	0	0	Pass
1.5055	5	0	0	Pass
1.5212	5	0	0	Pass
1.5370	5	0	0	Pass
1.5528	5	0	0	Pass
1.5686	4	0	0	Pass
1.5844	4	0	0	Pass
1.6002	4	0	0	Pass
1.6160	4	0	0	Pass
1.6318	4	0	0	Pass
1.6476	4	0	0	Pass

1.6633	4	0	0	Pass
1.6791	4	0	0	Pass
1.6949	4	0	0	Pass
1.7107	4	0	0	Pass
1.7265	4	0	0	Pass
1.7423	4	0	0	Pass
1.7581	4	0	0	Pass
1.7739	4	0	0	Pass
1.7897	4	0	0	Pass
1.8055	4	0	0	Pass
1.8212	4	0	0	Pass
1.8370	4	0	0	Pass
1.8528	4	0	0	Pass
1.8686	4	0	0	Pass
1.8844	4	0	0	Pass
1.9002	4	0	0	Pass

Water Quality BMP Flow and Volume for POC #1
On-line facility volume: 0.3926 acre-feet
On-line facility target flow: 0.2441 cfs.
Adjusted for 15 min: 0.2441 cfs.
Off-line facility target flow: 0.1477 cfs.
Adjusted for 15 min: 0.1477 cfs.

Perlnd and Implnd Changes

No changes have been made.

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APPENDIX C

MAINTENANCE & OPERATION MANUAL

APPENDIX D

SWPPP



MEMORANDUM

Date: November 11, 2014

To: Travis Johnson
PLS Engineering
2008 'C' Street
Vancouver WA 98663

From: Frank Charbonneau, PE, PTOE

Subject: Traffic Assessment Report FL14108
Meadows Subdivision
NW Sierra Street, City of Camas

This memorandum represents the traffic assessment report for the Meadows Subdivision development being planned in Camas. A residential development totaling 15 single-family homes will be constructed on the site. Access to the property will occur at the proposed private street approach on the west side of Sierra Street located approximately 315 feet north of NW 43rd Avenue. The subject site covers 3.78 acres. A vicinity map and site plan is included in the appendix.

As the project will generate less than 20 AM & PM peak hour trips the analysis does not require a full traffic study report according to City staff. This document will serve as the traffic assessment report conforming to the work scope as identified by the City.

The project site is located on two parcels addressed as 4313 NW Sierra Street and 2129 NW 43rd Avenue (tax lots #177893000 & #177902000, respectively).

Southeast Sierra Street is classified as a minor arterial according to the City's functional classification map. The street section includes one northbound lane and one southbound lane between 43rd Avenue and Lake Road. There are curbs and sidewalk on both sides of the street and the posted speed is 25MPH. The nearest major intersections include 43rd Avenue to the south and Lake Road to the north. The intersection at 43rd Avenue is controlled as a three-way stop and at Lake Road the northbound approach (Sierra Street) is controlled by stop signing. Northwest 45th Avenue is the nearest intersection to the proposed site and is located approximately 260 feet north of the new access. Near the project site the street is situated on a moderate downgrade towards the north and has a tangent alignment.

Existing development within the vicinity consists of single-family homes. Additional homes are also being built with street construction occurring along 43rd Avenue west of Sierra Street.

The site will be served by a one private street intersecting with Sierra Street approximately 315 feet north of 43rd Avenue. The new access street will be 30 feet wide and provide curb and sidewalk on both sides. Pedestrian access will occur to the existing sidewalk on Sierra Street. Parking will be permitted on the new access street. Stop control shall be implemented on the site's driveway (eastbound) approach to Sierra Street.

Sight distance at the access location on Sierra Street was reviewed in the field. The sight distance in both directions is currently restricted due to the trees and shrubs located on the site's frontage.

Based on AASHTO standards the required sightline for a speed of 25MPH is 280 feet (AASHTO Exhibit 9-55, Design Intersection Sight Distance). This standard is not currently met due to the vegetation conditions which restricts the sight distance less than 100 feet. However, the sightline can be improved to attain a sight distance of over 400 feet when several trees and shrubs are removed as anticipated when the site develops.

The trip generation for the proposed development was determined for single-family housing totaling 15 homes. The trip calculations are based on the ITE Trip Generation manual, 9th edition.

Trip Generation Summary

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
<i>Single-Family (#210)</i>	15							
Generation Rate ¹		9.57	0.75	25%	75%	1.01	63%	37%
Site Trips		144	11	3	8	15	9	6

¹ Source: *Trip Generation*, 9th Edition, ITE, 2012, average rates.

As presented in the table the development will generate 144 trips per day. A total of 11 trips will occur in the AM peak hour and a total of 15 trips will occur in the PM peak hour.

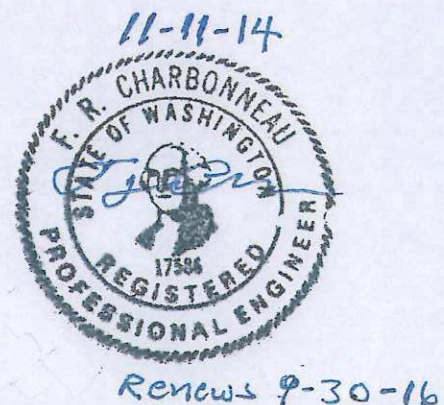
It has been determined that with the recommended sight distance improvements and installation of stop control on the new access approach to Sierra Street there are no other transportation-related safety or operational concerns. These conditions are expected to be sustained after the development is completed.

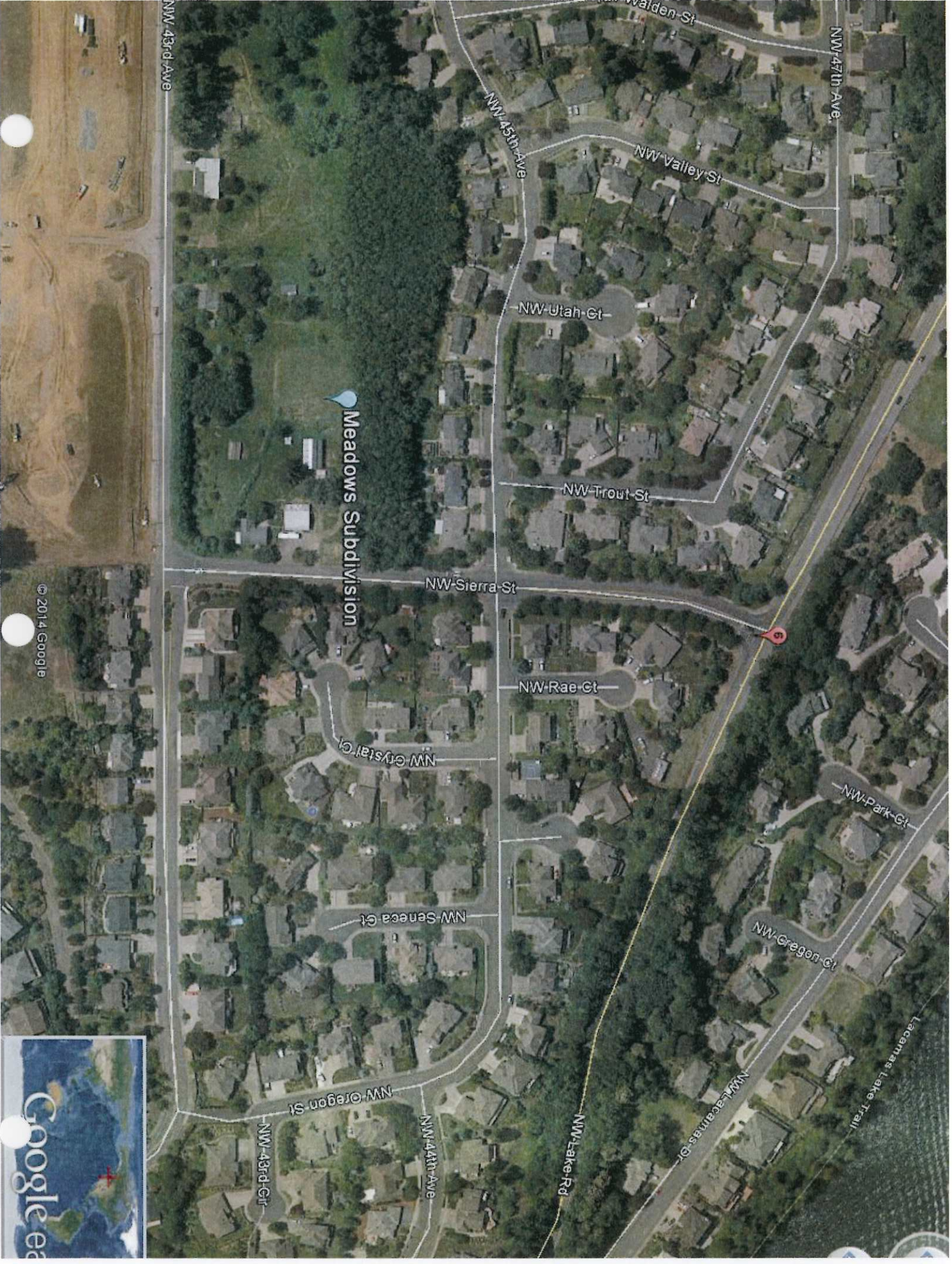
Based on the results of the traffic assessment it is recommended that the City of Camas support the proposed Meadows Subdivision located along Sierra Street.

If you should have any questions, please contact Frank Charbonneau, PE, PTOE at 503.293.1118 or email Frank@CharbonneauEngineer.com.

Appendix

- Vicinity Map
- Site Plan





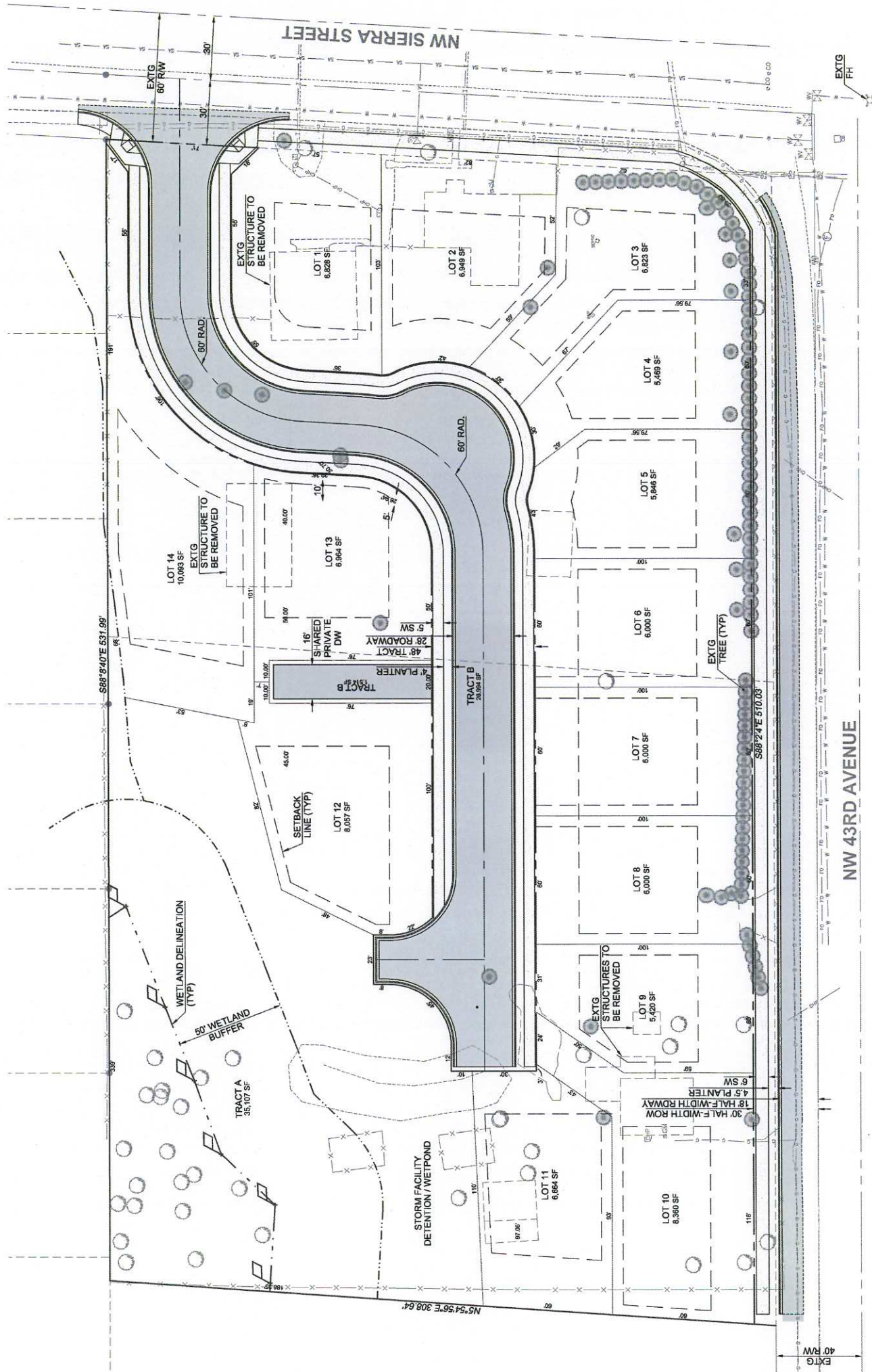
Meadows Subdivision

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Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
 Camas, Clark County, Washington



Lacamas Meadows

WETLAND DELINEATION AND ASSESSMENT

Camas, Washington



Prepared for:
Lacamas Meadows, LLC
200 S.E. 197th Place
Camas, WA 98607

Prepared by:
The Resource Company, Inc.
915 Broadway, Ste. 250
Vancouver, WA 98663
(360) 693-4555

June 13, 2014



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- FIGURE 1 – PROJECT LOCATION**
- FIGURE 2 – TOPOGRAPHIC MAP**
- FIGURE 3 – LOCAL AND NATIONAL WETLANDS INVENTORY**
- FIGURE 4 – CLARK COUNTY SOIL SURVEY**
- FIGURE 5 – WETLAND BOUNDARIES**
- PHOTO SHEETS – SITE PHOTOGRAPHS**

APPENDICES

- APPENDIX A – WETLAND DETERMINATION DATA SHEETS**
- APPENDIX B – WETLAND RATING FORMS - WESTERN WASHINGTON**

WETLAND DELINEATION & ASSESSMENT

Project: Lacamas Meadows
Applicant: Lacamas Meadows, LLC/Tom Strassenberg
Location: 4313 NW Sierra Street, Camas, Washington
Legal Description: SW ¼ of Sec. 34, T02N, R03E, W. M., Clark County
Serial Number(s): 177893-000 & 177902-000
Local Jurisdiction: City of Camas
Study Area Size: 4.25 acres
Project Type: Unknown at this time
Zoning: R-7.5
ComPlan: SFM
Assessment by: Kevin Grosz, PWS/Eli Schmitz
Site Visit: June 4, 2014
Report Date: June 13, 2014

1.0 INTRODUCTION

This report details the results of a wetland delineation and assessment conducted for the Lacamas Meadows subdivision located at 4313 N.W. Sierra Street, Camas, Washington by The Resource Company, Inc. (Fig. 1). This report identifies the extent of any wetlands and associated buffers found within the study area as defined and regulated by the City of Camas Critical Areas Ordinance – Wetlands (16.53).

The study area encompasses tax lots 177893-000 (2 ac.) and 177902-000 (2.25 ac.). Currently, the properties contain two single family residences and several outbuildings. It appears that the property has been used for agricultural purposes primarily grazing. It is predominantly an open grassland plant community with patches of trees and shrubs. The property is relatively flat and slopes slightly to the northwest (Fig. 2). A wetland in the northwest corner of the site was identified through the course of the assessment. This wetland is part of a larger wetland complex that extends off-site to the north.

2.0 DELINEATION METHODS

The wetland delineation was conducted according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE, 2010.) hereafter, referred to as the manual. According to the manual, jurisdictional wetlands are defined as:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

The manual uses three parameters in making wetland determinations: hydrophytic vegetation, hydric soils and wetland hydrology. Except in certain situations defined in the manual, evidence of a minimum of one positive indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Hydrophytic vegetation are plants that due to morphological, physiological, and/or reproductive adaptations, have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. Wetland hydrology is present when an area is inundated or saturated to the surface for at least 5 percent of the growing season. The growing season is defined as the portion of the year when soil temperature at 19.7 inches below the soil surface is greater than biological zero (5 degrees C).

Except in certain situations defined in the manual, evidence of a minimum of one positive wetland indicator from each of the three parameters (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Prior to the on-site investigations, a review of existing information related to determination of wetland boundaries was conducted. This review included the Natural Resource Conservation Service (NRCS) Web Soil Survey, National Wetland Inventory maps, Clark County Local Wetland Inventory (LWI) maps, Clark County, and aerial photographs.

Following the background information review, an on-site investigation was conducted on June 4, 2014. In order to delineate wetlands within the study area, observation points were selected to correspond with terrain features, vegetation, hydrology and mapped hydric soils identified on the site. At each observation point, the vegetation, soils and hydrology were characterized and this information was then used as the basis for making the wetland determinations.

Wetland indicator status ratings and their ordinal rating categories, based on ecological descriptions. Indicator Status (abbreviation) Ecological Description*

Obligate (OBL) Almost always is a hydrophyte, rarely in uplands

Facultative Wetland (FACW) Usually is a hydrophyte but occasionally found in uplands

Facultative (FAC) Commonly occurs as either a hydrophyte or nonhydrophyte

Facultative Upland (FACU) Occasionally is a hydrophyte, but usually occurs in uplands

Upland (UPL) Rarely is a hydrophyte, almost always in uplands.

*Source: Lichvar and Minkin (2008)

Hydrophytic vegetation is present when more than 50 percent of the dominant species have an indicator status of OBL, FACW, and/or FAC.

The presence or absence of hydric soils was determined by digging soil pits to a depth of 18 inches and examining the soil for hydric soil indicators. Organic soils such as peats and mucks are considered hydric soils. Mineral hydric soils are generally either gleyed or have bright concentrations and/or low matrix chroma immediately below the A-horizon or 10 inches (whichever is shallower). Soil colors are determined using the Munsell Soil Color Chart (Munsell Color System 2009).

The site was examined for standing water and/or saturated soils, which serve as primary indicators of wetland hydrology. The area was also checked for other wetland hydrologic characteristics such as watermarks, drift lines, wetland drainage patterns, and morphological plant adaptations.

3.0 SITE SPECIFIC METHODS

The Resource Company, Inc. conducted a wetland delineation of the study area on June 4, 2014 using the methodology found in the Regional Supplement to the Manual (USACE 2010). In addition, applicable guidance and any supporting technical guidance documents issued by the USACE, Washington Department of Ecology, and City of Camas were also utilized.

The entire site was first traversed by foot to observe any visible wetland conditions. Once the general location of the wetland boundaries were identified, paired data plots were taken in areas that represented the conditions of the uplands and wetlands, respectively. Five (5) foot radius plots were chosen in a uniform topographic position that was representative of a single plant community. The paired plots were located approximately 5 - 10 feet apart to minimize the margin of error. Soils at each sample plot were typically inspected to a depth of 16 inches (or more) to determine the presence or absence of hydric soil characteristics and/or wetland hydrology. Data sheets for the sample plots are attached in Appendix A.

The wetland boundary was associated with a change in plant communities, hydric soil and wetland hydrology indicators. The wetland boundary was determined based on the presence of hydric soils, the presence of wetland hydrology (i.e. oxidized rhizospheres along living roots, soil saturation), and a dominance of hydrophytic vegetation. It should be noted that only paired plots were recorded in the field, however, numerous unrecorded plots were dug to confirm wetland boundaries. The on-site wetlands were classified according to the USFWS classification system (Cowardin et al. 1979) and the Hydrogeomorphic (HGM) Classification system (Adamus et al. 2001).

4.0 RESULTS AND DISCUSSION

The National Wetlands Inventory (NWI) and LWI maps (Fig. 3) identify a Palustrine, Forested, Seasonally Flooded (PFOC) wetland along the northern edge of the site. It should be noted that NWI and CCWI maps are created through aerial photograph and topographic map interpretation and are not intended to represent the extent of jurisdictional wetlands. There may be unmapped wetland and waters subject to regulation

and all wetlands and waters boundary mapping is approximate. In all cases, actual field conditions determine the presence, absence and boundaries of wetlands and waters.

The NRCS USDA Web Soil Survey (Fig. 4) identifies the following soil mapping units on this site:

Odne silt loam, 0 to 5 percent slopes (OdB). This soil is generally in concave areas in drainageways or depressions within areas of Gee soils. In most places the slope is 1 to 2 percent. In a typical profile, the surface layer is about 10 inches thick. It is mottled, dark-gray heavy silt loam in the upper part. The subsurface layer is firm, gray silt loam about 9 inches thick with concentrations. The next 8 inches is very firm, contains concentrations, dark-gray silty clay loam that overlies 6 inches of firm, with concentrations, dark-gray clay loam. This soil is poorly drained and very slowly permeable. A high water table is common in winter. This soil is classified as a **hydric soil** according to the Clark County hydric soils list.

Hesson clay loam, 0 to 8 percent slopes (HcB) and 8 to 20 percent slopes (HcD). This soil series consists of deep, well drained soils formed in deeply weathered, mixed old alluvium with varying amounts of gravel. In most places the slope is 2 to 5 percent. In a typical profile, the surface layer is about an 8 inches thick reddish brown (5YR 2/2) clay loam. Below this to a depth of 12 inches the soil is a dark reddish brown (5YR 3/3) clay loam. Generally, this series is well drained, moderately permeable, surface runoff is slow, and the erosion hazard is slight. This soil is classified as a **non-hydric soil** according to the Clark County hydric soils list.

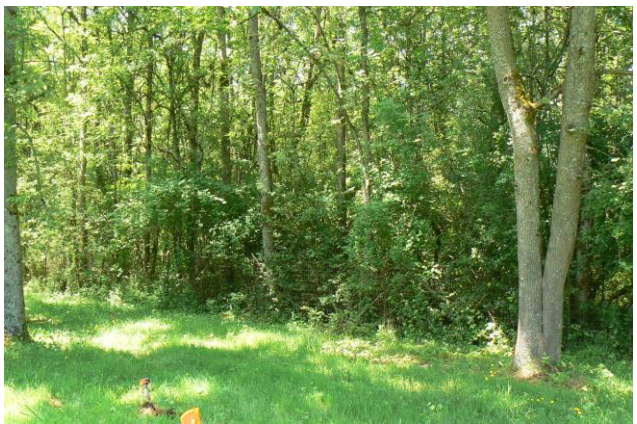
Based on the review of existing information and the routine on-site delineation method described by the Army Corps of Engineers (USACE), a wetland in the northwest corner of the site was delineated. The area within the flagged boundary, which meets all three wetland criteria, was marked in the field with orange flagging with ‘WETLAND BOUNDARY’ written in black lettering. The approximate wetland boundaries of the wetlands are shown in Figure 5. A description of the wetlands and surrounding uplands is found below.

4.1 WETLANDS

Wetland A (9,370 sq.ft – on-site)

Wetland A meets the criteria of a slope hydrogeomorphic (HGM) wetland class. On-site the wetland contains a sparse tree layer that is dominated by Oregon ash (*Fraxinus latifolia* – FACW). There is no shrub layer. Ground cover is predominantly by Kentucky bluegrass (*Poa pratensis* – FAC), creeping buttercup (*Ranunculus repens* – FAC) and vernalgrass (*Anthoxanthum odoratum* – FACU). Hydric soil characteristics generally include a silt loam with a dark brown (7.5YR 3/2) with dark yellowish brown concentrations in the top eight inches, below this is a very dark gray (10YR 3/1) silt loam with dark brown (7.5YR 3/4) concentrations to a depth of 16 inches. Wetland hydrology was indicated by the presence of oxidized rhizospheres and water stained leaves. A summary of the wetland information is given in Table 1 below. Wetland A rated as Category IV wetland according to the Western Washington Wetland Rating Form (WRF) (Table 2).

Table 1. Wetland A

Wetland A – INFORMATION SUMMARY		
Location:		
	Local Jurisdiction	Camas
	WRIA	28
	Ecology Rating (Hruby, 2004)	Category IV
	Camas Rating	Category IV
	Camas Buffer Width	50' – high intensity use
	Wetland Size	See Fig. 5
	Cowardin Classification	PEMF
	HGM Classification	Slope
	Wetland Data Sheet(s)	1
	Upland Data Sheet (s)	2
Flag color	Orange	
Dominant Vegetation	<i>Fraxinus latifolia, Poa pratensis, Ranunculus repens, Anthoxanthum odoratum</i>	
Soils	Low chroma matrix with concentrations	
Hydrology	oxidized rhizospheres	
Rationale for Delineation	meets all three wetland parameters.	
Rationale for Local Rating	low for all functions.	
Buffer Condition	Maintained Yard	

Photographs of the study and surrounding areas are shown in Photo-sheet 1.

4.2 WETLAND FUNCTIONAL ASSESSMENT

The on-site wetlands have been assessed using the Washington State Wetland Rating System for Western Washington (Hruby 2004). This rating system categorizes wetlands based on specific attributes such as rarity, sensitivity to disturbance, and functions. The system was designed to differentiate between wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide. Through a series of questions, the wetland rating system will yield a number for water quality functions, hydrologic functions, and habitat function, which yield a total score for functions. Based on the total score, the wetland is categorized as a Category I, II, III, or IV wetland. Table 2 below summarizes the wetland type, total score for functions, and category.

Table 2. Wetland Function Rating

Wetland	Wetland Type	Water Quality Functions	Hydrologic Functions	Habitat Functions	Total Score	Wetland Category
A	Slope	6	5	17	28	IV

4.3 NON-WETLANDS

The non-wetland portion of the study area contains two residences and outbuildings and is actively maintained. It is predominantly open grassland with patches of trees and shrubs. The grassland areas are predominantly vernalgrass, bluegrass, tall fescue (*Schedonorus arundinacea* – FAC) and a variety of upland forbs. There is a patch of Douglas-fir (*Psuedotsuga menziesii* – FACU) in the south-central portion of the site and the majority of the south property line contains a tree row. Blackberry occurs along the northern edge of the site. Soils in the non-wetland portion of the site are generally a brown (7.5YR 4/3 - & 7.5YR 5/4) silt loam with no hydric indicators. No wetland hydrology indicators were observed in the non-wetland portions of the study area.

5.0 REGULATORY ISSUES

The City of Camas Critical Areas Ordinance (16.53) provides for the protection of wetlands within the City’s jurisdiction. The ordinance establishes protective buffers associated with wetlands and specifies that certain permits or approvals be obtained for projects containing wetlands or their respective buffers. As mentioned above, Wetland A was rated with the wetland rating system developed by Washington Department of Ecology. This wetland rated as a Category IV wetland with a habitat score of less than 20 (Table 2). According to Table 16.53.040-1 of the critical areas ordinance, Category IV wetlands with a habitat function score less than 20 are to be protected with a 50-foot buffer adjacent high intensity land-use to protect water quality functions.

In addition to the City’s critical areas ordinance, jurisdictional wetlands are also regulated at the federal and state levels by the U.S. Army Corps of Engineers (USACE) and the Washington Department of Ecology (Ecology) under Sections 401 and 404 of the Clean Water Act, respectively. It is recommended that the USACE and Ecology be contacted regarding current permit requirements before proceeding with any development activities that would impact wetlands on this site.

The wetland boundaries and classifications shown in this report have been determined using the most appropriate field techniques and best professional judgment of the environmental scientist. It should be noted that USACE and City of Camas have the final authority in determining the wetland boundaries and categories under their respective jurisdictions. It is recommended that this delineation report be submitted to these agencies for concurrence prior to starting any development or planning activities that would affect wetlands or buffers on this site.

6.0 LITERATURE CITED

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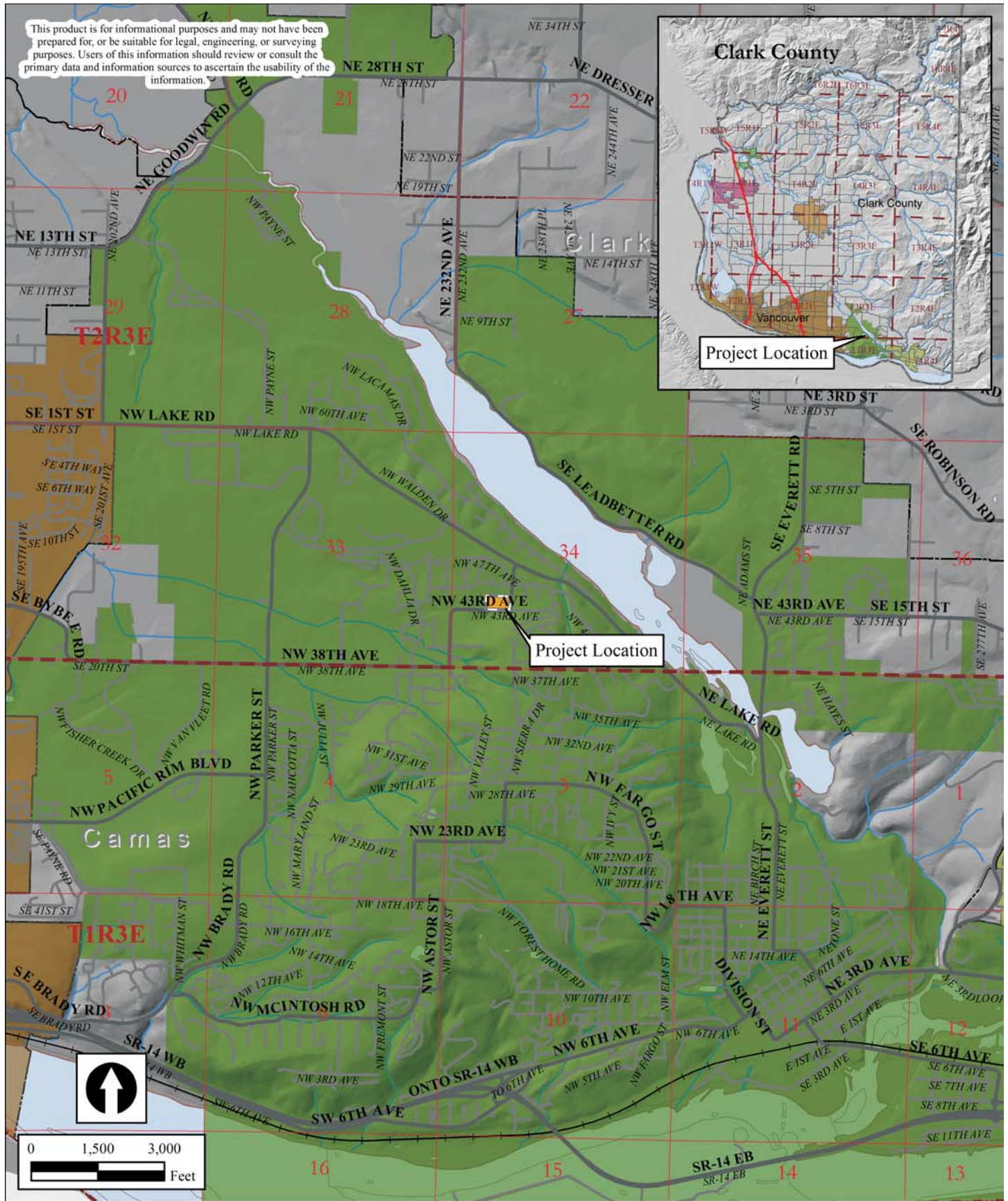
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**APPENDIX A –
WETLAND DETERMINATION DATA SHEETS**

**APPENDIX B –
WESTERN WASHINGTON WETLAND RATING FORM**

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Lacamas Meadows

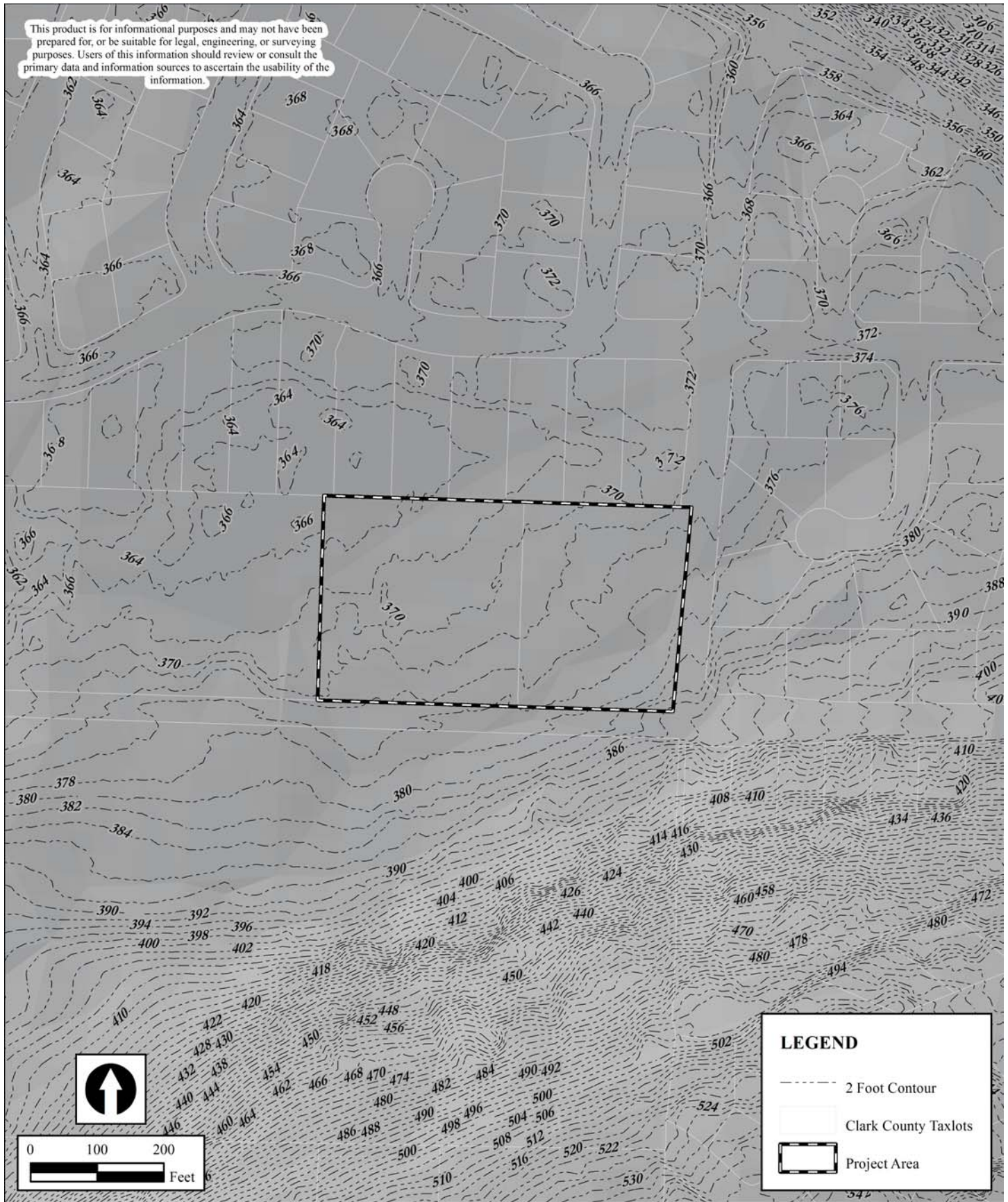
APPLICANT:
Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607
PURPOSE: Wetland Delineation
& Assessment

Project Location Map
Lacamas Meadows
Camas, Washington



PROPOSED ACTIVITIES IN:
Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 13, 2014
Figure 1

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Lacamas Meadows

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Delineation
 & Assessment

**Clark County LiDAR Topography
 Lacamas Meadows
 Camas, Washington**



**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,

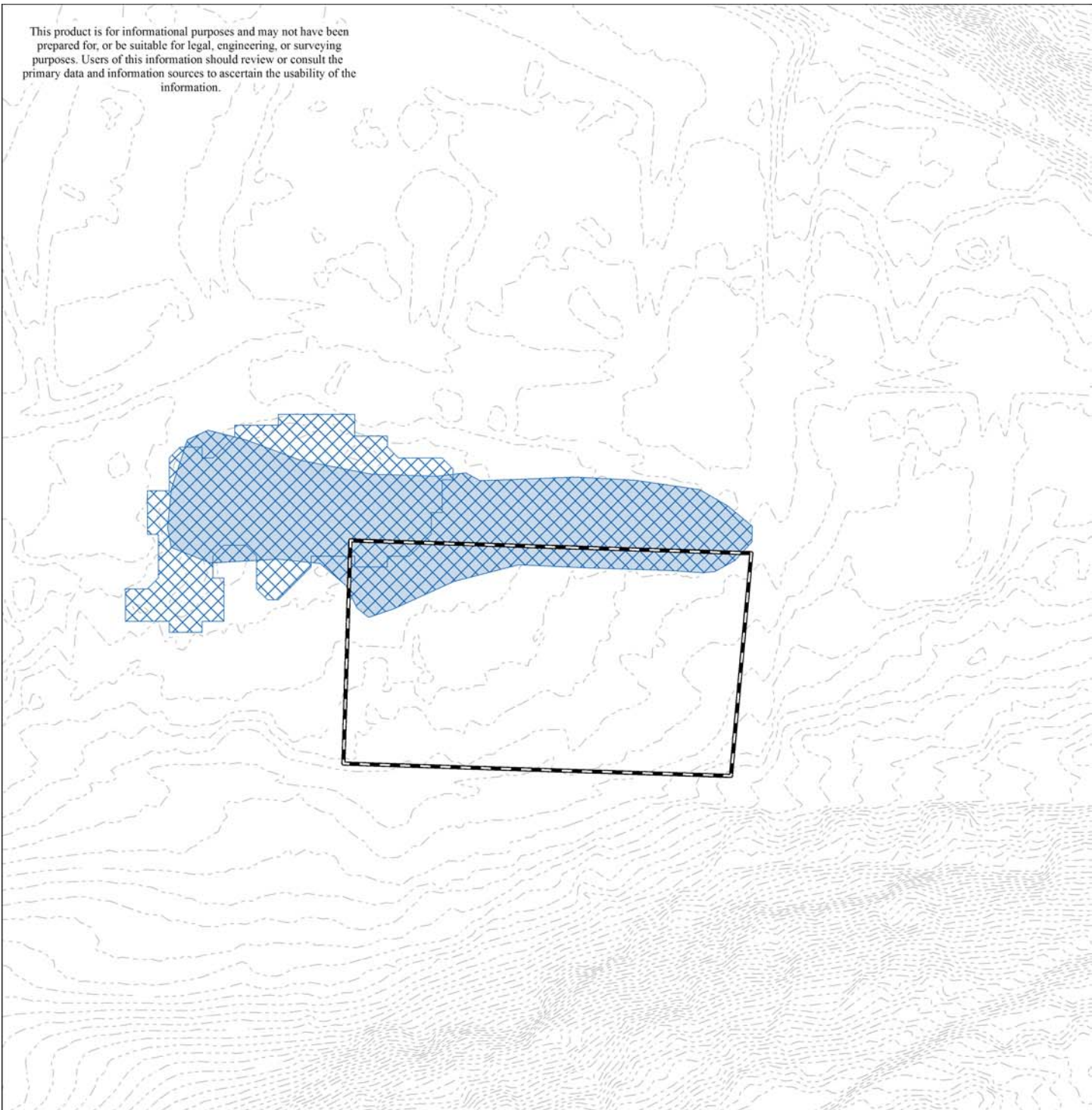
NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 13, 2014

Figure 2

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



LEGEND	
Local Wetland Inventory	National Wetland Inventory
Uplands	PFOC - Palustrine Forested, Seasonally Flooded
Wetlands	U - Upland
	2 Foot Contours
	Project Area

Lacamas Meadows

APPLICANT:
 Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607
PURPOSE: Wetland Delineation
 & Assessment

Local and National Wetland Inventories
Lacamas Meadows
Camas, Washington







PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 13, 2014
Figure 3

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



LEGEND

Map Unit Symbol

-  HcB—Hesson clay loam, 0 to 8 percent slopes
-  HcD—Hesson clay loam, 8 to 20 percent slopes
-  OdB—Odne silt loam, 0 to 5 percent slopes
-  Project Area

Lacamas Meadows

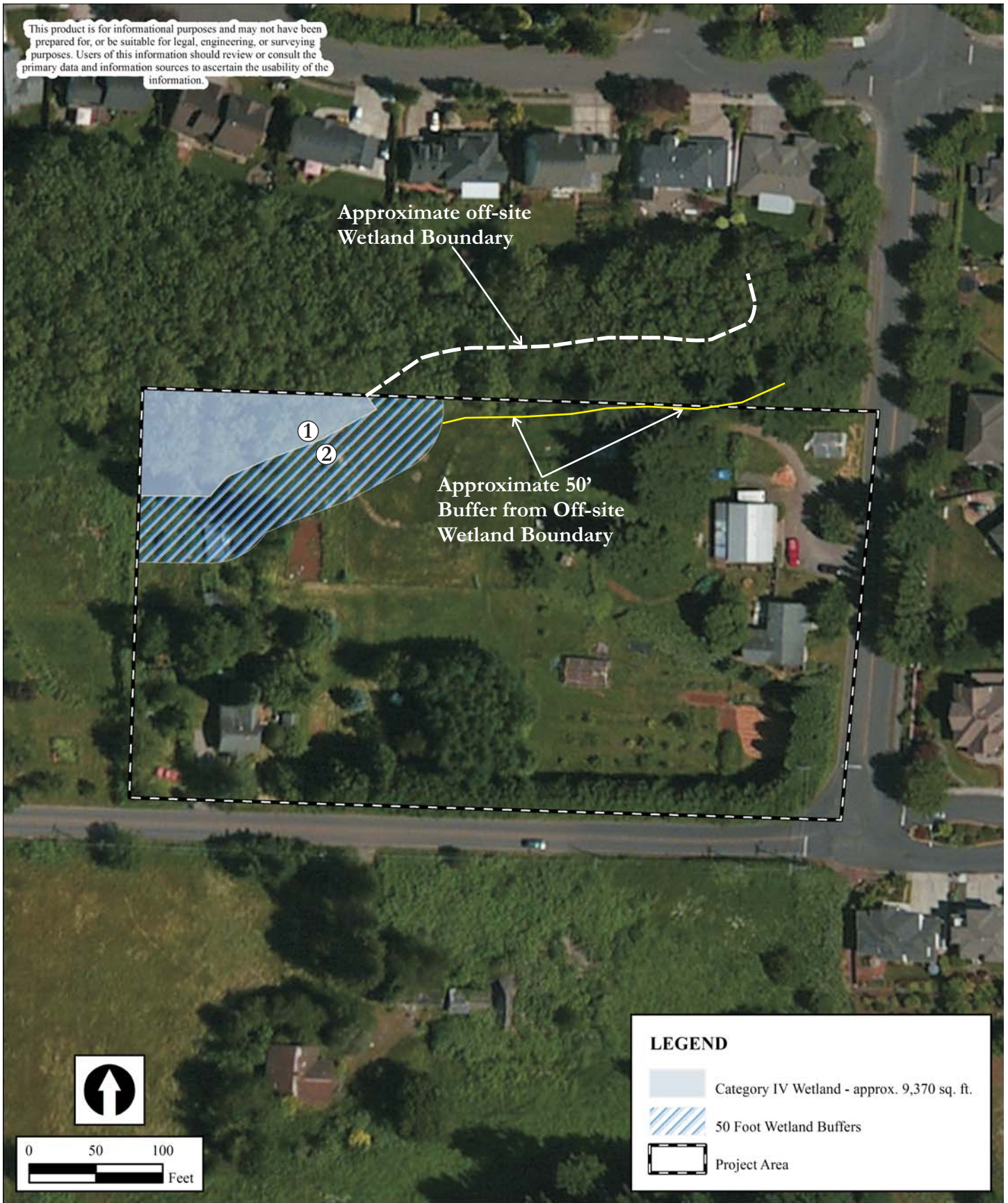
APPLICANT:
 Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607
PURPOSE: Wetland Delineation
 & Assessment

Clark County NRCS Soils
Lacamas Meadows
Camas, Washington



PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 13, 2014
Figure 4

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Lacamas Meadows

APPLICANT:
 Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607
PURPOSE: Wetland Delineation
 & Assessment

Approximate Wetland Boundaries
 Lacamas Meadows
 Camas, Washington

 **The Resource Company, Inc.**
 ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 13, 2014
Figure 5



Lacamas Meadows

APPLICANT:

Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607

PURPOSE: Wetland Delineation
& Assessment

**Project Photographs
Lacamas Meadows
Camas, Washington**



**The Resource
Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
WM.,

NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 13, 2014

Photo Sheet 1

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lacamas Meadows City/County: Camas/Clark County Sampling Date: 06/04/2014
 Applicant/Owner: Tom Strassenberg State: Washington Sampling Point: 1
 Investigator(s): Kevin Grosz - The Resource Company, Inc. Section, Township, Range: SW 14, T02N, R03E, W.M.
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 5ft)				
1. <u>Fraxinus latifolia</u>	<u>15</u>	Yes	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>15</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5ft)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Herb Stratum (Plot size: 5ft)				
1. <u>Ranunculus repens</u>	<u>40</u>	Yes	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Poa pratensis</u>	<u>35</u>	Yes	<u>FAC</u>	
3. <u>Anthoxanthum odoratum</u>	<u>15</u>	No	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>90</u>	= Total Cover		
Woody Vine Stratum (Plot size: 5m)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
	_____	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: _____				

SOIL

Sampling Point: 1 _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-8	7.5YR 3/2	80	10 YR 3/4	20	C	M	Silt Loam	
8-16	10YR 3/1	80	7.5YR 3/4	20	C	M	silt loam	

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lacamas Meadows City/County: Camas/Clark County Sampling Date: 06/04/2014
 Applicant/Owner: Tom Strassenberg State: Washington Sampling Point: 2
 Investigator(s): Kevin Grosz - The Resource Company, Inc. Section, Township, Range: SW 14, T02N, R03E, W.M.
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 5ft)				
1. <u>Pseudotsuga menziesii</u>	<u>15</u>	Yes	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)
2. <u>Fraxinus latifolia</u>	<u>10</u>	Yes	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>25</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5ft)				
1. <u>Amelanchier alnifolia</u>	<u>20</u>	Yes	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>20</u>	= Total Cover		
Herb Stratum (Plot size: 5ft)				
1. <u>Schedonorus arundinacea</u>	<u>20</u>	Yes	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Poa pratensis</u>	<u>10</u>	No	<u>FAC</u>	
3. <u>Anthoxanthum odoratum</u>	<u>40</u>	Yes	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>75</u>	= Total Cover		
Woody Vine Stratum (Plot size: 5ft)				
1. <u>Rubus discolor</u>	<u>15</u>	Yes	<u>FACU</u>	
2. _____	_____	_____	_____	
	<u>15</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: _____				

SOIL

Sampling Point: 2 _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	7.5YR 4/3	100					Silt loam	
6-16	7.5YR 5/4	100					silt loam	

Wetland name or number A

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Lacamas Meadows Date of site visit: 06/04/14

Rated by Kevin Grosz Trained by Ecology? Yes No Date of training 2/07

SEC sw34 TWNSHP: 2N RNGE: 3E Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure 5 Estimated size _____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III IV

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	6
Score for Hydrologic Functions	5
Score for Habitat Functions	17
TOTAL score for Functions	28

Category based on SPECIAL CHARACTERISTICS of wetland

I II Does not Apply

Final Category (choose the "highest" category from above)

IV

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	
Natural Heritage Wetland	Riverine	
Bog	Lake-fringe	
Mature Forest	Slope	X
Old Growth Forest	Flats	
Coastal Lagoon	Freshwater Tidal	
Interdunal		
None of the above	Check if unit has multiple HGM classes present	<input type="checkbox"/>

Wetland name or number A

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?

NO – go to 2 YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe** NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine wetlands**. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3 YES – The wetland class is **Flats**

If your wetland can be classified as a “Flats” wetland, use the form for **Depressional wetlands**.

3. Does the entire wetland unit **meet both** of the following criteria?

The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO – go to 4 YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

The wetland is on a slope (*slope can be very gradual*),

The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

The water leaves the wetland **without being impounded**?

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).

NO - go to 5 YES – The wetland class is **Slope**

5. Does the entire wetland unit **meet all** of the following criteria?

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

The overbank flooding occurs at least once every two years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

- go to 6 **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

- go to 7 **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

- go to 8 **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. **NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

<i>HGM Classes within the wetland unit being rated</i>	<i>HGM Class to Use in Rating</i>
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)
S	S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	<i>(see p.64)</i>
S	S 1.1 Characteristics of average slope of unit: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	1
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES = 3 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > 1/2 of area points = 2 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure <u> </u> 2
S	Total for S 1 <i>Add the points in the boxes above</i>	3
S	S 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. <ul style="list-style-type: none"> — Grazing in the wetland or within 150ft — Untreated stormwater discharges to wetland — Tilled fields, logging, or orchards within 150 feet of wetland X Residential, urban areas, or golf courses are within 150 ft upslope of wetland — Other _____ YES multiplier is 2 NO multiplier is 1	<i>(see p.67)</i> multiplier <u> </u> 2
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 <i>Add score to table on p. 1</i>	6

Comments

S Slope Wetlands		Points (only 1 score per box)
HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion		
S	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	<i>(see p.68)</i>
S	<p>S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. <i>Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)</i></p> <p>Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 6</p> <p>Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3</p> <p>Dense, uncut, rigid vegetation > 1/4 area points = 1</p> <p>More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0</p>	3
S	<p>S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area.</p> <p style="text-align: right;">YES points = 2 NO points = 0</p>	2
S	<i>Add the points in the boxes above</i>	5
S	<p>S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i></p> <p style="margin-left: 20px;">— Wetland has surface runoff that drains to a river or stream that has flooding problems</p> <p style="margin-left: 20px;">— Other _____</p> <p><i>(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam)</i></p> <p>YES multiplier is 2 NO multiplier is 1</p>	<i>(see p. 70)</i> multiplier <u> 1 </u>
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 <i>Add score to table on p. 1</i>	16

Comments

<i>These questions apply to wetlands of all HGM classes.</i>		Points (only 1 score per box)																								
HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat																										
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?																										
<p>H 1.1 <u>Vegetation structure</u> (see p. 72)</p> <p>Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres.</p> <p><input type="checkbox"/> Aquatic bed</p> <p><input checked="" type="checkbox"/> Emergent plants</p> <p><input checked="" type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover)</p> <p><input checked="" type="checkbox"/> Forested (areas where trees have >30% cover)</p> <p>If the unit has a forested class check if:</p> <p><input checked="" type="checkbox"/> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon</p> <p>Add the number of vegetation structures that qualify. If you have:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"></td> <td style="width: 25%;">4 structures or more</td> <td style="width: 25%;">points = 4</td> </tr> <tr> <td>Map of Cowardin vegetation classes</td> <td>3 structures</td> <td>points = 2</td> </tr> <tr> <td></td> <td>2 structures</td> <td>points = 1</td> </tr> <tr> <td></td> <td>1 structure</td> <td>points = 0</td> </tr> </table>			4 structures or more	points = 4	Map of Cowardin vegetation classes	3 structures	points = 2		2 structures	points = 1		1 structure	points = 0	<p>Figure <u> </u></p> <p style="text-align: center;">4</p>												
	4 structures or more	points = 4																								
Map of Cowardin vegetation classes	3 structures	points = 2																								
	2 structures	points = 1																								
	1 structure	points = 0																								
<p>H 1.2. <u>Hydroperiods</u> (see p. 73)</p> <p>Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Permanently flooded or inundated</td> <td style="width: 25%;">4 or more types present</td> <td style="width: 25%;">points = 3</td> </tr> <tr> <td><input checked="" type="checkbox"/> Seasonally flooded or inundated</td> <td>3 types present</td> <td>points = 2</td> </tr> <tr> <td><input checked="" type="checkbox"/> Occasionally flooded or inundated</td> <td>2 types present</td> <td>point = 1</td> </tr> <tr> <td><input type="checkbox"/> Saturated only</td> <td>1 type present</td> <td>points = 0</td> </tr> <tr> <td><input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Lake-fringe wetland = 2 points</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Freshwater tidal wetland = 2 points</td> <td></td> <td></td> </tr> </table> <p style="text-align: right;">Map of hydroperiods</p>		<input type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3	<input checked="" type="checkbox"/> Seasonally flooded or inundated	3 types present	points = 2	<input checked="" type="checkbox"/> Occasionally flooded or inundated	2 types present	point = 1	<input type="checkbox"/> Saturated only	1 type present	points = 0	<input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland			<input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland			<input type="checkbox"/> Lake-fringe wetland = 2 points			<input type="checkbox"/> Freshwater tidal wetland = 2 points			<p>Figure <u> </u></p> <p style="text-align: center;">1</p>
<input type="checkbox"/> Permanently flooded or inundated	4 or more types present	points = 3																								
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<input type="checkbox"/> Freshwater tidal wetland = 2 points																										
<p>H 1.3. <u>Richness of Plant Species</u> (see p. 75)</p> <p>Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold)</p> <p>You do not have to name the species.</p> <p>Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle</p> <p>If you counted:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"></td> <td style="width: 25%;">> 19 species</td> <td style="width: 25%;">points = 2</td> </tr> <tr> <td>List species below if you want to:</td> <td>5 - 19 species</td> <td>points = 1</td> </tr> <tr> <td></td> <td>< 5 species</td> <td>points = 0</td> </tr> </table>			> 19 species	points = 2	List species below if you want to:	5 - 19 species	points = 1		< 5 species	points = 0	<p style="text-align: center;">6</p>															
	> 19 species	points = 2																								
List species below if you want to:	5 - 19 species	points = 1																								
	< 5 species	points = 0																								

Total for page 3

<p>H 1.4. Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.</p> <p>None = 0 points Low = 1 point Moderate = 2 points</p> <p>High = 3 points [riparian braided channels]</p> <p>NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes</p>	<p>Figure <u> </u></p> <p style="text-align: right;">3</p>
<p>H 1.5. Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.</p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet turned grey/brown</i>)</p> <p><input checked="" type="checkbox"/> At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants</p> <p>NOTE: The 20% stated in early printings of the manual on page 78 is an error.</p>	<p style="text-align: right;">1</p>
<p style="text-align: right;">H 1. TOTAL Score - potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5</p>	<p style="text-align: right;">10</p>

Comments

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
<p>H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."</p> <ul style="list-style-type: none"> — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <ul style="list-style-type: none"> — No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2 <input checked="" type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — Heavy grazing in buffer. Points = 1 — Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) Points = 0. — Buffer does not meet any of the criteria above. Points = 1 <p style="text-align: center;">Aerial photo showing buffers</p>	<p>Figure <u> </u></p> <p style="text-align: center;">2</p>
<p>H 2.2 Corridors and Connections (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3</p> <p>H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = 1 point NO = 0 points</p>	<p style="text-align: center;">1</p>

Total for page 3

<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)</u> Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the connections do not have to be relatively undisturbed.</i></p> <p><input type="checkbox"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</p> <p><input type="checkbox"/> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).</p> <p><input type="checkbox"/> Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input checked="" type="checkbox"/> Old-growth/Mature forests: (<u>Old-growth west of Cascade crest</u>) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (<u>Mature forests</u>) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.</p> <p><input type="checkbox"/> Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158</i>).</p> <p><input type="checkbox"/> Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (<i>full descriptions in WDFW PHS report p. 161</i>).</p> <p><input type="checkbox"/> Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (<i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A</i>).</p> <p><input type="checkbox"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p> <p><input type="checkbox"/> Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.</p> <p style="padding-left: 20px;">If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points</p> <p><i>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)</i></p>	<p>1</p>
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Wetland name or number A

<p>H 2.4 <u>Wetland Landscape</u> (choose the <i>one</i> description of the landscape around the wetland that best fits) (see p. 84)</p> <p>There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5</p> <p>The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5</p> <p>There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3</p> <p>The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3</p> <p>There is at least 1 wetland within ½ mile. points = 2</p> <p>There are no wetlands within ½ mile. points = 0</p>	3
<p>H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	7
<p>TOTAL for H 1 from page 14</p>	10
<p>Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1</p>	17

<p>SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? (this question is used to screen out most sites, before you need to contact WNHP/DNR) S/T/R information from Appendix D <input type="checkbox"/> or accessed from WNHP/DNR web site <input type="checkbox"/></p> <p>YES <input type="checkbox"/> - contact WNHP/DNR (see p. 79) and go to SC 2.2 NO <input checked="" type="checkbox"/></p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO <input checked="" type="checkbox"/> not a Heritage Wetland</p>	<p>Cat. I</p>
<p>SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <ol style="list-style-type: none"> 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 <input checked="" type="checkbox"/> No - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 <input checked="" type="checkbox"/> No Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes - Is a bog for purpose of rating <input checked="" type="checkbox"/> No go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. <ol style="list-style-type: none"> 1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? 2. YES = Category I No <input checked="" type="checkbox"/> Is not a bog for purpose of rating 	<p>Cat. I</p>

<p>SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. <p style="margin-left: 40px;">NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.</p> <ul style="list-style-type: none"> — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. <p>YES = Category I NO <u>X</u> not a forested wetland with special characteristics</p>	<p>Cat. I</p>
<p>SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p>YES = Go to SC 5.1 NO <u>X</u> not a wetland in a coastal lagoon</p> <p>SC 5.1 Does the wetland meets all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) <p>YES = Category I NO = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>

Wetland name or number A

<p>SC 6.0 Interdunal Wetlands (<i>see p. 93</i>)</p> <p>Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)?</p> <p>YES - go to SC 6.1 NO <u> </u> not an interdunal wetland for rating</p> <p><i>If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none">• Long Beach Peninsula- lands west of SR 103• Grayland-Westport- lands west of SR 105• Ocean Shores-Copalis- lands west of SR 115 and SR 109 <p>SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?</p> <p>YES = Category II <input checked="" type="checkbox"/> NO - go to SC 6.2</p> <p>SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?</p> <p>YES = Category III</p>	<p>Cat. II</p> <p>Cat. III</p>
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the "highest" rating if wetland falls into several categories, and record on p. 1.</i></p> <p>If you answered NO for all types enter "Not Applicable" on p. 1</p>	<p>NA</p>



Allyson Brooks Ph.D., Director
State Historic Preservation Officer

October 23, 2014

Ms. Sarah Fox
Planner I
City of Camas
616 NE 4th Avenue
Camas, WA 98607

In future correspondence please refer to:

Log: 102314-16-CL

Property: Lacamas Meadows Predetermination Report, ASCC -14083

Re: Archaeology - Concur with Survey, Please add Inadvertent Discovery Language to Permit

Dear Ms. Fox:

We have reviewed the predetermination report for the Lacamas Meadows PRD project. We agree that no further archaeological work is necessary at this time. If plans change and any development takes place outside of the areas surveyed during this predetermination study, further archaeological predetermination work should take place. The following inadvertent discovery procedures should be followed in case of an inadvertent find:

Should archaeological materials (e.g. bones, shell, stone tools, beads, ceramics, old bottles, hearths, etc.) be observed during project activities, all work in the immediate vicinity should stop and the State Department of Archaeology and Historic Preservation (360-586-3065), the County planning office, and the affected Tribe(s) should be contacted immediately. If any human remains are observed, all work should cease and the immediate area secured. Local law enforcement, the county medical examiner (360-397-8405), State Physical Anthropologist, Department of Archaeology and Historic Preservation (360-586-3534), the County planning office, and the affected Tribe(s) should be contacted immediately. Compliance with all applicable laws pertaining to archaeological resources (RCW 27.53, 27.44 and WAC 25-48) and human remains (RCW 68.50) is required. Failure to comply with this requirement could constitute a Class C Felony.

The Cowlitz Tribe has also requested that inadvertent discovery language be added to the permit (see attached). Thank you for the opportunity to review and comment. Should you have any questions, please feel free to contact me.

Sincerely,



Gretchen Kaehler
Local Governments Archaeologist
(360) 586-3088
gretchen.kaehler@dahp.wa.gov

cc. Tony Johnson, Cultural Resources, Chinook Tribe
Jordan Mercier, Cultural Resources, Grand Ronde Tribes
dAVE Burlingame, Cultural Resources, Cowlitz Tribe
Richard Bellon, Archaeologist, Chehalis Tribe
Sally Bird, Cultural Resources, Warm Springs Tribe





Figure 8. Aerial photomap of the project area showing locations of shovel test probes (STPs) and approximate location of delineated wetlands (green).



COWLITZ INDIAN TRIBE

Cultural Resources Department

P.O. Box 2547 • 1055 9th Ave. Suite C • Longview, WA 98632

360.577.6962 • 577.6207 (f) • cowlitz.org



INADVERTENT DISCOVERY LANGUAGE

[revised 130708]

In the event any archaeological or historic materials are encountered during project activity, work in the immediate area (initially allowing for a 100' buffer; this number may vary by circumstance) must stop and the following actions taken:

1. Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; and
2. Take reasonable steps to ensure the confidentiality of the discovery site; and,
3. Take reasonable steps to restrict access to the site of discovery.

The project proponent will notify the concerned Tribes and all appropriate county, state, and federal agencies, including the Department of Archaeology and Historic Preservation (SHPO in Oregon). The agencies and Tribe(s) will discuss possible measures to remove or avoid cultural material, and will reach an agreement with the project proponent regarding actions to be taken and disposition of material.

If human remains are uncovered, appropriate law enforcement agencies shall be notified first, and the above steps followed. If the remains are determined to be Native, consultation with the affected Tribes will take place in order to mitigate the final disposition of said remains.

See the Revised Code of Washington, Chapter 27.53, "Archaeological Sites and Resources," for applicable state laws and statutes. See also Washington State Executive Order 05-05, "Archaeological and Cultural Resources." Additional state and federal law(s) may also apply.

It is strongly encouraged copies of this plan are retained on-site while project activity is underway.

Contact information:

dAVe burlingame
Director, Cultural Resources
360.577.6962
508.1677 cell
577.6207 fax
culture@cowlitz.org



SEPA ENVIRONMENTAL CHECKLIST

UPDATED 2014

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. background

1. Name of proposed project, if applicable: *Meadows Subdivision*
2. Name of applicant: *Lacamas Meadows, LLC*

3. Address and phone number of applicant and contact person:

200 SE 197th Place, Camas, WA 98607, phone (360)600-5532, contact person: Tom Strassenberg

4. Date checklist prepared: *January 5, 2015*

5. Agency requesting checklist: *City of Camas, Washington*

6. Proposed timing or schedule (including phasing, if applicable):

Construction will likely proceed in the spring of 2015 or as soon as all required permits are obtained. The project is proposed to be developed in one phase.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Several studies have been completed in preparation for the preliminary subdivision plat application. Archaeological Services, LLC prepared an archaeological pre-determination on the site. The Resource Company completed a review of the site's critical areas. As a result of their investigations, they have prepared a Wetland Delineation and Assessment document. Finally, Chris Baumann with Planning Solutions completed an evaluation of the trees on the site. All of these documents will be submitted concurrent with the Preliminary Subdivision Plat application.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No other applications are known to be pending approval that will directly affect this project.

10. List any government approvals or permits that will be needed for your proposal, if known.

Preliminary subdivision plat approval, final engineering construction drawing approval, SEPA determination and grading permit from the City of Camas. A construction stormwater NPDES permit will be required from the Washington State Department of Ecology.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The applicant is proposing a 15 lot single family residential subdivision on approximately 3.78 acres in the City of Camas. In addition to the residential lots, the site will contain a tract of land that will contain the wetlands, wetland buffer and stormwater facility for the development. In association with the site development, a private road system will be developed on the site and public sewer and water main extensions will take place.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The site is located at the northwest corner of the intersection of NW 43th Avenue and NW Sierra Street. The property contains two tax lots with an address for each tax lot to include 4313 NW Sierra Street, and 2129 NW 43rd Avenue, Camas, WA 98607. The property is in the SW ¼ of Section 34, Township 2 North, Range 3 East.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site

(circle one): **Flat**, rolling, hilly, steep slopes, mountainous,
other _____

b. What is the steepest slope on the site (approximate percent slope)?

Approximately 6-8%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The site is mapped by the Natural Resource Conservation Service (NRCS) as containing two soil types Hesson clay loam and Odne silt loam soils. The Hesson soils are mapped on the east and south portions of the site and cover approximately 2/3 of the site. The Odne soils are located in the northwest corner and cover approximately 1/3 of the site. Hesson clay loam soils are considered farmland of statewide significance.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There are no known unstable soils in the immediate area.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Approximately 3.7 acres of the site will be stripped of organics and graded to prepare the site for roads, homes and utilities. There will be approximately 3,200 cubic yard of cut and 3,700 cubic yards of fill. Grading quantities are preliminary and may change during final design.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, unprotected soils on the site could erode. However, submission of an Erosion Control Plan with specific erosion control BMPs will be required prior to final plan approval and initiation of construction activities.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 50%.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Design and implementation of an erosion control plan will take place prior to construction. If any construction areas drain toward adjacent properties, silt fence will be installed to protect the downslope areas. Stormwater inlets will be protected with inlet protection and a construction entrance will be installed where construction vehicles will enter the construction area. Exposed soils will be stabilized as quickly as possible either through temporary seeding and ground cover by hay, straw, or tarps or through permanent cover with gravel surfacing and paving. The site's stormwater facilities will serve as sediment traps during construction and additional measures will also likely be implemented as needed depending on the time of year that construction is taking place.

2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Vehicle emissions will take place from the construction vehicles. It is also possible that some dust will be generated during dry conditions. When the project is complete, emissions from the vehicles of the new residents will occur. Quantities of emissions are unknown.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Water trucks will be used to control dust during construction should it become necessary. Presumably the construction equipment will be required to comply with modern emissions regulations.

3. Water

- a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes. The site contains a Category IV wetland located in the northwest corner of the site covering a total of approximately 7,880 square feet. The runoff from the site ultimately will drain to the wetlands, then Dwyer Creek, then LaCamas Creek and into LaCamas Lake.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes. There is a 50' buffer associated with the wetlands and the storm facility encroaches 25' into the buffer.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Generally speaking, it is not anticipated that groundwater will be withdrawn in association with this project. It is possible that temporary pumping of groundwater may be necessary in order to facilitate utility construction through dewatering, depending on groundwater conditions at the time of construction. If dewatering is necessary to complete the construction, it is unknown how much water might be pumped. Water will not be discharged to groundwater.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater runoff from the site will increase as a result of the construction of the future homes, driveways, and roads. The water will be collected by storm inlets in the road system and then directed by storm sewer piping to a stormwater facility located on the site which will mitigate the impacts of the construction by providing treatment and detention of the runoff. Detention and treatment will be accomplished with a combined detention-wetpond. The stormwater will outfall to the wetlands in the northwest corner of the site.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

Yes, if waste materials were somehow released or dumped into surface runoff flows, substances associated with the source material could enter ground or other surface waters. However, the potential for this will be greatly reduced by proper use of erosion and sediment control BMPs during construction and through the construction of the site's permanent stormwater treatment facilities described above.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

As mentioned above, runoff rates will increase as a result of development, but the increases will be mitigated for through the construction of stormwater detention ponds.

- d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

See above responses related to stormwater treatment and detention.

4. Plants

- a. Check the types of vegetation found on the site:

deciduous tree: **Birch, Apple, Alder, Oregon Ash**

evergreen tree: **Hemlock, Cedar,**

shrubs: **blackberry**

grass

pasture

crop or grain

Orchards, vineyards or other permanent crops.

wet soil plants: **Kentuck bluegrass, creeping buttercup, vernalgrass**

water plants: water lily, eelgrass, milfoil, other

other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?

Most existing vegetation will be removed from the site as it is developed into a residential subdivision. Essentially all vegetation will be removed from proposed residential lots, roadway areas, and stormwater facility areas in order to allow for site construction. Three Oregon white

oak trees in lot areas are proposed for retention due to their habitat function. Vegetation will be retained in the wetland areas and the majority of the wetland buffers as well as in several open space tracts on the site. However, trees in the open space tracts that are close to roadways and houses will need to be removed in order to avoid creating hazardous situations due to potential tree falls.

- c. List threatened and endangered species known to be on or near the site.

None known.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Tract A within the proposed development will be vegetated and will provide environments suitable for native vegetation. A portion of the tract will include the stormwater facility and approximately 0.25 acre will be protected open space that contains the wetland and wetland buffer. Additionally street trees will be planted throughout the subdivision in accordance with City of Camas requirements and it is likely that at least one tree will also be planted on each new residential lot.

- e. List all noxious weeds and invasive species known to be on or near the site.

There are areas of non-native blackberries on parts of the site.

