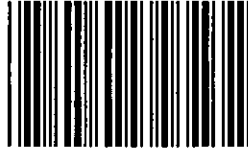


4/8/19

#### Narrative Description of the Proposed Land Use

I purpose to build 18 townhomes on parcel #3420300001. 4-four plexus and 1 duplex



0017

070148

Vol 1

SAUNDERS TOWNHOUSE

PATTISON ST NE 500

NR

Tax Parcel 34203000101

Notes L

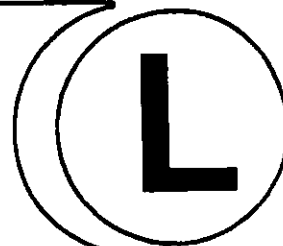
Application Date 9/22/2012



TWN  
SAUNDERS TOWNHOUSE  
PATTISON ST NE 500BLK  
070148

LO

3G W/S





# City of Olympia | Capital of Washington State

P.O. Box 1967, Olympia, WA 98507-1967

September 22, 2012

Doug Saunders  
2014 Arena Court SE  
Olympia WA 98501

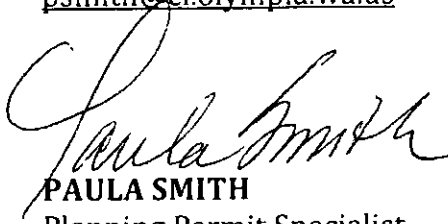
Dear Sir/Madam:

**SUBJECT: Pattison Street Townhome Plat  
2012 Legislation Bill 2152  
CD # 07-0148**

This courtesy letter is to inform you about the recent Washington State Legislature Bill 2152 (copy enclosed) that became effective June 7, 2012. According to our records this bill affects the preliminary plat approval expiration date originally granted

The original preliminary approval expiration date on file for the above referenced plat is 09/01/2013. Bill 2152 extends the preliminary approval expiration date to 09/01/2015.

If you have any questions regarding this letter, please contact me at (360) 753-8596 or [psmith@ci.olympia.wa.us](mailto:psmith@ci.olympia.wa.us)



**PAULA SMITH**  
Planning Permit Specialist  
Community Planning & Development

Cc: Steve Friddle, Associate Line of Business Director  
file

Enclosure

**olympiawa.gov**

**MAYOR:** Stephen H. Buxbaum **MAYOR PRO TEM:** Nathaniel Jones **CITY MANAGER:** Steven R. Hall

**COUNCIL MEMBERS:** Jim Cooper, Julie Hankins, Steve Langer, Jeannine Roe, Karen Rogers

500 Blk Pattison St NE



City of  
OLYMPIA

**Community Planning & Development**

Community Planning &  
Development  
837 - 7<sup>th</sup> Ave SE - PO Box 1967  
Olympia WA 98507-1967  
Phone: 360.753.8314  
Fax: 360.753.8087  
cpdinfo@ci.olympia.wa.us  
www.olympiawa.gov

**PAST DUE  
INVOICE**

**BILLING ADDRESS:**

Doug Saunders  
2014 Arena Court  
Olympia WA 98501

**INVOICE SUMMARY:**

Invoice Number: 07-0148  
Invoice Date: January 26, 2010  
Original Invoice Dates: Oct 1, 2008  
January 9, 2009 & April 3, 2009  
Amount Due: \$ 257.50  
Project #: PE 07-0148  
Name: Pattison Street Townhomes

**DETAILS:**

**Description:**

Additional Hearing Examiner Costs

**Amount:**

\$ 257.50

0.00

0.00

**TOTAL:**

**\$ 257.50**

Remit payment to:

City of Olympia  
Community Planning and Development  
PO Box 1967  
Olympia, WA 98507-1967


Please include a **copy** of this invoice with payment

**NOTES:**

**Invoice is past due. If payment has not been received within 30 days from the date of this invoice, this matter will be directed to our collection agency.**

If you have any questions regarding this invoice, please contact Paula Smith, Planning Permit Specialist by phone at (360) 753-8596 or by e-mail at [psmith@ci.olympia.wa.us](mailto:psmith@ci.olympia.wa.us)

*Pattison St NE 500 Blk*

 <b>City of OLYMPIA</b>	<b>Community Planning &amp; Development</b>	
	<b>INVOICE PAST DUE</b>	
		Community Planning & Development 837 - 7 <sup>th</sup> Ave SE - PO Box 1967 Olympia WA 98507-1967 Phone: 360.753.8314 Fax: 360.753.8087 cpdinfo@ci.olympia.wa.us www.olympiawa.gov

**BILLING ADDRESS:**

Doug Saunders  
2014 Arena Court SE  
Olympia WA 98501

**INVOICE SUMMARY:**

Invoice Number: 07-0148  
Today's Date: April 3, 2009  
Past Due Invoice sent: January 9, 2009  
Original Invoice Date: October 7, 2008  
Amount Due: **\$ 257.50**  
Project #: 07-0148  
Project Name: Pattison Street Townhomes

**If payment is not received within 30 days from date of this invoice, it will be directed to the city's collection agency**

**DETAILS:**

Description:	Amount:
Additional Hearing Examiner Costs	\$257.50
	0.00
	0.00
<b>TOTAL:</b>	<b>\$ 257.50</b>

Remit payment to:

City of Olympia  
Community Planning and Development  
PO Box 1967  
Olympia, WA 98507-1967

Please include a copy of this invoice with payment

**NOTES:**

Invoice is past due and payment is due upon receipt of invoice..  
Invoice from Bjorgen Bauer, Hearing Examiner dated September 11, 2008 is enclosed

If you have any questions regarding this invoice, please contact Paula Smith, Planning Permit Specialist, by phone at (360) 753-8596 or by e-mail at psmith@ci.olympia.wa.us.

500 BIK Pattison St NE

Bjorgen Bauer, PLLC  
1235 Fourth Ave. E, Ste. 200  
Olympia, WA 98506

Invoice submitted to:  
Olympia Community Planning and Development  
c/o Todd Stamm  
P.O. Box 1967  
Olympia, WA 98507-1967

October 29, 2008

In Reference To: Pattison Townhomes #07-0148  
Invoice #60999

	<u>Amount</u>
Previous balance	\$2,257.50
Accounts receivable transactions	
10/16/2008 Payment - thank you. Check No. 272211	<u>(\$2,257.50)</u>
Total payments and adjustments	<u>(\$2,257.50)</u>
Balance due	<u><u>\$0.00</u></u>

Terms: Net 10 days; after 30 days interest charged at 1% per month on past due balances.



City of  
OLYMPIA

## Community Planning & Development

# INVOICE

Community Planning &  
Development  
837 - 7<sup>th</sup> Ave SE - PO Box 1967  
Olympia WA 98507-1967  
Phone: 360.753.8314  
Fax: 360.753.8087  
cpdinfo@ci.olympia.wa.us  
www.olympiawa.gov

### BILLING ADDRESS:

Doug Saunders  
2014 Arena Court SE  
Olympia WA 98501

### INVOICE SUMMARY:

Invoice Number: 07-0148  
Invoice Date: October 7, 2008  
Amount Due: \$ 257.50  
Project #: 07-0148  
Project Name: Pattison Street Townhomes

### DETAILS:

Description:	Amount:
Additional Hearing Examiner Costs	\$257.50
	0.00
	0.00
<b>TOTAL:</b>	<b>\$ 257.50</b>

Remit payment to:

City of Olympia  
Community Planning and Development  
PO Box 1967  
Olympia, WA 98507-1967

Please include a copy of this invoice with payment

### NOTES:

Invoice from Bjorgen Bauer, Hearing Examiner dated September 11, 2008 is enclosed with this letter. Deposit collected at application has been applied. This Invoice is for remaining balance due.

If you have any questions regarding this invoice, please contact Paula Smith, Planning Permit Specialist, by phone at (360) 753-8596 or by e-mail at psmith@ci.olympia.wa.us.



**COPY**

Bjorgen Bauer, PLLC  
1235 Fourth Ave. E, Ste. 200  
Olympia, WA 98506

REC  
9/12/08

Invoice submitted to:  
Olympia Community Planning and Development  
c/o Todd Stamm  
P.O. Box 1967  
Olympia, WA 98507-1967

HEX 2257.50  
Deposit 2000.50  
Billed to Applicant 257.50  
TS  
10/7/08

September 11, 2008

In Reference To: Pattison Townhomes #07-0148  
Invoice #60330

**Professional Services**

	<u>Hrs/Rate</u>	<u>Amount</u>
7/11/2008 TRB Review Staff Report and attachments	0.40	70.00
7/14/2008 TRB Complete pre-hearing review	175.00/hr	
	0.50	87.50
TRB Conduct hearing	175.00/hr	
	1.40	245.00
7/15/2008 TRB Review notes and send e-mail to parties on holding record open	175.00/hr	
	0.60	105.00
7/28/2008 TRB Site visit	175.00/hr	
	0.40	70.00
TRB Review evidence; review effect of Woodard Creek's section 303 d status	175.00/hr	
	1.20	210.00
7/29/2008 TRB Review evidence	175.00/hr	
	1.00	175.00
8/21/2008 TRB Review evidence; review WSDOT website on priority species	175.00/hr	
	1.60	280.00
8/22/2008 TRB Begin writing decision	175.00/hr	
	1.20	210.00
8/27/2008 TRB Write decision	175.00/hr	
	3.50	612.50
8/28/2008 TRB Complete decision	175.00/hr	
	1.10	192.50
	175.00/hr	
For professional services rendered		<u>\$2,257.50</u>
Balance due		<u>\$2,257.50</u>

Terms: Net 10 days; after 30 days interest charged at 1% per month on past due balances.



**HEARING EXAMINER DECISION**

August 29, 2008

Greetings,

**Subject: Pattison Street Townhomes  
Case# 07-0148**

The enclosed decision of the Olympia Hearings Examiner hereby issued on the above date may be of interest to you. This is a final decision of the City of Olympia.

In general, any appeal of a final land use decision must be filed in court within twenty-one days. See Revised Code of Washington, Chapter 36.70, for more information relating to timeliness of any appeal and filing, service and other legal requirements applicable to such appeal. In particular, see RCW 36.70C.040.

This decision may be subject to expiration if not exercised. For more information regarding possible expiration, or any other aspect of this decision, please contact the City of Olympia, Community Planning and Development Department, at 837 Seventh Avenue SE, or at PO Box 1967, Olympia, WA 98507-1967, by phone at 360-753-8314, or by e-mail at cpdinfo@ci.olympia.wa.us.

Sincerely,

**Laura S. Keehan**  
Associate Planner  
Community Planning and Development

LSK/re



**OHE DECISION**

FILE: # 07-0148

PROJECT: PATTISON ST TOWNHOMES

PLANNER: LAURA KEEHAN

DATE: 08/29/08 ORIGINALS TO PLANNER

TODD STAMM

CP&D

TSTAMM@CI.OLYMPIA.WA.US

KEITH STAHLEY

DIRECTOR

CP&D

KSTAHLEY@CI.OLYMPIA.WA.US

ADMINISTRATIVE CAPTAIN

TC SHERIFF'S OFFICE

MS-40947

ROB BRADLEY

OLYMPIA FIRE DEPARTMENT

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TOM MORRILL

CITY ATTORNEY

CITY HALL

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VIC WHITTAKER

PUBLIC WORKS

LEGION COURT

VWHITTAK@CI.OLYMPIA.WA.US

THE OLYMPIAN

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OLYMPIA WA 98506-4365

GARY DUVAL

TC ENVIRONMENTAL HEALTH

MS-40947

STEVE CUMMINGS

TC ASSESSOR

MS-40947

NANCY LENZI

HEX DECISION PDF

DOUG SAUNDERS

2014 ARENA CT SE

OLYMPIA WA 98501-6854

CHRON

MARCUS GOODMAN

CP&D

MGOODMAN@CI.OLYMPIA.WA.US

ROBERT CONNOLLY

SKILLINGS CONNOLLY INC

5016 LACEY BLVD

LACEY WA 98503-5729

PARTIES OF RECORD FROM PLANNER

BIONA TAWNEY

2918 APPLEHILL CT NE

OLYMPIA WA 98506-6702

SUSAN EICHRODT

2917 APPLEHILL CT NE

OLYMPIA WA 98506-6703

JEFF OLSON

3008 APPLEHILL CT NE

OLYMPIA WA 98506-6700

RICK FONDERWHITE

3017 APPLEHILL CT NE

OLYMPIA WA 98506-6701

**FINDINGS, CONCLUSIONS AND DECISION  
OF THE HEARING EXAMINER OF THE  
CITY OF OLYMPIA**

**CASE NO:** 07-0148 (Preliminary Subdivision Approval for Pattison Street Townhomes)

**APPLICANT:** Doug Saunders

**SUMMARY OF REQUEST:**

The Applicant requests preliminary approval of a subdivision containing 18 single-family townhouse lots on a 1.95-acre site, with associated improvements.

**LOCATION OF PROPOSAL:**

Thurston County Assessor's Tax Parcel No. 34203000101 in Sec. 18, T18N, R1W, W.M.

**SUMMARY OF DECISION:**

The proposed subdivision is approved, subject to the conditions set out below.

**HEARING AND RECORD:**

The hearing on this application was held before the undersigned Hearing Examiner on July 14, 2008. The record was left open until July 18, 2008 for the submittal of additional evidence.

The following exhibits are admitted as part of the record on the subdivision application.

Exhibit 1. Staff Report by Olympia Community Planning and Development Department for Case No. 07-0148, prepared by Laura Keehan and issued July 7, 2008. This Exhibit includes the 10-page Staff Report and Attachments A through I listed on p. 10 of the Staff Report.

Exhibit 2. E-mail from Tom Bjorgen to Laura Keehan, Marcus Goodman, Doug Saunders and Robert Connolly, sent July 15, 2008.

Exhibit 3. Memorandum from Marcus Goodman to Tom Bjorgen, dated July 18, 2008, with attachments.

At the hearing, the following individuals testified under oath:

Laura Keehan, Associate Planner for the City of Olympia  
Community Planning and Development Department  
837 7th Avenue S.E., P.O. Box 1967  
Olympia, WA 98507

Marcus Goodman  
Engineering Plans Examiner  
Community Planning and Development Department  
837 7th Avenue S.E., P.O. Box 1967  
Olympia, WA 98507

Robert Connolly  
Skillings Connolly, Inc.  
5016 Lacey Boulevard  
Lacey, WA 98503

Susan Eichrodt  
2917 Applehill Court NE  
Olympia, WA

Jeff Olson  
3008 Applehill Court NE  
Olympia, WA

Rick Fonderwhite  
3017 Applehill Court NE  
Olympia, WA

After consideration of the testimony and exhibits described above, the Hearing Examiner makes the following findings of fact, conclusions of law, and decision.

#### **FINDINGS OF FACT**

1. The Applicant requests preliminary subdivision approval to divide 1.95 acres into 18 single family townhouse lots. The proposed configuration of the lots, streets and associated improvements is shown at Exhibit (Ex.) 1, Attachment (Att.) C, the preliminary plat.

2. The site of the proposed subdivision is zoned Residential 6-12 and is designated the same in the Comprehensive Plan.

3. The project site is bounded on the north by the site of the proposed Pattison Street Plat, a 36-lot zero lot line subdivision which has received preliminary approval. To the east is undeveloped, forested land zoned RM-18. To the south lies the Applehill subdivision, consisting of single family houses. On the west, the project site is bounded by Pattison Street, across which are single family residences.

4. Proposed lot sizes and widths are shown on at Ex. 1, Att. C, the preliminary plat.

5. The Applicant proposes to build water and sewer lines and install fire hydrants as described at Ex. 1, p. 4. The City water and sewer utilities have capacity for the anticipated water, sanitary sewer and fire suppression needs of this proposal. The City has capacity to handle the solid waste and recyclables expected from this proposal.

6. The internal street will be designated as a Local Access street. The Applicant proposes to install curbs, sidewalks, planter strips, street trees and street lights on the proposed internal subdivision street, consistently with that street category. Pattison Street is designated as a Neighborhood Collector. The Applicant proposes to install curbs, sidewalks, planter strips, street trees and street lights on the adjacent portions of Pattison Street, consistently with its Neighborhood Collector designation.

7. The Applicant proposes to dedicate right-of-way for the internal Local Access street, which would connect with an internal street in the Pattison Street Plat immediately to the north. The Applicant proposes to dedicate right-of-way on its side of Pattison Street consistently with a Neighborhood Collector. See Ex. 1, p. 5 and Ex. 1, Att. B, p. 13. The Applicant proposes also to widen Pattison Street to one-half street Neighborhood Collector standards. Id.

8. The Applicant proposes to build a concrete retaining wall along at least part of its southern boundary. To ensure safe use of the internal street, this decision is conditioned to prohibit the location of any portion of the wall or its footings in the right-of-way for that street.

9. The proposal includes a tree tract along the eastern and part of the southern boundary of the site. This tract would be contiguous to the tree tract proposed for the Pattison Street Plat, immediately to the north. According to the August 22, 2007 revision to the Tree Protection Plan at Ex. 1, Att. F, 19 trees would be preserved in the tree tract for this proposal. According to the Staff Report at Ex. 1, p. 6, these trees would contain 54 tree units. The Applicant also proposes to retain an additional 11 trees on lots adjacent to the tree tract. Under the Tree Protection and Replacement Ordinance, Chap. 16.60 OMC, the buildable area of the site is 1.23 acres. At the required minimum density of 30 tree units per acre of buildable area, 37 tree units are required. The proposed 54 tree units to be preserved in the tree tract meets this requirement.

10. There are no landmark or specimen trees on the project site.

11. The Preliminary Tree Protection Plan, Ex. 1, Att. F, also recommends planting an additional 30 western red cedar seedlings in the tree tract to improve stocking and tree quality over time. The Plan further recommends planting of street trees. These are reasonable requirements to assure compliance with applicable plans and ordinances and are included in the conditions, below.

12. The Applicant proposes to infiltrate on the site all stormwater generated by impervious surfaces in the subdivision during the 100-year storm.

13. Roof runoff will be infiltrated in drywells and will not be routed to the stormwater facility.

14. Runoff from the proposed street and driveways will be conveyed to the proposed stormwater facility in Tract A. This facility will treat and infiltrate the stormwater, as described in the Preliminary Drainage and Erosion Control Report at Ex. 1, Att. E.

15. The Staff Report implies at p. 6 that the Applicant has not submitted a landscaping plan for the stormwater facility that complies with the Stormwater Manual. This decision is conditioned to require compliance.

16. The Staff Report implies at p. 6 that the Applicant has not submitted sufficient information on drywell sizes and locations. This decision is conditioned to require this information.

17. The Department believes the proposal, as conditioned, complies with the City Stormwater Manual.

18. Public school students residing in the proposed subdivision would attend either Roosevelt Elementary School, Reeves Middle School or Olympia High School. Each of these schools is more than one mile from the project site. Therefore, the policies of the Olympia School District would extend school bus service to these students.

19. With school bus service, the mandate of RCW 58.17.110 to provide safe walking conditions to school requires a safe walking route to the nearest school bus stop serving those schools. That bus stop, according to the Staff Report, is at the corner of Pattison Street and Applehill Court. The proposed sidewalk on "A" Road would connect with the existing sidewalk on Pattison Street, thus providing a sidewalk to this corner for students in this subdivision.

20. The evidence did not specify which side of Pattison Street the school bus stop is on. A review of bus stop information on the Olympia School District website on

August 8, 2008 (osd.wednet.edu) suggests that the bus stops at this location while proceeding southbound, which suggests the stop is on the west side of Pattison. If this is the case, a crosswalk meeting applicable standards would be needed across Pattison Street to assure safe walking conditions. The evidence does not show if such a crosswalk is present. This decision is conditioned to require this crosswalk, if the school bus stop is on the west side of Pattison Street.

21. The evidence also was not clear as to whether students from the proposed subdivision would be required to cross Applehill Court to reach the school bus stop or whether a crosswalk is present over that street. This decision is conditioned to require this determination and this sidewalk, if needed.

22. This subdivision would contain 18 residential townhouse lots. Ex. 1, p. 1. The memorandum on traffic impacts states that the subdivision will generate a maximum of 14 trips in the p.m. peak hour. Ex. 1, Att. G. The environmental checklist, however, states that approximately 18 p.m. peak hour trips will be generated, according to the ITE Manual. Ex. 1, Att. B, p. 13. Because it was relied on in complying with the State Environmental Policy Act (SEPA) and because it expressly relies on the ITE Manual and the 18 planned lots, the projection in the checklist will be accepted. This proposal will generate approximately 18 p.m. peak hour trips.

23. The Department stated in Ex. 3 that this subdivision would generate five vehicle trips in the peak direction in the peak hour on adjacent streets and intersections. The Department stated in the same exhibit that the 36-unit Pattison Street Plat immediately to the north would generate 15 vehicle trips in the peak direction in the peak hour on adjacent streets and intersections.

24. The Department testified that the effect of the proposal on transportation levels of service would only be taken into account if a traffic impact analysis (TIA) were prepared. The Department stated that because this subdivision fell below the threshold requiring a TIA, none was required. Because no TIA is required, the Department took the position that an analysis of the subdivision's effect on levels of service was not required.

25. The record was held open after the hearing for submittal of additional evidence on traffic effects. See Ex. 2. In response, the Department carried out an analysis of the level of service (LOS) of the intersection of Martin Way and Pattison Street, assuming the presence of peak hour traffic from this proposed subdivision and the Pattison Street Plat immediately to the north. See e-mail sent July 16, 2008 from David Smith, Olympia Transportation Engineer, to Marcus Goodman at Ex. 3. This analysis found that the LOS for traffic on Martin Way at this intersection would be at LOS A, but that the northbound leg on Pattison would be at LOS E and the southbound leg on Pattison at LOS F. See Two-Way Stop Control Summary at Ex. 3. The analysis also found that the average LOS for this intersection would remain at LOS A. The estimated vehicle queue on the southbound (north) leg is projected at 1.7 vehicles. E-



mail from Smith to Goodman at Ex. 3.

26. On the same evening on which this subdivision proposal was heard, a public hearing was held before the Hearing Examiner on the 36-unit Pattison Street Plat immediately to the north. These subdivisions are owned by different persons and are proposed by different applicants. Mr. Connolly, the engineer for both projects, testified that he is not aware of any business relationship between the two applicants.

27. A number of nearby residents testified in opposition to the proposal. The points raised in this testimony by Ms. Eichrodt, Mr. Olson and Mr. Fonderwhite were that Pattison Street is a narrow road with parking on both sides, that there are many small children in the area who cross this street and play near it, that adding the traffic from this subdivision to Pattison Street would increase the danger to children, and that this proposal would place an urban subdivision in a quiet, rural area. Mr. Fonderwhite also testified that the traffic impacts of a proposed nearby market and small shops should be considered together with those of this proposal.

28. An Intercity Transit bus stop is located approximately 1/4 mile south of the proposed subdivision, at the corner of Pattison Street and Martin Way.

29. Indian Creek is located approximately .17 miles west of the site, Woodard Creek approximately .13 miles to the east and Bigelow Lake approximately .5 miles northeast of the site. Evidence submitted for the adjacent Pattison Street Plat showed that a seasonal wetland associated with Woodard Creek lies approximately 350 feet east of that site.

30. The Staff has conducted a conceptual design review and has concluded that the townhouse designs meet the design review requirements for conceptual review. Detailed design review will be carried out at the building permit stage.

### **CONCLUSIONS OF LAW**

1. RCW 58.17.110 (1) and (2) set out the basic standards which must be met before preliminary subdivision approval may be granted. They state that

"(1) The city, town, or county legislative body shall inquire into the public use and interest proposed to be served by the establishment of the subdivision and dedication. It shall determine: (a) If appropriate provisions are made for, but not limited to, the public health, safety, and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and schoolgrounds, and shall consider all other relevant facts, including sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school; and (b) whether the public interest will be served by

the subdivision and dedication.

(2) A proposed subdivision and dedication shall not be approved unless the city, town, or county legislative body makes written findings that: (a) Appropriate provisions are made for the public health, safety, and general welfare and for such open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and schoolgrounds and all other relevant facts, including sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school; and (b) the public use and interest will be served by the platting of such subdivision and dedication. If it finds that the proposed subdivision and dedication make such appropriate provisions and that the public use and interest will be served, then the legislative body shall approve the proposed subdivision and dedication . . ."

2. Subdivisions must be consistent with the Olympia Comprehensive Plan and in compliance with other applicable land use laws, such as the City zoning ordinance.

3. As conditioned, this proposal is consistent with the Olympia Comprehensive Plan.

4. The proposal meets the required minimum density and does not exceed the maximum density allowed. The proposed lots meet applicable lot size and lot width requirements. As conditioned, this proposal meets the applicable requirements of Chap. 18.04 OMC

5. Under OMC 18.100.060, townhouse developments are subject to design review. This Application has undergone conceptual design review, as required by OMC 18.100.110. Detailed design review will be carried out at the building permit stage under OMC 18.100.110.

6. The Department recommended a condition of approval requiring the installation of water meters sized for residential fire sprinklers. The Department testified also that fire sprinklers were required in residential units in this subdivision. To avoid any uncertainty, this condition is expanded to require compliance with Ordinance No. 6463, as applicable.

7. As conditioned, this proposal complies with the Tree Protection and Replacement Ordinance, Chap. 16.60 OMC.

8. As conditioned, this proposal complies with the Stormwater Manual.

9. The Olympia Critical Area Ordinance (CAO) defines streams as

"an area where surface waters flow sufficiently to produce a defined channel or

bed, i.e., an area which demonstrates clear evidence of the passage of water including but not limited to bedrock channels, gravel beds, sand and silt beds and defined-channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices . . ."

OMC 18.32.405 A. Under this definition, Woodard and Indian Creeks in the vicinity of this proposal are likely critical areas.

10. The CAO defines wetlands as

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

OMC 18.32.505 A. Under this definition, the wetland associated with Woodard Creek east of the site is likely a critical area.

11. According to OMC 18.32.110 D, part of the CAO,

"[n]o action shall be undertaken by any person, which results in any alteration of a critical area or its buffer except in compliance with the requirements, purpose and intent of this Chapter."

By its terms, this prohibition applies whether or not a proposal would intrude into a critical area or its buffer.

12. OMC 18.32.110 C, though, states that

"[d]evelopments which include or lie within three hundred (300) feet of a landslide hazard area, stream, or wetland, and a distance of up to one thousand (1,000) feet of an important habitat or species location depending upon the type of habitat, shall be subject to the [CAO]."

This implies that proposals lying outside these distances from critical areas are not subject to the CAO. Thus, this proposal is not subject to the CAO with respect to its potential effect on Woodard Creek or Indian Creek, as streams, or the wetland associated with Woodard Creek, as a wetland.

13. Woodard Creek, Indian Creek and the wetland associated with Woodard Creek are each within 1000 feet of this project site. Thus, if any are an important habitat or species critical area, the CAO would apply under OMC 18.32.110 C to the proposal and its effects as they relate to that important habitat and species area.

14. OMC 18.32.305 defines important habitats and species as

"habitats or species known to occur within Thurston County and which may be found within the City of Olympia and which are not receiving habitat protection by another critical area category (e.g. Streams, Wetlands, or Landslide Hazard Areas) in this Chapter and:

A. Are designated as endangered or threatened species identified under the Endangered Species Act; or

B. Are state designated endangered, threatened, or sensitive species identified by the Washington Department of Fish and Wildlife and the habitat primarily associated with those species."

15. The environmental checklist, at Ex. 1, Att. B, p. 7, states that priority anadromous and resident fish presence is documented within Woodard Creek (.13 miles east of the site) and within Indian Creek (.17 miles west). However, characterization as priority does not necessarily mean that the species or habitat has been designated as endangered, threatened, or sensitive. Thus, the evidence is inconclusive as to whether either Indian or Woodard creeks or the nearby wetland associated with Woodard Creek count as an important habitat and species critical area. If they do, then the requirements of the CAO would be triggered by OMC 18.32.110 C. This decision is conditioned to require this determination and, if these are such critical areas, compliance with the CAO.

16. As conditioned, this proposal complies with the CAO.

17. The federal Clean Water Act at 33 U.S.C. 1313(d), also known as Section 303(d), generally requires states to identify impaired surface waters and to implement standards known as total maximum daily loads (TMDLs) for such waters. According to the state Department of Ecology website on July 28, 2008, the state has identified Woodard Creek as an impaired water under Section 303(d), due to dissolved oxygen.

18. Although local hearing examiners generally do not apply federal laws, we must make a determination under RCW 58.17.110 as to whether a proposed subdivision makes appropriate provisions for public health and whether it will serve the public interest. When a subdivision is proposed this close to a 303(d) stream and its associated wetland, this requires at least that the Applicant communicate with the state Department of Ecology to determine whether the proposal will cause a violation or noncompliance with any TMDL adopted for this stream and, if such a violation would be caused, to remedy it. This decision is conditioned to require these steps.

19. RCW 36.70A.070 (6) (b) requires local jurisdictions subject to the Growth Management Act to adopt ordinances which prohibit development that causes the LOS on a locally owned transportation facility to decline below adopted standards, unless

transportation improvements or strategies to accommodate the impacts of development are made concurrent with the development. Under this provision, "concurrent with the development" means that improvements or strategies are in place at the time of development, or that a financial commitment is in place to complete the improvements or strategies within six years. This requirement is commonly known as that of concurrency.

20. Olympia has complied with this requirement through the adoption of Chap. 15.20 OMC. The heart of this ordinance is OMC 15.20.050 H, which states that a finding of concurrency will be made only if the LOS of affected transportation facilities meets or exceeds the adopted minimum. Although not stated explicitly in this ordinance, its purpose of complying with RCW 36.70A.070 plainly implies that development cannot proceed without such a finding.

21. Nowhere in either RCW 36.70A.070 or Chap. 15.20 is there any exemption for projects falling below the threshold for preparing a TIA. OMC 15.20.060 (5) does exempt from the concurrency requirement applications which are exempt under the State Environmental Policy Act (SEPA). This will surely exempt from concurrency some small projects which are also exempt from TIA preparation, but they are not exempted from concurrency because they are exempted from TIA preparation. Projects such as this, which are not exempt from SEPA but are exempt from TIA preparation, are still subject to the requirement of concurrency under RCW 36.70A.070 and Chap. 15.20 OMC.

22. The only intersection affected by this project which the evidence suggested may become substandard is Pattison Street and Martin Way, which does not have traffic signals. According to the Comprehensive Plan, this intersection is in a high density corridor. According to OMC 15.20.030 E, the minimum acceptable LOS in high density corridors is LOS E.

23. The LOS of unsignalized intersections is determined by the weighted average delay from all movements. TIA Guidelines for New Developments at p. 8 in Ex. 4. However, if a single lane approach is failing and the vehicle queue is four or more vehicles, exclusive turn lanes are required. Id

24. As found, the City Transportation Engineer projected the LOS for this intersection, including traffic from both this subdivision and the adjacent Pattison Street Plat. He concluded that the average intersection LOS would be A and that the vehicle queue on the one failing leg would be 1.7 vehicles. Thus, even with the combined traffic from these two subdivisions, the LOS at the intersection of Pattison Street and Martin Way meets concurrency standards.

25. The traffic from this subdivision, considered together with that from Pattison Street Plat, will not cause any transportation facility to operate at a substandard LOS.

26. A separate and important issue was raised by the testimony of nearby residents. As described in the Findings, above, they testified that approval of this subdivision would pose a risk to public safety, due to the narrowness of Pattison Street, the parking on both sides of it, and the many children in the area.

27. This development, though, is required to widen its half of Pattison Street to Neighborhood Collector standards and to install sidewalks and other improvements required of Neighborhood Collectors on its side of Pattison. Thus, at the same time as it adds traffic to Pattison, this proposal will make it significantly safer for pedestrians. In the absence of evidence to the contrary, it must be assumed that Neighborhood Collectors are designed to function safely in neighborhoods such as this, where they are designated. One might be able to argue that half-street Neighborhood Collector improvements are inadequate to safely accommodate a traffic increase in a specific situation, but no evidence was offered to support that position in these circumstances. In the absence of specific evidence to the contrary, it must be concluded that the required improvements will safely accommodate the traffic from this subdivision.

28. At the close of the hearing, the record was kept open in part for responses to the question whether these two subdivisions should be considered together in deciding whether a TIA is necessary. According to OMC 15.20.060 B, a TIA is required, among other situations, when the development will generate 50 or more vehicle trips in the peak direction during the peak hour. As found, Ex. 3 states that this subdivision would generate five vehicle trips and the Pattison Street Plat immediately to the north would generate 15 vehicle trips in the peak direction in the peak hour on adjacent streets and intersections. Thus, even if considered together, these subdivisions would not exceed the threshold for preparing a TIA. As concluded above, these subdivisions, even if considered together, meet concurrency requirements. Therefore, it is not necessary to decide at this time whether the traffic impacts of adjacent subdivisions considered at the same time should be combined in their consideration.

29. For the reasons expressed in the Findings, above, the Applicant for this subdivision is not required to build sidewalks along Pattison Street to the corner of Pattison Street and Applehill Court, the location of the nearest school bus stop. However, because the evidence is not clear whether students walking to this bus stop would cross Pattison Street or Applehill Court, this decision is conditioned to require crosswalks across those streets, if needed to reach the bus stop.

30. The proposed Pattison Street Plat is located immediately north of this subdivision and was presented to the Hearing Examiner for decision at the same time. Students living in the Pattison Street Plat would walk to the same school bus stop as those living in this subdivision. If crosswalks across Pattison Street or Applehill Court are needed to reach the bus stop, they would be required to serve both subdivisions. Therefore, the cost of any such crosswalks should be divided equally between the two proposals.

31. As conditioned, this proposed subdivision makes appropriate provisions as required by RCW 58.17.110 and complies with City ordinances applicable to subdivision review.

### **DECISION**

The proposed subdivision is approved, subject to the following conditions:

A. The conditions recommended on pp. 8-10 of the Staff Report, Ex. 1, are incorporated by reference, with the following modifications:

Condition 7 is revised to read as follows: "Implement and follow all measures described or recommended in the Tree Protection Plan, which includes both the July 16, 2007 Preliminary Tree Protection Plan and the August 22, 2007 letter from Galen M. Wright to Doug Saunders, each of which are at Ex. 1, Att. F. This includes, but is not limited to, planting the 11 additional trees described in the August 22, 2007 letter and the street trees and the additional 30 western red cedar seedlings in the tree tract described in the Preliminary Tree Protection Plan."

In Condition No. 9, the phrase "should be sized" is changed to "shall be sized". In addition, the following sentence is added at the end of Condition 9: "The Applicant shall comply with all applicable provisions of Ordinance No. 6463."


B. If the school bus stop at the corner of Applehill Court and Pattison Street is located on the west side of Pattison, the Applicant shall construct a crosswalk meeting applicable standards across Pattison Street at that location, unless such a crosswalk is already present. Whether or not Pattison Street must be crossed, if students from the proposed subdivision would be required to cross Applehill Court to reach the school bus stop and if a crosswalk meeting applicable standards is not present at that location, the Applicant shall construct such a crosswalk across Applehill Court. The cost of constructing any such crosswalks shall be borne equally by the Applicant for this subdivision and the Applicant for the adjacent Pattison Street Plat. The same crosswalk requirements have also been imposed on the Pattison Street Plat. Therefore, the Applicants for each of these subdivisions shall cooperate in ensuring these crosswalks are installed, if required under this condition.

C. The Department of Planning and Community Development shall determine whether Indian Creek, Woodard Creek or the wetland associated with Woodard Creek within 1000 feet of the project site are Important Habitat and Species critical areas. The Department may require evaluations from the Applicant in making this determination. If, the Department determines such critical areas are present within 1000 feet, it shall require compliance with applicable provisions of the CAO.

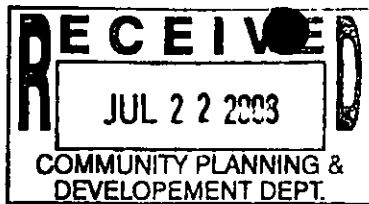
D. The Applicant shall contact the state Department of Ecology to determine whether TMDLs have been adopted for Woodard Creek. If they have been adopted, the Department of Planning and Community Development shall determine whether any modification of the proposed subdivision is necessary to ensure compliance with such TMDLs. The Applicant shall carry out such modifications.

Dated this 28th day of August, 2008.

*mailed 08/29/08  
Redwards*

  
Thomas R. Bjorgen  
Olympia Hearing Examiner



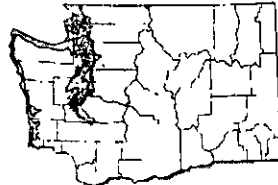


STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

July 21, 2008

Ms. Susan Messegee, AICP  
City of Olympia  
Community Planning and Development  
PO Box 1967  
Olympia, WA 98507-1967



Your address  
is in the  
**Deschutes**  
watershed

Dear Ms. Messegee:

Thank you for the opportunity to comment on the determination of nonsignificance for the Pattison Street Townhomes Subdivision project (Project No. 07-0148) located on the 500 Block Pattison Street Northeast as proposed by Douglas Saunders. The Department of Ecology (Ecology) reviewed the environmental checklist and has the following comment(s):

**TOXICS CLEANUP: Laura Klasner (360) 407-6265**

This property is within a quarter mile of two known or suspected contaminated sites (FS/ID# 39211944 and 88728931). If contamination is suspected or discovered during development or construction activities, sampling must be conducted. If contamination is confirmed during testing, the Department of Ecology must be notified. Contact the Environmental Report Tracking System Coordinator at the Southwest Regional Office at (360) 407-6300. For assistance and information about subsequent cleanup and to identify the type of testing that will be required, contact Laura Klasner at the phone number given above.

**WATER QUALITY: Roberta Woods (360) 407-6269**

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or storm drains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Proper disposal of construction debris must be on land in such a manner that debris cannot enter the natural stormwater drainage systems, stormdrains draining to waters of the state or cause water quality degradation of state waters.

During construction, all releases of oils, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials must be contained and removed in a manner that will prevent their discharge to waters and soils of the state. The cleanup of spills should take precedence over other work on the site.

Soil in stockpiles should be stabilized or protected with sediment-trapping measures to prevent soil loss. All exposed areas of final grade or areas that are not scheduled for work, whether at final grade or otherwise, shall not remain exposed and un-worked for more than two days, between October 1



and April 30. Between May 1 and September 30, no soils shall remain exposed and un-worked for more than 7 days.

Clearing limits and/or any easements or required buffers should be identified and marked in the field, prior to the start of any clearing, grading, or construction. Some suggested methods are staking and flagging or high visibility fencing.

A permanent vegetative cover should be established on denuded areas at final grade if they are not otherwise permanently stabilized.

Properties adjacent to the site of a land disturbance should be protected from sediment deposition through the use of buffers or other perimeter controls, such as filter fence or sediment basins.

All temporary erosion control systems should be designed to contain the runoff from the developed two year, 24-hour design storm without eroding.

Provision should be made to minimize the tracking of sediment by construction vehicles onto paved public roads. If sediment is deposited, it should be cleaned every day by shoveling or sweeping. Water cleaning should only be done after the area has been shoveled out or swept.

Wash water from paint and wall finishing equipment should be disposed of in a way which will not adversely impact waters of the state. Untreated disposal of this wastewater is a violation of State Water Quality laws and statutes and as such, would be subject to enforcement action.

The construction done on this project site will disturb more than 1 acre of soil surface area. If the site had offsite discharge of stormwater before construction started or will have offsite discharge during construction, a Construction Stormwater National Pollution Discharge Elimination System (NPDES) permit is required. This permit must be obtained before the start of any clearing, grading or construction activities and must be kept until the site reaches final stabilization. The permit application form, called a Notice of Intent, is available on Ecology's website at: <http://www.ecy.wa.gov/programs/wq/stormwater/construction/#Application>. To avoid project delays, we encourage the applicant to submit a completed application form and to publish public notices more than 60 days before the planned start of the project.

Ecology's comments are based upon information provided by the lead agency. As such, they do not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments please contact the appropriate reviewing staff listed above.

Department of Ecology  
Southwest Regional Office

(SM: 08-5006)

cc: Laura Klasner, TCP  
Roberta Woods, WQ  
Douglas Saunders (Applicant)  
Skillings Connolly (Representative)



**DATE:** July 18, 2008

**SUBJECT:** 07-0120 Pattison Plat  
07-0148 Pattison Townhomes  
Engineering Response to Holding Record Open/HEX Information Request

Mr. Bjorgen:

I have reviewed the record for both the Pattison Plat and Pattison Townhomes projects and determined a Traffic Impact Analysis was not warranted for either project. Chapter 15.20 of the Olympia Municipal Code outlines the transportation concurrency standards and regulations adopted by the City of Olympia. Specifically, OMC 15.20.060(B) states that a TIA shall be prepared in accordance with the City of Olympia Traffic Impact Analysis guidelines for New Developments, if the development crosses one of the following thresholds:

- 1. Development that generates 50 or more vehicle trips in the peak direction of the peak hour on the adjacent streets and intersections; or*
- 2. Development that generates 25 percent or more of peak hour traffic through a signalized intersection or the critical movement at an unsignalized intersection.*

The Pattison Street Plat generates 15 vehicle trips in the peak direction of the peak hour on the adjacent streets and intersections. The Pattison Street Townhomes generates 5 vehicle trips in the peak direction of the peak hour on the adjacent streets and intersections. Therefore, neither project crosses the thresholds for a TIA to be prepared.

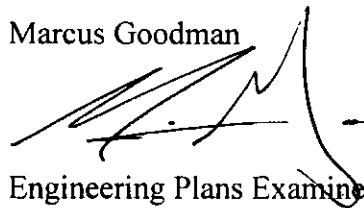
The City Of Olympia's Traffic Impact Analysis guidelines for New Development require proposed development which crosses the thresholds for preparation of a TIA to include pipeline or contiguous projects in the analysis. However, the City of Olympia does not have an adopted process which

requires two or more contiguous subdivisions, each proposed by a different applicant and each generating traffic below the threshold for preparing a TIA, to prepare a TIA if the combined transportation impacts exceed the threshold requirements.

I have provided the following evidence to support that conclusion:

E-Mail from Dave Smith, PE, City Of Olympia Transportation Engineer  
Combined Traffic Impact Analysis/LOS Analysis Completed By David Smith, PE. (Sheets 1-6)  
Traffic Impact Analysis Guidelines  
Chapter 15.20, Olympia Municipal Code (Reference)

Marcus Goodman



Engineering Plans Examiner  
City of Olympia  
Community Planning & Development  
Phone: (360) 753-8336

## Marcus Goodman

---

**From:** David Smith  
**Sent:** Wednesday, July 16, 2008 4:40 PM  
**To:** Marcus Goodman  
**Subject:** FW: Pattison Plat & Townhomes combined Traffic Impact Analysis.

Marc:

I have complete my combined review of the Pattison Plat (36 single family) and Pattison Townhome (18 unit) traffic impacts. Pattison Street is adjacent to the project sites. In the pm peak hour the peak traffic flow direction is northbound. Both projects combined generate less than 50 northbound trips on Pattison Street. Combined projects generate a total of 20 pm peak hour northbound trips on Pattison street. In this situation, typically traffic impact analysis guidelines would not warrant the need to conduct traffic impact analysis.

A level of service analysis was conducted at the intersection Pattison Street and Martin Way. 2008 pm peak hour traffic volumes were analyzed with the addition of the proposed Pattison Plat (36 single family) and Pattison Townhome (18 unit) trips resulted in an average intersection level of service (LOS) A. The north leg of this intersection is LOS F but does not have a significant queue of vehicles greater than 4 vehicle. Estimated vehicle queue is approximately 1.7 vehicles and is acceptable by Olympia TIA Guidelines. Therefore no significantly off-site impact are measured. Additional trips added to the transportation system will be mitigated by contributing to the City of Olympia Transportation Impact Fee Program.

See attachments for the TIA and the concurrency ordinance:



20080716192843.pdf (382 KB)



Concurrency Ordinance 5540.pdf..

Please call me if you have any questions.

Sincerely,

\$

Dave Smith, P.E.

Transportation Engineer

Olympia, Public Works Dept. Transportation

360.753.8496

924 7th Ave. SE - Suite A

Olympia, WA 98507-1967

dsmith3@ci.olympia.wa.us

[www.olympiawa.gov](http://www.olympiawa.gov)

\$



PROJECT PATTISON PLAT & TOWNHOMES

PROJECT No. \_\_\_\_\_

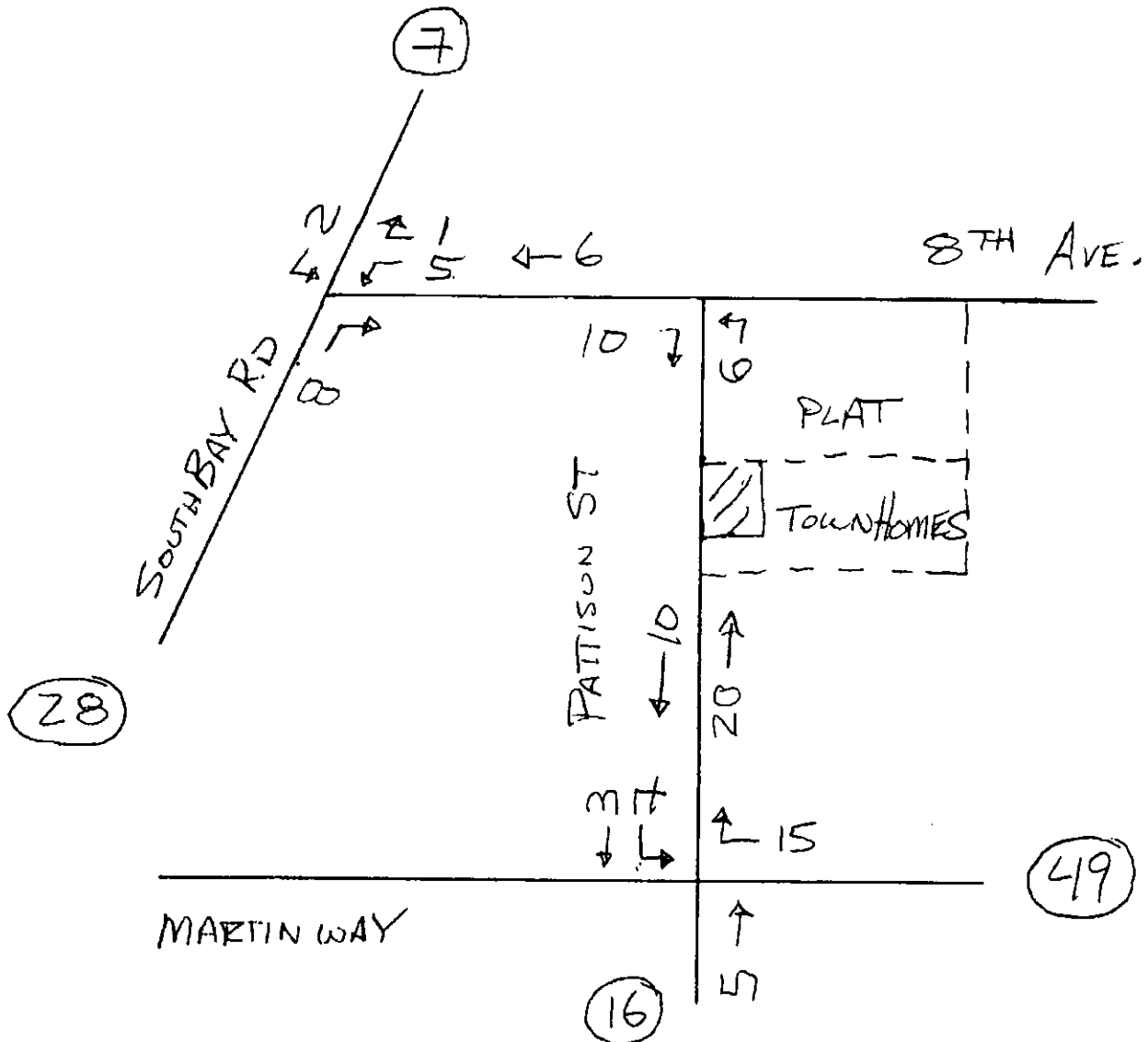
PREPARED BY DSS DATE 07.16.08

SUBJECT TRIP GENERATION

CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

TRIP ASSIGNMENT

DATE \_\_\_\_\_

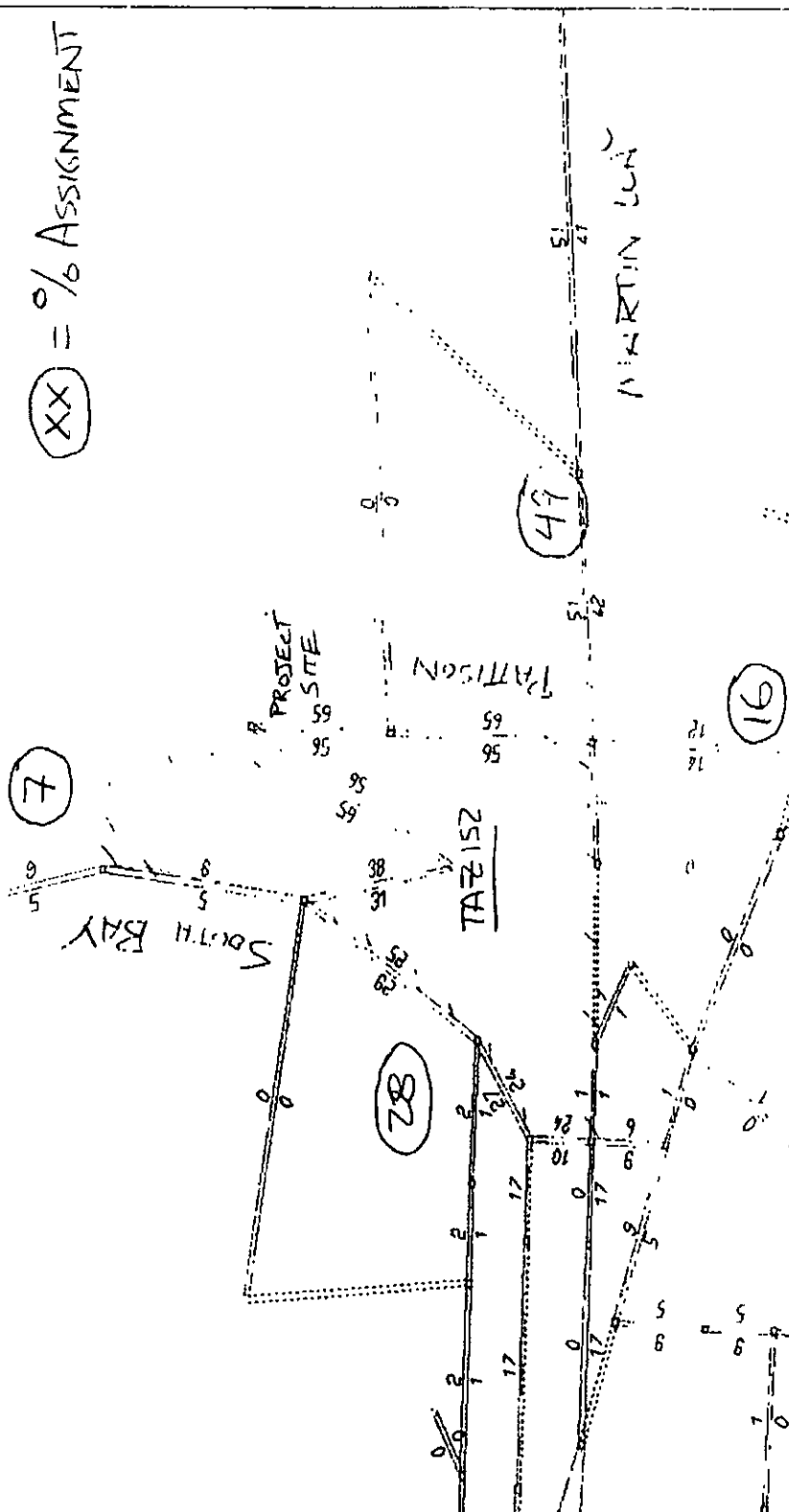


TRIP GENERATION

<u>DEVELOPMENT</u>	<u>UNITS</u>	<u>USE</u>	<u>PM RATE</u>	<u>PM TRIPS (IN/OUT)</u>
PATTISON PLAT	36	SINGLE FAM	(1.01)	= 36 (23/13)
PATTISON TOWNHOMES	18	TOWNH.	(0.55)	= 10 (7/3)
TOTAL				46 (30/16)

(XX) % ASSIGNMENT

② = % Assignment



EMME/2 PROJECT: OLYMPIA'S IMPACT FEE UPDATE, 2005  
SCENARIO 93007. SELECT TAB ANY ZONE

MODIIR  
/SOT6407  
/0054507  
924928

03-07-18 16:13  
MODULE. 6 12  
W3DOT

Note:

**FOR TOTAL INTERSECTION DELAY**

Major Approach:

Left-Through-Right Shared is added together and entered as the left movement with the LT delay.  
In Olympia drivers do not pass a queued left-turn and are assigned delay.

HCS assumes there is no delay for the TH movement. (See HCS2000 manual equation 17-40 and 17-41 text)

If there is an exclusive Left-turn lane enter the Through and the Right volume without delay

Unsignalized Intersection Calculation

Weighted Average

2008 Pattison St. & Martin way with Pattison Plat & Townhomes

Movement	L			T			R			L			T			R		
	1	2	3	4	5	6	7	8	9	10	11	12						
	L	T	R	L	T	R	L	T	R	L	T	R						
	1	2	3	4	5	6	7	8	9	10	11	12						

Volume (HFR) 29 516 49 117 711 39 17 25 65 17 15 13

Control Delay 9.5 0 0 9.2 0 0 41.6 41.6 41.6 58.7 58.7 58.7

Intersection Delay 5.2 A



## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	dss	Intersection	532
Agency/Co.	City of Olympia	Jurisdiction	
Date Performed	7/16/2008	Analysis Year	2008
Analysis Time Period	PM Peak		

Project Description 2008 With Pattison Plat &amp; Townhomes

East/West Street: Martin Way

North/South Street: Pattison

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)	29	516	49	117	711	39
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	29	516	49	117	711	39
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	17	25	65	17	15	13
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	17	25	65	17	15	13
Percent Heavy Vehicles	5	5	5	2	2	2
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	

## Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (veh/h)	29	117		107			45	
C (m) (veh/h)	835	982		201			110	
v/c	0.03	0.12		0.53			0.41	
95% queue length	0.11	0.40		2.76			1.71	
Control Delay (s/veh)	9.5	9.2		41.6			58.7	
LOS	A	A		E			F	
Approach Delay (s/veh)	--	--	41.6			58.7		

E

F

## City of Olympia

Transportation Line of Business  
Public Works Department

Pattison Street

Martin Way

Weather: Mostly sunny, warm

Counted by: John L

File Name : Martin-Pattison

Site Code : 00000532

Start Date : 5/7/2008

Page No : 1

## Groups Printed - Cars - Bikes - Trucks Buses

Start Time	Pattison Street From North					Martin Way From East					Pattison Street From South					Martin Way From West					Lefts Total	Rights Total	Net Total
	Right	Thru	Left	Truck	App Total	Right	Thru	Left	Truck	App Total	Right	Thru	Left	Truck	App Total	Right	Thru	Left	Truck	App Total			
07:00 AM	2	1	2	0	5	1	46	2	0	49	13	2	4	0	19	8	89	2	0	99	0	172	172
07:15 AM	3	0	3	0	6	1	48	3	0	52	15	1	3	0	19	9	88	4	0	101	0	178	178
07:30 AM	2	7	8	1	18	2	65	6	0	73	25	4	3	0	32	11	122	2	0	135	1	255	256
07:45 AM	1	8	0	1	9	2	77	9	0	88	42	3	3	0	48	9	166	1	0	176	1	321	322
Total	8	16	11	2	35	6	236	20	0	262	95	10	13	0	118	37	465	9	0	511	2	926	928
08:00 AM	3	3	1	0	7	1	87	9	0	97	14	2	6	0	22	6	111	3	0	120	0	246	246
08:15 AM	5	6	2	0	13	2	78	7	0	87	21	0	3	0	24	8	129	1	0	138	0	262	262
08:30 AM	2	6	3	0	11	1	74	17	0	92	9	4	4	0	17	6	107	3	0	116	0	235	236
08:45 AM	1	4	3	0	8	1	88	15	0	84	8	3	8	0	17	11	96	2	0	109	0	218	218
Total	11	19	9	0	39	5	307	48	0	360	52	9	19	0	80	31	443	9	0	483	0	962	962
11:00 AM	0	1	1	1	2	3	126	14	0	143	15	3	5	0	23	4	142	0	6	146	7	314	321
11:15 AM	3	1	4	0	8	2	107	6	0	115	12	1	2	0	15	10	128	3	0	141	0	279	279
11:30 AM	2	2	5	1	0	1	138	10	0	147	19	4	2	2	25	4	116	2	0	122	3	303	306
11:45 AM	1	3	2	1	6	4	142	11	0	157	11	2	7	0	20	17	146	1	1	184	2	347	349
Total	6	7	12	3	25	10	511	41	0	562	57	10	16	2	83	35	532	6	7	573	12	1243	1255
12:00 PM	1	1	2	1	4	1	120	22	0	143	21	2	4	0	27	11	135	2	0	148	1	322	323
12:15 PM	2	3	4	0	9	5	132	14	0	151	18	5	3	0	26	2	138	2	1	142	1	328	329
12:30 PM	3	1	3	0	7	1	134	15	0	150	13	3	2	0	18	10	139	1	0	150	0	325	325
12:45 PM	2	2	3	0	7	1	121	11	0	133	16	2	3	0	21	9	132	1	0	142	0	303	303
Total	8	7	12	1	27	8	507	62	0	577	68	12	12	0	92	32	544	6	1	582	2	1278	1280
04:00 PM	1	4	1	1	6	5	144	26	0	175	11	6	5	1	22	11	122	4	2	137	4	340	344
04:15 PM	1	2	1	0	4	5	150	31	0	186	13	5	4	1	22	13	128	5	1	148	2	358	360
04:30 PM	4	3	4	2	11	5	205	39	0	249	16	6	7	0	29	12	151	8	0	171	2	460	462
04:45 PM	3	1	1	1	5	6	165	19	0	190	19	6	3	0	28	10	137	6	0	153	1	376	377
Total	9	10	7	4	26	21	664	115	0	800	59	23	19	2	101	46	538	23	3	607	9	1534	1543
05:00 PM	3	2	2	3	7	7	243	40	0	290	24	8	2	0	34	18	147	10	0	175	3	508	509
05:15 PM	5	7	4	1	16	9	188	34	0	229	14	3	7	1	24	15	145	9	0	169	2	438	440
05:30 PM	6	7	1	1	14	12	170	28	0	210	15	7	0	0	22	14	105	11	0	130	1	376	377
05:45 PM	5	5	2	0	12	8	144	20	0	172	12	5	2	0	19	10	100	9	0	119	0	322	322
Total	19	21	9	5	49	36	743	122	0	901	65	23	11	1	99	57	497	39	0	593	6	1642	1648
Grand Total	61	80	60	15	201	86	2968	408	0	3462	396	87	90	5	673	238	3019	92	11	3349	31	7585	7616
Approch %	30.3	39.8	29.9			2.5	85.7	11.8			69.1	15.2	15.7			7.1	90.1	2.7					
Total %	0.8	1.1	0.8		2.6	1.1	39.1	5.4		45.8	5.2	1.1	1.2		7.6	3.1	39.8	1.2		44.2	0.4	99.6	
Cars	56	80	55		203	82	2848	388		3318	386	88	80		537	191	2899	91		3192	0	0	7250
% Cars	91.8	100	91.7	80	94	95.3	96	95.1	0	95.8	92.4	98.9	88.9	100	92.9	80.3	96	98.9	100	95	0	0	95.2
Bikes	0	0	1		4	1	23	0		24	2	0	1		3	8	20	0		28	0	0	59
% Bikes	0	0	1.7	20	1.9	1.2	0.8	0	0	0.7	0.5	0	1.1	0	0.5	3.4	0.7	0	0	0.8	0	0	0.8
Trucks Buses	5	0	4		9	3	97	20		120	28	1	9		38	39	100	1		140	0	0	307
% Trucks Buses	8.2	0	6.7	0	4.2	3.5	3.3	4.9	0	3.5	7.1	1.1	10	0	6.6	16.4	3.3	1.1	0	4.2	0	0	4

$$1 - 2 \text{ HRF} = \frac{1546}{1788} = 0.86$$

# City of Olympia

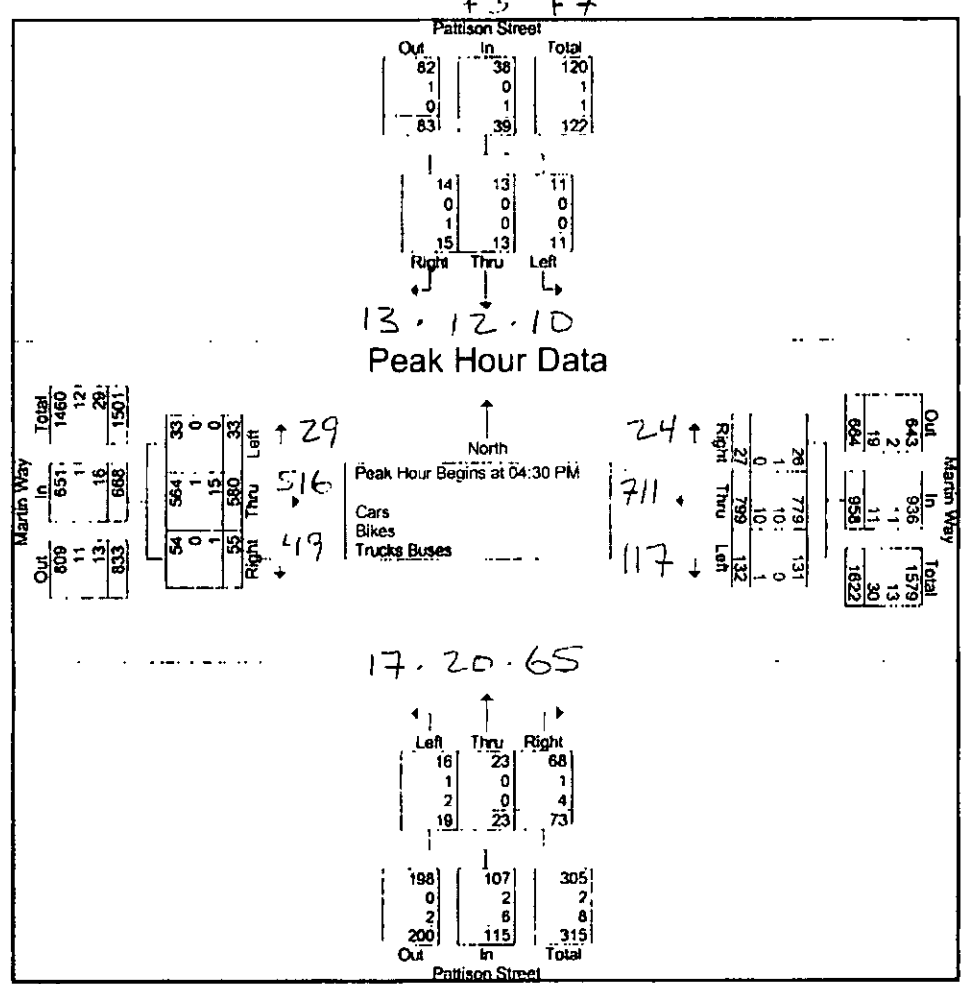
## Transportation Line of Business

### Public Works Department

Pattison Street  
Martin Way  
Weather: Mostly sunny, warm  
Counted by: John L

File Name : Martin-Pattison  
Site Code : 00000532  
Start Date : 5/7/2008  
Page No : 5

Start Time	Pattison Street From North				Martin Way From East				Pattison Street From South				Martin Way From West				Tot. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	4	3	4	11	5	205	39	249	16	6	7	29	12	151	8	171	460
04:45 PM	3	1	1	5	6	165	19	190	19	6	3	28	10	137	6	153	376
05:00 PM	3	2	2	7	7	243	40	290	24	8	2	34	18	147	10	175	506
05:15 PM	5	7	4	16	9	186	34	229	14	3	7	24	15	145	9	169	438
Total Volume	15	13	11	39	27	799	132	958	73	23	19	115	55	580	33	668	1780
% App. Total	38.5	33.3	28.2		2.8	83.4	13.8		83.5	20	18.5		8.2	86.8	4.9		
PMF	750	464	688	609	750	822	825	828	760	719	679	846	764	960	825	954	879
Cars	14	13	11	38	28	779	131	936	68	23	16	107	54	564	33	651	1732
% Cars	93.3	100	100	97.4	98.3	97.5	99.2	97.7	93.2	100	84.2	93.0	98.2	97.2	100	97.5	97.3
Bikes	0	0	0	0	1	10	0	11	1	0	1	2	0	1	0	1	14
% Bikes	0	0	0	0	3.7	1.3	0	1.1	1.4	0	5.3	1.7	0	0.2	0	0.1	0.8
Trucks Buses	1	0	0	1	0	10	1	11	4	0	2	6	1	15	0	16	34
% Trucks Buses	6.7	0	0	2.6	0	1.3	0.8	1.1	5.5	0	10.5	5.2	1.8	2.6	0	2.4	1.9



1. 2. NRE = 0.859 + 5  
(+ x - PATTISON INT # TOWN HOMES

**CITY OF OLYMPIA**  
**Traffic Impact Analysis (TIA)**  
**Guidelines for New Developments**

**A. INTRODUCTION**

A Traffic Impact Analysis (TIA) is a specialized study of the impacts that a certain type and size of development will have on the surrounding transportation system. The TIA is an integral part of the development impact review process. It is specifically concerned with the generation, distribution, and assignment of traffic to and from the new development. New development includes properties that are redeveloped. The purpose of a TIA is to determine what impact development traffic will have on the existing and proposed street network and what impact the existing and projected traffic on the street system will have on the new development.

