

Exhibit S-3

Original application, received September 15, 2005

- a) Master Land Use Application Form
- b) Property Owner Declarations and Property Application Declaration
- c) Narrative, Statement of Objectives, & Quantitative Data;
- d) Letter of Water Availability, issued August 12, 2005
- e) Letter of Sewer Availability, issued August 12, 2005
- f) Letter of acknowledgement for impact fees
- g) Anderson Farms Open Space Requirements acknowledgement
- h) Concurrency application
- i) Adjacent property information
- j) Traffic Analysis, Gibson Traffic Consultants, August 12, 2005
- k) Subsurface Exploration, Geologic Hazard, and Preliminary Geotechnical Engineering Report, Associated Earth Sciences, Inc., September 2, 2005
- l) Title Report, Stewart Title Company, August 30, 2005
- m) Minutes from the June 29, 2005 pre-application meeting, September 13, 2005

CITY OF SULTAN MASTER LAND USE APPLICATION



- Boundary Line Adjustment
- Conditional Use Permit
- Commercial Development/Binding Site Plan
- Formal Subdivision (5 or more lots)
- Non-Conforming Use/Building
- Condo, Multi-Family, Man. Home Park
- Rezone
- State Environmental Protection Act (SEPA)
- Shoreline Permit
- Short Subdivision (4 lots or less)
- Stormwater Permit (development over 3,000 sq ft)
- Variance
- Other _____

Office Use Only

File # PUD005 -

Fee \$ 15,665.00

TR # 28906

Date Received (stamp)

RECEIVED

SEP 15 2005

BY: [Signature]

Applicant Name Scott Wammack

Company Name Grandview Inc.

Address PO Box 159, Arlington, WA 98223

Phone 360 435-7171 Fax 360 435-2265

Contact (if other than applicant) Jake Libaire

Company Name Higa Burkholder Assoc.

Address 1721 Hewitt Ave, Everett, WA 98201

Phone 425 252-2826 Fax 425 252-9551

Property Owner Parcel 1 Grandview Inc.

Address Same as above

Property Owner Parcel 2 Grandview Inc.

Address Same as above



CITY OF SULTAN MASTER LAND USE APPLICATION

Property Owner Parcel 3 _____

Address _____

Property Owner Parcel 4 _____

Address _____

Property address and general location (Include street names and highways) _____

3316 135th St. SE (Bryant Rd), Sultan
32205 Bryant Rd., Sultan

Tax ID(s) 280832-00101100; 280832-00100600

Zoning (circle one): LMD MD HD UC HCO ED Acres/Square Feet 6.47 ac (281,833 sf)

Project Description 33-lot PUD-SF wetland restoration
Frontage improvements, Three access roads

Legal Description (please attach)

Property served by City Water Yes No - Sewer Yes No

Pre-Application meeting held on 6/29/05

I am the owner or am authorized by the owner to sign and submit this application. I grant permission for City staff and agents to enter onto the subject property for the sole purpose of making any inspection of the property which is necessary to process this application. I certify under penalty of perjury of the laws of the State of Washington that the information on this application and all information submitted herewith is true, complete, and correct.

Signature of Applicant [Handwritten Signature] Date 9/6/05

CITY OF SULTAN MASTER LAND USE APPLICATION



PROPERTY OWNER DECLARATION

*please include one declaration per property owner
(make copies as needed)*

The undersigned makes the following statements based upon personal knowledge:

1. I (we) am the current owner of the property, which is the subject of this application including all right-of-way, easements; or other property ownership's which are necessary to fulfill the requirements of this application.
2. All statements contained in this application are true and correct to the best of my (our) knowledge.
3. The application is being submitted with my knowledge and consent.
4. I understand that conditions of preliminary plat approval must be completed prior to final plat approval and issuance of the last Certificate of Occupancy (C. of O.) for building construction.

I declare under penalty of perjury under the laws of the State of Washington and the United States of America, that the foregoing statement is true and correct.