5. Animals

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: ***hawk, heron, eagle, songbirds***, other: *Due to the proximity of Lacamas Creek and Lacamas Lake, a variety of other birds are anticipated to live in relatively close proximity to the site.*

mammals: ***deer***, bear, elk, beaver, ***other: Small mammals such as mice, rabbits, squirrels, raccoons and other rodents likely live on or near the site. It is also quite possible that some larger mammals such as coyote or cougars may periodically pass through the site***

fish: bass, salmon, ***trout***, herring, shellfish, ***other yellow perch.*** ***There are no fish on the site but rainbow and brown trout are stocked in Lacamas Lake to the south and the lake also contains yellow perch.***

- b. List any threatened and endangered species known to be on or near the site.

Unknown.

- c. Is the site part of a migration route? If so, explain.

The site is located within the Pacific Flyway for migratory waterfowl.

- d. Proposed measures to preserve or enhance wildlife, if any:

Protection of open space areas as discussed in section 4 above will help to maintain some wildlife opportunities on the site.

e. List any invasive animal species known to be on or near the site.

None known.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Primary sources of energy will likely be electric and natural gas. However, it is also possible some of the homes may have wood stoves or alternative sources of power.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The homes constructed on the site will be required to comply with modern building codes which contain some energy conservation requirements.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

None known.

1) Describe any known or possible contamination at the site from present or past uses.

None known.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

The construction equipment will use gas or diesel fuel as would be typical of any project involving heavy construction.

4) Describe special emergency services that might be required.

No special emergency services outside those normally expected in a residential area are anticipated to be required in association with the proposal.

5) Proposed measures to reduce or control environmental health hazards, if any:

None known at this time.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

There is some existing traffic noise from surrounding roadways but it will not have an impact on the project.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

A slight increase in traffic noise over the long term may occur due to the new residents. In addition, construction noise would occur during the short term when the site and homes are under construction. These construction noises will occur during approved hours as regulated by the City of Camas and Washington State.

- 3) Proposed measures to reduce or control noise impacts, if any:

Construction will be limited to approved working hours.

8. Land and shoreline use

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site currently contains 2 single family residences and 4 outbuildings and is overgrown with brush and scattered trees. Property to the north and east are developed residential homes. Property to the south is a recently constructed subdivision. The property to the west is a large residential lot. The proposal should not affect adjacent land uses.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

Unknown.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversized equipment access, the application of pesticides, tilling, and harvesting? If so, how:

Not applicable.

- c. Describe any structures on the site.

There are two existing homes and several outbuildings on the site.

- d. Will any structures be demolished? If so, what?

One of the homes and all of the outbuildings will be demolished. One home will remain.

e. What is the current zoning classification of the site?

R-7.5 single family residential.

f. What is the current comprehensive plan designation of the site?

SFM – Single family - Medium.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

The site contains a Category IV wetland with associated 50' buffers.

i. Approximately how many people would reside or work in the completed project?

Based on an estimate of approximately 2.7 people per household, approximately 41 people would be anticipated to live in the completed project.

j. Approximately how many people would the completed project displace?

Three.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The proposed use is consistent with the zoning and comprehensive plan designation for the area. Overall densities proposed on the site are consistent with the site zoning. The single family housing use is consistent with adjacent properties that have undergone development.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

None.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

15, likely to be primarily high or middle-income.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

One.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
Not known at this time, but it is anticipated all houses will comply with the zoning regulations limiting building heights to 35'.
- b. What views in the immediate vicinity would be altered or obstructed?
The views for properties in the area that can see the site will be modified through the construction of homes and removal of most of the trees from the property.
- c. Proposed measures to reduce or control aesthetic impacts, if any:
Trees on the site will be retained to the extent feasible including all of the trees located within the wetland area. It is expected that trees and shrubs will be planted on the new residential lots as they are developed.

11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
Light will be produced by the new homes and the street lighting. It will primarily occur at night.
- b. Could light or glare from the finished project be a safety hazard or interfere with views?
It is not likely to be a safety hazard. There will likely be some increase in light levels along the property boundary compared to existing conditions.
- c. What existing off-site sources of light or glare may affect your proposal?
None.
- d. Proposed measures to reduce or control light and glare impacts, if any:
Street lighting will be designed only to levels necessary to meet City requirements and provide safe conditions and will be directed toward the streets, not adjacent properties.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?
Lacamas Lake and Lacamas Park are in the immediate vicinity of the site.
- b. Would the proposed project displace any existing recreational uses? If so, describe.
No.
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
None.

13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

According to Clark County records, the house on tax lot 26 was constructed in 1950 and the house on tax lot 17 was constructed in 1947. Both homes do not appear to have any historical significance.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

There are no known landmarks, features, or other evidence of Indian or historic use or occupation. There is no known material evidence, artifacts, or areas of cultural importance on the site. An archaeological Pre-Determination was performed by Archaeological Services, LLC and determined that no archaeological materials were observed.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

An archaeological Pre-Determination was performed by Archaeological Services, LLC and determined that no archaeological materials were observed. The predetermination was sent to the Department of Archaeology & Historic Preservation (DAHP) and a determination from DAHP stated that no further archaeological work is necessary.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None.

14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The proposed private street within the site will connect to NW Sierra Street, a public roadway, Sierra will then connect to the existing public street system.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

No.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

New on-street parking as well as parking in driveways and garages on the lots will be provided. The project would only eliminate the parking that currently exists in the driveway of the one home that will be removed.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

Frontage improvements meeting the city's standard will be provided.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The site will not use water, rail or air transportation and is not located in the immediate vicinity of those types of transportation facilities.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Based on the 9th Edition of the ITE Trip Generation Manual, it is expected that the project would generate approximately 144 average daily vehicular trips. Peak volumes would occur in the morning hours of approximately 7:00 to 9:00 and the early evening hours of approximately 4:00 to 6:00. The percentage of the traffic volume from the site that will be trucks and commercial vehicles will be negligible.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

Not likely.

- h. Proposed measures to reduce or control transportation impacts, if any:

Frontage roadways will be widened and improved to meet the City's standards. Traffic impact fees will be paid by the builders of the new homes. Those fees will help fund new road projects and upgrades to existing transportation facilities.

15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The addition of new residents to the area will result in some additional demands on the various public services provided by the community (schools, emergency and police services, health care, etc) as is expected with any residential growth.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

Payment of property taxes, impact fees, and system development charges.

16. **Utilities**

a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system,
other _____

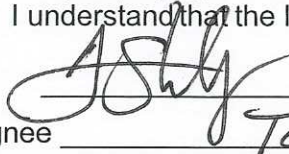
b. Describe the utilities that are proposed for the project, the utility providing the service,
and the general construction activities on the site or in the immediate vicinity which might
be needed.

*Sanitary sewer and water-City of Camas, cable TV-Comcast, Electrical power-Clark PUD, Natural
Gas-Northwest Natural, Telephone-CenturyLink, refuse-City of Camas.*

C. Signature

Under the penalty of perjury, the above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____



Name of signee _____

Tom Strassenberg

Position and Agency/Organization _____

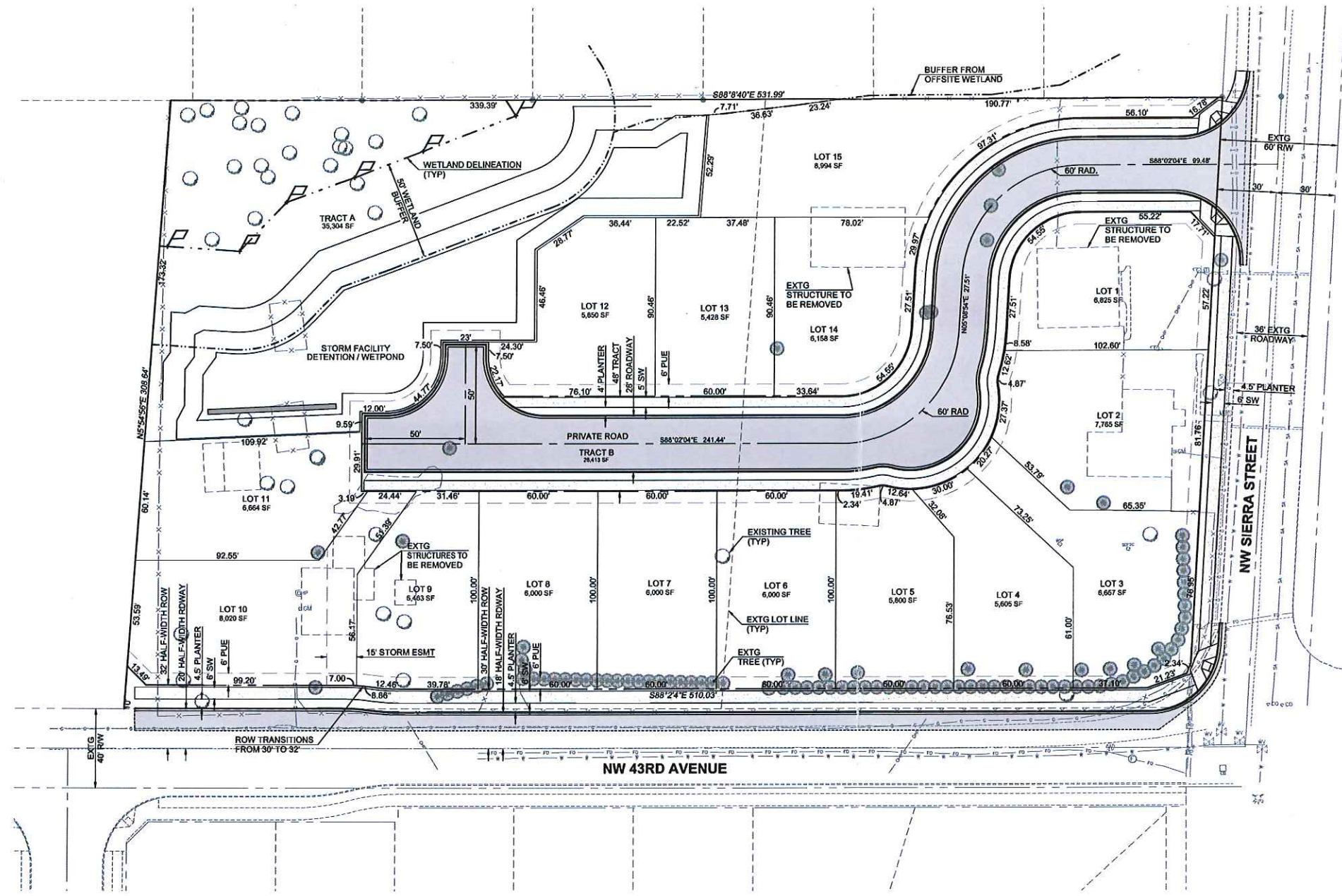
Manager Lewisville Meadows LLC

Date Submitted: _____

1-22-15

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsenvironment.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

This project is within the R-7.5 zone of Camas, a Single-family Residential zone. The comprehensive plan designation for the site is SFM.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

Dimensional standards are noted below. Applicant will utilize density transfer with this application.

Lot Setbacks:
Front = 20'
Side = 5'
Street Side = 20' / Requesting 15'
Rear = 25'

Site Area - 3.78 acres (164,694 sq ft).

Total Number of Lots = 15

Minimum Lot Size = 5,420 sq ft
Maximum Lot Size = 8,994 sq ft
Average Lot Size = 6,522 sq ft

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

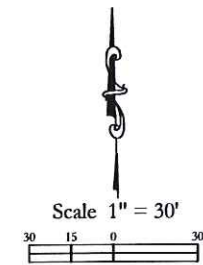
School District = Camas

Fire District = Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.



Preliminary Plat For:
Meadows Subdivision
A Short Plat Located In Camas, Washington

Revisions	
1	
2	
3	
4	

Project No. 2402
SCALE: H: 1" = 30' V: N/A
DESIGNED BY: TGI
DRAFTED BY: TGI
REVIEWED BY: AJG

1 / 1

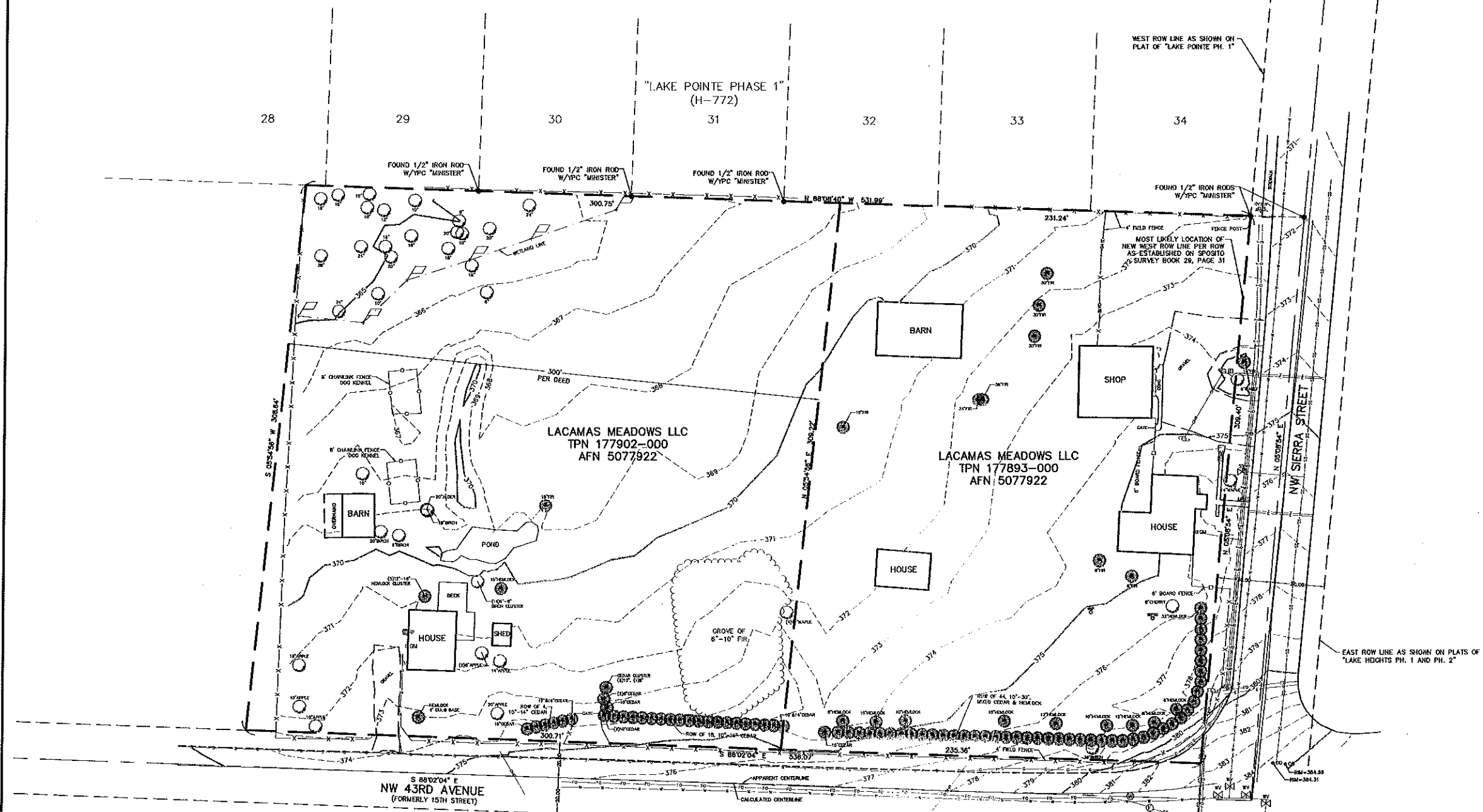
PLS ENGINEERING

Consulting Engineers & Planners 2008 C Street, Vancouver, WA 98663 PH (360) 944-6519 Fax (360) 944-6539

EXISTING CONDITIONS SURVEY

OF
A PORTION OF THE SOUTHWEST
QUARTER OF SECTION 34
T. 2 N., R. 3 E., W. M.,
CITY OF CAMAS
CLARK COUNTY, WASHINGTON

JOB NO.: 14-150
DATA COLLECT: 06-16-14, 06-20-14 AND 06-25-14,
11-18-14
UPDATED DRAWING DATE: 11-19-14



- LEGEND:**
- ⊗ INDICATES WATER VALVE
 - ⊙ INDICATES WATER MANHOLE
 - ⊕ INDICATES FIRE HYDRANT
 - ⊗ INDICATES WATER STAND PIPE
 - ⊕ INDICATES TELEPHONE PEDESTAL
 - ⊕ INDICATES ORANGE WETLAND FLAG "WETLAND BOUNDARY"
 - ⊕ INDICATES SEPTIC SYSTEM UD
 - ⊕ INDICATES SANITARY VALVE
 - ⊕ INDICATES SANITARY CLEANOUT
 - ⊕ INDICATES POWER POLE
 - ⊕ INDICATES HEAT PUMP
 - ⊕ INDICATES SIGN
 - ⊕ INDICATES MAIL BOX
 - ⊕ INDICATES GAS METER
 - ⊕ INDICATES FIBER OPTIC MANHOLE
 - ⊕ INDICATES EVERGREEN TREE WITH TRUNK DIAMETER AND TYPE
 - ⊕ INDICATES DECIDUOUS TREE WITH TRUNK DIAMETER AND TYPE
 - ⊕ INDICATES MONUMENT FOUND AS NOTED
 - INDICATES BOUNDARY
 - INDICATES EDGE OF PAVEMENT
 - INDICATES 5 FOOT INTERVAL CONTOUR
 - INDICATES 1 FOOT INTERVAL CONTOUR
 - INDICATES FENCE LINE
 - INDICATES CHAINLINK FENCE LINE
 - INDICATES WOOD FENCE LINE
 - INDICATES ELECTRIC LOCATE
 - INDICATES FIBER OPTIC LOCATE
 - INDICATES GAS LOCATE
 - INDICATES SIGNAL WIRE LOCATE
 - INDICATES SANITARY LOCATE
 - INDICATES TELEPHONE LOCATE



11-19-14
SCALE 1 INCH = 30 FEET

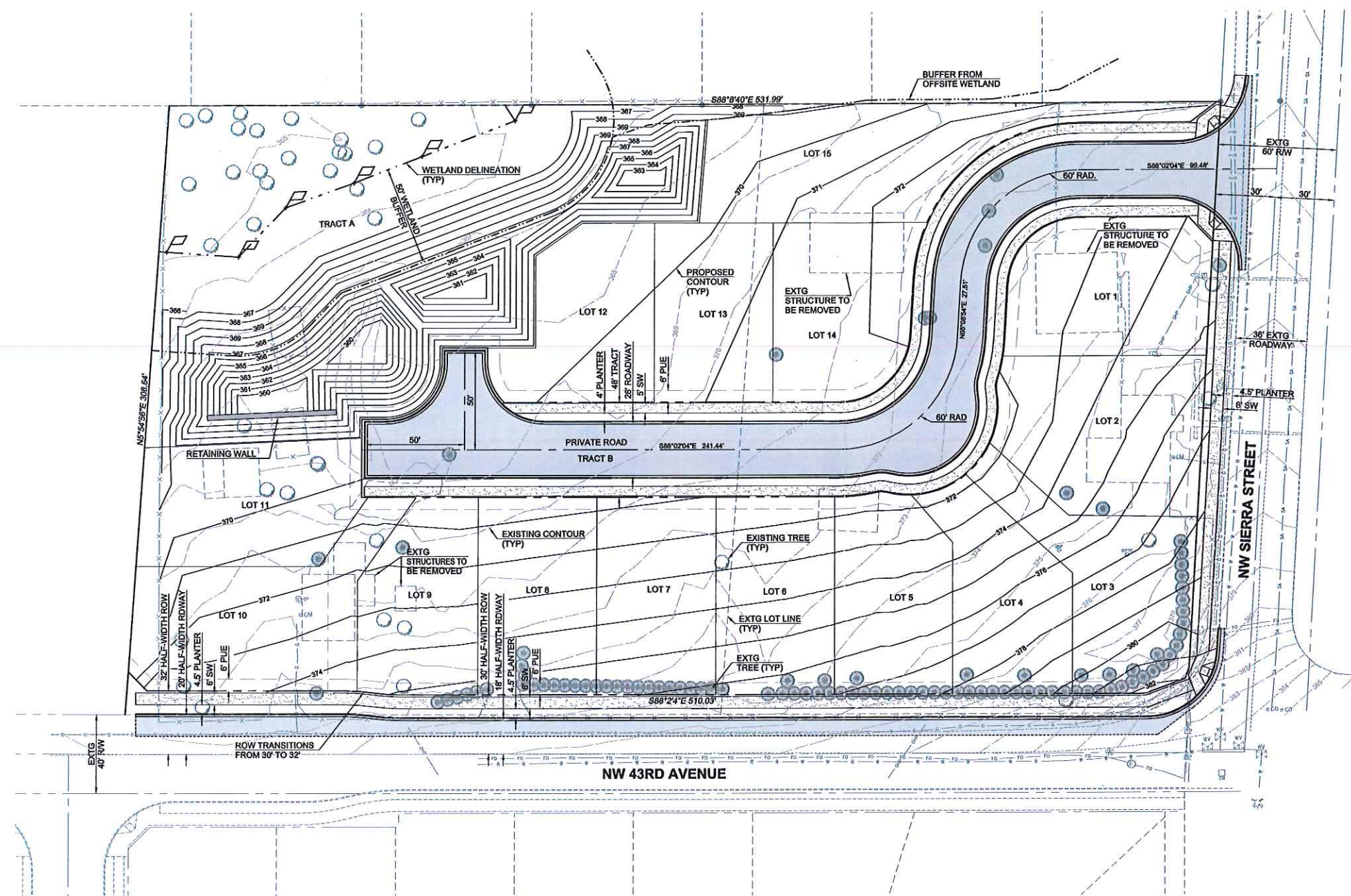
BENCH MARK:
CLARK COUNTY BENCHMARK "LACAMAS-36"
DISK IN ISLAND CURB AT INTERSECTION OF 43RD AVENUE AND SIERRA STREET STAMPED "4300-193"
ELEVATION = 366.85 HVD 26(47) (CLARK COUNTY DATUM)

NOTE:
A UTILITY LOCATE WAS CALLED FOR ON 06-12-14 UNDER TICKET NUMBERS 14180450 AND 14180459. THE UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC MAP ARE AS MARKED AT THE TIME OF THIS SURVEY. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. SOME UNDERGROUND LOCATIONS HEREON MAY HAVE BEEN TAKEN FROM PUBLIC RECORDS. M.G.S. ASSUMES NO LIABILITY FOR THE ACCURACY OF PUBLIC RECORDS.

MINISTER-GLAESER SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE

PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

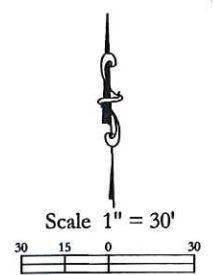
Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.



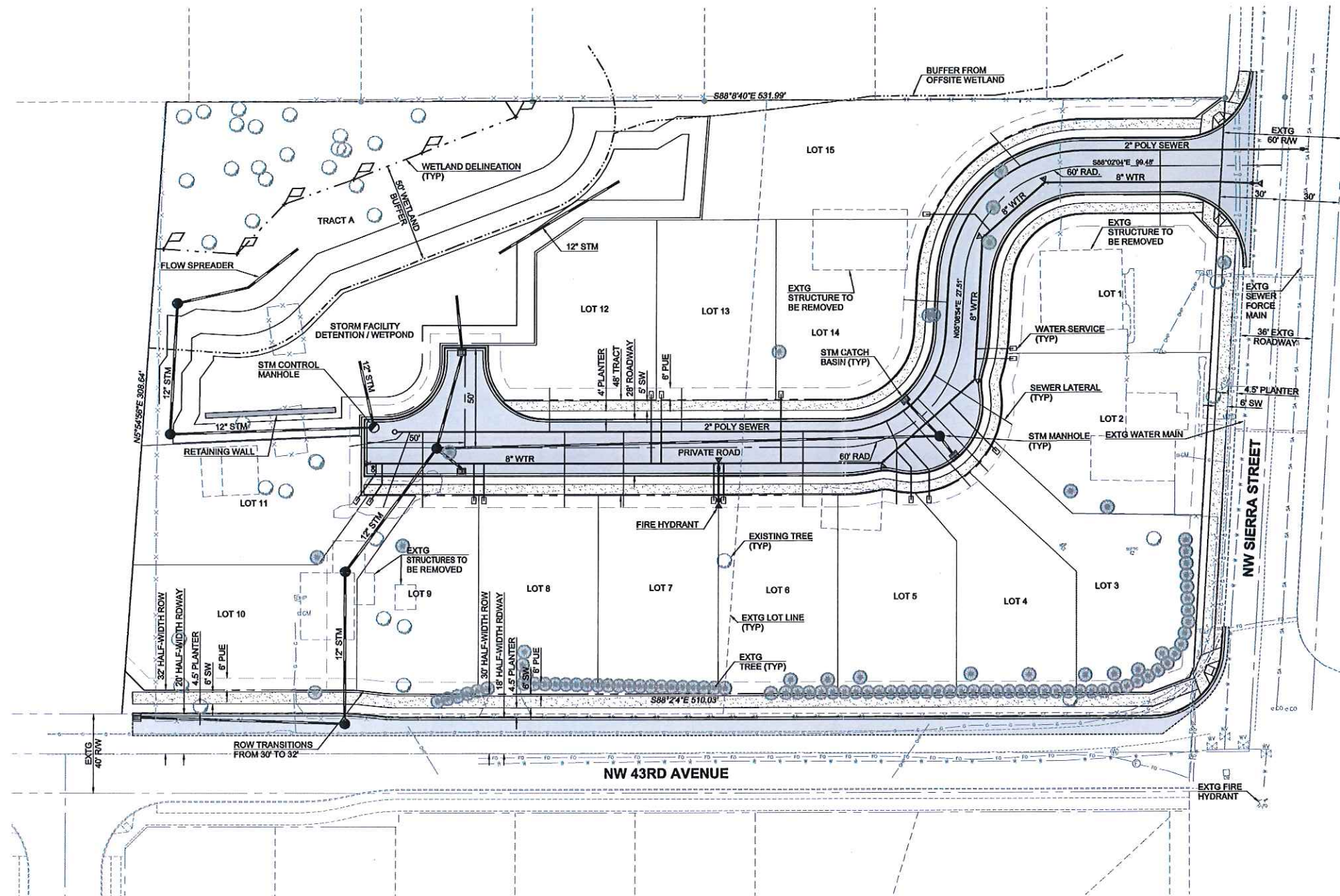
Preliminary Grading Plan For:
Meadows Subdivision
A Short Plat Located In Camas, Washington

Revisions	
No.	Description

Project No. 2402
SCALE: H: 1" = 30' V: N/A
DESIGNED BY: TGJ
DRAFTED BY: TGJ
REVIEWED BY: AJG

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



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NOT TO SCALE

PROJECT NOTES:

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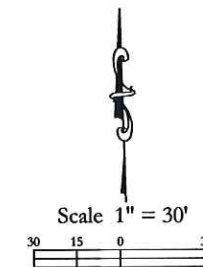
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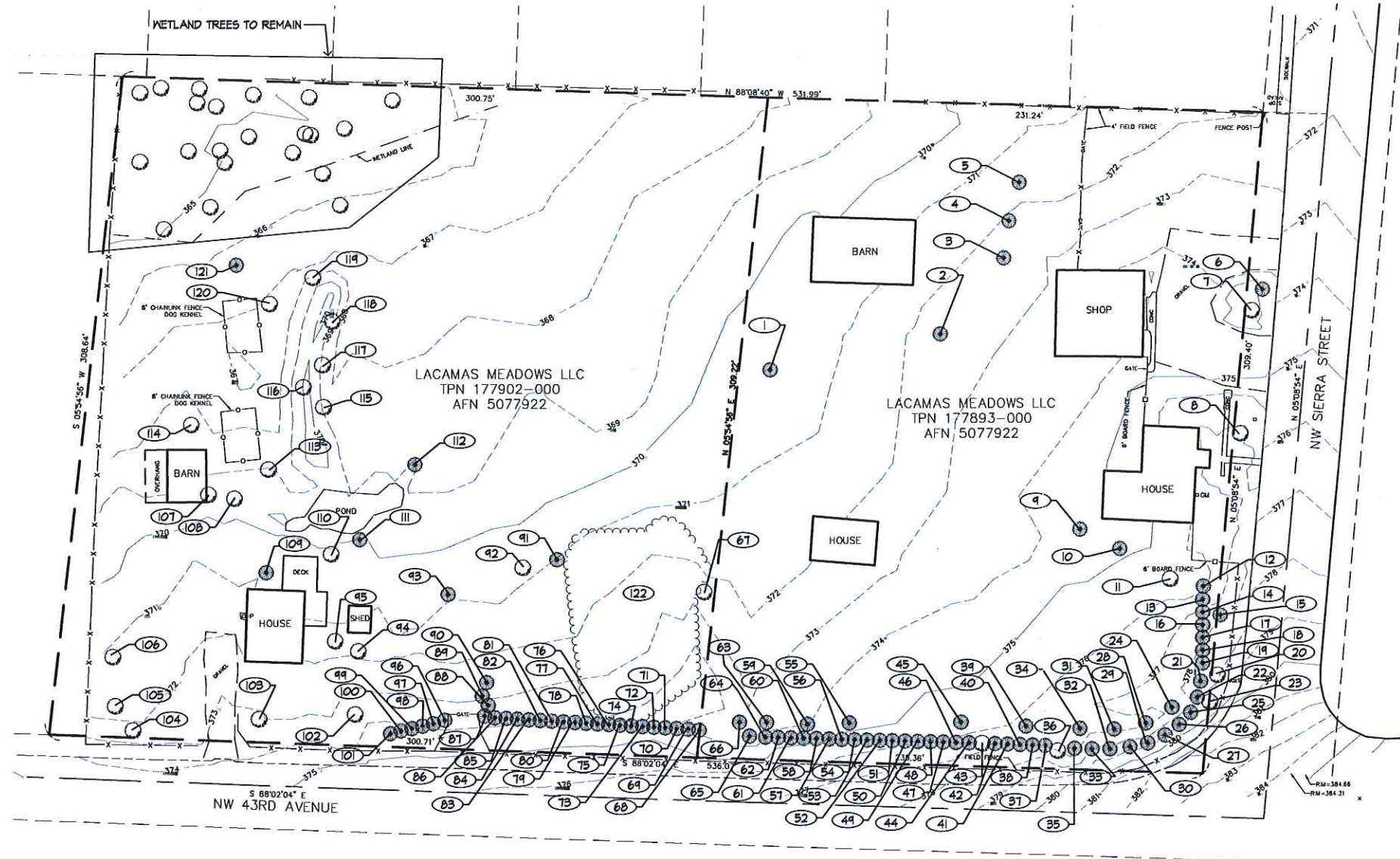


Preliminary Street & Utility Plan For:
Meadows Subdivision
A Short Plat Located In Camas, Washington

Revisions	1	2	3	4

Project No. 2402
SCALE: H: 1" = 30' V: N/A
DESIGNED BY: TGI
DRAFTED BY: TGI
REVIEWED BY: AIG

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SYMBOL LEGEND	
SYMBOL	DESCRIPTION
(1)	TREE NUMBER
(Tree symbol)	EXISTING TREE

TREE LOCATIONS AND SIZES HAVE BEEN OBTAINED FROM AN EXISTING CONDITIONS PLAN PROVIDED BY PLS ENGINEERS AND FIELD OBSERVATIONS SURVEYOR TO LOCATE TREES ALONG PROPERTY LINE. NO TREE WITH ANY PORTION OF THE TREE TRUNK ON NEIGHBORING PROPERTY OR OFF-SITE SHALL BE CUT DOWN WITHOUT CONSENT OF CO-TENANT NEIGHBOR.

MEADOWS SUBDIVISION EXISTING TREE MATRIX					
#	TYPE	COMMENTS	SIZE	RECOMMENDATIONS	
1	FR	CRD	18"	X	
2	FR	CRD	20"	X	
3	FR	CRD	20"	X	
4	FR	CRD	20"	X	
5	FR	CRD	20"	X	
6	FR	CRD	14"	X	
7	Maple	CRD	6"	X	
8	Maple	CRD	14"	X	
9	FR	CRD	6"	X	
10	FR	CRD	6"	X	
11	CRD	CRD	6"	X	
12	CRD	CRD	30"	X	
13	Maple	CRD	30"	X	
14	Maple	CRD	20"	X	
15	CRD	CRD	6"	X	
16	Maple	CRD	20"	X	
17	CRD	CRD	12"	X	
18	CRD	CRD	12"	X	
19	CRD	CRD	12"	X	
20	CRD	CRD	10"	X	
21	CRD	CRD	12"	X	
22	CRD	CRD	12"	X	
23	Maple	CRD	24"	X	
24	Maple	CRD	6"	X	
25	CRD	CRD	12"	X	
26	CRD	CRD	12"	X	
27	CRD	CRD	12"	X	
28	Maple	CRD	6"	X	
29	CRD	CRD	12"	X	
30	CRD	CRD	12"	X	
31	Maple	CRD	12"	X	
32	CRD	CRD	12"	X	
33	CRD	CRD	12"	X	
34	Maple	CRD	10"	X	
35	Maple	CRD	18"	X	
36	CRD	CRD	6"	X	
37	CRD	CRD	10"	X	
38	CRD	CRD	10"	X	
39	Maple	CRD	12"	X	
40	Maple	CRD	12"	X	
41	CRD	CRD	10"	X	
42	CRD	CRD	6"	X	
43	Maple	CRD	6"	X	
44	CRD	CRD	6"	X	
45	Maple	CRD	12"	X	
46	CRD	CRD	6"	X	
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55	Maple	CRD	6"	X	
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63	Maple	CRD	6"	X	
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72	CRD	CRD	10"	X	
73	CRD	CRD	10"	X	
74	CRD	CRD	10"	X	
75	CRD	CRD	10"	X	
76	CRD	CRD	12"	X	
77	CRD	CRD	10"	X	
78	CRD	CRD	10"	X	
79	CRD	CRD	10"	X	
80	CRD	CRD	10"	X	
81	CRD	CRD	10"	X	
82	CRD	CRD	10"	X	
83	CRD	CRD	10"	X	
84	CRD	CRD	10"	X	
85	CRD	CRD	10"	X	
86	CRD	CRD	10"	X	
87	CRD	CRD	10"	X	
88	CRD	CRD	10"	X	
89	CRD	CRD	10"	X	
90	CRD	CRD	10"	X	
91	Maple	CRD	10"	X	
92	Maple	CRD	10"	X	
93	Maple	CRD	10"	X	
94	Maple	CRD	10"	X	
95	Maple	CRD	10"	X	
96	Maple	CRD	10"	X	
97	Maple	CRD	10"	X	
98	Maple	CRD	10"	X	
99	Maple	CRD	10"	X	
100	Maple	CRD	10"	X	
101	Maple	CRD	10"	X	
102	Maple	CRD	20"	X	
103	Maple	CRD	40"	X	
104	Maple	CRD	10"	X	
105	Maple	CRD	10"	X	
106	Maple	CRD	10"	X	
107	Maple	CRD	10"	X	
108	Maple	CRD	10"	X	
109	Maple	CRD	10"	X	
110	Maple	CRD	10"	X	
111	Maple	CRD	10"	X	
112	Maple	CRD	10"	X	
113	Maple	CRD	10"	X	
114	Maple	CRD	10"	X	
115	Maple	CRD	10"	X	
116	Maple	CRD	10"	X	
117	Maple	CRD	10"	X	
118	Maple	CRD	10"	X	
119	Maple	CRD	10"	X	
120	Maple	CRD	10"	X	
121	Maple	CRD	10"	X	
122	Maple	CRD	115'x10'	X	

TREE MATRIX LEGEND	
TRF	TRF RECOMMENDATIONS
R	TREE DESIGNATED FOR RETENTION (RETAIN & PROTECT DURING CONSTRUCTION)
X	TREE DESIGNATED FOR REMOVAL
TRF	TRF CONFLICTS WITH CONSTRUCTION
CRD	CONFLICT WITH ROAD CONSTRUCTION
CRD	CONFLICT WITH SITE GRADING / DRAINAGE
CRD	CONFLICT WITH STORAGE FACILITY
CRD	CONFLICT WITH BLDG DRNG ENVELOPE
CUT	CONFLICT WITH UTILITY TRENCH
CRD	CONFLICT WITH DRIVE AND PATIO LOCATION

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Meadows Subdivision

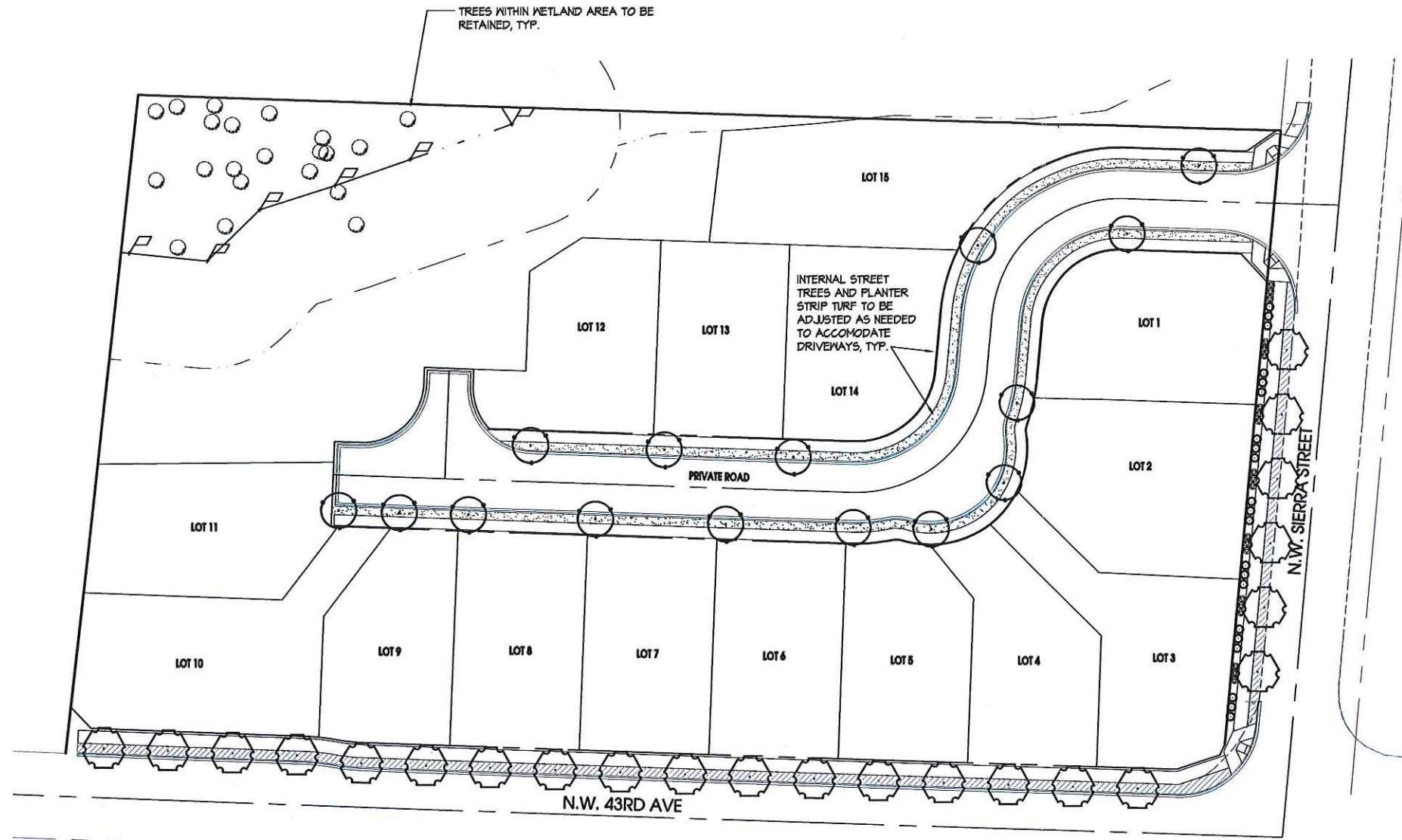
4313 NW Sierra St & 2129 NW 43rd Avenue
 Camas, Washington

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TREE LEGEND			
SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
	ACER GRiseum / PAPERBARK MAPLE	2' Col. Mn.	15
	ACER RUBRUM 'BOYHALL' / BOYHALL MAPLE	2' Col. Mn.	29

SHRUB & GROUND COVER LEGEND*			
SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
	MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	9 GAL. min.	21
	SPIRAEA BIMALDA 'ANTHONY WATERER' / ANTHONY WATERER SPIRAEA	9 GAL. min.	21
GROUND COVER			
	ARCTOSTAPHYLOS UVA URSI MASS.' MASSACHUSETTS KINICKINNICK	1 GAL. min.	30' O.C. max.
	TURF - SOD OR SEED		

NOTE: ALL LANDSCAPE AREAS TO BE IRRIGATED (HAND WATER OR AUTOMATIC SYSTEM) AS REQUIRED TO PROVIDE HEALTHY PLANT GROWTH.

REFER TO SHEET L2 FOR LANDSCAPE DETAILS AND NOTES



Meadows Subdivision

4313 NW Sierra St & 2129 NW 43rd Avenue
 Camas, Washington

DRAWN: CB	CHECKED: CB
SCALE: 1" = 30'-0"	DATE: 01/09/15
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SHEET NAME: LANDSCAPE PLAN	



SHEET #:
L1
 SHEET 2 OF 3

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Meadows Subdivision
 4313 NW Sierra St & 2129 NW 43rd Avenue
 Camas, Washington

DRAWN:	CB	CHECKED:	CB
SCALE:	AS SHOWN	DATE:	01/01/15
JOB #:	14-1526		
ISSUED FOR:			
REVISIONS:	A B C D E		
SHEET NAME:	LANDSCAPE DETAILS		
SHEET #:	L2		
SHEET 3	OF 3		



PLANTING NOTES:

- ALL PLANTING TO BE OF NURSERY STOCK GRADE NO. 1 OR BETTER AND MUST BE APPROVED PRIOR TO PLANTING.
- ALL PLANTING HOLES SHALL BE EXCAVATED THREE TIMES THE DIAMETER OF THE TREE ROOT BALL OR ROOT SYSTEM.
- DECIDUOUS TREES SHALL HAVE STRAIGHT TRUNKS, BE FULL BRANCHED, BE FULL CALIPER OF 2 INCHES AND BE ADEQUATELY STAGED FOR PLANTING. CALIPER OF TREES SHALL BE LARGER WHEN REQUIRED BY OTHER CITY STANDARDS OR PLANS.
- EVERGREEN TREES SHALL BE A MINIMUM OF THREE FEET IN HEIGHT, FULLY BRANCHED AND ADEQUATELY STAGED FOR PLANTING.
- DECIDUOUS TREES SHALL BE A MINIMUM 2" CALIPER UNLESS APPROVED BY THE CITY.
- POTTED OR BAR PLANTS SHALL BE A MINIMUM SIZE OF 3 GALLONS UNLESS APPROVED BY THE CITY.
- SHRUBS SHALL BE PLANTED ACCORDING TO RECOGNIZED LANDSCAPE STANDARD PRACTICE FOR MAINTENANCE, APPEARANCE, HEALTH OF THE PLANTS, AND OVERALL AESTHETICS.
- FRUIT LIGHTS AND TAGS TO GIVE BEST APPEARANCE OF MAINTENANCE TO OTHER PLANTS AND SHRUBS SHALL BE REMOVED IMMEDIATELY AFTER PLANTING AND BURIED FROM AROUND THE TOP OF EACH ROOT BALL.
- LOGS AND REMOVED TRUNK BRINGS AND BURIED FROM AROUND THE TOP OF EACH ROOT BALL.
- SET TREES AN INCH ABOVE FINISH GRADE.
- REMOVE STAKES OR GUY WIRES ONE YEAR AFTER INSTALLATION.
- PLACE AND COMPACT BACKFILL SOIL MIXTURE CAREFULLY TO AVOID INJURY TO ROOTS, AND TO FILL ALL VOIDS. BACKFILL MIX SHALL CONSIST OF 1/4 APPROVED HUMUS MATERIAL TO 3/4 TOPSOIL, PLUS SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED PRIOR TO PLANTING TREES).
- WHEN HOLE IS NEARLY FILLED, COMPLETELY SOAK AND ALLOW WATER TO DRAIN AWAY. FILL HOLE TO FINISH GRADE. PROVIDE 2" HIGH BERM WATER RING AT THE BASE OF EACH TREE. REMOVE BERM AT THE END OF CONTRACT MAINTENANCE PERIOD.
- GROUND COVER SHALL BE PLANTED ACCORDING TO RECOGNIZED LANDSCAPE STANDARD PRACTICE FOR MAINTENANCE, APPEARANCE, OVERALL AESTHETICS, AND HEALTH OF THE PLANTS.
- TREES AS THEY GROW SHALL BE PRUNED TO THEIR NATURAL FORM TO PROVIDE AT LEAST 10 FEET OF CLEARANCE ABOVE SIDEWALKS AND 12 FEET ABOVE STREET ROADWAY SURFACES.
- TREE MAINTENANCE - IN ORDER TO INSURE ESTABLISHMENT, SURVIVAL AND GROWTH, TREES SHALL BE MULCHED WITH 4" DEEP COMPOST AND WATERED AS NECESSARY DURING THE FIRST TWO GROWING SEASONS. PRUNING TO BE AS FOLLOWS:
 - YEAR 1 - ONLY DEAD, BROKEN, OR CROSSING BRANCHES SHALL BE PRUNED.
 - YEAR 2 - A CLASS 1 PRUNE PURSUANT TO NATIONAL ARBORIST ASSOCIATION STANDARDS, SHALL BE PERFORMED. THE PURPOSE OF THIS PRUNING IS TO ESTABLISH PROPER SCAFFOLD BRANCHING, RAISE THE CROWN FOR ROADSIDE CLEARANCE, AND REMOVE ANY DEAD, DYING OR CROSSING BRANCHES.
 - YEAR 3 - A CLASS 1 PRUNE PURSUANT TO NATIONAL ARBORIST ASSOCIATION STANDARDS, SHALL BE PERFORMED. THE PURPOSE OF THIS PRUNING IS TO CONTINUE TO ESTABLISH THE PROPER SCAFFOLD BRANCHING, CONTINUE TO RAISE THE CROWN FOR ROADSIDE CLEARANCE, AND TO REMOVE ANY DEAD, DYING, OR CROSSING BRANCHES.
- DEFINITIONS:
 - 13.1. BALLED AND BURLAPPED (BAB) - TREES AND SHRUBS WITH A LARGE BALL OF SOIL AROUND THE ROOTS WRAPPED IN BURLAP.
 - 13.2. BARE-ROOT - OFFERED BY NURSERIES IN WINTER AND EARLY SPRING WITH ALL THE SOIL REMOVED FROM THEIR ROOTS.
 - 13.3. CALIPER - THE DIAMETER OF THE TRUNK MEASURED AT 4 FEET FROM THE GROUND.
 - 13.4. GROUND COVER - LIVING MATERIAL THAT DOES NOT INCLUDE HARK CHIPS OR OTHER MULCH.

REV. NO. 1 DATE 10/21/14 BY SCB APPR. JC
 CITY OF CAMAS - STREET DETAIL
 PLANTING NOTES - WITHIN RIGHT OF WAY
 DETAIL NO. PL2
 NOT TO SCALE

NOTES:

- A ROOT BARRIER SHOULD BE INSTALLED AT THE EDGE OF PAVEMENT OR 4 FEET WIDE AND 6 FEET WIDE RECTANGLE AROUND THE TREE. SEE DETAILS PL7, PL8 & PL9.
- BACKFILL MIX SHALL CONSIST OF THE FOLLOWING: 0.25 PART TOPSOIL, 0.25 PART APPROVED HUMUS MATERIAL, SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED BEFORE PLANTING TREES).

REV. NO. 1 DATE 10/21/14 BY SCB APPR. JC
 CITY OF CAMAS - STREET DETAIL
 SHRUB CONTAINER PLANTING
 DETAIL NO. PL4
 NOT TO SCALE

NOTES:

- SCAFFOLD BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
- KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
- BACKFILL MIX SHALL CONSIST OF THE FOLLOWING: 0.75 PART TOPSOIL, 0.25 PART APPROVED HUMUS MATERIAL, SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED BEFORE PLANTING).

REV. NO. 1 DATE 10/21/14 BY SCB APPR. JC
 CITY OF CAMAS - STREET DETAIL
 SHRUB CONTAINER PLANTING
 DETAIL NO. PL5
 NOT TO SCALE

- ALL GROUNDCOVER SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING OR ON CENTER SPACING AS SPECIFIED ON PLANTING PLAN.
- LOCATE GROUNDCOVER ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY CURB, SIDEWALK, OR OTHER HARD SURFACE, UNLESS OTHERWISE SPECIFIED.

REV. NO. 1 DATE 10/21/14 BY SCB APPR. JC
 CITY OF CAMAS - STREET DETAIL
 GROUNDCOVER PLANTING DETAIL
 DETAIL NO. PL7
 NOT TO SCALE

NOTES:

- SEE GENERAL NOTES AND INSTALLATION NOTES ON DETAIL PL8 AND PL9.

REV. NO. 1 DATE 10/21/14 BY SCB APPR. JC
 CITY OF CAMAS - STREET DETAIL
 ROOT BARRIER DETAIL
 DETAIL NO. PL8
 NOT TO SCALE

ROOT BARRIER GENERAL NOTES:

- SPECIFIED TREE ROOT BARRIERS ARE A MECHANICAL BARRIER AND ROOT DEFLECTOR TO PREVENT TREE ROOTS FROM DAMAGING HARDSCAPES AND LANDSCAPES. ASSEMBLED IN 2' LONG SEGMENTS WITH RIGID JOINER STRIPS TO CREATE VARIOUS SIZES OF CYLINDERS FOR SURROUNDING ROOT BALLS (SURROUNDING PLANTING STYLE) OR FOR LINEAR APPLICATIONS DIRECTLY BESIDE A HARDSCAPE ADJACENT TO ONE SIDE OF THE TREES (LINEAR PLANTING STYLE).
- DIMENSIONS ARE APPROXIMATE. SUBMIT SAMPLE FOR ENGINEERS APPROVAL PRIOR TO INSTALLATION.

A. MATERIALS

- THE CONTRACTOR SHALL FURNISH AND INSTALL TREE ROOT BARRIERS AS SPECIFIED. THE TREE ROOT BARRIERS SHALL BE BLACK, INJECTION MOLDED PANELS, OF MINIMUM 0.080" WALL THICKNESS IN MODULES 24" LONG BY 18" DEEP, MANUFACTURED WITH A MINIMUM 50% POST CONSUMER RECYCLED POLYPROPYLENE PLASTIC WITH ANDED UV RADIATION INHIBITORS, RECYCLABLE. EACH PANEL SHALL HAVE: NOT LESS THAN 4 MOLDED INTEGRAL VERTICAL ROOT DEFLECTING RIBS OF AT LEAST 0.06" THICKNESS PROTRUDING 1/2" AT 90° FROM INTERIOR OF THE BARRIER PANEL, SPACED 6" APART. (SEE PANEL DRAWING BELOW) A DOUBLE TOP EDGE CONSISTING OF TWO PARALLEL, INTEGRAL HORIZONTAL RIBS AT THE TOP OF THE PANEL OF A MINIMUM 0.06" THICKNESS, 7/16" WIDE AND 1/4" APART WITH THE LOWER RIB ATTACHED TO THE VERTICAL ROOT DEFLECTING RIBS. (SEE DETAIL "A") A MINIMUM OF 9 ANTI-LIFT GROUND LOCK TABS CONSISTING OF INTEGRAL HORIZONTAL RIDGES OF A MINIMUM 0.06" THICKNESS IN THE SHAPE OF A SEGMENT OF A CIRCLE, THE 2 1/4" CHORD OF THE SEGMENT JOINING THE PANEL WALL AND THE SEGMENT, PROTRUDING 3/8" FROM THE PANEL. THE NINE GROUND LOCKS ON EACH PANEL SHALL BE ABOUT EQUALLY SPACED BETWEEN EACH OF THE VERTICAL ROOT DEFLECTING RIBS (3 BETWEEN EACH SET OF RIBS, SEE DETAIL "B"). A SELF LOCKING RIGID JOINER STRIP TO CONNECT ONE PANEL TO ANOTHER WITH A SEPARATION STRESS TEST OF 1000 POUNDS AT THE MOMENT OF SEPARATION. (SEE DETAIL "C"). TREE ROOT BARRIERS SHALL BE BY DEEPROOF OR APPROVED EQUAL.
- THE BASIC PROPERTIES OF THE MATERIAL SHALL BE:

TEST	ASTM TEST METHOD	VALUE COPOLYMER POLYPROPYLENE
TENSILE STRESS AT YIELD	D638	3500 PSI
ELONGATION AT YIELD	D638	6.3%
INTERNAL MODULUS	D7506	155,000 PSI
NOTCHED 1200 IMPACT	D256A	2 J
ROCKWELL HARDNESS R SCALE	D785A	88

B. CONSTRUCTION AND INSTALLATION

- THE CONTRACTOR SHALL INSTALL THE TREE ROOT BARRIERS WITH THE NUMBER OF PANELS AND IN THE MANNER SHOWN ON THE DRAWINGS. THE VERTICAL ROOT DEFLECTING RIBS SHALL BE FACING INWARDS TO THE ROOT BALL AND THE TOP OF THE DOUBLE EDGE SHALL BE 1/2" ABOVE GRADE. EACH OF THE REQUIRED NUMBER OF PANELS SHALL BE CONNECTED WITH THE RIGID JOINER STRIPS TO FORM A CIRCLE AROUND THE ROOT BALL OR WHERE SPECIFIED JOINED IN A LINEAR FASHION AND PLACED ALONG THE ADJACENT HARDSCAPE.
- EXCAVATION AND SOIL PREPARATION SHALL CONFORM TO THE DRAWINGS.
- THE TREE ROOT BARRIERS SHALL BE BACKFILLED ON THE OUTSIDE WITH 3/4" TO 1 1/2" GRAVEL OR CRUSHED ROCK AS SHOWN ON THE DRAWINGS. NO GRAVEL BACKFILL IS REQUIRED FOR A LINEAR PLANTING.

REV. NO. 1 DATE 10/21/14 BY SCB APPR. JC
 CITY OF CAMAS - STREET DETAIL
 ROOT BARRIER GENERAL NOTES
 DETAIL NO. PL9
 NOT TO SCALE

NOTES:

- DETERMINE THE CORRECT NUMBER OF PANELS TO BE USED. DEPENDENT UPON THE ACTUAL PLANTING PLAN AND THE NUMBER OF TREES INVOLVED THE LENGTH OF LINEAR BARRIER WILL VARY, BUT AS A GENERAL RULE OF THUMB TAKE THE ANTICIPATED MATURE CANOPY DIAMETER OF THE TREE AND ADD 2 FEET (610M). THIS WILL BE THE NUMBER OF FEET NECESSARY FOR A LINEAR STYLE PLANTING APPLICATION. (SEE CHART BELOW.)
- CHOOSE THE BARRIER THAT BEST SUITS THE APPLICATION. GENERALLY IF A SIDEWALK, PATH OR DRIVEWAY IS TO BE PROTECTED, IT IS SUFFICIENT DEPTH WITH 12" AS AN ALTERNATE CHOICE FOR NON-AGGRESSIVE, DEEPER ROOTING TREES. HOWEVER FOR CURB AND GUTTER PROTECTION OR MORE AGGRESSIVE ROOTS 24" IS GENERALLY THE BETTER CHOICE.
- DIG THE TRENCH TO THE DEPTH BASED UPON THE PARTICULAR BARRIER CHOSEN.
- INSTALL THE BARRIER. WHEN USING DEEP ROOT LINEAR BARRIERS SIMPLY PULL THE APPROPRIATE NUMBER OF PANELS OUT OF THE BOX (THEY COME PRE-ASSEMBLED) AND SEPARATE THE JOINER AT THE CORRECT LENGTH. WHEN INSTALLING DEEP ROOT LINEAR BARRIERS IN A LINEAR FASHION YOU WILL NEED TO JOIN THE APPROPRIATE NUMBER OF PANELS TOGETHER.
- NEXT PLACE THE BARRIER IN THE TRENCH WITH THE VERTICAL RIBS FACING TOWARD THE TREE AND ALIGN IN A STRAIGHT FASHION. IT IS HELPFUL TO PLACE THE BARRIER AGAINST THE HARDSCAPE. USE THE HARDSCAPE AS A GUIDE AND BACKFILL AGAINST THE BARRIERS TO PROMOTE A CLEAN SMOOTH FIT TO THE HARDSCAPE. BE SURE TO KEEP THE BARRIER'S DOUBLE TOP EDGE AT LEAST 1/2" ABOVE GRADE TO ENSURE ROOTS DO NOT GROW OVER THE TOP.
- PLANT THE TREES. THE LINEAR STYLE OFFERS A MORE EXPANSIVE ROOTING GROWTH AREA HOWEVER ADVERSE SOIL AND DRAINAGE CONDITIONS MAY EXIST IN THE ACTUAL PLANTING AREA. TAKE STEPS TO ENSURE HEALTHY GROWTH OF THE TREE AT PLANTING. CONSULT WITH A LOCAL ARBORIST FOR PLANTING TIPS AND RECOMMENDATIONS.

REV. NO. 1 DATE 10/21/14 BY SCB APPR. JC
 CITY OF CAMAS - STREET DETAIL
 ROOT BARRIER INSTALLATION
 DETAIL NO. PL10
 NOT TO SCALE

**COMMUNITY DEVELOPMENT DEPARTMENT**

616 NE 4th Avenue
 Camas, WA 98607
 www.ci.camass.wa.us

March 10, 2015

Travis Johnson
 PLS Engineering
 2008 C Street
 Vancouver, WA 98663

RE: Meadows Subdivision (SUB15-01)

Dear Mr. Johnson,

Thank you for your application submittal for the Meadow Subdivision. There are items that remain to be addressed with your application. The purpose of this letter is to inform you that the above application submitted on February 12, 2015, has been deemed incomplete in accordance with Camas Municipal Code (CMC) Section 18.55.130. You have 180 days from the date of application to submit the missing information pursuant to CMC 18.55.130.C. If the below requested information is submitted, staff will again verify whether the application is complete.

Items necessary for completeness:

1. Per CMC 18.55.110.C, a current (within 30 days prior to application) mailing list and mailing labels of owners of real property within 300 feet of the subject parcel, certified as based on the record of the Clark County assessor.
2. Per CMC 18.55.110.E, one electronic copy of the application materials is necessary.
3. A development notice sign shall be posted on the subject property in accordance with CMC 18.55.110.H and proof of posting shall be provided to the City.
4. Pursuant to CMC 17.11.030.B, a significant tree survey as required under CMC 18.31.080. CMC 18.31.080.B and as stated in the pre-application notes under Planning comments #3, tree preservation efforts are required "to the extent practical", "healthy trees", and prefers "groups of significant trees". Tree preservation efforts must be addressed. The professional qualifications of the biologist must be submitted.
5. The following information shall be addressed on the site and development plans pursuant to CMC 17.11.030.B.6:
 - a. The following standards in CMC Section 17.01.050 shall be included on the preliminary plat map:
 - i. A legal description of the boundaries, including the county tax serial number for each property described per CMC 17.01.050.A.4;
 - ii. Tracts to be dedicated to any public or private purpose shall be distinguished from lots intended for general development with notes stating their purpose and any limitations per CMC 17.01.050.B.2;
 - iii. Building envelopes, to include identification of required setbacks per CMC 17.01.050.B.3 and;
 - iv. A land inventory in accordance with CMC 17.01.050.B.4
 - b. Owners of adjacent land and names of any adjacent subdivisions
 - c. Location of street lighting.
 - d. Location of building envelopes and sewer tanks
 - e. Location of all existing fire hydrants within 500 feet of the proposal
6. An unsigned and draft archeological report was included in the application. Submit a final, signed and dated archaeological report including the professional qualifications of the archeologist that performed the work.

Other preliminary project issues noted by staff to be addressed:

1. The application contains different versions of the preliminary plat. Some versions showed tracts providing access to lots 3 & 4 while others show these lots as flag lots.
2. The preliminary plat map states the home on lot 2 will remain but the applicant narrative states all buildings will be removed. Please clarify.
3. The subdivision name should be vetted with the county assessor or auditor to verify this is not a duplicated subdivision name.
4. Drawing title blocks still refer to this project as a short plat when in fact it is a subdivision application (contains more than 9 lots).
5. On the Preliminary Street and Utility Plan, show a legend.
6. Per Comment #5 of the Pre Application Notes, lots adjacent to the R-12 zone shall be 9,000 square feet in the R-7.5 zone pursuant to CMC 18.09.080. Therefore, Lot 15 shall be a minimum of 9,000 square feet.
7. Lot 9 should be revised to include a 40 x 40 building envelope as required by CMC 17.19.030.D.3.a.
8. As stated in comment #16 of the Pre Application notes and as required pursuant to CMC 17.19.030.F.6, storm drainage facilities shall be setback from a minimum of 30-feet from any street and landscaped in accordance with criteria in the Camas Design Standard Manual.
9. Pursuant to CMC 17.19.030.F.2, the tree requirement per 17.19.030.F.1 may be reduced at the request of the developer by a ratio of two new trees in favor of one existing tree.
10. As stated in comment #7 of the Pre Application Notes, if a sales office is proposed for the Meadows subdivision, it should be included with preliminary plans.
11. There are a number of exception requests to the development standards identified in the Applicant's narrative. The exception criteria outlined in CMC 17.23.010 shall be addressed for each exception request for the City's consideration.
12. The preliminary plat map and applicant narrative indicate that the stormwater facility encroaches into the wetland buffer. Pursuant to CMC 16.51.140.B, CMC 16.53.030.E and as stated in the pre-application notes under Planning comment #3, the critical area report must include an analysis that addresses efforts to avoid and minimize impacts. Alternative layouts to indicate feasibility should be provided.
13. Pursuant to CMC 16.53.030.B.2, all wetlands and recommended buffer zones within 300 feet of the project area within the subject parcel or parcels shall be addressed in the Critical Areas Report.
14. The stormwater report submitted as identified as a "final" stormwater report and when in fact it is a "preliminary" report. The final report will be submitted at the time of the final engineering plan submittal.
 - The stormwater report on page 5 indicates that one of the two existing homes on the site will be removed which is inconsistent with one version of the preliminary plat that indicates both houses will be removed.
 - The volume calculations for the pond does not include any side slopes at 4:1 which is the maximum slope allowed in the outer edge of the wetland buffer per CMC 16.53.030.C.3. Side slopes shown are all at 3:1.

Please note, additional comments may be provided during further review of your application. If you have any questions, please contact me at (360) 817-7253.

Respectfully,



Lauren Hollenbeck
Senior Planner



April 20, 2015

Mr. Travis Johnson, PE
VP of Design
PLS, Engineering
2008 C Street
Vancouver, WA 98663

RE: Meadows Subdivision, Camas, Washington

Travis,

This letter addresses the wetland concerns raised by Ms. Lauren Hollenbeck, Senior Planner, City of Camas in her March 10, 2015 letter for the Meadows Subdivision. Items 12 and 13 of the letter deal with her concerns about the stormwater facilities within the wetland buffer and critical areas adjacent to the project site. My responses to her concerns are as follows:

Item 12. The City's Critical Areas Ordinance for wetlands 16.53 allows for the construction of stormwater facilities in the outer portion of the buffer so long as all of the conditions of Camas Municipal Code (CMC) 16.53.050(C)(3)(a-i) are met. As you are aware, this section of the code has been applied on most of the projects that we have been involved in that have wetlands on the project site. The plan that you have developed meets all of these conditions, therefore, there should not be a need to provide alternative site plans to address avoidance and minimization unless the City has changed their interpretation of this section of the wetlands code. This issue has also been addressed in the enclosed buffer mitigation plan.

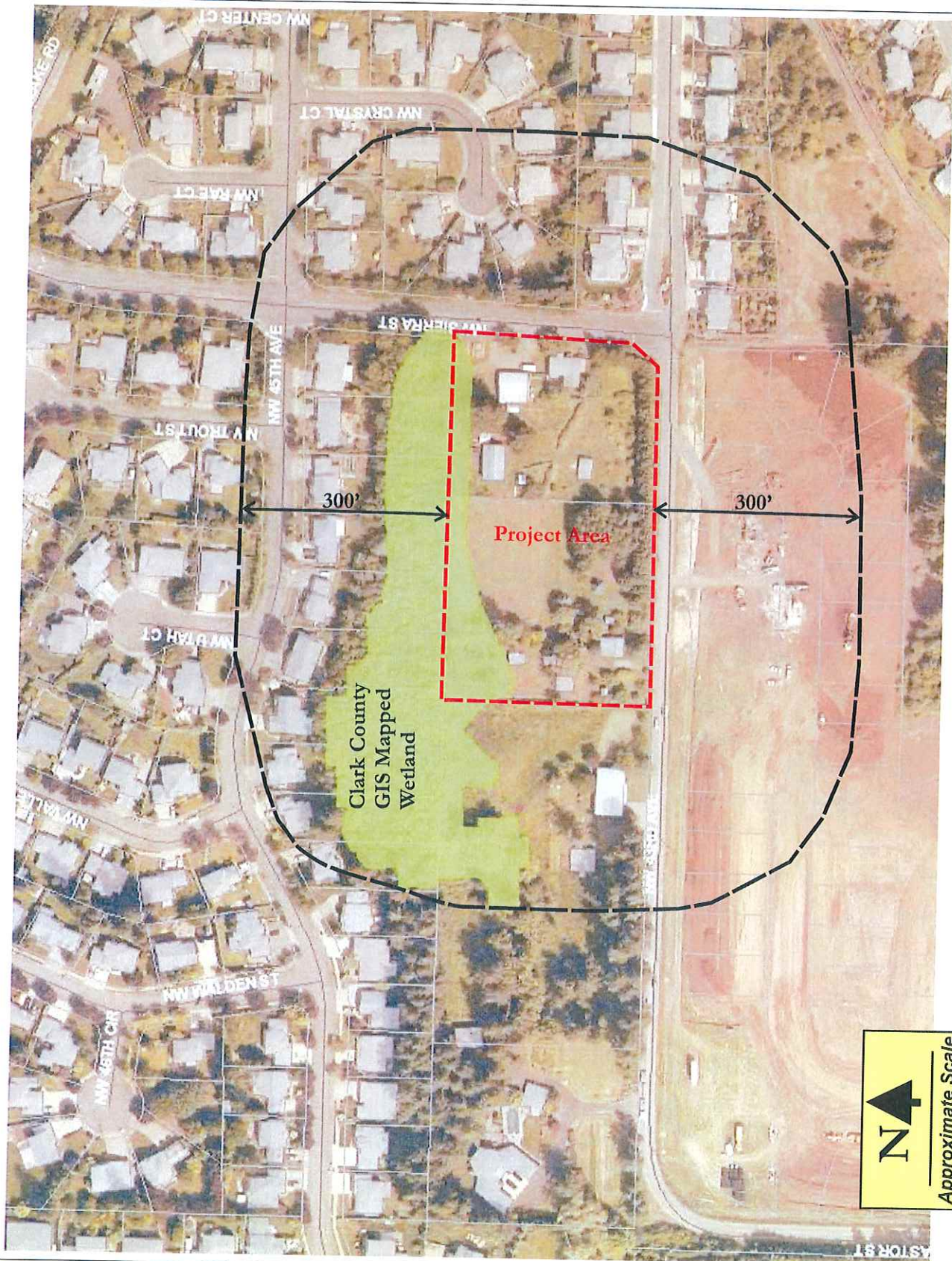
Item 13. The only critical area within 300 feet of the project area is the wetland to the north of the project site as shown on the Clark County GIS Wetland (see attached Exhibit 1). At the time when The Resource Company (TRC) conducted the wetland delineation on the project site we looked at this wetland area and it appeared to be further north than shown on the County GIS. I have attached Figure 5 from the delineation report as a reference of where we approximated the wetland boundary on the adjacent property. The remaining surrounding properties are all developed or are in the process of being developed.

Should you have any questions or need more information, please contact me.