These guidelines have been prepared to establish the requirements for a TIA. The Environmental Review Officer (ERO) will be the person responsible under the State Environmental Policy Act (SEPA), as well as city ordinances, for enforcing the need for a TIA. The ERO will consult with the Transportation Division and, based on their recommendation, determine the need for a TIA.

**B. WHEN REQUIRED**

To adequately assess a new development's traffic impact on the transportation system and level of traffic service, the ERO, based on the recommendation of the Transportation Division, may require a TIA. The requirement for a TIA will be based on the size of the development proposed, existing street and intersection conditions, traffic volumes, accident history, community concerns, and other pertinent factors relating to traffic impacts attributable to new developments.

The ERO, based on the recommendation of the Transportation Division, will make the determination as to whether a TIA will be required. As a minimum, the following guidelines will be utilized in making this decision:

1. The new development generates more than 50 vehicles in the peak direction of the peak hour on the adjacent streets and intersections. This would include the summation of all turning movements that affect the peak direction of traffic.

Projects generating less than 50 vehicles in the peak hour on the adjacent streets and intersections will typically not be required to conduct a TIA. They will make proportionate share contributions to identified transportation facility improvement projects in the area of the development. Refer to Section D, Item Number 6, "Mitigation," as to how the proportionate share costs will be determined.

2. The new development generates more than 25 percent of site-generated peak-hour traffic through a signalized intersection or the critical movement at an unsignalized intersection.
3. The new development is within an existing or proposed transportation benefit area. This may include Latecomer Agreements, Transportation Benefit Districts (TBD), Local

Improvement Districts (LID), or local/state transportation improvement areas programmed for development reimbursements.

4. The new development may potentially affect the implementation of the street system outlined in the Transportation Element of the *Comprehensive Plan*, the Transportation Improvement Program, or any other documented transportation project.
5. A rezone of the subject property will require a TIA prior to rezone approval.
6. The original TIA is more than two years old or where the proposed project traffic volumes increase by more than 10 percent.
7. If there is an identified or potential hazardous traffic condition (safety concern).

If the ERO, based on the recommendation of the Transportation Division, has made the determination to require a TIA, the general guidelines for content and structure shall follow the format outlined in **Section D, Scope of Work**.

#### **C. QUALIFICATIONS FOR PREPARING TIA DOCUMENTS**

A TIA shall be conducted under the direction of a responsible individual or firm acceptable to the ERO, based on the recommendation of the Transportation Division Manager or Public Works Director. The TIA shall be prepared by an engineer licensed to practice in the State of Washington with special training and experience in traffic engineering and who is a member of the Institute of Transportation Engineers (ITE). The developer shall provide the ERO the credentials of the individual(s) selected to perform the TIA and review them with the Transportation Division to determine if the individual or firm is qualified. Upon request, the ERO may provide the developer a list of qualified individuals to perform such work.

#### **D. SCOPE OF WORK**

The level of detail and scope of work of a TIA may vary with the size, complexity, and location of the new development. A TIA shall be a thorough review of the immediate and long-range affects of the new development on the transportation system.

1. New Development Prospectus
  - a. Provide a reduced copy of the site plan, showing the type of development, street system, right-of-way limits, access points, and other features of significance in the new development. The site plan shall also include pertinent off-site information, such as locations of adjacent intersections, land use descriptions, street right-of-way limits with respect to the existing roadway, and other features of significance. **Exhibit A** illustrates an example site plan for reference purposes.
  - b. Provide a vicinity map of the project area showing the transportation system to be impacted by the development. **Exhibit B** illustrates an example vicinity map for reference purposes.
  - c. Discuss specific development characteristics, such as type of development

proposed (single-family, multi-family, retail, industrial, etc.), internal street network, proposed access locations, parking requirements, zoning, and other pertinent factors attributable to the new development.

- d. Discuss project completion and occupancy schedule for the new development. Identify horizon years for traffic analysis purposes.

## **2. Existing Conditions**

- a. Discuss street characteristics, including functional classification, number of traveled lanes, lane width, shoulder treatment, bicycle path corridors, and traffic control at study intersections. A figure may be used to illustrate existing transportation facilities.
- b. Identify safety and access problems, including discussions on accident history, sight distance restrictions, traffic control, and pedestrian conflicts.
- c. Obtain all available pertinent traffic data from the City of Olympia. If data is unavailable, the individual or firm preparing the TIA shall collect the necessary data to supplement the discussions and analysis in the TIA.
- d. Conduct manual peak-hour turning movement counts at study intersections, if traffic volume data is more than two years old or, if after consulting with the Transportation Division, it is recommended to the ERO that new counts should be conducted. A copy of the reduced data shall be attached to the TIA, when submitted to the ERO, who will distribute it for review.
- e. A figure shall be prepared showing existing average daily traffic (ADT) and peak-hour traffic volumes on the adjacent streets and intersections in the study area. Complete turning movement volumes shall be illustrated as shown in **Exhibit C**. This figure shall represent the base-line traffic volumes for analysis purposes.

## **3. Development Traffic**

This element of the TIA shall be conducted initially to identify the limits of the study area. The study area shall include all pertinent intersections and streets impacted by development traffic. The limits of the study area shall be representative of the specific conditions outlined in **Section B** of these guidelines.

A threshold requirement of development traffic exceeding 20 vehicles in the peak direction of the peak-hour traffic on the adjacent streets and intersections shall apply. The threshold requirement of the development generating 25 percent or more of site traffic through a signalized intersection or the critical movements at an unsignalized intersection shall also apply. Each intersection and street impacted as described shall be included in the study area for analysis purposes.

The individual or firm preparing the TIA shall submit to the ERO a figure illustrating the proposed trip distribution for the new development. The trip generation shall be included in a table format on the figure with peak-hour traffic volumes assigned to the study area

in accordance with the trip distribution. Once approved by the ERO, based on the recommendation of the Transportation Planner, a formal scoping of the development proposal shall be conducted to clearly identify the study area and contents expected in the TIA. **Exhibit D** shows an example figure for reference purposes.

The methodology and procedures used in preparing the trip generation and trip distribution elements of the TIA are as follows:

**a. Trip Generation**

Site traffic shall be generated for either or all daily, morning, and afternoon peak-hour periods, using the most current Transportation Impact Fee Rate Study Addendum—Table 3 New Trip Rate. The new trip rate accounts for “passer-by” traffic volume discount and is based on the ITE trip generation edition that is consistent with the Transportation Impact Fee (TIF) rate schedule. Variations of trip rates will require approval from the ERO, based on the recommendation of the Transportation Division.

For multi-use and/or “phased” projects, a trip generation table shall be prepared showing proposed land use, trip rates, and vehicle trips for daily and peak-hour periods and appropriate traffic volume discounts, if applicable, per phase. Traffic impact will be based on the cumulative affect of each phase.

**b. Trip Distribution**

The trip distribution for a new development shall be approved by the ERO, based on the recommendation of the Transportation Planner, prior to the formal scoping of the TIA. The methodology shall be clearly defined and discussed in detail in the TIA. Information on transportation modeling, regional distribution models, transportation analysis zones, and employment density areas are available from the Thurston County and City of Olympia Planning Departments. Available information can be used to assist in the preparation of the trip distribution model. A regional trip distribution map may be required by the ERO, based on the recommendation of the Transportation Planner, for large-scale development projects. **Exhibit E** shows an example figure for reference purposes.

The TIA shall identify other transportation modes that may be applicable, such as transit use, bicycle, and pedestrian facilities. New developments are encouraged to implement transportation demand management practices, such as flex-time for employees and ridesharing programs, including car pools, van pools, shuttle buses, etc.

**4. Future Traffic**

**a. Future Traffic Conditions, Not Including Site Traffic**

Future traffic volumes shall be estimated using information from transportation models or applying an annual growth rate to the base-line traffic volumes. The future traffic volumes shall be representative of the horizon year for project

development. The ERO will work with the Transportation Planner to determine an appropriate growth rate, if that option is utilized.

In addition, proposed on-line development projects shall be taken into consideration, when forecasting future traffic volumes. The increase in traffic from proposed on-line projects shall be compared to the increase in traffic by applying an annual growth rate.

If modeling information is unavailable, the greatest traffic increase, from either the on-line developments or the application of an annual growth rate or a combination of an annual growth rate and on-line developments, shall be used to forecast the future traffic volumes.

**b. Future Traffic Conditions, Including Site Traffic**

The site-generated traffic shall be assigned to the street network in the study area, based on the approved trip distribution model. The site traffic shall be combined with the forecasted traffic volumes to show the total traffic conditions estimated at development completion. A figure will be required showing daily and peak-period turning movement volumes for each traffic study intersection. **Exhibit F** shows an example figure for reference purposes. In addition, a figure shall be prepared showing the base-line volumes with site-generated traffic added to the street network. This figure will represent site-specific traffic impacts to existing conditions.

**5. Traffic Operations**

The Level of Service (LOS) and capacity analysis shall be conducted for each pertinent intersection in the study area, as determined by the ERO, based on the recommendation of the Transportation Division. The methodology and procedures for conducting the capacity analysis shall be consistent with the guidelines specified in the most current version of the *Highway Capacity Manual*. The individual or firm preparing the TIA shall calculate the intersection LOS for each of the following conditions:

- a. Existing peak-hour traffic volumes (figure required).
- b. Site-generated traffic (figure required).
- c. Future traffic volumes, not including site traffic (figure required).
- d. Future traffic volumes, including site traffic (figure required).
- e. LOS results for each traffic volume scenario (table required).

The LOS table shall include LOS results for morning and afternoon peak periods, if applicable. The table shall show LOS conditions with corresponding vehicle delays for signalized intersections and LOS conditions for the critical movements at unsignalized intersections. For signalized intersections the LOS conditions and average vehicle delay shall be provided for each approach and the intersection as a whole. All analysis will use



a two hour LOS and unsignalized intersection LOS will be determined by a weighted average of all intersection approaches.

The capacity analysis for existing signalized intersections shall include existing phasing, timing, splits, and cycle lengths in the analysis, as observed and measured during the peak-hour traffic periods. All traffic signal system operational data will be made available by the City of Olympia.

If the new development is scheduled to be completed in phases, the TIA shall conduct an LOS analysis for each separate development phase. The incremental increases in site traffic from each phase shall be included in the LOS analysis for each preceding year of development completion. A figure will be required for each horizon year of phased development.

If the new development impacts a traffic signal coordination system currently in operation, the ERO, based on the recommendation of the Transportation Division, may require the TIA to include operational analysis of the system. Timing plans and proposed modifications to the coordination system may be required.

The capacity analysis will be conducted using computer software compatible with the Transportation Division's software package. **The individual or firm preparing the TIA shall use SIGNAL 2000 or SYNCHRO (coordinated systems) for capacity analysis of study intersections. For unsignalized intersections, the *Highway Capacity Manual* methodology will be used.** A software copy of the capacity analysis worksheets will be submitted concurrently with the TIA document to the Public Works Transportation Line of Business.

**Other computer software packages used for capacity analysis applications will not be accepted.**

## **6. Mitigation**

The TIA shall include a proposed mitigation plan. The mitigation may be either the construction of necessary transportation improvements or contributions to the City for the new development's fair share cost of identified future transportation improvements. **LOS "E" and "F" shall be used as the threshold for determining appropriate mitigating measures on roadways and intersections in the study area. Mitigating measures shall be required to the extent that the transportation facilities operated at a LOS "D" condition or better. Inside the high density residential corridor and core areas LOS "E" condition is acceptable.**

The following guidelines shall be used to determine appropriate mitigating measures of traffic impacts generated by new developments.

- a.** On transportation facilities where the need exists to construct improvements by the horizon year of the new development, the cost for the mitigation will be entirely borne by the new development. However, in the event the ERO officer and the Transportation Line of Business identify more than one development under simultaneous review, accumulative impacts and distribution of mitigation

costs may be considered. A Latecomers Agreement could be formulated by the new development for reimbursement of mitigation costs.

- b. On transportation facilities identified for new improvements that are funded for by impact fees, the adverse traffic impacts of the new development will be considered mitigated by payment of the City's Transportation Impact Fees. Provided the new development creates traffic impacts beyond forecasted growth in the City's *Concurrency Report* or the period of time between the occupancy of the new development and construction of improvements significant traffic impacts are identified by the City Traffic Engineer, the new development will be required to construct the improvement. The new development may request to be reimbursed for construction cost equal or less than the funds listed in the City's CFP.
- c. On transportation facilities identified for new improvements that are developer-funded as part of the City's Capital Facilities Program (CFP), Six-Year Transportation Improvement Program, or as part of an identified need determined through a TIA for a project of record, the adverse traffic impacts of the new development will be considered mitigated by providing a proportionate share contribution of the costs for the proposed improvements. The proportionate share costs for the improvements will be based on the percentage of new afternoon peak-hour development traffic from the total six years of growth identified by the regional model. This would include any trips that enter or pass through any intersection along the project.

For those projects not required to conduct a TIA, but generating between 20 and 50 vehicles in the peak direction of the peak hour on the adjacent streets and intersections, the City will determine the proportionate share contributions for the developer. If the developer disagrees with the values calculated, he has the option to hire an individual or firm to recalculate the proportionate share contributions and submit them to the City for consideration.

- d. If the transportation facility currently operates less than LOS "D" (LOS "E" within high density residential corridors and core areas), the new development shall be required to make interim facility improvements to maintain the existing level of service operation on the facility and to identify future facility improvements five years beyond the horizon year of the new development. The cost of the interim improvements will be deducted from the new development's proportionate share of costs for the identified future facility improvements, only if the cost of interim improvements is less than the ultimate proportionate share. If the interim improvements cannot be incorporated into the ultimate improvements identified in the CFP or an identified TIA for the transportation facility, there will be no reimbursement for interim costs incurred. The new development also has the option to wait until the improvements are implemented by the City or other developments.
- e. Unsignalized intersections that currently operate at less than a LOS "D" condition (LOS "E" within core areas) shall be analyzed for traffic signal and intersection improvements (i.e., exclusive left, through, or right lanes; acceleration or

deceleration lanes; three- or four-way stops; etc.). Unsignalized intersection LOS will be determined by the weighted average of the control delay from all movements (see Highway Capacity Manual equation 17-40 and 17-41). Provided a single lane approach is failing and the vehicle queue is four or more vehicles, exclusive turn lanes will be required. If three or more traffic signal warrants are satisfied (minimum warrant 1, condition A or B must be met), signal and intersection improvements will be required as a mitigating measure for the new development.

If at least three traffic signal warrants are not satisfied by the new development's horizon year, the TIA shall determine if traffic signal warrants and intersection improvements would be needed within a five-year period, after the new development's horizon year. The new development would be required to provide a proportionate share cost towards future traffic signal and intersection improvements constructed to City standards, if warranted within the five-year period.

In addition, if intersection LOS mitigation is needed, exclusive left-turn lane warrants will be analyzed and required, as part of the intersection improvement.

- f. In intersections where the projected LOS condition is at "D" but where one or more of the LOS conditions on the approaches fall below LOS "D," mitigating measures may be required to improve the capacity and traffic operations at the intersection. The City reserves the right to review all adverse traffic impacts at these intersections and to determine appropriate mitigating measures.
- g. Other conditions which should be considered for mitigation:
  - Facilities for pedestrian and bicycle needs should be provided as identified in the Development Standards or Comprehensive Plan.
  - The need for transit stops, bus pullouts, and shelters shall be identified if applicable. The developer may be required to install a shelter for transit riders.
  - If a safety hazard is identified for either pedestrians or vehicles, appropriate mitigating measures shall be identified to correct the deficiency.
  - If a new development will adversely impact an adjacent neighborhood, measures to mitigate these impacts shall be identified.

End

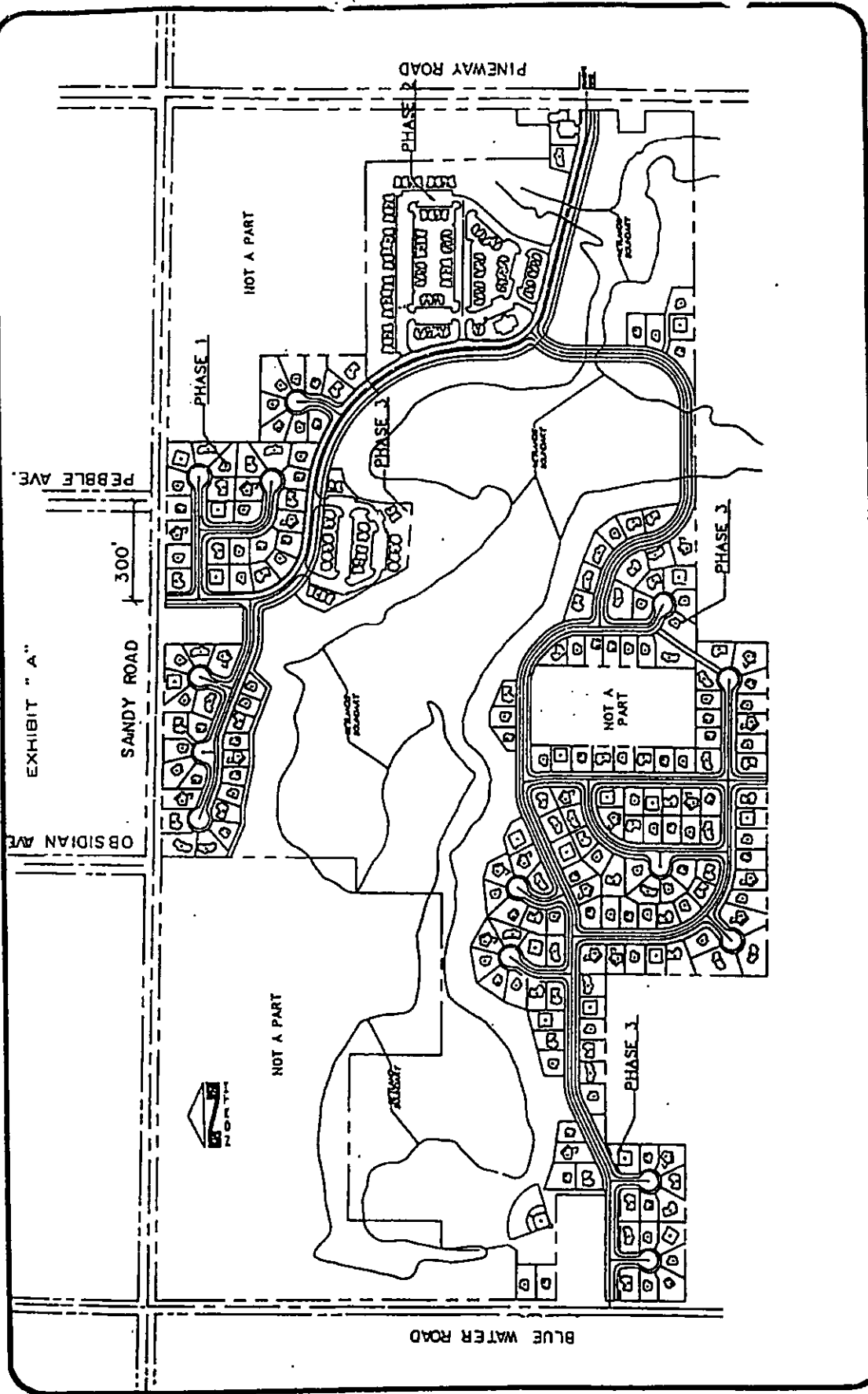


FIGURE  
EXHIBIT  
"A"

SITE PLAN

TRAFFIC IMPACT ANALYSIS

CITY OF OLYMPIA  
TRAFFIC STUDY  
GUIDELINES

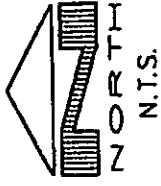
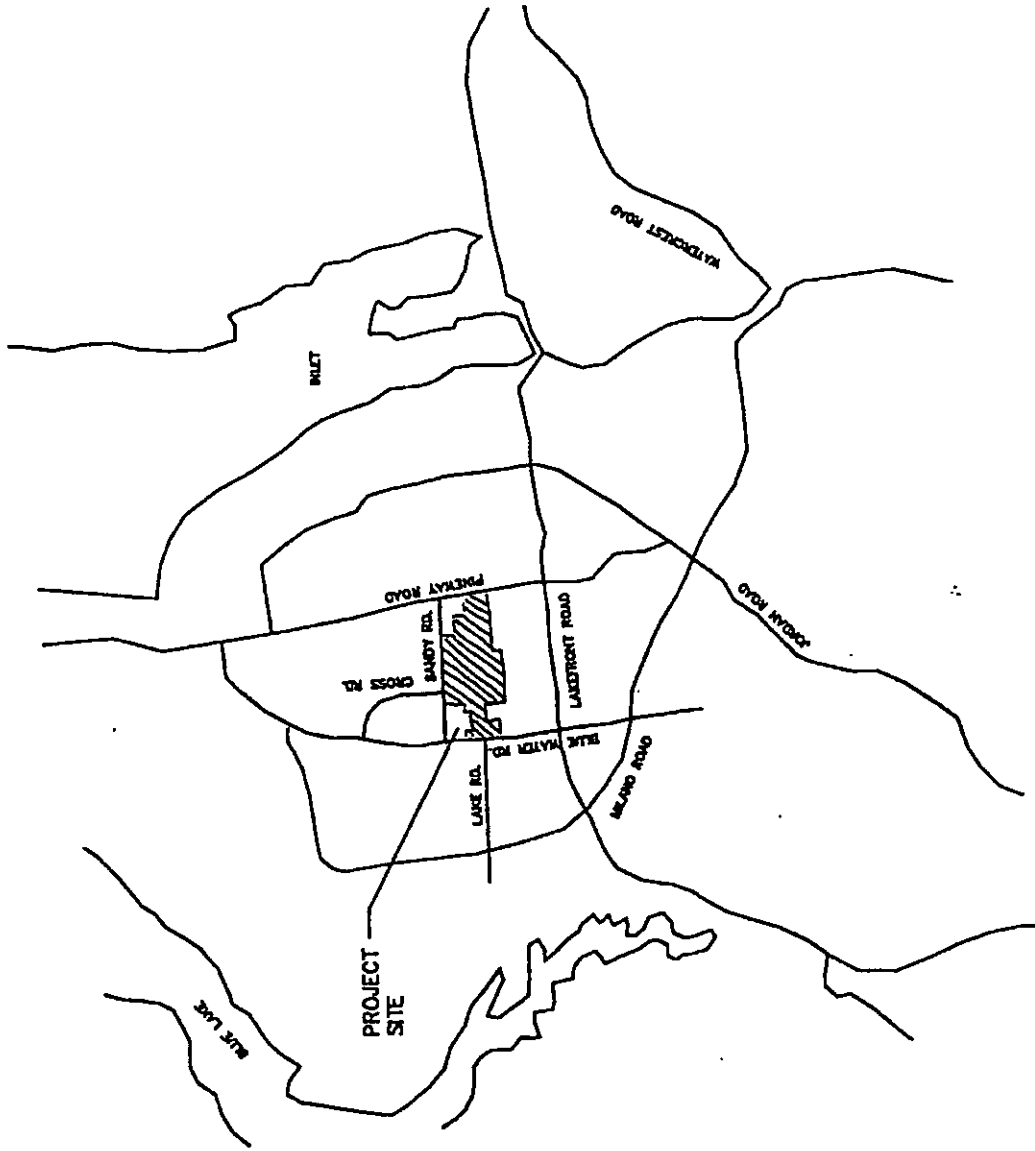


EXHIBIT "B"



CITY OF OLYMPIA  
TRAFFIC STUDY  
GUIDELINES

VICINITY MAP  
TRAFFIC IMPACT ANALYSIS

FIGURE  
EXHIBIT  
"B"

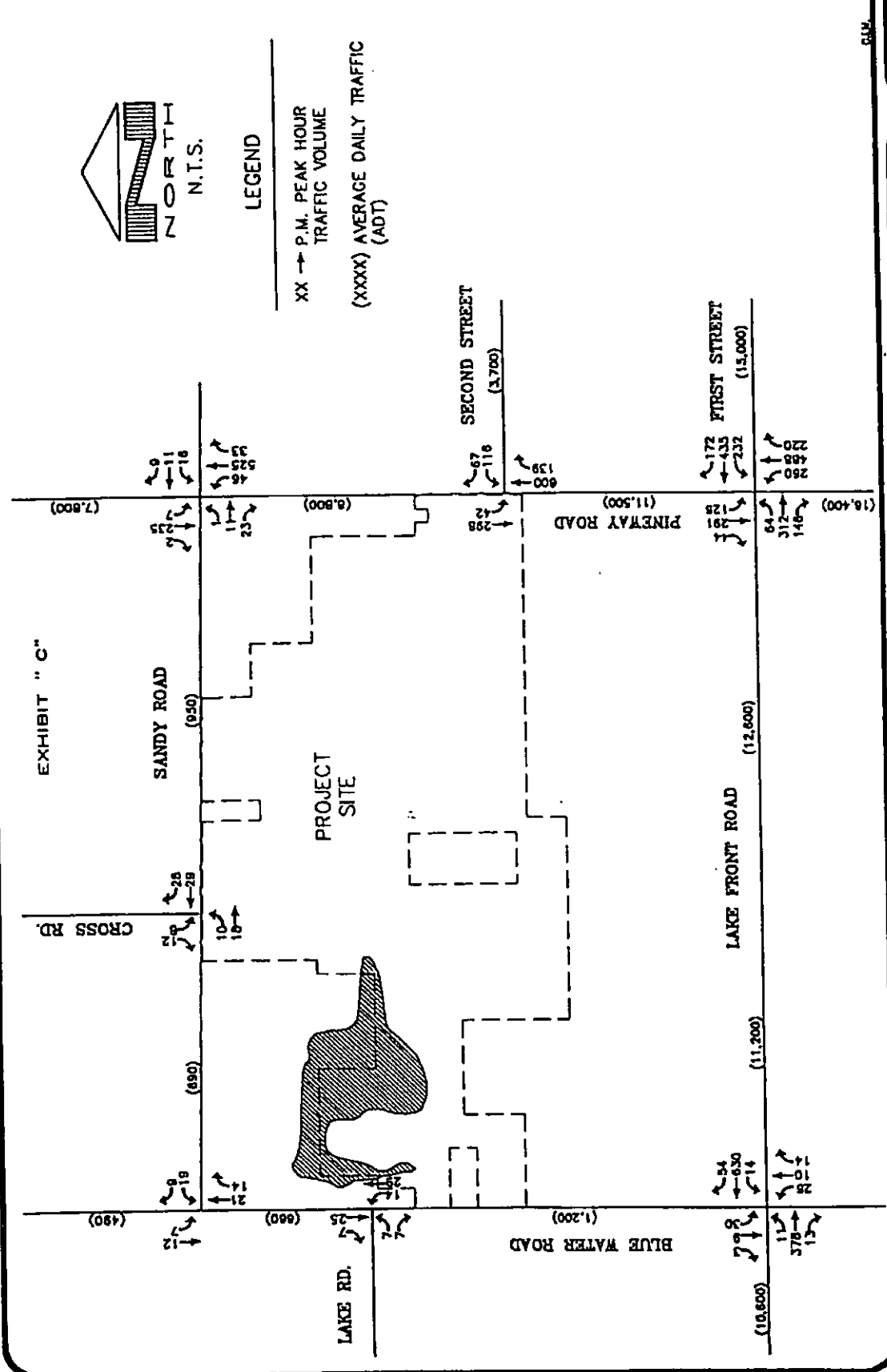
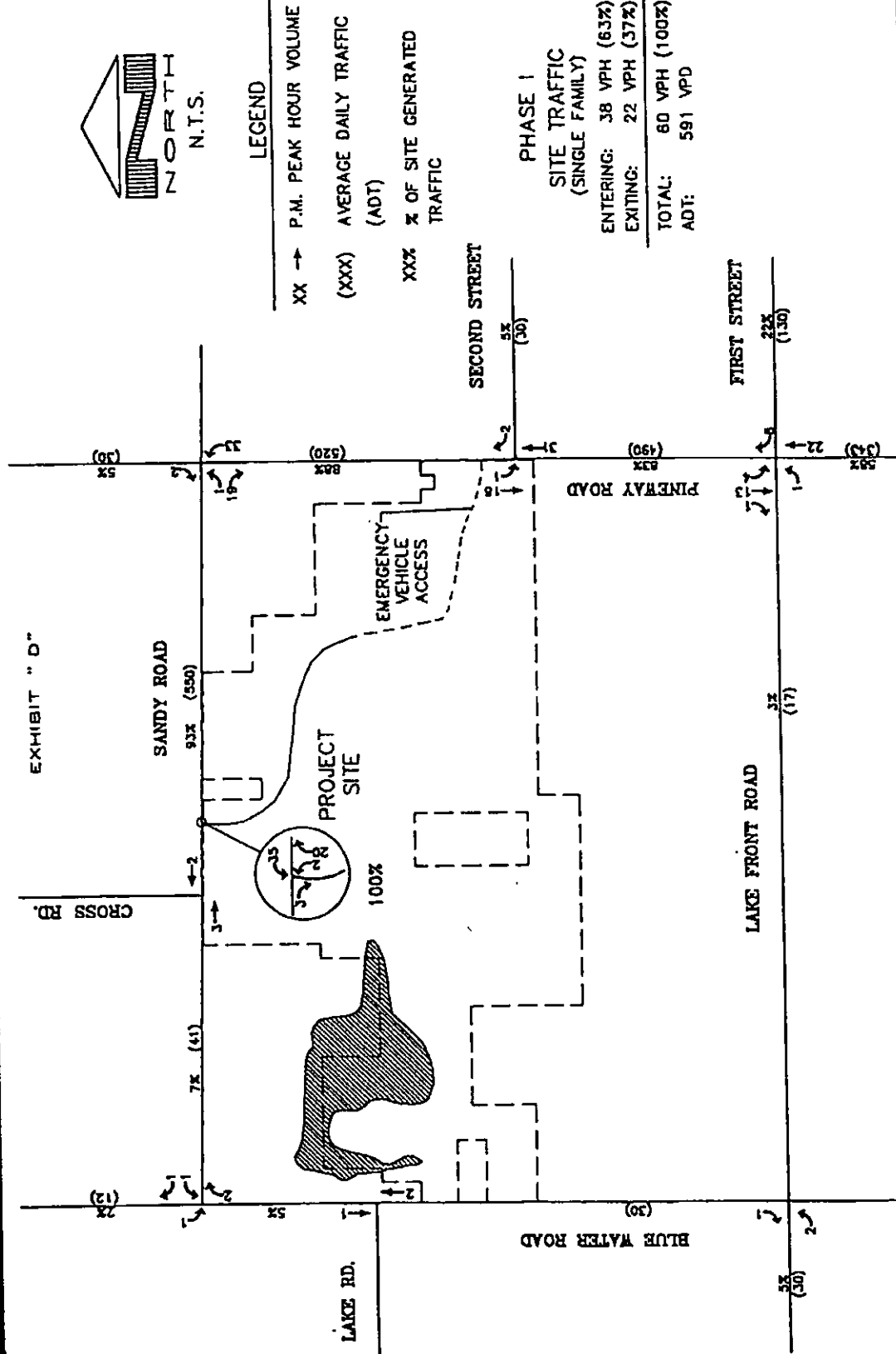


FIGURE  
EXHIBIT  
"C"

**EXISTING P.M. PEAK HOUR AND  
AVERAGE DAILY TRAFFIC VOLUMES**

TRAFFIC IMPACT ANALYSIS

**CITY OF OLYMPIA  
TRAFFIC STUDY  
GUIDELINES**



GLW

FIGURE  
EXHIBIT  
"D"

# PHASE I SITE-GENERATED P.M. PEAK HOUR AND AVERAGE DAILY TRAFFIC VOLUMES

TRAFFIC IMPACT ANALYSIS

CITY OF OLYMPIA  
TRAFFIC STUDY  
GUIDELINES

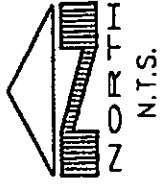
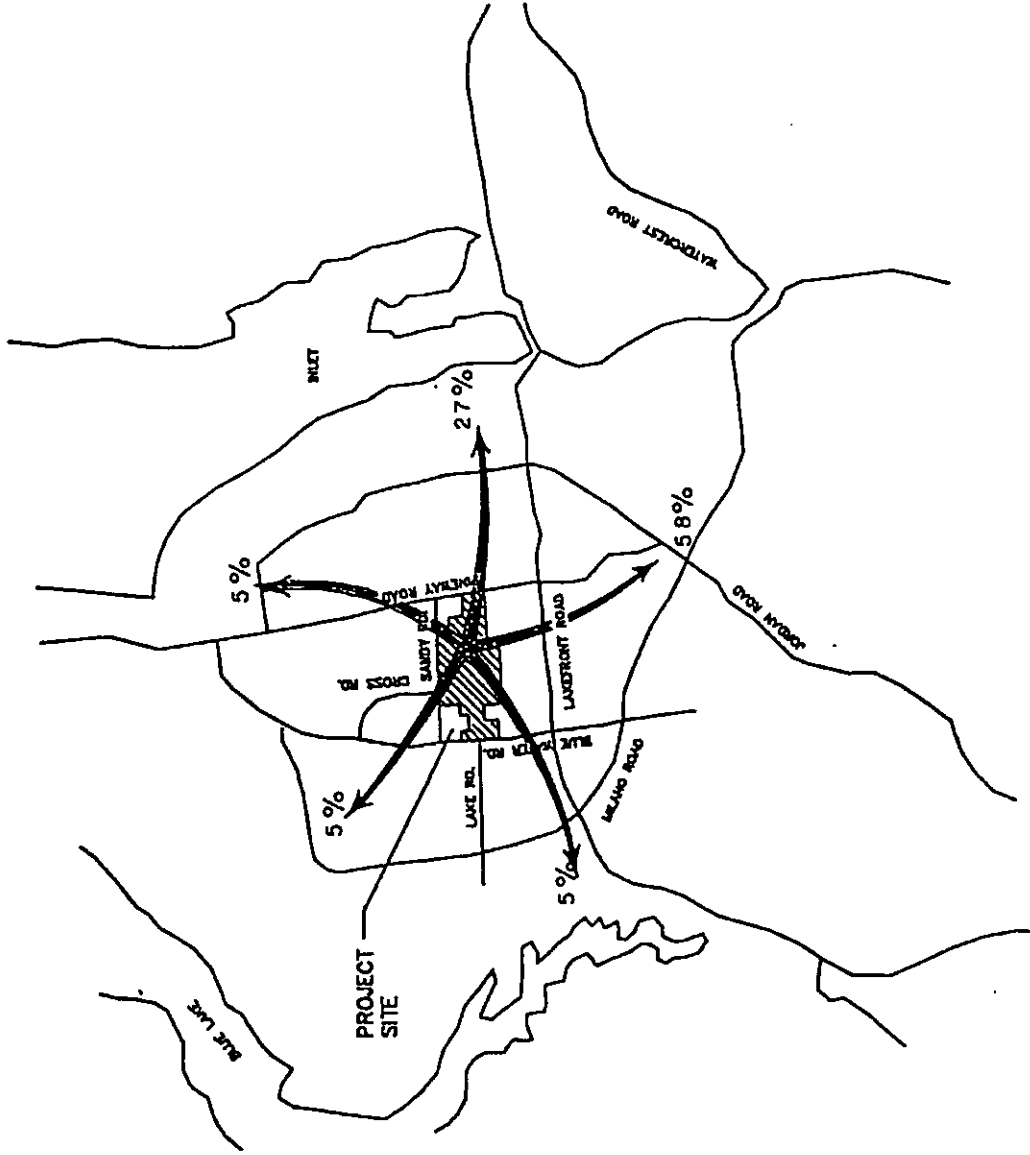


EXHIBIT "E"

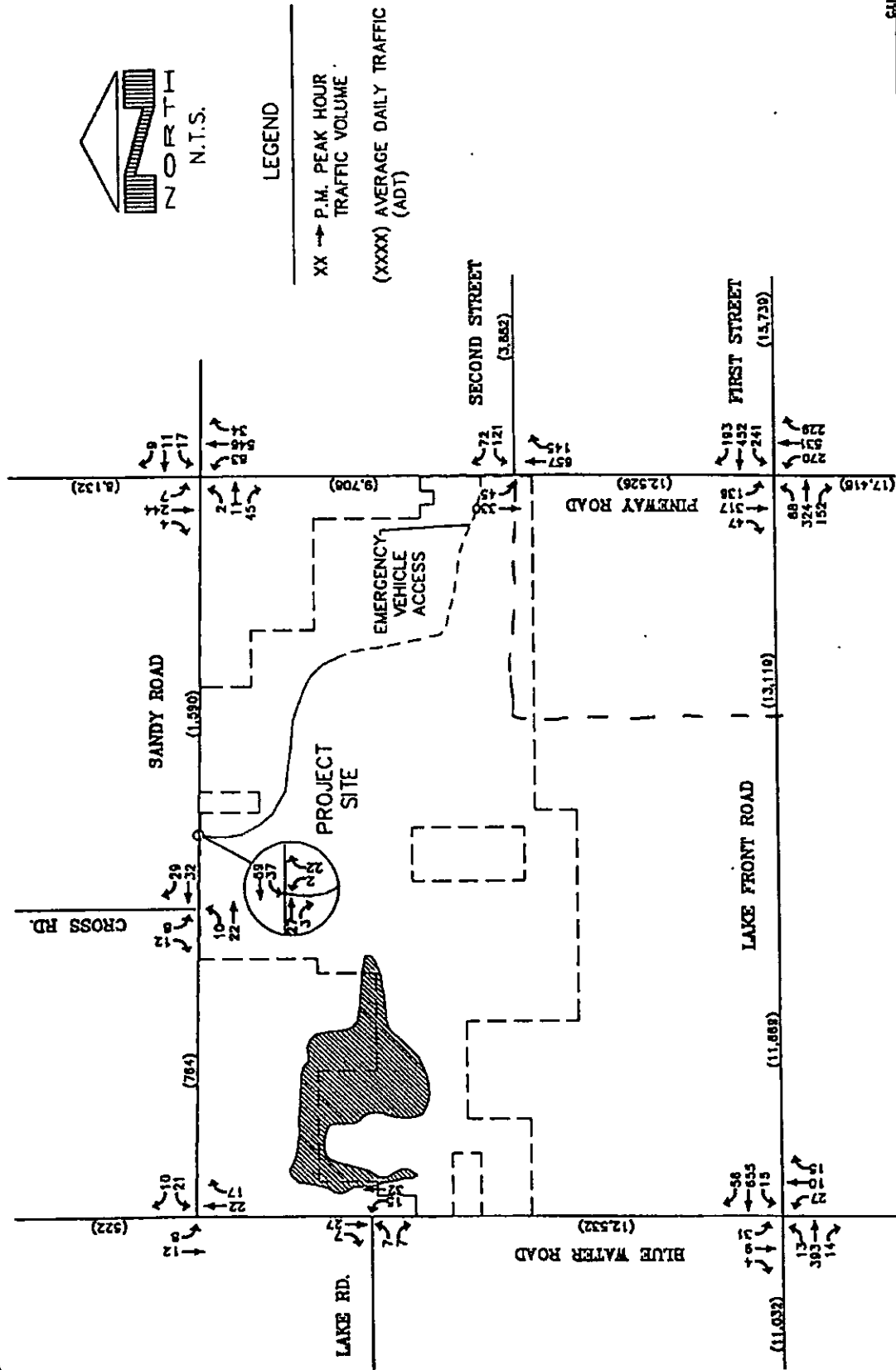


CITY OF OLYMPIA  
TRAFFIC STUDY  
GUIDELINES

TRIP DISTRIBUTION  
TRAFFIC IMPACT ANALYSIS

FIGURE  
EXHIBIT  
"E"





616

FIGURE

EXHIBIT  
"F"

# **PROJECTED P.M. PEAK HOUR AND AVERAGE DAILY TRAFFIC VOLUMES WITH PHASE I**

TRAFFIC IMPACT ANALYSIS

**CITY OF OLYMPIA  
TRAFFIC STUDY  
GUIDELINES**

**CITY OF OLYMPIA  
COMMUNITY PLANNING & DEVELOPMENT  
Typical Process For Conducting A Traffic Impact Analysis**

**TRAFFIC PRESUBMISSION CONFERENCE REQUIREMENTS**

- Description of project to include: land use with project size in residential units or building square footage.
- Site plan to include: proposed public street access, onsite parking location and internal street network.
- At presubmission conference, staff will indicate if a subsequent Traffic Impact Analysis (TIA) is required.

**TRAFFIC IMPACT ANALYSIS SCOPING MEETING**

- Retain qualified traffic engineer with a professional engineer's license.
- Prior to scoping meeting provide CP&D a TIA scoping letter to include the following:
  1. Proposed use and size.
  2. Trip Generation per City of Olympia Transportation Impact Fee Program Update.
  3. Site Plan to include: proposed public street access, onsite parking location and internal street network. Indicate location of any off-site adjacent or cross street driveway or street intersections.
  4. Provide a pm peak hour project trip assignment base on the Thurston Regional Transportation Demand Model (Bhanu Yerrab 360.741.2510). Indicate geographic distribution for north, south, east, and west.
  5. Provide project year of occupancy.

**TRAFFIC IMPACT ANALYSIS PRIOR TO PRELIMINARY PLAT**

- This analysis must follow City of Olympia guidelines for a Traffic Impact Analysis; see Traffic Impact Analysis (TIA) Guidelines for New Development.
- All analysis will use a two hour LOS and unsignalized intersection LOS will be determined by a weighted average of all intersection approaches. This will be explained further and the TIA Scoping Meeting.

**Table 3. Components of Impact Fee Schedule**

Land Uses	Land Use Code	Unit of Measure	Basic Rate PM Peak Trips/Unit	New Trips %	New Trip Rate	Trip Length (miles)	Trip Length Adj. Factor
<b>Residential</b>							
Single Family (Detached)	210	dwelling	1.01	100%	1.01	3.5	1.17
Multi Family-Townhouse & Duplex	220, 221, 230,	dwelling	0.55	100%	0.55	3.7	1.23
Senior Housing & Accessory Dwelling	233	dwelling	0.28	100%	0.28	2.8	0.93
Mobile Home	240	dwelling	0.59	100%	0.59	3.5	1.17
<b>Commercial - Services</b>							
Bank	912	SF GFA	45.74	50%	22.87	1.5	0.50
Day Care	565	SF GFA	13.18	75%	9.89	2.0	0.67
Hotel/Motel	310, 320	room	0.59	100%	0.59	4.0	1.33
Service Station <sup>1</sup>	944, 945, 946	Fueling Position	13.38	30%	4.01	1.7	0.57
Quick Lubrication Vehicle Shop	941	Servicing Positions	5.19	70%	3.63	1.7	0.57
Automobile Care Center	942	SF GLA	3.38	75%	2.54	2.2	0.73
Movie Theater	444, 445	seat	0.07	85%	0.06	2.3	0.77
Health Club	492, 493	SF GFA	4.05	75%	3.04	3.1	1.03
Marina	420	Berth	0.19	90%	0.17	3.1	1.03
<b>Institutional</b>							
Elementary /Junior High/ High School	520, 522, 530	student	0.14	80%	0.11	2.0	0.67
University/College	540, 550	student	0.21	90%	0.19	3.0	1.00
Church	560	SF GFA	0.66	100%	0.66	3.7	1.23
Hospital	610	SF GFA	1.18	80%	0.94	5.0	1.67
Assisted Living, Nursing Home, Group Home	620, 254	bed	0.22	100%	0.22	2.8	0.93
<b>Industrial</b>							
Light Industry/Manufacturing Industrial Park	110, 140, 130	SF GFA	0.86	100%	0.86	5.1	1.70
Warehousing/Storage	150	SF GFA	0.48	100%	0.48	5.1	1.70
Mini Warehouse	151	SF GFA	0.21	100%	0.21	5.1	1.70
<b>Restaurant</b>							
Restaurant	931	SF GFA	7.49	80%	5.99	3.4	1.13
Fast Food Restaurant	934	SF GFA	34.64	50%	17.32	2.0	0.67
<b>Commercial - Retail</b>							
Retail Shopping Center							
up to 49,999	820	SF GLA	9.98	50%	4.99	1.3	0.43
50,000-99,999	820	SF GLA	6.90	55%	3.80	1.5	0.50
100,000-199,999	820	SF GLA	5.45	60%	3.27	1.7	0.57
200,000-299,999	820	SF GLA	4.58	65%	2.98	1.7	0.57
300,000-399,999	820	SF GLA	4.09	70%	2.86	2.1	0.70
over 400,000	820	SF GLA	3.75	75%	2.81	2.4	0.80
Supermarket > 5,000 SF	850	SF GFA	10.45	75%	7.84	2.1	0.70
Convenience Market < 5,000 SF	851	SF GFA	52.41	45%	23.58	1.3	0.43
Furniture Store	890	SF GFA	0.46	60%	0.28	1.7	0.57
Car Sales - New/Used	841	SF GFA	2.64	80%	2.11	4.6	1.53
Nursery/Garden Center	817	SF GFA	3.80	70%	2.66	2.1	0.70
Pharmacy/Drugstore	880, 881	SF GFA	8.42	50%	4.21	1.7	0.57
Hardware/Building Materials Store < 25,000 SF	812	SF GFA	4.49	60%	2.69	2.1	0.70
Discount Merchandise Store (Free Standing)	813, 815, 861, 863, 864	SF GFA	4.53	70%	3.17	2.1	0.70
Video Rental	896	SF GFA	13.60	45%	6.12	1.7	0.57
Home Improvement Superstore > 25,000 SF	862	SF GFA	2.45	55%	1.35	2.1	0.70
Miscellaneous Retail	820	SF GLA	3.75	75%	2.81	2.4	0.80

**Table 3 cont'd. Components of Impact Fee Schedule**

Land Uses	Land Use Code	Unit of Measure	Basic Rate PM Peak Trips/Unit	New Trips %	New Trip Rate	Trip Length (miles)	Adj. trip length for Downtown uses	Trip Length Adj. Factor
<b>Commercial - Office</b>								
Administrative Office								
0-99,999	710, 715, 750	SF GFA	2.71	90%	2.44	5.1		1.7
100,000-199,999	710, 715, 750	SF GFA	1.65	90%	1.49	5.1		1.7
200,000-299,999	710, 715, 750	SF GFA	1.44	90%	1.30	5.1		1.7
over 300,000	710, 715, 750	SF GFA	1.35	90%	1.22	5.1		1.7
Medical Office/Clinic	720	SF GFA	3.72	75%	2.79	4.8		1.6
<b>DOWNTOWN FEES</b>								
Multi Family-Townhouse & Duplex	220, 221, 230	dwelling	0.41	100%	0.41	3.7	2.3	0.76
Senior Housing & Accessory Dwelling	233	dwelling	0.21	100%	0.21	2.8	1.9	0.63
Assisted Living, Nursing Home, Group Home	620, 254	bed	0.22	100%	0.22	2.8	1.9	0.63
Downtown Services*	590, 565, 492	SF GFA	3.77	75%	2.83	2.4	1.9	0.63
Bank	911	SF GFA	18.50	53%	9.81	1.5	1.5	0.50
Hotel/Motel	310, 320	room	0.70	100%	0.70	4.0	2.5	0.83
Movie Theater	444	seat	0.07	85%	0.06	2.3	1.9	0.63
Marina	420	Berth	0.19	90%	0.17	3.1	1.9	0.63
Restaurant	931	SF GFA	3.77	75%	2.83	3.4	1.9	0.63
Fast Food Restaurant	933	SF GFA	20.90	50%	10.45	2.0	1.9	0.63
Downtown Retail**	814	SF GLA	2.59	70%	1.81	1.7	1.7	0.57
Supermarket	850	SF GFA	9.13	53%	4.84	2.1	1.9	0.63
Convenience Market	851	SF GFA	25.77	45%	11.60	1.3	1.3	0.43
Video Rental	896	SF GFA	10.53	45%	4.74	1.7	1.7	0.57
Administrative Office								
0-99,999	710	SF GFA	2.00	90%	1.80	5.1	4.5	1.50
100,000-199,999	710	SF GFA	1.50	90%	1.35	5.1	4.5	1.50
200,000-299,999	710	SF GFA	1.30	90%	1.17	5.1	4.5	1.50
over 300,000	710	SF GFA	1.10	90%	0.99	5.1	4.5	1.50
Medical Office/Clinic	720	SF GFA	3.72	75%	2.79	4.8	4.2	1.40
Industrial Park	130	SF GFA	0.86	100%	0.86	5.1	3.2	1.07
Warehousing/Storage	150	SF GFA	0.48	100%	0.48	5.1	3.2	1.07
Mini Warehouse	151	SF GFA	0.21	100%	0.21	5.1	3.2	1.07

**Notes:**

For uses with unit of measure in "SF GFA" or "SF GLA" the trip rate is given as trips per 1000 square feet.

1) Service Station with or without mini mart and/or car wash. Accessory uses not to exceed 2,500 SF.

Downtown: Defined as in December 1994 Comprehensive Plan or subsequent updates.

\* Downtown Services: Library, Day Care, and Health Club

\*\* Downtown Retail: Includes all retail uses except those otherwise listed.

Date:

**CITY OF OLYMPIA  
TRAFFIC IMPACT ANALYSIS SCOPING SHEET**

**PROJECT INFORMATION**

Proposed Use/Size : \_\_\_\_\_  
\_\_\_\_\_  
Location: \_\_\_\_\_  
Access: \_\_\_\_\_

Geographic Distribution

North

South

East

West

Olympia Trip Generation Table: \_\_\_\_\_

Pass-By/Capture Rate: \_\_\_\_\_

Year of Occupancy: \_\_\_\_\_

Ambient Growth: \_\_\_\_\_

Related Projects: To be researched by consultant under  
approval of Olympia Development Services

**CRITICAL INTERSECTIONS**

1	8
2	9
3	10
4	11
5	12
6	13
7	14

Note: This analysis must follow City of Olympia guidelines for a Traffic Impact Analysis.  
Use two hour LOS and unsignalized intersection LOS is determined by the Weighted Average  
of each approach.

Developer:  
Phone:

Traffic Consultant:  
Phone:

cc: Impacted jurisdictions - Thurston County, Lacey, Tumwater

**Laura Keehan**

---

**From:** JEFF TAWNEY [jeff129@comcast.net]  
**Sent:** Wednesday, July 16, 2008 3:48 PM  
**To:** Laura Keehan  
**Cc:** Jeff and Biana Tawney  
**Subject:** Pattison Street Plat and Townhomes

Laura Keehan,

Is it to late to comment on the proposed homes and townhomes which will be built behind me? I live at 2918 Applehill Ct. NE. I was unable to attend the public hearing July 14th.

My main concern is the roads. Pattison Street cannot support that much traffic. It is to narrow and we definitely need a stop light on Pattison and Martin Way. We can hardly turn on to Martin Way from Pattison St. Usually four or five cars are lined up and it takes forever!

Also, I feel that to many homes are to be built. I thought my lot was small, but the proposed lots are mostly smaller than mine. This really affects peoples quality of life. As it is now, I enjoy seeing deer and raccoon behind my fence. In the future there will be noise and no wildlife to enjoy.

-Biana Tawney

Jeff & Biana Tawney



2918 Apple Hill Ct.  
NE

City, 98506

↳ Add to Parties of Record

**Laura Keehan**

---

**From:** Laura Keehan  
**Sent:** Tuesday, July 15, 2008 3:05 PM  
**To:** 'Linda.a.olson@gmail.com'  
**Subject:** FW: Pattison Street Townhomes Plat - 07-0148 - Holding record open

Hi Mr. Olson,

Please see the email below.

Thanks,

**Laura S. Keehan**

Associate Planner

Olympia Community Planning & Development

PO Box 1967, Olympia, WA 98507-1967

P: 360.570.5846

F: 360.753.8087

-----Original Message-----

**From:** Laura Keehan

**Sent:** Tuesday, July 15, 2008 2:42 PM

**To:** 'fonderr@comcast.net'; 'zylius@comcast.net'

**Subject:** FW: Pattison Street Townhomes Plat - 07-0148 - Holding record open

Hello Ms. Eichrodt and Mr. Fonderwhite,

I am forwarding the Hearing Examiner's email below. Feel free to contact me if you have any questions.

**Laura S. Keehan**

Associate Planner

Olympia Community Planning & Development

PO Box 1967, Olympia, WA 98507-1967

P: 360.570.5846

F: 360.753.8087

-----Original Message-----

**From:** Thomas Bjorgen [mailto:ThomasBjorgen@bjorgenbauer.com]

**Sent:** Tuesday, July 15, 2008 2:11 PM

**To:** Laura Keehan; Marcus Goodman; doug.saunders@comcast.net; rconnolly@skillings.com

**Subject:** Pattison Street Townhomes Plat - 07-0148 - Holding record open

Dear Staff and Parties:

At the conclusion of the hearing on July 14, 2008 on the request for preliminary subdivision approval for the Pattison Street Townhomes Plat, the record was held open until July 18, 2008 on the issue of whether a Traffic Impact Analysis (TIA) should be required due to the concurrently processed Pattison Street Plat immediately to the north. Specifically, the issue is whether two contiguous subdivisions, each generating traffic below the threshold for preparing a TIA and each proposed by a different applicant, should nonetheless be required to prepare a TIA when the combined traffic exceeds that threshold and would travel to a significant degree over the same street network.

The Applicant, the Department or any other person testifying at the hearing may submit citations to City standards or guidance which may speak to this question and, if desired, may present any other support for its position on

7/15/2008

whether a TIA should be required by this deadline.

Ms. Keehan, please forward this e-mail to Ms. Eichrodt, Mr. Olson, and Mr. Fonderwhite, each of whom presented testimony in this matter. If you do not have e-mail addresses for any, please call them and arrange for transmission, if they wish. All responses must be sent to me and Ms. Keehan by 5 p.m. on July 18, 2008. E-mail is acceptable. Parties may request a short extension to this deadline, if desired.

Thank you very much.

Thomas R. Bjorgen  
Olympia Hearing Examiner



**Laura Keehan**

---

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The Applicant, the Department or any other person testifying at the hearing may submit citations to City standards or guidance which may speak to this question and, if desired, may present any other support for its position on whether a TIA should be required by this deadline.

Ms. Keehan, please forward this e-mail to Ms. Eichrodt, Mr. Olson, and Mr. Fonderwhite, each of whom presented testimony in this matter. If you do not have e-mail addresses for any, please call them and arrange for transmission, if they wish. All responses must be sent to me and Ms. Keehan by 5 p.m. on July 18, 2008. E-mail is acceptable. Parties may request a short extension to this deadline, if desired.

Thank you very much.

Thomas R. Bjorgen  
Olympia Hearing Examiner

7/15/2008



**HEARING EXAMINER PUBLIC HEARING**

Case: PATTISON TOWNHOMES PLAT (07-0148) Date: 7/14/08

**PLEASE PRINT!**

\\Calvin\cpd\FORMS\Hesignup.fm.wpd Revised July 14, 2008

## CITY OF OLYMPIA HEARING EXAMINER

### STAFF REPORT

July 14, 2008

**Case:** Pattison Street Townhomes Plat (07-0148)

**Applicant:** Doug Saunders  
2014 Arena Court SE  
Olympia WA 98501

**Representative:** Skillings Connolly  
5016 Lacey Blvd.  
Lacey WA 98503

**Type of Action Request:** Preliminary Plat Approval

**Project Location:** 500 Block Pattison Street NE

**Legal Description:** Plat BERRY FARMS SS-1830 Lot 2 Document 018/113

**Comprehensive Plan Designation:** Residential 6-12

**Zoning Designation:** Residential 6-12

**SEPA Determination:** A Determination of Nonsignificance was issued on July 7, 2008.

**Public Notification:** Public notification for this hearing was mailed to property owners within 300 feet and recognized neighborhood association/s, posted on the site, and published in *The Olympian* on or before July 4, 2008, in conformance with Olympia Municipal Code (OMC) 18.78.020.

**Staff Recommendation:** Approve with conditions.

**Property Information:** The Preliminary Townhouse Plat request is to subdivide approximately 1.95 acres of land into 18 townhouse lots. This project is located on tax parcel 34203000101 with a zoning designation of R 6-12.

The subject site has rolling hills with a range of slopes from 3 to 15%. Vegetation consists of fir, maple, and alder trees, and shrubs and grasses. Indian Creek lies approximately .17 miles to the west, Woodard Creek approximately .13 miles to the east, and Bigelow Lake lies approximately .5 miles northeast of the subject site.

**Surrounding Land Uses:** The site is bordered to the north by the proposed Pattison Street Plat property. To the east is undeveloped, forested land zoned RM-18. South of the property is the Applehill subdivision, which consists of single family residences. Across Pattison Street to the west is urban growth area land also zoned R 6-12 and developed with single family homes.

**Authority and Standards:** Among other regulations, this preliminary subdivision plat is subject to the Washington Plat and Subdivision Ordinance (Revised Code of Washington [RCW] Chapter 58.17), the Olympia Subdivision Ordinance (Olympia Municipal Code [OMC] Title 17), the Olympia Zoning Ordinance (OMC Title 18), Olympia Environmental Policy (OMC Chapter 14.04), the Olympia Engineering Design and Development Standards (EDDS), and the Olympia Tree Protection and Replacement Ordinance (OMC 16.60).

**Analysis:** The following analysis addresses each of the required elements of review and findings required for approval of a preliminary subdivision plat. Included is a brief summary of applicable regulations. Except as provided by OMC 17.20.100, any preliminary plat approval expires in five years and thus required improvements must be constructed and the final plat application submitted within that period. Pursuant to OMC 17.44.020, financial guarantees can only be provided in lieu of minor improvements, unless specifically authorized by the Examiner. The applicant has not requested authorization of such a deferral agreement for any major improvements.

Revised Code of Washington (RCW) 58.17.110 provides that the City shall inquire into the public use and interest proposed to be served by the establishment of the subdivision and related dedications. The City shall determine: (a) If appropriate provisions are made for, but not limited to, the public health, safety, and general welfare for open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and school grounds, and shall consider all other relevant facts, including sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school; and (b) whether the public interest will be served by the subdivision. A proposed subdivision shall not be approved unless the City makes written findings that: (a) Appropriate provisions are made for the public health, safety, and general welfare and for such open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and school grounds, and all other relevant facts, including sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school; and (b) the public use and interest will be served by platting of such subdivision and dedications. Upon finding that the proposed subdivision makes such appropriate provisions and that the public use and interest will be served, then the City is to approve the proposed subdivision.

## **Applicable Regulations & Findings:**

### **I Title 17 Olympia Municipal Code (OMC) - Subdivisions**

- A. Review Criteria – 17.16.090.** The Examiner shall determine if appropriate provisions are made for the public health, safety, and general welfare, for open spaces, drainage-ways, streets, alleys, other public ways, water supplies, sanitary wastes, parks, playgrounds, sites for schools and school grounds, fire protection and other public facilities, and whether the public interest will be served by the subdivision. If the Examiner finds that the proposed plat does not make such provisions, or that the public use and interest are not served, then he must deny the proposed plat.

**Staff Findings:** *In general whether the required "appropriate provisions" have been made is determined by reference to the applicable Olympia Municipal Code sections and the Development Guidelines and Public Works Standards and other regulations. Each appropriate item is addressed below.*

- B. Regulations supplementary to state law - 17.04.090.** The regulations in Title 17 are supplementary to the State law governing subdivisions (RCW 58.17).

**Staff Findings:** *RCW 58.17.110 requires that a proposed subdivision shall not be approved unless the Examiner finds that appropriate provisions are being made for "sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school."*

*Off-site sidewalk analysis by staff found that the subject property is more than one mile away from Roosevelt Elementary, Reeves Middle School, and Olympia High School, and therefore a safe walking route to the nearest school bus stop at the corner of Applehill Court and Pattison Street was used for analysis. The proposed sidewalk along "A" Road will connect with the existing sidewalk on Pattison, just north of Applehill Court. Therefore, no additional sidewalk is required.*

**II Title 12 OMC - Development Guidelines and Public Works Standards, with 2000 Amendments (Standards)**

- A. Water 2.050.B (Standards)** - The developer shall install water facilities in accordance with the provisions of Chapter 6 of the Engineering Design and Development Standards.

***Finding/Conclusion** – The applicant is proposing a watermain connection to the existing eight inch main in Pattison Street. The applicant has proposed to extend an eight inch watermain through the project site with a future connection to the parcel to the north. The applicant is proposing to install fire hydrants which are spaced in accordance with current standards as well as to provide domestic water for each lot.*

*The City has capacity for this development's anticipated domestic water and fire suppression system requirements.*

- B. Sewer 2.050.A (Standards)** - The developer will install sewer facilities in accordance with the provisions of Chapter 7 of the Engineering Design and Development Standards.

***Finding/Conclusion** – The applicant is proposing a connection to an existing manhole in Pattison Street south of the project site and extend sewer through the project which would provide a future connection for the parcel to the north.*

*The City has capacity for this development's anticipated sanitary sewer discharge.*

- C. Streetside Improvements in General 2.040.A** - Unless deferred or exempt as provided for in these Standards, any development requiring a State Environmental Policy Act (SEPA) checklist, or any development creating an additional impact of more than 20 average daily vehicle trips, will require that the developer construct or install streetside improvements in accordance with the Standards.

***Finding/Conclusion** – The applicant is proposing streetside improvements consistent with a local access street on both sides of the proposed Public Roads 'A' in addition to ½ street improvements consistent with a Neighborhood Collector for Pattison Street NE. All Streetside Improvements consist of curb, side-walk, planter-strip, street trees and street lights.*

*The applicant is proposing a two to five foot concrete retaining wall along the south property line. No portion of the retaining wall, including footings will be allowed in the right of way.*

*The City has capacity for the plat improvements.*

- D. Access to Developments 2.040.B.2** - A development will abut a public right-of-way and have public right-of-way frontage with site access to one or more streets improved to comply with the standards as set forth in Chapter 4 of the Engineering Design and Development Standards.

***Finding/Conclusion*** – *All lots within the proposed development will abut a public right-of-way.*

- E. Storm Drainage 2.050.C (Standards)** - The developer will provide for the treatment storage and disposal of surface drainage through a storm drainage system designed to the current Drainage Design and Erosion Control Manual for Olympia (Manual) and Chapter 5 of the Engineering Design and Development Standards.

***Findings/Conclusions*** – *The applicant is proposing to infiltrate all stormwater generated from impervious surfaces within the on-site stormwater facility or drywells.*

*Provide a landscaping plan for the infiltration facility which meets the requirements of the Stormwater Manual, Volume III, Section 3.2 and Volume V, with the engineering submittal.*

*Provide drywell size and locations on the plat.*

*The proposed stormwater improvements as described in the Preliminary Drainage and Erosion Control Report are sufficient to make a recommendation for approval.*

- F. Clearing/Grading/Erosion Control** – The applicant shall install all utilities, streets, improvements, etc. in accordance with all applicable standard specifications as outlined in the Engineering Design and Development Standards (3.010).

***Finding/Conclusion*** – *The applicant is proposing an 18-lot long plat on moderate terrain. The project consists of clearing, grading, cuts and fills to provide a buildable space for each lot. Appropriate erosion control measures have been proposed.*

*The proposed site plan has provided sufficient information to make a recommendation for approval.*

#### **IV Thurston County Environmental Health.**

- A. Regulations include oversight of groundwater (ONST.97.POL.805) and soil contamination.

**Staff Findings:** *The applicant has prepared an Integrated Pest Management Plan which has been reviewed and approved. There are no hazardous materials involved with the project as it is a residential subdivision.*

*John Ward, R.S., Environmental Health Specialist, Thurston County Environmental Health, has recommended preliminary plat approval subject to the conditions stated below.*

#### **V Transit Stops.**

- A. Intercity Transit Bus provides transit service for the City of Olympia.

**Staff Findings:** *Intercity Transit was issued a copy of the Notice of Application and the SEPA Determination. City staff did not receive comments pertaining to transit services for this development. City staff has concluded that there are not any issues.*

#### **VI OMC Chapters 18.04, 18.170 – Residential Districts.**

- A. Applicable standards include minimum and maximum densities, lot sizes, and lot widths.