28083200101100

(Tax ID #(s))

37205 Bryant Rd, Sultan

(Physical Address/Location)

(Print Name - Owner)

(Phone Number)

(Address)

(City, State, Zip)

(Signed - Owner)

*State of Washington
County of Snohomish
City of Sultan*

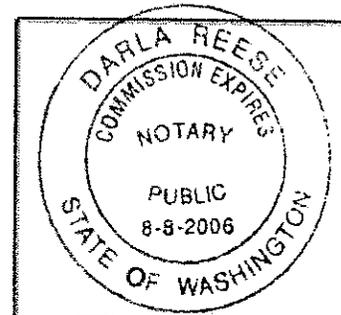
SUBSCRIBED AND SWORN to before me this 13 day of September 2005

Darla Reese

NOTARY PUBLIC in and for the State of Washington

Residing at Sno Co., wa

My commission expires on 8-8-06



City of Sultan Planning & Land Use
319 Main Street, Suite 200 - PO Box 1199, Sultan, WA 98294

ph (360) 793-2231
fax (360) 793-3344

EXHIBIT S-3.b

CITY OF SULTAN MASTER LAND USE APPLICATION



PROPERTY OWNER DECLARATION

*please include one declaration per property owner
(make copies as needed)*

The undersigned makes the following statements based upon personal knowledge:

1. I (we) am the current owner of the property, which is the subject of this application including all right-of-way, easements, or other property ownership's which are necessary to fulfill the requirements of this application.
2. All statements contained in this application are true and correct to the best of my (our) knowledge.
3. The application is being submitted with my knowledge and consent.
4. I understand that conditions of preliminary plat approval must be completed prior to final plat approval and issuance of the last Certificate of Occupancy (C. of O.) for building construction.

I declare under penalty of perjury under the laws of the State of Washington and the United States of America, that the foregoing statement is true and correct.

28083200100600
(Tax ID #(s))

3316 135th St. SE, Sultan
(Physical Address/Location)

(Print Name - Owner)

(Phone Number)

(Address)

(City, State, Zip)

[Signature]
(Signed - Owner)

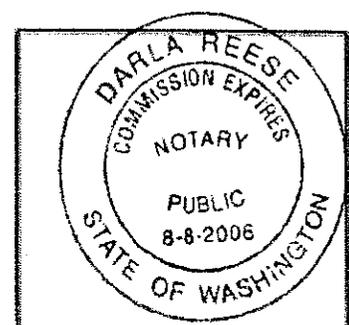
State of Washington
County of Snohomish
City of Sultan

SUBSCRIBED AND SWORN to before me this 13th day of September 2005

Paula Reese
NOTARY PUBLIC in and for the State of Washington

Residing at Sno. Co., Wa

My commission expires on 8-8-06



CITY OF SULTAN MASTER LAND USE APPLICATION



PROPERTY APPLICANT DECLARATION

(make copies as needed)

The undersigned makes the following statements based upon personal knowledge:

1. I am the applicant for this application and that I (we) have familiarized myself (ourselves) with the rules and regulations with respect to preparing and filing of this application.
2. All statements contained in this application are true and correct to the best of my (our) knowledge.

I (we) declare under penalty of perjury under the laws of the State of Washington and the United States of America, that the foregoing statement is true and correct.

Jake Libaire 425 252-2826
 (Print Name - Applicant) (Phone Number)

Higa Burkholder Assoc.
 (Print Business Name)

1721 Hewitt Ave Everett, WA 98201
 (Address) (City, State, Zip)

[Signature]
 (Signed - Applicant)

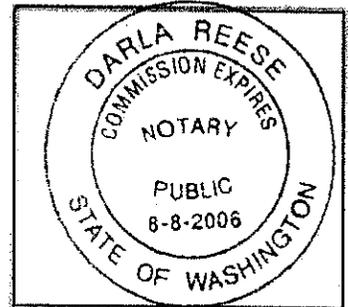
State of Washington
 County of Snohomish
 City of Sultan

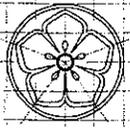
SUBSCRIBED AND SWORN to before me this 9th day of August 2005

Darla Reese
 NOTARY PUBLIC in and for the State of Washington

Residing at Sno. Co., wa.