Regards,



Kevin L. Grosz, P.W.S.
President



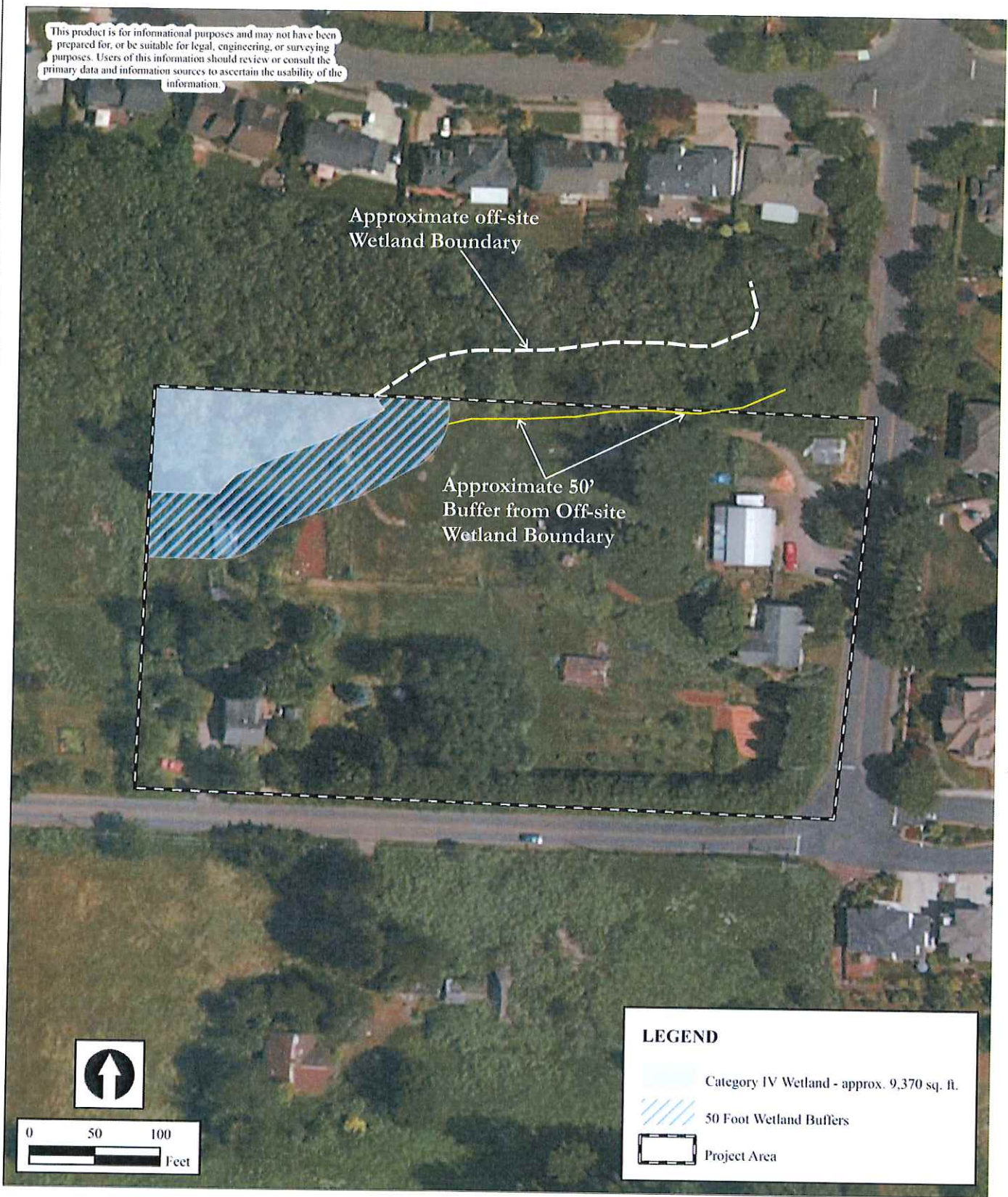
Lacamas Meadows
APPLICANT:
 Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607
PURPOSE: Wetland Buffer Mitigation

Critical Areas Within 300' of Project Area
 LaCamas Meadows Project
 Camas, Washington






PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, W.M.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: April 16, 2015
Exhibit 1

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



LEGEND


-  Category IV Wetland - approx. 9,370 sq. ft.
-  50 Foot Wetland Buffers
-  Project Area

Lacamas Meadows

APPLICANT:
 Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Delineation & Assessment

Approximate Wetland Boundaries
 Lacamas Meadows
 Camas, Washington



The Resource Company, Inc.
 ENVIRONMENTAL SERVICES - GIS - HABITAT RESTORATION
915 Broadway, Suite 250, Vancouver, WA 98663 ph: 360-691-4555 fax: 360-692-6242

PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, W.M.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 13, 2014
Figure 5

PLS ENGINEERING

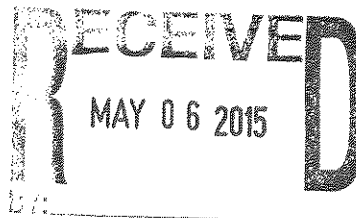
Consulting Engineers and Planners

2008 C Street
Vancouver, WA 98663

Ph. (360) 944-6519
Fax (360) 944-6539

May 6, 2015

Ms. Lauren Hollenbeck
City of Camas
616 NE 4th Avenue
Camas, WA 98607



RE: Meadows Subdivision (SUB15-01)

Dear Ms. Hollenbeck

This letter is in response to the technically complete review of the Meadows Subdivision. The comments below are in reply to the City's review letter dated March 10, 2015, and will follow each comment in direct order of the letter.

Items necessary for completeness:

1. Mailing labels have been provided with this application.
2. A CD with pdf's of the application materials is attached.
3. A development sign will be posted within a few days of this submittal.
4. The applicant understands the significance of tree retention on the proposed site and also understands the liability of leaving trees within a medium density residential development. It should be noted that a biologist does not perform the task of determining if a tree is healthy or unhealthy for retention. This is done by either a landscape architect or arborist. The applicant has hired a landscape architect to perform the tree survey and his findings are attached with this application.

Based on conversations with staff this comment stems from an understanding that the applicant can build the development and save a majority of the trees on the site. The majority of the trees do not require a licensed professional to determine that removal is necessary. The line of trees along NW Sierra are in close proximity to the future sidewalk and the side yards of future homes and as a result are not practical to leave in the development. The trees along NW 43rd are also too close to the proposed sidewalk for it to be practical to try to retain them.

After further review of the other trees throughout the site the applicant proposes, but does not guarantee, to retain ten trees. "To the extent practical" the applicant will try to retain these trees. However, if a licensed arborist can not guarantee that these trees are not a hazard to the future residents they will be removed during construction of the development.

The attached tree plan has the professional stamp of the landscape architect.

5. The required information has been added to either the preliminary plat or the development plan as requested.

6. Attached with the application is the current archeological report and credentials of the archeologist that performed the work.

Other preliminary project issues noted by staff to be addressed:

1. The applicant submitted updated plans when he paid the fee. These updated plans should have been dispersed to other members of staff.
2. The applicant submitted updated plans when he paid the fee which should have been dispersed to other members of staff.
3. The subdivision name was searched on Clark County GIS and there was no match to Meadows Subdivision.
4. The border has been updated.
5. A legend has been provided as requested.
6. As requested lot 15 is 9,000 square feet, not 1 square foot more or one square foot less.
7. Lot 9 has been revised to provide a 40' x 40' building envelope.
8. The applicant understands the required setback and has asked for an exception for this code requirement.
9. Noted, thanks.
10. Noted, thanks.
11. Requested exceptions have been formatted per CMC 17.23.010.
12. A letter and a mitigation plan by the biologist are attached.
13. A letter and a mitigation plan by the biologist are attached.
14. The stormwater report has been changed to preliminary as requested. The existing homes are planned to be removed, see comment above in regards to updated maps being submitted. The WWHM software does not have the capabilities to change side slopes around the pond. The proposed design is more conservative and the pond will have more storage than calculated.

If you have any questions or comments please call me at (360) 944-6519 or e-mail at travis@plsengineering.com.

Sincerely,
PLS Engineering



Travis G. Johnson, PE



PRELIMINARY SUBDIVISION NARRATIVE

FOR

MEADOWS SUBDIVISION

**SUBMITTED TO
THE CITY OF CAMAS**

January, 2015

GENERAL PROJECT INFORMATION

Applicant: **Lacamas Meadows, LLC**
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607
(360)600-5532
E-mail: tstrassenberg@msn.com

Property Owners: **Same as Applicant**

Contact: **PLS Engineering**
Travis Johnson
2008 C Street
Vancouver, WA 98663
(360) 944-6519, Office
(360) 944-6539, Fax
E-mail: travis@plsengineering.com

Location: **SW ¼ of Section 34, T2N, R3E, WM**
Project Size: **3.78 acres**
Zoning: **R-7.5 – Single Family Residential**
Comprehensive Plan: **SFM (Single Family Medium)**
Current Use: **Two single-family homes**
Tax Lot Information: **177893-000 & 177902-000**
School District: **Camas**
Water District: **City of Camas**
Sewer District: **City of Camas**

SITE CHARACTERISTICS AND LOCATION AND PROJECT DESCRIPTION

The Meadows Subdivision proposes construction of a new 15 lot single family detached residential subdivision on 3.8 acres in the R-7.5 residential zone of the City of Camas. The project will be constructed in one phase. The site is located at the northwest corner of the intersection of NW 43rd Avenue and NW Sierra Street in the SW ¼ of Section 34, Township 2 North, Range 3 East. The subdivision is proposed on two parcels described as parcel numbers 177893-000 & 177902-000. Site addresses are 4313 NW Sierra Street and 2129 NW 43rd Avenue. The property is located within the Camas School District.

The site currently contains two single family residences along with a number of outbuildings. All existing buildings and both homes will be removed in association with the development. The remainder of the site contains brush and briars with scattered trees.

There is a Category IV wetland with a 50' buffer located in the northwest corner of the site. There is a wetland to the north located on the neighboring property and the 50' buffer from this wetland extends onto the site along the north property line.

The site is mapped by the Natural Resource Conservation Service (NRCS) as containing two soil types, Hesson clay loam and Odne silt loam. The Hesson soils cover the upper southern and western part of the site. The Odne soils are mapped in the northwest corner of the site in the location of the wetland and wetland buffer.

The property is bounded on the west by NW Sierra Street which will be the point of access for the development. Land to the north of the site is fully developed single family residential homes. Property to the west of is a 3.75 acre lot with one residence. The south property line is bound by NW 43rd Avenue.

In association with the development, NW 43rd Avenue will be widened along the south frontage of the site consistent with the City's 2-lane collector / arterial standard to provide a 30' half-width right-of-way with 28' half-width pavement and a 6' wide detached sidewalk. NW Sierra Street is an already improved roadway with 36' of total pavement width and 60' of existing right-of-way. The interior roadway providing access to the lots will be a 28' wide paved private road within a 48' Tract.

Sanitary sewer and water service to the site will be provided by the City of Camas. A stormwater facility will be constructed to provide treatment and quantity control for stormwater runoff resulting from the development. All of these utilities are described in further detail in a subsequent section of this narrative.

The following sections of this narrative describe how the proposal complies with applicable sections of the City of Camas code.

CAMAS MUNICIPAL CODE (CMC) SECTION 16.05: SEPA

A SEPA checklist has been prepared describing existing environmental conditions of the site and potential impacts resulting from the proposed development and explaining how potential impacts will be mitigated.

CMC SECTION 16.31: ARCHAEOLOGICAL RESOURCE PRESERVATION

Clark County GIS shows the site as having a moderate to high probability. An archaeological predetermination was completed by Archaeological Services LLC and determined that no archaeological materials were found. The predetermination was sent to the Department of Archaeology & Historic Preservation (DAHP) and a determination from DAHP stated that no further archaeological work is necessary

CMC SECTION 16.53: WETLANDS

As part of the preliminary design process, the site was reviewed by The Resource Company to determine if there were wetlands on the property and, if present, to delineate the extents of the wetlands. The site review resulted in the delineation of a Category IV wetland in the northwest corner of the property. The documentation related to the wetlands delineation and typing is covered in the Wetland Delineation and Assessment Report prepared by The Resource Company included in this application. Based on the Category IV rating for the wetland and the proposed residential subdivision use for the site, a 50' base wetland buffer is proposed in accordance with CMC 16.53.040. There is also an existing wetland buffer on the northwest corner of the project. The buffer from this wetland extends onto the site and is noted on the preliminary plat. To the extent feasible, the subdivision has been laid out to avoid impacts to the site's wetland and buffers.

Proposed residential lots and roadways are located outside of the base 50' buffer for the on-site and off-site wetlands. The stormwater facility does encroach into the wetland buffer as allowed per City CMC 16.53.050(C)(3). Because the wetlands are located in the lowest parts of the site, it is unavoidable that stormwater detention be located as near as possible to the wetlands in order to comply with City stormwater control requirements. The maximum side slope of proposed grading in the outer portions of the buffers is limited to 4 horizontal to 1 vertical per City requirements. No other impacts are proposed to the wetland and buffer and no mitigation is proposed.

CMC SECTION 17.11.030D: PRELIMINARY PLAT APPROVAL CRITERIA

Section 17.11.030D of the City's municipal code provides approval criteria for preliminary plat applications. This section of code includes a list of 10 approval criteria. The approval criteria are discussed below. In some cases, only a brief overview of how the proposal complies with the approval criteria is provided in this section of the narrative as further detail will be provided in subsequent sections. The 10 approval criteria are provided in a numbered list below followed by a discussion (see italic text) of how each criterion has been satisfied with the proposal.

1. The proposed subdivision is in conformance with the Camas comprehensive plan, parks and open space comprehensive plan, neighborhood traffic management plan, and any other city adopted plans;

The preliminary plat has been developed keeping in mind adopted City plans including the comprehensive plan, the parks and open space plan, and neighborhood traffic management. Chapter V of the City's comprehensive plan focuses on housing. A number of the policies of the comprehensive plan are applicable to this project.

One of those policies, Policy HO-4, is to encourage new residential development to achieve a substantial portion of the maximum density allowed. A strategy for accomplishing this goal is to allow on-site transfer of density on sites that are constrained by environmental features such that developable portions of the property can be used to a greater extent. The plat has been laid out in a manner to attempt to approach the maximum densities allowed by the R-7.5.

In addition to the housing section of the comprehensive plan, the environmental section (Chapter VI) is also applicable to this project. Most notably, Policy EN-6 calls for protection of environmentally sensitive areas that are not suitable for intensive use such as steep slopes and wetlands. As documented on the preliminary plat and in environmental reports submitted with this subdivision application, the site has been designed to minimize areas of wetland and buffer while at the same time working to develop the property at the intensities envisioned by the City's zoning.

Portions of the Transportation element of the comprehensive plan (Chapter VII) also apply to this project. Compliance with this portion of the comprehensive plan is largely dictated by compliance with the road standards, capital facilities plan, and other City engineering requirements. Notable policies from the comprehensive plan include TR-3 which calls for streets to be designed to serve their anticipated function, TR-4 which aims to develop a safe and accessible pedestrian and bicycle system, and TR-6 which calls for the development of neighborhood and local connections to provide adequate circulation into and out of neighborhoods.

The development of the layout for this site has recognized each of these comprehensive plan policies. NW 43rd Avenue along the site frontage is proposed with an 18' paved half-width consistent with the City's standard for a 2 lane collector / arterial. NW Sierra Street's frontage on the east side of the site will propose to construct a sidewalk, currently the roadway is fully improved. The proposed private road within the site is proposed to have sidewalks allowing for a developed pedestrian system. Finally, the site is developed to allow for connectivity between the property and potential future developments adjacent to the site. Additional right-of-way will be dedicated if and when the property to the west is developed which will allow the intersection to align with Utah Street across NW 43rd.

The site has also been designed with recognition of the City's current draft of their Parks, Recreation, and Open Space Comprehensive Plan update available on their web site. The current plan shows a proposed trail that appears to be on the southern portion of the site along NW 43rd. The applicant will be installing 6' wide sidewalk to allow connectivity of this trail system.

2. Provisions have been made for water, storm drainage, erosion control and sanitary sewage disposal for the subdivision that are consistent with current standards and plans as adopted in the Camas Design Standard Manual;

Further discussion of the water, storm drainage, and sanitary sewer systems proposed for this site is provided later in this project narrative. The preliminary design for utilities to serve this site addresses improvements necessary to provide adequate utilities to serve the site. Erosion control measures including construction entrances, silt fencing, storm inlet protection, sediment traps and/or ponds, and protection of exposed soils will be incorporated into site construction drawings and the project will be required to obtain a construction stormwater NPDES permit from the Washington State Department of Ecology.

3. Provisions have been made for road, utilities, street lighting, street trees and other improvements that are consistent with the six-year street plan, the Camas Design Standard Manual and other state adopted standards and plans;

The proposed street layout including proposed right-of-way and pavement dimensions are shown in the preliminary drawings submitted as part of this preliminary plat application. Street trees are shown on the attached landscape plan and street lighting consistent with City standards will be documented on the final construction drawings. NW 43rd will be improved consistent with the City's 2 lane collector / arterial road standard. NW Sierra Street is fully improved, but will require sidewalk on the frontage. The interior roadway proposed will be a private road with 28' pavement within a 48' wide tract

4. Provisions have been made for dedications, easements and reservations;

Proposed right-of-way dedications are shown on the preliminary drawings. On-site utility easements that may be needed to provide utilities to each lot will be shown on the construction drawings with each phase of development. There are no known off-site easements known to be necessary at this time to serve the site with utilities or for other purposes.

5. The design, shape and orientation of the proposed lots are appropriate to the proposed use;

The layout of the proposed subdivision took into account the onsite environmental constraints to develop a preliminary plat that has lot sizes and dimensions meeting or exceeding the minimum allowed through density transfer in the R-7.5 zone. The layout proposes to utilize the density transfer provisions of Camas's code.

6. The subdivision complies with the relevant requirements of the Camas land development and zoning codes, and all other relevant local regulations;

Discussion of the site's compliance with the City's land development and zoning codes is provided throughout this narrative and through the other documents submitted as part of the subdivision application including the preliminary plat and the various reports completed by the consultant team.

As mentioned previously, the applicant is proposing to utilize density transfer to result in a site layout that respects the environmental constraints of the property. The 15 lots proposed on the site falls below the maximum density that would be allowed within the R-7.5 zone. The maximum densities allowed, based on dwelling units per gross acre is 5.8 DU/acre and the proposed density is 3.97 DU/acre, which is well below the maximum allowed.

Minimum lot widths and depths of 60' and 80' are proposed throughout the site. These dimensional standards are consistent with those permitted through density transfer in the R-7.5 zone.

In addition to modifications to lot dimensional standards discussed above, a few additional variances to the City standards are requested for this project. First, the applicant is requesting a reduction in the street side yard setback from the 20' identified in CMC 18.09.040 Table 2 to 15'. The standard 20' setback unnecessarily increases the size of lots necessary at intersections in order to provide a functional building envelope. A reduction to a 15' street side setback does not result in a safety hazard. Sight distance at intersections is measured at a point 15' from the edge of the intersecting roadway, so a 15' side yard building setback would not result in the building encroaching into the necessary intersection sight distance. Camas's

standard for a 20' street side yard setback exceeds the requirements of other jurisdictions in Clark County. Clark County, the City of Vancouver, and the City of Washougal all have 10' required street side yard setbacks while Ridgefield utilizes a 15' standard. Given the other environmental constraints on this property, the requirement for a 20' street side yard setback would further impede the applicant's ability to develop this site at the densities established by the zoning of the properties included in the development.

The remaining modifications of standards that are being requested for this project are an exception from a left turn lane required in the City of Camas Design Standard Manual and an exception to the 70' centerline Radius requires by CMC 17.19.040(B)(12)(c). Additional exception requests will be discussed in detail in the sections of the narrative related to stormwater and transportation later in this document.

7. Appropriate provisions are made to address all impacts identified by the transportation impact study;

A traffic assessment report was prepared by Charbonneau Engineering and made two safety recommendations. The first is a stop control at the new intersection of the proposed private road and NW Sierra Street. The second is the sight distance at this same intersection does not currently meet the minimum AASHTO minimum requirements. The applicant proposes a stop condition at this intersection and once all of the existing vegetation is removed and the sidewalk is installed minimum sight distance requirements will be met.

8. Appropriate provisions for maintenance of commonly owned private facilities have been made;

Provisions for maintenance of commonly owned private facilities associated with the development will be incorporated into the Homeowner's Association documents when they are developed. HOA documents and CC&R's have not yet been developed for the site since the ultimate homebuilder or builders that will be involved with the project have not yet been determined. It is best to delay preparation of these documents so that the ultimate builders involved with site development can provide their input.

9. Appropriate provisions, in accordance with RCW 58.17.110, are made for:
 - a. The public health, safety, and general welfare and for such open spaces, drainage ways, streets, or roads, alleys or other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and school grounds and all other relevant facts, including sidewalks and other planning features that assure safe

conditions at schools bus shelter/stops, and for students who walk to and from school, and;

- b. The public use and interest will be served by the platting of such subdivision and dedication;

Satisfaction of the requirements of RCW 58.17.110 is provided through the information provided in the preliminary subdivision application. The application materials discuss such issues as potable water, sanitary waste, storm drainage, and roadways in depth. Regarding parks and recreation, the project is located in an area where significant recreational opportunities are available in close proximity including Lacamas Lake and Lacamas Lake Park. Additionally, park impact fees will be paid at the time of building permits. These fees help fund local recreation opportunities.

It is anticipated students will be bussed to schools in the Camas School District. Sidewalks throughout the subdivision will provide adequate, safe access to school bus stops.

Platting of this site is consistent with the comprehensive plan and the zoning of the subject properties. The development of the property will result in the payment of impact fees, utility connection fees, and taxes used to support the public services of the community.

10. The application and plans shall be consistent with the applicable regulations of the adopted comprehensive plans, shoreline master plan, state and local environmental acts and ordinances in accordance with RCW 36.70B.030.

As mentioned previously, the proposed development is consistent with the comprehensive plan. The site is not located within any designated shoreline areas. The environmental documents submitted with this land use application demonstrate the ability of the project to comply with applicable environmental acts and ordinances.

STORMWATER

Compliance with the City's stormwater regulations is addressed in the Preliminary Stormwater Report submitted as part of the land use application. Per the pre-application conference notes issued by the City for this project, stormwater quantity control for the site will be provided in accordance with the requirements of the 2005 Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.

Stormwater runoff from the site will increase as a result of the construction of the future homes, driveways, and roads. The water will be collected by storm inlets in the road system and then directed by storm sewer piping to a stormwater facility located on the site which will mitigate the impacts of the construction by providing treatment and detention of the runoff. Detention and

treatment will be accomplished with a combined detention-wetpond. The stormwater will outfall to the wetlands in the northwest corner of the site.

The applicant is requesting one code exception related to the site's stormwater facilities as mandated by CMC 17.19.030(F)(6). That section of the City's code typically requires stormwater facilities to be set back a minimum of 30 feet from streets. See exceptions below.

SANITARY SEWER & WATER UTILITIES

The site is within the water and sanitary sewer service areas of the City of Camas and the site will connect to the City's public sewer and water systems. Both water and sewer will be extended into the property from NW Sierra Street and individual sewer laterals and water services will be stubbed to each individual lot.

TRANSPORTATION

In laying out the proposed road system to serve the site, careful consideration was given to the City's various transportation comments through the pre-application stage, e-mails and meetings. The interior roadway is proposed to be a private roadway with 28' of pavement within a 48' wide tract. The private roadway will dead end into a City approved hammerhead.

Several access points into the site were reviewed and determined to be either inefficient for the site dimension or created unsafe traffic conditions. It was determined with ongoing communication with staff that connection to NW 43rd would be the most viable option. The connection point doesn't meet the minimum intersection spacing between the proposed intersection and the existing intersection to the north and south. Minimum intersection spacing is 330' for a 2-lane collector/arterial roadway per the City of Camas Design Standard Manual (CCDSM). The applicant would like to request an exception for the reduction in the required intersection spacing. Additionally, the applicant is requesting two more exceptions, the first is to not install and turn lane at the proposed intersection into the site. The second is for a reduction of the required minimum centerline radius. See exceptions below.

SIGNIFICANT TREE SURVEY

The applicant understands the significance of tree retention on the proposed site and also understands the liability of leaving trees within a medium density residential development. It should be noted that a biologist does not perform the task of determining if a tree is healthy or unhealthy for retention. This is done by either a landscape architect or arborist. The applicant has hired a landscape architect to perform the tree survey and his findings are attached with this application.

A majority of the trees do not require a licensed professional to determine that removal is necessary. The line of trees along NW Sierra are in close proximity to the future sidewalk and the side yards of future homes, making it impractical to retain them after the site is developed. The trees along NW 43rd are also too close to the proposed sidewalk such that it is not practical

to try to retain them.

After further review of the other trees throughout the site the applicant proposes, but does not guarantee, to retain ten trees. “To the extent practical” the applicant will try to retain these trees, however if a licensed arborist can not guarantee that these trees are not a hazard to the future residence they will be removed during construction of the development.

EXCEPTIONS

To meet the exception criteria the applicant needs to address CMC 17.23.010(a-c) and show that an undue hardship may be created as a result of strict compliance with the provisions of the CMC.17.23.010(A)

1. An exception shall not be granted unless:
 - a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;
 - b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and
 - c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Exception 1:

The applicant is requesting a code exception related to the design of the site’s stormwater facilities as regulated by CMC 17.19.030(F)(6). That section of the City’s code typically requires stormwater facilities to be set back a minimum of 30 feet from streets. More than 37% of the total area of this development is dedicated to open space, stormwater facilities, and public rights-of-way. The addition of a 30’ stormwater facility setback would only cause to further increase the already substantial percentage of the site dedicated to those uses. Additionally, requiring this setback would increase the need for additional retaining walls at the stormwater facility in order to fit the facilities into the available space. The applicant is unsure if this exception is necessary because it is unclear if the city code applies given that the proposed roadway will be private and owned and maintained by the Meadows Subdivision Home Owners Association.

Exception Criteria:

- a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

There are three lots that gain access from the roadway that is bordering the storm facility. There is only one option for the applicant to meet this code requirement and that is to remove the three lots and move the roadway back away from the facility. A change of this nature would make the proposed development financially unfeasible.

The applicant is currently only developing the property at a density of 3.97 units per gross acre which is well under the maximum allowed of 5.8 units per gross acres. Increasing the distance from the roadway to the storm facility to provide a 30' landscape buffer will create an undue hardship and deprive the applicant of reasonable development of his land.

b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is proposed on an infill lot. These types of lots are usually difficult in regards to meeting the code requirements of dimensional standards for roads and lots regardless of jurisdiction where the site is located. The applicant assumes that staff would approve similar exceptions on sites with similar circumstances and if the exception is granted it will not have any effect on property rights and privileges that are enjoyed by other properties in the vicinity. Conversely, if the exception was denied, it would result in a development of such low density that the applicant would effectively be denied the rights and privileges enjoyed by other similarly sized and zoned properties in the City

c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

The proposed exception will not be detrimental to the public welfare or injurious to other property in the vicinity. The 30' landscape buffer required by code won't be visible from neighboring properties once the development is fully built out. The proposed design does not create a safety hazard to the public.

Exception 2:

Several access points into the site were reviewed and determined to be either inefficient for the site dimensions or created unsafe traffic conditions. It was determined through ongoing communication with staff that connection to NW 43rd would be the most viable option for providing site access. The connection point doesn't meet the minimum intersection spacing requirements between the proposed intersection and the existing intersections to the north and south. Minimum intersection spacing is 330' for a 2-lane collector/arterial roadway per the City of Camas Design Standard Manual (CCDSM). The applicant would like to request an exception for the reduction in the required intersection spacing. Based on Clark County GIS the intersection to the north (Sierra/45th) is measured at approximately 285' between the proposed intersection and the intersection to the south per the attached plans is approximately 315' from the new proposed intersection. Spacing between the new proposed intersection and the ones to the north and south are slightly under the minimum standard required spacing and pose no traffic safety risk and will not hinder the traffic capacity or circulation of NW Sierra, therefore the applicant requests approval of the exception.

Exception Criteria:

a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

Whether the applicant accesses the proposed development from NW 43rd Avenue or NW Sierra Street the applicant will not be able to meet the minimum intersection requirements of 330'. If the requested exception is not approved it will deprive the applicant of the reasonable use of his land.

b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is located on two infill lots. Infill lots usually have difficulty meeting the code requirements of dimensional standards for roads and lots regardless of jurisdiction. The applicant assumes that staff would approve additional exceptions with similar circumstances and if the exception is granted it will not have any effect on property rights and privileges that are enjoyed by other properties in the vicinity. The property is zoned for development and denial of this exception request would make it infeasible to develop the property to the densities intended based on the property's zoning thereby denying the developer the rights and privileges available to other property owners in the City with similar sized properties that have similar zoning.

c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Granting the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Exception 3:

The third exception request is for relief from the requirement to install a turn lane at the proposed new street intersection. Footnote 2 under the table labeled "General Guidelines for Geometry of Roadway" within the CCDSM suggests that left turn lanes are required at every intersection for roadways classified as a 2-lane arterial/collector. Left turn lanes do help traffic circulation when warranted at intersections, but for short dead end roadways with low volumes such as the one proposed with this project, a left turn lane isn't warranted. Based on the 144 average daily trips proposed with the development the applicant requests that an exception to the CCDSM be approved.

Exception Criteria:

a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

As previously mentioned the existing site consists of two infill lots that are zoned R-7.5. Without approval of the proposed exception, meeting the density contemplated by the site's zoning would not be possible. If the exception is denied, it will reduce the total lot count by two. The current proposed density of 3.97 units per gross acre would be reduced to 3.44 units per gross acre. This is below the maximum density allowed for the R-12 zone, a significantly less dense zoning than the R-7.5 zoning of this site. This will deprive the applicant of the reasonable development of his land.

b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is proposed on an infill lot. These types of lots are often difficult to develop in regards to meeting the code requirements of dimensional standards for roads and lots regardless of the jurisdiction in which they are located. The property is zoned for development and denial of this exception request would make it infeasible to develop the property to the densities intended based on the property's zoning thereby denying the developer the rights and privileges available to other property owners with similar sized properties that have similar zoning.

c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

This exception, if granted, will match the existing traffic patterns along NW Sierra Street directly north and south of the site where no turn lanes have been provided and will not be detrimental to the public welfare or injurious to the other properties in the vicinity.

Exception 4:

The fourth exception is to CMC 17.19.040(B)(12)(c) which requires a minimum centerline curve radius of 70'. The proposed private road has a reverse curve with both curves having a 60' radius. Given that the proposed road has been designed as a dead end with a hammer-head, traffic speeds can be expected to be substantially reduced compared to a through roadway. Furthermore, the proposed tighter centerline radius promotes safety by slowing vehicles in a residential setting. The proposed modified design standards to be used in this project have been demonstrated to be successful at several locations within the City of Camas and in countless applications in Clark County under similar residential settings with no resulting reduction in safety, therefore the applicant requests approval of the proposed exception.

Exception Criteria:

a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

Installing reverse curves with smaller radii limits the impacts to the corner lots that abut them and creates more feasible buildable lots and additionally increases the safety of

traffic through the site by reducing vehicle speeds. If the proposed exception is not granted it will deprive the applicant from the ability to reasonably develop feasible corner lots.

b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is proposed on an infill lot. These type of lots are usually difficult to develop in regards to meeting the code requirements of dimensional standards for roads and lots. The applicant assumes that staff would approve similar exceptions on other sites with similar circumstances and if the exception is granted it will not have any effect on property rights and privileges that are enjoyed by other properties in the vicinity.

c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Reducing centerline radii in locations of ninety degree curves helps to slow residential traffic and provides a safety feature. This exception, if granted, will definitely not be detrimental to the public welfare or injurious to other property in the vicinity

Meadows Subdivision

PRELIMINARY WETLAND BUFFER MITIGATION PLAN

Camas, Washington



Prepared for:
LaCamas Meadows, LLC
200 S.E. 197th Place
Camas, WA 98607

Prepared by:
The Resource Company, Inc.
915 Broadway, Ste. 250
Vancouver, WA 98663
(360) 693-4555

April 16, 2015



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- FIGURE 4 – PROPOSED SITE PLAN**
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- PHOTO SHEETS – SITE PHOTOGRAPHS**

PRELIMINARY WETLAND BUFFER MITIGATION PLAN

Project: Meadows Subdivision
Applicant: Lacamas Meadows, LLC/Tom Strassenberg
Location: 4313 NW Sierra Street, Camas, Washington
Legal Description: SW ¼ of Sec. 34, T02N, R03E, W. M., Clark County
Serial Number(s): 177893-000 & 177902-000
Local Jurisdiction: City of Camas
Study Area Size: 4.25 acres
Project Type: Single Family Residential
Zoning: R-7.5
ComPlan: SFM
Delineation Report Date: June 13, 2014
Preliminary Mitigation Plan: April 16, 2015

1.0 INTRODUCTION

The Applicant contracted The Resource Company (TRC) to prepare a wetland buffer mitigation plan for the proposed Meadows Subdivision project. The project is located at 4313 N.W. Sierra Street, Camas, Washington. The study area is located within the LaCamas Creek watershed. The project consists of a single family residential subdivision (15 lots) and associated infrastructure. This report addresses temporary impacts to the wetland buffer for construction of the stormwater facilities in the outer portion of the wetland buffer and the placement of a manhole and stormwater outfall within inner portion of the wetland buffer.

Wetlands on-site were delineated by TRC on June 4, 2014. Through the course of the wetland assessment one wetland was identified within the study site. The wetland identified was classified as Category 4 with a 50-foot base buffer (Fig. 3) for high intensity land use. This report is prepared under the guidelines of the City of Camas Critical Areas Ordinance – Wetlands (16.53).

2.0 EXISTING CONDITIONS

The study area encompasses tax lots 177893-000 (2 ac.) and 177902-000 (2.25 ac.). Currently, the properties contain two single family residences and several outbuildings. It appears that the property has been used for agricultural purposes primarily grazing. It is predominantly an open grassland plant community with patches of trees and shrubs. The property is relatively flat and slopes slightly to the northwest (Fig. 2). A wetland in the northwest corner of the site was identified through the course of the assessment. This wetland is part of a larger wetland complex that extends off-site to the north. The wetland meets the criteria of a slope, palustrine, emergent, wetland as defined under the hydrogeomorphic (HGM) classification system. The wetland was rated Category IV according to Ecology's rating system for western Washington.

2.1 WETLANDS (FIG. 3)

Wetland A (9,370 sq.ft – on-site)

Wetland A meets the criteria of a slope hydrogeomorphic (HGM) wetland class. On-site the wetland contains a sparse tree layer that is dominated by Oregon ash (*Fraxinus latifolia* – FACW). There is no shrub layer. Ground cover is predominantly by Kentucky bluegrass (*Poa pratensis* – FAC), creeping buttercup (*Ranunculus repens* – FAC) and vernalgrass (*Anthoxanthum odoratum* – FACU). Hydric soil characteristics generally include a silt loam with a dark brown (7.5YR 3/2) with dark yellowish brown concentrations in the top eight inches, below this is a very dark gray (10YR 3/1) silt loam with dark brown (7.5YR 3/4) concentrations to a depth of 16 inches. Wetland hydrology was indicated by the presence of oxidized rhizospheres and water stained leaves. Wetland A rated as Category IV wetland according to the Western Washington Wetland Rating Form.

2.2 NON-WETLANDS (Fig. 3)

The non-wetland portion of the study area contains two residences and outbuildings and is actively maintained. It is predominantly open grassland with patches of trees and shrubs. The grassland areas are predominantly vernalgrass, bluegrass, tall fescue (*Schedonorus arundinacea* – FAC) and a variety of upland forbs. There is a patch of Douglas-fir (*Psuedotsuga menziesii* – FACU) in the south-central portion of the site and the majority of the south property line contains a tree row. Blackberry occurs along the northern edge of the site. Soils in the non-wetland portion of the site are generally a brown (7.5YR 4/3 - & 7.5YR 5/4) silt loam with no hydric indicators. No wetland hydrology indicators were observed in the non-wetland portions of the study area.

3.0 BUFFER IMPACT AND COMPENSATION AREAS (FIGS. 4 & 5)

The Applicant is proposing to detain stormwater on-site within facilities that will meet the new Western Washington Stormwater Manual Standards. According to CMC 16.53.050(C)(3) - *Stormwater facilities are only allowed in buffers of wetlands with low habitat function (less than twenty points on the habitat section of the rating system form); provided, the facilities shall be built on the outer edge of the buffer and not degrade the existing buffer function, and are designed to blend with the natural landscape. Unless determined otherwise by the responsible official, the following activities shall be considered to degrade a wetland buffer when they are associated with the construction of a stormwater facility:*

- a. *Removal of trees greater than four inches diameter at four and one-half feet above the ground or greater than twenty feet in height;*
- b. *Disturbance of plant species that are listed as rare, threatened, or endangered by the city, county, or any state or federal management agency;*
- c. *The construction of concrete structures, other than manholes, inlets, and*

outlets that are exposed above the normal water surface elevation of the facility;

- d. The construction of maintenance and access roads;*
- e. Slope grading steeper than four to one horizontal to vertical above the normal water surface elevation of the stormwater facility;*
- f. The construction of pre-treatment facilities such as fore bays, sediment traps, and pollution control manholes;*
- g. The construction of trench drain collection and conveyance facilities;*
- h. The placement of fencing; and*
- i. The placement of rock and/or riprap, except for the construction of flow spreaders, or the protection of pipe outfalls and overflow spillways; provided, that buffer functions for areas covered in rock and/or riprap are replaced.*

The portion of the stormwater facility within the wetland buffer has been designed to meet the above listed criteria as follows:

1. Wetland A scores 17 points for habitat which meets the less 20 points criteria
2. Except for the outfall pipe, grading in the buffer is proposed on the outer 50 percent of the wetland buffer.
3. The graded slope within the buffer is a 4:1 which has been the accepted standard to meet the blending with the natural landscape criteria. This area will be restored by seeding with a native grass mixture. See the following section.
4. The portion of the stormwater facility has been designed to not degrade the buffer and meet the criteria listed above.

This project will temporarily impact 6,345 ft² of the buffer for the excavation of the outer portion of the detention facility and the installation of the outfall pipe as shown in Figure 5. The only permanent impact within the buffer will be the installation of a manhole on the outer edge of the graded area. This impact will be approximately 20 ft² (Fig. 5). No trees will be removed within this construction zone. Vegetation that will be removed for the pipe installation and man-hole will be primarily non-native herbaceous species.

To maintain wetland and buffer function, the permanent and temporary impact areas will be treated and restored as follows:

1. Construction fencing should be placed and maintained between the wetland boundary and the trench construction area during excavation to prevent equipment from entering the wetland.
2. The trench will be excavated at the minimum width necessary for the installation of the pipe.
3. Erosion control BMP's shall be employed so that that the wetland is not impacted by the trenching and installation activities.
4. Spoils from the trench shall be stored out of the wetland.

5. The upper 12 inches of topsoil should be removed and stockpiled separately from subsurface soil.
6. Once installation has been completed the trench shall be restored to pre-construction contours. Subsurface soils should be placed first into the trench as backfill, followed by the topsoil.
7. The construction area (Fig. 6) will be planted with a native grass seed mixture similar to the mixture that follows:

Blue wildrye (*Elymus glaucus*) 40%
California brome (*Bromus carinatus*) 40%
Native red fescue (*Festuca rubra*) 15%
Tufted hairgrass (*Deschampsia caespitosa*) 5%
The seeding rate for this mixture is: 1 lb/1000 sq.ft.

8. To compensate for the permanent buffer impact for the manhole, the trees and shrubs listed in Table 1 will be planted in the buffer between the manhole and the wetland boundary.

Planting Table 1 – Native Woody Species Enhancement Area (80 sq. ft.)

Fig. 6

Native Woody Species	Plant Form	Minimum Size	Minimum Spacing	Required Number
W. Red Cedar (<i>Thuja plicata</i>)	Seedling	2'	10'	2
Hazelnut (<i>Corylus cornuta</i>)	Bare Root	2'	7'	4
Total Tree/Shrubs				6

Additional planting specifications applicable to this plan are listed below.

Source of Plant Materials - All plants will be obtained from nurseries specializing in plant materials native to the Pacific Northwest.

Planting Time - Bare-root shrubs and trees should be planted between December 1 and March 31, when plants are dormant. If planting is conducted outside this time period, containerized plant stock will be used and extra care and watering may be needed to ensure that plants become adequately established.

Planting Guidelines - A hole one foot in diameter and one foot deep, shall be excavated for bare root stock. The holes should be large enough to accommodate the plant roots without restriction. Plants will be held in place with the top of the root mass at ground level. Topsoil will be backfilled around the roots and lightly tamped to remove any air pockets in the soil. Mulch (2-3 inches deep) shall be applied around the base of each plant. Future maintenance should use scarification (by hand) to keep the 1-foot diameter area free of herbaceous vegetation until plants are well established. If the soils are not saturated, each plant should be watered at the time of planting. Supplemental watering

(every two weeks during the summer season) may also be required to ensure plant survival and mitigation success.

Schedule – The mitigation area will be planted within the same calendar year that the waterline is installed.

Monitoring & Maintenance - The following actions will be implemented as part of the wetland buffer enhancement monitoring and maintenance plan on this site:

Qualifications - The initial and all successive year plantings will be supervised by a qualified professional to ensure that correct planting procedures are followed and that plantings are done according to the planting scheme.

Duration - Monitoring of all planted areas shall begin once the mitigation site is planted and established and shall continue through the duration of the 3-year monitoring period. Monitoring activities will take place during the late spring or summer time period. A report documenting the monitoring results will be submitted to the City following the 1st, 2nd, and 3rd year monitoring periods. This report will identify deficiencies in the enhancement progress and any contingency measures that will be taken to correct those deficiencies.

Expected Survivability - The goal of the mitigation plan is to reach certain plant survivability or plant cover (80 percent) by the end of the 3 year monitoring period. To determine if the enhancement area is meeting the expected goal, plant survivability and aerial coverage will be tied to each monitoring period as follows:

- Year 1 – at least 100 percent survival of native trees and shrub species
- Year 2 – at least 80 percent survival of native trees and shrub species
- Year 3 – at least 80 percent survival or 25 percent cover of native species

Naturally Colonizing Vegetation - Non-native species except reed canarygrass should cover less than 10 percent of the enhancement area. If the planted stock do not survive, but native naturally colonizing wetland plant species replace them, then the project may be judged to meet the threshold criteria for successful plant community establishment. (Note: All decisions regarding which volunteer species are to be considered acceptable will be made by the City).

Maintenance - To ensure planting success, the Applicant will be responsible for performing minor maintenance over the monitoring period. This will include the selective removal of undesirable plant species such as blackberry (*Rubus* spp.) that may be hindering the growth and establishment of the favored plant stands. An area, 1-foot in diameter surrounding each planted woody species, will be kept free of competing vegetation. This can be accomplished either by scarifying the area by hand or through the use of weed-control rings. Any maintenance required within the wetland or buffer will be supervised by a qualified wetland professional familiar with this project.

Adaptive Management - Adaptive Management will be utilized to make improvements to the mitigation plan if needed. Adaptive Management – the feedback loop – is a four step process based on a review of the information collected through the monitoring and a determination of what changes are necessary to improve protection when goals are not met. Adaptive management is the four stepped process described below and this process will be utilized if monitoring reveals that the objectives and performance standards of the mitigation are not being met.

Analyze – As monitoring data is analyzed new information can be generated that may require changing the solutions prescribed.

Implement – Implement actions to address mitigation deficiencies.

Monitor – Provides new data that feeds back into the analysis of the landscapes and its wetlands. Monitor the implemented actions and if deficiencies are still present proceed to step 1.

1. Replacement Plantings—Replacement plantings will also be made throughout the monitoring period if monitoring reveals that unacceptable plant mortality has occurred. Woody species will be re-planted to the original number of plants proposed in the accepted mitigation plan throughout the duration of the monitoring and maintenance period.
2. Planting Plan Modifications—Modifications to the planting plan (i.e., plant species and densities) will be made if monitoring identifies problems with the original planting scheme. For example, if annual monitoring identifies that plant mortality is attributed to an inappropriate hydrologic regime, the replacement plantings should be made using a more suitable plant species. Any recommended changes to the planting scheme will be documented in the annual monitoring report. The addition of any new plant species, not already included in this enhancement plan, must be approved by the City.

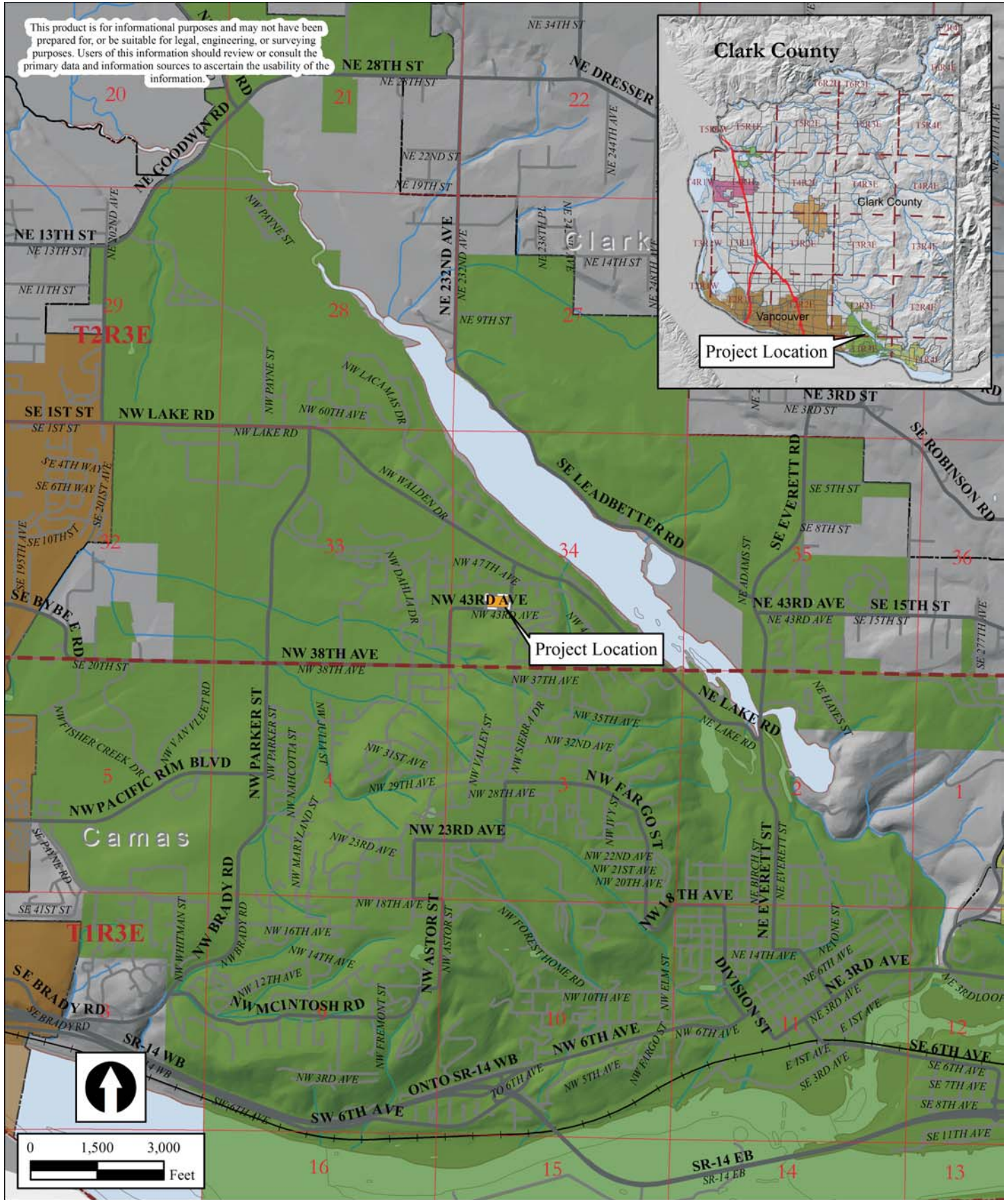
Soil Erosion - Any areas demonstrating soil erosion problems will be restored as soon as possible. If there does not appear to be a problem with the original design, the eroded areas will be restored by replacing any lost topsoil and replanted according to the original planting scheme.

Table 2. Maintenance and Contingency Requirements

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Restoration and Enhancement Areas	Trash and debris	Any trash or debris which exceeds 1 ft ³ /100ft ² (equal to the volume of a standard size office garbage can). In general, there should be no evidence of dumping.	Trash and debris cleared from site.

Restoration and Enhancement Areas	Erosion	Eroded damage >2 inches deep where cause of damage is still present or where there is potential for continued erosion.	Eroded areas should be stabilized with appropriate erosion control BMPs (e.g., seeding, mulching).
Restoration and Enhancement Areas	Plant mortality	Plant mortality jeopardizes attaining the survival rate outlined in this mitigation/restoration plan.	Plants should be replaced according to the planting plan. Modifications to the planting plan should be made if monitoring identifies problems with the original planting scheme.
Restoration and Enhancement Areas	Invasion of undesirable plant species.	Undesirable plant species are hindering the growth and establishment of the favored plant stands.	Undesirable species removed by hand, or in accordance with recommendations of the Clark County Weed Control Board.
Restoration and Enhancement Areas	Animal herbivory	Animal herbivory jeopardizes attaining the survival rate outlined in this mitigation/restoration plan.	The area may need to be temporarily fenced if grazing becomes a problem.

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Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation

**Project Location Map
 Meadows Subdivision Project
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,

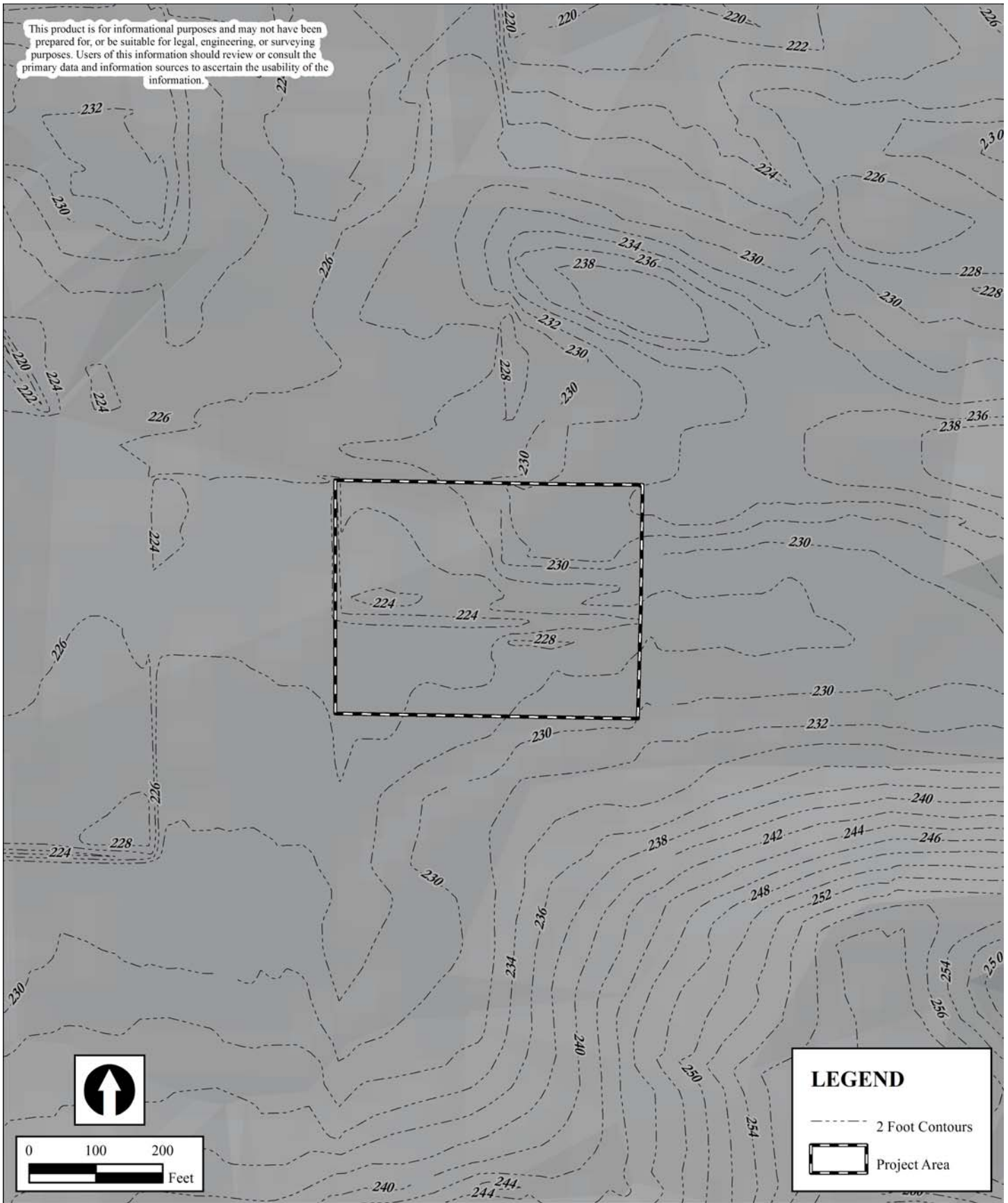
NEAR: Camas, Washington

COUNTY: Clark County

DATE: April 16, 2015

Figure 1

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Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation

**Clark County LiDAR Topography
 Meadows Subdivision Project
 Camas, Washington**



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ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,

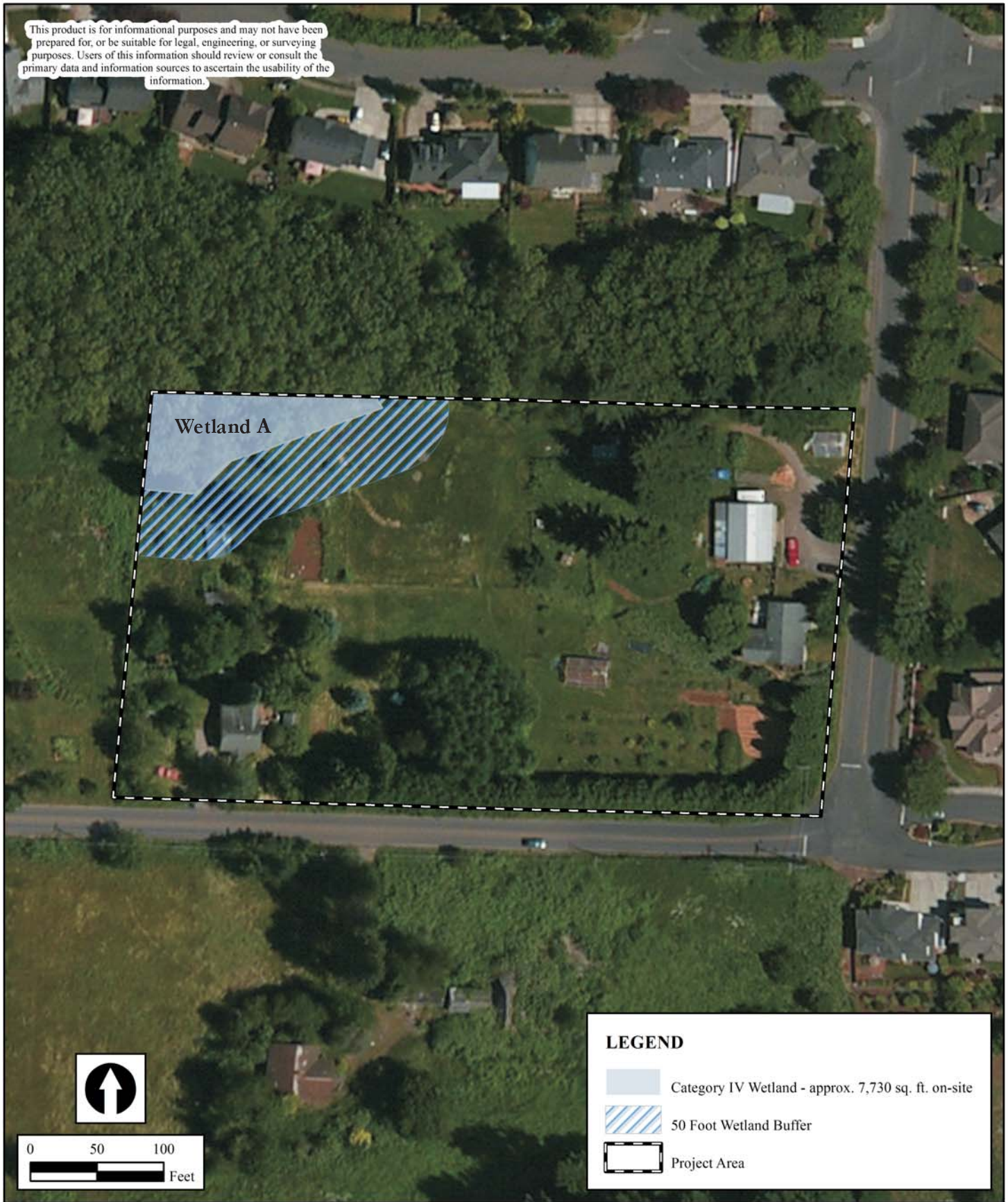
NEAR: Camas, Washington

COUNTY: Clark County




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Figure 2

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LEGEND

-  Category IV Wetland - approx. 7,730 sq. ft. on-site
-  50 Foot Wetland Buffer
-  Project Area

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

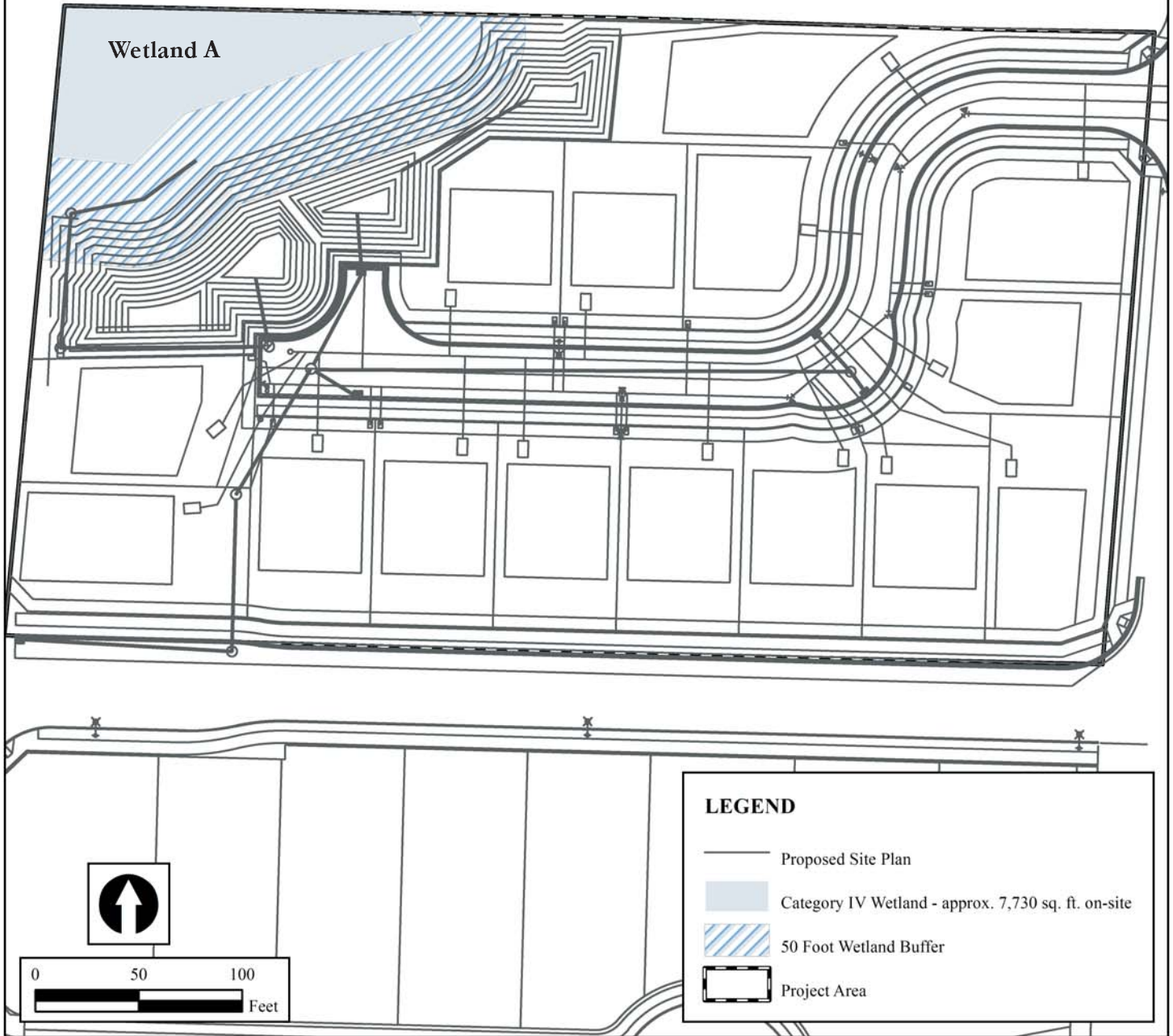
PURPOSE: Wetland Buffer Mitigation

Existing Conditions
Meadows Subdivision Project
Camas, Washington



PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: April 16, 2015
Figure 3

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Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation

**Proposed Site Plan
 Meadows Subdivision Project
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,

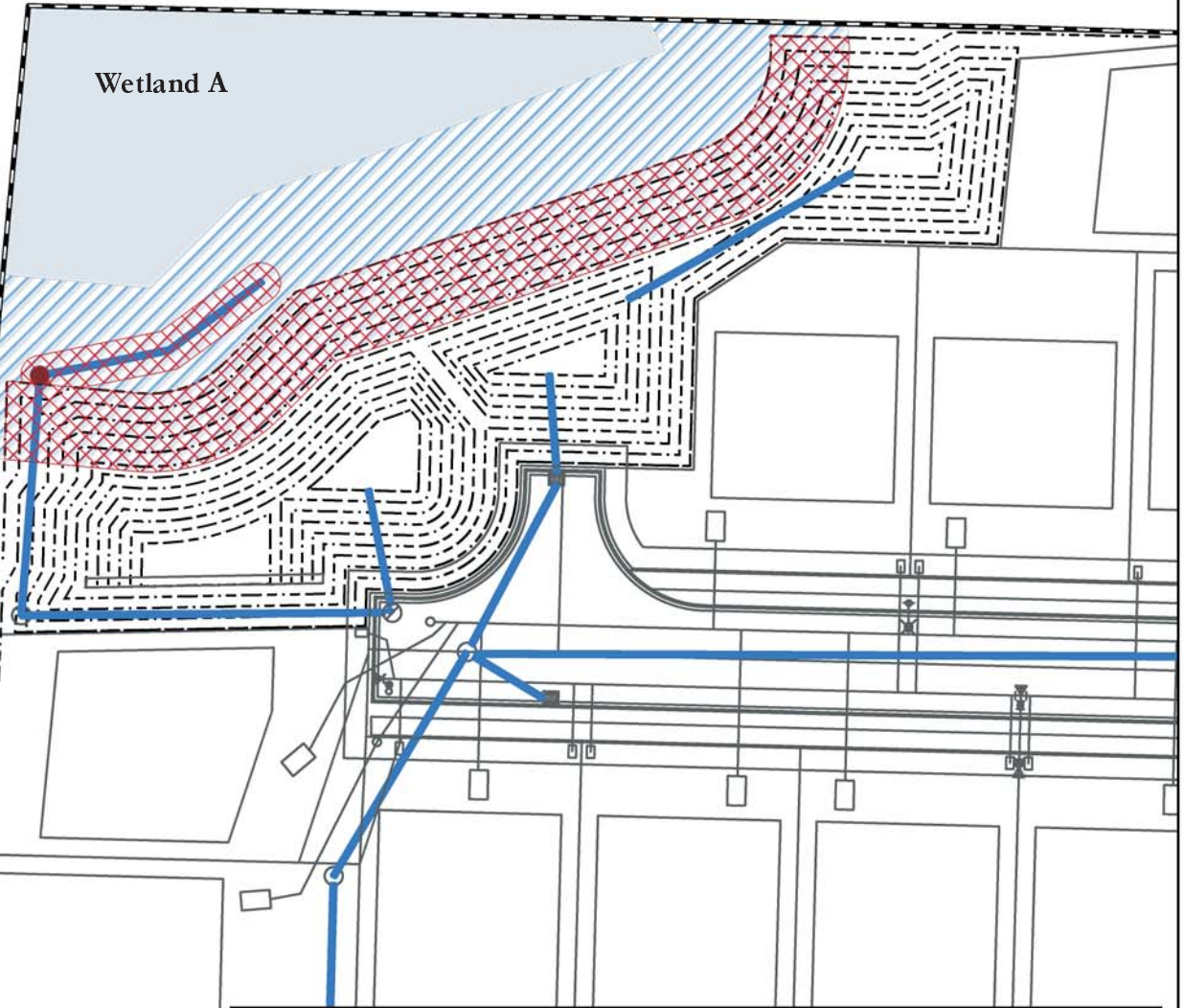
NEAR: Camas, Washington

COUNTY: Clark County

DATE: April 16, 2015

Figure 4

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LEGEND

- Proposed Site Plan
- - - Stormwater Facility Topography
- Stormwater Pipe
- ▭ Project Area
- Permanent Wetland Buffer Impacts - 20 sq. ft.
- ▨ Temporary Wetland Buffer Impacts - 6,345 sq. ft.
- Category IV Wetland - approx. 7,730 sq. ft. on-site
- ▨ 50 Foot Wetland Buffer

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation

**Buffer Impact Areas
 Meadows Subdivision Project
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,

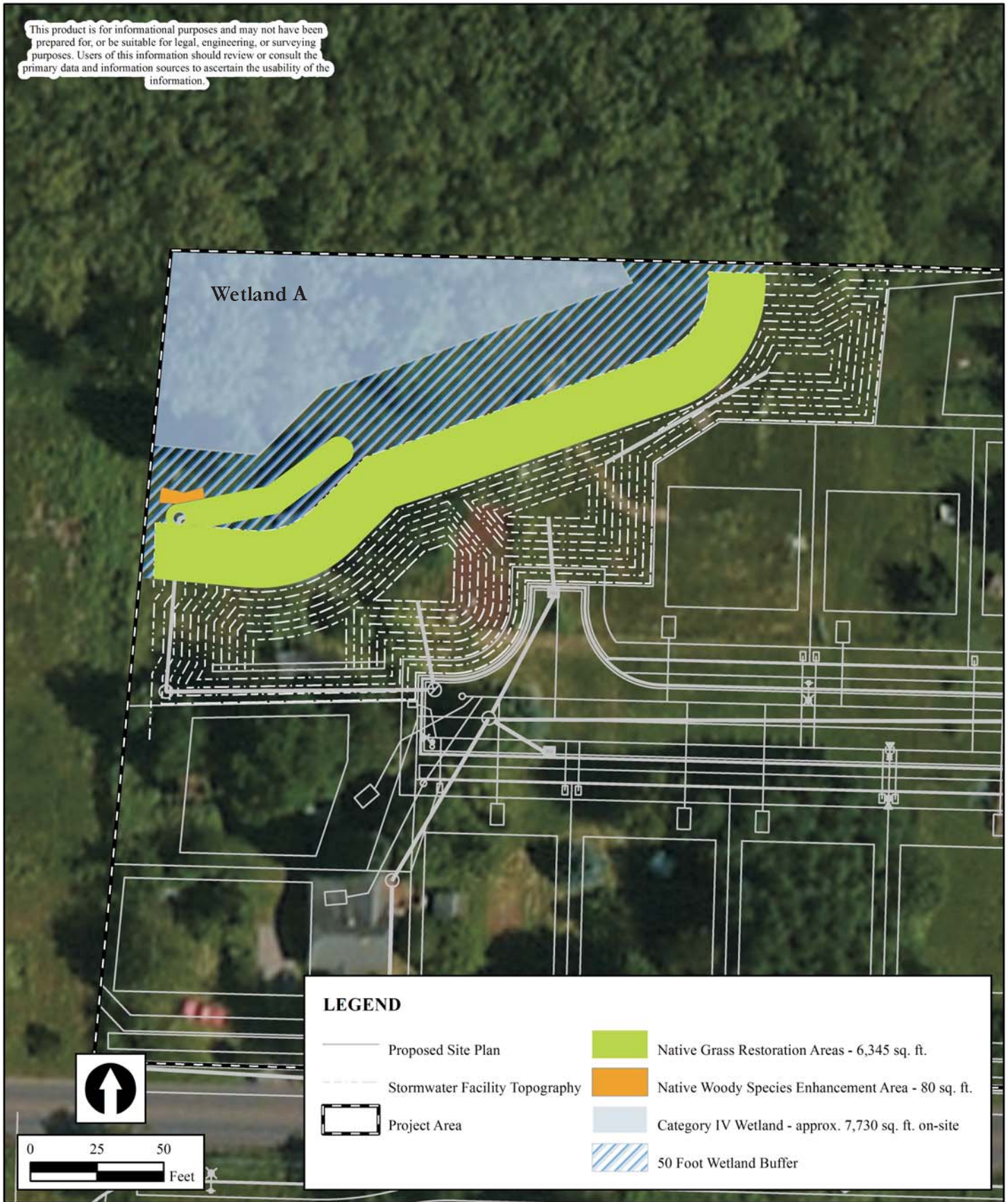
NEAR: Camas, Washington

COUNTY: Clark County

DATE: April 16, 2015

Figure 5

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Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation

**Buffer Mitigation Area
 Meadows Subdivision Project
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,

NEAR: Camas, Washington

COUNTY: Clark County

DATE: April 16, 2015

Figure 6



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation

**Project Photographs
Meadows Subdivision Project
Camas, Washington**



**The Resource
Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
915 Broadway, Suite 250, Vancouver, WA 98669 ph: 360-693-4555 fax: 360-699-6242

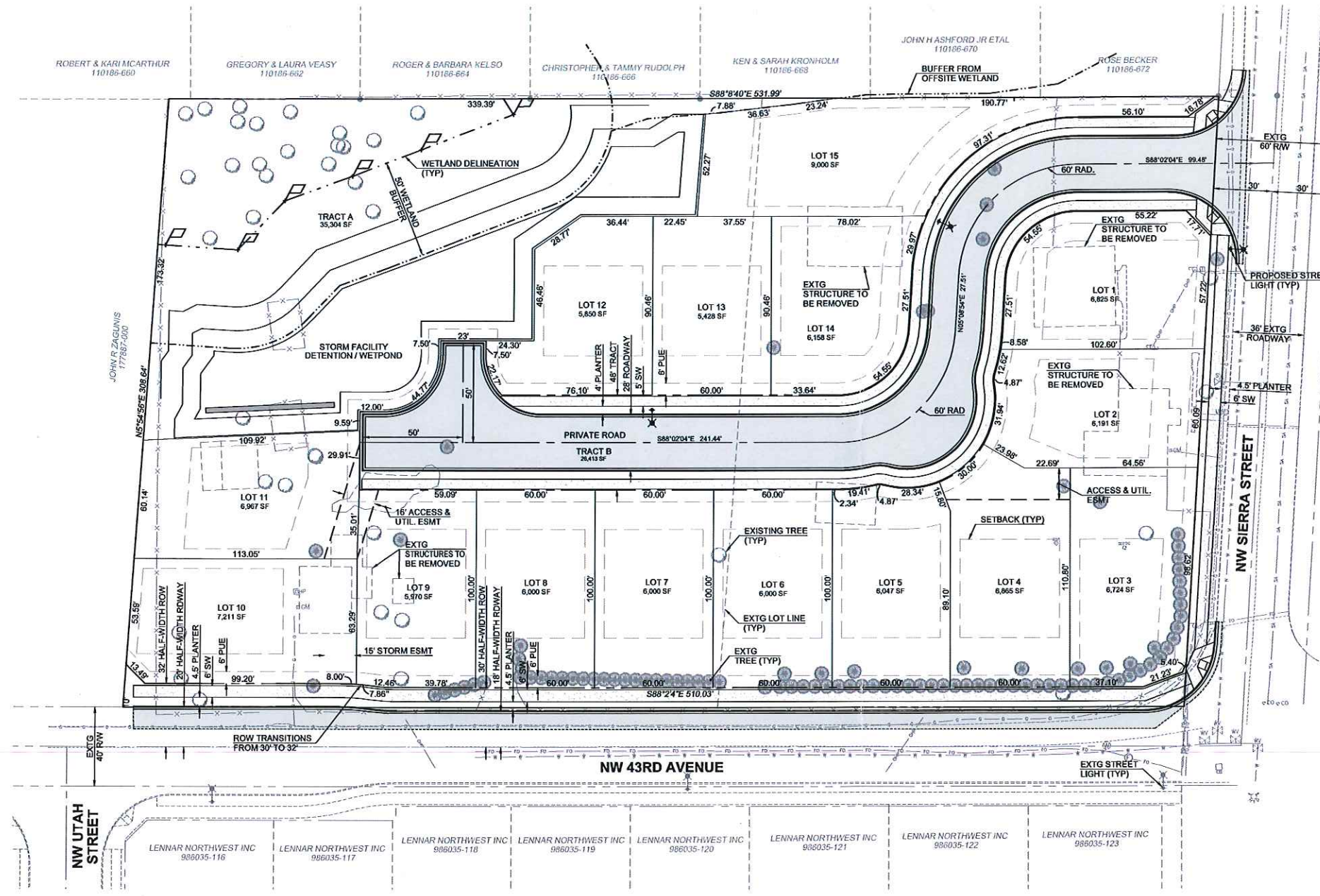
PROPOSED ACTIVITIES IN:
Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: April 16, 2015
Photo Sheet 1

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tsrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

This project is within the R-7.5 zone of Camas, a Single-family Residential zone. The comprehensive plan designation for the site is SFM.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

Dimensional standards are noted below. Applicant will utilize density transfer with this application.