**Staff Findings:** *The site is located in a residential (R-6-12) zoning district. Townhouse development is a permitted use within this zone. This proposal meets the minimum density requirement and does not exceed the maximum density allowed. The proposed lots meet the required lot sizes for townhouse development. Required lot width in the R 6-12 zone for townhome lots is 16 feet. The proposed lots comply with the district's minimum lot requirement. Appropriate provisions have been made for the zoning development standards. Although some of the requirements will not be reviewed until the time of Building Permit review, these standards have been met for the purposes of Preliminary Plat review.*

*Staff has conducted a conceptual design review based on the elevation drawings and context plan submitted on 8/22/07. The proposed project meets the design review requirements for a conceptual review, and demonstrates that townhome construction is feasible for the proposed lots. A detailed review will be required at the building permit stage.*



**STAFF RECOMMENDATION:** City staff recommends that the Hearing Examiner approve the Preliminary Plat Application known as the Pattison Street Townhomes Plat (File No. 07-0148) with the following conditions:

1. **Plat Improvements.** Install plat improvements as conceptually shown on the preliminary plat submittal received March 19, 2008.
2. **Frontage Improvements.** The applicant is proposing a two to five foot concrete retaining wall along the south property line. No portion of the retaining wall, including footings will be allowed in the right of way.
3. **Storm Drainage.** The detailed engineering design shall meet the City's Drainage and Erosion Control Manual. Prior to engineering permit application, the following items shall be addressed and resubmitted for review:
  - A. Provide a landscaping plan for the infiltration facility which meets the requirements of the Stormwater Manual, Volume III, Section 3.2 and Volume V, with the engineering submittal.
  - B. Provide drywell size and locations on the plat.
4. **Improvement Plans.** Before construction begins the applicant shall submit a complete set of detailed construction drawings to the Community Planning and Development Department for review and approval. Construction drawings shall be prepared according to the Engineering Design and Development Standards.
5. **Construction and Final Inspection.** All improvements shall be installed before final construction approval (OMC 17.32.140.A.5).
6. **Performance Bonding.** The developer shall file an agreement to assure the full and faithful performance of the operation and maintenance of all public improvements and site stormwater facilities for a period of two years following final construction approval. This guarantee through the appropriate surety shall be in place and approved by the City before final plat approval. The amount of the bonding will be 25 percent of the cost of the improvements (Standards 3.090, Manual Appendix Olympia-1). In addition a bond or other allowable securities will be required by the City to guarantee the performance of work within existing public rights-of-way or maintenance of required public infrastructure intended to be offered for dedication as a public improvement. Bonds or other allowable securities to guarantee work in and existing public right-of-way is required to be in place and submitted to the City prior to release of any approvals or permits for such work. The type and amount of security will be pursuant to code, or if not specified, be at a minimum of \$4,000 or 125 percent of the value of the work performed, whichever is greater, at the discretion of the City. Types of securities

include, but are not limited to, a bond with a surety qualified to do a bonding business in this state, a cash deposit, and assigned savings account, or a set aside letter as acceptable by the City Attorney.

7. **Trees.** Implement the Tree Plan as proposed.
8. **Existing Franchise Utilities.** All existing overhead utilities and all new franchise utilities required for the project shall be placed underground.
9. **Fire Protection.** Water meters for this residential project should be sized to serve residential fire sprinklers.
10. **Townhouse Development.** The following shall be added to the face of the plat:
  - A. Add the following note: "THIS PLAT IS APPROVED FOR TOWNHOUSE DEVELOPMENT AND MUST CONFORM TO ALL PROVISIONS OF OMC 18.64 AT TIME OF BUILDING PERMIT APPLICATION."
11. **Thurston County Environmental Health Department.** The following requirements shall be met prior to final subdivision approval:
  - A. Prior to final subdivision approval City of Olympia water and sewer utilities (mains) must be extended to each of the lots of this subdivision. Written confirmation of completion for the utility extensions must be received from the City of Olympia.
  - B. There is an existing non-public well located on a neighboring property just west of this proposed subdivision. The neighboring property receives water from the City of Olympia public water system and the well is no longer in use, therefore the applicants for this plat proposed to have this well decommissioned by a licensed well driller. Prior to final plat approval this well must be decommissioned by a licensed well driller per Washington State Department of Ecology standards and a copy of the well driller's decommissioning report (well log) must be submitted to Thurston County Environmental Health Department.
  - C. Due to the aquifer sensitive nature of this area and the size and scope of this project, an Integrated Pest Management Plan (IPMP) has been developed for this subdivision. This IPMP has been reviewed and is approved. Prior to final plat approval a written proposal for the method of IPMP distribution to future property owners must be submitted to Thurston County Environmental

Health Department and this distribution method must be approved by the Department prior to final plat approval. Typically this is done by incorporating a copy of the approved IPMP into the subdivision covenants and restrictions; however other proposed methods may also be allowed provided the proposed method of distribution will assure each future property owner receive a copy of the IPMP at the time of sale.

- D. If any existing on-site sewage systems are identified during the initial site excavation they must be abandoned per the requirements of Article IV of the Thurston County Sanitary Code prior to final plat approval. Abandonment permits from Thurston County Environmental Health are required for each system that is abandoned, however since any systems abandoned are part of a subdivision application there are no fees charged for the abandonment permits. For any sewage systems that are abandoned the Department must receive all abandonment documentation from a licensed septic tank pumping company.

**Submitted by:** Laura Keehan, Associate Planner, on behalf of the Site Plan Review Committee

**Staff Contact:** Laura Keehan, Associate Planner, (360)-507-5846,  
[lkeehan@ci.olympia.wa.us](mailto:lkeehan@ci.olympia.wa.us)

**Date Prepared:** July 7, 2008

**Attachments are provided to the Hearing Examiner and are available to others upon request:**

- Attachment A: General Land Use Application and Preliminary Long Plat Supplement received 8/22/07
- Attachment B: Environmental Checklist
- Attachment C: Preliminary Plat Map and Utility Plans date received 3/19/08 (7 pages)
- Attachment D: Elevation Drawings received 8/22/07 (2 pages)
- Attachment E: Drainage Report received 5/28/08
- Attachment F: Tree Protection Plan received 8/22/07
- Attachment G: Traffic Memo received 8/22/07
- Attachment H: DNS issued 7/7/08
- Attachment I: Integrated Pest Management Plan received 3/19/08

**OHE STAFF REPORT & AGENDA**  
Hearing Date: 07/14/08  
**ORIGINALS TO PLANNER: Laura Keehan**

KEITH STAHLEY  
CP&D  
KSTAHLEY@CI.OLYMPIA.WA.US

STEVE HALL  
GENERAL GOVERNMENT  
CITY HALL  
SHALL@CI.OLYMPIA.WA.US

ROB BRADLEY  
OLYMPIA FIRE DEPT  
RBRADLEY@CI.OLYMPIA.WA.US

TOM HILL  
CP&D  
THILL@CI.OLYMPIA.WA.US

PAULA SMITH  
CP&D  
PSMITH@CI.OLYMPIA.WA.US

OLYMPIA CITY COUNCIL  
COUNCILMEMBERS@CI.OLYMPIA.WA.US

JENNIFER KENNY  
NA: [LIST]  
CP&D  
JKENNY@CI.OLYMPIA.WA.US

NEIGHBORHOOD ASSOCIATIONS

CHRON

**PLANNER: LAURA KEEHAN**  
File #07-0120 Name: PATTISON ST PLAT  
**ORIGINALS TO PLANNER**

RON DEERING, APPLICANT  
6506 TURNBERRY LN SE  
OLYMPIA WA 98501

SKILLINGS CONNOLLY, REPRESENTATIVE  
5016 LACEY BLVD  
LACEY WA 98503

**PLANNER: LAURA KEEHAN**  
File #07-0148 Name: PATTISON STREET  
TOWNHOMES PLAT  
**ORIGINALS TO PLANNER**

DOUG SAUNDERS, APPLICANT  
2014 ARENA CT SE  
OLYMPIA WA 98501

SKILLINGS CONNOLLY, REPRESENTATIVE  
5016 LACEY BLVD  
LACEY WA 98503

**STAFF REPORT, AGENDA, AND  
ATTACHMENTS:**

MR TOM BJORGEN  
BJORGEN & BAUER  
1235 - 4TH AVE E STE 200  
OLYMPIA WA 98506-4278

**AGENDA ONLY:**

BRACY & THOMAS  
1520 IRVING ST SW  
TUMWATER WA 98512

OLYMPIA MASTER BUILDERS  
1211 STATE AVE NE  
OLYMPIA WA 98506-4234

PACIFIC SLOPE PROPERTIES  
1611 HARRISON AVE NW  
OLYMPIA WA 98502-5240

HATTON GODAT PANTIER  
1840 BARNES BLVD SW  
TUMWATER WA 98512

ECONOMIC DEV COUNCIL  
EXECUTIVE DIRECTOR  
665 WOODLAND SQUARE LP SE STE 201  
OLYMPIA WA 98503-1009

VIRGIL ADAMS REAL ESTATE  
C/O DENNIS ADAMS  
806 STATE AVE NE  
OLYMPIA WA 98506-3955

DAVID LAZAR  
2619 - 43RD AVE NW  
OLYMPIA WA 98502-3603

SARAH SMYTH MCINTOSH  
1801 WEST BAY DR NW  
OLYMPIA WA 98502

TENINO INDEPENDENT  
NEWS EDITOR  
PO BOX 4004  
TENINO WA 98589-4004

COMCAST  
OUTSIDE PLAN ENGINEER SO REGION  
410 VALLEY AVE NW STE 12  
PUYALLUP WA 98371-3317

FRONT COUNTER  
CP&D

KGY  
PO BOX 1249  
OLYMPIA WA 98507-1249

SITTING DUCK  
1919 EVERGREEN PRKWY DR SW APT 10  
OLYMPIA WA 98502-5920

**Laura Keehan**

---

**From:** Doug [doug.saunders@comcast.net]  
**Sent:** Monday, July 14, 2008 12:42 PM  
**To:** Laura Keehan  
**Subject:** Re: Pattison Street Plat - No. 07-0120

Hi laura

Yes I accept keeping the hearing examiner on board as I do not see a problem here. Thank you  
Doug Saunders

Sent from Mr. Doug's BlackBerry

---

**From:** Laura Keehan <lkeehan@ci.olympia.wa.us>  
**Date:** Mon, 14 Jul 2008 11:45:52 -0700  
**To:** 'doug.saunders@comcast.net' <doug.saunders@comcast.net>  
**Subject:** FW: Pattison Street Plat - No. 07-0120

Hi Doug-

Sorry to bother you again. It occurred to me that since you won't be present at tonight's hearing, could you reply back to this email with a statement about your acceptance or if you'd like to request a different Examiner? That way I can read your statement at the hearing, or in the alternative you can have Mr. Connolly speak to the issue on your behalf. I did leave Mr. Connolly a voicemail letting him know of the situation, but you may want to contact him yourself to let him know how you'd like him to respond at the hearing. Thanks!

**Laura S. Keehan**

Associate Planner  
Olympia Community Planning & Development  
PO Box 1967, Olympia, WA 98507-1967  
P: 360.570.5846  
F: 360.753.8087

-----Original Message-----

**From:** Laura Keehan  
**Sent:** Monday, July 14, 2008 11:38 AM  
**To:** 'doug.saunders@comcast.net'  
**Cc:** 'rsndeering@comcast.net'  
**Subject:** RE: Pattison Street Plat - No. 07-0120

Hi Doug,

I just spoke to Mr. Deering, and he's thinking that there isn't any problem with going ahead tonight with Mr. Bjorgen as the Examiner.

**Laura S. Keehan**

Associate Planner  
Olympia Community Planning & Development  
PO Box 1967, Olympia, WA 98507-1967  
P: 360.570.5846

7/14/2008

F: 360.753.8087

-----Original Message-----

**From:** Doug [mailto:doug.saunders@comcast.net]

**Sent:** Monday, July 14, 2008 9:41 AM

**To:** Laura Keehan

**Subject:** Re: Pattison Street Plat - No. 07-0120

I'm fine with it if Ron and Mr Connolly is. Please let me know how they feel.

E mail is the best for me.

Thanks

Doug

Sent from Mr. Doug's BlackBerry

---

**From:** Laura Keehan <lkeehan@ci.olympia.wa.us>

**Date:** Mon, 14 Jul 2008 09:06:07 -0700

**To:** 'doug.saunders@comcast.net' <doug.saunders@comcast.net>

**Subject:** FW: Pattison Street Plat - No. 07-0120

Hi Doug,

I just left you a voicemail. Please see the email from the City's Hearing Examiner below. If you would prefer a different Hearing Examiner for your subdivision, let me know. If so, I would need to try and reschedule with a new Examiner 2-4 weeks from now.

**Laura S. Keehan**

Associate Planner

Olympia Community Planning & Development

PO Box 1967, Olympia, WA 98507-1967

P: 360.570.5846

F: 360.753.8087

-----Original Message-----

**From:** Thomas Bjorgen [mailto:tombj@qwestoffice.net]

**Sent:** Friday, July 11, 2008 4:10 PM

**To:** Laura Keehan

**Subject:** Pattison Street Plat - No. 07-0120

Laura,

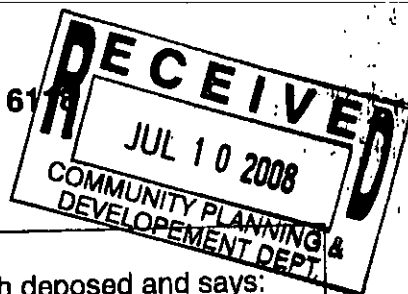
I see that this plat is several blocks north of Martin Way on Pattison. I represent Intercity Transit, which has its main base and headquarters just south of Martin Way on Pattison.

I do not see any conflict in my hearing and deciding this subdivision, but would like to make the Applicant, Mr. Deering, aware of this situation and give him the opportunity to respond, if desired. Please forward this e-mail to him or let him know its contents by telephone message as soon as possible.

Thank you very much.

Tom Bjorgen

7/14/2008



# Affidavit of Publication

STATE OF WASHINGTON  
County of Thurston County

SS.

The undersigned being first duly sworn on oath deposed and says:  
That she is the Principal Clerk of The Olympian which is a legal newspaper printed and published in the city of Olympia, Thurston County, Washington: of general circulation in said City, County and State;

that the  
In the case of

**Notice of Public Hearing**  
**Pattison Street Plat #07-0120 and Pattison**  
**Street Townhomes Plat #07-0148 - City of**  
**Olympia**

of which the attached is a printed copy, was published in said newspaper:

On the	4th	day of	July	2008
the		day of		2008
the		day of		2008
the		day of		2008
the		day of		2008
the		day of		2008

that the said newspaper was generally circulated during all of said time, and has been published for more than six months prior to the dates of the publication of this legal document, and that said notice was published in the newspaper proper and not in supplement form.

The amount of fee charged for this publication **\$180.00**

*Suey Nelson*  
Principal Clerk

Subscribed and sworn to me this 4th day of

July 2008

Notary Public  
State of Washington  
ERIKA R MANNING  
My Appointment Expires Jul 15, 2011

*Erika R Manning*  
Notary Public In and for the State of Washington  
Residing at Olympia, Thurston County, Washington

The Olympian has been appointed as a legal newspaper by order of the Superior Court of the State of Washington for Thurston County, dated July 10, 1941, in the county in which said newspaper is published in accordance with RCW 65.16.020 and RCW 63.16.040.

Note - The above affidavit and fee is in compliance with RCW 63.16.030 and Sec. 3, Chapter 34, Laws of 1977.

Legal #6118

## NOTICE OF PUBLIC HEARING For the City of Olympia Hearing Examiner

The City of Olympia Hearing Examiner will hold a public hearing on Monday, July 14, 2008, in the Olympia City Council Chambers, 800 First Street SE, Olympia, Washington, to receive public comments prior to making a decision on the following project:

Time: 8:30am  
Case name: Pattison Street Plat  
File number: 07-0120  
Applicant: Ron Deering, 6506 Turnberry Ln SE, Olympia WA 98501  
Request: Subdivide a 5.33 acre property into 36 single-family lots, including new roadways, water, sewer, and stormwater utilities.  
Land use zones: Residential 6-2  
Location: 604 Pattison Street NE, Olympia, WA 98506  
Tax Parcel No.: 34203100000  
Staff contact: Laura Keenan, Associate Planner, Phone (360) 570-5846, Fax 753-8087, TTY 753-6270

Time: 7:30pm  
Case name: Pattison Street Townhomes Plat  
File number: 07-0148  
Applicant: Doug Saunders, 2014 Arena Court SE, Olympia WA 98501  
Request: Subdivide a 1.95 acre property into 18 townhouse lots, including new roadways, water, sewer, and stormwater utilities.  
Land use zones: Residential 6-2  
Location: 500 Block Pattison Street NE, Olympia, WA 98506  
Tax Parcel No.: 34203000101  
Staff contact: Laura Keenan, Associate Planner, Phone (360) 570-5846, Fax 753-8087, TTY 753-6270

Anyone interested is invited to attend and present testimony regarding the above proposals. Written statements may be submitted to the Olympia Community Planning and Development Department, PO Box 1967, Olympia, WA 98507-1967. Written comments must be received at or prior to the public hearing.

If you need special accommodations to participate in this meeting, please call (360) 753-8314 and ask for the ADA Coordinator.

COMMUNITY PLANNING AND DEVELOPMENT DEPARTMENT

Publish: July 4, 2008

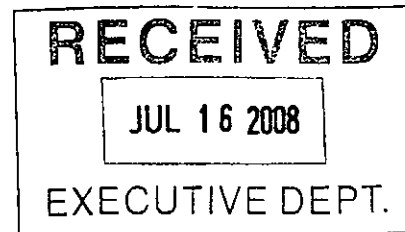


Mr. and Mrs. Volker and Margarita Brunke  
2930 Applehill Ct NE  
Olympia, WA 98506

July 10, 2008

CC: CC, Sh, sm, KS

Olympia City Council  
Community Planning and Development Department  
900 Plum St SE  
Olympia, WA 98501



Subject: Written testimony for the public hearing in regards of the petition for the case; Pattison St Townhomes Plat

**To Whom It May Concern:**

Because I have a business commitment, which will lead me out of town, I am not able to attend in person the public hearing in the subjected regards. I extend my apology and submit herewith my statement in writing.

**#1 Legal advice:**

The preliminary plat plan is inaccurate. The owners of lot 23 shall read Margarita and Volker Brunke. As the current and published copy of the preliminary plat plan does not show the correct owners, I feel stripped of my rights to petition against this development. Further legal audit of this matter might be applicable and pursued, as this case will proceed.

**#2 Environmental testimonies:**

The plat requested for a townhome development does cut into an urban part of the woods here at the Applehill Ct subdivision. The flora and fauna of it is of a very special kind, besides the usual to meet animals, Deer's have been using these woods as their habitat. The trees in the area in question for this development do carry at minimum an age of 30+ years. How regenerative this piece of Nature is, shows that 2 Years after the bad winter storms all scars have vanished.

**#3 Economical situations:**

The Applehill Ct NE subdivision is about 13 Years old, it is a establish part of the town of Olympia. The Neighborhood at Pattison with its Apartment block does show already what an influence a high turnover rate of inhabitants it might have to a street and its outline. The meaning of townhomes does address the clientele that starts to build a live around a starter home. An anticipated turnover rate on almost a yearly base can be taken into consideration, which might have a similar outcome. I fear that my subdivision will suffer economical losses due to the direct concurrence of a newer development right on its backyard. Besides, I found it rather questionable to develop more homes during a time of economical uncertainty with an very recognizable decrease of house values, makes from my point of you no sense at all. Economical stability shall be the aim, not building something new, that lately is not needed.

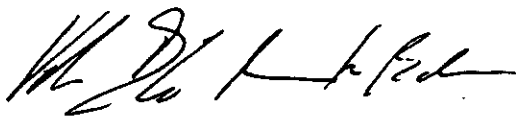
**#4 Traffic related concerns:**

The preliminary plot plan does show that the access road to the Applehill Ct NE subdivision stretches parallel to the flood canal, which is also the borderline between the both lots. This does indicate that the oncoming and outgoing traffic will directly influence the peace of the Applehill Ct NE subdivision. This to a possible negative extend for that I fear I am not able to enjoy my backyard due to the traffic situation explained before. Is the town of Olympia considering noise reduction measures to remedy this situation to the satisfaction of the inhabitants of Applehill Ct NE?

With a projected additional 18 Townhomes and a possibility of an additional 35+ vehicles, it can be very rational assumed, that Pattison St, as it is laid out today will be hardly capable to serve the current demand, how will it serve the future considering the additional traffic. Especially sine the intersection Pattison / Martin Way is already a possible accident point, since no regulated traffic signaling does help to regulate the traffic so that either the inhabitants of its close vicinity can cross Martin Way or merge onto it without spending up to 5+ minutes waiting for a free spot to join the traffic. Bearing this in mind that an additional subdivision is subject of this hearing will increase the amount of vehicles to at least 100+ vehicles. This shall be indication, whether the town of Olympia is capable of serving this demand by installing a traffic signal for the intersection in question. Mostly, will the two new subdivisions be part of the monetary installments for this matter? Apart from this, Pattison St should be widened or the side parking on the street should be prohibited in order to make sure, that everybody could travel safely through this part. Out of my daily experience, Pattison is also used in parts as a playground for Children living in the apartment buildings there. Traffic safety shall be the highest aim for a community, adding 100+ vehicles to the equation without countering/raising the efforts for traffic safety is deeply requested and indicated as a must.

Thank you for your attention and the ability to express my concerns.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Volker Brunke', written in a cursive style.

Mr. and Mrs. Volker Brunke

FILE NO: 07-0120 & 07-0148  
PROJECT: \*\*\*SEPA D PATTISON ST PLAT &  
PATTISON ST TOWNHOMES PLAT  
PLANNER: \*\*\*LAURA KEEHAN  
DATE: \*\*\*07/07/08  
ORIGINALS TO PLANNER

*Mailed 7-7-08*  
*N*



City of  
OLYMPIA

## Planning Division

Community Planning & Development  
837 - 7<sup>th</sup> Ave SE - PO Box 1967  
Olympia WA 98507-1967  
Phone: 360.753.8314  
Fax: 360.753.8087  
cpdinfo@ci.olympia.wa.us  
www.olympiawa.gov

# STATE ENVIRONMENTAL POLICY ACT DETERMINATION OF NONSIGNIFICANCE

July 7, 2008

**Description of Proposal:** Pattison Street Townhomes – Residential subdivision for 18 townhouse lots and associated site improvements on a 1.95 acre site.

**Project Number:** 07-0148

**Location of Proposal:** 500 Block Pattison Street NE

**Applicant:** Douglas Saunders  
2014 Arena Court SE  
Olympia, WA 98501

**Representative:** Skillings Connolly  
5016 Lacey Blvd.  
Lacey, WA 98503

**Lead Agency:** City of Olympia

**Lead Planner:** Laura Keehan, Associate Planner

**SEPA Official:** Susan Messegee, AICP, Senior Planner

**Date of Issue:** July 7, 2008

*Att.*  
*H*

**Threshold Determination:** The lead agency for this proposal has determined that this action probably will not have a significant adverse impact upon the environment. Therefore an Environmental Impact Statement is not required under RCW 43.21C.030(2)(C). The environmental review and SEPA threshold determination for this proposed action are based upon the proposed Application Forms and Site Plans date-stamped August 22, 2007 and May 28, 2008, the Drainage Report date-stamped May 28, 2008, Tree Evaluation date-stamped August 23, 2007, and the State Environmental Policy Act Checklist date-stamped August 22, 2007. This information is available upon request.

**Comments** regarding this DNS should be directed to the SEPA Official at the address above. This DNS is not a permit. The City of Olympia will not act on and no permits will be issued for this proposal prior to the appeal deadline. The

applicant shall not begin work until after the appeal deadline has expired and any other necessary permits have been granted. If conditions are added during or following the 14-day comment period, a revised determination may be issued.

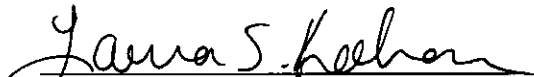
**COMMENT DEADLINE: 5:00 P.M., Monday, July 21, 2008.**

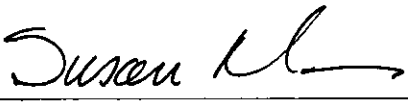
**Hearing Examiner Authority:** The proposed project requires the review and approval of the Olympia Hearing Examiner. Pursuant to Olympia Municipal Code 14.04.155, the Hearing Examiner is authorized to modify or add SEPA conditions to ensure consistency between this threshold determination and the Examiner's decision and no appeal is necessary for the Examiner to consider and revise or add conditions based on SEPA authority.

**Appeal Procedure:** Pursuant to RCW 43.21C.075(3) and Olympia Municipal Code 14.04.060(A), the lack of conditions (mitigation measures) of a DNS may be appealed by any agency or aggrieved person. Appeals must be filed with the Community Planning and Development Department at the address above within 21 calendar days of the date of issue. An administrative appeal fee must accompany any appeals.

**APPEAL DEADLINE: 5:00 P.M., Monday, July 28, 2008**

Issued by:

  
Laura S. Keehan, Associate Planner

  
Susan Messegee, AICP, Senior Planner  
**SEPA OFFICIAL**

## **DISTRIBUTION LIST FOR SEPA THRESHOLD DETERMINATION**

**Applicant:** Douglas Saunders, 2014 Arena Court SE, Olympia, WA  
98501

**Applicant's Representative:** Skillings Connolly, 5016 Lacey Blvd, Lacey, WA 98503

Department of Ecology - Environmental Review Section (w/checklist)  
Squaxin Island Tribe (Jeff Dickison) w/ checklist

Marcus Goodman, CP&D, Development Engineering  
Steve Friddle, CP&D, Urban Forestry  
Rob Bradley, Olympia Fire Department  
Susan Messegee, City of Olympia, SEPA Official

Thurston County Environmental Health Dept. (Jim Goode)  
Olympia School District (Tim Byrne)

Parties of Record  
Property owners within 300 feet



FILE NO: 07-0120 & 07-0148  
PROJECT: \*\*\*SEPA DNS - PATTISON ST PLAT &  
PATTISON ST TOWNHOMES PLAT  
PLANNER: \*\*\*LAURA KEEHAN  
DATE: \*\*\*07/07/08  
**ORIGINALS TO PLANNER**

SEPA UNIT – ENVIRONMENTAL REVIEW  
DEPT OF ECOLOGY  
**MS-47703**

MARCUS GOODMAN  
DEVELOPMENT ENGINEERING

STEVE FRIDDLE  
URBAN FORESTER

ROB BRADLEY  
OLYMPIA FIRE DEPT

CITY COUNCIL  
COUNCILMEMBERS@CI.OLYMPIA.WA.US

JEFF DICKISON  
SQUAXIN ISLAND TRIBE  
2952 SE OLD OLYMPIC HWY  
SHELTON WA 98584-7731

JIM GOODE  
TC ENVIRONMENTAL HEALTH  
**MS-40947**

TIMOTHY BYRNE  
CAPITAL PLANNING & CONSTRUCTION  
OLYMPIA SCHOOL DISTRICT  
1113 LEGION WAY SE  
OLYMPIA WA 98501-1652

SUSAN MESSEEGEE  
SEPA OFFICIAL

**PATTISON STREET PLAT  
APPLICANT:**

RON DEERING  
6506 TURNBERRY LN SE  
OLYMPIA WA 98501

**PATTISON ST TOWNHOMES  
APPLICANT:**

DOUG SAUNDERS  
2014 ARENA CT SE  
OLYMPIA WA 98501

**APPLICANT'S REPRESENTATIVE:**

SKILLINGS CONNOLLY INC  
5016 LACEY BLVD  
LACEY WA 98503

ADJACENT PROPERTY OWNERS  
PATTISON ST TOWNHOMES  
07-0148

SISTERS OF PROVIDENCE  
PO BOX 389673  
SEATTLE WA 98138

CITY OF LACEY  
PO BOX 3400  
LACEY WA 98506

APPLEHILL LOT OWNERS  
2970 POPPY LN SW #3-201  
TUMWATER WA 98512

DONNA WILLIAMS  
2901 APPLEHILL CT NE  
OLYMPIA WA 98506

GREGORY NOVLAN  
2907 APPLEHILL CT NE  
OLYMPIA WA 98506

PRINCE TURNER  
2911 APPLEHILL CT NE  
OLYMPIA WA 98506

SUSAN EICHRODT  
2917 APPLEHILL CT NE  
OLYMPIA WA 98506

NAM NGUYEN  
2923 APPLEHILL CT NE  
OLYMPIA WA 98506

DEAN FAHR  
2929 APPLEHILL CT NE  
OLYMPIA WA 98506

KATHRYN FREDA  
3001 APPLEHILL CT NE  
OLYMPIA WA 98506

TAMI HUMMEL  
3007 APPLEHILL CT NE  
OLYMPIA WA 98506

CHARLES BEERS  
3011 APPLEHILL CT NE  
OLYMPIA WA 98506

RICHARD FONDERWHITE  
3017 APPLEHILL CT NE  
OLYMPIA WA 98506

TRONG HUYNH  
3021 APPLEHILL CT NE  
OLYMPIA WA 98506

TRAN VU  
3530 MAPLEVIEW DR NE  
OLYMPIA WA 98506

HECTOR GARCIA  
3033 APPLEHILL CT NE  
OLYMPIA WA 98506

THUY LE  
1808 MEIXNER ST NE  
OLYMPIA WA 98506

RITA PARLE  
3040 APPLEHILL CT NE  
OLYMPIA WA 98506

BRYAN DILLON  
3034 APPLEHILL CT NE  
OLYMPIA WA 98506

MARKLAR ACQUISITIONS LLC  
7645 58<sup>TH</sup> AVE NE  
OLYMPIA WA 98516

TREVOR LIVINGSTON  
3022 APPLEHILL CT NE  
OLYMPIA WA 98506

PATRICK PASSMORE  
3018 APPLEHILL CT NE  
OLYMPIA WA 98506

MARY TABIL  
3012 APPLEHILL CT NE  
OLYMPIA WA 98506

JEFFREY OLSON  
3008 APPLEHILL CT NE  
OLYMPIA WA 98506

HENRY SHIRES  
3002 APPLEHILL CT NE  
OLYMPIA WA 98506

VOLKER BRUNKE  
2930 APPLEHILL CT NE  
OLYMPIA WA 98506

WILLIAM BUCKLEY  
2924 APPLEHILL CT NE  
OLYMPIA WA 98506

JEFF TAWNEY  
2918 APPLEHILL CT NE  
OLYMPIA WA 98506

NGUYEN HAI HONG  
2912 APPLEHILL CT NE  
OLYMPIA WA 98506



CHERIE DOWNEY  
2908 APPLEHILL CT NE  
OLYMPIA WA 98506

KEVIN ASHBY  
2902 APPLEHILL CT NE  
OLYMPIA WA 98506

KIMBERLY SEBASKS  
514 DEVOE ST NE  
OLYMPIA WA 98506

TIMOTHY SETH  
2313 SPRINGER LN NE  
OLYMPIA WA 98506

MICHELLE WEBER  
521 PATTISON ST NE  
OLYMPIA WA 98506

CHERI LYNN & FRANK DEHART  
504 DEVOE ST NE  
OLYMPIA WA 98506

C ROGER CHRISTENSEN  
515 PATTISON ST NE  
OLYMPIA WA 98506

HEITZMANN KIRBY RENTALS  
552 KINWOOD ST SE  
OLYMPIA WA 98503

SUSAN DOLVIN  
PO BOX 7244  
OLYMPIA WA 98507

RONALD TURPEN  
3613 56<sup>TH</sup> AVE SW  
SEATTLE WA 98116

KIM BOSLER  
PO BOX 5036  
OLYMPIA WA 98506

ROBERT MILLER 1996 TRUST  
PO BOX 861  
TRACYTON WA 98393

**Nancy Lenzi**

---

**To:** Councilmembers  
**Cc:** Laura Keehan; Susan Messegee (smessege@ci.olympia.wa.us)  
**Subject:** 07-0120 & 07-0148 Pattison St SEPA DNS



07-0148\_Pattison\_ 07-0120\_Pattison\_  
St\_Tnhms\_SEPA... St\_Plat\_SEPA\_...

7/3/2008 3:26 PM



## MEMORANDUM

**TO:** Laura Keehan

**FROM:** Marcus Goodman

**DATE:** July 1, 2008

**SUBJECT:** Pattison Townhomes, CD# 07-0148  
Engineering Division Review Comments – Recommend Approval with  
Conditions.

The Engineering Division has completed a substantive review of the Pattison Townhouse Project #07-0148. The Engineering Division recommends approval with conditions.

### APPLICABLE STANDARDS

Olympia Municipal Code Title 12 - Chapter 12.02 Olympia Development Standards, Section 12.02.020 **Engineering Design and Development Standards (EDDS), November 2004 Edition** (Standards), adopted by Ordinance No. 6321, and amended by Ordinance No.6453 (amending Chapter 4, Transportation).

Olympia Municipal Code Title 13 - Chapter 13.16 Storm and Surface Water Utility, Section 13.16.017 **City Of Olympia Stormwater Manual, 2005**, adopted by Ordinance No. 6345.

### REVIEW INFORMATION

Our recommendation is based on a review of the following information:

- Civil Engineering plan set, sheets 1-6 by Skillings Connolly. Revised May 28, 2008.
- Preliminary Drainage and Erosion Control Report by Skillings Connolly. Revised May 28, 2008.

### FINDINGS/CONCLUSIONS

**Water 2.050.B (Standards)** - The developer shall install water facilities in accordance with the provisions of Chapter 6 of the "Engineering Design and Development Standards."

***Finding/Conclusion*** – *The applicant is proposing a watermain connection to the existing eight inch main in Pattison Street. The applicant has proposed to extend an eight inch watermain through the project site with a future connection to the parcel to the north. The applicant is proposing to install fire hydrants which are spaced in accordance with current standards as well as to provide domestic water for each lot.*

*The City has capacity for this development's anticipated domestic water and fire suppression system requirements.*

**Sewer 2.050.A (Standards)** - The developer will install sewer facilities in accordance with the provisions of Chapter 7 of the "Engineering Design and Development Standards."

***Finding/Conclusion*** – *The applicant is proposing a connection to an existing manhole in Pattison Street south of the project site and extend sewer through the project which would provide a future connection for the parcel to the north.*

*The City has capacity for this development's anticipated sanitary sewer discharge.*

**Streetside Improvements in General 2.040.A** - Unless deferred or exempt as provided for in these Standards, any development requiring a State Environmental Policy Act (SEPA) checklist, or any development creating an additional impact of more than 20 average daily vehicle trips, will require that the developer construct or install streetside improvements in accordance with the Standards.

***Finding/Conclusion*** – *The applicant is proposing streetside improvements consistent with a local access street on both sides of the proposed Public Roads 'A' in addition to ½ street improvements consistent with a Neighborhood Collector for Pattison Street NE. All Streetside Improvements consist of curb, side-walk, planter-strip, street trees and street lights.*

*The applicant is proposing a two to five foot concrete retaining wall along the south property line. No portion of the retaining wall, including footings will be allowed in the right of way.*

*The City has capacity for the short plat improvements.*

**Access to Developments 2.040.B.2** - A development will abut a public right-of-way and have public right-of-way frontage with site access to one or more streets improved to comply with the standards as set forth in Chapter 4 of the *Engineering Design and Development Standards*.

***Finding/Conclusion*** – *All lots within the proposed development will abut a public right-of-way.*

**Storm Drainage 2.050.C (Standards)** - The developer will provide for the treatment storage and disposal of surface drainage through a storm drainage system designed to the current Drainage Design and Erosion Control Manual for Olympia (Manual) and Chapter 5 of the Engineering Design and Development Standards.”

***Findings/Conclusions** – The applicant is proposing to infiltrate all stormwater generated from impervious surfaces within the on-site stormwater facility or drywells.*

*Provide a landscaping plan for the infiltration facility which meets the requirements of the Stormwater Manual, Volume III, Section 3.2 and Volume V, with the engineering submittal.  
Provide drywell size and locations on the plat.*

*The proposed stormwater improvements as described in the Preliminary Drainage and Erosion Control Report are sufficient to make a recommendation for approval.*

**Clearing/Grading/Erosion Control** – The applicant shall install all utilities, streets, improvements, etc. in accordance with all applicable standard specifications as outlined in the Engineering Design and Development Standards (3.010).

***Finding/Conclusion** – The applicant is proposing an eighteen lot long plat on moderate terrain. The project consists of clearing, grading, cuts and fills to provide a build able space for each lot. Appropriate erosion control measures have been proposed.*

*The proposed site plan has provided sufficient information to make a recommendation for approval.*

**Solid Waste 8.030 (Standards)** - The design of solid waste/recyclables collection facilities will conform to current City standards.

***Finding/Conclusion** – The proposal doesn't mention solid waste. The assumption would be that individual carts would be used for each lot adequate circulation is provided to meet access requirements for solid waste vehicles..*

*The City has capacity for this development's anticipated project generated solid waste/recyclables.*

## **CONDITIONS**

The Engineering Division has completed a review of the Pattison Townhouse Project, CD# 07-0148. The Engineering Division recommends approval with the following conditions:

**Streetside Improvements in General 2.040.A** - Unless deferred or exempt as provided for in these

Standards, any development requiring a State Environmental Policy Act (SEPA) checklist, or any development creating an additional impact of more than 20 average daily vehicle trips, will require that the developer construct or install streetside improvements in accordance with the Standards.

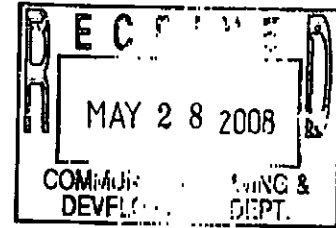
1. The applicant is proposing a two to five foot concrete retaining wall along the south property line. No portion of the retaining wall, including footings will be allowed in the right of way.

**Storm Drainage 2.050.C (Standards)** - The developer will provide for the treatment storage and disposal of surface drainage through a storm drainage system designed to the current Drainage Design and Erosion Control Manual for Olympia (Manual) and Chapter 5 of the Engineering Design and Development Standards.”

1. Provide a landscaping plan for the infiltration facility which meets the requirements of the Stormwater Manual, Volume III, Section 3.2 and Volume V, with the engineering submittal.
2. Provide drywell size and locations on the plat.



May 28, 2008  
#06095



Mr. Marc Goodman  
City of Olympia  
P.O. Box 1967  
Olympia WA 98507

**RE: Pattison Street Townhomes (OLY # 07-0148)**

Dear Marc:

In an effort to help expedite the review process, the following letter individually addresses the comments made by Craig Tosomeen regarding stormwater dated May 5, 2008 and the measures taken to rectify these issues. The numbering of the responses below corresponds to the numbering of the comments in the original email.

1. A paragraph discussing Parnell Engineering's assumption that seasonal high groundwater is at or below the bottom of the borings has been added to the stormwater report. This paragraph discusses the borings themselves and the fact that no signs of seasonal high groundwater (mottling) were found in any of the three borings. It also discusses the depth of the existing adjacent domestic well and an off-site seasonal wetland and how these additional pieces of information further verifies Parnell Engineering's assumption. Also note that the borings were taken in January, when groundwater is typically at its highest elevation during the year.
2. The note was revised to call for 12" of compost amended material. Additional specifications regarding the compost amended material were added.
3. Copies of the WWHM report were added to the drainage report and verified to be correct.
4. A preliminary landscaping plan has been provided in the drainage report. Although this landscape plan was completed prior to removing the once planned stormwater swale, the remainder of the landscaping is correct. We ask that you this plan be accepted for land use approval and an updated plan be required as part of construction plan approval process.

**ENGINEERING • SURVEYING • ENVIRONMENTAL • REAL ESTATE SERVICES**

PO Box 5080 Lacey, Washington 98509  
360-491-3399 Fax 360-491-3857  
[www.skillings.com](http://www.skillings.com)



5. An access road has been provided to the proposed infiltration facility. Please see Land Use plan sheet 3 of 6 which shows the location of the gravel access road.
6. The preliminary TESC plan and SWPPP have been revised and included in the drainage report. Since these documents are not critical to the Land Use approval process, we ask that any additional revisions that are required to these documents be required during the construction plan approval process.
7. The clearing and grading time limits have been included on the plan set and in the SWPPP.
8. Per Craig Tosomeen's conversation with Brandon Johnson, a source control plan has not been provided at this time. However, a note has been added to the drainage report stating that this will be provided at the time of construction plan approval.

If you have any questions, please give me a call at 491-3399.

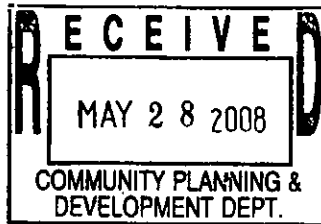
Sincerely,

**SKILLINGS CONNOLLY, INC.**

Robert G. Connolly, PE

RGC:blj G:\project\2006\06095 Pattison St Townhouse Subdivision\Correspondence\2008 04 23 ltr (to OLY).doc





# Preliminary Drainage and Erosion Control Report

SC #06095

MAY 2008

*Site:*

**Pattison Street Townhomes**  
604 Pattison Street  
Olympia, WA

*Prepared For:*

**Doug Saunders**  
2014 Arena Court SE  
Olympia, WA 98501  
Cell: (360) 280-1344

*Prepared By:*

**SKILLINGS CONNOLLY, INC**  
5016 Lacey Boulevard S.E.  
Lacey, Washington 98503  
(360) 491-3399

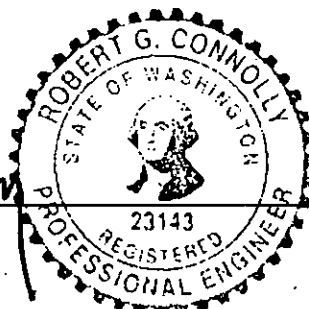


**ENGINEER'S CERTIFICATE  
FOR THE  
PATTISON STREET TOWNHOMES DRAINAGE REPORT**

"I hereby certify that this Drainage and Erosion Control Plan for the **Pattison Street Townhomes** has been prepared by me or under my supervision and meets the minimum standards of the **City of Olympia Stormwater Manual** dated **January, 2005** and normal standards of engineering practice. I hereby acknowledge and agree that the jurisdiction does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities designed by me."

Prepared By:

  
Robert G. Connolly, P.E.  
**SKILLINGS-CONNOLLY, INC**



5/13/8  
Date

EXPIRES 09-29-9

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<b><u>Section</u></b>	<b><u>Page</u></b>
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## Appendices

### **A. Project Maps**

- Vicinity Map
- Regional Topography
- Fema Map
- Preliminary Plat Map
- Preliminary Land Use Plans
- Preliminary Basin Map
- Preliminary Stormwater Facility Contingency Plan

### **B. Conveyance Calculations**

- WWHM Flood Report

### **C. Supporting Data**

- Soils Map
- SCS Soil Description
- 3<sup>rd</sup> Party Soils Report

### **D. Maintenance Schedule & Agreement**

### **E. Facility Summary Form**

## **SECTION 1 Facility Summary Form**

Please see Appendix E for the Facility Summary Form

## **SECTION 2 Project Overview and Maps**

The Pattison Townhomes site is a 1.95 acre parcel east of Pattison Street and south of 8<sup>th</sup> Ave NE.

The proposed development includes the construction of 18 townhomes, associated roadways, utilities and stormwater facilities. The preliminary site plan is shown in Appendix A of this report. The proposed stormwater facility will treat the stormwater with a 6 cartridge Stormfilter Manhole located off-line and infiltrate the stormwater in an underground rock gallery.

## **SECTION 3 Existing Conditions**

The existing site has 0 to 12% slopes and is undeveloped with dense woods on the eastern portion of the site. The SCS Soils Survey of Thurston County identified the soil as a Yelm Fine Sandy Loam. Which is a "moderately-well drained soil."

A soils study and report was completed by Parnell Engineering, which took soil samples down to 300" below the surface (surface elevation between 178 and 180) and revealed a clean fine between 150" and 300" deep. The report also noted that no mottling or other signs of high ground water were found in any of the borings and that the water table should be assumed to be at the bottom of the borings which is elevation 153.0. To verify this assumption, the well log for an existing well directly adjacent to the site has been included in this report. Although the well log does not give the static water level it does state the well is approximately 50' deep, with a ground elevation of 186.0 (based on Skillings Connolly, Inc. topography survey) the approximate bottom elevation of the well is 136.0. Furthermore, there is a seasonal wetland associated with Woodard Creek that is located approximately 380' northeast of the site that has an approximate maximum surface elevation of 146.00. Although this wetland is not classified as a High Ground Water hazard area by GEODATA.COM and subsurface strata may alter groundwater flow paths this further supports the assumption made in Parnell Engineering's report that the high groundwater elevation is below the bottom of the borings at that assuming a high ground water elevation equal to the bottom of the borings is a conservative yet appropriate approach.

## **SECTION 4 Off-Site Analysis Report**

100% of the stormwater will be infiltrated on-site. Due to the surrounding topography and existing stormwater systems within the vicinity of the site no off-site runoff is expected. See the Basin Map in Appendix A.

## **SECTION 5 Permanent Stormwater Control Plan**

The proposed stormwater system was designed according to the City of Olympia Stormwater Manual and analyzed using WWMH3. The site has been analyzed as a single basin area, the table below summarizes the areas used to size the proposed treatment and retention facilities.

BASIN AREAS			
Area	Treated (Ac)	Untreated (Ac)	Total
Roofs	-	0.36	0.36
Undisturbed Pervious (Tree Tract)	0.16	-	0.16
Disturbed Pervious	0.69	-	0.69
Impervious	0.74	-	0.74
Total	1.59	0.36	1.95

Note that the runoff from the proposed roofs will be infiltrated in drywells and the roof area has been excluded from the sizing calculations.

### **Conveyance**

The stormwater from the proposed road and driveways will be conveyed to the stormwater facility via catch basins, 12" diameter storm pipe.

### **Treatment**

The stormwater runoff generated by the proposed project will be treated by a 6 cartridge Stormfilter Manhole located off-line of the stormwater system. A type 2-48" diameter catch basin with a flow splitter will be placed up stream of the Stormfilter manhole to direct the treatment flow into the Stormfilter and all larger flows directly to the stormwater retention facility.

WWMH calculated an "off-line" 15 minute water quality flow rate ( $Q_{15}$ ) of 0.09 cfs. Per the Stormfilter manufacturer sizing criteria and the WSDOE General Use Level Designation for Stormfilters a maximum of 7.5 GPM shall be designed per one Stormfilter Cartridge, thus requiring 6 cartridges per the calculation below.

$$Q_{15}=0.09 \text{ CFS}$$

$$\# \text{ of Cartridges} = 0.09 \text{ CFS} * 449 \text{ GPM} / \text{CFS} * 1 \text{ cartridge} / 7.5 \text{ GPM} = 5.4 \text{ cartridges}$$

See Appendix 'B' for the WWHM3 Report Report.

### **Detention**

After treatment the stormwater will be collected in a Type 1 Catch basin and dispersed throughout a proposed rock gallery via 12" perforated pipe. The rock gallery will be used to retain and infiltrate the stormwater generated by the proposed project. The proposed gallery has been sized per the City of Olympia Stormwater Manual and the WWHM3 Computer program using the continuous flow runoff model.

The proposed 5' deep rock gallery will have an infiltration surface area of 3,458 sf and a total storage volume of 5,706 cf. During a 100yr storm event, the stormwater facility will have a ponding depth of 4.5' and store 5,135 CF of runoff. The following table summarizes the proposed stormwater facility.

<b>Proposed Stormwater Facility</b>	
Bottom Area (Elev = 165)	3,458 SF
Depth	5'
Void Ratio	0.33
Total Storage Volume	5,706 CF
100yr W.S. Elevation	169.50
Additional Storage	571 CF

See Appendix 'B' for cross sections of the proposed rock gallery and the WWHM Report.

### **Contingency Plan**

After construction of the proposed infiltration facility actual infiltration tests will be completed to verify the design infiltration rate was accurate. Volume V, Section 7.3.3, SSC-4 requires a contingency plan to be completed for future expansion of the infiltration facility assuming the measured infiltration rate is half of the designed infiltration rate. Assuming an infiltration rate of 1.12" per hour (which is ½ of the 2.24" designed infiltration rate) a 200' x 19.5' x 7' infiltration trench will be required. The table below summarizes the contingent infiltration facility that would need to be constructed if the actual infiltration rate is half of the designed infiltration rate:

<b>Proposed Stormwater Facility</b>	
Bottom Area (Elev = 165)	3,900 SF
Depth	7'
Void Ratio	0.33
Total Storage Volume	9,009 CF
100yr W.S. Elevation	171.75
Additional Storage	322 CF

See Appendix 'B' for a plan of the contingent stormwater facility.

### **Drywell Design:**

Per Volume 3 Section 3.1.1 of the City of Olympia Stormwater Manual 250 cf of storage per 1000 sf of roof area is required for Type C soils. The proposed development includes the construction of four 4-plexes which have 3,252 sf of roof area and one duplex which has 1,649 sf of roof area. The proposed drywells for the 4-plexes will be 70'x10'x6', assuming a 33% void ratio they will have 1,386 cf of storage which is greater than the 813 cf of storage that is required. Likewise, the drywell for the proposed duplex will be 40'x10'x5' with a total storage volume of 676 cf which is greater than the 347 cf that is required.

### **SECTION 5.1**

The ten minimum requirements set forth by the City of Olympia SWMM have been addressed below:

#### **Minimum Requirement #1 Preparation of Stormwater Site Plans:**

This report has been created to meet this requirement

#### **Minimum Requirement #2 Prepare A SWPPP :**

A SWPPP has been prepared for this project see Section 5 of this report.

*Minimum Requirement #3 Source Control Of Pollution:*

The project owner is aware that source control of pollution after construction is required. Typical source control BMP's have been attached to the maintenance and operation manual.

*Minimum Requirement #4 Preservation of Natural Drainage Systems and Outfalls*

The site naturally drains to the North through the center of the site, the proposed stormwater facility has been located in the north central portion of the site to mimic this condition.

*Minimum Requirements #5 Onsite Stormwater Management*

100% of the stormwater generate by the project is managed on-site via an underground rock gallery and drywells for the individual structures. The proposed rock gallery is located in a separate stormwater easement and is accessed via a 26' easement on the north end of lots 10-12.

*Minimum Requirement #6 Runoff Treatment:*

Runoff treatment is provided by Stormfilter systems prior to infiltration.

*Minimum Requirement #7 Flow Control:*

100% of the stormwater generated by the site during a 100yr event will be infiltrated on-site.

*Minimum Requirement #8 Wetland Protection:*

No jurisdictional wetlands are located on-site.

*Minimum Requirement #9 Basin/Watershed Planning:*

No additional basin/watershed planning is required for this site.

*Minimum Requirement #10 Operation and Maintenance*

A draft of the operation and maintenance manual has been included in Appendix D of this report.

## **SECTION 6 Construction Stormwater Pollution Prevention Plan**

A more in depth SWPPP including all of the sections outlined in the 2005 City of Olympia Stormwater Management Manual will be provided during construction plan review. Preliminary narratives have been provided below and will be added expanded upon at a later date.

**Element #1 Marking Clearing Limits:**

The clearing and grading limits have have been shown on the TESC plan (sheet 2 of 6) in the Land Use plan set. These limits will be staked and surveyed by a licensed surveyor prior to any grading activities. High visibility silt fencing per BMP C233 has been specified around the perimeter of the grading limits.

**Element #2 Establish construction access:**

Location of the construction entrance has been shown on the TESC Plan (Sheet 2 of 6) and will be installed per BMP C105.

**Element #3 Control Flow Rates:**

100% of the stormwater generated by the site will be directed to an underground infiltration facility designed per Volume III of the SWMM.

**Element #4 Install Sediment Controls:**

Temporary silt fencing around the perimeter of the site per BMP C233 and silt sock inlet protection per BMP C220 will be installed in all proposed and existing structures that may collect runoff from the site have been shown on Sheet 2 of 6 of the land use plan set. Also called for on the TESC Plan is a temporary sediment control pond. The pond shall be installed per BMP C241. Additionally a note has been added to the TESC plan that requires the contractor to install additional erosion control BMP's as necessary.

**Element #5 Stabilize Soils:**

**From October 1 through April 30, clearing, grading and other soil disturbing activities shall only be permitted if shown to the satisfaction of the local permitting authority that the transport of sediment from the construction site to receiving waters will be prevented.** Additionally "From October 1 through April 30, no soils shall remain exposed and unworked for more than two days. From May 1 to September 30, no soils shall remain exposed and unworked for more than 7 days. Soils shall be stabilized using BMP C120 Temporary and Permanent Seeding, BMP C121 Mulching, BMP C122 Nets and Blankets, BMP C123 Plastic Covering, BMP C124 Sodding and BMP C140 Dust Control."

**Element #6 Protect Slopes:**

Due to the flat grades of the site, steep slopes are not expected to be a concern, however as with elements 4 and 5 a note requiring the contractor to install additional erosion control measures as necessary has been added to the plans. Possible BMP's that may be used to protect slopes include BMP C120 "Temporary and Permanent Seeding", and C207 "Check Dams".

**Element #7 Protect Drain Inlets:**

The TESC plan states that temporary silt socks shall be placed in all existing and proposed structures that may collect runoff from the project and that they shall be maintained throughout construction. Silt Socks shall be per BMP C220.

**Element #8 Stabilize Channels and Outlets:**

No Channels or Outlets exist on the site.

**Element #9 Control Pollutants:**

Additional pollutant control beyond the previously stated BMP's is not expected to be required. A source control plan has been completed for pollutant control after development of the site is complete.

**Element #10 Control Dewatering:**

Dewatering is not expected to be required during the construction of this project. If dewatering is required the stormwater shall be directed to the temporary sediment control pond.

**Element #11 BMP's:**

All temporary and permanent erosion control BMP's shall be maintained as necessary throughout construction until the site has been 100% stabilized. Within 30 days after the site is stabilized the temporary erosion and sediment control BMP's shall be removed from the site.



Element #12 Manage the Project:

All site work shall be completed according to the site plans that have been approved by the city of Olympia, all deviations from those plans shall be approved by the engineer as well as the city.

**SECTION 7      Special Reports and Studies**

---

None Required.

**SECTION 8      Other Permits**

---

As part of this project a Grading Permit is required.

**SECTION 9      Operation and Maintenance Manual**

---

See Appendix D for Maintenance Agreement as part of the this agreement a Source Control Plan will be completed prior to construction plan approval.

**SECTION 10      Bond Quantities Worksheet**

---

Bonding for the stormwater facilities will be completed prior to final plat approval.

## APPENDIX A - Project Maps

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Vicinity Map

Regional Topography

Fema Map

Preliminary Plat Map

Preliminary Land Use Plans

Preliminary Basin Map

Preliminary Stormwater Facility Contingency Plan

# PATTISON TOWNHOMES VICINITY MAP



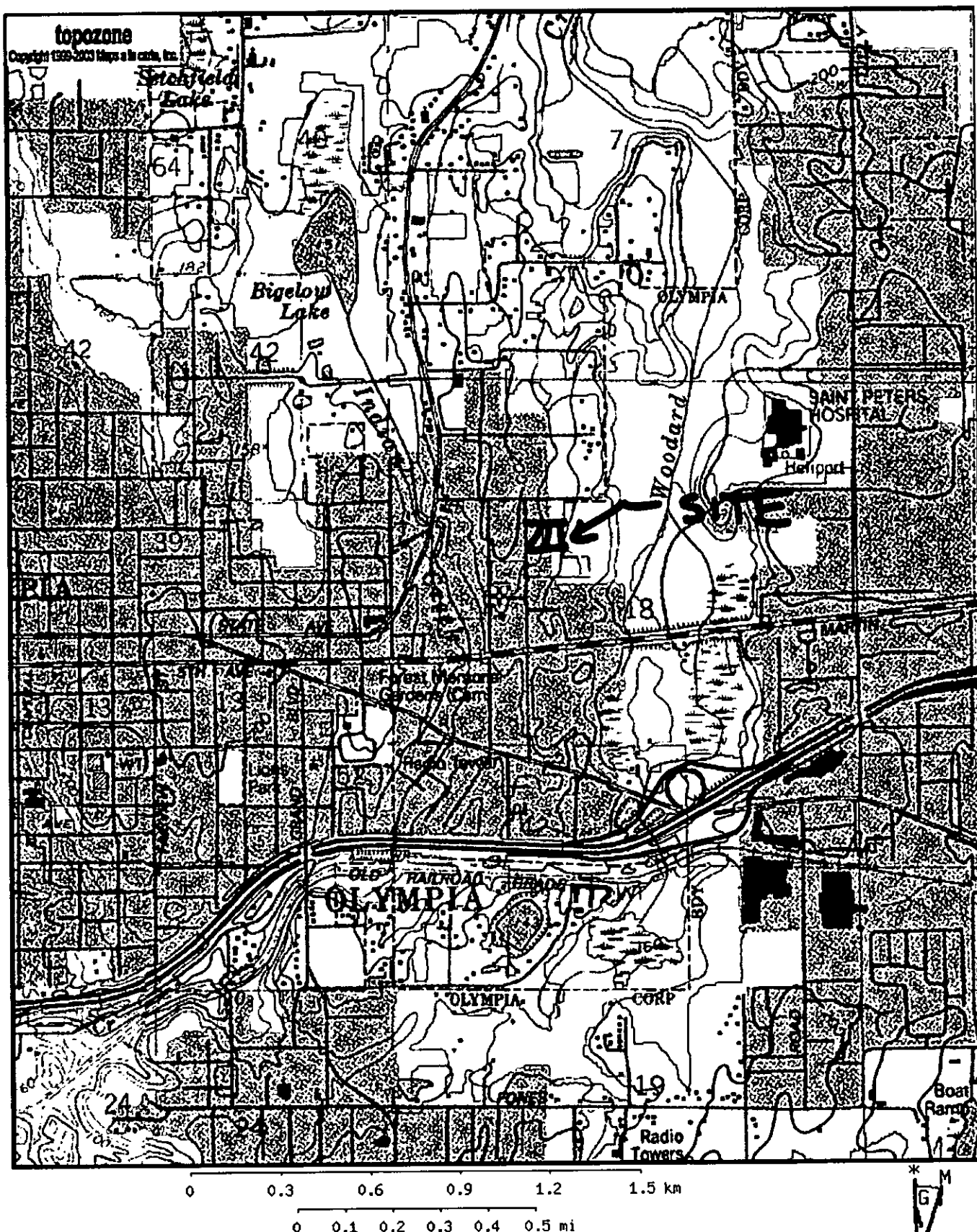
Disclaimer: Thurston County makes every effort to ensure that this map is a true and accurate representation of the work of County government. However, the County and all related personnel make no warranty, expressed or implied, regarding the accuracy, completeness or convenience of any information disclosed on this map. Nor does the County accept liability for any damage or injury caused by the use of this map. To the fullest extent permissible pursuant to applicable law, Thurston County disclaims all warranties, express or implied, including, but not limited to, implied warranties of merchant ability, data fitness for a particular purpose, and non-infringements of proprietary rights. Under no circumstances, including, but not limited to, negligence, shall Thurston County be liable for any direct, indirect, incidental, special or consequential damages that result from the use of, or the inability to use, Thurston County materials.



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2404 Heritage Court SW, 3rd Floor  
Olympia, WA 98502-6031

## LEGEND

- |                 |              |
|-----------------|--------------|
| Major Roads     | Flood Zones  |
| Roads           | Water Bodies |
| Streams         | Zoning       |
| Contours        | Cities       |
| Wetlands        | Parcels      |
| Wetland Buffers |              |



Map center is UTM 10 510596E 5210519N (WGS84/NAD83)

**Lacey** quadrangle

Projection is UTM Zone 10 NAD83 Datum

M=18.075  
G=0.102



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP

THURSTON COUNTY,  
WASHINGTON  
(UNINCORPORATED AREAS)

PANEL 190 OF 600  
(SEE MAP INDEX FOR PANELS NOT PRINTED)

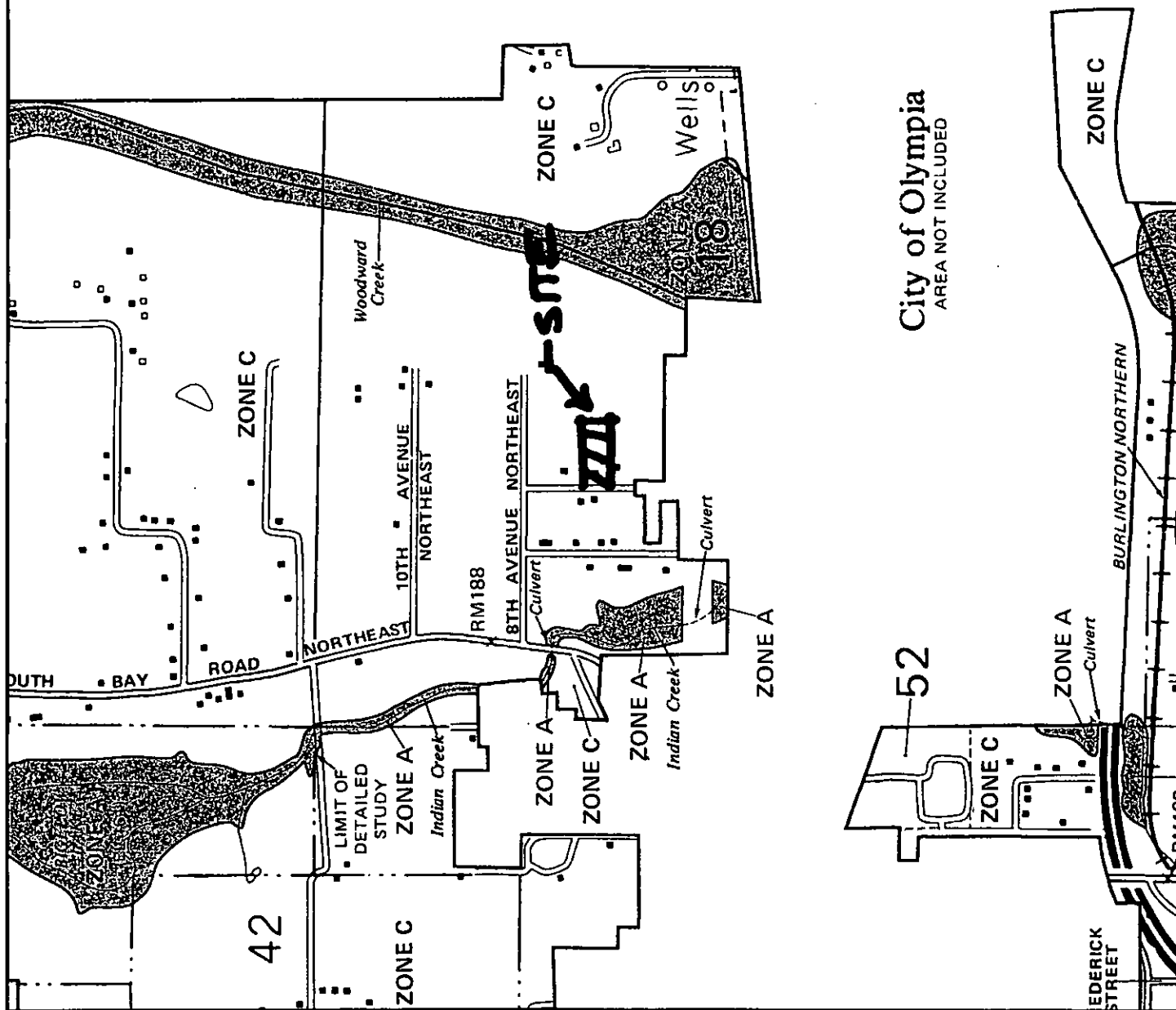
COMMUNITY-PANEL NUMBER  
530188 0190 C

EFFECTIVE DATE:  
DECEMBER 1, 1982



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.nac.fema.gov](http://www.nac.fema.gov)





# PATTISON STREET TOWNHOUSES

## PRELIMINARY LAND USE PLANS

OLYMPIA, WA

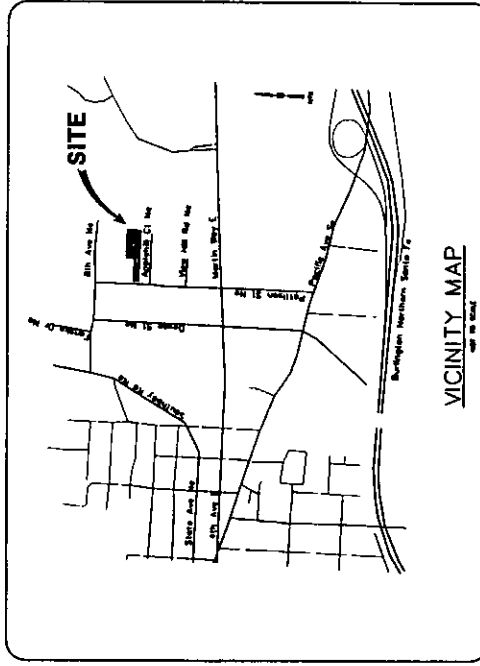
SECTION 18, TOWNSHIP 18 NORTH, RANGE 1W, WM.