My commission expires on 8-8-2006





HIGA-BURKHOLDER
ASSOCIATES, LLC
LAND USE PLANNING / CIVIL ENGINEERING

September 14, 2005

Mr. Rick Cisar
City of Sultan
PO Box 1199
319 Main Street
Sultan, WA 98294-1199

**RE: Narrative, Statement of Objectives, & Quantitative Data for the Proposed PUD-SF of
Anderson Farm
(Parcels 28083200100600 & 28083200101100)**

SITE DESCRIPTION

This 6.47-acre site is located in the City of Sultan, directly west of the intersection of Bryant (135th St. SE) and Sultan Basin Roads, and consists of parcels 28083200101100 (north parcel) and 28083200100600 (south parcel). Existing zoning of the site and all adjacent properties is Moderate Development (MD). Adjacent uses include single family, vacant, and public right-of-way.

The north parcel has one existing structure that is to be removed from the site. Vegetation on the north parcel consists of pasture. The south parcel has no existing structures and contains second growth forest and scrub brush areas. The entire site is generally flat, sloping gently to the south. The Snohomish County Soil Survey identifies the predominant soil type throughout the site as Pastik silty loam.

PROPOSAL DESCRIPTION

Access, Parking, & Frontage Improvements

Access to the site will be provided from Bryant Road by three separate access roads. Due to the configuration of onsite critical areas, narrower street sections are proposed for access roads. In addition to allowing the applicant to make efficient use of the site, such narrow sections reduce impervious area, minimize impacts to critical areas, are aesthetically pleasing, and are safer for drivers and pedestrians than typical wider street sections.

Vehicular and pedestrian access design provides for the separation of vehicular and pedestrian circulation patterns. All access roads have designated five-foot walkways, and Sultan Basin Road and Bryant Road designs call for five-foot wide sidewalks. Additionally, a boardwalk and walking trail are proposed on the south and north site, connecting access roads to Sultan Basin and Bryant Roads.

EXHIBIT S-3c

Adequate off-street parking facilities are proposed on this site. Each dwelling unit will have two parking spaces in its garage, as well as two spaces in its driveway. Additionally, eleven guest spaces are provided throughout the site. Thus, a total of 143 off-street parking spaces are proposed to accommodate 33 dwelling units and guests.

Frontage improvements are proposed for the site's entire frontage on Bryant and Sultan Basin Roads. Improvements to the frontage of the adjacent parcel located at the northwest corner of Sultan Basin and Bryant Roads (28083200100800) are also proposed. As these improvements along this adjacent parcel's frontage on both Bryant Road and Sultan Basin Road are not along the frontage of the subject proposed development, the applicant anticipates receipt of credits for said improvements. Please refer to the attached plan set for access road, walkway, and frontage improvement design details.

Critical Areas & Open Space

Wetland areas on the north parcel are degraded and provide minimal native habitat or water quality functions. The applicant proposes to enhance the wetland functions of all the wetlands, while using two of the identified wetlands for stormwater detention (Wetlands A & B). Enhancements will include removal of invasive vegetation and planting native wetland plant species. Additionally, native landscaping is planned around the perimeters of the wetlands, providing added habitat. This drainage design will add hydrology and plantings improving the wetland functions of the degraded wetlands. The applicant applied for and received approval of a Nationwide Permit from the Army Corps of Engineers for the proposed drainage concept. A crushed surfacing top course (CTSC) trail is proposed from Bryant Road north across Wetland A to the northwestern end of the proposed access road. All portions of onsite wetlands that are within proposed lot boundaries shall be designated as Native Growth Protection Area Easements (NGPA/E).

