City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656.4211 • Fax 503.656.4106 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT: Tom Soppe	PROJECT NO(S).: PU-14-01 / DR-14-01 / WA-14-01	
NON-REFUNDABLE FEE(S): 1000	REFUNDABLE DEPOSIT(S): 26,850	TOTAL: 27,850

Type of Review (Please check all that apply):

- ☐ Annexation (ANX)
- ☐ Appeal and Review (AP) *
- ☐ Conditional Use (CUP)
- ☒ Design Review (DR) — dep 30000 + 500 fee
- ☐ Easement Vacation
- ☐ Extraterritorial Ext. of Utilities — dep 2000 + 500 fee
- ☐ Final Plat or Plan (FP)
- ☐ Flood Management Area
- ☐ Hillside Protection & Erosion Control
- ☐ Historic Review
- ☐ Legislative Plan or Change
- ☐ Lot Line Adjustment (LLA) */**
- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
- ☐ Non-Conforming Lots, Uses & Structures
- ☒ Planned Unit Development (PUD) — dep 1850
- ☐ Pre-Application Conference (PA) */**
- ☐ Street Vacation
- ☐ Subdivision (SUB)
- ☐ Temporary Uses *
- ☐ Time Extension *
- ☐ Variance (VAR)
- ☐ Water Resource Area Protection/Single Lot (WAP)
- ☑ Water Resource Area Protection/Wetland (WAP)
- ☐ Willamette & Tualatin River Greenway (WRG)
- ☐ Zone Change

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address:
18270 / 18340 WILLAMETTE DRIVE
18395 SUNDAY HOLLOW WAY

Assessor's Map No.:
Tax Lot(s):
Total Land Area:

Brief Description of Proposal:
PUD OF 13 DUPLEX BUILDINGS - RESIDENTIAL

Applicant Name: (please print) DAVID EMAMI
Address: 3380 Barrington Dr.
City State Zip: West Linn OR 97068
Phone: 503 557 3350
Email: Emami0076 Comcast.Net

Owner Name (required): (please print) WILLAMETTE COMMONS LLC
Address:
City State Zip:
Phone:
Email: Emami0076 Comcast.Net

Consultant Name: (please print) STEWART GORDON STRAUS ARCHITECT PC
Address: 6775 SW 111th AVE #20
City State Zip: BEAVERTON OR 97008
Phone: 503 672 7517
Email: sgs@e-straus.com

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application. One (1) complete set of digital application materials must also be submitted on CD in PDF format. If large sets of plans are required in application please submit only two sets.**

* No CD required / ** Only one hard-copy set needed

RECEIVED
MAR 17 2014
PLANNING & BUILDING
CITY OF WEST LINN

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature — Date: 3,14,2014
Owner's signature *(required)* — Date: 3,14,2014

SHADY HOLLOW VILLAGE

SUBMISSION FOR DESIGN REVIEW

CONTENTS

UNDER SEPARATE COVER

NARRATIVE – Shady Hollow Village

Project Description: Construction of thirteen duplex buildings as a PUD on a 2.08 acre site with base zoning of R4.5, including conditions of approval from previous land use action that changed zoning to R4.5 from R10.

PART A: Compliance with qualifications for and requirements of a PUD as stipulated in Chapter 24 of the Community Development Code

1. Compliance with 24.010 Purpose

   The purpose of the Planned Unit Development overlay zone is to provide a means for creating planned environments:

   A. To produce a development which would be as good or better than that resulting from traditional lot-by-lot development.

      Findings: Compared with a lot-by-lot development, the proposed PUD will create a true village neighborhood with opportunities for social interaction, separation of pedestrian and vehicular uses, and design themes that provide for both individuality and cohesiveness.

   B. To preserve, to the greatest extent possible, the existing landscape features and amenities through the use of a plan that relates the type and design of the development to a particular site.

      Findings: The general slope of the site is maintained and provides for a variety of building types to suit a range of housing types and pricing.

   C. To correlate comprehensively the provisions of this title and all applicable plans; to encourage developments which will provide a desirable, attractive, and stable environment in harmony with that of the surrounding area.

      Findings: The proposal is intended to create a transition from the environment of the Highway 43 corridor to the lower density of the existing residential development to the east. The proposal is an attractive and stable addition to the area with design features that create a sense of place that recalls the traditional existing neighborhood surrounding the site.

   D. To allow flexibility in design, placement of buildings, use of open spaces, circulation facilities, off-street parking areas, and to best utilize the potentials of sites characterized by special features of geography, topography, size, and shape.

Findings: The proposal creates a unique environment that integrates a variety of open spaces, separates pedestrian and vehicle circulation, and blends with the existing topography on an odd-shaped site.

E. To allow a mixture of densities between zoning districts and plan designations when more than one district or designation is included in the development.

Findings: There is only one zoning district included in this development

F. To develop projects that are compatible with neighboring development in terms of architecture, massing, and scale. Where that cannot be accomplished, appropriate transitions should be provided that are deferential or sympathetic to existing development.

Findings: The proposal is compatible in scale and architectural character while acting as a transition from the existing single family residential area to the more intense uses along Highway 43.

G. To carry out the goals of West Linn's Vision, Imagine West Linn, especially goals relating to housing, commercial, and public facilities.

Findings: The proposal promotes the goals of Imagine West Linn in terms of creating a sense of community, including active/passive recreational opportunities, providing transitional infill development and providing a network of paths and meeting places on a small scale.

2. Compliance with 24.060 Area of Application

Findings: The proposal complies with these requirements because it is a residential development with more than 20% of the dwelling units being attached.

3. Compliance with 24.100 Approval Criteria

A. Compliance with Chapter 55-Design Review and Chapter 43-Side Yards

Findings: See discussion in Part B Design Review

B. Compliance with specific PUD criteria:

1. Preserve existing amenities by coordination with topography and other features on the site

   Findings: The general slope of the site is maintained and existing trees are preserved to the greatest extent possible.

2. Provide a desirable and stable environment in harmony with the surrounding area.

   Findings: The proposal is intended to create a neighborhood in a well organized arrangement of dwellings, pedestrian paths, vehicle areas and amenities that encourage social interaction; the buildings and outdoor spaces are similarly scaled to surrounding homes.

3. Placement and design of buildings, use of open spaces, circulation facilities, parking and landscaping best utilize the potential of the site.

   Findings: See response to #2 above

4. The PUD shall be compatible with neighboring development in terms of architecture, massing and scale.

   Findings: See response to #2 above

C. Densities, density transfers, transitions, density bonuses and proposed setbacks shall conform with provisions of PUD and base zones.

   Findings: See #4 below and other responses as appropriate

4. Compliance with 24.110 thru 24.160 density and density bonuses

   Findings: Existing site is 90375 sf less 780 sf dedication = 89595 sf; 100% of site area can be used for density determination based on 8000 sf per duplex allowed. Basic number of duplexes allowed by right is 11.2. Density bonus for design excellence @ 15%: 1.15 x 11.2 = 12.9 duplexes allowed (to be rounded up to 13). There are no transitions required because duplexes are considered compatible with single family homes.

Density bonus is earned based on the following:

- **Maximum retention of natural slopes and trees**
- **Garages off alleys at rear of units**
- **Maximum open space retained – landscape areas total 39%**
- **Landscape plan provides a variety of size, color and texture as well as being low maintenance.**
- **The architectural design is comprised of quality materials and rich colors that bridge between traditional and contemporary. Facades are broken up into multiple planes, materials and color accents.**
- **Four basic unit types have been developed, two of which are planned as handicap adaptable/accessible.**
- **A pedestrian pathway system connects all parts of the site to public rights of way for easy connection to public transportation.**

5. Compliance with 24.170 Usable Open Space

Findings: There are four distinct usable opens spaces provided as part of this proposal, with a total of 8646 sf, or 332 sf per unit; these are not all traditional recreational areas – some are more suited to mental relaxation than physical activity:

Area 1 – A gazebo with concrete table and benches; table to have integral chess/checkers board – 2231 sf

Area 2 – A putting and chipping green for golfers – 2707 sf

Area 3 – Two basketball backboards with courts integrated into the emergency vehicle turning area

Area 4 – A bocce court; this area could also become a community garden with small plots for the residents – 1908 sf

These further provide four unique opportunities for social activity in different parts of the site, encouraging residents to be involved.

6. Compliance with 24.180 Base Zone Provisions

Findings:

a. Lot coverage – maximum allowed is 50%, proposed is 25.5%

b. Building height – maximum allowed by underlying zoning is 35'; proposed is 27'-4"

c. Setbacks – minimum per base zone are 20' at front (Hwy 43), 15' at side street (Shady Hollow), 20' at rear, and 5' at interior sides; these are met or exceeded in all locations; within the development, there are no formal front, rear or side yards, so the proposed setbacks are alternatives to those stipulated based on the general character of the development designed, and approval is requested based on these as proposed.

PART B: Compliance with Design Review requirements (Chapter 55)

1. Compliance with prerequisite Pre-Ap and neighborhood meetings

Findings: Documentation related to these meetings is attached

2. Compliance with 55.100 approval standards for Class II Design Review

A. Chapter 33 Stormwater Management

Findings: A preliminary design for storm water management is shown on drawing DRS4 based on calculations attached herewith; detention is proposed by soils report due to conditions that are not conducive to infiltration.

B. Chapter 34 Accessory Structures

Findings: The only accessory structure provided is the small gazebo in activity area #1, which also serves as signage for the project

C. Chapter 38 Additional Yard Requirements

Findings: The provisions of this chapter are not applicable to this proposal

D. Chapter 41 Building Height (replaces repealed Chapter 40)

Findings: "A" and "C" buildings 35' max; "B" and "D" buildings 45' max based on 10' site slope accommodated.

E. Chapter 42 Vision Clearance

Findings: The only place this is an issue is at the intersection of Hwy 43 and Shady Hollow Way; the required 30' each way at intersection has been used to determine the allowable location of the gazebo

F. Chapter 44 Fences

Findings: There are no fences proposed for the perimeter of the site. At each unit, the entry court/patio is surrounded by a stone clad wall that extends approximately 3' above the patio surface, which provides definition of the interface between public and private space.

G. Chapter 46 Parking

Findings: There are two-car garages provided for all "A", "B" and "D" units and one-car garages are provided for the "C" units; in addition, there are 23 visitor parking spaces near the site entry; bike parking is available in all garages, plus there are 8 bike parking racks for visitors.

H. Chapter 48 Access

Findings: The main driving aisles comply with fire department requirements for width (24') and turning radius (45' to centerline); the portion of the emergency access path north of buildings A3 and B5 is designated for fire and garbage vehicle access only – with heavy cobble paving to discourage use by most vehicles – which allows a portion of this area to be used as outdoor recreation space (see findings for usable open space on page 4 above). Three buildings are configured for accessibility: C1, C2 and D1. Accessible parking is provided in the visitor lot.

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I. Chapter 52 Signs

Findings: One overall project sign is proposed to be incorporated into the design of the gazebo located in activity area #1. Method of addressing the buildings and units has not yet been determined; a site map will be incorporated into the feature that accommodates the mailboxes for the site.

J. Chapter 54 Landscaping

Findings: Proposal provides 39% landscape area compared to 25% minimum site area required. Plant materials have been selected for low maintenance while offering a variety of trees, shrubs and ground cover. Landscape plan incorporates existing trees in locations not conflicting with proposed buildings, circulation and outdoor activities; most of these are along the Hwy 43 frontage, which will help preserve the current look and feel of this thoroughfare.

K. Architecture

Findings: The proposed building designs are consistent with the existing range of residential styles, scale, materials and other features in the general vicinity. The design intent is to provide a reasonable range of variety within the development to give each building an identity in a similar manner to house-by-house development in the adjacent neighborhood.

L. Compatibility and Buffering

Findings: While buffering is not required between single family and duplex developments, there is a condition of approval from the zone change that requires a 25' buffer between buildings on this property and the site property line. This is provided in all locations except to the east of buildings "C1" and "C2" where site constraints only allow a setback of 20'-4". We are providing a dense landscape buffer along this property line and request approval as an exception per 55.170.A.

M. Privacy and Noise

Findings: All units have a front patio area for outdoor activities - this functions as an entry court. These are screened from the attached unit and since most are elevated between 2' and 4' above grade, the perimeter stone faced wall provides visual privacy from passersby and the neighbors. The primary noise concern is from Hwy 43 traffic, although at a speed of 35 mph, the noise generated will not be similar to being next to a freeway – the proposal includes 3' to 4' high berms in the landscape area between the units and the public right of way and heavy planting to help dampen the noise.

N. Shared Outdoor Recreation Space

Findings: This has been addressed above on page 4

O. Demarcation of public and private spaces

Findings: As noted above, the entry courts to each unit are generally raised a few feet and surrounded by a stone clad wall.

P. Refuse and recycling

Findings: Garbage and recycling containers will be kept in the garages of each unit and moved outside the garage or in an area designated adjacent to the garage on pick-up days. The access drives have been configured to accommodate garbage trucks.

3. Transportation Analysis

Findings: A copy of the transportation report completed May, 2008 is attached herewith.

4. Compliance with Robinwood Neighborhood Plan goals

Findings: As evident in multiple findings above, the proposed development is pedestrian and bike friendly, uses high quality materials, preserves natural areas where possible, and provides good lighting for security.

City of West Linn

PRE-APPLICATION CONFERENCE MEETING

Notes

November 21, 2013

SUBJECT: Planned Unit Development and Class II Design Review for duplex-style multi-family development, possibly requiring Water Resource Area permit, at 18270/18340 Willamette Drive and 18395 Shady Hollow Way. Water Resource Area (WRA) approval also applies unless professional analysis proves there is no actual open drainage channel.

ATTENDEES: Applicants: David & Diana Emami, Stewart Gordon Straus
Staff: Tom Soppe (Planning Department), Khoi Le (Engineering Division)
ODOT: Seth Brumley
Neighborhood: Kevin Bryck (Robinwood NA)

The following is a summary of the meeting discussion provided to you from staff meeting notes. Additional information may be provided to address any "follow-up" items identified during the meeting. <u>These comments are PRELIMINARY in nature</u>. Please contact the Planning Department with any questions regarding approval criteria, submittal requirements, or any other planning-related items. Please note disclaimer statement below.

<u>Project Details</u>

This is an approximately two-acre site at the northeast corner of Willamette Drive and Shady Hollow in the Robinwood area. The zoning is R-4.5. The applicants propose a multi-family development, and the removal of the two single-family houses currently on site. As is desirable, the new development would access only off of Shady Hollow Way and not Willamette Drive.

Existing house on site along Shady Hollow Way

Existing house and driveway from Willamette Drive. House and its outbuildings are on the left. On the right is the house on site that accesses from Shady Hollow, which is also seen in the photo above this one.

Northwest area of site as seen from Willamette Drive edge; Open channel shown on maps is along the trees and bushes behind the white van.

The proposed development would be in the form of duplex-style buildings, but the applicant does not plan subdivision of these into separate lots so the use would be considered multi-family rather than duplex or single-family residential attached. Multi-family is not allowed in the R-4.5 zone but can be allowed with a Planned Unit Development (PUD) approval. Community Development Code (CDC) 24.090 states the following:

> **24.090 APPLICABILITY AND ALLOWED USES**
>
> Subject to the provisions of CDC 24.070, 24.080 and this section, the PUD Overlay Zone may be applied to all residential, commercial, and industrial zones.
>
> A. In addition to the uses allowed outright in the underlying zone the following uses shall be allowed outright where all other applicable standards are met.
>
> 1. Single-family, duplex, attached housing and multiple-family housing.

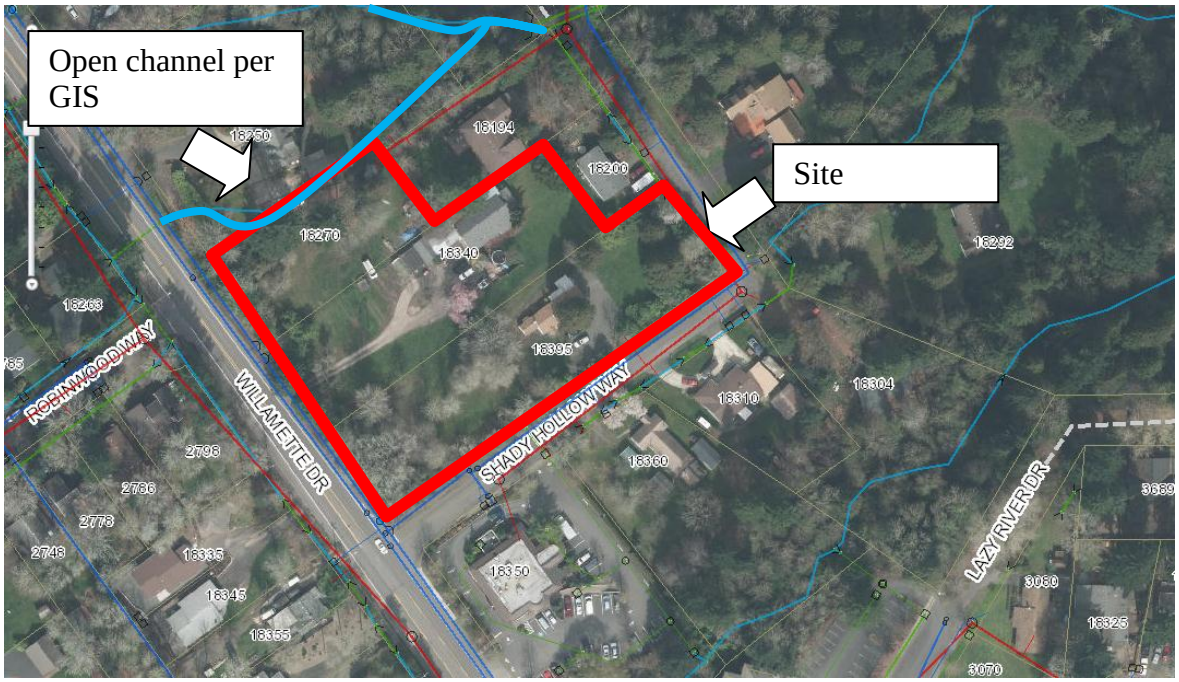
The zone change approval from 2008 which changed the site from R-10 to R-4.5 came with conditions, which are listed in the zone change ordinance for the site. The file is ZC-08-01/PLN-08-06. Condition of Approval 3 in the ordinance requires a 25-foot –wide buffer between buildings on the site and the properties to the east. The concept plan will have to be modified to meet this standard, even if units are lost.

The other constraint that affects the property is the open channel just north of the property. As an open channel this has a development setback of 50 feet and a structural setback of another 7.5 feet (to a building side) or 15 feet (to a building rear), per CDC 32.050(E). Because this setback overlaps with the site, a Water Resource Area permit is

also required. Under current Chapter 32 Water Resource Area provisions, this area will be required to not have buildings and the 50-foot buffer specifically will be required to be in its own tract or conservation easement per CDC 32.050(D). This is likely to result in the loss of 4-6 units unless the applicant can reconfigure the site so these can fit elsewhere. The applicant also is required to provide 300 square feet of usable open space per unit. Since the Water Resource Area buffer is to be preserved as a conservation area it cannot count as usable space. This may require further reconfiguration of the site and may make it hard not to lose the aforementioned units from the plan. Further investigation may be needed to determine if an actual viable open channel does exist at this location, as sometimes wrong assumptions were made on the data that became the City's stormwater map. Staff found mixed evidence of channelization here. A wetlands specialist, in conjunction with City engineering staff, may have to make the final determination. If it is concluded that there is not an open channel here, the setbacks, easements/tracts, and protected areas discussed above do not apply.

In duplex configuration CDC 14.070(A)(3) requires a minimum of 4,000 square feet per unit; with the non-subdivided multi-family provision of duplexes as proposed by the applicant, this amount of minimum square feet per unit applies to the entire site as there will not be individual lots. As the site has approximately 90,479 square feet, a maximum of 22 units are allowed, even if private "right of way" in the form of shared driveway is not subtracted, which it must be according to CDC 24.120. Typically it would subtract about ¼ of the area so something like 16 units is more likely (which would probably become 15 or so after the water resource area, if the property really has one, is subtracted). Also, density transfer is further affected by how the water resource area square footage can only be 50% transferred to the rest of the site per CDC 24.130(B). The applicant proposes 30 units, so some units will have to be lost anyway.

Theoretically the applicant could request a density bonus for more units than allowed by the calculations of 24.120, responding to the criteria and calculations in 24.150 and 24.160 to make the case that this is warranted. This could bring the development, at the highest theoretical possibility, up to approximately 29 units (using the maximum allowed low-cost housing, design excellence, and the dedication of the water resource setback), but that is also before subtracting private right of way so that would likely bring it down to 22 units or so at the highest theoretical possibility.



Aerial of site, and location of open channel on City GIS maps


Shady Hollow Way along south edge of site (right)

Shady Hollow Way along east edge of site (left)

Willamette Drive along west edge of site (right)

Engineering Notes

I. TRANSPORTATION

WILLAMETTE DRIVE

Willamette Drive is an ODOT Highway. Pavement improvement will be dictated by ODOT.
City of West Linn will coordinate with ODOT on sidewalk and curb improvement.

	EXISTING CONDITIONS	POTENTIAL POST DEVELOPMENT CONDITIONS
Classification	State Highway	State Highway
Zone	R-4.5	R-4.5
Right of Way Width	Approximate 80’	Check with ODOT
Full Pavement Width	Approximate 43’	Check with ODOT

Bike Lane	Along the frontage	6’
Curb and Gutter	None	Curb and Gutter
Planter Strip	None	5.5’
Sidewalk	None	6’
Street Light	None	Yes – LED Fixtures
Utility Pole	None	New services to be placed underground
Street Tree	None	Yes
ADA Ramps	None	Yes
Post Speed	35 MPH	35 MPH
Stripe	Double Center Line and Bike Line	Provide proper striping as part of street improvements and in accordance with ODOT requirements.

A. MINIMUM REQUIRED IMPROVEMENT WITH ODOT REVIEW AND APPROVAL

1. Dedication: None
2. Per ODOT recommendations.
3. Provide striping including double yellow line and 6’ bike lane in accordance with ODOT recommendations and requirements.
4. Provide illumination analysis of the existing conditions. Install street lights per analysis recommendations in accordance with ODOT requirements. Street lights should match existing surrounding lights, with LED Beta Fixtures.
5. Provide Street Trees. Coordinate with Parks Department for requirements.

- Driveway Approach: 36’ maximum width including wings. See WL-504A, 504B, and 505 for technical and construction specifications. Driveway approach serving 3 lots or more.

6. All new and existing overhead utilities along the development must be placed underground.
7. Reference: Burgerville and Willamette Village Shopping Center

SHADY HOLLOW WAY

	EXISTING CONDITIONS	POTENTIAL POST DEVELOPMENT CONDITIONS
Classification	Local	Local
Zone	R-4.5	R-4.5
Right of Way Width	Approximate 46’	52’
Full Pavement Width	Approximate 24’	28’
Bike Lane	None	No
Curb and Gutter	None	Curb and Gutter
Planter Strip	None	5.5’ Planter
Sidewalk	None	6’ Sidewalk
Street Light	None	Yes – LED Fixtures

Utility Pole	None	New services to be placed underground
Street Tree	None	Yes
ADA Ramps	None	Yes
Post Speed	10 MPH	10 MPH
Stripe	Double Center Line	Provide proper stripe as part of street improvement

B. MINIMUM REQUIRED IMPROVEMENT

1. Dedication: 6''
2. Provide a minimum 16' half street pavement improvement with the following sections:
   - 10" of 1-1/2"-0 Crush Rock
   - 2" of ¾" -0 Leveling Course
   - 4" of AC Pavement consisting of 2" Class "C" over 2" Class "B"
   - See Public Works Standards Section 5.0030 Pavement Design for design requirements.
3. Provide illumination analysis of the existing conditions. Install street lights as recommended in accordance to the followings:
   - Average Maintained Illumination: 0.6 foot-candles (Residential)
   - Uniformity Average to Minimum: 4 to 1
   - Street Light should match existing surrounding lights, with LED Beta Fixtures.
4. All new and existing overhead utilities along the development must be placed underground.
5. Reference: Burgerville

C. CITY TRANSPORTATION MASTER PLAN

PEDESTRIAN MASTER PLAN

Willamette Dr is indicated in the City Pedestrian Master Plan as one of the roadways with sidewalk deficiencies. The sidewalk project along Willamette Drive between Shady Hollow Way and the north edge of the City Limits is identified as project number 14 on the Pedestrian Master Plan Project list (See TSP page 5-6). **6' sidewalk along the project frontage will be included as part of the street improvement requirements.**

BICYCLE MASTER PLAN

Willamette Dr is indicated in the City Bicycle Master Plan as one of the roadways with bike lane deficiencies. The bike lane project along Willamette Drive between McKillican St to North City Limits is identified as project 24 on the Bicycle Plan Project List (See TSP page 6-7). **6' bike lane along project frontage will be included as part of the street improvement requirements.**

MOTOR VEHICLE MASTER PLAN

The intersection of Shady Hollow Way and Willamette Dr was not one of the intersections analyzed in the TSP. The nearest intersection analyzed is Arbor Dr.

Existing Operations Conditions

Intersection	LOS	Average Delay (sec)	Volume/ Capacity (v/c)	Measure of Effectiveness Administrative		MOE Met?
				Agency	Maximum	
Willamette Dr/Shady Hollow Way	B/F	1.5	0.03/0.037	ODOT	0.99/0.90	YES

The intersection will still continue to operate at this level until 2030. No improvement is needed at this point.

D. STREET SDC AND BIKE/PEDESTRIAN EFFECTIVE JULY 1ST 2013

Type of Use	Trip per Use	Factor	Reimbursement	Improvement	Admin.	Total
Per Factor of 1		1.00	$2,201	$4,717	$179	$7,097
Single Family	Per House	1.01	$2,223	$4,764	$181	$7,168

Type of Use	Trip per Use	Factor	Reimbursement	Improvement	Admin.	Total
Per Factor of 1		1.00	$0	$1,542	$40	$1,582
Single Family	Per House	1.00	$0	$1,557	$40	$1,597

II. STORM DRAINAGE

A. EXISTING CONDITIONS

1. There are limited public storm mains along both Willamette Dr and Shady Hollow Way.

B. MINIMUM REQUIRED IMPROVEMENT

1. Provide treatment for new impervious of 500 square feet or more.
2. Provide detention for new impervious of 5000 square feet or more.
3. Storm Drainage Analysis Report is required.
4. **Collect, treat, detain, and provide proper conveying system for new impervious area created along Willamette Dr and Shady Hollow Way. Installation of public storm main on Shady Hollow Way may be required.**

C. SURFACE WATER SDC EFFECTIVE JULY 1ST 2013

Unit		Factor	Reimbursement	Improvement	Admin.	Total
Per Factor of 1		1.00	$793	$238	$52	$1,083
Single Family	Per House	1.00	$793	$238	$52	$1,083

III. SANITARY SEWER

A. EXISTING CONDITIONS

1. Public sanitary sewer main is available along Shady Hollow Way for connectivity.

B. MINIMUM REQUIRED IMPROVEMENT

1. If the existing houses are on septic, decommission the septic tank(s) and drain field(s) in accordance to DEQ requirements and submit to the City with proper paperwork.

A. SANITARY SEWER SDC EFFECTIVE JULY 1ST 2013

Unit	Meter Size	Factor	Reimbursement	Improvement	Admin.	Total
Per Factor of 1		1.00	$612	$2,385	$111	$3,108
Single Family	Per House	1.00	$612	$2,385	$111	$3,108

Tri-City Service District Sewer SDC 1 EDU = $2,020

IV. WATER

A. PRESSURE ZONE

1. Zone: Robinwood Zone
2. Overflow Elevation: 328 Upper Elevation: 218 Lower Elevation: to river

B. RESERVOIR AND PUMP STATION

1. Reservoir: The View Drive Reservoir is located on View Dr. The reservoir's usable capacity is 0.4 million gallons. The reservoir is filled by South Fork and also has an emergency intertie with Lake Oswego.
2. Pump Station: The View Drive Pump Station has a total of 3 pumps at 600 gpm each with nominal firm capacity at 1,200 gpm.

C. EXISTING POPULATION AND PROJECTED POPULATION AT SATURATION

1. Existing Population: 1,915
2. Projected Population at Saturation: 2,476

D. WATER DEMAND AT SATURATION

Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
0.3	0.8	1.2

E. RESERVOIR AND PUMP STATION CURRENT OPERATNG CONDITIONS

1. In accordance with Water System Plan, both the reservoir and pump station are listed as appearing in good condition.

F. ROBINWOOD PRESSURE ZONE PEFORMANCE

Year	MDD (mg)	Fire Flow (mg)	Total Supply Need (mg)	Normal Supply Capacity (mg)	Emerg. Supply Capacity (mg)	Normal Supply Deficit (mg)	Emerg. Supply Deficit (mg)
Current	**1.6 (0.6)**	**0.5**	**2.1 (1.1)**	**3.1**	**0.5**	**(1.0)**	**0.6**
2015	**1.7 (0.7)**	**0.5**	**2.2 (1.2**	**3.1**	**0.5**	**(0.9)**	**0.8**
2030	**1.9 (0.8)**	**0.5**	**2.4 (1.3)**	**3.1**	**0.5**	**(0.7)**	**0.8**
Saturation	**2.0 (0.8)**	**0.5**	**2.5 (1.3)**	**3.1**	**0.5**	**(0.6)**	**0.8**

1. The table above indicates that there is NO deficiency in supply capacity during normal conditions. There is no improvement project adjacent to development listed in the Water System Master Plan.

G. ROBINWOOD PRESSURE ZONE SUPPLY AND STORAGE DEFICIT

Year	Normal Conditions			Emergency Conditions		
	Supply Deficit (mgd)	Storage Volume (mg)	Overall Deficit (mgd)	Supply Deficit (mgd)	Storage Deficit (mgd)	Overall Deficit (mgd)
Current	**0**	**0.4**	**0**	**0.6**	**0.4**	**0.2**
2015	**0**	**0.4**	**0**	**0.7**	**0.4**	**0.3**
2030	**0**	**0.4**	**0**	**0.8**	**0.4**	**0.4**
Saturation	**0**	**0.4**	**0**	**0.8**	**0.4**	**0.4**

1. The table above indicates that there is no overall storage volume deficit during a normal condition but deficient during emergency condition.

H. ROBINWOOD PRESSURE ZONE MASTER PROJECT LIST

1. There are 8 water improvement projects listed in the City Water System Plan under the Willamette Pressure zone. **Project number 60 is along the subject development frontage. However it was done in 2013. No improvement is required of this development.**

I. MINIMUM REQUIRED IMPROVEMENTS

1. Existing public water system is available on Shady Hollow Way for connection.
2. New water meter shall be set behind curb and out of driveway approaches. No water meters or water main shall be allowed to be placed in private driveway.
3. Existing fire hydrant on Willamette Dr will need to be replaced with new hydrant to ensure efficiency.

J. WATER SDC EFFECTIVE JULY 1ST 2013

Unit	Meter Size	Factor	Reimbursement	Improvement	Admin.	Total
Per Factor of 1		1.00	$585	$6,969	$196	$7,750
1" Meter		2.5	$1,463	$17,423	$490	$19,376
1.5" Meter		5	$2,925	$34,845	$980	$38,750
2" Meter		8	$4680	$55,752	$1,568	$62,000

Process

Planned Unit Development (PUD) and Class II Design Review approvals are required. Unless analysis shows otherwise as discussed above, a Water Resource Area permit is also required. This will be a Planning Commission decision as PUD and Class II Design Review require Planning Commission approval.

A neighborhood meeting is required for this application. The site is in the Robinwood neighborhood. Contact Aaron Buffington, President of the Robinwood Neighborhood Association, at RobinwoodNA@westlinnoregon.gov. Follow the provisions of 99.038 precisely, including regarding what needs to be submitted with the application regarding the meeting and meeting notice. The applicant is required to provide the neighborhood association with conceptual plans and other material at least 10 days prior to the meeting.

Follow 24.080, 55.070, and 32.040 strictly and completely regarding submittal requirements (including plans, maps, etc.) that should accompany the narrative and the application form. Submittal requirements may be waived but the applicant must first identify the specific submittal requirement and request, in letter form, that it be waived by the Planning Director and must identify the specific grounds for that waiver. The waiver may or may not be granted by the Planning Director.

The criteria of 24.100, 24.110, 24.170, 24.180, 32.050, and 55.100 shall be responded to in a narrative (if requesting a density bonus, also respond to 24.150 and 24.160). N/A is not an acceptable response to the approval criteria. Prepare the application and submit to the Planning Department with deposit fees and signed application form.

Prepare the application and submit to the Planning Department with a signed application form and deposit fees. The deposit for PUD is $4,600, plus a $500 fee for eventual final inspection. The fee for Class II Design Review is $4,000 plus 4% of construction value, plus a $300 final inspection fee. The deposit for a Water Resource Area permit is $1,850.

PLEASE NOTE that the deposits are initial deposits, and staff time is charged against the deposit account. It is common for there to be more staff time spent on development applications than deposits cover, and therefore additional billing may be likely to occur.

Once the submittal is deemed complete, the staff will schedule a hearing with the Planning Commission. Staff will send out public notice of the Planning Commission hearing at least 20 days before it occurs. The Planning Commission's decision may be appealed to City Council by the applicant or anyone with standing.

The CDC is online at http://westlinnoregon.gov/planning/community-development-code-cdc.

Pre-application notes are void after 18 months. After 18 months with no application approved or in process, a new pre-application conference is required.

Typical land use applications can take 6-10 months from beginning to end.

DISCLAIMER: This summary discussion covers issues identified to date. It does not imply that these are the only issues. The burden of proof is on the applicant to demonstrate that all approval criteria have been met. These notes do not constitute an endorsement of the proposed application. Staff responses are based on limited material presented at this pre-application meeting. New issues, requirements, etc. could emerge as the application is developed. Thus, there is no "shelf life" for pre-apps.

Oregon
John A. Kitzhaber, MD, Governor

Department of Transportation
Region 1 Headquarters
123 NE Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

11/22/2013 ODOT #5918

ODOT Pre-Application Conference Comments

Project Name: West Linn Duplexes	**Applicant:** David Emami
Jurisdiction: City of West Linn	**Jurisdiction Case #:** PA-13-30
Site Address: 18270 / 18340 Willamette Dr., 18395 Shady Hollow Way	**Legal Description:** **Tax Lot(s):**
State Highway: OSWEGO, OR 43	**Mileposts:** 8.31

The site of this proposed land use action adjacent to OR 43. ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation. **Please direct the applicant to the District Contact indicated below to determine permit requirements and obtain application information.**

ODOT RECOMMENDED LOCAL CONDITIONS OF APPROVAL

☒ Curb, sidewalk, bikeways and road widening shall be constructed as necessary to be consistent with the local Transportation System Plan and ODOT/ADA standards. The ODOT standard is a 6' bike lane and our understanding is that the City requires a minimum 6' planter strip and 6' sidewalk in residential zones. ODOT recommends that the applicant consider the *West Linn OR 43 Conceptual Design Plan*.

☒ An ODOT Miscellaneous Permit must be obtained for all work in the highway right of way. When the total value of improvements within the ODOT right of way is estimated to be $100,000 or more, an agreement with ODOT is required to address the transfer of ownership of the improvement to ODOT. An intergovernmental agreement (IGA) is required for agreements involving local governments and a cooperative improvement agreement (CIA) is required for private sector agreements. The agreement shall address the work standards that must be followed, maintenance responsibilities, and compliance with ORS 276.071, which includes State of Oregon prevailing wage requirements.

☒ The applicant must obtain an ODOT permit to place trees in the state right of way. Tree spacing and design must be consistent with Highway Design Manual Technical Bulletin RD06-03B, or ODOT must approve a design exception.

☒ Illumination within the ODOT right of way must be in accordance with AASHTO illumination standards and the ODOT Lighting Policy and Guidelines, January 2003, which states that local jurisdictions must enter into an intergovernmental agreement (IGA) with ODOT wherein the local jurisdiction is responsible for installation, maintenance, operation, and energy costs.

☒ An ODOT Drainage Permit is required for connection to state highway drainage facilities. Connection will only be considered if the site's drainage naturally enters ODOT right of way. The applicant must provide ODOT District with a preliminary drainage plan showing impacts to the highway right of way.

A drainage study prepared by an Oregon Registered Professional Engineer is usually required by ODOT if:

1. Total peak runoff entering the highway right of way is greater than 1.77 cubic feet per second; or
2. The improvements create an increase of the impervious surface area greater than 10,758 square feet.

Noise Advisory:

☒ The applicant is advised that a residential development on the proposed site may be exposed to traffic noise levels that exceed federal noise guidelines. Builders should take appropriate measures to mitigate this impact. It is generally not the State's responsibility to provide mitigation for receptors that are built after the noise source is in place.

Please send a copy of the Notice of Decision including conditions of approval to:

ODOT Region 1 Planning
Development Review
123 NW Flanders St
Portland, OR 97209

Development Review Planner: Seth Brumley	Phone: 503.731.8234
Traffic Contact: Doug Baumgartner	Phone: 503.731.8225
District Contact: Loretta Kieffer	Phone: 971.673.6228

SCHOTT & ASSOCIATES
Ecologists & Wetlands Specialists

21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

January 6, 2014

David A. Emami
3380 Barrington Drive
West Linn, OR 97068

Re: Drainage Channel North of Lot 1500

Dear David:

I enjoyed meeting with you on your property located northeast of the intersection of Willamette Drive and Shady Hollow Way (Tax Lots 1100, 1200, and 1500). Based on the pre-application conference meeting notes I see that the City of West Linn is concerned about a drainage channel mapped along the northern boundary of your property. I walked the property as well as up and down Willamette Drive. There is a culvert under Willamette Drive approximately 115' north of your northwest property corner. There is a catchment basin on the east side of Willamette Drive which directs the water to the southeast via a culvert. There is another catchment basin, which appears to be north of your property line, where the water is directed via a culvert to the northeast. The culvert opens approximately 25' past the northeast property line of tax lot 1500. Judging from the trees growing above the culvert the culvert has been in the ground for a significant amount of time. There is about a 14 inch caliper big leaf maple growing directly above the pipe near its terminus.

In summary, there is not an open channel along the northern property boundary of tax lot 1500. The drainage has been culverted. The culverted drainage has been in place quite a few years based on the mature trees growing above it.

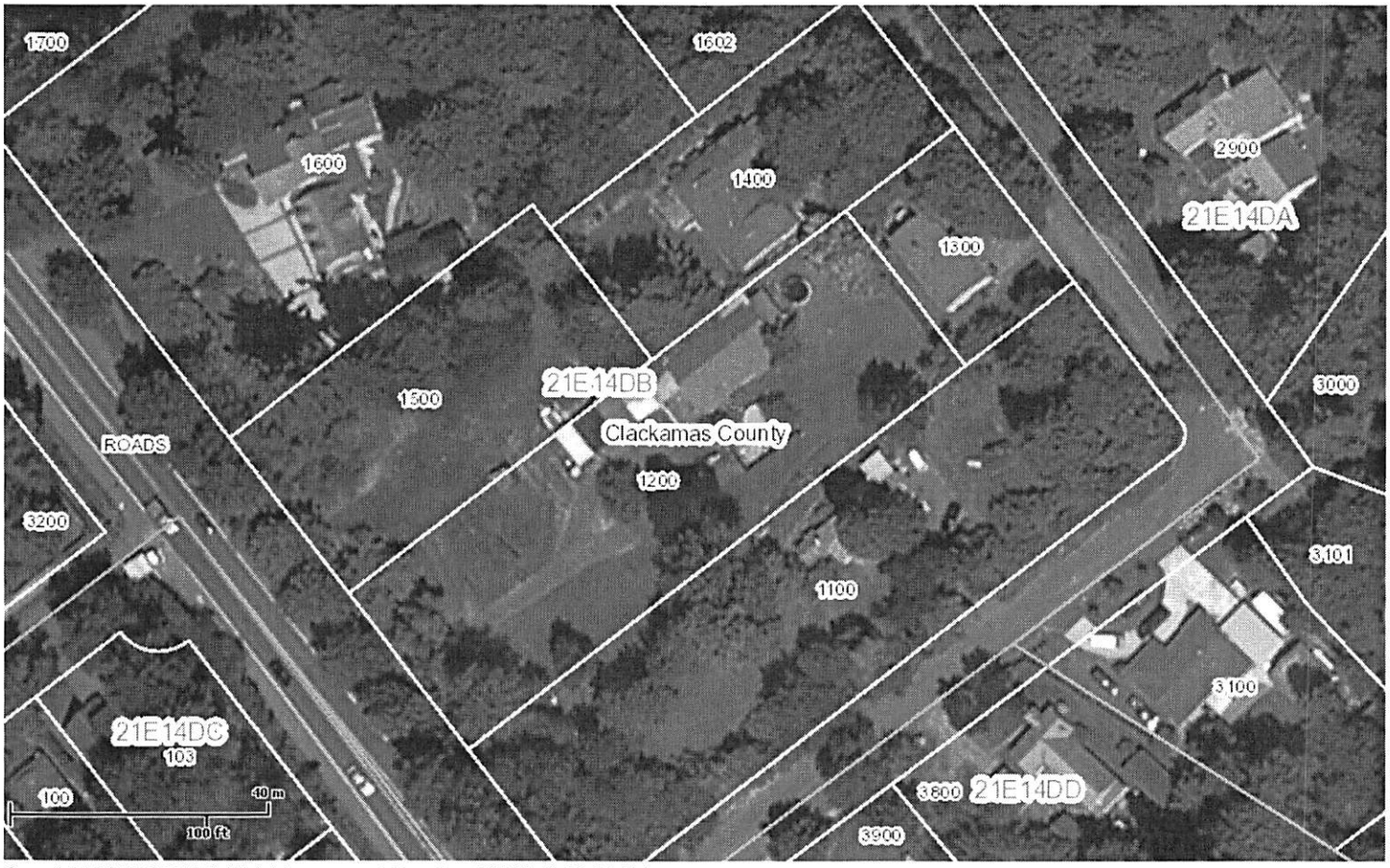
Please contact me if you need further assistance, or have questions.

Sincerely,

Martin R. Schott, Ph.D., PWS

The Oregon Map

New Directions



Copyright 2011 ORMAP. All rights reserved. Tue Jan 7 2014 10:29:34 AM.

North property line, west half on tax lot 1500. Note-lacks drainage channel

North property line, northeast visual showing lack of drainage channel

Site Photos 2014 Willamette Dr & Shady Hollow Way S&A 2293	Schott & Associates P.O. Box 589 Aurora, OR. 97002 503.678.6007

Looking at north corner of tax lot 1500. Culvert outlet is 25' northeast of north property corner

Looking northwest

Site Photos 2014
Willamette Dr & Shady Hollow Way
S&A 2293

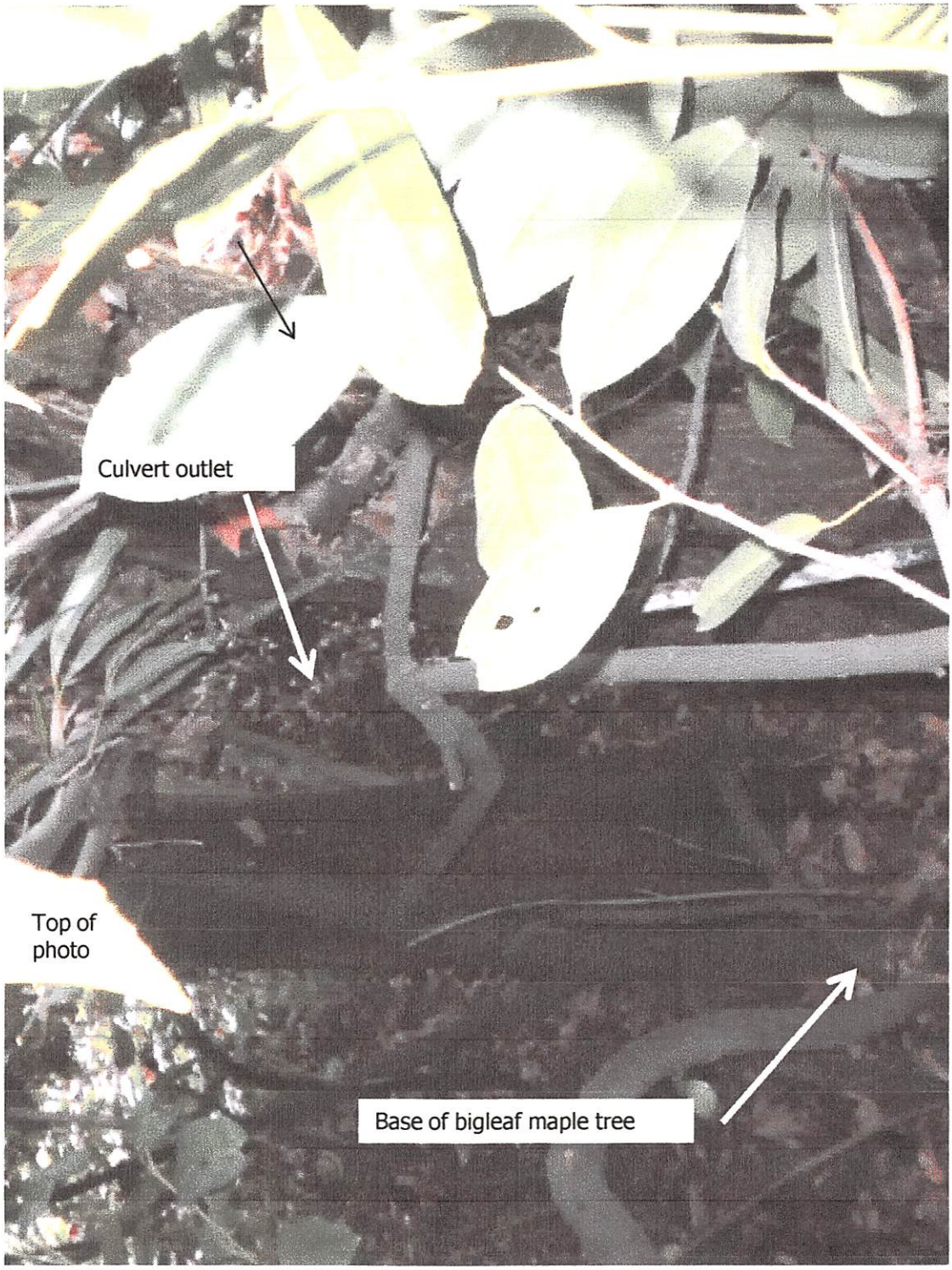
Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007

From north property corner looking southeast. Note lack of drainage channel.

From north property corner looking northeast.

Site Photos 2014
Willamette Dr & Shady Hollow Way
S&A 2293

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Culvert outlet off property to the northeast.
Note-picture flipped sideways to enlarge.

Site Photos 2014
Willamette Dr & Shady Hollow Way
S&A 2293

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007

WDY Structural • Civil Engineers

PRELIMINARY STORM DRAINAGE CALCULATIONS

FOR

WEST LINN VILLAGE

WILLAMETTE DRIVE (STATE HWY 43) AND SHADY HOLLOW WAY
WEST LINN, OREGON

March 11, 2014

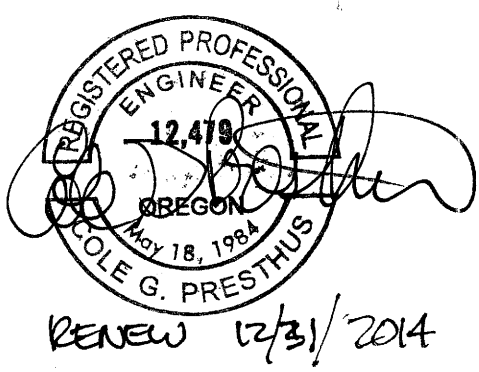


TABLE OF CONTENTS/INCLUSIONS:

6443 SW Beaverton-Hillsdale Hwy, suite 210 • Portland, OR 97221 • ph: 503.203.8111 • fx: 503.203.8122 • www.wdyi.com

March 11, 2014

Stewart Gordon Straus Architect
6170 SW Cherry Hill Drive
Beaverton, OR 97008

Attn: Stewart Straus

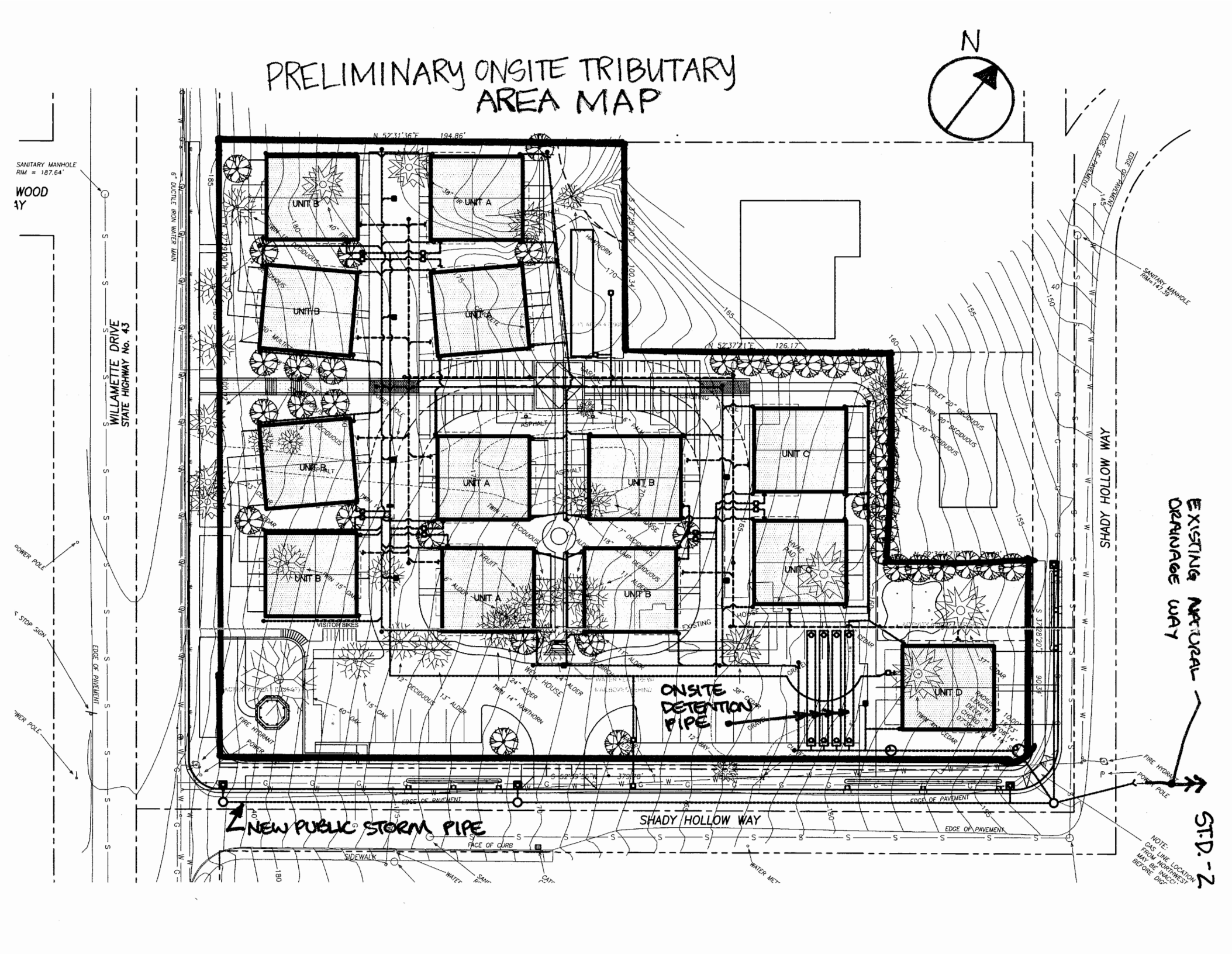
RE: SHADY HOLLOW VILLAGE DUPLEXES
WILLAMETTE DR. (HWY 43) AND SHADY HOLLOW WAY
WEST LINN, OREGON
"PRELIMINARY STORM DRAINAGE NARRATIVE" 3/11/2014

At your request, WDY, Inc. has completed the following preliminary storm drainage review and design for the proposed Shady Hollow Village located on the N.E. corner of Highway 43 and Shady Hollow Way. The proposed 2.08 acre property will include 13 housing units, a basketball area, a putting green and a parking lot. The purpose of this review is to confirm feasibility of meeting the City of West Linn standards and requirements for storm water quality treatment and detention. The new onsite storm runoff will drain via a network of private onsite storm pipes to an onsite underground detention pipe storage system that will detain the 2 yr, 5 yr, 10 yr and 25 year, 24 hour storms to their respective pre-develop rates. To meet the City's detention requirements, approximately 204 L.F. of 48" diameter pipe is needed to detain the runoff. The storm runoff will also be treated using (5) 27" tall CONTECH storm water filter cartridges before leaving the site and connecting to a new public storm main in Shady Hollow Way.

Three public storm treatment swales are proposed to treat the public stormwater runoff from Shady Hollow Way. The swale sizes are based upon the impervious public street & sidewalk area draining to each of the swales. The treated runoff will flow out of the swale facilities into a new adjacent downstream curb inlet and into the new public storm drain pipe. The new public storm main pipe will extend east across Shady Hollow Way and outfall into the existing natural drainage way at this location which flows easterly down to the Willamette River.

The following pages include storm calculations for the proposed private site and public street improvements showing compliance with the City of West Linn's storm drainage design requirements.

PRELIMINARY ONSITE TRIBUTARY AREA MAP



Job Name:	WEST LINN VILLAGE	Job No:	14029_5	Sheet No:	ST.D. - 3
Client:	STEWART GORDON STRAUS	Date:	03-11-14	By:	KNK

ONSITE STORM DRAINAGE DESIGN CRITERIA

**** DESIGN CRITERIA ****

- Meet City of West Linn storm water mitigation requirements:
  - Provide onsite detention for Post-Developed 2-yr, 5yr, 10yr and 25yr, 24 hr storms to respective Pre-Developed runoff rates.
- Use SCS, Type 1A, 24 hr long storms with SBUH using HYD software to size detention pipes
  - Rainfall depths per NOAA Atlas 2, Vol. X, Oregon
    1. 2-yr Storm = 2.5"
    2. 5-yr Storm = 3.0"
    3. 10-yr Storm = 3.4"
    4. 25-yr Storm = 3.9"
    5. 100-yr Storm = 4.4"
  - Use CN = 98 for Impervious Area
  - Use CN = 86 for Pervious Area
- Use SCS, Type 1A, 1 Year, 24 Hour Storm = 0.83" for water quality treatment per city of portland guidelines.

Summary

STORM	RAIN DEPTH	Q_{PRE}	Q_{POST}	Q_{POST} (W/DETENTION)
2-YR	2.5"	0.61	1.10	0.46
5-YR	3.0"	0.84	1.38	0.74
10-YR	3.4"	1.04	1.60	0.85
25-YR	3.9"	1.29	1.88	0.99
100-YR	4.4"	1.54	2.82	2.16

Use 204' of 48" pipe for storage min

ONSITE STORM DRAINAGE CALCULATIONS

PRE-DEVELOPED CONDITIONS

- Onsite Tributary Area
  - **Impervious area = 0 s.f. = 0 Acres**
  - **Pervious area = 90,570 s.f. = 2.08 Acres**

DEVELOPED CONDITIONS

- Onsite New Tributary Area
  - **Impervious area = 59,485 s.f. = 1.37 Acres**
  - **Pervious area = 31,085 s.f. = 0.71 Acres**

TIME OF CONCENTRATION CALCULATIONS

- **Pre-Developed Design:**
  - **Sheet Flow** $n = 0.13$, $L = 150$ ft, $P_2 = 2.5$ in/hr, $S = 7.5\%$
    - $T_1 = \frac{(0.42)(nL)^{0.8}}{(P_2)^{0.5}(S)^{0.4}} = 8$ min
  - **Shallow Flow** $K=11$, $S = 7.5\%$, $L = 225$ ft
    - $V = 11(S)^{0.5} = 3.01$ fps
    - $T_2 = \frac{L}{(V)(60)} = 1.25$ min
  - **Tc = 8.64 min + 1.25 min = 9.89 min; USE 10 MIN FOR DESIGN**

- **Post-Developed Design T_C = 5 min.**

ONSITE STORM DRAINAGE CALCULATIONS

-CONTINUED-

WATER QUALITY TREATMENT CALCULATIONS

- Use 1 year, 24 hour storm for minimum water quality treatment
  - Output = 0.25 CFS

- # Cartridges = $\frac{(\text{Runoff } ft^3/sec) * (60sec/min) * (7.48gal/ft^3)}{(\text{Size of Cartridge (22.5 gpm)})}$

  - $\frac{(0.25\ ft^3/sec) * (60sec/min) * (7.48gal/ft^3)}{22.5\ gpm} = 4.98$, USE (5) 22.5 GPM CARTRIDGES

```
SBUH/SCS METHOD FOR COMPUTING RUNOFF HYDROGRAPH

STORM OPTIONS:

1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE

SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
2,24,2.5
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
**********   2-YEAR  24-HOUR STORM  ****  2.50" TOTAL PRECIP. **********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.08,86,0,98,10

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1        2.1   86.0     .0   98.0        10.0

  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .61          7.83            9381

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wlinn02pre

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
n
```

2 YR PRE-DEVELOPED

```
STORM OPTIONS:

1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE

SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
2,24,2.5
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
**********   2-YEAR  24-HOUR STORM  ****  2.50" TOTAL PRECIP. **********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0.71,86,1.37,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1         .7   86.0    1.4   98.0         5.0

  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.10          7.67           14497

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wl2post

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
-
```

2 YR POST-DEVELOPED

```
STORM OPTIONS:

1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE

SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
5,24,3.0
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
**********   5-YEAR  24-HOUR STORM  ****  3.00" TOTAL PRECIP. **********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.08,86,0,98,10

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1        2.1  86.0      .0  98.0        10.0

  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .84          7.83           12543

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wlinn5pre

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
n
```

5YR PRE-DEVELOPED

```
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE

SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
5,24,3.0
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
**********   5-YEAR  24-HOUR STORM  ****  3.00" TOTAL PRECIP. **********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0.71,86,1.37,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1         .7  86.0     1.4  98.0         5.0

  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.38          7.67           18051

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wl05post

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
```

5 YR POST-DEVELOPED

10 YR PRE-DEVELOPED

```
S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
10,24,3.4
-------------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
********** 10-YEAR 24-HOUR STORM **** 3.40" TOTAL PRECIP. **********
-------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.08,86,0,98,10

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1        2.1   86.0     .0   98.0        10.0

  PEAK-Q(CFS)  T-PEAK(HRS)     VOL(CU-FT)
     1.04          7.83          15166

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wlinn10pre

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
n

STORM OPTIONS:

1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
```

10 YR POST-DEVELOPED

```
SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
10,24,3.4
-------------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
********** 10-YEAR 24-HOUR STORM **** 3.40" TOTAL PRECIP. **********
-------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0.71,86,1.37,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1         .7   86.0    1.4   98.0         5.0

  PEAK-Q(CFS)  T-PEAK(HRS)     VOL(CU-FT)
     1.60          7.67          20929

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wl10yrpost

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
```

```
STORM OPTIONS:

1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE

SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
25,24,3.9
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
*********  25-YEAR  24-HOUR STORM  ****  3.90" TOTAL PRECIP. *********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.08,86,0,98,10

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1        2.1   86.0     .0   98.0        10.0

  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.29          7.83           18531

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wlinn25pre

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
n
```

25 YR PRE-DEVELOPED

25 YR POST-DEVELOPED

```
S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
25,24,3.9
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
*********  25-YEAR  24-HOUR STORM  ****  3.90" TOTAL PRECIP. *********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0.71,86,1.37,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1         .7   86.0    1.4   98.0         5.0

  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
      1.88          7.67           24557

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
w125post

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
```

```
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE

SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
100,24,4.4
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
********** 100-YEAR  24-HOUR STORM  ****  4.40" TOTAL PRECIP. **********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
2.08,86,0,98,10

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1        2.1   86.0     .0  98.0        10.0

  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      1.54          7.83          21967

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wlinn100pre

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
```

100 YR - PRE-DEVELOPED

```
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE

SPECIFY STORM OPTION:
1

S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
100,24,4.4
-------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
********** 100-YEAR  24-HOUR STORM  ****  4.40" TOTAL PRECIP. **********
-------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0.71,86,1.37,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1         .7   86.0    1.4  98.0         5.0

  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
      2.16          7.67          28212

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
wl100post

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S - STOP
```

100 YR POST-DEVELOPED

```
SUMMARY OF INPUT ITEMS

1) TYPE OF FACILITY:   TANK
2) TANK DIAMETER(ft), STORAGE DEPTH(ft):   4.00,  4.00
3) VERTICAL PERMEABILITY(min/in):    .00

4) PRIMARY DESIGN HYDROGRAPH FILENAME:   wl25post
5) PRIMARY RELEASE RATE(cfs):   1.29

6) NUMBER OF TEST HYDROGRAPHS:  4
   TEST HYD 1 FILENAME:   wl2post          TARGET RELEASE(cfs):    .61
   TEST HYD 2 FILENAME:   wl05post         TARGET RELEASE(cfs):    .84
   TEST HYD 3 FILENAME:   wl10yrpost       TARGET RELEASE(cfs):   1.04
   TEST HYD 4 FILENAME:   wl100post        TARGET RELEASE(cfs):   1.54

7) NUMBER-OF-ORIFICES, RISER-HEAD(ft), RISER-DIAM(in):  2,  4.00,  10
8) ITERATION DISPLAY:   NO

ENTER ITEM NUMBER TO BE REVISED (ENTER ZERO IF NO REVISIONS ARE REQUIRED):
7

ENTER:  NUMBER OF ORIFICES,  RISER-HEAD(ft),  RISER-DIAMETER(in)
2,4,10

RISER OVERFLOW DEPTH FOR PRIMARY PEAK INFLOW =    .51 FT

SPECIFY:  R - REVIEW/REVISE INPUT,  C - CONTINUE
c

INITIAL STORAGE VALUE FOR ITERATION PURPOSES:     8766 CU-FT

BOTTOM ORIFICE:  ENTER Q-MAX(cfs)
0.61
DIA.= 3.35 INCHES
TOP ORIFICE:  ENTER HEIGHT(ft)
2.75
DIA.= 4.74 INCHES

PERFORMANCE:    INFLOW   TARGET-OUTFLOW   ACTUAL-OUTFLOW   PK-STAGE   STORAGE
 DESIGN HYD:25YR 1.88          1.29             1.29          3.99       2559
 TEST HYD 1: 2YR 1.10           .61              .46          2.27       1490
 TEST HYD 2: 5YR 1.38           .84              .74          2.92       1990
 TEST HYD 3:10 YR 1.60         1.04              .99          3.28       2240
 TEST HYD 4:100YR 2.16         1.54             2.16          4.21       2560

SPECIFY:  D - DOCUMENT,  R - REVISE,  A - ADJUST ORIF,  E - ENLARGE,  S - STOP
```

$$\frac{2559\ FT^3}{\pi (2)^2} = 203.6\ L.F.$$

204 L.F. OF PIPE (MIN)

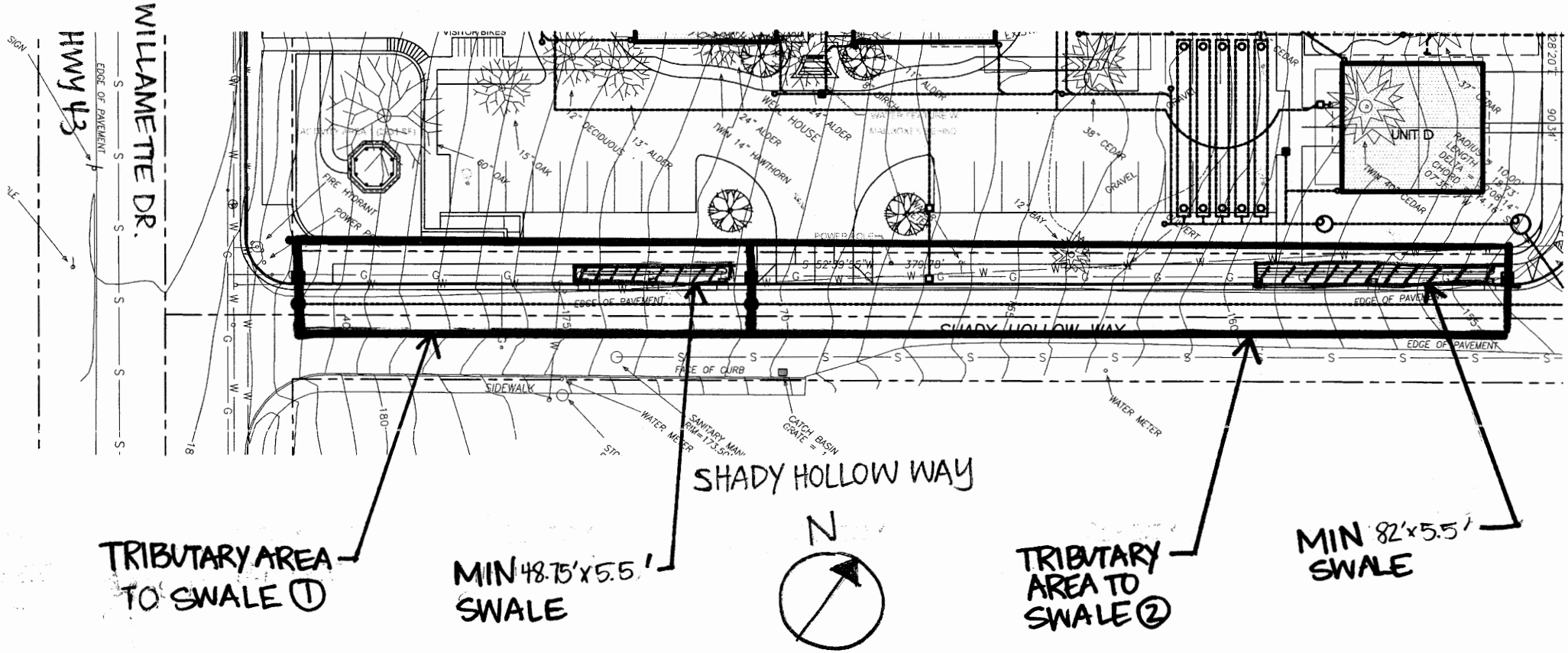
WATER QUALITY CALCULATION

```
S.C.S. TYPE-1A RAINFALL DISTRIBUTION
ENTER: FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
1,24,0.83
-------------------------------------------------------------------------------
********** S.C.S. TYPE-1A DISTRIBUTION **********
**********   1-YEAR  24-HOUR STORM  ****   .83" TOTAL PRECIP. **********
-------------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
.71,86,1.37,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.1         .7  86.0     1.4  98.0         5.0

  PEAK-Q(CFS)   T-PEAK(HRS)     VOL(CU-FT)
       .25          7.67            3425

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
_
```

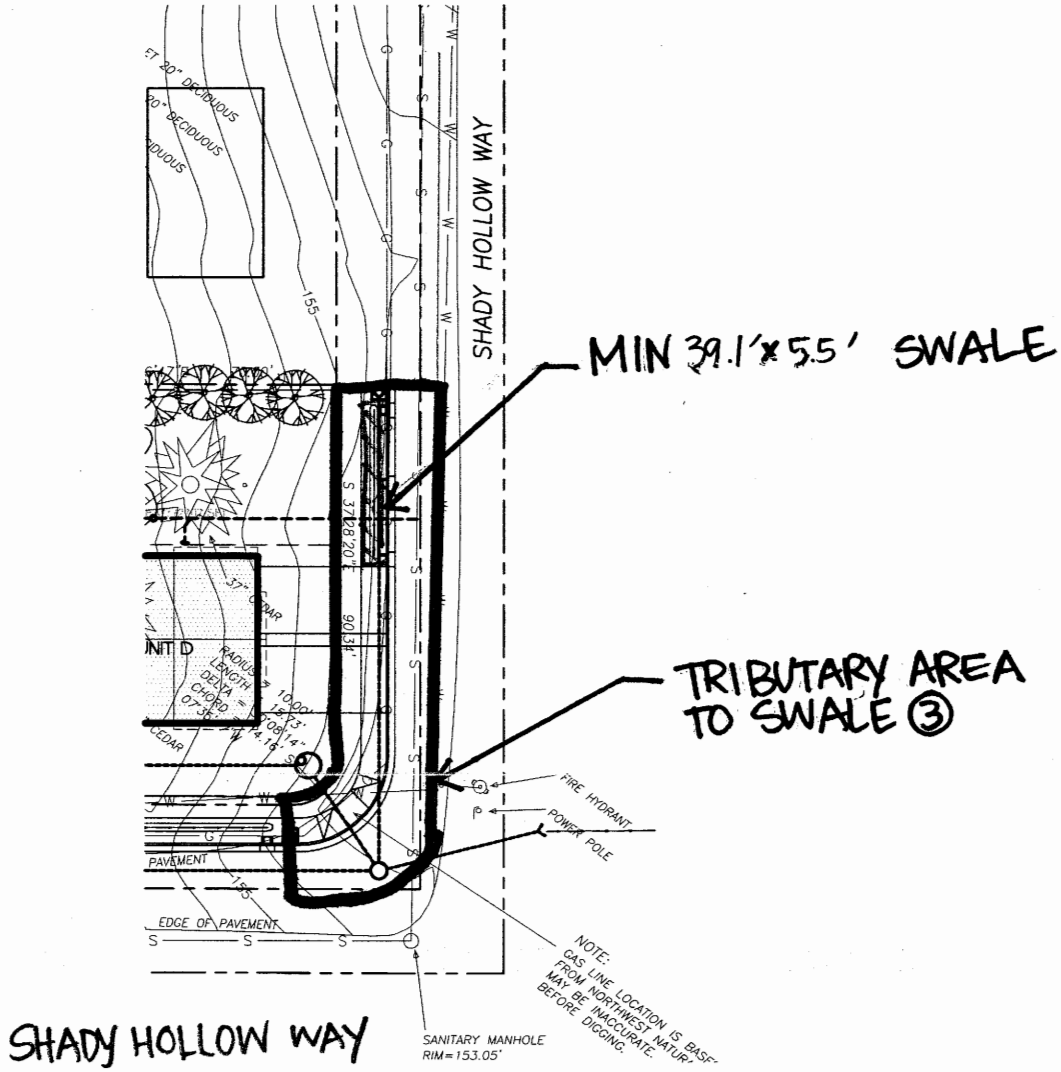
$$\frac{(0.25\,CFS)(60)(7.48)}{22.5\,GPM} = 4.98 \rightarrow 5\,CARTRIDGES(MIN) \leftarrow \checkmark$$

↑ FOR 27" TALL STORMFILTER UNITS

OFF SITE TRIBUTARY AREA MAP FOR SWALE ① & ②



OFFSITE TRIBUTARY AREA MAP FOR SWALE ③



STD-14

OFFSITE STORM DRAINAGE CALCULATIONS

WATER QUALITY TREATMENT SWALE CALCULATIONS

- Use City of Portland Vegetative Swale Design
  - Scale Impervious Area by 0.09
- Swale width on streets = 5.5'

1. Shady Hollow Way **Area 1**
   - Total Impervious Area To Swale (6' Sidewalk, 6" Curb, 14' Pavement Width) = 2,965 SF
   - 2,965 SF x 0.09 = 266.85 SF
   - $\frac{266.85}{5.5'}$ = **48.75 FT = Min Swale Length**

2. Shady Hollow Way **Area 2**
   - Total Impervious Area To Swale (6' Sidewalk, 6" Curb, 14' Pavement Width) = 5,000 SF
   - 5,000 SF x 0.09 = 450.0 SF
   - $\frac{450.00}{5.5'}$ = **82 FT = Min Swale Length**

3. Shady Hollow Way **Area 3**
   - Total Impervious Area To Swale (6' Sidewalk, 6" Curb, 10' Pavement Width, ADA Ramp) = 2,390 SF
   - 2,390 SF x 0.09 = 215.1 SF
   - $\frac{215.1}{5.5'}$ = **39.10 FT = Min Swale Length**

ALDER
GEOTECHNICAL SERVICES

3910 NE 10th Avenue
Portland, Oregon 97212

February 18, 2014
Project No. 448-7

Mr. David Emami
Barrington Management
3380 Barrington Drive
West Linn, Oregon 97068

GEOTECHNICAL INVESTIGATION REPORT
PROPOSED SHADY HOLLOW VILLAGE TOWNHOMES
18270, 18340 WILLAMETTE DRIVE AND 18395 SHADY HOLLOW WAY
WEST LINN, OREGON

Dear Mr. Emami:

This report presents the results of a geotechnical investigation on three tax lots at the northeast corner of Willamette Drive and Shady Hollow Way in West Linn, Clackamas County, Oregon (Figure 1). The purpose of the investigation was to evaluate soil conditions and provide site grading, foundation, and paving recommendations to use during design and construction of a new cultural center. The scope of services included performing field explorations, a field infiltration test, laboratory tests, and engineering analyses

As discussed below, the site is suitable for the proposed residential development. Soft, compressible, topsoils 6 inches to 2 feet thick cover the entire site. The underlying soils consist of firm to very stiff clays and silts that provide excellent bearing support for shallow foundations. Unfortunately, the soils have low permeability and are unsuitable for infiltrating concentrated flows of stormwater. If at all possible, site grading should be done during the dry summer and fall months. Thick sections of gravel will be required to protect building pads and hardscape areas from construction traffic during the wet winter and spring months.