FEBRUARY 2008

**LEGEND:**

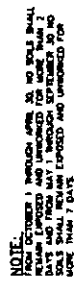
■	SEWER SERVICE BOX	---	EXISTING WATER
■	WATER VALVE	---	PROPOSED WATER LINE
■	HYDRANT	---	EXISTING GRAVITY SEWER
■	WATER METER	---	PROPOSED GRAVITY SEWER
○-X	PROPOSED STREET LIGHT	---	EXISTING STORM DRAINAGE
○-X	EXISTING STREET LIGHT	---	PROPOSED STORM DRAINAGE
■	CATCH BASIN	---	PROPOSED ROW
■	PROPOSED PAVEMENT	---	PROPERTY LINE
■	PROPOSED SIDEWALK	---	PROPOSED LOT LINE
○	EXISTING UTILITY POLE	---	PROPOSED EASEMENT
○	EXISTING MAIL BOX	---	EXISTING BURIED TELEPHONE
■	PROPOSED MAIL BOX	---	EXISTING GAS LINE
		---	EXISTING OVERHEAD POWER
		---	EXISTING CENTERLINE
		---	PROPOSED CENTERLINE

SHEET#	TITLE
1	COVER SHEET
2	PRELIMINARY TIE-IN PLAN
3	PRELIMINARY ROADWAY, GRADING AND DRAINAGE PLAN
4	PRELIMINARY SEWER PLAN
5	PRELIMINARY WATER PLAN
6	PRELIMINARY ILLUMINATION PLAN



<b>APPLICANT:</b>	<b>ENGINEER:</b>
DOUGLAS SAUNDERS	SKILLINGS CONNOLLY, INC.
2014 ARENA CT SE	5016 LACEY BLVD.
OLYMPIA, WA 98501	LACEY, WA 98503
(360) 780-1344	(360) 481-3393
	ROBERT CONNOLLY, P.E.
<b>PROJECT DATA:</b>	
TAX PARCEL NO.: 34703000101	
ZONING - R 6-12	
AREA - 1.35 ACRES	
NUMBER OF DWELLING UNITS - 18	
WATER - CITY OF OLYMPIA	
SEWER - CITY OF OLYMPIA	
STORM DRAINAGE - ON-SITE RETENTION	
POWER - PUGET SOUND ENERGY	
SMALLEST LOT: 1,740 SF	
SETBACKS:	
FRONT: 20'	
BACK: 20'	
SIDE: 10' FOR 3 OR 4 UNITS, 5' FOR UNITS	

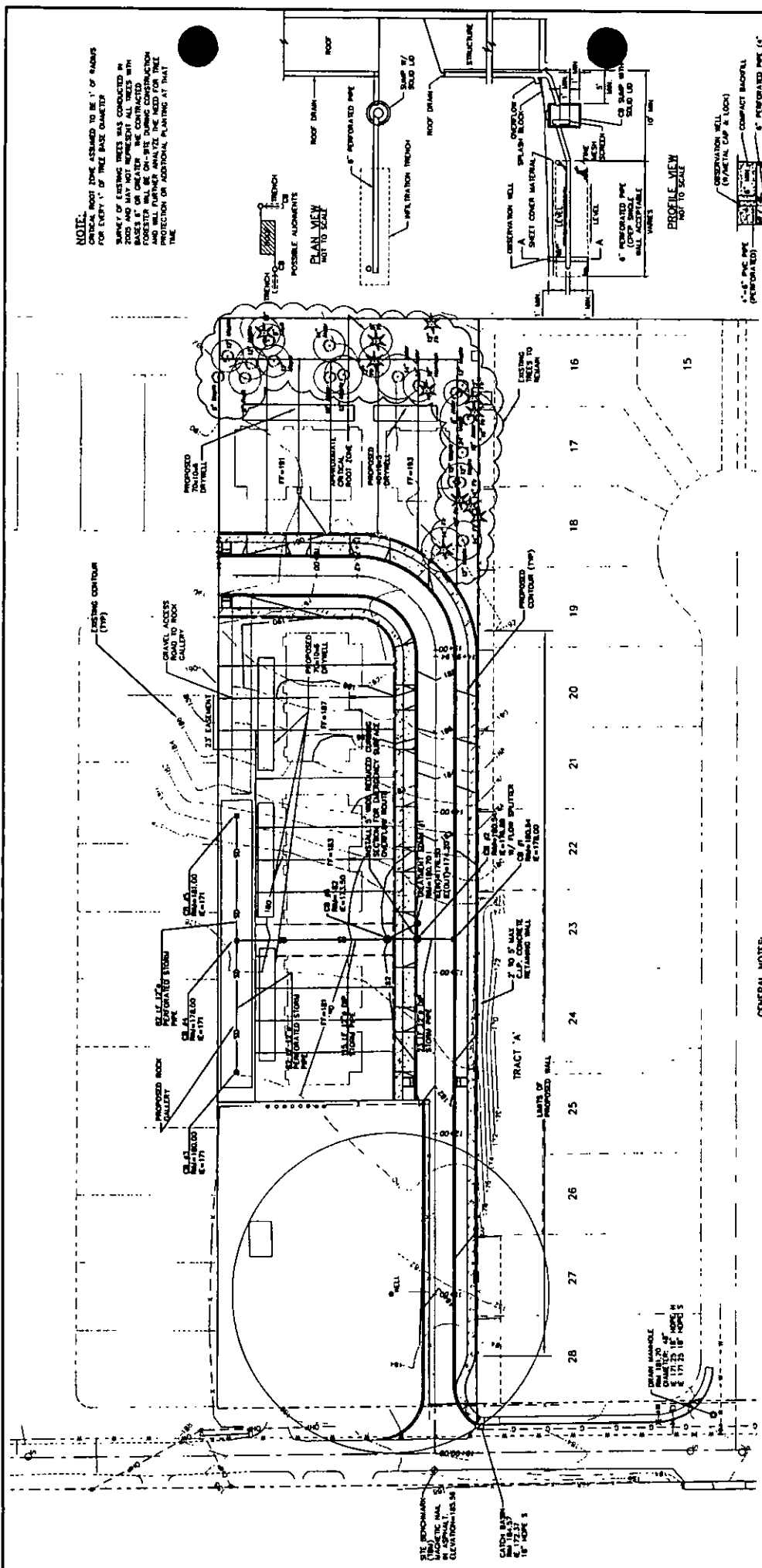




PREPARED BY: B. JOHNSON CHECKED BY: WARE/TUMBLE DESIGNED BY: R. CONNOLLY SPECIAL ENGINEER:		DATE: 12/08 HQ: 12/08 DATE: 12/08	REVISIONS:	CONTRACT NO.			5016 Leroy, Seaside, Washington 98603 (509) 481-5389 (509) 481-5600 Fax (509) 481-5857	PATTISON ST. TOWNHOUSES OLYMPIA WASHINGTON	PRELIMINARY TESC PLAN	SHEET 2 OF 2 SHEETS	JOB NUMBER: 060095
---	--	---	------------	--------------	---	---	---	--	--------------------------	---------------------------	-----------------------



**NOTE.**  
CRITICAL ROOT ZONE ASSIGNED TO BE 1' OF RADIIUS  
FOR EVERY 1' OF TREE BASE DIAMETER  
SURVEY OF EXISTING TREES WAS CONDUCTED IN  
2005 AND MAY NOT REPRESENT ALL TREES WITH  
CRITICAL ROOT ZONES. CRITICAL ROOT ZONES  
FORESTRIER WILL BE ON-SITE DURING CONSTRUCTION  
AND WILL FURTHER ANALYZE THE NEED FOR TREE  
PROTECTION OR ADDITIONAL PLANTING AT THAT  
TIME.



**GENERAL NOTES:**  
1. A MINIMUM 5' OF COMPACT GRANULAR SOIL SHALL BE PLACED ON ALL DISTURBED AREAS. THE  
SPECIFICATIONS SECTION 8-11.4(B) AS WELL AS CONTAIN AN ORGANIC MATTER CONTENT OF 3% TO  
5% AND A CATION TO ANION RATIO BELOW 25:1.

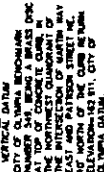


VERTICAL CURVE  
DATE: 06/29/06

SECTION A-A  
NOT TO SCALE

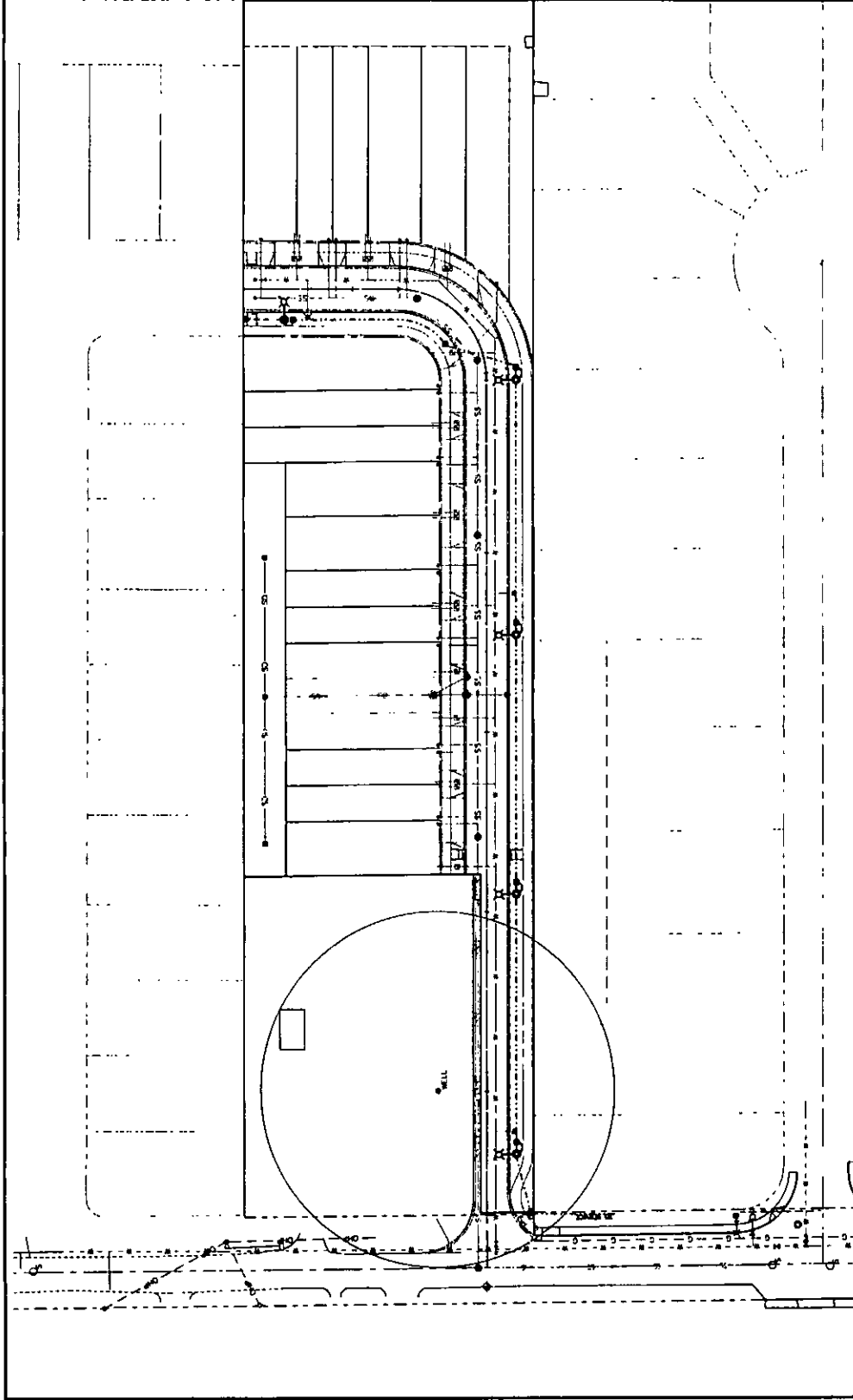
ROOF DOWNSPOUT SYSTEM  
NOT TO SCALE

<b>SKILLINGS CONNOLLY</b> 3018 Lacey Boulevard SE, Lacey, Washington 98503 (360) 491-3386 (602) 454-7545 Fax (360) 491-3857		<b>PATTISON ST. TOWNHOUSES</b> OLYMPIA WASHINGTON		<b>PRELIMINARY GRADING AND DRAINAGE PLAN</b>	
SHEET NO. 1 OF 1		PROJECT NO. 06005		DATE: 06/29/06	
DESIGNED BY: B. JOHNSON		CHECKED BY: M. JOHNSON		DATE: 12/06	
DRAWN BY: R. CONNOLLY		APPROVED BY: R. CONNOLLY		DATE: 12/06	
Prepared by: [Signature] on 11/10/06 11:18 AM 11/10/06 11:18 AM					



		<b>SKILLINGS CONNOLLY</b> 5018 Lacey Boulevard SE, Lacey, Washington 98503 (360) 491-3300 (800) 454-7545 Fax (360) 491-3357		<b>PATTISON ST. TOWNHOUSES</b> OLYMPIA WASHINGTON		<b>PRELIMINARY SEWER PLAN</b>		JOB NUMBER <b>06095</b>
SHEET NO. 12/10		DATE 12/08		NO. 12/08		DATE 12/08		SCALE 1" = 10'
DESIGNED BY: R. CONNOLLY		DATE 12/08		NO. 12/08		DATE 12/08		CHECKED BY: R. CONNOLLY
DRAWN BY: R. CONNOLLY		DATE 12/08		NO. 12/08		DATE 12/08		APPROVED BY: R. CONNOLLY
PERIOD BY: R. CONNOLLY		DATE 12/08		NO. 12/08		DATE 12/08		PERIOD BY: R. CONNOLLY



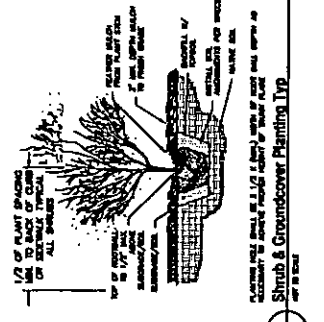


SCALE IN FEET  
0 15 30 60

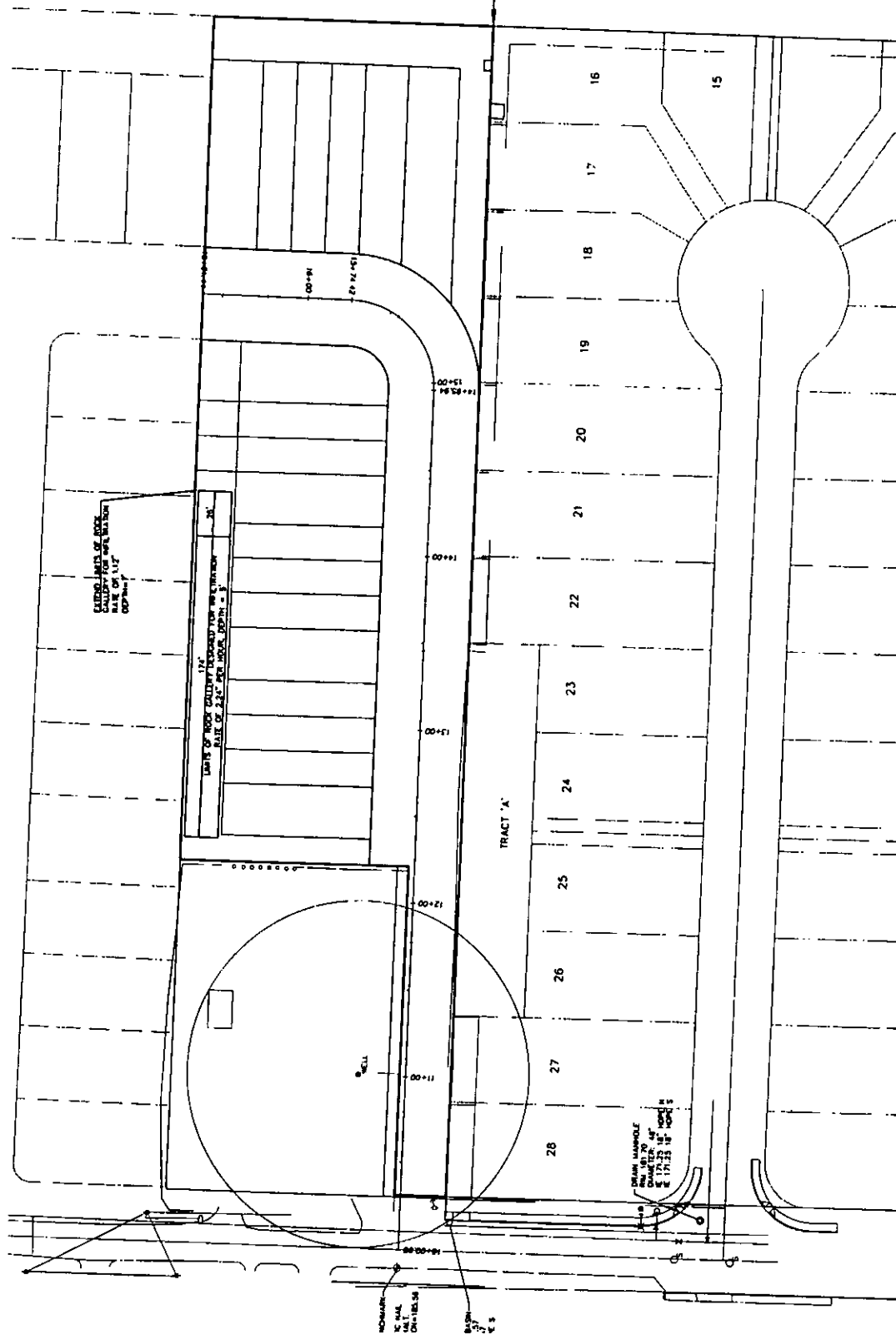


**LEGEND**  
CITY OF OLYMPIA REMOVED  
HATCHED AREA INDICATES A BRUSH DOG  
THE NORTHWEST QUADRANT OF  
THE INTERSECTION OF PATTERSON ST.  
AND THE PROPOSED TOWNHOUSE WAY  
IS NORTH OF THE CLUMP WITHIN  
ELEVATION 42.811, CITY OF  
OLYMPIA, WASH.

<b>SKILLINGS CONNOLLY</b> 5016 Lacey Boulevard SE, Lacey, Washington 98503 (360) 491-3396 (360) 491-7545 Fax (360) 491-3827		<b>PATTISON ST. TOWNHOUSES</b> OLYMPIA WASHINGTON		<b>PRELIMINARY ILLUMINATION PLAN</b> SHEET 1 OF 1	
DATE: 12/08 DESIGNED BY: B. JOHNSON CHECKED BY: B. JOHNSON PREPARED BY: R. CONNOLLY		REVISIONS NO. DATE 1 12/08 2 12/08 3 12/08		CONTRACT NO. 12/08 12 28 30	
Printed By: Bureau of Planning and Development (S:\projects\1208\1208\1208_Pattison St. Townhouses_SitePlan_V01.dwg) (P:\projects\1208\1208_Pattison St. Townhouses_SitePlan_V01.dwg)					







## APPENDIX B - Conveyance Calculations

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WWMH REPORT



Western Washington Hydrology Model  
PROJECT REPORT

Project Name: BASIN A  
Site Address:  
City :  
Report Date : 5/7/2008  
Gage : Olympia  
Data Start : 1955/10/01  
Data End : 1999/09/30  
Precip Scale: 1.00

PREDEVELOPED LAND USE

Name : Basin 1  
Bypass: No  
GroundWater: No

<u>Pervious Land Use</u>	<u>Acres</u>
C, Forest, Mod	1.59

<u>Impervious Land Use</u>	<u>Acres</u>
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Element Flows To:

Surface	Interflow	Groundwater
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Name : Basin 1  
Bypass: No  
GroundWater: No

<u>Pervious Land Use</u>	<u>Acres</u>
C, Forest, Mod	.16
C, Lawn, Mod	.69

<u>Impervious Land Use</u>	<u>Acres</u>
ROADS MOD	0.74

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 1,	Gravel Trench Bed 1,	

Name : Gravel Trench Bed 1  
Bottom Length: 178ft.  
Bottom Width : 19.5ft.  
Trench bottom slope 1: 0.0001 To 1  
Trench Left side slope 0: 0 To 1  
Trench right side slope 2: 0 To 1  
Material thickness of first layer : 6  
Pour Space of material for first layer : 0.33  
Material thickness of second layer : 0  
Pour Space of material for second layer : 0  
Material thickness of third layer : 0  
Pour Space of material for third layer : 0  
Infiltration On

Infiltration rate : 2.24  
Infiltration safety factor :  
Wetted surface area On  
Discharge Structure  
Riser Height: 4.5 ft.  
Riser Diameter: 12 in.

Element Flows To:

Outlet 1

Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(ft)	Area(acr)	Volume(acr-ft)	Dischrg(cfs)	Infilt(cfs)
165.0	0.080	0.000	0.000	0.000
165.1	0.080	0.001	0.000	0.181
165.1	0.080	0.003	0.000	0.182
165.2	0.080	0.004	0.000	0.183
165.2	0.080	0.006	0.000	0.185
165.3	0.080	0.007	0.000	0.186
165.3	0.080	0.009	0.000	0.187
165.4	0.080	0.010	0.000	0.188
165.4	0.080	0.012	0.000	0.189
165.5	0.080	0.013	0.000	0.190
165.6	0.080	0.015	0.000	0.191
165.6	0.080	0.016	0.000	0.192
165.7	0.080	0.018	0.000	0.194
165.7	0.080	0.019	0.000	0.195
165.8	0.080	0.020	0.000	0.196
165.8	0.080	0.022	0.000	0.197
165.9	0.080	0.023	0.000	0.198
165.9	0.080	0.025	0.000	0.199
166.0	0.080	0.026	0.000	0.200
166.1	0.080	0.028	0.000	0.202
166.1	0.080	0.029	0.000	0.203
166.2	0.080	0.031	0.000	0.204
166.2	0.080	0.032	0.000	0.205
166.3	0.080	0.034	0.000	0.206
166.3	0.080	0.035	0.000	0.207
166.4	0.080	0.037	0.000	0.208
166.4	0.080	0.038	0.000	0.210
166.5	0.080	0.039	0.000	0.211
166.6	0.080	0.041	0.000	0.212
166.6	0.080	0.042	0.000	0.213
166.7	0.080	0.044	0.000	0.214
166.7	0.080	0.045	0.000	0.215
166.8	0.080	0.047	0.000	0.216
166.8	0.080	0.048	0.000	0.218
166.9	0.080	0.050	0.000	0.219
166.9	0.080	0.051	0.000	0.220
167.0	0.080	0.053	0.000	0.221
167.1	0.080	0.054	0.000	0.222
167.1	0.080	0.056	0.000	0.223
167.2	0.080	0.057	0.000	0.224
167.2	0.080	0.058	0.000	0.225
167.3	0.080	0.060	0.000	0.227
167.3	0.080	0.061	0.000	0.228
167.4	0.080	0.063	0.000	0.229
167.4	0.080	0.064	0.000	0.230
167.5	0.080	0.066	0.000	0.231
167.6	0.080	0.067	0.000	0.232
167.6	0.080	0.069	0.000	0.233
167.7	0.080	0.070	0.000	0.235
167.7	0.080	0.072	0.000	0.236
167.8	0.080	0.073	0.000	0.237
167.8	0.080	0.075	0.000	0.238
167.9	0.080	0.076	0.000	0.239
167.9	0.080	0.077	0.000	0.240
168.0	0.080	0.079	0.000	0.241
168.1	0.080	0.080	0.000	0.243
168.1	0.080	0.082	0.000	0.244

168.2	0.080	0.083	0.000	0.245
168.2	0.080	0.085	0.000	0.246
168.3	0.080	0.086	0.000	0.247
168.3	0.080	0.088	0.000	0.248
168.4	0.080	0.089	0.000	0.249
168.4	0.080	0.091	0.000	0.251
168.5	0.080	0.092	0.000	0.252
168.6	0.080	0.093	0.000	0.253
168.6	0.080	0.095	0.000	0.254
168.7	0.080	0.096	0.000	0.255
168.7	0.080	0.098	0.000	0.256
168.8	0.080	0.099	0.000	0.257
168.8	0.080	0.101	0.000	0.258
168.9	0.080	0.102	0.000	0.260
168.9	0.080	0.104	0.000	0.261
169.0	0.080	0.105	0.000	0.262
169.1	0.080	0.107	0.000	0.263
169.1	0.080	0.108	0.000	0.264
169.2	0.080	0.110	0.000	0.265
169.2	0.080	0.111	0.000	0.266
169.3	0.080	0.112	0.000	0.268
169.3	0.080	0.114	0.000	0.269
169.4	0.080	0.115	0.000	0.270
169.4	0.080	0.117	0.000	0.271
169.5	0.080	0.118	0.000	0.272
169.6	0.080	0.120	0.128	0.273
169.6	0.080	0.121	0.361	0.274
169.7	0.080	0.123	0.663	0.276
169.7	0.080	0.124	1.020	0.277
169.8	0.080	0.126	1.426	0.278
169.8	0.080	0.127	1.874	0.279
169.9	0.080	0.129	2.362	0.280
169.9	0.080	0.130	2.886	0.281
170.0	0.080	0.131	3.443	0.282

# MITIGATED LAND USE

## ANALYSIS RESULTS

### Flow Frequency Return Periods for Predeveloped

<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.06979
5 year	0.105766
10 year	0.129589
25 year	0.159256
50 year	0.180918
100 year	0.202155

### Flow Frequency Return Periods for Mitigated

<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

### Yearly Peaks for Predeveloped and Mitigated

<u>Year</u>	<u>Predeveloped</u>	<u>Mitigated</u>
1957	0.087	0.000
1958	0.160	0.000
1959	0.046	0.000
1960	0.060	0.000
1961	0.104	0.000
1962	0.069	0.000
1963	0.025	0.000
1964	0.146	0.000
1965	0.072	0.000

1966	0.077	0.000
1967	0.039	0.000
1968	0.077	0.000
1969	0.060	0.000
1970	0.034	0.000
1971	0.061	0.000
1972	0.081	0.000
1973	0.124	0.000
1974	0.069	0.000
1975	0.050	0.000
1976	0.042	0.000
1977	0.099	0.000
1978	0.019	0.000
1979	0.067	0.000
1980	0.064	0.000
1981	0.066	0.000
1982	0.103	0.000
1983	0.057	0.000
1984	0.121	0.000
1985	0.073	0.000
1986	0.028	0.000
1987	0.125	0.000
1988	0.103	0.000
1989	0.045	0.000
1990	0.053	0.000
1991	0.135	0.000
1992	0.179	0.000
1993	0.048	0.000
1994	0.030	0.000
1995	0.030	0.000
1996	0.081	0.000
1997	0.130	0.000
1998	0.070	0.000
1999	0.081	0.000
2000	0.089	0.000

---

**Ranked Yearly Peaks for Predeveloped and Mitigated**

Rank	Predeveloped	Mitigated
1	0.1790	0.0000
2	0.1599	0.0000
3	0.1461	0.0000
4	0.1346	0.0000
5	0.1303	0.0000
6	0.1252	0.0000
7	0.1243	0.0000
8	0.1209	0.0000
9	0.1041	0.0000
10	0.1032	0.0000
11	0.1031	0.0000
12	0.0987	0.0000
13	0.0891	0.0000
14	0.0867	0.0000
15	0.0811	0.0000
16	0.0806	0.0000
17	0.0806	0.0000
18	0.0775	0.0000
19	0.0769	0.0000
20	0.0734	0.0000
21	0.0717	0.0000
22	0.0700	0.0000
23	0.0695	0.0000
24	0.0692	0.0000
25	0.0672	0.0000
26	0.0664	0.0000
27	0.0638	0.0000
28	0.0613	0.0000
29	0.0605	0.0000
30	0.0603	0.0000
31	0.0575	0.0000
32	0.0531	0.0000
33	0.0503	0.0000
34	0.0480	0.0000

35	0.0458	0.0000
36	0.0455	0.0000
37	0.0418	0.0000
38	0.0386	0.0000
39	0.0339	0.0000
40	0.0304	0.0000
41	0.0297	0.0000
42	0.0283	0.0000
43	0.0255	0.0000
44	0.0191	0.0000

---

Flow(CFS)	Predev	Dev	Percentage	Pass/Fail
-----------	--------	-----	------------	-----------

0.0349	4115	0	0.0	Pass
0.0364	3737	0	0.0	Pass
0.0378	3393	0	0.0	Pass
0.0393	3091	0	0.0	Pass
0.0408	2780	0	0.0	Pass
0.0423	2512	0	0.0	Pass
0.0437	2289	0	0.0	Pass
0.0452	2087	0	0.0	Pass
0.0467	1918	0	0.0	Pass
0.0482	1762	0	0.0	Pass
0.0496	1612	0	0.0	Pass
0.0511	1480	0	0.0	Pass
0.0526	1356	0	0.0	Pass
0.0541	1255	0	0.0	Pass
0.0555	1147	0	0.0	Pass
0.0570	1048	0	0.0	Pass
0.0585	958	0	0.0	Pass
0.0600	880	0	0.0	Pass
0.0614	792	0	0.0	Pass
0.0629	727	0	0.0	Pass
0.0644	669	0	0.0	Pass
0.0659	612	0	0.0	Pass
0.0673	558	0	0.0	Pass
0.0688	515	0	0.0	Pass
0.0703	477	0	0.0	Pass
0.0718	426	0	0.0	Pass
0.0732	391	0	0.0	Pass
0.0747	362	0	0.0	Pass
0.0762	335	0	0.0	Pass
0.0777	315	0	0.0	Pass
0.0791	300	0	0.0	Pass
0.0806	272	0	0.0	Pass
0.0821	251	0	0.0	Pass
0.0836	238	0	0.0	Pass
0.0850	223	0	0.0	Pass
0.0865	206	0	0.0	Pass
0.0880	196	0	0.0	Pass
0.0895	180	0	0.0	Pass
0.0909	173	0	0.0	Pass
0.0924	159	0	0.0	Pass
0.0939	151	0	0.0	Pass
0.0954	139	0	0.0	Pass
0.0968	126	0	0.0	Pass
0.0983	117	0	0.0	Pass
0.0998	107	0	0.0	Pass
0.1013	99	0	0.0	Pass
0.1027	90	0	0.0	Pass
0.1042	78	0	0.0	Pass
0.1057	71	0	0.0	Pass
0.1072	66	0	0.0	Pass
0.1086	61	0	0.0	Pass
0.1101	58	0	0.0	Pass
0.1116	53	0	0.0	Pass
0.1131	48	0	0.0	Pass
0.1145	46	0	0.0	Pass
0.1160	42	0	0.0	Pass
0.1175	39	0	0.0	Pass
0.1190	36	0	0.0	Pass
0.1204	33	0	0.0	Pass

0.1219	31	0	0.0	Pass
0.1234	28	0	0.0	Pass
0.1249	25	0	0.0	Pass
0.1263	23	0	0.0	Pass
0.1278	21	0	0.0	Pass
0.1293	20	0	0.0	Pass
0.1308	18	0	0.0	Pass
0.1322	17	0	0.0	Pass
0.1337	17	0	0.0	Pass
0.1352	14	0	0.0	Pass
0.1367	14	0	0.0	Pass
0.1381	14	0	0.0	Pass
0.1396	13	0	0.0	Pass
0.1411	13	0	0.0	Pass
0.1426	13	0	0.0	Pass
0.1440	10	0	0.0	Pass
0.1455	10	0	0.0	Pass
0.1470	8	0	0.0	Pass
0.1485	8	0	0.0	Pass
0.1499	7	0	0.0	Pass
0.1514	6	0	0.0	Pass
0.1529	5	0	0.0	Pass
0.1544	4	0	0.0	Pass
0.1558	4	0	0.0	Pass
0.1573	4	0	0.0	Pass
0.1588	4	0	0.0	Pass
0.1603	2	0	0.0	Pass
0.1617	2	0	0.0	Pass
0.1632	2	0	0.0	Pass
0.1647	2	0	0.0	Pass
0.1662	2	0	0.0	Pass
0.1676	1	0	0.0	Pass
0.1691	1	0	0.0	Pass
0.1706	1	0	0.0	Pass
0.1721	1	0	0.0	Pass
0.1735	1	0	0.0	Pass
0.1750	1	0	0.0	Pass
0.1765	1	0	0.0	Pass
0.1780	1	0	0.0	Pass
0.1794	0	0	0.0	Pass
0.1809	0	0	0.0	Pass

---

Water Quality BMP Flow and Volume for POC 1.

On-line facility volume: 0.1625 acre-feet

On-line facility target flow: 0.01 cfs.

Adjusted for 15 min: 0.1565 cfs.

Off-line facility target flow: 0.0819 cfs.

Adjusted for 15 min: 0.0868 cfs.

---

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Western Washington Hydrology Model  
PROJECT REPORT

Project Name: BASIN A-CONTINGENT  
Site Address:  
City :  
Report Date : 5/28/2008  
Gage : Olympia  
Data Start : 1955/10/01  
Data End : 1999/09/30  
Precip Scale: 1.00

PREDEVELOPED LAND USE

Name : Basin 1  
Bypass: No  
GroundWater: No

<u>Pervious Land Use</u>	<u>Acres</u>
C, Forest, Mod	1.59

<u>Impervious Land Use</u>	<u>Acres</u>
----------------------------	--------------

Element Flows To:

Surface	Interflow	Groundwater
---------	-----------	-------------

Name : Basin 1  
Bypass: No  
GroundWater: No

<u>Pervious Land Use</u>	<u>Acres</u>
C, Forest, Mod	.16
C, Lawn, Mod	.69

<u>Impervious Land Use</u>	<u>Acres</u>
ROADS MOD	0.74

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 1,	Gravel Trench Bed 1,	

Name : Gravel Trench Bed 1  
Bottom Length: 200ft.  
Bottom Width : 19.5ft.  
Trench bottom slope 1: 0.0001 To 1  
Trench left side slope 0: 0 To 1  
Trench right side slope 2: 0 To 1  
Material thickness of first layer : 6  
Pour Space of material for first layer : 0.33  
Material thickness of second layer : 0  
Pour Space of material for second layer : 0  
Material thickness of third layer : 0  
Pour Space of material for third layer : 0  
Infiltration On

Infiltration rate : 1.12  
Infiltration safety factor :  
Wetted surface area On  
Discharge Structure  
Riser Height: 6.75 ft.  
Riser Diameter: 12 in.

Element Flows To:

Outlet 1                      Outlet 2

---

Gravel Trench Bed Hydraulic Table

Stage(ft)	Area(acr)	Volume(acr-ft)	Dschrg(cfs)	Infilt(cfs)
165.0	0.090	0.000	0.000	0.000
165.1	0.090	0.002	0.000	0.102
165.2	0.090	0.005	0.000	0.103
165.2	0.090	0.007	0.000	0.104
165.3	0.090	0.009	0.000	0.105
165.4	0.090	0.011	0.000	0.106
165.5	0.090	0.014	0.000	0.106
165.5	0.090	0.016	0.000	0.107
165.6	0.090	0.018	0.000	0.108
165.7	0.090	0.021	0.000	0.109
165.8	0.090	0.023	0.000	0.110
165.9	0.090	0.025	0.000	0.111
165.9	0.090	0.028	0.000	0.112
166.0	0.090	0.030	0.000	0.113
166.1	0.090	0.032	0.000	0.114
166.2	0.090	0.034	0.000	0.114
166.2	0.090	0.037	0.000	0.115
166.3	0.090	0.039	0.000	0.116
166.4	0.090	0.041	0.000	0.117
166.5	0.090	0.044	0.000	0.118
166.6	0.090	0.046	0.000	0.119
166.6	0.090	0.048	0.000	0.120
166.7	0.090	0.051	0.000	0.121
166.8	0.090	0.053	0.000	0.121
166.9	0.090	0.055	0.000	0.122
166.9	0.090	0.057	0.000	0.123
167.0	0.090	0.060	0.000	0.124
167.1	0.090	0.062	0.000	0.125
167.2	0.090	0.064	0.000	0.126
167.3	0.090	0.067	0.000	0.127
167.3	0.090	0.069	0.000	0.128
167.4	0.090	0.071	0.000	0.129
167.5	0.090	0.074	0.000	0.129
167.6	0.090	0.076	0.000	0.130
167.6	0.090	0.078	0.000	0.131
167.7	0.090	0.080	0.000	0.132
167.8	0.090	0.083	0.000	0.133
167.9	0.090	0.085	0.000	0.134
168.0	0.090	0.087	0.000	0.135
168.0	0.090	0.090	0.000	0.136
168.1	0.090	0.092	0.000	0.137
168.2	0.090	0.094	0.000	0.137
168.3	0.090	0.097	0.000	0.138
168.3	0.090	0.099	0.000	0.139
168.4	0.090	0.101	0.000	0.140
168.5	0.090	0.103	0.000	0.141
168.6	0.090	0.106	0.000	0.142
168.7	0.090	0.108	0.000	0.143
168.7	0.090	0.110	0.000	0.144
168.8	0.090	0.113	0.000	0.144
168.9	0.090	0.115	0.000	0.145
169.0	0.090	0.117	0.000	0.146
169.0	0.090	0.119	0.000	0.147
169.1	0.090	0.122	0.000	0.148
169.2	0.090	0.124	0.000	0.149
169.3	0.090	0.126	0.000	0.150
169.4	0.090	0.129	0.000	0.151



169.4	0.090	0.131	0.000	0.152
169.5	0.090	0.133	0.000	0.152
169.6	0.090	0.136	0.000	0.153
169.7	0.090	0.138	0.000	0.154
169.7	0.090	0.140	0.000	0.155
169.8	0.090	0.142	0.000	0.156
169.9	0.090	0.145	0.000	0.157
170.0	0.090	0.147	0.000	0.158
170.1	0.090	0.149	0.000	0.159
170.1	0.090	0.152	0.000	0.160
170.2	0.090	0.154	0.000	0.160
170.3	0.090	0.156	0.000	0.161
170.4	0.090	0.159	0.000	0.162
170.4	0.090	0.161	0.000	0.163
170.5	0.090	0.163	0.000	0.164
170.6	0.090	0.165	0.000	0.165
170.7	0.090	0.168	0.000	0.166
170.8	0.090	0.170	0.000	0.167
170.8	0.090	0.172	0.000	0.168
170.9	0.090	0.175	0.000	0.168
171.0	0.090	0.177	0.000	0.169
171.1	0.090	0.184	0.000	0.170
171.1	0.090	0.191	0.000	0.171
171.2	0.090	0.198	0.000	0.172
171.3	0.090	0.205	0.000	0.173
171.4	0.090	0.212	0.000	0.174
171.5	0.090	0.219	0.000	0.175
171.5	0.090	0.226	0.000	0.175
171.6	0.090	0.233	0.000	0.176
171.7	0.090	0.240	0.000	0.177
171.8	0.090	0.247	0.021	0.178
171.8	0.090	0.254	0.283	0.179
171.9	0.090	0.261	0.696	0.180
172.0	0.090	0.267	1.217	0.181

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#### MITIGATED LAND USE

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#### ANALYSIS RESULTS

Flow Frequency Return Periods for Predeveloped	
<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.029512
5 year	0.056066
10 year	0.078411
25 year	0.112132
50 year	0.141281
100 year	0.173922

Flow Frequency Return Periods for Mitigated	
<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

---

Yearly Peaks for Predeveloped and Mitigated		
<u>Year</u>	<u>Predeveloped</u>	<u>Mitigated</u>
1957	0.027	0.000
1958	0.044	0.000
1959	0.019	0.000
1960	0.046	0.000
1961	0.030	0.000
1962	0.019	0.000
1963	0.004	0.000
1964	0.020	0.000
1965	0.000	0.000

1966	0.040	0.000
1967	0.020	0.000
1968	0.026	0.000
1969	0.056	0.000
1970	0.016	0.000
1971	0.011	0.000
1972	0.054	0.000
1973	0.026	0.000
1974	0.025	0.000
1975	0.052	0.000
1976	0.216	0.000
1977	0.016	0.000
1978	0.021	0.000
1979	0.033	0.000
1980	0.018	0.000
1981	0.052	0.000
1982	0.030	0.000
1983	0.062	0.000
1984	0.031	0.000
1985	0.062	0.000
1986	0.013	0.000
1987	0.040	0.000
1988	0.030	0.000
1989	0.084	0.000
1990	0.018	0.000
1991	0.046	0.000
1992	0.078	0.000
1993	0.033	0.000
1994	0.029	0.000
1995	0.006	0.000
1996	0.009	0.000
1997	0.036	0.000
1998	0.166	0.000
1999	0.034	0.000
2000	0.019	0.000

Ranked Yearly Peaks for Predeveloped and Mitigated

Rank	Predeveloped	Mitigated
1	0.2165	0.0000
2	0.1662	0.0000
3	0.0838	0.0000
4	0.0781	0.0000
5	0.0624	0.0000
6	0.0616	0.0000
7	0.0562	0.0000
8	0.0543	0.0000
9	0.0524	0.0000
10	0.0523	0.0000
11	0.0462	0.0000
12	0.0457	0.0000
13	0.0440	0.0000
14	0.0403	0.0000
15	0.0403	0.0000
16	0.0364	0.0000
17	0.0335	0.0000
18	0.0331	0.0000
19	0.0331	0.0000
20	0.0309	0.0000
21	0.0303	0.0000
22	0.0302	0.0000
23	0.0301	0.0000
24	0.0295	0.0000
25	0.0265	0.0000
26	0.0264	0.0000
27	0.0260	0.0000
28	0.0255	0.0000
29	0.0226	0.0000
30	0.0207	0.0000
31	0.0202	0.0000
32	0.0201	0.0000
33	0.0193	0.0000
34	0.0181	0.0000

35	0.0190	0.0000
36	0.0184	0.0000
37	0.0176	0.0000
38	0.0162	0.0000
39	0.0158	0.0000
40	0.0126	0.0000
41	0.0105	0.0000
42	0.0086	0.0000
43	0.0059	0.0000
44	0.0037	0.0000

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Flow(CFS)	Predev	Dev	Percentage	Pass/Fail
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0.0148	3803	0	0.0	Pass
0.0160	3276	0	0.0	Pass
0.0173	2820	0	0.0	Pass
0.0186	2454	0	0.0	Pass
0.0199	2156	0	0.0	Pass
0.0211	1923	0	0.0	Pass
0.0224	1694	0	0.0	Pass
0.0237	1468	0	0.0	Pass
0.0250	1281	0	0.0	Pass
0.0263	1126	0	0.0	Pass
0.0275	979	0	0.0	Pass
0.0288	854	0	0.0	Pass
0.0301	751	0	0.0	Pass
0.0314	672	0	0.0	Pass
0.0326	611	0	0.0	Pass
0.0339	551	0	0.0	Pass
0.0352	504	0	0.0	Pass
0.0365	449	0	0.0	Pass
0.0378	405	0	0.0	Pass
0.0390	374	0	0.0	Pass
0.0403	333	0	0.0	Pass
0.0416	295	0	0.0	Pass
0.0429	268	0	0.0	Pass
0.0442	238	0	0.0	Pass
0.0454	220	0	0.0	Pass
0.0467	193	0	0.0	Pass
0.0480	170	0	0.0	Pass
0.0493	153	0	0.0	Pass
0.0505	132	0	0.0	Pass
0.0518	121	0	0.0	Pass
0.0531	110	0	0.0	Pass
0.0544	99	0	0.0	Pass
0.0557	95	0	0.0	Pass
0.0569	88	0	0.0	Pass
0.0582	83	0	0.0	Pass
0.0595	78	0	0.0	Pass
0.0608	73	0	0.0	Pass
0.0620	68	0	0.0	Pass
0.0633	66	0	0.0	Pass
0.0646	63	0	0.0	Pass
0.0659	60	0	0.0	Pass
0.0672	58	0	0.0	Pass
0.0684	56	0	0.0	Pass
0.0697	55	0	0.0	Pass
0.0710	51	0	0.0	Pass
0.0723	49	0	0.0	Pass
0.0735	49	0	0.0	Pass
0.0748	47	0	0.0	Pass
0.0761	46	0	0.0	Pass
0.0774	46	0	0.0	Pass
0.0787	44	0	0.0	Pass
0.0799	43	0	0.0	Pass
0.0812	42	0	0.0	Pass
0.0825	41	0	0.0	Pass
0.0838	40	0	0.0	Pass
0.0850	37	0	0.0	Pass
0.0863	37	0	0.0	Pass
0.0876	36	0	0.0	Pass
0.0889	35	0	0.0	Pass

0.0902	35	0	0.0	Pass
0.0914	35	0	0.0	Pass
0.0927	34	0	0.0	Pass
0.0940	33	0	0.0	Pass
0.0953	33	0	0.0	Pass
0.0965	32	0	0.0	Pass
0.0978	30	0	0.0	Pass
0.0991	29	0	0.0	Pass
0.1004	29	0	0.0	Pass
0.1017	29	0	0.0	Pass
0.1029	28	0	0.0	Pass
0.1042	27	0	0.0	Pass
0.1055	25	0	0.0	Pass
0.1068	25	0	0.0	Pass
0.1081	25	0	0.0	Pass
0.1093	24	0	0.0	Pass
0.1106	22	0	0.0	Pass
0.1119	22	0	0.0	Pass
0.1132	20	0	0.0	Pass
0.1144	20	0	0.0	Pass
0.1157	19	0	0.0	Pass
0.1170	17	0	0.0	Pass
0.1183	17	0	0.0	Pass
0.1196	15	0	0.0	Pass
0.1208	14	0	0.0	Pass
0.1221	13	0	0.0	Pass
0.1234	13	0	0.0	Pass
0.1247	13	0	0.0	Pass
0.1259	12	0	0.0	Pass
0.1272	12	0	0.0	Pass
0.1285	12	0	0.0	Pass
0.1298	11	0	0.0	Pass
0.1311	11	0	0.0	Pass
0.1323	10	0	0.0	Pass
0.1336	10	0	0.0	Pass
0.1349	9	0	0.0	Pass
0.1362	9	0	0.0	Pass
0.1374	8	0	0.0	Pass
0.1387	8	0	0.0	Pass
0.1400	7	0	0.0	Pass
0.1413	7	0	0.0	Pass

---

Water Quality BMP Flow and Volume for POC 1.

On-line facility volume: 0 acre-feet

On-line facility target flow: 0.01 cfs.

Adjusted for 15 min: 0 cfs.

Off-line facility target flow: 0 cfs.

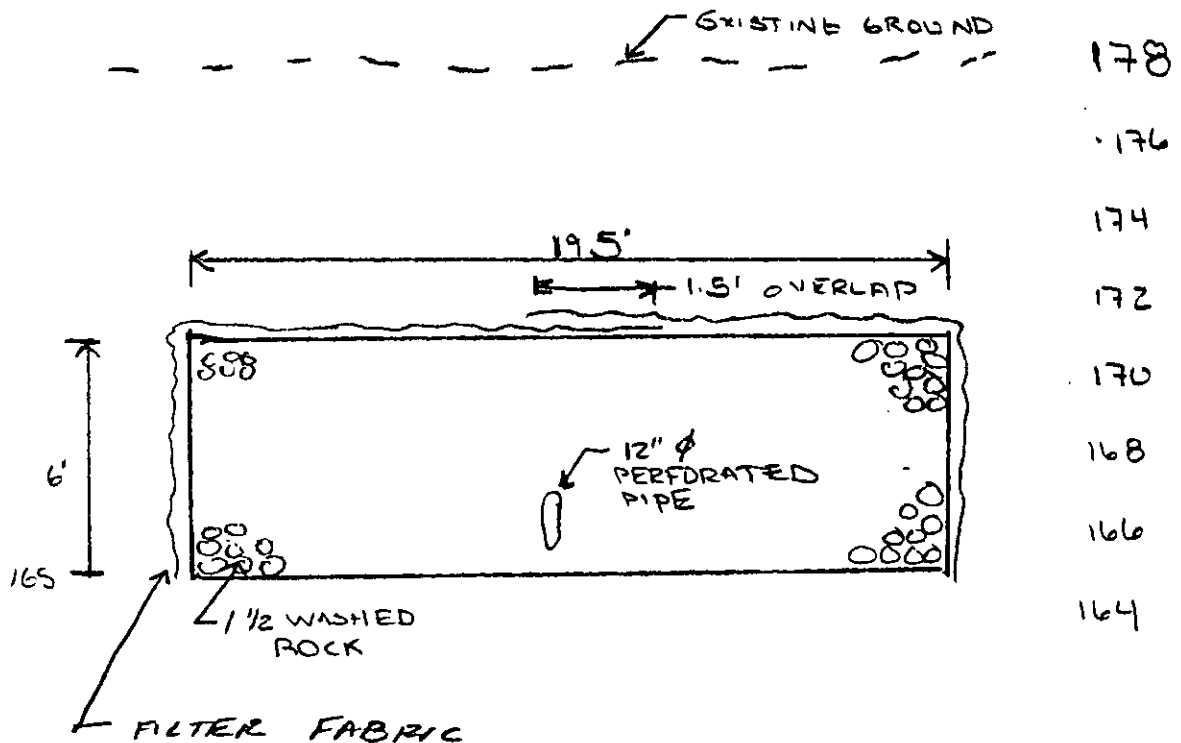
Adjusted for 15 min: 0 cfs.

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TYPICAL ROCK GALLERY SECTION

SCALE 1" = 5'



## APPENDIX C - Supporting Data

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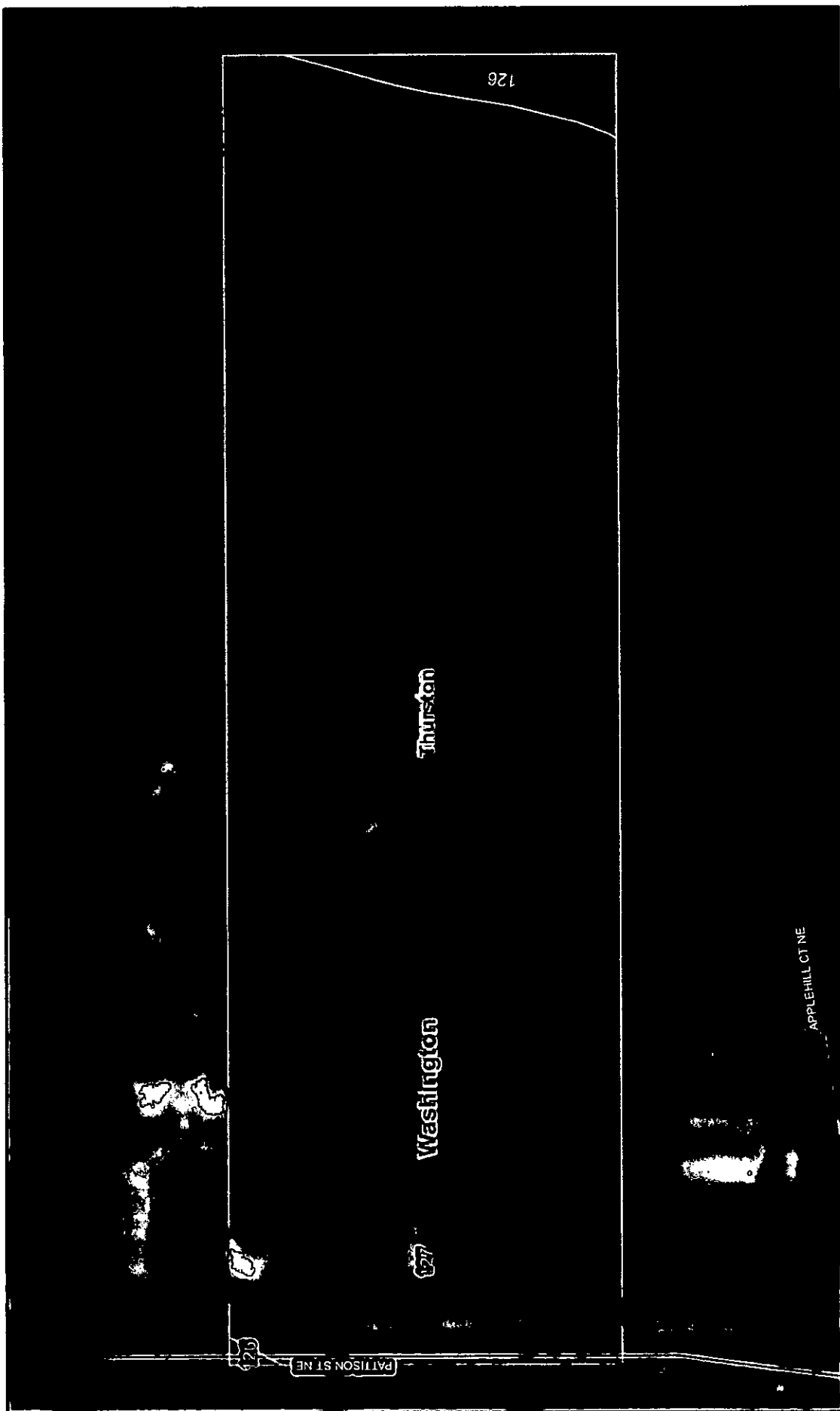
Soils Map

SCS Soil Description

3<sup>rd</sup> Party Soils Report

SOIL SURVEY OF THURSTON COUNTY, WASHINGTON

PATTISON TOWNHOUSE SOILS MAP



# SOIL SURVEY OF THURSTON COUNTY, WASHINGTON

## PATTISON TOWNHOUSE SOILS MAP

### MAP LEGEND

Soil Map Units	
	Cities
	Detailed Counties
	Detailed States
	Interstate Highways
	Roads
	Rails
	Water
	Hydrography
	Oceans
	Escarpment, bedrock
	Escarpment, non-bedrock
	Gulley
	Levee
	Slope
	Blowout
	Borrow Pit
	Clay Spot
	Depression, closed
	Eroded Spot
	Gravel Pit
	Gravelly Spot
	Gulley
	Lava Flow
	Landfill
	Marsh or Swamp
	Miscellaneous Water
	Rock Outcrop
	Saline Spot
	Sandy Spot
	Slide or Slip
	Sinkhole
	Sodic Spot
	Spoil Area
	Stony Spot
	Very Stony Spot
	Perennial Water
	Wet Spot

### MAP INFORMATION

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>

Coordinate System: UTM Zone 10

Soil Survey Area: Thurston County, Washington  
Spatial Version of Data: 1  
Soil Map Compilation Scale: 1:24000

Map comprised of aerial images photographed on these dates:  
6/21/1990

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend Summary

Thurston County, Washington

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
126	Yelm fine sandy loam, 0 to 3 percent slopes	0.1	2.7
127	Yelm fine sandy loam, 3 to 15 percent slopes	3.9	97.3

Saunders Town Homes  
SC 06095  
1/25/06  
Test Hole Report

Test Holes were dug on Thursday January 25, 2007 at 10:30am. Weather was 45 degrees and overcast.

Test Hole #1

0-18"	Dark Brown Silty Loam
18-30"	Medium Brown Sandy Loam
30-66"	Light Brown Silty Loam
66" down	Clean Gray Sand

Test Hole #2

0-20"	Dark Brown Silty Loam
20-60"	Light Brown Silty Loam
60" down	Clean Gray Sand

Test Hole #3

0-24"	Dark Brown Silty Loam
24-66"	Light Brown Silty Loam
66" down	Clean Gray Sand

The test holes were consistent throughout the site, revealing a dark brown silty top soil material on top of a fine grain silty loam, and beneath that a very clean gray medium grain sand. Roots were present down to 36" beneath ground. The stormwater system should be design so the infiltration surface is within the clean gray sand.

The sand will infiltrate stormwater in excess of 40" per hour, but a factor of safety of 10 should be applied for a design infiltration of 4" per hour.

# **Pattison Street Townhouses**

## **Soils Report For Drainage Purposes**

**Site Address:** Pattison Street NE, Olympia WA 98506  
**TPN:** 34203000101

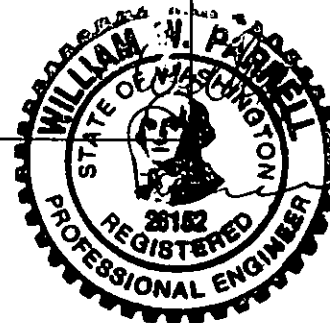
**Prepared For:** Doug Saunders  
2014 Arena Court SE  
Olympia, WA 98501  
(360) 280-1344  
**Contact:** Doug Saunders

**Prepared By:** Parnell Engineering, LLC  
10623 Hunters Lane S.E.  
Olympia, WA 98513  
(360) 491-3243  
**Contact:** William Parnell, P.E.

**PE**  
**PARNELL ENGINEERING, LLC**

**SOIL EVALUATION REPORT  
FORM 1: GENERAL SITE INFORMATION**

<b>PROJECT TITLE:</b> Pattison Street Townhouses <b>PE PROJECT NO.:</b> 08100 <b>PREPARED BY:</b> William Parnell, P.E.	<b>SHEET:</b> 1 OF 1 <b>DATE:</b> 2/22/08
<b>1. SITE ADDRESS:</b> Pattison Street, Olympia WA 98506 TPN: 34203000101	
<b>2. PROJECT DESCRIPTION:</b> Create an eighteen lot residential preliminary plat.	
<b>3. SITE DESCRIPTION:</b> The project site is currently unoccupied. Site topography is gently sloping at a negative gradient from the west and east property lines to a low spot centrally located on the site. Elevations vary from a high of 194 ft. at the southeast corner of the site to a low of 178 ft. at the low spot. Site vegetation consists of a moderate density conifer tree grove with indigenous brush ground cover on the eastern portion of the site and overgrown pasture grasses with a light density scotch broom brush on the western portion. The project site is bounded by Pattison Street NE to the west, undeveloped residential property to the north and east and developed residential property to the south. The on-site soils are mapped by the NRCS as a Yelm series; a deep, moderately well drained soil formed in glacial outwash.	
<b>4. SUMMARY OF SOILS WORK PERFORMED:</b> Three test pits were excavated by trackhoe to a maximum depth of 300" below the existing grade. Soils were inspected by entering and visually logging each test pit to a depth of four feet. Soils beyond four feet were inspected by examining backhoe tailings. Soil samples taken from all test pits were sieved and the resulting data for test pits #A and #B were used to calculate design infiltration rates for a proposed underground stormwater infiltration facility. Test pit soil log data sheets, sieve test data and soil infiltration rate calculations are included in this report.	
<b>5. ADDITIONAL SOILS WORK RECOMMENDED:</b> Additional soils work should not be necessary unless drainage infiltration facilities are located outside the general area encompassed by the soil test pits.	
<b>6. FINDINGS:</b> The Natural Resource Conservation Service soil survey for Thurston County mapped the on-site soils as a Yelm fine sandy loam (126,127). All test pits revealed a typical Yelm series soil profile of sandy loam overlying a loamy fine sand substratum. Test pits #A, #B and #C revealed a clean fine sand at 108"-300", 150"-300" and 228"-300" below the existing grade respectively. None of the test pits presented winter water table and possible indicators were not obvious.  Sieve test data from representative soil horizons were used to calculate design infiltration rates for proposed drainage facilities at varying depths. In test pits #A and #B, the deep fine sands yielded the greatest calculated infiltration rates of 3.33 in/hr and 1.14 in/hr respectively and were chosen for stormwater disposal.	
<b>7. RECOMMENDATIONS:</b> The Yelm soil series is a moderately well drained soil that formed in glacial outwash. Infiltration rates are generally moderately rapid. The substratum C-horizon fine sands will be targeted for all underground drainage infiltration facilities. Facility design information provided for this soils report indicated that the proposed rock filled, underground drainage facility will be 156" below the existing grade, with a water depth of 4.07'. Due to the lack of any additional information, it was assumed that high winter water table resides at 300" (bottom of test pit). Based on these assumptions, an average of the two calculated infiltration rates of 3.33 in/hr and 1.14 in/hr resulted in a design infiltration rate of 2.24 in/hr. This rate assumes that the proposed facility will penetrate a minimum of 6" into the targeted fine sand soils.  During construction, care must be taken to prevent the erosion of exposed soils. Drainage facility infiltration surfaces must be properly protected from contamination by fine-grained upper horizon soils and from compaction by construction site activities. Soils not properly protected will cause drainage infiltration facilities to prematurely fail.	
I hereby certify that I prepared this report, and conducted or supervised the performance of related work. I certify that I am qualified to do this work. I represent my work to be complete and accurate within the bounds of uncertainty inherent to the practice of soils science, and to be suitable for its intended use.	
<b>SIGNED:</b> <u>William Parnell</u>	
<b>DATE:</b> <u>2/22/08</u>	



**EXPIRES 6-8-09**

# SOIL EVALUATION REPORT

## FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Pattison Street Townhouses		SHEET: 1 OF 3	
PE PROJECT NO.:08100		DATE: 1/23/08	
PREPARED BY: William Parnell, P.E.			
SOIL LOG: #A			
LOCATION: 305 ft. east of Pattison Street NE centerline and 10 ft. south of the north property line.			
1. TYPES OF TEST DONE: Sieve	2. NRCS SOILS SERIES: Yelm (126)	3. LAND FORM: Terrace	
4. DEPOSITION HISTORY: Glacial Outwash	5. HYDROLOGIC SOIL GROUP: C	6. DEPTH OF SEASONAL HW: Unknown	
7. CURRENT WATER DEPTH: Greater than bottom of hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Nearly Level	
10. POTENTIAL FOR:		EROSION	RUNOFF
		Minimal	Slow
11. SOIL STRATA DESCRIPTION: See Following chart			
12. SITE PERCOLATION RATE: See FSP			
13. FINDINGS & RECOMMENDATIONS: The C4 horizon sands were clean and slightly loose with no obvious indications of high winter water table. A soil sample taken from the C4 horizon was sieved and the resulting data was inserted into the saturated potential hydraulic conductivity and design infiltration rate equations to determine a facility design infiltration rate of 3.33 in/hr. Assumptions made for calculations were: 1) bottom of underground facility at 156" below existing grade 2) water depth in facility to be 4.07' 3) high winter water table at 300" below existing grade - bottom of test pit.			

### Soils Strata Description

#### Soil Log #A

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 6"	10YR3/2	SaLm	<14	-	<1	1SBK	-	-	-	ff	2-6	.25
Bw1	6"- 18"	10YR3/4	SaLm	<12	-	<1	1SBK	-	-	-	ff	2-6	.25
Bw2	18"- 48"	10YR4/6	SaLm	<10	-	<1	1SBK	-	-	-	ff	2-6	.25
C1	48"- 72"	2.5Y5/2	LmFSa	<8	-	<1	1SBK	-	-	-	ff	2-6	.25
C2	72"- 89"	2.5Y4/4	SaLm	<15	-	<1	Mas	-	-	-	-	2-6	.25
C3	89"-108"	2.5Y4/4	Lm	<20	-	<1	Mas	-	-	-	-	.6-2.0	.25
C4	108"-300"	2.5Y5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	3.33

# SOIL EVALUATION REPORT

## FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Pattison Street Townhouses		SHEET: 2 OF 3	
PE PROJECT NO.:08100		DATE: 1/23/08	
PREPARED BY: William Parnell, P.E.			
SOIL LOG: #B			
LOCATION: 385 ft. east of Pattison Street NE centerline and 10 ft. south of the north property line.			
1. TYPES OF TEST DONE: Sieve	2. NRCS SOILS SERIES: Yelm (126)	3. LAND FORM: Terrace	
4. DEPOSITION HISTORY: Glacial Outwash	5. HYDROLOGIC SOIL GROUP: C	6. DEPTH OF SEASONAL HW: Unknown	
7. CURRENT WATER DEPTH: Greater than bottom of hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Nearly Level	
10. POTENTIAL FOR:		EROSION	RUNOFF
		Minimal	Slow
11. SOIL STRATA DESCRIPTION: See Following chart		PONDING Minimal	
12. SITE PERCOLATION RATE: See FSP			
13. FINDINGS & RECOMMENDATIONS: The C5 horizon sands were clean and slightly loose with no obvious indications of high winter water table. A soil sample taken from the C5 horizon was sieved and the resulting data was inserted into the saturated potential hydraulic conductivity and design infiltration rate equations to determine a facility design infiltration rate of 1.14 in/hr. Assumptions made for calculations were: 1) bottom of underground facility at 156" below existing grade 2) water depth in facility to be 4.07' 3) high winter water table at 300" below existing grade - bottom of test pit.			

### Soils Strata Description

#### Soil Log #B

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 5"	10YR3/2	SaLm	<14	-	<1	1SBK	-	-	-	fm	2-6	.25
Bw1	5"- 15"	10YR3/4	SaLm	<12	-	<1	1SBK	-	-	-	fm	2-6	.25
Bw2	15"- 33"	10YR4/6	LmVFSa	<10	-	<1	1SBK	-	-	-	ff	2-6	.25
C1	33"- 63"	10YR5/2	LmFSa	<8	-	<1	1SBK	-	-	-	ff	2-6	.25
C2	63"- 84"	2.5Y5/4	SiLm	<20	-	<1	Mas	-	-	-	-	6-2.0	.25
C3	84"- 99"	2.5Y5/1	FSa	<3	-	<1	SG	-	-	-	-	6-20	.25
C4	99"-150"	2.5Y5/3	Lm with VFSa lenses	<18	-	<1	SG	-	-	-	-	6-2.0	.25
C5	150"-300"	2.5Y5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	1.14

# SOIL EVALUATION REPORT

## FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Pattison Street Townhouses PE PROJECT NO.:08100 PREPARED BY: William Parnell, P.E.		SHEET: 3 OF 3 DATE: 1/23/08	
SOIL LOG: #C LOCATION: 245 ft. east of Pattison Street NE centerline and 10 ft. south of the north property line.			
1. TYPES OF TEST DONE: Sieve	2. NRCS SOILS SERIES: Yelm (126)	3. LAND FORM: Terrace	
4. DEPOSITION HISTORY: Glacial Outwash	5. HYDROLOGIC SOIL GROUP: C	6. DEPTH OF SEASONAL HW: Unknown	
7. CURRENT WATER DEPTH: Greater than bottom of hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Nearly Level	
10. POTENTIAL FOR:		EROSION	RUNOFF
		Minimal	Slow
11. SOIL STRATA DESCRIPTION: See Following chart			
12. SITE PERCOLATION RATE: See FSP			
13. FINDINGS & RECOMMENDATIONS: Test pit located outside of proposed stormwater drainage infiltration facility.			