Lot Setbacks:
Front = 20'
Side = 5'
Street Side = 20' / Requesting 15'
Rear = 25'

Site Area - 3.78 acres (164,694 sq ft).

Total Number of Lots = 15

Minimum Lot Size = 5,428 sq ft
Maximum Lot Size = 8,994 sq ft
Average Lot Size = 6,365 sq ft

Tract A will be owned and maintained by the home owners association. It will contain the wetlands and associated buffer and the proposed storm facility.

Tract B will be owned and maintained by the home owners association. This tract will contain the private roadway and will have an easement over the entire Tract to the City of Camas for utility mains.

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

School District = Camas

Fire District = Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.

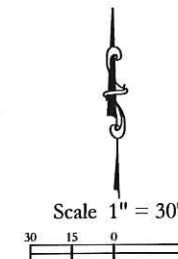
Legal Description:

Parcel 177902-000
The West 300.00 feet of the East 565.5 feet of the following described tract of land:
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, in Clark County, Washington; thence North 89 degrees 53' West 20.36 chains to the West line of said Section 34; thence South along said Section line, 4.96 chains to the Point of Beginning.

Parcel 177893-000
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, Clark County, Washington; and running thence North 89 degrees 53' East, along the center of the County Road 20.03 chains to the True Point of Beginning; thence North 3 degrees 50' East 4.97 chains; thence South 89 degrees 53' West 265.6 feet; thence South 4.96 chains, more or less, to the center line of said County Road; thence North 89 degrees 53' East, along the center of said County Road to the point of beginning.

EXCEPT any portion lying with SE 15th St.

Land Inventory	
Total Acreage	3.78 ac
Total Developed Acreage	3.30 ac
Total Lot Area	2.23 ac
Total Infrastructure Acreage	0.61 ac
Total Tract Area	1.42 ac
Total Acreage of Critical Areas	0.48 ac
Total Acreage of Recreational Open Spaces	0.00 ac



Preliminary Plat For:
Meadows Subdivision
A Subdivision Located in Camas, Washington

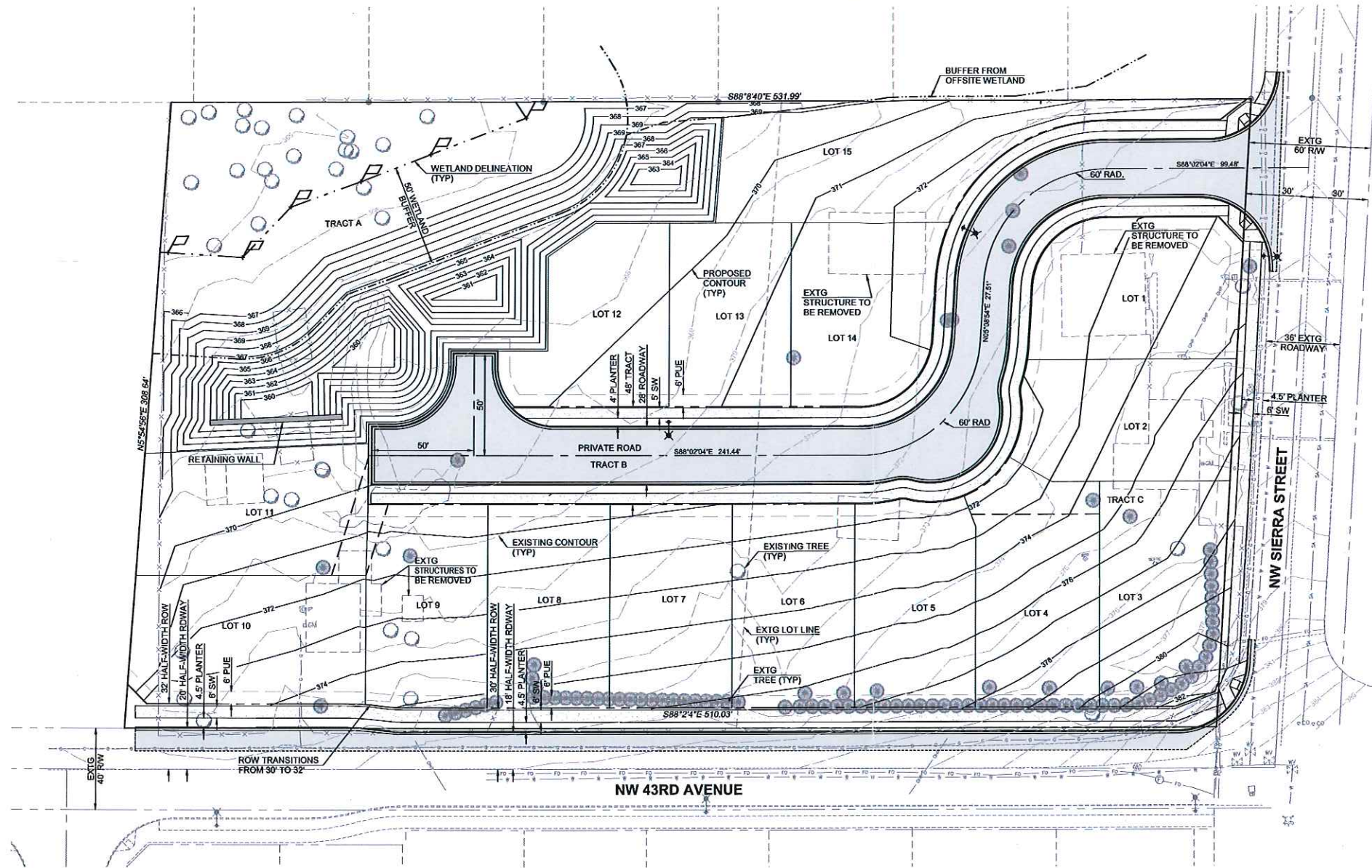
Revisions	1	2	3	4

Project No. 2402
SCALE: H: 1" = 30'
V: N/A
DESIGNED BY: TJJ
DRAFTED BY: TJJ
REVIEWED BY: AJG

1
1

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE

PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsenengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

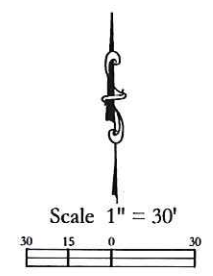
Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.



Hatching Legend	
Proposed Asphalt Pavement	
Proposed Sidewalk	

Master Symbol Legend	
Existing	
Existing Property Corner	
Existing Sanitary Sewer Cleanout	
Existing Water Meter	
Existing Water Valve	
Existing Fire Hydrant	
Existing Catch Basin	
Existing Gas Service	
Existing Deciduous Tree	
Existing Conifer Tree	
Existing Street Light	
Existing Sign	
Proposed	
Proposed Water Service	
Proposed DCVA	
Proposed Fire Hydrant	
Proposed Standard Blowoff	
Proposed Catch Basin	
Proposed Sanitary Cleanout	

Legend	
Existing	
Road Right-of-Way	
Road Centerline	
Existing Property Line	
Existing Curb	
Existing Pavement Edge	
Existing Sidewalk	
Existing Sanitary Lateral	
Existing Waterline	
Existing Gas Line	
Existing Overhead Power	
Existing Lot Line	
Existing Ground Contour	
Proposed	
Proposed Storm Pipe	
Proposed Property Line	
Proposed Sanitary Lateral	
Proposed Water Line	
Proposed Water Service	
Proposed Curb	
Proposed Contour	
Proposed Index Contour	

Preliminary Grading Plan For:

Meadows Subdivision

A Subdivision Located In Camas, Washington

PLS ENGINEERING

PH (360) 944-6519

2008 C Street, Vancouver, WA 98663

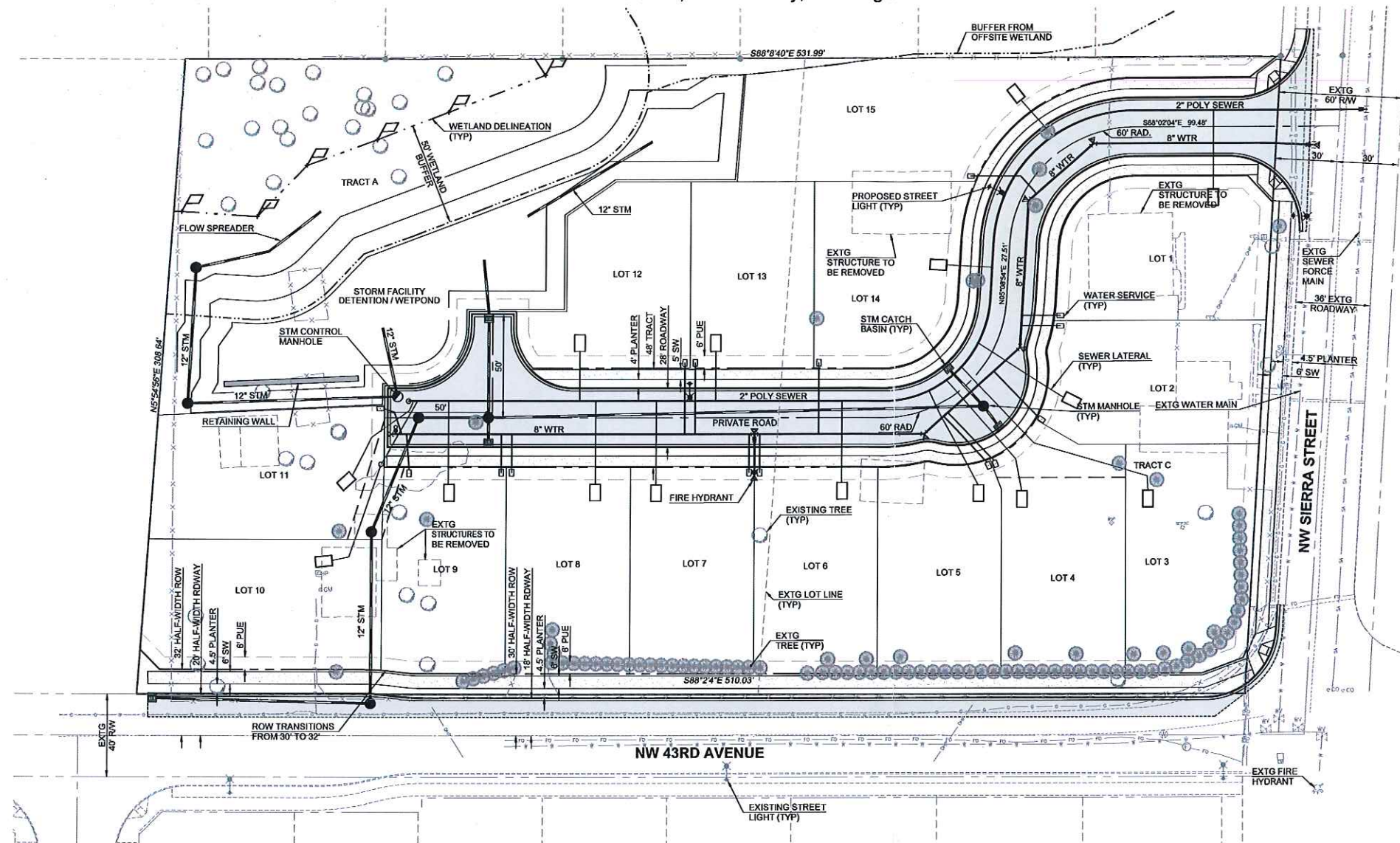
Consulting Engineers & Planners

Revisions	1	2	3	4

Project No. 2402
SCALE: H: 1" = 30'
V: N/A
DESIGNED BY: TGJ
DRAFTED BY: TGJ
REVIEWED BY: AJG

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE

PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

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Proposed roadway will be a private road.

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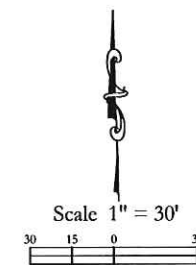
Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaesser Surveying.



Master Symbol Legend	Legend	Hatching Legend
<p><u>Existing</u></p> <ul style="list-style-type: none"> Existing Property Corner Existing Sanitary Sewer Cleanout Existing Water Meter Existing Water Valve Existing Fire Hydrant Existing Catch Basin Existing Gas Service Existing Deciduous Tree Existing Conifer Tree Existing Street Light Existing Sign <p><u>Proposed</u></p> <ul style="list-style-type: none"> Proposed Water Service Proposed DCVA Proposed Fire Hydrant Proposed Standard Blowoff Proposed Catch Basin Proposed Sanitary Cleanout 	<p><u>Existing</u></p> <ul style="list-style-type: none"> Road Right-of-Way Road Centerline Existing Property Line Existing Curb Existing Pavement Edge Existing Sidewalk Existing Sanitary Existing Waterline Existing Gas Line Existing Overhead Power Existing Lot Line Existing Ground Contour <p><u>Proposed</u></p> <ul style="list-style-type: none"> Proposed Storm Pipe Proposed Property Line Proposed Sanitary Lateral Proposed Water Line Proposed Water Service Proposed Curb Proposed Contour Proposed Index Contour 	<p>Proposed Asphalt Pavement</p> <p>Proposed Sidewalk</p>

Preliminary Street & Utility Plan For:

Meadows Subdivision

A Subdivision Located In Camas, Washington

PLS ENGINEERING

PH (360) 944-6519 Fax (360) 944-6539

2008 C Street, Vancouver, WA 98663

Consulting Engineers & Planners

Revisions	
No.	Description

Project No.	2402
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AJG



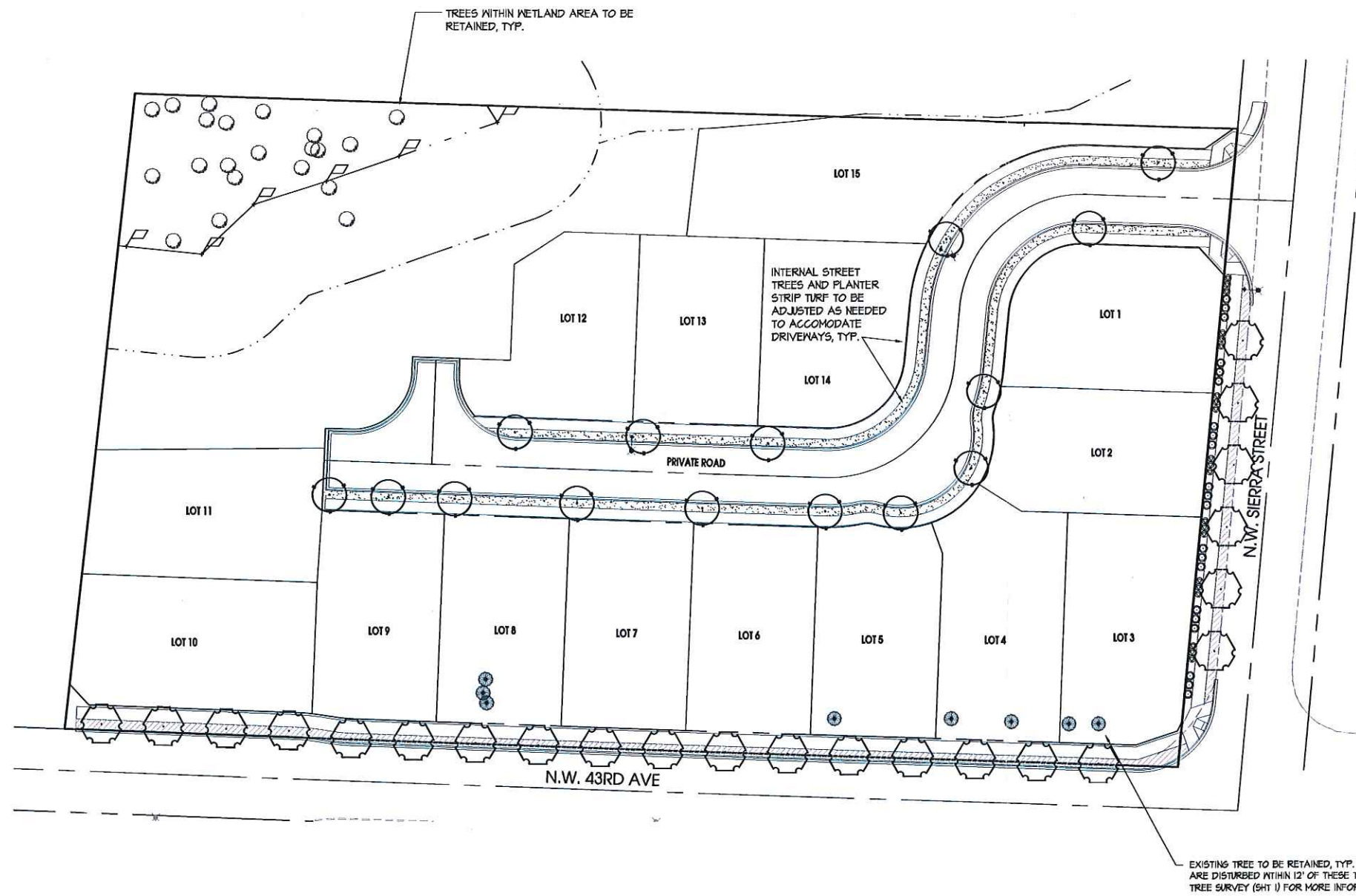
Meadows Subdivision
 4313 NW Sierra St & 2129 NW 43rd Avenue
 Camas, Washington

DRAWN: CB	CHECKED: CB
SCALE: 1" = 30'-0"	DATE: 01.04.15
JOB #: 14-1328	
ISSUED FOR:	
REVISIONS:	
△ 04/16/15 - City FC Comments	
△	
△	
△	
△	
SHEET NAME: LANDSCAPE PLAN	

TREE LEGEND			
SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
	ACER GRiseum / PAPERBARK MAPLE	2' Col. Mn.	15
	ACER RUBRUM 'BOYHALL' / BOYHALL MAPLE	2' Col. Mn.	23

SHRUB & GROUND COVER LEGEND*			
SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
	MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	3 GAL. min.	21
	SPIRAEA BUNALDA 'ANTHONY WATERER' / ANTHONY WATERER SPIRAEA	3 GAL. min.	21
GROUND COVER			
	ARGYOSTAPHYLOS UVA URSI 'MAGG.' MASSACHUSETTS KINICKINICK	1 GAL. min.	30' O.G. max.
	TURF - SOD OR SEED		

NOTE: ALL LANDSCAPE AREAS TO BE IRRIGATED (HAND WATER OR AUTOMATIC SYSTEM) AS REQUIRED TO PROVIDE HEALTHY PLANT GROWTH.
 REFER TO SHEET L.2 FOR LANDSCAPE DETAILS AND NOTES



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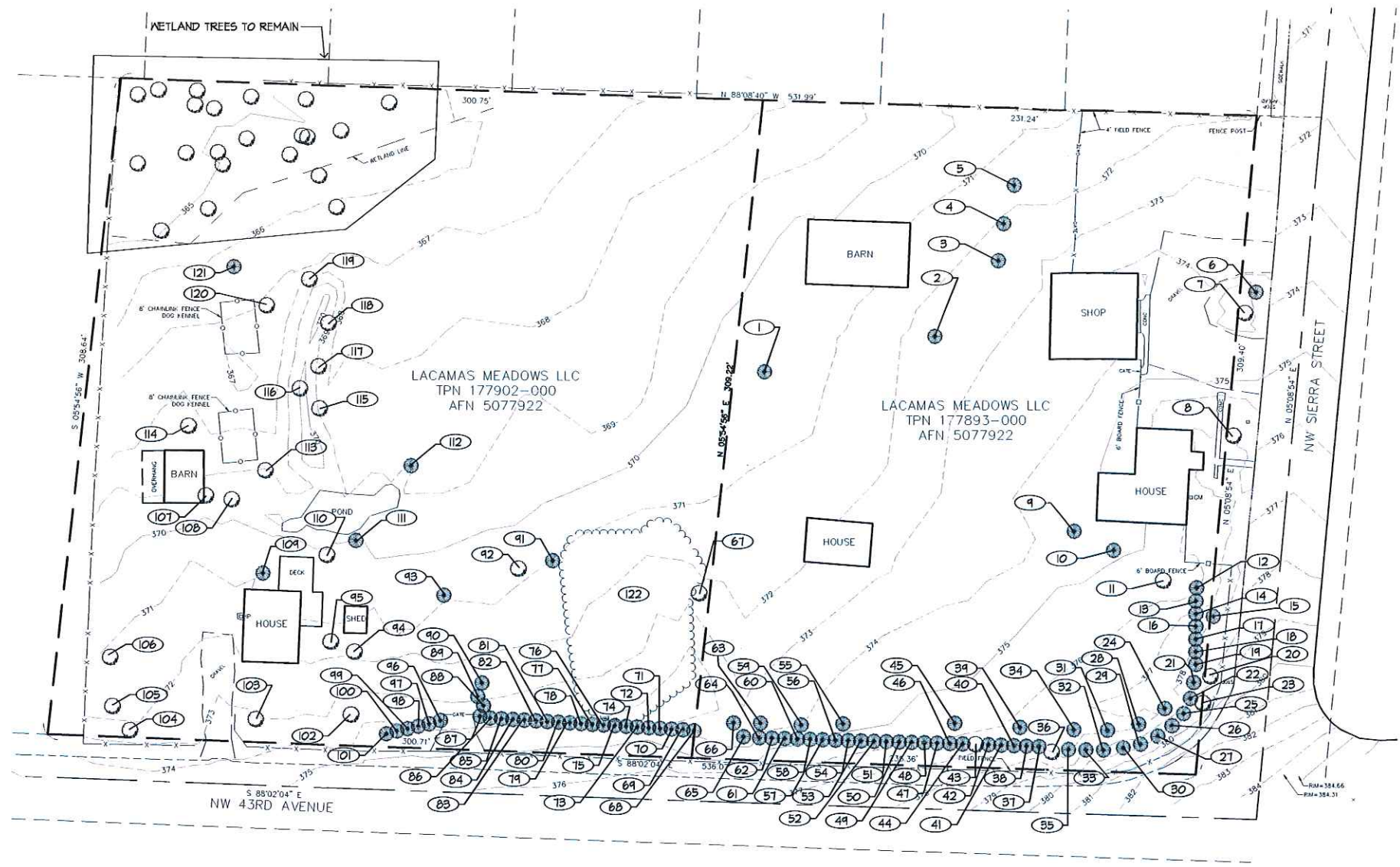
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Meadows Subdivision

4313 NW Sierra St & 2129 NW 43rd Avenue
Camas, Washington

DRAWN: CB CHECKED: CB
SCALE: 1" = 30'-0" DATE: 01.09.15
JOB #: 14-1928
ISSUED FOR:
REVISIONS:
04/16/15 - City FC Comments
SHEET NAME:
EXISTING TREE SURVEY
SHEET #:
TS
SHEET 1 of 3



SYMBOL LEGEND	
SYMBOL	DESCRIPTION
(1)	TREE NUMBER
(circle with dot)	EXISTING TREE

TREE LOCATIONS AND SIZES HAVE BEEN OBTAINED FROM AN EXISTING CONDITIONS PLAN PROVIDED BY PLS ENGINEERING AND FIELD OBSERVATIONS. SURVEYOR TO LOCATE TREES ALONG PROPERTY LINE. NO TREE WITH ANY PORTION OF THE TREE TRUNK ON NEIGHBORING PROPERTY OR OFF-SITE SHALL BE CUT DOWN WITHOUT CONSENT OF CO-TENANT NEIGHBOR.

LACAMAS MEADOWS SUBDIVISION					
#	TYPE	COMMENTS	SIZE	RECOMMENDATIONS	
1	Pf		12"	X	
2	Pf		12"	X	
3	Pf		12"	X	
4	Pf		12"	X	
5	Pf		12"	X	
6	Pf		12"	X	
7	Pf		12"	X	
8	Pf		12"	X	
9	Pf		12"	X	
10	Pf		12"	X	
11	Chery		12"	X	
12	Spash		12"	X	
13	Spash		12"	X	
14	Spash		12"	X	
15	Spash		12"	X	
16	Spash		12"	X	
17	Spash		12"	X	
18	Spash		12"	X	
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119	Spash		12"	X	
120	Spash		12"	X	
121	Spash		12"	X	
122	Spash		12"	X	

TREE PRESERVATION NARRATIVE

ALL TREES WITHIN THE WETLAND & WETLAND BUFFER AREAS ARE PROPOSED TO BE RETAINED.

TEN (10) SIGNIFICANT TREES ARE PROPOSED TO BE RETAINED. TREE #5, 31, 34, 34, 45, 55, 84 & 90 (NOTE: TREE #84 = 2 TREES AND TREE #90 = 3 TREES) ARE PROPOSED TO BE RETAINED. IF DURING SITE GRADING SIGNIFICANT ROOTS ARE DISTURBED WITHIN 12' OF THESE TREES THE TREE SHALL BE REMOVED.

ALL REMAINING TREES ARE PROPOSED TO BE REMOVED DUE TO CONFLICTS WITH THE REQUIRED FRONTAGE IMPROVEMENTS / SIDEWALKS, SITE GRADINGS, UTILITIES, AND BUILDING ENVELOPES.

MANY OF THE EXISTING TREES ALONG NW 43RD AVENUE AND NW SIERRA STREET ARE PLANTED IN CLOSE PROXIMITY AS A HEDGE ROW. THE REMOVAL OF TREES WITHIN THESE ROWS THAT RESULTS IN LANE TREES GREATLY INCREASES THEIR CHANCE OF WINDTHROW. FOR THIS REASON ONLY SEVERAL TREES ARE AVAILABLE FOR RETENTION IN THESE AREAS.

TREE MATRIX LEGEND	
R	TREE DESIGNATED FOR RETENTION (RETAIN & PROTECT DURING CONSTRUCTION)
X	TREE DESIGNATED FOR REMOVAL
TREE CONFLICTS WITH CONSTRUCTION	
CR	CONFLICT WITH ROAD CONSTRUCTION
CG	CONFLICT WITH SITE GRADING / DRAINAGE
CSW	CONFLICT WITH STORMWATER FACILITY
CB	CONFLICT WITH BUILDING ENVELOPE
CU	CONFLICT WITH UTILITY TRENCH
CD	CONFLICT WITH DRIVE AND PATIO LOCATION

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Lauren Hollenbeck

From: Wes Heigh
Sent: Tuesday, May 26, 2015 4:53 PM
To: Lauren Hollenbeck
Subject: FW: T-7 local trail connector adjacent to NW Sierra St.

Lauren,

We might want to use this e-mail as an exhibit re: the T-7 trail location.

W

From: Jerry Acheson
Sent: Tuesday, May 26, 2015 4:16 PM
To: Wes Heigh
Subject: RE: T-7 local trail connector adjacent to NW Sierra St.

I am OK with it

From: Wes Heigh
Sent: Tuesday, May 26, 2015 3:44 PM
To: Jerry Acheson
Cc: Lauren Hollenbeck
Subject: T-7 local trail connector adjacent to NW Sierra St.

Hi Jerry,

The Meadows Subdivision (city file no. SUB15-01) east boundary abuts the westerly ROW of NW Sierra Street. Sierra Street is a collector street and as such requires installation of a minimum 6' wide sidewalk.

The applicant's engineer is requesting that the city allow the new sidewalk that will be constructed with the site improvements to serve as a portion of the T-7 local trail connector.

Are you ok with locating the local T-7 trail connector over this stretch of sidewalk adjacent to the projects east boundary? The trail is not PIF creditable and will not be maintained by the city. Installation of the trail will complete a link along the west side of NW Sierra St. from NW 43rd Ave. north to NW Lake Road.

Thanks,

Wes

Wes G. Heigh
Project Manager
City of Camas
616 NE 4th Ave.
Camas, WA 98607
(360) 817-7237
wheigh@cityofcamas.us





**COMMUNITY DEVELOPMENT DEPARTMENT**

616 NE 4th Avenue
Camas, WA 98607
www.ci.camass.wa.us

June 3, 2015

Travis Johnson
PLS Engineering
2008 C Street
Vancouver, WA 98663
(sent mail and via email to travis@plsengineering.com)

RE: Meadows Subdivision (SUB15-01)

Dear Mr. Johnson,

This letter is to inform you that the above application submitted on February 12, 2015, has been deemed technically complete in accordance with Camas Municipal Code (CMC) Section 18.55.130.

The notice of application and SEPA will be published and mailed to property owners within the next week or so. Meanwhile, staff is reviewing the materials and may schedule a meeting with you to resolve any potential issues prior to scheduling a hearing.

If you have any questions, please contact me at (360) 817-7253.

Respectfully,

A handwritten signature in black ink that reads "Lauren Hollenbeck".

Lauren Hollenbeck
Senior Planner

Cc: Robert Maul, Planning Manager
Wes Heigh, Project Manager
Tom Strassenberg, Lacamas Meadows, LLC

Lauren Hollenbeck

From: Wes Heigh
Sent: Tuesday, June 09, 2015 8:22 AM
To: tracy maguire
Cc: Lauren Hollenbeck
Subject: RE: Proposed "Meadows" subdivision
Attachments: Request for public information 2011-16-10.pdf

Hi Tracy,

Attached is a Public Records request form that you can fill out and submit to Jennifer Gorsuch in the HR Department. You may view the files and tag information that you would like a copy of (15 cents per copy) or that you would like emailed to you (no charge).

The TIS did include an evaluation of NW Lake Rd and NW Sierra St. intersection and concluded that even with the buildout of the Hidden Meadows subdivision the intersection would continue to operate at an acceptable level of service (LOS).

Based on the findings of the traffic study a 3-way stop or a traffic signal are not warranted at this time and are not being considered at this intersection.

Regards,

Wes

Wes G. Heigh
Project Manager
City of Camas
616 NE 4th Ave.
Camas, WA 98607
(360) 817-7237
wheigh@cityofcamas.us



From: tracy maguire [mailto:tracymaguire@earthlink.net]
Sent: Monday, June 08, 2015 5:51 PM
To: Wes Heigh
Subject: Re: Proposed "Meadows" subdivision

Dear Wes,

Thank you (and Lauren) for replying so quickly to my email questions. Yes, I would like to review both trip generation and distribution analysis Camas requested of the developer behind the proposed Meadows Subdivision as well as the TIS submitted by the developer of Hidden Meadows. How can I obtain this information?

Also, in my email to Lauren, I specifically asked if either a 3-way stop or traffic signal is being studied or proposed for NW Sierra Street and NW Lake Road intersection due to the increase in traffic in our neighborhood and the new construction underway?

Sincerely,

Tracy Maguire

On 06/08/2015 10:54 AM, Wes Heigh wrote:

Hi Tracy,

Yes, the city does require submittal of a Transportation Impact Study (TIS) for development projects that will generate 200 average daily trips (ADT) or more. The trip generation is approximately 10 trips per each single family residence, so residential developments with 20 or more lots are required to provide a TIS as part of the landuse application.

Attached is the city TIS guidelines.

Meadows Subdivision is 15 lots and as such the city did not require a full TIS. We did request that the developer provide a trip generation and distribution analysis along with an evaluation of safe sight distance at the proposed point of access.

Hidden Meadows did submit a TIS and it is available for review if you would like.

I hope this information is helpful. Feel free to contact me if you have additional questions.

Regards,

Wes

Wes G. Heigh
Project Manager
City of Camas
616 NE 4th Ave.
Camas, WA 98607
(360) 817-7237
wheigh@cityofcamas.us



From: Lauren Hollenbeck
Sent: Monday, June 08, 2015 8:30 AM
To: Wes Heigh
Subject: FW: Proposed "Meadows" subdivision

Hi Wes,

Below is an inquiry specific to traffic out at Meadows and Hidden Terrace subdivisions. Would you be able to respond to Ms. Maguire's questions?

Thanks,

Lauren Hollenbeck

Senior Planner

City of Camas

616 NE 4th Ave.

Camas, WA 98607

360-817-1568 ext. 4253

lhollenbeck@cityofcamas.us



From: tracy maguire [<mailto:tracymaguire@earthlink.net>]

Sent: Friday, June 05, 2015 6:41 PM

To: Lauren Hollenbeck

Subject: Proposed "Meadows" subdivision

Dear Ms. Hollenbeck,

I live at 4155 NW Sierra Drive in the "Lacamas View" subdivision of Camas. A few days ago I noticed the new "Meadows" subdivision proposed development signs posted at NW Sierra Street and NW 43rd Avenue.

In the last several years, traffic in our neighborhood has significantly increased. Making a left turn from NW Sierra Street onto NW Lake Road, has become difficult, even dangerous, especially during peak commute hours.

According to the posted signage, the proposed "Meadows" subdivision will have 15 single family home lots. Construction on the new 60 home lots of the "Hidden Meadows" subdivision, also on NW 43rd Avenue, are now well under way. If we assume that each single family home will bring 2 cars per household, these two subdivisions could add, at minimum, 150 cars in and out of our neighborhood street.

I would like to know if any traffic studies have been done or are underway to assess how these subdivisions will increase or effect traffic flow in and out of our neighborhoods and how to deal with this increase. Also, specifically, if either a 3-way stop or traffic signal is being studied or proposed for NW Sierra Street and NW Lake Road intersection.

The increases in traffic in our neighborhoods have a direct affect on quality of life. I believe the city should be taking this into consideration before approving new developments.

Sincerely,

Tracy Maguire
4155 NW Sierra Drive
Camas, WA 98607

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COMMUNITY DEVELOPMENT DEPARTMENT

616 NE 4th Avenue
 Camas, WA 98607
 www.ci.camas.wa.us

June 10, 2015

Travis Johnson
 PLS Engineering
 2008 C Street
 Vancouver, WA 98663
 (sent via mail and email)

RE: Meadows Subdivision (SUB15-01) critical areas report

Dear Mr. Johnson,

The below city comments are based only on the city's review of the Wetland Delineation & Assessment report dated June 13, 2014 and the Preliminary Wetland Buffer Mitigation Plan dated April 16, 2015. Subsequent city review comments will follow for the remainder of the application materials.

- 1) In response to the Department of Ecology's 2014 required updates to the wetland rating systems the City adopted Ordinance 15-007 on March 16, 2015, which was codified into code in April 2015. It appears the scoring used in the Meadows Subdivision wetland delineation is based on Ecology's 2004 scoring system. Unfortunately, your application is not vested to the critical areas code that was in effect at the time of your application submittal per CMC 16.53.020.B which stated, "Wetlands shall be rated according to the Washington State Department of Ecology wetland rating system found in *Washington State Wetland Rating System for Western Washington – 2014 Update* (Revised, Ecology Publication #14-06-029, October 2014), **or most current edition.**" Therefore, the Wetland Delineation & Assessment Report and the Preliminary Wetland Buffer Mitigation Plan will need to be revised to comply with current code. Also note CMC 16.53.050.C.3 *Stormwater Facilities* was also revised to address the new habitat function score.
- 2) Please include page numbers in the Preliminary Wetland Buffer Mitigation Plan.
- 3) Please clarify the type of mitigation planting proposed. If it is enhancement as indicated in *Planting Table 1- Native Woody Species Enhancement Area (80 sq.ft.)*, then the mitigation ratio should be 6:1 per CMC Table 16.53.050-1.
- 4) Under the planting specifications of the plan, there are two places where a 3-year monitoring period is referenced and should be revised to comply with current code. According to CMC 15.53.050.E.3.d.i, "The mitigation project shall be monitored for a period necessary to establish that the mitigation is successful, not for a period of less than five years".
- 5) Pursuant to CMC 16.53.030.E *Wetland Analysis*, "In addition to the minimum required contents of subsection D of this section, and in addition to CMC Section 16.51.170 *Mitigation Sequencing*, **a critical area report for wetlands shall contain an analysis of the wetlands including the following site and proposal related information at a minimum:**
 1. **A discussion of measures, including avoidance, minimization, and mitigation**, proposed to preserve existing wetlands and restore any wetlands that

were degraded prior to the current proposed land use activity.”

According to CMC Section 16.51.170 *Mitigation Sequencing* referenced above, “Applicant’s shall demonstrate that reasonable efforts have been examined with the intent to mitigate impacts to critical areas. When an alteration to a critical area is proposed, mitigation can be accomplished through a variety of methods. Generally, avoiding the impact all together is the preferred option. Methods to reduce impacts and mitigate for them should follow a series of steps (refer to CMC 16.51.170 (A-F). For further guidance on sequencing, refer to CMC 16.53.050.D.

CMC 16.53.050.C.3 *Stormwater Facilities* does allow for buffer impact but only if it has been demonstrated that reasonable efforts have been made via a wetland analysis as described above. The following information needs to be provided:

- 1) Include a paragraph in the Critical Areas Report that discusses the mitigation sequencing analysis.
- 2) Provide alternative site lot layouts that demonstrate a range of alternatives have been given substantive consideration within the intent to avoid or minimize impacts to wetlands as referenced in CMC 16.53.050.D.1. The attachment is an example of a site plan with 2 alternative lot layouts. Something similar to this with a written explanation of the different alternatives would be sufficient.

If you have any questions, please contact me at (360) 817-7253.

Respectfully,



Lauren Hollenbeck
Senior Planner



Community Development Department

Notice of Application

Meadows Subdivision

File No. SUB15-01

“NOTICE IS HEREBY GIVEN” that an application for “Meadows” a 15-lot subdivision development requesting preliminary plat approval was received on February 12, 2015, resubmitted on May 6, 2015 and was deemed technically complete on June 3, 2015. A public hearing is required for the Subdivision, and will be scheduled at a later time. A separate public notice will be mailed to all property owners within 300-feet of the subject development and published in the Post Record, at least 15 days prior to the scheduled hearing.

LOCATION: The 3.8 acre site is zoned single-family residential (R-7.5) and located at the northwest corner of NW 43rd Avenue and NW Sierra Street in the SW 1/4 of Section 34, Township 2 North, Range 3 East; Camas, WA. Parcel Numbers include 177893000 and 177902000.

APPLICATION MATERIALS: The application included the following: project narrative; existing conditions plan; preliminary plan set; preliminary storm water report, traffic report, critical areas report, tree survey & landscape plan, State Environmental Policy Act (SEPA) checklist; and other required submittal documents. These documents are available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8am-5pm.

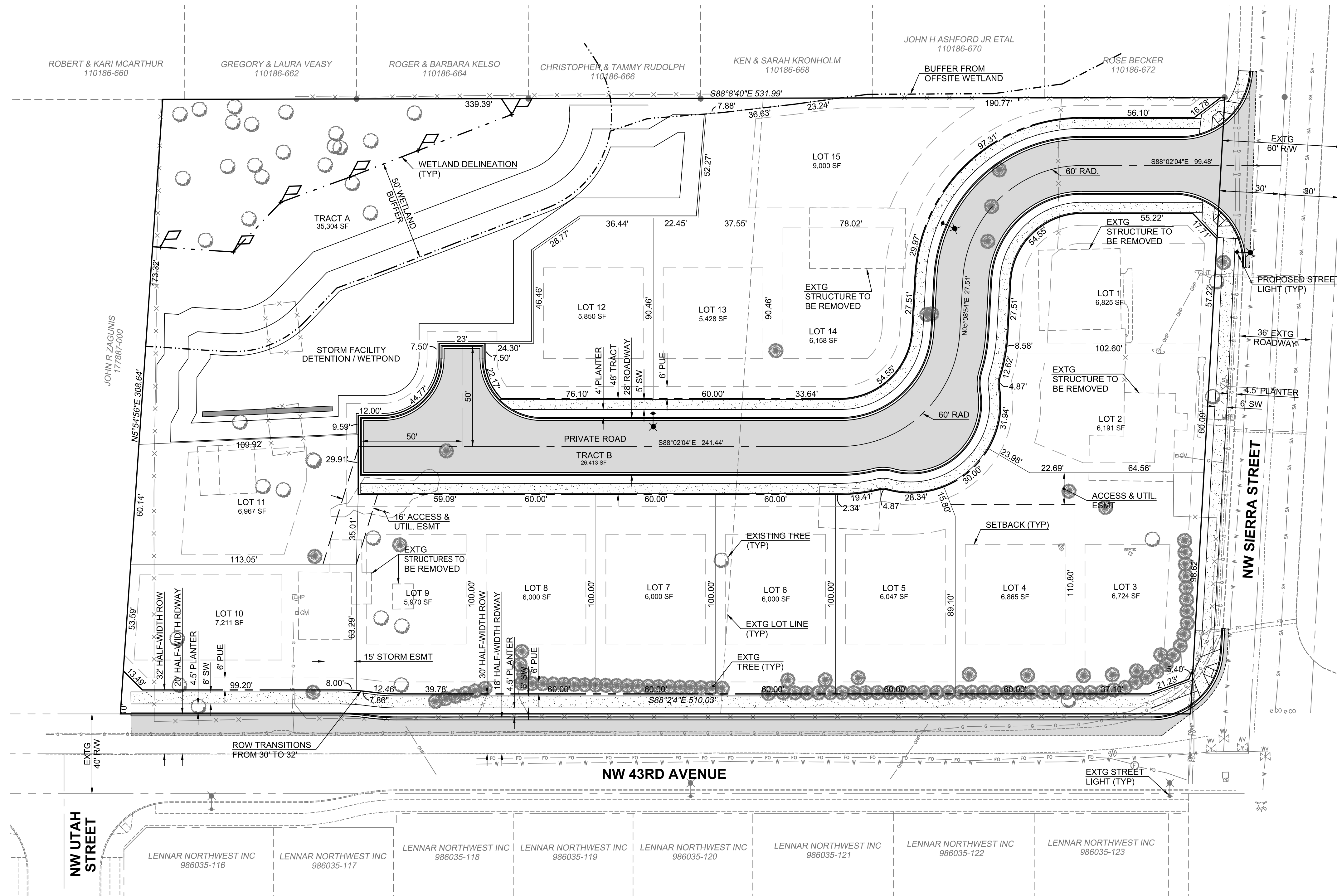
Questions/Comments: For questions related to this application, please contact Lauren Hollenbeck, Senior Planner, at (360) 817-1568 ext. 4253 or by email at communitydevelopment@cityofcamas.us.

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

This project is within the R-7.5 zone of Camas, a Single-family Residential zone. The comprehensive plan designation for the site is SFM.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

Dimensional standards are noted below. Applicant will utilize density transfer with this application.

Lot Setbacks:
Front = 20'
Side = 5'
Street Side = 20' / Requesting 15'
Rear = 25'

Site Area - 3.78 acres (164,694 sq ft).

Total Number of Lots = 15

Minimum Lot Size = 5,428 sq ft
Maximum Lot Size = 8,994 sq ft
Average Lot Size = 6,365 sq ft

Tract A will be owned and maintained by the home owners association. It will contain the wetlands and associated buffer and the proposed storm facility.

Tract B will be owned and maintained by the home owners association. This tract will contain the private roadway and will have an easement over the entire Tract to the City of Camas for utility mains.

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

School District = Camas

Fire District = Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.

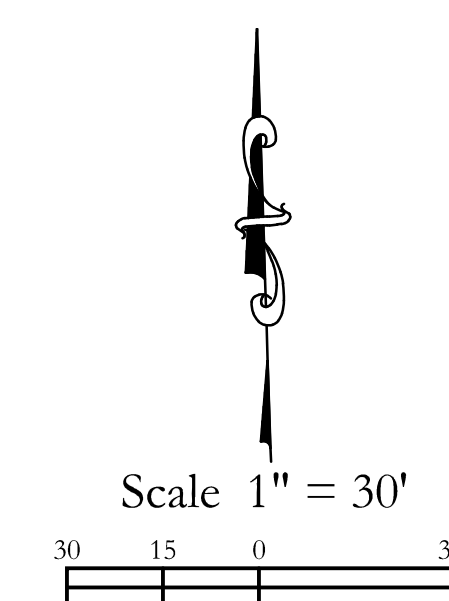
Legal Description:

Parcel 177902-000
The West 300.00 feet of the East 565.5 feet of the following described tract of land:
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, in Clark County, Washington; thence North 89 degrees 53' West 20.36 chains to the West line of said Section 34; thence South along said Section line, 4.96 chains to the Point of Beginning.

Parcel 177893-000
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, Clark County, Washington; and running thence North 89 degrees 53' East, along the center of the County Road 20.03 chains to the True Point of Beginning; thence North 3 degrees 50' East 4.97 chains; thence South 89 degrees 53' West 265.6 feet; thence South 4.96 chains, more or less, to the center line of said County Road; thence North 89 degrees 53' East, along the center of said County Road to the point of beginning.

EXCEPT any portion lying with SE 15th St.

Land Inventory	
Total Acreage	3.78 ac
Total Developed Acreage	3.30 ac
Total Lot Area	2.23 ac
Total Infrastructure Acreage	0.61 ac
Total Tract Area	1.42 ac
Total Acreage of Critical Areas	0.48 ac
Total Acreage of Recreational Open Spaces	0.00 ac



Preliminary Plat For:
Meadows Subdivision
A Subdivision Located In Camas, Washington

Revisions	
A	
B	
1	
2	
3	
4	

Project No. 2402	
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AUG

1
1

Meadows Subdivision

WETLAND DELINEATION AND ASSESSMENT

Camas, Washington



Prepared for:
Lacamas Meadows, LLC
200 S.E. 197th Place
Camas, WA 98607

Prepared by:
The Resource Company, Inc.
8415 N.E. 8th Avenue
Vancouver, WA 98665
(360) 693-4555

Revised: June 30, 2015



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FIGURES

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FIGURE 2 – TOPOGRAPHIC MAP

FIGURE 3 – LOCAL AND NATIONAL WETLANDS INVENTORY

FIGURE 4 – CLARK COUNTY SOIL SURVEY

FIGURE 5 – WETLAND BOUNDARIES

PHOTO SHEETS – SITE PHOTOGRAPHS

APPENDICES

APPENDIX A – WETLAND DETERMINATION DATA SHEETS

APPENDIX B – WETLAND RATING FORMS - WESTERN WASHINGTON

REVISED WETLAND DELINEATION & ASSESSMENT

Project: Meadows Subdivision
Applicant: Lacamas Meadows, LLC/Tom Strassenberg
Location: 4313 NW Sierra Street, Camas, Washington
Legal Description: SW ¼ of Sec. 34, T02N, R03E, W. M., Clark County
Serial Number(s): 177893-000 & 177902-000
Local Jurisdiction: City of Camas
Study Area Size: 4.25 acres
Project Type: Unknown at this time
Zoning: R-7.5
ComPlan: SFM
Assessment by: Kevin Grosz, PWS/Eli Schmitz
Site Visit: June 4, 2014
Report Date: June 13, 2014
Revised
Report Date: June 30, 2015

1.0 INTRODUCTION

This report details the results of a wetland delineation and assessment conducted for the Meadows Subdivision located at 4313 N.W. Sierra Street, Camas, Washington by The Resource Company, Inc. (Fig. 1). This report identifies the extent of any wetlands and associated buffers found within the study area as defined and regulated by the City of Camas Critical Areas Ordinance – Wetlands (16.53). This revised report is based on comments received from the City of Camas in a letter to PLS Engineering dated June 10, 2015.

The study area encompasses tax lots 177893-000 (2 ac.) and 177902-000 (2.25 ac.). Currently, the properties contain two single family residences and several outbuildings. It appears that the property has been used for agricultural purposes primarily grazing. It is predominantly an open grassland plant community with patches of trees and shrubs. The property is relatively flat and slopes slightly to the northwest (Fig. 2). A wetland in the northwest corner of the site was identified through the course of the assessment. This wetland is part of a larger wetland complex that extends off-site to the north.

2.0 DELINEATION METHODS

The wetland delineation was conducted according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (USACE, 2010.) hereafter, referred to as the manual. According to the manual, jurisdictional wetlands are defined as:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life

in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

The manual uses three parameters in making wetland determinations: hydrophytic vegetation, hydric soils and wetland hydrology. Except in certain situations defined in the manual, evidence of a minimum of one positive indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Hydrophytic vegetation are plants that due to morphological, physiological, and/or reproductive adaptations, have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. Wetland hydrology is present when an area is inundated or saturated to the surface for at least 5 percent of the growing season. The growing season is defined as the portion of the year when soil temperature at 19.7 inches below the soil surface is greater than biological zero (5 degrees C).

Except in certain situations defined in the manual, evidence of a minimum of one positive wetland indicator from each of the three parameters (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

Prior to the on-site investigations, a review of existing information related to determination of wetland boundaries was conducted. This review included the Natural Resource Conservation Service (NRCS) Web Soil Survey, National Wetland Inventory maps, Clark County Local Wetland Inventory (LWI) maps, Clark County, and aerial photographs.

Following the background information review, an on-site investigation was conducted on June 4, 2014. In order to delineate wetlands within the study area, observation points were selected to correspond with terrain features, vegetation, hydrology and mapped hydric soils identified on the site. At each observation point, the vegetation, soils and hydrology were characterized and this information was then used as the basis for making the wetland determinations.

Wetland indicator status ratings and their ordinal rating categories, based on ecological descriptions. Indicator Status (abbreviation) Ecological Description*

Obligate (OBL) Almost always is a hydrophyte, rarely in uplands

Facultative Wetland (FACW) Usually is a hydrophyte but occasionally found in uplands

Facultative (FAC) Commonly occurs as either a hydrophyte or nonhydrophyte

Facultative Upland (FACU) Occasionally is a hydrophyte, but usually occurs in uplands

Upland (UPL) Rarely is a hydrophyte, almost always in uplands.

*Source: Lichvar and Minkin (2008)

Hydrophytic vegetation is present when more than 50 percent of the dominant species have an indicator status of OBL, FACW, and/or FAC.

The presence or absence of hydric soils was determined by digging soil pits to a depth of 18 inches and examining the soil for hydric soil indicators. Organic soils such as peats and mucks are considered hydric soils. Mineral hydric soils are generally either gleyed or have bright concentrations and/or low matrix chroma immediately below the A-horizon or 10 inches (whichever is shallower). Soil colors are determined using the Munsell Soil Color Chart (Munsell Color System 2009).

The site was examined for standing water and/or saturated soils, which serve as primary indicators of wetland hydrology. The area was also checked for other wetland hydrologic characteristics such as watermarks, drift lines, wetland drainage patterns, and morphological plant adaptations.

3.0 SITE SPECIFIC METHODS

The Resource Company, Inc. conducted a wetland delineation of the study area on June 4, 2014 using the methodology found in the Regional Supplement to the Manual (USACE 2010). In addition, applicable guidance and any supporting technical guidance documents issued by the USACE, Washington Department of Ecology, and City of Camas were also utilized.

The entire site was first traversed by foot to observe any visible wetland conditions. Once the general location of the wetland boundaries were identified, paired data plots were taken in areas that represented the conditions of the uplands and wetlands, respectively. Five (5) foot radius plots were chosen in a uniform topographic position that was representative of a single plant community. The paired plots were located approximately 5 - 10 feet apart to minimize the margin of error. Soils at each sample plot were typically inspected to a depth of 16 inches (or more) to determine the presence or absence of hydric soil characteristics and/or wetland hydrology. Data sheets for the sample plots are attached in Appendix A.

The wetland boundary was associated with a change in plant communities, hydric soil and wetland hydrology indicators. The wetland boundary was determined based on the presence of hydric soils, the presence of wetland hydrology (i.e. oxidized rhizospheres along living roots, soil saturation), and a dominance of hydrophytic vegetation. It should be noted that only paired plots were recorded in the field, however, numerous unrecorded plots were dug to confirm wetland boundaries. The on-site wetlands were classified according the USFWS classification system (Cowardin et al. 1979) and the Hydrogeomorphic (HGM) Classification system (Adamus et al. 2001).

4.0 RESULTS AND DISCUSSION

The National Wetlands Inventory (NWI) and LWI maps (Fig. 3) identify a Palustrine, Forested, Seasonally Flooded (PFOC) wetland along the northern edge of the site. It

should be noted that NWI and CCWI maps are created through aerial photograph and topographic map interpretation and are not intended to represent the extent of jurisdictional wetlands. There may be unmapped wetland and waters subject to regulation and all wetlands and waters boundary mapping is approximate. In all cases, actual field conditions determine the presence, absence and boundaries of wetlands and waters.

The NRCS USDA Web Soil Survey (Fig. 4) identifies the following soil mapping units on this site:

Odne silt loam, 0 to 5 percent slopes (OdB). This soil is generally in concave areas in drainageways or depressions within areas of Gee soils. In most places the slope is 1 to 2 percent. In a typical profile, the surface layer is about 10 inches thick. It is mottled, dark-gray heavy silt loam in the upper part. The subsurface layer is firm, gray silt loam about 9 inches thick with concentrations. The next 8 inches is very firm, contains concentrations, dark-gray silty clay loam that overlies 6 inches of firm, with concentrations, dark-gray clay loam. This soil is poorly drained and very slowly permeable. A high water table is common in winter. This soil is classified as a **hydric soil** according to the Clark County hydric soils list.

Hesson clay loam, 0 to 8 percent slopes (HcB) and 8 to 20 percent slopes (HcD). This soil series consists of deep, well drained soils formed in deeply weathered, mixed old alluvium with varying amounts of gravel. In most places the slope is 2 to 5 percent. In a typical profile, the surface layer is about an 8 inches thick reddish brown (5YR 2/2) clay loam. Below this to a depth of 12 inches the soil is a dark reddish brown (5YR 3/3) clay loam. Generally, this series is well drained, moderately permeable, surface runoff is slow, and the erosion hazard is slight. This soil is classified as a **non-hydric soil** according to the Clark County hydric soils list.

Based on the review of existing information and the routine on-site delineation method described by the Army Corps of Engineers (USACE), a wetland in the northwest corner of the site was delineated. The area within the flagged boundary, which meets all three wetland criteria, was marked in the field with orange flagging with ‘WETLAND BOUNDARY’ written in black lettering. The approximate wetland boundaries of the wetlands are shown in Figure 5. A description of the wetlands and surrounding uplands is found below.

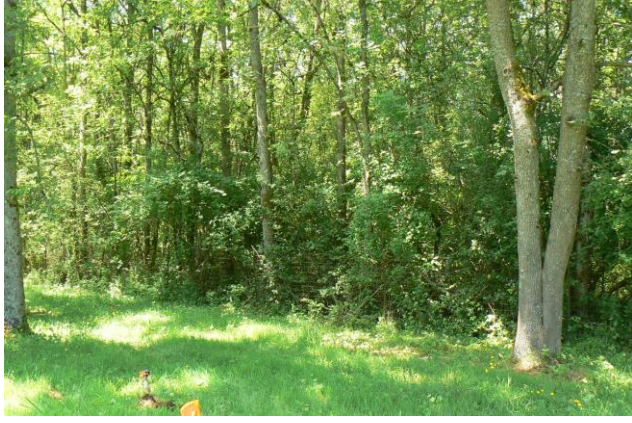
4.1 WETLANDS

Wetland A (9,370 sq.ft – on-site)

Wetland A meets the criteria of a slope hydrogeomorphic (HGM) wetland class. On-site the wetland contains a sparse tree layer that is dominated by Oregon ash (*Fraxinus latifolia* – FACW). There is no shrub layer. Ground cover is predominantly by Kentucky bluegrass (*Poa pratensis* – FAC), creeping buttercup (*Ranunculus repens* – FAC) and vernalgrass (*Anthoxanthum odoratum* – FACU). Hydric soil characteristics generally include a silt loam with a dark brown (7.5YR 3/2) with dark yellowish brown concentrations in the top eight inches, below this is a very dark gray (10YR 3/1) silt loam with dark brown (7.5YR 3/4) concentrations to a depth of 16 inches. Wetland hydrology was indicated by the presence of oxidized rhizospheres and water stained leaves. A summary of the wetland information is given in Table 1 below. Wetland A rated as

Category IV wetland according to the Western Washington Wetland Rating Form (WRF) (Table 2).

Table 1. Wetland A

Wetland A – INFORMATION SUMMARY		
Location:		
	Local Jurisdiction	Camas
	WRIA	28
	Ecology Rating (Hruby, 2004)	Category IV
	Camas Rating	Category IV
	Camas Buffer Width	50' – high intensity use
	Wetland Size	See Fig. 5
	Cowardin Classification	PEMF
	HGM Classification	Slope
	Wetland Data Sheet(s)	1
	Upland Data Sheet (s)	2
Flag color	Orange	
Dominant Vegetation	<i>Fraxinus latifolia, Poa pratensis, Ranunculus repens, Anthoxanthum odoratum</i>	
Soils	Low chroma matrix with concentrations	
Hydrology	oxidized rhizospheres	
Rationale for Delineation	meets all three wetland parameters.	
Rationale for Local Rating	low for all functions.	
Buffer Condition	Maintained Yard	

Photographs of the study and surrounding areas are shown in Photo-sheet 1.

4.2 WETLAND FUNCTIONAL ASSESSMENT

The on-site wetlands have been assessed using the Washington State Wetland Rating System for Western Washington (Hruby 2014). This rating system categorizes wetlands based on specific attributes such as rarity, sensitivity to disturbance, and functions. The system was designed to differentiate between wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide. Through a series of questions, the wetland rating system will yield a number for water quality functions, hydrologic functions, and habitat function, which yield a total score for functions. Based on the total score, the wetland is categorized as a Category I, II, III, or IV wetland. Table 2 below summarizes the wetland type, total score for functions, and category.

Table 2. Wetland Function Rating

Wetland	Wetland Type	Water Quality Functions	Hydrologic Functions	Habitat Functions	Total Score	Wetland Category
A	Slope	4	5	4	13	IV

4.3 NON-WETLANDS

The non-wetland portion of the study area contains two residences and outbuildings and is actively maintained. It is predominantly open grassland with patches of trees and shrubs. The grassland areas are predominantly vernalgrass, bluegrass, tall fescue (*Schedonorus arundinacea* – FAC) and a variety of upland forbs. There is a patch of Douglas-fir (*Psuedotsuga menziesii* – FACU) in the south-central portion of the site and the majority of the south property line contains a tree row. Blackberry occurs along the northern edge of the site. Soils in the non-wetland portion of the site are generally a brown (7.5YR 4/3 - & 7.5YR 5/4) silt loam with no hydric indicators. No wetland hydrology indicators were observed in the non-wetland portions of the study area.

5.0 REGULATORY ISSUES

The City of Camas Critical Areas Ordinance (16.53) provides for the protection of wetlands within the City’s jurisdiction. The ordinance establishes protective buffers associated with wetlands and specifies that certain permits or approvals be obtained for projects containing wetlands or their respective buffers. As mentioned above, Wetland A was rated with the wetland rating system developed by Washington Department of Ecology. This wetland had a total rating score of 13 for all three functions (Table 2). Wetlands with a total score between 9 and 15 are classified as Category IV wetlands. According to Table 16.53.040-1 of the critical areas ordinance, Category IV wetlands are to be protected with a 50-foot buffer adjacent high intensity land-use.

In addition to the City’s critical areas ordinance, jurisdictional wetlands are also regulated at the federal and state levels by the U.S. Army Corps of Engineers (USACE) and the Washington Department of Ecology (Ecology) under Sections 401 and 404 of the Clean Water Act, respectively. It is recommended that the USACE and Ecology be contacted regarding current permit requirements before proceeding with any development activities that would impact wetlands on this site.

The wetland boundaries and classifications shown in this report have been determined using the most appropriate field techniques and best professional judgment of the environmental scientist. It should be noted that USACE and City of Camas have the final authority in determining the wetland boundaries and categories under their respective jurisdictions. It is recommended that this delineation report be submitted to these agencies for concurrence prior to starting any development or planning activities that would affect wetlands or buffers on this site.

6.0 LITERATURE CITED

Adamus, et al. 2001. Guidebook for Hydrogeomorphic (HGM) Based Assessments of Oregon Wetlands and Riparian Sites. Statewide Classification and Profiles. Oregon State Department of State Lands, Salem, Oregon.