DESCRIPTION OF THE PROJECT

Thirteen townhouse duplexes will be constructed on an approximately 2.1-acre, gently sloping site located at the northeast corner of Willamette Drive and Shady Hollow Way in West Linn. The buildings will be a mix of two-story and two-story over daylight basement structures. Conventional wood-frame construction is anticipated. The daylight basement units will have slab-on-grade floors and cantilever-type, reinforced concrete retaining walls up to about 9 feet tall. The two-story units will have crawl spaces and raised wood floors. Foundation loads for the two building types are anticipated to be typical of this type construction and occupancy.

Site grading will involve making cuts up to about 10 feet deep in building pads and fills up to about 5 feet deep in driveway areas between buildings. Asphalt concrete driveways will provide access to individual garages. A parking lot with asphalt concrete pavement is also planned along

the south property line. Stormwater will be collected, detained, and discharged into a nearby natural drainage.

The layout of the site is shown on the Site Plan (Figure 2).

FIELD AND LABORATORY INVESTIGATIONS

The field investigation consisted of digging five backhoe test pits on January 31, 2014. The pits ranged from 3½ to 8½ feet deep. The approximate locations are shown on Figure 2.

Final logs of the test pits are presented in Appendix A. The descriptions on the logs are based on field logs, sample inspection, and laboratory testing. Results of laboratory moisture content tests are shown at the corresponding sample locations on the final logs.

SITE CONDITIONS

Surface Conditions

The 2.4-acre property consists of three tax lots. Two lots are developed with single family residences, gravel driveways. Landscaping includes lawn and a wide variety of moderate to tall deciduous and evergreen trees.

Topographic relief on the site is about 30 feet. The ground surface slopes down about 7 percent to the east.

Subsurface Conditions

The entire site is mantled with topsoils and underlain by flood deposited clays and silts, followed by basalt bedrock. Geology maps indicate that the alluvial soils are likely less than 30 feet thick. These soils were deposited 15,000 to 13,000 years ago on basalt rock by dozens of immense Missoula Flood inundations that occurred at the end of the last ice age.

Topsoil

The entire ground surface is mantled with 6 inches to 2 feet of organic and porous topsoil. The topsoil is very dark brown to dark brown silt with much clay. It is full of fine roots and worm holes. The topsoils are weak and unsuitable for supporting new foundations and pavements. Project grading plans and construction budgets must anticipate and specify stripping dark brown, porous soils from the building pad, patio, and parking areas before placing new fill. Deeper stripping will be required in local areas, particularly where trees are present.

Fine-Grained Flood Deposits

The mineral soils on the site consist of light brown silts and lean clays. The soils below the topsoil layer and within about 4 to 7 feet of the ground surface are typically heavily mottled, indicating they are saturated with seasonal, perched ground water. The relative consistency of the silty soil is estimated to range from to medium stiff to very stiff.

New shallow foundations and pavements may be supported on the brown silty soils located below all dark brown topsoils. Six inches to 2 feet of soft, dark brown topsoils will need to be removed from all building pads and pavement areas.

Groundwater

Groundwater was encountered during the field investigation on January 31, 2014. The maximum depth explored was 8½ feet below the ground surface. The soils within about 4 to 7 feet of the ground surface are heavily mottled, indicating the presence of perched ground water in the wet winter and spring months.

Review of a 2008 U.S. Geological Survey groundwater map for Portland metro region indicates that permanent groundwater on the site is located about 80 feet below the ground surface.

Liquefaction

Soil, rock and groundwater conditions indicate that the liquefaction potential of the site is low to very low. The site consists of about 30 feet of moderate plasticity silts and clays followed by basalt bedrock. Permanent groundwater is likely located at least 80 feet deep.

CONCLUSIONS AND RECOMMENDATIONS

Site Preparation and Earthwork

Clearing and Grubbing

The ground surface within building and pavement areas should be stripped of vegetation, surface organics, and dark brown topsoils and mineral soils. Deep stripping of topsoils and soft soils is required on the southern portions of the development area. The intent of the following clearing and grubbing recommendations is to remove weak soils so that only lighter brown, medium stiff mineral soils are exposed in building and pavement subgrade areas.

Based on the results of the soil explorations, stripped should be done to a minimum depth of at 6 inches. Local areas will require 2 feet of stripping.

The loose, organic topsoils may either be hauled off the site or stockpiled and used in landscape areas. Silty and clayey soils are moisture sensitive and easily disturbed and rutted by construction equipment when wet. Clearing and grubbing during the rainy winter and spring months should be avoided.

Abandoned underground utilities, septic tanks, building foundations, and surface debris should be excavated, stockpiled, and hauled off the site. Excavations required to remove buried structures should be shaped with 1 horizontal to 1 vertical side slopes and then backfilled to grade with properly compacted granular fill.

The site contains medium to large trees with extensive root structures. The grading contractor should plan to over-excavate a minimum of 2 to 3 feet deep and a minimum of 5 feet

horizontally around each tree stump. Roots larger than about 1 inch in diameter should be removed from under building and pavement areas. Soils that are disturbed and loosened during stump and root removal must be excavated back to 1 horizontal to 1 vertical side slopes and replaced with properly compacted gravel fill.

A geotechnical engineer should periodically observe the clearing and grubbing operations and evaluate subgrade strength. All soft spots and pumping areas should be excavated and replaced with properly compacted structural fill.

Structural Fill

It is strongly recommended that only imported gravel be used as structural fill.

On-site or imported, organic-free soils approved by the geotechnical engineer can be used to construct structural fills; however, the silty and clayey soils on the site are extremely sensitive to moisture content. They can only be effectively placed as structural fill during the driest summer and fall months and, then, only with diligent, patient, slow effort. Compacting silty and clayey soil on small sites is difficult and slow because the soil need to be spread out, aerated, and either dried or wetted, before being placed and compacted in thin, horizontal layers with suitable compaction equipment. Proper moisture control is essential, challenging, and time consuming. Appropriate compaction cannot be achieved without good moisture control.

During wet fall, winter, and spring months, structural fills can only be constructed using imported gravel, such as 1½-inch or ¾-inch minus crushed gravel.

Structural fills should be constructed in horizontal lifts that are no more than 9 inches thick before compaction. Each lift should be compacted to at least 90 percent of the maximum dry density determined in accordance with ASTM Test Method D 1557 (modified Proctor).

Pavement Subgrade

Pavement subgrade should consist of firm to stiff undisturbed native silt soils. Regardless of final grades and whether grading requires cutting or filling, dark brown topsoils must be stripped at least 6 inches deep from the asphalt pavement areas. Construction equipment must be kept off the final subgrade surfaces until they have been covered with geotextile and crushed gravel.

We recommend that a geotechnical engineer observe the pavement subgrade soils before they are covered with geotextile and crushed gravel. Weak areas that are identified by the geotechnical engineer will need to be over-excavated down to firm materials and replaced with structural fill.

Utility Trenches

Shoring will be required on all trenches deeper than 4 feet. The native silts should be considered as OSHA "Type B" soils for design of trench shoring. Open cut trenches should be sloped back 1 horizontal to 1 vertical.

Only imported 1½-inch or ¾-inch minus crushed gravel should be used as utility trench backfill in building and pavement areas. Native soils can be used as backfill in landscape areas. All trench backfill should be placed in maximum 9-inch-thick loose lifts and compacted to at least 90 percent of ASTM D 1557.

Foundations

The proposed building can be supported on conventional foundations bearing on undisturbed, brown native silt soils or on structural fill. Dark brown soils encountered below footing excavations must be over-excavated and replaced with compacted gravel fill.

Spread and continuous footings may be designed for an allowable soil bearing pressure of 2,000 psf (dead plus live loads). The allowable bearing pressure may be increased by one-third for loads that include wind and seismic forces.

The bottoms of all footings should be located at least 18 inches below lowest adjacent grade. Perimeter continuous and spread footings should have minimum widths of 15 inches for two-story buildings and 18 inches for three-story buildings. All column footings should be at least 24 inches square. Interior thickened slab footings should be at least 12 inches wide and founded at least 12 inches below the top of the floor slab. All footings should be reinforced as specified by the structural engineer.

During wet weather, a 3-inch-thick layer of ¾-inch-minus crushed rock must be placed on the bottom of the footing excavations to reduce disturbance of the silty soils. This crushed rock layer should be lightly compacted.

A geotechnical engineer should review the foundation plans to verify that these recommendations have been properly interpreted and incorporated into the project documents. In addition, a geotechnical engineer should observe all footing excavations prior to the contractor placing reinforcing steel or concrete. The purpose of this work is to evaluate whether actual soil conditions are similar to those encountered in the test pits or whether different conditions are present that may require design changes.

Estimated Foundation Settlements

It is estimate that total settlements of footings designed in accordance with the above recommendations will be about 1 inch or less. Differential settlements are estimated to be one-half the total settlements.

Foundation Drains

Positive measures should be taken to properly finish grade the site so that drainage waters from the building and parking areas and adjacent properties are directed away from the building foundations, floor slabs, and pavement subgrade. All roof and pavement drainage should be

directed into conduits that carry runoff water away from buildings. A minimum ground slope of 3 percent is recommended in unpaved areas and 1 percent in paved areas.

Foundation drains should be installed around all building foundations. The drains should consist of at least a 3-inch-diameter, perforated flexible PVC pipe surrounded on all sides by a minimum of 6 inches of 1½- ¾-inch drain rock. The drainpipe should be placed at the bottom of the footing, not on top of the footing adjacent to the stem wall. The drain rock should be wrapped in a nonwoven geotextile such as *Geotex® 601*, *Mirafi® 160N*, or equivalent. Roof runoff and ground surface drainage should not be inter-connected.

Prefabricated foundation drains such as *ezflow®* (www.ezflowlp.com) may be installed as an alternative to drain rock. The *ezflow®* system consists of a flexible, perforated pipe surrounded by expanded polystyrene (EPS) aggregate. A geotextile wrap holds the lightweight aggregate around the drain pipe. The system is sold in 10-foot long lengths that snap together.

Because of the wet nature of the site, consideration should be given to installing pre-fabricated drainage panels against the outside of basement retaining walls. A suitable, locally available product is *Sitedrain™ 184* by American Wick Drain, sold at ACF West, Inc.

Site Seismic Coefficient
Based on our interpretation of site geology, the soil conditions at this site are most similar to Site Class D in the 2010 Oregon Structural Specialty Code.

Floor Slabs
The subgrade soils must be in a firm, non-yielding condition at the time of slab construction. Soft areas should be excavated and replaced with structural fill. A minimum slab thickness of 4 inches is recommended for light residential spaces.

A capillary break consisting of at least 6 inches of 1½- or ¾- inch minus crushed aggregate covered with a vapor retarding membrane should be placed underneath the floor slab to reduce the amount of moisture intrusion.

Wet weather construction typically requires using more than 6 inches of gravel under the floor slab. The general contractor should evaluate the need to construct a thicker section of base rock to support construction activities during wet weather.

The bottom of the concrete floor slab should be separated from the gravel capillary break by an appropriate vapor retarding membrane. The vapor membrane should be installed as recommended by the manufacture.

Experience indicates that concrete slabs-on-grade commonly exhibit shrinkage cracks despite the presence of steel reinforcing or fiber strands. This cracking can be reduced by using low slump

concrete, properly designed and constructed joints, and by properly reinforcing and curing the concrete.

Proper quality concrete is essential when placing the floor slab directly on the vapor retarding membrane. The project structural engineer can assist in specify an appropriate concrete mix.

Retaining Walls

Geotechnical design recommendations for retaining walls are provided in the following paragraphs. The recommended static equivalent fluid weights and seismic resultant thrusts assume that (1) the wall backfill is level and fully drained by a foundation drain system, (2) the recommended earth pressures act horizontally (normal to the wall), (3) gravel backfill has a maximum wet, compacted unit weight of 135 pcf and consists of imported crushed aggregate, and (4) native silty soils backfill has a maximum wet, compacted unit weight of 120 pcf.

Static Design

Cantilever retaining walls that are free to rotate should be designed to resist static, horizontal earth pressure forces calculated using an equivalent fluid weight of 35 pcf.

A friction coefficient of 0.3 may be used when concrete foundations are underlain by silty and clayey soils. A friction coefficient of 0.5 may be used when concrete foundations are underlain by at least 6 inches of crushed gravel. If the 0.5 value is used in design, the structural drawings should show the crushed gravel layer.

Passive pressure may be used to resist sliding if the ground in front of the foundation is level for at least 10 feet or three times the height of the surface generating passive resistance. The static horizontal passive resistance may be calculated using an equivalent fluid weight of 300 pcf. Only two-thirds of the passive resistance should be used if friction and passive resistance are combined to resist lateral forces.

Seismic Design

Ground accelerations during earthquakes temporarily increase lateral earth pressures on retaining walls. The resultant horizontal seismic thrust should be added to the horizontal static force calculated using the equivalent fluid weights listed above. Seismic thrusts have been calculated assuming a 2010 OSSC peak ground acceleration amax of 0.28g.

Unrestrained walls should be designed to resist a seismically-induced resultant horizontal thrust of 6H2 pounds, where H is the height of the wall in feet. The resultant seismic thrust acts 0.6H above the base of the wall. This thrust was calculated using the Mononobe-Okabe method assuming the unrestrained walls are free to displace and assuming a pseudostatic horizontal acceleration equal to ½ amax.

A friction coefficient of 0.5 may be used when concrete foundations are underlain by at least 6 inches of crushed gravel. If the 0.5 value is used in design, the structural drawings must show the crushed gravel layer.

Passive pressure may be used to resist sliding during seismic loading if the ground in front of the foundation is level for at least 10 feet or three times the height of the surface generating passive resistance. The seismic passive resistance may be calculated using an equivalent fluid weight of 250 pcf. This seismic passive equivalent fluid weight was calculated using the Mononobe-Okabe method with $\delta=\frac{1}{2}\varphi'$ and a pseudostatic horizontal acceleration equal to amax.

Only two-thirds of the passive resistance should be used if friction and passive resistance are combined to resist lateral forces.

The minimum recommended factors of safety for seismic design of sliding, overturning, and bearing capacity are taken as 75% of the values recommended for statically loaded structures. Therefore, the minimum static factors of safety for sliding, overturning, and bearing capacity of 1.5, 1.5, and 2.0 are reduced to 1.1, 1.1, and 1.5, respectively, when evaluating seismic stability.

Soil Infiltration

The site is unsuitable for infiltrating concentrated flows of stormwater runoff. The property is underlain by low-permeability silts and clays and has shallow groundwater. Seasonal, perched groundwater develops within 5 to 7 feet of the ground surface.

A standpipe infiltration test performed in Test Pit 3 on the south side of the site measured an infiltration rate of 0.25 inch per hour. The test was performed 3½ feet below the ground surface in a 6-inch diameter PVC pipe carefully pushed 6 inches into the cleaned bottom of the test pit. Several inches of clean gravel was placed in the pipe to protect the silty and clayey soils from erosion. A maximum of 9 inches of water was carefully poured in the pipe and allowed to drop at least 1 inch. The pipe was refilled and tested three times on January 31 and February 2, 2014.

Pavements

Based on our general experience, we recommend driveways and parking areas be paved with 3 inches of asphalt concrete on at least 8 inches of compacted crushed aggregate (either 1½-minus or ¾-inch minus gravel). The aggregate base must be separated from the native silt subgrade by a woven polypropylene geotextile with a grab tensile strength (ASTM D 4632) of at least 300 pounds and puncture strength (ASTM D 4833) of at least 110 pounds.

The recommended pavement section is based on professional experience with similar nearby developments and soil conditions constructed during dry weather. Use of this pavement section assumes that the soft, dark brown topsoils have been removed from pavement areas and the exposed soil subgrade consists of undisturbed, firm, brown silty soils.

If construction will occur primarily during the wet fall, winter, and spring months, consideration should be given to reinforcing the bottom of the gravel section with a plastic geogrid, such as *E'Grid 3030* by Hanes Geo Components, Inc., or equivalent. The geogrid helps reduce loading on the weak subgrade soils by spread out wheel loads.

CLOSURE

The conclusions and recommendations presented in this report are based on the information provided to us, results of the field and laboratory studies, analyses, and professional judgment. Only a very small portion of the pertinent soil and groundwater conditions has been observed. The recommendations made are based on the assumption that soil conditions do not deviate appreciably from those found during the field investigations

Geotechnical review is of paramount importance in engineering practice. The poor performance of many foundations has been attributed to inadequate construction review. On-site grading and earthwork should be observed and, where necessary, tested by a qualified geotechnical engineering firm to verify compliance with the recommendations contained in this report. Foundation excavations should also be observed to compare the generalized site conditions assumed in this report with those found on the site at the time of construction. If the plans for site development are changed, or if variations or undesirable geotechnical conditions are encountered during construction, the geotechnical engineer should be consulted for further recommendations.

Geotechnical engineering is characterized by uncertainty. Professional judgments presented are based partly on an understanding of the proposed construction, and partly on general experience. The engineering work performed and judgments rendered for this study meet current professional standards ordinarily provided by members of the engineering profession in this area practicing under similar conditions at this time. No other warranties, either expressed or implied, are made.

Please call if you have questions.

Sincerely,

ALDER GEOTECHNICAL SERVICES, LLC

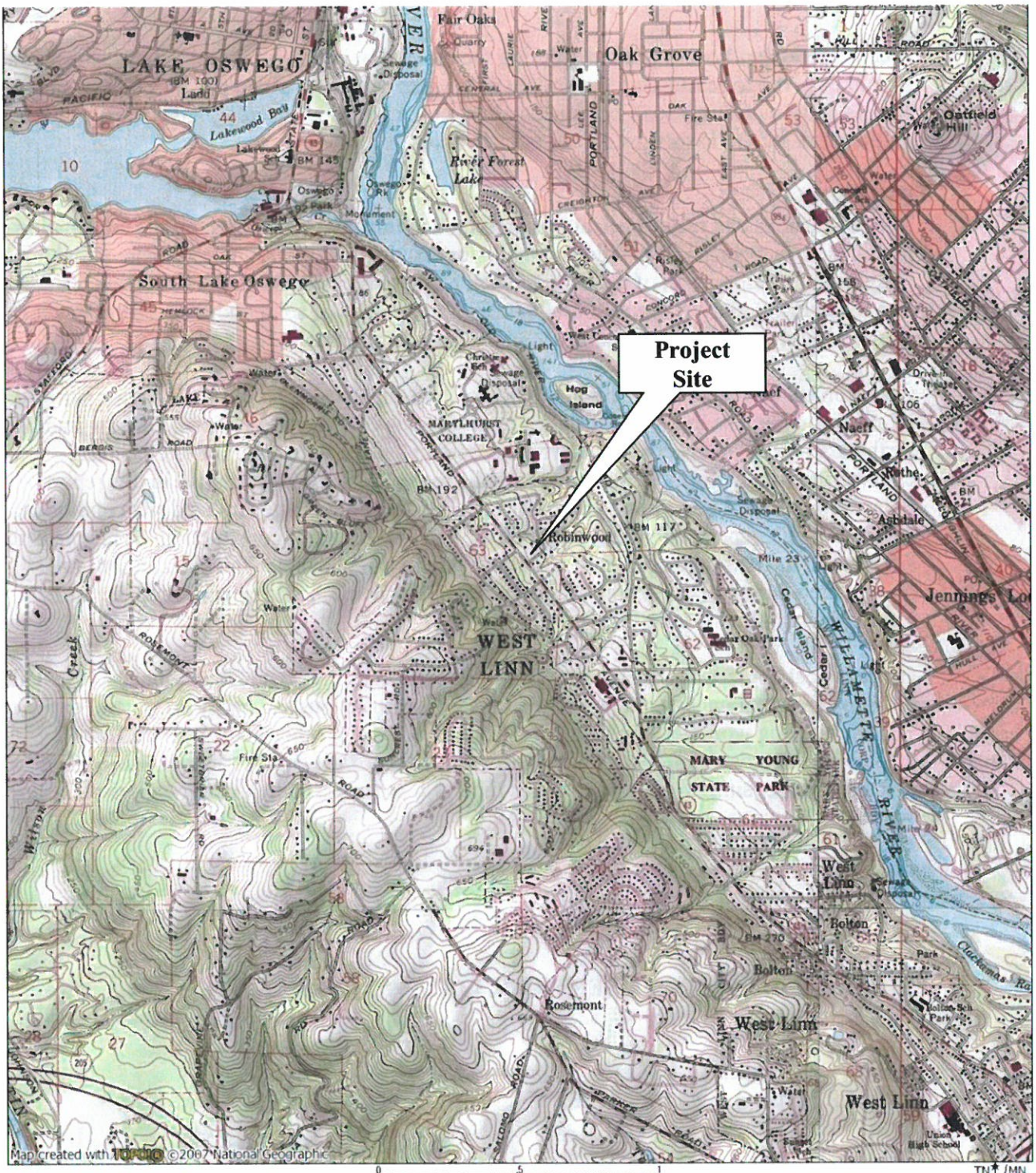
REGISTERED PROFESSIONAL ENGINEER
13507
OREGON
March 19, 1987
JOHN N. CUNNINGHAM

John N. Cunningham, P.E., G.E.
Oregon Registered Engineer No. 13,507

RENEWS 12-13-2015

(1) Addressee via .pdf
(1) Stuart Gordon Straus Architect, PC

Electronically signed by John Cunningham, PE, GE
2014.02.18 11:12:00 -08'00'



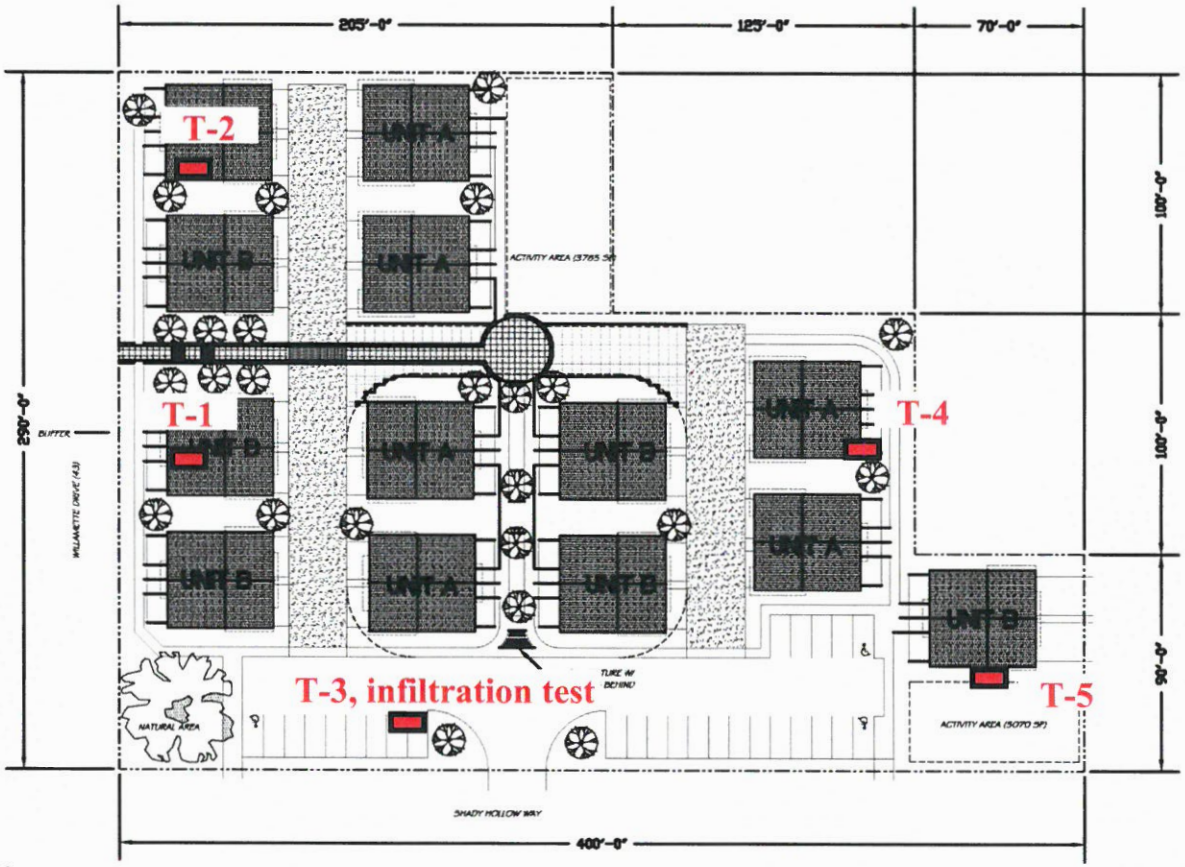
Alder Geotechnical Services, LLC

Job No. 448-7
Feb. 2014

Shady Hollow Village
West Linn, Oregon

Figure 1
Vicinity Map

Project No. 448-7



Preliminary site plan from
Stuart Gordon Straus Architect PC

Legend

T-1 Approx. location of backhoe test pit

Alder Geotechnical Services, LLC

Job # 448-7 Shady Hollow Village Figure 2
Feb. 2014 West Linn, OR Site Plan

APPENDIX A

FIELD INVESTIGATION

Five exploratory backhoe test pits were dug on January 31, 2014 at the approximate locations shown on the Site Plan (Figure 2). The test pits were excavated using a trackhoe equipped with a 2-foot-wide bucket. A geotechnical engineer observed and logged the test pits.

Disturbed soil samples were collected at selected intervals, sealed in plastic bags and brought to our laboratory for examination and testing.

The locations of the test pits are approximate. The location of each exploration was estimated using the site plan prepared by Stewart Gordon Strauss Architect.

The soils encountered in the test pits were generally described using the Unified Soil Classification System. A Key to Logs is attached as Figure B-1. The test pit logs are attached as Figures B-2 through B-6

Project: KEY TO TEST PIT LOGS Project Location: Project Number:	**Log of Test Pit T-0** Sheet 1 of 1

Date(s) Excavated	**Logged By**	**Checked By**
Length of Excavation	**Width of Excavation**	**Total Depth of Excavation** 11 feet
Excavation Equipment	**Excavation Contractor**	**Surface Elevation**
Water Observation(s) ATD 7' Water level encountered during drilling		**Weather**
Location		**Surface Condition**

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GWT	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	MOISTURE (%)	FINES (%)	POCKET PEN. (tsf)	REMARKS
	0			GRAB SAMPLE Bulk sample collected from excavated soil, sealed in a plastic bag.	GB 1-3				
	1								
	2			SHELBY TUBE THIN WALLED SAMPLER Thin-walled steel tube (3" outside diameter, 2.875" inside diameter, 30" long). The sampler is typically pushed 12" to 24" into the soil at the bottom of the test pit with the excavating equipment.	ST 1-1				
	3								
	4								
	5			Distinct geologic contact.					
	6			Gradual or uncertain geologic contact.					
	7		▽	Water level encountered during digging.					
	8			Note: The stratification lines shown on the test pit logs represent approximately boundaries between material types. The actual transisitions between materials may be gradual. These test pit logs and related information depict subsurface conditions only at the specific locations and at the particular time the test pits were dug.					
	9								
	10								
	11								
	12			Bottom of test pit at 11.0 feet.					

ALDER - TEST PIT LOG - GINT STD US.GPJ - 1/19/12 14:14 - C:\PROGRAM FILES\GINT\PROJECTS\KEY TO TEST PIT LOGS.GPJ

Project: Shady Hollow Village
Project Location: 18340 Shaddy Hollow Way, West Linn, Oregon
Project Number: 448-7

Log of Test Pit T-1

Sheet 1 of 1

Date(s) Drilled	31-Jan-14 to 31-Jan-14	**Logged By**	JNC	**Checked By**	JNC
Drilling Method	trackhoe	**Drill Bit Size/Type**	24" bucket	**Total Depth of Borehole**	8 feet
Drill Rig Type	trackhoe	**Drilling Contractor**	Bradley Const.	**Surface Elevation**	
Groundwater Level(s)	AD none encountered	**Sampling Method(s)**	Grab Sample	**Hammer Data**	
Borehole Backfill	excavated soils	**Location**			

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GWT	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	N VALUE	MOISTURE (%)	POCKET PEN. (tsf)
	0.0			LEAN CLAY TO SILT (CL/ML), dark gray brown with some rust mottling, moist, soft, medium plastic, porous with root and worm holes, crumb texture (TOPSOIL)	GB 1-1		25	
	2.5			SILT (ML), light brown with heavy rust and light gray mottling, moist, stiff to very stiff, medium plastic, some clay, weakly cemented, trace fine mica (FINE-GRAINED FLOOD DEPOSITS)				4
	5.0			few mottles below 5', massive, still weakly cemented	GB 1-2		17	
	7.5							
	10.0			Bottom of test pit at 8.0 feet.				

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

ALDER - BOREHOLE LOG - GINT STD US.GDT - 2/17/14 15:06 - C:\USERS\ALDERGEO\DOCUMENTS\0400\0448-07\TEST PITS 1-5.GPJ

Alder Geotechnical Services

Figure A-2

Project: Shady Hollow Village
Project Location: 18340 Shaddy Hollow Way, West Linn, Oregon
Project Number: 448-7

Log of Test Pit T-2

Sheet 1 of 1

Date(s) Drilled	31-Jan-14 to 31-Jan-14	**Logged By**	JNC	**Checked By**	JNC
Drilling Method	trackhoe	**Drill Bit Size/Type**	24" bucket	**Total Depth of Borehole**	8 feet
Drill Rig Type	trackhoe	**Drilling Contractor**	Bradley Const.	**Surface Elevation**	
Groundwater Level(s)	AD none encountered	**Sampling Method(s)**	Grab Sample	**Hammer Data**	
Borehole Backfill	excavated soils	**Location**			

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GWT	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	N VALUE	MOISTURE (%)	POCKET PEN. (tsf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / □ FINES CONTENT (%) □ 20 40 60 80
	0.0			LEAN CLAY TO SILT (CL/ML), dark gray brown with some rust mottling, moist, soft, medium plastic, porous with root and worm holes, crumb texture (TOPSOIL)					
				LEAN CLAY TO SILT (CL/ML), brown with heavy rust and tan mottling, moist, firm to stiff, medium plastic (FINE-GRAINED FLOOD DEPOSITS)	GB 2-1		31		
	2.5			SILT (ML), light brown with some rust and light gray mottling, moist, stiff to very stiff, medium plastic, some clay, weakly cemented, trace fine mica (FINE-GRAINED FLOOD DEPOSITS)				2	
								4.5	
					GB 2-2		32		
	5.0			below 6', low plasticity, massive, no mottling, no cementation					
	7.5								
				Bottom of test pit at 8.0 feet.					
	10.0								

ALDER - BOREHOLE LOG - GINT STD US.GDT - 2/17/14 15:06 - C:\USERS\ALDERGEO\DOCUMENTS\0400\0448-07\TEST PITS 1-5.GPJ

Alder Geotechnical Services

Figure A-3

Project: Shady Hollow Village
Project Location: 18340 Shaddy Hollow Way, West Linn, Oregon
Project Number: 448-7

Log of Test Pit T-3

Sheet 1 of 1

Date(s) Drilled	31-Jan-14 to 31-Jan-14	**Logged By**	JNC	**Checked By**	JNC
Drilling Method	trackhoe	**Drill Bit Size/Type**	24" bucket	**Total Depth of Borehole**	2.75 feet
Drill Rig Type	trackhoe	**Drilling Contractor**	Bradley Const.	**Surface Elevation**	
Groundwater Level(s)		**Sampling Method(s)**		**Hammer Data**	
Borehole Backfill	excavated soils	**Location**			

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GWT	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	N VALUE	MOISTURE (%)	POCKET PEN. (tsf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / □ FINES CONTENT (%) □ 20 40 60 80
	0.0			LEAN CLAY TO SILT (CL/ML), dark gray brown with some rust mottling, moist, soft, medium plastic, porous with root and worm holes, crumb texture (TOPSOIL)					
	2.5			LEAN CLAY TO SILT (CL/ML), brown with heavy rust and tan mottling, moist, firm to stiff, medium plastic (FINE-GRAINED FLOOD DEPOSITS)					
	5.0			Bottom of test pit at 2.8 feet.					
	7.5								
	10.0								

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Alder Geotechnical Services

Figure A-4

Project: Shady Hollow Village
Project Location: 18340 Shaddy Hollow Way, West Linn, Oregon
Project Number: 448-7

Log of Test Pit T-4

Sheet 1 of 1

Date(s) Drilled	31-Jan-14 to 31-Jan-14	**Logged By**	JNC	**Checked By**	JNC
Drilling Method	trackhoe	**Drill Bit Size/Type**	24" bucket	**Total Depth of Borehole**	8.5 feet
Drill Rig Type	trackhoe	**Drilling Contractor**	Bradley Const.	**Surface Elevation**	
Groundwater Level(s)	ATD none encountered	**Sampling Method(s)**	Grab Sample	**Hammer Data**	
Borehole Backfill	excavated soils	**Location**			

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GWT	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	N VALUE	MOISTURE (%)	POCKET PEN. (tsf)
	0.0			LEAN CLAY TO SILT (CL/ML), dark gray brown with some rust mottling, moist, soft, medium plastic, porous with root and worm holes, crumb texture (TOPSOIL)				
				LEAN CLAY TO SILT (CL/ML), brown with heavy rust and tan mottling, moist, firm to stiff, medium plastic (FINE-GRAINED FLOOD DEPOSITS)	GB 4-1		31	1.5
	2.5			SILT (ML), light brown with heavy rust and light gray mottling, stiff, trace fine mica, moderate to low plasticity (FINE-GRAINED FLOOD DEPOSITS)				4.5
					GB 4-2		36	
	5.0			below 6', no mottling, massive, low plasticity	GB 4-3		36	
	7.5				GB 4-4		36	
	10.0			Bottom of test pit at 8.5 feet.				

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

ALDER - BOREHOLE LOG - GINT STD US.GDT - 2/17/14 15:06 - C:\USERS\ALDERGEO\DOCUMENTS\0400\0448-07\TEST PITS 1-5.GPJ

Alder Geotechnical Services

Figure A-5

Project: Shady Hollow Village
Project Location: 18340 Shaddy Hollow Way, West Linn, Oregon
Project Number: 448-7

Log of Test Pit T-5

Sheet 1 of 1

Date(s) Drilled	31-Jan-14 to 31-Jan-14	**Logged By**	JNC	**Checked By**	JNC
Drilling Method	trackhoe	**Drill Bit Size/Type**	24" bucket	**Total Depth of Borehole**	8 feet
Drill Rig Type	trackhoe	**Drilling Contractor**	Bradley Const.	**Surface Elevation**	
Groundwater Level(s)	ATD none encountered	**Sampling Method(s)**	Grab Sample	**Hammer Data**	
Borehole Backfill	excavated soils	**Location**			

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	GWT	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	N VALUE	MOISTURE (%)	POCKET PEN. (tsf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
	0.0			LEAN CLAY TO SILT (CL/ML), dark gray brown, soft to firm, moist, moderately plastic, many fine cedar roots, worm holes, root holes (TOPSOIL)					
	2.5			LEAN CLAY TO SILT (CL/ML), brown with heavy rust and tan mottling, moist, firm to stiff, medium plastic (FINE-GRAINED FLOOD DEPOSITS)					
	5.0			SILT (ML), light brown with heavy rust and light gray mottling, moist, stiff to very stiff, medium plastic, some clay, weakly cemented, trace fine mica (FINE-GRAINED FLOOD DEPOSITS)	GB 5-1		29		
	7.5			below 6', low plastic, homogeneous, still weakly cemented	GB 5-2		28		
	10.0			Bottom of test pit at 8.0 feet.					

ALDER - BOREHOLE LOG - GINT STD US.GDT - 2/17/14 15:06 - C:\USERS\ALDERGEO\DOCUMENTS\0400\0448-07\TEST PITS 1-5.GPJ

TRAFFIC ANALYSIS REPORT

FOR A

COMPREHENSIVE PLAN MAP AMENDMENT AND ZONE CHANGE

Willamette Drive (Highway 43)

CITY OF WEST LINN

PREPARED BY

CHARBONNEAU ENGINEERING LLC

MAY 2008

PROJECT 08-16

TRAFFIC ANALYSIS REPORT

FOR A

COMPREHENSIVE PLAN MAP AND ZONE CHANGE

Willamette Drive (Highway 43)

CITY OF WEST LINN

PREPARED BY

Charbonneau Engineering LLC

9370 SW Greenburg Rd., Suite 411, Portland, OR 97223
(503) 293-1118 • FAX (503) 293-1119

5-12-08

MAY 2008

PROJECT 08-16

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List of Figures

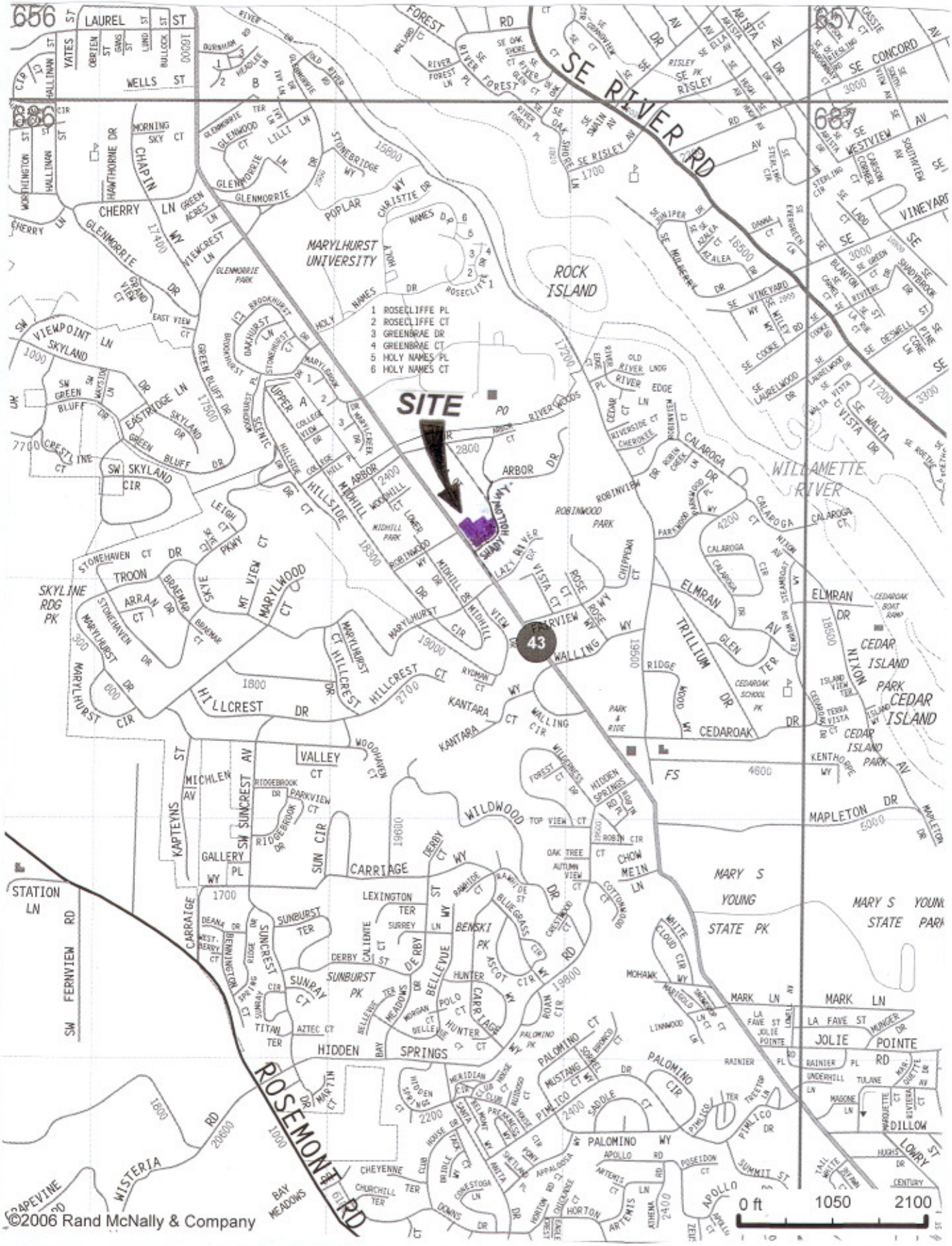
INTRODUCTION

This traffic study has been prepared to document and evaluate the traffic operation and safety conditions that may result from the proposed comprehensive plan map and corresponding zone change on property in West Linn, Oregon. This site is owned by Willamette Commons LLC. This analysis will include the evaluation of the site considering the current R-10 zoning with the existing Low Density Residential Comprehensive Plan designation; and the proposed R-2.1 zoning with the proposed Medium High Residential Density Comprehensive Plan designation. Changing the site's zoning from R-10 to R-2.1 would require a concurrent change to both the comprehensive plan map and to the zoning map.

Under its current zoning the site has the potential for a development maximum of nine (9) single-family homes. Under the proposed zoning the site has the potential for development of up to 43 multi-family units, which may include townhomes, apartments, or condominiums. For purposes of analysis the impacts of the multi-family units will be evaluated with the Institute of Transportation Engineers (ITE) Apartment (ITE 220) trip generation rates.

The study area is defined as the surrounding neighborhood, including Willamette Drive (Highway 43) and Shady Hollow Way. The site consists of three separate parcels (Taxlot 1100, 1200, and 1500) on which a total of two single-family homes (house #18395 on taxlot 1100 and house #18340 on taxlot 1200) are located. The site is highlighted on the vicinity map (Figure 'a').

The Oregon Highway Plan (Action 1F.2.) identifies that highway mobility standards should be applied over a 20-year planning horizon in local transportation system plans (TSP) or a planning horizon of 15 years from the proposed date of amendment adoption, whichever is greater. The City of West Linn's TSP was adopted in year 1991 which corresponds to a 2011 planning horizon year. The proposed amendment adoption date (year 2008) for the Willamette Commons site corresponds to a 2023 planning horizon. For this reason, in addition to evaluating the site's buildout (in year 2013) this analysis will include evaluation of the site in the required planning horizon (in year 2023).



FILE NAME: 0816flow.dwg

PLOT DATE: 04.15.08

CHARBONNEAU ENGINEERING LLC

PROJECT: 08-16

NOTES:
NO SCALE

N

VICINITY MAP
WILLAMETTE COMMONS

FIGURE
a

TRAFFIC ANALYSIS CONSIDERATIONS

In the project scope established with Oregon Department of Transportation (ODOT) staff and City of West Linn staff, a number of important elements were identified and considered in this study.

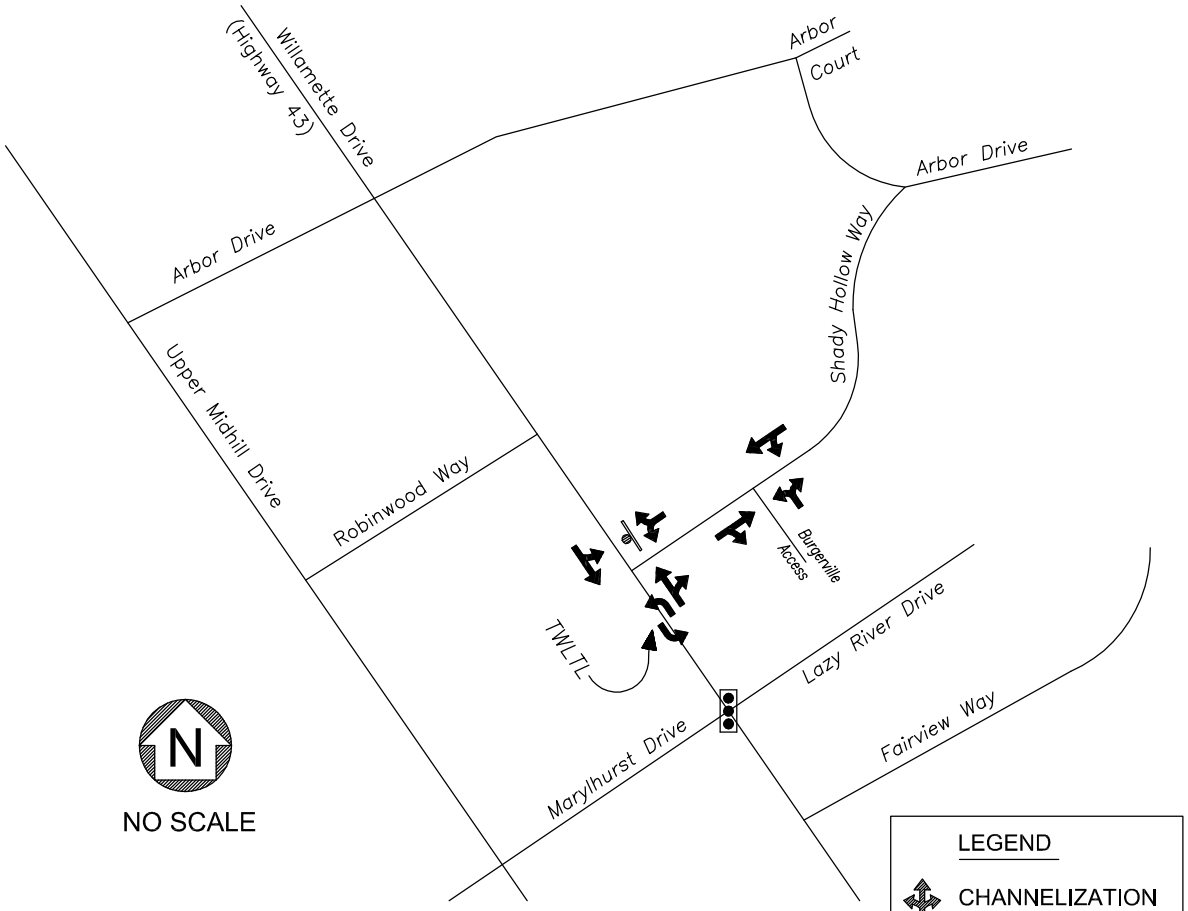
- Inventory and record pertinent information such as traffic control devices, circulation patterns, lane widths, pedestrian & bicycle facilities, transit zones, parking conditions, and street characteristics.
- Record data on typical weekdays during the AM and PM peak traffic hours.
- Conduct traffic counts at the Willamette Drive (Highway 43) and Shady Hollow Way intersection and the Burgerville access onto Shady Hollow Way during the AM and PM peak hours.
- Level of service (LOS) analysis of the study intersections to measure the approach delays for comparison to City of West Linn and ODOT standards.
- Inclusion of the Transportation Planning Rule (TPR) response and a proposal to change both the comprehensive plan map and the zoning map.
- Verification of intersection sight distance at the site's proposed access location.
- Review of traffic accident data furnished ODOT and determination of the intersection crash rates at the study intersections.
- Consideration of traffic circulation.

SITE DESCRIPTION, STREETS, AND CRITICAL INTERSECTIONS

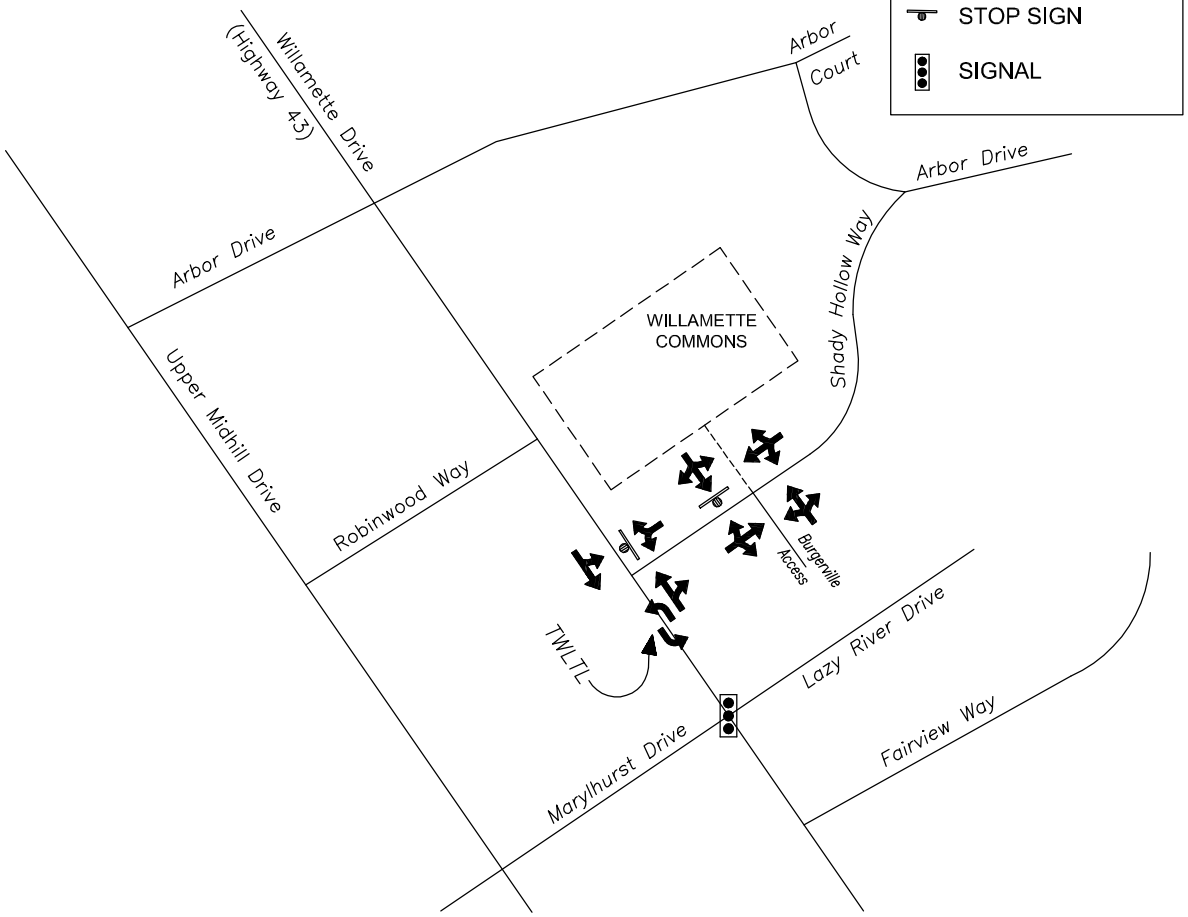
The Willamette Commons site is located at the northeast corner of the Willamette Drive (Highway 43) and Shady Hollow Way intersection. The site would be developed on three parcels (taxlots 1100, 1200, and 1500) on which two homes are currently located. The current proposal includes a change to the site's current zoning, Low Density Residential (R-10), to Medium High Density Residential (R-2.1) zoning. Changing the site's zoning from R-10 to R-2.1 would require a concurrent change to both the comprehensive plan map and to the zoning map.

Under its current zoning the site has the potential for a maximum development of nine (9) single-family homes. It is expected that the nine homes would have potentially up to three accesses. Under the proposed zoning the site has the potential for development of up to 43 multi-family units. The site would have a single access (to Shady Hollow Way). The access would be located approximately 160 feet east of Willamette Drive (Highway 43) and opposite of the Burgerville access to Shady Hollow Way. A site plan is not available for either development scenario as no development is proposed at this time.

Currently, the Willamette Drive (Highway 43) and Shady Hollow Way intersection and the Burgerville access and Shady Hollow Way intersection are unsignalized. The existing and proposed lane configurations and traffic control are presented in Figure 'b'.



EXISTING



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PROJECT: 08-16

NOTES: TWLTL = Two-way left turn lane.

LANE CONFIGURATIONS AND TRAFFIC CONTROL WILLAMETTE COMMONS

FIGURE b

Willamette Drive (Highway 43) is classified by the City of West Linn as a principal arterial and is classified by ODOT as a State Highway on the National Highway System (NHS). North of Shady Hollow Way, Willamette Drive (Highway 43) is a 46-foot wide two-lane roadway with a 10-foot wide center gore area that separates northbound and southbound traffic flows. South of Shady Hollow Way, Willamette Drive (Highway 43) is 49-foot wide three-lane roadway with a center left turn lane. Bicycle lanes are provided on both sides of Willamette Drive (Highway 43). A sidewalk is provided along the south side Willamette Drive (Highway 43) along the Burgerville frontage.

Shady Hollow Way is classified by the City of West Linn as a local street. Shady Hollow Way is a 25-28-foot wide, two-lane roadway with a sidewalk provided along the Burgerville frontage (on the south side of the road). The double-yellow line that separates westbound and eastbound traffic flows is extremely faded and should be re-striped with development of the site. Bicycle lanes are not provided.

Willamette Drive (Highway 43) and Shady Hollow Way is a tee-shaped intersection. On the north approach a shared left-through lane is provided. On the east approach a shared left-right lane is provided. On the south approach a shared through-right lane is provided. Crosswalks are not provided.

Burgerville access and Shady Hollow Way is a tee-shaped intersection. On the east approach a shared left-through lane is provided. On the south approach a shared left-right lane is provided. On the west approach a shared through-right lane is provided. Crosswalks are not provided. With development of the site this intersection will become a four-legged intersection with a shared left-through-right lane on each approach.

TRAFFIC OPERATIONAL ANALYSIS

The Oregon Highway Plan (Action 1F.2.) identifies that highway mobility standards should be applied over a 20-year planning horizon in local transportation system plans (TSP) or a planning horizon of 15 years from the proposed date of amendment adoption, whichever is greater. The City of West Linn's TSP was adopted in year 1991 which corresponds to a 2011 planning horizon year. The proposed amendment adoption date (year 2008) for the Willamette Commons site corresponds to a 2023 planning horizon. For this reason, in addition to evaluating the site's buildout (in year 2013) this analysis will include evaluation of the site in the required planning horizon (in year 2023).

In order to evaluate traffic flow and delay in the area the Shady Hollow Way intersections with Willamette Drive (Highway 43) and the Burgerville access were analyzed for level of service (LOS) conditions and safety. LOS analyses were completed in the AM and PM peak hour periods for the following scenarios:

- 2008 Existing Traffic
- 2013 Background Traffic
- 2013 Total Traffic
- 2023 Planning Horizon Traffic

In order to perform the LOS analysis at the critical intersections manual traffic counts were conducted during the AM peak (7:00-9:00 AM) and PM peak (4:00-6:00 PM) traffic hours. The AM and PM peak period traffic counts at the Willamette Drive (Highway 43) and Shady Hollow Way intersection were conducted on Wednesday, April 2nd, 2008 and Tuesday, April 1st, 2008, respectively. The AM and PM peak period traffic counts at the Burgerville access and Shady Hollow Way intersection were conducted on Friday, April 4th, 2008 and Thursday, April 3rd, 2008, respectively. Figure 1 illustrates the existing volume data for the weekday peak hours.

The City of West Linn's website was used to confirm that there are not currently any in-process projects that will affect the study area intersections.

Background growth is comprised of the existing traffic factored with a traffic growth rate established by the City of West Linn's TSP. The analysis for this project will use a growth rate of 2.0% per year over the five-year buildout scenario. This growth rate will also be used to evaluate the growth estimated to occur through the 2023 planning horizon. Year 2013 background traffic volumes, the sum of existing traffic and background growth, are illustrated in Figure 2.