### Soils Strata Description

#### Soil Log #C

Horz	Depth	Color	Texture	%CL	%ORG	CE	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 4"	10YR3/2	SaLm	<14	-	<1	1SBK	-	-	-	fm	2-6	.25
Bw1	4"- 12"	10YR3/4	SaLm	<12	-	<1	1SBK	-	-	-	fm	2-6	.25
Bw2	12"- 36"	10YR4/6	LmFSa	<10	-	<1	1SBK	-	-	-	ff	2-6	.25
C1	36"- 51"	10YR4/6	FSa	<4	-	<1	SG	-	-	-		6-20	.25
C2	51"- 80"	2.5Y4/4	Lm	<20	-	<1	Mas	-	-	-	-	6-2.0	.25
C3	80"-156"	2.5Y5/1	VFSa	<3	-	<1	SG	-	-	-	-	2-6	.25
C4	156"-228"	2.5Y5/2	VFSa	<5	-	<1	SG	-	-	-	-	2-6	.25
C5	228"-300"	2.5Y5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	1.0

## Abbreviations

<b>Textural Class (Texture)</b>	<b>Structure (STR)</b>	<b>Grades of Structure</b>
Cobbley -Cob	Granular - Gr	Strong - 3
Stoney - St	Blocky - Blky	Moderate - 2
Gravelly - Gr	Platy - Pl	Weak - 1
Sandy - Sa	Massive - Mas	
Loamy - Lm	Single Grained - SG	
Silty - Si	Sub-Angular Blocky - SBK	
Clayey - Cl		
Coarse - C		
Very - V		
Extremely - Ex		
Fine - F		
Medium - M		

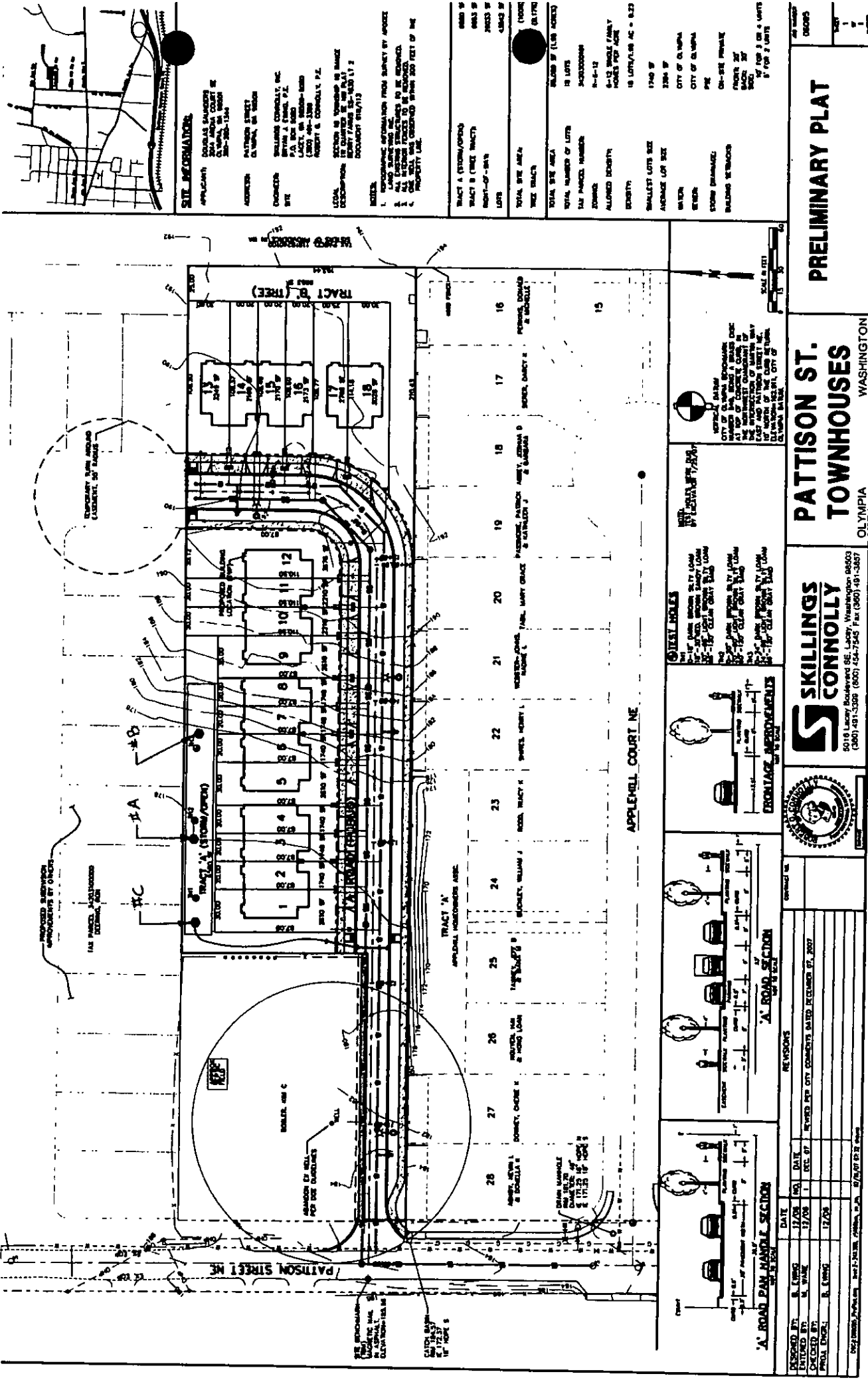
<b>Induration &amp; Cementation</b>	
<b>(IND)</b>	<b>(CEM)</b>
Weak - Wk	
Moderate - Mod	
Strong - Str	

<b>Mottles (MOT)</b>		
<b>1 Letter Abundance</b>	<b>1st Number Size</b>	<b>2nd Letter Contrast</b>
Few - F	Fine - 1	Faint - F
Common - C	Medium - 2	Distinct - D
Many - M	Coarse - 3	Prominent - P

<b>Roots (ROO)</b>	
<b>1st Letter Abundance</b>	<b>2nd Letter Size</b>
Few - f	Fine - f
Common - c	Medium - m
Many - m	Coarse - c

<X> - Generalized range of infiltration rates from SCS soil survey (<X>)





**SITE INFORMATION**

**APPLICANT:** SKILLINGS CONNOLLY INC.  
10000 1ST AVE. N.E.  
OLYMPIA, WA 98504  
360-226-1344

**ADDRESS:** PATTISON STREET  
OLYMPIA, WA 98504

**OWNER:** SKILLINGS CONNOLLY INC.  
P.O. BOX 5000  
OLYMPIA, WA 98504-0500  
(360) 491-3399

**LEGAL:** SECTION 18 TOWNSHIP 18 N RANGE 12 E QUARTER 36 NE PLAT 17000 1ST AVE N.E. OLYMPIA, WA 98504

**NOTES:**  
1. CONFORMANCE WITH SUBMITTAL REQUIREMENTS BY APPLICANT.  
2. ALL EXISTING UTILITIES TO BE REMOVED.  
3. ALL EXISTING UTILITIES TO BE REMOVED.  
4. ALL EXISTING UTILITIES TO BE REMOVED.  
5. ALL EXISTING UTILITIES TO BE REMOVED.

TRACT A (TOWNSHIP/QUARTER)	1800 18
TRACT B (TOWNSHIP/QUARTER)	1800 18
TRACT C (TOWNSHIP/QUARTER)	1800 18
TOTAL SITE AREA	4.8623 AC
TOTAL TRACT AREA	4.8623 AC
TOTAL NUMBER OF LOTS	18 LOTS
TOTAL PARCEL NUMBER	18 PARCELS
ALLOWED DENSITY	18 LOTS/4.86 AC = 3.7
DENSITY	18 LOTS/4.86 AC = 3.7
SMALLEST LOT SIZE	1740 SF
AVERAGE LOT SIZE	2640 SF
SECTION	CITY OF OLYMPIA
STREET	CITY OF OLYMPIA
STORM DRAINAGE	PRE
BUILDING SETBACKS	FRONT 30' SIDE 30' REAR 30'
NOTES	1. FOR 2 LOTS 2. FOR 2 LOTS

**PRELIMINARY PLAT**

**PATTISON ST. TOWNHOUSES**

**OLYMPIA, WASHINGTON**

**SKILLINGS CONNOLLY**

5018 Lacey Boulevard SE, Lacey, Washington 98503  
(360) 491-3399 (800) 454-7545 Fax (360) 491-3857

**REVISIONS**

NO.	DATE	DESCRIPTION
1	11/08	REVISED PER CITY COMMENTS DATED DECEMBER 17, 2007
2	11/08	
3	11/08	

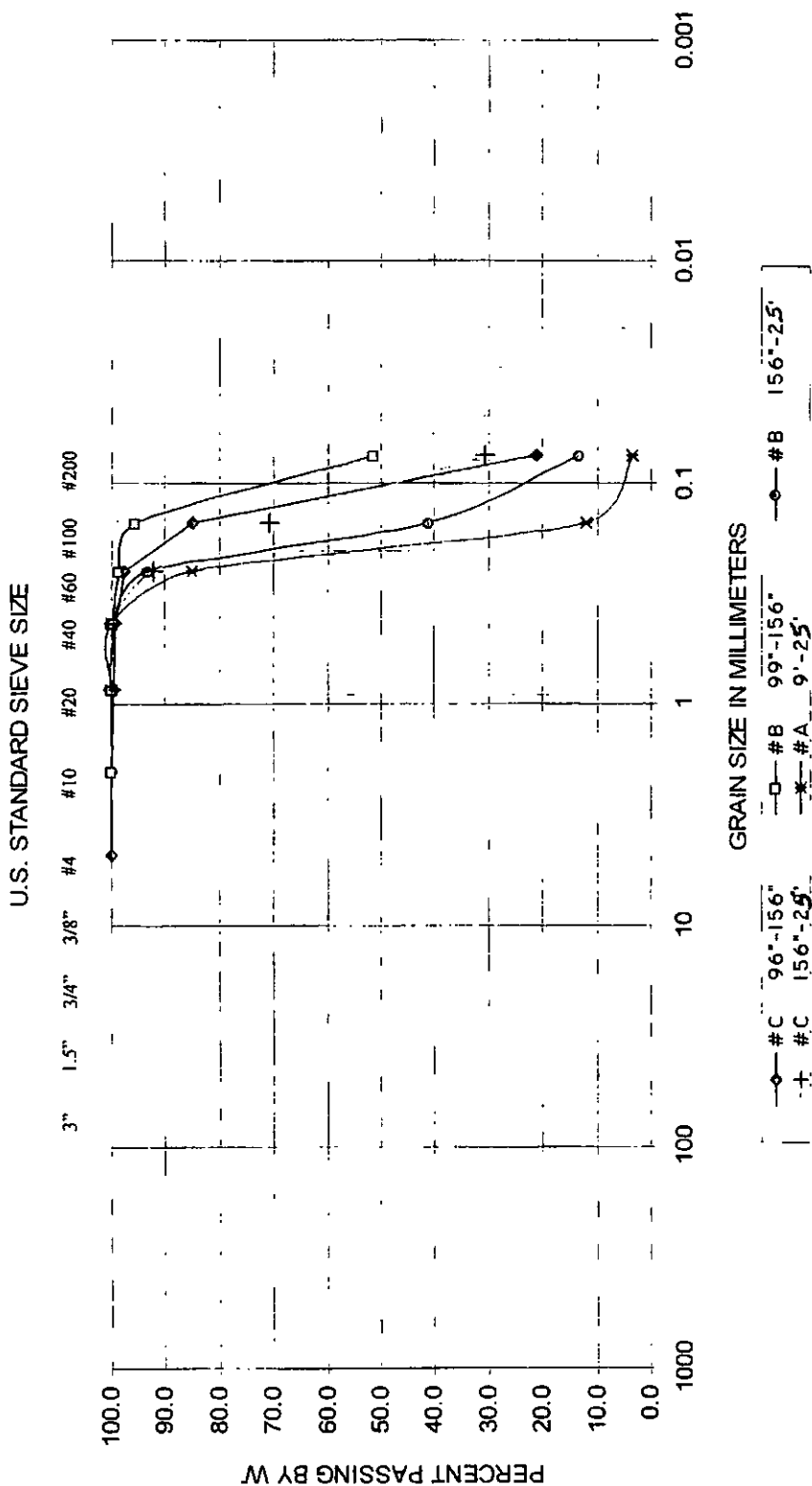
**'A' ROAD PAN HANDLE SECTION**

DATE: 11/08  
BY: B. LEMG  
CHECKED BY: M. WANE  
APPROVED BY: B. LEMG

**'A' ROAD SECTION**

DATE: 11/08  
BY: B. LEMG  
CHECKED BY: M. WANE  
APPROVED BY: B. LEMG

TEST PITS A, B, C



INSIGHT GEOLOGIC, INC.

SIEVE ANALYSIS RESULTS

FIGURE 1

## Particle Size Analysis Summary Data

Job Name: PARNELL #1  
 Job Number:  
 Tested By: Insight Geologic  
 Date: January 31, 2008

Test Pit #: #A  
 Sample #:  
 Depth: 9'-25'

Moisture Content	8.5%
------------------	------

Sieve Size	Percent Passing (%)
3.0 in. (75.0)	100.0
1.5 in. (37.5)	100.0
3/4 in. (19.0)	100.0
3/8 in. (9.5-mm)	100.0
No. 4 (4.75-mm)	100.0
No. 10 (2.00-mm)	100.0
No. 20 (.850-mm)	100.0
No. 40 (.425-mm)	99.9
No. 60 (.250-mm)	85.2
No. 100 (.150-mm)	12.0
No. 200 (.075-mm)	3.4

Size Fraction	Percent by Weight
Coarse Gravel	0.0
Fine Gravel	0.0
Coarse Sand	0.0
Medium Sand	0.1
Fine Sand	96.5
Fines	3.4
Total	100.0

LL	NA
PI	NA
D10	0.15
D30	0.18
D60	0.21
D90	0.28
Cc	1.03
Cu	1.40

### ASTM Classification

Group Name: Poorly Graded Sand Symbol: SP
--

## Particle Size Analysis Summary Data

Job Name: PARNELL #1  
 Job Number:  
 Tested By: Insight Geologic  
 Date: January 31, 2008

Test Pit #: #B  
 Sample #:  
 Depth: 156"-25'

Moisture Content	15.4%
------------------	-------

Sieve Size	Percent Passing (%)
3.0 in. (75.0)	100.0
1.5 in. (37.5)	100.0
3/4 in. (19.0)	100.0
3/8 in. (9.5-mm)	100.0
No. 4 (4.75-mm)	100.0
No. 10 (2.00-mm)	100.0
No. 20 (.850-mm)	100.0
No. 40 (.425-mm)	100.0
No. 60 (.250-mm)	93.1
No. 100 (.150-mm)	41.2
No. 200 (.075-mm)	13.3

Size Fraction	Percent by Weight
Coarse Gravel	0.0
Fine Gravel	0.0
Coarse Sand	0.0
Medium Sand	0.0
Fine Sand	86.6
Fines	13.3
Total	100.0

LL NA  
 PI NA

D10 NA  
 D30 0.14  
 D60 0.18  
 D90 0.24  
 Cc NA  
 Cu NA

### ASTM Classification

Group Name: Poorly Graded Sand  
 Symbol: SP

Test Hole No A

Equation 1 Ksat

Saturated Potential Hydraulic Conductivity

$$K_{sat} = 2835 \cdot 10^{(-1.57 + 1.90D_{10} + 0.015D_{60} - 0.013D_{90} - 2.08f_{fines})}$$

Where:

Ksat = Saturated Potential Hydraulic Conductivity, ft/day

Dn = Particle size for which "n" percent of particles by weight are smaller, mm.

f<sub>fines</sub> = Fraction of soil by weight passing the number 200 sieve, gm/gm.

Boring Number / Layer	D10 (mm)	D60 (mm)	D90 (mm)	f <sub>fines</sub> (frac- tion)	Ksat (ft/day)
108-300	0.150	0.180	0.210	0.034	124.969

Equation 2 K<sub>equiv</sub>

Equivalent Potential Hydraulic Conductivity for soil horizons in one hole

$$K_{equiv} = d / \sum (Dn / K_n)$$

Where:

d: Total depth of soil column, in

dn: Thickness of layer "n" in soil column, in

K<sub>n</sub>: Saturated potential hydraulic conductivity (Ksat) of layer "n", ft/day.

Layer No.	dn (thick- ness layer "n")	K <sub>n</sub> (ft/day )	dn/K <sub>n</sub>	K <sub>equiv</sub> (ft/day )	K <sub>equiv</sub> (in/hr)
108-300	144.00	124.969	1.15		

$$d = 144.00 \quad 1.15 \quad 124.97 \quad 62.48$$

Equation 3a (i)

Equivalent Potential Hydraulic Conductivity for shallow groundwater/confining stratum

$$i = ((D_{wt} + D_{pond}) \cdot CF_{size}) / (138.62 \cdot K^{0.1})$$

where:

D<sub>wt</sub> = Depth from base of infiltration facility to mean wet season high water level, feet

D<sub>pond</sub> = Max water depth in infiltration facility pond, feet

D<sub>trench</sub> = Max water depth in trench, feet

CF<sub>size</sub> = Correction factor for ponds based on likelihood of localized groundwater mounding

CF<sub>size</sub> = (0.73) \* (A<sub>pond</sub>)<sup>-0.76</sup>

A<sub>pond</sub> = Area of pond bottom, acres

(i) = 1.0 for "deep" groundwater level or confining stratum

Dwt (ft)	Dpond (ft)	Pond Area (ac)	CF <sub>size</sub>	K (ft/day )	K <sup>0.1</sup>	(i)
-------------	---------------	----------------------	--------------------	-------------------	------------------	-----

Equation 3b		(i)			
Equivalent Potential Hydraulic Conductivity					
$i = (Dwt + Dtrench) / (78 * K^{0.05})$					
where:					
Dwt =	Depth to seasonal high water table, feet				
Dtrench	Depth of trench, feet				
K =	Conductivity, ft / day				
i =	Hydraulic gradient, ft/ft				
Dwt	Dtrench	K	$K^{0.05}$	(i)	
12.00	4.07	124.97	1.27	0.160	
Equation 4		f			
Functional Saturated Hydraulic Conductivity					
$f = Kequiv * (i)$					
where:					
Kequiv = Equivalent Potential Hydraulic Conductivity					
(i) = Hydraulic gradient					
Kequiv	(i)	f			
(ft/day	(ft/ft)	(ft/day			
)	)	)			
124.97	0.160	20.00			
Equation 5		f <sub>design</sub>			
Facility Design Infiltration Rate					
$f_{design} = f / (CF_{site} * CF_{maintain} * CF_{watershed})$					
f = Functional Saturated Hydraulic Conductivity					
CF <sub>site</sub> * = Site correction factor					
CF <sub>maintain</sub> * Maintenance correction factor					
*CF <sub>watershed</sub> Watershed correction factor					
See table @ tab "Correc"					
f	CF <sub>site</sub> *	CF <sub>maintain</sub> *	CF <sub>watershed</sub>	f <sub>design</sub>	f <sub>design</sub>
(ft/day				(ft/day	(in/hour)
)			)	)	
20.00	1.00	1.50	2.00	6.67	3.33

Test Hole No B

Equation 1 Ksat

Saturated Potential Hydraulic Conductivity

$$K_{sat} = 2835 \cdot 10^{(-1.57 + 1.90D_{10} + 0.015D_{60} - 0.013D_{90} - 2.08f_{fines})}$$

Where:

Ksat = Saturated Potential Hydraulic Conductivity, ft/day

Dn = Particle size for which "n" percent of particles by weight are smaller, mm.

f<sub>fines</sub> = Fraction of soil by weight passing the number 200 sieve, gm/gm.

Boring Number / Layer	D10 (mm)	D60 (mm)	D90 (mm)	f <sub>fines</sub> (frac- tion)	Ksat, (ft/day)
156-300	0.000	0.180	0.240	0.133	40.317

Equation 2 Kequiv

Equivalent Potential Hydraulic Conductivity for soil horizons in one hole

$$K_{equiv} = d / \sum (Dn / K_n)$$

Where:

d: Total depth of soil column, in

dn: Thickness of layer "n" in soil column, in

Kn: Saturated potential hydraulic conductivity (Ksat) of layer "n", ft/day.

Layer No.	dn (thick- ness layer "n")	K <sub>n</sub> (ft/day)	dn/Kn	K <sub>equiv</sub> (ft/day)	K <sub>equiv</sub> (in/hr)
156-300	144.00	40.317	3.57		

$$d = 144.00 \quad 3.57 \quad 40.32 \quad 20.16$$

Equation 3a (i)

Equivalent Potential Hydraulic Conductivity for shallow groundwater/confining stratum

$$i = ((D_{wt} + D_{pond}) \cdot CF_{size}) / (138.62 \cdot K^{0.1})$$

where:

Dwt = Depth from base of infiltration facility to mean wet season high water level, feet

Dpond = Max water depth in infiltration facility pond, feet

Dtrench = Max water depth in trench, feet

CF<sub>size</sub> = Correction factor for ponds based on likelihood of localized groundwater mounding

$$CF_{size} = (0.73) \cdot (A_{pond})^{-0.76}$$

A<sub>pond</sub> = Area of pond bottom, acres

(i) = 1.0 for "deep" groundwater level or confining stratum

Dwt (ft)	Dpond (ft)	Pond Area (ac)	CF <sub>size</sub>	K (ft/day)	K <sup>0.1</sup>	(i)
-------------	---------------	----------------------	--------------------	---------------	------------------	-----

Equation 3b						(i)
Equivalent Potential Hydraulic Conductivity						
$i = (Dwt + Dtrench) / (78 * K^{0.05})$						
where:						
Dwt =	Depth to seasonal high water table, feet					
Dtrench	Depth of water in trench, feet					
K =	Conductivity, ft / day					
i =	Hydraulic gradient, ft/ft					
Dwt	Dtrench	K	K <sup>0.05</sup>	(i)		
12.00	4.07	40.32	1.20	0.170		
Equation 4						
f						
Functional Saturated Hydraulic Conductivity						
$f = Kequiv * (i)$						
where:						
Kequiv = Equivalent Potential Hydraulic Conductivity						
(i) = Hydraulic gradient						
Kequiv	(i)	f				
(ft/day	(ft/ft)	(ft/day				
)		)				
40.32	0.170	6.85				
Equation 5						
f <sub>design</sub>						
Facility Design Infiltration Rate						
$f_{design} = f / (CF_{site} * CF_{maintain} * CF_{watershed})$						
f = Functional Saturated Hydraulic Conductivity						
CF <sub>site</sub> * = Site correction factor						
CF <sub>maintain</sub> * = Maintenance correction factor						
*CF <sub>watershed</sub> = Watershed correction factor						
See table @ tab "Correc"						
f	CF <sub>site</sub> *	CF <sub>maintain</sub> *	CF <sub>watershed</sub>	f <sub>design</sub>	f <sub>design</sub>	
(ft/day				(ft/day	(in/hour)	
)				)		
6.85	1.00	1.50	2.00	2.28	1.14	



## APPENDIX D - Maintenance Schedule & Agreement

(RESIDENTIAL SUBDIVISION VERSION)

AGREEMENT TO MAINTAIN  
STORMWATER FACILITIES AND TO IMPLEMENT A  
POLLUTION SOURCE CONTROL PLAN  
BY AND BETWEEN CITY OF OLYMPIA  
(HEREINAFTER "THE LOCAL GOVERNMENT") AND  
PATISON ST. TOWNHOMES HOA, AND  
ITS HEIRS, SUCCESSORS, OR ASSIGNS  
(HEREINAFTER "OWNER")

The upkeep and maintenance of stormwater facilities and the implementation of pollution source control best management practices (BMPs) is essential to the protection of water resources in the Local Government's jurisdiction. All property owners are expected to conduct business in a manner that promotes environmental protection. This Agreement contains specific provisions with respect to maintenance of stormwater facilities and use of pollution source control BMPs. The authority to require maintenance and pollution source control is provided in ordinance.

LEGAL DESCRIPTION:

Whereas, Owner has constructed improvements, including but not limited to, buildings, pavement, and stormwater facilities on the property described above. In order to further the goals of the Local Government to ensure the protection and enhancement of Local Government's water resources, the Local Government and Owner hereby enter into this Agreement. The responsibilities of each party to this Agreement are identified below.

OWNER SHALL:

- (1) Implement the stormwater facility maintenance program included herein as Attachment "A".
- (2) Implement the pollution source control program included herein as Attachment "B".
- (3) Maintain a record (in the form of a log book) of steps taken to implement the programs referenced in (1) and (2) above. The log book shall be available for inspection by Local Government staff at Owner's business during normal business hours. The log book shall catalog the action taken, who took it, when it was done, how it was done, and any problems encountered or follow-on actions recommended. Maintenance items ("problems") listed in Attachment "A" shall be inspected on a monthly or more frequent basis as necessary. Owner is encouraged to photocopy the individual checklists in Attachment A and use them to complete its monthly inspections. These completed checklists would then, in combination, comprise the monthly log book.
- (4) Submit an annual report to the Local Government regarding implementation of the programs

referenced in (1) and (2) above. The report must be submitted on or before May 15 of each calendar year and shall contain, at a minimum, the following:

- (a) Name, address, and telephone number of the business, the person, or the firm responsible for plan implementation, and the person completing the report.
- (b) Time period covered by the report.
- (c) A chronological summary of activities conducted to implement the programs referenced in (1) and (2) above. A photocopy of the applicable sections of the log book, with any additional explanation needed, shall normally suffice. For any activities conducted by paid parties not affiliated with Owner, include a copy of the invoice for services.
- (d) An outline of planned activities for the next year.

THE LOCAL GOVERNMENT WILL, AS RESOURCES ALLOW:

- (1) Provide technical assistance to Owner in support of its operation and maintenance activities conducted pursuant to its maintenance and source control programs. Said assistance shall be provided upon request and at no charge to Owner.
- (2) Review the annual report and conduct occasional site visits to discuss performance and problems with Owner.
- (3) Review this agreement with Owner and modify it as necessary.

REMEDIES:

- (1) If the Local Government determines that maintenance or repair work is required to be done to the stormwater facility existing on the Owner property, the Stormwater Manual Administrator shall give Owner, and the person or agent in control of said property if different, notice of the specific maintenance and/or repair required. The Administrator shall set a reasonable time in which such work is to be completed by the persons who were given notice. If the above required maintenance and/or repair is not completed within the time set by the Administrator, written notice will be sent to the persons who were given notice stating the Local Government's intention to perform such maintenance and bill the owner for all incurred expenses. The Local Government may also adjust stormwater utility charges if required maintenance is not performed.
- (2) If at any time the Local Government determines that the existing system creates any imminent threat to public health or welfare, the Administrator may take immediate measures to remedy said threat. No notice to the persons listed in (1), above, shall be required under such circumstances.
- (3) The Owner grants authority to the Local Government for inspection, and access to any and all stormwater system features for the purpose of performing maintenance or repair as may become necessary under Remedies (1) and/or (2).
- (4) The Owner shall assume all responsibility for the cost of any maintenance and for repairs to the stormwater facility. Such responsibility shall include reimbursement to the Local

Government within 30 days of the receipt of the invoice for any such work performed. Overdue payments will require payment of interest at the current legal rate for liquidated judgments. If legal action ensues, any costs or fees incurred by the Local Government will be borne by the parties responsible for said reimbursements.

- (5) The Owner hereby grants to the Local Government a lien against the above-described property in an amount equal to the cost incurred by the Local Government to perform the maintenance or repair work described herein.

This Agreement is intended to protect the value and desirability of the real property described above and to benefit all the citizens of the Local Government. It shall run with the land and be binding on all parties having or acquiring from Owner or their successors any right, title, or interest in the property or any part thereof, as well as their title, or interest in the property or any part thereof, as well as their heirs, successors, and assigns. They shall inure to the benefit of each present or future successor in interest of said property or any part thereof, or interest therein, and to the benefit of all citizens of the Local Government.

Dated at \_\_\_\_\_, Washington, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

OWNER

\_\_\_\_\_  
Authorized Agent for Owner

STATE OF WASHINGTON        )  
COUNTY OF THURSTON) ss

On this day and year above personally appeared before me, \_\_\_\_\_  
\_\_\_\_\_ known to be the individual(s) described, and who executed the  
foregoing instrument and acknowledge that they signed the same as their free and voluntary act  
and deed for the uses and purposes therein mentioned.

Given under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the  
State of Washington, residing in  
\_\_\_\_\_.

Dated at \_\_\_\_\_, Washington, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

LOCAL GOVERNMENT

\_\_\_\_\_  
Authorized Agent for the Local Government

STATE OF WASHINGTON )  
 ) ss  
COUNTY OF THURSTON )

On this day and year above personally appeared before me, \_\_\_\_\_, to me known to be the Authorized Agent for the Local Government, a Municipal Corporation, who executed the foregoing instrument and acknowledge the said instrument to be the free and voluntary act and deed of said Municipal Corporation for the uses and purposes therein mentioned and on oath states he is authorized to execute the said instrument.

Given under my hand and official seal this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the  
State of Washington, residing in  
  
\_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
Local Government Attorney

Z:\FORMS\Agree to Maint Strmwtr Facilities-Private.wpd 03/16/01

## Inspection Frequencies

<b><u>Asset</u></b>	<b><u>Preferred Month</u></b>	<b><u>Interval</u></b>
Type I & Type II Catch Basin		Annually
Flow Restrictor	June – September	Annually
Debris Barrier	June – September	Annually
Energy Dissipater	June – September	Annually
Pipe		Annually
Ditch	March – April October – November	Semi-annually
Fencing		Biannually
Access Road		Annually
R/D Ponds (including Infiltration)	May – October	Annually
R/D Vaults		Annually
Wet Vaults		Biannually
Bioswales	March – April October – November	Semi-annually
Wet Ponds	August – October	Annually
Infiltration (not including Ponds)		Biannually
Landscaping	March – April September – October	Semi-annually

# Stormwater Facility Maintenance Guide

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## Introduction

### What is Stormwater Runoff?

When urban and suburban development covers the land with buildings, houses, streets and parking lots, much of the native topsoil, duff, trees, shrubs, and grass are replaced by asphalt and concrete. Rainfall that would have directly soaked into the ground instead stays on the surface as *stormwater runoff* making its way into storm drains (including man-made pipes, ditches, or swale networks), stormwater ponds, surface and groundwater, and eventually to Puget Sound.

### What is a Storm Drain System and how does it work?

The storm drain system for most developments includes components *that carry, store, cleanse, and release* the stormwater. These components work together to reduce the impacts of development on the environment. These impacts can include *flooding* which results in property damage and blocked emergency routes, *erosion* which can cause damage to salmon spawning habitat, and *pollution* which harms fish and/or drinking water supplies.

The storm drain system provides a safe method to carry stormwater to the treatment and storage areas. Swales and ponds filter pollutants from the stormwater by *physically* settling out particles, *chemically* binding pollutants to pond sediments, and *biologically* converting pollutants to less-harmful compounds. The ponds also store the treated water, releasing it gradually to a nearby stream or to groundwater. The various components of storm drain systems are described in the glossary.

### What does Stormwater Runoff have to do with Water Quality?

Stormwater runoff needs to be treated because it carries litter, oil, gasoline, fertilizers, pesticides, pet wastes, sediments, and anything else that can float, dissolve, or be swept along by the moving water. Left untreated, polluted stormwater can reach nearby waterways where it can harm and even kill aquatic life. It can also pollute groundwater to the extent that it must be treated before it can be used for drinking, which has actually happened in Pierce County. Nationally, stormwater is recognized as a major threat to water quality. Remember to keep everything out of stormwater systems except the rainwater they are designed to collect.

### Your Stormwater Facility

Stormwater facilities can be attractive as well as functional. They can provide both active and passive-use recreation areas and open space for wildlife. Perhaps you've noticed a wet or dry pond in your neighborhood. These different types of ponds are designed for different purposes. For example, wet ponds primarily provide treatment of stormwater. They also provide good cover and habitat for birds and small mammals, making them fine "wildlife preserves". Dry ponds or infiltration ponds are designed to provide storage for stormwater and gradually release it downstream or allow it to filter into the ground. These types of ponds can be maintained as grassy play areas, and may even be modified to house more formal play equipment.

### Who is Responsible for Maintaining Stormwater Facilities?

All stormwater facilities need to be maintained. Regular maintenance ensures proper functioning and keeps the facility visually appealing. This Stormwater Facility Maintenance Guide was designed to help explain how stormwater facilities work and provide user-friendly, straightforward guidance on how to maintain them.

As a homeowner or homeowner's association, you are responsible for regularly maintaining privately owned ponds, catch basins, pipes and other drainage facilities within your subdivision. Local governments maintain stormwater facilities located in public right-of-ways.

## Maintenance Checklists

The maintenance checklists in this packet are for you to use when checking the stormwater facilities in your neighborhood. If you feel that you are missing a checklist, or you have additional facilities not identified or addressed in this packet, please contact your developer or local jurisdiction.

The checklists are in table format for ease of use and brevity. Each checklist tells you what part of the feature to check, how often to check, what to check for, and what to do about it. Log sheets are included to help you keep track of when you last surveyed the storm drainage system.

Those systems using approved "emerging technologies", such as a StormFilter™, may not find a checklist covering the specific stormwater facility. Please refer to the manufacturer's guidelines for the appropriate maintenance activity schedule. If a checklist is provided, it is for guidance purposes only and not meant to supersede the manufacturer's recommendations.

Although it is not intended for the maintenance survey to involve anything too difficult or strenuous, there are a few tools that will make the job easier and safer. These tools include:

- A flashlight.
- A long pole or broom handle.
- Some kind of pry bar or lifting tool for pulling manhole and grate covers.
- Gloves.

A listing of resources is also included within this packet. Here you will find the phone numbers of the agencies referred to in the tables.

**SAFETY WARNING:** Due to OSHA regulations, you should never stick your head or any part of your body into a manhole or other type of confined space. When looking into a manhole or catch basin, stand above it and use the flashlight to help you see. Use a pole or broom handle that is long enough when you are checking sediment depths in confined spaces. **NO PART OF YOUR BODY SHOULD BREAK THE PLANE OF THE OPEN HOLE.**

## Resource Listing

If you are unsure whether a problem exists, please contact the local jurisdiction at the number below and ask for technical assistance with your situation. Other resources are listed for your convenience and as references associated with the checklists.

- Tumwater Public Works..... (360) 754-4140
- Olympia Public Works..... (360) 753-8346
- Lacey Public Works..... (360) 438-2686
- Thurston County Water and Waste Management..... (360) 357-2491
- Pacific Disposal..... (360) 352-2046
- Thurston County Environmental Health..... (360) 754-4111
- Thurston County Solid Waste..... (360) 786-5136
- WSU Cooperative Extension..... (360) 786-5445

## Checklist Instructions

The following pages contain maintenance checklists covering most of the needs for the components of your drainage system, as well as for some components that you may not have. Let us know if there are any components missing from these pages. Ignore the requirements that are not part of your system. You should plan to complete a check for all system components on the following schedule:

1. Quarterly – plan to inspect the facility at least once during the following months – January, May, August, and November.
2. Annually – The best time for an annual inspection is in the late summer, preferably September.
3. Items marked "After Major Storm Event", use 1-inch in 24 hours as a guideline.

Using photocopies of these checklists and log sheet below, check off the problems that you look for each time you do an inspection. Add comments on problems found and actions taken on the log sheet. Keep the completed forms in your files for future reference.

Call one of the numbers listed above for technical guidance. Please do not hesitate to call, especially if you are unsure whether a situation you have discovered may be a problem.

Use copies of this log sheet to keep track of when maintenance checks occur and what items, if any, are repaired or altered. The completed sheets will serve as a record of past maintenance activities and will provide valuable information on how your facilities are operating. This information will be useful for future requirements regarding the types of facilities that are installed. It helps to keep all log sheets in a designated area so that others can easily access them.

**Date Checked:** \_\_\_\_/\_\_\_\_/\_\_\_\_  
**Checked By:** \_\_\_\_\_  
**Name:** \_\_\_\_\_  
**Position:** \_\_\_\_\_  
**Address:** \_\_\_\_\_ **City:** \_\_\_\_\_ **State:** \_\_\_\_\_  
**Zip:** \_\_\_\_\_  
**Phone Number:** (\_\_\_\_) \_\_\_\_\_

[illegible]

## Catch Basins and Inlets

These structures are typically located in the streets and public right-of-ways. The City is responsible for routine maintenance of the pipes and catch basins in the right-of-ways, while the homeowners association is responsible for keeping the grates clear of debris in all areas as well as pipes and catch basins in private areas.

Part of Structure To Check	How Often	Completed (Date/By)	Problem	Conditions to Check For	What to do
Grate	During and After Major Storms		Trash & Debris	Trash or debris accumulating in front of the catch basin opening and not allowing waters to flow in.	Remove blocking trash or debris with a rake and clean off the grate.
Grate	Quarterly		Vegetation	Vegetation is growing across and blocking more than 10% of the basin opening.	Remove vegetation.
Catch Basin	Quarterly		Sediments	Sediment or debris in the basin should be kept under 50% of the depth from the bottom of the pipe to the bottom of the basin. Use a long stick or broom handle to poke into sediment and determine depth.	Clean out the catch basin of sediment and debris.
Inlet and Outlet Pipes	Quarterly		Trash & Debris	Trash or debris in the pipes should not be more than 1/5 of its height. Also there should not be any roots or vegetation growing in the pipes.	Clean out the inlet and outlet pipes from trash, debris, or vegetation.
Inlet and Outlet Pipes Joints	Annually		Structural Damage	There should be no cracks wider than 0.5" and longer than 1 foot at the joint of any inlet or outlet pipe. Also, check for evidence of sediment entering the catch basin through the cracks.	Repair cracks or replace the joints. Contact the City for technical guidance.
Grate	Quarterly		Structural Damage	The grate should not have any cracks longer than 2". There should not be multiple cracks. There should be no opening wider than 7/8"	Replace the grate.
Frame	Quarterly		Structural Damage	Ensure that the frame is sitting flush on top of the concrete structure (slab). A separation of more than 3/4" between the frame and the slab should be corrected.	Repair or replace the frame so that it is flush with the slab.
Catch Basin	Annually		Structural Damage	Inspect the walls of the catch basin for cracks wider than 0.5" and longer than 3 feet. Also check for evidence of sediment entering the catch basin through the cracks. Determine whether or not the structure is sound.	Repair or replace the basin. Contact a professional engineer for evaluation.
Catch Basin	Quarterly		Pollution and Fire Hazard	There should be no chemicals such as natural gas, oil, and gasoline in the catch basin. Check for obnoxious color, odor, or oily sludge.	Clean out catch basin. Contact Thurston County Environmental Health if you detect a color, odor, or oily sludge.

Oil/Water Separator (down-turned elbow or "T" in catch basin)	Quarterly		Pollution	Water surface in catch basin has significant sludge, oil, grease, or scum layer covering all or most of the water surface.	Remove catch basin cover and skim off oil layer. Pour oil into disposable container, seal container, wrap securely in newspaper, and contact Thurston County Environmental Health for proper disposal methods. Water surface should be clear of oily layer.
Pipe Elbow	Quarterly		Structural Damage	Top or bottoms of pipe appear to have broken off. Check for any apparent damage and check to see if it's plumb.	Remove the catch basin lid and examine the pipe for damage. If broken, hire a contractor to replace pipe in accordance to approved system design.
Ladder (if applicable)	Annually		Ladder Rungs Unsafe	Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges.	Replace ladder.
Catch Basin Cover	Annually		Structural Damage	Some catch basins have covers. In this case, check to make sure that the cover is properly placed, not difficult to remove using normal lifting pressure, and the locking mechanism (if applicable) is functioning properly.	Sit cover properly or replace if necessary. If difficult to remove, tap a few times with a heavy sledgehammer to open and then clean lip edges. Replace locking mechanism if necessary.

Comments:

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## Conveyance Pipes, Ditches, and Swales

Part of Structure To Check	How Often	Completed (Date/By)	Problem	Conditions to Check For	What to do
Pipes	Annually		Sediment, Debris, & Vegetation	Accumulated sediment should not exceed 20% of the diameter of the pipe. Vegetation should not reduce free movement of water through pipes. Ensure that the protective coating is not damaged or rusted. Dents should not significantly impede flow. Pipe should not have major cracks or tears allowing water to leak out.	Clean out pipes of all sediment and debris. Remove all vegetation so that water flows freely through pipes. Repair or replace pipe.
Open Ditches	Quarterly		Trash & Debris	There should not be any yard waste or litter in the ditch.	Remove trash and debris and dispose of them properly.
Open Ditches	Annually		Sediment Buildup	Accumulated sediment should not exceed 20% of the depth of the ditch.	Clean out ditch of all sediment and debris.
Open Ditches and Swales	Annually		Overgrowth of Vegetation	Check for vegetation (e.g., weedy shrubs or saplings) that reduces the free movement of water through ditches or swales.	Clear blocking vegetation so that water moves freely through the ditches. Grassy vegetation should be left alone.
Open Ditches and Swales	Quarterly		Erosion / Scouring	Check around inlets, outlets, and swale bottoms for signs of erosion. Check slopes for signs of sloughing or settling. Action is needed where eroded damage is over 2" deep and where there is potential for continued erosion.	Eliminate causes of erosion. Stabilize slopes by using the appropriate erosion control procedure (e.g., reinforce with rock, plant grass, and compact soil).
Open Ditches and Swales	Annually		Missing Rocks	Native soil beneath the rock splash pad, check dam, or lining should not be visible.	Replace rocks to design standard.
Swales	Quarterly		Vegetation	Grass cover is sparse and weedy, or areas are overgrown with woody vegetation. Overhanging limbs are shading out the grass.	Aerate soils and re-seed and mulch bare areas. Keep grass less than 8" high. Remove woody growth, re-contour, and re-seed as necessary. Trim back overhanging limbs to allow for more light.
Swales	Quarterly		Homeowner Conversion	Swale has been filled in or blocked by shed, woodpile, shrubbery, etc.	If possible, speak with the homeowner and request that the swale area be restored. Contact the City to report the problem if not rectified voluntarily.
Swales	Annually		Swale does not drain	Water stands in the swale or flow velocity is very slow. Stagnation occurs.	A survey may be needed to check grades. Grades need to be in 1-5% range if possible. If grade is less than 1%, under-drains may need to be installed.

Comments:

## Access Roads and Easements

Part of Structure To Check	How Often	Completed (Date/By)	Problem	Conditions to Check For	What to do
General	One Time		Access	Check to determine if there is enough access to your stormwater facilities for maintenance vehicles.	If there is not enough access, check with the City to determine whether an easement exists. If so, a maintenance road may need to be constructed there.
Access Road	Quarterly		Blocked Roadway	Debris that could damage vehicle tires (glass or metal).	Clear all potentially damaging material.
Access Road	Annually		Blocked Roadway	Any obstructions which reduce clearance above and along the road to less than 14 feet.	Clear over and along roadway so that there is enough clearance.
Road Surface	Annually		Bad Road Conditions	Check for potholes, ruts, mushy spots, or woody debris that limits access by maintenance vehicles.	Add gravel or remove wood as necessary.
Shoulders and Ditches	Annually		Erosion	Check for erosion along roadway.	Repair erosion with additional soil or gravel.

Comments:

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## Grounds and Landscaping

Part of Structure To Check	How Often	Completed (Date/By)	Problem	Conditions to Check For	What to do
Landscaped Areas	Quarterly		Weeds	Weeds growing out of control in landscaped area.	Pull weeds by hand, if possible, to avoid using chemical weed controls.
Landscaped Areas	Quarterly		Poisonous Plants & Insects	Check for any presence of poison ivy or any other poisonous vegetation or insect nests.	Remove any vegetation or insect nests that are present in landscaped areas.
Landscaped Areas	Quarterly		Litter	There should not be any litter or yard waste in the landscaped areas.	Remove and dispose of properly.
Landscaped Areas	Quarterly		Erosion	Noticeable rills are seen in the landscaped areas.	Identify the cause of erosion and take steps to slow down or disperse the water. Fill in contour and re-seed the area.
Trees & Shrubs	Annually		Damaged Trees	Limbs or parts of trees or shrubs that are split or broken.	Trim trees and shrubs to restore shape. Replace severely damaged trees and shrubs.
Trees & Shrubs	Annually		Damaged Trees	Trees and shrubs that have been blown down or knocked over.	Replant trees or shrubs, inspecting for injury to stem and roots. Replace if necessary.
Trees & Shrubs	Annually		Damaged Trees	Trees and shrubs which are not adequately supported or are leaning over, causing exposure of the roots.	Place stakes and rubber-coated ties around young trees/shrubs for support.

Comments:

## Drywells, French Drains, or Downspouts

Part of Structure To Check	How Often	Completed (Date/By)	Problem	Conditions to Check For	What to do
Downspout	Annually		Overflow	Water overflows from the gutter or downspout during rain.	First try cleaning out the gutter and downspouts. If this doesn't solve the problem, you may need to install a bigger drywell.
Roof	Annually		Moss	Moss and algae are taking over the shadier parts of the shingles.	Disconnect the flexible part of the downspout that leads to the drywell. Then perform moss removal as desired. Pressure wash or use fatty acid solutions instead of highly toxic pesticides or chlorine bleach. Install a zinc strip as a preventative.

Comments:

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## **BMPs for Illicit Connections to Storm Drains**

**Description of Pollutant Sources:** Illicit connections are unpermitted sanitary or process wastewater discharges to a storm drain or to a surface water conveyance system, rather than to a sanitary sewer, industrial process wastewater or other appropriate treatment. They may include swimming pool water, filter backwash, cleaning solutions/washwaters, cooling water, etc. Experience has shown that illicit connections are common, particularly in older buildings.

**Pollutant Control Approach:** Identify and eliminate unpermitted discharges or obtain an NPDES permit, where necessary, particularly at industrial and commercial facilities.

### **Applicable Operational BMPs:**

- Eliminate unpermitted wastewater discharges to storm drains, ground water, or surface water; and,
- Convey unpermitted discharges to a sanitary sewer if allowed by the local sewer authority, or to other approved treatment; and,
- Obtain appropriate permits for these discharges.

**Recommended Additional Operational BMPs:** At commercial and industrial facilities conduct a survey of wastewater discharge connections to storm drains and to surface water as follows:

- Conduct a field survey of buildings, particularly older buildings, and other industrial areas to locate storm drains from buildings and paved surfaces. Note where these join the public storm drain(s).
- During non-stormwater conditions inspect each storm drain for non-stormwater discharges. Record the locations of all non-stormwater discharges. Include all permitted discharges.
- If useful, prepare a map of each area as it is to be surveyed. Show on the map the known location of storm drains, sanitary sewers, and permitted and unpermitted discharges. Aerial photos may be useful. Check records such as piping schematics to identify known side sewer connections and show these on the map. Consider using smoke, dye or chemical analysis tests to detect connections between two conveyance systems (e.g., process water and stormwater). If desirable, conduct TV inspections of the storm drains and record the footage on videotape.
- Compare the observed locations of connections with the information on the map and revise the map accordingly. Note suspect connections that are inconsistent with the field survey.
- Identify all connections to storm drains or to surface water and take the actions specified above as applicable BMPs.

## **BMPs for Landscaping and Lawn/ Vegetation Management**

**Description of Pollutant Sources:** Landscaping can include grading, soil transfer, vegetation removal, pesticide and fertilizer applications, and watering. Stormwater contaminants include toxic organic compounds, heavy metals, oils, total suspended solids, coliform bacteria, fertilizers, and pesticides.

Lawn and vegetation management can include control of objectionable weeds, insects, mold, bacteria and other pests with chemical pesticides and is conducted commercially at commercial, industrial, and residential sites. Examples include weed control on golf course lawns, access roads, and utility corridors and during landscaping; sap stain and insect control on lumber and logs; rooftop moss removal; killing nuisance rodents; fungicide application to patio decks, and residential lawn/plant care. Toxic pesticides such as pentachlorophenol, carbamates, and organometallics can be released to the environment by leaching and dripping from treated parts, container leaks, product misuse, and outside storage of pesticide contaminated materials and equipment. Poor management of the vegetation and poor application of pesticides or fertilizers can cause appreciable stormwater contamination.

**Pollutant Control Approach:** Control of fertilizer and pesticide applications, soil erosion, and site debris to prevent contamination of stormwater.

Develop and implement an Integrated Pest Management Plan (IPM) and use pesticides only as a last resort. If pesticides/herbicides are used they must be carefully applied in accordance with label instructions on U.S. Environmental Protection Agency (EPA) registered materials. Maintain appropriate vegetation, with proper fertilizer application where practicable, to control erosion and the discharge of stormwater pollutants. Where practicable grow plant species appropriate for the site, or adjust the soil properties of the subject site to grow desired plant species.

### **Applicable Operational BMPs for Landscaping:**

- Do not dispose of collected vegetation into waterways or storm drainage systems.

### **Recommended Additional Operational BMPs for Landscaping:**

- Install engineered soil/landscape systems to improve the infiltration and regulation of stormwater in landscaped areas.
- Conduct mulch-mowing whenever practicable
- Dispose of grass clippings, leaves, sticks, or other collected vegetation, by composting, if feasible.

- Use mulch or other erosion control measures when soils are exposed for more than one week during the dry season or two days during the rainy season.
- If oil or other chemicals are handled, store and maintain appropriate oil and chemical spill cleanup materials in readily accessible locations. Ensure that employees are familiar with proper spill cleanup procedures.
- Till fertilizers into the soil rather than dumping or broadcasting onto the surface. Determine the proper fertilizer application for the types of soil and vegetation encountered.
- Till a topsoil mix or composted organic material into the soil to create a well-mixed transition layer that encourages deeper root systems and drought-resistant plants.
- Use manual and/or mechanical methods of vegetation removal rather than applying herbicides, where practical.

#### **Applicable Operational BMPs for the Use of Pesticides:**

- Develop and implement an IPM (See section on IPM at end of BMP) and use pesticides only as a last resort.
- Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their specific uses; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping, and public notice procedures. All procedures shall conform to the requirements of Chapter 17.21 RCW and Chapter 16-228 WAC (Appendix IV-D R.7).
- Choose the least toxic pesticide available that is capable of reducing the infestation to acceptable levels. The pesticide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Any pest control used should be conducted at the life stage when the pest is most vulnerable. For example, if it is necessary to use a Bacillus thuringiensis application to control tent caterpillars, it must be applied before the caterpillars cocoon or it will be ineffective. Any method used should be site-specific and not used wholesale over a wide area.
- Apply the pesticide according to label directions. Under no conditions shall pesticides be applied in quantities that exceed manufacturer's instructions.

- Mix the pesticides and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
- Store pesticides in enclosed areas or in covered impervious containment. Ensure that pesticide-contaminated stormwater or spills/leaks of pesticides are not discharged to storm drains. Do not hose down the paved areas to a storm drain or conveyance ditch. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.
- Clean up any spilled pesticides and ensure that the pesticide contaminated waste materials are kept in designated covered and contained areas.
- The pesticide application equipment must be capable of immediate shutoff in the event of an emergency.
- Do not spray pesticides within 100 feet of open waters including wetlands, ponds, and streams, sloughs and any drainage ditch or channel that leads to open water except when approved by Ecology or the local jurisdiction. All sensitive areas including wells, creeks and wetlands must be flagged prior to spraying.
- As required by the local government or by Ecology, complete public posting of the area to be sprayed prior to the application.
- Spray applications should only be conducted during weather conditions as specified in the label direction and applicable local and state regulations. Do not apply during rain or immediately before expected rain.

**Recommended Additional Operational BMPs for the use of pesticides:**

- Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.
- Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants, such as Pythium root rot, ashly stem blight, and parasitic nematodes. The following are three possible mechanisms for disease control by compost addition (USEPA Publication 530-F-9-044):
  1. Successful competition for nutrients by antibiotic production;
  2. Successful predation against pathogens by beneficial microorganism; and
  3. Activation of disease-resistant genes in plants by composts.

*Installing an amended soil/landscape system can preserve both the plant system and the soil system more effectively. This type of approach provides a soil/landscape system with adequate depth, permeability, and organic matter to sustain itself and continue working as an effective stormwater infiltration system and a sustainable nutrient cycle.*

- Once a pesticide is applied, its effectiveness should be evaluated for possible improvement. Records should be kept showing the applicability and inapplicability of the pesticides considered.
- An annual evaluation procedure should be developed including a review of the effectiveness of pesticide applications, impact on buffers and sensitive areas (including potable wells), public concerns, and recent toxicological information on pesticides used/proposed for use. If individual or public potable wells are located in the proximity of commercial pesticide applications contact the regional Ecology hydrogeologist to determine if additional pesticide application control measures are necessary.
- Rinseate from equipment cleaning and/or triple-rinsing of pesticide containers should be used as product or recycled into product.
- The application equipment used should be capable of immediate shutoff in the event of an emergency.

*For more information, contact the WSU Extension Home-Assist Program, (253) 445-4556, or Bio-Integral Resource Center (BIRC), P.O. Box 7414, Berkeley, CA.94707, or the Washington Department of Ecology to obtain "Hazardous Waste Pesticides" (Publication #89-41); and/or EPA to obtain a publication entitled "Suspended, Canceled and Restricted Pesticides" which lists all restricted pesticides and the specific uses that are allowed. Valuable information from these sources may also be available on the internet.*

#### **Recommended Additional Operational BMPs for Vegetation Management:**

- Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium. Amending existing landscapes and turf systems by increasing the percent organic matter and depth of topsoil can substantially improve the permeability of the soil, the disease and drought resistance of the vegetation, and reduce fertilizer demand. This reduces the demand for fertilizers, herbicides, and pesticides. Organic matter is the least water-soluble form of nutrients that can be added to the soil. Composted organic matter generally releases only between 2 and 10 percent of its total

nitrogen annually, and this release corresponds closely to the plant growth cycle. If natural plant debris and mulch are returned to the soil, this system can continue recycling nutrients indefinitely.

- Select the appropriate turfgrass mixture for your climate and soil type. Certain tall fescues and rye grasses resist insect attack because the symbiotic endophytic fungi found naturally in their tissues repel or kill common leaf and stem-eating lawn insects. They do not, however, repel root-feeding lawn pests such as Crane Fly larvae, and are toxic to ruminants such as cattle and sheep. The fungus causes no known adverse effects to the host plant or to humans. Endophytic grasses are commercially available and can be used in areas such as parks or golf courses where grazing does not occur. The local Cooperative Extension office can offer advice on which types of grass are best suited to the area and soil type.
- Use the following seeding and planting BMPs, or equivalent BMPs to obtain information on grass mixtures, temporary and permanent seeding procedures, maintenance of a recently planted area, and fertilizer application rates: Temporary Seeding, Mulching and Matting, Clear Plastic Covering, Permanent Seeding and Planting, and Sodding as described in Volume II).
- Selection of desired plant species can be made by adjusting the soil properties of the subject site. For example, a constructed wetland can be designed to resist the invasion of reed canary grass by layering specific strata of organic matters (e.g., compost forest product residuals) and creating a mildly acidic pH and carbon-rich soil medium. Consult a soil restoration specialist for site-specific conditions.
- Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.
- Mowing is a stress-creating activity for turfgrass. When grass is mowed too short its productivity is decreased and there is less growth of roots and rhizomes. The turf becomes less tolerant of environmental stresses, more disease prone and more reliant on outside means such as pesticides, fertilizers and irrigation to remain healthy. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.



### ***Irrigation:***

- The depth from which a plant normally extracts water depends on the rooting depth of the plant. Appropriately irrigated lawn grasses normally root in the top 6 to 12 inches of soil; lawns irrigated on a daily basis often root only in the top 1 inch of soil. Improper irrigation can encourage pest problems, leach nutrients, and make a lawn completely dependent on artificial watering. The amount of water applied depends on the normal rooting depth of the turfgrass species used, the available water holding capacity of the soil, and the efficiency of the irrigation system. Consult with the local water utility, Conservation District, or Cooperative Extension office to help determine optimum irrigation practices.

### ***Fertilizer Management:***

- Turfgrass is most responsive to nitrogen fertilization, followed by potassium and phosphorus. Fertilization needs vary by site depending on plant, soil and climatic conditions. Evaluation of soil nutrient levels through regular testing ensures the best possible efficiency and economy of fertilization. For details on soils testing, contact the local Conservation District or Cooperative Extension Service.
- Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize during a drought or when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
- Use slow release fertilizers such as methylene urea, IDBU, or resin coated fertilizers when appropriate, generally in the spring. Use of slow release fertilizers is especially important in areas with sandy or gravelly soils.
- Time the fertilizer application to periods of maximum plant uptake. Generally fall and spring applications are recommended, although WSU turf specialists recommend four fertilizer applications per year.
- Properly trained persons should apply all fertilizers. At commercial and industrial facilities fertilizers should not be applied to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the local jurisdiction.

### ***Integrated Pest Management***

An IPM program might consist of the following steps:

Step 1: Correctly identify problem pests and understand their life cycle

Step 2: Establish tolerance thresholds for pests.

Step 3: Monitor to detect and prevent pest problems.

Step 4: Modify the maintenance program to promote healthy plants and discourage pests.

Step 5: Use cultural, physical, mechanical, or biological controls first if pests exceed the tolerance thresholds.

Step 6: Evaluate and record the effectiveness of the control and modify maintenance practices to support lawn or landscape recovery and prevent recurrence.

For an elaboration of these steps refer to Appendix IV-F.

## **BMPs for Maintenance of Stormwater Drainage and Treatment Systems**

**Description of Pollutant Sources:** Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities such as ponds and vaults, oil and water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Volume V. Roadside catch basins can remove from 5 to 15 percent of the pollutants present in stormwater. When catch basins are about 60 percent full of sediment, they cease removing sediments. Oil and grease, hydrocarbons, debris, heavy metals, sediments and contaminated water are found in catch basins, oil and water separators, settling basins, etc.

**Pollutant Control Approach:** Provide maintenance and cleaning of debris, sediments, and oil from stormwater collection, conveyance, and treatment systems to obtain proper operation.

### **Applicable Operational BMPs:**

Maintain stormwater treatment facilities according to the O & M procedures presented in Section 4.6 of Volume V, in addition to the following BMPs:

- Routinely inspect and document the condition of all stormwater facilities every six months, before and after the wet season. Also, inspect all facilities immediately following significant rainfall events.
- Clean treatment BMPs, conveyance systems, and catch basins as needed, and determine whether improvements in O & M are needed.
- Promptly repair any deterioration threatening the structural integrity of the facilities. These include replacement of clean-out gates, catch basin lids, and rock in emergency spillways.
- Ensure that storm sewer capacities are not exceeded and that heavy sediment discharges to the sewer system are prevented.
- Regularly remove debris and sludge from BMPs used for peak-rate control, treatment, etc. and discharge to a sanitary sewer if approved by the sewer authority, or truck to a local or state government approved disposal site.
- Clean catch basins when the depth of deposits reaches 60 percent of the sump depth as measured from the bottom of basin to the invert of the lowest pipe into or out of the basin. However, in no case should there be less than six inches clearance from the debris surface to the invert of the lowest pipe. Some catch basins (for example, WSDOT Type 1L basins) may have as little as 12 inches sediment storage below the invert. These catch basins will need more frequent

inspection and cleaning to prevent scouring. Where these catch basins are part of a stormwater collection and treatment system, the system owner/operator may choose to concentrate maintenance efforts on downstream control devices as part of a systems approach.

- Clean woody debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.
- Post warning signs; "Dump No Waste - Drains to Ground Water," "Streams," "Lakes," or emboss on or adjacent to all storm drain inlets *where practical*.
- Disposal of sediments and liquids from the catch basins must comply with "Recommendations for Management of Street Wastes" described in Appendix IV-G of this volume.

**Additional Applicable BMPs:**

- Retain a professional civil engineer or other qualified professional for emergency repairs or assistance in operating and managing the facility.
- Retain the services of a landscape professional or other qualified person for the routine maintenance of vegetated areas, including wetponds, infiltration ponds, grassed/lawn areas, etc.

For more information, please refer to "Maintaining Your Stormwater Pond: A step-by-step guide in keeping your stormwater pond happy and healthy", prepared by the Thurston County, Storm and Surface Water Program.

Select additional applicable BMPs from this chapter depending on the pollutant sources and activities conducted at the facility. Those BMPs include:

- BMPs for Soil Erosion and Sediment Control at Industrial Sites
- BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers
- BMPs for Spills of Oil and Hazardous Substances
- BMPs for Illicit Connections to Storm Drains
- BMPs for Urban Streets.

## BMPs for Urban Streets

**Description of Pollutant Sources:** Streets can be the sources of vegetative debris, paper, fine dust, vehicle liquids, tire wear residues, heavy metals (lead and zinc), soil particles, ice control salts, domestic wastes, lawn chemicals, and vehicle combustion products. Street surface contaminants have been found to contain significant concentrations of particle sizes less than 250 microns. (Sartor and Boyd, 1972)

**Pollutant Control Approach:** Conduct efficient street sweeping where and when appropriate to minimize the contamination of stormwater. Do not wash street debris into storm drains.

### Recommended BMPs:

- For maximum stormwater pollutant reductions on curbed streets and high volume parking lots use efficient vacuum sweepers (refer to Volume V, Ch. 12, for information about emerging high-efficiency vacuum sweeper and street cleaner technologies).

*Note: High-efficiency street sweepers utilize strong vacuums and the mechanical action of main and gutter brooms combined with an air filtration system that only returns clean air to the atmosphere (i.e., filters very fine particulates). They sweep dry and use no water since they do not emit any dust.*

*It has been reported that high-efficiency vacuum sweepers have the capability of removing, from pavements under good condition, 80 percent or more of the accumulated street dirt particles whose diameters are less than 250 microns. (Sutherland, 1998) This assumes pavements under good condition and reasonably expected accumulation conditions.*

- For moderate stormwater pollutant reductions on curbed streets use regenerative air sweepers or tandem sweeping operations.

*Note: A tandem sweeping operation involves a single pass of a mechanical sweeper followed immediately by a single pass of a vacuum sweeper or regenerative air sweeper.*

- *A regenerative air sweeper blows air down on the pavement to entrain particles and uses a return vacuum to transport the material to the hopper.*
- *These operations usually use water to control dust. This reduces their ability to pick up fine particulates.*

*It has been reported that these types of sweepers have the capability of removing approximately 25 to 50 percent of the accumulated street dirt particles whose diameters are less than 250 microns. (Sutherland,*

1998) *This assumes pavements under good conditions and typical accumulation conditions.*

- For minimal stormwater pollutant reductions on curbed streets use mechanical sweepers.
  - Note: *Mechanical sweepers are referred to as broom sweepers and use the mechanical action of main and gutter brooms to throw material on a conveyor belt that transports it to the hopper.*
  - *These sweepers usually use water to control dust. This reduces their ability to pick up fine particulates.*

*It has been reported that mechanical sweepers have the capability of removing only 10 to 20 percent of the accumulated street dirt particles whose diameters are less than 250 microns. (Sutherland, 1998) This assumes pavements under good condition and the most favorable accumulation conditions.*

- Conduct sweeping at optimal frequencies. Optimal frequencies are those scheduled sweeping intervals that produce the most cost-effective annual reduction of pollutants normally found in stormwater and can vary depending on land use, traffic volume and rainfall patterns.
- Train operators in those factors that result in optimal pollutant removal. These factors include sweeper speed, brush adjustment and rotation rate, sweeping pattern, maneuvering around parked vehicles, and interim storage and disposal methods.
- Consider the use of periodic parking restrictions in low to medium density single-family residential areas to ensure the sweeper's ability to sweep along the curb.
- Establish programs for prompt sweeping, removal, and disposal of debris from special events that will generate higher than normal loadings.
- Disposal of street sweeping solids must comply with "Recommendations for Management of Street Wastes" described in Appendix IV-G of this volume, or with Thurston County Health Department requirements.
- Inform citizens about eliminating yard debris, oil and other wastes in street gutters to reduce street pollutant sources.

## APPENDIX E – Facility Summary Form

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**THURSTON REGION  
FACILITY SUMMARY FORM**

Complete one (1) for each facility (detention/retention, coalescing plate filter, etc.) on the project site. Attach 8 1/2 x 11 sketch showing location of facility.

Proponent's Facility Name or Identifier (e.g., Pond A): Basin A

Name of Road or Street to Access Facility: PATTISON STREET NE

Hearings Examiner Case Number: \_\_\_\_\_

Development Rev. Project No./Bldg Permit No.: \_\_\_\_\_

Parcel Number: 34203100101

To be completed by Utility Staff:

Utility Facility Number \_\_\_\_\_

Project Number (num) \_\_\_\_\_

Parcel Number Status, (num, 1ch) \_\_\_\_\_

0, Known; 1, Public; 2 Unknown; 3, Unassigned

Basin and Subbasin: (num, 6ch) \_\_\_\_\_

(2ch for basin, 2ch for subbasin, 2ch future)

Responsible jurisdiction: (alpha, 1ch) \_\_\_\_\_

Part 1 - Project Name and Proponent

Project Name: Pattison Street Townhomes

Project Owner: Doug Saunders

Project Contact: Doug Saunders

Address: 2014 Arena Court SE, Olympia, WA 98501

Phone: (360) 280-1344

Project Proponent: (if different) \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Project Engineer: Bryan J Ewing, PE

Firm: Skillings Connolly, Inc.