Three small wetlands on the south parcel are to be filled. The large wetlands found on this parcel are in better condition than those found to the north, and no impacts to these areas are proposed. Native landscaping is proposed around the wetland in the southwest corner of this parcel (Wetland H), and additional landscaping is proposed adjacent to the largest wetland (Wetland E). A pedestrian boardwalk is proposed through part of Wetland E, providing passive recreation and connecting the two access roads on the south site to Sultan Basin Road. All portions of onsite wetlands that are within proposed lot boundaries shall be designated as NGPA/E. An active recreation area is also proposed on the south site; the specific facility to be located in this active recreation area (sports court, tot lot, etc.) will be determined during civil design.

Site Layout

33 detached single-family units/lots are proposed for this site. No structure will exceed 30 feet in height, and all units are designed to match the scale of other homes in the neighborhood. Proposed units are clustered on both the north and south site to avoid impacts to critical areas and to accommodate access roads and pedestrian facilities. As many areas of this site are severely constrained by wetland and property boundaries, the minimum building setbacks permitted by the PUD code are employed to make the most efficient use of buildable land. Several distinct home styles are proposed, all of which are compatible with surrounding development (refer to submitted elevation drawings). New units will be screened from adjacent properties and public rights-of-way by proposed wetland enhancement, landscaping, and wood fences.

Applicant's Intentions

The applicant intends to sell individual lots and units after construction is completed. The applicant plans to begin construction in the spring of 2006 following receipt of necessary permits; construction will be completed that summer.

OBJECTIVES

The applicant intends to achieve the following objectives with this proposal:

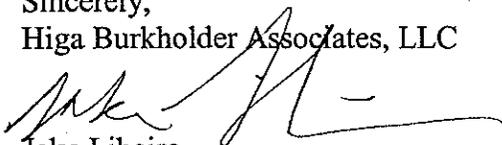
- Improve the natural functions of existing, degraded wetlands
- Cluster homes around critical areas to minimize impacts to wetlands, make efficient use of the site, and foster a sense of community throughout the development
- Provide access roads that have traffic calming effects, allow separation of vehicular and pedestrian circulation patterns, and are more appropriately scaled to the site (compared to wider roadways)
- Provide affordable and attractive homes whose appearance is compatible with the character of the neighborhood
- Improve Bryant Road to meet City of Sultan standards
- Provide off-street parking for residents and visitors (four spaces per unit plus guest parking)

QUANTITATIVE DATA

- Number of units: 33
 - Gross site area: 6.47 acres
 - Average lot size: 4,648 sf
 - Smallest lot: 2,137 sf
 - Largest lot: 22,743 sf
 - Lot coverage (area of structures/area of lots): 21.6%
 - Gross density: 5.1 lots/acre
 - Net density (less roads, open space, detention): 8.8 lots/acre
 - Amount of usable open space: 42,279 sf (15% of gross site area)
 - Amount of conservation open space: 43,907 sf (15.6% of gross site area)
 - Off-street parking spaces: 143
- what?*

I hope that this comprehensive description of the subject site and the proposed project provides a clear picture of the applicant's intentions for this property. More detailed information regarding this project and how it complies with development requirements can be found on the submitted plan set, drainage report, and the SEPA checklist. As this development proposal is very unique (low impact stormwater management, alternative road design, wetland enhancement, etc.), I would strongly encourage project reviewers to please contact Higa Burkholder Associates, Wetland Resources, Inc, or any other firms or individuals involved with this project, if any questions or concerns arise during the review process.