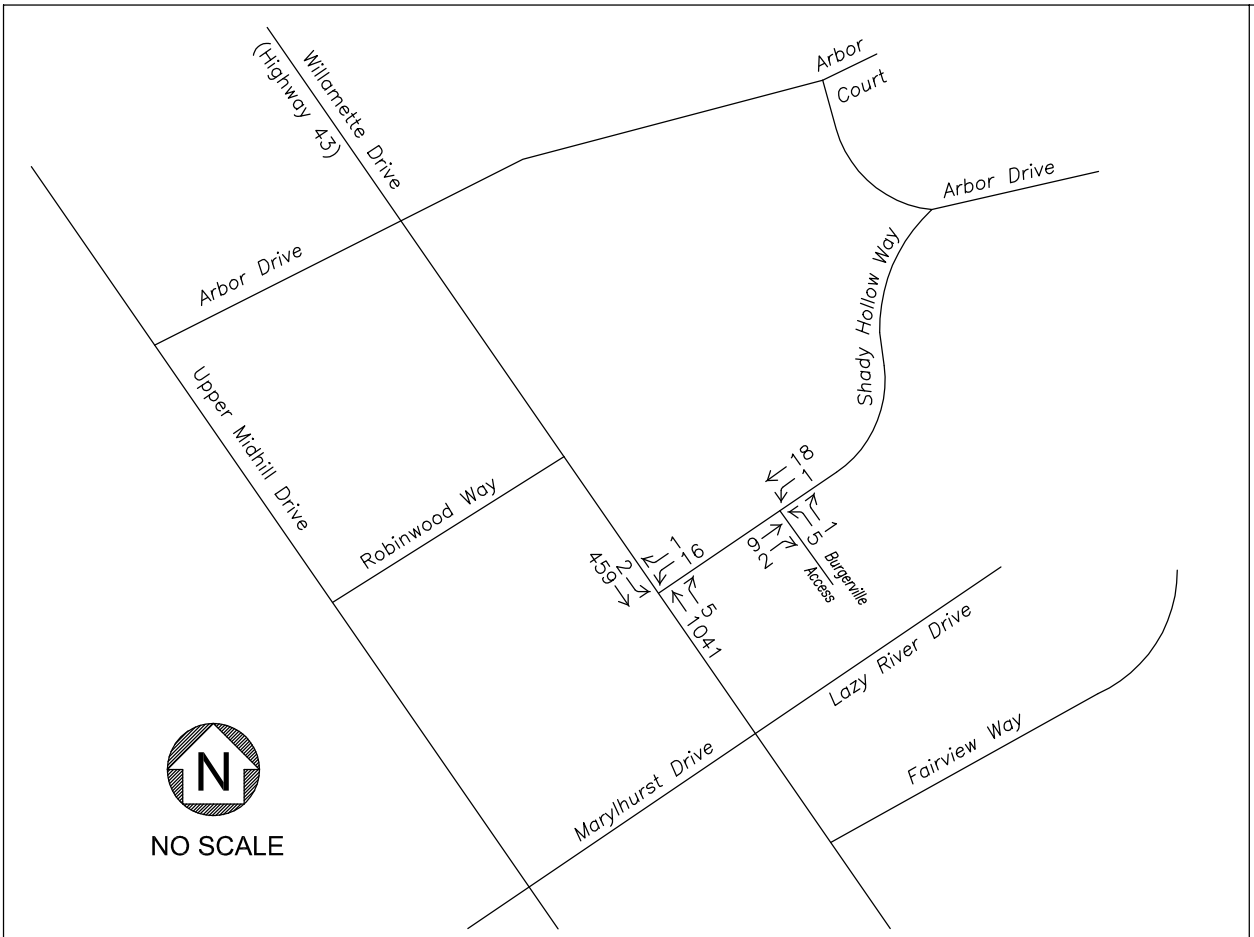
The 2013 total traffic is the summation of background traffic volumes and site generated traffic. The peak hour volumes with the site's current R-10 zoning are presented in Figure 5a. The peak hour volumes with the site's proposed R-2.1 zoning are presented in Figure 5b.

The 2023 planning horizon traffic is the summation of 2013 total traffic and 10 years of traffic growth (occurring between year 2013 and year 2023). The year 2023 planning horizon peak hour volumes with the site's current and proposed zoning are presented in Figure 6a and Figure 6b, respectively.

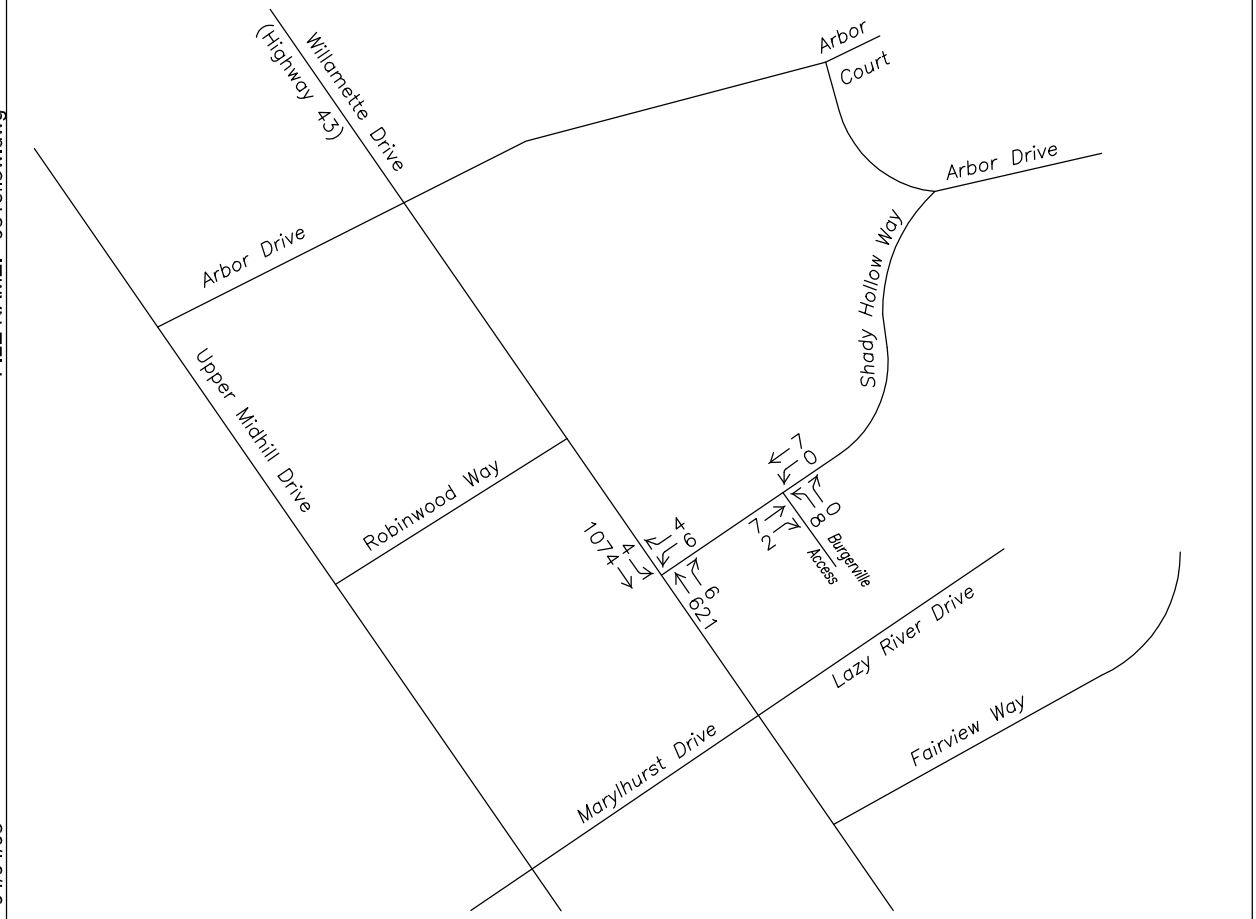
VEHICULAR TRIP GENERATION

Trip rates presented in the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, Seventh Edition, were utilized to estimate the site's trip generation. Specifically, Single-Family Residential (ITE 210) trip rates were applied to estimate the trips generated by the site for the current R-10 zoning analysis scenario. Apartment (ITE 220) trip rates were applied to estimate the trips generated by the site for the proposed R-2.1 zoning analysis scenario. A credit for the trips generated by the existing two homes on the site has not been taken at this time.

Table 1a presents the trip generation estimate for the current R-10 zoning analysis scenario. Table 1b presents the trip generation estimate for the proposed R-2.1 zoning analysis scenario.



AM
PEAK
HOUR



PM
PEAK
HOUR

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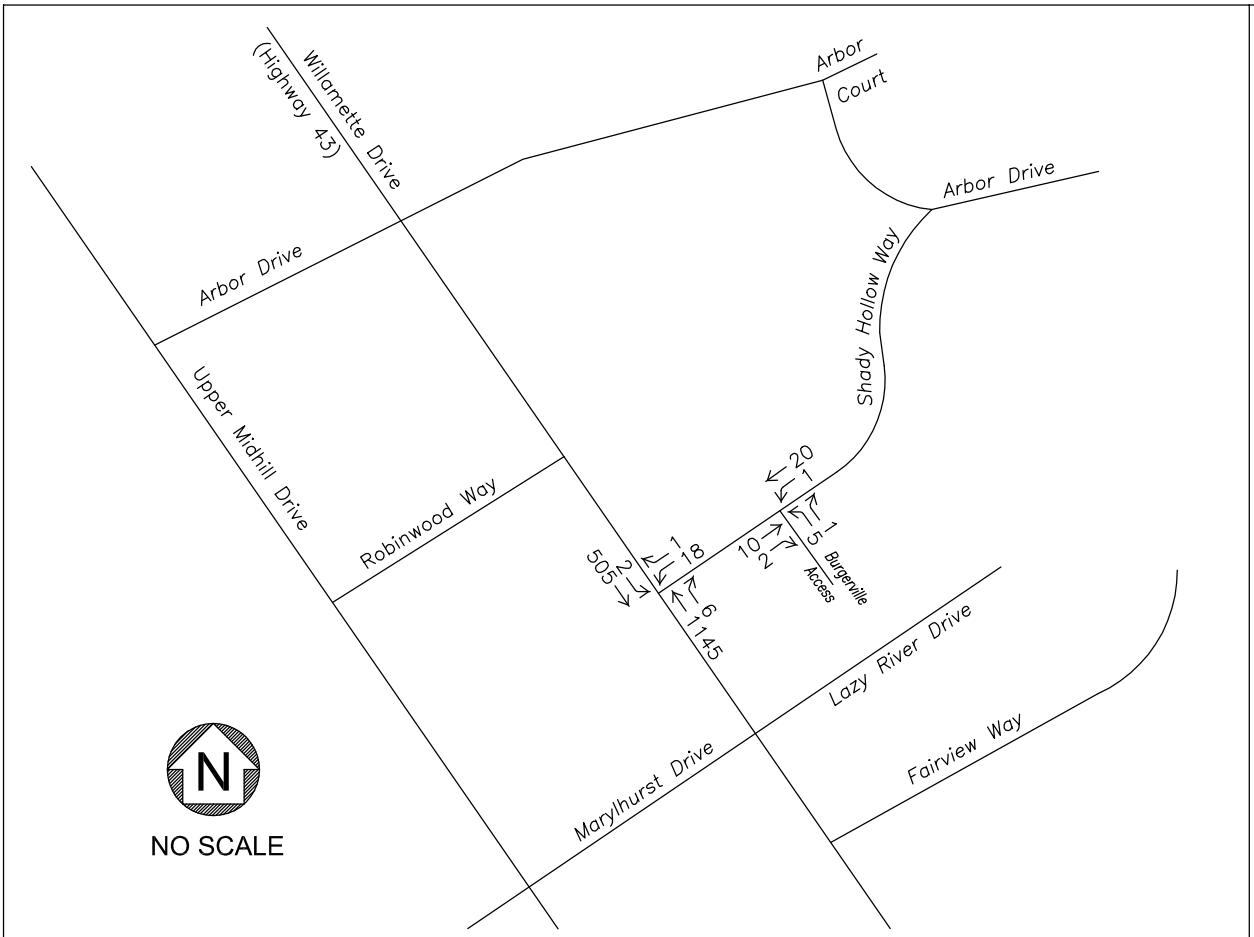
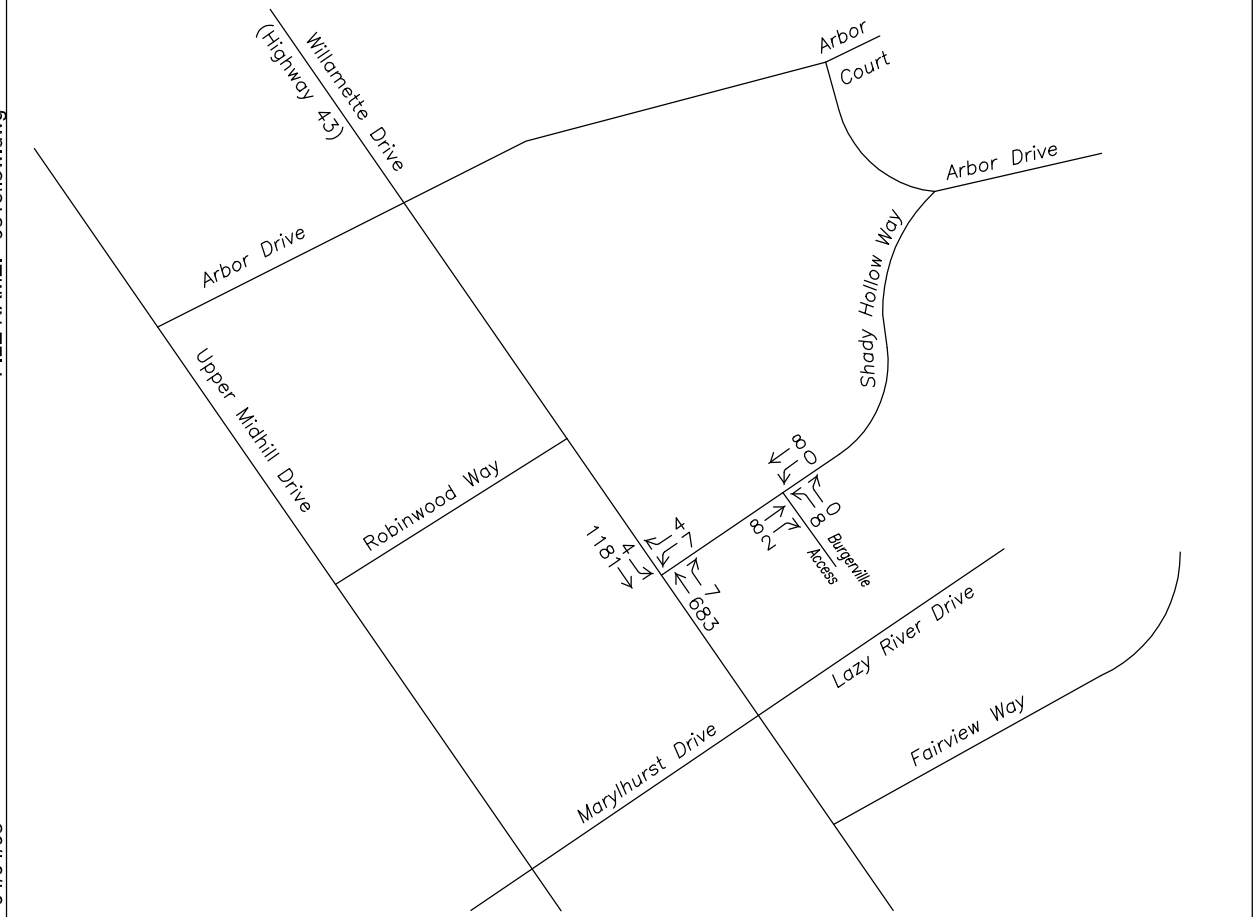
PROJECT: 08-16

NOTES:

2008 EXISTING TRAFFIC
WILLAMETTE COMMONS

FIGURE
1





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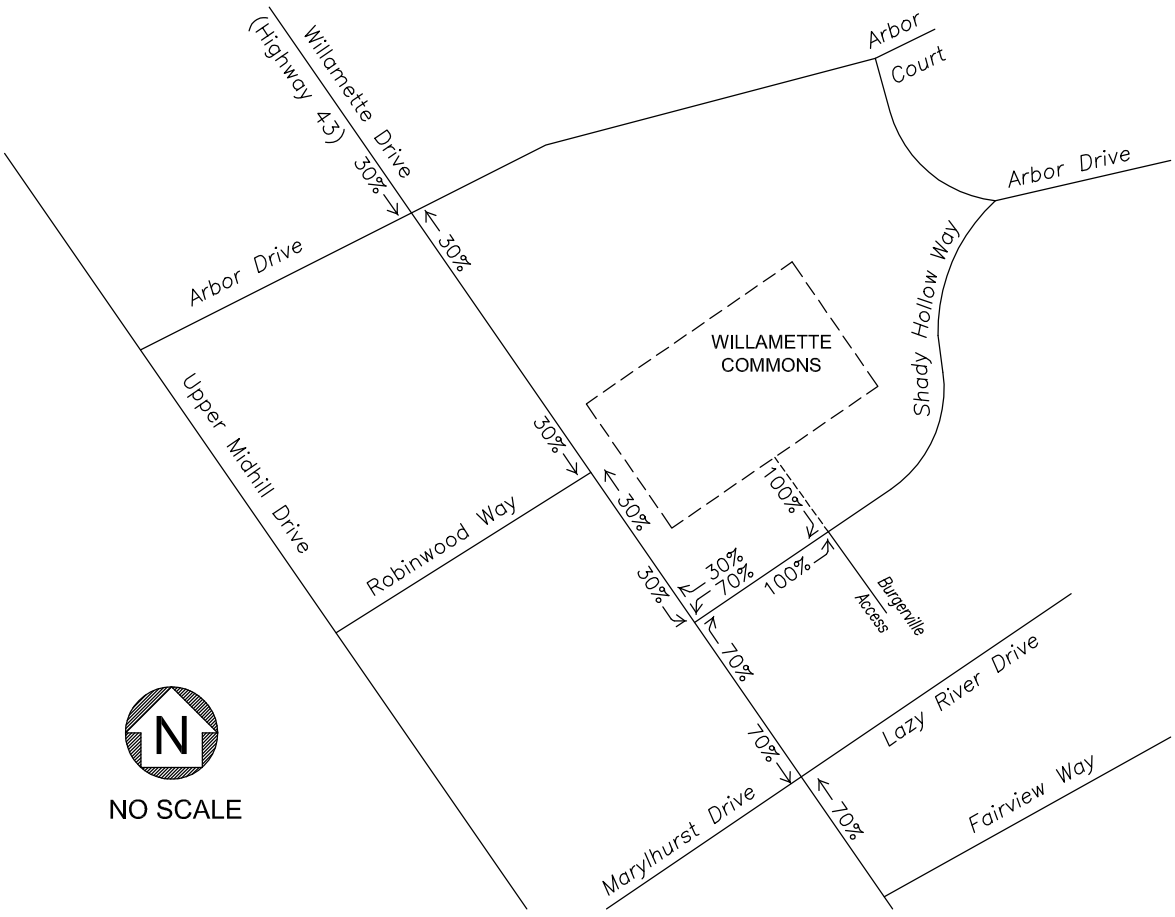
NOTES: 2013 Background Traffic = 2008 Existing Traffic + growth (2% per year for 5 years).

2013 BACKGROUND TRAFFIC
WILLAMETTE COMMONS

FIGURE

2

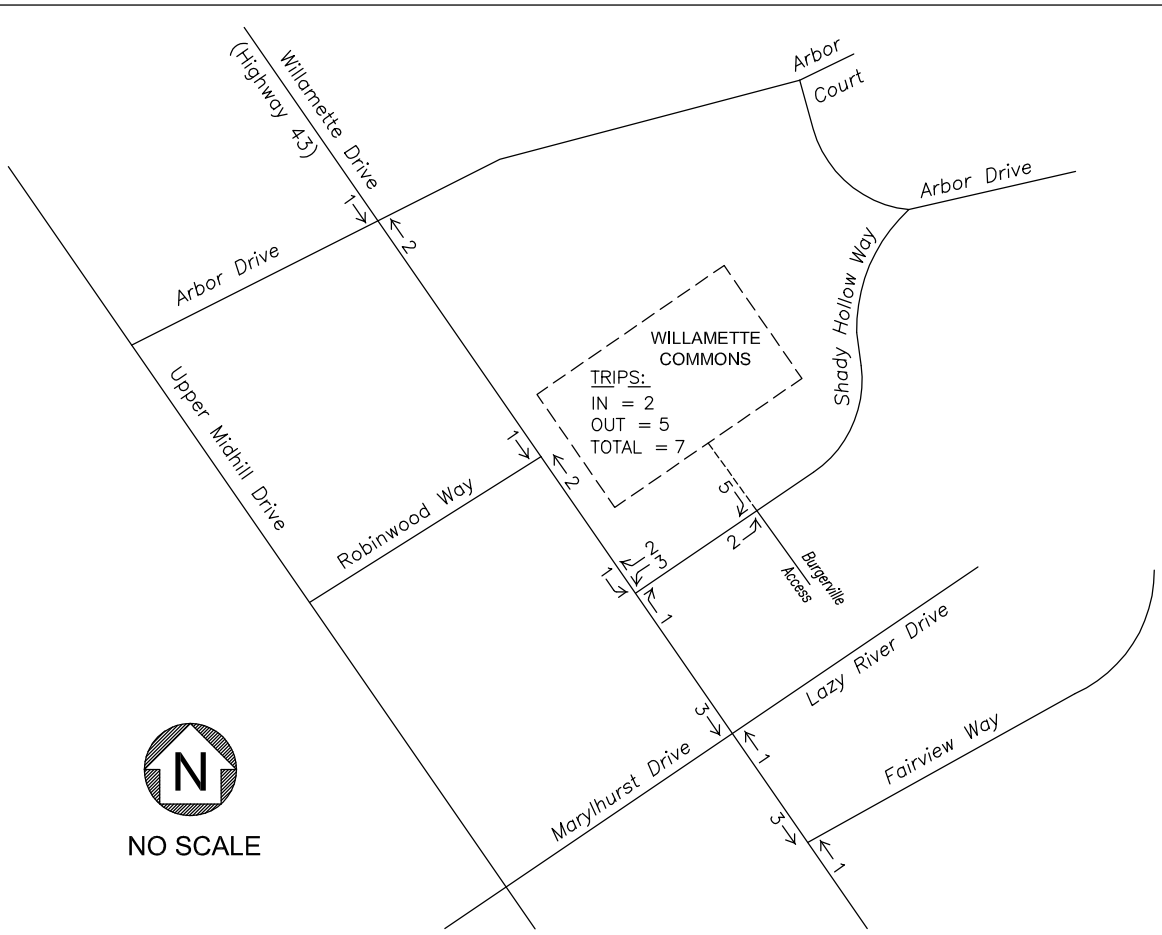


AM PEAK HOUR & PM PEAK HOUR

FILE NAME: 0816flow.dwg

PLOT DATE: 04.04.08

CHARBONNEAU ENGINEERING LLC PROJECT: 08-16	NOTES: Trip distribution based on existing traffic patterns and engineering judgement.	TRIP DISTRIBUTION EXISTING & PROPOSED ZONING WILLAMETTE COMMONS	FIGURE 3



AM PEAK HOUR

PM PEAK HOUR

FILE NAME: 0816flow.dwg

PLOT DATE: 04.04.08

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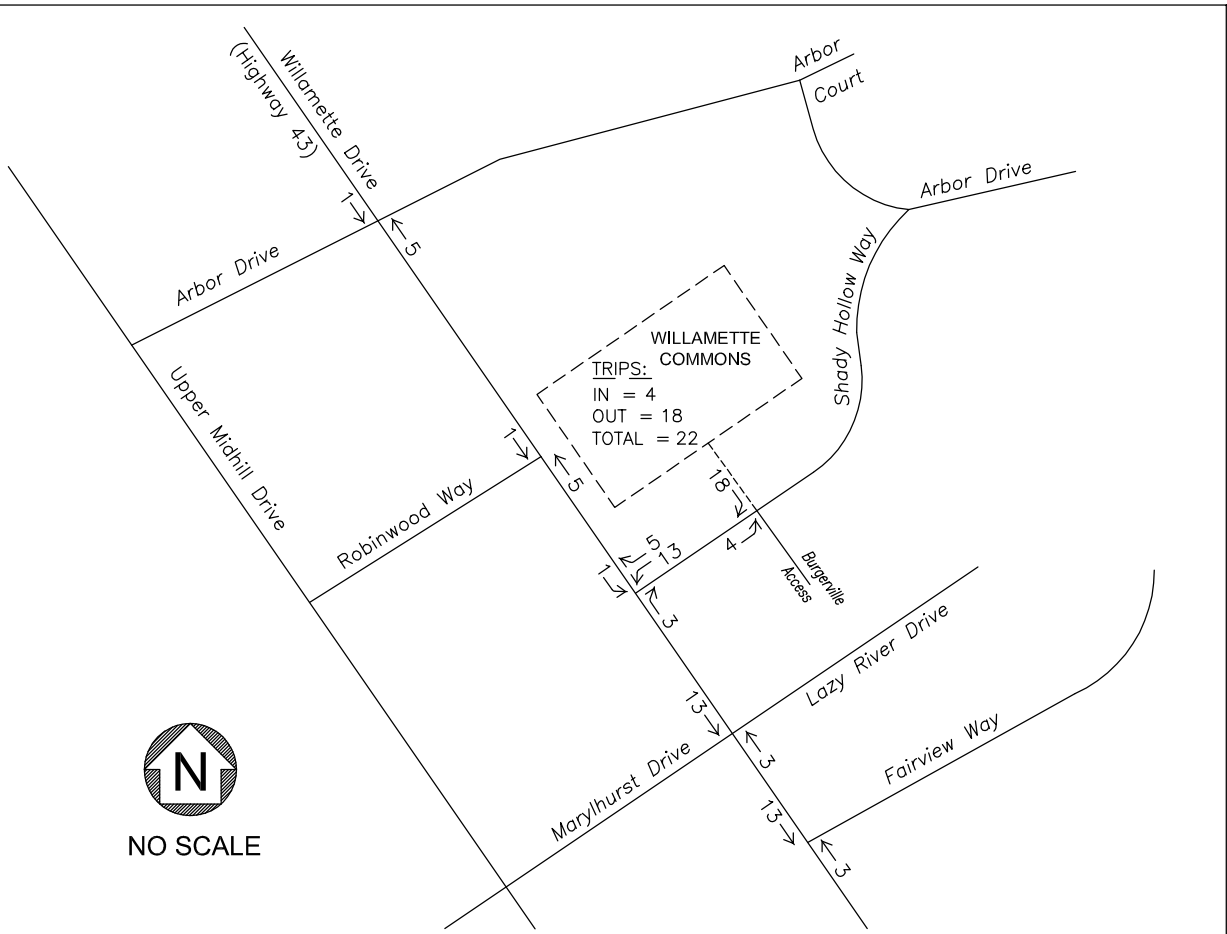
PROJECT: 08-16

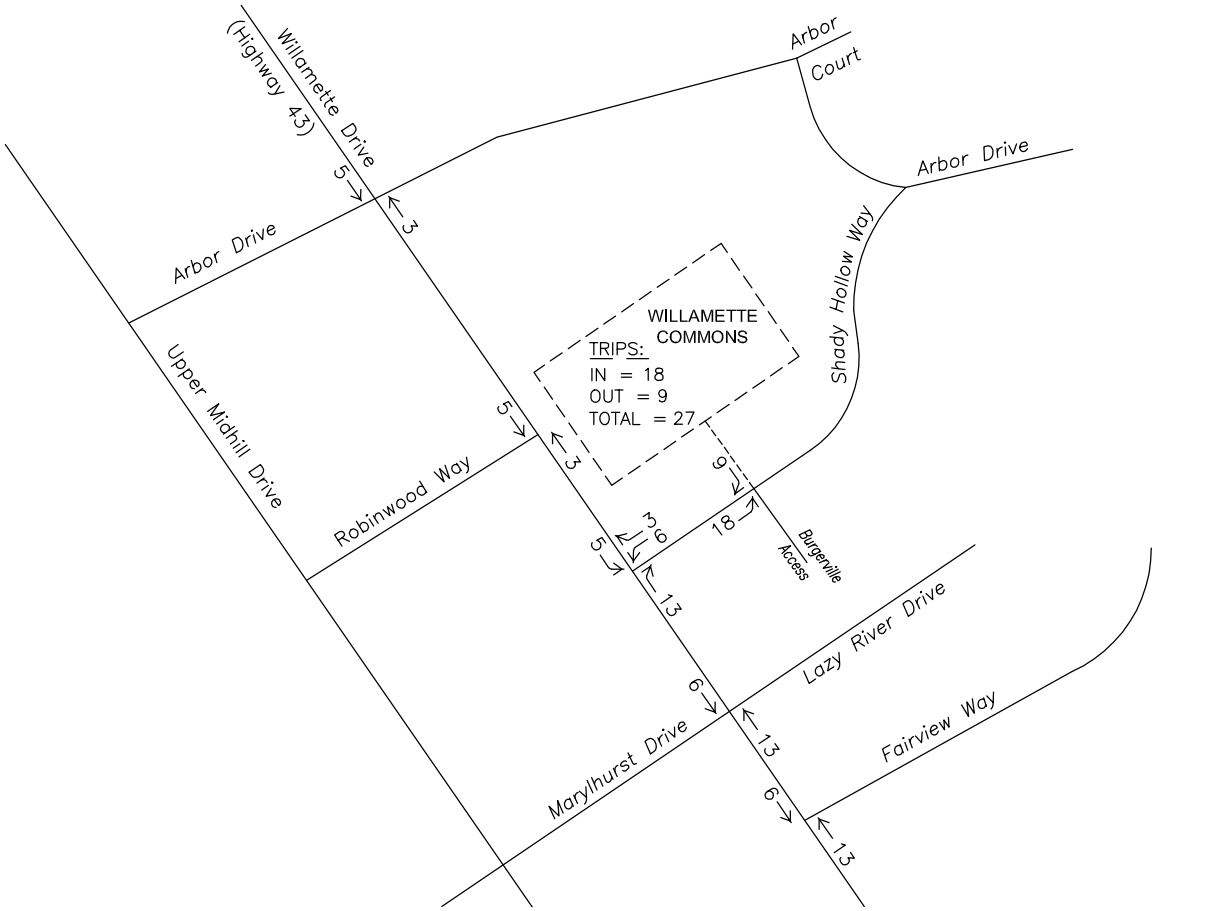
NOTES: Trip generation based on Single-Family Residential (ITE 210) trip rates.

TRIP ASSIGNMENT CURRENT (R-10) ZONING WILLAMETTE COMMONS

FIGURE 4a



AM
PEAK
HOUR



PM
PEAK
HOUR

FILE NAME: 0816flow.dwg

PLOT DATE: 04.04.08

CHARBONNEAU ENGINEERING LLC

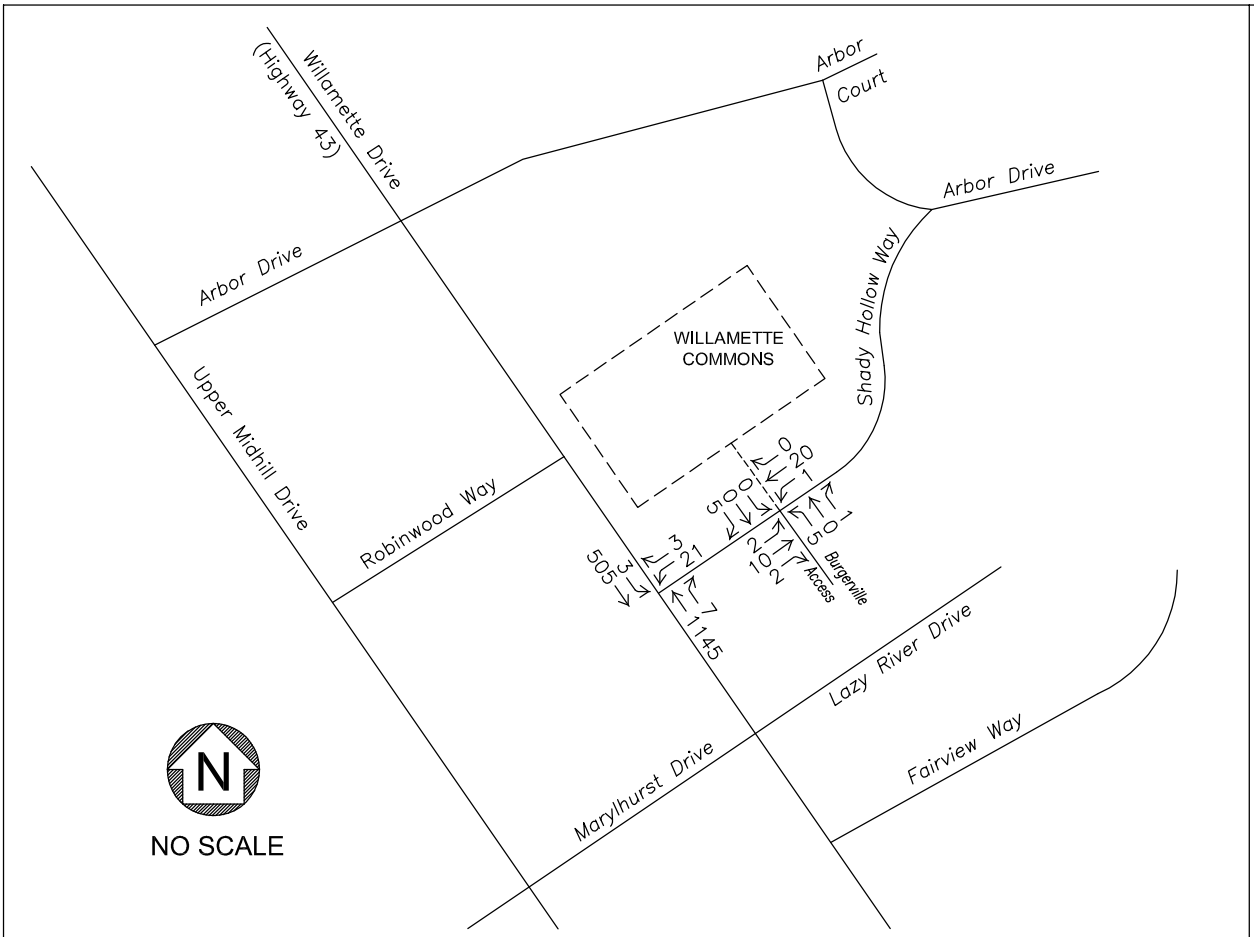
PROJECT: 08-16

NOTES: Trip generation based on Apartment (ITE 220) trip rates.

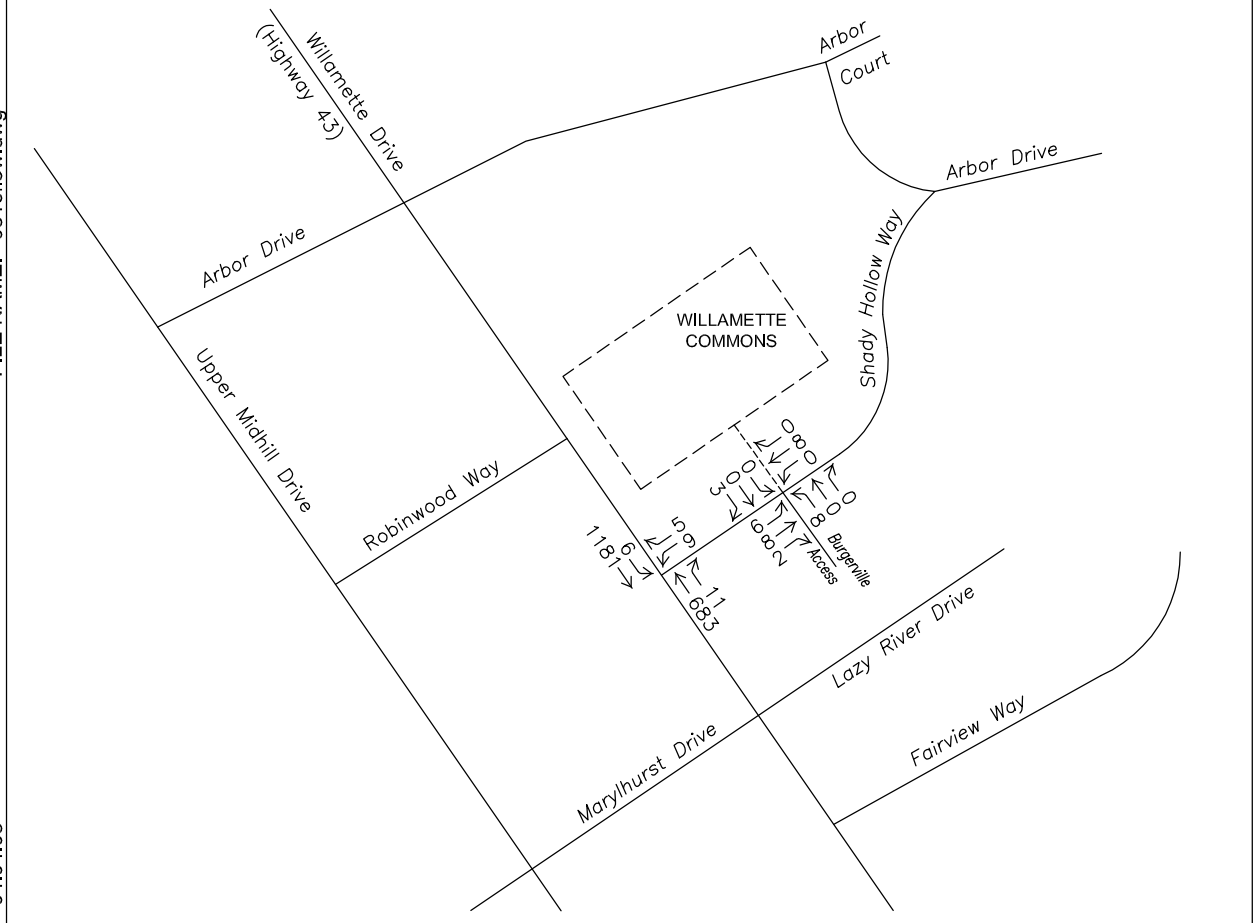
TRIP ASSIGNMENT
PROPOSED (R 2.1) ZONING
WILLAMETTE COMMONS

FIGURE

4b



AM
PEAK
HOUR



PM
PEAK
HOUR

FILE NAME: 0816flow.dwg

PLOT DATE: 04.04.08

CHARBONNEAU ENGINEERING LLC

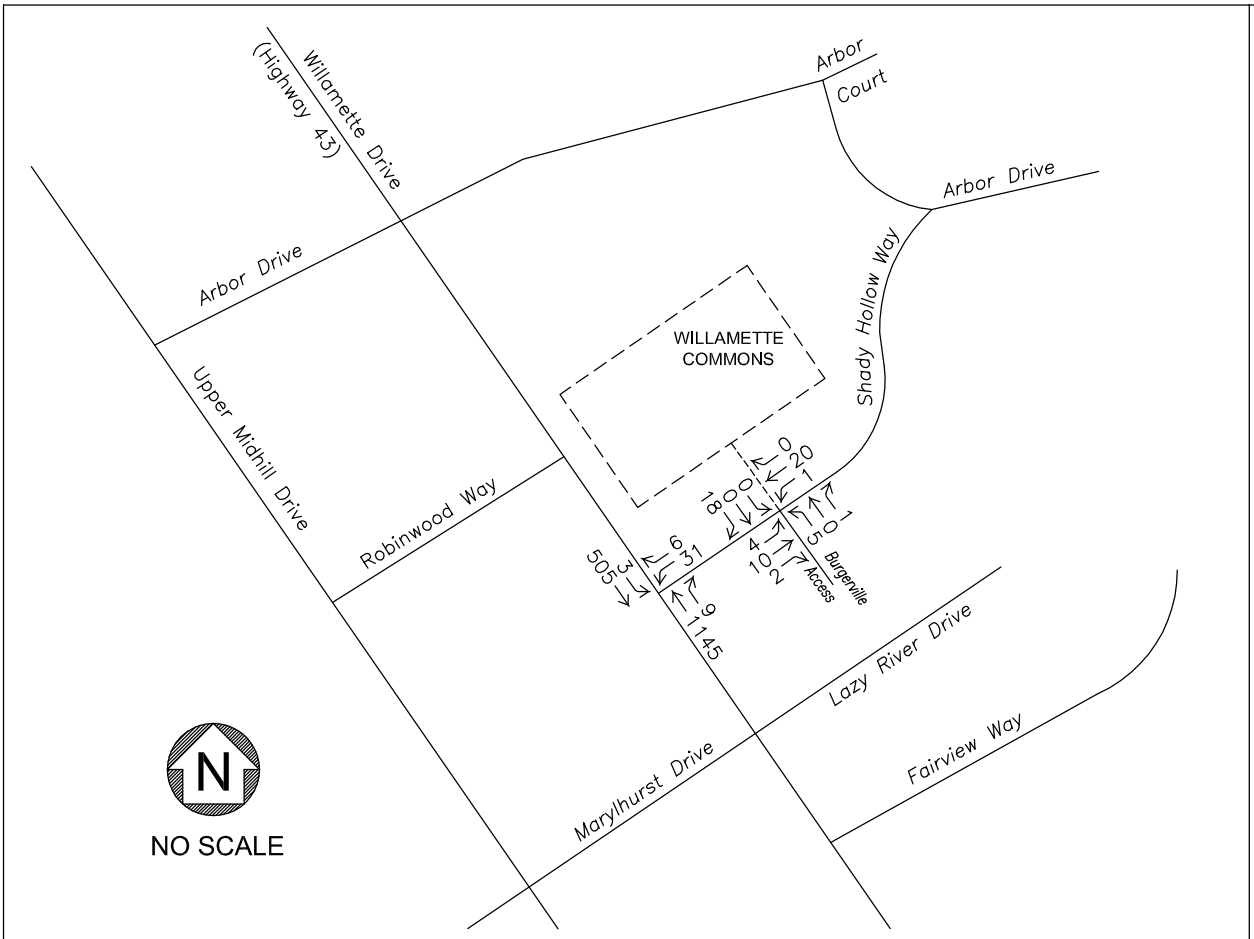
PROJECT: 08-16

NOTES: 2013 Total Traffic = 2013 Background Traffic + Trip Assignment (Current Zoning).

2013 TOTAL TRAFFIC CURRENT (R-10) ZONING WILLAMETTE COMMONS

FIGURE

5a



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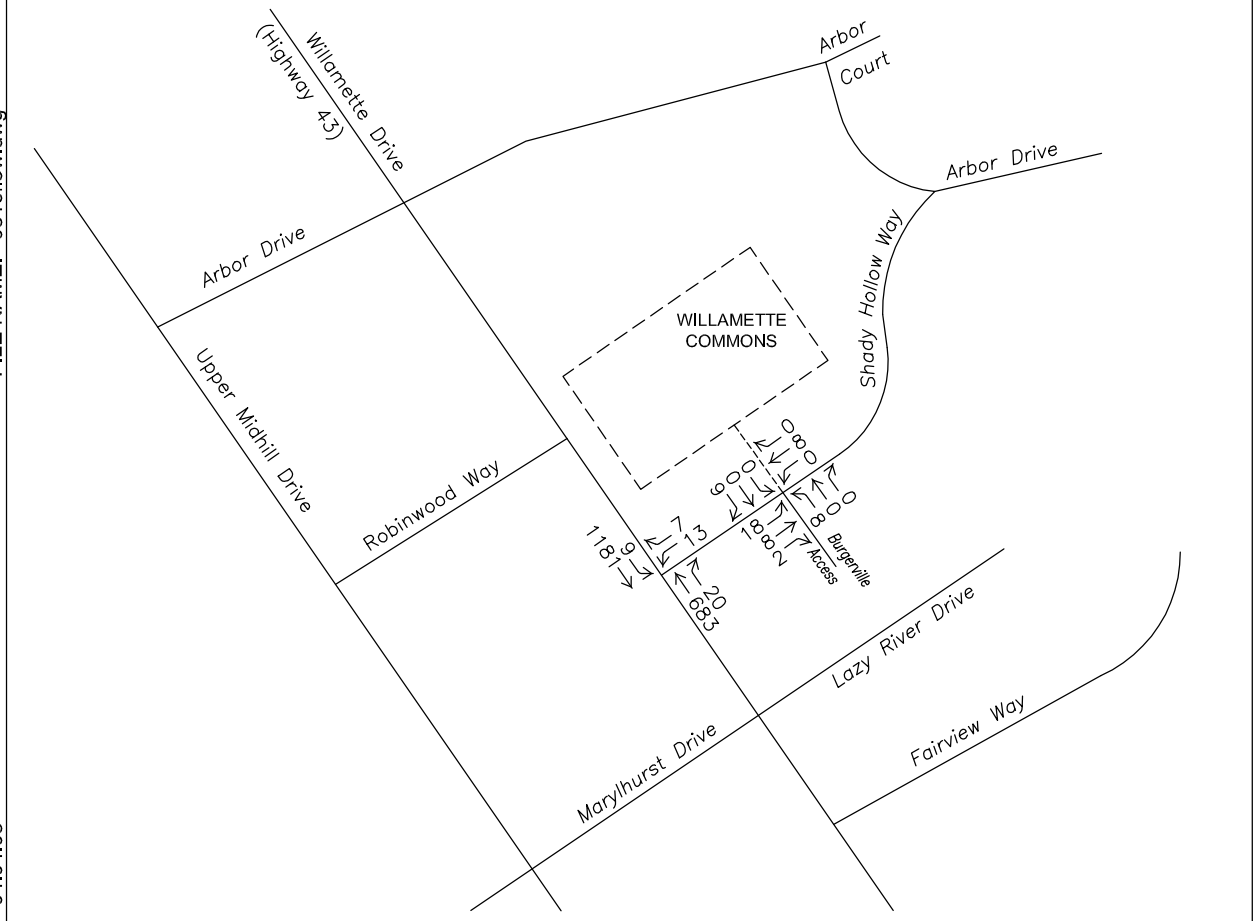


PM
PEAK
HOUR

FILE NAME: 0816flow.dwg

PLOT DATE: 04.04.08

CHARBONNEAU ENGINEERING LLC

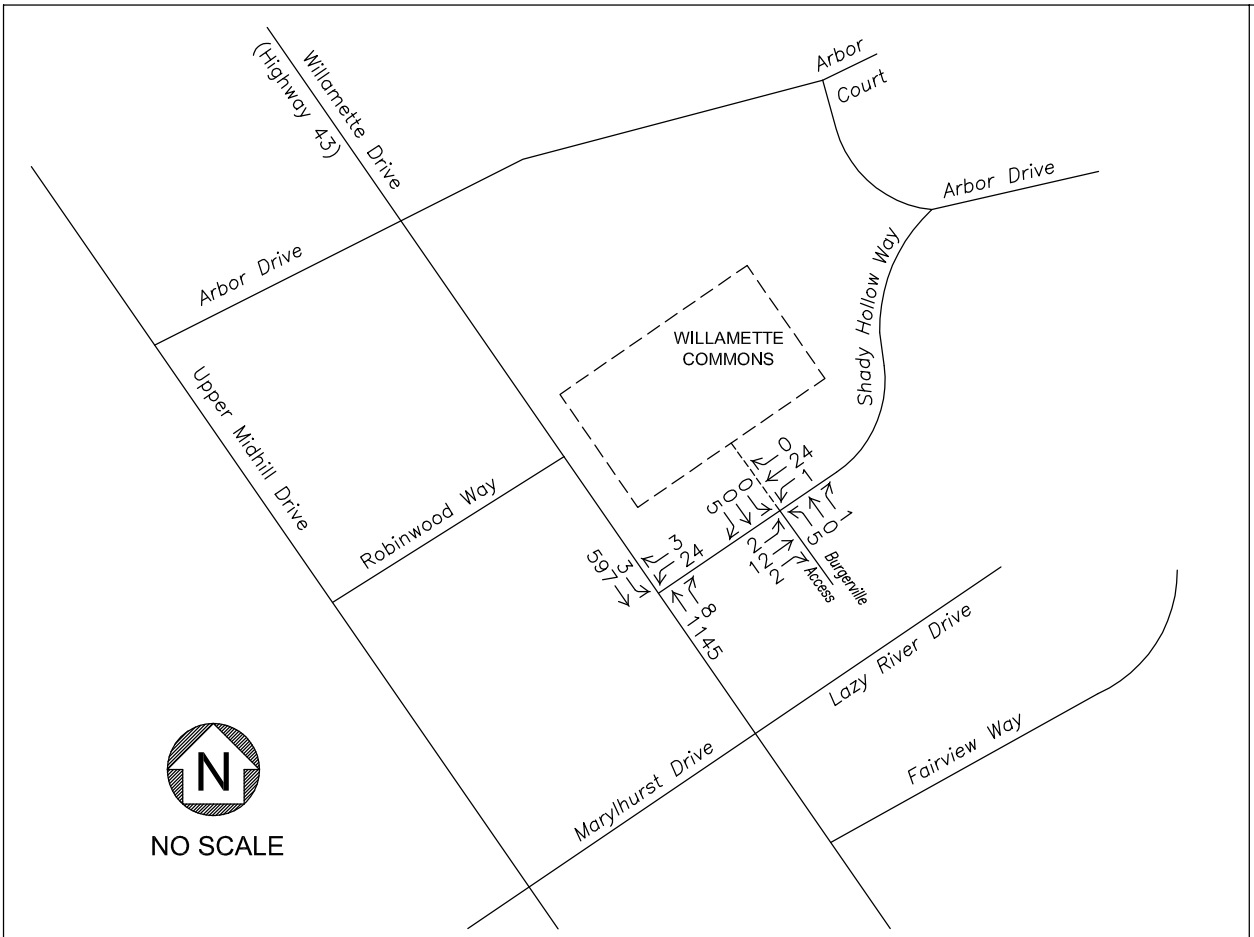
PROJECT: 08-16

NOTES: 2013 Total Traffic = 2013 Background Traffic + Trip Assignment (Proposed Zoning).

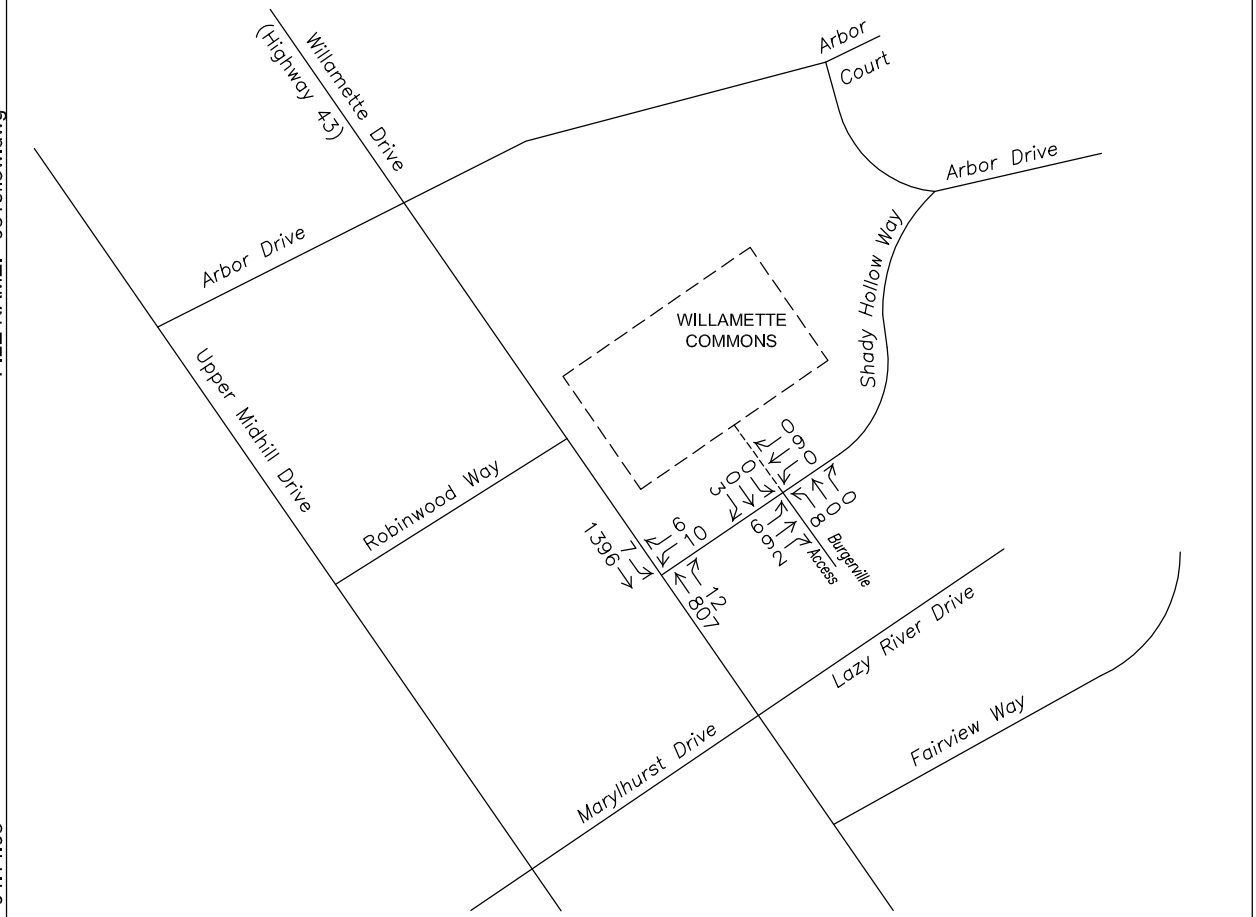
2013 TOTAL TRAFFIC PROPOSED (R-2.1) ZONING WILLAMETTE COMMONS

FIGURE

5b



AM PEAK HOUR



PM PEAK HOUR

FILE NAME: 0816flow.dwg

PLOT DATE: 04.14.08

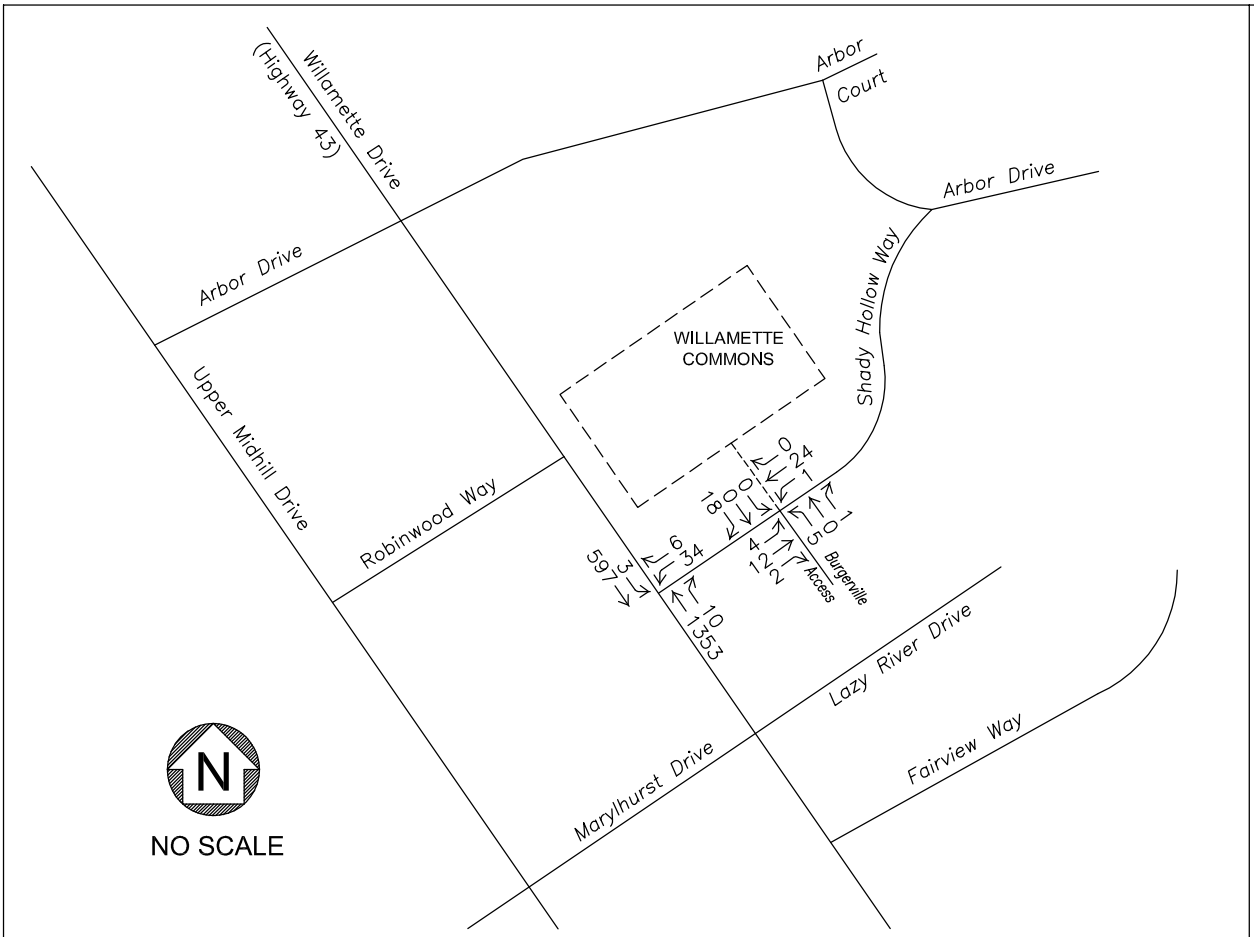
CHARBONNEAU ENGINEERING LLC

PROJECT: 08-16

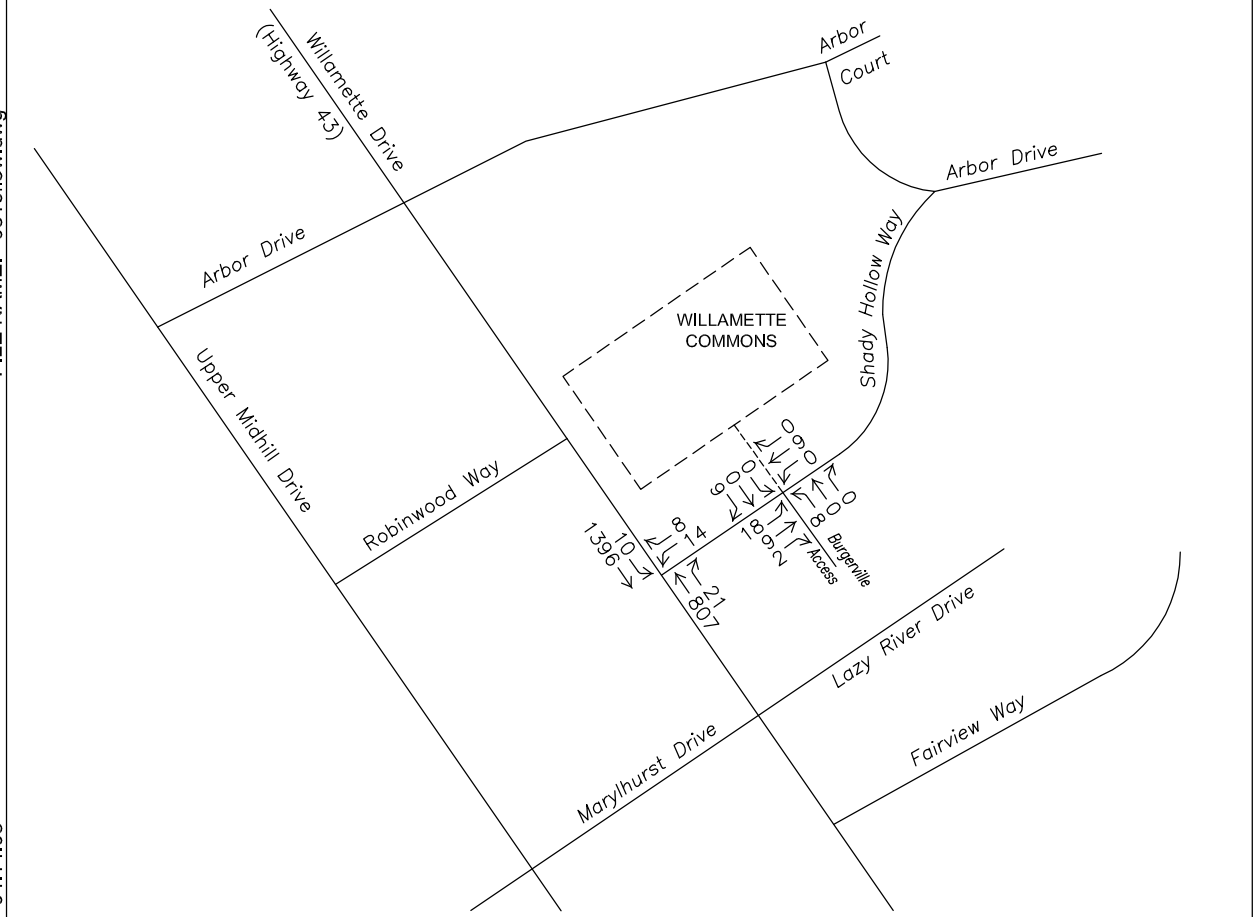
NOTES: 2023 Planning Horizon = 2013 Total Traffic (current R-10 zoning) + growth (2% per year for 10 years).

2023 PLANNING HORIZON TRAFFIC CURRENT (R-10) ZONING WILLAMETTE COMMONS

FIGURE 6a



AM
PEAK
HOUR



PM
PEAK
HOUR

FILE NAME: 0816flow.dwg

PLOT DATE: 04.14.08

CHARBONNEAU ENGINEERING LLC

PROJECT: 08-16

NOTES: 2023 Planning Horizon = 2013 Total Traffic (proposed R-2.1 zoning) + growth (2% per year for 10 years).

2023 PLANNING HORIZON TRAFFIC PROPOSED (R-2.1) ZONING WILLAMETTE COMMONS

FIGURE

6b

Table 1a. Projected trip generation for site with the existing (R-10) zoning.

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Single-Family (#210)	9							
Generation Rate [1]		9.57	0.75	25%	75%	1.01	63%	37%
Site Trips		**86**	**7**	2	5	**9**	6	3

[1] Source: *Trip Generation*, 7th Edition, ITE, 2003, average rates.

Table 1b. Projected trip generation for the site with the proposed (R-2.1) zoning.

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Apartment (#220)	43							
Generation Rate [1]		6.72	0.51	20%	80%	0.62	65%	35%
Site Trips		**289**	**22**	4	18	**27**	18	9

[1] Source: *Trip Generation*, 7th Edition, ITE, 2003, average rates.

Under the current R-10 zoning the site's trip generation is estimated as 86 daily trips, 7 AM peak hour trips, and 9 PM peak hour trips. Under the proposed R-2.1 zoning the site would generate an estimated 289 daily trips, 22 AM peak hour trips, and 27 PM peak hour trips.

Trip distribution is based on existing traffic patterns and engineering judgement. Figure 3 illustrates the AM and PM peak hour trip distribution under the site's current zoning and proposed zoning. Figure 4a illustrates the trip assignments that correspond to the level of development with the site's current zoning. Figure 4b illustrates the trip assignments that correspond to the proposed zoning.

CAPACITY ANALYSIS

Capacity analyses were performed to determine the levels of service for the weekday peak hours. Highway Capacity Software (HCS) was used to determine the level of service for each scenario considered. The program is based on the 2000 Highway Capacity Manual methodology. Table 2a summarizes the existing and background traffic analysis results. Table 2b summarizes the year 2013 total traffic analysis results under the site's current zoning and the site's proposed zoning. Table 2c summarizes the year 2023 planning horizon traffic results under the site's current zoning and the site's proposed zoning. Copies of the capacity analysis calculations are included in the appendix.

The City of West Linn's Transportation System Plan (TSP) identifies level of service "E" as the minimum standard for principal arterials. For local streets the TSP identifies level of service "D" as the minimum standard. Table 7 (in Policy 1F) in the 1999 Oregon Highway Plan identifies the maximum volume to capacity ratio for Statewide (NHS) Non-Freight Routes within Metro as 1.0[1].

Table 2b indicates that with the site's current plan designation zoning, the Willamette Drive (Highway 43) and Shady Hollow Way intersection will operate at level of service "C" during the AM and PM peak hours. The intersection's volume-to-capacity (v/c) ratio (with the current zoning) will be 0.06 or less during both peak hours. With the site's proposed zoning and plan designation, the Willamette Drive (Highway 43) and Shady Hollow Way intersection will operate at level of service "D" during the AM peak hour and level of service "C" during the PM peak hour. The intersection's v/c ratio (with the proposed zoning) will be 0.18 or less during both peak hours. The site access/Burgerville access and Shady Hollow Way intersection will operate at level of service "A" during both peak hours with the site's current zoning and proposed zoning.

Table 2c indicates that with either the current or proposed land use designation the Willamette Drive (Highway 43) and Shady Hollow Way intersection will operate at level of service "D" during the AM and PM peak hours. The v/c ratio will be 0.17 or less with the current zoning and 0.26 or less with the proposed zoning. The site access/Burgerville access and Shady Hollow Way intersection will continue to operate at level of service "A" during both peak hours with the site's current zoning and proposed zoning.

Through year 2023 (the planning horizon period) both study intersections will meet the City of West Linn's level of service standard and ODOT's v/c standard with the site's proposed zoning and plan designation.

Table 2a. Summary of capacity analysis for study intersections (without site).

Intersection	Type of Control	Peak Hour	Traffic Scenario							
			2008 Existing				2013 Background			
			Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c
Willamette Drive (Highway 43) and Shady Hollow Way	Two-way Stop	AM	WB	C	21.3	0.08	WB	C	23.9	0.10
		PM	WB	C	19.3	0.04	WB	C	21.9	0.05
Burgerville Driveway and Shady Hollow Drive	Two-way Stop	AM	NB	A	8.7	0.01	NB	A	8.7	0.01
		PM	NB	A	8.6	0.01	NB	A	8.6	0.01

Notes: 2000 *Highway Capacity Manual* methodology used in analysis. NB - Northbound, WB - Westbound, Crit. Mov't - Critical movement or critical approach.

[1] Oregon Highway Plan, Table 7 – Maximum volume to capacity ratios within Metro

Table 2b. Summary of capacity analysis for study intersections (with site).