City of Camas. 2008. Critical Areas Ordinance – Wetlands CMC 16,53
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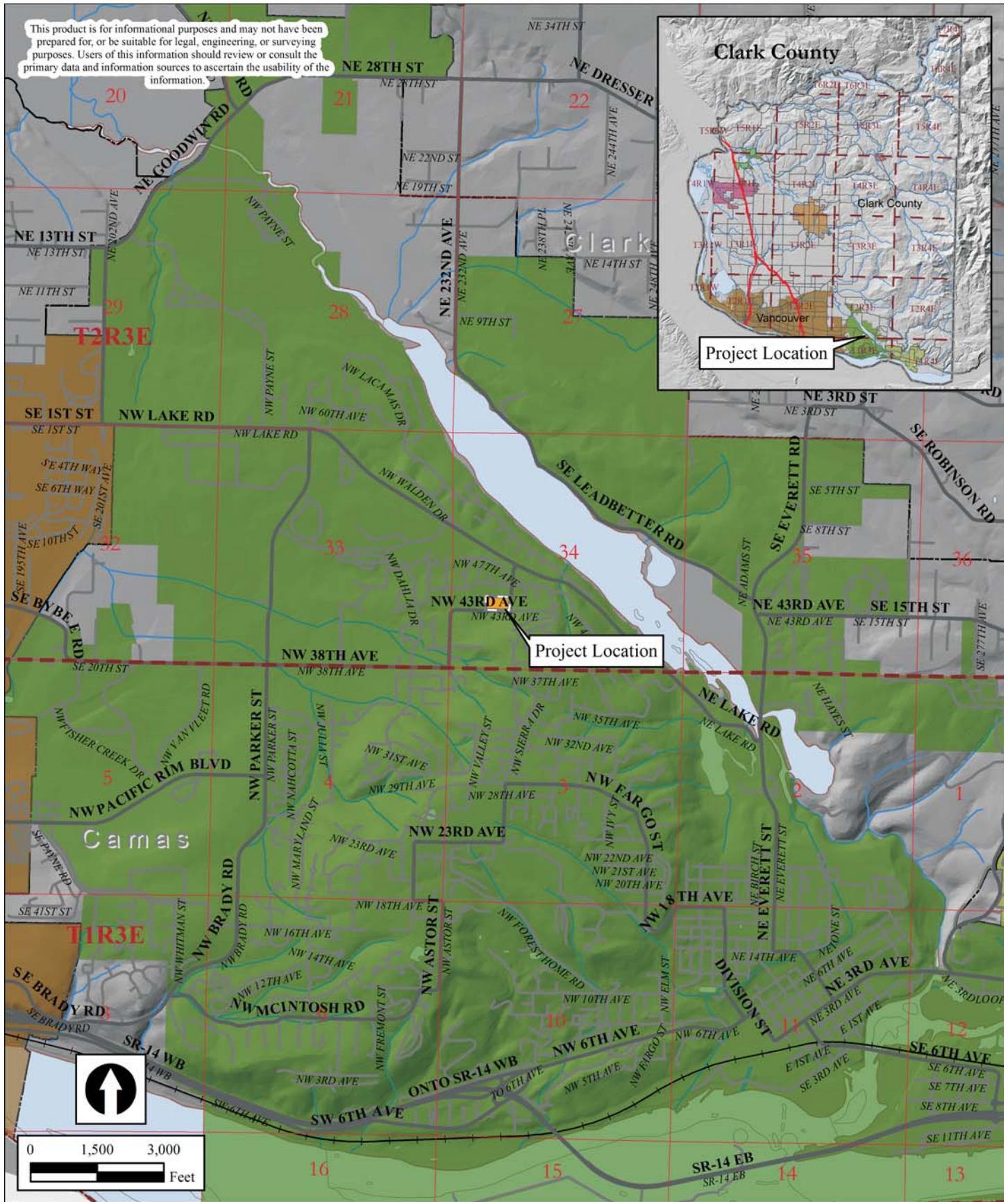
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This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland
 Delineation & Assessment

**Project Location Map
 Meadows Subdivision
 Camas, Washington**



**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 • Ph: 360.693.4555 • Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,

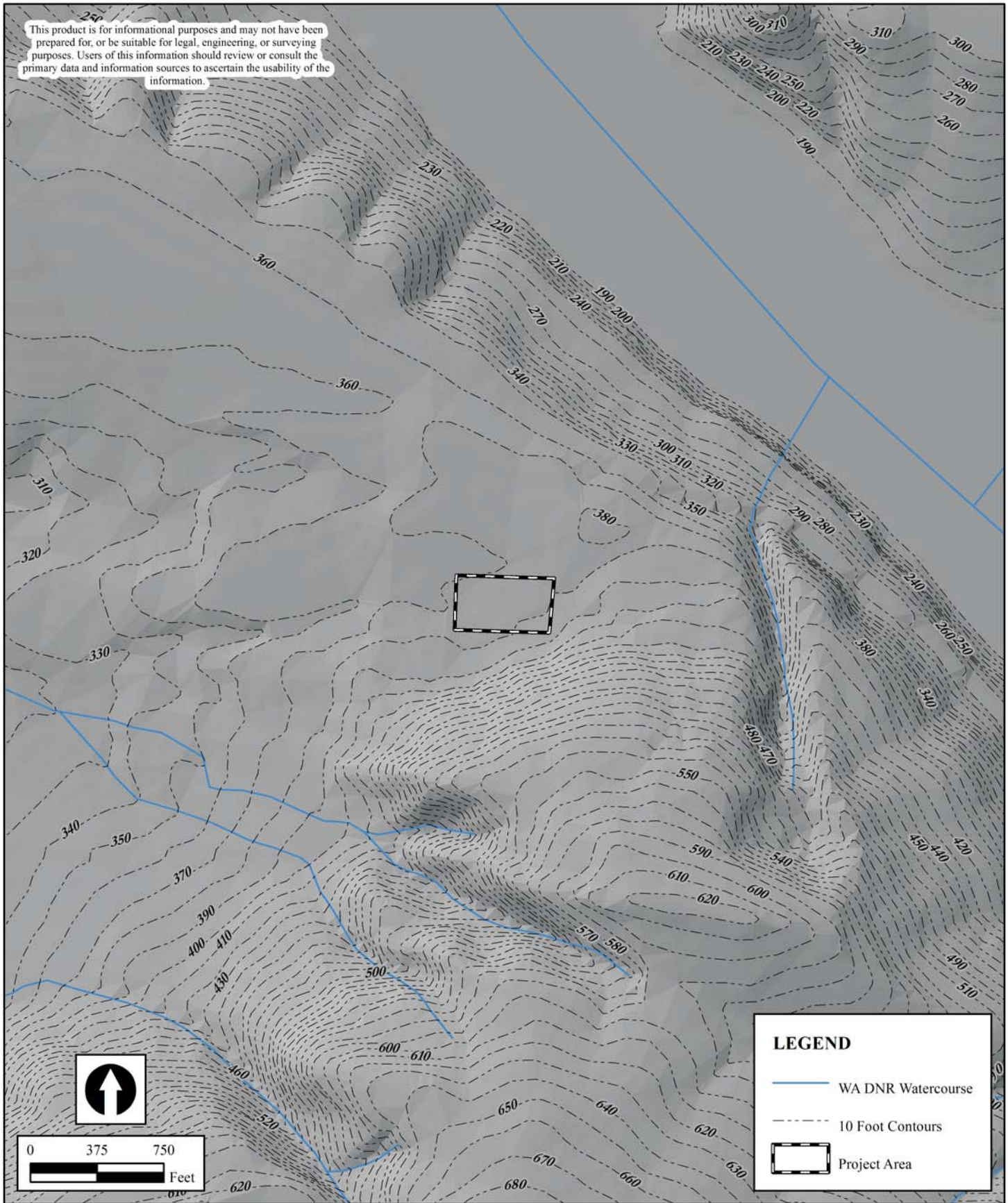
NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 30, 2015

Figure 1

This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland
 Delineation & Assessment

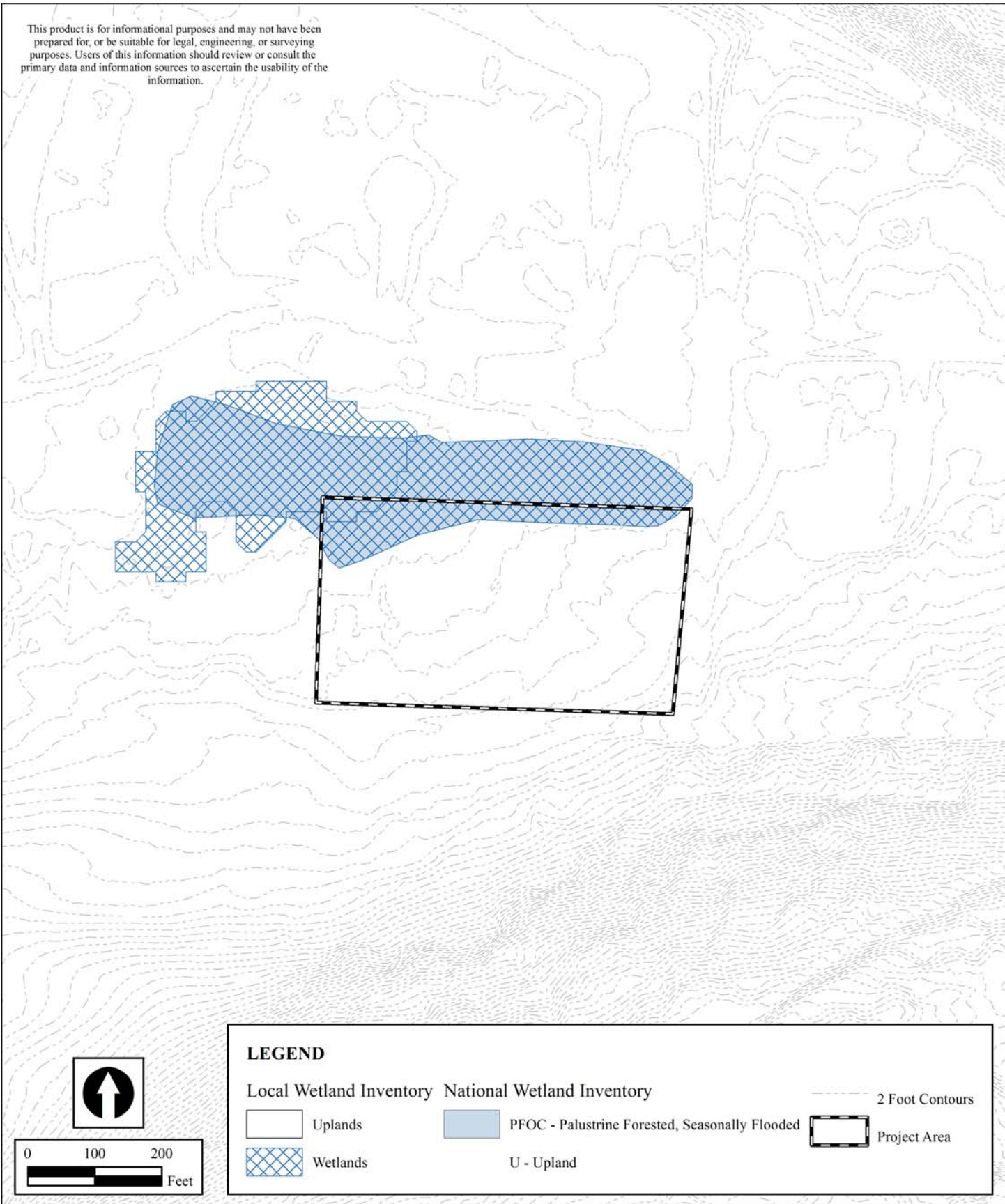
**Clark County LiDAR Topography
 Meadows Subdivision
 Camas, Washington**



8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015
Figure 2

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland
 Delineation & Assessment

**Local and National Wetland Inventories
 Meadows Subdivision
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015





Figure 3

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



LEGEND

Map Unit Symbol

-  HcB—Hesson clay loam, 0 to 8 percent slopes
-  HcD—Hesson clay loam, 8 to 20 percent slopes
-  OdB—Odne silt loam, 0 to 5 percent slopes
-  Project Area

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland
 Delineation & Assessment

**Clark County NRCS Soils
 Meadows Subdivision
 Camas, Washington**



**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,

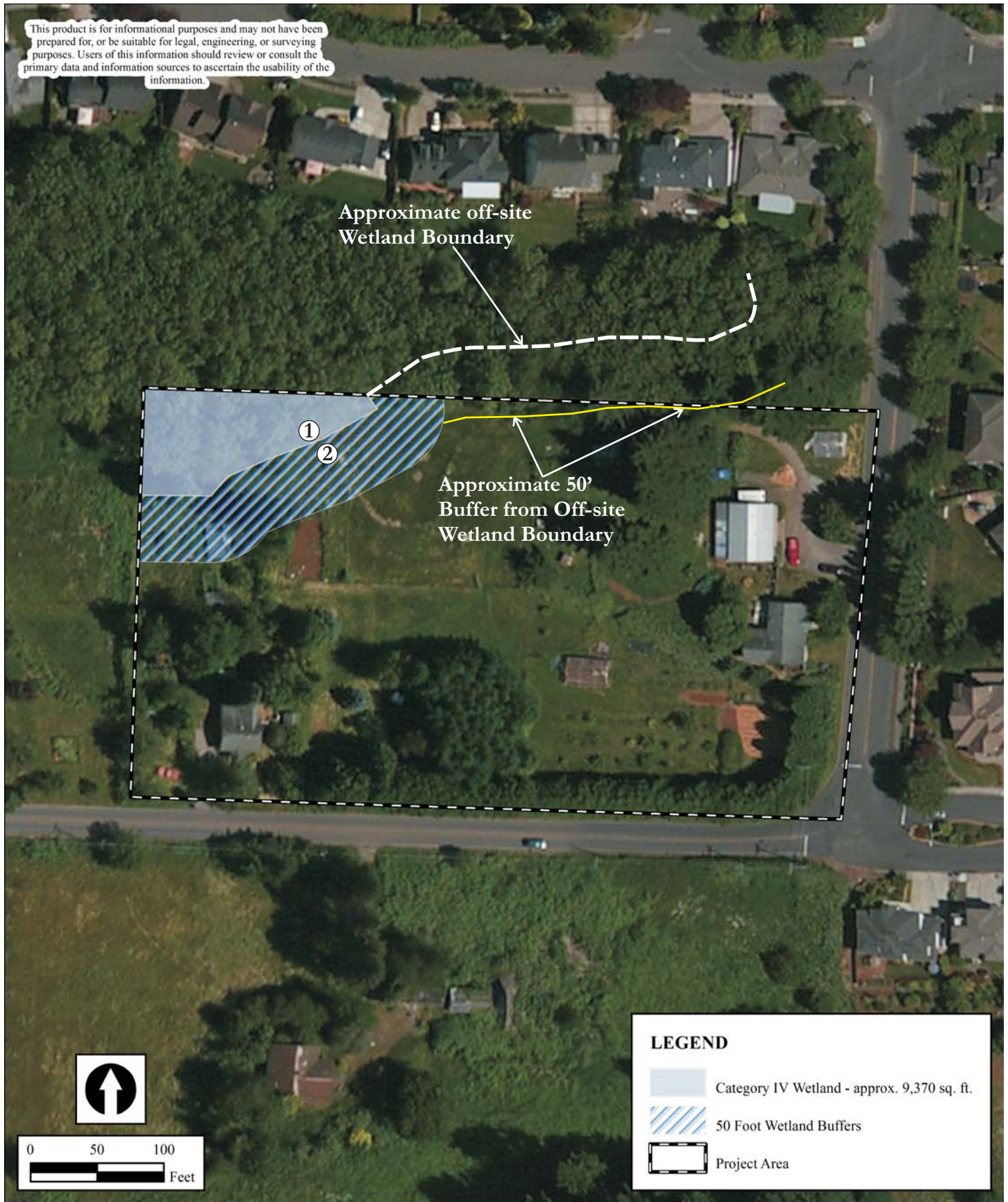
NEAR: Camas, Washington

COUNTY: Clark County




DATE: June 30, 2015

Figure 4

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



LEGEND

-  Category IV Wetland - approx. 9,370 sq. ft.
-  50 Foot Wetland Buffers
-  Project Area

Meadows Subdivision

APPLICANT:
 Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607
PURPOSE: Revised Wetland
 Delineation & Assessment

**Approximate Wetland Boundaries
 Meadows Subdivision
 Camas, Washington**



PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015
Figure 5



Meadows Subdivision

APPLICANT:
Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607
PURPOSE: Revised Wetland
Delineation & Assessment

**Project Photographs
Meadows Subdivision
Camas, Washington**



PROPOSED ACTIVITIES IN:
Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015
Photo Sheet 1

**APPENDIX A –
WETLAND DETERMINATION DATA SHEETS**

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Meadows City/County: Camas/Clark County Sampling Date: 06/04/2014
 Applicant/Owner: Tom Strassenberg State: Washington Sampling Point: 1
 Investigator(s): Kevin Grosz - The Resource Company, Inc. Section, Township, Range: SW 14, T02N, R03E, W.M.
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 5ft)				
1. <u>Fraxinus latifolia</u>	<u>15</u>	Yes	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____	<u>15</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5ft)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Herb Stratum (Plot size: 5ft)				
1. <u>Ranunculus repens</u>	<u>40</u>	Yes	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Poa pratensis</u>	<u>35</u>	Yes	<u>FAC</u>	
3. <u>Anthoxanthum odoratum</u>	<u>15</u>	No	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: 5m)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
_____ = Total Cover				
Remarks: _____				

SOIL

Sampling Point: 1 _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	7.5YR 3/2	80	10 YR 3/4	20	C	M	Silt Loam	
8-16	10YR 3/1	80	7.5YR 3/4	20	C	M	silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____ (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Meadows City/County: Camas/Clark County Sampling Date: 06/04/2014
 Applicant/Owner: Tom Strassenberg State: Washington Sampling Point: 2
 Investigator(s): Kevin Grosz - The Resource Company, Inc. Section, Township, Range: SW 14, T02N, R03E, W.M.
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Odne silt loam, 0 to 5 percent slopes (OdB) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 5ft)				
1. <u>Pseudotsuga menziesii</u>	<u>15</u>	Yes	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)
2. <u>Fraxinus latifolia</u>	<u>10</u>	Yes	<u>FACW</u>	
3. _____				
4. _____				
	<u>25</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5ft)				
1. <u>Amelanchier alnifolia</u>	<u>20</u>	Yes	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
Herb Stratum (Plot size: 5ft)				
1. <u>Schedonorus arundinacea</u>	<u>20</u>	Yes	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Poa pratensis</u>	<u>10</u>	No	<u>FAC</u>	
3. <u>Anthoxanthum odoratum</u>	<u>40</u>	Yes	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>75</u>	= Total Cover		
Woody Vine Stratum (Plot size: 5ft)				
1. <u>Rubus discolor</u>	<u>15</u>	Yes	<u>FACU</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
	<u>15</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>5</u>				
Remarks: _____				

SOIL

Sampling Point: 2 _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	7.5YR 4/3	100				Silt loam	
6-16	7.5YR 5/4	100				silt loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)						
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)						
	<input type="checkbox"/> Redox Depressions (F8)						
Restrictive Layer (if present):						Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Type: _____ Depth (inches): _____							
Remarks:							

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**APPENDIX B –
WESTERN WASHINGTON WETLAND RATING FORMS**

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: June 4, 2014
 Rated by Eli Schmitz Trained by Ecology? Yes No Date of training 4/29-30/15
 HGM Class used for rating Slope Wetland has multiple HGM classes? Y N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map ESRI Base Map - Imagery, Clark County GIS, and TRC GIS

OVERALL WETLAND CATEGORY IV (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

- Category I** – Total score = 23 - 27
 Category II – Total score = 20 - 22
 Category III – Total score = 16 - 19
 Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <input type="radio"/> L	H <input checked="" type="radio"/> M L	H M <input type="radio"/> L	
Landscape Potential	H <input checked="" type="radio"/> M L	H <input checked="" type="radio"/> M L	H <input checked="" type="radio"/> M L	
Value	H M <input type="radio"/> L	H M <input type="radio"/> L	H M <input type="radio"/> L	TOTAL
Score Based on Ratings	4	5	4	13

Score for each function based on three ratings (order of ratings is not important)

- 9 = H,H,H
 8 = H,H,M
 7 = H,H,L
 7 = H,M,M
 6 = H,M,L
 6 = M,M,M
 5 = H,L,L
 5 = M,M,L
 4 = M,L,L
 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	B1
Hydroperiods	H 1.2	B2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	B1
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	B1
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	B2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	B3
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	B4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	B5-7

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

NO – go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – **Saltwater Tidal Fringe (Estuarine)**

YES – **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

YES – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES – The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

The wetland is on a slope (*slope can be very gradual*),

The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

The water leaves the wetland **without being impounded**.

NO – go to 5

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

The overbank flooding occurs at least once every 2 years.

Wetland name or number A

NO – go to 6

YES – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

YES – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

YES – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number A

SLOPE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i>		
Slope is 1% or less	points = 3	3
Slope is > 1%-2%	points = 2	
Slope is > 2%-5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	2
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1		5

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
Yes = 1 No = 0		1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources <u>grazing in wetland</u>	Yes = 1 No = 0	1
Total for S 2		2

Rating of Landscape Potential If score is: X 1-2 = M 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?		
Yes = 1 No = 0		0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i>		
Yes = 1 No = 0		0
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i>		
Yes = 2 No = 0		0
Total for S 3		0

Rating of Value If score is: 2-4 = H 1 = M X 0 = L

Record the rating on the first page

Wetland name or number A

SLOPE WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i>	
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1
All other conditions	points = 0
	1

Rating of Site Potential If score is: X 1 = M ___ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	Yes = 1 No = 0	1
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Rating of Landscape Potential If score is: X 1 = M ___ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:		
The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	0

S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
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Total for S 6	Add the points in the boxes above	0
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Rating of Value If score is: ___ 2-4 = H ___ 1 = M X 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- Aquatic bed 4 structures or more: points = 4
 - Emergent 3 structures: points = 2
 - Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
 - Forested (areas where trees have > 30% cover) 1 structure: points = 0
- If the unit has a Forested class, check if:*
- The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

1

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

- Permanently flooded or inundated 4 or more types present: points = 3
- Seasonally flooded or inundated 3 types present: points = 2
- Occasionally flooded or inundated 2 types present: points = 1
- Saturated only 1 type present: points = 0
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** **2 points**
- Freshwater tidal wetland** **2 points**

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft².

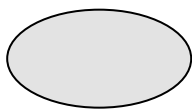
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

- If you counted: > 19 species points = 2
- 5 - 19 species points = 1
- < 5 species points = 0

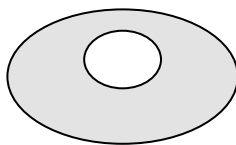
1

H 1.4. Interspersion of habitats

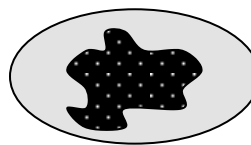
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



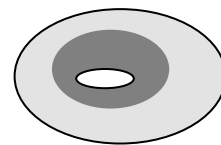
None = 0 points



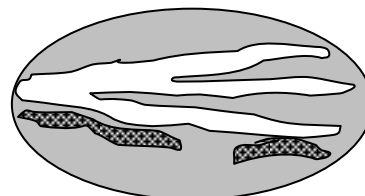
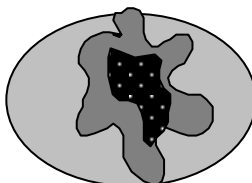
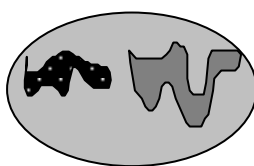
Low = 1 point



Moderate = 2 points



All three diagrams in this row are **HIGH** = 3points



1

Wetland name or number A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		1
Total for H 1	Add the points in the boxes above	5

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L *Record the rating on the first page*

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p><i>Calculate:</i> % undisturbed habitat <u> 0 </u> + [(% moderate and low intensity land uses)/2] <u> 30 </u> = <u> 30 </u> %</p> <p>If total accessible habitat is:</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>		2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % undisturbed habitat <u> 17 </u> + [(% moderate and low intensity land uses)/2] <u> 17 </u> = <u> 34 </u> %</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of 1 km Polygon points = 0</p>		1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>		0
Total for H 2	Add the points in the boxes above	3

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M < 1 = L *Record the rating on the first page*

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		0

Rating of Value If score is: 2 = H 1 = M 0 = L *Record the rating on the first page*

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Estuarine wetlands</p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <ul style="list-style-type: none"> — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <p style="text-align: right;">Yes – Go to SC 1.1 <input checked="" type="radio"/> Not an estuarine wetland</p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?</p> <p style="text-align: right;">Yes = Category I No - Go to SC 1.2</p>	Cat. I
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <p style="text-align: right;">Yes = Category I No = Category II</p>	Cat. I Cat. II
<p>SC 2.0. Wetlands of High Conservation Value (WHCV)</p> <p>SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?</p> <p style="text-align: right;">Yes – Go to SC 2.2 <input checked="" type="radio"/> – Go to SC 2.3</p> <p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?</p> <p style="text-align: right;">Yes = Category I No = Not a WHCV</p> <p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</p> <p style="text-align: right;">Yes – Contact WNHP/WDNR and go to SC 2.4 <input checked="" type="radio"/> = Not a WHCV</p> <p>SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?</p> <p style="text-align: right;">Yes = Category I <input checked="" type="radio"/> = Not a WHCV</p>	Cat. I
<p>SC 3.0. Bogs</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?</p> <p style="text-align: right;">Yes – Go to SC 3.3 <input checked="" type="radio"/> – Go to SC 3.2</p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?</p> <p style="text-align: right;">Yes – Go to SC 3.3 <input checked="" type="radio"/> = Is not a bog</p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4?</p> <p style="text-align: right;">Yes = Is a Category I bog No – Go to SC 3.4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?</p> <p style="text-align: right;">Yes = Is a Category I bog No = Is not a bog</p>	Cat. I

Wetland name or number A

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

Wetland name or number A

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Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland
 Delineation & Assessment

**Cowardin Vegetation Map
 Meadows Subdivision
 Camas, Washington**



**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,

NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 30, 2015

Appendix B1

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LEGEND

-  Saturated
-  Seasonally Inundated/Ponded
-  150 Foot Wetland Buffer
-  Project Area

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland
 Delineation & Assessment

**Hydroperiods Map and 150 Foot Buffer
 Meadows Subdivision
 Camas, Washington**



**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,

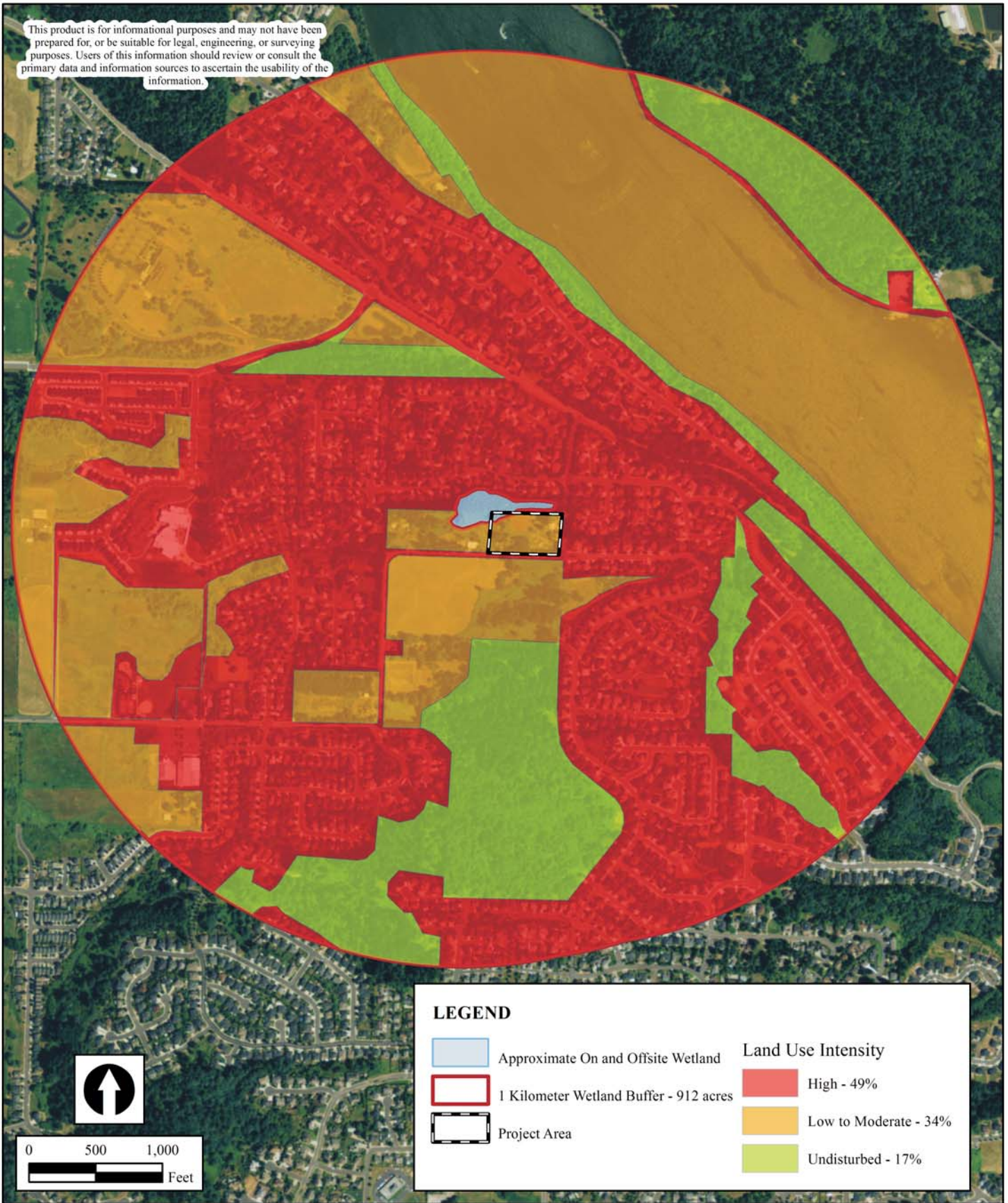
NEAR: Camas, Washington

COUNTY: Clark County




DATE: June 30, 2015

Appendix B2




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LEGEND

-  Approximate On and Offsite Wetland
-  1 Kilometer Wetland Buffer - 912 acres
-  Project Area

Land Use Intensity

-  High - 49%
-  Low to Moderate - 34%
-  Undisturbed - 17%

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland Delineation & Assessment

**Land Use Intensity Map
 Meadows Subdivision
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,

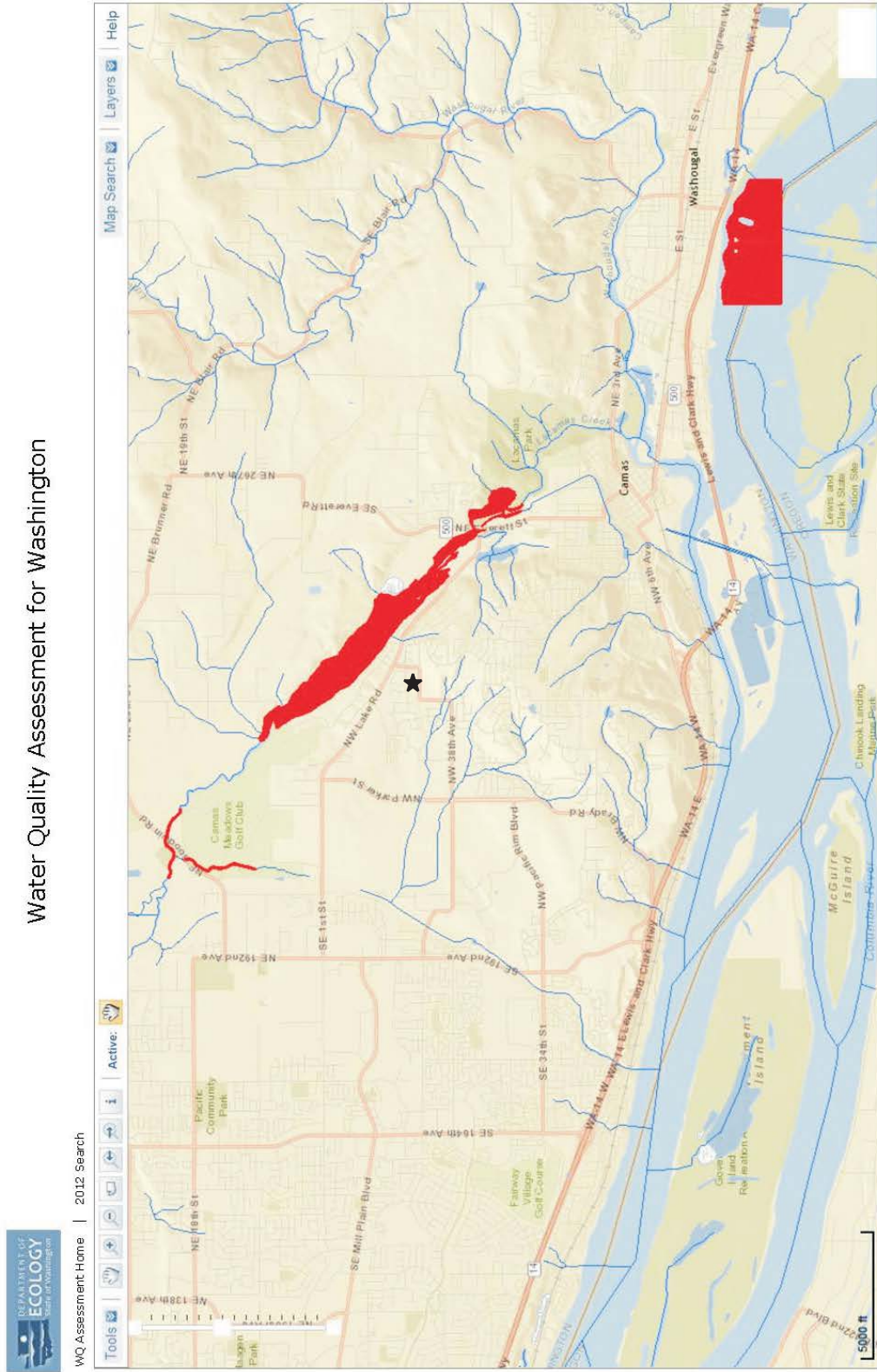
NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 30, 2015

Appendix B3

Water Quality Assessment for Washington



Water Quality Assessment for Washington Data Disclaimer Privacy Notice Contact Us
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Meadows Subdivision

APPLICANT:
 Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607
PURPOSE: Revised Wetland
 Delineation & Assessment

**303d Listed Waters in Basin
 Meadows Subdivision
 Camas, Washington**



PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015
Appendix B4

2008 Water Quality 303(d)-5 List: Salmon/Washougal Water Resource Inventory Area (WRIA) 28

303(d) Parameters: Dissolved Oxygen, Fecal Coliform, pH, Total Phosphorus, Temperature, Toxics, Other



See additional file page(s) for site description



Wa. Dept. of Ecology, GIS Technical Services 03/11/09

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607

PURPOSE: Revised Wetland
Delineation & Assessment

TMDLs for WRIA 28
Meadows Subdivision
Camas, Washington



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
8416 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015
Appendix B4

Map#	Listing	Waterbody	Parameter	Medium
2781	40869	LAKE RIVER	Temperature	(w)
2781	40870	LAKE RIVER	Fecal Coliform	(w)
2791	6705	COLUMBIA RIVER	Fecal Coliform	(w)
2804	22066	SALMON CREEK	pH	(w)
2806	48932	COLUMBIA RIVER	Temperature	(w)
2806	49048	COLUMBIA RIVER	Dissolved Oxygen	(w)
2807	22018	WHIPPLE CREEK	Fecal Coliform	(w)
2808	22067	WEAVER CREEK	pH	(w)
2809	22065	SALMON CREEK	pH	(w)
2811	53206	LAKE RIVER	2,3,7,8-TCDD	(t)
2811	53207	LAKE RIVER	4,4'-DDE	(t)
2811	53208	LAKE RIVER	Dieldrin	(t)
2811	53209	LAKE RIVER	PCB	(t)
2812	22047	SALMON CREEK	Temperature	(w)
2812	22055	SALMON CREEK	Dissolved Oxygen	(w)
2812	22063	SALMON CREEK	pH	(w)
2813	22053	CURTIN CREEK	Dissolved Oxygen	(w)
2813	22061	CURTIN CREEK	pH	(w)
2815	7868	CHINA LATERAL	Dissolved Oxygen	(w)
2815	7869	CHINA LATERAL	Temperature	(w)
2816	7900	FIFTH PLAIN CREEK	Temperature	(w)
2816	7901	FIFTH PLAIN CREEK	Dissolved Oxygen	(w)
2817	42172	VANCOUVER LAKE	PCB	(t)
2817	42187	VANCOUVER LAKE	4,4'-DDE	(t)
2817	42282	VANCOUVER LAKE	Toxaphene	(t)
2825	53204	VANCOUVER LAKE	2,3,7,8-TCDD	(t)
2825	53205	VANCOUVER LAKE	Dieldrin	(t)
2826	7907	FIFTH PLAIN CREEK	Temperature	(w)
2826	7908	FIFTH PLAIN CREEK	Dissolved Oxygen	(w)
2827	7862	CHINA DITCH	Dissolved Oxygen	(w)
2827	7865	CHINA DITCH	Temperature	(w)
2831	7945	SHANGHAI CREEK	Temperature	(w)
2831	7946	SHANGHAI CREEK	Dissolved Oxygen	(w)
2831	7947	SHANGHAI CREEK	pH	(w)
2833	6375	VANCOUVER LAKE	Total Phosphorus	(w)
2833	7949	VANCOUVER LAKE	Fecal Coliform	(w)
2835	7897	FIFTH PLAIN CREEK	Dissolved Oxygen	(w)
2836	7923	LACAMAS CREEK	Temperature	(w)
2836	7924	LACAMAS CREEK	Dissolved Oxygen	(w)
2837	7920	LACAMAS CREEK	Temperature	(w)
2837	7921	LACAMAS CREEK	Dissolved Oxygen	(w)
2838	7929	MATNEY CREEK	Dissolved Oxygen	(w)
2838	7930	MATNEY CREEK	Temperature	(w)
2838	22016	MATNEY CREEK	Fecal Coliform	(w)
2839	7829	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2839	7837	BURNT BRIDGE CREEK	Temperature	(w)
2841	7830	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2841	7844	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2842	7832	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2842	7841	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2842	7855	BURNT BRIDGE CREEK	Temperature	(w)
2843	45236	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2843	47731	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2843	48689	BURNT BRIDGE CREEK	Temperature	(w)

Medium: water(w), tissue(t), sediment(s), other(o)

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Revised Wetland
 Delineation & Assessment

**TMDLs for WRIA 28
 Meadows Subdivision
 Camas, Washington**



**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8416 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,

NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 30, 2015

Appendix B4

303(d) Category 5 Assessed Waters for WRIA 28

<u>Map#</u>	<u>Listing</u>	<u>Waterbody</u>	<u>Parameter</u>	<u>Medium</u>
2844	509972	COLUMBIA RIVER	Sediment Bioassay	(s)
2845	509973	COLUMBIA RIVER	PCB	(s)
2846	7840	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2846	7858	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2847	509974	COLUMBIA RIVER	PCB	(s)
2848	509976	COLUMBIA RIVER	PCB	(s)
2850	46972	PETERSON DITCH	Fecal Coliform	(w)
2850	48661	PETERSON DITCH	Temperature	(w)
2851	7828	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2851	7843	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2851	7851	BURNT BRIDGE CREEK	Temperature	(w)
2853	7827	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2853	7839	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2853	7848	BURNT BRIDGE CREEK	Temperature	(w)
2856	7912	LACAMAS CREEK	Dissolved Oxygen	(w)
2856	7913	LACAMAS CREEK	Fecal Coliform	(w)
2856	7917	LACAMAS CREEK	Temperature	(w)
2857	7833	BURNT BRIDGE CREEK	pH	(w)
2857	7836	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2857	7847	BURNT BRIDGE CREEK	Temperature	(w)
2857	7856	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2858	46969	BURNT BRIDGE CREEK	Fecal Coliform	(w)
2858	47728	BURNT BRIDGE CREEK	Dissolved Oxygen	(w)
2858	48686	BURNT BRIDGE CREEK	Temperature	(w)
2859	7894	DWYER CREEK	Dissolved Oxygen	(w)
2861	6346	LACAMAS LAKE	Total Phosphorus	(w)
2861	43465	LACAMAS LAKE	PCB	(t)
2862	49046	COLUMBIA RIVER	Dissolved Oxygen	(w)
2864	48933	COLUMBIA RIVER	Temperature	(w)
2864	49044	COLUMBIA RIVER	Dissolved Oxygen	(w)
2865	21540	COLUMBIA RIVER	Temperature	(w)
2866	16774	WASHOUGAL RIVER	Fecal Coliform	(w)
2869	7876	COLUMBIA RIVER (BROUGHTON REACH)	Temperature	(w)
2874	7935	ROUND LAKE	pH	(w)
2874	7936	ROUND LAKE	Dissolved Oxygen	(w)
2875	6295	COLUMBIA RIVER (BROUGHTON REACH)	Temperature	(w)
2877	7914	LACAMAS CREEK	Temperature	(w)
2877	7915	LACAMAS CREEK	Dissolved Oxygen	(w)
2877	7916	LACAMAS CREEK	pH	(w)
2880	6293	COLUMBIA RIVER (BROUGHTON REACH)	Temperature	(w)
2881	21539	COLUMBIA RIVER	Temperature	(w)
2882	7877	COLUMBIA RIVER	Temperature	(w)
2886	6294	COLUMBIA RIVER (BROUGHTON REACH)	Temperature	(w)

Medium: water(w), tissue(t), sediment(s), other(o)

Page 2

Ecology, GIS Technical Services

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607

PURPOSE: Revised Wetland
Delineation & Assessment

**TMDLs for WRIA 28
Meadows Subdivision
Camas, Washington**



**The Resource
Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
8416 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, W.M.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015

Appendix B4

Meadows Subdivision

PRELIMINARY WETLAND BUFFER MITIGATION PLAN - REVISED

Camas, Washington



Prepared for:

LaCamas Meadows, LLC
200 S.E. 197th Place
Camas, WA 98607

Prepared by:

The Resource Company, Inc.
8415 N.E. 8th Avenue
Vancouver, WA 98665
(360) 693-4555

June 30, 2015



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2.0	EXISTING CONDITIONS.....	1
3.0	AVOIDANCE AND MINIMIZATION.....	2
4.0	BUFFER IMPACT AND COMPENSATION AREAS.....	3

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FIGURE 2 – TOPOGRAPHIC MAP

FIGURE 3 – EXISTING CONDITIONS

FIGURE 4 – PROPOSED SITE PLAN

FIGURE 5 – BUFFER IMPACT AREAS

FIGURE 6 – BUFFER MITIGATION AREAS

PHOTO SHEETS – SITE PHOTOGRAPHS

APPENDIX A. ALTERNATIVE SITE PLANS

PRELIMINARY WETLAND BUFFER MITIGATION PLAN

Project: Meadows Subdivision
Applicant: Lacamas Meadows, LLC/Tom Strassenberg
Location: 4313 NW Sierra Street, Camas, Washington
Legal Description: SW ¼ of Sec. 34, T02N, R03E, W. M., Clark County
Serial Number(s): 177893-000 & 177902-000
Local Jurisdiction: City of Camas
Study Area Size: 4.25 acres
Project Type: Single Family Residential
Zoning: R-7.5
ComPlan: SFM
Delineation
Report Date: June 13, 2014
Preliminary
Mitigation Plan: April 16, 2015
Revised Preliminary
Mitigation Plan: June 30, 2015

1.0 INTRODUCTION

The Applicant contracted The Resource Company (TRC) to prepare a wetland buffer mitigation plan for the proposed Meadows Subdivision project. The project is located at 4313 N.W. Sierra Street, Camas, Washington. The study area is located within the LaCamas Creek watershed. The project consists of a single family residential subdivision (15 lots) and associated infrastructure. This revised report addresses temporary impacts to the wetland buffer for construction of the stormwater facilities in the outer portion of the wetland buffer and the placement of a manhole and stormwater outfall within inner portion of the wetland buffer. The revisions for this report are based on the City's comments provided to Mr. Travis Johnson, PLC engineering in a letter dated June 10, 2015.

Wetlands on-site were delineated by TRC on June 4, 2014. Through the course of the wetland assessment one wetland was identified within the study site. The wetland identified was classified as Category 4 with a 50-foot base buffer (Fig. 3) for high intensity land use. This report is prepared under the guidelines of the recently updated City of Camas Critical Areas Ordinance – Wetlands (16.53).

2.0 EXISTING CONDITIONS

The study area encompasses tax lots 177893-000 (2 ac.) and 177902-000 (2.25 ac.). Currently, the properties contain two single family residences and several outbuildings. It appears that the property has been used for agricultural purposes primarily grazing. It is predominantly an open grassland plant community with patches of trees and shrubs. The property is relatively flat and slopes slightly to the northwest (Fig. 2). A wetland in the northwest corner of the site was identified through the course of the assessment. This

wetland is part of a larger wetland complex that extends off-site to the north. The wetland meets the criteria of a slope, palustrine, emergent, wetland as defined under the hydrogeomorphic (HGM) classification system. The wetland was rated Category IV according to Ecology's rating system for western Washington (2014 update) which was recently adopted by the City.

2.1 WETLANDS (FIG. 3)

Wetland A (9,370 sq.ft – on-site)

Wetland A meets the criteria of a slope hydrogeomorphic (HGM) wetland class. On-site the wetland contains a sparse tree layer that is dominated by Oregon ash (*Fraxinus latifolia* – FACW). There is no shrub layer. Ground cover is predominantly by Kentucky bluegrass (*Poa pratensis* – FAC), creeping buttercup (*Ranunculus repens* – FAC) and vernalgrass (*Anthoxanthum odoratum* – FACU). Hydric soil characteristics generally include a silt loam with a dark brown (7.5YR 3/2) with dark yellowish brown concentrations in the top eight inches, below this is a very dark gray (10YR 3/1) silt loam with dark brown (7.5YR 3/4) concentrations to a depth of 16 inches. Wetland hydrology was indicated by the presence of oxidized rhizospheres and water stained leaves. Wetland A rated as Category IV wetland according to the Western Washington Wetland Rating Form.

2.2 NON-WETLANDS (Fig. 3)

The non-wetland portion of the study area contains two residences and outbuildings and is actively maintained. It is predominantly open grassland with patches of trees and shrubs. The grassland areas are predominantly vernalgrass, bluegrass, tall fescue (*Schedonorus arundinacea* – FAC) and a variety of upland forbs. There is a patch of Douglas-fir (*Pseudotsuga menziesii* – FACU) in the south-central portion of the site and the majority of the south property line contains a tree row. Blackberry occurs along the northern edge of the site. Soils in the non-wetland portion of the site are generally a brown (7.5YR 4/3 - & 7.5YR 5/4) silt loam with no hydric indicators. No wetland hydrology indicators were observed in the non-wetland portions of the study area.

3.0 AVOIDANCE AND MINIMIZATION

The applicant is proposing the development of 15 residential lots and associated infrastructure within the study area (Fig. 4). The site contains one Category IV wetland in the northwest corner of the property. The applicant has avoided all direct impacts to that wetland. Temporary impacts are proposed for the construction of the stormwater facility and outfall pipe however these areas will be restored and planted with native vegetation once construction has been completed. The only permanent impact (20 ft²) in the buffer will be the manhole. Compensation for this impact and the temporary impacts are outlined below. The applicant did look at two other site plan alternatives (Appendix B), but due to the topography of the site both of these alternatives would have placed the stormwater facility in the same location with the same impacts as this preferred alternative.

The following additional measures will be taken to avoid/minimize additional impacts to wetland and buffer areas:

1. All wetland, wetland buffer, and riparian buffer boundaries will be temporarily flagged in the field prior to construction.
2. Erosion control measures (e.g. straw bale sediment barriers or sediment fence) will be installed to prevent siltation from occurring in the critical areas during construction.
3. The erosion control measures will be removed once construction is completed and vegetation has become established.
4. The final wetland and buffer configuration will be placed in a conservation covenant that will restrict use and access to the critical areas.

4.0 BUFFER IMPACT AND COMPENSATION AREAS (FIGS. 5 & 6)

The Applicant is proposing to detain stormwater on-site within facilities that will meet the new Western Washington Stormwater Manual Standards. According to CMC 16.53.050(C)(3) - *Stormwater facilities are only allowed in buffers of wetlands with low habitat function (four points or less on the habitat section of the rating system form); provided, the facilities shall be built on the outer edge of the buffer and not degrade the existing buffer function, and are designed to blend with the natural landscape. Unless determined otherwise by the responsible official, the following activities shall be considered to degrade a wetland buffer when they are associated with the construction of a stormwater facility:*

- a. *Removal of trees greater than four inches diameter at four and one-half feet above the ground or greater than twenty feet in height;*
- b. *Disturbance of plant species that are listed as rare, threatened, or endangered by the city, county, or any state or federal management agency;*
- c. *The construction of concrete structures, other than manholes, inlets, and outlets that are exposed above the normal water surface elevation of the facility;*
- d. *The construction of maintenance and access roads;*
- e. *Slope grading steeper than four to one horizontal to vertical above the normal water surface elevation of the stormwater facility;*
- f. *The construction of pre-treatment facilities such as fore bays, sediment traps, and pollution control manholes;*
- g. *The construction of trench drain collection and conveyance facilities;*
- h. *The placement of fencing; and*
- i. *The placement of rock and/or riprap, except for the construction of flow spreaders, or the protection of pipe outfalls and overflow spillways;*

provided that buffer functions for areas covered in rock and/or riprap are replaced.

The portion of the stormwater facility within the wetland buffer has been designed to meet the above listed criteria as follows:

1. Wetland A scores 4 points for habitat which meets the 4 points or less criteria
2. Except for the outfall pipe, grading in the buffer is proposed on the outer 50 percent of the wetland buffer.
3. The graded slope within the buffer is a 4:1 which has been the accepted standard to meet the blending with the natural landscape criteria. This area will be restored by seeding with a native grass mixture. See the following section.
4. The portion of the stormwater facility has been designed to not degrade the buffer and meet the criteria listed above.

This project will temporarily impact 6,345 ft² of the wetland buffer for the excavation of the outer portion of the detention facility and the installation of the outfall pipe as shown in Figure 5. The only permanent impact within the buffer will be the installation of a manhole on the outer edge of the graded area. This impact will be approximately 20 ft² (Fig. 5). No wetlands will be directly impacted and no trees will be removed within this construction zone. Vegetation that will be removed for the pipe installation and man-hole will be primarily non-native herbaceous species.

To maintain wetland and buffer function, the permanent and temporary impact areas will be treated and restored as follows:

1. Construction fencing should be placed and maintained between the wetland boundary and the trench construction area during excavation to prevent equipment from entering the wetland.
2. The trench will be excavated at the minimum width necessary for the installation of the pipe.
3. Erosion control BMP's shall be employed so that that the wetland is not impacted by the trenching and installation activities.
4. Spoils from the trench shall be stored out of the wetland.
5. The upper 12 inches of topsoil should be removed and stockpiled separately from subsurface soil.
6. Once installation has been completed the trench shall be restored to pre-construction contours. Subsurface soils should be placed first into the trench as backfill, followed by the topsoil.
7. The construction area (Fig. 6) will be planted with a native grass seed mixture similar to the mixture that follows:

Blue wildrye (*Elymus glaucus*) 40%

California brome (*Bromus carinatus*) 40%

Native red fescue (*Festuca rubra*) 15%

Tufted hairgrass (*Deschampsia caespitosa*) 5%

The seeding rate for this mixture is: 1 lb/1000 sq.ft.

8. To compensate for the permanent buffer impact for the manhole (20 ft²), the trees and shrubs listed in Table 1 will be planted in the buffer between the manhole and the wetland boundary as an enhancement at a minimum of a 6:1 ratio as per CMC Table 15.63.050-1.

Planting Table 1 – Native Woody Species Enhancement Area (120 ft²)

Fig. 6

Native Woody Species	Plant Form	Minimum Size	Minimum Spacing	Required Number
W. Red Cedar (<i>Thuja plicata</i>)	Seedling	2'	10'	3
Hazelnut (<i>Corylus cornuta</i>)	Bare Root	2'	7'	6
Total Tree/Shrubs				9

Additional planting specifications applicable to this plan are listed below.

Source of Plant Materials - All plants will be obtained from nurseries specializing in plant materials native to the Pacific Northwest.

Planting Time - Bare-root shrubs and trees should be planted between December 1 and March 31, when plants are dormant. If planting is conducted outside this time period, containerized plant stock will be used and extra care and watering may be needed to ensure that plants become adequately established.

Planting Guidelines - A hole one foot in diameter and one foot deep, shall be excavated for bare root stock. The holes should be large enough to accommodate the plant roots without restriction. Plants will be held in place with the top of the root mass at ground level. Topsoil will be backfilled around the roots and lightly tamped to remove any air pockets in the soil. Mulch (2-3 inches deep) shall be applied around the base of each plant. Future maintenance should use scarification (by hand) to keep the 1-foot diameter area free of herbaceous vegetation until plants are well established. If the soils are not saturated, each plant should be watered at the time of planting. Supplemental watering (every two weeks during the summer season) may also be required to ensure plant survival and mitigation success.

Schedule – The mitigation area will be planted within the same calendar year that the waterline is installed.

Monitoring & Maintenance - The following actions will be implemented as part of the wetland buffer enhancement monitoring and maintenance plan on this site:

Qualifications - The initial and all successive year plantings will be supervised by a qualified professional to ensure that correct planting procedures are followed and that plantings are done according to the planting scheme.

Duration - Monitoring of all planted areas shall begin once the mitigation site is planted and established and shall continue through the duration of the 5-year monitoring period. Monitoring activities will take place during the late spring or summer time period. A report documenting the monitoring results will be submitted to the City following the 1st, 2nd, 3rd, 4th and 5th year monitoring periods. This report will identify deficiencies in the enhancement progress and any contingency measures that will be taken to correct those deficiencies.

Expected Survivability - The goal of the mitigation plan is to reach certain plant survivability or plant cover (80 percent) by the end of the 5 year monitoring period. To determine if the enhancement area is meeting the expected goal, plant survivability and aerial coverage will be tied to each monitoring period as follows:

- Year 1 – at least 100 percent survival of native trees and shrub species
- Year 2 – at least 80 percent survival of native trees and shrub species
- Year 5 – at least 80 percent survival or 80 percent cover of native species

Naturally Colonizing Vegetation - Non-native species except reed canarygrass should cover less than 10 percent of the enhancement area. If the planted stock do not survive, but native naturally colonizing wetland plant species replace them, then the project may be judged to meet the threshold criteria for successful plant community establishment. (Note: All decisions regarding which volunteer species are to be considered acceptable will be made by the City).

Maintenance - To ensure planting success, the Applicant will be responsible for performing minor maintenance over the monitoring period. This will include the selective removal of undesirable plant species such as blackberry (*Rubus* spp.) that may be hindering the growth and establishment of the favored plant stands. An area, 1-foot in diameter surrounding each planted woody species, will be kept free of competing vegetation. This can be accomplished either by scarifying the area by hand or through the use of weed-control rings. Any maintenance required within the wetland or buffer will be supervised by a qualified wetland professional familiar with this project.

Adaptive Management - Adaptive Management will be utilized to make improvements to the mitigation plan if needed. Adaptive Management – the feedback loop – is a four step process based on a review of the information collected through the monitoring and a determination of what changes are necessary to improve protection when goals are not met. Adaptive management is the four stepped process described below and this process will be utilized if monitoring reveals that the objectives and performance standards of the mitigation are not being met.

Analyze – As monitoring data is analyzed new information can be generated that may require changing the solutions prescribed.

Implement – Implement actions to address mitigation deficiencies.

Monitor – Provides new data that feeds back into the analysis of the landscapes and its wetlands. Monitor the implemented actions and if deficiencies are still present proceed to step 1.

1. Replacement Plantings—Replacement plantings will also be made throughout the monitoring period if monitoring reveals that unacceptable plant mortality has occurred. Woody species will be re-planted to the original number of plants proposed in the accepted mitigation plan throughout the duration of the monitoring and maintenance period.
2. Planting Plan Modifications—Modifications to the planting plan (i.e., plant species and densities) will be made if monitoring identifies problems with the original planting scheme. For example, if annual monitoring identifies that plant mortality is attributed to an inappropriate hydrologic regime, the replacement plantings should be made using a more suitable plant species. Any recommended changes to the planting scheme will be documented in the annual monitoring report. The addition of any new plant species, not already included in this enhancement plan, must be approved by the City.

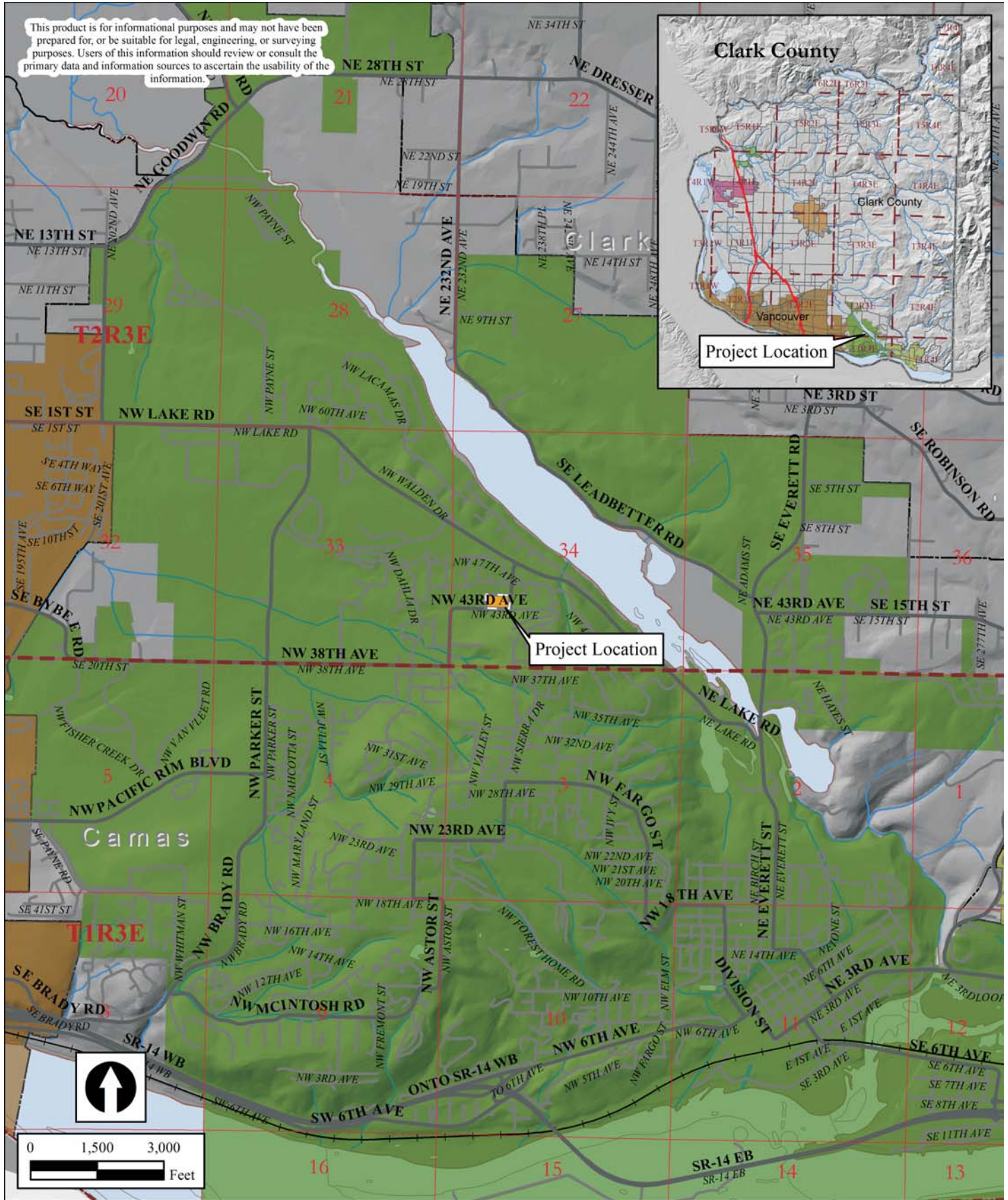
Soil Erosion - Any areas demonstrating soil erosion problems will be restored as soon as possible. If there does not appear to be a problem with the original design, the eroded areas will be restored by replacing any lost topsoil and replanted according to the original planting scheme.

Table 2. Maintenance and Contingency Requirements

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Restoration and Enhancement Areas	Trash and debris	Any trash or debris which exceeds 1 ft ³ /100ft ² (equal to the volume of a standard size office garbage can). In general, there should be no evidence of dumping.	Trash and debris cleared from site.
Restoration and Enhancement Areas	Erosion	Eroded damage >2 inches deep where cause of damage is still present or where there is potential for continued erosion.	Eroded areas should be stabilized with appropriate erosion control BMPs (e.g., seeding, mulching).
Restoration and Enhancement Areas	Plant mortality	Plant mortality jeopardizes attaining the survival rate outlined in this mitigation/restoration plan.	Plants should be replaced according to the planting plan. Modifications to the planting plan should be made if monitoring identifies problems with the original planting scheme.

Restoration and Enhancement Areas	Invasion of undesirable plant species.	Undesirable plant species are hindering the growth and establishment of the favored plant stands.	Undesirable species removed by hand, or in accordance with recommendations of the Clark County Weed Control Board.
Restoration and Enhancement Areas	Animal herbivory	Animal herbivory jeopardizes attaining the survival rate outlined in this mitigation/restoration plan.	The area may need to be temporarily fenced if grazing becomes a problem.

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation - Revised

**Project Location Map
 Meadows Subdivision Project
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,

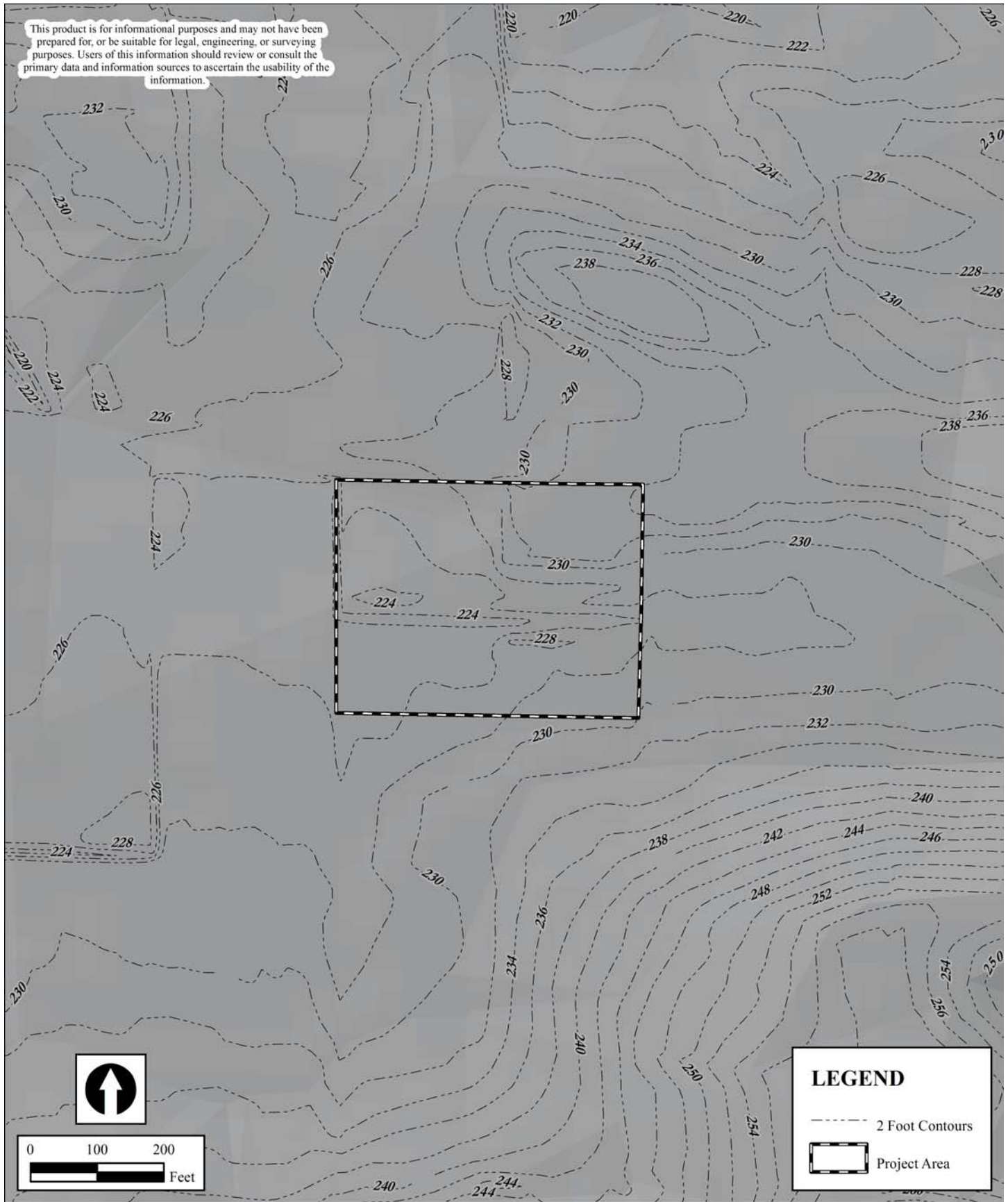
NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 30, 2015

Figure 1

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation -
 Revised

**Clark County LiDAR Topography
 Meadows Subdivision Project
 Camas, Washington**



**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,

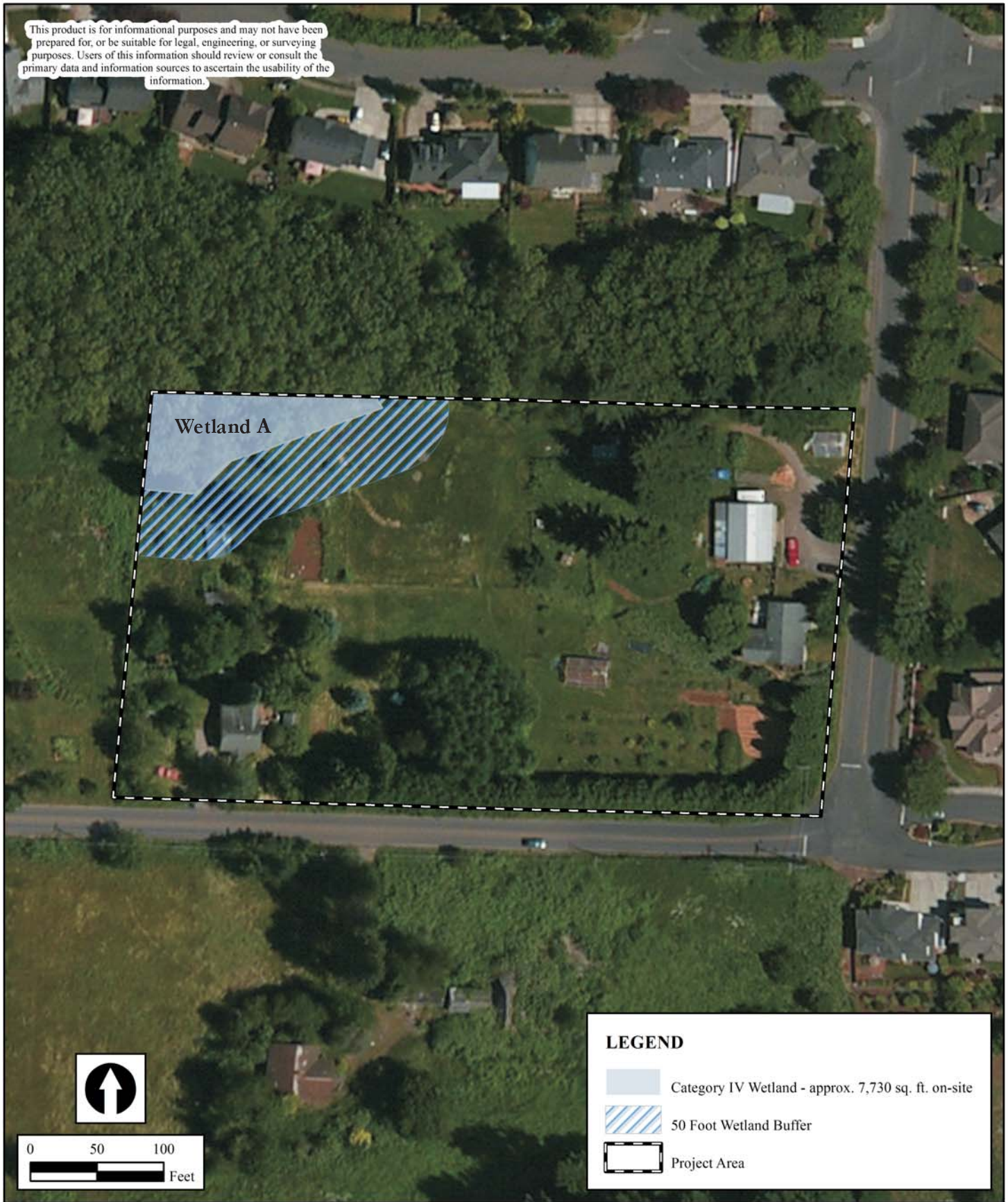
NEAR: Camas, Washington

COUNTY: Clark County

DATE: June 30, 2015

Figure 2

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Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation - Revised

Existing Conditions
Meadows Subdivision Project
Camas, Washington



The Resource Company, Inc.

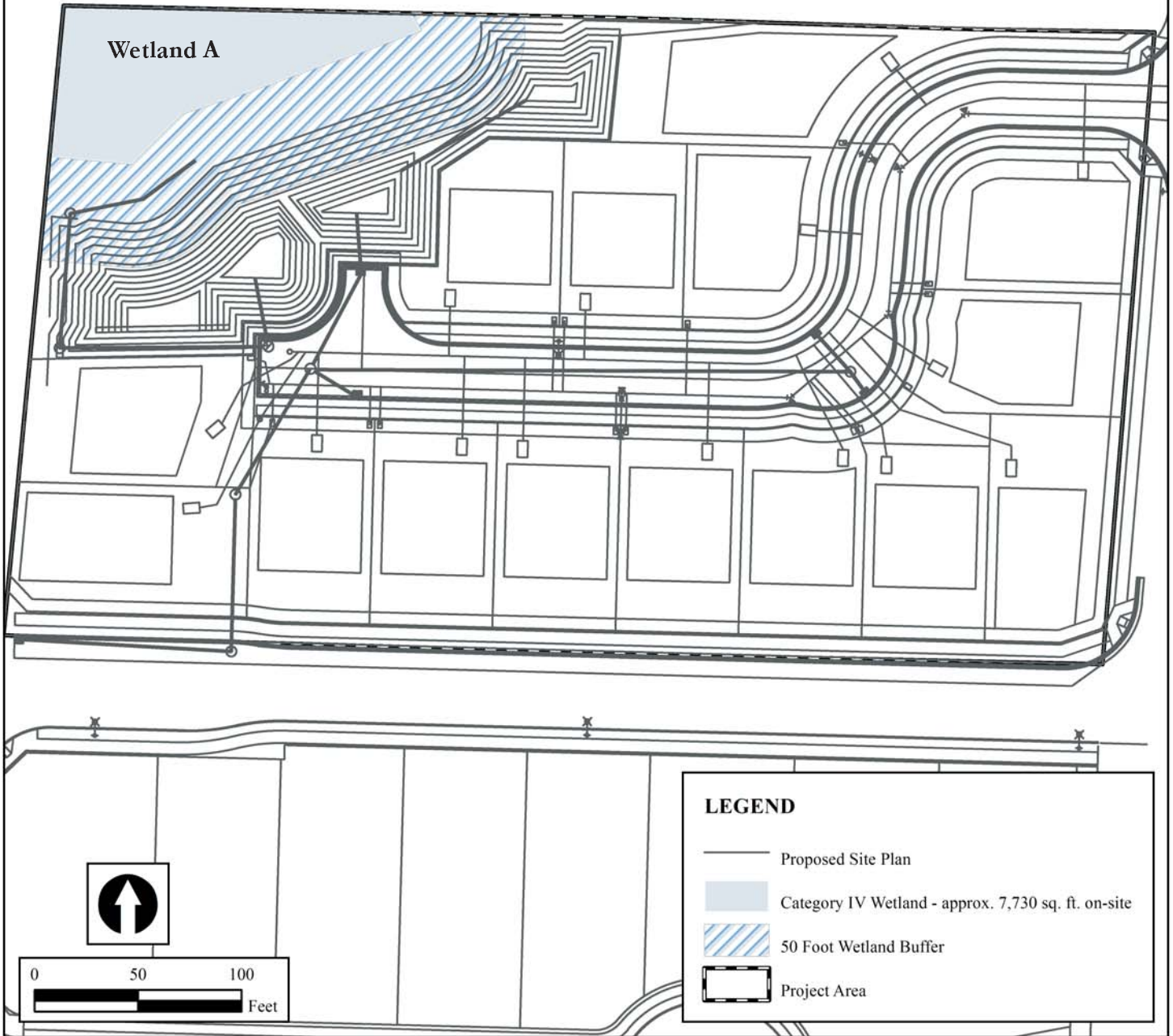
ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015

Figure 3

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation -
 Revised

**Proposed Site Plan
 Meadows Subdivision Project
 Camas, Washington**

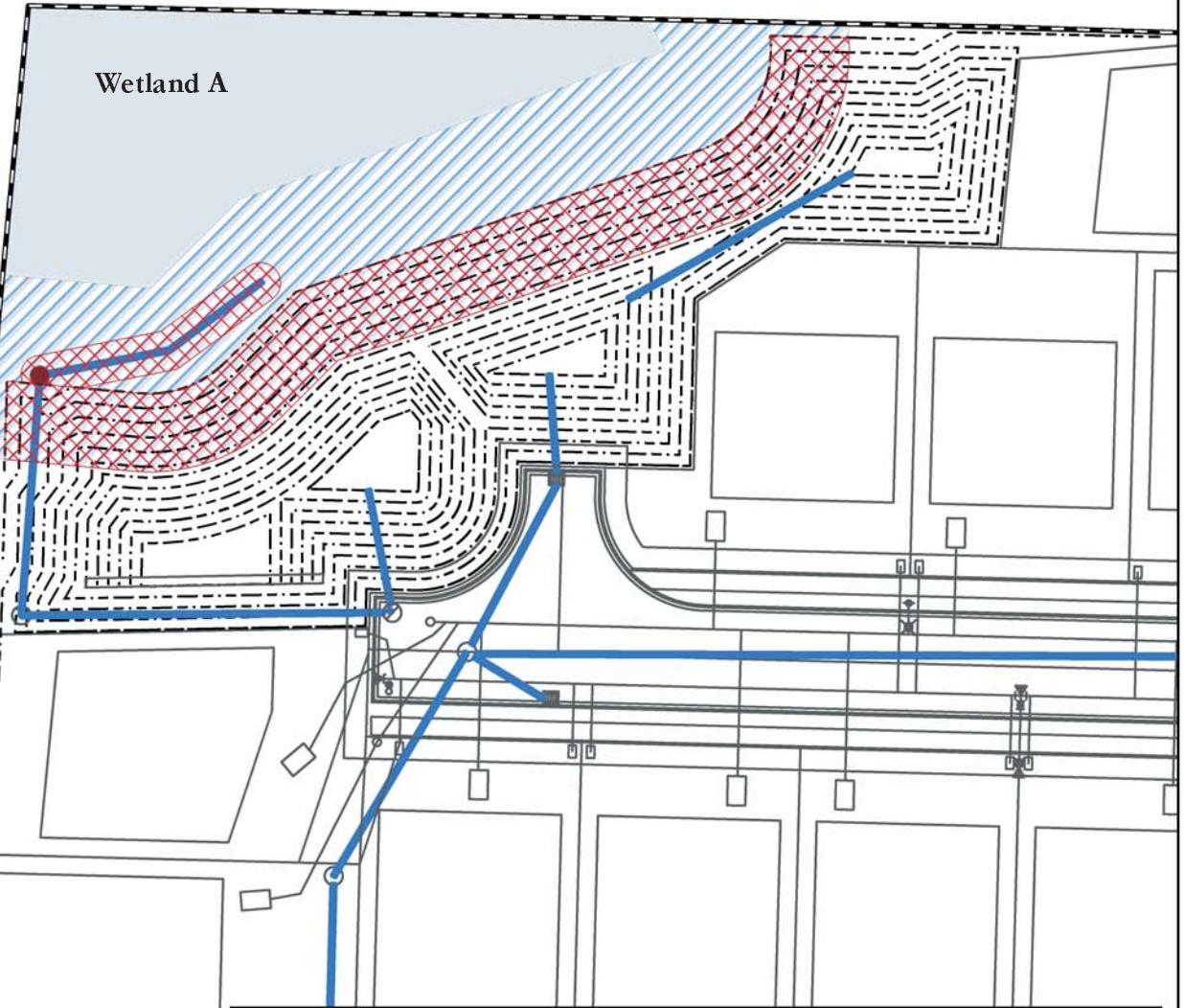


**The Resource
 Company, Inc.**

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:
 Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
 WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015
Figure 4

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



LEGEND

- Proposed Site Plan
- - - Stormwater Facility Topography
- Stormwater Pipe
- ▭ Project Area
- Permanent Wetland Buffer Impacts - 20 sq. ft.
- ▨ Temporary Wetland Buffer Impacts - 6,345 sq. ft.
- Category IV Wetland - approx. 7,730 sq. ft. on-site
- ▨ 50 Foot Wetland Buffer

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation - Revised

**Buffer Impact Areas
 Meadows Subdivision Project
 Camas, Washington**



The Resource Company, Inc.