Sincerely,
Higa Burkholder Associates, LLC


Jake Libaire
Project Manager

Project Data

Anderson Farm

	SF	Acres
Gross Site Area	281,833	6.47
Conservation Open Space	43,907	
Cons. O.S. % Of Gross Area	15.6%	
Usable Open Space	42,279	
Usable O.S. % Of Gross Area	15.0%	
Total Open Space	86,186	30.6%

Lot Coverage (area of footprints/area of lots)	21.6%
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Proposed Lots	33
Net Density (Lots/Net Acre) (less roads, open space, detention)	8.8
Gross Density (Lots/ Gross Acre)	5.1

Individual Lots	SF	Average Lot Size
1	2,592.0	
2	2,244.0	4,647.7
3	2,244.0	
4	2,137.0	Smallest Lot
5	3,262.0	
6	3,382.0	2,137.0
7	5,065.0	
8	5,798.0	Largest Lot
9	4,924.0	
10	5,508.0	22,743.0
11	3,327.0	
12	4,462.0	Total area in lots
13	7,115.0	
14	3,127.0	153,374
15	2,869.0	
16	2,793.0	Area of footprints
17	2,763.0	
18	2,767.0	8,670
19	3,250.0	14,916
20	3,194.0	5,376
21	3,534.0	1,792
22	4,229.0	2,314
23	3,221.0	Total
24	3,396.0	33,068
25	3,209.0	
26	5,152.0	
27	4,641.0	
28	6,574.0	
29	7,061.0	
30	22,743.0	
31	10,473.0	
32	3,643.0	
33	2,675.0	

9 lots less than 3,000
20 lots < 4000

PARCEL A: BEGINNING AT THE SOUTHEAST CORNER OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 28 NORTH, RANGE 8 EAST, W.M. IN SNOHOMISH COUNTY, WASHINGTON; THENCE NORTH 330 FEET; THENCE WEST 660 FEET; THENCE SOUTH 330 FEET; THENCE EAST 660 FEET TO THE POINT OF BEGINNING; EXCEPT THE WEST 207.43 FEET THEROF. EXCEPT THE NORTH 30 FEET CONVEYED TO SNOHOMISH COUNTY BY DEEDS RECORDED UNDER AUDITOR'S FILE NUMBERS 2255856 AND 2400625; AND EXCEPT ANY PORTION LYING WITHIN SULTAN BASIN ROAD.

(ASLO KNOWN AS LOT B OF SHORT PLAT 113 (5-75) AS RECORDED UNDER AUDITOR'S FILE NO. 2405151).

SITUATE IN THE COUNTY OF SNOHOMISH, STATE OF WASHINGTON.

PARCEL B: THE NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 28 NORTH, RANGE 8 EAST, W.M.; EXCEPT COUNTY ROAD ON EAST KNOWN AS SULTAN BASIN ROAD; EXCEPT THAT PORTION DEEDED TO SNOHOMISH COUNTY FOR ROAD UNDER AUDITOR'S FILE NUMBER 2255856; ABD EXCEPT THE FOLLOWING: BEGINNING AT A POINT 990 FEET SOUTH OF THE NORTHEAST CORNER OF SAID SECTION 32; THENCE WEST 180.75 FEET; THENCE NORTH 180.75 FEET; THENCE EAST 180.75 FEET TO THE SECTION LINE FOR 180.75 FEET TO THE TRUE POINT OF BEGINNING.

SITUATE IN THE CITY OF SULTAN, COUNTY OF SNOHOMISH, STATE OF WASHINGTON.



City of Sultan

Public Works Department

August 12, 2005

Mr. Jake Libaire
Higa Burkholder
1721 Hewitt Ave #401
Everett, WA 98201

RE: Water Availability for:
3316 135th St. SE - 28083200100600 - 20 Connections
32205 Bryant Rd - 28083200101100 - 14 connections

Dear Mr. Libaire:

The City of Sultan Public Water System is capable of and will supply water to the above tax parcels. The water supply facilities necessary to provide appropriate water supplies to this site have been designed, approved and are or will be installed per WAC 248-54. The developer/owner of the referenced property may need to build improvements to the City's water system in order to provide water to the owner's site. This availability commitment is effective for connection to the Sultan Water System on or after the above date. Connection to the system must be completed within one year or the Availability Notification is VOID.

This Water Availability Letter is the result of the Pre-Application Meeting on June 29, 2005 allowing you 45 days to formally submit an application for sub-division or other application requiring a water commitment. The water connections are not re-salable or transferable. Failure to submit a complete application within 45 days will result in the cancellation of this commitment letter.