Intersection	Type of Control	Peak Hour	Traffic Scenario							
			2013 Total **with current zoning**				2013 Total **with proposed zoning**			
			Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c
Willamette Drive (Highway 43) and Shady Hollow Way	Two-way Stop	AM	WB	C	24.4	0.01	WB	D	25.8	0.18
		PM	WB	C	22.4	0.06	WB	C	23.6	0.10
Site Access/ Burgerville Driveway and Shady Hollow Drive	Two-way Stop	AM	NB	A	8.9	0.01	NB	A	9.0	0.01
		PM	NB	A	8.8	0.01	NB	A	9.1	0.01

Notes: 2000 *Highway Capacity Manual* methodology used in analysis. NB - Northbound, WB - Westbound, Crit. Mov't - Critical movement or critical approach.

Table 2c. Summary of capacity analysis for study intersections (with site).

Intersection	Type of Control	Peak Hour	Traffic Scenario							
			2023 Planning Horizon **with current zoning**				2023 Planning Horizon **with proposed zoning**			
			Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c
Willamette Drive (Highway 43) and Shady Hollow Way	Two-way Stop	AM	WB	D	31.6	0.17	WB	D	34.8	0.26
		PM	WB	D	28.7	0.10	WB	D	31.1	0.14
Site Access/ Burgerville Driveway and Shady Hollow Drive	Two-way Stop	AM	NB	A	8.9	0.01	NB	A	9.1	0.01
		PM	NB	A	8.8	0.01	NB	A	9.1	0.01

Notes: 2000 *Highway Capacity Manual* methodology used in analysis. NB - Northbound, WB - Westbound, Crit. Mov't - Critical movement or critical approach.

Generally, LOS 'A', 'B', 'C', and 'D' are desirable service levels ranging from no vehicle delays to average or longer than average delays in the peak hours. Level 'E' represents long delays indicating signalization warrants need to be reviewed and signals considered only if warrants are met. Level 'F' indicates that intersection improvements, such as widening and signalization, may be required. According to the *Highway Capacity Manual* (HCM), the following delay times are associated with the LOS at stop controlled unsignalized and signalized intersections.

Level of Service criteria defined in the 2000 *Highway Capacity Manual*.

Level of Service (LOS)	Unsignalized Control Stopped Delay (sec/veh)	Signalized Control Stopped Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

TRANSPORTATION PLANNING RULE (TPR)

The proposed zone change warrants a response to the State of Oregon's Administrative Rules which require that 'the local government shall put in place measures to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility'.

The Plan and Land Use Regulation Amendments (OAR Section 660-012-0060) are used to determine if a *plan or land use regulation amendment significantly affects a transportation facility.* The Oregon Administrative Rules identify many measures of how a plan or land use "significantly affects" a transportation facility. The measures used and how the Willamette Commons site relates to them are addressed below.

(1)(a) Change the functional classification of an existing or planned transportation facility;
(1)(b) Change standards implementing a functional classification system; or

Development of the Willamette Commons site does not propose changes to the existing or planned functional classification, nor the functional classification standards.

(1)(c) As measured at the end of the planning period identified in the adopted transportation system plan:

(1)(A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

The Willamette Commons site will develop on three separate parcels (Taxlot 1100, 1200, and 1500) which are currently zoned residential (R-10). Under the current zoning the site has the potential for a development maximum of nine (9) single-family homes which will generate an estimated 86 daily trips, 7 AM peak hour trips, and 9 PM peak hour trips. Under the proposed R-2.1 zoning the site has the potential for development of up to 43 multi-family units which will generate an estimated 289 daily trips, 22 AM peak hour trips, and 27 PM peak hour trips.

Regardless of the increase in trip generation, between the levels of development of the existing zoning and proposed zoning, the Shady Hollow Way local street sole function (of providing access to adjacent land) will not be adversely affected.

Willamette Drive (Highway 43) is classified as a principal arterial. Based on the proposed site's access to Shady Hollow Way, the lower classified street, the Willamette Commons site is consistent with the functional classification of the existing and planned transportation facility.

(1)(B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or

The City of West Linn's Transportation System Plan (TSP) identifies level of service "E" as the minimum standard for principal arterials. For local streets the TSP identifies level of

service "D" as the minimum standard. Table 7 (in Policy 1F) in the 1999 Oregon Highway Plan identifies the maximum volume to capacity ratio for Statewide (NHS) Non-Freight Routes within Metro as 1.0[1].

As identified in Table 2c, through the year 2023 planning horizon, the Shady Hollow Way and Willamette Drive (Highway 43) intersection will operate at level of service "D" or better during the AM and PM peak hours with the level of development corresponding to the proposed R-2.1 zoning and proposed medium high residential density plan designation. The intersection's volume-to-capacity ratio will be 0.26 or less during both peak hours. The site access/Burgerville access and Shady Hollow Way intersection will operate at level of service "A" during both peak hours. The intersection's volume-to-capacity ratio will be 0.01 during both peak hours. Based on the analysis results the proposed zoning and plan amendment will not reduce the performance of the study intersections below the minimum acceptable performance standards of the City of West Linn's TSP and the State of Oregon's highway plan.

(1)(C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.

Both study intersections are projected to operate at acceptable levels of service with acceptable volume-to-capacity ratios in the 2023 planning horizon traffic scenario. Based on these results the study intersections will not perform below the minimum acceptable performance standard of the City of West Linn's TSP or the Oregon Highway Plan.

Based on the information presented in Section (1)(B) or Section (1)(C) development of the site will not have a significant effect on the transportation facility. Approval of the proposed zone change (from R-10 to R-2.1) and comprehensive plan amendment (from Low Density Residential to Medium High Density Residential) should be approved.

QUEUING ANALYSIS

Queue lengths at the study intersections were taken from the Highway Capacity Software (HCS) analysis reports. Copies of the reports are included in the appendix.

Through the year 2023 Planning Horizon Traffic scenario the peak hour queue lengths are not expected to exceed 25 feet, or 1 vehicle-length.

[1] Oregon Highway Plan, Table 7 – Maximum volume to capacity ratios within Metro

SIGHT DISTANCE

Sight distance at the proposed site access location was reviewed in the field in accordance with AASHTO standards. Based on a posted speed of 25 miles per hour, AASHTO recommends a minimum sight distance of 280 feet should be available from the access (in both directions).

Dense shrubbery and bushes along the site's Shady Hollow Way frontage limited the point at which the sight lines could be reviewed to a distance equal to 8 feet from the travel lane. From the 8-foot back position, looking west the sight line is clear through to the west side of Willamette Drive (Highway 43) at Shady Hollow Way.

Similarly, looking east the sight line is clear to a distance of 270 feet which corresponds to the point at which Shady Hollow Way curves to the north. While this sight distance does not meet AASHTO's recommendation it is anticipated that vehicles traveling around the corner toward Willamette Drive (Highway 43) will be traveling at a rate of 10-20 mph (the curve has an 10 mph advisory speed). Based on these travel speeds AASHTO recommends a minimum sight distance of 115 feet (for 10 mph) and 225 feet (for 20 mph). Based on these sight distances the sight line to the east meets the AASHTO recommendation. With development of Willamette Commons the site access to Shady Hollow Way should be designed such that AASHTO's minimum sight distance recommendation is met or exceeded.

TURN LANE WARRANTS

ODOT's right turn lane criteria was reviewed for the northbound approach of Willamette Drive (Highway 43) at Shady Hollow Way. ODOT's left turn lane criteria was reviewed at the southbound approach of Willamette Drive (Highway 43) at Shady Hollow Way and the eastbound approach of Shady Hollow Way at the site access/Burgerville access.

The review identified that the ODOT right turn lane criteria is not met in the AM peak hour. Under the site's current zoning a roadway shoulder is recommended with PM peak hour traffic. Under the site's proposed zoning the right turn lane criteria is just met with PM peak hour traffic levels (northbound approaching volume = 703 vehicles and northbound right turn volume = 20 vehicles). ODOT's right turn lane criteria volume thresholds are identified as an advancing volume of 700 vehicles and a right turn volume of 20 vehicles. Construction of a shoulder or a right turn lane is not recommended as it is not needed for intersection capacity.

The ODOT left turn lane criteria is not met with the site's current or proposed zoning as the southbound left turn volume (through the planning horizon) does not exceed 10 vehicles; however, the criteria does advise that 'careful consideration be given to installing a left turn lane due to the increased potential for accidents in through lanes'. The turn lane criteria and warrant nomographs are included in the report's appendix.

TRAFFIC SIGNAL WARRANTS

The peak hour signal warrant presented in the *Manual on Uniform Traffic Control Devices* (MUTCD) was reviewed at the study intersections. Based on the low peak hour traffic volumes, signalization is not warranted at either intersection regardless of the site's zoning. A copy of the peak hour signal warrant is included.

ACCIDENT HISTORY

Accident data for the Shady Hollow Way and Willamette Drive (Highway 43) intersection was obtained from ODOT staff and was reviewed to help identify any traffic safety problems. A copy of the accident data is included in the appendix.

Table 3. Accident rate results for study intersections.

Intersection	Accident History (Years)	Number of Accidents	Accidents per year	Annual Traffic Entering (veh/yr)	Accident rate per M.E.V.*
Shady Hollow Way and Willamette Drive (Highway 43)	5	2	0.4	6263866	**0.064**

* M.E.V. - million entering vehicles.

The Shady Hollow Way and Willamette Drive (Highway 43) intersection accident rate does not exceed the 1.0 accidents per MEV threshold, and thus mitigation is not necessary.

PEDESTRIANS, BICYCLES, & BUSES

Sidewalks are provided along the Burgerville frontage to Willamette Drive (Highway 43) and Shady Hollow Way. Regardless of whether the site develops under the current zoning or proposed zoning sidewalks will be constructed along the site's frontage to Willamette Drive (Highway 43) and Shady Hollow Way.

Bicycle lanes are provided along both sides of Willamette Drive (Highway 43). Additional bicycle lanes are not proposed.

Transit service is provided by C-Tran. Route #35, Macadam, travels along Willamette Drive and Macadam Avenue, between the Oregon City Transit Center and downtown Portland.

SUMMARY AND RECOMMENDATIONS

The traffic study for the Willamette Commons site has been prepared to determine the potential impacts of the proposed comprehensive plan map amendment and the corresponding zone change (from the site's current Low Density Residential (R-10) zoning to the proposed Medium High Density Residential (R-2.1) zoning.

Under its current land use designation the site has the potential for a maximum development of nine (9) single-family homes which would generate an estimated 86 daily trips, 7 AM peak hour trips, and 9 PM peak hour trips. It is expected that the nine homes would have potentially up to three accesses. Under the proposed land use designation the site has the potential for development of up to 43 multi-family units which would generate an estimated 289 daily trips, 22 AM peak hour trips, and 27 PM peak hour trips. The multi-family units would have a single access (to Shady Hollow Way, opposite of Burgerville's access).

Sight distance at the proposed site access location was reviewed in the field in accordance with AASHTO standards. Sight lines from 8 feet back from the travel lane identified that the sight line from the proposed access to the west is clear through to the west side of Willamette Drive (Highway 43) at Shady Hollow Way. Looking east the sight line is clear to a distance of 270 feet which corresponds to the point at which Shady Hollow Way curves to the north. While this sight distance does not meet AASHTO's recommendation (280 feet for a 25 mph design speed) it is anticipated that vehicles traveling around the corner toward Willamette Drive (Highway 43) will be traveling at a rate of 10-20 mph (the curve has an 10 mph advisory speed). Based on these travel speeds AASHTO recommends a minimum sight distance of 115 feet (for 10 mph) and 225 feet (for 20 mph). Based on these sight distances the sight line to the east meets the AASHTO recommendation. With development of Willamette Commons the site access to Shady Hollow Way should be designed such that AASHTO's minimum sight distance recommendation is met or exceeded. Obstruction by landscaping, signing, parking, buildings, or other objects would be unsafe.

The ODOT turn lane warrants were reviewed at both study intersections. Under the site's current zoning a roadway shoulder is recommended with PM peak hour traffic. Under the site's proposed zoning the right turn lane criteria is just met during the PM peak hour with 703 vehicles in the through vehicles and 20 vehicles turning right (warrant thresholds are 700 vehicles in through movement and 20 vehicles making a right turn). Construction of a shoulder or a right turn lane is not recommended as it is not needed for intersection capacity.

At the Willamette Drive (Highway 43) and Shady Hollow Way intersection the ODOT left turn lane criteria is not met with the site's current or proposed zoning; however, the criteria does advise that 'careful consideration be given to installing a left turn lane due to the increased potential for accidents in through lanes'. Based on intersection's low accident rate (0.064 per MEV), the acceptable levels of service and volume-to-capacity ratios, and the low peak hour volumes (making a southbound left turn) installation of a southbound left turn lane is not recommended.

The MUTCD peak hour signal warrant was reviewed at both study intersections under the site's current zoning and proposed zoning. Neither intersection meets the peak hour signal warrant, thus installation of a traffic signal is not recommended.

The intersection capacity and level of service analysis for the Willamette Drive (Highway 43) and Shady Hollow Way intersection and the site access/Burgerville access and Shady Hollow Way intersection identified that through the year 2023 planning horizon, the Shady Hollow Way and Willamette Drive (Highway 43) intersection will operate at level of service "D" or better during the AM and PM peak hours with the level of development corresponding to the

proposed R-2.1 zoning. The intersection's volume-to-capacity ratio will be 0.26 or less during both peak hours. The site access/Burgerville access and Shady Hollow Way intersection will operate at level of service "A" during both peak hours with a v/c of 0.01.

Based on the analysis results the proposed change in zoning and the associated change to the comprehensive plan map and the zoning map will not reduce the performance of the study intersections below the minimum acceptable performance standards of the City of West Linn's TSP and the State of Oregon's highway plan. Intersection improvements are not necessary.

Based on the responses to the Transportation Planning Rule Section (1)(B) and Section (1)(C), the proposed zone change (from R-10 to R-2.1) will not have a significant effect on the transportation facility. Based on the information presented in this traffic analysis report approval of the proposed zone change and concurrent change to the comprehensive plan map and the zoning map should be approved.

APPENDIX

- Traffic Count Data
- Turn Lane Warrants
- Peak Hour Signal Warrant
- Accident History Summary (furnished by the Oregon Department of Transportation)
- Highway Capacity Software (HCS) Analysis Worksheets

List of Figures

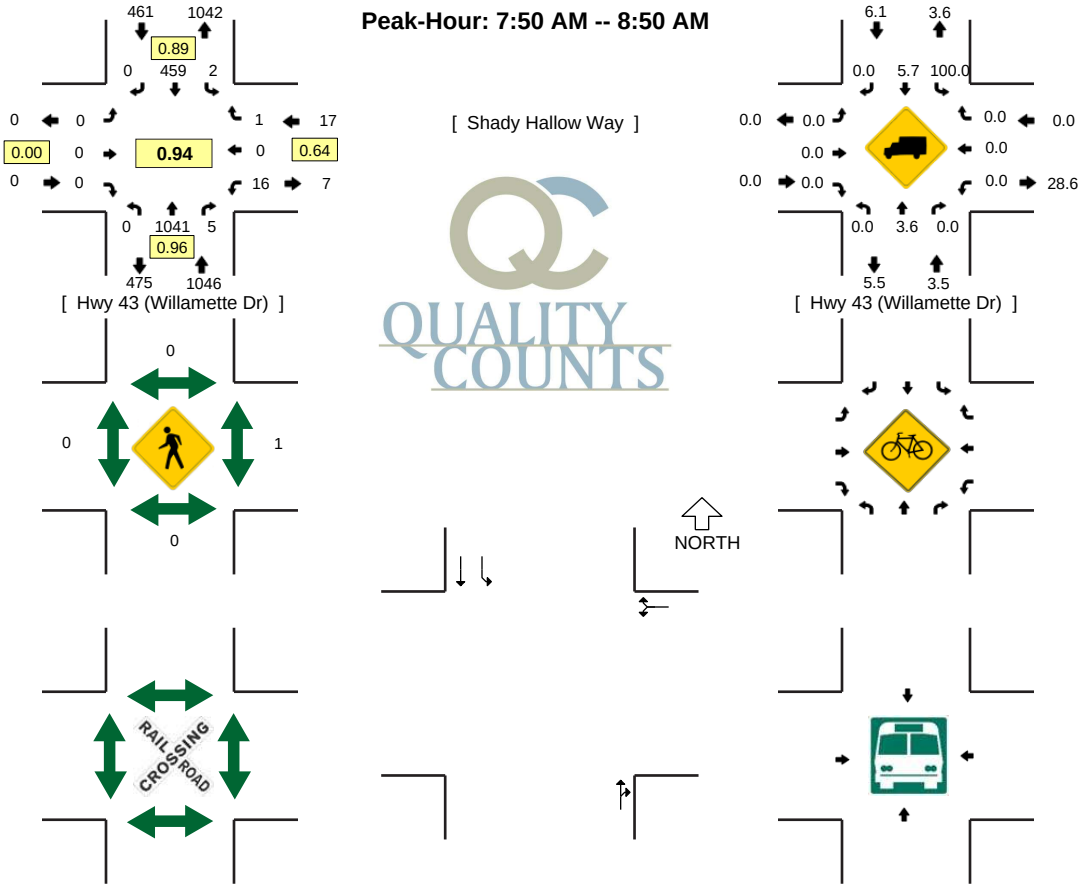
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

INTERSECTION: Hwy 43 (Willamette Dr)--Shady Hallow Way
WEATHER:

QC JOB #: 10342101
DATE: 4/2/2008

Peak-Hour: 7:50 AM -- 8:50 AM



*SEE LEGEND SHEET

5-MIN COUNT PERIOD BEGINNING AT	Hwy 43 [Willamett... (Northbound)				Hwy 43 [Willamett... (Southbound)				Shady Hallow Way (Eastbound)				Shady Hallow Way (Westbound)				TOTAL	HOURLY TOTALS
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	87	0		1	22	0		0	0	0		0	0	0		110	
7:05 AM	0	61	0		0	28	0		0	0	0		0	0	1		90	
7:10 AM	0	107	0		0	25	0		0	0	0		0	0	0		132	
7:15 AM	0	67	0		0	28	0		0	0	0		0	0	0		95	
7:20 AM	0	98	0		0	33	0		0	0	0		0	0	0		131	
7:25 AM	0	94	0		1	19	0		0	0	0		1	0	1		116	
7:30 AM	0	81	0		0	33	0		0	0	0		0	0	1		115	
7:35 AM	0	88	1		0	33	0		0	0	0		0	0	0		122	
7:40 AM	0	84	0		0	31	0		0	0	0		1	0	0		116	
7:45 AM	0	98	0		0	23	0		0	0	0		2	0	0		123	
7:50 AM	0	84	1		0	43	0		0	0	0		2	0	0		130	
7:55 AM	0	87	0		1	32	0		0	0	0		0	0	0		120	1400
8:00 AM	0	73	0		0	40	0		0	0	0		1	0	0		114	1404
8:05 AM	0	81	0		0	44	0		0	0	0		4	0	0		129	1443
8:10 AM	0	94	0		0	45	0		0	0	0		2	0	0		141	1452
8:15 AM	0	81	0		0	40	0		0	0	0		1	0	0		122	1479
8:20 AM	0	95	0		0	45	0		0	0	0		1	0	0		141	1489
8:25 AM	0	92	0		0	33	0		0	0	0		0	0	0		125	1498
8:30 AM	0	74	2		0	31	0		0	0	0		0	0	0		107	1490
8:35 AM	0	105	2		0	33	0		0	0	0		2	0	1		143	1511
8:40 AM	0	85	0		1	35	0		0	0	0		2	0	0		123	1518
8:45 AM	0	90	0		0	38	0		0	0	0		1	0	0		129	1524
8:50 AM	0	81	0		1	34	0		0	0	0		1	0	1		118	1512
8:55 AM	0	77	0		0	39	0		0	0	0		0	0	0		116	1508

PEAK 15-MIN FLOW RATES	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1080	0		0	520	0		0	0	0		16	0	0		1616
Heavy Trucks	0	24	0		0	40	0		0	0	0		0	0	0		64
Pedestrians		0				0				0				0			0
Bicycles																	
Railroad																	
Stopped Buses																	

Counter Comments:

Report generated on 4/3/2008

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

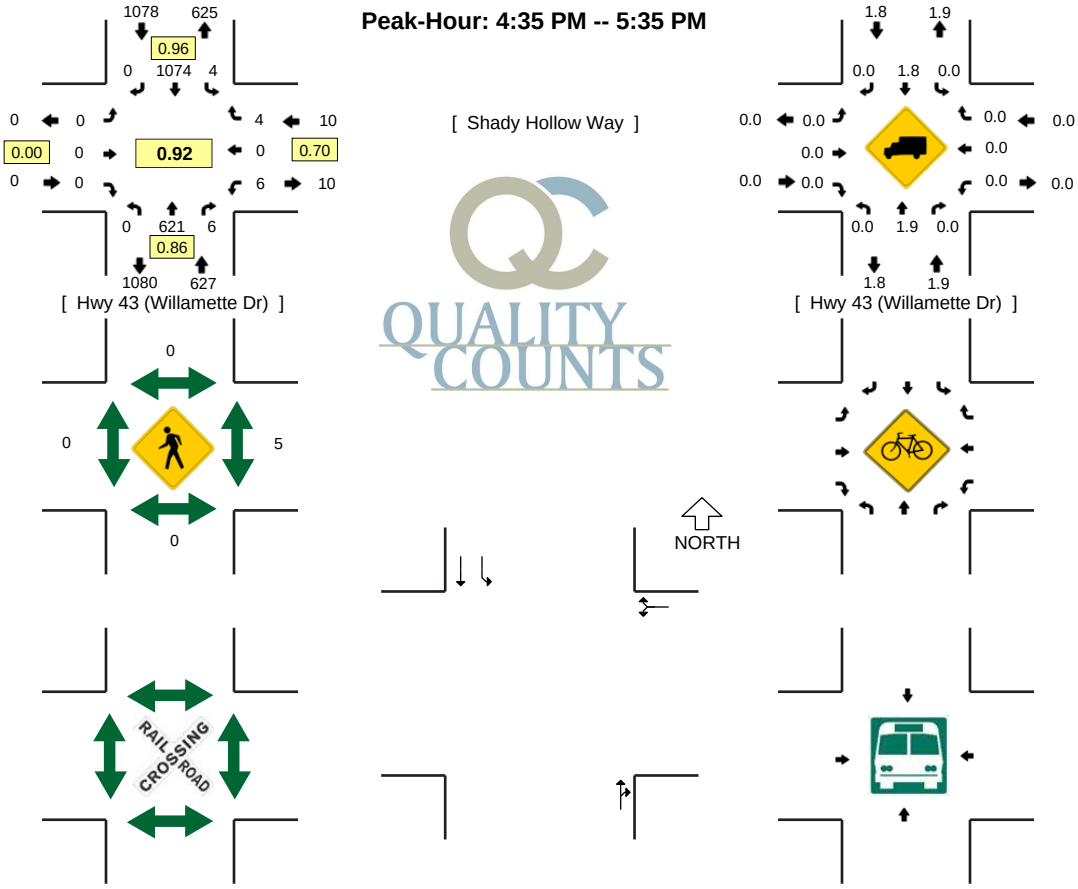
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

INTERSECTION: Hwy 43 (Willamette Dr)--Shady Hollow Way
WEATHER:

QC JOB #: 10342102
DATE: 4/1/2008

Peak-Hour: 4:35 PM -- 5:35 PM



*SEE LEGEND SHEET

5-MIN COUNT PERIOD BEGINNING AT	Hwy 43 [Willamett... (Northbound)				Hwy 43 [Willamett... (Southbound)				Shady Hollow Way (Eastbound)				Shady Hollow Way (Westbound)				TOTAL	HOURLY TOTALS
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	41	3		0	75	0		0	0	0		1	0	0		120	
4:05 PM	0	45	1		0	87	0		0	0	0		0	0	0		133	
4:10 PM	0	48	2		1	86	0		0	0	0		0	0	0		137	
4:15 PM	0	50	2		0	80	0		0	0	0		0	0	0		132	
4:20 PM	0	55	1		0	81	0		0	0	0		1	0	0		138	
4:25 PM	0	36	2		0	78	0		0	0	0		1	0	0		117	
4:30 PM	0	40	3		0	84	0		0	0	0		1	0	0		128	
4:35 PM	0	54	0		0	94	0		0	0	0		0	0	0		148	
4:40 PM	0	63	1		1	84	0		0	0	0		0	0	0		149	
4:45 PM	0	51	2		0	85	0		0	0	0		1	0	0		139	
4:50 PM	0	41	0		0	85	0		0	0	0		0	0	1		127	
4:55 PM	0	39	0		0	85	0		0	0	0		0	0	0		124	1592
5:00 PM	0	42	2		0	86	0		0	0	0		3	0	0		133	1605
5:05 PM	0	58	0		1	90	0		0	0	0		0	0	1		150	1622
5:10 PM	0	45	0		1	87	0		0	0	0		0	0	1		134	1619
5:15 PM	0	63	1		1	97	0		0	0	0		1	0	0		163	1650
5:20 PM	0	70	0		0	87	0		0	0	0		1	0	1		159	1671
5:25 PM	0	48	0		0	95	0		0	0	0		0	0	0		143	1697
5:30 PM	0	47	0		0	99	0		0	0	0		0	0	0		146	1715
5:35 PM	0	48	1		1	82	0		0	0	0		0	0	1		133	1700
5:40 PM	0	48	1		0	94	0		0	0	0		0	0	0		143	1694
5:45 PM	0	48	0		0	87	0		0	0	0		2	0	0		137	1692
5:50 PM	0	45	0		0	62	0		0	0	0		0	0	0		107	1672
5:55 PM	0	52	1		0	83	0		0	0	0		2	0	1		139	1687

PEAK 15-MIN FLOW RATES	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	724	4		4	1116	0		0	0	0		8	0	4		1860
Heavy Trucks	0	12	0		0	12	0		0	0	0		0	0	0		24
Pedestrians		0				0				0				0			0
Bicycles																	
Railroad																	
Stopped Buses																	

Counter Comments:

Report generated on 4/3/2008

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

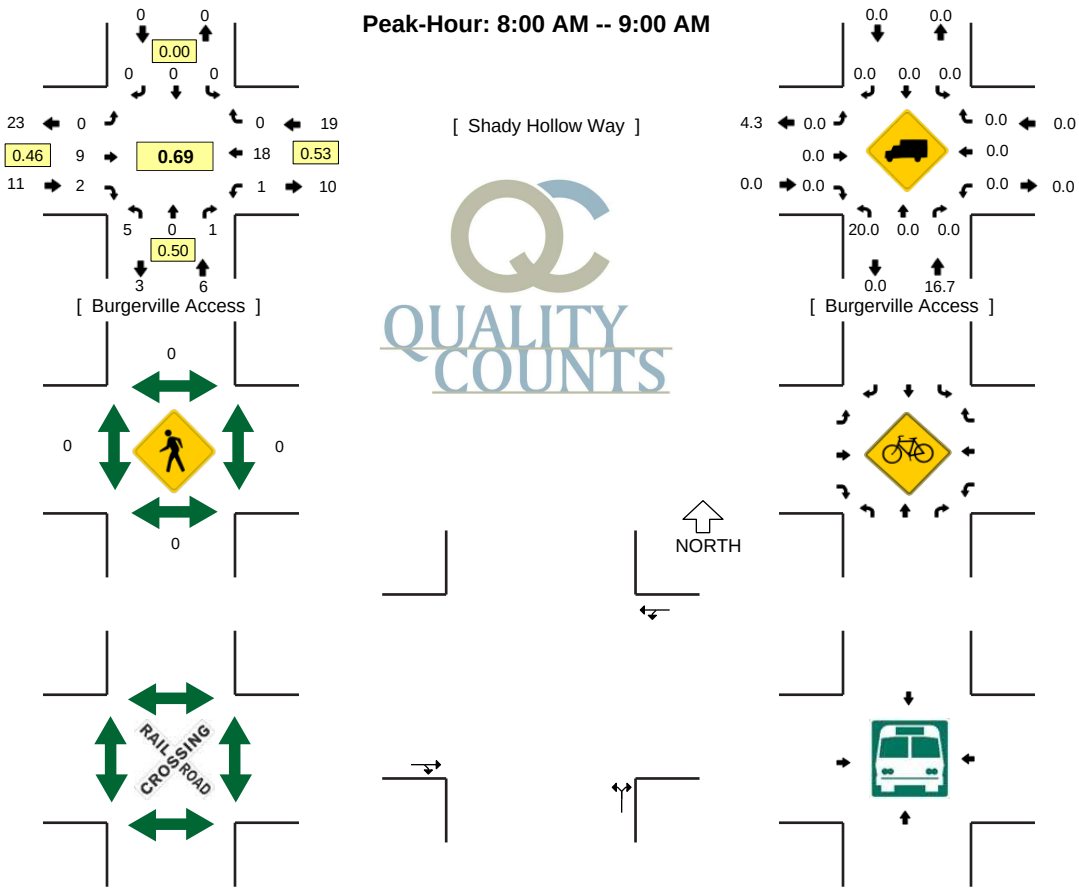
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

INTERSECTION: Burgerville Access--Shady Hollow Way
WEATHER:

QC JOB #: 10342901
DATE: 4/4/2008

Peak-Hour: 8:00 AM -- 9:00 AM



*SEE LEGEND SHEET

5-MIN COUNT PERIOD BEGINNING AT	Burgerville Access (Northbound)				Burgerville Access (Southbound)				Shady Hollow Way (Eastbound)				Shady Hollow Way (Westbound)				TOTAL	HOURLY TOTALS
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	
7:05 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	
7:10 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	
7:15 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	
7:20 AM	0	0	0		0	0	0		0	0	0		1	0	0		1	
7:25 AM	0	0	0		0	0	0		0	1	0		0	2	0		3	
7:30 AM	0	0	0		0	0	0		0	0	0		0	2	0		2	
7:35 AM	1	0	0		0	0	0		0	0	0		0	1	0		2	
7:40 AM	0	0	0		0	0	0		0	0	0		0	1	0		1	
7:45 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	
7:50 AM	0	0	0		0	0	0		0	1	0		0	1	0		2	
7:55 AM	0	0	0		0	0	0		0	0	0		0	1	0		1	12
8:00 AM	0	0	0		0	0	0		0	0	0		0	3	0		3	15
8:05 AM	1	0	0		0	0	0		0	1	0		0	1	0		3	18
8:10 AM	0	0	0		0	0	0		0	0	0		0	1	0		1	19
8:15 AM	0	0	0		0	0	0		0	0	0		0	1	0		1	20
8:20 AM	1	0	0		0	0	0		0	3	1		0	0	0		5	24
8:25 AM	1	0	0		0	0	0		0	1	0		0	1	0		3	24
8:30 AM	0	0	0		0	0	0		0	1	0		0	3	0		4	26
8:35 AM	0	0	0		0	0	0		0	0	0		0	1	0		1	25
8:40 AM	1	0	1		0	0	0		0	1	0		1	4	0		8	32
8:45 AM	0	0	0		0	0	0		0	1	0		0	0	0		1	33
8:50 AM	1	0	0		0	0	0		0	0	0		0	1	0		2	33
8:55 AM	0	0	0		0	0	0		0	1	1		0	2	0		4	36

PEAK 15-MIN FLOW RATES	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	4		0	0	0		0	8	0		4	32	0		52
Heavy Trucks	4	0	0		0	0	0		0	0	0		0	0	0		4
Pedestrians		0				0				0				0			0
Bicycles																	
Railroad																	
Stopped Buses																	

Counter Comments:

Report generated on 4/4/2008

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

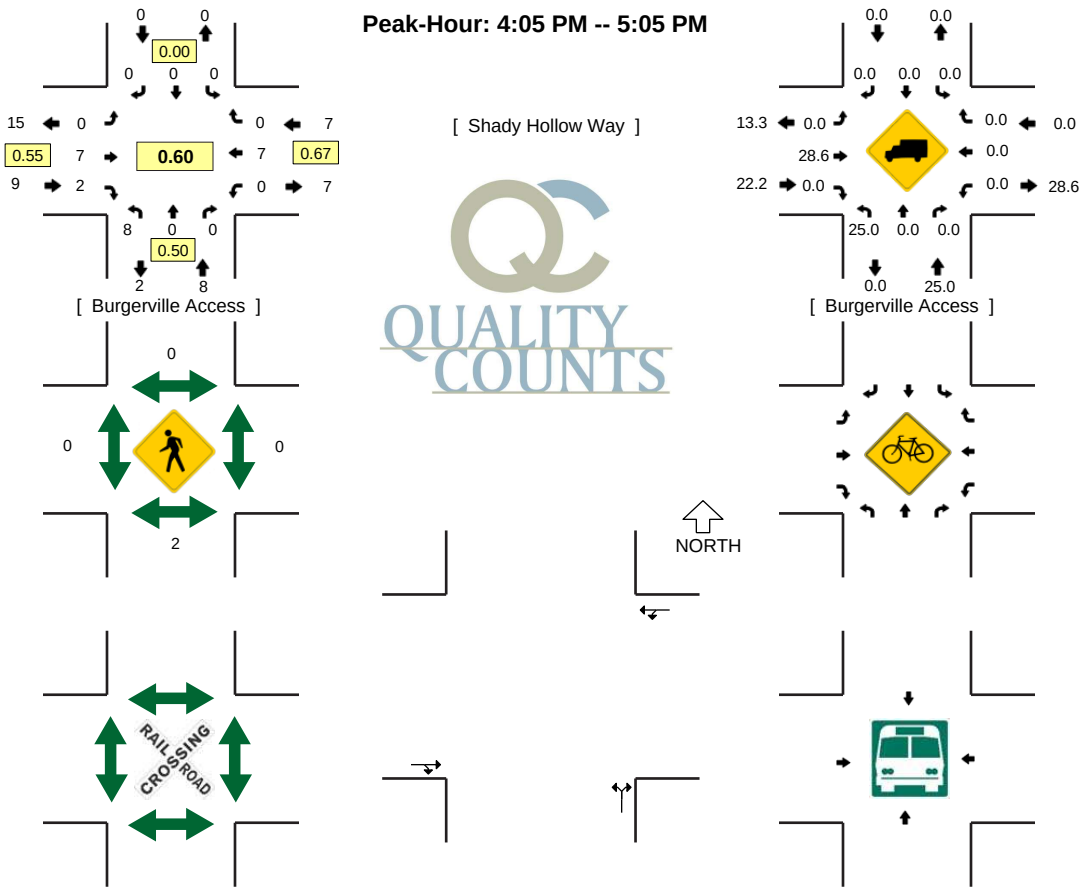
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

INTERSECTION: Burgerville Access--Shady Hollow Way
WEATHER:

QC JOB #: 10342902
DATE: 4/3/2008

Peak-Hour: 4:05 PM -- 5:05 PM



*SEE LEGEND SHEET

5-MIN COUNT PERIOD BEGINNING AT	Burgerville Access (Northbound)				Burgerville Access (Southbound)				Shady Hollow Way (Eastbound)				Shady Hollow Way (Westbound)				TOTAL	HOURLY TOTALS
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0		0	0	0		0	0	0		0	1	0		1	
4:05 PM	3	0	0		0	0	0		0	1	0		0	1	0		5	
4:10 PM	1	0	0		0	0	0		0	2	0		0	0	0		3	
4:15 PM	0	0	0		0	0	0		0	1	0		0	1	0		2	
4:20 PM	1	0	0		0	0	0		0	0	0		0	2	0		3	
4:25 PM	1	0	0		0	0	0		0	1	0		0	0	0		2	
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	
4:35 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	
4:40 PM	1	0	0		0	0	0		0	1	0		0	0	0		2	
4:45 PM	1	0	0		0	0	0		0	0	0		0	1	0		2	
4:50 PM	0	0	0		0	0	0		0	0	1		0	0	0		1	
4:55 PM	0	0	0		0	0	0		0	0	1		0	0	0		1	22
5:00 PM	0	0	0		0	0	0		0	1	0		0	2	0		3	24
5:05 PM	1	0	0		0	0	0		0	0	0		0	1	0		2	21
5:10 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	18
5:15 PM	0	0	0		0	0	0		0	2	0		0	0	0		2	18
5:20 PM	0	0	0		0	0	0		0	1	0		0	0	0		1	16
5:25 PM	0	0	0		0	0	0		0	0	1		0	0	0		1	15
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	15
5:35 PM	1	0	0		0	0	0		0	0	0		0	2	0		3	18
5:40 PM	0	0	0		0	0	0		0	1	0		0	0	0		1	17
5:45 PM	1	0	0		0	0	0		0	1	0		0	1	0		3	18
5:50 PM	0	0	0		0	0	0		0	0	2		0	1	0		3	20
5:55 PM	0	0	0		0	0	0		0	2	0		1	0	0		3	22

PEAK 15-MIN FLOW RATES	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	0	0		0	0	0		0	16	0		0	8	0		40
Heavy Trucks	8	0	0		0	0	0		0	8	0		0	0	0		16
Pedestrians		0				0				0				0			0
Bicycles																	
Railroad																	
Stopped Buses																	

Counter Comments:

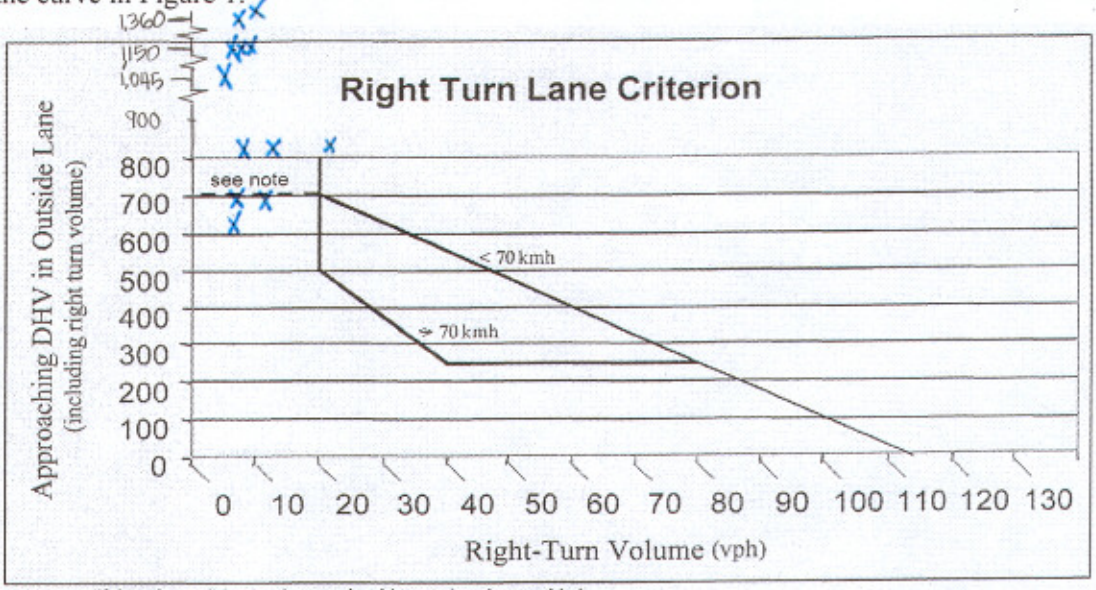
Report generated on 4/4/2008

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Oregon Department of Transportation - Right Turn Lane Criteria

I. Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of the intersection traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria is determined using the curve in Figure 1.



Note: If there is no right turn lane, a shoulder needs to be provided.
If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

Figure 1

Intersection	Mov't	Analysis Period	Speed	Advancing Volume (vph)	Right Turns in Advancing Volume (vph)	Storage Req'd (ft)
Willamette Drive (Highway 43) & Shady Hollow Way	NB RT	2008 Extg Traffic, AM Peak	35 mph (56 kmh)	1046	5	No[1]
		2008 Extg Traffic, PM Peak		627	6	No
		2013 Bkgd Traffic, AM Peak		1151	6	No[1]
		2013 Bkgd Traffic, PM Peak		690	7	No
		2023 Bkgd Traffic[2], AM Peak		1360	7	No[1]
		2023 Bkgd Traffic[2], PM Peak		815	8	No[1]
		Current (R-10) Zoning				
		2013 Total Traffic, AM Peak		1152	7	No[1]
		2013 Total Traffic, PM Peak		694	11	No
		2023 Planning Horizon, AM Peak		1361	8	No[1]
		2023 Planning Horizon, PM Peak		819	12	No[1]
		Proposed (R-2.1) Zoning				
		2013 Total Traffic, AM Peak		1154	9	No[1]
		2013 Total Traffic, PM Peak		703	20	Yes
		2023 Planning Horizon, AM Peak		1363	10	Yes
		2023 Planning Horizon, PM Peak		828	21	Yes

[1] The bicycle lane on the east side of Willamette Drive (Highway 43) will function as a shoulder when cyclists are not present.

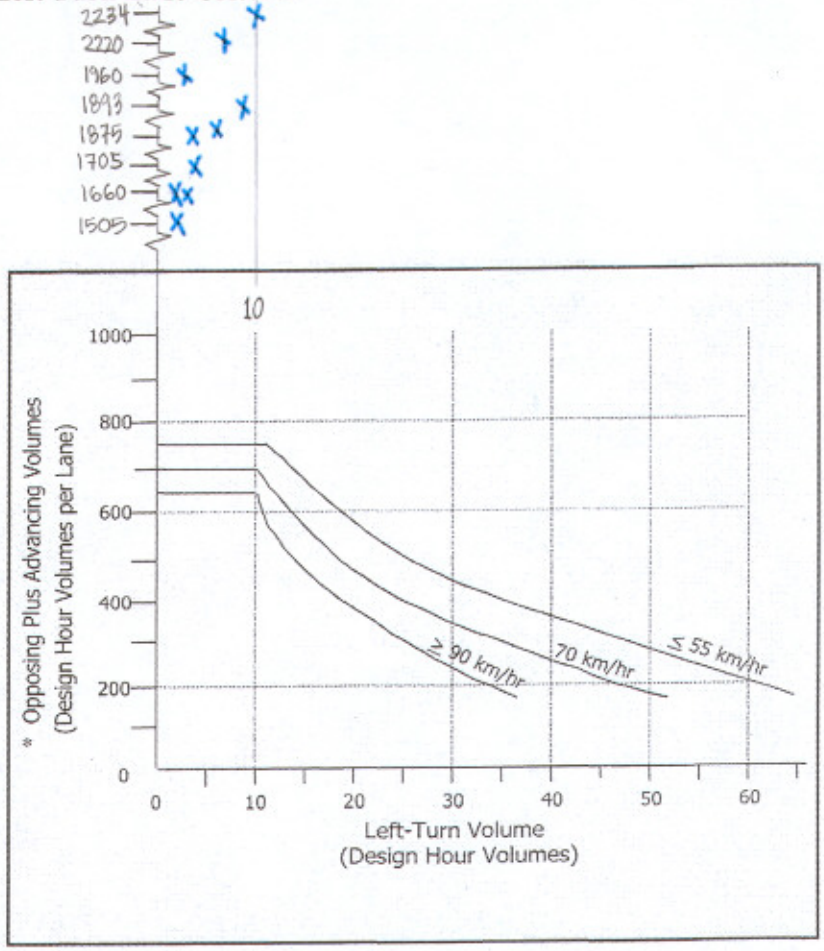
[2] 2023 Background Traffic = 2008 Existing Traffic + growth (15 years at 2% per year).

Oregon Department of Transportation - Left Turn Lane Criteria

I. Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a left turn lane. The volume criteria is determined by the Texas Transportation Institute (TTI) curves in Figure 1.

The criteria is not met from zero to ten left turn vehicles per hour, but indicates that careful consideration be given to installing a left turn lane due to the increased potential for accidents in the through lanes. While the turn volumes are low, the adverse safety and operations impacts may require installation of a left turn lane. The final determination will be based on a field study.

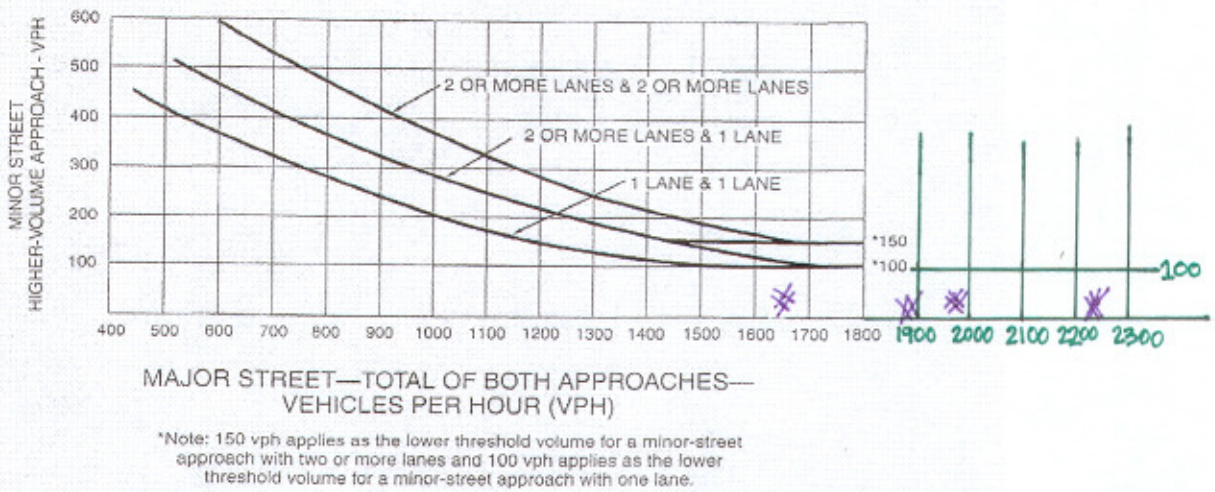


* ((Advancing volume/number of advancing through lanes) + (opposing volume/ number of opposing through lanes))

FIGURE 1

Intersection	Mov't	Analysis Period	Speed	Opposing plus Advancing Volume (vph per lane)	Left Turns in Advancing Volume (vph)	Storage Req'd?
Willamette Drive (Highway 43) & Shady Hollow Way	SB LT	2008 Extg Traffic, AM Peak	35 mph (56 kmh)	1507	2	No
		2008 Extg Traffic, PM Peak		1705	4	No
		2013 Bkgd Traffic, AM Peak		1658	2	No
		2013 Bkgd Traffic, PM Peak		1875	4	No
		Current (R-10) Zoning				
		2013 Total Traffic, AM Peak		1660	3	No
		2013 Total Traffic, PM Peak		1881	6	No
		2023 Planning Horizon, AM Peak		1961	3	No
		2023 Planning Horizon, PM Peak		2222	7	No
		Proposed (R-2.1) Zoning				
		2013 Total Traffic, AM Peak		1662	3	No
		2013 Total Traffic, PM Peak		1893	9	No
		2023 Planning Horizon, AM Peak		1963	3	No
		2023 Planning Horizon, PM Peak		2234	10	No

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Peak hour volume warrant for signalization data.

Intersection	Analysis Period	Major Street Speed (mph)	Major Street		Minor Street High Volume Approach		Signal Warranted?
			Volume (vph)	Lanes (#)	Volume (vph)	Lanes (#)	
	Current (R-10) Zoning						
Willamette Drive (Highway 43) & Shady Hollow Way	2013 Total Traffic, AM Peak	35	1660	1	24	1	No
	2013 Total Traffic, PM Peak		1881		14		No
	2023 Planning Horizon, AM Peak		1961		27		No
	2023 Planning Horizon, PM Peak		2222		16		No
Burgerville Access/ Proposed Access & Shady Hollow Way	2013 Total Traffic, AM Peak	25	35	1	6	1	No
	2013 Total Traffic, PM Peak		24		8		No
	2023 Planning Horizon, AM Peak		41		6		No
	2023 Planning Horizon, PM Peak		26		9		No
	Proposed (R-2.1) Zoning						
Willamette Drive (Highway 43) & Shady Hollow Way	2013 Total Traffic, AM Peak	35	1662	1	37	1	No
	2013 Total Traffic, PM Peak		1893		20		No
	2023 Planning Horizon, AM Peak		1963		40		No
	2023 Planning Horizon, PM Peak		2234		22		No
Burgerville Access/ Proposed Access & Shady Hollow Way	2013 Total Traffic, AM Peak	25	37	1	18	1	No
	2013 Total Traffic, PM Peak		36		9		No
	2023 Planning Horizon, AM Peak		43		18		No
	2023 Planning Horizon, PM Peak		38		9		No

Source: Manual on Uniform Traffic Control Devices (MUTCD), 2003 Edition.

Mary Kate

From: "RIFE Christina M" <Christina.M.RIFE@odot.state.or.us>
To: "Mary Kate" <MaryKate@charbonneauengineer.com>
Cc: "RIFE Christina M" <Christina.M.RIFE@odot.state.or.us>
Sent: Wednesday, April 09, 2008 1:56 PM
Attach: CR.Rt 43@Maryhurst&LazyRvr, +500'(WestLinn)_CDS380.pdf; CR.Rt 43@ShadyHollowWay, +500'(WestLinn)_CDS150.pdf; CR.Rt 43@ShadyHollowWay, +500'(WestLinn)_CDS380.pdf; CR.Rt 43@Maryhurst&LazyRvr, +500'(WestLinn)_CDS150.pdf
Subject: Crashes in West Linn at Willamette Drive and Shady Hollow Way & Maryhurst Drive/Lazy River Drive

Mary Kate,

Attached are detailed and summary reports for Willamette Drive at Shady Hollow Way and Willamette Drive at Maryhurst Drive/Lazy River Drive, plus 500' in all directions of the intersections, for 1-1-2002 through 12-31-2006 that you requested. Some West Linn city street numbers showed up. These numbers and their names are:

1. #412 refers to CedarOak Drive
2. #1006 refers to Hollowell Street
3. #803 refers to Fairview Way
4. #1509 refers to Maryhurst Drive
5. #2109 refers to Robinwood Way
6. #2209 refers to Shady Hollow Way
7. #2605 refers to Willamette Drive

<<CR.Rt 43@Maryhurst&LazyRvr, +500'(WestLinn)_CDS380.pdf>> <<CR.Rt 43@ShadyHollowWay, +500'(WestLinn)_CDS150.pdf>> <<CR.Rt 43@ShadyHollowWay, +500'(WestLinn)_CDS380.pdf>> <<CR.Rt 43@Maryhurst&LazyRvr, +500'(WestLinn)_CDS150.pdf>>

Christina "Chris" Rife
Crash Data Technician
Crash Analysis and Reporting Unit
Transportation Data Section
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Salem, OR 97301-4178
503-986-4239
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

003 OSWEGO

Willamette Drive (Hwy 3, Route 43) at Shady Hollow Way, plus 500' in all directions, in West Linn
1-1-2002 through 12-31-2006

SER# INVEST	S P E E D / E A L C / D R U G $ / S C H L / W O R K	DATE DAY TIME	COUNTY CITY URBAN AREA	RD# FC COMPNT MLG TYP MILEPNT	CONN # FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CNTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER VEH TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
00578	N N N	02/09/2006	CLACKAMAS	1 14		ALLEY		N	N	CLR	O-1TURN	01	NONE 0	STRGHT											08
		Thu	WEST LINN	0 0	02605 WILLAMETTE	SE	(NONE)	UNKNOWN	N	DRY	TURN		PRVTE	NW SE									000		00
		5P	PORTLAND UA	8.21	00412 CEDAR OAK	03			N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	31	M	OR-Y		000	000		00
							(02)													OR<25					
												02	NONE 0	TURN-L											
													PRVTE	SE W									000		00
													PSNGR CAR		01	DRVR	NONE	48	M	OR-Y		004	000		08
																				OR<25					
															02	PSNG	NO<5	03	F			000	000		00
04764	N N N	11/07/2006	CLACKAMAS	1 14		STRGHT		N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE		Tue	WEST LINN	0 0	02605 WILLAMETTE	N	(NONE)	UNKNOWN	N	WET	REAR		PRVTE	N S									000		00
		6P	PORTLAND UA	8.27	02109 ROBINWOOD	03			N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	56	F	OR-Y		026	000		07
							(02)													OR<25					
												02	NONE 0	STOP											
													PRVTE	N S									011		00
													PSNGR CAR		01	DRVR	NONE	33	M	OR-Y		000	000		00
																				OR<25					
02942	N N N	06/10/2003	CLACKAMAS	1 14		INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	10
CITY		Tue	WEST LINN	0 0	ROBINWOOD WAY	SE		UNKNOWN	N	DRY	REAR		PUBLC	SE NW									000		00
		4P	PORTLAND UA	8.29	WILLAMETTE DR	06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	56	M	OR-Y		026	000		10
																				OR<25					
												02	NONE 0	STOP											
													PRVTE	SE NW									011	013	00
													PSNGR CAR		01	DRVR	INJC	21	F	OR-Y		000	000		00
																				OR<25					
												03	NONE 0	STOP											
													PRVTE	SE NW									012		00
													PSNGR CAR		01	DRVR	NONE	43	F	OR-Y		000	000		00
																				OR<25					
06628	N N N N N	11/16/2002	CLACKAMAS	1 14		INTER	3-LEG	N	N	RAIN	S-1TURN	01	NONE 0	STRGHT											07
CITY		Sat	WEST LINN	0 0	ROBINWOOD WAY	CN		UNKNOWN	N	WET	REAR		PRVTE	NW SE									000		
		9A	PORTLAND UA	8.29	WILLAMETTE DR	03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	F	OR-Y		043	038		07
																				OR<25					
												02	NONE 0	TURN-R											
													PRVTE	NW SW									000		
													PSNGR CAR		01	DRVR	NONE	55	M	OR-Y		000			
																				OR<25					
01606	N N N N N	04/20/2006	CLACKAMAS	1 14		STRGHT		Y	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	27
CITY		Thu	WEST LINN	0 0	02605 WILLAMETTE	NW	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	SE NW									000		00
		3P	PORTLAND UA	8.30	02209 SHADY HOLLOW	04			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	68	M	OR-Y		026	000		27
							(02)													OR<25					

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

003 OSWEGO

Willamette Drive (Hwy 3, Route 43) at Shady Hollow Way, plus 500' in all directions, in West Linn
1-1-2002 through 12-31-2006

SER# INVEST	S P E E D / D A U C O / R S W / L G H R / C S L K	DATE DAY TIME	COUNTY CITY URBAN AREA	RD# FC COMPNT MLG TYP MILEPNT	CONN # FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CNTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER VEH TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
												02	NONE 0 PRVTE PSNGR CAR	STOP SE NW	01	DRVR	INJC	21	M	OR-Y OR>25		000	011 000	013	00 00
												03	NONE 0 PRVTE PSNGR CAR	STOP SE NW	01	DRVR	NONE	34	F	OTH-Y N-RES		000	011 000		00 00
02165 CITY	N N N	05/25/2006 Thu 5P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.31	02605 WILLAMETTE 01006 HOLLOWELL	ALLEY E 03	(NONE) (02)	N UNKNOWN	N N N	RAIN WET DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L NW E	01	DRVR	NONE	18	F	OR-Y OR<25		004	018 000		08 00 08
												02	NONE 0 PRVTE PSNGR CAR	STRGHT E W	01	DRVR	NONE	36	F	OR-Y OR<25		000	000 000		00 00
01963 CITY	N N N N N	04/08/2002 Mon 5P	CLACKAMAS LAKE OSWEGO PORTLAND UA	1 14 0 0 8.33	02605 WILLAMETTE 02209 SHADY HOLLOW	STRGHT SE 03	(NONE) 0 (02)	N NONE	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW SE	01	DRVR	NONE	31	F	OR-Y OR<25		043	000	013 013	07 07
												02	NONE 0 PRVTE PSNGR CAR	STOP NW SE	01	DRVR	NONE	30	F	OR-Y OR<25		000	011		
												03	NONE 0 PRVTE PSNGR CAR	STOP NW SE	01	DRVR	NONE	29	M	OR-Y OR<25		000	011		
04808 NONE	Y N N	11/19/2004 Fri 5P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.33		STRGHT S 06	(NONE) (02)	Y UNKNOWN	N N N	CLR DRY DUSK	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S N	01	DRVR	NONE	16	M	OR-Y OR<25		026	000 000		01,07,27 00 01,07,27
												02	NONE 0 PRVTE PSNGR CAR	STOP S N	01	DRVR	INJC	19	M	OR-Y OR<25		000	011 000		00 00
00389 NONE	Y N N	02/02/2004 Mon 5P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.36	02605 WILLAMETTE 01509 MARYLHURST	STRGHT UN 04	(RSDMD) (03)	N TRF SIGNAL	N N N	RAIN WET DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT N S	01	DRVR	NONE	55	M	OR-Y OR<25		026	000 000		01 00 01
												02	NONE 0 PRVTE PSNGR CAR	STOP N S	01	DRVR	NONE	30	F	OR-Y OR<25		000	011 000		00 00

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

003 OSWEGO

Willamette Drive (Hwy 3, Route 43) at Shady Hollow Way, plus 500' in all directions, in West Linn
1-1-2002 through 12-31-2006

SER# INVEST	SPEED	ALC	DRUGS	SCHL	WORK	DATE DAY TIME	COUNTY CITY URBAN AREA	RD# FC COMPNT MLG TYP MILEPNT	CONN # FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CNTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER VEH TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN EVENT	CAUSE
06615	N	N	N	N	N	12/01/2003	CLACKAMAS	1 14		STRGHT		Y	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
CITY						Mon	WEST LINN	0 0	02605 WILLAMETTE	NW	(NONE)	NONE	N	DRY	REAR		PRVTE	NW SE									000	00
						12P	PORTLAND UA	8.38	01509 MARYLHURST	03			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		043	000	07
											(02)													OR<25				
																02	NONE 0	STOP										
																	PRVTE	NW SE									011	00
																	PSNGR CAR		01	DRVR	INJA	45	M	OR-Y		000	000	00
																								OR<25				

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

003 OSWEGO

Willamette Drive (Hwy 3, Route 43) at Maryhurst Drive/Lazy River Drive, plus 500' in all directions, in West Linn
1-1-2002 through 12-31-2006

SER# INVEST	S P E E D / D R S W / A U C C / L G H R / C S L K	DATE DAY TIME	COUNTY CITY URBAN AREA	RD# FC COMPNT MLG TYP MILEPNT	CONN # FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CNTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER VEH TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
01963 CITY DUPLICATE	N N N N N	04/08/2002 Mon 5P	CLACKAMAS LAKE OSWEGO PORTLAND UA	1 14 0 0 8.33	 02605 02209	STRGHT SE 03	 (NONE) 0 (02)	N NONE	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW SE	01	DRVR	NONE	31	F	OR-Y OR<25		043	 000	013 013	07 07
												02	NONE 0 PRVTE PSNGR CAR	STOP NW SE	01	DRVR	NONE	30	F	OR-Y OR<25		000	011		
												03	NONE 0 PRVTE PSNGR CAR	STOP NW SE	01	DRVR	NONE	29	M	OR-Y OR<25		000	011		
04808 NONE DUPLICATE	Y N N	11/19/2004 Fri 5P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.33		STRGHT S 06	 (NONE) (02)	Y UNKNOWN	N N N	CLR DRY DUSK	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S N	01	DRVR	NONE	16	M	OR-Y OR<25		026	000 000		01,07,27 00 01,07,27
												02	NONE 0 PRVTE PSNGR CAR	STOP S N	01	DRVR	INJC	19	M	OR-Y OR<25		000	011 000		00 00
00389 NONE DUPLICATE	Y N N	02/02/2004 Mon 5P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.36	 02605 01509	STRGHT UN 04	 (RSDMD) (03)	N TRF SIGNAL	N N N	RAIN WET DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT N S	01	DRVR	NONE	55	M	OR-Y OR<25		026	000 000		01 00 01
												02	NONE 0 PRVTE PSNGR CAR	STOP N S	01	DRVR	NONE	30	F	OR-Y OR<25		000	011 000		00 00
06615 CITY DUPLICATE	N N N N N	12/01/2003 Mon 12P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.38	 02605 01509	STRGHT NW 03	 (NONE) (02)	Y NONE	N N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW SE	01	DRVR	NONE	21	F	OR-Y OR<25		043	000 000		07 00 07
												02	NONE 0 PRVTE PSNGR CAR	STOP NW SE	01	DRVR	INJA	45	M	OR-Y OR<25		000	011 000		00 00
01706 NONE	N N N	05/12/2004 Wed 4P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.42	 02605 WILLAMETTE 01509 MARYLHURST	STRGHT NW 06	 (NONE) (02)	N UNKNOWN	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE NW	01	DRVR	INJC	27	F	OR-Y OR<25		026	000 000		07 00 07
												02	NONE 0 PRVTE PSNGR CAR	STOP SE NW	01	DRVR	NONE	18	F	OR-Y OR<25		000	011 000		00 00

003 OSWEGO — Willamette Drive (Hwy 3, Route 43) at Maryhurst Drive/Lazy River Drive, plus 500' in all directions, in West Linn
1-1-2002 through 12-31-2006

SER# / INVEST	SPEED	ALC	DRUGS	SCHL	WORK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN EVENT	CAUSE
07425	Y	N	N	N	N	12/20/2002	CLACKAMAS	1 14			INTER	CROSS	N		N CLR	S-1STOP	01	NONE 0	STRGHT											01
NO RPT						Fri	WEST LINN	0 0		MARYLHURST DR	SE		TRF SIGNAL		N DRY	REAR		PRVTE	SE NW									000	01
						11A	PORTLAND UA	8.43		WILLAMETTE DR	06	0			N DAY	PDO		PSNGR CAR		01	DRVR	NONE	50	F	OR-Y OR<25		016	038	01
																	02	NONE 0	STOP										
																		PRVTE	SE NW									011	
																		PSNGR CAR		01	DRVR	NONE	56	F	OR-Y OR<25		000		
06635	Y	N	N			12/01/2003	CLACKAMAS	1 14			INTER	CROSS	N		N RAIN	S-1STOP	01	NONE 0	STRGHT											01
NONE						Mon	WEST LINN	0 0		MARYLHURST DR	NW		TRF SIGNAL		N WET	REAR		PRVTE	NW SE									001	00
						7A	PORTLAND UA	8.43		WILLAMETTE DR	06	0			N DARK	PDO		PSNGR CAR		01	DRVR	NONE	61	F	OR-Y OR<25		047	000	01
																	02	NONE 0	STOP										
																		PRVTE	NW SE									011	00
																		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00
01772	Y	N	N			05/06/2005	CLACKAMAS	1 14			INTER	CROSS	N		N CLR	S-1STOP	01	NONE	STRGHT											01,27
NONE						Fri	WEST LINN	0 0		MARYLHURST DR	NW		TRF SIGNAL		N DRY	REAR		PRVTE	NW SE									000	00
						8A	PORTLAND UA	8.43		WILLAMETTE DR	06	99			N DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		016,026,047	038	01,27
																	02	NONE	STOP										
																		PRVTE	NW SE									011	00
																		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000	00
06532	Y	N	N			11/28/2003	CLACKAMAS	1 14			INTER	CROSS	N		N CLD	ANGL-OTH	01	NONE 0	TURN-R											01,08
CITY						Fri	WEST LINN	0 0			CN		TRF SIGNAL		N WET	TURN		PRVTE	E N									000	00
						10P	PORTLAND UA	8.43			04	99			N DLIT	PDO		PSNGR CAR		01	DRVR	NONE	72	F	OR-Y OR<25		001	000	01,08
																	02	NONE 0	STRGHT										
																		PRVTE	N S									000	00
																		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00
02021	N	N	N			05/16/2006	CLACKAMAS	1 14			INTER	CROSS	N		N CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						Tue	WEST LINN	0 0		LAZY RIVER DR	SE		UNKNOWN		N DRY	REAR		PRVTE	SE NW									000	00
						8A	PORTLAND UA	8.44		WILLAMETTE DR	06	0			N DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000	07
																	02	NONE 0	STOP										
																		PRVTE	SE NW									011	00
																		PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000	00
05407	N	N	N			10/09/2003	CLACKAMAS	1 14			ALLEY		N		N CLR	ANGL-OTH	01	NONE 0	STRGHT											10
NONE						Thu	WEST LINN	0 0		02605 WILLAMETTE	SE	(NONE)	L-TURN REF		N DRY	TURN		PRVTE	SE NW									000	00
						5P	PORTLAND UA	8.45		01509 MARYLHURST	04	(03)			N DAY	INJ		PSNGR CAR		01	DRVR	NONE	55	F	OR-Y OR<25		044	000	10

003 OSWEGO

Willamette Drive (Hwy 3, Route 43) at Marylhurst Drive/Lazy River Drive, plus 500' in all directions, in West Linn
1-1-2002 through 12-31-2006