Phone: 360 491-3399

Part 2 - Project Location

Section 18

Township 18 N

Range 1 W

Names and Addresses of Adjacent Property Owners:

**Section 18 Township 18 Range 1W Quarter SE NW Plat BERRY FARMS SS-1830 LT 2 Document 018/113**

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Part 3 - Type of Permit Application

Type of permit (e.g., Commercial Bldg): \_\_\_\_\_

Other Permits (circle)

DOF/W HPA

COE 404

COE Wetlands

DOE Dam Safety

FEMA

Floodplain:

Shorline Mgmt

Rockery/Retaining Wall

Encroachment

Grading

NPDES

Other \_\_\_\_\_

Other Agencies (Federal, State, Local, etc.) that have had or will review this Drainage Erosion Control Plan:

---

Part 4 - Proposed Project Description

What stream basin is this project in (e.g., Percival, Woodland): Budd

Project Size, acres 1.95 ac

Zoning: R6-12

Onsite: \_\_\_\_\_

Residential Subdivision:

Number of Lots: 18

Lot size (average), acres: 2,671 SF

Building Permit/Commercial Plat: \_\_\_\_\_

Building(s) Footprint, acres: \_\_\_\_\_

Concrete Paving, acres: \_\_\_\_\_

Gravel Surface, acres: \_\_\_\_\_

Lattice Block Paving, acres: \_\_\_\_\_

Public Roads (including gravel shoulder), acres: 0.57 Acres

Private Roads (including gravel shoulder), acres: \_\_\_\_\_

Onsite Impervious Surface Total, acres: 0.74 Acres

Part 5 - Pre-Developed Project Site Characteristics

Stream through site, y/n: No

Name: \_\_\_\_\_

DNR Type: \_\_\_\_\_

Type of feature this facility discharges to (i.e., lake, stream, intermittent stream, pothole, roadside ditch, sheetflow to adjacent private property, etc.):

Swales, Ravines, y/n: N

Steep slopes, (steeper than 15%) y/n: N

Erosion hazard, y/n: N

100 yr. Floodplain, y/n: N

Lakes or Wetlands, y/n: N

Seeps/Springs, y/n: N

High Groundwater Table, y/n: N

Wellhead Protection or Aquifer  
Sensitive Areas, y/n: N

Other: \_\_\_\_\_

Part 6 - Facility Description

Total Area Tributary to Facility Including offsite (acres): 1.20

Total Onsite Area Tributary to Facility (acres): 1.20

Design Impervious Area Tributary to Facility (acres): 0.74

Design Landscaped Area Tributary to Facility (acres): 0.46

Design Total Tributary Area to Facility (acres): 1.20

Enter a one (1) for the type of facility:

Wet Pond Detention \_\_\_\_\_

Wet Pond water surface area, acres \_\_\_\_\_

Dry Pond Detention \_\_\_\_\_

Underground detention \_\_\_\_\_

Infiltration pond \_\_\_\_\_

Dry well infiltration \_\_\_\_\_

Coalescing plate separator \_\_\_\_\_

Centrifuge separator \_\_\_\_\_

Other 1

Other type (Enter a one (1) for each type present)

Filter \_\_\_\_\_

Oil water separator \_\_\_\_\_

Single orifice \_\_\_\_\_

Multiple orifice \_\_\_\_\_

Weir \_\_\_\_\_

Spillway \_\_\_\_\_

Pump(s) \_\_\_\_\_

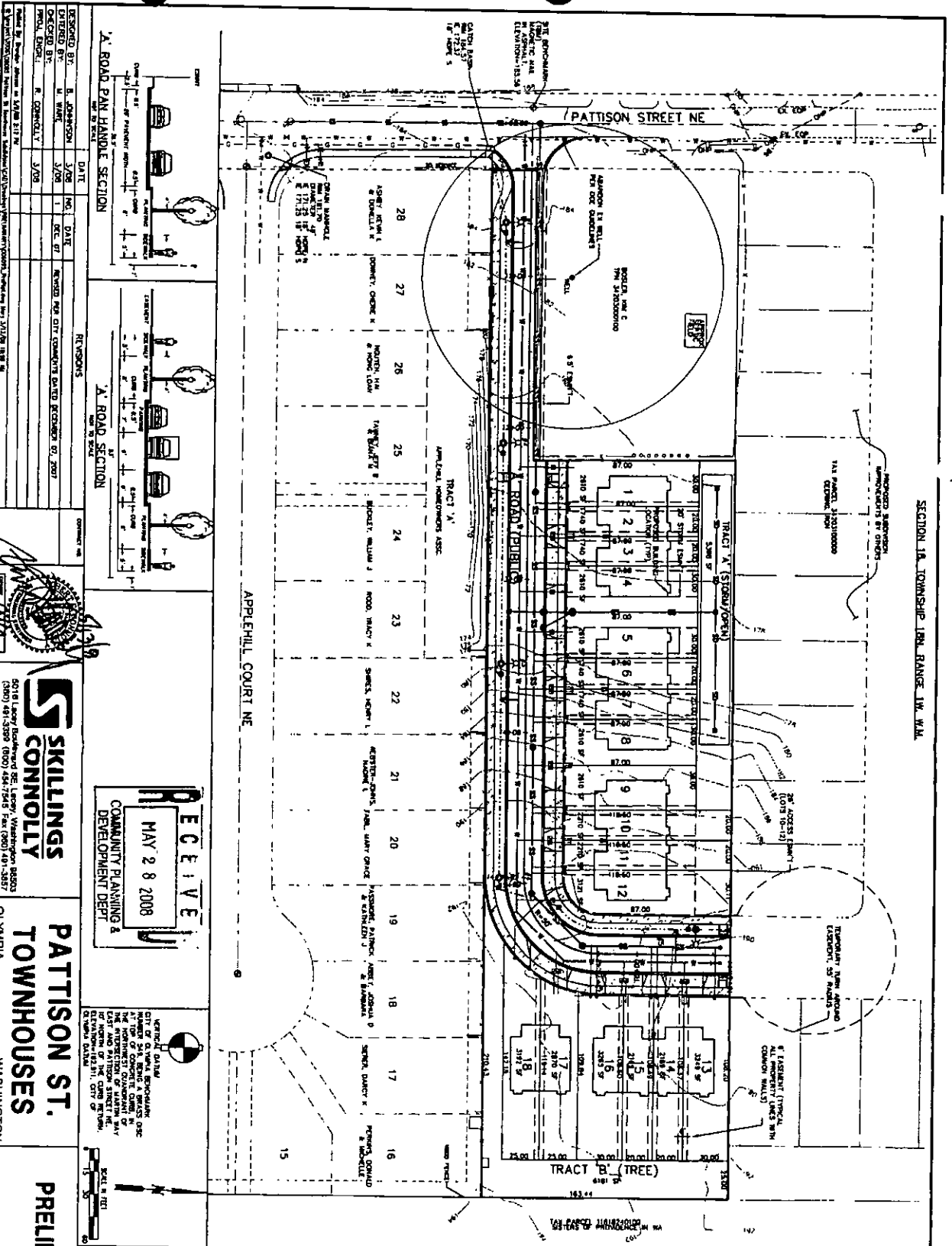
Other \_\_\_\_\_

Part 7 - Release to Groundwater

Design Percolation Rate to Groundwater (if applicable) 4.00" / HR

Part 8 - Release to Surface Water (if applicable)

	Thurston County MSL Elevation (ft)	Percent Design Full	Volume (cu ft)	Discharge to Surface Water (cfs)
Empty:	_____	___0___	___0.0___	___0.0___
	_____	___25___	_____	_____
	_____	___50___	_____	_____
	_____	___100___	_____	_____



<b>RECEIVED</b> MAY 28 2008 COMMUNITY PLANNING & DEVELOPMENT DEPT. OLYMPIA		<b>VERTICAL DATA</b> PROPOSED GRADE: 10.00' (EXISTING GRADE: 10.00') AT TOP OF CONCRETE CURB IN THE INTERSECTION OF PATTISON ST. AND APPLEHILL COURT NE, CITY OF OLYMPIA.	
<b>PRELIMINARY PLAT</b>		<b>WATER</b> CITY OF OLYMPIA CITY OF OLYMPIA PSE	
<b>STORM DRAINAGE</b> ON-SITE PRIVATE		<b>SHADE TREES</b> ON-SITE PRIVATE	
<b>TRACT A (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS		<b>TRACT B (TREE)</b> TOTAL: 1 TREE TOTAL: 1 TREE TOTAL: 1 TREE	
<b>TRACT C (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS		<b>TRACT D (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS	
<b>TRACT E (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS		<b>TRACT F (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS	
<b>TRACT G (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS		<b>TRACT H (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS	
<b>TRACT I (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS		<b>TRACT J (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS	
<b>TRACT K (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS		<b>TRACT L (18 LOTS)</b> TOTAL: 18 LOTS TOTAL: 18 LOTS TOTAL: 18 LOTS	
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**PRELIMINARY PLAT**

**WATER**  
CITY OF OLYMPIA  
CITY OF OLYMPIA  
PSE

**STORM DRAINAGE**  
ON-SITE PRIVATE

**SHADE TREES**  
ON-SITE PRIVATE

**TRACT A (18 LOTS)**  
TOTAL: 18 LOTS  
TOTAL: 18 LOTS  
TOTAL: 18 LOTS

**TRACT B (TREE)**  
TOTAL: 1 TREE  
TOTAL: 1 TREE  
TOTAL: 1 TREE

**TRACT C (18 LOTS)**  
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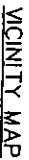
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OLYMPIA, WA

FEBRUARY 2008

SHEET NO.	TITLE
1	COVER SHEET
2	PRELIMINARY TEST PLAN
3	PRELIMINARY SOLOWAY, GRADING AND DRAINAGE PLAN
4	PRELIMINARY SEWER PLAN
5	PRELIMINARY WATER PLAN
6	PRELIMINARY ILLUMINATION PLAN

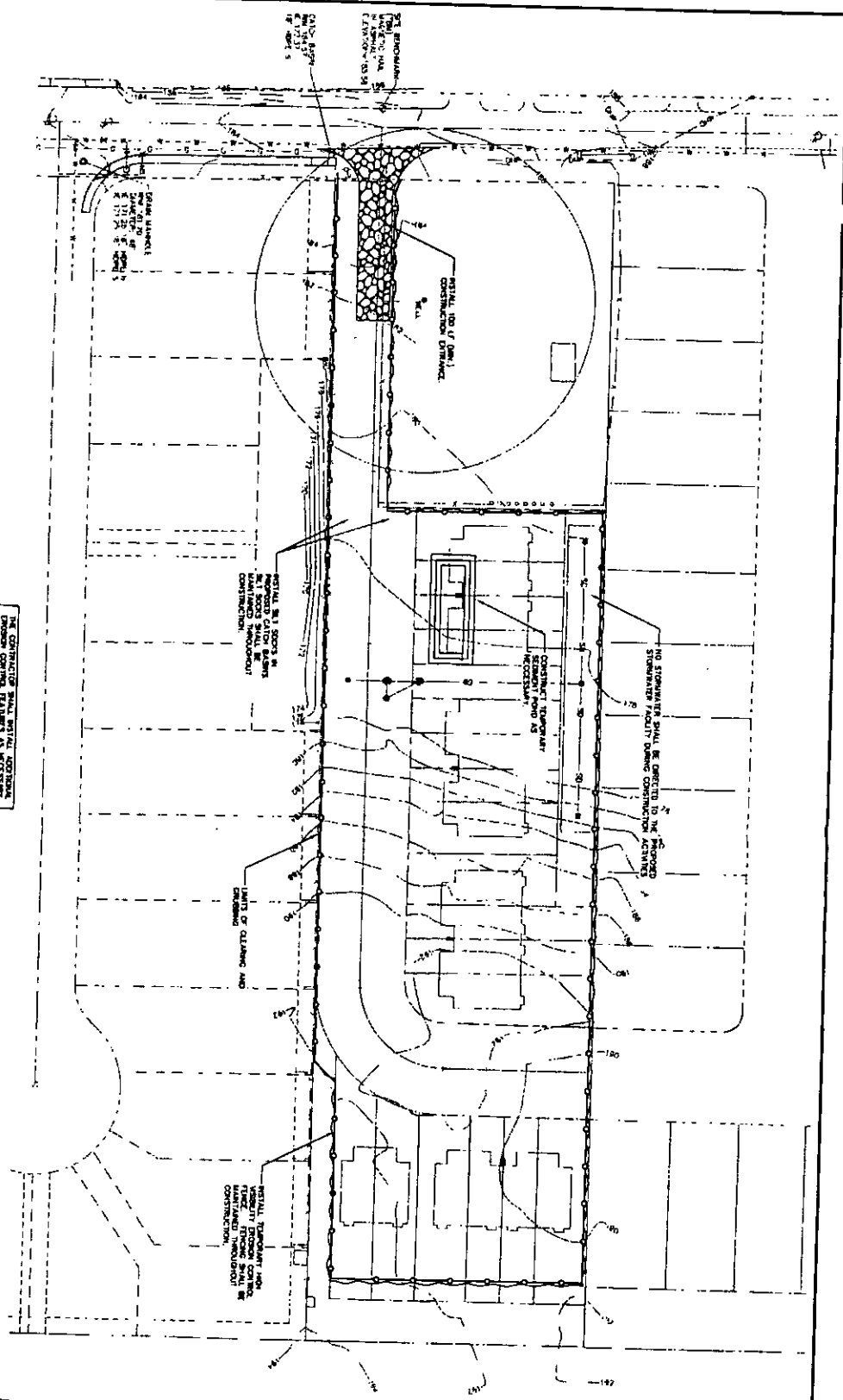


ROBERT CONNOLLY, P.E.

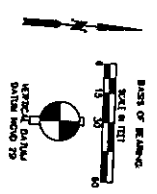
PROJECT DATA:  
TAX PARCEL NO.: 34103000101  
ZONING: R 6-12  
AREA - 135 ACRES  
NUMBER OF DWELLING UNITS - 18  
WATER - CITY OF OLYMPIA  
SEWER - CITY OF OLYMPIA  
STORM DRAINAGE - ON-SITE RETENTION  
POWER - PAKIST SOUND ENERGY  
SMALLEST LOT: 1.140 SF  
SETBACKS:  
FRONT: 20'  
BACK: 20'  
SIDE: 0' FOR 3 OR 4 UNITS, 5' FOR UNITS

50101 Lacey Boulevard SE, Lacey, Washington 98503  
253.481.7380 253.481.7343 F  
www.skillingsconnolly.com

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MAY 28 2008  
COMMUNITY PLANNING &  
DEVELOPMENT DEPT.



THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SEATTLE.

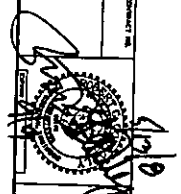


**NOTE:**  
 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SEATTLE.  
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SEATTLE.  
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SEATTLE.

**RECEIVED**  
 MAY 28 2008  
 COMMUNITY PLANNING & DEVELOPMENT DEPT.

**COMMUNITY PLANNING & DEVELOPMENT DEPT.**  
 MAY 20 2008

REVISIONS	DATE	NO.	DATE
DESIGNED BY: B. JOHNSON	12/08		
DRAWN BY: B. JOHNSON	12/08		
CHECKED BY: M. JOHNSON	12/08		
APPROVED BY: M. JOHNSON	12/08		



**SKILLINGS CONNOLLY**  
 5016 Lacey Boulevard SE, Lacey, Washington 98503  
 (206) 487-5889 (TOLL FREE) 1-800-454-7543 Fax (206) 487-5887

**PATTISON ST. TOWNHOUSES**  
 OLYMPIA WASHINGTON

**PRELIMINARY TESC PLAN**  
 08005

201 08005  
 2 6  
 1/8"



DESIGNED BY:		DATE:	REVISIONS	
B. JOHNSON		12/08	NO.	DATE
ENTERED BY:				
WANT/TIMES		12/08		
CREATED BY:				
MODIFIED BY:				
REVISIONS:				
1. 12/08				
2. 12/08				
3. 12/08				
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RECEIVED  
MAY 28 2008  
COMMUNITY PLANNING & DEVELOPMENT DEPT.

# GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OLYMPIA AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (SDOT) PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OLYMPIA AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (SDOT) PRIOR TO THE START OF CONSTRUCTION.



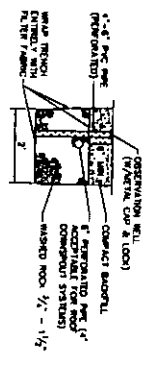
**SKILLING & CONNOLLY**  
8010 Leary Boulevard SE, Leary, Washington 98503  
(206) 481-3588 (Toll) 481-3545 Fax (206) 481-3587

**PATTISON ST. TOWNHOUSES**  
OLYMPIA, WASHINGTON

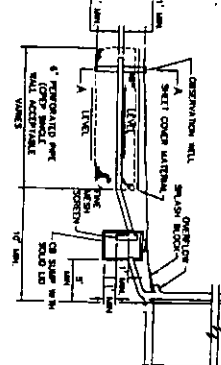
**PRELIMINARY GRADING AND DRAINAGE PLAN**

BOOK DRAINAGE SYSTEM  
NOT TO SCALE

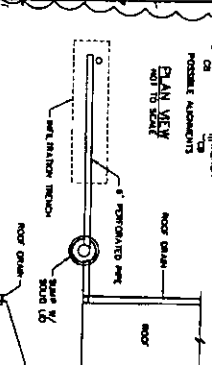
## SECTION A-A



## PROFILE VIEW

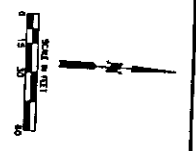
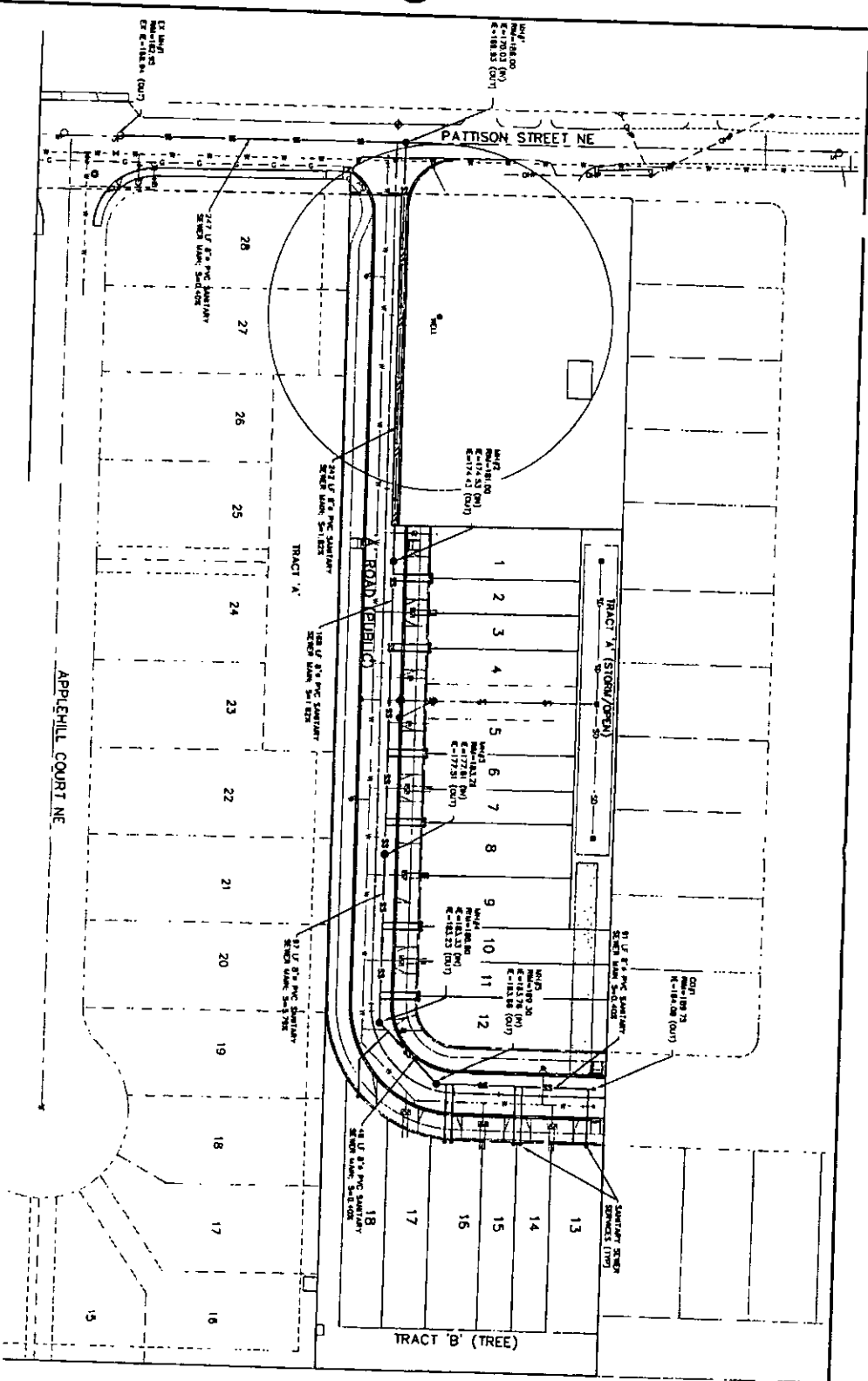


## PLAN VIEW



## NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OLYMPIA AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (SDOT) PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OLYMPIA AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (SDOT) PRIOR TO THE START OF CONSTRUCTION.

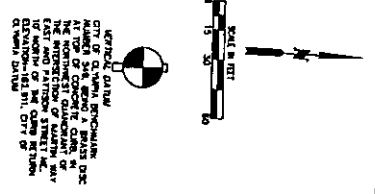


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 AT TOP OF CONCRETE CURB IN  
 THE INTERSECTION OF MAIN ST  
 AND PATTON STREET NE  
 ELEVATION 123.11, CITY OF  
 DENVER, COLORADO

**RECEIVED**  
 MAY 28 2008  
 COMMUNITY PLANNING &  
 DEVELOPMENT DEPT.

DATE	REVISIONS
12/08	1. APPROVED BY: [Signature]
12/08	2. APPROVED BY: [Signature]
12/08	3. APPROVED BY: [Signature]
12/08	4. APPROVED BY: [Signature]
12/08	5. APPROVED BY: [Signature]
12/08	6. APPROVED BY: [Signature]
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5 **SKILLINGS CONNOLLY**  
 5010 1st Avenue SE, Suite 200, Washington, DC 20003  
 (202) 462-3500 (202) 462-3505 Fax (202) 462-3507  
**PATTISON ST. TOWNHOUSES**  
 OLYMPIA WASHINGTON  
**PRELIMINARY SEWER PLAN**



RECEIVED  
MAY 28 2008  
COMMUNITY PLANNING &  
DEVELOPMENT DEPT.

DESIGNED BY	E. JOHNSON	DATE		REVISIONS	
DESIGNED BY	12/06	NO.			
DATE	12/06	DATE			
PROJECT NO.	12/06				
CONTRACT NO.					
					
					
2018 Limited Partnership Agreement (360) 461-3399 (Fax) (360) 461-3399 (360) 461-3399 (Fax) (360) 461-3399					
OLYMPIA			WASHINGTON		
PATTISON ST. TOWNHOUSES			PRELIMINARY WATER PLAN		



**RE: Stormwater Review of Project- Pattison Street Town Homes  
CD#07-0148**

To: Marcus Goodman  
From: Craig Tosomeen

Date: May 5 2008

I have reviewed the Preliminary Drainage and Erosion Control Report for the Pattison Street Town Homes dated March 2008, prepared by Robert Connolly P.E. of Skillings Connolly Inc. My comments are below:

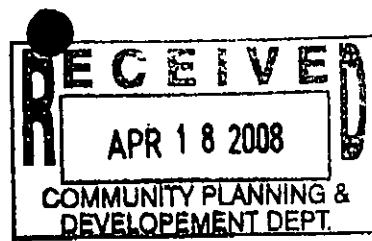
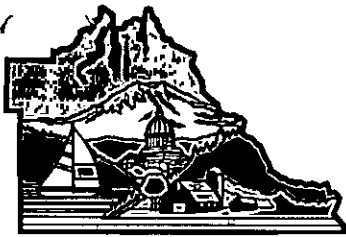
**Stormwater Comments**

- 1) The infiltration rate is based upon an assumed depth to groundwater of at least 300 inches. Provide other sources of data to verify that this is a good assumption. Static water levels in adjacent wells and other expressions of regional groundwater are good sources of data.
- 2) The notes on compost amended soil do not meet the requirements of BMP T5.13. One foot of high organic content soil is required after completing the soil quality BMP. The abbreviated city specifications requires adding 5-inches of compost to the existing subgrade. Revise the notes and specifications on compost amended soils to comply with BMP T5.13 and add more details to the specifications needed to meet the BMP requirements.
- 3) Provide copies of completed WWHMs in the stormwater site plan. The reports presented do not show any predevelopment runoff. This indicates that the model has not been run correctly.
- 4) Provide a landscaping plan for the detention facility. See Volume III Chapter 3 for requirements. The facility cannot be grassed it must be landscaped.
- 5) An access road is required to the infiltration facility.
- 6) Provide an erosion control plan which is in accordance to the City Of Olympia Stormwater Manual Volume II. Add BMP's to the SWPP and add the requirements of Element 12 Managing the site.
- 7) There are clearing and grading time limits in effect in Olympia they should be in the stormwater site report and written on the plan sheets. The limits are in Volume I Section 2.5.2 Element 12 and Volume II Chapter 3.
- 8) Provide a source control plan which can be read on its own. The source control will become an attachment to the agreement to maintain executed at the project completion. The source control plan should have an introduction and contain the BMP's to be implemented at the site.

Planning has completed the substantive review of the PATTISON ST. TOWNHOMES CD # 07-00148 project. The set of plans date stamped August 23, 2007, were used to complete the review. The following information must be depicted on one set of plans or submitted for review before Land Use Approval can be granted:

Planning has no comments at this time other than to correct minor errors shown on the face of the plat such as: accurate lot sizes for lots- 10, 11, and 13, 14. This may also change the calculations of average lot size, and smallest lot size calculations.

In addition, evidence of mutual ingress/egress easements for the purpose maintaining adjoining structures will need to be provided, and shown on the face of the final plat.



**THURSTON COUNTY**  
WASHINGTON  
SINCE 1852

## **PUBLIC HEALTH AND SOCIAL SERVICES DEPARTMENT**

COUNTY COMMISSIONERS  
Cathy Wolfe  
District One  
Diane Oberquell  
District Two  
Robert N. Macleod  
District Three

April 16, 2008

Sherri McDonald, RN, MPA,  
Director  
Diana T. Yu, MD, MSPH  
Health Officer

Kraig Chalem-Lead Planner  
City of Olympia, Community Planning & Development  
PO Box 1967  
Olympia, WA 98507-1967

Subject: Olympia File Number 07-00000148, Tax Parcel 34203000101, Pattison Street  
Townhomes, Preliminary Plat Subdivision Application, (Thurston County Reference  
Number **2007 103811**)

Dear Ms. Petersen:

The above referenced preliminary plat subdivision application for an 18-lot townhome development along with two 4-plex units in the City of Olympia has been routed to this agency for review and comment. Environmental Health Department review fees have been paid and we have completed our preliminary review of this application. City of Olympia water & sewer utilities are proposed to serve this project.

**Thurston County Environmental Health recommends this project for preliminary approval based on the following conditions:**

1. Prior to final subdivision approval City of Olympia water & sewer utilities (mains) must be extended to each of the lots of this subdivision. Written confirmation of completion for the utility extensions must be received from the City of Olympia.
2. There is an existing non-public well located on a neighboring property just west of this proposed subdivision. The neighboring property receives water from the City of Olympia public water system and the well is no longer in use, therefore the applicants for this plat propose to have this well decommissioned by a licensed well driller. Prior to final plat approval this well must be decommissioned by a licensed well driller per Washington State Department of Ecology standards and a copy of the well driller's decommissioning report (well log) must be submitted to this department.
3. Due to the aquifer sensitive nature of this area and the size and scope of this project an Integrated Pest Management Plan (IPMP) has been developed for this subdivision. This IPMP has been reviewed and is approved. Prior to final plat approval a written proposal for the method of IPMP distribution to future property owners must be submitted to this department and this distribution method must be approved by the department prior to final plat approval. Typically this is done by incorporating a copy of the approved IPMP into the subdivision covenants and restrictions (CC&R's); however other proposed methods may also be allowed provided the proposed method of distribution will assure each future property owner will receive a copy of the IPMP at the time of sale.
4. If any existing on-site sewage systems are identified during the initial site excavation they must be abandoned per the requirements of the Article IV of the Thurston County



City of Olympia File #07-00000148  
Tax Parcel 34203000101  
Pattison Street Townhomes, preliminary Plat Subdivision Application  
Page 2  
TCEH Reference #2007 103811  
April 16, 2008

Sanitary Code prior to final subdivision approval. Abandonment permits from this office are required for each system that is abandoned, however since any systems abandoned are part of a subdivision application there are no fees charges for the abandonment permits. For any sewage systems that are abandoned this department must receive all abandonment documentation from a licensed septic tank pumping company.

If you or the applicant(s) have any questions regarding this preliminary approval recommendation or the conditions for final subdivision approval, please feel free to contact me at (360) 786-5743.

Sincerely,



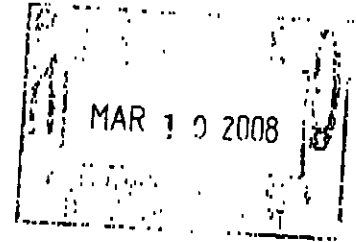
John Ward, R.S.  
Environmental Health Specialist  
Thurston County Environmental Health

cc: Bryan Ewing, Skillings-Connolly, 5016 lacey Blvd, lacey, WA 98503  
Doug Saunders, 2014 Arena Court SE, Olympia, WA 98501





March 14, 2008  
#05166



Mr. John Ward  
Thurston County  
Environmental Health Division  
2000 Lakeridge Drive SW  
Olympia, WA 98502

**RE: Pattison Street Townhomes (TC #2007103811)**

Dear John:

As requested in your letter dated December 19, 2007 an Integrated Pest Management Plan has been attached for your review.

Also, the existing well on TPN 34203000010 is currently inactive and the home is connected to the City of Olympia water main. The homeowner is not aware if the well was abandoned per WSDOE regulations so, as noted on the Preliminary Plat map, the well will be decommissioned as part of the proposed project. As a result, comments two and three of your letter should be negated.

Lastly, the note "All existing structures to be removed" is a general notation used on all of our preliminary plat maps. There are no existing structures, wells or septic systems located on the property.

If you have any questions, please give me a call at 491-3399.

Sincerely,

**SKILLINGS CONNOLLY, INC.**

Brandon Johnson

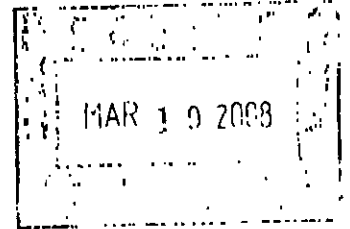
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## PATTISON ST TOWNHOMES

### INTEGRATED PEST MANAGEMENT PLAN (IPMP)



#### *PURPOSE OF PLAN*

This development lies within the Budd / Deschutes Watershed and within Category I and Aquifer Recharge Areas as defined by the local jurisdiction overseeing the natural resources of the region. The quality of these local water resources, associated wetlands and groundwater can be protected and maintained by you, the property owner, by exercising wise use and practices around your home and property. These practices (called Integrated Pest Management or IPM), reduce water use, reduce the amount of pollutants you use or reduce their chance of entering nearby natural water features. These practices include: landscape management around your home; the storage, disposal and handling of pesticides and other household products used; and maintenance of the community property within the development. Since this plan has been recorded as an attachment to the neighborhoods' covenants, conditions, and restrictions, you should have received a copy with your title documents. Property owners are responsible for following this plan within their own property and for the care and maintenance of community property on the site. A copy of this plan should be provided to landscape professionals who may be hired to work on private or community property.

#### *LANDSCAPE MANAGEMENT*

You can grow attractive, healthy lawns and use less water, pesticides and fertilizers. Every time you plant, water, fertilize or control pests in your lawn and garden, you can choose methods that protect your health and the health of our environment and aid in the improvement of the quality of the local water resources. Lawn and garden chemicals include some of the most hazardous products in the home. By switching to less-hazardous products as well as practicing conscientious management of your landscape, you help reduce the potentially harmful impact to the groundwater and natural resources of the region.

There are a number of measures a homeowner can exercise to aid in the prevention of pest and disease problems. In regard to your soil and plants, some typical measures are: proper landscape design; proper choice and location of plants; knowing your soil through soil testing and then building it to a healthy state; utilizing organic compost to encourage and maintain soil and plant health; aeration of lawn to provide good air circulation and soil drainage; good mowing practices; and proper pruning of plants. Further, it is wise to make regular observations of the health of your lawn and landscaping so that any problems can be spotted and identified. Be sure of your identification before choosing an action to control the pest or disease problem. Contact your local nursery for help in your identification (see list of resources below). You must also become aware of that threshold when action by you must be taken to prevent unacceptable damage by the pest or disease. The action to control the pest or disease should be the least toxic measures, yet effective, available to homeowners.

After applying the control, monitor and evaluate its effects for the purpose of assuring effectiveness for future problems.

Watering practices, fertilizer use and applications, weed control techniques, disease control techniques and insect control techniques are described in the attached Appendix "A".

Also, you are encouraged to contact a local nursery or the Washington State University Cooperative Extension if you have specific questions or if you need to gain more information than is listed herein. The Washington State University Cooperative Extension can be contacted at (360) 786-5445, extension 7908. Local nurseries are: Boulevard Nursery at 2021 Blvd. Rd. SE, Olympia; College Street Nursery at 3613 College St. SE, Lacey; and The Barn at 9440 Old Highway 99 SE, Olympia.

## ***HAZARDOUS HOUSEHOLD PRODUCTS***

Pesticides, insecticides and fungicides are toxic and should be handled with care. Carefully read the label of the product and follow the instructions thereon. Wear protective clothing when working with these materials. Always store chemicals in a dry place inaccessible to children and pets. The containers should be well marked and kept tightly closed. When you have left-over hazardous household wastes, use Thurston County's HazoHouse to safely dispose of unwanted left-over wastes. The HazoHouse is located at the Hawk's Prairie Landfill. A brochure entitled "It All Begins at Home" is available to the public and gives further suggestions and guidelines in the proper storage, disposal and handling of hazardous household products.

## ***MAINTAINING COMMUNITY TRACTS***

This development has one community stormwater tract and stormwater systems within the road rights of way that need to be properly maintained and monitored to ensure the quality of the groundwater and the local water resources. Appendix "B" contains a maintenance checklist for stormwater tracts. It also contains copies of best management practices for "Integrated Pest Management and Lawn/Vegetation Management", for "Landscaping" and for "Maintenance of Stormwater Drainage and Treatment Systems" taken from the Stormwater Management Manual for Western Washington, Volume IV, August 2001, Source Control BMPs, prepared by Washington State Department of Ecology.

### **Tree tracts located within a 100-foot well protective radius**

Maintenance of tree tracts located within a 100-foot well protective radius shall be done in conformance with all applicable Washington State Department of Health regulations. The following is not allowed; any potential source of contamination, such as cesspools, sewers, privies, septic tanks, drainfields, manure piles, garbage of any kind or description, barns, chicken houses, rabbit hutches, pigpens, or other enclosures or structures including sheds, garages, or carports for the keeping or maintenance of fowls or animals, or storage of liquid or dry chemicals, herbicides or insecticides, or any other source of contamination.

## **SUMMARY**

By following IPM principles outlined herein and guidelines published through various agencies, you as a homeowner have many control options that are environment-friendly, relatively safe around children and pets and very cost-effective. In exercising your responsibility to ensure the quality of the local water resources and groundwater, you can minimize adverse effects on these vital components of the environment.

## ***APPENDIX A***

*Landscaping Techniques*  
*Pest and Disease Control Techniques*  
*Hazardous Household Products Data*

# **ENVIRONMENTALLY FRIENDLY LANDSCAPE CARE**

The goal of environmentally friendly landscape care is to minimize the potential for water quality impacts from yard and garden activities. The recommendations described here follow the Thurston County Pest and Vegetation Management Policy. They reflect proper land stewardship practices that should be followed by all property owners. There are recommendations for protection of groundwater, plant selection, landscape maintenance, and low impact approaches to pest and disease control.

## **GROUNDWATER**

Groundwater is an important source of drinking water for communities and individuals. From 1950 to 1980 the use of groundwater in the United States for human consumption increased from approximately 35 billion gallons/day to approximately 87 billion gallons/day, respectively. Today more than half of all Americans get their drinking water from underground sources. In Washington State groundwater provides 25-49% of the drinking water to communities and individuals. In Thurston County groundwater is our sole water supply.

Until the 1970s it was believed that groundwater was naturally protected from contamination by layers of soil, rock, and sand between the surface of the ground and groundwater. These layers of soil, rock, and sand were believed to filter out pollutants before they could reach the groundwater. However, this is not the case and contaminants can move through these layers and enter the groundwater.

Because groundwater is not immediately visible and easy to monitor, groundwater contamination can go undetected until the problem has become extensive. In turn cleaning up contamination of groundwater is complicated, costly, and sometimes impossible. Therefore preventing contamination of groundwater is the best way to guarantee continued supply. Listed below are methods to control your input to groundwater.

- Reduce your use of hazardous materials (fertilizers and pesticides, paints, solvents, or other chemicals) and substitute with non-hazardous products whenever possible. Some examples of common household products with potentially harmful components are listed in the table below. The pamphlet "Turning the Tide on Toxins in the Home" lists alternatives to ordinary household products that are less toxic. This pamphlet can be obtained free of charge from the Department of Ecology.
- Clean up and dispose of wastes properly. Do not wash them down the driveway and into the stormwater system.
- Buy only what you need.
- Reuse and recycle as much as possible.
- Take all unused hazardous wastes to a household hazardous waste collection site.

<b>Examples Of Common Household Products With Potentially Harmful Components</b>	
Antifreeze (gasoline or coolant systems)	Metal Polishes
Automatic transmission fluid	Laundry soil and stain remover
Battery Acid (electrolyte)	Spot removers and dry cleaning fluid
Degreasers for driveways and garages	Other solvents
Degreasers for engines and metal	Rock salt (Halite)
Engine and radiator flushes	Refrigerants
Hydraulic fluid (brake fluid)	Bug and tar removers
Motor oils and waste oils	Household cleansers oven cleaners
Gasoline and jet fuel	Drain cleaners
Diesel fuel, kerosene, #2 heating oil	Toilet cleaners
Grease, lubes	Disinfectants
Rustproofers	Pesticides (all types)
Car wash detergents	Photochemicals
Car waxes and polishes	Printing ink
Asphalt and roofing tar	Wood preservatives (creosote)
Paints, varnishes, stains, dyes	Swimming pool chlorine
Paint and lacquer thinner	Lye or caustic soda
Paint and varnish removers, deglossers	Jewelry cleaners
Paint brush cleaners	

The compounds listed in the table below were listed in the EPA National Pesticide Survey's Leach List (1988). Many of these compounds are also found in common household products. Use of these compounds should be avoided. Product labels should be consulted before purchasing to check for these compounds.

<b>Compounds with High Environmental Risk for Moving into Groundwater</b>	
Acephate	1,2-Dichloropropane
Amitrol	Cis-1,3-Dichloropropene
Atrazine	Trans-1,3-Dichloropropene
Baygon	Dieldrin
Bentazon	Dicamba
Carbaryl	Picloram
Chlorpyrifos	Pramitol
2,4-D	Simazine
DDDVP	2,4,5-T
Diazinon <sup>1</sup>	Trichlopyramine

<sup>1</sup> Diazinon will be banned by the year 2003 due to its health risks to children fish, birds, and drinking water. In the meantime there are several less-toxic pest control products available. The handbook "Grow Smart, Grow Safe – A consumer Guide to Lawn and Garden Product" rates fertilizers and pesticides by their toxicity or environmental impacts. This handbook can be obtained free of charge from the King County Hazardous Waste Management Program or the Washington Toxics Coalition.

## APPROPRIATE PLANT SELECTION

The first step to consider when choosing grass or landscaping plants is to select plants that are native or well adapted to the soils and climate of our area. Native plant species have adapted over time to their specific region. If a plant is adapted to regional conditions, it is less likely to need extra fertilizing and watering and less likely to be attacked by pests. An excellent reference for more information on native plants is the book by Arthur Kruckeberg, "Gardening with Native Plants of the Pacific Northwest".

Based on information from the Seattle Association and the National Turfgrass Evaluation the following grass strains are recommended for use in our area. A mix containing a variety of these strains could be used to optimize best characteristics of each strain. The easiest way to get the best variety is to choose a mix that is "Blended for the Pacific Northwest".

Recommended Strains of Grass Types	
Grass Type	Strains
Fescue (finest leaf)	Palmer, Manhattan II, and Repeil
Perennial Rye grass <sup>2</sup>	Reliant, Scaldis and Enjoy

## LANDSCAPE MAINTENANCE

### *Mulching*

Mulch is recommended in landscaped areas as the most effective form of non-herbicide weed control. Mulch acts as a physical barrier to weeds. It typically is either composed of compost, bark, wood chips leaves, dry grass clippings or sawdust. Annuals or herbaceous perennials generally require 1 to 2 inches of compost, dry grass clippings, leaves, or sawdust. Shrubs or trees require 2 to 4 inches of coarse wood chips or bark. (Note: Shrubs such as rhododendrons and azaleas, with roots located close to the surface, should receive no more than 2 inches of mulch to allow for adequate gas exchange.) The key to successful weed control is to maintain the mulch depth as it decomposes, and to take into consideration that wood chips and sawdust deplete nitrogen if worked into the soil. This effect may require some addition of nitrogen fertilizer. Mulch is effective as a control against chickweed, annual bluegrass, bitter cress and many other species. Weeds that grow through properly installed mulch are more easily removed by hand. Periodic hand pulling of weeds is also recommended in zones between mulched areas to minimize weed seed source.

### *Fertilizing*

According to the National Academy of Science, on the average 5 to 10 pounds of fertilizer are applied annually for every acre of lawn in the United States. Often this occurs whether the lawn needs it or not.

There are two types of fertilizers, natural and synthetic. Natural fertilizers such as: bone meals (Ca, P and some N) blood meals (N), fish meals (N and P), kelp meals (K and trace elements),

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<sup>2</sup> Note: New perennial rye grasses have been bred with increased endophyte, a fungus, which makes the grass resistant to Argentine Stem Weevil, Cherry Aphid, Armyworm, Bug larva, Cutworm, and Sod webworm.

seed meals (N and some P/K) and rock phosphates (P) are often recommended for both lawns and landscaping plants. These are preferred over synthetic fertilizers for a number of reasons. The various meals listed above are slow releasing and tend to be neutral in pH and are relatively water insoluble. This means that they tend to stay in the soil longer and are not as quickly leached out as their synthetic alternatives. Natural fertilizers often contain many naturally occurring micronutrients that are typically unavailable in synthetic fertilizers. Synthetic fertilizers can also contain inert ingredients (compounds added during manufacturing that are not listed as part of the active ingredients) that can be harmful to the environment. However, for both natural and synthetic fertilizers improper management and over application can cause serious impacts. When applying fertilizers, the application rate and timing is dependent upon the type of fertilizer used and soil needs. Some general notes to remember when fertilizing include:

- Avoid over-watering lawns immediately after applying fertilizer. It is better to water the lawn thoroughly a day or two before fertilizing, and then water briefly after the application to wash the fertilizer off the leaves and into the soil.
- Reduce the need for fertilizers by returning grass clippings to lawns. (In Western Washington, 4 pounds of nitrogen per 1,000 square feet per year, is usually a maximum application rate, 1 pound is often sufficient. Grass cycling (Leaving the cut grass on the lawn), can supply at least a quarter of what is needed by your lawn.)
- Test soils before applying fertilizers. (Simple soil test kits are available at most gardening centers.) In this region soils are naturally high in phosphate. Adding more through fertilizing is not only a waste of money it can also result in excess pollution of nearby waters. There are now phosphate-free lawn fertilizers available commercially that can provide a nitrogen and micronutrient source without contributing to excess phosphates in our environment.

An example of a well-balanced organic fertilizer mixture for lawn grass suggested by the Territorial Seed Company consists of 4 parts seed meal or fish meal (N); 1 part agricultural lime or dolomite (Ca); 1 part rock phosphate or 2 part bone meal (P); 2 part kelp meal (K); (all measurements by volume). This mixture would need to be adjusted based on results of site soil testing and nutrient content of the meals used. For more information on fertilizers refer to "Grow Smart, Grow Safe – A Consumers Guide to Lawn and Garden Products" by Philip Dickey and the Washington Toxics Coalition.

Established native plants should require little in the way of fertilizing other than annual mulching. Although periodic fertilization will promote bloom of more traditional garden plants, you can still reduce fertilizer use through mulching and use natural fertilizers instead of synthetic types. As always the garden soil should be tested first to determine nutrient needs.

## **Watering**

The key to a healthy lawn and plants is to encourage the roots to grow as deep into the soil as possible. That will make them more drought resistant later in the season. Infrequent, long irrigation, (i.e., wetting the soil to about 10 inches), is recommended to encourage deep roots. Frequent short watering cycles encourage shallow roots since they adapt to that condition by concentrating their roots in the upper layers of the soil.



- When watering, keep an eye on the watered area to insure that the flow rate of the sprinklers doesn't exceed the infiltration rate of the soil, which can vary greatly based on surface management. Overwatering can result in the proliferation of some unwanted insect pests.
- Water during early morning to reduce loss by evaporation and minimize development of mold and fungal problems on lawn and plants. (Note: Many garden plants, notable roses, garden phlox, peonies, and others, are susceptible to disease that can be discouraged through early morning watering.)
- During extreme drought conditions, watering should be restricted to priority plantings, such as newly established trees and shrubs.
- Healthy lawns need no more than 1 inch of water per week, including rainfall.
- Consider not supplying extra water to your lawn in summer, to let the grass go through a normal dormant stage. Think of this as a natural seasonal event like the trees changing color in the fall.

### **Monitoring of Noxious Weeds**

The Thurston County Noxious Weed control program keeps a list of invasive plant species that are creating problems in our area. Left unmanaged these plants can quickly populate an area and displace native vegetation. The displacement of native vegetation over time is a threat to plant diversity and wildlife habitat.

An integrated vegetation management approach is recommended for control of these species. This approach involves early identification, use of appropriate control measures, and proper timing of their application. Use of these methods will reduce the need for herbicide use. It is recommended that you visually check your site for these species in early spring and late summer. Early spring is when the over-wintered seeds are germinating. Identification of the plants when they are still young is critical. Generally, it is recommended that plants be hand pulled and disposed of at the county landfill. In late summer and early fall, the recommended method for eradication for the following year is to remove the seed heads on the plant and collect any that are at the soil surface. However there are a number of problem plants for which this method will not be effective. Because the best control technique varies for each plant listed, it is recommended Thurston County Noxious Weed control be contacted directly at 360-786-5576 for plant specific information.

### **CONTROLLING PESTS AND DISEASE**

Effective pest control can be achieved by avoidance of circumstances that encourage pest growth and periodic monitoring. Ultimately the types of insect pests that will occur will be based on the type of landscaping plants and grasses used and how well they are maintained. Many insect pests can be avoided by selecting appropriate plants, and by following recommendations on proper care.

That cornerstone of pest management is doing periodic visual checks of your landscaping. This way a new disease or infestation will be spotted before it becomes out of hand. When pest management becomes necessary an integrated pest management approach should be followed.

Integrated pest management (IPM) is a holistic approach to pest and invasive plant control that consists of: monitoring the problem at hand; determining the injury and action level; correct timing of the solution; and selecting optimal strategies (as defined below) to carry out the solution. The first step is correct identification of the problem pest. Once this has been done, strategies to reduce or eliminate the specific pest can be applied. (A description of typical insect pests and their control is provided in Table A).

IPM practices takes into consideration that insects are a natural part of the environment. Therefore it is necessary to determine at what level of infestation they become a problem. Action usually occurs when there is an extensive unacceptable aesthetic change in the vegetation, and in some cases, when the health of an entire landscaped area is in jeopardy.

Optimal strategies are defined as:

- Least damaging to the natural environment and humans.
- Greatest probability of permanent reduction of the intended pest.
- Least disruptive to the natural pest controls at hand.

Pest control can be divided into three types: physical controls (traps, barriers, and hand removal), biological controls (beneficial insects or bacteria), and chemical. Detailed information on specific control techniques are described in table 'B'. These levels of controls are ordered from least to most disruptive to the natural system. All of these controls have advantages and disadvantages that must be taken into consideration prior to use.

### ***Early Infestation***

Early infestations are defined as small areas of coverage and / or new less dense populations of the pest (e.g. a few plants in a small area). The goal is to catch the problem pest at this stage before it leads to an advanced infestation. It is recommended that these early infestations be dealt with by using physical controls. Physical controls are by far the least invasive of all the insect control methodologies. If physical controls alone proves ineffective, then appropriate biological controls should be utilized. Biological controls include predatory insects and bacteria. The high effectiveness of these types of controls has been proven within the last thirty years, and remains as some of the best, less invasive forms of pest control. Chemical controls are generally not recommended for infestations of this level.

### ***Advanced Infestation***

Advanced infestations are defined as large areas of unacceptable aesthetic changes to vegetation due to insects or diseases. When dealing with advanced infestations it is recommended that biological controls be utilized first. If these methods fail then it is recommended that botanical and mineral (organic or synthesized) insecticide / fungicide controls (i.e. chemical controls) be implemented. These controls should be applied properly at levels intended to bring the target problem back to a level that can subsequently be managed with the physical and biological controls. Unwise use could lead to an upset in the natural ecological balance of the system and result in wetland and water quality impacts.

Once a decision has appropriately been made to utilize a pesticide (insecticide or fungicide) to help with controlling a disease outbreak, the pesticide to be used should be selected carefully. A number of pesticides that have unrestricted use (that is they are easily available for purchase and use by homeowners and do not require a professional applicators license to apply), have a high potential for leaching into groundwater and thus constitute a risk to nearby ground and surface waters.

The table on the following page lists preferred fungicides and pesticides as listed in "Common Sense Gardening" guide developed by the Thurston County Hazardous Waste Program. Pesticides and fungicides are listed as "preferred" if they are less persistent in the environment and break down quickly into non-toxic components following application. They are listed in order from least to most toxic.

PESTICIDES PREFERRED FOR USE DUE TO LOWER ENVIRONMENTAL RISK	
Fungicide	Use
Fungicidal Soap (Safer's)	Used for brown rot, peach scab, apple scab, powdery mildew, and downy mildew
Lime Sulfur	Used for brown rot, apple scab, powdery mildew, and anthracnose
Basic Copper Sulfate	Used for early and late blights, scab, fire blight, downy mildew, leaf spot and anthracnose
Bordeaux Mix (slurry of hydrated lime and copper sulfate)	Used for early and late blights, scab, fire blight, downy mildew, powdery mildew, leaf spot and anthracnose and brown rot
Pesticide	Use
Insecticidal Soap (Safer's)	Used for mites, aphids, fleas, mealy bugs, scale crawlers, white fly thrips and other soft bodied insects
Bactillus thuringiensis (Microbial)	Used for many larval species depending upon the type of B. thuringiensis used
Neem Extract (Bio-neem)	Used for controlling more than 123 insects, 3 mites and 5 nematodes such as aphids, leaf miners and thrips. It is not registered for use on food crops.
Summer Spray Oil	Used for wide variety of insects; aphids; adelgids, gall mites, leaf beetle larvae, mealy bugs, immature scale, sawfly larvae, immature psyllids, whitefly and spider mites.
Superior Oil Sabadilla	Used for overwintering insects and eggs Use for leafhoppers, caterpillars, some thrips. It is TOXIC to honey bees.
Pyrethrum	Broad spectrum of pests including aphids, beetles, moth larvae, thrips and mealy bugs Use for codling moth and thrips
Ryania	Used for brown rot, apple scab, anthracnose, downy mildew, blight and leaf curl. Contact and stomach poison controls beetles, weevils, loopers, and thrips.
Rotenone	

# TABLE A

## Potential Insect Pests and Their Control

The following table describes some of the common insect pests, the type of damage they create and possible methods for their control. Correct identification of the pest is the first step to selecting an appropriate control strategy. The local WSU Cooperative Extension office should be contacted to help with accurate identification of insect pests.

Host	Description	Damage	Remedy
<b>Aphids</b> ( <i>Acyrtosiphon pisum</i> , <i>Aphis fabae</i> , <i>Eriosoma lanigerrum</i> , <i>Myzus persicae</i> )			
Many species, particularly new plantings.	Soft bodied, pear shaped less than 1/10 inch long, purple; red; light green; to dark green, winged or wingless with a pair of tubes at the end of their abdomen (spray a fluid as a defense mechanism), eggs laid in the fall and hatch the following spring, immediately the nymphs begin feeding by piercing plant tissue to get sap.	Attack new plant growth, particularly succulent herbaceous plant species. Reduce plant vigor, which subsequently allows other pests / diseases to proliferate. Attract ants (aphids extract more plant sap than needed and ants enjoy the plant sap, and in return protect the aphids from various predators).	Physical barriers (sticky traps and Teflon tape). Dusting of diatomaceous earth kills soft bodies adults. Natural predators include lacewings, ladybugs, and trichogramma wasps (can be purchased or attracted naturally by planting species in the Umbelliferae family (Queen Anne's lace, dill, fennel, and carrot). Large colonies can be removed by applying insecticidal soap (low toxicity preparations are available in ready-mixed form in most plant nurseries).
<b>Cutworm</b> (Noctuidae)			
Turfgrass, tender plant species.	1 to 2 inches long; grayish or brown larval stage of the moth. Adult moth is gray or brownish with paler hind wings (1 - 1.5 inches long). Eggs usually laid in the soil, pupae or young larval stage during the winter.	Feed on plant shoots at the soil level, cutting stems at or below ground level.	At dusk, apply simple bait or equal parts hardwood sawdust, wheat bran, and enough molasses for gooy texture (traps insects so they are unable to burrow back into the ground and become easy prey to predators (trichogramma wasps and predatory nematode species - can be purchased and have no negative effects on humans)). Planting resistant perennial rye grasses is helpful in reducing populations. When all else fails, an application of <i>Bacillus thuringiensis</i> (BT) is very effective (caution must be used with BT because it will attack any larvae form in the soil, even non-target species).
<b>Sod Webworm / Fall Webworm</b> ( <i>Hyphantria cunea</i> )			
Turfgrass, Lonicern, Malus, Prunus, Salix, Viburnum Spp and other hardwoods	1-inch long, pale green or yellow covered with long silky hairs attached to small humps. Adult is white with brown spots with a 2-inch wingspan. Hair covered eggs are laid in masses on the underside of leaves.	Make nests on the ends of branches and feed on the leaves.	The best long-term cure, in lawn grasses, is to plant resistant grass species. Insect predators such as trichogramma wasps are also helpful. Finally, if no other option is available, an application of BT to the troubled area is effective, but as stated above affects non-target species.
<b>White Grubs</b> (The grubs of Scarab Beetles, June Bugs, Rose an other Chafers, and Asiatic and Oriental beetles)			
Turfgrass	C-shaped bodies measure	Grubs feed in grass	Diatomaceous earth is effective in

	from ¼ to ¾ of an inch long; are blunt-ended and creamy white, with hard yellow or brown heads.	clumps, making lawn appear spongy, brown and easy to pull out. To determine infestation tear up a square foot of sod, and if more than five grubs per square foot, take action.	controlling surface feeding grubs. Predatory nematodes are also helpful in attacking and killing grubs.
<b>Root Weevils</b>			
Rhododendrons and other woody landscape plants	Most distinguishing feature is the presence of an elongated snout with an antennae in the middle. The mouth parts are at the end of the snout. Weevils tend to be small, hard shelled and black. Root weevil larvae are legless, whitish grubs.	The adults are a plant pest, however it is the larvae stage that feeds on the plant and cause the most damage.	Determine level of infestation; (place tarp under infested tree, shake, adults will drop to the ground (note: weevils nocturnal, best done at night), or when feeding unacceptable damage to plant leaves is visible). Physical deterrents (sticky barriers and Teflon tape) applied to the base of the plants. If the population gets out of hand dust diatomaceous earth on foliage.
<b>Tent Caterpillar (Malacosoma disstria)</b>			
Acer, Alnus, Coryluse, Crataegus, Fraxinus, Malus, Prunus, Ribes, Rosa, Salix and other hardwood species.	Larva stage tends to be about two inches long; pale blue to black with diamond shaped white marks down the middle of its back; with a blue head. Adults are light yellow to brown moths with a one inch wingspan. Eggs are laid in bands around twigs.	Young caterpillars build a web in the branch fork of trees and feed on leaves. Severe infestation can defoliate trees and in some rare cases lead to the trees death.	Larvae and their "tents" should be physically removed while the larvae are still inside. In the case of severe infestations BT is very effective, but as stated above affects non-target species.
<b>Scale Insects (Homoptera)</b>			
Many plant species, particularly fruit trees (apple, cherry, peach, pecan, quince)	Two distinct families (soft and armored scales). Both attach to plant tissues and suck sap, initially appearing as bumps. Soft scales – covered in waxy / cottony substance they secrete. Females wingless; flat and long. Males have single pair of translucent wings or none at all. Eggs appear as cottony sacks. Your nymphs have legs and antennae. Armored – are very similar to soft scales, with the major distinction being they possess a much stronger waxy / cottony coating.	In large numbers these insects tend to weaken the plant host by depleting the nutrient rich sap. When the plant becomes weakened it is more susceptible to attack by borers and other insect pests / diseases. Limbs of trees that are severely infected with the scales may die.	

# TABLE B

## PHYSICAL, BIOLOGICAL AND CHEMICAL CONTROL TECHNIQUES

Physical Controls						
Control Name	Description	Mode of Action	Use	Advantages	Disadvantages	Pest
Diatomaceous earth	Skeletal remains of diatoms with tiny barbs.	Tiny barbs shred soft-bodied insects.	Dust foliage	Natural pest control. Effective.	Can be an irritant to human lungs.	Aphids, grubs, mealybugs, mites, white flies, and slugs
Sticky Barrier (Tanglefoot Tangle Trap)	A band of non-toxic sticky material	Insects permanently stick to material.	Wrap trunks with tape.	Non-toxic. Easy to use.	Traps beneficial insects too. Use in conjunction with other controls	Root weevils and ants
Sticky Traps (Biolume, Yellow Sticky Traps, Safer Flying Insect Traps)	Hanging traps with sticky material.	Insects permanently stick to material.	Placed near problem areas.	Non-toxic. Easy to use.	Numerous traps needed to cover a large area. Aesthetic. Traps beneficial insects too.	Aphids and white flies
Teflon (Surefire Insect Tape)	White Teflon tape.	Tape caused insects to slide off the stems when they try to walk over it.	Applied to rhododendrons and other woody species	Non-toxic and highly effective.	Unattractive if visible	Root weevils, and ants

TABLE B continued

Biological Controls						
Control Name	Description	Mode of Action	Use	Advantages	Disadvantages	Pest Controlled
Bacillus (BT) Dipel Thunicide Safer Caterpillar Killer	BT is a bacterium. Different effective against different pests or groups of pests.	Larvae eat dusted plant material, the bacteria penetrates their stomach lining causing paralysis.	Sprayed or dusted onto problem area. Timing critical. Apply when larvae are young and feeding.	BT strains are selective in their pest target. Relatively non-toxic to humans and most beneficial insects.	Possible allergic reaction or skin irritation from contact.	Moth, butterfly, mosquito, and other pest larvae
Trichogramma wasps	Typically adult wasps are brown to black with four clear veined wings. Body size ranges from a smaller than a pinhead to two inches long.	Eggs are laid on the unsuspecting host eggs. As the larvae grow, they feed on the host eggs.	Release of the wasps is recommended in cool evenings and early mornings.	Effective natural control.	The insects may not remain in the area.	Aphids, cutworms, fall webworms / sod webworms, cotton leafworm, bollworm, codling moth, sugarcane borer and others
Beneficial Nematodes (Biosafe Scanmask Biovector Nemesis)	Simple colorless, unsegmented roundworms.	Penetrate host body and release symbiotic bacterium then feed on the host.	Apply from spring to late fall when larvae pests are present and soil is warm.	Effective for soil dwelling pests. Non-toxic to humans and beneficial insects.	Expensive. Not as effective as chemical controls.	Soil dwelling pests: crane fly, flea, and root weevil larvae
Ladybugs	Ladybug species vary from bright reddish bodies with spots to black bodies.	Adult ladybugs and their larvae eat eggs and young.	Wet the ground in the evening or early morning and place insects.	Non-toxic. Natural pest control.	The insects may not remain on site.	Aphids, scales, and other softy bodied insects
Green lacewings	Pale green with slender bodies and one-half to three quarter inch wings. Larvae are yellowish gray with brown marks; tufts or hair; and long jaws.	Adults and larvae feed on other insects.	Space release intervals seven days apart.	Effective all purpose predator	Non-native. Will not survive a freeze. May not remain on site.	aphids, immature scale insects, spider mites, and various larvae / eggs of other insects

### Botanical and Mineral Insecticide / Fungicide Controls

\*Use only when all other forms of pest control have proven ineffective.





## **APPENDIX B**

*Best Management Practices  
Community Tracts Guidelines*



# *Olympia* School District

1113 Legion Way SE • Olympia, WA 98501 • <http://osd.wednet.edu>

## Board of Directors

Carolyn Barclift  
Russ Lehman  
Bob Shirley  
Frank Wilson  
Adam Buchholz,  
*Student Representative*

**Timothy Byrne, AIA, Supervisor**  
**Capital Planning & Construction**  
(360) 596-8560 • Fax (360) 596-8561  
[tbyrne@osd.wednet.edu](mailto:tbyrne@osd.wednet.edu)

William V. Lahmann, Superintendent

January 29, 2008

Mr. Kraig Chalem  
Assistant Planner  
City of Olympia  
PO Box 1967  
Olympia, WA 98507-1967

Dear Mr. Chalem,

Subject: Pattison Street Townhomes  
CD #07-00000148

Recently, you requested our comments regarding the above named project regarding a Land Use Application.

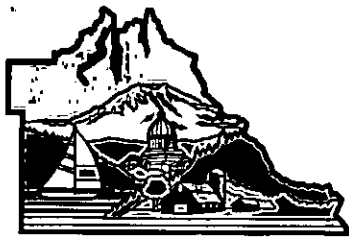
In order to provide a safe walking route for students from this development, I'd like to request the concrete sidewalk that will be installed on the north side of "A" Road be extended west in the "Right of Way" adjacent to the Bosler property and connect to the Pattison Plat development (City of Olympia file number 07-00000120).

Per Public Facilities Policy 23-050, Ordinance 5316, this development is responsible for school impact fees. I understand this development to include 18 single-family residential units.

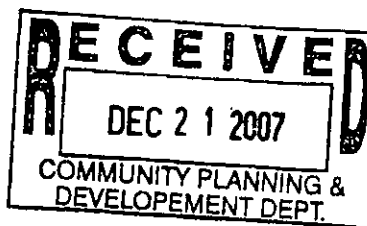
Thank you for allowing us to comment on this new development. Please contact me if you have any questions or need additional information.

Sincerely,

Timothy Byrne, AIA  
Supervisor of Capital Planning & Construction



THURSTON COUNTY  
WASHINGTON  
SINCE 1852



COUNTY COMMISSIONERS

Cathy Wolfe

District One

Diane Oberquell

District Two

Robert N. Macleod

District Three

## PUBLIC HEALTH AND SOCIAL SERVICES DEPARTMENT

December 19, 2007

Sherri McDonald, RN, MPA,

Director

Diana T. Yu, MD, MSPH

Health Officer

Kraig Chalem, Lead Planner  
City of Olympia, Community Planning & Development  
PO Box 1967  
Olympia, WA 98507-1967

Subject: Olympia File Number 07-00000148, Tax Parcel 34203000101, Pattison Street  
Townhomes, Preliminary Plat Subdivision Application, (Thurston County Reference  
Number 2007 103811)

Dear Kraig:

The above referenced application for an 18-lot townhome preliminary plat subdivision (to include two 4-plex units) in the City of Olympia has been routed to this agency for review and comment. Environmental Health review fees have been paid and we have conducted the initial review of the project. City of Olympia public water and sanitary sewer utilities will serve the proposed development and it appears that all existing, off-site water supplies located within 200 feet of the subject property boundaries have been identified and shown on the preliminary maps. Based on Thurston County records and the preliminary plat application and map it appears that there are no existing on-site sewage systems or wells located on this property.