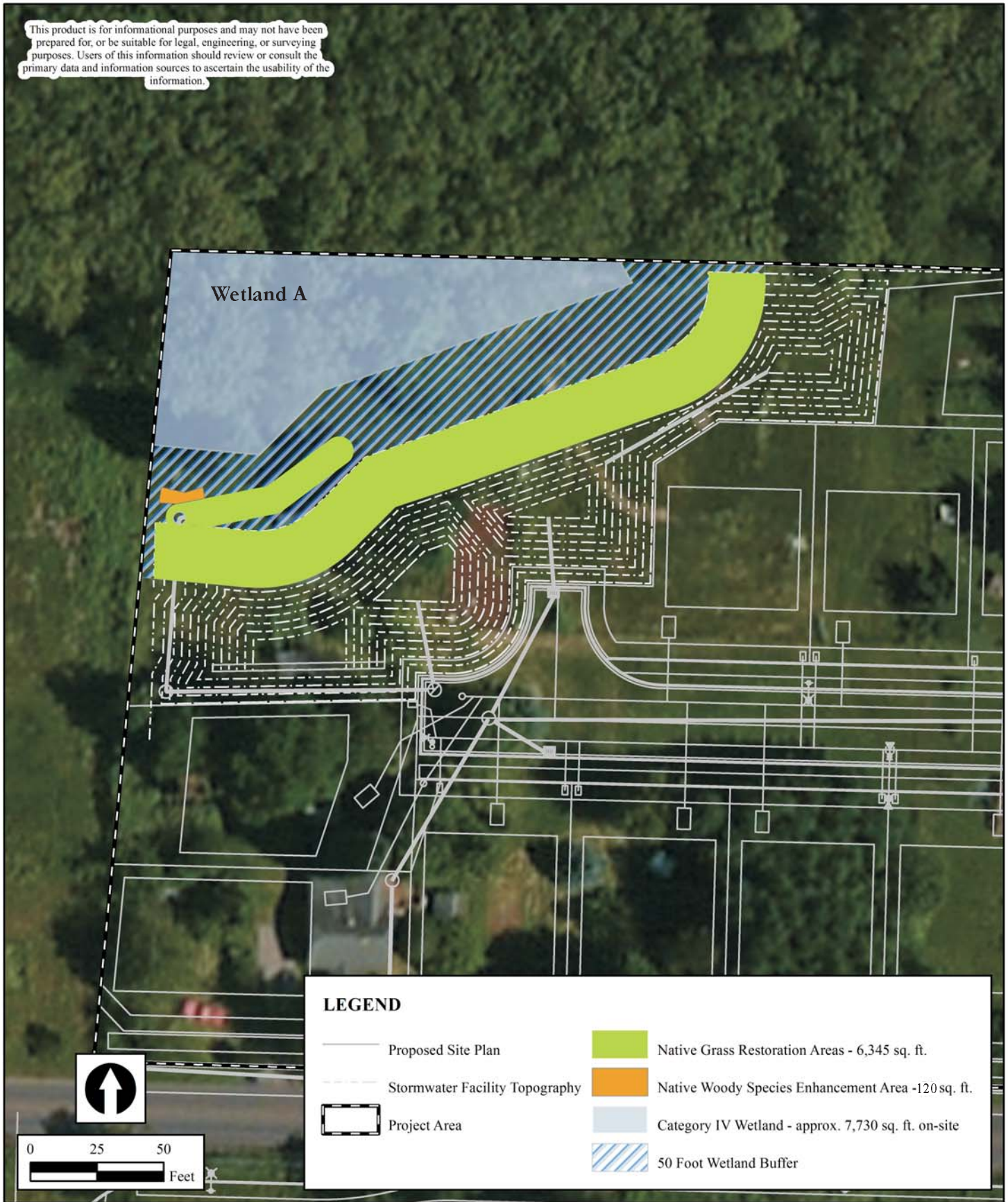
ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:








Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015

Figure 5

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



LEGEND

-  Proposed Site Plan
-  Stormwater Facility Topography
-  Project Area
-  Native Grass Restoration Areas - 6,345 sq. ft.
-  Native Woody Species Enhancement Area -120 sq. ft.
-  Category IV Wetland - approx. 7,730 sq. ft. on-site
-  50 Foot Wetland Buffer

Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
 Attn: Tom Strassenberg
 200 SE 197th Place
 Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation - Revised

**Buffer Mitigation Area
 Meadows Subdivision Project
 Camas, Washington**



The Resource Company, Inc.

ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION
 8415 N.E. 8th Avenue, Vancouver, WA 98666 Ph: 360.693.4555 Fax: 360.699.6242

PROPOSED ACTIVITIES IN:

Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E, WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015

Figure 6



Meadows Subdivision

APPLICANT:

Lacamas Meadows, LLC
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607

PURPOSE: Wetland Buffer Mitigation -
Revised

**Project Photographs
Meadows Subdivision Project
Camas, Washington**



PROPOSED ACTIVITIES IN:
Lacamas Creek Watershed
LEGAL: SW ¼ of Section 34, T2N, R3E,
WM.,
NEAR: Camas, Washington
COUNTY: Clark County
DATE: June 30, 2015
Photo Sheet 1

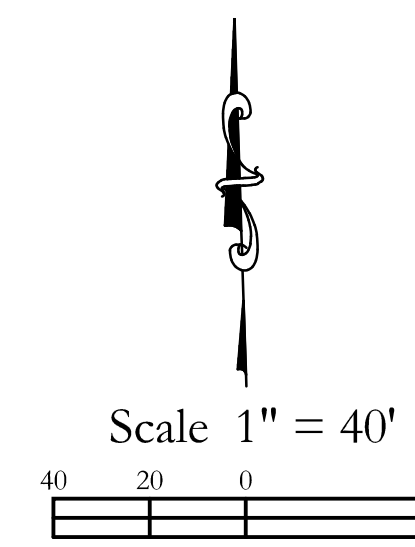
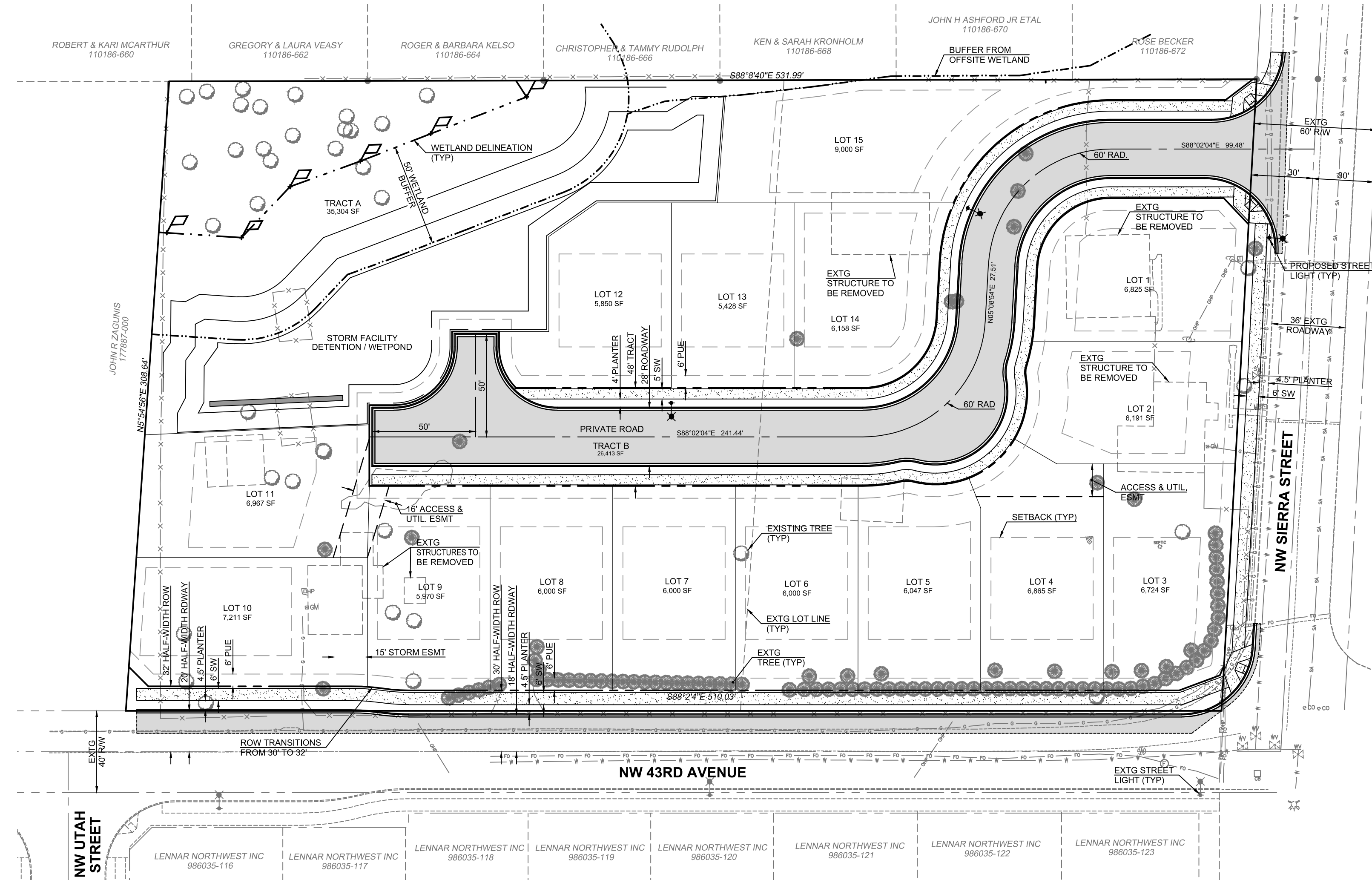
APPENDIX A – SITE PLAN ALTERNATIVES

Meadows Subdivision

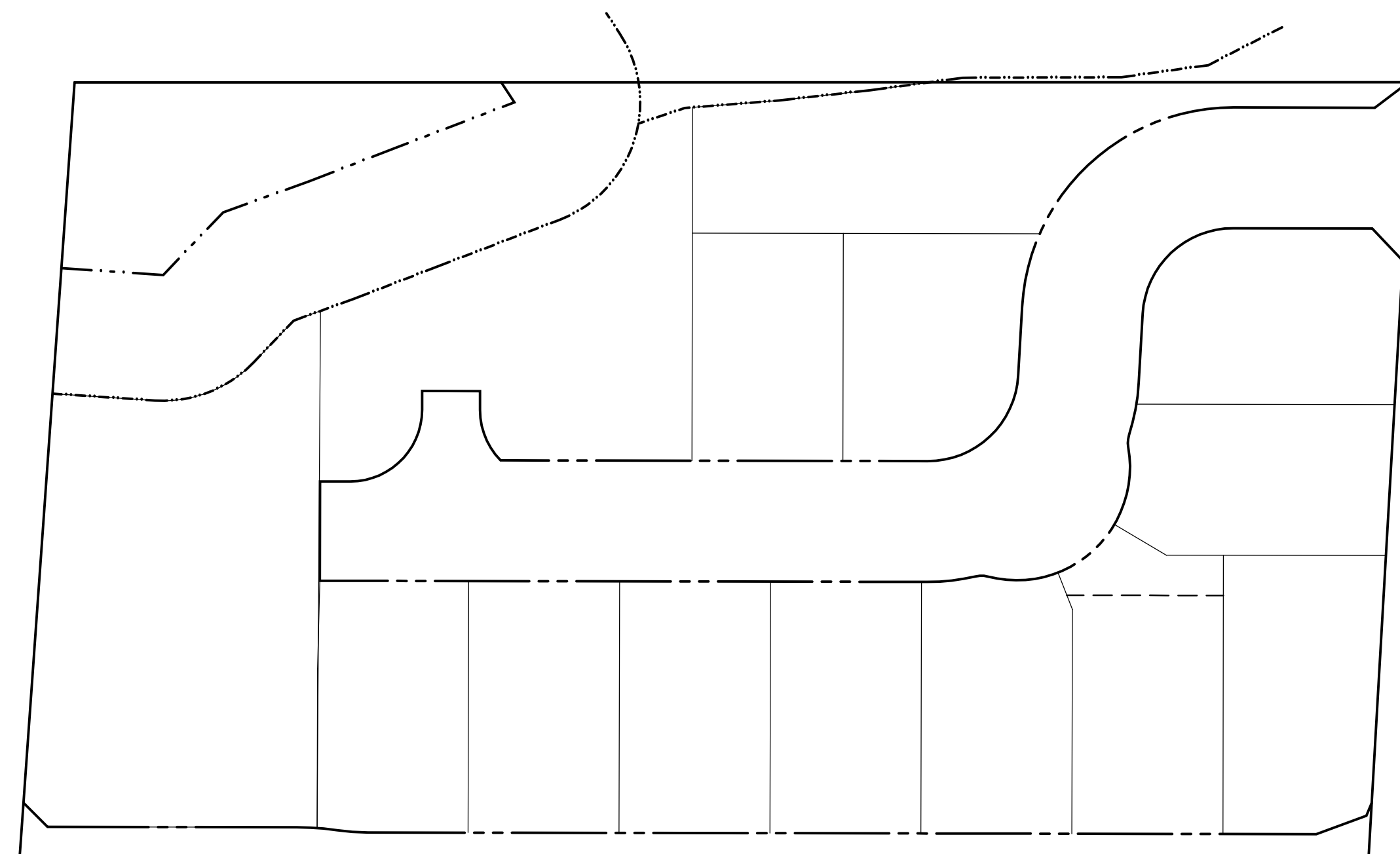
Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



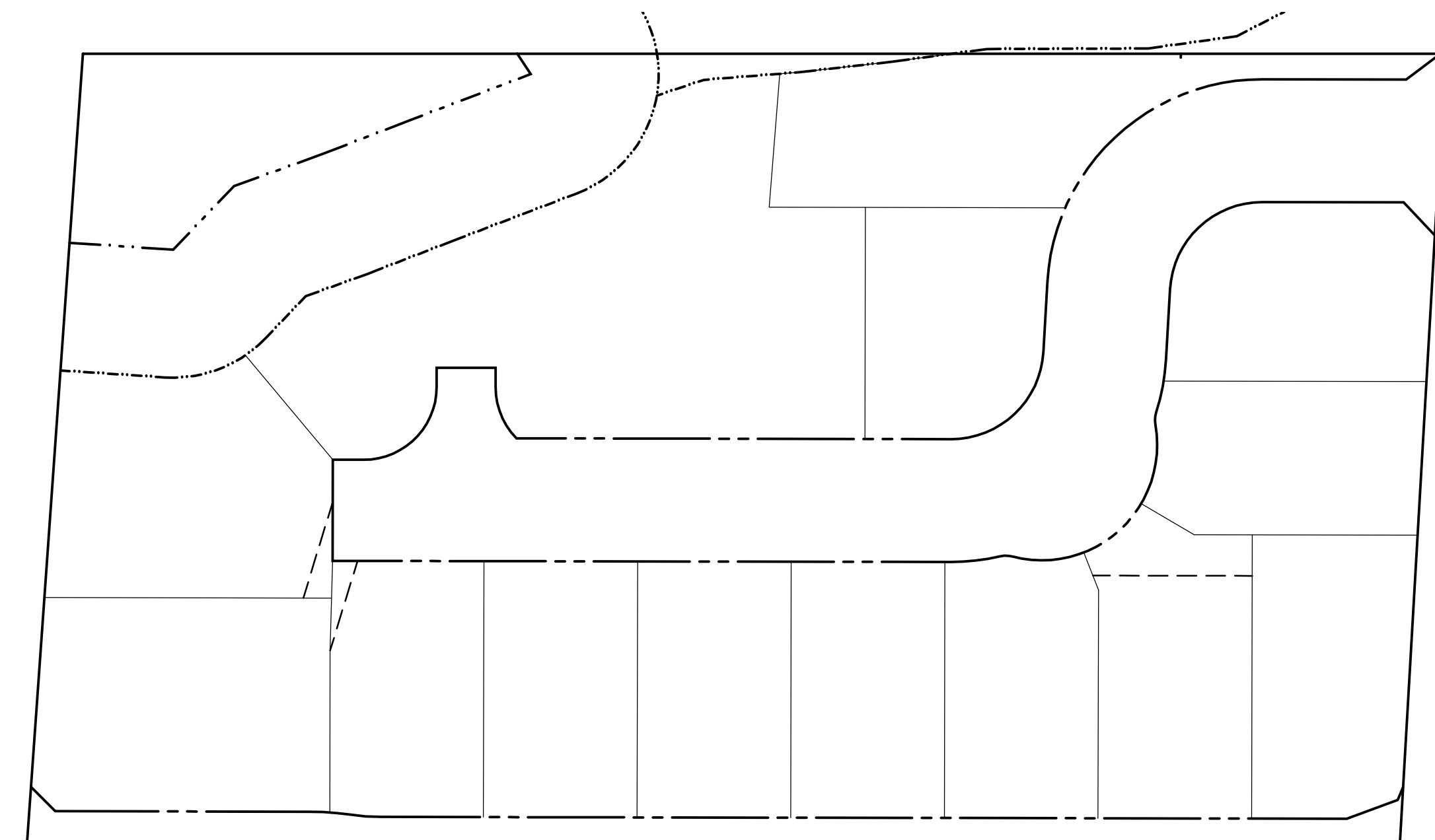
Preferred Alternative



Alternative 1

(2 fewer lots than preferred alternative)

- 1) Increases overall tract area and tree protection areas within tracts.
- 2) Slight reduction in infrastructure costs.
- 3) Outfall of stormwater will be in the same location as preferred alternative.



Alternative 2

(2 fewer lots than preferred alternative)

- 1) Increases overall tract area and tree protection areas within tracts.
- 2) Slight reduction in infrastructure costs.
- 3) Outfall of stormwater will be in the same location as preferred alternative.

PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6539
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

Alternative Preliminary Plats For:

Meadows Subdivision

A Subdivision Located In Camas, Washington

Consulting Engineers & Planners | 2008 C Street, Vancouver, WA 98663

PH (360) 944-6519

Fax (360) 944-6539

PLS ENGINEERING

Revisions

A	
B	
1	
2	
3	
4	

Project No. 2402

SCALE: H: 1" = 30'
V: N/A

DESIGNED BY: TGT

DRAFTED BY: TGT

REVIEWED BY: AUG

1

1



COMMUNITY DEVELOPMENT DEPARTMENT

616 NE 4th Avenue
 Camas, WA 98607
www.ci.camass.wa.us

July 6, 2015

Travis Johnson
 PLS Engineering
 2008 C Street
 Vancouver, WA 98663
 (sent via mail and email)

RE: Meadows Subdivision (SUB15-01) preliminary plat review comments

Dear Mr. Johnson,

The below city comments are based only on the city's review of the Preliminary Plat application materials resubmitted May 6, 2015 for the Meadows Subdivision:

- 1) At page 7 of the applicant's narrative, a variance is requested for a reduction to the street side yard setback from 20-feet to 15-feet. However, the applicant's narrative did not address the criteria for approval of a major variance pursuant to CMC 18.45.040.B.1-3 nor included the application form and appropriate fee. The 20-foot street side yard setback applies to proposed Lot 1 and Lot 14. The proposed preliminary plat shows a 50-foot wide building envelope on both of those lots, however lots are only required to accommodate a 40x40 building envelope. With that, staff finds the 20-foot street side yard setback can be met based on the current size and shape of Lot 1 and Lot 14.
- 2) Lots 3 is a *Restricted Corner Lot* per CMC 17.19.030.D.8 which states, "*Corner lots restricted from access on side yard flanking street shall be treated as interior lots and conform to front, side and rear yard interior setbacks of CMC Chapter 18.09.*" With the future development immediately to the west, Lot 10 will also become a restricted corner lot with the required extension of NW Utah Street. As a result, setbacks for Lots 3 and 10 shall be as follows: Front 20-feet, Side 5-feet and Rear 25-feet.
- 3) Per CMC 17.19.040.B.11, access to NW 43rd Avenue and NW Sierra Street (both marginal streets) is restricted in order to minimize traffic and provide a separation of through and local traffic. Therefore, pursuant to CMC 17.19.040.B.11.c, appropriate fencing with landscaping contained in a non-access reservation with a minimum ten-foot width along the real property line will be required. Lots 1-9 appear to have adequate lot depths to accommodate this requirement. **Setbacks are measured from the edge of the 10-foot tract.** Due to the orientation of Lot 10, only a fence will be required at the back of the sidewalk along NW 43rd Avenue.
- 4) CMC 17.19.030 states, "In addition to meeting the requirements of CMC Chapter 18.31, Tree Regulations, every reasonable effort shall be made to preserve existing significant trees and vegetation, and integrate them into land use design." Furthermore, CMC 16.33.010 *Public view, open space protection and historic sites and structures* and CMC 18.31.080 *Tree Retention* discuss the importance of tree preservation and mitigation for tree removal. At page 10 and 11 of the Applicant's narrative, the preservation of significant trees is impracticable due to the close proximity of the future sidewalk of NW 43rd Avenue. To accommodate for the tree removal, mitigation could be accomplished within the 10-foot landscape tract required in comment #3 above. A detailed landscape plan will be required

for the mitigation.

- 5) To provide adequate pedestrian mobility to and from the development, a 15-foot utility and pedestrian access easement is encouraged across lots 10 and 11 (and possibly 9) from the sidewalk within private road Tract B to the public right-of-way of NW 43rd Avenue.
- 6) On the face of the preliminary plat, it states there is an existing home to remain on Lot 2 and the maximum lot size is stated incorrectly. This language should be revised.
- 7) Please confirm whether or not the property line along the northwest corner of lot 15 is supposed to be cohesive with the wetland buffer line.
- 8) The northwest corner of lot 12 needs to comply with the 25-foot rear yard setback requirement.
- 9) The proposed average lot size falls below 7,400 square feet and as such, in accordance with the requirements of CMC 17.19.040.B.10.c, 3-off street parking spaces are required to be located within a common tract. It appears there may be some room at the southwest corner of lot 12 to accommodate for 3 parking stalls.
- 10) The preliminary plat drawing shows the wetland and stormwater facility in the same tract and should be placed in separate tracts. Storm drainage facilities shall be placed in their own tract pursuant to CMC 17.19.040.C.3. In accordance with CMC 16.51.240.A, the wetland and its associated buffer shall be placed in its own tract.
- 11) Submit an exception request for NW 43rd Avenue right-of-way dedication of 12-feet rather than the required 17-feet. The exception request is necessary due to orientation of Lots 10 & 11.

Staff would like to schedule a meeting with you and Tom Strassenberg to discuss the contents of this letter. If you have any questions, please contact me or Robert Maul at (360) 817-7253.

Respectfully,



Lauren Hollenbeck
Senior Planner

Cc: Robert Maul, Planning Manager
Wes Heigh, City Project Engineer
Tom Strassenberg, Lacamas Meadows, LLC



**State Environmental Policy Act
Mitigated Determination of Non-Significance**

CASE NO: SEPA 15-03

APPLICANT: Lacamas Meadows, LLC
Meadows Subdivision
File No. SUB15-01

REQUEST: To develop an approximate 3.78 acre parcel into fifteen (15) single-family residential lots, utilizing density transfer provisions of the Camas Municipal Code Chapter 18.09.060.

Location: The parcel is located at the northwest corner of the intersection of NW 43rd Ave and NW Sierra Street.

Legal Description: The project is located in the City of Camas in the SW ¼ of Section 34, Township 2 North, Range 3 East, of the Willamette Meridian. The location is also described as tax lot 177893-000 & 177902-000

SEPA Determination: Mitigated Determination of Non-Significance (MDNS)

Comment Deadline: August 4, 2015, at 5:00 p.m.

As lead agency under the State Environmental Policy Act (SEPA) Rules [Chapter 197-11, Washington Administrative Code (WAC)], the City of Camas must determine if there are possible significant adverse environmental impacts associated with this proposal. The options include the following:

- DS = Determination of Significance (The impacts cannot be mitigated through conditions of approval and, therefore, requiring the preparation of an Environmental Impact Statement (EIS).
- MDNS = Mitigated Determination of Non-Significance (The impacts can be addressed through conditions of approval), or;
- DNS = Determination of Non-Significance (The impacts can be addressed by applying the Camas Municipal Code).

Determination:

Mitigated Determination of Non-Significance (MDNS). The City of Camas, as lead agency for review of this proposal, has determined that this proposal does not have a probable significant adverse impact on the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(e). This decision was made after review of a completed environmental checklist, and other information on file with the City of Camas.

Date of Publication & Comment Period:

Publication date of this MDNS is **July 21, 2015**, and is issued under WAC 197-11-350. The lead agency will not act on this proposal until the close of the 14-day comment period which ends on **August 4, 2015**. Comments may be sent by email to communitydevelopment@cityofcamas.us.

SEPA Appeal Process:

An appeal of any aspect of this decision, including the SEPA determination and any required mitigation, must be filed with the Community Development Department within fourteen (14) calendar days from the date of the decision notice. The letter of appeal should contain the following information.

1. The case number designated by the City of Camas and the name of the applicant; and,
2. The name and signature of each person or group (petitioners) and a statement showing that each petitioner is entitled to file an appeal as described under Section 16.13.060 of the Camas Municipal Code. If multiple parties file a single petition for review, the petition shall designate one party as the contact representative with the City Planner. All contact with the City Planner regarding the petition, including notice, shall be with this contact person.

The appeal request and appropriate fee of **\$340** must be submitted to the Community Development Department between 8:00 a.m., and 5:00 p.m., Monday through Friday, at the address listed below:

Appeal to the City of Camas SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607

Responsible Official: Robert Maul (360) 817-1568

 _____ Robert Maul, Planning Manager and Responsible Official	July 21, 2015 _____ Date of publication
-------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------

Meadows Subdivision (#SUB15-01)
SEPA Mitigation Measures

The following measures are based on general policies and regulatory provisions contained within the Camas Municipal Code.

B. ENVIRONMENTAL ELEMENTS

3. Water

The applicant identified a Category IV wetland in the northwest corner of the site, which is an extension of a larger wetland complex that extends off-site to the north. The Category IV wetland requires a 50-foot buffer per CMC Table 16.53.040-1 as the habitat function score is 4 or less and is adjacent to high intensity use. The stormwater runoff drains to the low portion of the site where the wetland is located. As allowed per CMC 16.53.050.C.3, the stormwater facility encroaches into the wetland buffer.

1. Stormwater treatment and runoff control shall be design in accordance with the requirements of the 2005 Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.
2. The applicant shall provide a 50-foot setback as measured from the wetland delineation boundary and shall place the wetland and buffer in a tract.
3. The stormwater facility shall be built on the outer edge of the buffer and not degrade the existing buffer function, and shall be designed to blend in with the natural landscape.
4. Temporary construction fencing shall be installed around the critical area prior to earthwork.
5. Prior to final acceptance of site improvements, permanent continuous fencing and signage along the wetland buffer boundary, with text provided by the City, shall be installed.
6. Any disturbed areas shall be revegetated and a revegetation plan shall be submitted and approved by the City prior to construction plan approval.
7. Mitigation planting shall be installed prior to final plat approval.
8. A bond shall be posted or other surety secured for the estimated costs of maintenance and monitoring of the mitigation site pursuant to CMC Section 16.51.250.

4. Plants

Significant trees include evergreen trees eight inches in dbh, and deciduous trees, other than red alder or cottonwood, twelve inches in dbh, measured 4.5 feet above the ground measured from the uphill side.

9. All significant trees within the required wetland and its buffer outside of the stormwater facility encroachment shall be retained. These trees, including any significant trees to be retained outside of the wetland and stormwater areas, shall be placed in a conservation easement or other permanent mechanism acceptable to the city and shall be identified on the final plat.

10. Temporary construction fencing shall be provided around the drip line of any significant trees. The temporary fencing shall be in place prior to any earthwork activities and remain in place until final acceptance of site improvements.
11. Final grading and site plans shall include the location of significant trees and shall be consistent with the intent to retain these significant trees. Removal of significant trees shall only be authorized upon review and recommendation of a qualified biologist.
12. Only invasive species as identified by a qualified biologist may be removed within the delineated sensitive areas. If removal of plants is unavoidable as part of this development, then a vegetation removal permit is required pursuant to CMC 18.31.090.

7. Environmental Health

b. Noise:

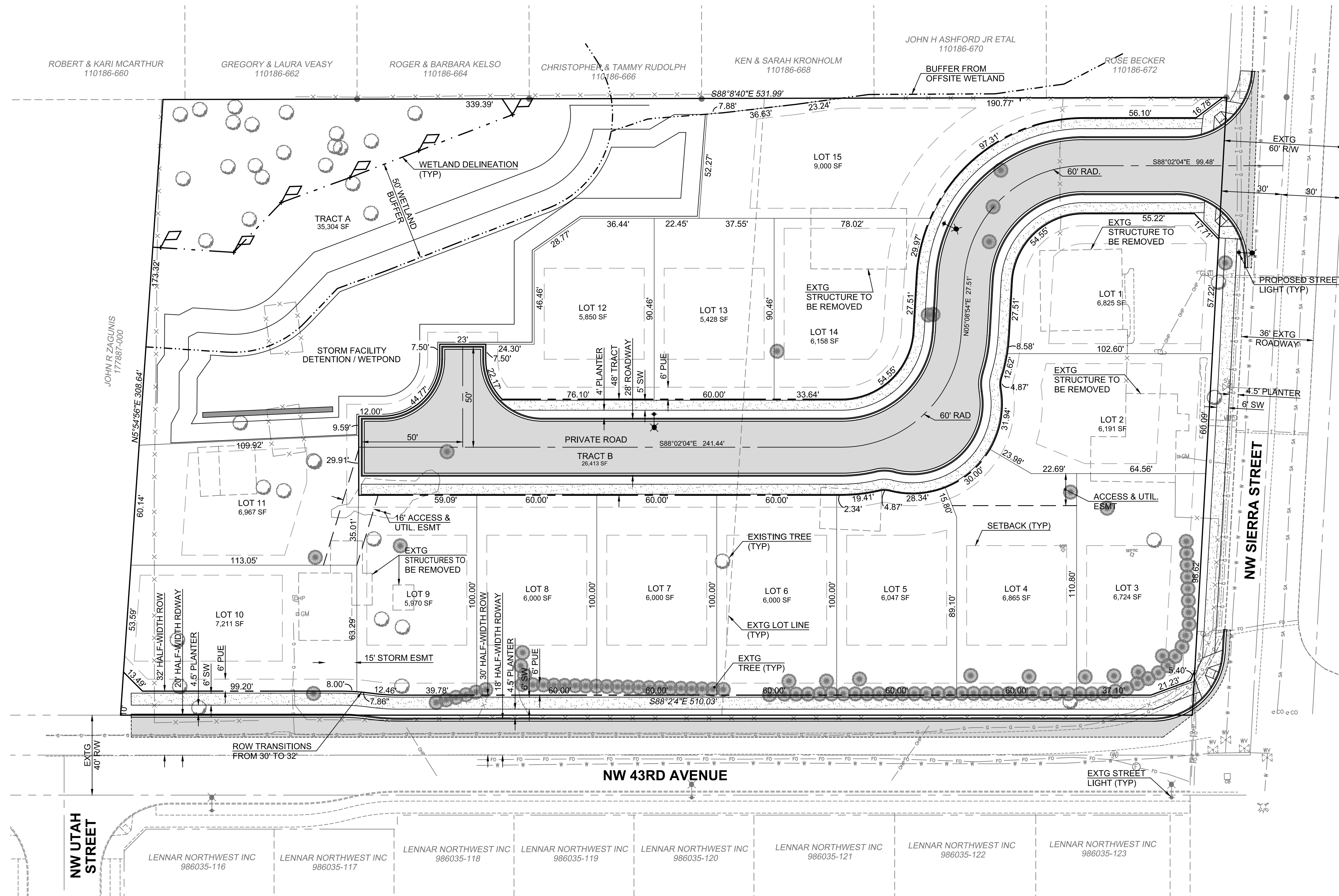
13. To mitigate noise impacts to the surrounding area, construction activities shall be limited to 7:00am to 7:00pm, Monday through Friday, 8:00am to 5:00pm Saturdays, and no construction on Sundays or City observed holidays per CMC Section 9.32.050.A.5. Equipment shall be properly muffled to federal standards and are restricted to operation during construction hours.

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

This project is within the R-7.5 zone of Camas, a Single-family Residential zone. The comprehensive plan designation for the site is SFM.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

Dimensional standards are noted below. Applicant will utilize density transfer with this application.

Lot Setbacks:
Front = 20'
Side = 5'
Street Side = 20' / Requesting 15'
Rear = 25'

Site Area - 3.78 acres (164,694 sq ft).

Total Number of Lots = 15

Minimum Lot Size = 5,428 sq ft
Maximum Lot Size = 8,994 sq ft
Average Lot Size = 6,365 sq ft

Tract A will be owned and maintained by the home owners association. It will contain the wetlands and associated buffer and the proposed storm facility.

Tract B will be owned and maintained by the home owners association. This tract will contain the private roadway and will have an easement over the entire Tract to the City of Camas for utility mains.

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

School District = Camas

Fire District = Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.

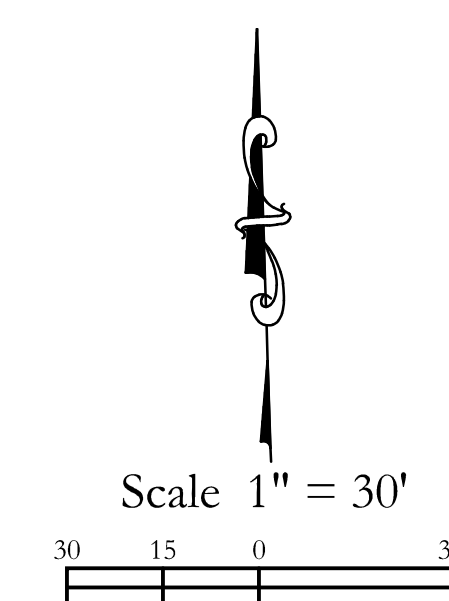
Legal Description:

Parcel 177902-000
The West 300.00 feet of the East 565.5 feet of the following described tract of land: Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, in Clark County, Washington; thence North 89 degrees 53' West 20.36 chains to the West line of said Section 34; thence South along said Section line, 4.96 chains to the Point of Beginning.

Parcel 177893-000
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, Clark County, Washington; and running thence North 89 degrees 53' East, along the center of the County Road 20.03 chains to the True Point of Beginning; thence North 3 degrees 50' East 4.97 chains; thence South 89 degrees 53' West 265.6 feet; thence South 4.96 chains, more or less, to the center line of said County Road; thence North 89 degrees 53' East, along the center of said County Road to the point of beginning.

EXCEPT any portion lying with SE 15th St.

Land Inventory	
Total Acreage	3.78 ac
Total Developed Acreage	3.30 ac
Total Lot Area	2.23 ac
Total Infrastructure Acreage	0.61 ac
Total Tract Area	1.42 ac
Total Acreage of Critical Areas	0.48 ac
Total Acreage of Recreational Open Spaces	0.00 ac



Preliminary Plat For:
Meadows Subdivision
A Subdivision Located In Camas, Washington

Revisions	
A	
B	
1	
2	
3	
4	

Project No. 2402	
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AUG

1
1

Date Published: July 21, 2015

To Whom It May Concern:

Please find enclosed a Mitigated Determination of Non-Significance (MDNS) for the **Meadows Subdivision (SEPA15-03)** that was issued pursuant to the State Environmental Policy Act (SEPA) Rules, Chapter 197-11, Washington Administrative Code. The enclosed review comments reflect evaluation of the environmental checklist by the lead agency as required by WAC 197-11-330(1)(a)(i).

The following materials were submitted with the initial application.

- **General application form and narrative**
- **Full plan sets**
- **Drainage Report**
- **Traffic Report**
- **Critical Areas Report**
- **Tree Survey & Landscape Plan**
- **Archaeological Determination**
- **SEPA Checklist**

The application materials are available for review upon request from the Community Development Department.

Written comments may be submitted on this determination within fourteen (14) days of its issuance, after which the MDNS will be reconsidered in light of the comments received.

Please address all correspondence to:

City of Camas, SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607
communitydevelopment@cityofcamas.us

Distribution

Applicant
Bureau of Indian Affairs
C-Tran
Camas School District
Camas City Administrator, Peter Capell
Camas Building Official, Bob Cunningham
Camas Community Development Director, Phil Bourquin
Camas Engineering Department Managers
Camas Fire Department, Randy Miller
Camas Finance Director, Cathy Huber Nickerson
Camas Mayor and City Council Members
Camas Parks and Recreation, Jerry Acheson
Camas Planning Manager and Staff
Camas Police Chief, Mitch Lackey
Camas Public Works Director, Steve Wall
Camas Public Library, David Zavortink
Chinook Indian Nation
Cultural Resource Program, Cowlitz Indian Tribe
Cultural Resource Program, Yakama Indian Nation
Cultural Resource Program, Yakama Indian Nation
Clark County Department of Environmental Services
Clark County Public Works – Development Engineering Program
Clark County Department of Transportation
Clark County Natural Resources Council
Clark Public Utilities
Clark Public Utilities, Construction Services Manager
Department of Ecology
Department of Fish and Wildlife
Department of Natural Resources, SEPA Center
Post Record Publications
Southwest Clean Air Agency
US Army Corps of Engineers
Vancouver-Clark Parks and Recreation
Washington Office of Archaeology & Historic Preservation
Washington State Department of Transportation
Washington State Parks and Recreation Commission, Environmental Program Manager
Property Owners within 300 feet

August 4, 2015

City of Camas, SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607
communitydevelopment@cityofcamas.us

**Re: Proposed Meadows Subdivision (File No. SUB15-01)
Tax Lots 177893-000 and 177902-000**

To Whom It May Concern,

In response to the Mitigated Determination of Non-Significance (MDNS) published on July 21, 2015 for the proposed Meadows Subdivision (SEPA15-03), Tax Lots 177893-000 and 177902-000 ("Project Area"), we have the following comments:

Comment 1

The wetland and buffer boundaries indicated on the preliminary plat map provided in the SEPA Environmental Checklist prepared by Lacamas Meadows, LLC on January 5, 2015 do not appear to be correct based on a review of the data provided in the Wetland Delineation and Assessment report, dated June 13, 2014, prepared by The Resource Company, Inc. Additionally, several inconsistencies and deficiencies were noted in the Wetland Delineation and Assessment report.

- The Project Area indicated on Figures 3 and 5 from the Wetland Delineation and Assessment report does not appear to be accurate. These Figures were overlaid onto Google Earth in an attempt to line up the boundaries indicated on the preliminary plat map (See Attachment A). However, the Project Area boundaries do not match up with one another or with the preliminary plat map. The wetland and buffer boundaries cannot be accurately indicated on the preliminary plat map without a correctly depicted and scaled wetland delineation.
- Figure 5 of the Wetland Delineation and Assessment report outlines the Project Area and approximates the wetland boundary and the buffer boundary. The buffer boundary presented in Figure 5 (which indicates the buffer extending nearly to the northeast corner of Lot 15) conflicts with the buffer boundary presented in the preliminary plat map (which shows the buffer extending only to the northwest corner of Lot 15).
- In Figure 5 of the Wetland Delineation and Assessment report, the approximated wetland boundary and buffer boundary appear to branch off incorrectly from the shaded wetland and buffer areas indicated on the figure. Because the wetland buffer zone is 50 feet from the wetland boundary, the approximated buffer boundary line should exactly mirror the approximated wetland boundary line and it does not.
- Page 4 of the Wetland Delineation and Assessment report states that the wetland in the northwest corner of the site was delineated, and that approximate wetland boundaries are

shown in Figure 5. The report does not state how the offsite boundaries were determined, and it does not indicate that the portion of the wetland located offsite was delineated. The offsite wetland boundary can be accurately approximated without conducting a detailed site visit of the offsite area and delineating the wetland area beyond the Project Area.

- The field data sheet for Sampling Point 2 in the Wetland Delineation and Assessment report indicates that the sampled area both is and is not within a wetland. If this sample point is indeed located within a wetland, this area should be noted on Figure 5 as within the wetland boundary, and additional sample points should have been obtained to determine the wetland boundary.
- Due to the existing data that indicates the presence of wetland areas across the entirety of the northern area of the Project Area (Figure 3 of the Wetland Delineation and Assessment report, and the approved plat maps for the adjacent properties to the north of the Project Area [see Attachment B]), it would be expected that multiple paired sample plots be taken across the entire northern portion of the Project Area during the delineation. However, only two sample plots were taken in only one corner of the Project Area, as described in the Wetland Delineation and Assessment report.

Comment 2

In lieu of a current delineation of the *entirety* of the wetland boundary surrounding the Project Area, existing wetland data should be used. Examples include:

- The Local Wetland Inventory and/or National Wetland Inventory (Figure 3 of the Wetland Delineation and Assessment report), which shows that the wetland boundary extends into the entirety of the northern portion of the Project Area.
- The approved plat maps for the adjacent properties to the north of the Project Area (Lake Pointe Phase 1), which shows that the wetland boundary extends at least to the northern property boundary of the Project Area; therefore, a the wetland buffer zone would extend at least 50 feet into the northern portion of the Project Area.

In either example above, Lot 15 is proposed to be constructed in a wetland area and/or in a wetland buffer zone. Based on this information, the construction of Lot 15 is inconsistent with the requirements of CMC 16.53, and also poses a significant adverse environmental impact per the State Environmental Policy Act (SEPA) regulations found in Washington Administrative Code (WAC) 197-11. We request that the Mitigated Determination of Non-Significance be modified to require that Lot 15 be removed from the proposed development, as well as require that the preliminary plat map be updated to include the appropriate wetland and buffer boundaries.

Comment 3

The Project Area is zoned R-7.5 and density transfer is being utilized, which requires the following minimum setback requirements under CMC 18.09.040 (Table 2.B):

- Front yard = 20 feet
- Site yard and corner lot rear yard = 5 feet

August 4, 2015

Page 3

- Side yard flanking a street = 20 feet
- Rear yard = 25 feet
- Lot frontage on a cul-de-sac or curve = 30 feet

Lot 15 is the only proposed lot oriented with the front yard facing east and the rear yard facing west. All other 14 lots are oriented in the North-South direction. Because of the orientation of Lot 15, the northern property boundary is utilizing a side yard setback of 5 feet instead of the rear yard setback of 25 feet, which places the property only 5 feet from the neighboring property line. CMC 17.19.030(D)(5)(e) states that "To protect the character of the immediate neighborhood, the city may impose special conditions, where feasible, including access configuration and separation, setbacks, fencing and landscaping." We request that, in the event that Lot 15 is approved for construction, that the rear yard setback of 25 feet be used for the northern property boundary, so that it is consistent with the other proposed lots of the Project Area and protects the character of the adjacent neighborhood.

Comment 4

We support the requirement under Section B.3.4 (Water) of the SEPA Mitigation Measures that "prior to final acceptance of site improvements, permanent continuous fencing and signage along the wetland buffer boundary, with text provided by the City, shall be installed." We request that a statement be added to the SEPA Mitigation Measures requiring that the permanent fencing be an aesthetic design in the form of solid wood, a masonry wall, or other materials to form an opaque screen, and that the design be presented to the adjacent property owners and approved by the City of Camas prior to installation.

Comment 5

We support the requirement under Section B.4.11 (Plants) of the SEPA Mitigation Measures that "removal of significant trees shall only be authorized upon review and recommendation of a qualified biologist." We request that a statement be added requiring the approval by the City of Camas prior to any removal of significant trees.

We appreciate the opportunity to submit these comments as part of the public participation process. If you have any questions or would like to discuss these comments further, we can be reached at the (503) 709-7039 or at sarahkronholm@gmail.com.

Sincerely,



Sarah and Kenneth Kronholm
2016 NW 45th Avenue
Camas, Washington 98607

August 4, 2015

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Attachments: Attachment A – Google Earth Overlays
Attachment B – Lake Pointe Phase 1 Plat Map

ATTACHMENT A GOOGLE EARTH OVERLAYS

Attachment A1: Figures 3 and 5 from the Wetland Delineation and Assessment report are overlaid in Google Earth. Figure 5 was overlaid using the existing structures as reference points. Figure 3 was overlaid using the Project Area lines as reference points.

Attachment A2: Figure 3 from the Wetland Delineation and Assessment report was overlaid in Google Earth along with the preliminary plat map. Figure 3 was overlaid using the same reference points as in Attachment A1. The preliminary plat map was overlaid using the existing structures as reference points. Note that the Property Area boundary in Figure 3 does not match up with the Property Area boundary on the preliminary plat map.

Attachment A3: Figure 5 from the Wetland Delineation and Assessment report was overlaid in Google Earth along with the preliminary plat map. Both Figure 5 and the preliminary plat map were overlaid using the existing structures as reference points. Again, note that the Property Area boundaries do not match up. Additionally, the approximated wetland buffer boundary is located through the proposed area for Lot 15.

Attachment A1: Figures 3 and 5 from the Wetland Delineation and Assessment report are overlaid in Google Earth



Attachment A2: Figure 3 from the Wetland Delineation and Assessment report and the preliminary plat map are overlaid in Google Earth



Attachment A3: Figure 5 from the Wetland Delineation and Assessment report and the preliminary plat map are overlaid in Google Earth



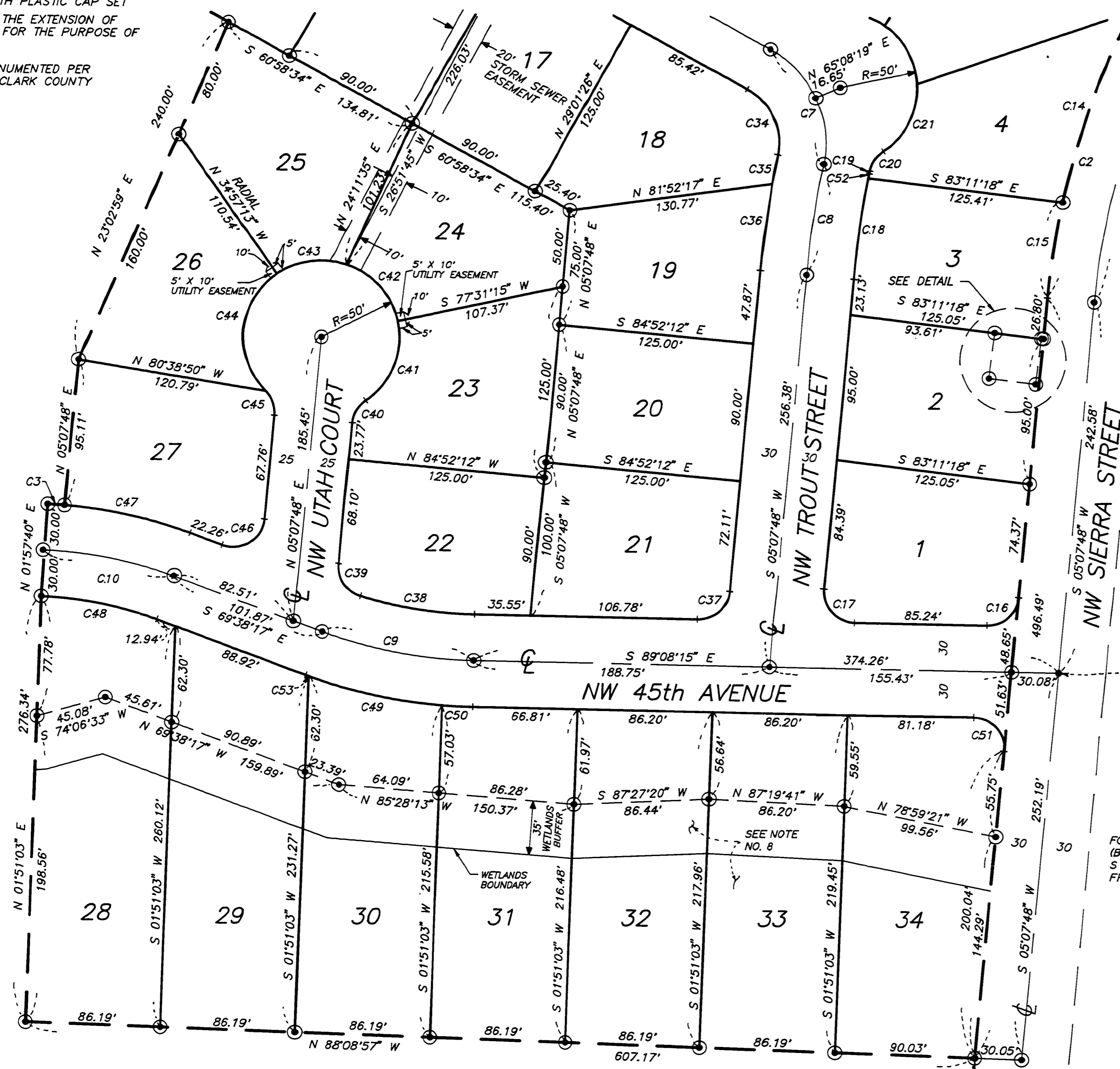
ATTACHMENT B
LAKE POINTE PHASE 1 PLAT MAP

MATCH TO SHEET 1 OF 2

LAKE POINTE PHASE 1

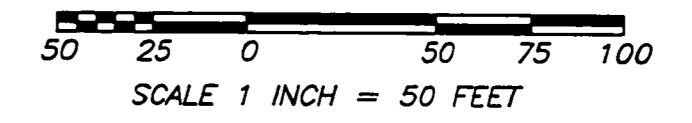
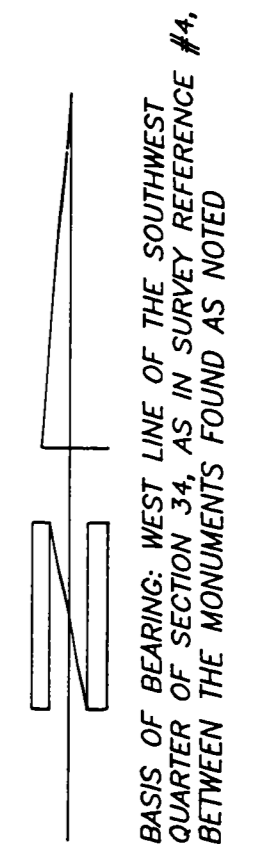
A SUBDIVISION IN THE
SOUTH 1/2 OF SECTION 34
T. 2 N., R. 3 E., W.M.
CITY OF CAMAS
CLARK COUNTY, WASHINGTON
JOB NO. 92-72 MAY, 1992
SHEET 2 OF 2

● INDICATES MONUMENT FOUND AS NOTED
○ INDICATES 1/2" IRON ROD WITH PLASTIC CAP SET
BRASS SCREWS ARE SET AT THE EXTENSION OF
ALL LOT LINES IN THE CURB FOR THE PURPOSE OF
LINE NOT DISTANCE
THIS PLAT WILL BE POST MONUMENTED PER
SECTION 17.501.030 OF THE CLARK COUNTY
SUBDIVISION CODE.

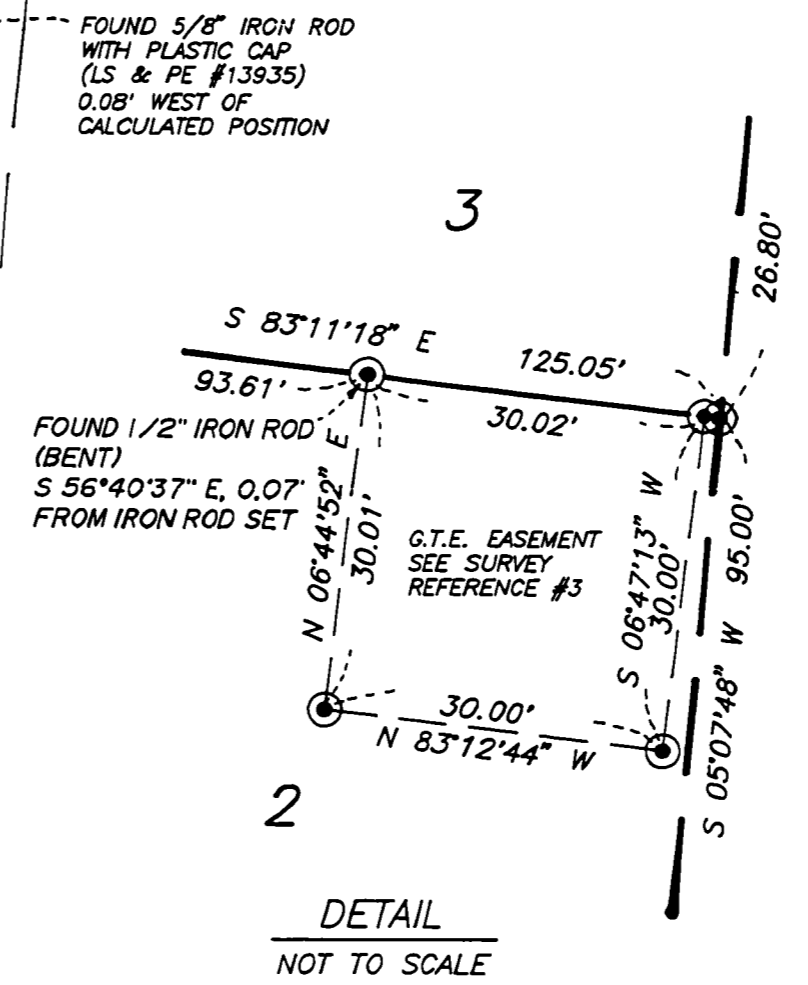


DEED REFERENCES:
GRANTOR: LESTER H. HUNT
GRANTEE: LOUIS W. SCHNELL, ET UX
AF NO. G 27469
DATED: JULY 1, 1949
RECORDED: JULY 8, 1949

SURVEY REFERENCES:
1) OLSON SHORT PLAT BOOK 2, PAGE 449
2) OLSON SURVEY BOOK 28, PAGE 120
3) LAWSON SURVEY BOOK 25, PAGE 200
4) SPOSITO SURVEY BOOK 29, PAGE 31
5) SPOSITO SURVEY BOOK 24, PAGE 195
6) LACAMAS SHORES PHASE 5 VOL H, PAGE 566
7) LAKE HEIGHTS PHASE 1 VOL H, PAGE 664



PREPARED BY:
MINISTER AND GLAESER SURVEYING, INC
2208 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(206)694-3313



CURVE	RADIUS	LENGTH	DELTA
C2	530.00'	196.51'	21°14'38"
C3	294.24'	12.71'	02°28'28"
C4	500.00'	208.43'	23°53'04"
C7	70.00'	88.25'	72°13'46"
C8	685.00'	73.21'	06°07'24"
C9	290.99'	99.03'	19°29'58"
C10	264.24'	84.86'	18°24'03"
C14	530.00'	133.28'	14°24'30"
C15	530.00'	63.23'	06°50'08"
C16	20.00'	29.93'	85°43'57"
C17	20.00'	32.91'	94°16'03"
C18	655.00'	66.88'	05°51'00"
C19	100.00'	1.72'	00°59'09"
C20	20.00'	15.86'	45°25'19"
C21	50.00'	51.55'	59°04'20"
C34	40.00'	50.43'	72°13'46"
C35	715.00'	19.23'	01°32'27"
C36	715.00'	57.19'	04°34'57"
C37	20.00'	29.93'	85°43'57"
C38	260.99'	74.12'	16°16'20"
C39	20.00'	27.23'	77°59'43"
C40	20.00'	17.45'	49°59'41"
C41	50.00'	59.00'	67°36'13"
C42	50.00'	51.64'	59°10'23"
C43	50.00'	46.51'	53°18'06"
C44	50.00'	87.19'	99°54'41"
C45	20.00'	17.45'	49°59'41"
C46	20.00'	36.73'	105°13'56"
C47	294.24'	81.79'	15°55'35"
C48	234.24'	75.23'	18°24'03"
C49	320.99'	87.88'	15°41'11"
C50	320.99'	19.40'	03°27'43"
C51	20.00'	32.91'	94°16'03"
C52	655.00'	3.13'	00°16'24"
C53	320.99'	1.97'	00°21'04"

UTILITY EASEMENT:

AN EASEMENT IS HEREBY RESERVED UNDER AND UPON THE EXTERIOR SIX (6) FEET AT THE FRONT AND REAR BOUNDARY LINES AND THE EXTERIOR FIVE (5) FEET AT THE SIDE BOUNDARY LINES OF ALL LOTS FOR THE LAYING, CONSTRUCTING, RENEWING, OPERATING AND MAINTAINING ELECTRIC, TELEPHONE, GAS, AND STORM DRAINAGE SERVICES.

A FIELD TRAVERSE WAS PERFORMED USING A ONE MINUTE THEODOLITE AND AN ELECTRONIC DISTANCE MEASURING UNIT. THE FIELD TRAVERSE MET THE MINIMUM STANDARDS FOR SURVEYS AS DESIGNATED IN WAC 332-130-090. ALL CORNERS NOTED AS FOUND WERE VISITED AT THE TIME OF THIS SURVEY.

NOTES:

- 1) PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, SIDEWALKS SHALL BE CONSTRUCTED ON BOTH SIDES OF ALL ROADS.
- 2) ALL ROOF DOWNSPOUTS SHALL DISCHARGE STORM WATER TO THE STREET OR OTHER APPROVED DRAINAGE SYSTEM.
- 3) A RIGHT OF ENTRY AGREEMENT IS HEREBY GRANTED TO THE CITY OF CAMAS FOR THE MAINTENANCE AND REPAIR OF THE STEP SEWER SYSTEM.
- 4) INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR THE INSTALLATION OF STEP SYSTEMS FOR SAID LOT.
- 5) NO FINAL OCCUPANCY PERMITS WILL BE ISSUED BY THE CITY OF CAMAS UNTIL ALL SUBDIVISION IMPROVEMENTS FOR THIS PARTICULAR PHASE ARE COMPLETED AND ACCEPTED BY THE CITY.
- 6) NO FURTHER SHORT PLATTING OR SUBDIVIDING OF LOTS WILL BE PERMITTED ONCE THE FINAL PLAT FOR THIS PARTICULAR PHASE HAS BEEN RECORDED.
- 7) THE WATER SYSTEM DEVELOPMENT CHARGE FOR ALL LOTS WITHIN THIS PHASE HAS BEEN PRE-PAID BY THE DEVELOPER. ANY COST DIFFERENTIAL BETWEEN THE FEE IN PLACE AT THE TIME OF PLAT RECORDING AND BUILDING PERMIT ISSUANCE WILL BE THE RESPONSIBILITY OF THE INDIVIDUAL LOT OWNER.
- 8) THE WETLAND AND ASSOCIATED BUFFER ADJACENT TO LOTS 28 THROUGH 34 ARE UNDER THE JURISDICTION OF THE CITY OF CAMAS SENSITIVE LANDS ORDINANCE. UNDER NO CIRCUMSTANCES WILL THE WETLAND BE DISTURBED IN ANY MANNER. THE BUFFER ZONE MAY BE MAINTAINED BY THE LOT OWNER, BUT CONSTRUCTION OF ANY PERMANENT STRUCTURES THEREIN IS PROHIBITED.

H 772

H-772-2

H-772-2



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

*PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341*

August 4, 2015

City of Camas, SEPA Official
Community Development Department
PO Box 1055
Camas, WA 98607

Dear SEPA Official:

Thank you for the opportunity to comment on the mitigated determination of nonsignificance for the Meadows Subdivision Project (SEPA15-03 & SUB15-01) located at the northwest corner of intersection of Northwest 43rd Avenue and Northwest Sierra Street as proposed by Tom Strassenberg, Lacamas Meadows, LLC. The Department of Ecology (Ecology) reviewed the environmental checklist and has the following comment(s):

SHORELANDS & ENVIRONMENTAL ASSISTANCE
Rebecca Rothwell (360) 407-7273

Ecology would like the opportunity to review the wetland rating. It is unclear from the SEPA materials whether the wetland was rated in its entirety, or whether just the portion of the wetland on the subject property was rated. If the rating score needs to be adjusted, and the wetland category changes, this could affect required buffer widths.

Please send an electronic copy of the rating to rebecca.rothwell@ecy.wa.gov.

WATER RESOURCES: Vicki Cline (360) 407-0278

The proponent is responsible for inspecting the site to determine the location of all existing wells. Any unused wells must be properly decommissioned and decommission reports submitted to Ecology as described in WAC 173-160-381. This includes resource protection wells and any dewatering wells installed during the construction phase of the project.

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

August 4, 2015

Page 2

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(SM:15-3624)

cc: Vicki Cline, WR
Rebecca Rothwell, SEA
Tom Strassenberg, Lacamas Meadows, LLC (Applicant)

**Consulting Engineers and Planners**

2008 C Street
Vancouver, WA 98663

Ph. (360) 944-6519
Fax (360) 944-6539

August 6, 2015

Ms. Lauren Hollenbeck
City of Camas
616 NE 4th Avenue
Camas, WA 98607

**RE: Meadows Subdivision (SUB15-01)
Preliminary Plat Comments**

Dear Ms. Hollenbeck:

This letter is in response to the preliminary plat comment letter dated July 16, 2015. The comments below are in reply to the letter, and will follow each comment in direct order of the letter.

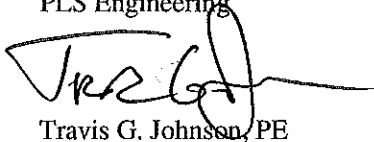
General Comments

1. The narrative has been updated and the applicant requests to rescind the request for a variance.
2. All setbacks have been updated as requested.
3. A 10' wide reserve easement has been placed on the preliminary plat to meet the requirements of CMC 17.19.040.B.11. The applicant proposes a 5' wide landscape strip with a fence centered in the 10' wide reserve strip. City of Camas staff recommended to the applicant to review existing NW Sierra Street just north of the development. The applicant proposes landscaping and fencing to match the existing surroundings with the proposed 10' wide reserve strip easement and 5' of landscaping with a centered fence. The code states that the City may also require "fencing with landscaping or masonry walls", but the code is not specific on how to apply these enhancements, therefore the applicant requests for staff to accept the proposed enhancements as shown on the preliminary plat and landscape plan.
4. See attached narrative and landscape plan from Chris Baumann at Planning Solutions.
5. The applicant respects staff's recommendation for the pedestrian access, but this pedestrian access will impede on lot's 10 & 11 personal property and the applicant would like to leave the plat as submitted.
6. As noted in the narrative all structures will be removed and this is a change from the original submittal that has carried over to the current plat. An updated preliminary plat has been submitted.

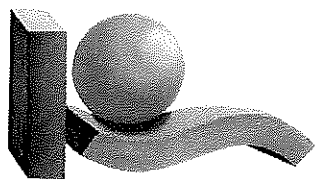
7. The north lot line along lot 15 is the estimated wetland buffer from the wetlands north of the site.
8. Lot 12 has been updated as requested.
9. Three parking spaces have been provided as requested.
10. An additional Tract has been provided on the preliminary plat as requested.
11. An exception for the reduction in right-of-way for NW 43rd Avenue has been provided in the narrative as requested.

If you have any questions or comments please call me at (360) 944-6519 or e-mail at travis@plsengineering.com.

Sincerely,
PLS Engineering



Travis G. Johnson, PE



Planning Solutions Inc.

Architecture
Interior Architecture
Landscape Architecture
Land Use Planning
Graphic Arts
Development Consulting
Environmental Planning
Public Involvement

Christopher A. Baumann, LA
Principal, Director of LA
WA 635, OR 354, CA 3434

Mark D. DiLoreto, AIA
Director of Architecture
WA 8809, OR 3086, ID AR2657

4400 NE 77th Ave., Suite 275
Vancouver, Washington 98662
Phone: 360-750-9000
Fax: 360-750-9201
psi@planningsolutionsinc.com
www.planningsolutionsinc.com

Mailing Address:
PO Box 61406
Vancouver, WA 98666

August 03, 2015

Lauren Hollenbeck, Senior Planner
City of Camas
Community Development Department
616 NE 4th Avenue
Camas, WA 98607

Regarding: **Meadows Subdivision
SUB15-01
Tree Removal Narrative**

Dear Ms. Hollenbeck,

The following narrative addresses the proposed tree removal for the Meadows subdivision located at the N.W. corner of NW 43rd Avenue and NW Sierra Street.

The following addresses CMC 17.190.030.A.1 & 2 as well as 18.31.080.A & B.

CMC 17.19.030 – Tract, block and lot standards

A. Environmental Considerations

1. Vegetation. In addition to meeting the requirements of CMC Chapter 18.31, Tree Regulations, every reasonable effort shall be made to preserve existing significant trees and vegetation, and integrate them into the land use design.

Every reasonable effort has been made to retain the existing significant trees located on the site. Most of the significant trees are located along the NW 43rd Avenue & NW Sierra Street frontages thus their root systems would be severely impacted by the City required road widening and frontage improvements. Several other significant trees scattered throughout the site will also have their root systems significantly disturbed due to required site grading and utility work. These impacts to the root systems will significantly increase these trees susceptibility to windthrow. In addition, single trees left after the majority of a tree grove has been removed are much more susceptible to windthrow due to the removal of the neighboring support trees

Windthrow is a serious hazard within area of high pedestrian use such as roadways and housing developments.

Due to these reasons the only trees that can safely be retained are those located within the wetland area located at the N.W. corner of the site.