SER# INVEST	S P E E D / E A L C / R U G S / S C H L / W O R K	DATE DAY TIME	COUNTY CITY URBAN AREA	RD# FC COMPNT MLG TYP MILEPNT	CONN # FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CNTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER VEH TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACTN EVENT	CAUSE
												02	NONE 0	TURN-L										
													PRVTE	NE SE									018	00
													PSNGR CAR		01	DRVR	INJB	49	F	OR-Y		000	000	00
																				OR<25				
															02	PSNG	NO<5	01	F			000	000	00
01702	N N N	04/30/2005	CLACKAMAS	1 14		STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE		Sat	WEST LINN	0 0	02605 WILLAMETTE	S	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	S N									000	00
		6P	PORTLAND UA	8.45	01509 MARYLAURST	06			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	22	M	OR-Y		026	000	07
							(02)													OR<25				
												02	NONE 0	STOP										
													PRVTE	S N									011	00
													PSNGR CAR		01	DRVR	NONE	29	F	OR-Y		000	000	00
																				OR<25				
															02	PSNG	NO<5	01	F			000	000	00
															03	PSNG	NO<5	04	M			000	000	00
															04	PSNG	NO<5	01	F			000	000	00
01253	N N N	03/29/2005	CLACKAMAS	1 14		STRGHT		Y	N	CLD	S-1STOP	01	NONE 0	STRGHT										01
CITY		Tue	WEST LINN	0 0	02605 WILLAMETTE	NW	(NONE)	NONE	N	WET	REAR		PRVTE	NW SE									000	00
		9P	PORTLAND UA	8.45	01509 MARYHURST	03			N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y		026	000	02
							(02)													OR<25				
												02	NONE 0	STRGHT										
													PRVTE	NW SE									000	00
													PSNGR CAR		01	DRVR	NONE	20	F	OR-Y		000	000	00
																				OR<25				
00533	N N N	02/03/2005	CLACKAMAS	1 14		STRGHT		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE		Thu	WEST LINN	0 0	02605 WILLAMETTE	S	(NONE)	TRF SIGNAL	N	DRY	REAR		PRVTE	S N									000	00
		3P	PORTLAND UA	8.46	01509 MARYLHURST	06			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y		026	000	07
							(02)													OR<25				
												02	NONE 0	STOP										
													PRVTE	S N									011	00
													PSNGR CAR		01	DRVR	INJC	28	F	OR-Y		000	000	00
																				OR<25				
00689	N N N	02/10/2003	CLACKAMAS	1 14		ALLEY		N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L										02,10
NO RPT		Mon	WEST LINN	0 0	02605 WILLAMETTE	SE	(NONE)	L-TURN REF	N	DRY	TURN		PRVTE	NE SE									018	00
		3P	PORTLAND UA	8.47	01509 MARYLHURST	04			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		028	000	02
							(03)													OR<25				
												02	NONE 0	STRGHT										
													PRVTE	SE NW									000	00
													PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		044	000	10
																				OR<25				
															02	PSNG	INJB	55	F			000	000	00
00079	N N N N N	01/03/2002	CLACKAMAS	1 14		STRGHT		N	N	CLR	S-STRGHT	01	NONE 0	STRGHT										07
NONE		Thu	WEST LINN	0 0	02605 WILLAMETTE	SE	(NONE)	UNKNOWN	N	WET	REAR		PRVTE	NW SE									000	
		1P	PORTLAND UA	8.49	01509 MARYLHURST	03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	55	F	OR-Y		042		07
							(02)													OR<25				

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

003 OSWEGO

Willamette Drive (Hwy 3, Route 43) at Maryhurst Drive/Lazy River Drive, plus 500' in all directions, in West Linn
1-1-2002 through 12-31-2006

SER# INVEST	S D P R S W E A U C O E L G H R D C S L K	DATE DAY TIME	COUNTY CITY URBAN AREA	RD# FC COMPNT MLG TYP MILEPNT	CONN # FIRST STREET SECOND STREET	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CNTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER VEH TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
												02	NONE 0 PRVTE PSNGR CAR	STRGHT NW SE	01	DRVR	NONE	25	M	OR-Y OR<25		000	006		
07079 NONE	N N N N N	12/06/2002 Fri 8A	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.49	02605 WILLAMETTE 01509 MARYLHURST	STRGHT SE 04	(NONE) 0 (02)	N UNKNOWN	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE NW	01	DRVR	NONE	54	F	OR-Y OR<25		026	000		07 07
												02	NONE 0 PRVTE PSNGR CAR	STOP SE NW	01	DRVR	NONE	67	F	OR-Y OR<25		000	011		
00159 NONE	N N N N N	01/07/2002 Mon UNK	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.51	02605 WILLAMETTE 00803 FAIRVIEW	ALLEY UN 04	(NONE) 0 (02)	N UNKNOWN	N N Y	RAIN WET DAY	ANGL-OTH TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE NW	01	DRVR	INJC	29	F	OR-Y OR<25		000	000		02
															02	PSNG	INJC	28	M						
															03	PSNG	NO<5	02	F						
															04	PSNG	NO<5	01	F						
												02	NONE 0 PRVTE PSNGR CAR	TURN-R NE NW	01	DRVR	NONE	43	F	OR-Y OR<25		028	018		02
00135 NO RPT	Y N N	01/09/2005 Sun 8A	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.52	02605 WILLAMETTE 00803 FAIRVIEW	STRGHT SE 01	(NONE) (02)	N STOP SIGN	Y N N	RAIN ICE DAY	FIX OBJ FIX PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE NW	01	DRVR	NONE	22	M	OR-Y OR<25		047,080,081	000 017	053 053	01 00 01
06372 CITY	N N N N N	11/07/2002 Thu 5P	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.53	FAIRVIEW WAY WILLAMETTE DR	INTER NE 06	3-LEG 0	N STOP SIGN	N N N	RAIN WET DLIT	PED PED INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NW NE	01	DRVR	NONE	52	F	OR-Y OR<25		029	000		02 02
														STRGHT NW SE	01	PED	INJC	63	M		01	000	034		
01192 CITY	N N N N N	02/28/2002 Thu 8A	CLACKAMAS WEST LINN PORTLAND UA	1 14 0 0 8.53	FAIRVIEW WAY WILLAMETTE DR	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE NW	01	DRVR	NONE	17	M	OR-Y OR<25		043	000		07 07
												02	NONE 0 PRVTE PSNGR CAR	STOP SE NW	01	DRVR	NONE	30	F	OR-Y OR<25		000	011		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2008 Existing Traffic*
Analysis Time Period	*AM Peak Hour*		

Project Description *#08-16 Willamette Commons*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1041*	*5*	*2*	*459*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*0*	*1107*	*5*	*2*	*488*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*16*	*0*	*1*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*17*	*0*	*1*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*2*		*18*				
C (m) (vph)		*635*		*239*				
v/c		*0.00*		*0.08*				
95% queue length		*0.01*		*0.24*				
Control Delay		*10.7*		*21.3*				
LOS		*B*		*C*				
Approach Delay	--	--	*21.3*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Shady Hollow & Burgerville acc*
Jurisdiction	*City of West Linn*
Analysis Year	*2008 Existing Traffic*

Project Description *#08-16 Willamette Commons*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*9*	*2*	*1*	*18*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*0*	*14*	*3*	*1*	*29*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*1*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*8*	*0*	*1*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
Volume, v (vph)		*1*		*9*				
Capacity, c_m (vph)		*1613*		*977*				
v/c ratio		*0.00*		*0.01*				
Queue length (95%)		*0.00*		*0.03*				
Control Delay (s/veh)		*7.2*		*8.7*				
LOS		*A*		*A*				
Approach delay (s/veh)	--	--	*8.7*					
Approach LOS	--	--	*A*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2008 Existing Traffic*
Analysis Time Period	*PM Peak Hour*		

Project Description *#08-16 Willamette Commons*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*621*	*6*	*4*	*1074*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*674*	*6*	*4*	*1167*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*6*	*0*	*4*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*6*	*0*	*4*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*4*		*10*				
C (m) (vph)		*922*		*261*				
v/c		*0.00*		*0.04*				
95% queue length		*0.01*		*0.12*				
Control Delay		*8.9*		*19.3*				
LOS		*A*		*C*				
Approach Delay	--	--	*19.3*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Shady Hollow & Burgerville acc*
Jurisdiction	*City of West Linn*
Analysis Year	*2008 Existing Traffic*

Project Description *#08-16 Willamette Commons*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*7*	*2*	*0*	*7*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*0*	*10*	*2*	*0*	*10*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*8*	*0*	*0*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*11*	*0*	*0*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
Volume, v (vph)		*0*		*11*				
Capacity, c_m (vph)		*1620*		*1001*				
v/c ratio		*0.00*		*0.01*				
Queue length (95%)		*0.00*		*0.03*				
Control Delay (s/veh)		*7.2*		*8.6*				
LOS		*A*		*A*				
Approach delay (s/veh)	--	--	*8.6*					
Approach LOS	--	--	*A*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2013 Background Traffic*
Analysis Time Period	*AM Peak Hour*		

Project Description *#08-16 Willamette Commons*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1145*	*6*	*2*	*505*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*0*	*1218*	*6*	*2*	*537*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*18*	*0*	*1*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*19*	*0*	*1*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*2*		*20*				
C (m) (vph)		*577*		*210*				
v/c		*0.00*		*0.10*				
95% queue length		*0.01*		*0.31*				
Control Delay		*11.3*		*23.9*				
LOS		*B*		*C*				
Approach Delay	--	--	*23.9*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Shady Hollow & Burgerville acc*
Jurisdiction	*City of West Linn*
Analysis Year	*2013 Background Traffic*

Project Description *#08-16 Willamette Commons*

East/West Street: *Shady Hollow Way*	North/South Street: *Burgerville access*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*10*	*2*	*1*	*20*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*0*	*16*	*3*	*1*	*33*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*1*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*8*	*0*	*1*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
Volume, v (vph)		*1*		*9*				
Capacity, c_m (vph)		*1611*		*970*				
v/c ratio		*0.00*		*0.01*				
Queue length (95%)		*0.00*		*0.03*				
Control Delay (s/veh)		*7.2*		*8.7*				
LOS		*A*		*A*				
Approach delay (s/veh)	--	--	*8.7*					
Approach LOS	--	--	*A*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2013 Background Traffic*
Analysis Time Period	*PM Peak Hour*		
Project Description	*#08-16 Willamette Commons*		
East/West Street:	*Shady Hollow Way*	North/South Street:	*Willamette Drive (Hwy 43)*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*683*	*7*	*4*	*1181*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*742*	*7*	*4*	*1283*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*7*	*0*	*4*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*7*	*0*	*4*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*4*		*11*				
C (m) (vph)		*869*		*224*				
v/c		*0.00*		*0.05*				
95% queue length		*0.01*		*0.15*				
Control Delay		*9.2*		*21.9*				
LOS		*A*		*C*				
Approach Delay	--	--	*21.9*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Shady Hollow & Burgerville acc*
Jurisdiction	*City of West Linn*
Analysis Year	*2013 Background Traffic*

Project Description *#08-16 Willamette Commons*

East/West Street: *Shady Hollow Way*	North/South Street: *Burgerville access*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*8*	*2*	*0*	*8*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*0*	*11*	*2*	*0*	*11*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*8*	*0*	*0*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*11*	*0*	*0*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
Volume, v (vph)		*0*		*11*				
Capacity, c_m (vph)		*1619*		*998*				
v/c ratio		*0.00*		*0.01*				
Queue length (95%)		*0.00*		*0.03*				
Control Delay (s/veh)		*7.2*		*8.6*				
LOS		*A*		*A*				
Approach delay (s/veh)	--	--	*8.6*					
Approach LOS	--	--	*A*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2013 Total Traffic*
Analysis Time Period	*AM Peak Hour*		

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way*	North/South Street: *Willamette Drive (Hwy 43)*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1145*	*7*	*3*	*505*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*0*	*1218*	*7*	*3*	*537*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*21*	*0*	*3*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*22*	*0*	*3*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*3*		*25*				
C (m) (vph)		*576*		*210*				
v/c		*0.01*		*0.12*				
95% queue length		*0.02*		*0.40*				
Control Delay		*11.3*		*24.4*				
LOS		*B*		*C*				
Approach Delay	--	--	*24.4*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2013 Total Traffic*

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*10*	*2*	*1*	*20*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*3*	*16*	*3*	*1*	*33*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*1*	*0*	*0*	*5*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*8*	*0*	*1*	*0*	*0*	*8*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*3*	*1*		*9*			*8*	
Capacity, c_m (vph)	*1592*	*1611*		*941*			*1046*	
v/c ratio	*0.00*	*0.00*		*0.01*			*0.01*	
Queue length (95%)	*0.01*	*0.00*		*0.03*			*0.02*	
Control Delay (s/veh)	*7.3*	*7.2*		*8.9*			*8.5*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*8.9*			*8.5*		
Approach LOS	--	--	*A*			*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2013 Total Traffic*
Analysis Time Period	*PM Peak Hour*		

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way*	North/South Street: *Willamette Drive (Hwy 43)*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*683*	*11*	*6*	*1181*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*742*	*11*	*6*	*1283*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*9*	*0*	*5*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*9*	*0*	*5*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*6*		*14*				
C (m) (vph)		*866*		*221*				
v/c		*0.01*		*0.06*				
95% queue length		*0.02*		*0.20*				
Control Delay		*9.2*		*22.4*				
LOS		*A*		*C*				
Approach Delay	--	--	*22.4*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2013 Total Traffic*

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*6*	*8*	*2*	*0*	*8*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*8*	*11*	*2*	*0*	*11*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*8*	*0*	*0*	*0*	*0*	*3*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*11*	*0*	*0*	*0*	*0*	*4*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*8*	*0*		*11*			*4*	
Capacity, c_m (vph)	*1621*	*1619*		*961*			*1076*	
v/c ratio	*0.00*	*0.00*		*0.01*			*0.00*	
Queue length (95%)	*0.01*	*0.00*		*0.03*			*0.01*	
Control Delay (s/veh)	*7.2*	*7.2*		*8.8*			*8.4*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*8.8*			*8.4*		
Approach LOS	--	--	*A*			*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2013 Total Traffic*
Analysis Time Period	*AM Peak Hour*		

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1145*	*9*	*3*	*505*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*0*	*1218*	*9*	*3*	*537*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*31*	*0*	*6*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*32*	*0*	*6*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*3*		*38*				
C (m) (vph)		*575*		*211*				
v/c		*0.01*		*0.18*				
95% queue length		*0.02*		*0.64*				
Control Delay		*11.3*		*25.8*				
LOS		*B*		*D*				
Approach Delay	--	--	*25.8*					
Approach LOS	--	--	*D*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2013 Total Traffic*

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*4*	*10*	*2*	*1*	*20*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*6*	*16*	*3*	*1*	*33*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*1*	*0*	*0*	*18*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*8*	*0*	*1*	*0*	*0*	*29*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*6*	*1*		*9*			*29*	
Capacity, c_m (vph)	*1592*	*1611*		*902*			*1046*	
v/c ratio	*0.00*	*0.00*		*0.01*			*0.03*	
Queue length (95%)	*0.01*	*0.00*		*0.03*			*0.09*	
Control Delay (s/veh)	*7.3*	*7.2*		*9.0*			*8.5*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*9.0*			*8.5*		
Approach LOS	--	--	*A*			*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/9/2008*	Analysis Year	*2013 Total Traffic*
Analysis Time Period	*PM Peak Hour*		

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*683*	*20*	*9*	*1181*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*742*	*21*	*9*	*1283*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*13*	*0*	*7*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*14*	*0*	*7*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*9*		*21*				
C (m) (vph)		*859*		*214*				
v/c		*0.01*		*0.10*				
95% queue length		*0.03*		*0.32*				
Control Delay		*9.2*		*23.6*				
LOS		*A*		*C*				
Approach Delay	--	--	*23.6*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/9/2008*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2013 Total Traffic*

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*18*	*8*	*2*	*0*	*8*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*26*	*11*	*2*	*0*	*11*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*8*	*0*	*0*	*0*	*0*	*9*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*11*	*0*	*0*	*0*	*0*	*13*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*26*	*0*		*11*			*13*	
Capacity, c_m (vph)	*1621*	*1619*		*888*			*1076*	
v/c ratio	*0.02*	*0.00*		*0.01*			*0.01*	
Queue length (95%)	*0.05*	*0.00*		*0.04*			*0.04*	
Control Delay (s/veh)	*7.3*	*7.2*		*9.1*			*8.4*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*9.1*			*8.4*		
Approach LOS	--	--	*A*			*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/14/2008*	Analysis Year	*2023 Planning Horizon Traffic*
Analysis Time Period	*AM Peak Hour*		

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1353*	*8*	*3*	*597*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*0*	*1439*	*8*	*3*	*635*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*24*	*0*	*3*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*25*	*0*	*3*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*3*		*28*				
C (m) (vph)		*474*		*163*				
v/c		*0.01*		*0.17*				
95% queue length		*0.02*		*0.60*				
Control Delay		*12.6*		*31.6*				
LOS		*B*		*D*				
Approach Delay	--	--	*31.6*					
Approach LOS	--	--	*D*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/14/2008*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2023 Planning Horizon Traffic*

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*12*	*2*	*1*	*24*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*3*	*19*	*3*	*1*	*39*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*1*	*0*	*0*	*5*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*8*	*0*	*1*	*0*	*0*	*8*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*3*	*1*		*9*			*8*	
Capacity, c_m (vph)	*1584*	*1607*		*930*			*1038*	
v/c ratio	*0.00*	*0.00*		*0.01*			*0.01*	
Queue length (95%)	*0.01*	*0.00*		*0.03*			*0.02*	
Control Delay (s/veh)	*7.3*	*7.2*		*8.9*			*8.5*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*8.9*			*8.5*		
Approach LOS	--	--	*A*			*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/14/2008*	Analysis Year	*2023 Planning Horizon Traffic*
Analysis Time Period	*PM Peak Hour*		

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*807*	*12*	*7*	*1396*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*877*	*13*	*7*	*1517*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*10*	*0*	*6*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*10*	*0*	*6*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*7*		*16*				
C (m) (vph)		*770*		*168*				
v/c		*0.01*		*0.10*				
95% queue length		*0.03*		*0.31*				
Control Delay		*9.7*		*28.7*				
LOS		*A*		*D*				
Approach Delay	--	--	*28.7*					
Approach LOS	--	--	*D*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/14/2008*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2023 Planning Horizon Traffic*

Project Description *#08-16 Willamette Commons - with existing (R-10) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*6*	*9*	*2*	*0*	*9*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*8*	*13*	*2*	*0*	*13*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*8*	*0*	*0*	*0*	*0*	*3*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*11*	*0*	*0*	*0*	*0*	*4*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*8*	*0*		*11*			*4*	
Capacity, c_m (vph)	*1619*	*1616*		*955*			*1073*	
v/c ratio	*0.00*	*0.00*		*0.01*			*0.00*	
Queue length (95%)	*0.01*	*0.00*		*0.03*			*0.01*	
Control Delay (s/veh)	*7.2*	*7.2*		*8.8*			*8.4*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*8.8*			*8.4*		
Approach LOS	--	--	*A*			*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/14/2008*	Analysis Year	*2023 Planning Horizon Traffic*
Analysis Time Period	*AM Peak Hour*		

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1353*	*10*	*3*	*597*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*0*	*1439*	*10*	*3*	*635*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*34*	*0*	*6*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*	*0.94*
Hourly Flow Rate, HFR	*36*	*0*	*6*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*3*		*42*				
C (m) (vph)		*474*		*162*				
v/c		*0.01*		*0.26*				
95% queue length		*0.02*		*0.99*				
Control Delay		*12.6*		*34.8*				
LOS		*B*		*D*				
Approach Delay	--	--	*34.8*					
Approach LOS	--	--	*D*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/14/2008*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2023 Planning Horizon Traffic*

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*4*	*12*	*2*	*1*	*24*	*0*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*6*	*19*	*3*	*1*	*39*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*5*	*0*	*1*	*0*	*0*	*18*
Peak-hour factor, PHF	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*
Hourly Flow Rate (veh/h)	*8*	*0*	*1*	*0*	*0*	*29*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*6*	*1*		*9*			*29*	
Capacity, c_m (vph)	*1584*	*1607*		*892*			*1038*	
v/c ratio	*0.00*	*0.00*		*0.01*			*0.03*	
Queue length (95%)	*0.01*	*0.00*		*0.03*			*0.09*	
Control Delay (s/veh)	*7.3*	*7.2*		*9.1*			*8.6*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*9.1*			*8.6*		
Approach LOS	--	--	*A*			*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*MEO*	Intersection	*Shady Hollow & Willamette Dr*
Agency/Co.	*Charbonneau Engineering*	Jurisdiction	*City of West Linn*
Date Performed	*4/14/2008*	Analysis Year	*2023 Planning Horizon Traffic*
Analysis Time Period	*PM Peak Hour*		

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Willamette Drive (Hwy 43)*

Intersection Orientation: *North-South* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*807*	*21*	*10*	*1396*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*0*	*877*	*22*	*10*	*1517*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*14*	*0*	*8*	*0*	*0*	*0*
Peak-Hour Factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate, HFR	*15*	*0*	*8*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
v (vph)		*10*		*23*				
C (m) (vph)		*764*		*161*				
v/c		*0.01*		*0.14*				
95% queue length		*0.04*		*0.49*				
Control Delay		*9.8*		*31.1*				
LOS		*A*		*D*				
Approach Delay	--	--	*31.1*					
Approach LOS	--	--	*D*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*MEO*
Agency/Co.	*Charbonneau Engineering*
Date Performed	*4/14/2008*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*Shady Hollow & accesses*
Jurisdiction	*City of West Linn*
Analysis Year	*2023 Planning Horizon Traffic*

Project Description *#08-16 Willamette Commons - with proposed (R-2.1) zoning*

East/West Street: *Shady Hollow Way* | North/South Street: *Burgerville access/site access*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*18*	*9*	*2*	*0*	*9*	*0*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*26*	*13*	*2*	*0*	*13*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*8*	*0*	*0*	*0*	*0*	*9*
Peak-hour factor, PHF	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*	*0.69*
Hourly Flow Rate (veh/h)	*11*	*0*	*0*	*0*	*0*	*13*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*26*	*0*		*11*			*13*	
Capacity, c_m (vph)	*1619*	*1616*		*883*			*1073*	
v/c ratio	*0.02*	*0.00*		*0.01*			*0.01*	
Queue length (95%)	*0.05*	*0.00*		*0.04*			*0.04*	
Control Delay (s/veh)	*7.3*	*7.2*		*9.1*			*8.4*	
LOS	*A*	*A*		*A*			*A*	
Approach delay (s/veh)	--	--	*9.1*			*8.4*		
Approach LOS	--	--	*A*			*A*		

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January 20, 2014

RE: Pre-Application No. PA-13-30

Dear Property Owner,

I am representing Willamette Commons, LLC, owner of the property located at 18270/18340 Willamette Drive and 18395 Shady Hollow Drive, West Linn. The property owner is considering Planned Unit Development for duplex-style multi-family development. Prior to applying to the City of West Linn for the necessary permits, our team would like to discuss the proposal in more detail with the members of the adjacent recognized Neighborhood Associations, the surrounding property owners, and residents. Per the requirements of 99.038.C, you are invited to attend a meeting on:

February 11, 2014
7:00 pm
Robinwood Station
3706 Cedaroak Dr.
West Linn, OR 97068

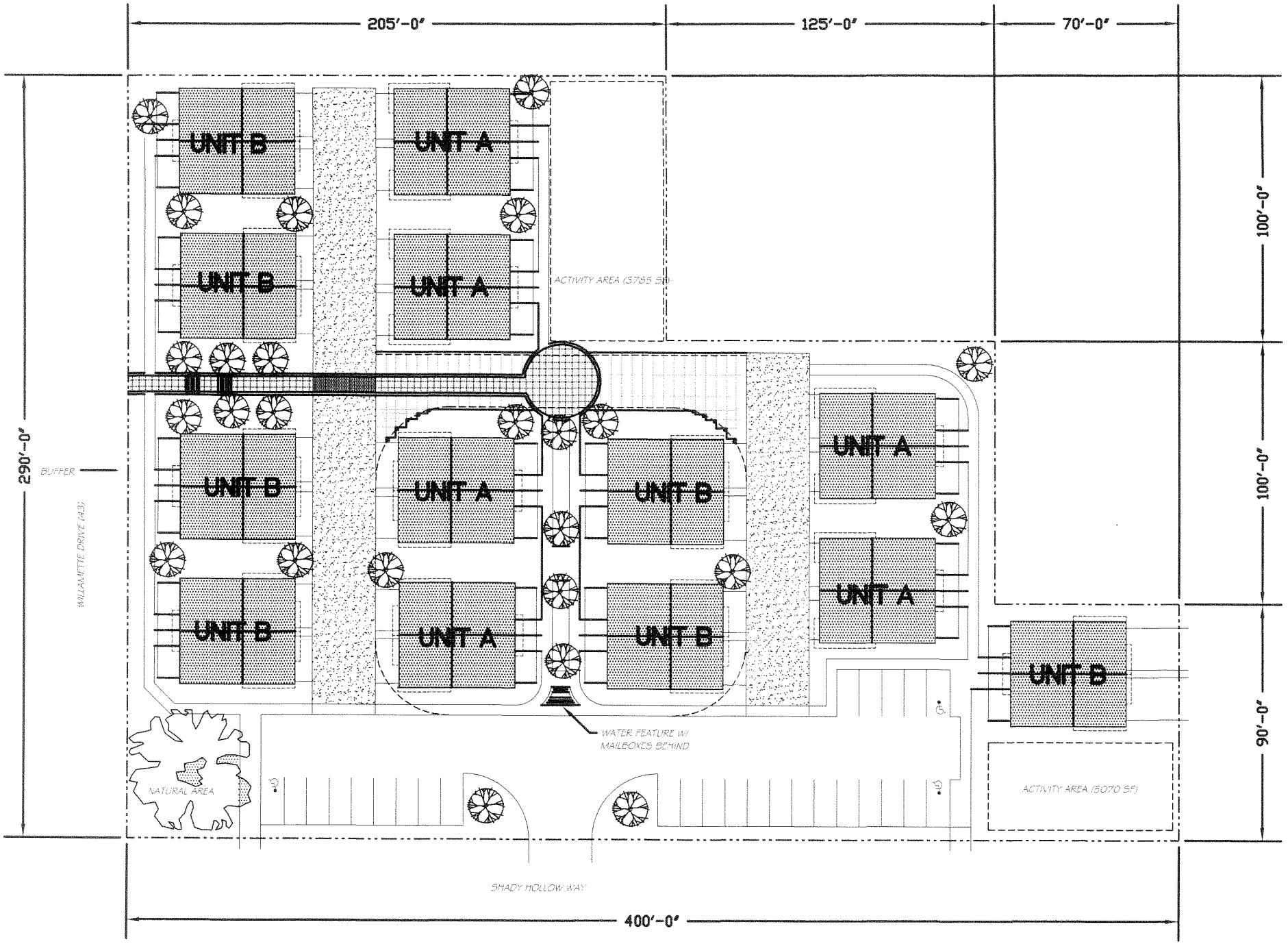
Please note that this will be an informational meeting on preliminary developments. These plans may be altered prior to submittal of the application to the City.

Our team looks forward to discussing more specifically the proposal with you. Please call David Emami at 503-557-3350 if you have any questions.

Sincerely,

Diana Emami
Member, Willamette Commons, LLC
3380 Barrington Drive
West Linn, OR 97068
Phone 503-557-3350

Enc: Site Plan



SITE CONCEPT

1" = 40'-0"

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Kevin Bryck
Robinwood NA Designee
18840 Nixon Ave
West Linn, OR 97068

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) Kevin Bryck
C. Date of Delivery 1-24-14

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7007 0710 0004 8030 8148

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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WEST LINN OR 97068 **OFFICIAL USE**

Postage	$ $0.46	0155
Certified Fee	$3.10	25
Return Receipt Fee (Endorsement Required)	$2.55	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $6.11	01/21/2014

7007 0710 0004 8030 8148

Sent To Kevin Bryck
Street, Apt. No.; or PO Box No. 18840 Nixon Ave
City, State, ZIP+4 West Linn 97068

PS Form 3800, August 2006 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Aaron Buffington
Robinwood NA President
3820 Ridgewood Way
West Linn, OR 97068

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) [illegible]
C. Date of Delivery 1/22

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 1090 0001 4827 8630

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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CERTIFIED MAIL™ RECEIPT
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WEST LINN OR 97068 **OFFICIAL USE**

Postage	$ $0.46	0155
Certified Fee	$3.10	25
Return Receipt Fee (Endorsement Required)	$2.55	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $6.11	01/21/2014

7013 1090 0001 4827 8630

Sent To Aaron Buffington
Street, Apt. No.; or PO Box No. 3820 Ridgewood Way
City, State, ZIP+4 West Linn, OR 97068

PS Form 3800, August 2006 See Reverse for Instructions

Donald & Lillian Aasen
11555 SW 14th St
Beaverton, OR 97005-4078

David James & Keri Ann Archer
3184 Arbor Dr
West Linn, OR 97068-1111

Ana Laura Arias
18368 Vista Ct
West Linn, OR 97068-1139

Ala Bazzaz
2798 Robinwood Way
West Linn, OR 97068-1329

Kenneth & Kelly Bean
18140 Shady Hollow Way
West Linn, OR 97068-1133

Margaret Bell
2648 Maria Ct
West Linn, OR 97068-1127

Barbara Bogdan
16872 Cherry Crest Dr
Lake Oswego, OR 97034-5973

Barbara & Janusz Bogdan
16872 Cherry Crest Dr
Lake Oswego, OR 97034-5973

Janusz & Barbara Bogdan
16872 Cherry Crest Dr
Lake Oswego, OR 97034-5973

Steve Bonacich
291 Cervantes
Lake Oswego, OR 97035-1207

Boyer Family Partnership I LP
650 NE Holladay St #1400
Portland, OR 97232-2096

Anthony Michael & Anne Marie Bracc
2716 Robinwood Way
West Linn, OR 97068-1365

Michael & Helene Callagan
3293 Arbor Dr
West Linn, OR 97068-1113

Stanley Cassell
2767 Robinwood Way
West Linn, OR 97068-1332

Lori Chambers
18510 Lower Midhill Dr
West Linn, OR 97068-1325

Ilona Cherry
2636 Maria Ct
West Linn, OR 97068-1127

Roger Cherry
2636 Maria Ct
West Linn, OR 97068-1127

City of West Linn
22500 Salamo Rd #600
West Linn, OR 97068-8306

Franklin Coale
PO Box 105
West Linn, OR 97068-0105

George Gary Covic
35311 Beach Rd
Capistrano Beach, CA 92624-1707

Nancy Daum
18304 Shady Hollow Way
West Linn, OR 97068-1137

Vito & Yvonne Debellis
18200 Shady Hollow Way
West Linn, OR 97068-1128

L Marie Destefanis
PO Box 178
Marylhurst, OR 97036-0178

Clelia Deville
3260 Arbor Dr
West Linn, OR 97068-1114

Dale & Sherry Fortuna
3360 Arbor Dr
West Linn, OR 97068-1118

Sherry Ann & Dale Fortuna
3360 Arbor Dr
West Linn, OR 97068-1118

Mathew Fromme
18361 Willamette Dr
West Linn, OR 97068-1219

Larry Gaston
18189 Shady Hollow Way
West Linn, OR 97068-1126

Mark Lee Goddard
18260 Lower Midhill Dr
West Linn, OR 97068-1327

Donald Raymond & Erlene Annette Gr
3225 Arbor Dr
West Linn, OR 97068-1113

Eldora Groves
18360 Shady Hollow Way
West Linn, OR 97068-1137

Lillian Guy
2786 Robinwood Way
West Linn, OR 97068-1329

Holland Inc
109 W 17th St
Vancouver, WA 98660-2932

Richard & Grace Ann Holt
18380 Lower Midhill Dr
West Linn, OR 97068-1358

Housing Authrty Co Clack
PO Box 1510
Oregon City, OR 97045-0510

Leslie Hvostov
2748 Robinwood Way
West Linn, OR 97068-1329

Bruce Jervis
206 Andover St
San Francisco, CA 94110-5610

Stephen & Cynthia Jones
18325 Vista Ct
West Linn, OR 97068-1139

Donald Kane
18220 Willamette Dr
West Linn, OR 97068-1210

Joy Harns Kent
18490 Lower Midhill Dr
West Linn, OR 97068-1362

Matthew & Amy Kirby
3280 Arbor Dr
West Linn, OR 97068-1116

Christopher & Angela Kleips
2630 Maria Ct
West Linn, OR 97068-1127

David & Donna Knaebel
18430 Lower Midhill Dr
West Linn, OR 97068-1362

Charles & Alice Gail Lavin
2642 Maria Ct
West Linn, OR 97068-1127

Michael Lawson
18150 Shady Hollow Way
West Linn, OR 97068-1133

Lazy River Devlp LLC
5584 River St
West Linn, OR 97068-3245

Wilbur Lunsford Jr.
18365 Willamette Dr
West Linn, OR 97068-1219

Frederick & Lisa Mabie
31641 3rd Ave
Laguna Beach, CA 92651-8218

Dan McAllister
18155 Willamette Dr
West Linn, OR 97068-1215

Benjamin & Christi McKinley
2624 Maria Ct
West Linn, OR 97068-1127

James & Jeannette McQuay
3162 Arbor Dr
West Linn, OR 97068-1111

Michael & Rochelle Meyers
2735 Robinwood Way
West Linn, OR 97068-1368

Cathy Nusbaum
2777 Marylhurst Dr
West Linn, OR 97068-1355

Carl & Judith Owens
5885 Skyline Dr
West Linn, OR 97068-3122

Carl & Judith Owens
5885 Skyline Dr
West Linn, OR 97068-3122

Oxford Investment Corp
2875 Marylhurst Dr
West Linn, OR 97068-1304

Daniel & Shannon Richards
3080 Lazy River Dr
West Linn, OR 97068-1125

Ruth Rusk
2308 Sunset Ave
West Linn, OR 97068-3623

Jennifer & James Sandoval
910 3rd St
Santa Cruz, CA 95060-5004

Wendy Schelske
18470 Lower Midhill Dr
West Linn, OR 97068-1362

Dustin & Theresa Schlitt
18355 Willamette Dr
West Linn, OR 97068-1219

John Schlunegger
18560 Lower Midhill Dr
West Linn, OR 97068-1325

Brian & Stephanie Schutzler
21640 S Sweetbriar Cir
West Linn, OR 97068-9228

Susan Senger & Gary & Kelly Rothge
18310 Shady Hollow Way
West Linn, OR 97068-1137

William & K Macdonald- Shepherd
2757 Marylhurst Dr
West Linn, OR 97068-1355

Stellebreit LLC
2105 Peregrine Ct
West Linn, OR 97068-2825

Tim Turney
18350 Lower Midhill Dr
West Linn, OR 97068-1358

Michael Webber
1598 Skye Pkwy
West Linn, OR 97068-1806

Willamette Commons LLC
3380 Barrington Dr
West Linn, OR 97068-3631

Willamette Prop Ltd Prtnshp
18380 Willamette Dr #202
West Linn, OR 97068-1200

WFG National Title - Customer Service Department
12909 SW 68th Pkwy # 350 Portland, OR 97223
Phone: 503.603.1700 Fax: 888.833.6840
E-mail: cs@wfgnationaltitle.com

Date	:1/7/2014	Prepared By	:Amanda Shaw
Time	:9:34 AM	Prepared For	:
County	:Clackamas (OR)	Company	:
Sort Type	:OWNER	Address	:
Parcels Records	:78	City/ST/Zip	:

SEARCH PARAMETERS

Reference Parcel Number...78

21E14DA00600
21E14DA00700
21E14DA02500
21E14DA02501
21E14DA02600
21E14DA02700
21E14DA02800
21E14DA02900
21E14DA03000
21E14DA03100
21E14DA03101
21E14DB00700
21E14DB00800
21E14DB00900
21E14DB01000
21E14DB01100
21E14DB01200
21E14DB01300
21E14DB01400
21E14DB01500
21E14DB01600
21E14DB01602
21E14DB01700
21E14DB01900
21E14DB02100
21E14DB02200
21E14DB02300
21E14DB03000
21E14DB03100
21E14DB03200
21E14DB03300
21E14DB03400
21E14DB03500
21E14DB03600
21E14DB03700
21E14DB03800
21E14DB03900

SEARCH PARAMETERS (Continued)

21E14DB04000
21E14DB04200
21E14DC00100
21E14DC00102
21E14DC00103
21E14DC00200
21E14DC00201
21E14DC00300
21E14DC00400
21E14DC00500
21E14DC00600
21E14DC00700
21E14DC00800
21E14DC00900
21E14DC01000
21E14DC01200
21E14DC01201
21E14DC01202
21E14DC01400
21E14DC01501
21E14DC01502
21E14DC01600
21E14DC01700
21E14DC01800
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21E14DC02200
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21E14DD01901
21E14DD01902
21E14DD03500
21E14DD03601
21E14DD03700
21E14DD03701
21E14DD03702
21E14DD03703
21E14DD03800
21E14DD03900
21E14DD90000
21E14DD90001
21E14DD90002

WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

1

Owner	: **Aasen Donald L & Lillian L**			Parcel #	: 00304708
Site	: 18185 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DB01000
Mail	: 11555 SW 14th St Beaverton Or 97005			12-13Taxes	: $2,622.54
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $194,274
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price	:	Doc #	: 76-29016
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 25			Market Land	: $105,834
	:			Mkt Structure	: $88,440
Bedrooms: 3	Bath: 1.00	YearBuilt: 1949	BldgSqft: 1,390	Lot Sq Ft: 11,774	Acres: .27

2

Owner	: **Archer David James & Keri Ann**			Parcel #	: 00304682
Site	: 3184 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DB00800
Mail	: 3184 Arbor Dr West Linn Or 97068			12-13Taxes	: $3,157.17
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $226,268
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 01/04/1996	Sales Price	: $149,000	Doc #	: 0096-00758
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 25			Market Land	: $127,278
	:			Mkt Structure	: $98,990
Bedrooms: 3	Bath: 2.00	YearBuilt: 1972	BldgSqft: 1,344	Lot Sq Ft: 17,083	Acres: .39

3

Owner	: **Arias Ana Laura**			Parcel #	: 00306323
Site	: 18368 Vista Ct West Linn 97068			Ref Parcel #	: 21E14DD01902
Mail	: 18368 Vista Ct West Linn Or 97068			12-13Taxes	: $2,999.10
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $216,151
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price	:	Doc #	:
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 2087 GLEN GLENN LT 2			Market Land	: $108,961
	:			Mkt Structure	: $107,190
Bedrooms: 3	Bath: 2.00	YearBuilt: 1975	BldgSqft: 1,256	Lot Sq Ft: 11,265	Acres: .26

4

Owner	: **Arnold Shan D**			Parcel #	: 00304352
Site	: 18244 Shady Hollow Wa (No Mail) West Linn 97068			Ref Parcel #	: 21E14DA02900
Mail	: 18244 Shady Hollow Wa (No Mail) West Linn Or 97068			12-13Taxes	: $3,735.35
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $281,484
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 12/18/1998	Sales Price	: $410,000	Doc #	: 098-121073
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD LT 23			Market Land	: $163,734
	:			Mkt Structure	: $117,750
Bedrooms: 4	Bath: 2.00	YearBuilt: 1936	BldgSqft: 2,243	Lot Sq Ft: 63,348	Acres: 1.45

5

Owner	: **Bazzaz Ala**			Parcel #	: 00305226
Site	: 2798 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DC00103
Mail	: 2798 Robinwood Way West Linn Or 97068			12-13Taxes	: $3,062.65
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $212,636
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/22/2004	Sales Price	: $214,000	Doc #	: 004-097614
Prior Sale Date	: 10/11/2000	Prior Sale Price	: $162,500	Prior Doc#	: 0000066526
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $105,906
	: 24 25&26 BLK 1			Mkt Structure	: $106,730
Bedrooms: 4	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,612	Lot Sq Ft: 10,965	Acres: .25

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

 # 6

Owner	: **Bean Kenneth J & Kelly S**			Parcel #	: 00304334
Site	: 18140 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DA02700
Mail	: 18140 Shady Hollow Way West Linn Or 97068			12-13Taxes	: $4,474.78
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $304,131
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/08/2005	Sales Price	: $350,000	Doc #	: 005-063927
Prior Sale Date	: 12/07/2004	Prior Sale Price	: $266,000	Prior Doc#	: 004-111821
Legal	: 451 ROBINWOOD PT LT 24			Market Land	: $108,961
	:			Mkt Structure	: $195,170
Bedrooms: 4	Bath: 3.00	YearBuilt: 1960	BldgSqft: 2,957	Lot Sq Ft: 10,115	Acres: .23

 # 7

Owner	: **Bell Margaret M**			Parcel #	: 00304833
Site	: 2648 Maria Ct West Linn 97068			Ref Parcel #	: 21E14DB02300
Mail	: 2648 Maria Ct West Linn Or 97068			12-13Taxes	: $3,291.62
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $250,223
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price	:	Doc #	: 568-092
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 849 J W FORD ADD LT 3			Market Land	: $118,343
	:			Mkt Structure	: $131,880
Bedrooms: 4	Bath: 2.00	YearBuilt: 1960	BldgSqft: 2,170	Lot Sq Ft: 14,054	Acres: .32

 # 8

Owner	: **Bogdan Barbara K**			Parcel #	: 00305235
Site	: 18335 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00200
Mail	: 16872 Cherry Crest Dr Lake Oswego Or 97034			12-13Taxes	: $2,762.15
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $194,621
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 04/22/2011	Sales Price	:	Doc #	: 011-024306
Prior Sale Date	: 03/18/2011	Prior Sale Price	: $140,000 Full	Prior Doc#	: 011-017484
Legal	: 541 AMENDED REPLT ROBINWOOD PT LT			Market Land	: $99,651
	: 27 BLK 1			Mkt Structure	: $94,970
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,152	Lot Sq Ft: 9,201	Acres: .21

 # 9

Owner	: **Bogdan Barbara K & Janusz G**			Parcel #	: 00305244
Site	: 18345 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00201
Mail	: 16872 Cherry Crest Dr Lake Oswego Or 97034			12-13Taxes	: $2,788.11
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $200,281
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/15/2011	Sales Price	: $125,000 Full	Doc #	: 011-039780
Prior Sale Date	: 12/10/1999	Prior Sale Price	: $120,000	Prior Doc#	: 099-113737
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LT			Market Land	: $99,651
	: 1 BLK 1			Mkt Structure	: $100,630
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,152	Lot Sq Ft: 9,201	Acres: .21

 # 10

Owner	: **Bogdan Janusz G & Barbara K**			Parcel #	: 01693732
Site	: 2797 Marylhurst Dr West Linn 97068			Ref Parcel #	: 21E14DC01202
Mail	: 16872 Cherry Crest Dr Lake Oswego Or 97034			12-13Taxes	: $3,719.93
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $241,085
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 01/31/2007	Sales Price	: $350,000	Doc #	: 007-008831
Prior Sale Date	: 01/07/2002	Prior Sale Price	: $200,000	Prior Doc#	: 002-001385
Legal	: 541 AMEND REPLAT ROBINWOOD PT LTS			Market Land	: $85,355
	: 10-13 BLK 1			Mkt Structure	: $155,730
Bedrooms: 4	Bath: 2.50	YearBuilt: 1996	BldgSqft: 1,974	Lot Sq Ft: 6,607	Acres: .15

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

 # 11

Owner	: **Bonacich Steve**			Parcel #	: 01781245
Site	: 3054 Lazy River Dr West Linn 97068			Ref Parcel #	: 21E14DD03703
Mail	: 291 Cervantes Lake Oswego Or 97035			12-13Taxes	: $5,840.77
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $355,391
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/31/2013	Sales Price	: $375,000	Doc #	: 013-074575
Prior Sale Date	: 10/03/2013	Prior Sale Price	: $440,000	Prior Doc#	: 013-069242
Legal	: 1997-115 PARTITION PLAT PARCEL 3			Market Land	: $95,061
	:			Mkt Structure	: $260,330
Bedrooms:	Bath: 2.50	YearBuilt: 1998	BldgSqft: 2,706	Lot Sq Ft: 8,341	Acres: .19

 # 12

Owner	: **Boyer Family Partnership I LP**			Parcel #	: 00306591
Site	: 3020 Lazy River Dr West Linn 97068			Ref Parcel #	: 21E14DD03500
Mail	: 650 NE Holladay St #1400 Portland Or 97232			12-13Taxes	: $13,395.25
Land Use	: 201 Com,Commercial Land,Improved			Market Total	: $874,308
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 03/26/2008	Sales Price	:	Doc #	: 008-021424
Prior Sale Date	: 08/17/2000	Prior Sale Price	: $1,055,000	Prior Doc#	: 000-053530
Legal	: 451 ROBINWOOD PT LTS 53&54			Market Land	: $280,748
	:			Mkt Structure	: $593,560
Bedrooms:	Bath:	YearBuilt: 1984	BldgSqft:	Lot Sq Ft: 30,601	Acres: .70

 # 13

Owner	: **Bracco Anthony Michael & Anne Marie**			Parcel #	: 00305459
Site	: 2716 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DC02200
Mail	: 2716 Robinwood Way West Linn Or 97068			12-13Taxes	: $2,027.24
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $156,651
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 03/25/2002	Sales Price	: $115,000	Doc #	: 002-027833
Prior Sale Date	: 06/18/1998	Prior Sale Price	: $115,000	Prior Doc#	: 0098-54534
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $99,651
	: 22 & 23 BLK 1			Mkt Structure	: $57,000
Bedrooms: 2	Bath: 1.00	YearBuilt: 1950	BldgSqft: 844	Lot Sq Ft: 9,432	Acres: .22

 # 14

Owner	: **Callagan Michael W & Helene F**			Parcel #	: 00304067
Site	: 3293 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DA00700
Mail	: 3293 Arbor Dr West Linn Or 97068			12-13Taxes	: $3,465.74
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $246,573
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/09/1993	Sales Price	: $129,950	Doc #	: 0093-48273
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 847 OAK ARBOR LT 3			Market Land	: $105,333
	:			Mkt Structure	: $141,240
Bedrooms: 4	Bath: 3.00	YearBuilt: 1960	BldgSqft: 2,332	Lot Sq Ft: 17,796	Acres: .41

 # 15

Owner	: **Cassell Stanley J**			Parcel #	: 00304959
Site	: 2767 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DB03500
Mail	: 2767 Robinwood Way West Linn Or 97068			12-13Taxes	: $2,528.76
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $196,338
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/08/2005	Sales Price	: $199,500	Doc #	: 005-063798
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 65&68			Market Land	: $127,278
	:			Mkt Structure	: $69,060
Bedrooms: 2	Bath: 1.00	YearBuilt: 1935	BldgSqft: 896	Lot Sq Ft: 17,000	Acres: .39

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

 # 16

Owner	: **Chambers Lori**			Parcel #	: 01872183
Site	: 18510 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DC01502
Mail	: 18510 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $2,100.90
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $167,401
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/06/2004	Sales Price	: $174,500	Doc #	: 004-093051
Prior Sale Date	: 09/04/2001	Prior Sale Price	: $143,670	Prior Doc#	: 001-071411
Legal	: 541 AMENDED REPLAT ROBINWOOD LT 14			Market Land	: $99,651
	: BLK 1			Mkt Structure	: $67,750
Bedrooms:	Bath:	YearBuilt: 1945	BldgSqft: 1,092	Lot Sq Ft: 9,451	Acres: .22

 # 17

Owner	: **Cherry Ilona B Trustee**			Parcel #	: 00304815
Site	: 2636 Maria Ct West Linn 97068			Ref Parcel #	: 21E14DB02100
Mail	: 2636 Maria Ct West Linn Or 97068			12-13Taxes	: $3,507.83
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $272,586
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/03/2005	Sales Price	:	Doc #	: 005-039894
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 849 J W FORD ADD PT LT 5&6			Market Land	: $116,556
	:			Mkt Structure	: $156,030
Bedrooms: 3	Bath: 2.50	YearBuilt: 1964	BldgSqft: 2,259	Lot Sq Ft: 15,162	Acres: .35

 # 18

Owner	: **Cherry Roger L Trustee**			Parcel #	: 00304806
Site	: 2634 Maria Ct West Linn 97068			Ref Parcel #	: 21E14DB01900
Mail	: 2636 Maria Ct West Linn Or 97068			12-13Taxes	: $3,433.17
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $245,203
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 04/13/2011	Sales Price	: $220,000 Full	Doc #	: 011-022683
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 42 849 J W FORD			Market Land	: $134,873
	: ADD PT LT 5			Mkt Structure	: $110,330
Bedrooms: 3	Bath: 1.50	YearBuilt: 1964	BldgSqft: 1,768	Lot Sq Ft: 21,063	Acres: .48

 # 19

Owner	: **City of West Linn**			Parcel #	: 00304361
Site	: 18292 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DA03000
Mail	: 22500 Salamo Rd #600 West Linn Or 97068			12-13Taxes	:
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $399,610
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/30/1999	Sales Price	: $350,000	Doc #	: 099-075857
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD LT 14			Market Land	: $318,960
	:			Mkt Structure	: $80,650
Bedrooms: 3	Bath: 1.00	YearBuilt: 1945	BldgSqft: 2,276	Lot Sq Ft: 153,794	Acres: 3.53

 # 20

Owner	: **Coale Franklin**			Parcel #	: 01699022
Site	: 18380 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DD90001
Mail	: PO Box 105 West Linn Or 97068			12-13Taxes	: $7,878.40
Land Use	: 201 Com,Commercial Land,Improved			Market Total	: $504,660
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 06/01/1996	Sales Price	: $392,423	Doc #	: 96-41153
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 3252 MARYLHURST MED CONDO UNIT 1			Market Land	:
	:			Mkt Structure	: $504,660
Bedrooms:	Bath:	YearBuilt: 1995	BldgSqft:	Lot Sq Ft: 2,159	Acres: .05

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WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

 # 21

Owner	: **Coale Franklin**			Parcel #	: 01699013
Site	: *no Site Address*			Ref Parcel #	: 21E14DD90000
Mail	: PO Box 163 West Linn Or 97068			12-13Taxes	:
Land Use	: 200 Vacant,Commercial Land			Market Total	:
MapGrid	:			Millage Rate	: 18.7110
Sale Date	: 02/01/1995	Sales Price	: $261,050	Doc #	: 95-11208
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 3252 MARYLHURST MED CONDO GENERAL			Market Land	:
	: COMMON ELEMENT			Mkt Structure	:
Bedrooms:	Bath:	YearBuilt:	BldgSqft:	Lot Sq Ft: 35,685	Acres: .82

 # 22

Owner	: **Covic George Gary Trustee**			Parcel #	: 00305217
Site	: 2778 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DC00102
Mail	: 35311 Beach Rd Capistrano Beach Ca 92624			12-13Taxes	: $2,857.85
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $198,714
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 08/18/2008	Sales Price	:	Doc #	: 08-065924
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $95,184
	: 24 25&26 BLK 1			Mkt Structure	: $103,530
Bedrooms: 2	Bath: 2.00	YearBuilt: 1979	BldgSqft: 1,379	Lot Sq Ft: 7,613	Acres: .17

 # 23

Owner	: **Daum Nancy L**			Parcel #	: 00304389
Site	: 18304 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DA03101
Mail	: 18304 Shady Hollow Way West Linn Or 97068			12-13Taxes	: $2,401.62
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $180,078
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 02/05/2003	Sales Price	:	Doc #	: 003-015005
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 48			Market Land	: $118,058
	:			Mkt Structure	: $62,020
Bedrooms: 3	Bath: 1.00	YearBuilt: 1925	BldgSqft: 1,106	Lot Sq Ft: 40,110	Acres: .92

 # 24

Owner	: **Debellis Vito J & Yvonne C**			Parcel #	: 00304735
Site	: 18200 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DB01300
Mail	: 18200 Shady Hollow Way West Linn Or 97068			12-13Taxes	: $2,925.92
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $209,532
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/24/2012	Sales Price	:	Doc #	: 012-069746
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 46			Market Land	: $96,452
	:			Mkt Structure	: $113,080
Bedrooms: 3	Bath: 1.50	YearBuilt: 1971	BldgSqft: 1,707	Lot Sq Ft: 7,000	Acres: .16

 # 25

Owner	: **Destefanis L Marie**			Parcel #	: 00304986
Site	: 18225 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB03800
Mail	: PO Box 178 Marylhurst Or 97036			12-13Taxes	: $2,061.94
Land Use	: 100 Vacant,Residential Land			Market Total	: $175,577
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/13/2012	Sales Price	:	Doc #	: 012-043894 Multi-Parcel
Prior Sale Date	: 02/27/2007	Prior Sale Price	: $40,000	Prior Doc#	: 007-017024
Legal	: 451 ROBINWOOD PT LT 69			Market Land	: $175,577
	:			Mkt Structure	:
Bedrooms:	Bath:	YearBuilt:	BldgSqft:	Lot Sq Ft: 39,000	Acres: .90

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 # 26

Owner	: **Destefanis L Marie**			Parcel #	: 00304995
Site	: 18225 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB03900
Mail	: PO Box 178 Marylhurst Or 97036			12-13Taxes	: $3,868.24
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $294,123
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/13/2012	Sales Price :		Doc #	: 012-043894 Multi-Parcel
Prior Sale Date	: 02/27/2007	Prior Sale Price : $40,000		Prior Doc#	: 007-017024
Legal	: 451 ROBINWOOD PT LT 72			Market Land	: $196,973
	:			Mkt Structure	: $97,150
Bedrooms: 2	Bath: 1.00	YearBuilt: 1950	BldgSqft: 2,046	Lot Sq Ft: 39,000	Acres: .90

 # 27

Owner	: **Deville Clelia A**			Parcel #	: 00304691
Site	: 3260 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DB00900
Mail	: 3260 Arbor Dr West Linn Or 97068			12-13Taxes	: $3,172.84
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $230,580
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/14/2010	Sales Price : $265,000 Full		Doc #	: 010-065013
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 25			Market Land	: $121,470
	:			Mkt Structure	: $109,110
Bedrooms: 3	Bath: 2.00	YearBuilt: 1972	BldgSqft: 1,344	Lot Sq Ft: 17,004	Acres: .39

 # 28

Owner	: **Fortuna Dale L & Sherry A**			Parcel #	: 01380044
Site	: 3360 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DA02501
Mail	: 3360 Arbor Dr West Linn Or 97068			12-13Taxes	: $6,165.63
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $377,185
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 03/01/1989	Sales Price : $10		Doc #	: 0089-10024
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 16			Market Land	: $127,005
	:			Mkt Structure	: $250,180
Bedrooms: 3	Bath: 2.50	YearBuilt: 1989	BldgSqft: 3,027	Lot Sq Ft: 28,166	Acres: .65

 # 29

Owner	: **Fortuna Sherry Ann & Dale L**			Parcel #	: 00304316
Site	: 3340 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DA02500
Mail	: 3360 Arbor Dr West Linn Or 97068			12-13Taxes	: $4,906.59
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $369,036
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/14/2010	Sales Price :		Doc #	: 010-064982
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LTS 16&22			Market Land	: $249,816
	:			Mkt Structure	: $119,220
Bedrooms: 3	Bath: 2.00	YearBuilt: 1945	BldgSqft: 1,479	Lot Sq Ft: 46,506	Acres: 1.07

 # 30

Owner	: **Fromme Mathew W & Ashlee M Marston**			Parcel #	: 00305271
Site	: 18361 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00500
Mail	: 18361 Willamette Dr West Linn Or 97068			12-13Taxes	: $2,802.60
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $201,091
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 02/29/2012	Sales Price :		Doc #	: 012-011715
Prior Sale Date	: 01/06/2009	Prior Sale Price : $240,000 Full		Prior Doc#	: 009-000696
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LT			Market Land	: $99,651
	: 4 BLK 1			Mkt Structure	: $101,440
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,152	Lot Sq Ft: 9,201	Acres: .21

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 # 31

Owner	: **Gaston Larry R Co-Trustee**			Parcel #	: 00304771
Site	: 18189 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DB01602
Mail	: 18189 Shady Hollow Way West Linn Or 97068			12-13Taxes	: $4,977.28
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $355,263
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/23/2005	Sales Price :		Doc #	: 005-046682
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 43 44&45			Market Land	: $134,873
	:			Mkt Structure	: $220,390
Bedrooms: 3	Bath: 2.50	YearBuilt: 1978	BldgSqft: 2,801	Lot Sq Ft: 20,640	Acres: .47

 # 32

Owner	: **Goddard Mark Lee**			Parcel #	: 00304977
Site	: 18260 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DB03700
Mail	: 18260 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $2,366.08
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $181,637
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price :		Doc #	: 90-50508
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 68			Market Land	: $104,047
	:			Mkt Structure	: $77,590
Bedrooms: 2	Bath: 1.00	YearBuilt: 1953	BldgSqft: 852	Lot Sq Ft: 9,800	Acres: .23

 # 33

Owner	: **Grove Donald Raymond & Erlene Annette**			Parcel #	: 00304058
Site	: 3225 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DA00600
Mail	: 3225 Arbor Dr West Linn Or 97068			12-13Taxes	: $4,240.26
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $294,978
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price :		Doc #	: 79-46375
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 847 OAK ARBOR LT 4			Market Land	: $128,618
	:			Mkt Structure	: $166,360
Bedrooms: 5	Bath: 3.00	YearBuilt: 1961	BldgSqft: 2,517	Lot Sq Ft: 17,859	Acres: .41

 # 34

Owner	: **Groves Eldora J**			Parcel #	: 00306635
Site	: 18360 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DD03800
Mail	: 18360 Shady Hollow Way West Linn Or 97068			12-13Taxes	: $3,332.55
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $256,270
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 06/28/2004	Sales Price :		Doc #	: 004-059424
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD LT 49			Market Land	: $184,910
	:			Mkt Structure	: $71,360
Bedrooms: 2	Bath: 1.00	YearBuilt: 1946	BldgSqft: 1,192	Lot Sq Ft: 35,535	Acres: .82

 # 35

Owner	: **Guy Lillian**			Parcel #	: 00305208
Site	: 2786 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DC00100
Mail	: 2786 Robinwood Way West Linn Or 97068			12-13Taxes	: $3,144.79
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $234,054
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 11/28/2012	Sales Price :		Doc #	: 012-078099
Prior Sale Date	: 10/02/1998	Prior Sale Price : $156,500		Prior Doc#	: 0098-92709
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $95,184
	: 24-26 BLK 1			Mkt Structure	: $138,870
Bedrooms: 2	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,393	Lot Sq Ft: 7,613	Acres: .17

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WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

 # 36

Owner	: **Harriman Kathleen**			Parcel #	: 00305011
Site	: 18115 Lower Midhill D (No Mail) West Linn 97068			Ref Parcel #	: 21E14DB04200
Mail	: 18115 Lower Midhill D (No Mail) West Linn Or 97068			12-13Taxes	: $4,288.59
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $289,716
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 08/21/2008	Sales Price	: $465,000 Full	Doc #	: 008-058742
Prior Sale Date	: 06/21/2006	Prior Sale Price	: $479,000	Prior Doc#	: 006-056456
Legal	: 451 ROBINWOOD PT LT 73			Market Land	: $115,216
	:			Mkt Structure	: $174,500
Bedrooms: 3	Bath: 2.00	YearBuilt: 1997	BldgSqft: 1,961	Lot Sq Ft: 13,473	Acres: .31

 # 37

Owner	: **Holland Inc**			Parcel #	: 00306644
Site	: 18350 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DD03900
Mail	: 109 W 17th St Vancouver Wa 98660			12-13Taxes	: $17,159.28
Land Use	: 201 Com,Commercial Land,Improved			Market Total	: $1,120,889
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 01/03/2014	Sales Price	:	Doc #	: 14 000158 Multi-Parcel
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 50			Market Land	: $366,559
	:			Mkt Structure	: $754,330
Bedrooms:	Bath:	YearBuilt: 1990	BldgSqft:	Lot Sq Ft: 46,335	Acres: 1.06

 # 38

Owner	: **Holt Richard D & Grace Ann**			Parcel #	: 00305404
Site	: 18380 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DC01800
Mail	: 18380 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $3,079.12
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $217,266
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 06/21/1999	Sales Price	:	Doc #	: 099-062109
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $107,246
	: 19 & 20 BLK 1			Mkt Structure	: $110,020
Bedrooms: 2	Bath: 1.00	YearBuilt: 1950	BldgSqft: 1,424	Lot Sq Ft: 11,676	Acres: .27

 # 39

Owner	: **Housing Authrty Co Clack**			Parcel #	: 01380035
Site	: 3050 Lazy River Dr West Linn 97068			Ref Parcel #	: 21E14DD03601
Mail	: PO Box 1510 Oregon City Or 97045			12-13Taxes	:
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $264,936
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 03/01/1989	Sales Price	: $18,500	Doc #	: 89-11105
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 53			Market Land	: $131,746
	:			Mkt Structure	: $133,190
Bedrooms: 5	Bath: 2.00	YearBuilt: 1989	BldgSqft: 2,185	Lot Sq Ft: 19,212	Acres: .44

 # 40

Owner	: **Hvostov Leslie**			Parcel #	: 00305440
Site	: 2748 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DC02101
Mail	: 2748 Robinwood Way West Linn Or 97068			12-13Taxes	: $3,264.12
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $226,334
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 12/16/2005	Sales Price	: $347,000	Doc #	: 005-125209
Prior Sale Date	: 09/15/1999	Prior Sale Price	: $152,700	Prior Doc#	: 099-090361
Legal	: SUBDIVISION AMENDED REPLAT			Market Land	: $110,374
	: ROBINWOOD 541 BLOCK 1 PT LTS 19 20			Mkt Structure	: $115,960
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,313	Lot Sq Ft: 12,501	Acres: .29

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

 # 41

Owner	: **Jervis Bruce S**			Parcel #	: 01781236
Site	: 3060 Lazy River Dr West Linn 97068			Ref Parcel #	: 21E14DD03702
Mail	: 206 Andover St San Francisco Ca 94110			12-13Taxes	: $5,816.37
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $353,905
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/21/2007	Sales Price	: $440,000	Doc #	: 007-044040
Prior Sale Date	: 11/01/1997	Prior Sale Price	: $115,000	Prior Doc#	: 0097-94299
Legal	: 1997-115 PARTITION PLAT PARCEL 2			Market Land	: $93,575
	:			Mkt Structure	: $260,330
Bedrooms:	Bath: 2.50	YearBuilt: 1998	BldgSqft: 2,706	Lot Sq Ft: 8,003	Acres: .18

 # 42

Owner	: **Jones Stephen B & Cynthia S**			Parcel #	: 00306314
Site	: 18325 Vista Ct West Linn 97068			Ref Parcel #	: 21E14DD01901
Mail	: 18325 Vista Ct West Linn Or 97068			12-13Taxes	: $2,887.72
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $203,744
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/05/2008	Sales Price	: $330,000 Full	Doc #	: 008-032888
Prior Sale Date	: 03/21/2003	Prior Sale Price	: $179,950	Prior Doc#	: 003-034491
Legal	: 2087 GLEN GLENN LT 1			Market Land	: $105,834
	:			Mkt Structure	: $97,910
Bedrooms: 3	Bath: 2.00	YearBuilt: 1975	BldgSqft: 1,592	Lot Sq Ft: 10,477	Acres: .24

 # 43

Owner	: **Kane Donald B**			Parcel #	: 00304780
Site	: 18220 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB01700
Mail	: 18220 Willamette Dr West Linn Or 97068			12-13Taxes	: $3,022.71
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $192,020
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/18/2005	Sales Price	:	Doc #	: 005-045420
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 42			Market Land	: $136,660
	:			Mkt Structure	: $55,360
Bedrooms: 2	Bath: 1.00	YearBuilt: 1945	BldgSqft: 1,306	Lot Sq Ft: 19,302	Acres: .44

 # 44

Owner	: **Kent Joy L Harns**			Parcel #	: 00305379
Site	: 18490 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DC01501
Mail	: 18490 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $4,392.02
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $293,841
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 11/22/2006	Sales Price	: $393,400	Doc #	: 006-108577
Prior Sale Date	: 02/29/2000	Prior Sale Price	: $215,200	Prior Doc#	: 000-012999
Legal	: 541 AMENDED REPLAT ROBINWOOD LT 15			Market Land	: $99,651
	: BLK 1			Mkt Structure	: $194,190
Bedrooms: 3	Bath: 2.50	YearBuilt: 1999	BldgSqft: 1,772	Lot Sq Ft: 9,451	Acres: .22

 # 45

Owner	: **Kirby Matthew & Amy**			Parcel #	: 00304325
Site	: 3280 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DA02600
Mail	: 3280 Arbor Dr West Linn Or 97068			12-13Taxes	: $4,163.57
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $294,551
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/19/2007	Sales Price	: $400,000	Doc #	: 007-062987
Prior Sale Date	: 03/13/2001	Prior Sale Price	: $237,500 Full	Prior Doc#	: 001-016859
Legal	: 451 ROBINWOOD PT LT 22&24			Market Land	: $108,961
	:			Mkt Structure	: $185,590
Bedrooms: 3	Bath: 2.00	YearBuilt: 1958	BldgSqft: 2,776	Lot Sq Ft: 12,468	Acres: .29