We have completed our initial review of the project and the application is deemed complete; however the following additional information must be provided for continued review of the project:

- 1) This property is located within a Category II Aquifer Recharge Area as defined by the Thurston County Critical Areas Ordinance. Due to the aquifer sensitive nature of the area and the number of lots being proposed (> 10 lots) County policy required an Integrated Pest Management Plan (IPMP) must be developed to address best management practices for care and maintenance of lawn, garden, and landscaped areas that will reduce the need for chemical applications (ie: fertilizers, herbicides, pesticides, fungicides, etc.) and excessive irrigation. The IPMP must be submitted to this department for review prior to preliminary plat approval. A copy of an IPMP fact sheet is enclosed with this letter to assist the applicant in development of the IPMP.
- 2) The proposed access road into this development will run within the 100 foot sanitary control radius for the identified neighboring well. This department must receive information that addresses the collection, transport, treatment, and disposal of storm water that will be generated from the access road. Infiltration of storm water may not be allowed within 100 feet of the existing well.
- 3) The preliminary utilities plan in this plat application shows sewer main for this development proposed within 50 feet of the existing neighboring well. Sewer mains are required to

Environmental Health Division: 2000 Lakeridge Drive SW, Olympia, Washington 98502-6045 (360) 786-5490

Fax (360) 754-4462 • TDD (360) 754-2933

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Olympia File Number 07-00000148

Tax Parcel 34203000101

Pattison Street Townhome Preliminary, Plat Subdivision Application (City of Olympia)

TCEH Reference Number 2007 103811

Page 2

December 19, 2007

maintain a minimum 50 foot setback from any existing non-public wells unless acceptable mitigation is proposed. The first priority would be to relocate the sewer main at least 50 feet from the existing well if possible. If it is not possible to maintain the minimum 50 foot setback then mitigation may be proposed. If a proposal for mitigation to allow a reduced setback is submitted it must also include information detailing the reasons why the minimum 50 foot setback requirement cannot be met.

- 4) As noted previously in this letter there did not appear to be any existing structures, wells, or on-site sewage systems located on the subject property. This was based on search for any existing County sewage system permit records (none found) as well as review of aerial photographs of the property. However on one of the site plans for this project there is a notation that states "all existing structures to be removed". It is assumed this may be just a general notation used by the applicant's engineer on most preliminary site plans, although we need to receive confirmation this is correct. If however there are existing structures on this property then they need to be shown on the preliminary site plan and we would need to know if they are served by any existing on site wells or septic systems. If there are any existing wells or septic systems located on the subject property they must also be shown on the site plan and it must be indicated what will be done with them (ie: decommission wells, abandon septic systems).

Environmental Health review of this subdivision application will be placed on hold at this time. When the above additional information has been received we can continue our review of the project. If you or the applicants have any questions, please feel free to call me at (360) 786-5743.

Sincerely,



John Ward, R.S.

Environmental Health Specialist

Thurston County Environmental Health

cc: Bryan Ewing, Skillings-Connolly, 5016 Lacey Blvd, Lacey, WA 98503  
Doug Saunders, 2014 Arena Court SE, Olympia, WA 98501

Enclosure: Copy of IPMP fact sheet

# FACT SHEET

## Thurston County Requirements for Integrated Pest Management Plans

### **WHAT:**

Integrated Pest Management Plans (IPMP) are required by Thurston County for certain land use projects located in a Category I or II Aquifer Recharge Area located in areas where drinking water sources are vulnerable to contamination.

IPMPs are required for:

- 1) Subdivisions of 10 lots or greater (excluding large lots).
- 2) Any land use project that incorporates maintained open space areas totaling more than five acres.
- 3) All land use projects located within a delineated well head capture zone for a group A public water supply.

Changes to the IPMP will be submitted to Thurston County for review and approval prior to implementation.

### **WHY:**

The goal of an IPMP is to develop and manage individual homesite landscapes and open space areas using best management practices that limit the use of pesticides. Limiting pesticide use will reduce ground and surface water contamination and reduce human exposure to pesticides.

An IPMP assists residents and professional landscape personnel by describing maintenance practices that are the least damaging to the environment. Integrated Pest Management (IPM) is an approach to pest and vegetation management that utilizes regular monitoring to determine if and when treatments are needed. IPM emphasizes physical, mechanical, cultural, and biological tactics to prevent intolerable damage. If pesticides must be used, select products that have the least impact to the environment and least toxic to human health.

### **HOW:**

Below are recommended elements of an IPMP:

- I. Provide a local environmental perspective to the IPMP: Explain to the homeowner and residential development manager why this IPMP is important to protect nearby natural resources. It is helpful to include in this section:
  - A. Describe nearby sensitive areas such as groundwater, streams, and lakes.

- B. Describe activities homeowners do that impact the quality of nearby natural resource areas.

II. Describe IPM principals for landscape management that can help reduce impacts to surface and groundwater. These principals include:

- A. Prevention: Describe activities the developer, homeowner and landscape professional will perform to prevent pest and disease problems. List local resources where the homeowner may find assistance in learning how to prevent pest problems. This section may describe activities such as:
- Importance of soil preparation and soil testing.
  - Proper site construction by developer.
  - Importance of landscape design.
  - Importance of the proper choice of plants.
  - Proper planting techniques.
  - The use of mulch and weed barriers in shrub beds.
- B Identify the Problem: Describe the importance of identifying the problem before choosing a control action. List resources where the homeowner may find assistance in identifying problems.
- C. Inspection: Describe the importance of regular landscape inspections for pest and disease symptoms.
- D. Threshold for control: Describe the extent of the pest or vegetation problem when action must be taken to prevent unacceptable damage.
- E. Appropriate control actions: Describe effective least toxic controls available to homeowners.
- F. Evaluate results: Determine whether the control was effective to help on future problems.
- G. Best management activities such as:
1. Irrigation: Describe watering practices that will provide adequate amounts of water to keep a healthy landscape while conserving its use.
  2. Fertilizer use: Describe proper applications of fertilizers for a healthy landscape while avoiding contaminating surface and ground water. Emphasize the advantages of using natural or slow-release fertilizers.

3. Weed control: Describe weed control techniques that are available to the homeowner that emphasizes non-chemical techniques. When herbicides are used, recommend spot treatment; discourage pre-emergent and broadcast type chemicals; and apply when there is no wind to avoid off target impacts.
4. Disease control: Describe best management practices that prevent plant and turf diseases. Only least toxic fungicides should be applied to those plants or turf areas where problems exist.
5. Insect control: Describe best management practices that prevent insect problems and recommend treatment thresholds. Only least toxic insecticides should be applied to those plants or turf areas where the problem exists.

III Storage, disposal and handling of pesticides and other household products: Describe proper storage practices for toxic material and proper disposal of leftover and unwanted pesticides and their empty containers.

IV. Best Management Practices for maintaining community property: Many developments have roadsides, stormwater facilities, and other community amenities that need to be properly maintained. Include in this section best management practices for these facilities.

For further information contact Mark Swartout at (360) 709-3079.



City of  
**OLYMPIA**

900 Plum Street, P.O. Box 1967, Olympia, WA 98507-1967

December 7, 2007

Mr. Douglas Saunders  
2014 Arena Ct. SE  
Olympia, WA 98506

Dear Mr. Saunders:

**SUBJECT: Substantive Comments for Preliminary Plat (File No. 07-0148)  
Additional Information Request**

The City of Olympia's staff reviewed your project and determined that additional information is necessary in order to continue with the review of your project, as follows.

**Engineering Comments**

Engineering has completed the substantive review of the Pattison Street Townhomes Project #07-0148. The set of plans date-stamped August 23, 2007, were used to complete the review. The following information must be depicted on four sets of plans and submitted for review.

**1. General Comments**

- A. Include a legend which meets APWA standards or approved alternate.
- B. Provide a signed agreement letter from the adjacent property owner allowing a temporary turnaround easement for proposed public road "A."

**2. Water Main Plan** - The applicant shall install water facilities in accordance with the provisions of Chapter 6 of the Development Guidelines and Public Works Standards (2.050.B). The water system shall be designed to provide adequate domestic plus fire flow at the required residual pressure. Please address the following items on the plans and resubmit for review.

- A. No Comment.

**3. Sewer Main Plan** - The applicant shall install sewer facilities in accordance with the provisions of Chapter 7 of the Development Guidelines and Public Works Standards (2.050.A). Please address the following items on the plans and resubmit for review.

- A. Sanitary sewer laterals are required to be shown at the lot line.

**COUNCIL**

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Mayor

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Mayor Pro Tem

Craig Ottavelli

Rhenda Iris Strub

Karen Messmer

Joan Machlis

Joe Hyer

**CITY MANAGER**

Steven R. Hall

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City Attorney  
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(360) 753-8362  
(360) 753-8270



**4. Site Improvement Plan**

- A. Show locations of driveway approaches on the plans.
- B. An accessible route is required to connect the sidewalk to the north of proposed public road "A" to the sidewalk to the south.
- C. Curb radii on local access streets are required to be 30'.

**5. Clearing/Grading/Erosion Control Plan**

- A. Provide an erosion control plan which meets the requirements of the current City Of Olympia Stormwater Manual, Volume III.
- B. There are clearing and grading time limits in effect in Olympia. They should be in the stormwater site report and written on the plan sheets. The limits are in Volume I, Section 2.5.2, Element 12, and Volume II, Chapter 3.

**6. Stormwater System and Drainage Report (hydra & work map)**

- A. Soils information is required to determine the design infiltration rate. The soil information must meet the requirements of Volume V, Chapter 7, Site Characterization. Note the number and depth of the borings and the need to identify each soil layer beneath the facility and the analysis required on the soil layers.
- B. To determine the infiltration rate, the depth to the seasonally high groundwater elevation is required. See Volume V, Chapter 7, Section 7.3, General Considerations, Number 8. Absent identifying the groundwater elevation during the soil borings, provide groundwater monitoring through one winter period to determine the groundwater elevation.
- C. The preliminary design is based on an assumed infiltration rate of four inch/hour. The actual infiltration rate used in the design will be based upon the soils and groundwater data collected and the stormwater manual infiltration rate determination equations. The City will not approve a facility until the infiltration rate has been correctly identified.
- D. The stormwater facility must be sized for its entire contributing area. Provide a basin map with contour lines to show the extent of the basin boundary for the infiltration facility. The area outside of the plat can be modeled at its existing land-cover when sizing the infiltration facility.
- E. Minimum Requirement #5 requires onsite stormwater controls for all roof downspouts. Provide information about the sizing of downspout infiltration systems. Include in the plan sheets construction details for the downspout controls. Show where the roof downspout controls will be installed. Runoff credits are given for these BMP's when sizing the stormwater pond. Take the credits per WWHM guidelines.

- F. Minimum Requirement #5 necessitates the use of compost amended soils on all disturbed pervious areas. Add the specifications needed to comply with this BMP to the construction plans. The use of this BMP also allows for some credit when modeling the runoff. See the Stormwater Manual, Volume III, Appendix III-C.
- G. The stormwater site plan states water quality treatment will be provided by swales. Show the grades of the swales and catch slopes on the grading plan.
- H. Provide a safe surface overflow route from the facility into the natural downstream conveyance. This is an emergency overflow at the natural discharge location.
- I. Provide a landscaping plan for the swale/detention facility. See Volume III, Chapter 3 for requirements.
- J. An access road is required to the infiltration facility.
- K. Provide a contingency plan for the infiltration pond to determine what would be required if the actual pond infiltration rate is half of the design infiltration rate. See Volume V, Section 7.3.3, SSC-4.
- L. Provide an infiltration verification report for the infiltration facility after it's built in accordance with Volume V, Section 7.3.3, SSC-7.
- M. The Olympia manual describes in Volume I, Section 3.1.7 stormwater site plan requirements. Format the stormwater site plan to the manual guidelines.
- N. Provide electronic copies of the WWHM runs used to size the facilities per Volume I, Section 3.1.7.
- O. If the Townhomes are to be under one ownership, the corporate agreement to maintain is appropriate. If there are multiple owners, the residential agreement is required.
- P. Provide an operation and maintenance plan for the site which is specific to the stormwater controls that will be installed.
- Q. A source control plan is needed per minimum requirement #3. The source control plan isn't a construction pollution prevention plan. A source control plan is implemented after the site is built and being used in its intended function. Volume IV of the stormwater manual contains permanent source control BMP's. Provide BMP's from Volume IV and create a source control plan for the site that's specific to its intended land use. The source control plan will become an attachment to the agreement to maintain executed at the project completion.

**7. Solid Waste –**

A. No Comment.

**8. Street Lighting –**

A. No Comment.

### **Urban Forestry Comments**

Urban Forestry has completed the Substantive Review for CD# 07-0148. The set of plans date-stamped August 23, 2007, were used to complete the review. Staff has reviewed the tree protection and replacement plan prepared by Washington Forestry Consultants dated July 16, 2007, and a plan addendum by Washington Forestry Consultants date-stamped August 23, 2007. Following are Urban Forestry Comments and recommended conditions of approval:

1. The site is approximately two-thirds forested with second growth mixed conifers and hardwoods, with Douglas fir, alder and big leaf maple being the predominate tree species found on site. One-third of the site is an old home site (now a pasture) that contains approximately 10 trees.
2. The site area is 1.93 acres, with 1.23 acres being considered buildable for the purposes of calculating tree density. This then requires a minimum tree density of 37 tree units. Seventy-Five percent of the tree units (28 tree units) are required to be within a tree tract or tracts.
3. The applicant is proposing a tree tract in the southeast corner of the property that will contain 19 trees (equivalent to 54 tree units). The applicant is also proposing the preservation of 11 additional trees on the proposed lots adjacent to the tree tract. This amount exceeds the required minimum tree density of 37 tree units and exceeds the tree tract requirement of 28 tree units.
4. Staff recommends approval without conditions.

### **Planning**

Planning has completed the Substantive Review of the Pattison Street Townhomes CD # 07-00148 project. The set of plans date-stamped August 23, 2007, were used to complete the review. The following information must be depicted on one set of plans or submitted for review before Land Use Approval can be granted:

Planning has no comments at this time other than to correct minor errors shown on the face of the plat such as: accurate lot sizes for lots- 10, 11, and 13, 14. This may also change the average lot size, and smallest lot size calculations.

In addition, evidence of mutual ingress/egress easements for the purpose of maintaining adjoining structures will need to be provided along all property lines with common walls, and shown on the face of the final plat.

Mr. Douglas Saunders  
December 7, 2007  
Page 5

We have provided this information to you as a result of our substantive review of your project. We have made every effort to cover all outstanding issues. Please make the revisions as noted and provide additional information as requested. Please make an appointment with Paula Smith, (360) 753-8596, when you are ready to submit your revisions. It is important to our timely review of those revisions that all revisions requested be provided. Please let me know if you have any questions pertaining to this letter. I can be reached at (360) 753-8319 or by e-mail to [kchalem@ci.olympia.wa.us](mailto:kchalem@ci.olympia.wa.us).

Sincerely,



**KROYDAN CHALEM**  
Associate Planner  
Community Planning and Development

KC:nl

cc: Bryan Ewing, c/o: Skillings-Connolly, Inc., 5016 Lacey Blvd, Lacey, WA 98503  
Marcus Goodman, Engineering Plans Examiner, City of Olympia  
Joe Roush, Urban Forester, City of Olympia

**RE: Stormwater Review of Project- Pattison Street Town Homes  
CD#07-0148**

To: Marcus Goodman  
From: Craig Tosomeen

Date: September 27, 2007

I have reviewed the Preliminary Drainage and Erosion Control Report for the Pattison Street Town Homes dated February 2007, prepared by Bryan Ewing P.E. of Skillings Connolly Inc. My comments are below:

Stormwater Comments

- 1) Soils information is required to determine the design infiltration rate. The soil information must meet the requirements of Volume V Chapter 7 Site Characterization. Note the number and depth of borings and the need to identify each soil layer beneath the facility and the analysis required on the soil layers.
- 2) To determine the infiltration rate the depth to the seasonally high groundwater elevation is required. See Volume V Chapter 7 Section 7.3 General Considerations Number 8. Absent identifying the groundwater elevation during the soil borings, provide groundwater monitoring through one winter period to determine the groundwater elevation.
- 3) The preliminary design is based upon an assumed infiltration rate of 4 inch/hour. The actual infiltration rate used in the design will be based upon the soils and groundwater data collected and the stormwater manual infiltration rate determination equations. The city will not approve of a facility size until the infiltration rate has been correctly identified.
- 4) The stormwater facility must be sized for its entire contributing area. Provide a basin map with contour lines to show the extend of the basin boundary for the infiltration facility. The area outside of the plat can be modeled at its existing landcover when sizing the infiltration facility.
- 5) Minimum Requirement #5 requires onsite stormwater controls for all roof downspouts. Provide information about the sizing of downspout infiltration systems. Include in the plan sheets construction details for the downspout controls Show where the roof downspout controls will be installed. Runoff credits are given for these BMP's when sizing the stormwater pond. Take the credits per WWHM guidance.
- 6) Minimum Requirement #5 necessitates the use of compost amended soils on all disturbed pervious areas. Add the specifications needed to comply with this BMP to the construction plans. The use of this BMP also allows for some credit when modeling the runoff. See The Stormwater Manual Volume III Appendix III-C.
- 7) The storm water site plan states water quality treatment will be provided by swales. Show the grades of the swales and catch slopes the grading plan.

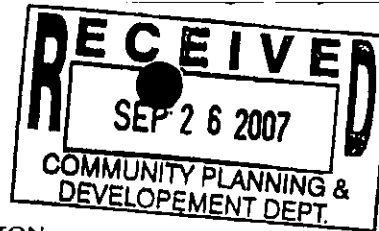
- 8) Provide a safe surface overflow route from the facility into the natural downstream conveyance. This is an emergency overflow at the natural downstream discharge location
- 9) Provide a landscaping plan for the swale / detention facility See Volume III Chapter 3 for requirements.
- 10) An access road is required to the infiltration facility.
- 11) Provide a contingency plan for the infiltration pond to determine what would be required if the actual pond infiltration rate is substantial less (half of) the design infiltration rate. See Volume V Section 7.3.3 SSC-4.
- 12) Plan on providing an infiltration verification report for the infiltration facility after it is built in accordance with Volume V Section 7.3.3 SSC-7.

#### Erosion Control Comments

- 13) Provide an erosion control plan which is in accordance to the City Of Olympia Stormwater Manual Volume II.
- 14) There are clearing and grading time limits in effect in Olympia they should be in the stormwater site report and written on the plan sheets. The limits are in Volume I Section 2.5.2 Element 12. and Volume II Chapter 3.

#### Stormwater Site Plan Format/Information

- 15) The Olympia manual describes in Volume 1 Section 3.1.7 what is needed in a stormwater site plan. Format the stormwater site plan to the manual guidelines.
- 16) Provide electronic copies of the WWHM runs used to size the facilities as per Volume 1 Section 3.1.7.
- 17) If the town homes are under one ownership, the corporate agreement to maintain is appropriate. If there are multiple owners, the residential agreement is needed.
- 18) Provide an operation and maintenance plan for the site which is specific to the stormwater controls that will be installed in the plat.
- 19) A source control plan is needed per Minimum Requirement #3. The source control plan is not a construction pollution prevention plan. A source control plan is implement after the site is built and being used in its intended function. Volume IV of the stormwater manual contains permanent source control BMP's. Provide BMP's from Volume IV or a similar reference and create a source control plan for the site that is specific to its intended land use. The source control will become an attachment to the agreement to maintain executed at the project completion.

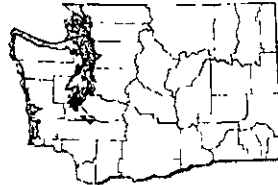


STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

September 25, 2007

Mr. Kraig Chalem, Lead Planner  
City of Olympia  
Community Planning and Development  
PO Box 1967  
Olympia, WA 98507-1967



Your address  
is in the  
**Deschutes**  
watershed

Dear Mr. Chalem:

Thank you for the opportunity to comment on the prethreshold consultation for the Pattison Street Townhomes project (File No. 07-00000148) located in the 500 Block Pattison Street Northeast, as proposed by Doug Saunders. The Department of Ecology (Ecology) reviewed the environmental checklist and has the following comment(s):

**WATER QUALITY: Roberta Woods (360) 407-6269**

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or storm drains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.

Proper disposal of construction debris must be on land in such a manner that debris cannot enter stormdrains draining to waters of the state or cause water quality degradation of state waters.

During construction, all releases of oils, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials must be contained and removed in a manner that will prevent their discharge to waters and soils of the state. The cleanup of spills should take precedence over other work on the site.

Clearing limits and/or any easements or required buffers should be identified and marked in the field, prior to the start of any clearing, grading, or construction. Some suggested methods are staking and flagging or high visibility fencing.

Soil in stockpiles should be stabilized or protected with sediment-trapping measures to prevent soil loss. All exposed areas of final grade or areas that are not scheduled for work, whether at final grade or otherwise, shall not remain exposed and un-worked for more than two days, between October 1 and April 30. Between May 1 and September 30, no soils shall remain exposed and un-worked for more than 7 days.



A permanent vegetative cover should be established on denuded areas at final grade if they are not otherwise permanently stabilized.

Properties adjacent to the site of a land disturbance should be protected from sediment deposition through the use of buffers or other perimeter controls, such as filter fence or sediment basins.

All temporary erosion control systems should be designed to contain the runoff from the developed two year, 24-hour design storm without eroding.

Provision should be made to minimize the tracking of sediment by construction vehicles onto paved public roads. If sediment is deposited, it should be cleaned every day by shoveling or sweeping. Water cleaning should only be done after the area has been shoveled out or swept.

Wash water from paint and wall finishing equipment should be disposed of in a way which will not adversely impact waters of the state. Untreated disposal of this wastewater is a violation of State Water Quality laws and statutes and as such, would be subject to enforcement action.

If the site discharges now or will discharge to waters of the state (directly or via stormdrains), this project will need a Construction Stormwater National Pollution Discharge Elimination System (NPDES) permit. The permit application form, called a Notice of Intent, is available on Ecology's website at: <http://www.ecy.wa.gov/programs/wq/stormwater/construction/#Application>. To avoid project delays, we encourage the applicant to submit a completed application form and to publish public notices more than 60 days before the planned start of the project.

Ecology's comments are based upon information provided by the lead agency. As such, they do not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments please contact the appropriate reviewing staff listed above.

Department of Ecology  
Southwest Regional Office

(SM: 07-7246)

cc: Kurt Fremont, WQ  
Charles Gilman, HQ/WQ  
Roberta Woods, WQ  
Elaine Worthen, HQ/WQ  
Doug Saunders (Applicant)  
Bryan Ewing, Skillings Connolly, Inc. (Representative)



# OLYMPIA FIRE DEPARTMENT

100 Eastside St NE  
Olympia, WA 98506  
(360) 753-8348

## Transmittal Letter

TO: Kraig Chalem, Lead Planner

DATE Sept. 17, 2007

FILE NO. 07-148

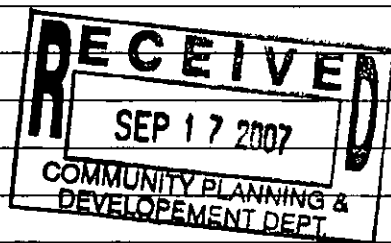
ATTENTION: OFD 07-290

### PRIORITY

- ☐ REPLY NEEDED  
☐ SOON AS POSSIBLE  
☒ NO REPLY NEEDED

SUBJECT: Pattison Street Townhouses

MESSAGE: No Comments on Land Use Application



SIGNED: George Ziesemer

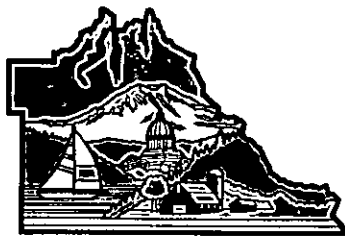
REPLY BY:

DATE OF REPLY:

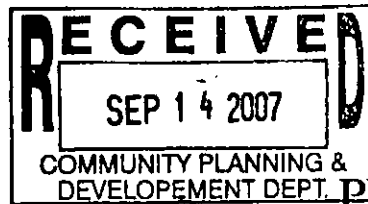
REPLY TO:

REPLY:

SIGNED: \_\_\_\_\_



**THURSTON COUNTY**  
WASHINGTON  
SINCE 1852



05-1218

COUNTY COMMISSIONERS

Cathy Wolfe

District One

Diane Oberquell

District Two

Robert N. Macleod

District Three

**PUBLIC HEALTH AND  
SOCIAL SERVICES DEPARTMENT**

September 12, 2007

Bryan Ewing  
5016 Lacey Blvd SE  
Lacey WA 98503

Sherri McDonald, RN, MPA,  
Director  
Diana T. Yu, MD, MSPH  
Health Officer

Subject: Thurston County Project # **2007103811**, Parcel # **34203000101**  
City Project #: 07-0148  
Proposed: Pattison Street Townhouse Subdivision

Dear Mr. Ewing:

This letter serves as notification to you that the above referenced project has been sent to the Thurston County Environmental Health Dept. for review. The application **fee due at this time is \$540** and is separate from any fees you have paid to City of Olympia. This application fee pays for the number of base hours high lighted in the attached fee schedule. Staff time spent beyond the base hour minimum will be totaled periodically and billed at the rate in effect at the time the review took place. Currently, the review fee is \$95.00 per hour. Review will commence once fees are paid. Any outstanding review fees must be paid before final approval will be granted by this agency. Please reference the project number listed above on your check.

**Please send your remittance to:**

Thurston County Environmental Health Division  
2000 Lakeridge Dr. SW  
Olympia, WA 98502  
Attn: WWS Support Staff

Thurston County Environmental Health Department will hold your application for a period of 60 days. After that time, if base fees have not been paid, or if we have not been contacted about this project, the application will be returned to City of Olympia without Environmental Health review.

The applicant and/or consultants can assist the Department in keeping staff time to a minimum by timely submission of all information needed for review. Multiple submissions of designs, plans or other information often result in multiple reviews and site visits. If the Environmental Health reviewer requires preliminary on-site sewage system designs for this project, there will be a design review fee of \$110.00 per lot, payable at the time of submittal.

If you or your engineer would like to discuss this project, or if you have questions about future billings, please contact this office at 754-3355, ext. 6518.

Sincerely,

Anna Caudill

Environmental Health Program Assistant

cc: applicant, Douglas Saunders, 2014 Arena Court SE, Olympia, WA 98501  
City of Olympia, Community Planning and Development

07-112270-000-00-HI

Environmental Health Division: 2000 Lakeridge Drive SW, Olympia, Washington 98502-6045 (360) 786-5490

Fax (360) 754-4462 • TDD (360) 754-2933

[www.co.thurston.wa.us/health](http://www.co.thurston.wa.us/health)



Recycled Paper



**City of  
OLYMPIA**

*Community Planning & Development, 837 7th Avenue, SE, P.O. Box 1967, Olympia, WA 98507-1967  
Telephone (360) 753-8314 - Fax (360) 753-8087 - e-mail: cpdinfo@ci.olympia.wa.us*

**NOTICE OF LAND USE APPLICATION  
AND PUBLIC MEETING**

**Notice Mailed:** Friday, September 7, 2007  
**File Number:** 07-00000148  
**File Name:** Pattison Street Townhomes  
**Project Address:** 500 Blk of Pattison St NE

**Project Description:** Applicant is seeking approval to develop 1.95 acres into an 18-lot townhouse subdivision with 2 4-plex units.

**Applicant**

Doug Saunders  
2014 Arena Court SE  
Olympia WA 98501

**Applicant's Representative**

Bryan J. Ewing, Skillings-Connolly  
5016 Lacey Blvd.  
Lacey WA 98503

**First Comment Period Ends at  
5:00 p.m. on Friday,  
September 28, 2007**

**A Public Informational Meeting  
will be held at 6:00 p.m., on  
Tuesday, September 18, 2007**

**Examiner's Public Hearing  
has not been scheduled at this  
time**

**How to Be Involved In the Review of This Project:**

The City of Olympia has received a request for approval of the project described above. The application, plans, and related studies are available for review from 8:00 a.m. to 5:00 p.m. on regular business days at the Community Planning and Development Department, Smith Building, 837 7<sup>th</sup> Avenue SE, Olympia, Washington.

**Written Comment Period:**

We invite your comments and participation in review of this project. Comments and inquiries regarding this proposal should be directed to **Kraig Chalem, Lead Planner**, of the Olympia Community Planning and Development Department at the above address. Failure to submit timely comments may result in an assumption of "no comment."

**Neighborhood Meeting:**

This proposal will be the subject of an informational meeting for the neighborhood to be hosted by City staff at the Smith Building, 837 7<sup>th</sup> Avenue SE, Olympia, at 6:00 p.m., Tuesday, September 18, 2007. Questions about both the proposal and the City's review procedure will be welcomed.

A public hearing is required prior to land use decision on this proposal. This hearing has not yet been scheduled, but the property will be posted and those receiving notification through the mail will receive additional notice once the hearing date is scheduled.

**Appeal of the Decision**

Upon written request, you will be provided with a copy of the decision regarding this project. Anyone who does not agree with the decision will have an opportunity to file an appeal of the decision. The appeal forms are available at the Community Planning and Development Department.

**Other Information About This Project**

**Application Received:** August 22, 2007

**Application Vested:** August 22, 2007

**Project Permits/Approvals Requested or Required:** Long Plat Subdivision

**The City has requested that the applicant prepare the following project studies:** SEPA, Drainage and Erosion Control Plan, Tree Plan, Grading Plan, Preliminary Architectural Design

**Existing environmental documents evaluating this project include:** SEPA

**Government programs providing funds for this project:** None

Please note that, at this time, no determination of consistency with City or State plans, standards, or regulations has been made. At minimum, this project is subject to the following: City of Olympia Comprehensive Plan, Olympia Municipal Code (OMC), Development Guidelines and Public Works Standards (streets and utility standards), and the Drainage Design and Erosion Control Manual for Olympia. Title 17 (Subdivision), and Title 18 (Zoning). This project must also conform to the State Environmental Policy Act (SEPA) and the State Shoreline Management Act.

This notice has been provided to **agencies, neighborhood associations, and neighboring property owners**. Lists of specific parties notified are available upon request.

## Notice of Application Distribution List

**Project Name:** Pattison Street Townhomes  
**File #:** 07-0148  
**Lead Planner:** Kraig Chalem

### Notice of Application, Land Use Application, blue prints, studies as noted:

Marcus Goodman, CP&D, Development Engineering (3 copies: Environmental Checklist, TIA, Drainage Report)  
Joe Roush, CP&D, Urban Forester (Tree Report, Drainage Report)  
George Ziesemer, Olympia Fire Department

### Notice of Application, Land Use Application and reduced plans:

Olympia Public Works Maintenance Center (Dan Daniels, Al Carver)  
Olympia Parks, Recreation, and Cultural Services Dept. (Dave Okerlund)  
Olympia Police Dept. (Field Op Commander)  
Intercity Transit (Dennis Bloom)  
Thurston County Environmental Health Dept. (Jim Goode)  
Thurston County Development Services Dept., Current Planning Section (Robert Smith)  
Squaxin Island Tribe (Jeff Dickison) w/ checklist  
Olympic Region Clean Air Agency (Mark Goodin)  
Olympia School District (Timothy Byrne)  
LOTT Wastewater Treatment Facility (Michael Strubb)  
Department of Ecology - SEPA Unit - Environmental Review (w/checklist)  
Thurston County Assessor's Office (Steve Cummings)  
Thurston County Auditor's Office (~~Lisa Goldsworthy~~) *Heather Hirotsuka*  
Thurston County Treasurer's Office (Robin Hunt)  
Puget Sound Energy (Amy Tousley)  
Comcast, Outside Plant Engineer

### Notice of Application and Reduced Site Plan:

Adjacent Property Owners on List  
City Council, c/o Mary Nolan  
Cathie Butler, Communications Manager

**cc:** Applicant (no attachments)  
Applicant's Representative(s) (no attachments)  
Tom Hill (no attachments)  
Records for signout (if with file routing; no attachments)

PROJECT: PATTISON ST TOWNHOMES  
PLANNER: KRAIG CHALEM  
FILE NO: 07-0148  
DATE: 09/07/07

MARCUS GOODMAN  
CP&D

JOE ROUSH  
CP&D

**ORIGINALS TO PLANNER**

GEORGE ZIESEMER  
CITY OF OLYMPIA  
FIRE DEPT

DAN DANIELS  
CITY OF OLYMPIA  
MAINTENANCE CTR

AL CARVER  
WASTE RESOURCES SUPERVISOR  
CITY OF OLYMPIA  
MAINTENANCE CTR

DAVE OKERLAND  
CITY OF OLYMPIA  
PARKS

FIELD OP COMMANDER  
CITY OF OLYMPIA  
OPD

DENNIS BLOOM  
INTERCITY TRANSIT  
PO BOX 659  
OLYMPIA WA 98507-0659

JIM GOODE  
TC ENVIRONMENTAL HEALTH DEPT  
MS-40947

ROBERT SMITH  
CURRENT PLANNING  
TC DEVELOPMENT SERVICES  
MS-40947

JEFF DICKISON  
SQUAXIN ISLAND TRIBE  
2952 SE OLD OLYMPIC HWY  
SHELTON WA 98584-7731

MARK GOODIN  
ORCAA  
2940 LIMITED LN NW STE B  
OLYMPIA WA 98502-6503

TIMOTHY BYRNE  
CAPITAL PLANNING & CONSTRUCTION  
OLYMPIA SCHOOL DISTRICT  
1113 LEGION WAY SE  
OLYMPIA WA 98501-1652

MICHAEL STRUBB  
LOTT ALLIANCE  
MS-41960

SEPA UNIT – ENVIRONMENTAL REVIEW  
DEPT OF ECOLOGY  
MS-47703

STEVE CUMMINGS  
TC ASSESSOR'S OFFICE  
MS-40947

HEATHER HIROTAKA  
TC AUDITOR'S OFFICE  
MS-40947

ROBIN HUNT  
TC TREASURER'S OFFICE  
MS-40947

AMY TOUSLEY  
PSE MUNICIPAL LIAISON MGR  
PUGET SOUND ENERGY  
2711 PACIFIC AVE SE  
OLYMPIA WA 98501-2036

COMCAST  
OUTSIDE PLANT ENGINEER SO REGION  
410 VALLEY AVE NW #12  
PUYALLUP WA 98371-3317

CITY COUNCIL (10 COPIES)  
C/O MARY NOLAN  
CITY HALL

CATHIE BUTLER  
COMMUNICATIONS MGR  
CITY HALL

ADJACENT PROPERTY OWNERS  
[SEE SEPARATE LIST]

TOM HILL  
CP&D

RECORDS FOR SIGNOUT

NEIGHBORHOOD ASSOCIATIONS  
[NONE NEAR]

DOUG SAUNDERS  
2014 ARENA CT SE  
OLYMPIA WA 98501

BRYAN J EWING  
SKILLING-CONNOLLY  
5016 LACEY BLVD  
LACEY WA 98503

CHRON



SISTERS OF PROVIDENCE IN  
WA  
Po Box 389673  
Seattle, WA 98138

CITY OF LACEY  
PO Box 3400  
Lacey, WA 98506

APPLEHILL LOT OWNERS  
2970 Poppy Ln Sw #3-201  
Tumwater, WA 98512

Donna M Williams  
2901 Applehill Ct Ne  
Olympia, WA 98506

Gregory J L & Trina A Novlan  
2907 Applehill Ct Ne  
Olympia, WA 98506

Prince L Turner  
2911 Applehill Ct Ne  
Olympia, WA 98506

Susan M Eichrodt  
2917 Applehill Ct Ne  
Olympia, WA 98506

Nam K Nguyen  
2923 Applehill Ct Ne  
Olympia, WA 98506

Dean A & Linda G Fahr  
2929 Applehill Ct Ne  
Olympia, WA 98506

Kathryn Freda  
3001 Applehill Ct Ne  
Olympia, WA 98506

Tami Hummel  
3007 Applehill Ct Ne  
Olympia, WA 98506

Charles F;Beers Lisa J Kirry  
3011 Applehill Ct Ne  
Olympia, WA 98506

Richard D & Abigail M  
Fonderwhite  
3017 Applehill Ct Ne  
Olympia, WA 98506

Trong Huynh  
3021 Applehill Ct Ne  
Olympia, WA 98506

Vu;Tran My-Phuong Nguyen  
3530 Mapleview Dr. NE  
Olympia, WA 98506

Hector Q & Myrna S Garcia  
3033 Applehill Ct Ne  
Olympia, WA 98506

Thuy Le  
1808 Meixner St NE  
Olympia, WA 98506

Rita Parle  
3040 Applehill Ct Ne  
Olympia, WA 98506

Bryan L & Michelle L Dillon  
3034 Applehill Ct Ne  
Olympia, WA 98506

Marklar Acquisitions LLC  
7645 58th Ave NE  
Olympia, WA 98516

Trevor A Livingston  
3022 Applehill Ct Ne  
Olympia, WA 98506

Patrick & Kathleen J Passmore  
3018 Applehill Ct Ne  
Olympia, WA 98506

Mary G Tabil  
3012 Applehill Ct Ne  
Olympia, WA 98506

Jeffrey S & Linda A Olson  
3008 Applehill Ct Ne  
Olympia, WA 98506

Henry L & Bibiana D Shires  
3002 Applehill Ct Ne  
Olympia, WA 98506

Volker & Margarita Brunke  
2930 Applehill Ct Ne  
Olympia, WA 98506

William J & Susan Buckley  
2924 Applehill Ct Ne  
Olympia, WA 98506

Jeff B & Biana M Tawney  
2918 Applehill Ct Ne  
Olympia, WA 98506

NGUYEN HAI HONG/HONG  
LOAN  
2912 Applehill Ct Ne  
Olympia, WA 98506

Cherie K Downey  
2908 Applehill Ct Ne  
Olympia, WA 98506

Kevin L & Donella K Ashby  
2902 Applehill Ct Ne  
Olympia, WA 98506

Kimberly L Sebaska  
514 Devoe St Ne  
Olympia, WA 98506

Timothy M Seth  
2313 Springer Ln Ne  
Olympia, WA 98506

Michelle Weber  
521 Pattison St Ne  
Olympia, WA 98506

Cheri Lynn; Schnarrs Frank W  
Dehart  
504 Devoe St Ne  
Olympia, WA 98506

C Roger Christensen  
515 Pattison St Ne  
Olympia, WA 98506

Frank W. & Cheri L. Schnarrs  
428 Devoe St NE  
Olympia, WA 98501

Heitzmann Kirby Rentals  
552 Kinwood St Se  
Olympia, WA 98503

Susan L Dolvin  
Po Box 7244  
Olympia, WA 98507

Ronald L & Lauren A Turpen  
3613 56th Ave Sw  
Seattle, WA 98116

Kim C Bosler  
Po Box 5036  
Olympia, WA 98506

MILLER ROBERT J 1996 TRUST  
Po Box 861  
Tracyton, WA 98393



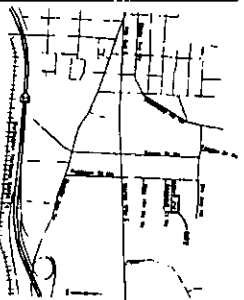
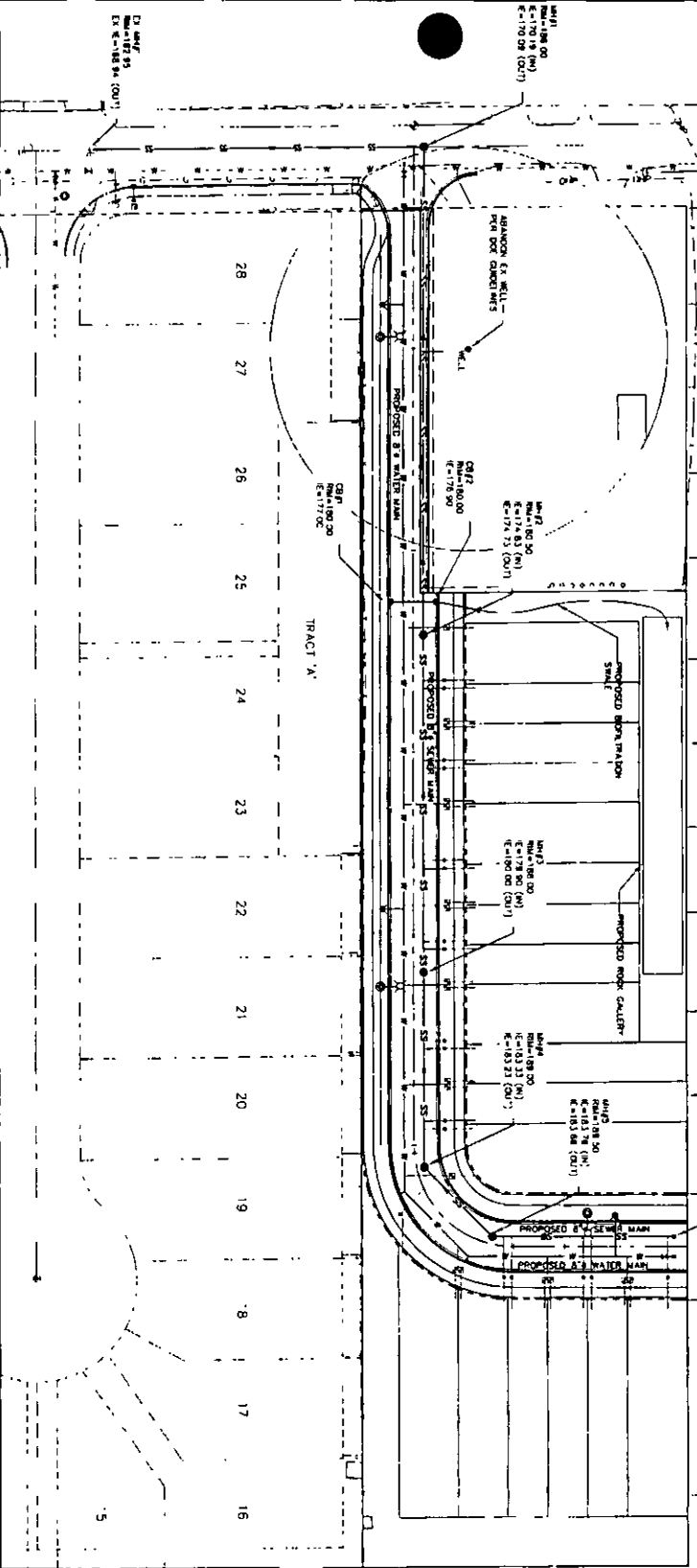
## **Urban Forestry Comments**

Urban Forestry has completed the substantive review for PATTISON ST TOWNHOMES CD # 07-00000148 project. The set of plans date stamped 8/23/07 were used to complete the review. Staff has reviewed the tree protection and replacement plan prepared by Washington Forestry Consultants dated July 16, 2007 and a plan addendum by Washington Forestry Consultants date stamped August 23, 2007. Following are Urban Forestry Comments and recommended conditions of approval:

- 1) The site is approximately 2/3rds forested with second growth mixed conifers and hardwoods, with Douglas fir, alder and big leaf maple being the predominate tree species found on site. 1/3 of the site is an old home site (now a pasture) that contains approximately 10 trees.
- 2) The site area is 1.93 acres, with 1.23 acres being considered buildable for the purposes of calculating tree density. This then requires a minimum tree density of 37 tree units. 75% of the tree units (28 tree units) are required to be within a tree tract or tracts.
- 3) The applicant is proposing a tree tract in the SouthEast corner of the property that will contain 19 trees (equivalent to 54 tree units). The applicant is also proposing the preservation of 11 additional trees on the proposed lots adjacent to the tree tract. This amount exceeds the required minimum tree density of 37 tree units and exceeds the the tree tract requirement of 28 tree units.
- 4) Staff recommends approval without conditions.



RECEIVED  
AUG 21 2007  
COMMUNITY PLANNING &  
DEVELOPMENT



**SITE INFORMATION:**

APPLICANT: DOLAN SANDERS  
2010 1/2 AVENUE SE  
OLYMPIA, WA 98501  
206-280-1344

ADDRESS: PATTON STREET  
OLYMPIA, WA 98507

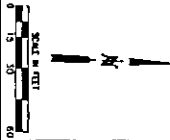
OWNER: SKILLINGS CONNOLLY, INC.  
P.O. BOX 5080  
LAKE WA 98509-0080  
(206) 491-3399  
ROBERT C. CONNOLLY, P.E.

LEGAL: SECTION 18 TOWNSHIP 18 RANGE  
DECOMPOSITION  
BERRY PLATS 55-100 L.T. 2  
DOCUMENT 010/73

**NOTES:**

- 1. TYPICAL INFORMATION FROM SURVEY BY ADJACENT
- 2. ALL EXISTING STRUCTURES TO BE REMOVED
- 3. ALL EXISTING UTILITIES TO BE REMOVED
- 4. ALL EXISTING UTILITIES TO BE REMOVED
- 5. ALL EXISTING UTILITIES TO BE REMOVED

GRAPHIC SCALE  
D.T. OF OLYMPIA, WASHINGTON  
NUMBER 545, BEING A GRASSY LOT  
THE NORTHWEST QUARTER OF  
THE INTERSECTION OF MARTIN WAY  
TO NORTH OF THE CORNER  
ELEVATION 32.71, D.T. OF  
OLYMPIA, WASHINGTON



DESIGNED BY	DATE	REVISIONS
B. EWING	12/06	NO
CHECKED BY	12/06	M. WARE
PROJ. ENGR.	12/06	B. EWING



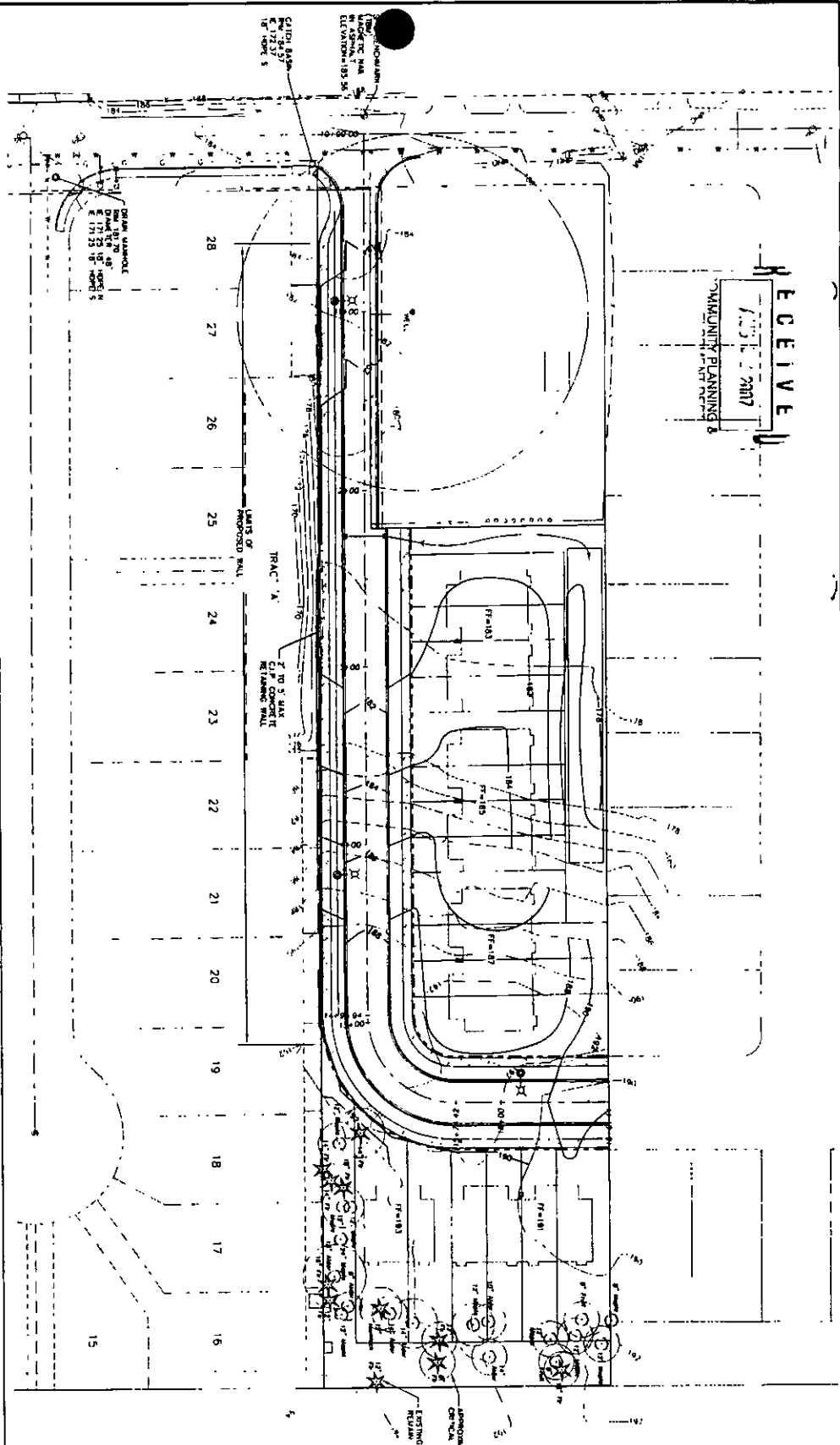
**SKILLINGS CONNOLLY**  
5014 Lacey Boulevard SE, Lacey, Washington 98503  
(206) 491-3399 (800) 454-7545 Fax (206) 491-3857

**PATTISON ST. TOWNHOUSES**  
OLYMPIA WASHINGTON

**PRELIMINARY UTILITIES PLAN**

DATE: 12/06  
BY: B. EWING

RECEIVED  
JUL 12 2007  
COMMUNITY PLANNING & DEVELOPMENT



NOTE:  
CENTRAL FOOT ZONE ASSIGNED TO BE 1' OF RADUS FOR  
EVEN 1' OF TREE BASE DIAMETER  
SAVES OF EXISTING TREES WAS CONDUCTED IN 2005 AND  
MAY NOT REPRESENT ALL TREES AND BASES OF OR  
GREATER. THE CONTRACTOR FORTHE WALL BE ON-SITE  
NEED FOR THE PROTECTION OF EXISTING TREES. A  
THAT THE

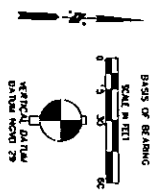
REVISIONS		DATE	
DESIGNED BY:	A. EWING	12/06	NO.
CHECKED BY:	M. WARE	2/06	DATE
PROJ. ENGR.	B. E. EWING	12/06	
CONTRACT NO.			
PROJECT NO.			
SHEET NO.			
TOTAL SHEETS			

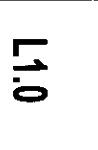


**SKILLINGS  
CONNOLLY**  
5016 Lacey Boulevard SE, Lacey, Washington 98503  
(360) 481-3398 (800) 454-7545 Fax (360) 481-3857

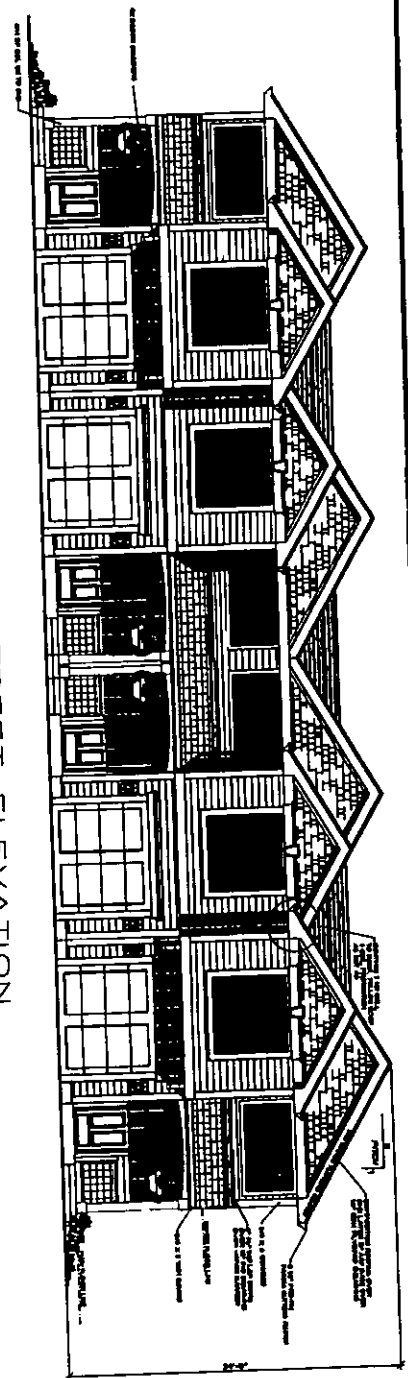
**PATTISON ST.  
TOWNHOUSES**  
OLYMPIA  
WASHINGTON

**PRELIMINARY  
GRADING PLAN**

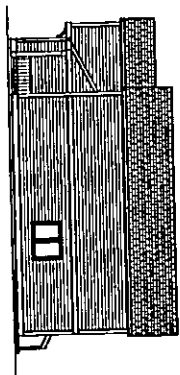




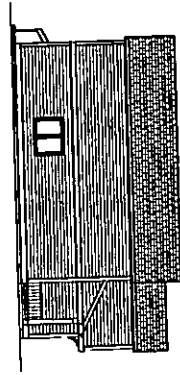
- General Notes:**
1. These drawings are prepared for the purpose of showing the general appearance of the building and are not to be used for construction purposes.
  2. All dimensions are given in feet and inches.
  3. All materials are to be of standard quality.
  4. All work is to be done in accordance with the latest building codes.
  5. All windows are to be double hung.
  6. All doors are to be solid core.
  7. All roofs are to be gabled.
  8. All floors are to be finished with carpet.
  9. All walls are to be finished with drywall.
  10. All ceilings are to be finished with drywall.
  11. All stairs are to be finished with carpet.
  12. All exterior walls are to be finished with stucco.
  13. All interior walls are to be finished with drywall.
  14. All floors are to be finished with carpet.
  15. All roofs are to be gabled.



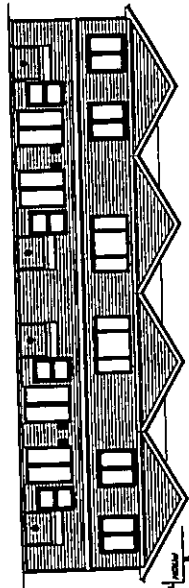
**FRONT ELEVATION**  
SCALE: 1/4" = 1'-0"



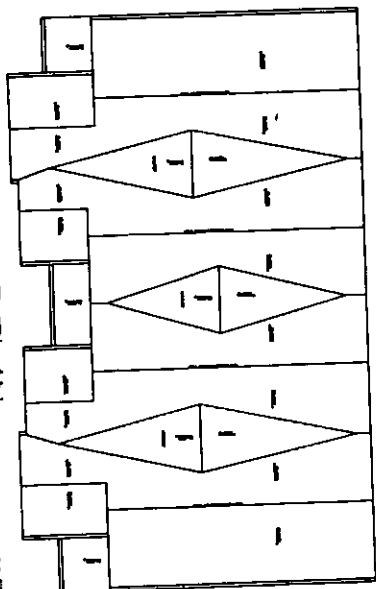
**RIGHT ELEVATION**  
SCALE: 1/4" = 1'-0"



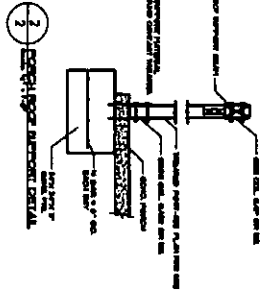
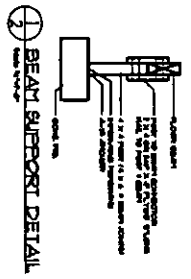
**LEFT ELEVATION**  
SCALE: 1/4" = 1'-0"



**REAR ELEVATION**  
SCALE: 1/4" = 1'-0"

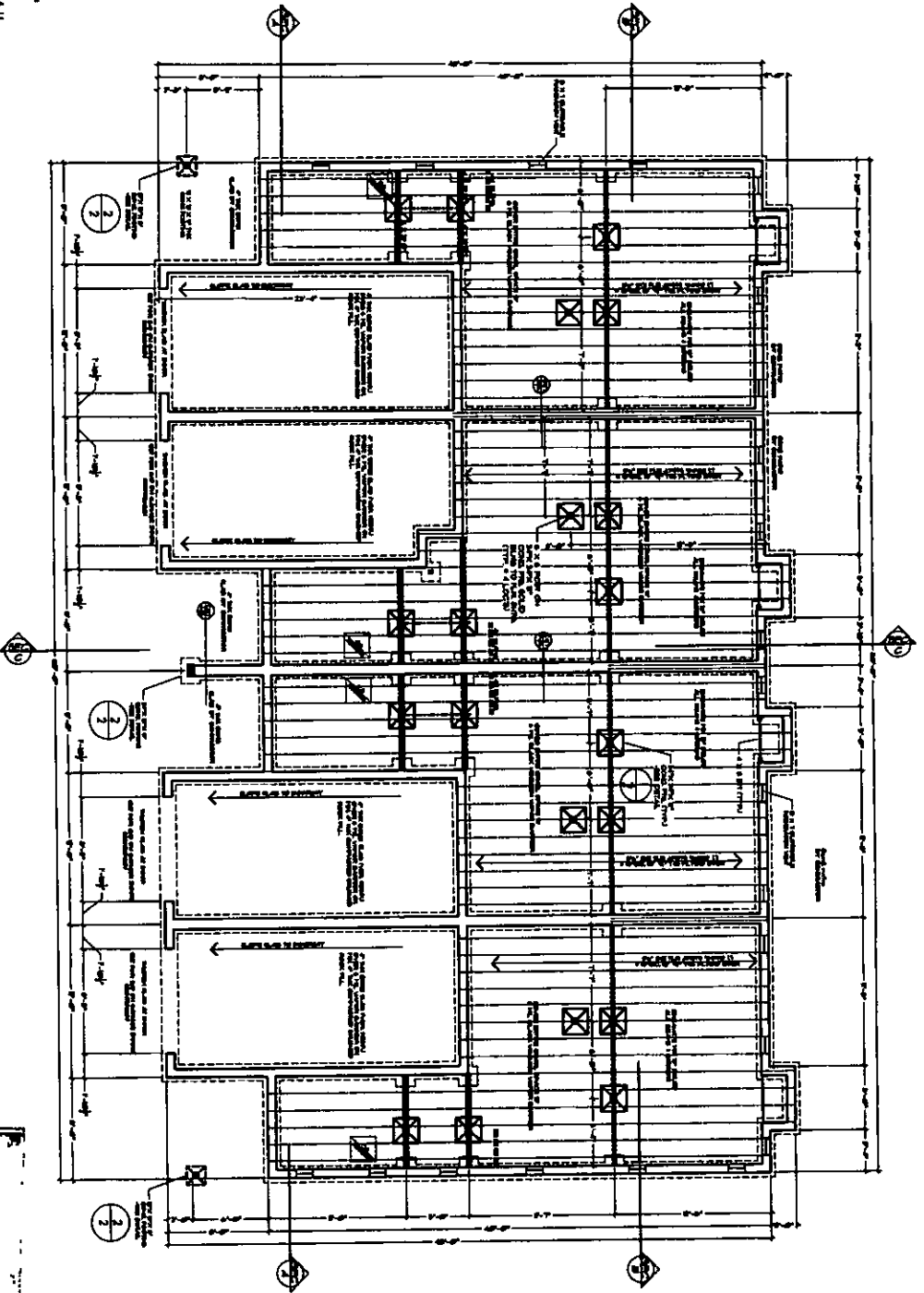


**ROOF PLAN**  
SCALE: 1/4" = 1'-0"



Alloyed	1	2	3
Thickness (mm)	6"	6"	6"
Width (mm)	12"	12"	23"

3 TYPICAL FOUNDATION DETAIL



FOUNDATION PLAN THE MANZANITA  
SCALE: 1/4" = 1'-0"

1.0\"/>

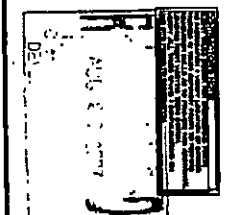
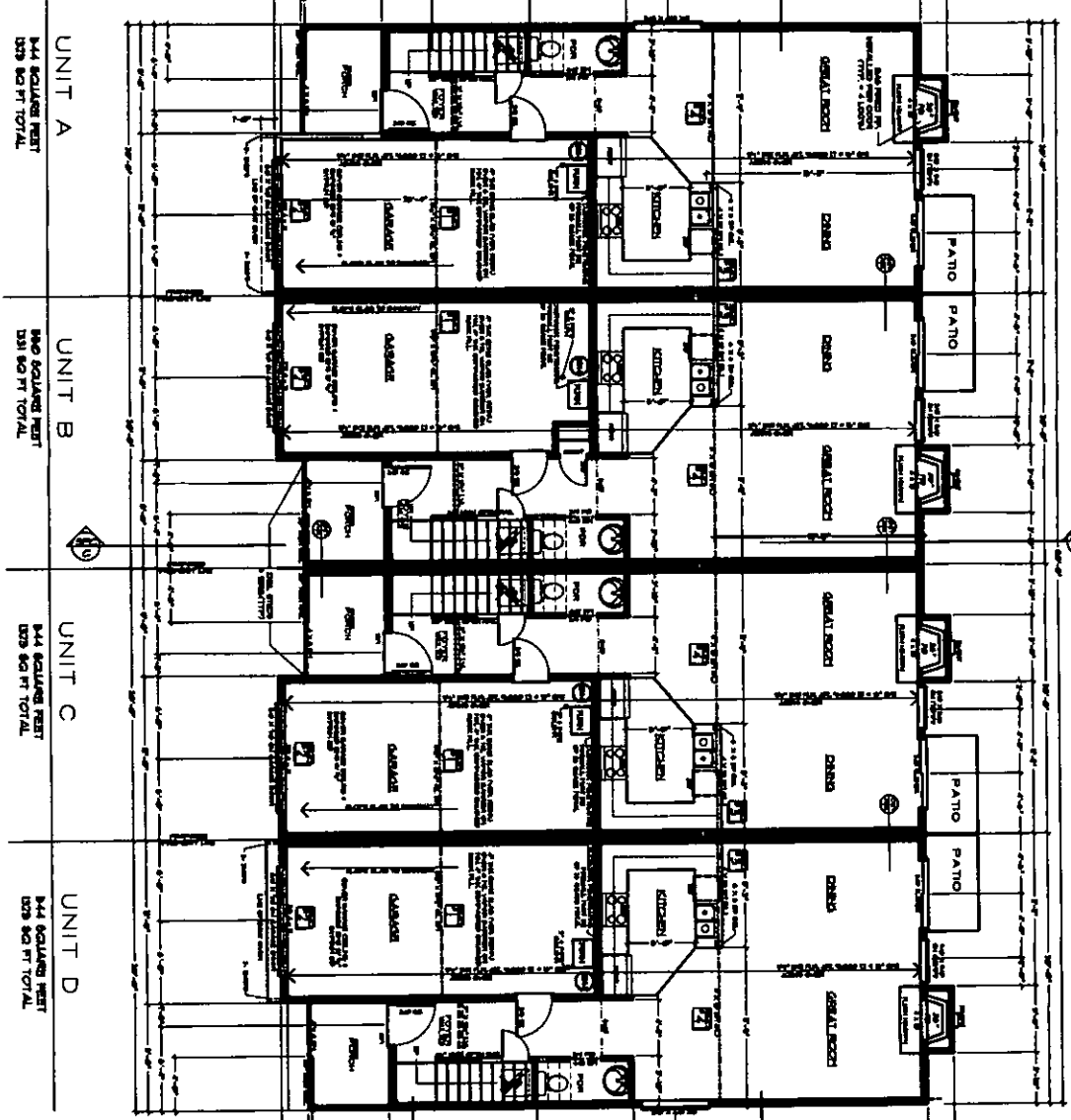
**GRAYMAR**  
CADD DRAWING AND DESIGN  
THE MANZANITA

KEY & PLAN FOR  
DOUG SAUNDERS

FOUNDATION PLAN

# MAIN FLOOR PLAN

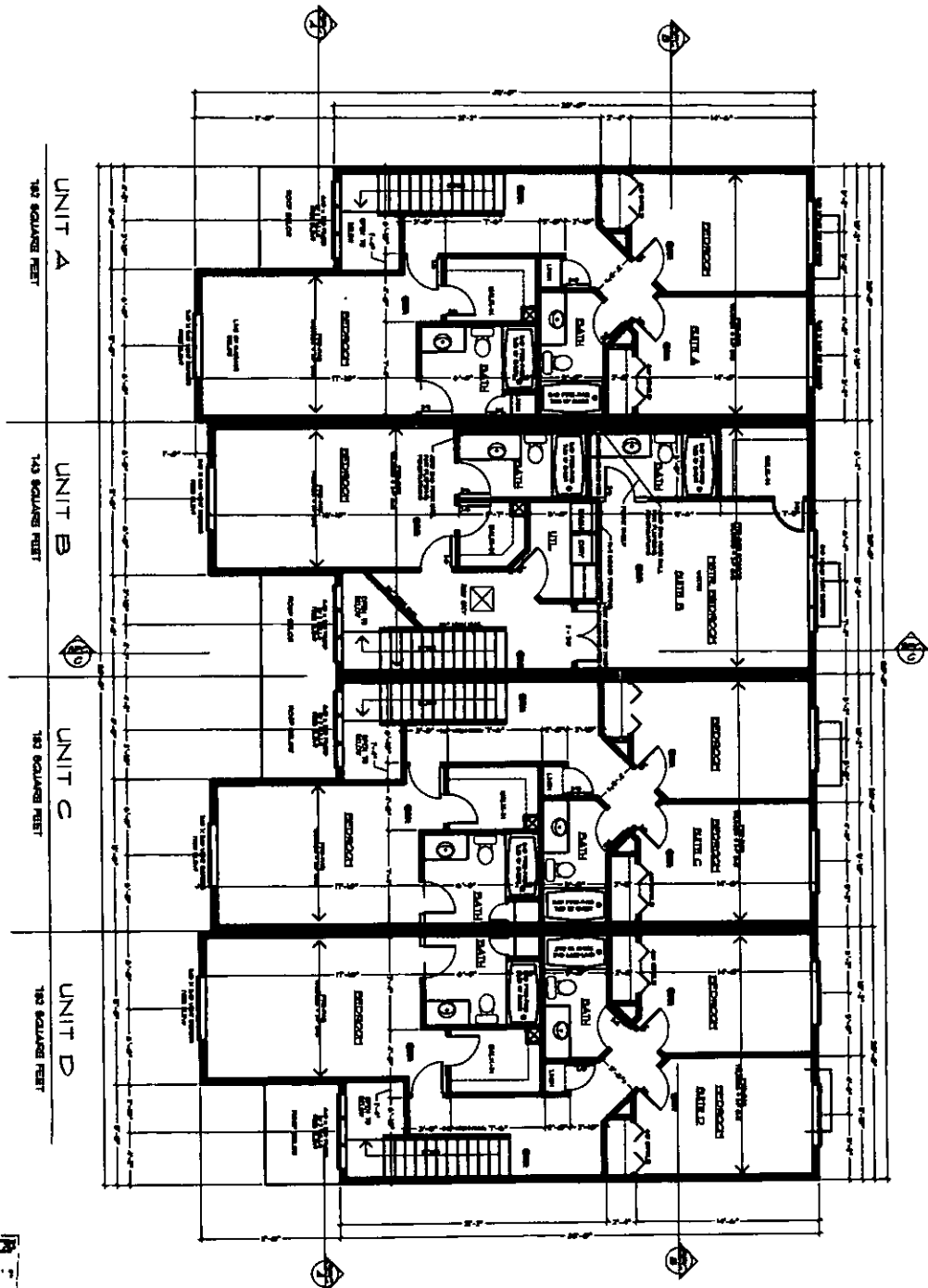
SCALE: 1/4" = 1'-0"

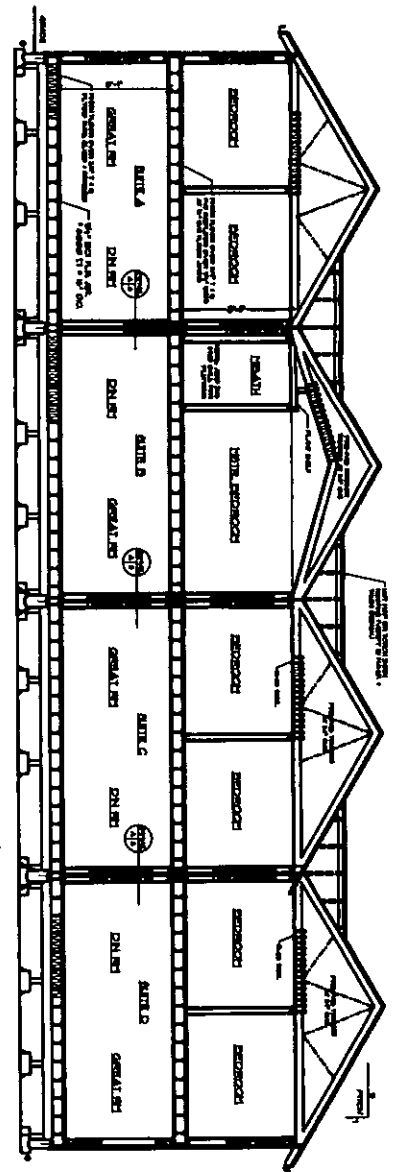




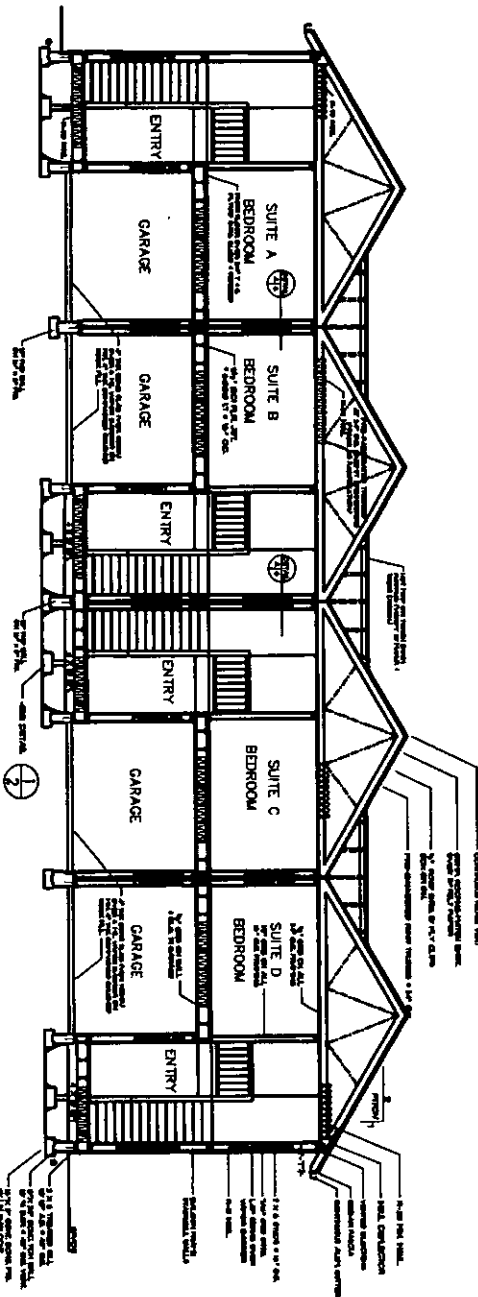
# UPPER FLOOR PLAN THE MANZANITA

SCALE: 1/4" = 1'-0"





CROSS SECTION B-B  
SCALE: 1/4" = 1'-0" SECTION A-A FROM CROWN MOVER



CROSS SECTION A-A  
SCALE: 1/4" = 1'-0"

SECTION A-A  
AUG 28 2007

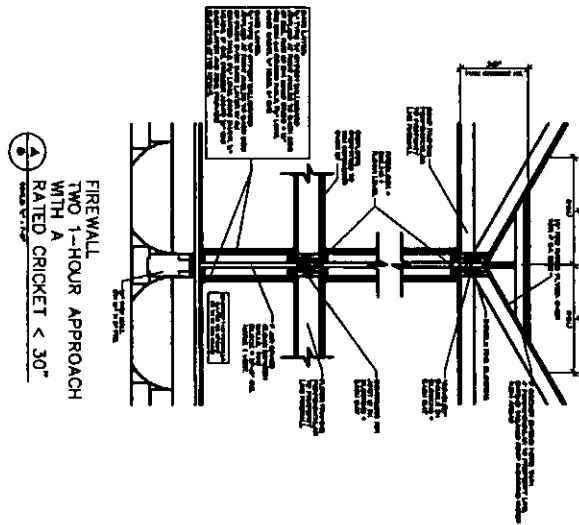
5

GRAYMAR  
CAD DRAWING AND DESIGN  
THE MANZANITA

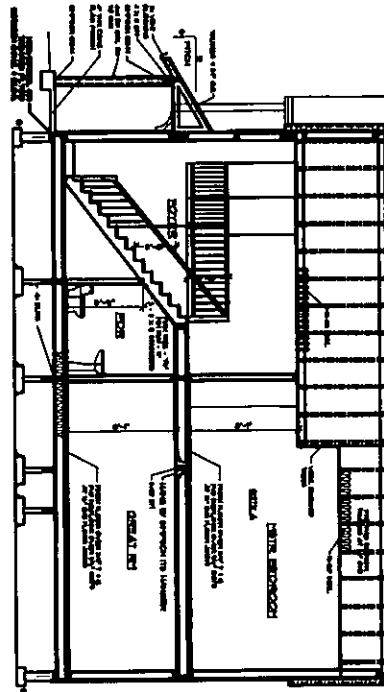
11/11/07

KEY & PLAN FOR  
DOUG SAUNDERS

SECTIONS



FIREWALL  
TWO 1-HOUR APPROACH  
WITH A  
RATED CRICKET < 30"



CROSS SECTION C-C  
SCALE: 1/4" = 1'-0"

NOTE: SEE SECTION A-A FOR COTTAGE NOTES

ALJ 2 2 2007  
SECTION C-C

6 6

**GRAYMAR**  
CADD DRAFTING AND DESIGN

REV 4 FILE FOR  
DOUG SAUNDERS

SECTION 4  
FIRE WALL DETAIL

**WASHINGTON FORESTRY CONSULTANTS, INC.**  
FORESTRY AND VEGETATION MANAGEMENT SPECIALISTS



W F C I

360/943-1723  
FAX 360/943-4128

1919 Yelm Hwy SE, Suite C  
Olympia, WA 98501

August 22, 2007

Doug Saunders

RE: Tree Protection Fence Location around Tree Tract – Pattison Townhomes

Dear Mr. Saunders:

We have completed additional work to specifically prescribe the tree protection fence locations along the tree tract in the Pattison Town homes project.