CMC 18.31.080 – Tree Retention

- A. A tree survey, conducted by a qualified biologist, landscape architect, or arborist, shall be conducted for all lands proposed to be developed and listed under Section 18.31.020. A survey shall not be required for lands proposed to be retained as undeveloped open space.

The attached tree survey has been prepared by a qualified landscape architect.

- B. To the extent practical, existing healthy significant trees shall be retained. Preservation of groups of significant trees, rather than individual trees shall be preferred. All grading shall take place outside the drip line of those significant trees to be retained, except that the city engineer may approve grading within the drip line if it can be demonstrated that such grading can occur without damaging

Most of the significant trees are located along the NW 43rd Avenue & NW Sierra Street frontages thus their root systems would be severely impacted by the City required road widening and frontage improvements. Several other significant trees scattered throughout the site will also have their root systems significantly disturbed due to required site grading and utility work. These impacts to the root systems will significantly increase these trees susceptibility to windthrow. In addition, single trees left after the majority of a tree grove has been removed are much more susceptible to windthrow due to the removal of the neighboring support trees.

Windthrow is a serious hazard within areas of high pedestrian use such as roadways and housing developments.

Due to these reasons the only trees that can safely be retained are those located within the wetland area located at the N.W. corner of the site.

Conclusion:

The Applicant desires an opportunity to address / resolve issues raised by Staff prior to the decision.

The Applicant and Consultants are committed to facilitating the efforts of Staff by providing their services as needed. Please contact Chris Baumann of Planning Solutions, Inc. by phone (750-9000) or email (chrisb@planningsolutionsinc.com) with any request for assistance.

In addition please forward a copy of all correspondence to Planning Solutions, Inc. c/o Chris Baumann, PO Box 61406, Vancouver, WA 98662; Phone: 750-9000

Sincerely,



Chris Baumann, L.A.
Landscape Architect
Planning Solutions, Inc.

attachments: Tree Survey
cc:



PRELIMINARY SUBDIVISION NARRATIVE

FOR

MEADOWS SUBDIVISION

**SUBMITTED TO
THE CITY OF CAMAS**

January, 2015

GENERAL PROJECT INFORMATION

Applicant: **Lacamas Meadows, LLC**
Attn: Tom Strassenberg
200 SE 197th Place
Camas, WA 98607
(360)600-5532
E-mail: tstrassenberg@msn.com

Property Owners: **Same as Applicant**

Contact: **PLS Engineering**
Travis Johnson
2008 C Street
Vancouver, WA 98663
(360) 944-6519, Office
(360) 944-6539, Fax
E-mail: travis@plsengineering.com

Location: **SW ¼ of Section 34, T2N, R3E, WM**
Project Size: **3.78 acres**
Zoning: **R-7.5 – Single Family Residential**
Comprehensive Plan: **SFM (Single Family Medium)**
Current Use: **Two single-family homes**
Tax Lot Information: **177893-000 & 177902-000**
School District: **Camas**
Water District: **City of Camas**
Sewer District: **City of Camas**

SITE CHARACTERISTICS AND LOCATION AND PROJECT DESCRIPTION

The Meadows Subdivision proposes construction of a new 15 lot single family detached residential subdivision on 3.8 acres in the R-7.5 residential zone of the City of Camas. The project will be constructed in one phase. The site is located at the northwest corner of the intersection of NW 43rd Avenue and NW Sierra Street in the SW ¼ of Section 34, Township 2 North, Range 3 East. The subdivision is proposed on two parcels described as parcel numbers 177893-000 & 177902-000. Site addresses are 4313 NW Sierra Street and 2129 NW 43rd Avenue. The property is located within the Camas School District.

The site currently contains two single family residences along with a number of outbuildings. All existing buildings and both homes will be removed in association with the development. The remainder of the site contains brush and briars with scattered trees.

There is a Category IV wetland with a 50' buffer located in the northwest corner of the site. There is a wetland to the north located on the neighboring property and the 50' buffer from this wetland extends onto the site along the north property line.

The site is mapped by the Natural Resource Conservation Service (NRCS) as containing two soil types, Hesson clay loam and Odne silt loam. The Hesson soils cover the upper southern and western part of the site. The Odne soils are mapped in the northwest corner of the site in the location of the wetland and wetland buffer.

The property is bounded on the west by NW Sierra Street which will be the point of access for the development. Land to the north of the site is fully developed single family residential homes. Property to the west of is a 3.75 acre lot with one residence. The south property line is bound by NW 43rd Avenue.

In association with the development, NW 43rd Avenue will be widened along the south frontage of the site consistent with the City's 2-lane collector / arterial standard to provide a 30' half-width right-of-way with 28' half-width pavement and a 6' wide detached sidewalk. NW Sierra Street is an already improved roadway with 36' of total pavement width and 60' of existing right-of-way. The interior roadway providing access to the lots will be a 28' wide paved private road within a 48' Tract.

Sanitary sewer and water service to the site will be provided by the City of Camas. A stormwater facility will be constructed to provide treatment and quantity control for stormwater runoff resulting from the development. All of these utilities are described in further detail in a subsequent section of this narrative.

The following sections of this narrative describe how the proposal complies with applicable sections of the City of Camas code.

CAMAS MUNICIPAL CODE (CMC) SECTION 16.05: SEPA

A SEPA checklist has been prepared describing existing environmental conditions of the site and potential impacts resulting from the proposed development and explaining how potential impacts will be mitigated.

CMC SECTION 16.31: ARCHAEOLOGICAL RESOURCE PRESERVATION

Clark County GIS shows the site as having a moderate to high probability. An archaeological predetermination was completed by Archaeological Services LLC and determined that no archaeological materials were found. The predetermination was sent to the Department of Archaeology & Historic Preservation (DAHP) and a determination from DAHP stated that no further archaeological work is necessary

CMC SECTION 16.53: WETLANDS

As part of the preliminary design process, the site was reviewed by The Resource Company to determine if there were wetlands on the property and, if present, to delineate the extents of the wetlands. The site review resulted in the delineation of a Category IV wetland in the northwest corner of the property. The documentation related to the wetlands delineation and typing is covered in the Wetland Delineation and Assessment Report prepared by The Resource Company included in this application. Based on the Category IV rating for the wetland and the proposed residential subdivision use for the site, a 50' base wetland buffer is proposed in accordance with CMC 16.53.040. There is also an existing wetland buffer on the northwest corner of the project. The buffer from this wetland extends onto the site and is noted on the preliminary plat. To the extent feasible, the subdivision has been laid out to avoid impacts to the site's wetland and buffers.

Proposed residential lots and roadways are located outside of the base 50' buffer for the on-site and off-site wetlands. The stormwater facility does encroach into the wetland buffer as allowed per City CMC 16.53.050(C)(3). Because the wetlands are located in the lowest parts of the site, it is unavoidable that stormwater detention be located as near as possible to the wetlands in order to comply with City stormwater control requirements. The maximum side slope of proposed grading in the outer portions of the buffers is limited to 4 horizontal to 1 vertical per City requirements. No other impacts are proposed to the wetland and buffer and no mitigation is proposed.

CMC SECTION 17.11.030D: PRELIMINARY PLAT APPROVAL CRITERIA

Section 17.11.030D of the City's municipal code provides approval criteria for preliminary plat applications. This section of code includes a list of 10 approval criteria. The approval criteria are discussed below. In some cases, only a brief overview of how the proposal complies with the approval criteria is provided in this section of the narrative as further detail will be provided in subsequent sections. The 10 approval criteria are provided in a numbered list below followed by a discussion (see italic text) of how each criterion has been satisfied with the proposal.

1. The proposed subdivision is in conformance with the Camas comprehensive plan, parks and open space comprehensive plan, neighborhood traffic management plan, and any other city adopted plans;

The preliminary plat has been developed keeping in mind adopted City plans including the comprehensive plan, the parks and open space plan, and neighborhood traffic management. Chapter V of the City's comprehensive plan focuses on housing. A number of the policies of the comprehensive plan are applicable to this project.

One of those policies, Policy HO-4, is to encourage new residential development to achieve a substantial portion of the maximum density allowed. A strategy for accomplishing this goal is to allow on-site transfer of density on sites that are constrained by environmental features such that developable portions of the property can be used to a greater extent. The plat has been laid out in a manner to attempt to approach the maximum densities allowed by the R-7.5.

In addition to the housing section of the comprehensive plan, the environmental section (Chapter VI) is also applicable to this project. Most notably, Policy EN-6 calls for protection of environmentally sensitive areas that are not suitable for intensive use such as steep slopes and wetlands. As documented on the preliminary plat and in environmental reports submitted with this subdivision application, the site has been designed to minimize areas of wetland and buffer while at the same time working to develop the property at the intensities envisioned by the City's zoning.

Portions of the Transportation element of the comprehensive plan (Chapter VII) also apply to this project. Compliance with this portion of the comprehensive plan is largely dictated by compliance with the road standards, capital facilities plan, and other City engineering requirements. Notable policies from the comprehensive plan include TR-3 which calls for streets to be designed to serve their anticipated function, TR-4 which aims to develop a safe and accessible pedestrian and bicycle system, and TR-6 which calls for the development of neighborhood and local connections to provide adequate circulation into and out of neighborhoods.

The development of the layout for this site has recognized each of these comprehensive plan policies. NW 43rd Avenue along the site frontage is proposed with an 18' paved half-width consistent with the City's standard for a 2 lane collector / arterial. NW Sierra Street's frontage on the east side of the site will propose to construct a sidewalk, currently the roadway is fully improved. The proposed private road within the site is proposed to have sidewalks allowing for a developed pedestrian system. Finally, the site is developed to allow for connectivity between the property and potential future developments adjacent to the site. Additional right-of-way will be dedicated if and when the property to the west is developed which will allow the intersection to align with Utah Street across NW 43rd.

The site has also been designed with recognition of the City's current draft of their Parks, Recreation, and Open Space Comprehensive Plan update available on their web site. The current plan shows a proposed trail that appears to be on the southern portion of the site along NW 43rd. The applicant will be installing 6' wide sidewalk to allow connectivity of this trail system.

2. Provisions have been made for water, storm drainage, erosion control and sanitary sewage disposal for the subdivision that are consistent with current standards and plans as adopted in the Camas Design Standard Manual;

Further discussion of the water, storm drainage, and sanitary sewer systems proposed for this site is provided later in this project narrative. The preliminary design for utilities to serve this site addresses improvements necessary to provide adequate utilities to serve the site. Erosion control measures including construction entrances, silt fencing, storm inlet protection, sediment traps and/or ponds, and protection of exposed soils will be incorporated into site construction drawings and the project will be required to obtain a construction stormwater NPDES permit from the Washington State Department of Ecology.

3. Provisions have been made for road, utilities, street lighting, street trees and other improvements that are consistent with the six-year street plan, the Camas Design Standard Manual and other state adopted standards and plans;

The proposed street layout including proposed right-of-way and pavement dimensions are shown in the preliminary drawings submitted as part of this preliminary plat application. Street trees are shown on the attached landscape plan and street lighting consistent with City standards will be documented on the final construction drawings. NW 43rd will be improved consistent with the City's 2 lane collector / arterial road standard. NW Sierra Street is fully improved, but will require sidewalk on the frontage. The interior roadway proposed will be a private road with 28' pavement within a 48' wide tract

4. Provisions have been made for dedications, easements and reservations;

Proposed right-of-way dedications are shown on the preliminary drawings. On-site utility easements that may be needed to provide utilities to each lot will be shown on the construction drawings with each phase of development. There are no known off-site easements known to be necessary at this time to serve the site with utilities or for other purposes.

5. The design, shape and orientation of the proposed lots are appropriate to the proposed use;

The layout of the proposed subdivision took into account the onsite environmental constraints to develop a preliminary plat that has lot sizes and dimensions meeting or exceeding the minimum allowed through density transfer in the R-7.5 zone. The layout proposes to utilize the density transfer provisions of Camas's code.

6. The subdivision complies with the relevant requirements of the Camas land development and zoning codes, and all other relevant local regulations;

Discussion of the site's compliance with the City's land development and zoning codes is provided throughout this narrative and through the other documents submitted as part of the subdivision application including the preliminary plat and the various reports completed by the consultant team.

As mentioned previously, the applicant is proposing to utilize density transfer to result in a site layout that respects the environmental constraints of the property. The 15 lots proposed on the site falls below the maximum density that would be allowed within the R-7.5 zone. The maximum densities allowed, based on dwelling units per gross acre is 5.8 DU/acre and the proposed density is 3.97 DU/acre, which is well below the maximum allowed.

Minimum lot widths and depths of 60' and 80' are proposed throughout the site. These dimensional standards are consistent with those permitted through density transfer in the R-7.5 zone.

Modifications of standards that are being requested for this project are an exception from a left turn lane required in the City of Camas Design Standard Manual and an exception to the 70' centerline Radius requires by CMC 17.19.040(B)(12)(c). Additional exception requests will be discussed in detail in the sections of the narrative related to stormwater and transportation later in this document.

7. Appropriate provisions are made to address all impacts identified by the transportation impact study;

A traffic assessment report was prepared by Charbonneau Engineering and made two safety recommendations. The first is a stop control at the new intersection of the proposed private road and NW Sierra Street. The second is the sight distance at this same intersection does not currently meet the minimum AASHTO minimum requirements. The applicant proposes a stop condition at this intersection and once all of the existing vegetation is removed and the sidewalk is installed minimum sight distance requirements will be met.

8. Appropriate provisions for maintenance of commonly owned private facilities have been made;

Provisions for maintenance of commonly owned private facilities associated with the development will be incorporated into the Homeowner's Association documents when they are developed. HOA documents and CC&R's have not yet been developed for the site since the ultimate homebuilder or builders that will be involved with the project have not yet been determined. It is best to delay preparation of these documents so that the ultimate builders involved with site development can provide their input.

9. Appropriate provisions, in accordance with RCW 58.17.110, are made for:
 - a. The public health, safety, and general welfare and for such open spaces, drainage ways, streets, or roads, alleys or other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and school grounds and all other relevant facts, including sidewalks and other planning features that assure safe conditions at schools bus shelter/stops, and for students who walk to and from school, and;
 - b. The public use and interest will be served by the platting of such subdivision and dedication;

Satisfaction of the requirements of RCW 58.17.110 is provided through the information provided in the preliminary subdivision application. The application materials discuss such issues as potable water, sanitary waste, storm drainage, and roadways in depth. Regarding parks and recreation, the project is located in an area where significant recreational opportunities are available in close proximity including Lacamas Lake and Lacamas Lake Park. Additionally, park impact fees will be paid at the time of building permits. These fees help fund local recreation opportunities.

It is anticipated students will be bussed to schools in the Camas School District. Sidewalks throughout the subdivision will provide adequate, safe access to school bus stops.

Platting of this site is consistent with the comprehensive plan and the zoning of the subject properties. The development of the property will result in the payment of impact fees, utility connection fees, and taxes used to support the public services of the community.

10. The application and plans shall be consistent with the applicable regulations of the adopted comprehensive plans, shoreline master plan, state and local environmental acts and ordinances in accordance with RCW 36.70B.030.

As mentioned previously, the proposed development is consistent with the comprehensive plan. The site is not located within any designated shoreline areas. The environmental documents submitted with this land use application demonstrate the ability of the project to comply with applicable environmental acts and ordinances.

STORMWATER

Compliance with the City's stormwater regulations is addressed in the Preliminary Stormwater Report submitted as part of the land use application. Per the pre-application conference notes issued by the City for this project, stormwater quantity control for the site will be provided in accordance with the requirements of the 2005 Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.

Stormwater runoff from the site will increase as a result of the construction of the future homes, driveways, and roads. The water will be collected by storm inlets in the road system and then directed by storm sewer piping to a stormwater facility located on the site which will mitigate the impacts of the construction by providing treatment and detention of the runoff. Detention and treatment will be accomplished with a combined detention-wetpond. The stormwater will outfall to the wetlands in the northwest corner of the site.

The applicant is requesting one code exception related to the site's stormwater facilities as mandated by CMC 17.19.030(F)(6). That section of the City's code typically requires stormwater facilities to be set back a minimum of 30 feet from streets. See exceptions below.

SANITARY SEWER & WATER UTILITIES

The site is within the water and sanitary sewer service areas of the City of Camas and the site will connect to the City's public sewer and water systems. Both water and sewer will be extended into the property from NW Sierra Street and individual sewer laterals and water services will be stubbed to each individual lot.

TRANSPORTATION

In laying out the proposed road system to serve the site, careful consideration was given to the

City's various transportation comments through the pre-application stage, e-mails and meetings. The interior roadway is proposed to be a private roadway with 28' of pavement within a 48' wide tract. The private roadway will dead end into a City approved hammerhead.

Several access points into the site were reviewed and determined to be either inefficient for the site dimension or created unsafe traffic conditions. It was determined with ongoing communication with staff that connection to NW 43rd would be the most viable option. The connection point doesn't meet the minimum intersection spacing between the proposed intersection and the existing intersection to the north and south. Minimum intersection spacing is 330' for a 2-lane collector/arterial roadway per the City of Camas Design Standard Manual (CCDSM). The applicant would like to request an exception for the reduction in the required intersection spacing. Additionally, the applicant is requesting two more exceptions, the first is to not install and turn lane at the proposed intersection into the site. The second is for a reduction of the required minimum centerline radius. See exceptions below.

SIGNIFICANT TREE SURVEY

The applicant understands the significance of tree retention on the proposed site and also understands the liability of leaving trees within a medium density residential development. The applicant has hired a landscape architect, Chris Baumann with Planning Solutions to perform the tree survey and his findings are attached with this application.

A majority of the trees do not require a licensed professional to determine that removal is necessary. The line of trees along NW Sierra are in close proximity to the future sidewalk and the side yards of future homes, making it impractical to retain them after the site is developed. The trees along NW 43rd are also too close to the proposed sidewalk such that it is not practical to try to retain them. As mentioned in the narrative provided by the landscape architect, once the row of trees are removed will increase the chances of windthrow for the remaining trees which is a hazard to the future homeowners.

EXCEPTIONS

To meet the exception criteria the applicant needs to address CMC 17.23.010(a-c) and show that an undue hardship may be created as a result of strict compliance with the provisions of the CMC.17.23.010(A)

1. An exception shall not be granted unless:
 - a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;
 - b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and
 - c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Exception 1:

The applicant is requesting a code exception related to the design of the site's stormwater facilities as regulated by CMC 17.19.030(F)(6). That section of the City's code typically requires stormwater facilities to be set back a minimum of 30 feet from streets. More than 37% of the total area of this development is dedicated to open space, stormwater facilities, and public rights-of-way. The addition of a 30' stormwater facility setback would only cause to further increase the already substantial percentage of the site dedicated to those uses. Additionally, requiring this setback would increase the need for additional retaining walls at the stormwater facility in order to fit the facilities into the available space. The applicant is unsure if this exception is necessary because it is unclear if the city code applies given that the proposed roadway will be private and owned and maintained by the Meadows Subdivision Home Owners Association.

Exception Criteria:

- a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

There are three lots that gain access from the roadway that is bordering the storm facility. There is only one option for the applicant to meet this code requirement and that is to remove the three lots and move the roadway back away from the facility. A change of this nature would make the proposed development financially unfeasible.

The applicant is currently only developing the property at a density of 3.97 units per gross acre which is well under the maximum allowed of 5.8 units per gross acres. Increasing the distance from the roadway to the storm facility to provide a 30' landscape buffer will create an undue hardship and deprive the applicant of reasonable development of his land.

- b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is proposed on an infill lot. These types of lots are usually difficult in regards to meeting the code requirements of dimensional standards for roads and lots regardless of jurisdiction where the site is located. The applicant assumes that staff would approve similar exceptions on sites with similar circumstances and if the exception is granted it will not have any effect on property rights and privileges that are enjoyed by other properties in the vicinity. Conversely, if the exception was denied, it would result in a development of such low density that the applicant would effectively be denied the rights and privileges enjoyed by other similarly sized and zoned properties in the City

- c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

The proposed exception will not be detrimental to the public welfare or injurious to other property in the vicinity. The 30' landscape buffer required by code won't be visible from neighboring properties once the development is fully built out. The proposed design does not create a safety hazard to the public.

Exception 2:

Several access points into the site were reviewed and determined to be either inefficient for the site dimensions or created unsafe traffic conditions. It was determined through ongoing communication with staff that connection to NW 43rd would be the most viable option for providing site access. The connection point doesn't meet the minimum intersection spacing requirements between the proposed intersection and the existing intersections to the north and south. Minimum intersection spacing is 330' for a 2-lane collector/arterial roadway per the City of Camas Design Standard Manual (CCDSM). The applicant would like to request an exception for the reduction in the required intersection spacing. Based on Clark County GIS the intersection to the north (Sierra/45th) is measured at approximately 285' between the proposed intersection and the intersection to the south per the attached plans is approximately 315' from the new proposed intersection. Spacing between the new proposed intersection and the ones to the north and south are slightly under the minimum standard required spacing and pose no traffic safety risk and will not hinder the traffic capacity or circulation of NW Sierra, therefore the applicant requests approval of the exception.

Exception Criteria:

- a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

Whether the applicant accesses the proposed development from NW 43rd Avenue or NW Sierra Street the applicant will not be able to meet the minimum intersection requirements of 330'. If the requested exception is not approved it will deprive the applicant of the reasonable use of his land.

- b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is located on two infill lots. Infill lots usually have difficulty meeting the code requirements of dimensional standards for roads and lots regardless of jurisdiction. The applicant assumes that staff would approve additional exceptions with similar circumstances and if the exception is granted it will not have any effect on property rights and privileges that are enjoyed by other properties in the vicinity. The property is zoned for development and denial of this exception request would make it infeasible to develop the property to the densities intended based on the property's zoning thereby denying the developer the rights and privileges available to other property owners in the City with similar sized properties that have similar zoning.

- c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Granting the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Exception 3:

The third exception request is for relief from the requirement to install a turn lane at the proposed new street intersection. Footnote 2 under the table labeled “General Guidelines for Geometry of Roadway” within the CCDSM suggests that left turn lanes are required at every intersection for roadways classified as a 2-lane arterial/collector. Left turn lanes do help traffic circulation when warranted at intersections, but for short dead end roadways with low volumes such as the one proposed with this project, a left turn lane isn’t warranted. Based on the 144 average daily trips proposed with the development the applicant requests that an exception to the CCDSM be approved.

Exception Criteria:

- a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

As previously mentioned the existing site consists of two infill lots that are zoned R-7.5. Without approval of the proposed exception, meeting the density contemplated by the site’s zoning would not be possible. If the exception is denied, it will reduce the total lot count by two. The current proposed density of 3.97 units per gross acre would be reduced to 3.44 units per gross acre. This is below the maximum density allowed for the R-12 zone, a significantly less dense zoning than the R-7.5 zoning of this site. This will deprive the applicant of the reasonable development of his land.

- b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is proposed on an infill lot. These types of lots are often difficult to develop in regards to meeting the code requirements of dimensional standards for roads and lots regardless of the jurisdiction in which they are located. The property is zoned for development and denial of this exception request would make it infeasible to develop the property to the densities intended based on the property’s zoning thereby denying the developer the rights and privileges available to other property owners with similar sized properties that have similar zoning.

- c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

This exception, if granted, will match the existing traffic patterns along NW Sierra Street directly north and south of the site where no turn lanes have been provided and will not be detrimental to the public welfare or injurious to the other properties in the vicinity.

Exception 4:

The fourth exception is to CMC 17.19.040(B)(12)(c) which requires a minimum centerline curve radius of 70'. The proposed private road has a reverse curve with both curves having a 60' radius. Given that the proposed road has been designed as a dead end with a hammer-head, traffic speeds can be expected to be substantially reduced compared to a through roadway. Furthermore, the proposed tighter centerline radius promotes safety by slowing vehicles in a residential setting. The proposed modified design standards to be used in this project have been demonstrated to be successful at several locations within the City of Camas and in countless applications in Clark County under similar residential settings with no resulting reduction in safety, therefore the applicant requests approval of the proposed exception.

Exception Criteria:

- a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

Installing reverse curves with smaller radii limits the impacts to the corner lots that abut them and creates more feasible buildable lots and additionally increases the safety of traffic through the site by reducing vehicle speeds. If the proposed exception is not granted it will deprive the applicant from the ability to reasonably develop feasible corner lots.

- b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is proposed on an infill lot. These type of lots are usually difficult to develop in regards to meeting the code requirements of dimensional standards for roads and lots. The applicant assumes that staff would approve similar exceptions on other sites with similar circumstances and if the exception is granted it will not have any effect on property rights and privileges that are enjoyed by other properties in the vicinity.

- c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

Reducing centerline radii in locations of ninety degree curves helps to slow residential traffic and provides a safety feature. This exception, if granted, will definitely not be detrimental to the public welfare or injurious to other property in the vicinity.

Exception 5:

The fifth exception is from the CCDSM which requires a half-width roadway to be a minimum of 17'. NW 43rd requires a left turn lane based on Footnote 2 under the table labeled "General Guidelines for Geometry of Roadway". This left turn lane was planned at the intersection with

NW Utah Street with the Hidden Terrace Subdivision. The applicant proposes to widen this section of the roadway 12' instead of the required 17'. The proposed widening will total 44' in width to accommodate two 12' through lanes and one 10' wide left turn lane with 5' wide bike lanes on both sides of the roadway.

Exception Criteria:

- a. There are special physical circumstances or conditions affecting the property, such that the strict application of the provisions of this code would deprive the applicant of the reasonable use or development of his land;

The requested reduction in width from 17' to 12' is a result of the impacts to lots 10 and 11 of the proposed development. The proposed width will provide the required roadway improvements necessary for a safe and functional left turn lane and still provide the applicant buildable lots that meet the minimum requirements of the Camas Code.

- b. The exception is necessary to insure such property rights and privileges as are enjoyed by other properties in the vicinity and under similar circumstances; and

The proposed development is proposed on an infill lot. These type of lots are usually difficult to develop in regards to meeting the code requirements of dimensional standards for roads and lots. The applicant assumes that staff would approve similar exceptions on other sites with similar circumstances and if the exception is granted it will not have any effect on property rights and privileges that are enjoyed by other properties in the vicinity.

- c. The granting of the exception will not be detrimental to the public welfare or injurious to other property in the vicinity.

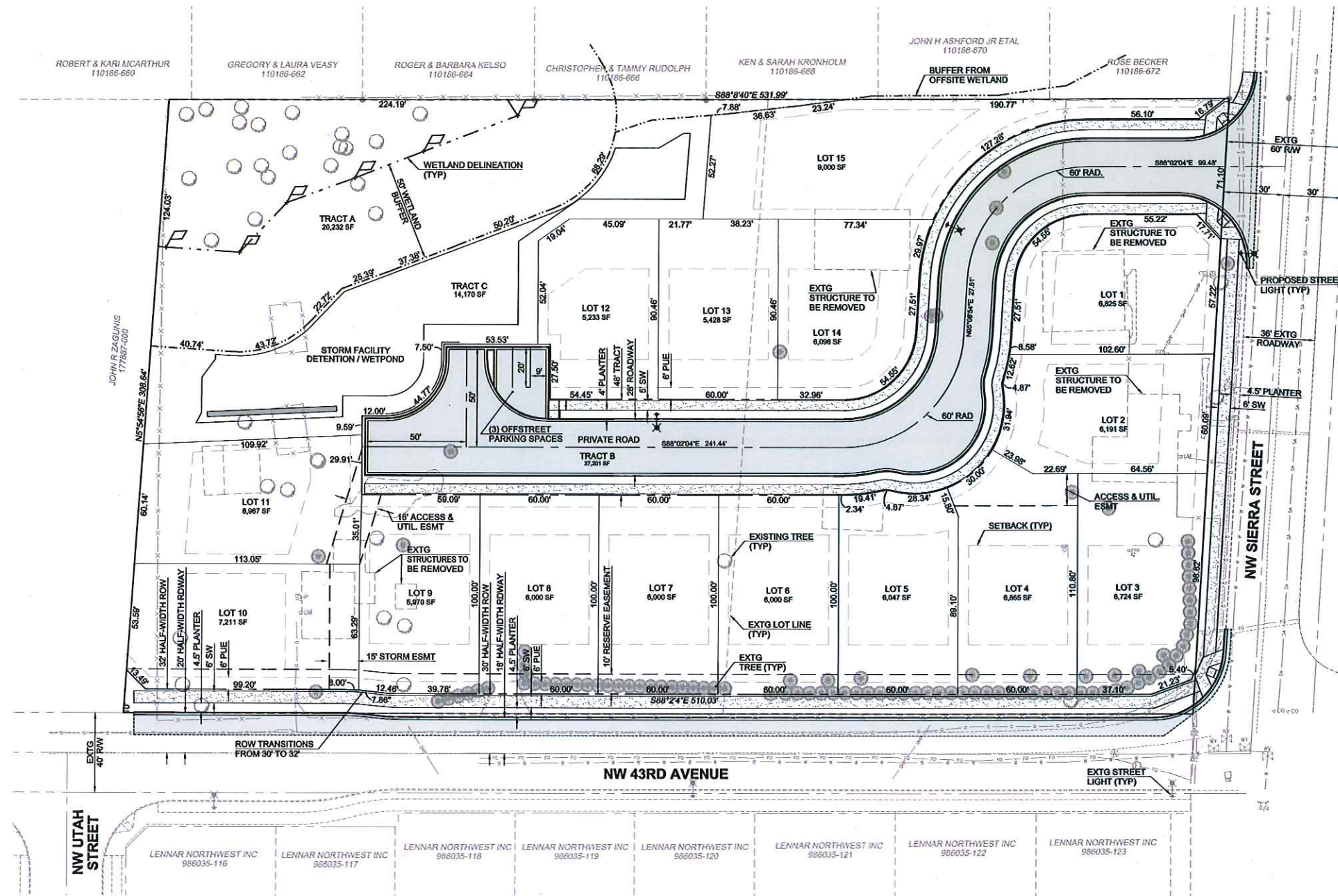
This exception, if granted, will definitely not be detrimental to the public welfare or injurious to other property in the vicinity

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

This project is within the R-7.5 zone of Camas, a Single-family Residential zone. The comprehensive plan designation for the site is SFM.

Proposed roadway will be a private road.

All existing structures will be removed.

Dimensional standards are noted below. Applicant will utilize density transfer with this application.

Lot Setbacks:
Front = 20'
Side = 5'
Street Side = 20' / Requesting 15'
Rear = 25'

Site Area - 3.78 acres (164,694 sq ft).

Total Number of Lots = 15

Minimum Lot Size = 5,428 sq ft
Maximum Lot Size = 8,994 sq ft
Average Lot Size = 6,365 sq ft

Tract A & C will be owned and maintained by the home owners association. The Tracts will contain the wetlands and associated buffer and the proposed storm facility.

Tract B will be owned and maintained by the home owners association. This tract will contain the private roadway and will have an easement over the entire Tract to the City of Camas for utility mains.

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

School District = Camas

Fire District = Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.

Legal Description:

Parcel 177902-000

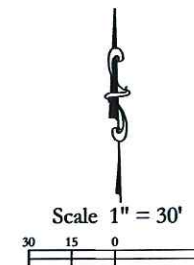
The West 300.00 feet of the East 565.5 feet of the following described tract of land: Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, in Clark County, Washington; thence North 89 degrees 53' West 20.36 chains to the West line of said Section 34; thence South along said Section line, 4.96 chains to the Point of Beginning.

Parcel 177893-000

Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, Clark County, Washington; and running thence North 89 degrees 53' East, along the center of the County Road 20.03 chains to the True Point of Beginning; thence North 3 degrees 50' East 4.97 chains; thence South 89 degrees 53' West 265.6 feet; thence South 4.96 chains, more or less, to the center line of said County Road; thence North 89 degrees 53' East, along the center of said County Road to the point of beginning.

EXCEPT any portion lying with SE 15th St.

Land Inventory	
Total Acreage	3.78 ac
Total Developed Acreage	3.30 ac
Total Lot Area	2.23 ac
Total Infrastructure Acreage	0.61 ac
Total Tract Area	1.42 ac
Total Acreage of Critical Areas	0.48 ac
Total Acreage of Recreational Open Spaces	0.00 ac



Preliminary Plat For:
Meadows Subdivision
A Subdivision Located In Camas, Washington

Revisions	
A	
B	
C	
D	
E	

Project No.	2402
SCALE:	H: 1" = 30' V: NA
DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AJG

1

1

PLS ENGINEERING

PH (360) 944-6519

2008 C Street, Vancouver, WA 98663

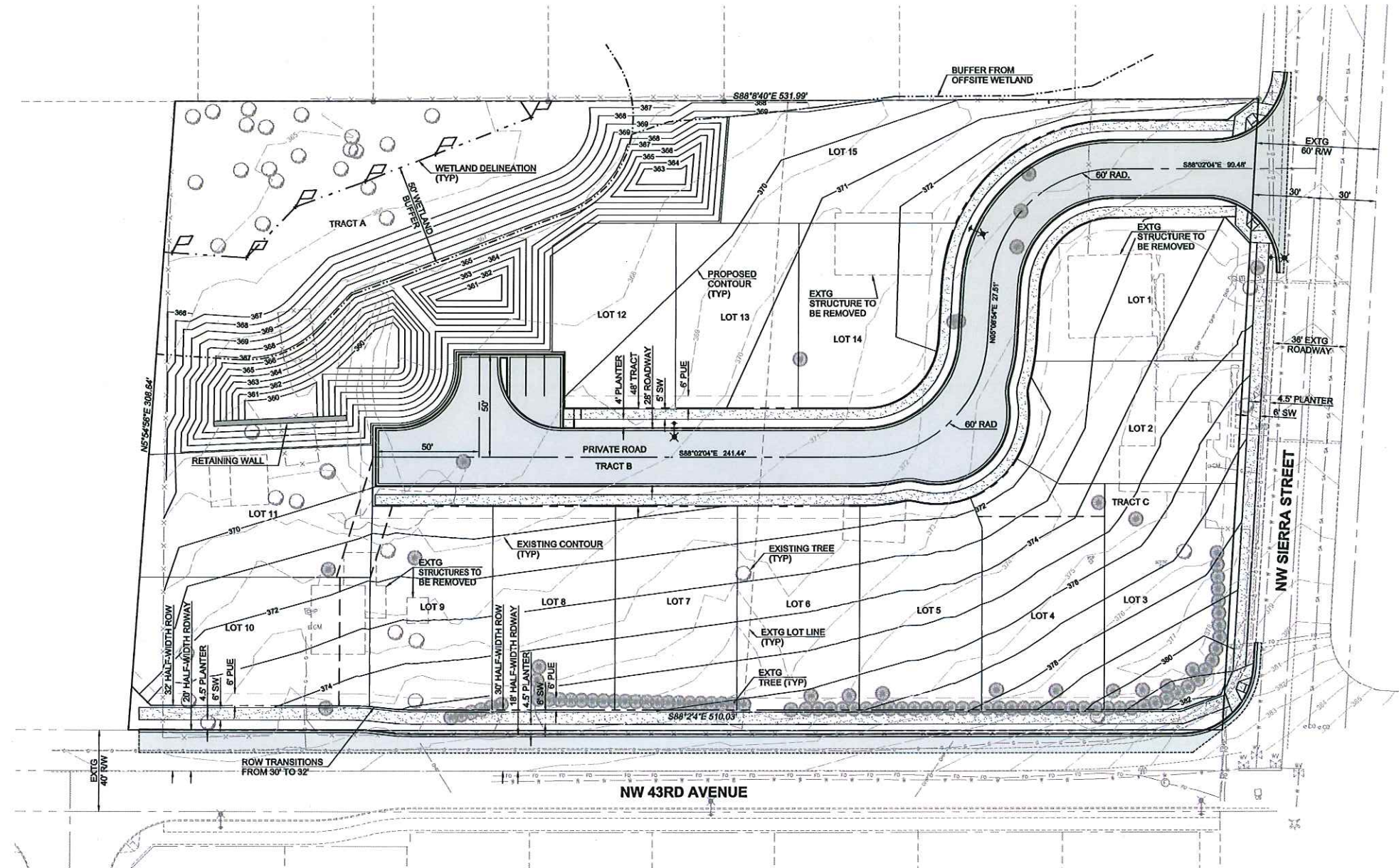
Consulting Engineers & Planners

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

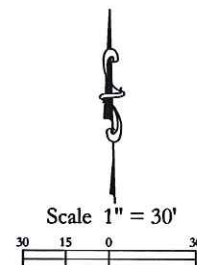
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Boundary and contour data was provided by Minister Glaeser Surveying.



Hatching Legend

Proposed Asphalt Pavement	
Proposed Sidewalk	

Master Symbol Legend

Existing	
Existing Property Corner	
Existing Sanitary Sewer Cleanout	
Existing Water Meter	
Existing Water Valve	
Existing Fire Hydrant	
Existing Sanitary Catch Basin	
Existing Gas Service	
Existing Deciduous Tree	
Existing Conifer Tree	
Existing Street Light	
Existing Sign	
Proposed	
Proposed Water Service	
Proposed DCVA	
Proposed Fire Hydrant	
Proposed Standard Blowoff	
Proposed Catch Basin	
Proposed Sanitary Cleanout	

Legend

Existing	
Road Right-of-Way	
Road Centerline	
Existing Property Line	
Existing Curb	
Existing Pavement Edge	
Existing Sidewalk	
Existing Sanitary	
Existing Waterline	
Existing Gas Line	
Existing Overhead Power	
Existing Lot Line	
Existing Ground Contour	
Proposed	
Proposed Storm Pipe	
Proposed Property Line	
Proposed Sanitary Lateral	
Proposed Water Line	
Proposed Water Service	
Proposed Curb	
Proposed Contour	
Proposed Index Contour	

Preliminary Grading Plan For:

Meadows Subdivision

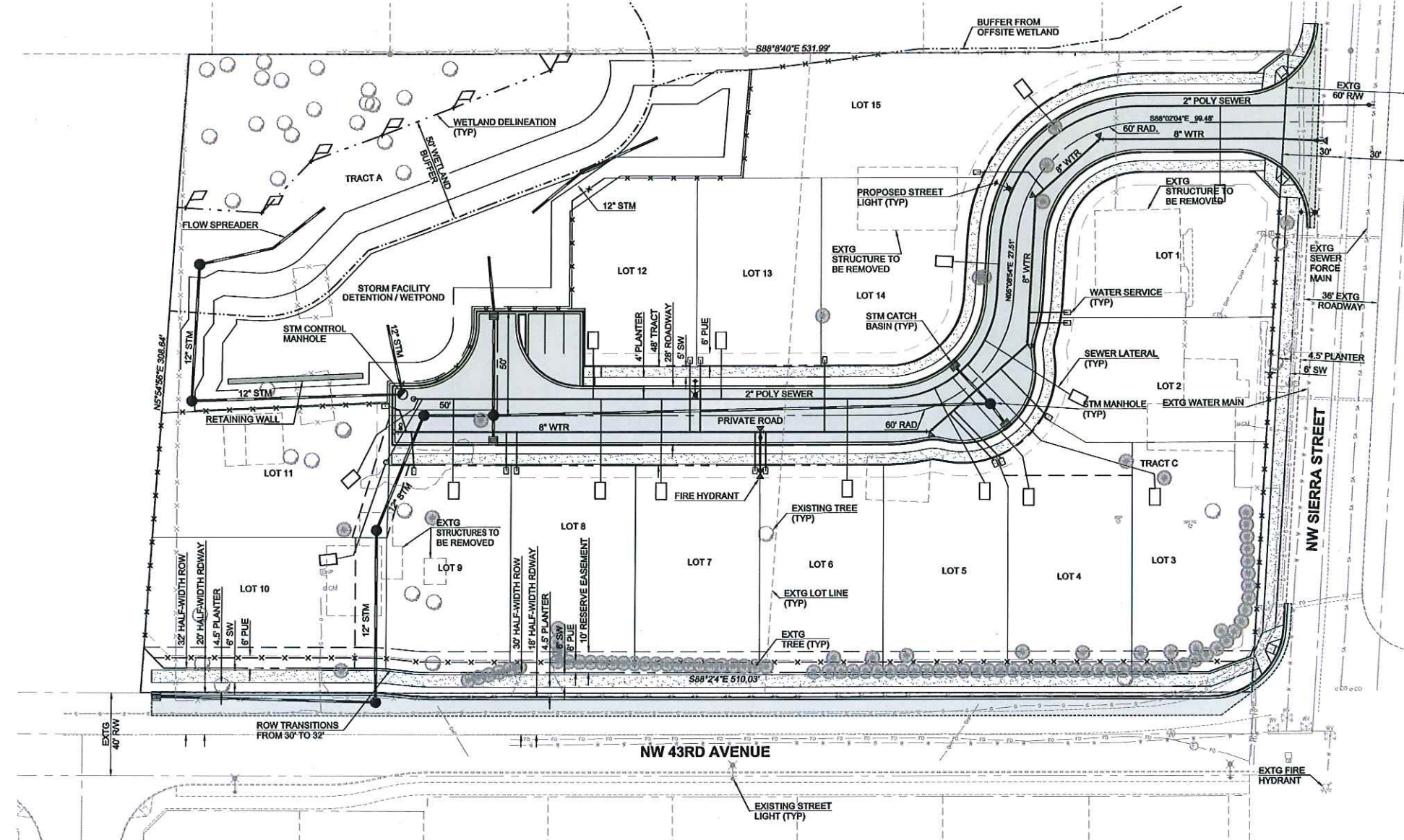
A Subdivision Located In Camas, Washington

Revisions				
1				
2				
3				
4				

Project No.	2402
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AJG

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE

PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
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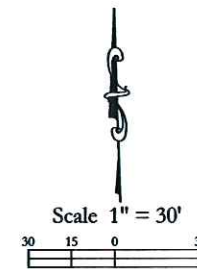
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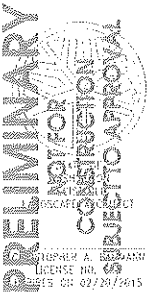


Master Symbol Legend	Legend	Hatching Legend
<p>Existing</p> <ul style="list-style-type: none"> Existing Property Corner Existing Sanitary Sewer Cleanout Existing Water Meter Existing Water Valve Existing Fire Hydrant Existing Catch Basin Existing Gas Service Existing Deciduous Tree Existing Conifer Tree Existing Street Light Existing Sign <p>Proposed</p> <ul style="list-style-type: none"> Proposed Water Service Proposed DCVA Proposed Fire Hydrant Proposed Standard Blowoff Proposed Catch Basin Proposed Sanitary Cleanout 	<p>Existing</p> <ul style="list-style-type: none"> Road Right-of-Way Road Centerline Existing Property Line Existing Curb Existing Pavement Edge Existing Sidewalk Existing Sanitary Existing Waterline Existing Gas Line Existing Overhead Power Existing Lot Line Existing Ground Contour <p>Proposed</p> <ul style="list-style-type: none"> Proposed Storm Pipe Proposed Property Line Proposed Sanitary Lateral Proposed Water Line Proposed Water Service Proposed Curb Proposed Contour Proposed Index Contour 	<p>Proposed Asphalt Pavement</p> <p>Proposed Sidewalk</p>

Preliminary Street & Utility Plan For:
Meadows Subdivision
 A Subdivision Located In Camas, Washington

Revisions	1	2	3	4

Project No. 2402
SCALE: H: 1" = 30' V: N/A
DESIGNED BY: TGI
DRAFTED BY: TGI
REVIEWED BY: AJG



Meadows Subdivision

4313 NW Sierra St & 2129 NW 43rd Avenue
 Camas, Washington

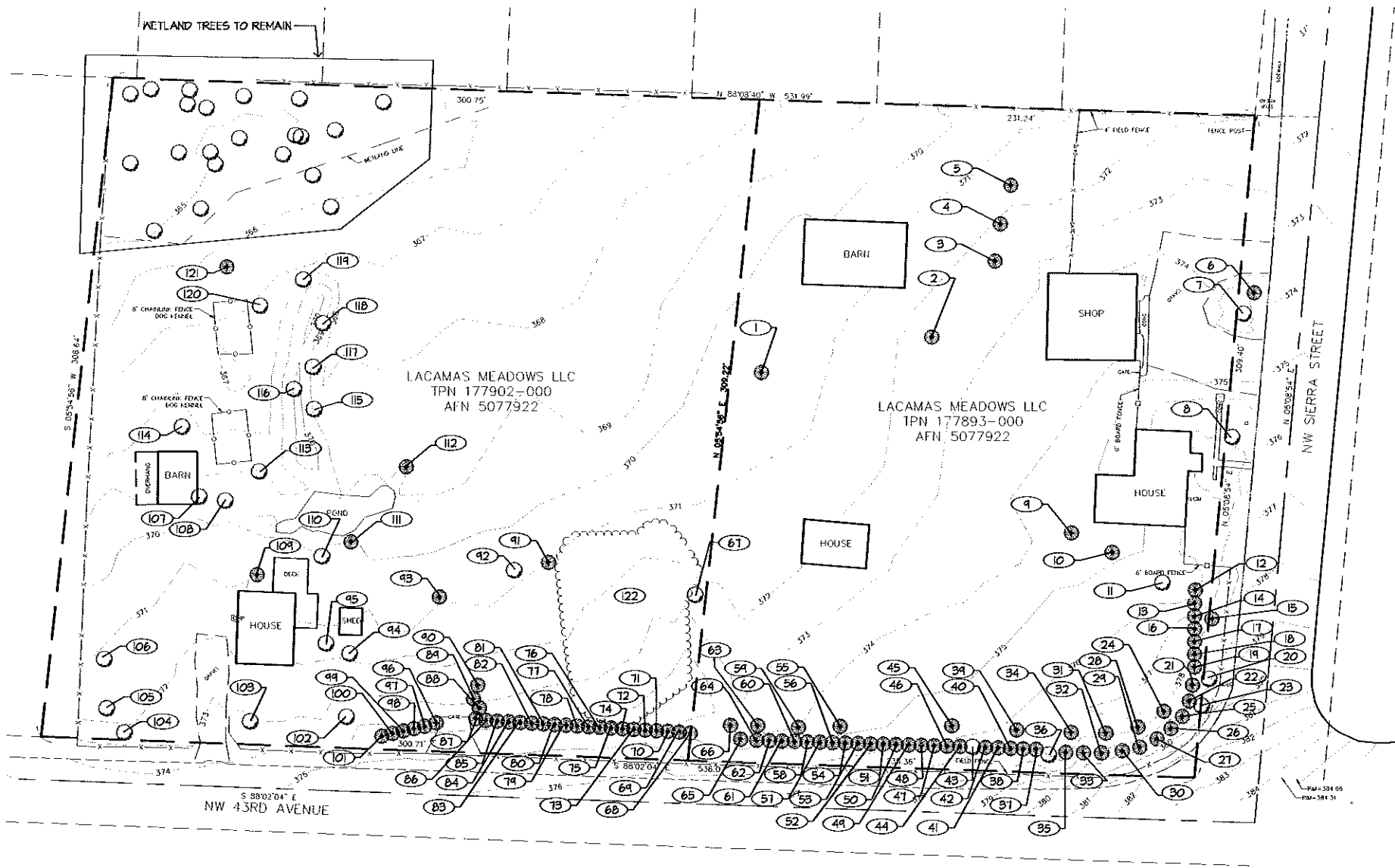
DRAWN: CB	CHECKED: CB
SCALE: 1" = 30'-0"	DATE: 01/09/15
JOB #: 14-B28	
ISSUED FOR:	
REVISIONS:	
△ 04/16/15 - City FC Comments	
△ 08/10/15 - City Comments	
△	
△	
△	
△	
SHEET NAME: EXISTING TREE SURVEY	
SHEET #:	

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
(1)	TREE NUMBER
⊗	EXISTING TREE

TREE LOCATIONS AND SIZES HAVE BEEN OBTAINED FROM AN EXISTING CONDITIONS PLAN PROVIDED BY PLS ENGINEERING AND FIELD OBSERVATIONS SURVEYOR TO LOCATE TREES ALONG PROPERTY LINE. NO TREE WITH ANY PORTION OF THE TREE TRUNK ON NEIGHBORING PROPERTY OR OFF-SITE SHALL BE CUT DOWN WITHOUT CONSENT OF CO-TENANT NEIGHBOR.

MEADOWS SUBDIVISION EXISTING TREE DATA				
#	TYPE	CHARACTER	SIZE	RECOMMENDATIONS
1	Fz	CRG	18" x	X
2	Fz	CRG	12" x	X
3	Fz	CRG	30" x	X
4	Fz	CRG	30" x	X
5	Fz	CRG	30" x	X
6	Fz	CRG	14" x	X
7	Hdpc	CRG	8" x	X
8	Hdpc	CRG	14" x	X
9	Fz	CRG	8" x	X
10	Fz	CRG	8" x	X
11	Chry	CRG	8" x	X
12	Shyca	CRG	24" x	X
13	Shyca	CRG	30" x	X
14	Shyca	CRG	30" x	X
15	Hdpc	CRG	8" x	X
16	Shyca	CRG	24" x	X
17	Chry	CRG	12" x	X
18	Chry	CRG	12" x	X
19	Chry	CRG	17" x	X
20	Chry	CRG	17" x	X
21	Chry	CRG	12" x	X
22	Chry	CRG	12" x	X
23	Shyca	CRG	27" x	X
24	Chry	CRG	8" x	X
25	Chry	CRG	12" x	X
26	Chry	CRG	12" x	X
27	Chry	CRG	12" x	X
28	Chry	CRG	12" x	X
29	Chry	CRG	12" x	X
30	Chry	CRG	12" x	X
31	Shyca	CRG	12" x	X
32	Chry	CRG	12" x	X
33	Chry	CRG	12" x	X
34	Chry	CRG	12" x	X
35	Chry	CRG	12" x	X
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114	Chry	CRG	12" x	X
115	Chry	CRG	12" x	X
116	Chry	CRG	12" x	X
117	Chry	CRG	12" x	X
118	Chry	CRG	12" x	X
119	Chry	CRG	12" x	X
120	Chry	CRG	12" x	X
121	Chry	CRG	12" x	X
122	Chry	CRG	12" x	X

* DENOTES SIGNIFICANT TREE PER CM 18.09.050



TREE PRESERVATION NARRATIVE

ALL TREES WITHIN THE WETLAND & WETLAND BUFFER AREAS ARE PROPOSED TO BE RETAINED.

ALL REMAINING TREES ARE PROPOSED TO BE REMOVED DUE TO CONFLICTS WITH THE REQUIRED FRONTAGE IMPROVEMENTS / SIDEWALKS, SITE GRADINGS, UTILITIES, AND BUILDING ENVELOPES.

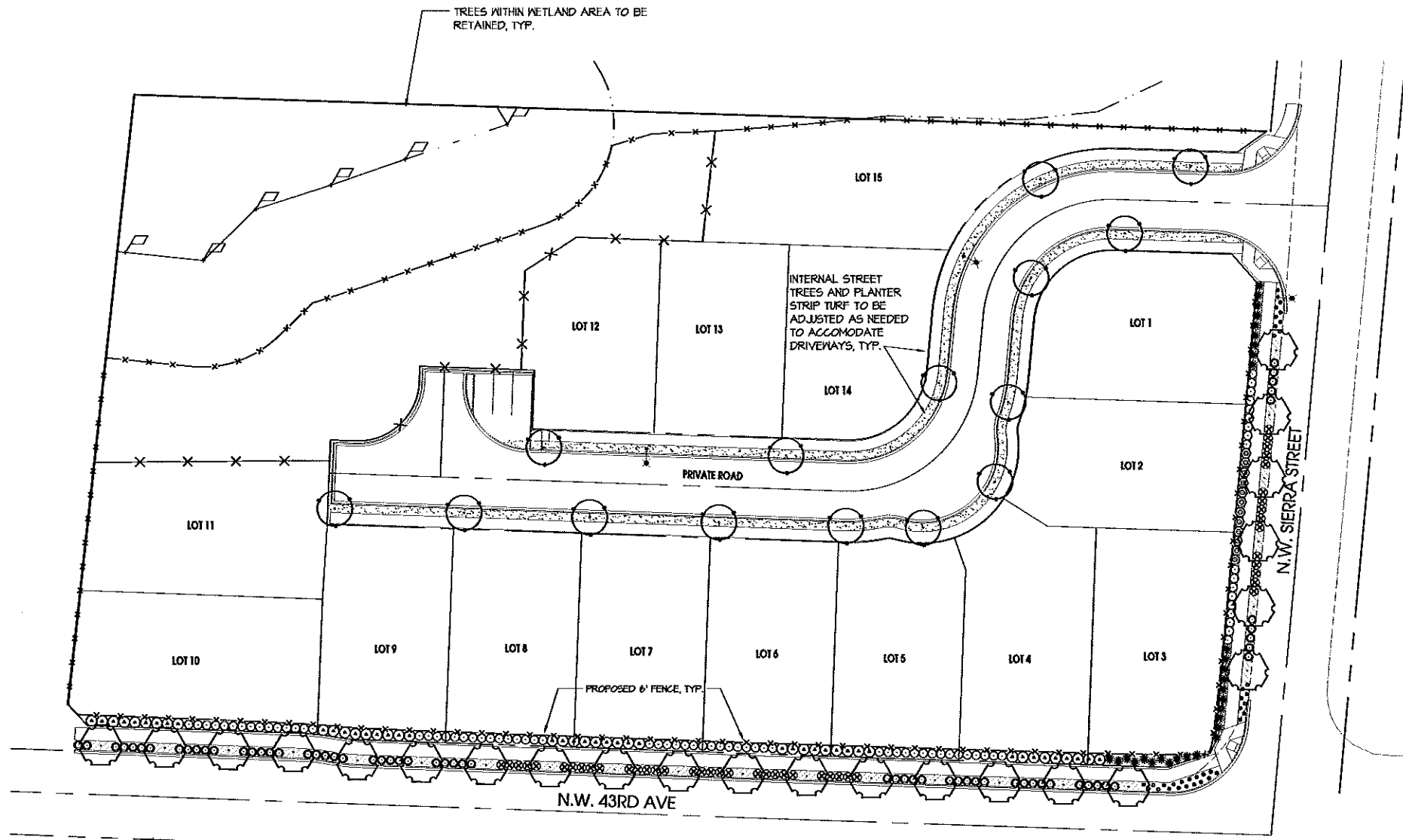
MANY OF THE EXISTING TREES ALONG NW 43RD AVENUE AND NW SIERRA STREET ARE PLANTED IN CLOSE PROXIMITY AS A HEDGE ROW. THE REMOVAL OF TREES WITHIN THESE ROWS THAT RESULTS IN LONE TREES GREATLY INCREASES THEIR CHANCE OF WINDTHROW. FOR THIS REASON ALL TREES MUST BE REMOVED.

TREE MATRIX LEGEND	
RECOMMENDATIONS	
R	TREE DESIGNATED FOR RETENTION (RETAIN & PROTECT DURING CONSTRUCTION)
X	TREE DESIGNATED FOR REMOVAL
TREE CONFLICTS WITH CONSTRUCTION	
CRG	CONFLICT WITH ROAD CONSTRUCTION
CGD	CONFLICT WITH SITE GRADING / TERRACE
CSM	CONFLICT WITH STORMWATER FACILITY
CBE	CONFLICT WITH BUILDING ENVELOPE
CUT	CONFLICT WITH UTILITY TRENCH
CIB	CONFLICT WITH DRIVE AND PATIO LOCATION



DISCLAIMER AND LIMITATIONS: ANY WORK CONTAINED HEREIN INCLUDING BUT NOT LIMITED TO PLANS AND DOCUMENTS ARE INSTRUMENTS OF SERVICE INTENDED FOR USE SOLELY WITH RESPECT TO THIS PROJECT. ALL WORK SHALL BE CONSIDERED CONCEPTUAL AND SUBJECT TO CHANGE. THESE INSTRUMENTS OF SERVICE SHALL BE CONSIDERED A WORK IN PROGRESS WHERE UNKNOWN FACTORS EXIST AND JURISDICTIONAL REQUIREMENTS HAVE NOT BEEN VERIFIED. DUE TO THE HIGH DEGREE OF UNCERTAINTY ASSOCIATED WITH A CONCEPTUAL DESIGN, THESE INSTRUMENTS OF SERVICE SHALL NOT BE USED AS THE BASIS FOR A FINANCIAL EVALUATION OR CONSTRUCTION COST ESTIMATING. NO ASSURANCES ARE OFFERED OR IMPLIED AS TO THE OVERALL FEASIBILITY OF THE PROJECT. ALL WORK SHALL BE SUBJECT TO REVIEW AND FINAL APPROVAL BY ALL APPROPRIATE FEDERAL, STATE AND LOCAL AGENCIES AND SHALL CONTAIN THE PROFESSIONAL SEAL AND SIGNATURE OF ALL REQUIRED DESIGN PROFESSIONALS PRIOR TO ANY USE OF THESE DOCUMENTS. PLANNING SOLUTIONS, INC. AND ITS CONSULTANTS SHALL BE DEEMED THE AUTHORS AND OWNERS OF THEIR RESPECTIVE INSTRUMENTS OF SERVICE AND SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS INCLUDING COPYRIGHTS.

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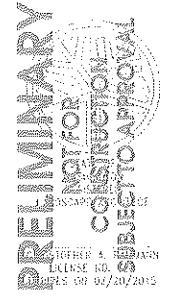


TREE LEGEND			
SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
	ACER GRISEM / PAPERBARK MAPLE	2" Col. Min.	15
	ACER RUBRUM 'BOHNALL' / BOHNALL MAPLE	2" Col. Min.	29

SHRUB & GROUND COVER LEGEND*			
SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
	ARBUTUS UNEDO 'ELFIN KING' / ELFIN KING STRAWBERRY MADRONE	3 GAL. min.	45
	BERBERIS THUNBERGII 'ROSE GLOW' / ROSE GLOW BARBERRY	3 GAL. min.	70
	CORNUS SERICEA 'KELSEY' / KELSEY'S DYARF RED-OSIER DOGWOOD	1 GAL. min.	35
	HELICTOTRICHON SENPERSVIRONS / BLUE OAT GRASS	2 GAL. min.	45
	MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	3 GAL. min.	62
	MISCANTHUS SINENSIS 'MORNING LIGHT' / MORNING LIGHT MAIDEN GRASS	1 GAL. min.	30
	VIBURNUM OPULIS 'COMPACTUM' / COMPACT EUROPEAN CRANBERRY BUSH	3 GAL. min.	12
GROUND COVER			
	ARGYOSTAPHYLOS UVA URSI MASS. MASSACHUSETTS KINICKINICK	1 GAL. min.	30' O.C. max.
	TURF - SOD OR SEED		

NOTE: ALL LANDSCAPE AREAS TO BE IRRIGATED (HAND WATER OR AUTOMATIC SYSTEM) AS REQUIRED TO PROVIDE HEALTHY PLANT GROWTH.
REFER TO SHEET L2 FOR LANDSCAPE DETAILS AND NOTES

Planning Solutions, Inc.
Creating Solutions to Complex Issues
 4400 NE 77th Avenue
 Suite 275
 VANCOUVER, WA 98662
 VOICE: 360-750-9000 FAX: 360-713-6102
 www.planningsolutionsinc.com



Meadows Subdivision
 4313 NW Sierra St & 2129 NW 43rd Avenue
 Camas, Washington

DRAWN: CB	CHECKED: CB
SCALE: 1" = 30'-0"	DATE: 01.04.15
JOB #: 14-1328	
ISSUED FOR:	
REVISIONS:	
	04/16/15 - City FC Comments
	06/10/15 - City Comments

SHEET NAME:
LANDSCAPE PLAN

SHEET #:
L1
 SHEET 2 OF 3



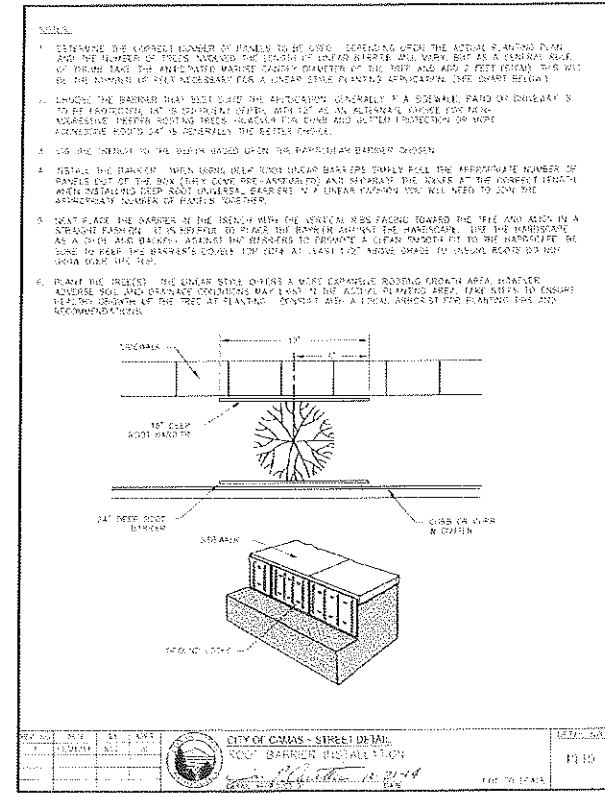
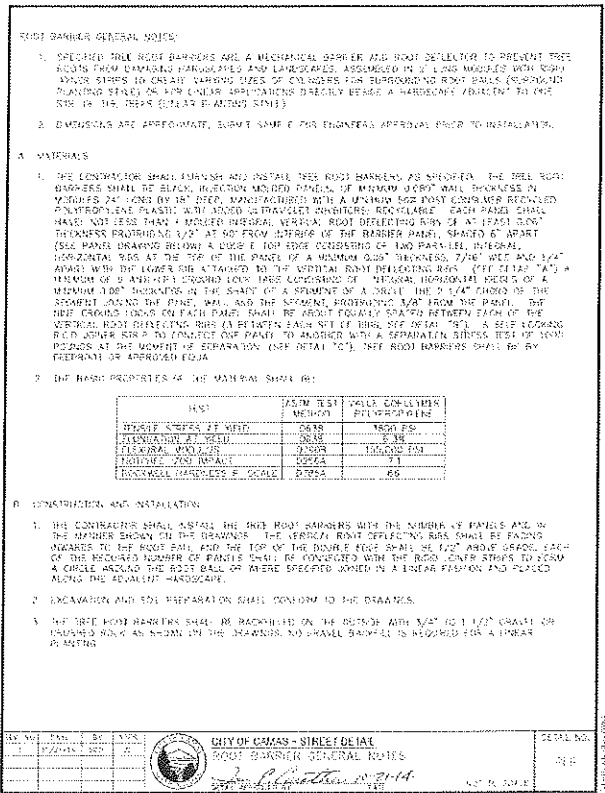
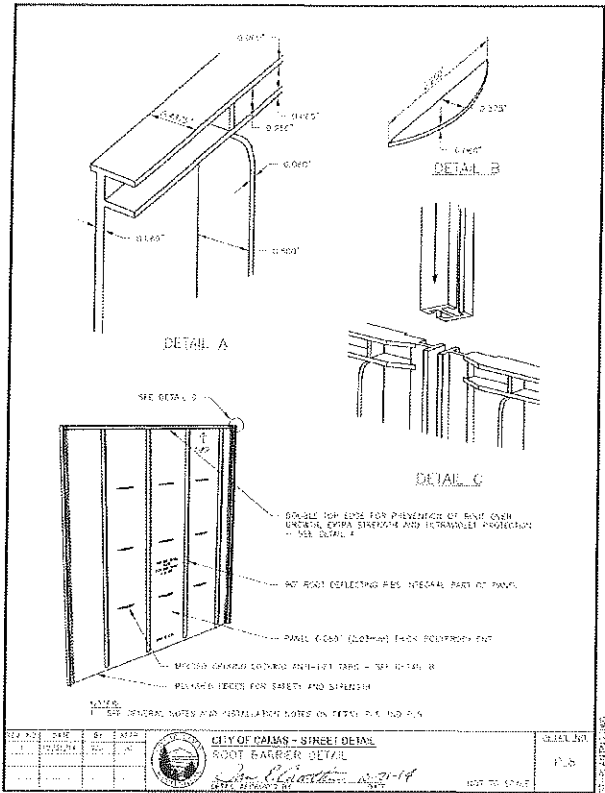
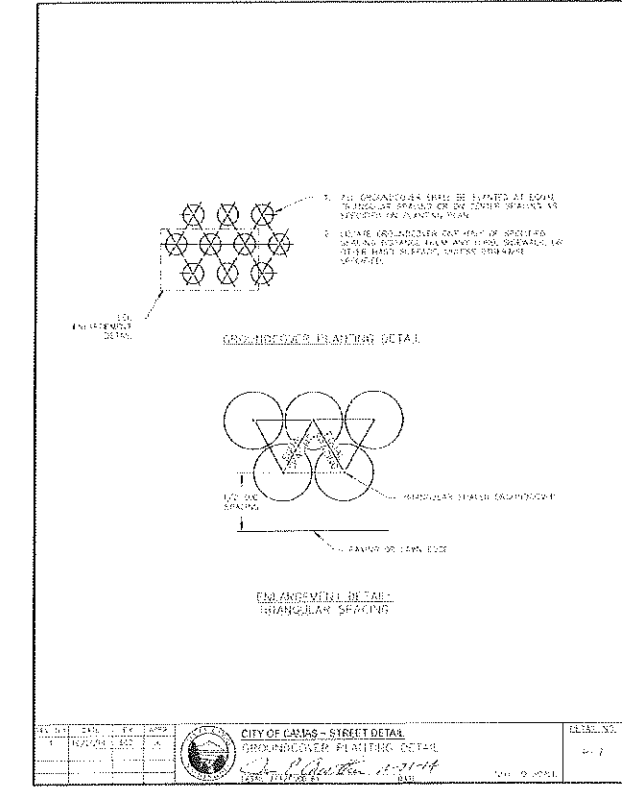
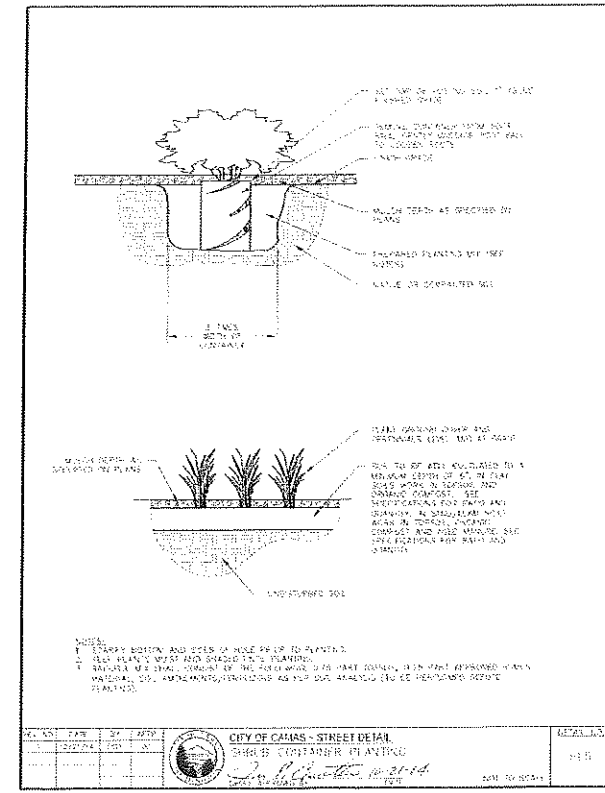
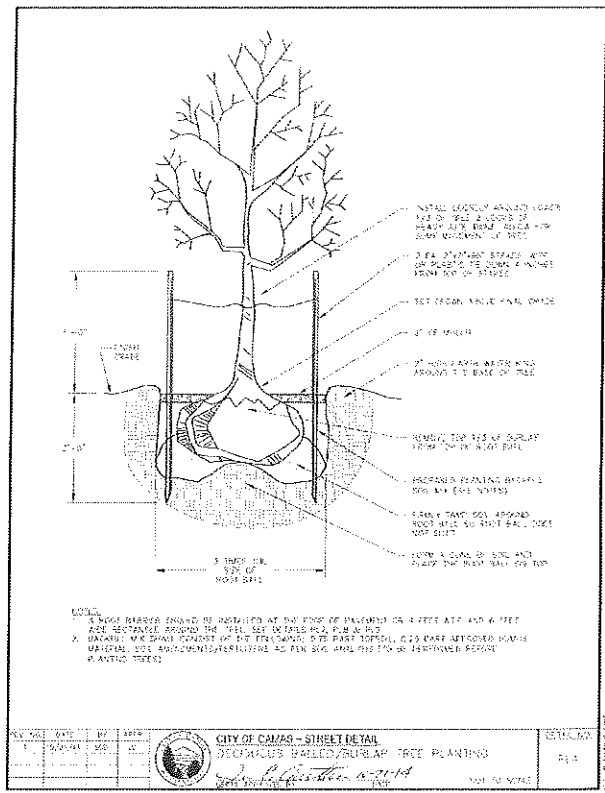
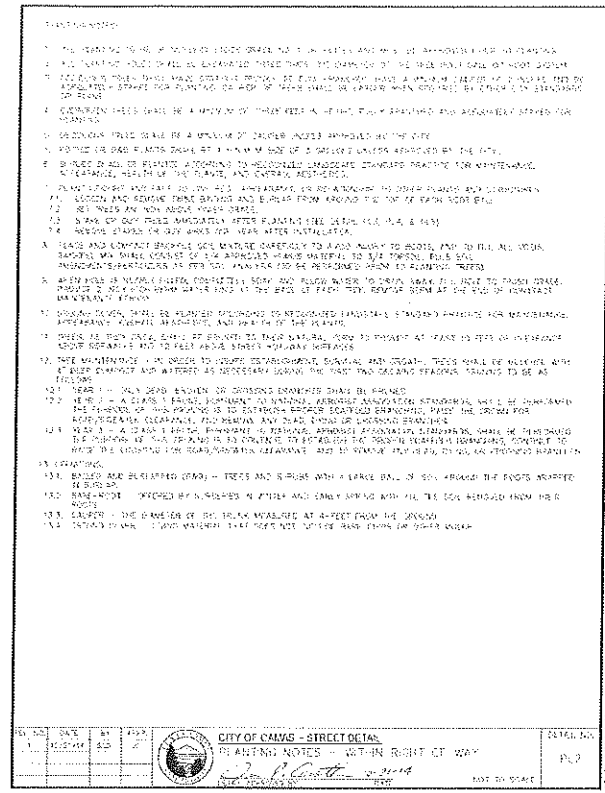
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PRELIMINARY
 NOT FOR CONSTRUCTION
 SUBJECT TO APPROVAL

OFFERED BY: **PLANNING SOLUTIONS, INC.**
 LICENSE NO. 689
 EXPIRES ON: 02/28/2015

Meadows Subdivision
 4313 NW Sierra St & 2129 NW 43rd Avenue
 Camas, Washington

DRAWN:	CB	CHECKED:	CB
SCALE:	AS SHOWN	DATE:	01/01/15
JOB #:	14-1820		
ISSUED FOR:			
REVISIONS:	▲ 04/16/15 - City FC Comments ▲ 08/05/15 - City Comments ▲ ▲ ▲		
SHEET NAME:	LANDSCAPE DETAILS		
SHEET #:	L2		
	SHEET 3	OF 3	





Consulting Engineers and Planners

2008 C Street
Vancouver, WA 98663

Ph. (360) 944-6519
Fax (360) 944-6539

August 13, 2015

Ms. Lauren Hollenbeck
City of Camas
616 NE 4th Avenue
Camas, WA 98607

**RE: Meadows Subdivision (SEPA15-03)
SEPA Comments**

Dear Ms. Hollenbeck:

This letter is in response to the comments received during the SEPA review process from Sarah and Kenneth Kronholm per a letter dated August 4, 2015. PLS Engineering was requested by City staff to reply to comments 1 and 2 within this letter.