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

 # 46

Owner	: **Kleips Christopher M & Angela**			Parcel #	: 00304913
Site	: 2630 Maria Ct West Linn 97068			Ref Parcel #	: 21E14DB03100
Mail	: 2630 Maria Ct West Linn Or 97068			12-13Taxes	: $3,825.89
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $284,085
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/26/2006	Sales Price	: $390,000	Doc #	: 006-048529
Prior Sale Date	: 05/20/1998	Prior Sale Price	: $165,000	Prior Doc#	: 0098-44550
Legal	: 849 J W FORD ADD PT LT 6&7			Market Land	: $142,915
	:			Mkt Structure	: $141,170
Bedrooms: 3	Bath: 3.00	YearBuilt: 1964	BldgSqft: 1,683	Lot Sq Ft: 22,330	Acres: .51

 # 47

Owner	: **Knaebel David R & Donna M**			Parcel #	: 00305397
Site	: 18430 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DC01700
Mail	: 18430 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $4,468.46
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $312,828
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price	:	Doc #	: 78-17667
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: SUBDIVISION AMENDED REPLAT			Market Land	: $116,628
	: ROBINWOOD 541 BLOCK 1 LT 18 & PT			Mkt Structure	: $196,200
Bedrooms: 2	Bath: 1.00	YearBuilt: 1950	BldgSqft: 2,199	Lot Sq Ft: 11,399	Acres: .26

 # 48

Owner	: **Koran Lawrence A**			Parcel #	: 00304744
Site	: 18194 Shady Hollow Wa (No Mail) West Linn 97068			Ref Parcel #	: 21E14DB01400
Mail	: 18194 Shady Hollow Wa (No Mail) West Linn Or 97068			12-13Taxes	: $3,896.63
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $279,381
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 03/07/2008	Sales Price	: $395,000 Full	Doc #	: 008-016271
Prior Sale Date	: 08/01/1986	Prior Sale Price	: $80,000	Prior Doc#	: 0086-32933
Legal	: 451 ROBINWOOD PT LT 45			Market Land	: $122,811
	:			Mkt Structure	: $156,570
Bedrooms: 3	Bath: 2.00	YearBuilt: 1977	BldgSqft: 2,175	Lot Sq Ft: 16,575	Acres: .38

 # 49

Owner	: **Lavin Charles J & Alice Gail**			Parcel #	: 00304824
Site	: 2642 Maria Ct West Linn 97068			Ref Parcel #	: 21E14DB02200
Mail	: 2642 Maria Ct West Linn Or 97068			12-13Taxes	: $3,133.03
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $224,998
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price	:	Doc #	: 74-08010
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 849 J W FORD ADD LT 4			Market Land	: $112,088
	:			Mkt Structure	: $112,910
Bedrooms: 3	Bath: 1.50	YearBuilt: 1964	BldgSqft: 1,358	Lot Sq Ft: 13,044	Acres: .30

 # 50

Owner	: **Lawson Michael C**			Parcel #	: 00304343
Site	: 18150 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DA02800
Mail	: 18150 Shady Hollow Way West Linn Or 97068			12-13Taxes	: $3,717.43
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $254,158
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/20/2010	Sales Price	:	Doc #	: 010-066215
Prior Sale Date	: 02/12/2004	Prior Sale Price	: $235,500	Prior Doc#	: 004-011195
Legal	: 451 ROBINWOOD PT LT 24			Market Land	: $77,688
	:			Mkt Structure	: $176,470
Bedrooms: 4	Bath: 2.00	YearBuilt: 1957	BldgSqft: 2,695	Lot Sq Ft: 17,745	Acres: .41

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

 # 51

Owner	: **Lazy River Devlp LLC**			Parcel #	: 00306617
Site	: *no Site Address*			Ref Parcel #	: 21E14DD03700
Mail	: 5584 River St West Linn Or 97068			12-13Taxes	: $870.61
Land Use	: 100 Vacant,Residential Land			Market Total	: $65,674
MapGrid	:			Millage Rate	: 18.7110
Sale Date	: 10/21/1998	Sales Price	: Non-Disc	Doc #	: 0098-99106 Multi-Parcel
Prior Sale Date	: 11/01/1997	Prior Sale Price	: $115,000	Prior Doc#	: 0097-94299
Legal	: 1997-115 PARTITION PLAT PARCEL 1			Market Land	: $65,674
	:			Mkt Structure	:
Bedrooms:	Bath:	YearBuilt:	BldgSqft:	Lot Sq Ft: 4,566	Acres: .10

 # 52

Owner	: **Lunsford Wilbur T Jr**			Parcel #	: 00305280
Site	: 18365 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00600
Mail	: 18365 Willamette Dr West Linn Or 97068			12-13Taxes	: $2,772.57
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $195,121
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/28/2010	Sales Price	: $200,000 Full	Doc #	: 010-032427
Prior Sale Date	: 02/12/2010	Prior Sale Price	: $240,000	Prior Doc#	: 010-009405
Legal	: 541 AMENDED REPLAT ROBINWOOD LT 5			Market Land	: $99,651
	: PT LT 4 BLK 1			Mkt Structure	: $95,470
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,152	Lot Sq Ft: 9,201	Acres: .21

 # 53

Owner	: **Mabie Frederick J & Lisa C**			Parcel #	: 00306243
Site	: 3689 Fairview Way West Linn 97068			Ref Parcel #	: 21E14DD00802
Mail	: 31641 3rd Ave Laguna Beach Ca 92651			12-13Taxes	: $7,386.61
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $487,701
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 08/15/2007	Sales Price	: $775,000	Doc #	: 007-070580
Prior Sale Date	: 05/27/2004	Prior Sale Price	: $190,000	Prior Doc#	: 004-048263
Legal	: 468 CEDAROAK PK PT LT 54			Market Land	: $122,811
	:			Mkt Structure	: $364,890
Bedrooms: 4	Bath: 3.00	YearBuilt: 2004	BldgSqft: 3,648	Lot Sq Ft: 13,992	Acres: .32

 # 54

Owner	: **McAllister Dan C**			Parcel #	: 00305002
Site	: 18155 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB04000
Mail	: 18155 Willamette Dr West Linn Or 97068			12-13Taxes	: $3,778.14
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $275,400
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 11/19/2004	Sales Price	: $250,000	Doc #	: 004-106789
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 73			Market Land	: $136,660
	:			Mkt Structure	: $138,740
Bedrooms: 4	Bath: 1.50	YearBuilt: 1950	BldgSqft: 3,132	Lot Sq Ft: 18,996	Acres: .44

 # 55

Owner	: **McKinley Benjamin R & Christi M**			Parcel #	: 00304904
Site	: 2624 Maria Ct West Linn 97068			Ref Parcel #	: 21E14DB03000
Mail	: 2624 Maria Ct West Linn Or 97068			12-13Taxes	: $5,096.73
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $337,140
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 12/17/2003	Sales Price	: $380,000	Doc #	: 003-163365
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 849 J W FORD ADD PT LT 7			Market Land	: $138,000
	:			Mkt Structure	: $199,140
Bedrooms: 3	Bath: 3.50	YearBuilt: 1962	BldgSqft: 2,437	Lot Sq Ft: 17,737	Acres: .41

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

 # 56

Owner	: **McQuay James M & Jeannette K**			Parcel #	: 00304673
Site	: 3162 Arbor Dr West Linn 97068			Ref Parcel #	: 21E14DB00700
Mail	: 3162 Arbor Dr West Linn Or 97068			12-13Taxes	: $5,015.86
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $348,533
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price :		Doc #	: 71-15812
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 25&27			Market Land	: $152,743
	:			Mkt Structure	: $195,790
Bedrooms: 3	Bath: 1.00	YearBuilt: 1945	BldgSqft: 1,789	Lot Sq Ft: 26,746	Acres: .61

 # 57

Owner	: **Meyers Michael D & Rochelle**			Parcel #	: 00304968
Site	: 2735 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DB03600
Mail	: 2735 Robinwood Way West Linn Or 97068			12-13Taxes	: $2,955.83
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $205,847
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 06/30/2003	Sales Price :		Doc #	: 003-083148
Prior Sale Date	: 08/28/1998	Prior Sale Price : $156,000		Prior Doc#	: 0098-80483
Legal	: 451 ROBINWOOD PT LT 65			Market Land	: $104,047
	:			Mkt Structure	: $101,800
Bedrooms: 3	Bath: 2.00	YearBuilt: 1973	BldgSqft: 1,092	Lot Sq Ft: 9,800	Acres: .23

 # 58

Owner	: **Nusbaum Cathy E**			Parcel #	: 00305333
Site	: 2777 Marylhurst Dr West Linn 97068			Ref Parcel #	: 21E14DC01200
Mail	: 2777 Marylhurst Dr West Linn Or 97068			12-13Taxes	: $3,732.92
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $242,272
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/01/1997	Sales Price : $186,000		Doc #	: 0097-57273
Prior Sale Date	: 05/19/1994	Prior Sale Price : $35,000		Prior Doc#	: 0094-41736
Legal	: 541 AMEND REPLAT ROBINWOOD PT LTS			Market Land	: $87,142
	: 10-13 BLK 1			Mkt Structure	: $155,130
Bedrooms: 4	Bath: 2.50	YearBuilt: 1996	BldgSqft: 1,974	Lot Sq Ft: 5,796	Acres: .13

 # 59

Owner	: **Owens Carl & Judith M**			Parcel #	: 00304931
Site	: 2785 Robinwood Way West Linn 97068			Ref Parcel #	: 21E14DB03300
Mail	: 5885 Skyline Dr West Linn Or 97068			12-13Taxes	: $3,320.37
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $230,017
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price :		Doc #	: 69-25564
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 65			Market Land	: $104,047
	:			Mkt Structure	: $125,970
Bedrooms: 3	Bath: 2.00	YearBuilt: 1968	BldgSqft: 1,736	Lot Sq Ft: 9,500	Acres: .22

 # 60

Owner	: **Owens Carl R & Judith M**			Parcel #	: 00304922
Site	: 18263 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB03200
Mail	: 5885 Skyline Dr West Linn Or 97068			12-13Taxes	: $3,089.83
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $225,257
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price :		Doc #	: 77-44161
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 65			Market Land	: $104,047
	:			Mkt Structure	: $121,210
Bedrooms: 3	Bath: 2.00	YearBuilt: 1948	BldgSqft: 1,438	Lot Sq Ft: 9,500	Acres: .22

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WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

 # 61

Owner	: **Owens Carl R & Judith M**			Parcel #	: 00304940
Site	: 18255 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB03400
Mail	: 5885 Skyline Dr West Linn Or 97068			12-13Taxes	: $2,547.19
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $199,070
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	:	Sales Price :		Doc #	: 74-20154
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 68			Market Land	: $136,660
	:			Mkt Structure	: $62,410
Bedrooms: 3	Bath: 1.00	YearBuilt: 1936	BldgSqft: 1,332	Lot Sq Ft: 19,000	Acres: .44

 # 62

Owner	: **Oxford Investment Corp**			Parcel #	: 00305324
Site	: 2875 Marylhurst Dr West Linn 97068			Ref Parcel #	: 21E14DC01000
Mail	: 2875 Marylhurst Dr West Linn Or 97068			12-13Taxes	: $3,567.10
Land Use	: 201 Com,Commercial Land,Improved			Market Total	: $238,900
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 01/01/1990	Sales Price :		Doc #	: 90-06536
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 526 REPLAT ROBINWOOD LT 009 BLK 01			Market Land	: $123,100
	:			Mkt Structure	: $115,800
Bedrooms:	Bath:	YearBuilt: 1925	BldgSqft:	Lot Sq Ft: 14,813	Acres: .34

 # 63

Owner	: **Richards Daniel & Shannon**			Parcel #	: 00306626
Site	: 3080 Lazy River Dr West Linn 97068			Ref Parcel #	: 21E14DD03701
Mail	: 3080 Lazy River Dr West Linn Or 97068			12-13Taxes	: $2,362.62
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $179,091
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 10/19/2007	Sales Price :		Doc #	: 007-090240
Prior Sale Date	: 07/13/2006	Prior Sale Price : $262,000		Prior Doc#	: 006-064008
Legal	: 451 ROBINWOOD PT LT 52			Market Land	: $108,961
	:			Mkt Structure	: $70,130
Bedrooms: 3	Bath: 1.00	YearBuilt: 1965	BldgSqft: 1,380	Lot Sq Ft: 10,106	Acres: .23

 # 64

Owner	: **Rusk Ruth N Trustee**			Parcel #	: 00305315
Site	: 18375 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00900
Mail	: 2308 Sunset Ave West Linn Or 97068			12-13Taxes	: $2,195.60
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $166,341
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 11/21/2011	Sales Price :		Doc #	: 011-066912 Multi-Parcel
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 541 AMEND REPLAT ROBINWOOD PT LT 8			Market Land	: $113,501
	: BLK 1			Mkt Structure	: $52,840
Bedrooms: 2	Bath: 1.00	YearBuilt: 1946	BldgSqft: 798	Lot Sq Ft: 12,791	Acres: .29

 # 65

Owner	: **Sandoval Jennifer M & James E**			Parcel #	: 00305299
Site	: 18369 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00700
Mail	: 910 3rd St Santa Cruz Ca 95060			12-13Taxes	: $2,777.44
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $195,291
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 08/11/2005	Sales Price : $218,000		Doc #	: 005-076446
Prior Sale Date	: 08/04/1999	Prior Sale Price : $139,000		Prior Doc#	: 099-077482
Legal	: 541 AMENDED REPLAT ROBINWOOD LT 006			Market Land	: $99,651
	: BLK 01			Mkt Structure	: $95,640
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,152	Lot Sq Ft: 9,201	Acres: .21

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 # 66

Owner	: **Schelske Wendy M**			Parcel #	: 00305388
Site	: 18470 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DC01600
Mail	: 18470 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $2,467.56
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $191,016
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 08/10/2012	Sales Price	: $249,500	Doc #	: 012-051320
Prior Sale Date	: 04/05/2012	Prior Sale Price	: $157,500 Full	Prior Doc#	: 012-020789
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $107,246
	: 16 & 17 BLK 1			Mkt Structure	: $83,770
Bedrooms: 3	Bath: 2.00	YearBuilt: 1949	BldgSqft: 1,232	Lot Sq Ft: 11,679	Acres: .27

 # 67

Owner	: **Schlitt Dustin & Theresa L**			Parcel #	: 00305253
Site	: 18355 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00300
Mail	: 18355 Willamette Dr West Linn Or 97068			12-13Taxes	: $1,987.22
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $152,981
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/25/2007	Sales Price	: $225,000	Doc #	: 007-045848
Prior Sale Date	: 08/06/2004	Prior Sale Price	: $150,000	Prior Doc#	: 004-072561
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LT			Market Land	: $99,651
	: 2 BLK 1			Mkt Structure	: $53,330
Bedrooms: 2	Bath: 1.00	YearBuilt: 1942	BldgSqft: 768	Lot Sq Ft: 9,201	Acres: .21

 # 68

Owner	: **Schlunegger John R**			Parcel #	: 00305360
Site	: 18560 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DC01400
Mail	: 18560 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $2,709.29
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $200,201
MapGrid	: 686 H3			Millage Rate	: 18.7110
Sale Date	: 07/30/2002	Sales Price	: $145,000	Doc #	: 002-070540
Prior Sale Date	: 03/07/2002	Prior Sale Price	: $148,332	Prior Doc#	: 002-022377
Legal	: 541 AMENDED REPLT ROBINWOOD PT LTS			Market Land	: $98,311
	: 12 & 13 BLK 1			Mkt Structure	: $101,890
Bedrooms: 2	Bath: 1.00	YearBuilt: 1945	BldgSqft: 1,024	Lot Sq Ft: 8,501	Acres: .20

 # 69

Owner	: **Schutzler Brian/Stephanie**			Parcel #	: 00305306
Site	: *no Site Address*			Ref Parcel #	: 21E14DC00800
Mail	: 21640 S Sweetbriar Cir West Linn Or 97068			12-13Taxes	: $923.24
Land Use	: 100 Vacant,Residential Land			Market Total	: $78,630
MapGrid	:			Millage Rate	: 18.7110
Sale Date	: 06/28/2013	Sales Price	: $166,500	Doc #	: 013-044953 Multi-Parcel
Prior Sale Date	: 03/01/1988	Prior Sale Price	: $55,000	Prior Doc#	: 0088-13343
Legal	: 541 AMENDED REPLAT ROBINWOOD LT 007			Market Land	: $78,630
	: BLK 01			Mkt Structure	:
Bedrooms:	Bath:	YearBuilt:	BldgSqft:	Lot Sq Ft: 9,201	Acres: .21

 # 70

Owner	: **Senger Susan M**			Parcel #	: 00304370
Site	: 18310 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DA03100
Mail	: 18310 Shady Hollow Way West Linn Or 97068			12-13Taxes	: $3,030.81
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $239,848
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 03/28/2007	Sales Price	:	Doc #	: 007-026519
Prior Sale Date	:	Prior Sale Price	:	Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 48			Market Land	: $128,618
	:			Mkt Structure	: $111,230
Bedrooms: 2	Bath: 1.00	YearBuilt: 1948	BldgSqft: 2,316	Lot Sq Ft: 16,060	Acres: .37

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WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

71

Owner	: **Shepherd William & K Macdonald-Shepherd**			Parcel #	: 00305342
Site	: 2757 Marylhurst Dr West Linn 97068			Ref Parcel #	: 21E14DC01201
Mail	: 2757 Marylhurst Dr West Linn Or 97068			12-13Taxes	: $1,305.87
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $196,471
MapGrid	: 686 H3			Millage Rate	: 18.7110
Sale Date	: 12/07/2011	Sales Price :		Doc #	: 011-070750
Prior Sale Date	: 06/09/2003	Prior Sale Price : $182,000		Prior Doc#	: 003-073112
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $96,971
	: 10&11 BLK 1			Mkt Structure	: $99,500
Bedrooms: 2	Bath: 1.00	YearBuilt: 1946	BldgSqft: 1,426	Lot Sq Ft: 8,402	Acres: .19

72

Owner	: **Stellebreit LLC**			Parcel #	: 00304762
Site	: 18250 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB01600
Mail	: 2105 Peregrine Ct West Linn Or 97068			12-13Taxes	: $6,807.40
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $472,857
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 09/24/2012	Sales Price :		Doc #	: 012-061556
Prior Sale Date	: 04/01/2005	Prior Sale Price : $380,000		Prior Doc#	: 005-028878
Legal	: 451 ROBINWOOD PT LTS 43-45			Market Land	: $228,357
	:			Mkt Structure	: $244,500
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 3,993	Lot Sq Ft: 59,425	Acres: 1.36

73

Owner	: **Turney Tim**			Parcel #	: 00305413
Site	: 18350 Lower Midhill Dr West Linn 97068			Ref Parcel #	: 21E14DC01900
Mail	: 18350 Lower Midhill Dr West Linn Or 97068			12-13Taxes	: $3,737.49
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $271,646
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 04/22/2010	Sales Price : $328,000 Full		Doc #	: 010-024360
Prior Sale Date	: 05/31/2007	Prior Sale Price : $275,000		Prior Doc#	: 007-047611
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LTS			Market Land	: $105,906
	: 21 & 22 BLK 1			Mkt Structure	: $165,740
Bedrooms: 4	Bath: 2.00	YearBuilt: 1950	BldgSqft: 1,967	Lot Sq Ft: 11,398	Acres: .26

74

Owner	: **Webber Michael F**			Parcel #	: 00305262
Site	: 18359 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DC00400
Mail	: 1598 Skye Pkwy West Linn Or 97068			12-13Taxes	: $2,791.22
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $200,461
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 07/13/2007	Sales Price : $288,900		Doc #	: 007-061500
Prior Sale Date	: 02/23/2007	Prior Sale Price : $244,950		Prior Doc#	: 007-015564
Legal	: 541 AMENDED REPLAT ROBINWOOD PT LT			Market Land	: $99,651
	: 3 BLK 1			Mkt Structure	: $100,810
Bedrooms: 3	Bath: 2.00	YearBuilt: 1978	BldgSqft: 1,152	Lot Sq Ft: 9,201	Acres: .21

75

Owner	: **Willamette Commons LLC**			Parcel #	: 00304753
Site	: 18270 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB01500
Mail	: 3380 Barrington Dr West Linn Or 97068			12-13Taxes	: $1,369.25
Land Use	: 100 Vacant,Residential Land			Market Total	: $116,604
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 03/28/2008	Sales Price : $200,000 Full		Doc #	: 008-022425
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 451 ROBINWOOD PT LT 45			Market Land	: $116,604
	:			Mkt Structure	:
Bedrooms:	Bath:	YearBuilt:	BldgSqft:	Lot Sq Ft: 19,500	Acres: .45

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

WFG NATIONAL TITLE: FARM REPORT / Clackamas (OR)

76

Owner	: **Willamette Commons LLC**			Parcel #	: 00304717
Site	: 18395 Shady Hollow Way West Linn 97068			Ref Parcel #	: 21E14DB01100
Mail	: 3380 Barrington Dr West Linn Or 97068			12-13Taxes	: $2,981.34
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $235,235
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/30/2003	Sales Price :		Doc #	: 003-068669 Multi-Parcel
Prior Sale Date	: 08/17/1998	Prior Sale Price : $175,000		Prior Doc#	: 0098-75491
Legal	: 451 ROBINWOOD LT 47			Market Land	: $193,845
	:			Mkt Structure	: $41,390
Bedrooms: 2	Bath: 1.00	YearBuilt: 1937	BldgSqft: 922	Lot Sq Ft: 38,979	Acres: .89

77

Owner	: **Willamette Commons LLC**			Parcel #	: 00304726
Site	: 18340 Willamette Dr West Linn 97068			Ref Parcel #	: 21E14DB01200
Mail	: 3380 Barrington Dr West Linn Or 97068			12-13Taxes	: $2,918.62
Land Use	: 101 Res,Residential Land,Improved			Market Total	: $224,665
MapGrid	: 686 H2			Millage Rate	: 18.7110
Sale Date	: 05/30/2003	Sales Price :		Doc #	: 003-068669 Multi-Parcel
Prior Sale Date	: 08/17/1998	Prior Sale Price : $150,000		Prior Doc#	: 0098-75490
Legal	: 451 ROBINWOOD PT LT 46			Market Land	: $175,975
	:			Mkt Structure	: $48,690
Bedrooms: 2	Bath: 1.00	YearBuilt: 1910	BldgSqft: 1,429	Lot Sq Ft: 32,000	Acres: .73

78

Owner	: **Willamette Prop Ltd Prtnshp**			Parcel #	: 01699031
Site	: *no Site Address*			Ref Parcel #	: 21E14DD90002
Mail	: 18380 Willamette Dr #202 West Linn Or 97068			12-13Taxes	: $16,409.53
Land Use	: 201 Com,Commercial Land,Improved			Market Total	: $1,051,100
MapGrid	:			Millage Rate	: 18.7110
Sale Date	: 06/01/1996	Sales Price : $784,856		Doc #	: 96-41156
Prior Sale Date	:	Prior Sale Price :		Prior Doc#	:
Legal	: 3252 MARYLHURST MED CONDO UNIT 2			Market Land	:
	:			Mkt Structure	: $1,051,100
Bedrooms:	Bath:	YearBuilt: 1995	BldgSqft:	Lot Sq Ft: 4,074	Acres: .09

The Information Provided Is Deemed Reliable, But Is Not Guaranteed.

M E T R O S C A N
Reference Farm
Clackamas (OR)

Owner	Address	Phone	Ref Number
Aasen Donald L;Lillian L	18185 Shady Hollow Way West Linn		1
Archer David James;Keri Ann	3184 Arbor Dr West Linn 97068		2
Arias Ana Laura	18368 Vista Ct West Linn 97068		3
Arnold Shan D	18244 Shady Hollow Wa (No Mail)		4
Bazzaz Ala	2798 Robinwood Way West Linn 9706		5
Bean Kenneth J;Kelly S	18140 Shady Hollow Way West Linn		6
Bell Margaret M	2648 Maria Ct West Linn 97068		7
Bogdan Barbara K	18335 Willamette Dr West Linn 970		8
Bogdan Barbara K;Janusz G	18345 Willamette Dr West Linn 970		9
Bogdan Janusz G;Barbara K	2797 Marylhurst Dr West Linn 9706		10
Bonacich Steve	3054 Lazy River Dr West Linn 9706		11
Boyer Family Partnership I	3020 Lazy River Dr West Linn 9706		12
Bracco Anthony Michael;Anne	2716 Robinwood Way West Linn 9706		13
Callagan Michael W;Helene F	3293 Arbor Dr West Linn 97068		14
Cassell Stanley J	2767 Robinwood Way West Linn 9706		15
Chambers Lori	18510 Lower Midhill Dr West Linn		16
Cherry Ilona B Trustee	2636 Maria Ct West Linn 97068		17
Cherry Roger L Trustee	2634 Maria Ct West Linn 97068		18
City of West Linn	18292 Shady Hollow Way West Linn		19
Coale Franklin	18380 Willamette Dr West Linn 970		20
Coale Franklin	*no Site Address*		21
Covic George Gary Trustee	2778 Robinwood Way West Linn 9706		22
Daum Nancy L	18304 Shady Hollow Way West Linn		23
Debellis Vito J;Yvonne C	18200 Shady Hollow Way West Linn		24
Destefanis L Marie	18225 Willamette Dr West Linn 970		25
Destefanis L Marie	18225 Willamette Dr West Linn 970		26
Deville Clelia A	3260 Arbor Dr West Linn 97068		27
Fortuna Dale L;Sherry A	3360 Arbor Dr West Linn 97068		28
Fortuna Sherry Ann;Dale L	3340 Arbor Dr West Linn 97068		29
Fromme Mathew W;Ashlee M Ma	18361 Willamette Dr West Linn 970		30
Gaston Larry R Co-Trustee	18189 Shady Hollow Way West Linn		31
Goddard Mark Lee	18260 Lower Midhill Dr West Linn		32
Grove Donald Raymond;Erlene	3225 Arbor Dr West Linn 97068		33
Groves Eldora J	18360 Shady Hollow Way West Linn		34
Guy Lillian	2786 Robinwood Way West Linn 9706		35
Harriman Kathleen	18115 Lower Midhill D (No Mail)		36
Holland Inc	18350 Willamette Dr West Linn 970		37
Holt Richard D;Grace Ann	18380 Lower Midhill Dr West Linn		38
Housing Authrty Co Clack	3050 Lazy River Dr West Linn 9706		39
Hvostov Leslie	2748 Robinwood Way West Linn 9706		40
Jervis Bruce S	3060 Lazy River Dr West Linn 9706		41
Jones Stephen B;Cynthia S	18325 Vista Ct West Linn 97068		42
Kane Donald B	18220 Willamette Dr West Linn 970		43
Kent Joy L Harns	18490 Lower Midhill Dr West Linn		44
Kirby Matthew;Amy	3280 Arbor Dr West Linn 97068		45

M E T R O S C A N
Reference Farm
Clackamas (OR)

Owner	Address	Phone	Ref Number
Kleips Christopher M;Angela	2630 Maria Ct West Linn 97068		46
Knaebel David R;Donna M	18430 Lower Midhill Dr West Linn		47
Koran Lawrence A	18194 Shady Hollow Wa (No Mail)		48
Lavin Charles J;Alice Gail	2642 Maria Ct West Linn 97068		49
Lawson Michael C	18150 Shady Hollow Way West Linn		50
Lazy River Devlp LLC	*no Site Address*		51
Lunsford Wilbur T Jr	18365 Willamette Dr West Linn 970		52
Mabie Frederick J;Lisa C	3689 Fairview Way West Linn 97068		53
McAllister Dan C	18155 Willamette Dr West Linn 970		54
McKinley Benjamin R;Christi	2624 Maria Ct West Linn 97068		55
McQuay James M;Jeannette K	3162 Arbor Dr West Linn 97068		56
Meyers Michael D;Rochelle	2735 Robinwood Way West Linn 9706		57
Nusbaum Cathy E	2777 Marylhurst Dr West Linn 9706		58
Owens Carl;Judith M	2785 Robinwood Way West Linn 9706		59
Owens Carl R;Judith M	18263 Willamette Dr West Linn 970		60
Owens Carl R;Judith M	18255 Willamette Dr West Linn 970		61
Oxford Investment Corp	2875 Marylhurst Dr West Linn 9706		62
Richards Daniel;Shannon	3080 Lazy River Dr West Linn 9706		63
Rusk Ruth N Trustee	18375 Willamette Dr West Linn 970		64
Sandoval Jennifer M;James E	18369 Willamette Dr West Linn 970		65
Schelske Wendy M	18470 Lower Midhill Dr West Linn		66
Schlitt Dustin;Theresa L	18355 Willamette Dr West Linn 970		67
Schlunegger John R	18560 Lower Midhill Dr West Linn		68
Schutzler Brian;Stephanie	*no Site Address*		69
Senger Susan M	18310 Shady Hollow Way West Linn		70
Shepherd William;K Macdonal	2757 Marylhurst Dr West Linn 9706		71
Stellebreit LLC	18250 Willamette Dr West Linn 970		72
Turney Tim	18350 Lower Midhill Dr West Linn		73
Webber Michael F	18359 Willamette Dr West Linn 970		74
Willamette Commons LLC	18270 Willamette Dr West Linn 970		75
Willamette Commons LLC	18395 Shady Hollow Way West Linn		76
Willamette Commons LLC	18340 Willamette Dr West Linn 970		77
Willamette Prop Ltd Prtnshp	*no Site Address*		78

Current Sale Statistics

Average Sale Price	$375,000.00
Average Loan Amount	$275,000.00
Number of Sales in last year	1
Number of sales in last 6 months	1

Note: *Average Sale Price and Loan Amounts are calculated on full value sales within the last year.*

Farm Statistics

Owner Occupied	46
Absentee Owner	32
Average Square Footage	1762
Average # of bedrooms	2
Average # of Bathrooms	1.81
Average year built	1964

Information compiled from various sources. Real Estate Solutions makes no representations or warranties as to the accuracy or completeness of information contained in this report.

NEIGHBORHOOD MEETING SUMMARY

Meeting Date: Tuesday, February 11, 2014

In Attendance:

Stewart Gorgon Straus, Architect

David and Diana Emami, Willamette Commons, LLC

Neighborhood Members:

Twenty one (21) members of the community were present.

Presentation:

Mr. Emami spoke about the project. He said there would be 26 units(Townhomes) that would be plus or minus 2000 sf. They would have double car garages and there would be plenty of extra parking. He said that they would be very nice looking, like houses and not apartments. He said they would have yards. There would be a playground and a water feature. He brought up how expensive it is to build in West Linn(someone in the background input that the most expensive places to build are Happy Valley, Beaverton and then West Linn). Mr. Emami said because of the cost to build the price of each unit would be between $380,000 to $400,000. He said since the units would be owned by the people living in them they would be better maintained than if they were rentals. Mr. Emami mentioned that they were leaving one oak tree in the corner.

Mr. Emami introduced Stuart Strauss, Architect and opened the floor to questions

Q: How many units?

A: There will be 26 units.

Q: Are the 2 units together with no separation?

A: They are independent units.

Q: Is there going to be a bedroom on the main floor?

A: No there will not be.

Q: Is this a 5 acre parcel?

A: No, 2.9 acre.

Q: Have you done a traffic study?

A: Traffic study was done a long time ago.

Q: Why can't they come in off of 43?

A: ODOT will not allow it.

Q: Why do it on other projects?

A: They are grandfathered in.

Q: Are you going to improve Shady Hollow?

A: We are going to do a half street improvement.

Q: Is there going to be a right and left turn lane?

A: We do not know yet, the City has not told us what the improvements will be.

Q: Will we get another meeting after you find out?

A: The next meeting will be with the Design Review Board.

Q: How many people do you project living in this project?

A: Under 100, but not all of those will be driving, some of them will be children.

Q: Why 26 units?

A: Outdoor area allowed for extra units.

Q: Where are the driveways and walkways?

A: The driveways are on one side of the units and the walkways are on the other side.

Q: What is the setback from the property line?

A: 15 - 25 ft? Need to check and address the issue prior to submitting.

Q: Is there a promenade in the middle?

A: Yes, and fire truck access.

Q: Is there an entrance to Robinwood Park?

A: Our outdoor area will tie into the park across the street.

Q: How many off-street parking spaces?

A: 23

Q: Are any set up for motor homes or oversized vehicles?

A: No

Q: Are you going to have a fenced area?

A: We would prefer not to, but we cannot predict what the owners will do.

Q: Do you need to put in a sound wall on any part of 43?

A: Not that I am aware of, no. We may do some landscaping, but we do not want to turn this into a compound.

Q: Where is the creek on the property?

A: There is no creek on the property according to environmental study done.

Q: Being that there is a drainage down from 43 are you putting in bio swells?

A: Engineers will be providing ideas for treatment and detention of drainage water to enhance site.

Q: What is the grading going to be?

A: We will do balanced cut and fill 3 to 4 feet difference. We will be grading area by area.

Is it a stream or not, never was officially designated as one.

Our storm water management solutions might solve creek issue.

Concerned that storm water management will bother their stream to the north.

Q: Will the discharge from storm management system overwhelm the stream it is discharged into?

A: No

Q: What about in the winter time when there is more rain?

A: The storm drain system will not make more water, it will be the same as before.

Kevin Brick asked to conclude Q & A and continue the it if needed outside the meeting room.

End of presentation.

MEETING SIGN-IN SHEET

Project:	Willamette Commons	**Meeting Date:**	February 11, 2014 – 7:00 p.m.
Facilitator:	Robinwood Neighborhood Meeting	**Place/Room:**	Robinwood Station

Name	Address	Phone	E-Mail
Jeremy West	18340 Willamette Dr.	503-697-3250	
Lawrence Koren	18197 Shady Hollow Way	503-675-5530	
Edna Caston	18189 Shady Hollow Way	503-635-7195	
Lisa Clifton	3765 Ridgewood Way	503-675-1108	
Bob Stowell	2606 Maria Ct.	503-636-3915	
Donna Ragan	4981 Mapleton	503 799 6586	
Don Kingsborough	Box 148 97068	636-2544	
Mary Hill	19050 Nixon Ave WL	636-5373	
Marygrace McDermott	18976 Walling Cir	636-2051	
Theresa & Dustin Schlitt	18355 Willamette Dr. West Linn OR		
[illegible] O'Toole	2612 Robinwood 97068	636 [illegible]	
Kazi Ahmed	18649 Mishill Cir. West Linn	635 8023	
Randall Fastabend	18787 Trillium Dr		randallfastabend88@gmail.com
Kelly Rothgeb	18310 Shady Hollow way west linn	503-636-6323	
Kevin Hrych	19840 Nixon Av	503 675-7301	
Aaron Buffington	3820 Ridgewood way	503 432-7411	

As the applicant for the 18270/18340 Willamette Drive and 18395 Shady Hollow Drive, West Linn, OR 97068 project, I hereby certify that on this day, Tuesday, January 21, 2014 notice of the Neighborhood / Developer meeting was mailed in accordance with the requirements of the City of West Linn Code Chapter 99.038.

Applicant's Name: Willamette Commons, LLC
By: Diana Emami, Member

Applicant's Signature: 

Date: January 21, 2014

AFFIDAVIT OF MAILING

State of Oregon)
) SS
County of Clackamas)

I, Diana Emami, being first duly sworn, depose and say:

That on the 21st day of January, 2014, I served upon the persons shown on Exhibit "A", attached hereto and this reference incorporated herein, a copy of this Notice of Neighborhood / Developer meeting marked Exhibit "B", attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that the addresses shown on said Exhibit "A" are their regular addresses as determined from the books and records of the Clackamas County Department of Assessment and Taxation Tax Rolls, and that said envelopes were placed in the United States mail at West Linn, Oregon, with postage fully prepaid thereon.

Dated this 21st day of January, 2014.

Signature

Subscribed and sworn to before me this 21st day of January 2014.

OFFICIAL SEAL
ANA PATRICIA MERCADO
NOTARY PUBLIC - OREGON
COMMISSION NO. 465557
MY COMMISSION EXPIRES FEBRUARY 05, 2016

Notary Public for Oregon
My Commission expires: 2/5/16

RE: 18270/18340 Willamette Drive and 18395 Shady Hollow Drive, West Linn, OR 97068 project

As the applicant for the 18270/18340 Willamette Drive and 18395 Shady Hollow Drive, West Linn, OR 97068 project, I hereby certify that on this day, Tuesday, January 21, 2014 sign was posted on the subject property in accordance with the requirements of the City of West Linn Code Chapter 99.038.

Applicant's Name: Willamette Commons, LLC
By: Diana Emami, Member

Applicant's Signature: _____

Date: January 21, 2014

AFFIDAVIT OF POSTING

State of Oregon)
) SS
County of Clackamas)

I, Diana Emami, being first duly sworn, depose and say:

As the applicant for the 18270/18340 Willamette Drive and 18395 Shady Hollow Drive, West Linn, OR 97068 project, I hereby certify that I posted copy of the Notice of the Neighborhood / Developer meeting in accordance with the requirements of the City of West Linn Code Chapter 99.038 on the 21st day of January, 2014, copy attached; and that I posted said copy in the public and conspicuous place within the City at the subject property, to wit:

Corner of 18340 Willamette Drive and 18395 Shady Hollow Drive, West Linn

Dated this 22nd day of January, 2014.

Signature

Subscribed and sworn to before me this 22nd day of January 2014.

Notary Public for Oregon
My Commission expires: 7-12, 2017

OFFICIAL SEAL
JULIE L COURSON
NOTARY PUBLIC - OREGON
COMMISSION NO. 470626
MY COMMISSION EXPIRES JULY 12, 2017

NOTICE

NEIGHBORHOOD / DEVELOPER MEETING FOR PROPOSED PROJECT

Willamette Commons

503-557-3350

February 11, 2014 at 7 p.m.
Robinwood Station at
3706 Cedaroak Dr,West Linn

December 27, 2013

Aaron Buffington
Robinwood NA President
3820 Ridgewood Way
West Linn, OR 97068

RE: Neighborhood contact requirement as per City of West Linn code 99.038

Dear Robinwood NA President,

We would like to request to placed on your next meeting agenda to present our townhouse development project located at 18270/18340 Willamette Drive and 18395 Shady Hollow Drive, West Linn.

You can reach me at 503-557-3350, my email is emami007@comcast.net

Mailing:
Willamette Commons, LLC
3380 Barrington Drive
West Linn, OR 97068

Look forward for your prompt response to this matter. Our email request remains unanswered.

Regards,

David Emami
Member, Willamette Commons, LLC
Phone 503-557-3350

cc: Kevin Bryck
Robinwood NA Designee
18840 Nixon Ave.
West Linn, OR 97068

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

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WEST LINN OR 97068 OFFICIAL USE

Postage	$ $0.46	0155
Certified Fee	$3.10	07 Postmark Here
Return Receipt Fee (Endorsement Required)	$2.55	
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $6.11	12/27/2013

Sent To: Aaron Buffington
Street, Apt. No.; or PO Box No.: 3820 Ridgewood Way
City, State, ZIP+4: West Linn, OR 97068

PS Form 3800, August 2006 — See Reverse for Instructions

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Aaron Buffington
Robinwood NA President
3820 Ridgewood Way
West Linn OR 97068

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X A Buffington ☐ Agent ☐ Addressee

B. Received by (Printed Name): B Buffington — C. Date of Delivery: 12/28

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)*: 7010 3090 0002 9780 2806

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

WEST LINN OR 97068 OFFICIAL USE

Postage	$ $0.46	0155
Certified Fee	$3.10	07 Postmark Here
Return Receipt Fee (Endorsement Required)	$2.55	
Restricted Delivery Fee (Endorsement Required)	$0.00	
Total Postage & Fees	$ $6.11	12/27/2013

Sent To: Kevin Bryck
Street, Apt. No.; or PO Box No.: 18840 Nixon Ave
City, State, ZIP+4: West Linn, OR 97068

Form 3800, August 2006 — See Reverse for Instructions

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Kevin Bryck
Robinwood NA Designee
18840 Nixon Ave
West Linn, OR 97068

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Logan Bryck ☐ Agent ☐ Addressee

B. Received by (Printed Name): Logan Bryck — C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)*: 7010 3090 0002 9780 2790

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

THE EDGE® PWY-EDG-5M

Pathway Luminaire – Type V Medium

Product Description

Duable die-cast aluminum luminaire housing mounts directly to 4" (102mm) diameter pole without visible mounting hardware for clean apperance. Pole mounts to rugged die cast aluminum internal flange secured by (3) 3/8-16 anchor bolts (provided). Note: T45 Torx 3/8 socket required for head installation. Top mounted LEDs for superior optical performance and light control.

Performance Summary

Utilizes BetaLED® Technology

Patented NanoOptic® Product Technology

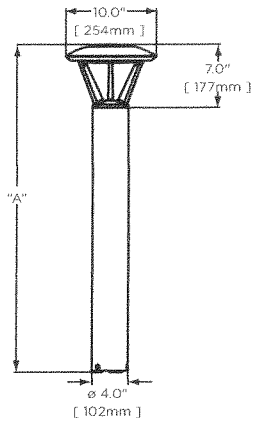
Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

CCT: 5700K (+/- 500K) Standard, 4000K (+/- 300K)

Warranty: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish†

EPA and Weight: Reference EPA and Weight spec sheet



Model	Dim. "A"
Landscape-13	13" [330mm]
Landscape-18	18" [457mm]
Pathway	36" [914mm]
Pathway	42" [1067mm]
Pedestrian	96" [2438mm]

Accessories

Field Installed Accessories
XA-XBP8RSV
XA-XBP8BK
XA-XBP8RWH
XA-XBP8RBZ
XA-XBP8RPB Retro-Fit Kit - Used for replacement of existing bollards

Ordering Information

Example: PWY-EDG-5M-P0-02-D-UL-SV-350-OPTIONS

PWY-EDG	5M		02	D				
Product	Optic	Mounting	LED Count (#)	Version	Voltage	Color Options	Drive Current	Options
PWY-EDG	**5M** Type V Medium	**P0** 13" (330mm) landscape **P1** 18" (457mm) landscape **P3** 3' (0.9m) landscape **P4** 42" (1068mm) landscape **P8** 8' (2.4m) landscape	**02**	**D**	**UL** Universal 120-277V **UH*** Universal 347-480V **12** 120V **24** 240V **27** 347V **34*** 347V **48*** 480V	**SV** Silver (Standard) **BK** Black **BZ** Bronze **PB** Platinum Bronze **WH** White	**350** 350mA **525**** 525mA	**40K** 4000K Color Temperature - Color temperature per luminaire **F** Fuse - When code dictates fusing, use time delay fuse - Not available with all ML options. Refer to ML spec sheet for availability with ML options **HL** Hi / Low (175/350/525 Dual Circuit Input) - Refer to ML spec sheet for details - Sensor not included **TL** Two-Level (175/525 w/ integrated sensor control) - Refer to ML spec sheet for details **TL2** Two-Level (0/350 w/ integrated sensor control) - Refer to ML spec sheet for details **TL3** Two-Level (0/525 w/ integrated sensor control) - Refer to ML spec sheet for details **WB** Welded Base - Standard on P8 mounting option, available with P1, P3, and P4 mounting options

* Available with P3, P4 and P8 mounting options.
** Available with P1, P3, P4 and P8 mounting options.
† See www.cree.com/lighting for warranty terms.

BetaLED TECHNOLOGY

RoHS

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Rev. Date 11/09/2012

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A

Pathway Luminaire - Type V Medium

Product Specifications

CONSTRUCTION & MATERIALS

- Durable die-cast aluminum luminaire housing mounts directly to 4" (102mm) diameter pole without visavle mounting hardware for clean apperance
- Pole mounts to rugged die cast aluminum internal flange secured by (3) 3/8-16 anchor bolts (provided)
- Note: T45 Torx 3/8 socket required for head installation
- Top mounted LEDs for superior optical performance and light control
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultradurable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Standard is silver. Bronze, black, white, and platinum bronze are also available

ELECTRICAL SYSTEM

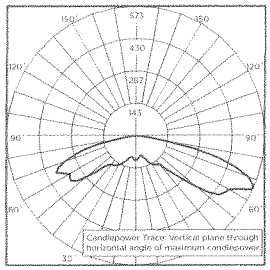
- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used

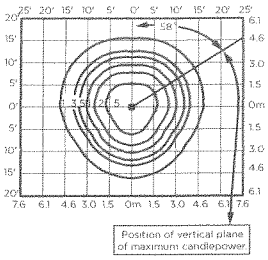
REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Luminaire also available with CE listing
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- ENERGY STAR Qualified LED Lighting
- Dark Sky Friendly, IDA Approved
- RoHS Compliant
- Meets Buy American requirements within ARRA

Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by Independent Testing Laboratories, a NVLAP certified laboratory.





ITL Test Report #: 70714
PWY-EDG-5M-**-02-D-UL-350
Initial Delivered Lumens: 1,520

PWY-EDG-5M-**-02-D-UL-350
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 1,520
Initial FC at grade

IES Files
To obtain an IES file specific to your project consult:
http://www.cree.com/lighting/tools-and-support/exterior-ies-configuration-tool

Lumen Output, Electrical, and Lumen Maintenance Data

Type V Medium Distribution													
LED Count (x10)	5700K		4000K		System Watts 120-480V	TOTAL CURRENT				System Watts 347-480V**	TOTAL CURRENT		50K Hours Projected Lumen Maintenance Factor @ 15°C (59°F)***
	Initial Delivered Lumens	BUG Ratings* Per TM-15-11	Initial Delivered Lumens	BUG Ratings* Per TM-15-11		120V	208V	240V	277V		347V	480V	
350mA @ 25°C (77°F)													91%
18	1,498	B1 U1 G1	1,380	B1 U1 G1	22	0.18	0.12	0.10	0.10	28	0.09	0.13	
525mA @ 25°C (77°F)													89%
18	2,097	B2 U1 G2	1,932	B1 U1 G1	34	0.29	0.19	0.17	0.15	40	0.12	0.13	

* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf
** Utilizes magnetic step-down transformer when 525mA drive current or multi-level options are selected
*** Projected L_{70} (10K) Hours: >60,000. For recommended lumen maintenance factor data see TD-13

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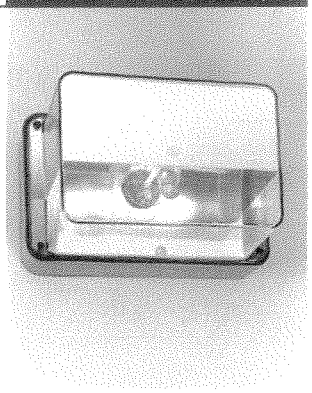
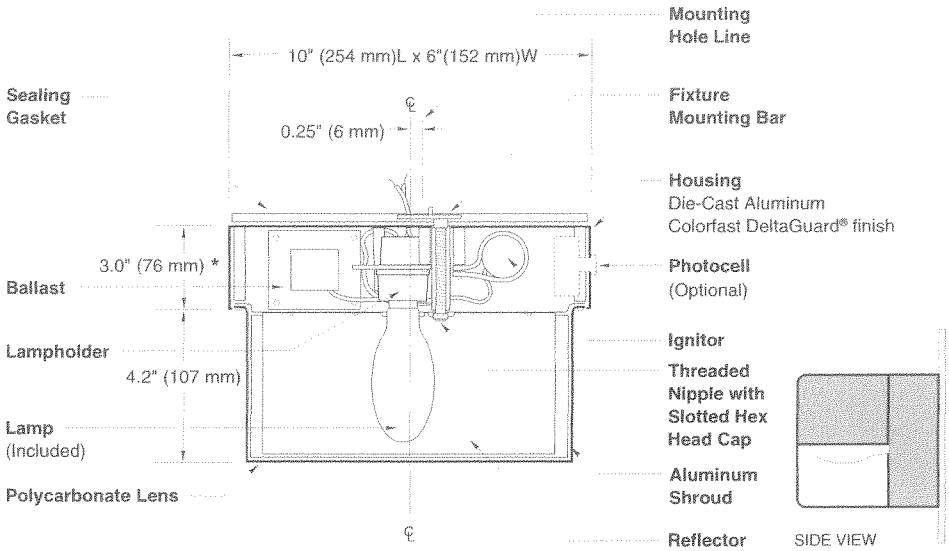
RECTANGULAR HID WALL MOUNT

PERIMETER CUTOFF

E3-H SERIES





Notes

NOTE:
* For 50–100W HPS 120V, this dimension is 2.3" (57 mm)

SPEC	MOUNTING POSITION	WATTAGE	CATALOG#
PULSE START METAL HALIDE			
SPEC #	Wall Downlight	50W PSMH	E3405-**(a)(b)**
SPEC #	Wall Downlight	70W PSMH	E3407-**(a)(b)**
HIGH PRESSURE SODIUM			
SPEC #	Any	50W HPS	E3505-**(a)(b)**
SPEC #	Wall Downlight	70W HPS	E3507-**(a)(b)**
SPEC #	Wall Downlight	100W HPS	E3510-**(a)(b)**

Specify **(a)** Voltage & **(b)** Options.

(a) VOLTAGE SUFFIX KEY	
D	120/277V (50W HPS)
M	120/208/240/277V (Standard: 50 – 70W PSMH) (50 – 100W HPS)
T	120/277/347V (Canada Only) (70W PSMH; 70 – 100W HPS)
1	120V (Standard: 50 – 100W HPS)
2	277V
3	208V
4	240V
6	347V (Canada Only) (50W HPS)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

(b) OPTIONS (factory-installed)	
BS	Bronze Color Shroud
GS	Gold Color Shroud (n/a on 100W HPS)
H	High Power Factor Ballast
J	Tamperproof Lens Fasteners
-(a)P	Photocell
R	Vertical Mounting*

Specify **(a)** Single Voltage — See Voltage Suffix Key

* Not available when both options **H** & **-(a)P** are specified.

GENERAL DESCRIPTION

Aluminum die-cast ballast housing features a thermal air isolation chamber separating the ballast core and coil from the other electrical components. Supplied with a neoprene sealing gasket for complete waterproofing at the mounting surface. A silicone rubber seal is furnished between housing and lens to ensure a water- and insect-tight seal. Steel fixture mounting bar and threaded nipple provided for direct mounting to recessed junction box. Clear polycarbonate lens is fastened to housing with phillips-head captive stainless-steel screws. Combination of internal polished aluminum shroud (inside painted white and outside painted silver on 100W HPS) and specular reflector directs light downward to wash wall below and to the sides of the fixture.

ELECTRICAL

Fixture includes clear, medium-base lamp and porcelain enclosed, 4kv-rated screw-shell-type lampholder with spring-loaded center contact. Lamp ignitor included where required. All ballast assemblies are normal power factor and use the following circuit types:

Reactor (120V only)
50 – 100W HPS

HX — High Reactance
50 – 70W PSMH; 50 – 100W HPS

LABELS

ANSI lamp wattage label supplied, visible during relamping. UL Listed in the US and Canada for wet locations and enclosure classified IP54 per IEC 529 and IEC 598.

FINISH

Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with medium bronze acrylic powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. The finish is covered by our seven-year limited warranty.

ACCESSORIES

ESB-7	Surface Mounting Box
TPS-1	Tamperproof Screwdriver

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Rev. 04/05/12

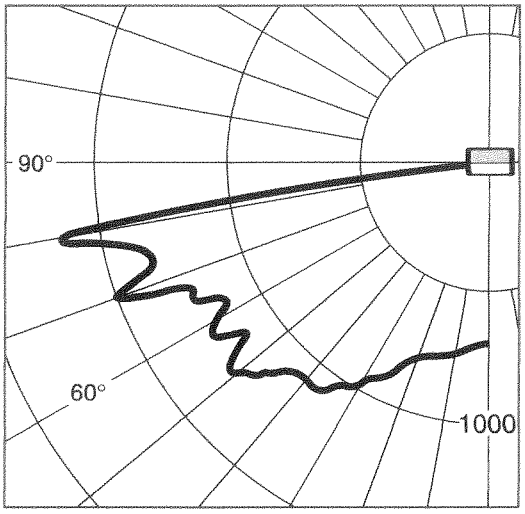
RUUD LIGHTING DIRECT

E3-H SERIES

RECTANGULAR HID WALL MOUNT

PERIMETER CUTOFF

B & D



Front View

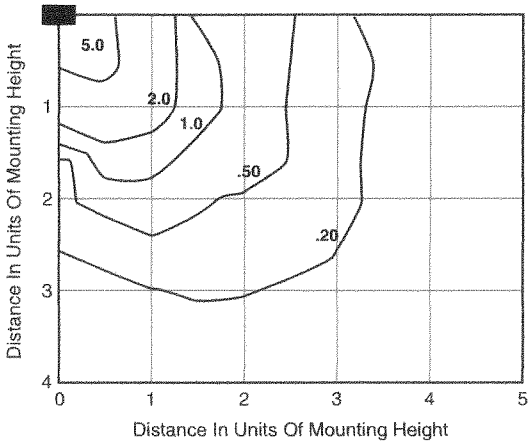
Lighting Sciences Inc.
Certified Test Report No. LSI 9910
Candlepower distribution curve of 70W HPS
Rectangular Perimeter Cutoff Fixture.

Isofootcandle plots show initial footcandles at grade. (Footcandles ÷ 0.0929 = Lux)

ANGLE	MEAN CP	ANGLE	MEAN CP
0	698	50	1263
5	714	55	1128
10	742	60	1229
15	770	65	1268
20	801	70	1525
25	899	75	1373
30	964	80	1668
35	1061	85	235
40	1094	90	39
45	1131		

Maximum Candlepower:	1668
Plane of Maximum CP:	55°
Vertical Angle of Maximum Candlepower:	80°
Lumen Rating:	6400

EFFICIENCY = 66.7%



Isofootcandle plot of 70W HPS Rectangular Perimeter Cutoff fixture at 10' (3 m) mounting height. (Plan view)

MOUNTING HEIGHT CONVERSION TABLE

Footcandle readings for mounting heights other than 10' (3 m) may be obtained by multiplying fc values by the following:

HEIGHT	MULTIPLIER
7.0' (2.1 m)	2.04
8.0' (2.4 m)	1.56
9.0' (2.7 m)	1.23
12.0' (3.7 m)	0.69
15.0' (4.6 m)	0.44
20.0' (6.1 m)	0.25

LAMP WATTAGE CONVERSION TABLE

Footcandle readings for wattages and lamp types other than 70W HPS may be obtained by multiplying fc values by the following:

LAMP/WATTAGE	MULTIPLIER
50W PSMH	0.48
70W PSMH	0.79
50W HPS	0.63
100W HPS	1.49

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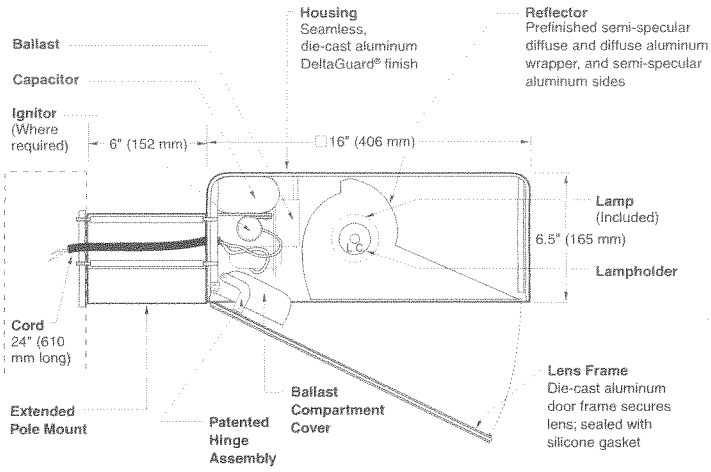
Rev. 04/05/12

6" EXTENDED POLE MOUNT

16" (406 mm) AREA CUTOFF LIGHT

AC2-16 SERIES



SPEC #	WATTAGE	CATALOG #
	PULSE START METAL HALIDE	
	150W PSMH	AC2615-**(a)(b)**
	200W PSMH	AC2620-**(a)(b)**
	250W PSMH	AC2625-**(a)(b)**
(P)	320W PSMH	AC2632-**(a)(b)**
(P)	350W PSMH	AC2635-**(a)(b)**
(P)	400W PSMH	AC2640-**(a)(b)**
	HIGH PRESSURE SODIUM	
	250W HPS	AC2525-**(a)(b)**
	400W HPS	AC2540-**(a)(b)**

Specify **(a)** Voltage & **(b)** Options.

(P) Reduced envelope ED28 lamp.

(a) VOLTAGE SUFFIX KEY	
M	120/208/240/277V (Standard)
T	120/277/347V (Canada Only) (Standard)
1	120V
2	277V
27	277V Reactor (PSMH Only)
3	208V
4	240V
5	480V
6	347V (Canada Only)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

(b) OPTIONS (factory-installed)	
-(a)F	Fusing
-(a)P	Button Photocell
-5P	External Photocell (for 480V)
Q	Quartz Standby (includes 100W quartz lamp) (N/A on 277V Reactor)

Specify **(a)** Single Voltage — See Voltage Suffix Key

GENERAL DESCRIPTION

60° forward throw sharp cutoff luminaire for HID lamp, totally enclosed. Housing is seamless, die-cast aluminum. Mounting consists of a 1.8" (44 mm) wide by 4.5" (114 mm) high by 6" (152 mm) long extruded aluminum arm. The arm is held in place with two 3/8" (9 mm) mounting rods fastened to a steel backing plate inside the pole, and by two nuts inside the fixture housing. Mounting rods are provided with sealing washers to prevent water leakage. Lens assembly consists of rigid aluminum frame and high-impact, clear-tempered glass.

ELECTRICAL

Fixture includes clear, mogul-base lamp; 320 – 400W PSMH utilize the ED28 reduced envelope lamp. Pulse-rated porcelain enclosed, 4kv-rated screw-shell-type lampholder with spring-loaded center contact and lamp grips. Lamp ignitor included. All ballast assemblies are high-power factor and use the following circuit type:

277V Reactor
150 – 400W PSMH

HX— High Reactance
150W PSMH

CWA — Constant Wattage Autotransformer
200 – 400W PSMH; 250 – 400W HPS

PATENTS

US 4,689,729; 4,709,312

FINISH

Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with medium bronze ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. The finish is covered by our seven-year limited warranty.

LABELS

ANSI lamp wattage label supplied, visible during relamping. UL Listed in US and Canada for wet locations and enclosure classified IP65 per IEC 529 and IEC 598.

ACCESSORIES

FWG-16	Wire Guard
SBL-16	Backlight Shield

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RUUD LIGHTING DIRECT

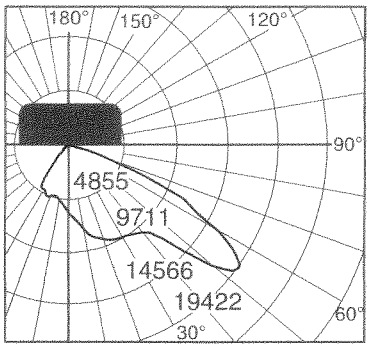
6" EXTENDED POLE MOUNT

16" (406 mm) AREA CUTOFF LIGHT

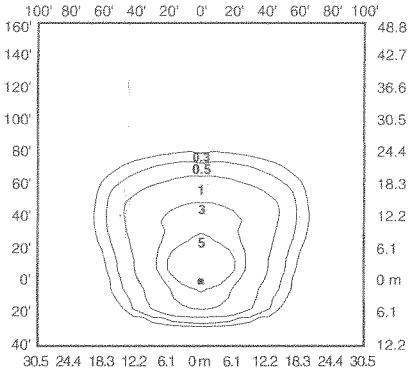
EPA RATING

EPA 0.95 for single fixture with 0° tilt (Consult factory for EPA rating on multiple units).

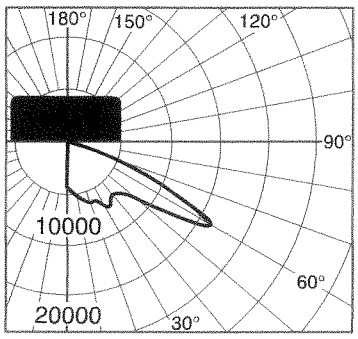
Isofootcandle plots show initial footcandles at grade. (Footcandles ÷ 0.0929 = Lux)



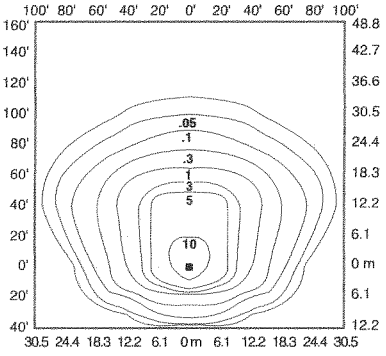
Candlepower distribution curve of 400W PSMH Area Cutoff Light without backlight shield.



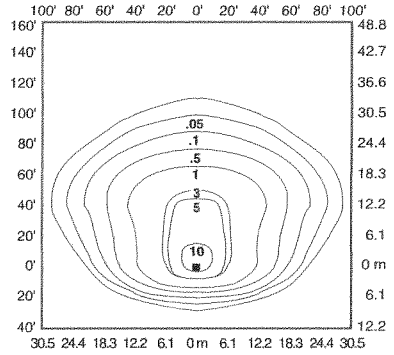
Isofootcandle plot of 400W PSMH Area Cutoff Light at 30' (9.1 m) mounting height, 0° vertical tilt, with backlight shield removed. (Plan view)



Lighting Sciences Inc.
Certified Test Report No. LSI 10246
Candlepower distribution curve of 250W HPS Area Cutoff Light without backlight shield.

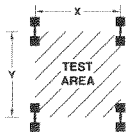


Isofootcandle plot of 400W HPS Area Cutoff Light at 25' (7.6 m) mounting height, 0° vertical tilt, with backlight shield removed. (Plan view)



Isofootcandle plot of 400W HPS Area Cutoff Light at 25' (7.6 m) mounting height, 0° vertical tilt, with backlight shield located for backlight cutoff. (Plan view)

Pole-spacing Example Data



Test area is centered within a (16) pole layout.

Average Initial Light Levels at Grade
2 Fixtures per pole @ 180°
(Footcandles ÷ 0.0929 = Lux)

Catalog #	Lamp Type	Lamp Lumens	Mounting Height	Max. Recommended Pole-spacing X x Y	Footcandles	Lux
AC2615-M	150W PSMH	12,000	15' (4.6 m)	60' (18.3 m) x 85' (25.9 m)	3.56	38
			20' (6.1 m)	75' (22.9 m) x 11' (33.5 m)	2.11	23
AC2625-M	250W PSMH	22,000	20' (6.1 m)	75' (22.9 m) x 110' (33.5 m)	3.86	42
			25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	2.31	25
AC2640-M	400W PSMH	40,000	25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	4.20	45
			30' (9.1 m)	115' (35.1 m) x 165' (50.3 m)	2.86	31
AC2525-M	250W HPS	28,500	20' (6.1 m)	75' (22.9 m) x 110' (33.5 m)	4.83	52
			25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	2.89	31
AC2540-M	400W HPS	50,000	25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	5.08	55
			30' (9.1 m)	115' (35.1 m) x 165' (50.3 m)	3.37	36

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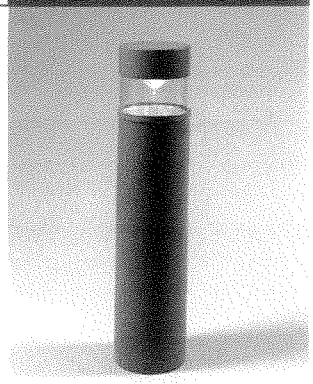
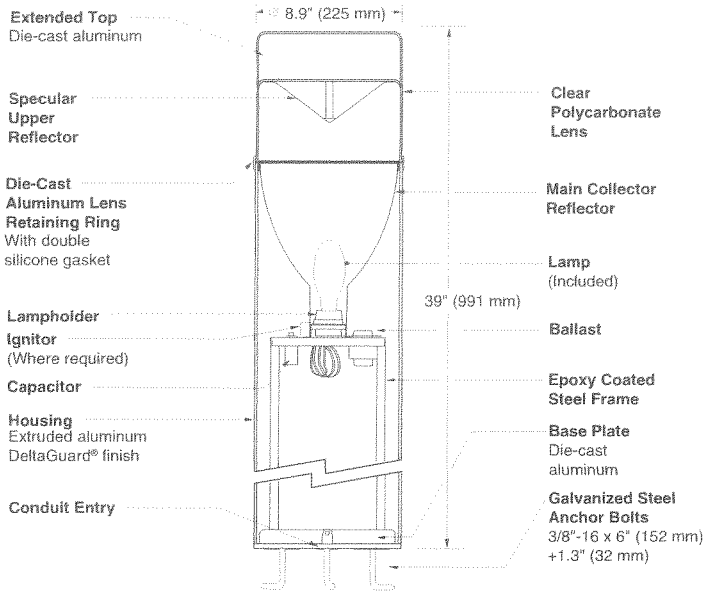
CLEAR LENS — EXTENDED FLAT TOP

ROUND BOLLARD

HCF SERIES





Notes

SPEC #	WATTAGE	CATALOG #
	PULSE START METAL HALIDE	
☐ SPEC #	50W PSMH	HCF405-**(a)(b)**
☐ SPEC #	70W PSMH	HCF407-**(a)(b)**
☐ SPEC #	100W PSMH	HCF410-**(a)(b)**
☐ SPEC #	**HIGH PRESSURE SODIUM**	
	50W HPS	HCF505-**(a)(b)**
☐ SPEC #	70W HPS	HCF507-**(a)(b)**
☐ SPEC #	100W HPS	HCF510-**(a)(b)**
	FLUORESCENT	
☐ SPEC #	26/32/42W CFL	HCF242-**(a)(b)**

Specify **(a)** Voltage & **(b)** Options.