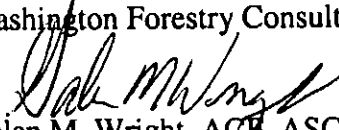
We are recommending that 19 trees be saved in the tree tract. Three trees are hazardous and should be removed. There are 11 additional trees on lots, adjacent to the tree tract that can also be saved.

It appears that the entire root protection zone can be protected for all except tree #7, a 24 inch DBH bigleaf maple and tree #11 an 18 inch DBH Douglas-fir. I have drawn the proposed root protection zone on the attached map. This intrusion will result in less than a 25% loss of tree roots on the maple (It appears the tree is actually south of where the survey shows it). It is approximately 20"+ feet south of the house footprint as shown on the attached map. It is recommended that the grading plan minimize intrusion into both trees root protection zone as much as possible. A fill would be better than a cut.

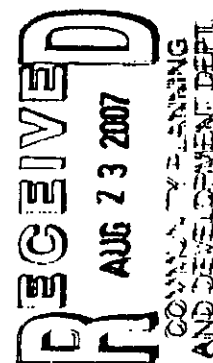
Please give me a call if you have questions.

Respectfully submitted,

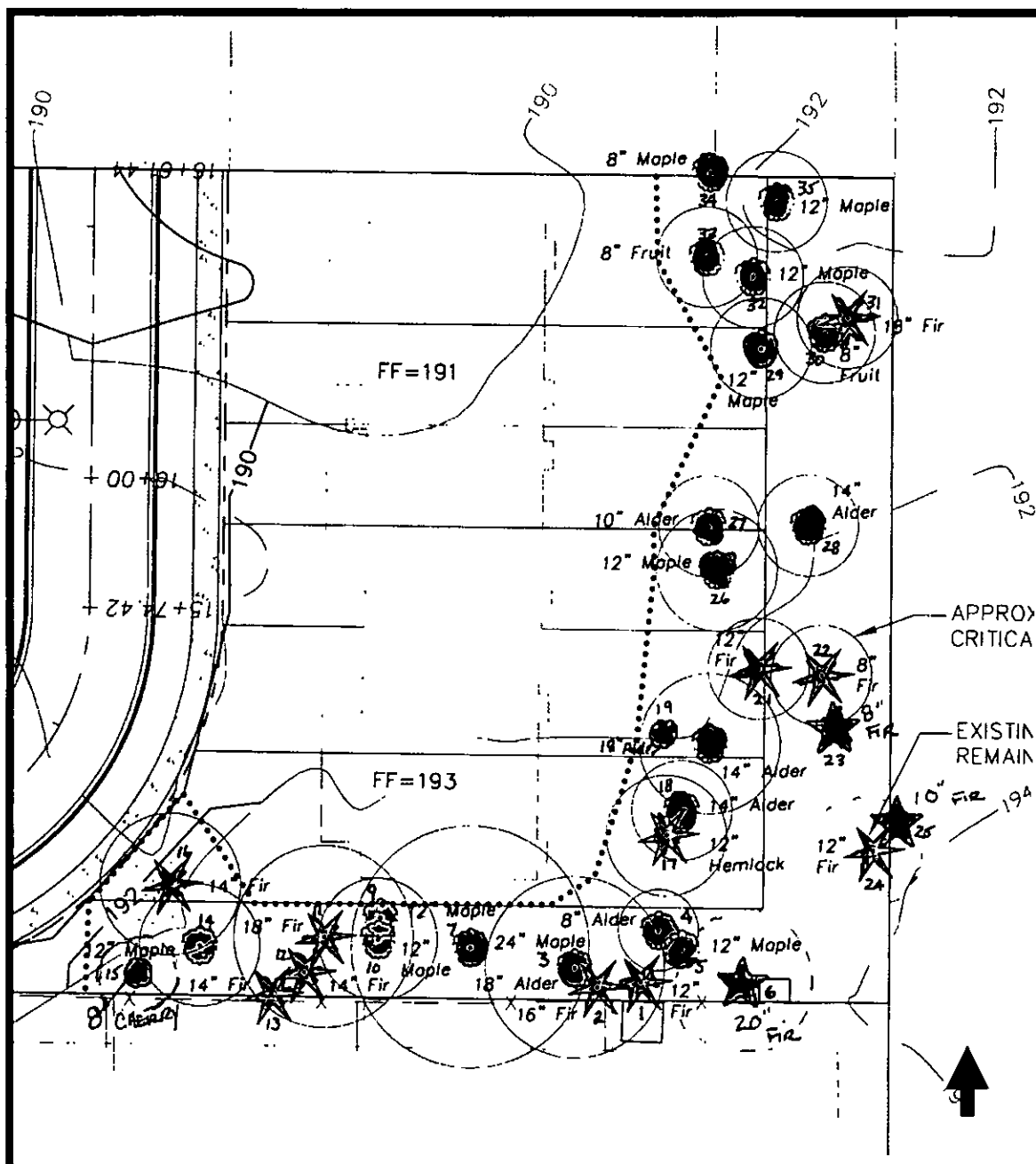
Washington Forestry Consultants, Inc.

  
Galen M. Wright, ACF, ASCA  
ISA Board Certified Master Arborist No. PN-0129 BU  
Certified Forester No. 44

attachments



**Attachment #1:**



## Attachment #2:

Species	DBH (in)	Condition	RPZ (ft)	Comments	Save/ Remove
DF	14	Good	15	None	Save
DF	16	Good	15	None	Save
RA	18	Fair	15	None	Save
RA	6-10(2)	Fair	12	Two stem tree. Smaller stem should be removed	Save
BLM	14	Poor	None	Broken, poorly formed canopy	Remove
DF	20	Good	20	None	Save
BLM	20	Fair	20	Narrow canopy	Save
RA	10	Poor	None	Slender tree/ poor canopy	Remove
BLM	12-16(2)	Hazard	None	Two stem with included bark/Crack in stem	Remove
BLM	16	Very Poor	None	Suppressed tree beside tree 9	Remove
DF	18	Fair	18	Remove dead lower branches	Save
DF	16	Fair	16	Remove dead lower branches	Save
DF	18	Fair	16	Remove dead lower branches	Save
BLM	14	Hazard	None	Two stem with included bark & trunk damage	Remove
CH	8	Fair	8	None	Save
DF	10-18(2)	Fair	16	Two stem tree. One stem suppressed & should be removed	Save
WH	12	Poor	None	Suppressed	Remove
RA	16	Poor	None	Weak tree susceptible to windthrow	Remove
RA	18	Poor	None	Weak tree susceptible to windthrow	Remove
RA	16	Poor	None	Weak tree susceptible to wind-throw	Remove
DF	14	Fair	14	Remove dead lower branches	Save
DF	12	Poor	None	Suppressed	Remove
DF	8	Poor	None	Suppressed	Remove
DF	14	Fair	14	Remove dead lower branches	Save
DF	10	Poor	None	Intermediate tree beside tree 24	Save
BLM	12	Poor	None	Weak tree susceptible to wind-throw	Remove
RA	6-12(2)	Poor	None	Weak tree susceptible to wind-throw	Remove
RA	16(3)	Poor	None	Weak tree susceptible to wind-throw	Remove
BLM	12-16(2)	Fair	16	Two stem	Save
CH	10	Poor	None	Suppressed	Remove
DF	20	Fair	20	Remove dead lower branches	Save
BLM	3-16(4)	Poor	None	Multi-stem poor structure	Remove
CH	10	Poor	None	Suppressed	Remove
BLM	10	Very Poor	None	Suppressed	Remove
BLM	6-10 (2)	Very Poor	None	Suppressed	Remove

DF=Douglas-fir; BLM=Bigleaf maple; CH=Cherry; RA=Red alder; WH=Western hemlock;

To whom it may concern

I, Andy Gub, an officer  
of Northwest Family Homes, Inc give  
Doug Saunders permission to install  
a temporary round about on our  
property if he needs to.

x Andy Gub

x 8/22/07



City of  
OLYMPIA

DESIGN REVIEW APPLICATION - CONCEPT

Community Planning & Development, 837 7th Avenue, SE, P.O. Box 1967, Olympia, WA 98507-1967  
Telephone (360) 753-8314 - Fax (360) 753-8087

**OFFICIAL USE ONLY**

Case #: 07-0148

Master File #: \_\_\_\_\_

Date: \_\_\_\_\_

Received By: K.C.

Project Planner: K.C.

Related Cases: REL. 05-1218

Project Name and Address PATSON STREET TOWNHOMES

Applicant Name & Phone No. DOUG SAUNDERS 360-208-1344

Description of Project SUBDIVIDE PROPERTY INTO 18 TOWNHOME LOTS

**Minimum Submittal Requirements:** A vicinity map, a General Land Use application and this completed form with the following attachments: context plan, site plan, landscape plan, and building elevations. Include a graphic scale on all plan sheets; use the same scale for site and landscape plans. Submit two full-sized (24" x 36") sets of plans and one complete reduced set (11" x 17") of plans with the following information:

1. **Context Plan (plan and elevation views of proposed project in relation to surrounding properties)**
  - ☐ Footprint(s) of proposed building(s) and existing buildings within 100' of the project site on the same side of the street.
  - ☐ Scaled elevations of proposed and existing buildings within 100' of the project site on the same side of the street, or photographic survey of existing properties with scaled elevation of proposed building(s) mass.
2. **Preliminary Site Plan**
  - ☐ Property lines with distances
  - ☐ Adjacent public rights-of-way
  - ☐ Existing and proposed grades at 2-foot contour intervals
  - ☐ Existing and proposed site features
  - ☐ Existing and proposed building footprint(s) with dimensioned setbacks from property lines
  - ☐ Clearly delineated and labeled landscape and hardscape areas
3. **Preliminary Landscape Plan**
  - ☐ Location of existing (to remain) and proposed plants
  - ☐ Type of existing and proposed plants (i.e. groundcover, shrub, tree)
  - ☐ Graphic depiction of the size of proposed tree canopies at maturity on plan
  - ☐ Clearly delineated and labeled landscape, hardscape, and building areas
4. **Preliminary Building Elevations (fully scale and dimension each elevation)**
  - ☐ Building elevations of all sides of the building(s) labeled as north, south, east or west elevation
  - ☐ Location of building doors and windows
  - ☐ Proposed building and roof materials
  - ☐ Indicate finished floor elevations and location of exterior steps and stairways
  - ☐ Area(s) on building where signs will be installed
5. **Public notification list (list certified by a title company of all property owners within 300 feet of the project site)**





City of  
OLYMPIA

ENVIRONMENTAL CHECKLIST

Community Planning & Development, 837 7th Avenue, SE, P.O. Box 1967, Olympia, WA 98507-1967  
Telephone (360) 753-8314 - Fax (360) 753-8087

1. **Applicant:** Mr. Doug A. Saunders  
Address: 2014 Arena Court SE; Olympia, WA; 98501  
E-mail Address: doug.saunders@comcast.net  
Phone: Cell# (360) 280-1344
2. **Representative:** Skillings Connolly, Inc.  
Address: P.O. Box 5080  
Lacey, WA 98509  
E-mail Address: \_\_\_\_\_  
Phone: 360-491-3399
3. **Property Address or Location:** 500 Blk Pattison St. NE
4. **Section/Township/Range:** s18/18/1W
5. **Tax Parcel Nos.:** 34203000101
6. **Total Acres:** 1.82
7. **Initial Permit Type(s):** Plat Approval/Subdivision Permit
8. **Zoning:** R-6-12, RM-18, Residential Multifamily
9. **Shoreline Designation (if any):** None
10. **Water Body (if any nearby):** The closest is Woodard Creek (WRIA 13.0012) approximately 700-feet due east and 25-feet down gradient.

11. **Project name and brief description of the proposal:** Pattison Street Townhouses a 18 lot townhouse subdivision connecting to City water/sewer to be annexed into the City of Olympia.
12. **Proposed timing or phasing, and estimated completion date:** Summer of 2007
13. **Do you have any plans for future additions, expansions, or further activity related to or connected with this proposal? If yes, explain:** No future additions, expansions, or further activity is proposed.
14. **Do you know of any plans by others that may affect this site? If yes, explain?** Yes, the proposed Pattison Street Subdivision (TPN 34203100000) bordering this project to the north. Access to Pattison Street and 8<sup>th</sup> Avenue will be shared.
15. **List other federal, state, or local permits, licenses, or approvals required for the proposal:** Local Preliminary Plat Approval/Subdivision Permit; Right of Way; Grading Plan/Permit; Drainage and Erosion Control Plan/Report; Level 1 Traffic Impact Analysis; Topographic Survey; Air Quality Report; and an Ecology NPDES permit may be required.

\*\*\* OFFICIAL USE ONLY \*\*\*

MASTER FILE # 07-0148

SEPA # \_\_\_\_\_

PROPOSAL NAME: Pattison Townhomes

RELATED CASES: \_\_\_\_\_

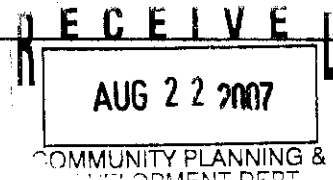
PROPOSED CITY ACTION: \_\_\_\_\_

FEE RECEIVED: ☒

DATE RECEIVED: \_\_\_\_\_

BY: \_\_\_\_\_

SUPPLEMENTAL REPORTS: \_\_\_\_\_



16. List any environmental information that has been prepared or will be prepared regarding this proposal.  
At this time only the SEPA Environmental Checklist will be prepared and submitted to the City for review.  
A recent site visit (1/19/07) and a thorough search of pertinent environmental databases indicated that no  
critical areas, state, federal, or locally listed plants or animals will be impacted by this proposed project.
- 

17. Checklist Prepared By: Michael D. McGinnis, Biologist

Date Prepared: 01/19/2007 \_\_\_\_\_

*(Please Print)*

To Be Completed by Applicant

ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one):

flat, rolling, hilly, steep slopes, mountainous, other \_\_\_\_\_

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

The site maintains a range of slopes from 3 to 15%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

The soil type for this site is Yelm fine sandy loam, 3 to 15 percent slopes. The area is not considered prime farmland due to slopes being predominately greater than 3 percent.

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

No indicators of unstable slopes were observed during the recent site visit (01/19/07) within site areas that might be slide prone i.e., greater than 10 percent slopes. Site soils are presently stabilized by mature and well established vegetation.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

An undetermined amount of imported fill will be required to construct proposed roads to City standards. Required fill will be purchased from a licensed and local operator. The exact amount of grading to occur is presently undetermined.

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

It is possible that erosion may occur during initial construction activity. However, an erosion control plan will be approved and implemented to minimize and/or prevent such an occurrence. Accepted Best Management Practices will be employed i.e., construction timing, silt fencing, mulching/seeding, and stormwater detention as required by the local and/or state authority.

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

Approximately 50 to 70 percent of the site will be covered by impervious surface once build-out is complete.

To Be Completed by Applicant

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

An approved (City) drainage and erosion control plan will be prepared using the City of Olympia's Stormwater Manual, January 2005 as guidance.

**2. Air**

**a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.**

Project construction would result in minimal air emissions, mainly dust from construction activities and construction equipment emissions. A slight long-term increase in vehicle emissions is anticipated.

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

No off-site sources of emissions or odor are known to exist that would affect this proposal.

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

Proposed measures include: proper maintenance of construction equipment; routine watering of exposed soils to minimize/eliminate dust emissions; and timely mulching and seeding of exposed final grades.

**3. Water**

**a. Surface**

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

Surface water bodies in the vicinity of the subject property include Indian Creek which lies approximately 0.17 miles west, Woodard Creek approximately 0.13 miles east, and Bigelow Lake which lies approximately 1/2 mile northeast of the site. Please see the attached Wetlands Map.

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

The project will not require any work over, in or adjacent to the described waters.

To Be Completed by Applicant

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

The proposal will not require placement of fill or dredge material into surface waters or wetlands.

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

No, the proposal does not require surface water withdrawals.

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

No, the proposal does not lie within the 100-year floodplain, according to ESRI and FEMA's U.S. hazard areas flood map. Please see attached FEMA Map, Panel 190.

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

No all stormwater will be treated onsite via proposed underground detention and storm tract. This development will be serviced by City sewer.

**b. Ground**

- (1) **Will groundwater be withdrawn or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.**

No groundwater will be withdrawn, this development will be served by City water. Stormwater is proposed to be infiltrated by underground detention facilities.

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

The development will be serviced by City sewer.

**c. Water Runoff (including stormwater)**

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

Normal amounts of stormwater from buildings, streets, sidewalks and driveways are proposed to be infiltrated by an underground detention system (not yet finalized). Surface flows that may leave the site during large storm events would eventually enter Woodard Creek via existing and mature grass-lined swales (road ditches). A final Drainage and Erosion Control Plan will be submitted for City approval. This plan will be prepared utilizing the City of Olympia's 2005 Stormwater Manual as guidance.

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

It is possible that waste material could enter the groundwater from accidental spills during construction activities. Should this occur, preplanned and approved measures will be implemented to prevent long- and short-term resource contamination. Contaminated soils will be removed from the site and disposed of at a licensed location according to DOE and City procedures.

**d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any.**

Preparation and implementation of an approved Drainage and Erosion Control Plan which will include recommended Best Management Practices per the City of Olympia's 2005 Stormwater Manual.

**4. Plants**

**a. Circle types of vegetation found on the site:**

Deciduous tree: alder, maple, aspen, other \_\_\_\_\_

Evergreen tree: fir, cedar, pine, other \_\_\_\_\_

Shrubs; Grass; Pasture; Crop or grain

Wet soil plants: cattail, buttercup, bulrush, skunk cabbage

Water plants: water lily, eelgrass, milfoil, other \_\_\_\_\_

Other types of vegetation: English ivy, elderberry, sword fern,  
Himalayan blackberry

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

Scrub ground cover will be removed for project construction. Typical residential landscaping will replace existing vegetation.

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

Washington Natural Heritage Program (WNHP) GIS datasets were researched January 18, 2007 to determine the occurrence/absence of threatened or endangered plant species within the project site. The site lies within the one-mile radius of Chain-fern, which was last seen in Washington in 1893.

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

The individual homeowners will provide landscaping on their lot after construction. A tree tract (36-feet wide) will remain bordering the entire eastern edge of the parcel. Please refer to the attached Preliminary Plat Map. In addition, a number of existing and mature maple and fir trees will be preserved.

**5. Animals**

- a. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site:**

Birds: hawk, heron, eagle, songbirds, other \_\_\_\_\_

Mammals: deer, bear, elk, beaver, other \_\_\_\_\_

Fish: bass, salmon, trout, herring, shellfish, other \_\_\_\_\_

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

Washington Department of Fish and Wildlife Priority Habitat Species (PHS) map for the vicinity was reviewed January 17, 2007 for presence/absence of threatened or endangered animal species and/or priority habitats within the project site vicinity. No threatened or endangered animal species or priority habitats are documented to occur onsite. Priority anadromous fish presence and priority resident fish presence is documented within Woodard Creek (0.13 miles east) and Indian Creek (0.17 miles west). Please refer to the attached Vicinity Map.

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

No, this site does not appear to be part of a migration route.

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

The proposed Tree Tract set-a-side will benefit wildlife and help to conserve by shielding the Woodard Creek riparian area located directly to the east. In addition, select mature trees will remain and indirectly benefit applicable wildlife species.

**6. Energy and Natural Resources**

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

Electricity and natural gas will be used to meet the project's energy needs which include heating, cooking, etc.

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

No, this project will not affect the potential use of solar energy by adjacent properties.

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

New home construction will meet, or exceed, the minimum requirements of the Washington energy code.

**7. Environmental Health**

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

None, other than the standard risks associated with construction of this type.

- (1) Describe special emergency services that might be required.**

There is the potential for emergency services including response from paramedics and fire crews due to the use of heavy equipment during construction.

- (2) Proposed measures to reduce or control environmental health hazards, if any.**

The TESC Plan and normal construction safety protocols and maintenance procedures will reduce and/or control environmental health hazards during project construction..

**b. Noise**

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

None, the project site is surrounded by areas zoned residential.



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

There will be a short-term noise increase due to roadway and new residence construction. This would likely occur during typical weekday working hours. A slight long-term noise increase will result from new residences and associated traffic. This increase would likely occur in the early morning and early evening as residents travel to and from work.

- (3) **Proposed measures to reduce or control noise impacts, if any.**

Construction will take place during normal construction hours. Construction equipment will adhere to all federal, state and local noise standards so as to not create unnecessary noise.

**8. Land and Shore Use**

- a. **What is the current use of the site and adjacent properties?**

The site is currently idle. The adjacent properties are zoned residential.

- b. **Has the site been used for agriculture? If so, describe.**

No, the site does not appear to have been recently used for agriculture, per Thurston County's GeoData website displaying historical aerial photos dating back to 1996.

- c. **Describe any structures on the site.**

No structures presently exist on this site.

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

No structures will be demolished.

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

Current zoning classification for this site: R-6-12, RM-18, Residential Multifamily

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

Current comprehensive plan designation: R-6-12, RM-18, Residential Multifamily

- g. **If applicable, what is the current Shoreline Master Program designation of the site?**

Not Applicable

- h. Has any part of the site been classified an “environmentally sensitive” area? If so, specify.**

No part of the site has been classified as “environmentally sensitive”.

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

The completed project will house approximately 41 people.

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

No people will be displaced by the completed project.

- k. Proposed measures to avoid or reduce displacement impacts, if any?**

There are no proposed measures to avoid or reduce displacement impacts.

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

The project will be built per zoning requirements. Necessary permits and permit reviews will be applied for from appropriate jurisdictional agencies.

## **9. Housing**

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

It is proposed to construct 18 townhouse units of middle-income housing.

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

No housing units will be eliminated.

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

No measures are proposed.

## **10. Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas. What is the principal exterior building material(s) proposed?**

The maximum height allowed for any proposed structures is 35 feet, with typical building materials such as wood, metal, glass, stone and masonry.

- b. What views in the immediate vicinity would be altered or obstructed?**

The site currently contains no residences therefore construction of 18 new residential townhouses will slightly alter the existing landscape. However, this development will concur with adjacent residential development.

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

Proposed measures to reduce aesthetic impacts include the Tree Tract set-a-side and preservation of select mature trees that presently exists within the parcel. In addition, street trees will be required as an element of frontage improvements to Pattison Street NE.

**11. Light and Glare**

**a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

Typical lighting features associated with residential areas will be constructed. These lights will typically be used at night.

**b. Could light or glare from the finished project be a safety hazard or interfere with views?**

It is not anticipated that light or glare from the finished project will be a safety hazard or interfere with views.

**c. What existing off-site sources of light or glare may affect your proposal?**

There are no known off-site sources of light or glare will affect the proposal.

**d. Proposed measures to reduce or control light and glare impacts, if any.**

Construction will likely occur during typical construction hours, thus reducing light and glare.

**12. Recreation**

**a. What designated and informal recreational opportunities are in the immediate vicinity?**

Bigelow Lake lies approximately 0.58 miles northeast of the site, Indian Creek runs north-south approximately 0.17 miles to the west, and Woodard Creek runs north-south approximately 0.13 miles east. Forest Memorial Garden is located approximately one mile southwest of the project site.

**b. Would the proposed project displace any existing recreational uses? If so, describe.**

No recreational opportunities would be displaced by this project.

**c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.**

No measures are necessary to reduce or control recreational impacts.

### **13. Historic and Cultural Preservation**

- a. Are there any places or objects listed on or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.**

No, there are no places or objects onsite, or in the immediate project vicinity, proposed for preservation registrars.

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.**

Archaeological, historic and cultural resources were researched at The Department of Archaeology and Historic Preservation office January 30, 2006. There are no landmarks or historical evidence within one mile of the project site. Five homes on the National Historic Register are within two miles of the site: Bigelow House, Rudkin House, Reinhart-Young House, Funk House, and the Hale House.

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

No measures are necessary as no landmarks are on or immediately adjacent to the project site.

### **14. Transportation**

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

The site is currently served by Pattison Street NE. The proposed access is located within the southwest corner of the parcel; please refer to the attached Preliminary Plat Map.

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

The site is currently served by public transit (bus service). The transit stop is located at the corner of Pattison Street NE and Martin Way, approximately ¼ mile south of the project site.

- c. How many parking spaces would the completed project have? How many would the project eliminate?**

The completed project will have approximately 36 parking spaces, two per lot. No spaces would be eliminated.

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

The new access road will be public and loop from the southwest corner (flag portion) of the project parcel into the neighboring parcel with access to both Pattison Street and 8<sup>th</sup> Avenue NE. Please refer to the

attached Preliminary Plat Map. Frontage improvements to Pattison Street include the following: curb and sidewalks; storm extension; street widening; ROW dedication; sewer main extension; street lights; and underground utility conduit.

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

No, the project will not use water, rail or air transportation.

- f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

The proposed project would have an average weekday volume of 172 trips and approximately 18 peak hour trips (4 pm-6 pm), according to the ITE Manual.

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

Proposed measures to reduce or control transportation impacts include traffic mitigation fees paid by the client.

#### **15. Public Services**

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

Yes, typical public services including fire and police protection, health care, and refuse, water and sewer services will be required for this project.

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

Upon release of the building permit for the individual homes, a school mitigation fee will be paid. Other services including water and sewer will be supported by user fees and tax revenue.

#### **16. Utilities**

- a. **Circle utilities currently available at the site:**

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other cable, internet \_\_\_\_\_

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

The following utilities are proposed for the project:

Electricity - PSE  
Natural Gas - PSE  
Water - City of Olympia  
Refuse Service - City of Olympia  
Telephone - Qwest  
Sanitary Sewer - City of Olympia  
Television - Comcast  
Internet - Comcast

**Will construction be required for any of these utilities?**

*Electricity & Natural Gas* - PSE - Construction of an underground utility conduit will occur.

*Water* - City of Olympia - Extension is required on site to serve the plat with an 8-inch diameter main from the existing Pattison Street 6-inch main.

*Telephone* - Qwest - Construction of an underground utility conduit will occur.

*Sanitary Sewer* - City of Olympia - Extension is required on Pattison Street from the intersection of Applehill Court across the full Pattison Street frontage.

**SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make this decision.

Signature: \_\_\_\_\_

*Michael A. McGinnis*

Date: January 19, 2007

**NOTE:** An additional "Supplemental Sheet for Non-Project Actions" must be attached if this checklist is for adoption of a proposed regulation, policy, standard, plan, or similar non-construction action.



City of  
**OLYMPIA**

Community Planning & Development, 837 7th Avenue, SE, P.O. Box 1967, Olympia, WA 98507-1967  
Telephone (360) 753-8314 - Fax (360) 753-8087

## SITE POSTING RECORD

POSTING DATE: 8/22/07 PROJECT NUMBER 07-00000148

PROJECT NAME: Pattison St Townhouses

SITE ADDRESS: XXX Pattison St, NE Olympia, WA

PLANNER: Kraig Chalem

I HEREBY CERTIFY THAT THE SITE FOR THE ABOVE REFERENCED PROJECT HAS BEEN  
POSTED IN A PROMINENT AND VISIBLE LOCATION.

  
SIGNATURE

8/22/07  
DATE

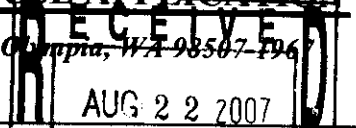
Doug Saunders  
PRINT NAME



City of  
**OLYMPIA**

# GENERAL LAND USE APPLICATION

Community Planning & Development, 837 7th Avenue, SE, P.O. Box 1967, Olympia, WA 98507-1967  
Telephone (360) 753-8314 - Fax (360) 753-8087



## OFFICIAL USE ONLY

Case #: 07-0148

Master File #: \_\_\_\_\_

Date: \_\_\_\_\_  
COMMUNITY PLANNING &  
DEVELOPMENT DEPT.  
Related Cases: EE-05-1218

Received By: K.C.

Project Planner: K.C.

One or more of the following supplements must be attached to this General Application:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Adjacent Property Owner List      | <input type="checkbox"/> Parking Variance                          |
| <input type="checkbox"/> Annexation Notice of Intent                  | <input type="checkbox"/> Preliminary Long Plat                     |
| <input type="checkbox"/> Annexation Petition (with BRB Form)          | <input type="checkbox"/> Preliminary PRD                           |
| <input type="checkbox"/> Boundary Line Adjustment (Lot Consolidation) | <input type="checkbox"/> Reasonable Use Exception (Critical Areas) |
| <input type="checkbox"/> Conditional Use Permit                       | <input checked="" type="checkbox"/> SEPA Checklist                 |
| <input checked="" type="checkbox"/> Design Review - Concept (Major)   | <input type="checkbox"/> Shoreline Management Permit (JARPA Form)  |
| <input type="checkbox"/> Environmental Review (Critical Area)         | <input type="checkbox"/> Short Plat                                |
| <input type="checkbox"/> Final Long Plat                              | <input checked="" type="checkbox"/> Tree Plan                      |
| <input type="checkbox"/> Final PRD                                    | <input type="checkbox"/> Variance or Unusual Use (Zoning)          |
| <input type="checkbox"/> Land Use (Site Plan) Review Supplement       | <input type="checkbox"/> Other _____                               |
| <input type="checkbox"/> Large Lot Subdivision                        |  |

Project Name: Pattison Street Townhomes

Project Address: Tax Parcel No. 34203000101, Pattison Street NE, Olympia WA 98506

Applicant: Douglas Saunders

Mailing Address: 2014 Arena Court SE Olympia WA 98501

Phone Number(s): (360) 280-1344

E-mail Address: doug.saunders@comcast.net

Owner (if other than applicant): Same as Applicant

Mailing Address: \_\_\_\_\_

Phone Number(s): \_\_\_\_\_

Other Authorized Representative (if any): Skilling-Connolly, Inc. Attn: Bryan J Ewing

Mailing Address: 5016 Lacey Blvd, Lacey WA 98503

Phone Number(s): 360 491-3399

E-mail Address: bewing@skillings.com

Project Description: Subdivide the property into 18 town homes, including new roadways, water, sewer and storm.

Size of Project Site: X 1.95 AC

Assessor Tax Parcel Number(s): 34203000101

Section : 18 Township: 18 N Range: 1 WEST



Full Legal Description of Subject Property (attached ☐):

Section 18 Township 18 Range 1W Quarter SE NW Plat Berry Farms SS-1830 LT 2 Document 018/113 \_\_\_\_\_

Zoning: R6-12 \_\_\_\_\_

Shoreline Designation (if applicable): N/A \_\_\_\_\_

Special Areas on or near Site (show areas on site plan):

- ☐ None  
☐ Creek or Stream (name): \_\_\_\_\_  
☐ Lake or Pond (name): \_\_\_\_\_  
☐ Swamp/Bog/Wetland  
☐ Steep Slopes/Draw/Gully/Ravine  
☐ Scenic Vistas  
☐ Historic Site or Structure  
☐ Flood Hazard Area (show on site plan)

Water Supply (name of utility if applicable): City of Olympia \_\_\_\_\_

Existing: 6" diameter \_\_\_\_\_

Proposed: 6" and 8" diameter \_\_\_\_\_

Sewage Disposal (name of utility if applicable): City of Olympia \_\_\_\_\_

Existing: 8" diameter gravity \_\_\_\_\_

Proposed: 8" diameter gravity \_\_\_\_\_

Access (name of street(s) from which access will be gained): Pattison Street NE and 8<sup>th</sup> Ave NE

I affirm that all answers, statements, and information submitted with this application are correct and accurate to the best of my knowledge. I also affirm that I am the owner of the subject site or am duly authorized by the owner to act with respect to this application. Further, I grant permission from the owner to any and all employees and representatives of the City of Olympia and other governmental agencies to enter upon and inspect said property as reasonably necessary to process this application. I agree to pay all fees of the City that apply to this application.

Doug Saunders

Print Name

[Signature]

Signature

8/22/07

Date

DS  
Initials

I understand that for the type of application submitted, **the applicant is required to pay actual Hearing Examiner costs**, which may be higher or lower than any deposit amount. I hereby agree to pay any such costs.

**Required Attachments (unless exempt or waived):**

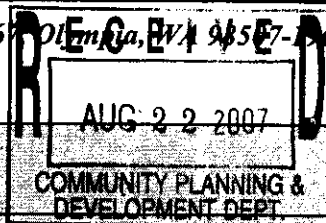
- ☒ SEPA Environmental Checklist and fee with vicinity map and title company certified addresses of property owners within 300 feet of property.  
☒ Tree Plan and fee (5 copies) (see OMC 16.60.050 for exemptions).  
☒ Environmental Review Supplement for critical areas within 500 feet of site (5 copies).  
☒ Other supplemental attachments and fees for the particular land use approval requested.



City of  
OLYMPIA

PRELIMINARY LONG PLAT SUPPLEMENT

Community Planning & Development, 837 7th Avenue, SE, P.O. Box 1967 Olympia, WA 98507-1967  
Telephone (360) 753-8314 - Fax (360) 753-8087



OFFICIAL USE ONLY		
Case #: <u>07048</u>	Master File #: _____	Date: _____
Received By: <u>K.C.</u>	Related Cases: _____	Project Planner: <u>K.C.</u>

Name of Applicant: DOUG SAUNDERS

Project Name: PATISON STREET TOWNHOME

Designer/Engineer/Surveyor: SKILLINGS-CONNOLLY, INC.

Mailing Address: 5016 LACEY BLVD

City, State and Zip: LACEY, WA 98503

Phone Number(s): 360 491-3399

Total acreage of contiguous same ownership: 1.95 AC

Existing structures are located on lots? ☐ Yes ☒ No (show location and label type of structure on map)

Number of lots proposed:

Single-family: 18 Multifamily: \_\_\_\_\_ Industrial: \_\_\_\_\_  
Duplex: \_\_\_\_\_ Commercial: \_\_\_\_\_

Smallest Lot Area: <u>1957 SF</u>	Length of Public Streets: <u>661 LF</u>
Average Lot Area: <u>2418 SF</u>	Total Acreage of Public Right-of-Way <u>29,033 SF</u>
Total Acreage in Plat: <u>1.93 AC</u>	Length of Private Streets: <u>0</u>
Acreage in Open Space: <u>0.25 AC</u>	Total Acreage of Private Street Easements: <u>0</u>
Acreage in Parks: <u>0</u>	Percent of Plat in Right-of-Way <u>28 %</u>

Zoning: R612 School District: OLYMPIA

Access (name of street(s) from which access is or will be gained):

Existing: PATISON ST. Proposed: YET TO BE NAMED

A preliminary plat application must accompany a General Land Use Application provided by the Community Planning and Development Department and must include the information described on the accompanying two pages.

# Pattison Street NE Townhouses Vicinity Map

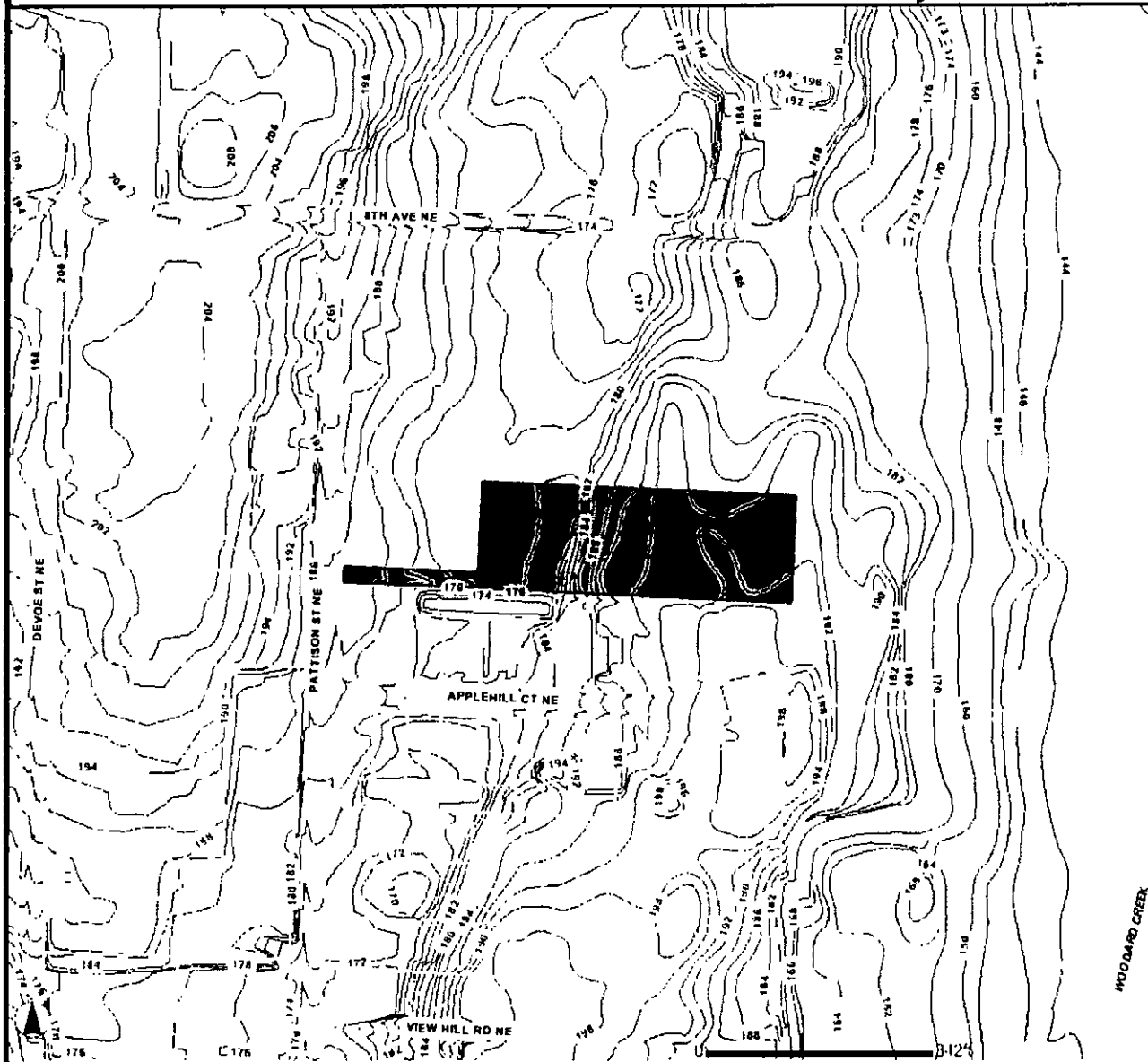


## LEGEND

- |                 |                  |
|-----------------|------------------|
| Major Roads     | Flood Zone       |
| Roads           | Water Bodies     |
| Streams         | Zoning           |
| Contours        | Cities           |
| Wetlands        | Parcels          |
| Wetland Buffers | Project Location |

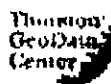
Thurston County GeoData Center  
 © 2006 - Thurston County GeoData Center  
 2404 Heritage Court SW, 3rd Floor  
 Olympia, WA 98502-6031

# 500 Blk Pattison Street NE Topographic Map / Pattison Street Townhouses Project

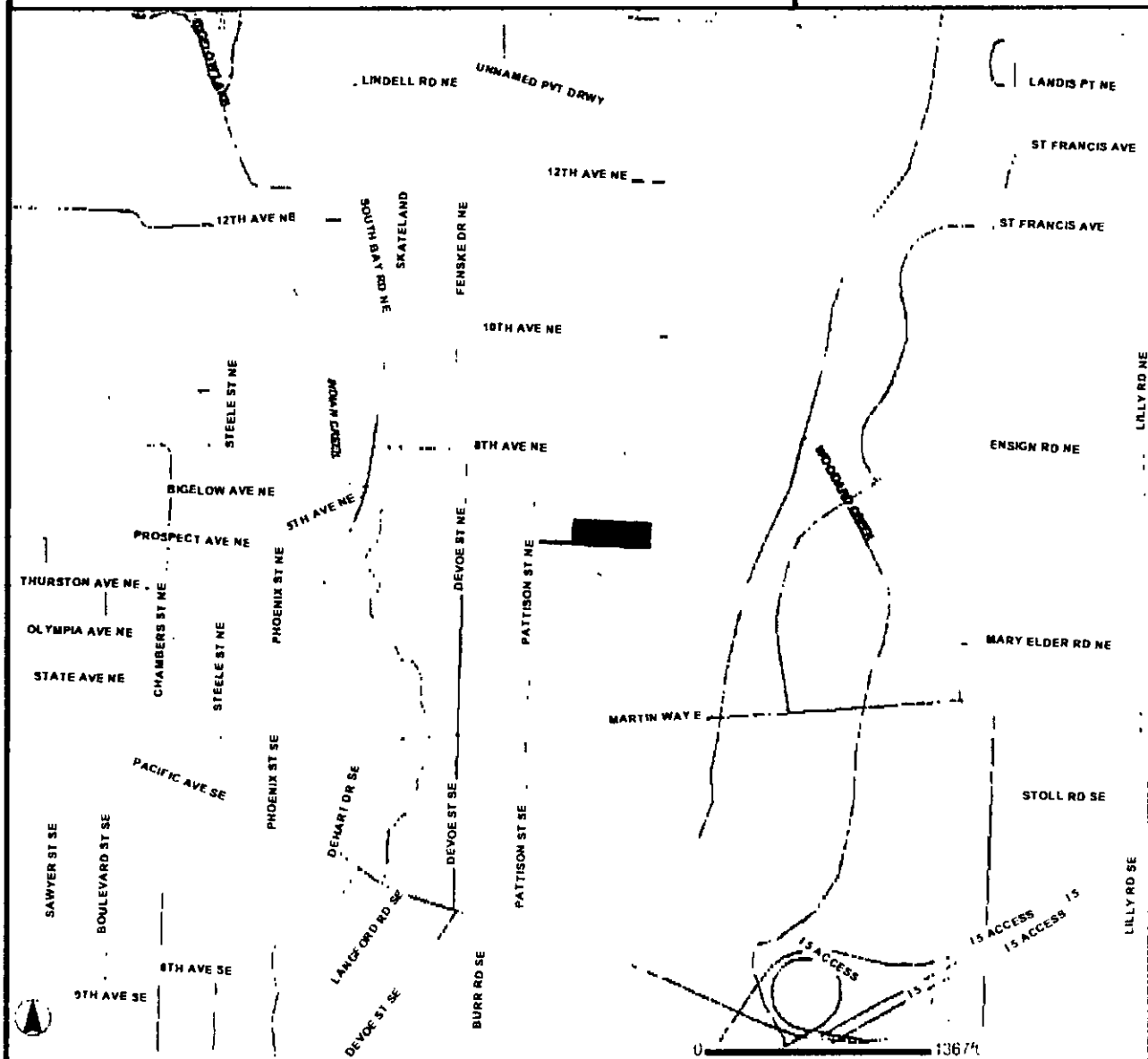


## LEGEND

- |                 |                  |
|-----------------|------------------|
| Major Roads     | Flood Zone       |
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| Contours        | Cities           |
| Wetlands        | Parcels          |
| Wetland Buffers | Project Location |


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# Pattison Street NE Townhouses Wetland and Wetland Buffers Map



Thurston County GeolData Center  
 2404 Heritage Court SW, 3rd Floor  
 Olympia, WA 98502-6031

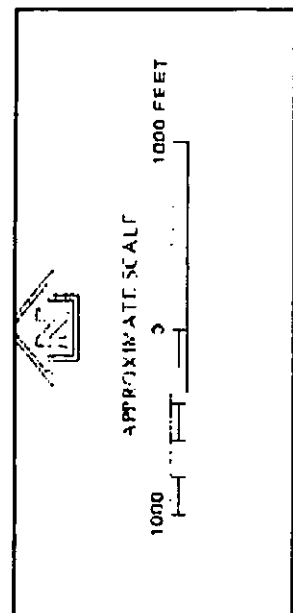
## LEGEND

- |                 |                  |
|-----------------|------------------|
| Major Roads     | Flood Zone       |
| Roads           | Water Bodies     |
| Streams         | Zoning           |
| Contours        | Cities           |
| Wetlands        | Parcels          |
| Wetland Buffers | Project Location |

Exhibit enhanced by

**SKILLINGS  
CONNOLLY  
ENVIRONMENTAL**

01/19/07



Federal Emergency Management Agency

Exhibit enhanced by



**SKILLINGS  
CONNOLLY**  
ENVIRONMENTAL

01/19/07

**Adjacent Property Owners  
Pattison Street NE Townhouse Project**

Rec	Parcel No.	Owner	Address	City	State	Zip	Legal Description
1	34201300100	HARLAN, PHILIP J	701 SLEATER KINNEY RD SE #9	LACEY	WA	98503	Section 18 Township 18 Range 1W Plat BERRY FARMS BLK 13 N 125F OF E 250F 008028
2	34201400400	ATWELL, ROBERT J	2803 8TH AVE NE	OLYMPIA	WA	98506	BERRY FARMS TR 14 N 77F OF W 127.32F
3	34201400500	HARTING, ERIC	2838 FRIENDLY GROVE RD NE	OLYMPIA	WA	98506	BERRY FARMS L 14 N 164F OF E 75F OF W 2 02.32F
4	34201400103	GRAHAM, SUZANNE	639 PATTISON ST N #B	OLYMPIA	WA	98506	BERRY FARMS TR 14 BEG AT NE COR TR 14 S0-13-E ALG ITS ELN 9 7.29F N 89-04-10-W 178.89F LESS 1 AC H/S TO 104
5	34203100000	LOGSDON, JOAN M	373 HIGHLAND DR	SEATTLE	WA	98109	Section 18 Township 18 Range 1W Plat BERRY FARMS LT 31 Document 008/028
6	11818240100	SISTERS OF PROVIDENCE IN WA	PO BOX 389673	SEATTLE	WA	98138-9673	18-18-A SE NW N 5 A OF COM SE COR NE SW N 2629F W 330 F S 162
7	34201400401	SCHNARRS, FRANK W & CHERI L	602 DEVOE ST NE	OLYMPIA	WA	98506	BERRY FARMS TR 14 N 87F OF S 283F OF W 127.32F
8	34201400102	SETH, TIMOTHY M	2313 SPRINGER LN NE	OLYMPIA	WA	98506	BERRY FARMS TR 14 BEG NE COR TR 14 S0-13-E ALG ITS ELN 97.2 9F TO T RUE POB N89-04-10-
9	34201200102	GRIFFIN, LONNIE E & TINA M	515 DEVOE ST NE	OLYMPIA	WA	98506	BERRY FARMS PTN LOT 12 & 13 KA LOT 2 S S-2635 27/592
10	34201400100	SUNDOWN INC	5421 CAPITOL BLVD	TUMWATER	WA	98501	BERRY FARMS TR 14 BEG SW COR TR 14 N0-13-W 195.97F S89-04-1 0-E 202 .37F S09-09-
11	34201400101	SETH, TIMOTHY M	2313 SPRINGER LN NE	OLYMPIA	WA	98506	BERRY FARMS TR 14 BEG NE COR TR 14 S0-13-E 182.29F TO TRUE POB N89 -28-31-W 175.79F
12	34201200101	BOWEN, RANDI A & DANA A	509 DEVOE ST NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Quarter S W NW Plat BERRY FARMS SS-2635 LT 1 Document 027/582
13	34201500100	DE HART, CHERI ETAL	504 N DEVOE	OLYMPIA	WA	98506	BERRY FARMS TRN 1/2 LESS E 100F
14	34201400200	TROWBRIDGE, KIRK	521 PATTISON ST NE	OLYMPIA	WA	98506	BERRY FARMS TR 14 S 75F OF E 160F
15	34201100200	MAXIN, MICHAEL M & DONNA L	9922 62ND AVE SE	OLYMPIA	WA	98513	Section 18 Township 18 Range 1W Plat BERRY FARMS TR 11 008028 E349.17F
16	34201500200	CHRISTENSEN, ROGER C	515 PATTISON RD NE	OLYMPIA	WA	98506	BERRY FARMS E100F OF N2 TR 15
17	34203000100	BOSLER, KIM C	514 PATTISON ST NE	OLYMPIA	WA	98506	BERRY FARMS PT BLK 30, AKA LOT 1, SS-1830 18/124 AMENDED

**Adjacent Property Owners  
Pattison Street NE Townhouse Project**

Rec	Parcel No.	Owner	Address	City	State	Zip	Legal Description
18	34203000101	SAUNDERS, DOUG A & CYNTHIA M	11003 SKAGIT DR SE	OLYMPIA	WA	98501	Section 18 Township 18 Range 1W Plat BERRY FARMS BLK 30 LT 2 SS-1830 008028
19	34201000000	STILLWELL, STEVEN R	421 DEVOE ST NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Quarter S W NW Plat BERRY FARMS LT 10 Document 008028
20	34201500300	SCHNARRS, FRANK W & CHERI L	428 DEVOE ST NE	OLYMPIA	WA	98501	BERRY FARMS TR 15 S 1/2
21	31820002800	ASHBY, KEVIN L & DONELLA K	2902 APPLEHILL CRT NE	OLYMPIA	WA	98506	APPLEHILL LOT 28
22	31820002700	DOWNEY, CHERIE K	2908 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 27
23	31820000000	APPLEHILL LOT OWNERS	2970 POPPY LN SW APT 3-201	TUMWATER	WA	98512	APPLEHILL TR A & B STORMWATER/OPEN S PACE TRACTS
24	31820002200	SHIRES, HENRY L	3002 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 22
25	31820002100	OLSON, JEFFREY S & LINDA A	3008 APPLEHILL CRT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Plat APPL EHILL LT 21 Document 026/061
26	31820002000	TABIL, MARY GRACE	3012 APPLEHILL CRT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Plat APPL EHILL LT 20 026061
27	31820001900	PASSMORE, PATRICK & KATHLEEN J	3018 APPLEHILL CRT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Quarter S E NW Plat APPLEHILL 19 Document 026/061
28	31820001800	LIVINGSTON, TREVOR A	3022 APPLEHILL CRT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Plat APPL EHILL LT 18 Document 026/061
29	31820001700	MARKLAR ACQUISITIONS LLC	7645 58TH AVE NE	OLYMPIA	WA	98516-9307	Section 18 Township 18 Range 1W Plat APPL EHILL LT 17 026061
30	31820001600	DILLON, BRYAN L & MICHELLE L	3034 APPLEHILL CT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Plat APPL EHILL LT 16 026061
31	31820002600	NGUYEN, HAI & HONG LOAN	2912 NE APPLEHILL CT	OLYMPIA	WA	98506	APPLEHILL LOT 26
32	31820002500	TAWNEY, JEFF B & BIANA M	2918 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 25
33	31820002400	BUCKLEY, WILLIAM J & SUSAN	2924 APPLEHILL CRT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Plat APPL EHILL LT 24 Document 026/061
34	31820002300	BRUNKE, MARGARITA & VOLKER	2930 APPLEHILL CRT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Quarter S E NW Plat APPLEHILL LT 23 Document 026/061
35	34201600100	HEITZMANN KIRBY RENTALS LP	552 KINWOOD ST SE	OLYMPIA	WA	98503	BERRY FARMS BLK 16 N 35F LESS E 120F
36	34201600300	TURPEN, RONALD L & LAUREN A	3613 56TH AVE SW	SEATTLE	WA	98116	BERRY FARMS PT B16 E 120F LESS E 10F ST
37	31820001500	PARLE, RITA T	3040 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 15



**Adjacent Property Owners  
Pattison Street NE Townhouse Project**

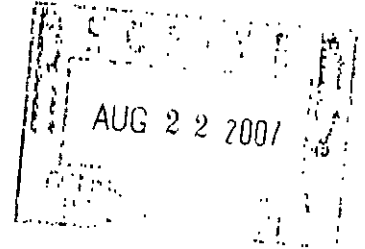
Rec	Parcel No.	Owner	Address	City	State	Zip	Legal Description
38	342008000000	HOLCOMBE, HELENE	401 N DEVOE ST	OLYMPIA	WA	98506	BERRY FARMS TRT 8&9 LESS N125F OF E27 5F TRT 9
39	31820001200	TRAN, MY-PHUONG M	3530 MAPLEVIEW DR NE	OLYMPIA	WA	98506	APPLEHILL LOT 12
40	34201600101	DOLVIN, SUSAN L	120 STATE AVE NE PMB 234	OLYMPIA	WA	98501	BERRY FARMS BLK 16 LESS N 35F LESS E 1 20F LESS S 125F
41	342009000000	HOLCOMBE, HELENE	401 N DEVOE ST	OLYMPIA	WA	98506	BERRY FARMS TRT 9 N125F OF E275F
42	11818240300	LACEY, CITY OF	PO BOX 3400	LACEY	WA	98509	18-18-1W 5.01A SE-NW & NE-SW COM X E LN NE-SW & NLY LN MART IN WAY
43	31820000100	WILLIAMS, DONNA M	2901 APPLEHILL CRT NE	OLYMPIA	WA	98506	APPLEHILL LOT 1
44	31820000200	NOVLAN, GREGORY JL & TRINA A	2907 APPLEHILL CRT NE	OLYMPIA	WA	98506	APPLEHILL LOT 2
45	31820000300	TURNER, PRINCE L	2911 APPLEHILL CRT NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Plat APP LEHILL LT 3 Document 026/061
46	31820001400	THAN, HUNG	3039 APPLEHILL CRT NE	OLYMPIA	WA	98506	APPLEHILL LOT 14
47	31820000400	EICHRODT, SUSAN M	2917 APPLEHILL CRT NE	OLYMPIA	WA	98506	APPLEHILL LOT 4
48	31820000500	NGUYEN, NAM KHOA	2923 APPLEHILL CRT NE	OLYMPIA	WA	98506-	
49	31820000600	FAHR, DEAN & LINDA	2929 APPLEHILL CRT NE	OLYMPIA	WA	6703	APPLEHILL LOT 5
50	31820000700	FREDA, KATHRYN	3001 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 6
51	31820000800	HUMMEL, TAMI	3007 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 7
52	31820000900	KIRRY, CHARLES F	407 WEST BAY DR NW	OLYMPIA	WA	98502	Section 18 Township 18 Range 1W Quarter S E NW Plat APPLEHILL LT 8 Document 026/0 61
53	31820001000	FONDERWHITE, RICHARD ETUX	3017 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 9
54	31820001300	GARCIA, HECTOR Q & MYRNA S	3033 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 10
55	31820001100	HUYNH, TRONG	3021 APPLEHILL CT NE	OLYMPIA	WA	98506	APPLEHILL LOT 13
56	34201600200	GHOUBANI, MANSOOR	PO BOX 2759	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Plat APPL EHILL LT 11 026061
57	318200000000	APPLEHILL LOT OWNERS	2970 POPPY LN SW APT 3-201	TUMWATER	WA	98512	BERRY FARMS TR 16 S 125F LESS E 120F APPLEHILL TR A & B STORMWATER/OPEN S PACE TRACTS
58	34202900201	MEYER, BERNARD E	402 PATTISON ST NE	OLYMPIA	WA	98506	Section 18 Township 18 Range 1W Quarter S E NW Plat BERRY FARMS N75 FT W 200 FT S1/2 TR 29 008028
59	34202900200	CHARITY GROUP LLC	PO BOX 3698	LACEY	WA	98509	Section 18 Township 18 Range 1W Quarter S E NW Plat BERRY FARMS TR 29 S2 LESS N 75F OF W200F Document 008/028



**SKILLINGS-CONNOLLY INC.**  
Consulting Engineers  
5016 Lacey Boulevard SE  
Lacey, Washington 98503

# Memo

**To:** Bryan Ewing  
**From:** Fred Sommer  
**CC:**  
**Date:** December 28, 2006  
**Re:** Pattison Street Townhouses



The project will not generate the 50 trips in the PM Peak hour that trigger a required Traffic Impact Analysis.

The project will generate a maximum of 14 trips in the PM Peak hour.

Mitigation Impact fees for the project are determined by the number of units as per the City of Olympia's updated Transportation Impact Fee Program dated April 2006.

18 units @ \$885.00 = \$15,930.00.