The process to determine if wetlands are present on the site starts with mapping from the Local and National Wetland Inventory (LWI and NWI) and/or from comments of the local jurisdictions. The Local and National Wetland Inventory mapping is provided on Clark County GIS and these delineations are approximated from aerial photography and generalized soil mapping. There are times when wetlands are shown on properties based on the NWI and LWI mapping but after having a certified biologist review and walk the site it is determined there are actually no wetlands. In regards to the Meadows Subdivision, a wetland biologist was hired to delineate with flags and categorize the type of wetlands on the site. The biologist created a report with exhibits from hand held GPS field ties and best fit this to Clark County's GIS mapping of the parcel to create these exhibits and provided this information to the applicant and the reviewing agency. This process is approximate and the GPS field ties are within 5-6' of actual. Clark County's GIS mapping is an excellent tool to generate exhibits to show relevant information for the applicant and reviewing agencies, but it is not 100% accurate. It should be noted that for this site, in addition to potential inaccuracies of the GIS wetland mapping cited by the Kronholms, the property lines shown on Clark County GIS for the site are inaccurate compared to the surveyed boundary determined in the field by a professional surveyor. As with the wetland mapping information, property boundaries shown in the County GIS system should also be considered approximate and generally substandard compared to actual field measurements by a qualified professional.

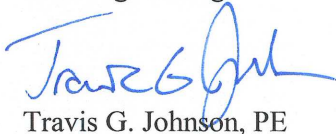
After the biologist completed their field work, the applicant then hired a licensed surveyor to field tie the biologist's flags and additional relevant information on the site. Based on found property corners and recorded legal descriptions the surveyor prepared a topographic and boundary survey that shows the surveyed wetlands flags. This information is extremely accurate and is what was used to prepare the preliminary plat and may be slightly different from the approximate information prepared by the biologist. The information shown on the preliminary plat is based on the exact location of flags placed by the biologist during field ties of the wetlands in relation to the exact property boundary as determined by the surveyor. The information shown on the preliminary plat should be considered more accurate than the wetland exhibits since it is based on the exact field measurements completed

by the surveyor rather than the approximate locations determined through a combination of GPS and aerial overlays completed by the wetland biologist.

Based on the report prepared by Kevin Grosz at the Resource Company for the Meadows Subdivision there are no wetlands located along the north property line or directly north into the neighboring development except what was shown within the report. The wetlands that are shown on the neighboring properties to the north in the wetland report are approximated based on SCS soil mapping, aerial photos, and visually looking at plant types and vegetation patterns on the site. If the hydrology source was removed from the existing wetlands shown on the Lake Pointe Phase 1 plat due to the construction of roads and houses, it is entirely possible those previously delineated wetlands would dry up. The biologist did not have permission to access the property to the north and it is illegal to delineate wetlands on neighboring properties without permission, therefore the wetlands have been approximated from the best available science. Wetland delineations and assessments are only valid for five years based on requirements of the Army Corp of Engineers because wetlands do change over time. This can explain the differences between the wetland boundary shown on the Lake Point Phase 1 Plat and what was visually observed by the professional biologist during his recent work.

If you have any questions or comments please call me at (360) 944-6519 or e-mail at travis@plsengineering.com.

Sincerely,
PLS Engineering



Travis G. Johnson, PE



Community Development Department

Notice of Public Hearing Meadows Subdivision

(City File No. SUB15-01, SEPA15-03, ARCH15-01, CA15-01)

“NOTICE IS HEREBY GIVEN” that a public hearing will be held on a preliminary plat application for the Meadows Subdivision, which is a 15 single family residential lots development. The 3.78 acre site is located at the northwest intersection of NW Sierra Street and NW 43rd Avenue, and is zoned Residential 7,500 (R-7.5). The property is also described as tax parcels 177893000 and 177902000, and further as Section 34, Township 2 North, Range 3 East of the Willamette Meridian; Camas, WA.

PUBLIC HEARING: The Meadows Subdivision (SUB15-01) will be considered at a public hearing on **September 1, 2015, at 5:00 p.m.**, or soon thereafter, before the Hearings Examiner in the City Council Chambers, 616 NE 4th Avenue, Camas, WA.

APPLICATION MATERIALS: The application included the following: project narrative; environmental studies; engineering reports, and preliminary plat drawings, as required for a complete application pursuant to Camas Municipal Code (CMC) 18.55.110 and 17.11.030.B. These documents are available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8am-5pm.

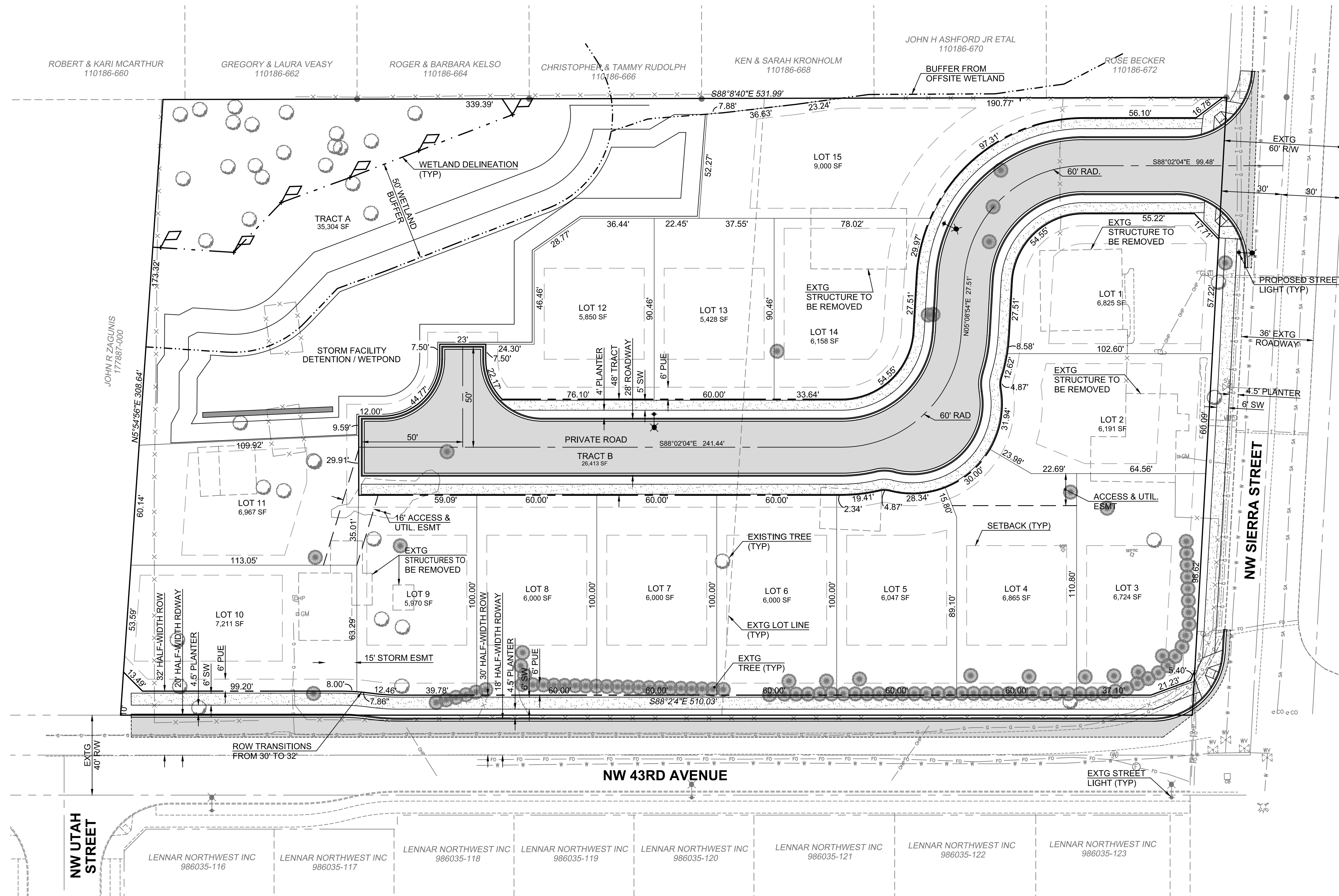
COMMENT INFORMATION: Parties interested in commenting on the preliminary plat application may testify in person at the hearing, or may submit written comments by regular mail (616 NE 4th Ave., Camas, WA), or by email to communitydevelopment@cityofcamas.us. If anyone prefers to submit written comments for staff to submit on their behalf at the hearing, those comments must be received by the City Clerk at 616 NE 4th Ave., Camas, WA 98607, **prior to 5:00pm.**, on September 1, 2015, to be included in the record. Any questions regarding the application may be directed to Lauren Hollenbeck, Senior Planner, at (360) 817-1568.

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

This project is within the R-7.5 zone of Camas, a Single-family Residential zone. The comprehensive plan designation for the site is SFM.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

Dimensional standards are noted below. Applicant will utilize density transfer with this application.

Lot Setbacks:
Front = 20'
Side = 5'
Street Side = 20' / Requesting 15'
Rear = 25'

Site Area - 3.78 acres (164,694 sq ft).

Total Number of Lots = 15

Minimum Lot Size = 5,428 sq ft
Maximum Lot Size = 8,994 sq ft
Average Lot Size = 6,365 sq ft

Tract A will be owned and maintained by the home owners association. It will contain the wetlands and associated buffer and the proposed storm facility.

Tract B will be owned and maintained by the home owners association. This tract will contain the private roadway and will have an easement over the entire Tract to the City of Camas for utility mains.

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

School District = Camas

Fire District = Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.

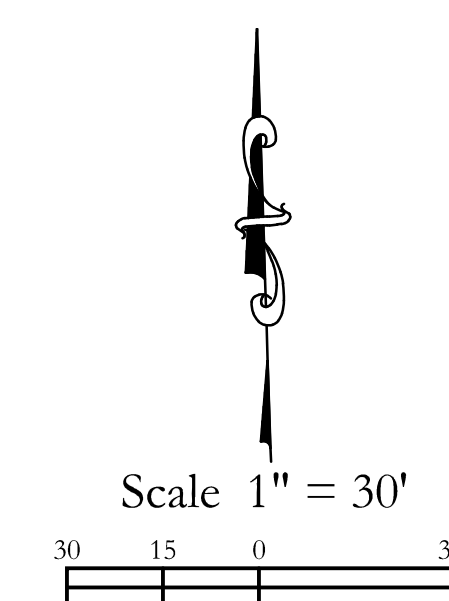
Legal Description:

Parcel 177902-000
The West 300.00 feet of the East 565.5 feet of the following described tract of land:
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, in Clark County, Washington; thence North 89 degrees 53' West 20.36 chains to the West line of said Section 34; thence South along said Section line, 4.96 chains to the Point of Beginning.

Parcel 177893-000
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, Clark County, Washington; and running thence North 89 degrees 53' East, along the center of the County Road 20.03 chains to the True Point of Beginning; thence North 3 degrees 50' East 4.97 chains; thence South 89 degrees 53' West 265.6 feet; thence South 4.96 chains, more or less, to the center line of said County Road; thence North 89 degrees 53' East, along the center of said County Road to the point of beginning.

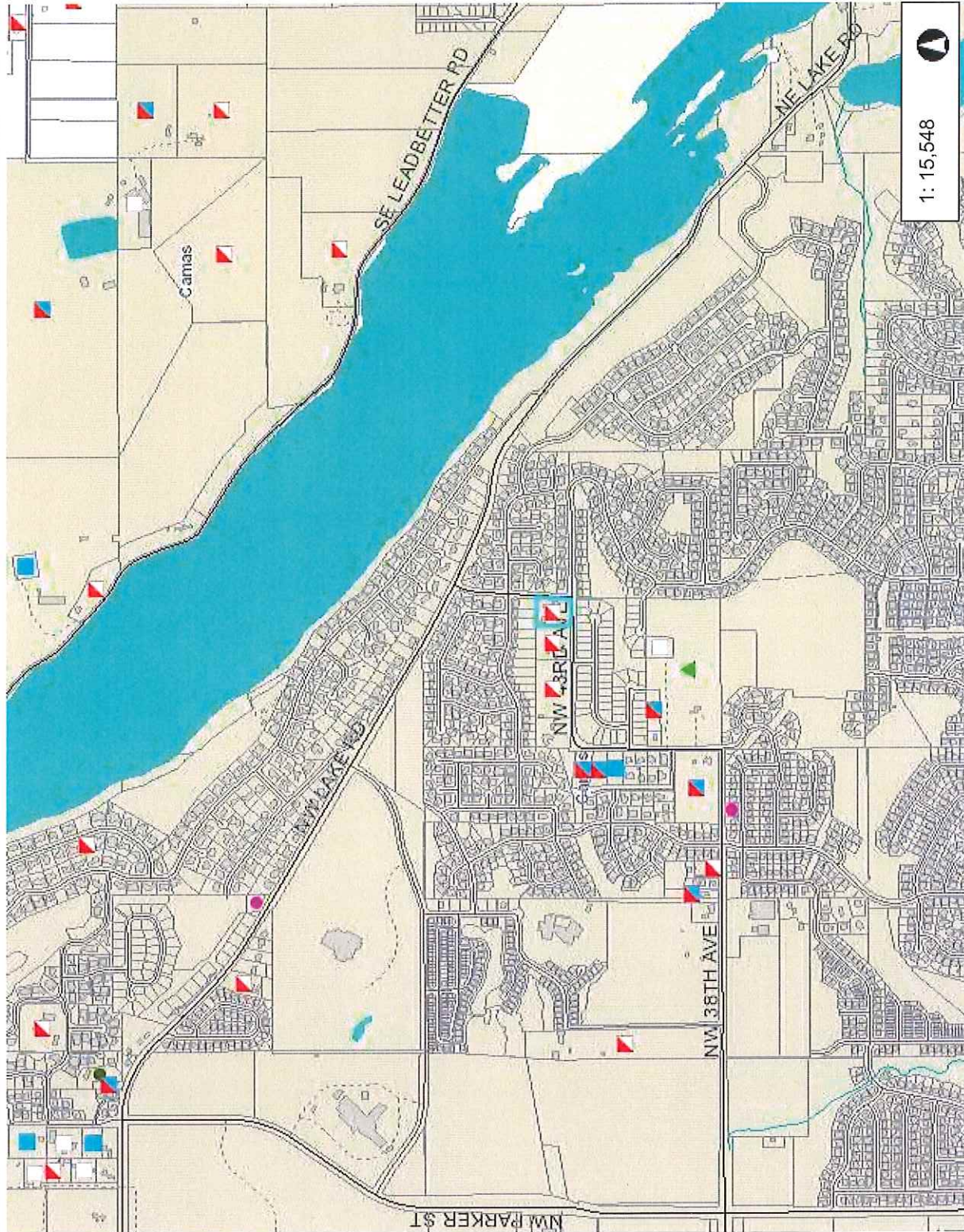
EXCEPT any portion lying with SE 15th St.

Land Inventory	
Total Acreage	3.78 ac
Total Developed Acreage	3.30 ac
Total Lot Area	2.23 ac
Total Infrastructure Acreage	0.61 ac
Total Tract Area	1.42 ac
Total Acreage of Critical Areas	0.48 ac
Total Acreage of Recreational Open Spaces	0.00 ac



Revisions	
A	
B	
1	
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4	

DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AUG



1: 15,548

2,591.4 0 1,295.69 2,591.4 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA GIS - <http://gis.clark.wa.gov>

This map was generated by Clark County's "MapsOnline" website. Clark County does not warrant the accuracy, reliability or timeliness of any information on this map, and shall not be held liable for losses caused by using this information.



Legend

- Septic System**
 - No Associated Documents
 - Apps. and As-Builts
 - online RME Documents
 - Both Available
- Water Well**
 - Group A Public
 - Group B Public
 - Individual
 - Irrigation - NO Drinking
 - Unclassified
- Building Footprints**
- Taxlots**
- Cities Boundaries**
- Urban Growth Boundaries**

Notes:

First Call Septic Services

2210 W Main St. Ste 107 #316
Battle Ground, WA 98604

360-686-0505

Mail To:

PROPERTY INFORMATION

KAKUK KENTON & KAKUK CAROL

Location: 4313 NW SIERRA ST

CAMAS

Tax ID: 177893000 Lot:

Use: Residential, Single Family

Owner:

ON ID: ON0052855

Fold
Here**ON-SITE WASTEWATER TREATMENT SYSTEM INSPECTION REPORT**

Inspected: 03/18/2014 - Inspection Type: PROPERTY SALE - Correction Status: All corrections made

Company: Certification - Level 2
First Call Septic Services

Work Performed By:
Ronnie Tamez

Submitted 03/21/2014 by:
Ronnie Tamez

Fold
Here**COMMENTS & GENERAL INSPECTION NOTES****Deficiencies Were Noted: Corrections were made to resolve the deficiencies.**

The septic tank is under the shop floor and d-box is right at the foundation edge. This is not creating any problems and homeowner has installed risers to the septic tank components. Septic tank was pumped out the same day and no further action is needed.

GENERAL SITE & SYSTEM CONDITIONS

The General Site and System Conditions were:	Fully Inspected
All Components accessible for maintenance, secure and in good condition:	YES
Surfacing effluent from any component (including mound seepage):	NO
Components appear to be watertight - no visual leaks:	YES
Improper encroachment (roads, buildings, etc.) onto component(s):	YES - <i>Corrected</i>
Component settling problems observed:	NO
Abnormal ponding present for one or more of the disposal components:	NO
Subsurface components adequately covered	YES
Site maintenance required (e.g. Landscape maintenance) If yes, describe in comments:	NO

ONSITE SEWAGE SYSTEM INSPECTION DETAIL

TANK: Septic Tank - 1 Compartment		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Effluent level within operational limits (if NO explain in comments):	YES	
All required baffles in place (N/A = No baffles required):	YES	
Effluent Filter Cleaned (N/A = Not Present):	N/A	
Compartment 1 Scum accumulation (Inches, if other specify):	30	
Compartment 1 Sludge accumulation (Inches, if other specify):	24	
Pumping needed:	YES	<i>Corrected</i>
Approximate Gallons to be pumped (if needed) by Certified Pumper:	1000	
Distribution: D-Box		
This component was:	Fully Inspected	
D-Box in good condition:	YES	
D-Box outlets set to allow equal effluent distribution:	YES	
Drainfield: Gravity		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Ponding present? If YES explain in comments:	NO	

This report indicates certain characteristics of the onsite sewage system at the time of visit. In no way is this report a guarantee of operation or future performance.

First Call Septic Services

2210 W Main St. Ste 107 #316
Battle Ground, WA 98604

360-686-0505

Mail To:

PROPERTY INFORMATION

KAKUK KENTON & KAKUK CAROL
Location: 2129 NW 43RD AV
CAMAS
Tax ID: 177902000 Lot:
Use: Residential, Single Family
Owner:

ON ID: ON0052863

Fold Here

ON-SITE WASTEWATER TREATMENT SYSTEM INSPECTION REPORT

Inspected: 03/26/2014 - Inspection Type: PROPERTY SALE - Correction Status: All corrections made

Company: Certification - Level 2
First Call Septic Services

Work Performed By:
Ronnie Tamez

Submitted 04/01/2014 by:
Jennifer Tamez

Fold Here

COMMENTS & GENERAL INSPECTION NOTES

No Deficiencies Noted

Septic Tank Pumped 300 gallons.

GENERAL SITE & SYSTEM CONDITIONS

The General Site and System Conditions were:	Fully Inspected
All Components accessible for maintenance, secure and in good condition:	YES
Surfacing effluent from any component (including mound seepage):	NO
Components appear to be watertight - no visual leaks:	YES
Improper encroachment (roads, buildings, etc.) onto component(s):	NO
Component settling problems observed:	NO
Abnormal ponding present for one or more of the disposal components:	NO
Subsurface components adequately covered	YES
Site maintenance required (e.g. Landscape maintenance) If yes, describe in comments:	NO

ONSITE SEWAGE SYSTEM INSPECTION DETAIL

TANK: Septic Tank - 1 Compartment		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Effluent level within operational limits (if NO explain in comments):	YES	
All required baffles in place (N/A = No baffles required):	YES	
Effluent Filter Cleaned (N/A = Not Present):	N/A	
Compartment 1 Scum accumulation (Inches, if other specify):	0	
Compartment 1 Sludge accumulation (Inches, if other specify):	12	
Pumping needed:	NO	
Approximate Gallons to be pumped (if needed) by Certified Pumper:		
Drainfield: Gravity		
This component was:	Partially Inspected	
Component appears to be functioning as intended:	YES	
Ponding present? If YES explain in comments:	NO	

This report indicates certain characteristics of the onsite sewage system at the time of visit. In no way is this report a guarantee of operation or future performance.

ORDINANCE NO. 2691

AN ORDINANCE adopting modifications to Title 16, Title 17, and Title 18 of the Camas Municipal Code by making minor clarifications and corrections to the development regulations.

WHEREAS, the city has conducted its annual review of Camas Municipal Code Title 16 governing environment, Title 17 governing land division and development, and Title 18 governing zoning, and has recommended modifications to clarify existing regulations, to correct grammatical errors, and to make other minor revisions,

WHEREAS, the Planning Commission held a public hearing on November 19, 2013, to consider the proposed revisions, and

WHEREAS, the Planning Commission favorably recommended to forward the amendments to the City Council, and

WHEREAS, the City Council held a public hearing on January 6, 2014, to consider the proposed revisions,

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF CAMAS AS FOLLOWS:

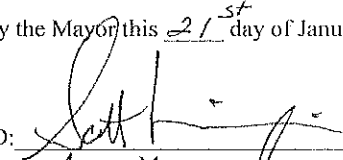
Section I

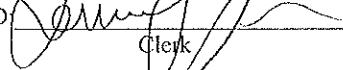
Title 16, Title 17 and Title 18 of the Camas Municipal Code are amended as set forth in Exhibit "A" attached hereto and by this reference incorporated herein.

Section II

This ordinance shall take force and be in effect five (5) days from and after its publication according to law.

PASSED BY the Council and APPROVED by the Mayor this 21st day of January, 2014.

SIGNED: 
Mayor

SIGNED: 
Clerk

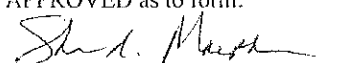
APPROVED as to form:

City Attorney

Exhibit "A"

Note: Only those chapters that are included below are intended to be amended. Any chapters not included below shall remain in full force.

Title 17 - LAND DEVELOPMENT*

Chapter 17.19 DESIGN AND IMPROVEMENT STANDARDS

placed at the public right-of-way. If roadway is less than 150 feet in length, the minimum structural road section is exempt.

³ Road/Street lengths are calculated to include the cumulative network.

9. Intersections. Any intersection of streets that connect to a public street, whatever the classification, shall be at right angles as nearly as possible, shall not exceed fifteen (15) degrees, and not be offset insofar as practical. All right-of-way lines at intersections with arterial streets shall have a corner radius of not less than twelve (12) feet.
10. Street Layout. Street layout shall provide for the most advantageous development of the land development, adjoining area, and the entire neighborhood. Evaluation of street layout shall take into consideration potential circulation solutions for vehicle, bicycle and pedestrian traffic, and where feasible, street segments shall be interconnected.
 - a. While it is important to minimize the impact to the topography from creating an integrated road system, improved site development and circulation solutions shall not be sacrificed to minimize the amount of cut and fill requirements of the proposal.
 - b. Where critical areas are impacted, the standards and procedures for rights-of-way in the critical areas overlay zone shall be followed.
 - c. When the proposed development's average lot size is 7,400 square feet or less one additional off-street parking space ~~may~~ shall be required for every five units— notwithstanding the requirements of CMC Chapter 18.11. These spaces are intended to be located within a common tract.
 - d. When, on the basis of topography, projected traffic usage or other relevant facts, it is unfeasible to comply with the foregoing right-of-way, tract and street width standards, the approval authority, upon recommendation from the city engineer may permit a deviation from the standards of Table 17.19.040-1 and Table 17.19.040-2.
 - e. The city engineer or designee may determine a wider width is necessary due to site circumstances, including but not limited to topography, traffic volume, street patterns, on-street parking, lot patterns, land use and bike and transit facilities that justify an increase in width.
 - f. When existing streets adjacent to or within land to be developed, are of inadequate width, additional right-of-way shall be provided at the time of land development.
11. Access Management.
 - a. Access to all marginal access streets shall be restricted so as to minimize congestion and interference with the traffic carrying capacity of such street, and to provide separation of through and local traffic. The restrictions imposed shall be in accordance with the ~~design policies and standards set forth in the Institute of Transportation Engineers Transportation and Land Development Manual, the Institute of Engineers Residential Street Design and Traffic Control Manual, and the Washington State Department of Transportation Camas Design Standard Manual.~~
 - b. The city engineer may grant exceptions to the access restriction policies and standards when no other feasible access alternative exists.
 - c. In addition to restricting access, where a residential development abuts or contains an existing or proposed marginal street, the city may also require reverse frontage lots with suitable depth, appropriate fencing with landscaping or masonry walls contained in a non-access reservation with a minimum ten-foot width along the real property line, or such

Title 17 - LAND DEVELOPMENT*

Chapter 17.19 DESIGN AND IMPROVEMENT STANDARDS

other treatment as may be necessary for adequate protection of residential properties and for the separation of through and local traffic.

12. Street Design. When interior to a development, publicly owned streets shall be designed and installed to full width improvement as a means of insuring the public health, safety, and general welfare in accordance with the city comprehensive plans. Full width improvements shall include utility easements, sidewalks, bike lanes as necessary, and control of storm water runoff, street lighting, and signage, as provided below.
 - a. Shall be graded as necessary to conform to Camas Design Standard Manual.
 - b. Grades shall not exceed six percent on major and secondary arterials, ten percent on collector streets, or twelve percent on any other street. However, provided there are no vehicular access points, grades may be allowed up to fifteen percent when:
 - i. Exceeding the grades would facilitate a through street and connection with a larger neighborhood;
 - ii. The greater grade would minimize disturbance of critical slopes;
 - iii. Automatic fire sprinklers are installed in all structures where the fire department response to the structure requires travel on the grade;
 - iv. Tangents, horizontal curves, vertical curves, and right-of-way improvements conform to public works department standards;
 - v. Full width improvement is required as a condition of the land use approval in accordance with city standards; and
 - vi. In flat areas allowance shall be made for finished street grades having a minimum slope of one-half percent.
 - c. Centerline radii of curves shall be not less than three hundred feet on primary arterials, two hundred feet on secondary arterials, or seventy feet on other streets.
 - d. Shall be of asphaltic concrete according to Camas Design Standard Manual.
 - e. Shall have concrete curbs and gutters. Curb return radii shall be no less than thirty-five feet on arterial and collector streets, and no less than twenty-five feet on all other streets. Larger radii may be required at the direction of the city engineer.
 - f. Shall have storm drains in accordance with the Camas Design Standard Manual.
13. Sidewalks shall be constructed as specified in Camas Design Standard Manual. See Table 17.19.040-1 and Table 17.19.040-2 for dimensions.
 - a. Prior to final acceptance of any land development, the developer shall install sidewalks, when required under Table 17.19.040-1 and Table 17.19.040-2, adjacent to or within all public or common areas or tracts, and at all curb returns. Sidewalks along individual lots may be deferred at the discretion of the city engineer until occupancy of the primary structure. Further, any trail or trails, including but not limited to the T-5 and T-1 trails, identified in the most recent Camas Parks and Open Space Plan shall be constructed prior to final acceptance;
 - b. All sidewalk areas shall be brought to sub grade by the developer at the time of improving streets.
14. Cul-de-sacs. A cul-de-sac greater than four hundred feet from the centerline-to-centerline intersections shall require special considerations to assure that garbage, recycle, and emergency vehicles have adequate access. Buildings on all lots located more than four hundred feet from the centerline-to-centerline intersections shall have automatic fire sprinklers.

Lauren Hollenbeck

From: Rothwell, Rebecca <rebs461@ECY.WA.GOV>
Sent: Friday, August 21, 2015 1:24 PM
To: Lauren Hollenbeck
Subject: RE: MDNS Meadows Subdivision SEPA15-03

Lauren,

I've reviewed the wetland rating and agree that Category 4 is appropriate.

Rebecca Rothwell

Wetlands/Shorelands Specialist
Shorelands and Environmental Assistance Program
WA Department of Ecology | Southwest Regional Office | 360-407-7273
300 Desmond Drive SE, Lacey, WA 98503 | PO Box 47775 Olympia, WA 98504-7775

This communication is a public record and may be subject to disclosure per RCW 42.56.

From: Lauren Hollenbeck [mailto:LHollenbeck@cityofcamas.us]
Sent: Friday, August 21, 2015 12:53 PM
To: Rothwell, Rebecca <rebs461@ECY.WA.GOV>
Subject: RE: MDNS Meadows Subdivision SEPA15-03

Hi Rebecca,
Yes, it pertains to SEPA review. See attached.

Lauren Hollenbeck

Senior Planner
City of Camas
616 NE 4th Ave.
Camas, WA 98607
360-817-1568 ext. 4253
lhollenbeck@cityofcamas.us



From: Rothwell, Rebecca [mailto:rebs461@ECY.WA.GOV]
Sent: Friday, August 21, 2015 11:55 AM
To: Lauren Hollenbeck
Subject: RE: MDNS Meadows Subdivision SEPA15-03

Hi Lauren,

Thank you for sending this report. I've been out of the office quite a bit over the last month and now can't remember why I needed it! Does it pertain to a SEPA review?

Rebecca Rothwell

Wetlands/Shorelands Specialist
Shorelands and Environmental Assistance Program
WA Department of Ecology | Southwest Regional Office | 360-407-7273
300 Desmond Drive SE, Lacey, WA 98503 | PO Box 47775 Olympia, WA 98504-7775

From: Lauren Hollenbeck [<mailto:LHollenbeck@cityofcamas.us>]
Sent: Friday, August 07, 2015 11:15 AM
To: Rothwell, Rebecca <rebs461@ECY.WA.GOV>
Subject: MDNS Meadows Subdivision SEPA15-03

Hi Rebecca,
Per your request, please find attached the wetland delineation report for the Meadows Subdivision.

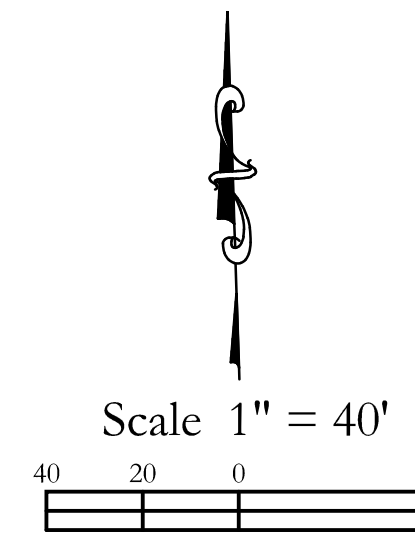
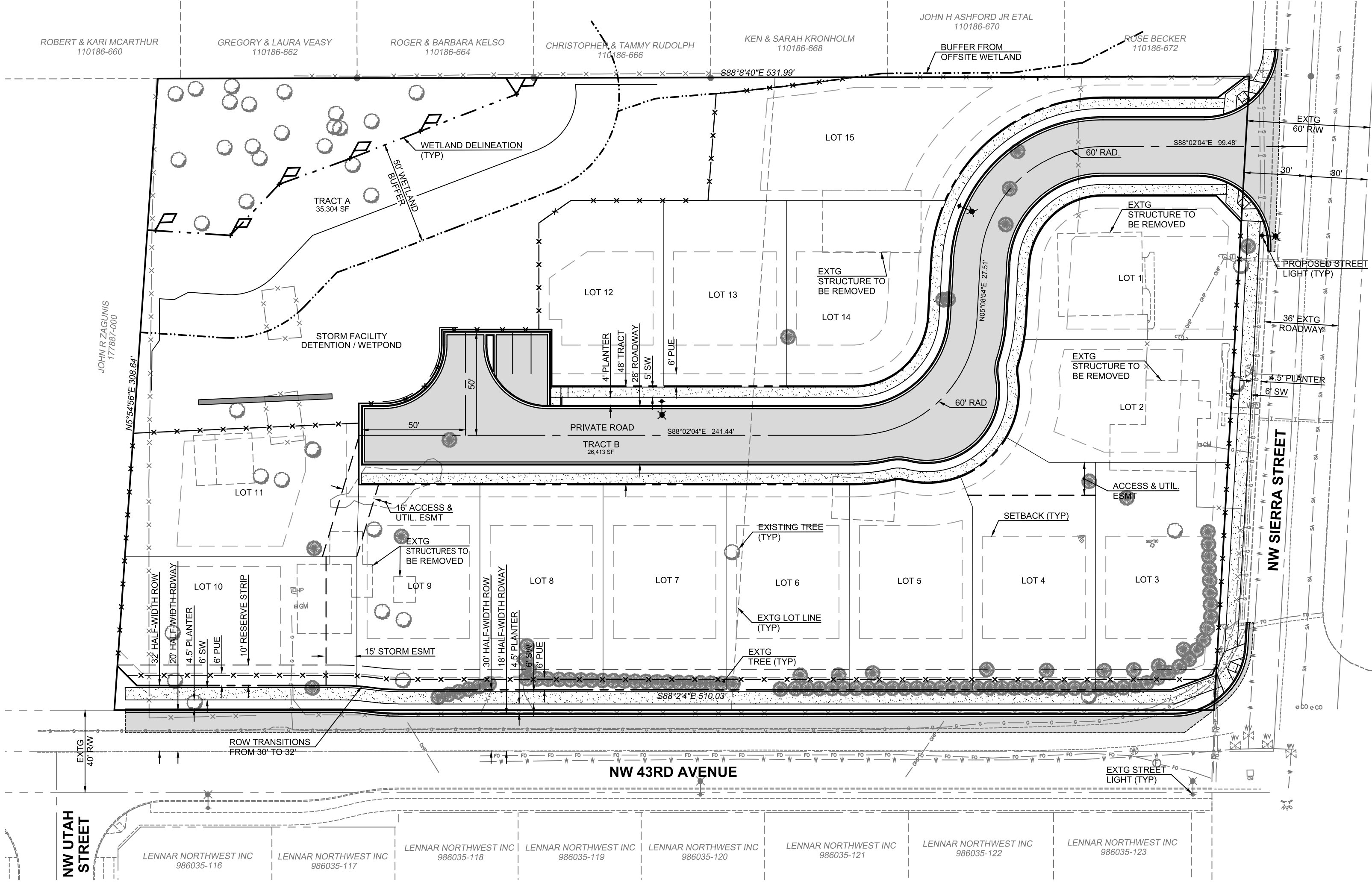
Lauren Hollenbeck
Senior Planner
City of Camas
616 NE 4th Ave.
Camas, WA 98607
360-817-1568 ext. 4253
lhollenbeck@cityofcamas.us



NOTICE OF PUBLIC DISCLOSURE: This e-mail account is public domain. Any correspondence from or to this e-mail account may be a public record. Accordingly, this e-mail, in whole or in part may be subject to disclosure pursuant to RCW 42.56, regardless of any claim of confidentiality or privilege asserted by an external party.

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE

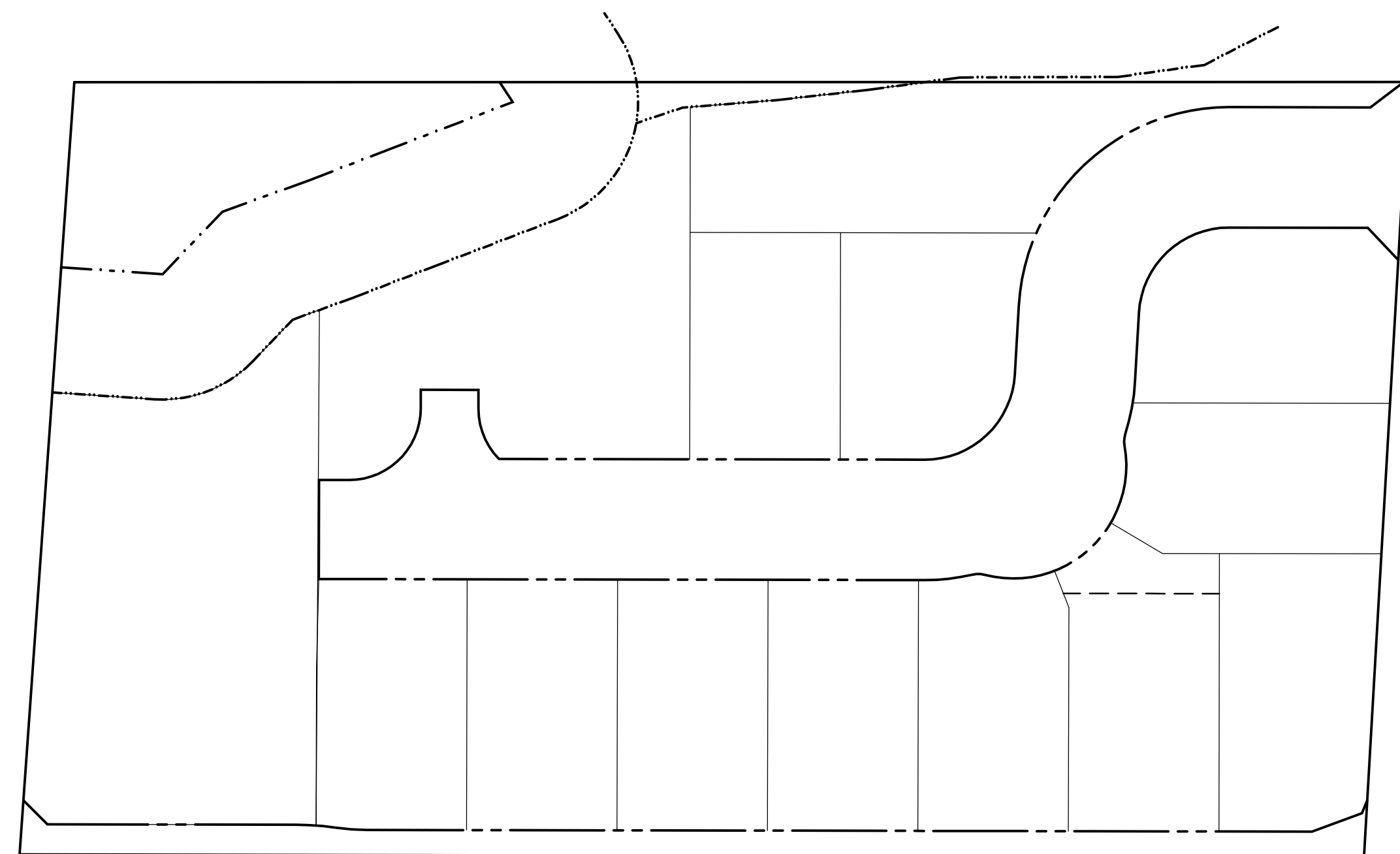
PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6539
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

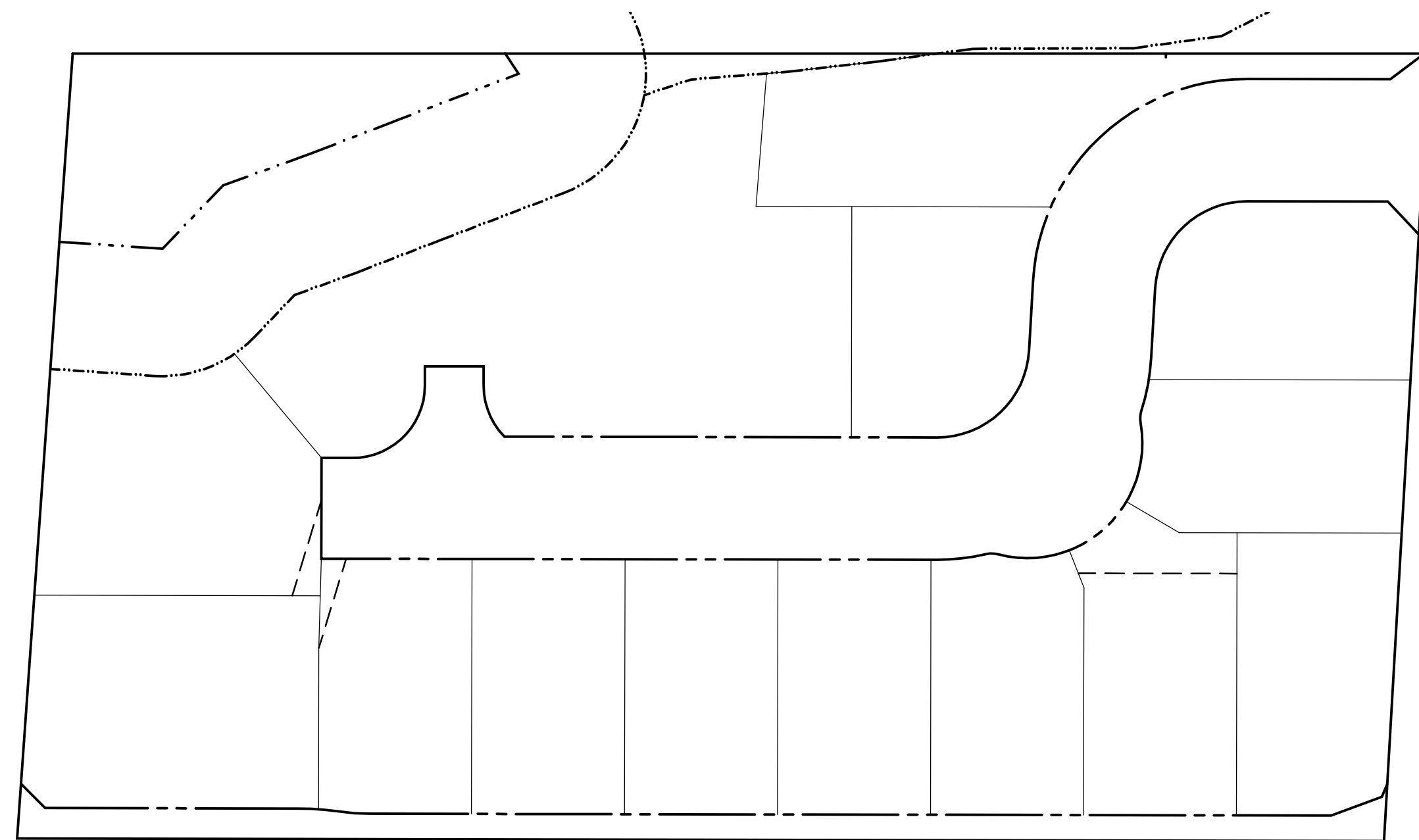
Preferred Alternative



Alternative 1

(2 fewer lots than preferred alternative)

- 1) Increases overall tract area and tree protection areas within tracts.
- 2) Slight reduction in infrastructure costs.
- 3) Outfall of stormwater will be in the same location as preferred alternative.



Alternative 2

(2 fewer lots than preferred alternative)

- 1) Increases overall tract area and tree protection areas within tracts.
- 2) Slight reduction in infrastructure costs.
- 3) Outfall of stormwater will be in the same location as preferred alternative.

Alternative Preliminary Plats For:
Meadows Subdivision
A Subdivision Located In Camas, Washington

Consulting Engineers & Planners | 2008 C Street, Vancouver, WA 98663 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

A	
B	
1	
2	
3	
4	

Project No.	2402
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AUG

1

1

Meadows Subdivision

4313 NW Sierra St & 2129 NW 43rd Avenue
Cornus, Washington

PRELIMINARY
NOT FOR
CONSTRUCTION
SUBJECT TO APPROVAL

Planning Solutions, Inc.
Creating Solutions
To Complex Issues
4400 NE 77th Avenue
Suite 275
VANCOUVER, WA 98642
voice 360.682.1401 fax 360-711-8482
www.planningsolutions.com

DRAWN	GA	CHECKED	LS
SCALE	1" = 30'-0"	DATE	01/26/11
DRAWN FOR	LACAMAS MEADOWS		
BY	JANIS		
DATE	1/26/2011		

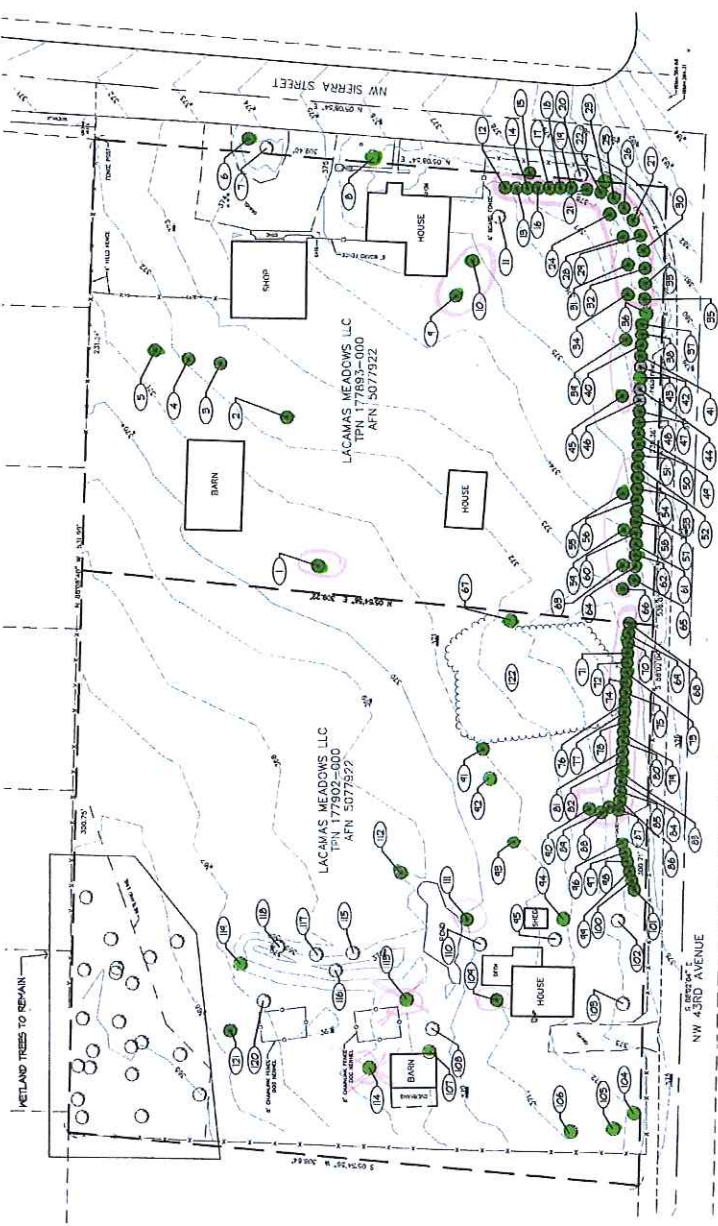
96 GRO™
OUTDOOR LIVING
INC. 373.9879
www.grooutdoorliving.com

SHEET **TS** of 3

SYMBOL LEGEND
DESCRIPTION

(Symbol)	TREE MARKER
(Symbol)	EXISTING TREE

TREE LOCATIONS AND SIZES HAVE BEEN OBTAINED FROM AN EXISTING CONDITIONS SURVEY CONDUCTED BY PLS ENGINEERS AND FIELD OBSERVATION. TREE DATA HAS BEEN VERIFIED BY VISUAL INSPECTION AND PHOTOGRAPHY. ANY PARTS OF THE TREE TRUNK OR BRANCHING PROPERTY OR OTHER PARTS SHALL BE OBTAINED WITHOUT CONSENT OF ADJACENT OWNER.



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THE PLAN ITSELF

1. THE PLAN IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A CONTRACT.
2. THE PLAN IS SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT.
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10. THE PLAN IS SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT.



Lauren Hollenbeck

From: Lauren Hollenbeck
Sent: Tuesday, April 07, 2015 11:37 AM
To: Chris
Cc: Johnson Travis; Sarah Fox
Subject: RE: Meadows Subdivision (SUB15-01) Tree Survey
Attachments: RE: Meadows Subdivision (SUB15-01) Tree Survey; Scan-_20150407_0001.pdf

Hi Chris,

Yes, I did take a look at it Friday afternoon with staff but was not able to respond yesterday as I was out of the office. Just wanted to be sure you did receive my email last week responding to your Wed. email (see attached) as I included the definition for significant tree.

There appears to be several trees on the existing tree survey you submitted that are defined as significant trees per the CMC 18.03.050. On the attachment, I highlighted in green all the significant trees based on the sizes and species in your inventory and circled in pink the trees that could potentially be preserved based on the proposed design layout. Per your email below, the only trees you are proposing to preserve are located within a critical area, which are required to be protected regardless. Some of the significant trees on site could be preserved on lots within yard setbacks outside of the building footprint area. In regards to the street frontage, groups of healthy significant trees could be retained by meandering the sidewalk in places along NW 43rd Ave. In those areas where the sidewalk could meander to the back of the curb, the preservation of one existing significant tree along the street frontage may be counted in lieu of the requirement to install two new street trees (see city comment #9 in letter). We recognize not all of them may be able to be retained however, per CMC 17.19.030.A.2, "every reasonable effort shall be made to preserve existing significant trees and vegetation, and integrate them into the land use design."

Also, lots 4-9 are defined as double frontage lots per CMC 17.19.030.D.6 and lot 3 is a restricted access lot per CMC 17.19.040.B.11.c. Lots 3-9 will require a 10-foot landscape tract for adequate protection of residential properties and for the separation of through and local traffic. With that in mind, the healthy significant trees along NW 43rd Ave should be included within the required landscape tract.

You are correct, a qualified landscape architect may prepare the tree survey. Thank you for bringing that to my attention.

Do not hesitate to contact me should you have any questions.

Respectfully,

Lauren Hollenbeck
Senior Planner
City of Camas
616 NE 4th Ave.
Camas, WA 98607
360-817-1568 ext. 4253
lhollenbeck@cityofcamas.us



From: Chris [mailto:Chris@planningsolutionsinc.com]
Sent: Monday, April 06, 2015 12:36 PM

To: Lauren Hollenbeck
Cc: Johnson Travis
Subject: FW: Meadows Subdivision (SUB15-01) Tree Survey

Hi Lauren - just checking in to see if you have had a chance to review my below email from last Wednesday? Please let me know if you have any questions or comments.

Thanks,
Chris Baumann
Planning Solutions, Inc
Office (360) 750-9000 / Cell (360) 718-0522

From: Chris
Sent: Wednesday, April 01, 2015 5:24 PM
To: LHollenbeck@cityofcamas.us
Subject: Meadows Subdivision (SUB15-01) Tree Survey

Hi Lauren,

Travis Johnson at PLS Engineering asked me to discuss with you the tree survey prepared for the Meadows Subdivision. I have several questions relating to item #4 under "Items necessary for completeness" in your letter to Travis dated 3/10/15 (attached for reference).

The tree survey prepared and submitted addresses all of the trees on-site (attached for reference). The term "significant tree" is used throughout the code but we have been unable to locate where in the code "significant tree" is defined. We are probably just overlooking this; can you quote the code section for this?

Per CMC 18.31.080(B) notes that, "To the extent practical, existing significant trees shall be retained." (again, please define significant tree). We have noted the trees within the NW corner of the site to be retained. In our opinion it is not practical to retain any of the other existing trees on the site due to conflicts with the required frontage improvements and site grading. On paper several trees such as tree #45, #55, etc. appear to be suitable for retaining. Unfortunately the frontage sidewalk improvements will require the removal of the row of trees along NW 43rd Avenue. Once this row of trees is removed the windthrow potential for trees like #45 and #55 will be greatly increased. In summary the removal of edge trees and/or thinning closely planted groups of trees increases the potential of the remaining trees to windthrow. The liability associated with retaining potentially unstable trees like this is not a best practice.

CMC 18.31.080(A) notes that in addition to a qualified biologist a landscape architect may also prepare the required tree survey. I am a licensed landscape architect in the State of Washington and my landscape architectural stamp is on the plan. I assume this satisfies the request for a professional qualification.

Based on this review of the code and the previously prepared plan we do not see where any tree survey plan changes are required. Please let me know if any further information is required to address completeness item #4.

Thanks,
Chris Baumann, LA
President, Director of Landscape Architecture

Planning
Solutions, Inc.
4400 NE 77th Avenue, Suite 275
Vancouver, WA 98662
Phone: 360.750.9000 / 360.718.0522 Cell
Fax: 360.713.6102
E-Mail: chrisb@planningsolutionsinc.com



Community Development Department

RESCHEDULED **Notice of Public Hearing** **Meadows Subdivision**

(City File No. SUB15-01, SEPA15-03, ARCH15-01, CA15-01)

“NOTICE IS HEREBY GIVEN” that the public hearing for the preliminary plat application for the 15 single family residential lots development, “Meadows Subdivision”, has been rescheduled. The 3.78 acre site is located at the northwest intersection of NW Sierra Street and NW 43rd Avenue, and is zoned Residential 7,500 (R-7.5). The property is also described as tax parcels 177893000 and 177902000, and further as Section 34, Township 2 North, Range 3 East of the Willamette Meridian; Camas, WA.

PUBLIC HEARING: The Meadows Subdivision (SUB15-01) will be considered at a rescheduled public hearing on **September 23, 2015, at 6:00 p.m.**, or soon thereafter, before the Hearings Examiner in the City Council Chambers, 616 NE 4th Avenue, Camas, WA.

APPLICATION MATERIALS: The application included the following: project narrative; environmental studies; engineering reports, and preliminary plat drawings, as required for a complete application pursuant to Camas Municipal Code (CMC) 18.55.110 and 17.11.030.B. These documents are available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8am-5pm.

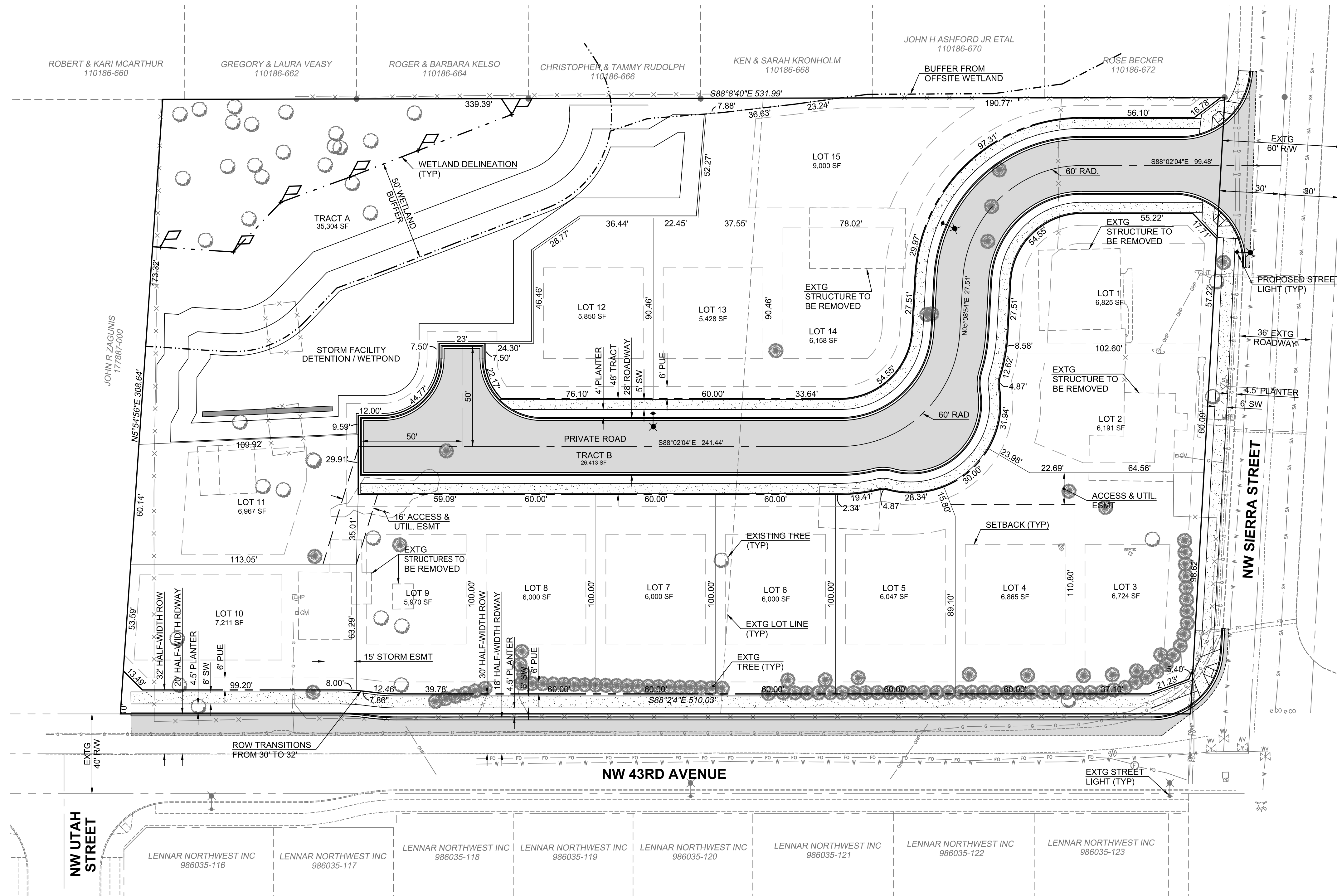
COMMENT INFORMATION: Parties interested in commenting on the preliminary plat application may testify in person at the hearing, or may submit written comments by regular mail (616 NE 4th Ave., Camas, WA), or by email to communitydevelopment@cityofcamas.us. If anyone prefers to submit written comments for staff to submit on their behalf at the hearing, those comments must be received by the City Clerk at 616 NE 4th Ave., Camas, WA 98607, **prior to 5:00pm.**, on September 23, 2015, to be included in the record. Any questions regarding the application may be directed to Lauren Hollenbeck, Senior Planner, at (360) 817-1568.

Meadows Subdivision

Located in a portion of the SW 1/4 of Section 34, T2N, R3E, W.M.
Camas, Clark County, Washington



VICINITY MAP
NOT TO SCALE



PROJECT NOTES:

Applicant:
Tom Strassenberg
Lacamas Meadows, LLC
200 SE 197th Place
Camas, WA 98607
Ph. (360) 600-5532
e-mail: tstrassenberg@msn.com

Project Engineer & Contact:
PLS Engineering
Travis Johnson
2008 C Street
Vancouver, WA 98663
Ph. (360) 944-6519
Fax (360) 944-6539
e-mail: travis@plsengineering.com

The parcel is identified as serial number(s) 177893-000 & 177902-000.

This project is within the R-7.5 zone of Camas, a Single-family Residential zone. The comprehensive plan designation for the site is SFM.

Proposed roadway will be a private road.

There is an existing home located on the site that will remain within Lot 2. All other existing structures will be removed.

Dimensional standards are noted below. Applicant will utilize density transfer with this application.

Lot Setbacks:
Front = 20'
Side = 5'
Street Side = 20' / Requesting 15'
Rear = 25'

Site Area - 3.78 acres (164,694 sq ft).

Total Number of Lots = 15

Minimum Lot Size = 5,428 sq ft
Maximum Lot Size = 8,994 sq ft
Average Lot Size = 6,365 sq ft

Tract A will be owned and maintained by the home owners association. It will contain the wetlands and associated buffer and the proposed storm facility.

Tract B will be owned and maintained by the home owners association. This tract will contain the private roadway and will have an easement over the entire Tract to the City of Camas for utility mains.

Public Water Purveyor = City of Camas

Public Sewer Purveyor = City of Camas

School District = Camas

Fire District = Camas

Transportation Zone = Camas

There is one septic system on site that will be abandoned per department of health requirements. There are no known wells on site. If any should be found during site development they will be properly abandoned.

Boundary and contour data was provided by Minister Glaeser Surveying.

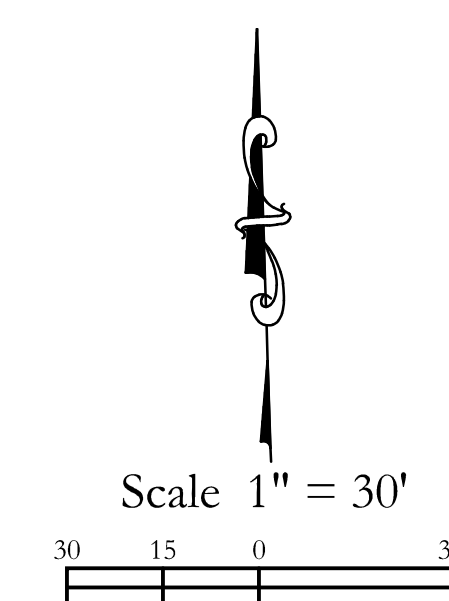
Legal Description:

Parcel 177902-000
The West 300.00 feet of the East 565.5 feet of the following described tract of land: Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, in Clark County, Washington; thence North 89 degrees 53' West 20.36 chains to the West line of said Section 34; thence South along said Section line, 4.96 chains to the Point of Beginning.

Parcel 177893-000
Beginning at the Northwest corner of the Southwest quarter of the Southwest quarter of Section 34, Township 2 North, Range 3 East of the Willamette Meridian, Clark County, Washington; and running thence North 89 degrees 53' East, along the center of the County Road 20.03 chains to the True Point of Beginning; thence North 3 degrees 50' East 4.97 chains; thence South 89 degrees 53' West 265.6 feet; thence South 4.96 chains, more or less, to the center line of said County Road; thence North 89 degrees 53' East, along the center of said County Road to the point of beginning.

EXCEPT any portion lying with SE 15th St.

Land Inventory	
Total Acreage	3.78 ac
Total Developed Acreage	3.30 ac
Total Lot Area	2.23 ac
Total Infrastructure Acreage	0.61 ac
Total Tract Area	1.42 ac
Total Acreage of Critical Areas	0.48 ac
Total Acreage of Recreational Open Spaces	0.00 ac



Preliminary Plat For:
Meadows Subdivision
A Subdivision Located In Camas, Washington

Revisions

Rev	Description

DESIGNED BY:	TGJ
DRAFTED BY:	TGJ
REVIEWED BY:	AUG

Project No. 2402
SCALE: H: 1" = 30'
V: N/A

Lauren Hollenbeck

From: Wes Heigh
Sent: Wednesday, September 16, 2015 5:08 PM
To: bandt@lacamasviewn.net
Cc: Lauren Hollenbeck; Curleigh (Jim) Carothers
Subject: RE: Query about Traffic Issue
Attachments: Hidden Meadows LOS from TIS.pdf; Lake Hills LOS from TIS.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Mr. Jones,

Thank you for the e-mail and for your concerns.

A Transportation Impact Study (TIS) is required for all projects that will generate 200 or more average daily trips. For reference a single family detached home generates 9.57 average daily trips and 1.01 PM peak hour trips according to the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition.

The TIS evaluates the existing transportation system, provides speed and traffic counts, evaluates on-site and off-site intersection operational Level Of Service (LOS), determines if left turn pockets or traffic signals are necessary, etc. The city also provides the developers Traffic Engineer with in process traffic studies for adjacent developments that have been previously approved but not yet built out.

Meadows Subdivision, located at the NW corner of NW Sierra St. and NW 43rd Ave., is only proposing 15 lots and are expected to generate less than 200 daily trips (about 15 PM peak hour trips) and therefore were not required to submit a TIS.

Hidden Terrace Subdivision on the SW corner of NW Sierra St and NW 43rd Ave. submitted a TIS with their application. NW Sierra St. and NW Lake Road intersection was one of the off-site intersections that the city required the applicant to study. I have attached the table from the Hidden Terrace TIS that shows the delay time for the northbound leg of that intersection projected out to 2023 and its associated LOS rating during the PM peak hour.

I have also included the Lake Hills Subdivision TIS evaluation of this same off-site intersection. This TIS is more recent and as you can see the LOS is still at an acceptable LOS C and the vehicle delay time has increased slightly from 16 seconds to 24 seconds during the PM peak hour.

The intersection of NW Sierra Street and NW Lake Road is also identified in the city's Traffic Impact Fee (TIF) Update of 2012 as a TIF eligible traffic signal when signal warrants are met as determined by a TIS.

What does all of this mean? It means that the City is monitoring this intersection (Sierra/Lake) and requiring the development community to study their impacts on this intersection. When traffic signal warrants are met the city will require a signal at this intersection. Since this signal is identified in our TIF update the signal improvement will be TIF creditable when warranted and installed.

I hope this information is helpful. Please feel free to contact me if you have additional questions.

Regards,

Wes

Wes G. Heigh
Project Manager
City of Camas
616 NE 4th Ave.
Camas, WA 98607
(360) 817-7237
wheigh@cityofcamas.us



From: bandt@lacamasviewn.net [mailto:home@lacamasview.net]
Sent: Wednesday, September 16, 2015 1:48 PM
To: Wes Heigh
Subject: Query about Traffic Issue

Hello Wes,

I was referred to you by Lauren Hollenbech last week and missed your return call late Friday afternoon. I tried calling back to your office but got voicemail again, so that's the reason for this email. I am a homeowner in the Lacamasview neighborhood and am concerned about the the present and future traffic on NW Sierra Drive with the planned Meadows subdivision. Specifically the traffic between NW 43rd Av on the South and NW Lake Rd to the North. The intersection of NW Sierra and NW Lake Rd is becoming a hazard due to increased traffic on both streets. I would like to find out from you what plans the City has to mitigate the traffic.

Like many residents (and more to come) I drive through this intersection frequently. Because of limited visibility from NW Sierra looking west on NW Lake Rd because of the street design and moderate to heavy traffic, the wait time is long. There is limited visibility from that vantage to the east on NW Lake Rd because of the hill incline and (speeding) traffic.

Earlier this month I was attempting to turn left (west) at this intersection, from NW Sierra onto NW Lake and was almost killed. An impatient driver behind me drove in the right hand lane (next to me) at the intersection limit line. When I started to turn left, he also made a(n illegal) left hand turn onto NW Lake pushing me into oncoming traffic.

I have also seen other "near misses" at this intersection as cars queue up on NW Sierra to make left or right hand turns. Hopefully your department will study the situation and come up with a solution before someone gets killed at this intersection.

With the City's enthusiasm and the State's urging for Clark County and Camas to become "more urbanized", the traffic problems like this will increase and hopefully not become too unbearable. This year we have lost two neighbors who have sold and moved from Camas partly because of the nearby approval of construction for high density housing.

Please let me know your thoughts on this issue.

Tim Jones

home@lacamasview.net