(a) VOLTAGE SUFFIX KEY	
D	120/277V (Standard: 50W HPS)
M	120/208/240/277V (Standard: PSMH; 70 – 100W HPS)
T	120/277/347V (Canada Only) (Standard: PSMH: 70 – 100W HPS)
1	120V
2	277V
3	208V
4	240V
6	347V (Canada Only; 50 HPS Only)
UL	120 – 277V Universal Voltage (Electronic Ballast)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

(b) OPTIONS (factory-installed)	
A	180° Shielded Clear Lens
-(a)F	Fusing
J	Tamperproof Lens Fasteners
-(a)LP	CFL Photocell
-(a)P	HID Photocell

Specify **(a)** Single Voltage — See Voltage Suffix Key

GENERAL DESCRIPTION

Extruded aluminum housing supplied internally with a formed and channeled 16 gauge steel frame supports the electrical components and main reflector. Housing fastens to a die-cast aluminum base with four 1/4"-20 phillips flat head screws. Base is secured to concrete footing using provided masonite template and three 3/8"-16 x 6" (152 mm) galvanized steel anchor bolts with leveling nuts and washers. Suggested poured base: 2' (610 mm) deep x 12" (305 mm) dia., depending on soil types and frost line in your area. A 3" (76 mm) dia. conduit opening is provided in the base for ease of wiring. Injection molded clear polycarbonate lens with specular collecting reflector attaches to the top of the housing with an over-lapping die-cast aluminum retaining ring, held by two stainless-steel allen flat head fasteners. Two silicone lens seals prevent moisture from entering the lens, while a double lip silicone seal at the top of the reflector and sealed lampholder prevent insects, dirt and moisture from entering the optical chamber.

ELECTRICAL

Fluorescent bollard includes a triple tube compact fluorescent lamp. HID bollards include a clear, medium-base lamp and porcelain enclosed, 4kv-rated screw-shell-type lampholder with spring-loaded center contact. Lamp ignitor included where required. All ballast assemblies are high-power factor and use the following circuit types:

Electronic
26/32/42W CFL

HX — High Reactance
50 – 100W PSMH; 50 – 100W HPS

PATENT

US PAT RE40,934

LABELS

ANSI lamp wattage label supplied, visible during relamping. UL Listed in the US and Canada for wet locations and enclosure classified IP65 per IEC 529 and IEC 598.

FINISH

Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with medium bronze acrylic powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. The finish is covered by our seven-year limited warranty.

ACCESSORIES

HCL	Louver
TPS-1	Tamperproof Screwdriver

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Rev. 05/02/12

RUUD LIGHTING DIRECT

THE EDGE® PWY-EDG-5M

Pathway Luminaire – Type V Medium

Product Description

Duable die-cast aluminum luminaire housing mounts directly to 4" (102mm) diameter pole without visible mounting hardware for clean apperance. Pole mounts to rugged die cast aluminum internal flange secured by (3) 3/8-16 anchor bolts (provided). Note: T45 Torx 3/8 socket required for head installation. Top mounted LEDs for superior optical performance and light control.

Performance Summary

Utilizes BetaLED® Technology

Patented NanoOptic® Product Technology

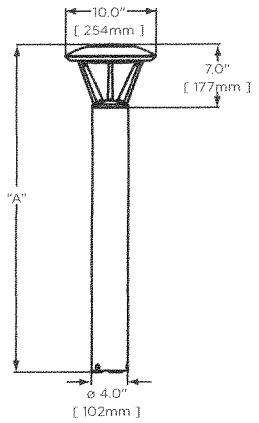
Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

CCT: 5700K (+/- 500K) Standard, 4000K (+/- 300K)

Warranty: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish†

EPA and Weight: Reference EPA and Weight spec sheet



Model	Dim. "A"
Landscape-13	13" [330mm]
Landscape-18	18" [457mm]
Pathway	36" [914mm]
Pathway	42" [1067mm]
Pedestrian	96" [2438mm]

Accessories

Field Installed Accessories
XA-XBP8RSV
XA-XBP8BK
XA-XBP8RWH
XA-XBP8RBZ
XA-XBP8RPB Retro-Fit Kit - Used for replacement of existing bollards

Ordering Information

Example: PWY-EDG-5M-P0-02-D-UL-SV-350-OPTIONS

PWY-EDG	5M		02	D				
Product	Optic	Mounting	LED Count (#)	Version	Voltage	Color Options	Drive Current	Options
PWY-EDG	**5M** Type V Medium	**P0** 13" (330mm) landscape **P1** 18" (457mm) landscape **P3** 3' (0.9m) landscape **P4** 42" (1068mm) landscape **P8** 8' (2.4m) landscape	02	D	**UL** Universal 120-277V **UH*** Universal 347-480V **12** 120V **24** 240V **27** 347V **34*** 347V **48*** 480V	**SV** Silver (Standard) **BK** Black **BZ** Bronze **PB** Platinum Bronze **WH** White	**350** 350mA **525**** 525mA	**40K** 4000K Color Temperature - Color temperature per luminaire **F** Fuse - When code dictates fusing, use time delay fuse - Not available with all ML options. Refer to ML spec sheet for availability with ML options **HL** Hi / Low (175/350/525 Dual Circuit Input) - Refer to ML spec sheet for details - Sensor not included **TL** Two-Level (175/525 w/ integrated sensor control) - Refer to ML spec sheet for details **TL2** Two-Level (0/350 w/ integrated sensor control) - Refer to ML spec sheet for details **TL3** Two-Level (0/525 w/ integrated sensor control) - Refer to ML spec sheet for details **WB** Welded Base - Standard on P8 mounting option, available with P1, P3, and P4 mounting options

* Available with P3, P4 and P8 mounting options.
** Available with P1, P3, P4 and P8 mounting options.
† See www.cree.com/lighting for warranty terms.

BetaLED TECHNOLOGY

RoHS

c UL us

Rev. Date 11/09/2012

CREE®

www.cree.com/lighting T (800) 236-6800 F (262) 504-5415

Product Specifications

CONSTRUCTION & MATERIALS

- Durable die-cast aluminum luminaire housing mounts directly to 4" (102mm) diameter pole without visavle mounting hardware for clean apperance
- Pole mounts to rugged die cast afuminum internal flange secured by (3) 3/8-16 anchor bolts (provided)
- Note: T45 Torx 3/8 socket required for head installation
- Top mounted LEDs for superior optical performance and light control
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultradurable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Standard is silver. Bronze, black, white, and platinum bronze are also available

ELECTRICAL SYSTEM

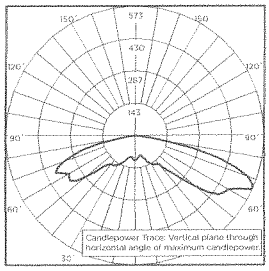
- **Input Voltage:** 120–277V or 347–480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used

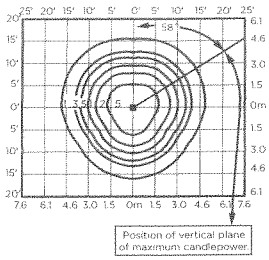
REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Luminaire also available with CE listing
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- ENERGY STAR Qualified LED Lighting
- Dark Sky Friendly, IDA Approved
- RoHS Compliant
- Meets Buy American requirements within ARRA

Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by Independent Testing Laboratories, a NVLAP certified laboratory.





ITL Test Report #: 70714
PWY-EDG-5M-**-02-D-UL-350
Initial Delivered Lumens: 1,520

PWY-EDG-5M-**-02-D-UL-350
Mounting Height: 25' (7.6m) A.F.G.
Initial Delivered Lumens: 1,520
Initial FC at grade

IES Files
To obtain an IES file specific to your project consult:
http://www.cree.com/lighting/tools-and-support/exterior-ies-configuration-tool

Lumen Output, Electrical, and Lumen Maintenance Data

Type V Medium Distribution													
LED Count (x10)	5700K		4000K		System Watts 120–480V	TOTAL CURRENT				System Watts 347–480V**	TOTAL CURRENT		50K Hours Projected Lumen Maintenance Factor @ 15°C (59°F)***
	Initial Delivered Lumens	BUG Ratings* Per TM-15-11	Initial Delivered Lumens	BUG Ratings* Per TM-15-11		120V	208V	240V	277V		347V	480V	
350mA @ 25°C (77°F)													
18	1,498	B1 U1 G1	1,380	B1 U1 G1	22	0.18	0.12	0.10	0.10	28	0.09	0.13	91%
525mA @ 25°C (77°F)													
18	2,097	B2 U1 G2	1,932	B1 U1 G1	34	0.29	0.19	0.17	0.15	40	0.12	0.13	89%

* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf
** Utilizes magnetic step-down transformer when 525mA drive current or multi-level options are selected
*** Projected L_{70} (10K) Hours: >60,000. For recommended lumen maintenance factor data see TD-13

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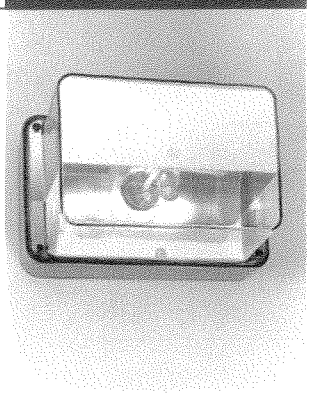
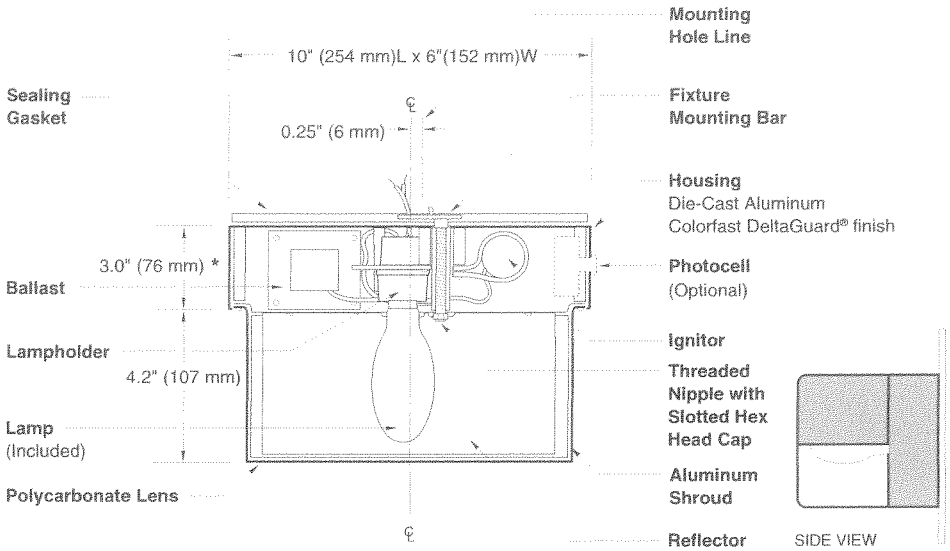
RECTANGULAR HID WALL MOUNT

PERIMETER CUTOFF

E3-H SERIES





NOTE:
* For 50–100W HPS 120V, this dimension is 2.3" (57 mm)

Notes

SPEC	MOUNTING POSITION	WATTAGE	CATALOG#
PULSE START METAL HALIDE			
SPEC #	Wall Downlight	50W PSMH	E3405-**(a)(b)**
SPEC #	Wall Downlight	70W PSMH	E3407-**(a)(b)**
HIGH PRESSURE SODIUM			
SPEC #	Any	50W HPS	E3505-**(a)(b)**
SPEC #	Wall Downlight	70W HPS	E3507-**(a)(b)**
SPEC #	Wall Downlight	100W HPS	E3510-**(a)(b)**

Specify **(a)** Voltage & **(b)** Options.

(a) VOLTAGE SUFFIX KEY	
D	120/277V (50W HPS)
M	120/208/240/277V (Standard: 50 – 70W PSMH) (50 – 100W HPS)
T	120/277/347V (Canada Only) (70W PSMH; 70 – 100W HPS)
1	120V (Standard: 50 – 100W HPS)
2	277V
3	208V
4	240V
6	347V (Canada Only) (50W HPS)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

(b) OPTIONS (factory-installed)	
BS	Bronze Color Shroud
GS	Gold Color Shroud (n/a on 100W HPS)
H	High Power Factor Ballast
J	Tamperproof Lens Fasteners
-(a)P	Photocell
R	Vertical Mounting*

Specify **(a)** Single Voltage — See Voltage Suffix Key
* Not available when both options **H** & **-(a)P** are specified.

GENERAL DESCRIPTION

Aluminum die-cast ballast housing features a thermal air isolation chamber separating the ballast core and coil from the other electrical components. Supplied with a neoprene sealing gasket for complete waterproofing at the mounting surface. A silicone rubber seal is furnished between housing and lens to ensure a water- and insect-tight seal. Steel fixture mounting bar and threaded nipple provided for direct mounting to recessed junction box. Clear polycarbonate lens is fastened to housing with phillips-head captive stainless-steel screws. Combination of internal polished aluminum shroud (inside painted white and outside painted silver on 100W HPS) and specular reflector directs light downward to wash wall below and to the sides of the fixture.

ELECTRICAL

Fixture includes clear, medium-base lamp and porcelain enclosed, 4kv-rated screw-shell-type lampholder with spring-loaded center contact. Lamp ignitor included where required. All ballast assemblies are normal power factor and use the following circuit types:

Reactor (120V only)
50 – 100W HPS

HX — High Reactance
50 – 70W PSMH; 50 – 100W HPS

LABELS

ANSI lamp wattage label supplied, visible during relamping. UL Listed in the US and Canada for wet locations and enclosure classified IP54 per IEC 529 and IEC 598.

FINISH

Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with medium bronze acrylic powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. The finish is covered by our seven-year limited warranty.

ACCESSORIES

ESB-7	Surface Mounting Box
TPS-1	Tamperproof Screwdriver

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Rev. 04/05/12

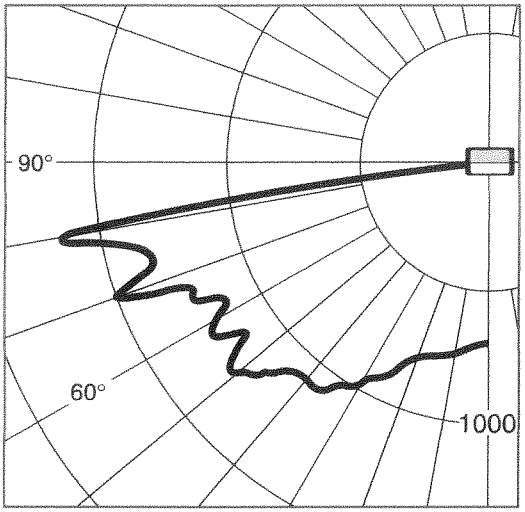
RUUD LIGHTING DIRECT

E3-H SERIES

RECTANGULAR HID WALL MOUNT

PERIMETER CUTOFF

B & D



Front View

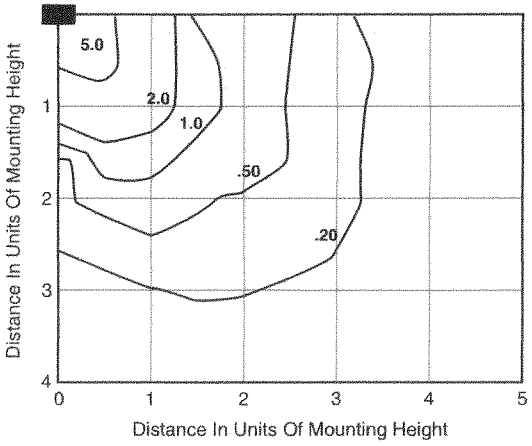
Lighting Sciences Inc.
Certified Test Report No. LSI 9910
Candlepower distribution curve of 70W HPS
Rectangular Perimeter Cutoff Fixture.

Isofootcandle plots show initial footcandles at grade. (Footcandles ÷ 0.0929 = Lux)

ANGLE	MEAN CP	ANGLE	MEAN CP
0	698	50	1263
5	714	55	1128
10	742	60	1229
15	770	65	1268
20	801	70	1525
25	899	75	1373
30	964	80	1668
35	1061	85	235
40	1094	90	39
45	1131		

Maximum Candlepower:	1668
Plane of Maximum CP:	55°
Vertical Angle of Maximum Candlepower:	80°
Lumen Rating:	6400

EFFICIENCY = 66.7%



Isofootcandle plot of 70W HPS Rectangular Perimeter Cutoff fixture at 10' (3 m) mounting height. (Plan view)

MOUNTING HEIGHT CONVERSION TABLE

Footcandle readings for mounting heights other than 10' (3 m) may be obtained by multiplying fc values by the following:

HEIGHT	MULTIPLIER
7.0' (2.1 m)	2.04
8.0' (2.4 m)	1.56
9.0' (2.7 m)	1.23
12.0' (3.7 m)	0.69
15.0' (4.6 m)	0.44
20.0' (6.1 m)	0.25

LAMP WATTAGE CONVERSION TABLE

Footcandle readings for wattages and lamp types other than 70W HPS may be obtained by multiplying fc values by the following:

LAMP/WATTAGE	MULTIPLIER
50W PSMH	0.48
70W PSMH	0.79
50W HPS	0.63
100W HPS	1.49

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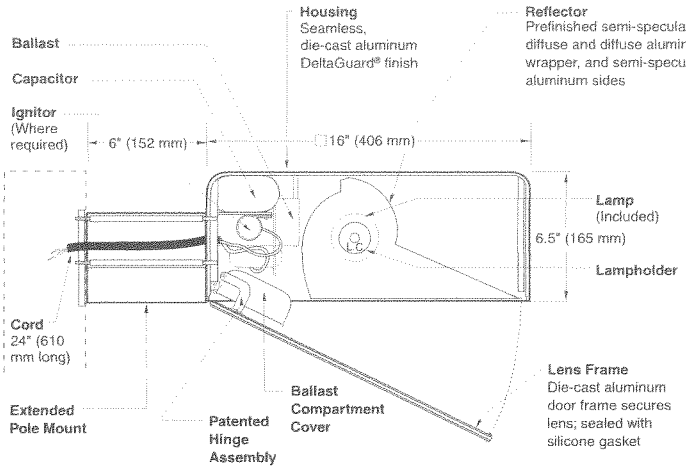
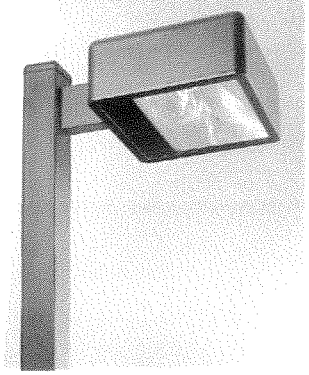
Rev. 04/05/12

6" EXTENDED POLE MOUNT

16" (406 mm) AREA CUTOFF LIGHT

AC2-16 SERIES





SPEC #	WATTAGE	CATALOG #
	PULSE START METAL HALIDE	
	150W PSMH	AC2615-**(a)(b)**
	200W PSMH	AC2620-**(a)(b)**
	250W PSMH	AC2625-**(a)(b)**
ⓘ	320W PSMH	AC2632-**(a)(b)**
ⓘ	350W PSMH	AC2635-**(a)(b)**
ⓘ	400W PSMH	AC2640-**(a)(b)**
	HIGH PRESSURE SODIUM	
	250W HPS	AC2525-**(a)(b)**
	400W HPS	AC2540-**(a)(b)**

Specify **(a)** Voltage & **(b)** Options.

ⓘ Reduced envelope ED28 lamp.

(a) VOLTAGE SUFFIX KEY	
M	120/208/240/277V (Standard)
T	120/277/347V (Canada Only) (Standard)
1	120V
2	277V
27	277V Reactor (PSMH Only)
3	208V
4	240V
5	480V
6	347V (Canada Only)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

(b) OPTIONS (factory-installed)	
-(a)F	Fusing
-(a)P	Button Photocell
-5P	External Photocell (for 480V)
Q	Quartz Standby (includes 100W quartz lamp) (N/A on 277V Reactor)

Specify **(a)** Single Voltage — See Voltage Suffix Key

GENERAL DESCRIPTION

60° forward throw sharp cutoff luminaire for HID lamp, totally enclosed. Housing is seamless, die-cast aluminum. Mounting consists of a 1.8" (44 mm) wide by 4.5" (114 mm) high by 6" (152 mm) long extruded aluminum arm. The arm is held in place with two 3/8" (9 mm) mounting rods fastened to a steel backing plate inside the pole, and by two nuts inside the fixture housing. Mounting rods are provided with sealing washers to prevent water leakage. Lens assembly consists of rigid aluminum frame and high-impact, clear-tempered glass.

ELECTRICAL

Fixture includes clear, mogul-base lamp; 320 – 400W PSMH utilize the ED28 reduced envelope lamp. Pulse-rated porcelain enclosed, 4kv-rated screw-shell-type lampholder with spring-loaded center contact and lamp grips. Lamp ignitor included. All ballast assemblies are high-power factor and use the following circuit type:

277V Reactor
150 – 400W PSMH

HX— High Reactance
150W PSMH

CWA — Constant Wattage Autotransformer
200 – 400W PSMH; 250 – 400W HPS

PATENTS

US 4,689,729; 4,709,312

FINISH

Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with medium bronze ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. The finish is covered by our seven-year limited warranty.

LABELS

ANSI lamp wattage label supplied, visible during relamping. UL Listed in US and Canada for wet locations and enclosure classified IP65 per IEC 529 and IEC 598.

ACCESSORIES

FWG-16	Wire Guard
SBL-16	Backlight Shield

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RUUD LIGHTING DIRECT

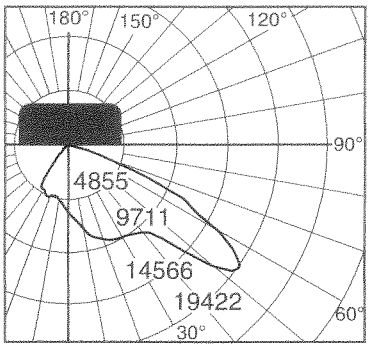
6" EXTENDED POLE MOUNT

16" (406 mm) AREA CUTOFF LIGHT

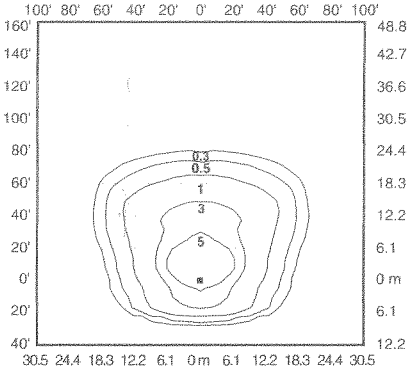
EPA RATING

EPA 0.95 for single fixture with 0° tilt (Consult factory for EPA rating on multiple units).

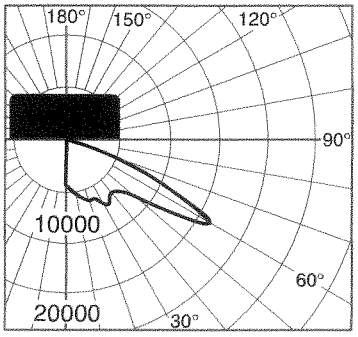
Isofootcandle plots show initial footcandles at grade. (Footcandles ÷ 0.0929 = Lux)



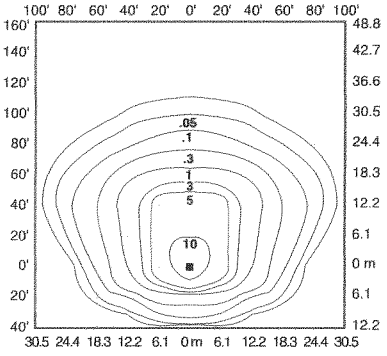
Candlepower distribution curve of 400W PSMH Area Cutoff Light without backlight shield.



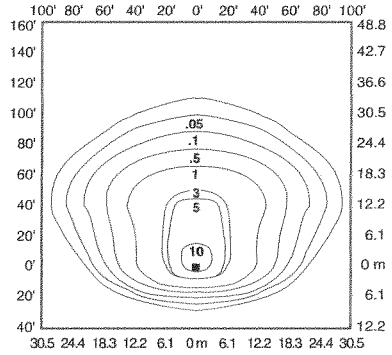
Isofootcandle plot of 400W PSMH Area Cutoff Light at 30' (9.1 m) mounting height, 0° vertical tilt, with backlight shield removed. (Plan view)



Lighting Sciences Inc.
Certified Test Report No. LSI 10246
Candlepower distribution curve of 250W HPS Area Cutoff Light without backlight shield.

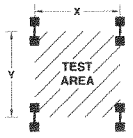


Isofootcandle plot of 400W HPS Area Cutoff Light at 25' (7.6 m) mounting height, 0° vertical tilt, with backlight shield removed. (Plan view)



Isofootcandle plot of 400W HPS Area Cutoff Light at 25' (7.6 m) mounting height, 0° vertical tilt, with backlight shield located for backlight cutoff. (Plan view)

Pole-spacing Example Data



Test area is centered within a (16) pole layout.

Average Initial Light Levels at Grade
2 Fixtures per pole @ 180°
(Footcandles ÷ 0.0929 = Lux)

Catalog #	Lamp Type	Lamp Lumens	Mounting Height	Max. Recommended Pole-spacing X x Y	Footcandles	Lux
AC2615-M	150W PSMH	12,000	15' (4.6 m)	60' (18.3 m) x 85' (25.9 m)	3.56	38
			20' (6.1 m)	75' (22.9 m) x 11' (33.5 m)	2.11	23
AC2625-M	250W PSMH	22,000	20' (6.1 m)	75' (22.9 m) x 110' (33.5 m)	3.86	42
			25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	2.31	25
AC2640-M	400W PSMH	40,000	25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	4.20	45
			30' (9.1 m)	115' (35.1 m) x 165' (50.3 m)	2.86	31
AC2525-M	250W HPS	28,500	20' (6.1 m)	75' (22.9 m) x 110' (33.5 m)	4.83	52
			25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	2.89	31
AC2540-M	400W HPS	50,000	25' (7.6 m)	95' (29.0 m) x 140' (42.7 m)	5.08	55
			30' (9.1 m)	115' (35.1 m) x 165' (50.3 m)	3.37	36

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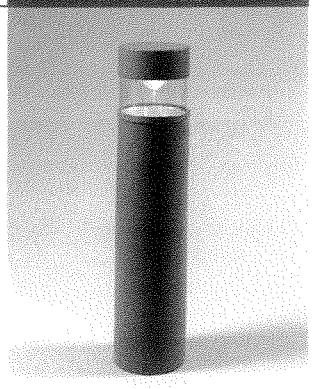
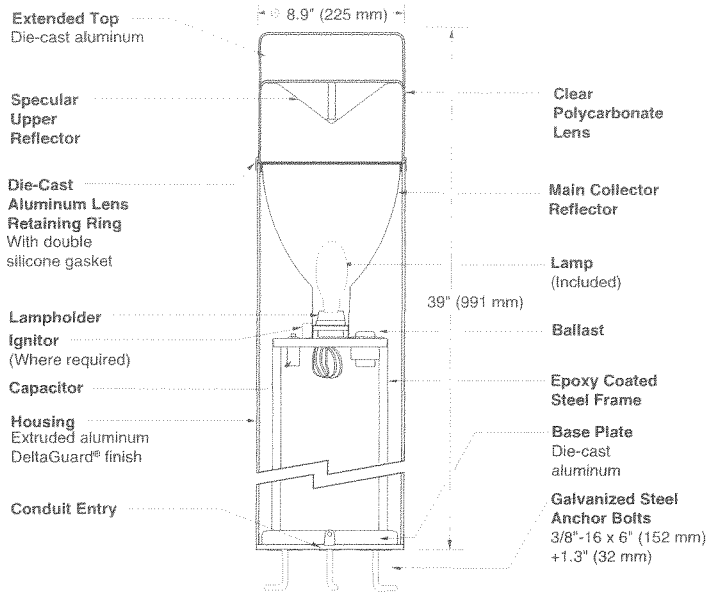
CLEAR LENS — EXTENDED FLAT TOP

ROUND BOLLARD

HCF SERIES





Notes

SPEC #	WATTAGE	CATALOG #
	PULSE START METAL HALIDE	
☐ SPEC #	50W PSMH	HCF405-**(a)(b)**
☐ SPEC #	70W PSMH	HCF407-**(a)(b)**
☐ SPEC #	100W PSMH	HCF410-**(a)(b)**
☐ SPEC #	**HIGH PRESSURE SODIUM**	
	50W HPS	HCF505-**(a)(b)**
☐ SPEC #	70W HPS	HCF507-**(a)(b)**
☐ SPEC #	100W HPS	HCF510-**(a)(b)**
	FLUORESCENT	
☐ SPEC #	26/32/42W CFL	HCF242-**(a)(b)**

Specify **(a)** Voltage & **(b)** Options.

(a) VOLTAGE SUFFIX KEY

D	120/277V (Standard: 50W HPS)
M	120/208/240/277V (Standard: PSMH; 70 – 100W HPS)
T	120/277/347V (Canada Only) (Standard: PSMH: 70 – 100W HPS)
1	120V
2	277V
3	208V
4	240V
6	347V (Canada Only; 50 HPS Only)
UL	120 – 277V Universal Voltage (Electronic Ballast)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

(b) OPTIONS (factory-installed)

A	180° Shielded Clear Lens
-(a)F	Fusing
J	Tamperproof Lens Fasteners
-(a)LP	CFL Photocell
-(a)P	HID Photocell

Specify **(a)** Single Voltage — See Voltage Suffix Key

GENERAL DESCRIPTION

Extruded aluminum housing supplied internally with a formed and channeled 16 gauge steel frame supports the electrical components and main reflector. Housing fastens to a die-cast aluminum base with four 1/4"-20 phillips flat head screws. Base is secured to concrete footing using provided masonite template and three 3/8"-16 x 6" (152 mm) galvanized steel anchor bolts with leveling nuts and washers. Suggested poured base: 2' (610 mm) deep x 12" (305 mm) dia., depending on soil types and frost line in your area. A 3" (76 mm) dia. conduit opening is provided in the base for ease of wiring. Injection molded clear polycarbonate lens with specular collecting reflector attaches to the top of the housing with an over-lapping die-cast aluminum retaining ring, held by two stainless-steel allen flat head fasteners. Two silicone lens seals prevent moisture from entering the lens, while a double lip silicone seal at the top of the reflector and sealed lampholder prevent insects, dirt and moisture from entering the optical chamber.

ELECTRICAL

Fluorescent bollard includes a triple tube compact fluorescent lamp. HID bollards include a clear, medium-base lamp and porcelain enclosed, 4kv-rated screw-shell-type lampholder with spring-loaded center contact. Lamp ignitor included where required. All ballast assemblies are high-power factor and use the following circuit types:

Electronic
26/32/42W CFL

HX — High Reactance
50 – 100W PSMH; 50 – 100W HPS

PATENT

US PAT RE40,934

LABELS

ANSI lamp wattage label supplied, visible during relamping. UL Listed in the US and Canada for wet locations and enclosure classified IP65 per IEC 529 and IEC 598.

FINISH

Exclusive Colorfast DeltaGuard® finish features an E-coat epoxy primer with medium bronze acrylic powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. The finish is covered by our seven-year limited warranty.

ACCESSORIES

HCL	Louver
TPS-1	Tamperproof Screwdriver

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Rev. 05/02/12

RUUD LIGHTING DIRECT

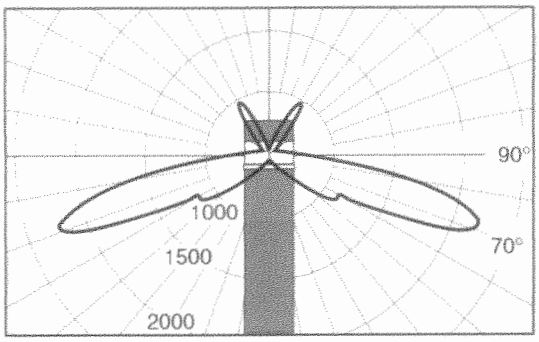
E

HCF SERIES

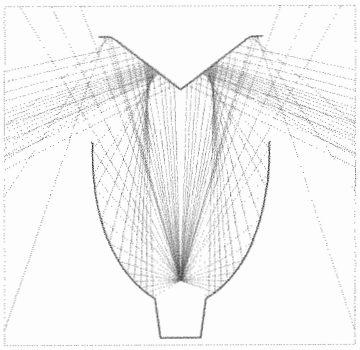
CLEAR LENS — EXTENDED FLAT TOP

ROUND BOLLARD

(Footcandles ÷ 0.0929 = Lux)

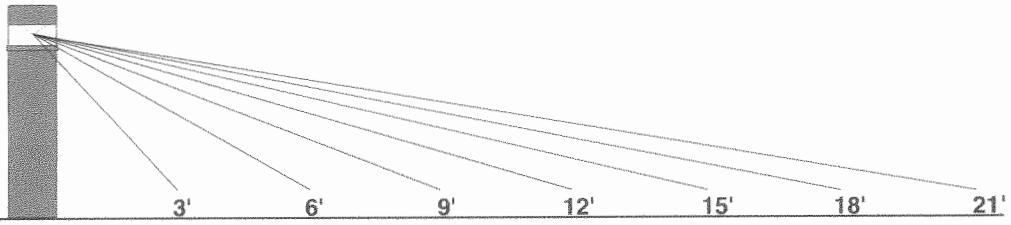


Lighting Sciences Inc.
Certified Test Report No. LSI 9728R
Candlepower distribution curve of 100W MH
Round Bollard with clear lens.



Ray Trace showing light distribution of patented reflector system.

Use this chart to determine initial Footcandle levels at grade for the HCF Series Round Bollard with clear, extended flat top lens.



Lamp	Lumens						
50W PSMH	3400	1.79	4.38	2.33	0.90	0.36	0.17	0.09
70W PSMH	5600	2.95	7.22	3.85	1.47	0.59	0.28	0.15
100W PSMH	9000	4.74	11.60	6.18	2.37	0.95	0.45	0.24
50W HPS	4000	2.38	3.50	1.67	0.73	0.31	0.15	0.08
70W HPS	6400	3.81	5.60	2.67	1.17	0.50	0.24	0.13
100W HPS	9500	5.66	8.31	3.97	1.73	0.74	0.36	0.19
26W CFL	1710	1.42	0.84	0.34	0.16	0.08	0.04	0.03
32W CFL	2200	1.84	1.09	0.44	0.21	0.10	0.05	0.04
42W CFL	3200	2.67	1.58	0.64	0.30	0.15	0.08	0.06

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SECURITY FIXTURE ACCESSORIES

SPEC #	CATALOG #	DESCRIPTION
SPEC #	ESB-7	Surface Mounting Box
SPEC #	ESB-7(a)P	Surface Mounting Box with Photocell
SPEC #	WM-GW	Uneven Surface Mounting Plate
SPEC #	PAS-7	Pole Mounting Bracket
SPEC #	HCL	Louver
SPEC #	TPS-1	Tamperproof Screwdriver

Specify **(a)** Single Voltage. See Voltage Suffix Key.

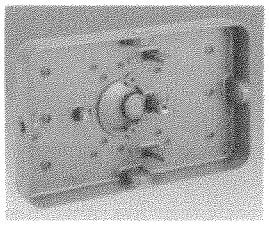
(a) VOLTAGE SUFFIX KEY	
1	120V
2	277V
3	208V
4	240V
5	480V
6	347V (Canada only)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

Notes

ESB-7 SURFACE MOUNTING BOX

Die-cast aluminum box measuring 10" x 6" (254 mm x 152 mm) for use where surface wiring is required. DeltaGuard® finish supplied with medium-bronze, ultra-durable powder topcoat. Provided with five threaded and closed 1/2" conduit entries.



Depth Dimension:
1.25" (32 mm)

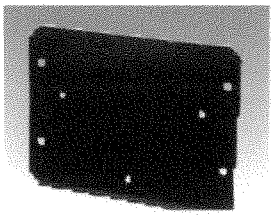
Use with E Series

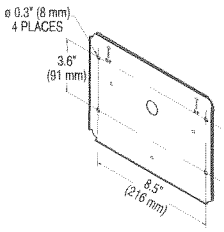
ESB-7(a)P SURFACE MOUNTING BOX WITH BUTTON PHOTOCELL

Uses the same surface box as the ESB-7, with the addition of a bi-metallic type photocell, automatically turning fixture on at dusk, off at dawn. Specify **(a)** voltage.

WM-GW UNEVEN SURFACE MOUNTING PLATE

Used to prevent water entry into the fixture through the back box due to uneven gasket sealing. Also, IP65 rated installation can be achieved when installed to any wall surface. Note: An uneven surface is any irregular surface including but not limited to: brick, stucco, corrugated (ribbed) metal, and architectural soffits less than 7" wide.



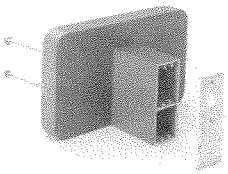


Use with MGWC, GWC, MGWP and GWP fixtures

PAS-7 POLE MOUNT BRACKET

For mounting any E Series Security Light to the side of a square pole. Consists of a die-cast aluminum wiring compartment, an extruded aluminum support arm, and a steel backing plate with wiring hole, which holds the arm securely to the pole. Hardware includes two 5/16" mounting rods with nuts and sealing washers. DeltaGuard finish supplied with medium-bronze, ultra-durable powder topcoat.

Box Dimensions:



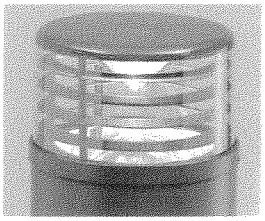
L = 10" (254 mm)
W = 6" (152 mm)
D = 1.3" (32 mm)

Arm Dimensions:
L = 3.6" (92 mm)
W = 2.5" (64 mm)
D = 1.8" (44 mm)

Use with E Series

HCL LOUVER

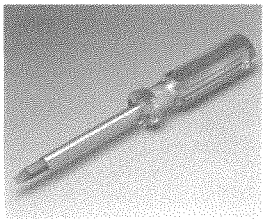
Louver for use on bollards with clear lens. Aesthetically appealing louver eliminates uplight and glare. The aluminum louver rests on the reflector inside the bollard lens. DeltaGuard finish supplied with black, ultra-durable powder topcoat. Shipped as a one-piece unit, consisting of five individual louvers with 40-degree tilt, held by three vertical posts spaced at 120 degrees.



Use with HC, HCD, HCF Series

TPS-1 TAMPERPROOF SCREWDRIVER

Spanner-head screwdriver, for #8 screw. Works together with Tamperproof Lens Fasteners option available on all Security fixtures.



Use with Security fixtures

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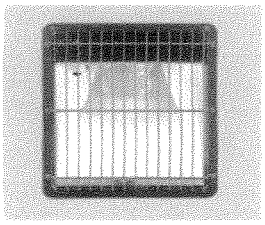
SECURITY FIXTURE ACCESSORIES

SPEC #	CATALOG #	DESCRIPTION
	FWG-(b)	Wire Guard
	FWG-MW	Wire Guard for MGWPO-12
	FWG-W	Wire Guard for GWPO-16
	LS-(b)	Polycarbonate Vandal Shield
	SB-16	Surface Box
	WWS-(b)	Wall Wash/Glare Shield

FWG-(b) WIRE GUARD

Steel wire guard used for protection in high vandalism areas. Attaches easily to lens frame with #8-32 phillips-head, black stainless steel screws. DeltaGuard® finish supplied with black, ultra-durable powder topcoat. 1" (25 mm) space between wires.

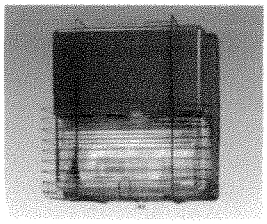


Depth Dimension:
1" (25 mm)

Use with WO Series

FWG-MW WIRE GUARD (for MGWPO-12")
FWG-W WIRE GUARD (for GWPO-16")

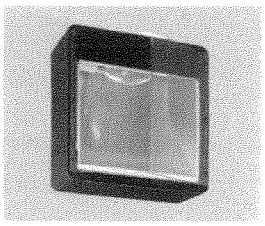
Steel wire provides protection to optical system. Attaches easily around lens frame with supplied #8 stainless steel screws. A black acrylic E-coat finish is standard.



Use with MGWPO and GWPO Series

LS-(b) POLYCARBONATE VANDAL SHIELD

Made from 0.118" (3 mm) thick polycarbonate. Used in high vandalism areas to deter objects that may break fixture lens. Open end design allows self cleaning as well as ventilation for cooling both lens and fixture. Attaches easily to floodlight lens frame with #8-32 phillips-head, black stainless steel screws. Not recommended for use with fixtures mounted in an uplight position.

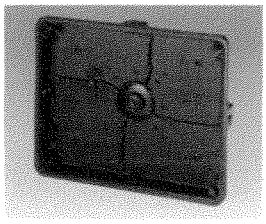


Depth Dimensions:
12" (305 mm) housing = 2" (51 mm)
16" (406 mm) housing = 2.5" (64 mm)

Use with WO Series

SB-16 SURFACE BOX

Die-cast aluminum, for use where surface wiring is required. Universal size will accommodate 12" (305 mm), 16" (406 mm) and 22" (559 mm) housings. Provides five threaded and closed 1/2" conduit entries. Also allows 300 – 400W 16" (406 mm) & 22" (559 mm) fixtures as well as 150W HPS & 175W MH 12" (305 mm) fixtures to be mounted to a combustible surface. Four #8-32 threaded studs and hex nuts included for ease of installation. DeltaGuard finish supplied with black, ultra-durable powder topcoat.

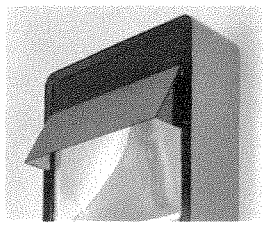


Depth Dimension:
1.3" (32 mm)

Use with WO Series Direct Mount

WWS-(b) WALL WASH/GLARE SHIELD

Fabricated of 0.040" (1 mm) thick diffuse aluminum, finished with thermoset black powder paint. Used to redirect light downward to wash wall below and to the sides of the fixture. Also serves as a brightness deterrent when fixture is mounted at eye level. Attaches easily with #8-32 phillips-head, black stainless steel screws.



Depth Dimensions:
12" (305 mm) housing = 2.1" (53 mm)
16" (406 mm) housing = 2.8" (70 mm)

Use with WO Series

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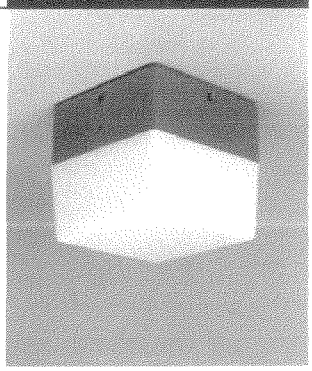
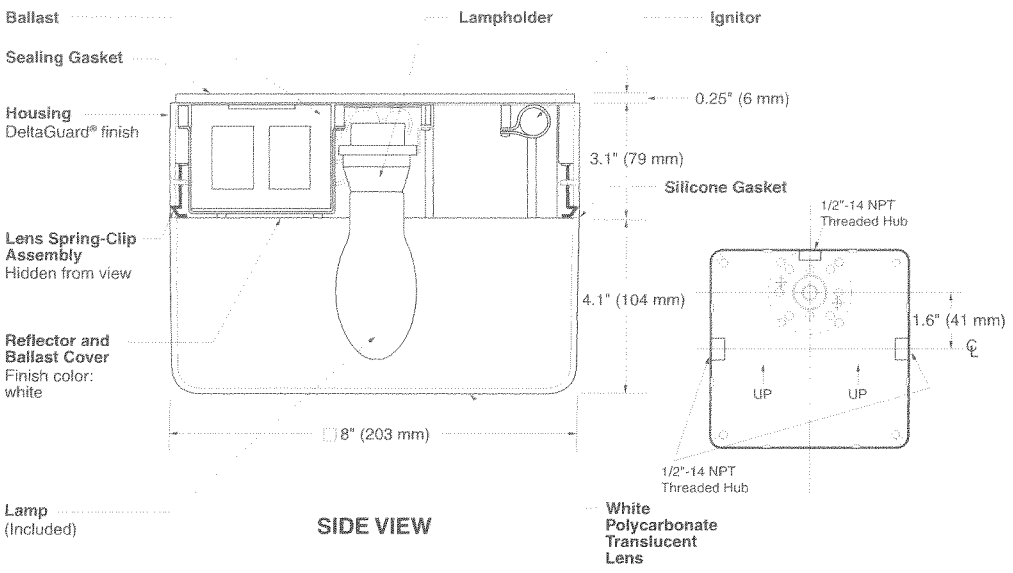
SQUARE CEILING/SOFFIT/WALL MOUNT

8" (203 mm) TRANSLUCENT LENS

SE1-8 SERIES





Notes

SPEC	MOUNTING POSITION	WATTAGE	CATALOG #
		PULSE START METAL HALIDE	
☐	SPEC # Ceiling/Soffit/Wall	50W PSMH	SE1405-**(a)(b)**
☐	SPEC # Ceiling/Soffit/Wall	70W PSMH	SE1407-**(a)(b)**
		HIGH PRESSURE SODIUM	
☐	SPEC # Any	50W HPS	SE1505-**(a)(b)**
☐	SPEC # Ceiling/Soffit/Wall	70W HPS	SE1507-**(a)(b)**

Specify **(a)** Voltage & **(b)** Options.

(a) VOLTAGE SUFFIX KEY

D	120/277V (50W HPS)
M	120/208/240/277V (Standard: 50 – 70W PSMH) (50 – 100W HPS)
T	120/277/347V (Canada Only) (70W PSMH; 70W HPS)
1	120V (Standard: 50 – 70W HPS)
2	277V
3	208V
4	240V
6	347V (Canada Only) (50 – 70W PSMH; 50W HPS)

For voltage availability outside the US and Canada, see Bulletin TD-9 or contact your Ruud Lighting authorized International Distributor.

(b) OPTIONS (factory-installed)

-(a)F	Fusing*
H	High Power Factor Ballast (N/A for 50W PSMH or 50 – 70W HPS with 347V)
J	Tamperproof Lens Fasteners
-(a)P	Photocell
Q	Quartz Standby* (includes 100W quartz lamp)

Specify **(a)** Single Voltage — See Voltage Suffix Key
*Quartz & fuse options are not available together.

GENERAL DESCRIPTION

Aluminum die-cast housing supplied. Knockouts are provided on the back of the housing for 1/2" (13 mm) conduit entry or for mounting over a single gang box, 4" (102 mm) square or 4" (102 mm) octagon boxes. NOTE: Knockouts are centered 1.6" (41 mm) above centerline of fixture. Two #8 x 1" (25 mm) threaded studs and nuts are provided for mounting over a junction box. Housing also includes 1/2" (13 mm)-14 NPT threaded hubs on three sides for conduit entry. Closed cell neoprene sponge gasketing on the back of the housing provides a watertight mounting seal. Silicone sponge cord gasket between housing and lens ensures a water- and insect-tight seal. Injection molded white polycarbonate lens is held in place using a hidden spring clip assembly. Lens diffuses glare and provides uniform light levels in all directions.

ELECTRICAL

Fixtures include a clear, medium-base lamp and porcelain enclosed, 4kv-rated screw-shell-type lampholder with spring-loaded center contact. Lamp ignitor included where required. All ballast assemblies are normal power factor and use the following circuit types:

Reactor (120V only)
50 – 70W HPS

HX — High Reactance
50 – 70W PSMH; 50 – 70W HPS

LABELS

ANSI lamp wattage label supplied, visible during relamping. UL Listed in the US and Canada for wet locations and enclosure classified IP54 per IEC 529 and IEC 598.

FINISH

Housing is standard with our exclusive Colorfast DeltaGuard® finish, featuring an E-coat epoxy primer with bronze ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. The finish is covered by our seven-year limited warranty.

ACCESSORIES

TPS-1	Tamperproof Screwdriver

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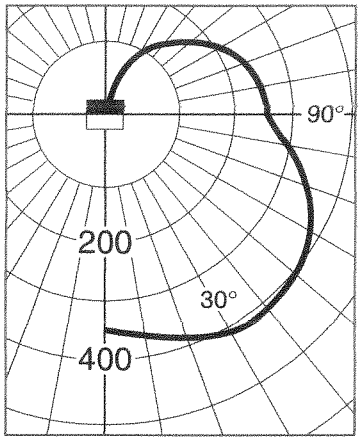
RUUD LIGHTING® DIRECT

SE1-8 SERIES

SQUARE CEILING/SOFFIT/WALL MOUNT

8" (203 mm) TRANSLUCENT LENS



Front View

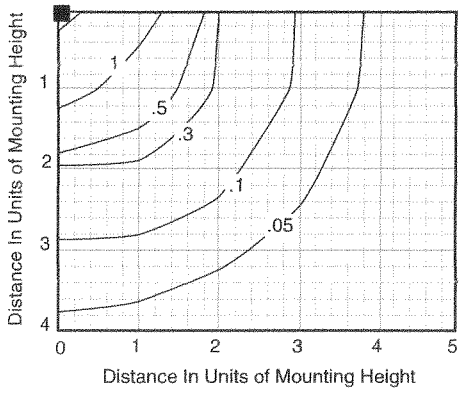
Lighting Sciences Inc.
Certified Test Report No. LSI 11602
Candlepower distribution curve of 50W HPS Square Translucent Lens Fixture.

Isofootcandle plots show initial footcandles at grade. (Footcandles ÷ 0.0929 = Lux)

ANGLE	MEAN CP	ANGLE	MEAN CP
0	354	90	262
5	359	95	256
15	380	105	238
25	401	115	219
35	413	125	190
45	410	135	154
55	392	145	111
65	359	155	65
75	315	165	24
85	272	175	1
		180	0

Maximum Candlepower:	413
Plane of Maximum CP:	45.0°
Vertical Angle of Maximum Candlepower:	35.0°
Lumen Rating:	4000

EFFICIENCY = 79.3%



Isofootcandle plot of 50W HPS Square Translucent Lens fixture at 10' (3 m) mounting height. (Plan view)

MOUNTING HEIGHT CONVERSION TABLE

Footcandle readings for mounting heights other than 10' (3 m) may be obtained by multiplying fc values by the following:

HEIGHT	FACTOR
7.0' (2.1 m)	2.04
8.0' (2.4 m)	1.56
9.0' (2.7 m)	1.23
12.0' (3.7 m)	0.69
15.0' (4.6 m)	0.44
20.0' (6.1 m)	0.25

LAMP WATTAGE CONVERSION TABLE

Footcandle readings for wattages and lamp types other than 50W HPS may be obtained by multiplying fc values by the following:

LAMP/WATTAGE	MULTIPLIER
50W PSMH	0.85
70W PSMH	1.40
70W HPS	1.60

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Rev. 05/02/12

SHADY HOLLOW VILLAGE

PROJECT TEAM

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WILLAMETTE COMMONS LLC
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ARCHITECT
STEWART GORDON STRAUS ARCHITECT PC
CONTACT: STEWART STRAUS
503-672-7517

CIVIL ENGINEER
WDY INC
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503-203-8111

STRUCTURAL ENGINEER
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503-997-4555

GENERAL CONTRACTOR
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GEOTECHNICAL ENGINEER
ALDER GEOTECHNICAL
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SCHOTT & ASSOCIATES
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503-678-6007

DRAWING INDEX

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REGISTERED ARCHITECT
STEWART GORDON STRAUS
PORTLAND, OREGON
1602
STATE OF OREGON

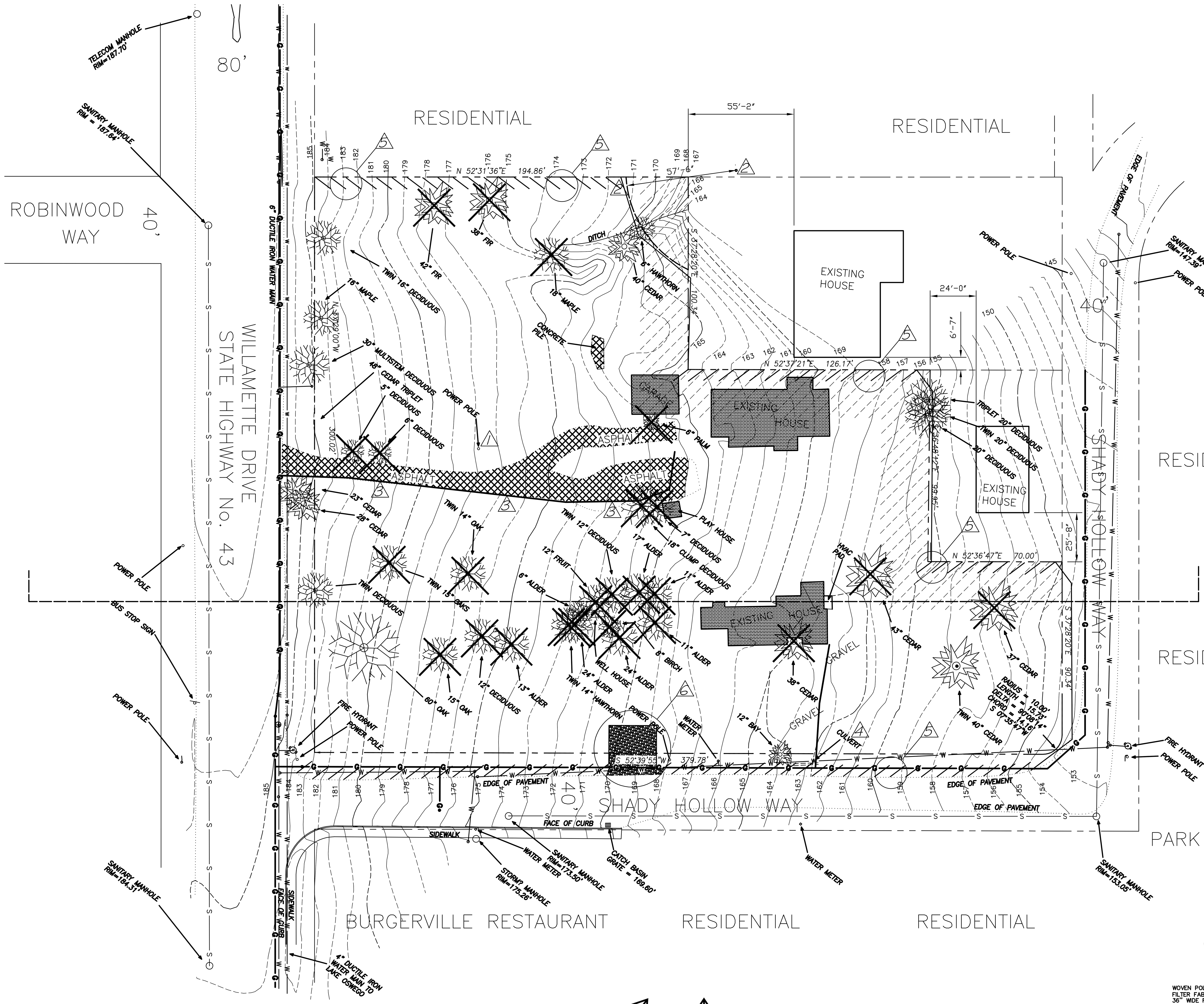
SHADY HOLLOW VILLAGE
SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER: 1335

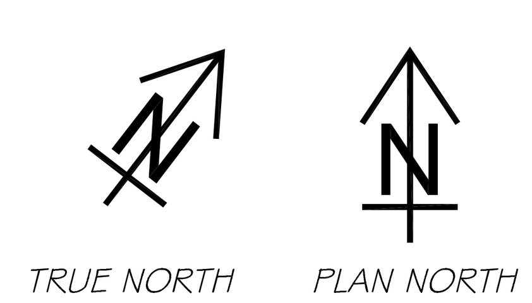
DRAWING	DATE	BY
DESIGN		
	20 NOV 2013	SGS
NBRHD MTG		
	11 FEB 2014	SGS
DES REV		
	12 MAR 2014	SGS
PERMIT		

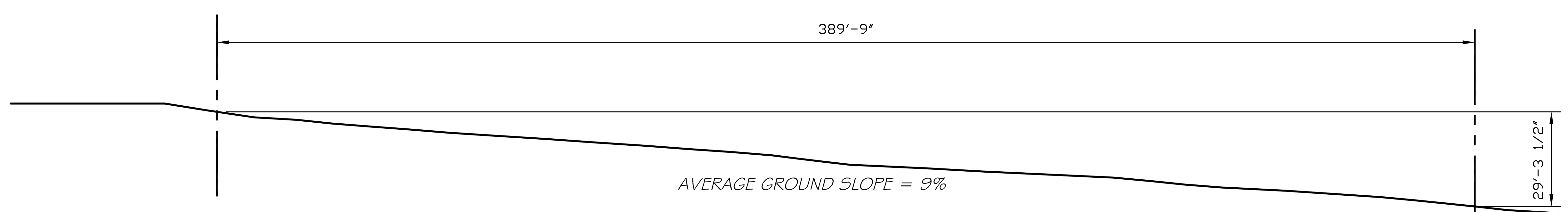
SHEET TITLE
COVER DIRECTORY

SHEET #
DR0



1/DRS1 EXISTING SITE CONDITIONS PLAN
1" = 30'-0"





2/DRS1 EXISTING SITE CONDITIONS SECTION
1" = 30'-0"

REMOVE EXISTING STRUCTURE

REMOVE EXISTING TREE

REMOVE EXISTING ASPHALT PAVING

EXISTING PROPERTY BOUNDARY

REQUIRED BUFFER

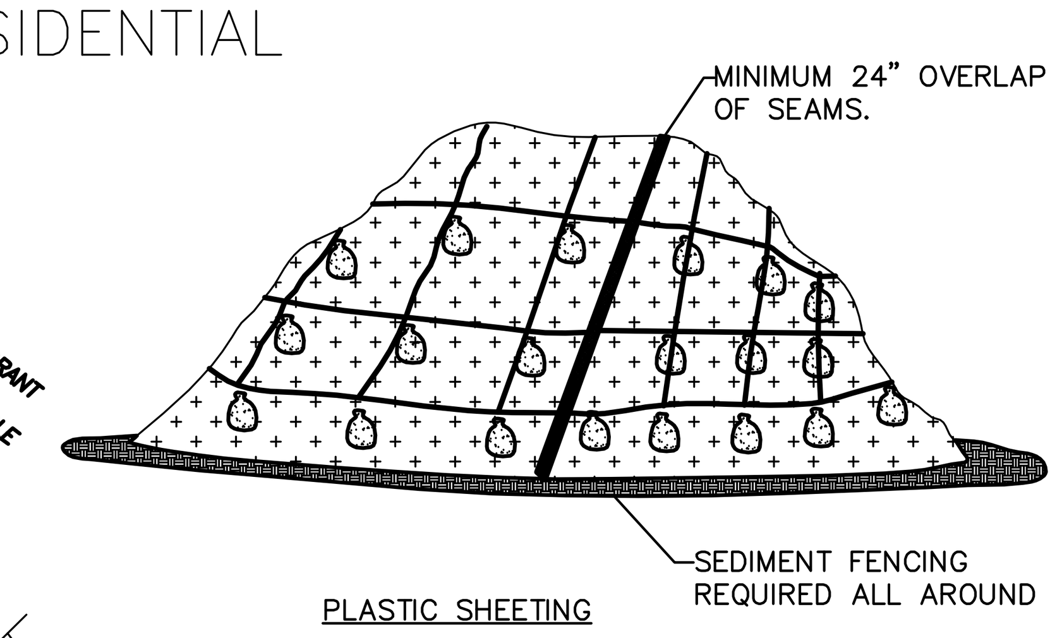
EXISTING BOUNDARY ADJOINING PROPERTY

EXISTING WATER LINE

EXISTING GAS LINE

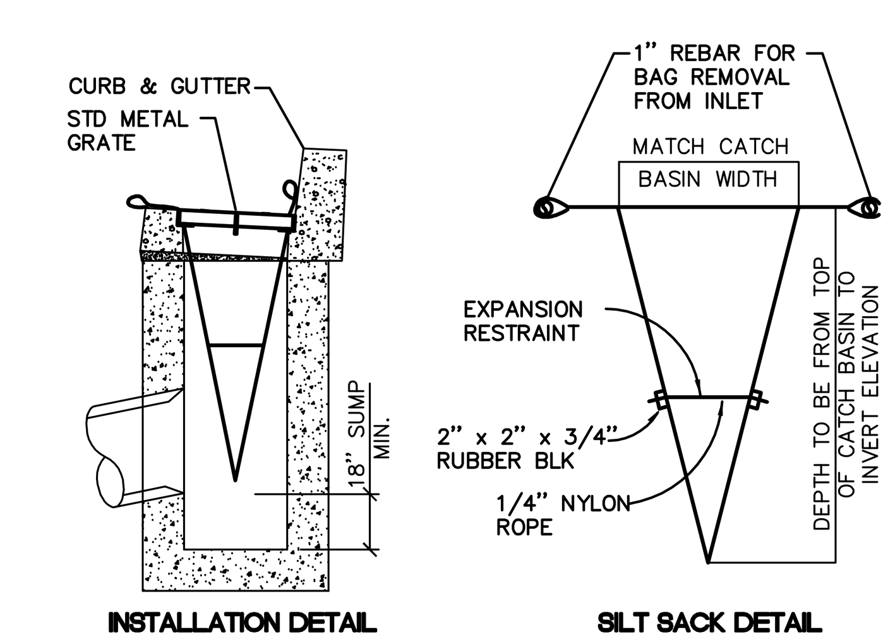
EXISTING SANITARY SEWER LINE

1. REMOVE EXISTING POWER POLE & WIRING
2. EXISTING STORM OUTFALL & WATER RESOURCE AREA BOUNDARY
3. REMOVE EXISTING GAS LINE
4. REMOVE EXISTING CULVERT
5. SILT FENCING EROSION CONTROL
6. GRAVEL CONSTRUCTION ENTRANCE



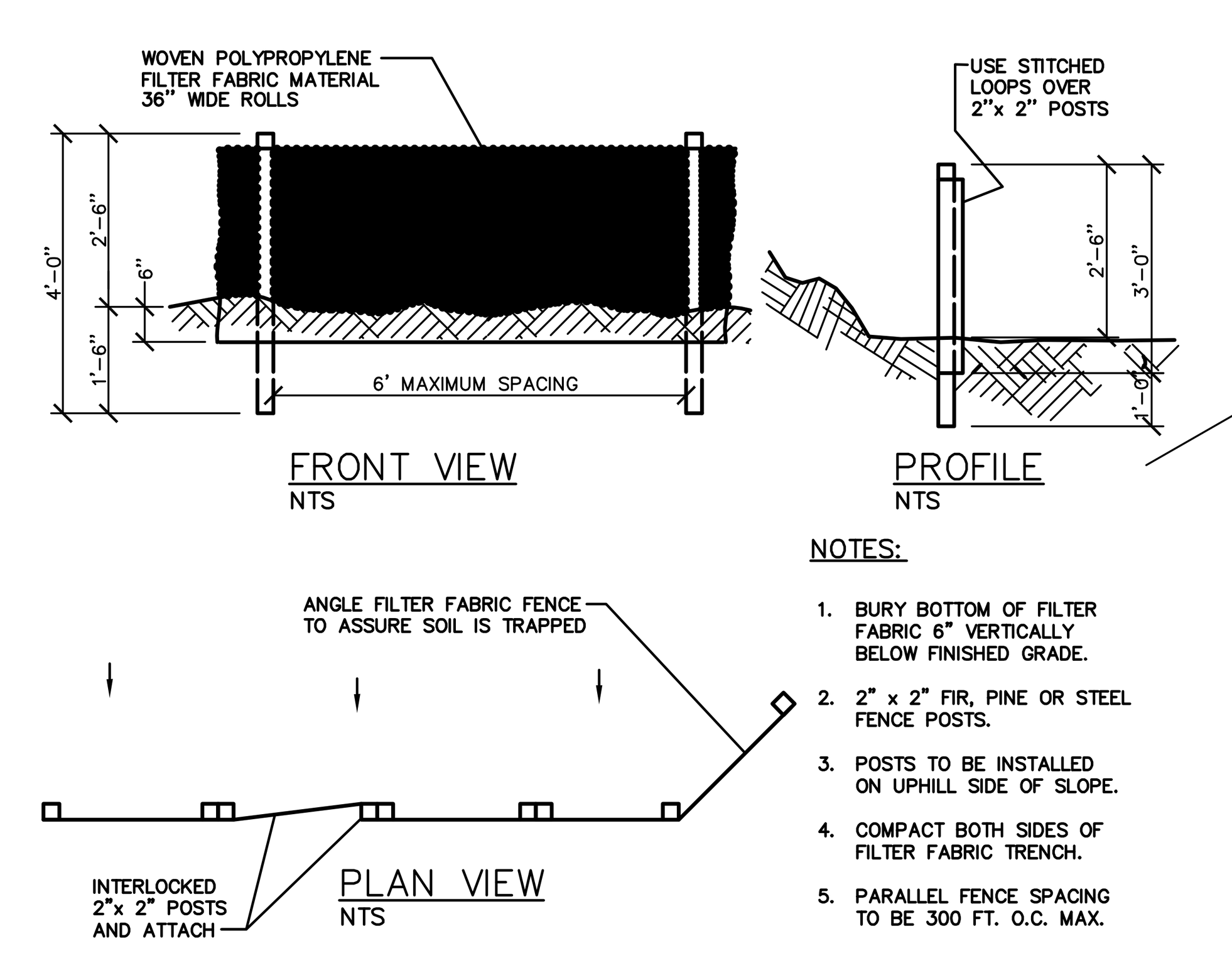
NOTES:
1. MINIMUM 24" OVERLAP OF ALL SEAMS REQUIRED.
2. SEDIMENT FENCING REQUIRED AT TOE OF STOCK PILE.
3. COVERING TO BE MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.

3/DRS1 SOIL STOCKPILE
NOT TO SCALE



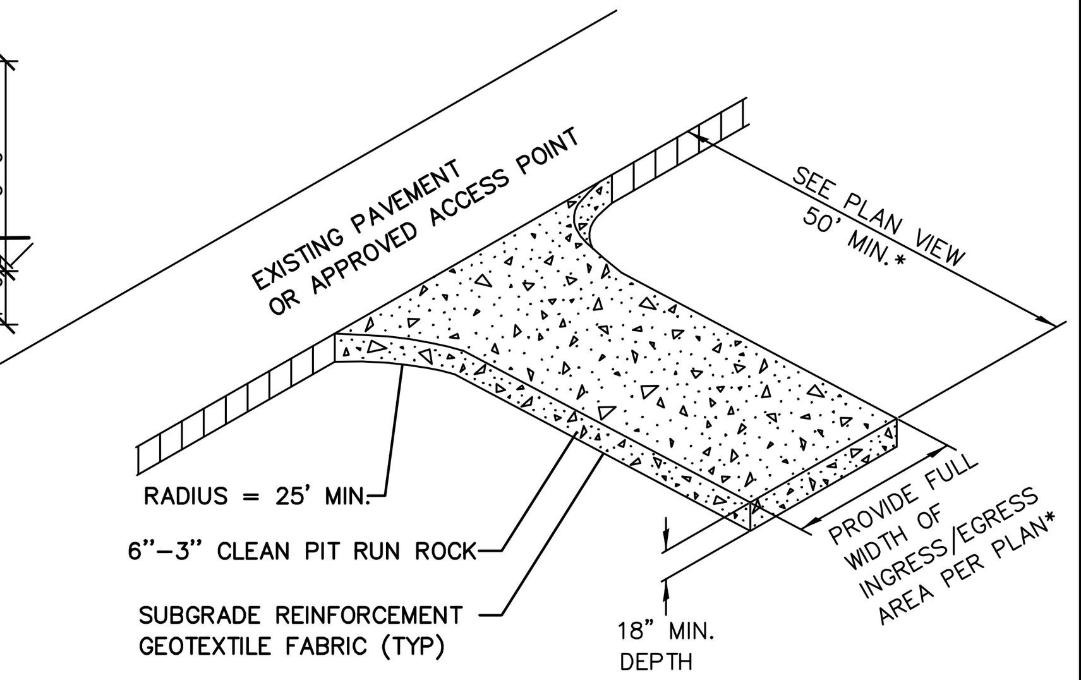
GENERAL NOTES:
1. EMPTY SILT SACK AS NECESSARY.
2. VERIFY LOCATIONS AT ALL EXISTING DRAIN INLETS

4/DRS1 DRAIN FILTER
NOT TO SCALE



NOTES:
1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2" x 2" FIR, PINE OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. PARALLEL FENCE SPACING TO BE 300 FT. O.C. MAX.

5/DRS1 SILT FENCE
NOT TO SCALE



*20' MIN. FOR SINGLE FAMILY AND DUPLEX RESIDENTIAL
*SEE EROSION CONTROL PLAN FOR MIN. EXTENT OF CONSTRUCTION PAD

6/DRS1 GRAVEL CONSTRUCTION ENTRY
NOT TO SCALE

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REGISTERED ARCHITECT
STEWART GORDON STRAUS
PORTLAND, OREGON
1602
STATE OF OREGON

SHADY HOLLOW VILLAGE

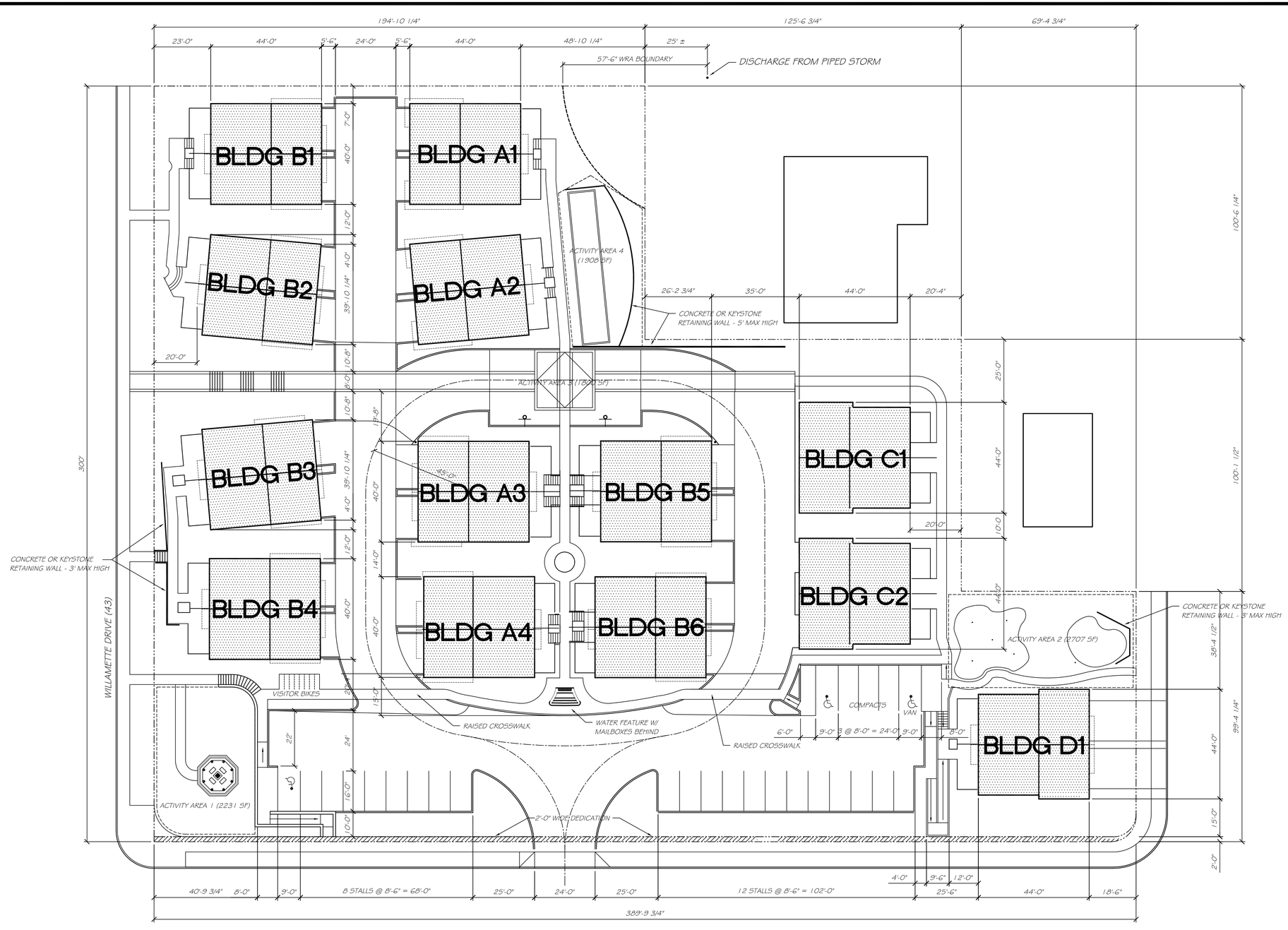
SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER: 1335

DRAWING	DATE	BY
DESIGN	20 NOV 2013	SGS
NBRHD MTG	11 FEB 2014	SGS
DES REV	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
EXISTING SITE ANALYSIS

SHEET #
DRS1



1 / AX1 SITE PLAN
1" = 20'-0"

TRUE NORTH

SITE AREA ANALYSIS

EXISTING SITE AREA	90375 SF	
LESS DEDICATION ALONG SHADY HOLLOW WAY	780 SF	
DEVELOPMENT SITE AREA	89595 SF	
BUILDING AREA	22880 SF	25.5%
PAVING AREA (ASPHALT, CONCRETE, ACTIVITY)	31805 SF	35.5%
LANDSCAPING AREA	34910 SF	39.0%

ACTIVITY AREAS (INCLUDE PAVING & LANDSCAPING)

AREA 1: CHESS/CHECKERS IN GAZEBO	2231 SF	
AREA 2: PUTTING/CHIPPING GREENS	2707 SF	
AREA 3: TWO BASKETBALL HOOPS	1800 SF	
AREA 4: BOCCE COURT	1908 SF	
TOTAL	8646 SF	332 SF PER DWELLING

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STATE OF OREGON

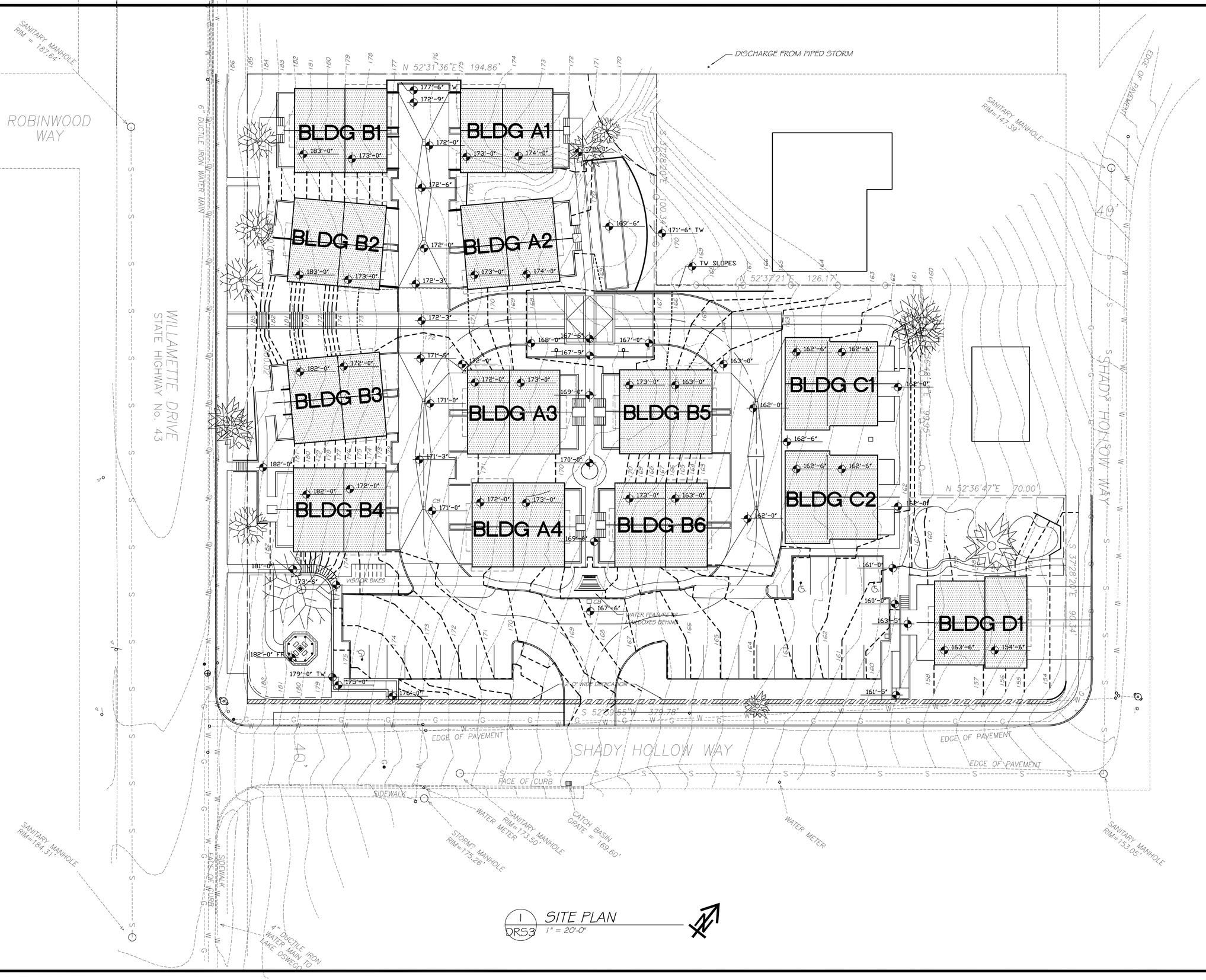
SHADY HOLLOW VILLAGE

SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER:	1335	
DRAWING	DATE	BY
DESIGN		
	20 NOV 2013	SGS
NBRHD MTG		
	11 FEB 2014	SGS
DES REV		
	12 MAR 2014	SGS
		SGS
PERMIT		

SHEET TITLE
PROPOSED SITE PLAN / ANALYSIS

SHEET #
DRS2



1 DRS3 SITE PLAN
1" = 20'-0"

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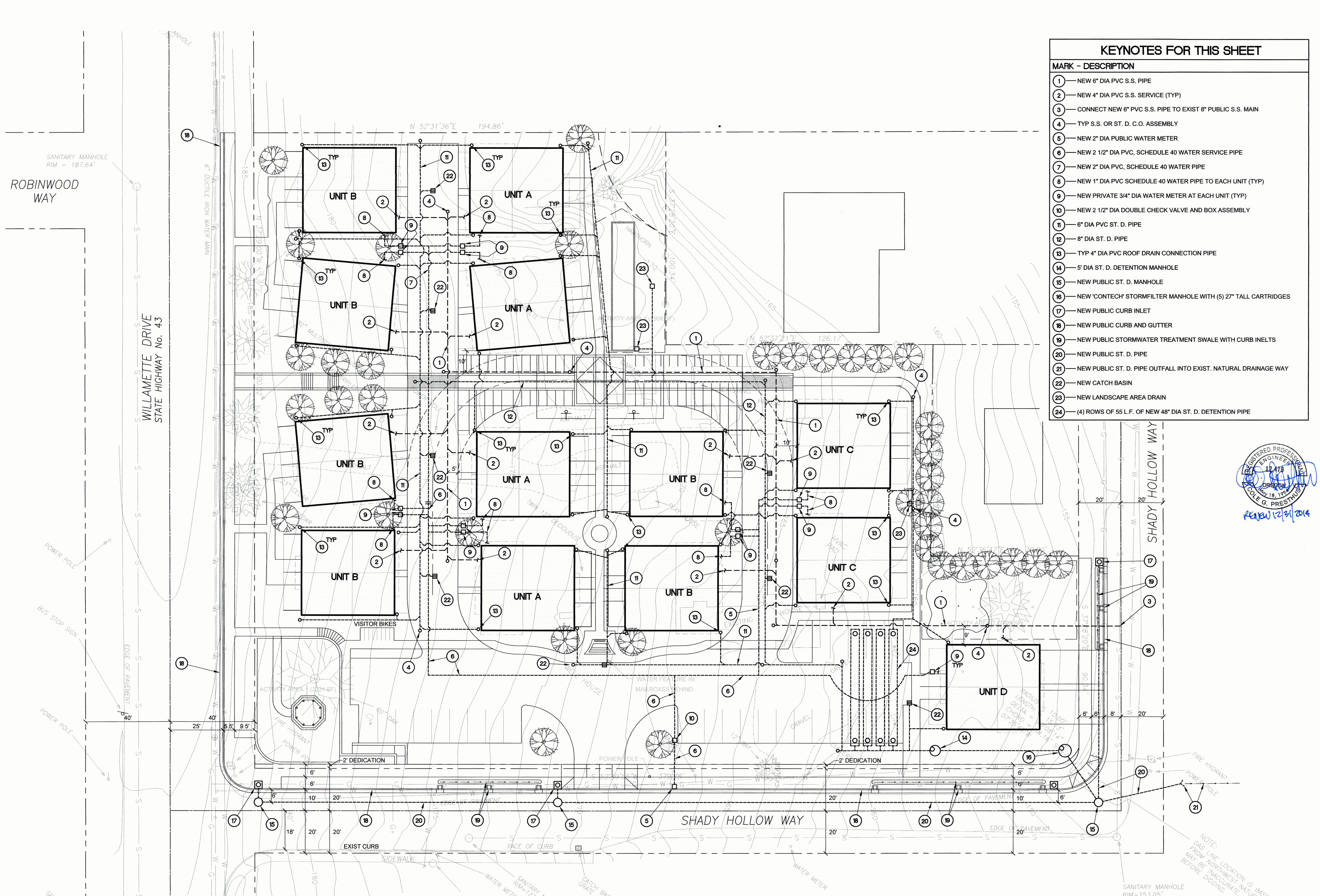
SHADY HOLLOW VILLAGE

SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER:	1335	
DRAWING	DATE	BY
DESIGN	20 NOV 2013	SGS
NBRHD MTG	11 FEB 2014	SGS
DES REV	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
PROPOSED GRADING PLAN

SHEET #
DRS3



KEYNOTES FOR THIS SHEET

MARK - DESCRIPTION
(1) NEW 6" DIA PVC S.S. PIPE
(2) NEW 4" DIA PVC S.S. SERVICE (TYP)
(3) CONNECT NEW 6" PVC S.S. PIPE TO EXIST 8" PUBLIC S.S. MAIN
(4) TYP S.S. OR ST. D. C.O. ASSEMBLY
(5) NEW 2" DIA PUBLIC WATER METER
(6) NEW 2 1/2" DIA PVC, SCHEDULE 40 WATER SERVICE PIPE
(7) NEW 2" DIA PVC, SCHEDULE 40 WATER PIPE
(8) NEW 1" DIA PVC SCHEDULE 40 WATER PIPE TO EACH UNIT (TYP)
(9) NEW PRIVATE 3/4" DIA WATER METER AT EACH UNIT (TYP)
(10) NEW 2 1/2" DIA DOUBLE CHECK VALVE AND BOX ASSEMBLY
(11) 6" DIA PVC ST. D. PIPE
(12) 8" DIA ST. D. PIPE
(13) TYP 4" DIA PVC ROOF DRAIN CONNECTION PIPE
(14) 5' DIA ST. D. DETENTION MANHOLE
(15) NEW PUBLIC ST. D. MANHOLE
(16) NEW 'CONTECH' STORMFILTER MANHOLE WITH (5) 27" TALL CARTRIDGES
(17) NEW PUBLIC CURB INLET
(18) NEW PUBLIC CURB AND GUTTER
(19) NEW PUBLIC STORMWATER TREATMENT SWALE WITH CURB INELTS
(20) NEW PUBLIC ST. D. PIPE
(21) NEW PUBLIC ST. D. PIPE OUTFALL INTO EXIST. NATURAL DRAINAGE WAY
(22) NEW CATCH BASIN
(23) NEW LANDSCAPE AREA DRAIN
(24) (4) ROWS OF 55 L.F. OF NEW 48" DIA ST. D. DETENTION PIPE

1 DRS4 **PRELIMINARY ONSITE UTILIITY PLAN**
SCALE: 1"=20'-0"

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REGISTERED PROFESSIONAL ENGINEER
12,479
OREGON
May 18, 1984
COLE G. PRESTHUS
RENEW 12/31/2014

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PRELIMINARY
NOT FOR
CONSTRUCTION
03/12/14

SHADY HOLLOW VILLAGE
SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER: 1335

DRAWING	DATE	BY
DESIGN	20 NOV 2013	SGS
NBRHD MTG	11 FEB 2014	SGS
DES REV	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
ON SITE
UTILITY PLAN

SHEET #
DRS4

P:\2014\14029_5 Shady Hollow Apts\Cad\Plot\C2.0 Utility Plan\C20-14029.dwg, 3/12/2014 1:22:27 PM, Kuboyama

PLANT LIST

TREES (see A1 for existing trees)

TRACHYCARPUS FORTUNEI Windmill Palm	
CUPRESSUS SEMPERVIRANS Italian Cypress	
TAXUS BREVIFOLIA Oregon Yew	
ALRBUTUS UNEDO Strawberry Tree	
QUERCUS PHILLYREOIDES Ubame Oak	
STREET TREES Verify species with jurisdictions	

SHRUBS AND ORNAMENTAL GRASSES

GAULTHERIA SHALON Salal	GS
MAHONIA AQUAFOLIUM Oregon Grape	MA
MAHONIA AQUAFOLIUM "COMPACTA" Dwarf Oregon Grape	MAC
NANDIAN DOMESTICA Heavenly Bamboo	ND
ANDROPOGON GERARDII Big Bluestem Turkeyfoot Grass	AG
ARRHENATHERUM CLATIUS BULBOSUM "VARIEGATUM" Bulbous Oat Grass	AC
CORTADERIA SELLOANA Pampas Grass	CS
PENNISETUM ALOPECUROIDS Fountain Grass	PA
RHODODENDRON Varieties to be selected	R
AZALEA Varieties to be selected	A

GROUND COVERS

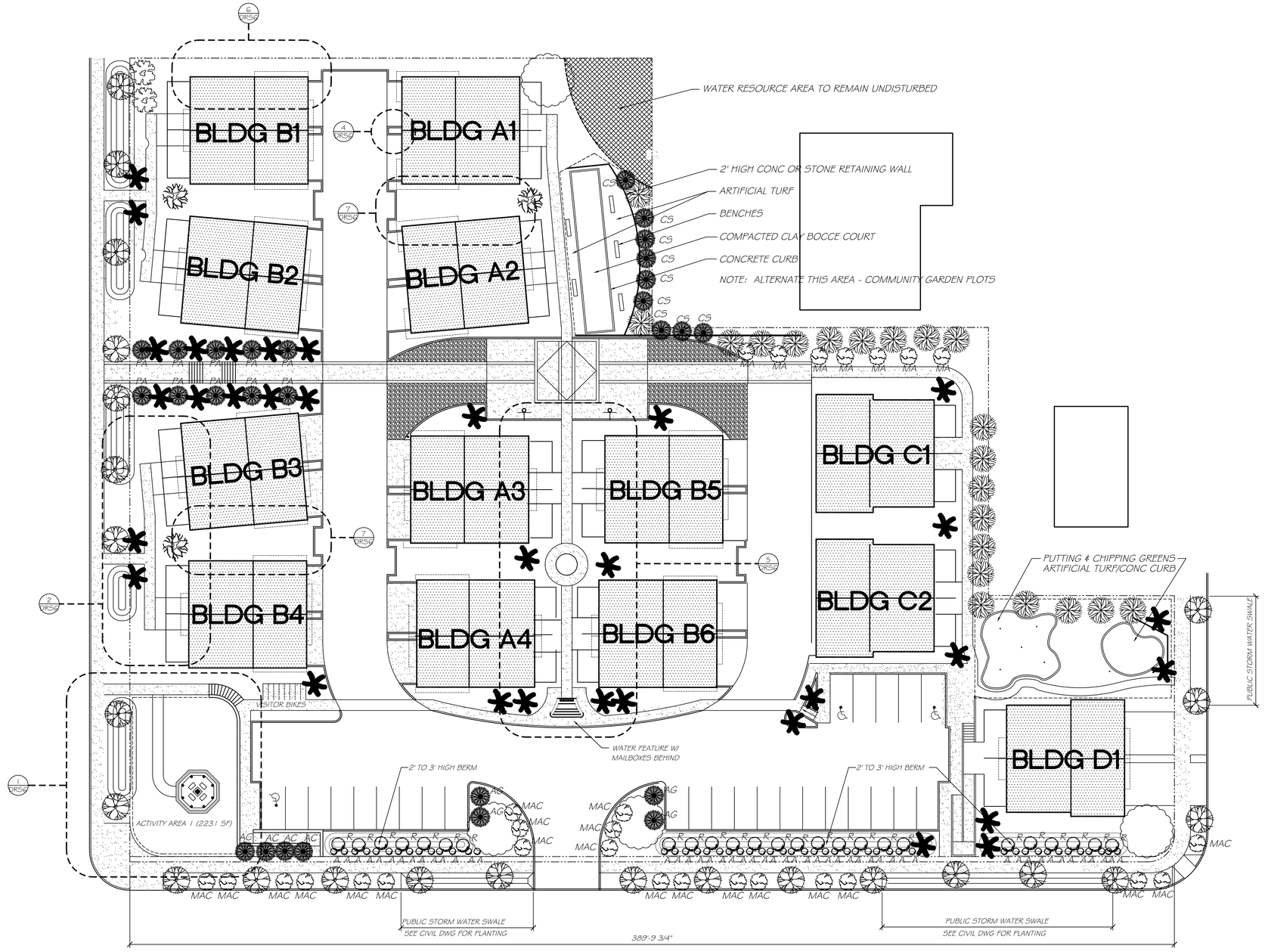
ASARUM CAUDATUM Wild Ginger	
COTONEASTER DAMERII Bearberry Cotoneaster	
ARCTOSTAPHYLOS UVA URSI Kinnickinnick	

NOTES

1. NEW TREES TO BE 2" CAL DBH AND/OR 6'-0" MIN HEIGHT
2. NEW SHRUBS AND GRASSES TO BE 1 GAL CONTAINER MIN
3. NEW GROUND COVERS TO BE 4" POT @ 18" OC TRIANGULAR
4. TYPICAL GROUND COVER TO BE KINNICKINNICK UNLESS NOTED
5. PROVIDE 2" BARK MULCH IN ALL PLANTER BEDS

CONCRETE PAVING

SALT OR BROOM, SCORED	
WITH COBBLES/ROCKS (EMERGENCY ACCESS ONLY)	



1 DRS5 LANDSCAPE PLAN
1" = 20'-0"

TRUE PLAN

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REGISTERED ARCHITECT
STEWART GORDON STRAUS
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1602
STATE OF OREGON

SHADY HOLLOW VILLAGE

SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER: 1335

DRAWING	DATE	BY
DESIGN		
	20 NOV 2013	SGS
NBRHD MTG		
	11 FEB 2014	SGS
DES REV		
	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
PROPOSED LANDSCAPE

SHEET #
DRS5

PLANT LIST

TREES (see existing conditions plan A1 for existing trees)

- TRACHYCARPUS FORTUNEI — Windmill Palm
- CUPRESSUS SEMPERVIRANS — Italian Cypress
- TAXUS BREVIFOLIA — Oregon Yew
- ALRBUTUS UNEDO — Strawberry Tree
- QUERCUS PHILLYREOIDES — Ubame Oak
- STREET TREES — Verify species with jurisdictions

SHRUBS AND ORNAMENTAL GRASSES

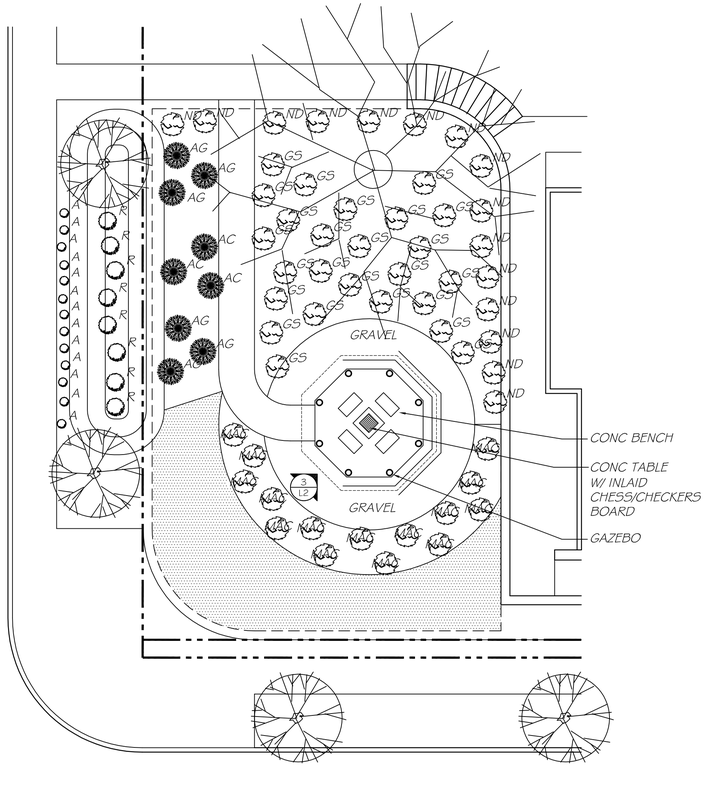
- GAULTHERIA SHALON — Salal — GS
- MAHONIA AQUAFOLIUM — Oregon Grape — MA
- MAHONIA AQUAFOLIUM "COMPACTA" — Dwarf Oregon Grape — MAC
- NANDIAN DOMESTICA — Heavenly Bamboo — ND
- ANDROPOGON GERARDII — Big Bluestem Turkeyfoot Grass — AG
- ARRHENATHERUM CLATIUS BULBOSUM "VARIEGATUM" — Bulbous Oat Grass — AC
- CORTADERIA SELLOANA — Pampas Grass — CS
- PENNISETUM ALOPECUROIDS — Fountain Grass — PA
- RHODODENDRON — Varieties to be selected — R
- AZALEA — Varieties to be selected — A

GROUND COVERS

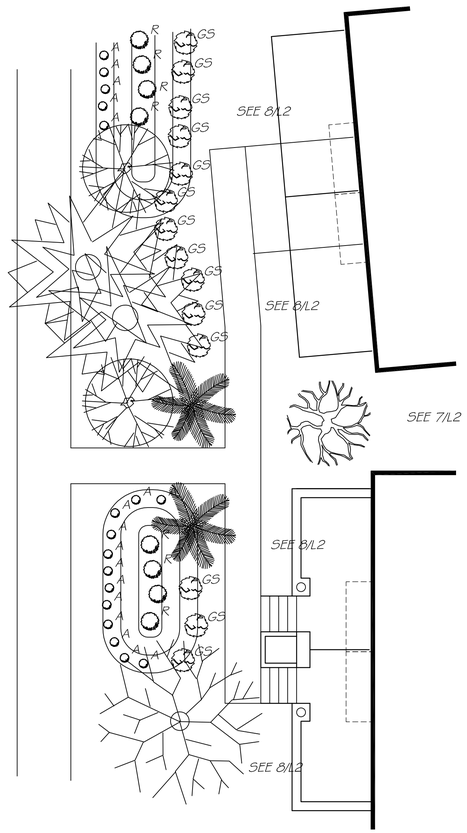
- ASARUM CAUDATUM — Wild Ginger
- COTONEASTER DAMERII — Bearberry Cotoneaster
- ARCTOSTAPHYLOS UVA URSI — Kinnickinnick

NOTES

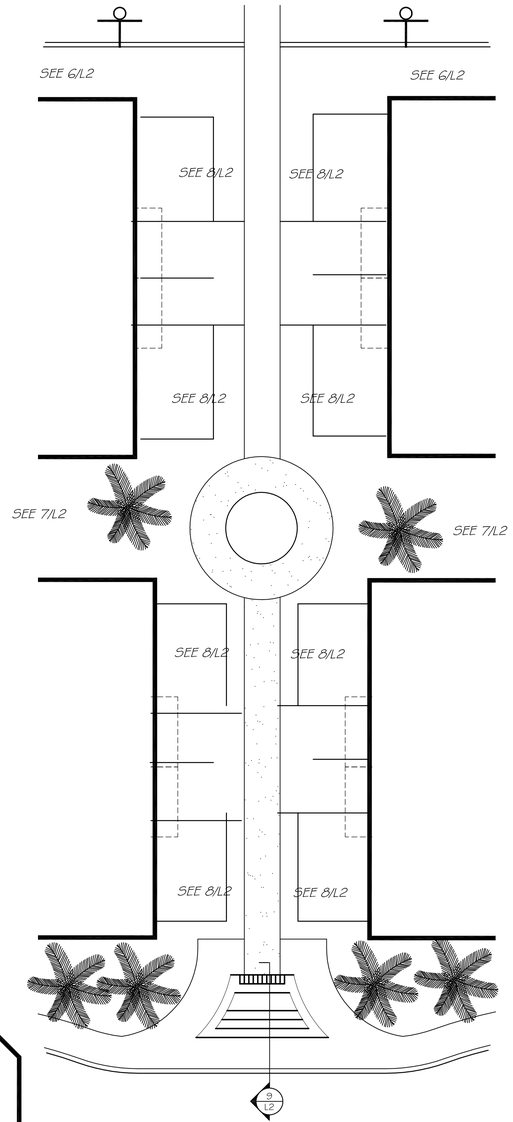
1. NEW TREES TO BE 2" CAL DBH AND/OR 6'-0" MIN HEIGHT
2. NEW SHRUBS AND GRASSES TO BE 1 GAL CONTAINER MIN
3. NEW GROUND COVERS TO BE 4" POT @ 18" OC TRIANGULAR
4. TYPICAL GROUND COVER TO BE KINNICKINNICK UNLESS NOTED
5. PROVIDE 2" BARK MULCH IN ALL PLANTER BEDS



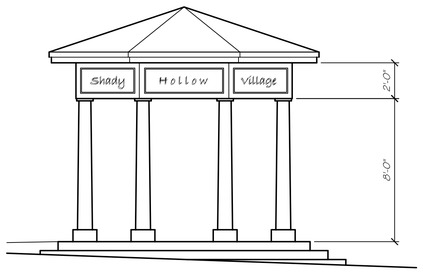
1 DRS6 ACTIVITY AREA 1 PLAN
1/8" = 1'-0"



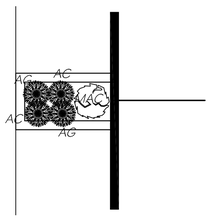
2 DRS6 HIGHWAY 43 FRONTAGE PLAN
1/8" = 1'-0" BLDGS B3 & B4 SHOWN, OTHERS SIMILAR



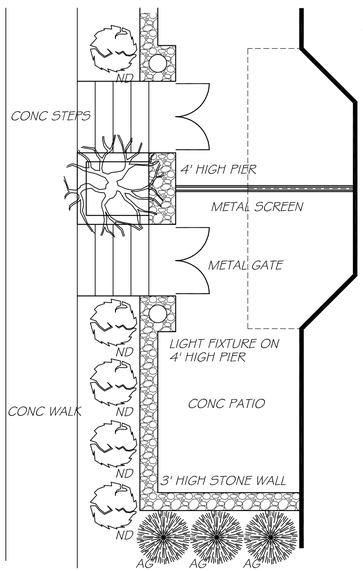
5 DRS6 CENTER COURT PLAN
1/8" = 1'-0"



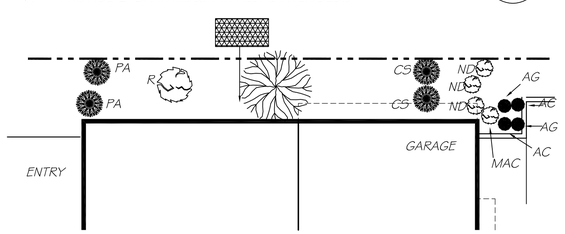
3 DRS6 GAZEBO/PROJECT SIGN
1/4" = 1'-0"



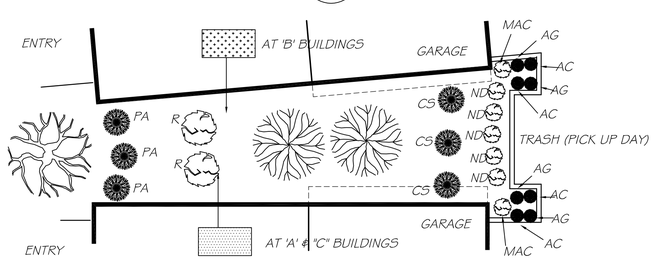
4 DRS6 PLANTER @ GARAGES
1/4" = 1'-0"



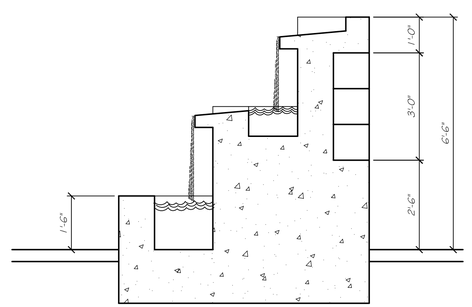
8 DRS6 ENTRY PATIO
1/4" = 1'-0"



6 DRS6 TYPICAL BLDG ENDS
1/8" = 1'-0"



7 DRS6 TYPICAL BETWEEN BLDGS
1/8" = 1'-0"



9 DRS6 MAILBOX/FOUNTAIN SECTION
1/2" = 1'-0"

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1602
STATE OF OREGON

SHADY HOLLOW VILLAGE

SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER: 1335

DRAWING	DATE	BY
DESIGN		
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NBRHD MTG		
	11 FEB 2014	SGS
DES REV		
	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
LANDSCAPE DETAILS

SHEET #
DRS6

LIGHT FIXTURE SCHEDULE

- ● A — CREE "THE EDGE PWY-EDG-5M" - BLACK OR BRONZE
  13" TO 18" POLE MOUNT, ANCHORED TO TOP OF MASONRY PIER
  LED LAMPS
  CONTROLS: PE & MOTION DETECTION

- ■ B — RUUD "E3-H SERIES" RECTANGULAR WALL MOUNT PERIMETER CUTOFF
  50 WATT PSMH LAMP
  9' ± MOUNTING HEIGHT
  CONTROLS: PE & MOTION DETECTION

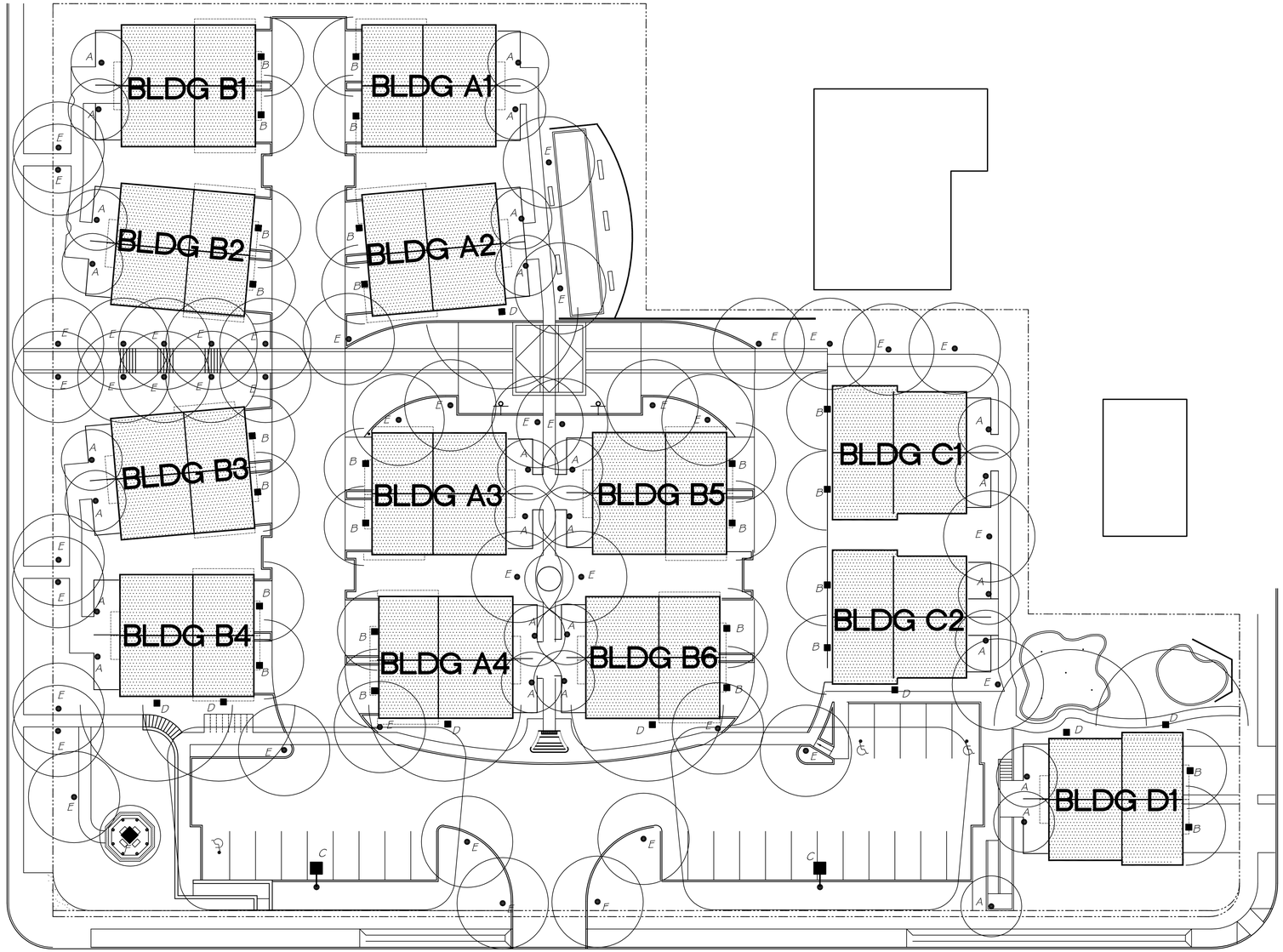
- ■ C — RUUD "AC2-16 SERIES" SQUARE POLE MOUNT AREA CUTOFF LIGHT
  400 WATT PSMH LAMP
  25' ± MOUNTING HEIGHT
  CONTROLS: PE

- ■ D — RUUD "E3-H SERIES" RECTANGULAR WALL MOUNT PERIMETER CUTOFF
  70 WATT PSMH LAMP
  9' ± MOUNTING HEIGHT
  CONTROLS: PE

- ● E — RUUD "HCF SERIES" ROUND BOLLARD WITH HCL LOUVER
  100 WATT PSMH LAMP
  3' ± MOUNTING HEIGHT
  CONTROLS: PE & MOTION DETECTION

- ■ F — RUUD "SE1-8 SERIES" SQUARE CEILING MOUNT WITH TRANSLUCENT LENS
  70 WATT PSMH LAMP
  9' ± MOUNTING HEIGHT
  CONTROLS: PE

- ○ 1 FC LINE @ EACH FIXTURE



1 DRS7 SITE LIGHTING PLAN
1" = 20'-0"

TRUE PLAN

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DRAWING	DATE	BY
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NBRHD MTG		
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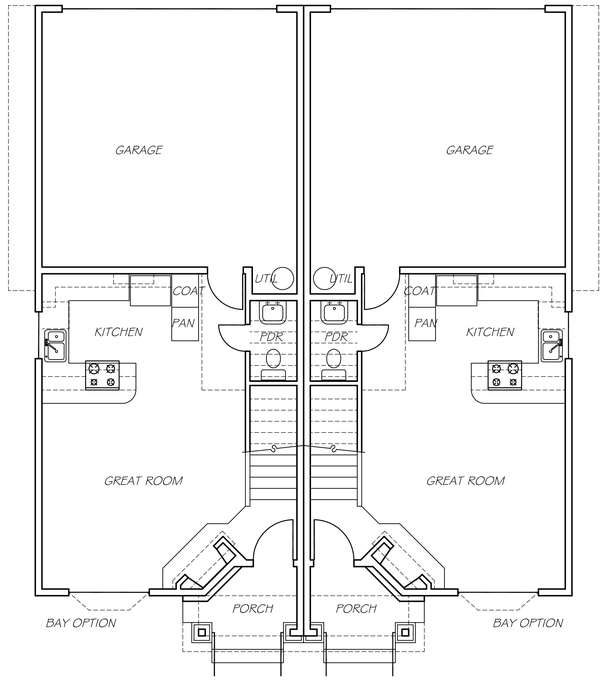
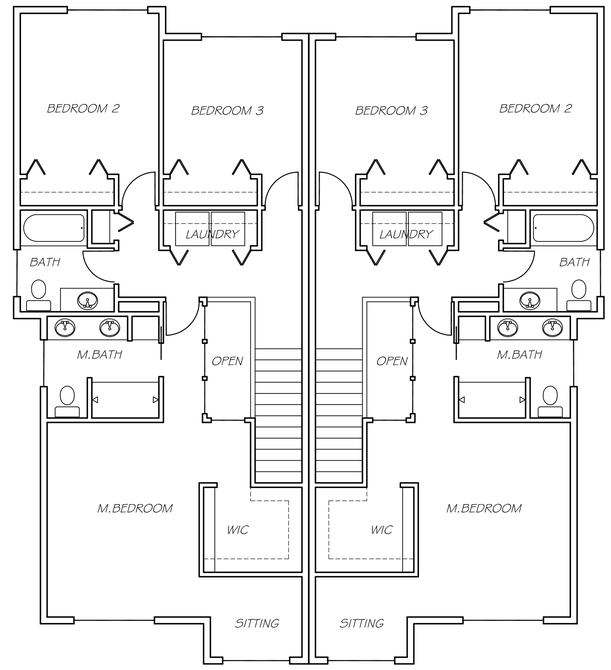
DES REV		
	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
PROPOSED LIGHTING PLAN

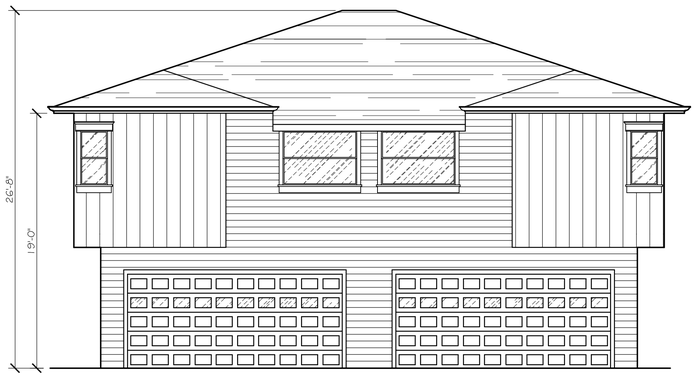
SHEET #
DRS7



1 DRB1 TYP. UNIT 'A' - LOWER LEVEL PLAN
3/16" = 1'-0"



2 DRB1 TYP. UNIT 'A' - UPPER LEVEL PLAN
3/16" = 1'-0"



3 DRB1 TYP. UNIT 'A' - REAR ELEVATION
3/16" = 1'-0"

4 DRB1 TYP. UNIT 'A' - SIDE ELEVATION
3/16" = 1'-0"

5 DRB1 TYP. UNIT 'A' - FRONT ELEVATION
3/16" = 1'-0"

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1602
STATE OF OREGON

SHADY HOLLOW VILLAGE

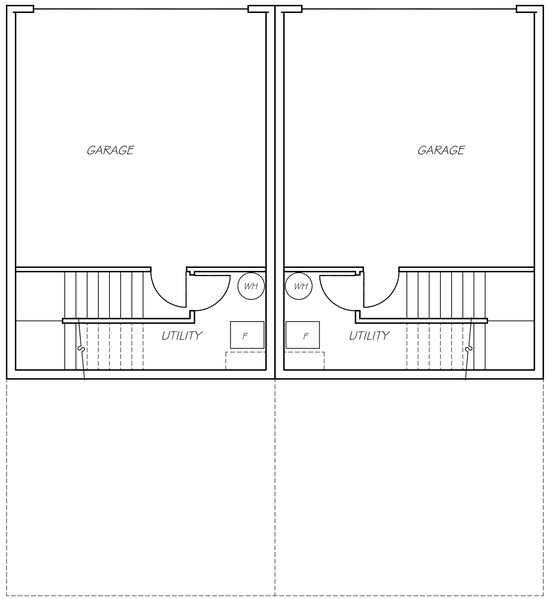
SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER:	1335

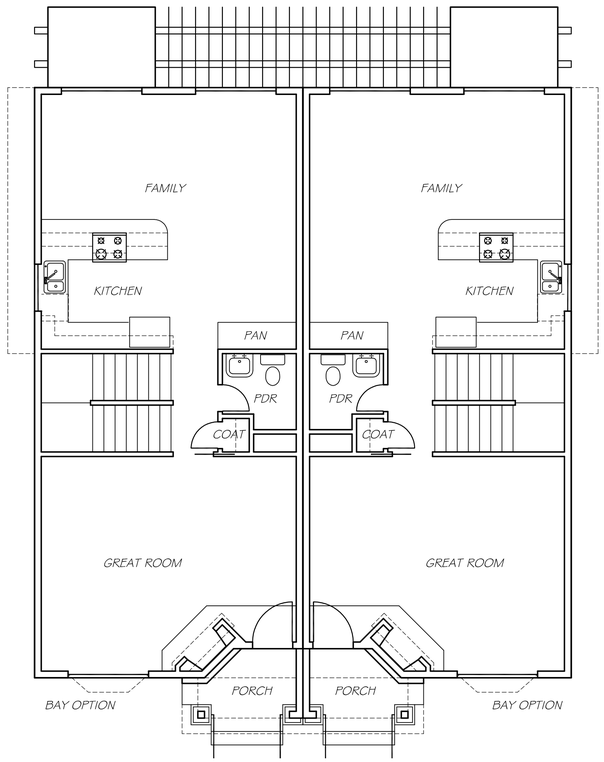
DRAWING	DATE	BY
DESIGN		
	20 NOV 2013	SGS
NBRHD MTG		
	11 FEB 2014	SGS
DES REV		
	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
UNIT TYPE 'A'
PLAN + ELEVS

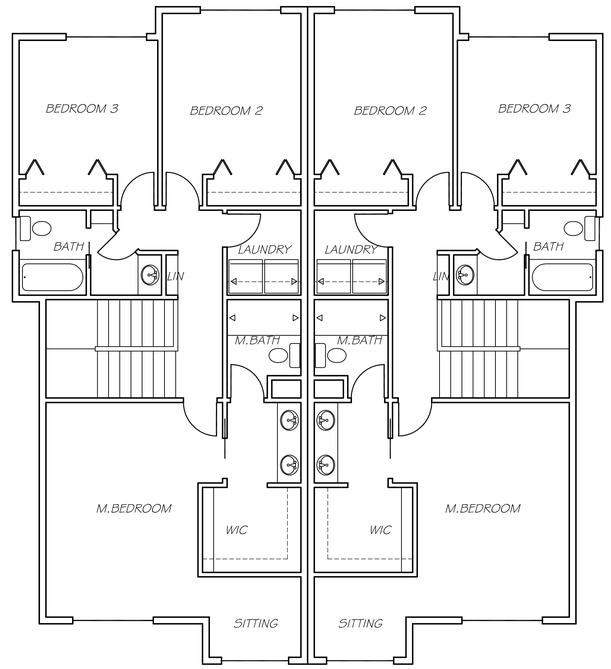
SHEET #
DRB-1



1 DRB2 TYP. UNIT 'B' - BASEMENT PLAN
3/16" = 1'-0"

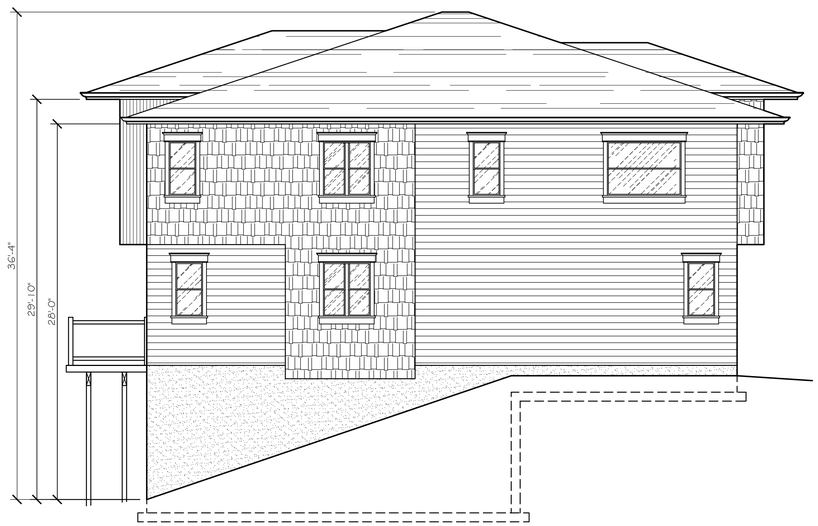


2 DRB2 TYP. UNIT 'B' - LOWER LEVEL PLAN
3/16" = 1'-0"



3 DRB2 TYP. UNIT 'B' - UPPER LEVEL PLAN
3/16" = 1'-0"

4 DRB2 TYP. UNIT 'B' - REAR ELEVATION
3/16" = 1'-0"



5 DRB2 TYP. UNIT 'B' - SIDE ELEVATION
3/16" = 1'-0"

6 DRB2 TYP. UNIT 'B' - FRONT ELEVATION
3/16" = 1'-0"

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1602
STATE OF OREGON

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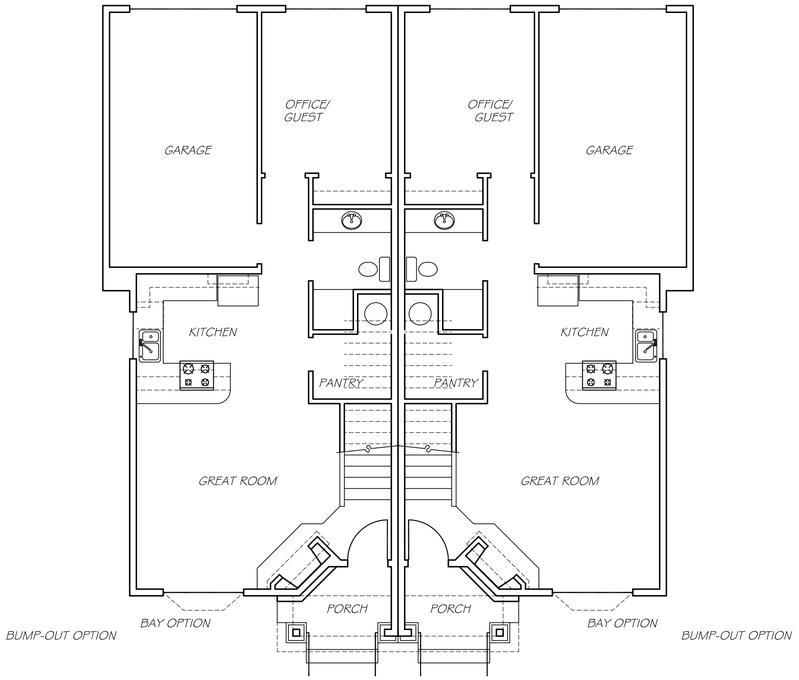
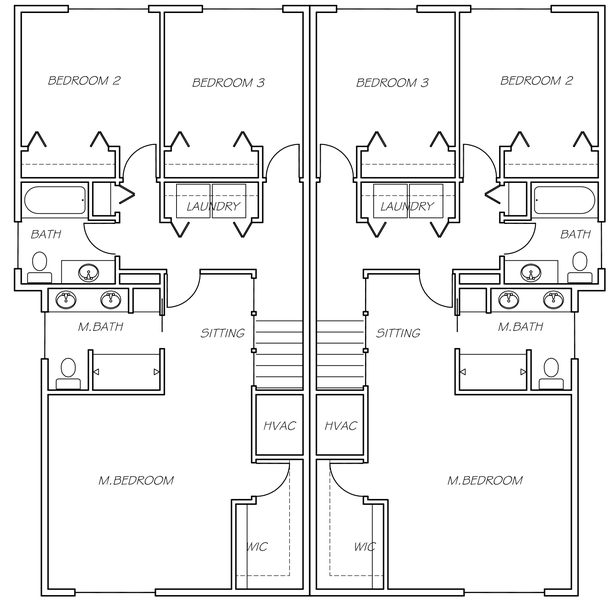
SHEET TITLE
UNIT TYPE 'B'
PLAN + ELEVS

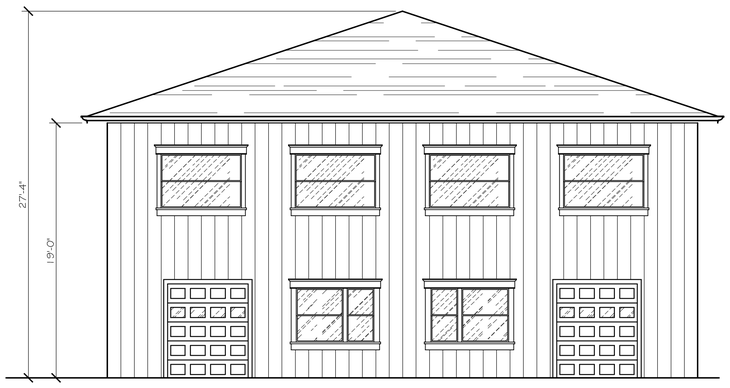
SHEET #
DRB-2



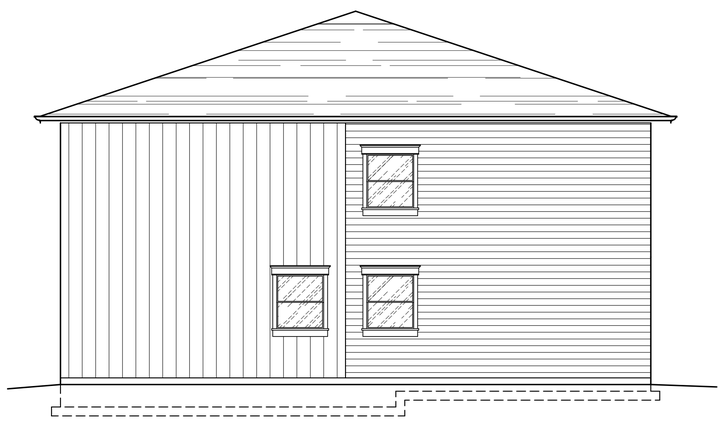
1 DRB3 TYP. UNIT 'C' - LOWER LEVEL PLAN
3/16" = 1'-0"



2 DRB3 TYP. UNIT 'C' - UPPER LEVEL PLAN
3/16" = 1'-0"



3 DRB3 TYP. UNIT 'C' - REAR ELEVATION
3/16" = 1'-0"



4 DRB3 TYP. UNIT 'C' - SIDE ELEVATION
3/16" = 1'-0"

5 DRB3 TYP. UNIT 'C' - FRONT ELEVATION
3/16" = 1'-0"

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1602
STATE OF OREGON

SHADY HOLLOW VILLAGE

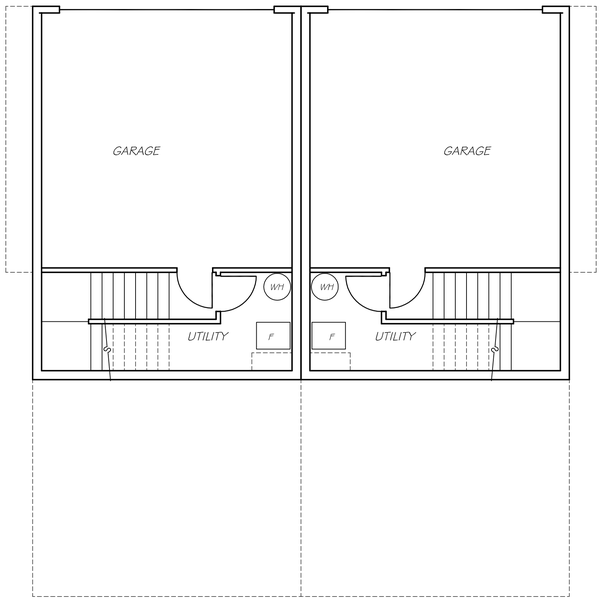
SHADY HOLLOW AND WILLAMETTE DRIVE
WEST LINN, OREGON

PROJECT NUMBER: 1335

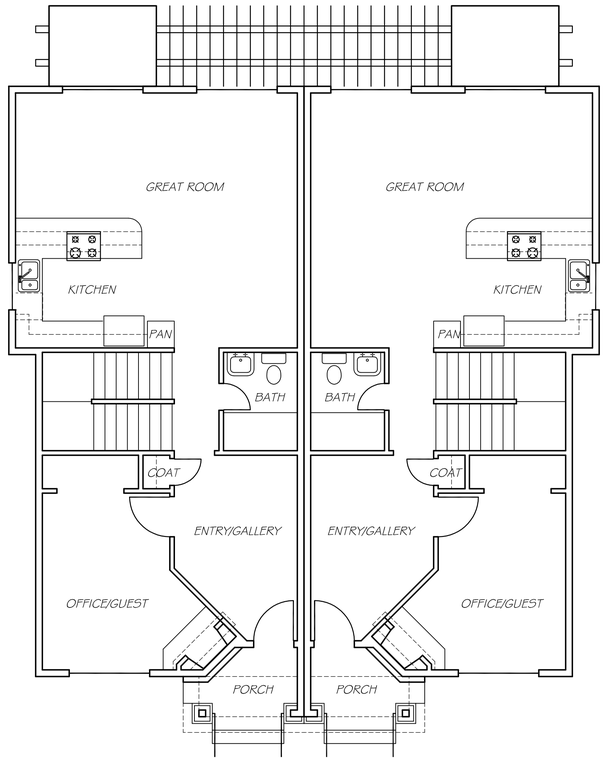
DRAWING	DATE	BY
DESIGN	20 NOV 2013	SGS
NBRHD MTG	11 FEB 2014	SGS
DES REV	12 MAR 2014	SGS
PERMIT		

SHEET TITLE
UNIT TYPE 'C'
PLAN + ELEVS

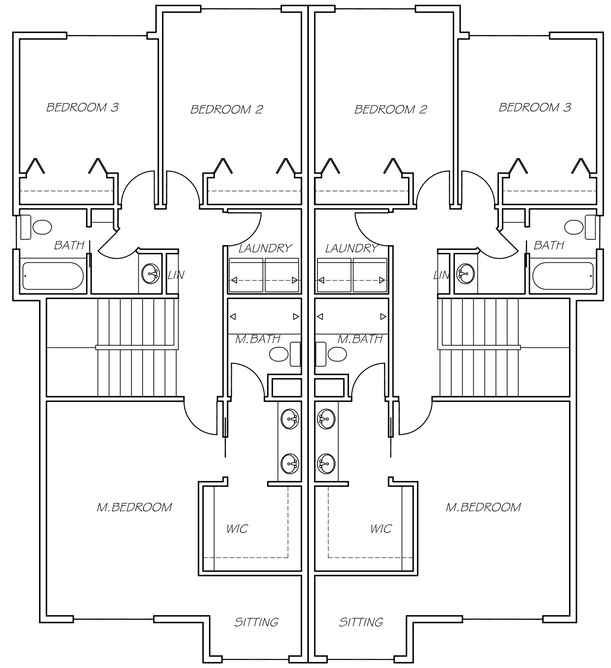
SHEET #
DRB-3



1 DRB4 TYP. UNIT 'D' - BASEMENT PLAN
3/16" = 1'-0"

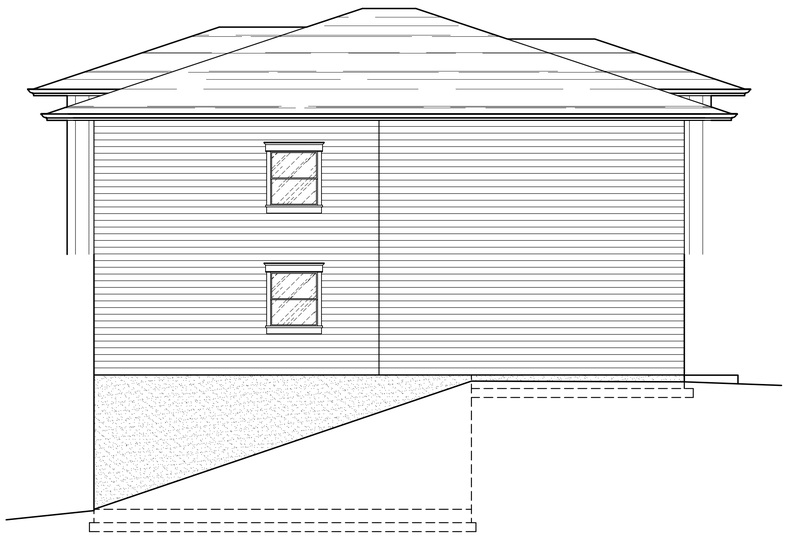


2 DRB4 TYP. UNIT 'D' - LOWER LEVEL PLAN
3/16" = 1'-0"



3 DRB4 TYP. UNIT 'D' - UPPER LEVEL PLAN
3/16" = 1'-0"

4 DRB4 TYP. UNIT 'D' - REAR ELEVATION
3/16" = 1'-0"



5 DRB4 TYP. UNIT 'D' - SIDE ELEVATION
3/16" = 1'-0"

6 DRB4 TYP. UNIT 'D' - FRONT ELEVATION
3/16" = 1'-0"

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SHEET TITLE
UNIT TYPE 'D'
PLAN + ELEVS

SHEET #
DRB-4