If you have any questions or I can be of further assistance, please contact me at the above number.

Sincerely,

Connie M. Dunn
Public Works Director

EXHIBITS-3d



City of Sultan

Public Works Department

August 12, 2005

Mr. Jake Libaire
Higa Burkholder
1721 Hewitt Ave #401
Everett, WA 98201

RE: Sewer Availability for:
3316 135th St. SE - 28083200100600 - 20 Connections
32205 Bryant Rd - 28083200101100 - 14 connections

Dear Mr. Libaire:

The City of Sultan Public Sewer System is capable of and will supply sewer service to the above tax parcel numbers. The sewer system facilities necessary to adequately provide service to this site has been designed, approved and installed per WAC 248-92. The developer/owner of the referred property may need to build improvements to the City's Sewer System in order to provide sewer service to the owner's site. Connection to the system must be completed within one year or the Availability Notification is VOID.

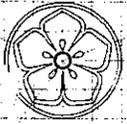
This Sewer Availability Letter is the result of the Pre Application Meeting on June 29, 2005 allowing you 45 days to formally submit an application for sub-division or other application requiring a sewer commitment. The sewer connections are not re-salable or transferable. Failure to submit a complete application within 45 days will result in the cancellation of this commitment letter.

If you have any questions or I can be of further assistance, please contact me at the above number.

Sincerely,

Connie M. Dunn
Public Works Director

EXHIBIT S-3e



HIGA-BURKHOLDER

ASSOCIATES, LLC

LAND USE PLANNING • CIVIL ENGINEERING

August 15, 2005

Rick Cisar
City of Sultan
PO Box 1199
319 Main Street
Sultan, WA 98294-1199

RE: Grandview Inc. - Letter of Acknowledgement for Impact Fees

Dear Mr. Cisar:

I acknowledge that the City of Sultan Hearing Examiner and the City Council have established the impact fees for the proposed PUD of Anderson Farm as follows:

Traffic Impact Fees \$1,837.00 Per Lot

School Impact Fees \$1,673.00 Per Lot

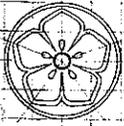
Park Impact Fees \$300.00 Per Lot

I understand that these fees are due upon issuance of an occupancy permit. Impact fees for police services, if required, are also due upon issuance of an occupancy permit.

Regards,

Scott Wammack
Grandview, Inc.

EXHIBIT S-3f



HIGA BURKHOLDER
ASSOCIATES, LLC
LAND USE PLANNING / CIVIL ENGINEERING

September 14, 2005

Rick Cisar
City of Sultan
PO Box 1199
Sultan, WA 98294

RE: Anderson Farm PUD - Open Space Requirements

Dear Mr. Cisar:

The proposed development of Anderson Farm can accommodate 42,279 square feet (sf) of Usable Open Space (15.6% of gross site area). Usable Open space shall consist of the southern portion of Wetlands E (including adjacent landscaped areas and proposed boardwalk) that is outside of any lots or detention facilities, Wetland H and the adjacent landscaped area, the portion of Wetland A with an elevation of 298 feet or more, and the proposed recreation area on the south site. A boardwalk is proposed in the southern portion of Wetland E, and a crushed surfacing top course (CTSC) trail is proposed from Bryant Road north across Wetland A to the northwestern end of the access road.

The portion of Wetland A that is below 298-foot elevation and all of Wetlands B and C shall be designated as 43,907 sf of Conservation Open Space, as these wetlands will provide stormwater detention and will be too wet for passive recreation. Conservation Open Space will make up 15% of the gross site area.

The total proposed open space quantity is 86,186 sf (30.6% of gross site area), exceeding the minimum 20% of open space required by SMC 16.10.140(B). The applicant shall designate all open space to a homeowner's association through the final plat process. The recipient shall be responsible for any necessary maintenance required to preserve open space areas.

Sincerely,
Higa Burkholder Associates, LLC

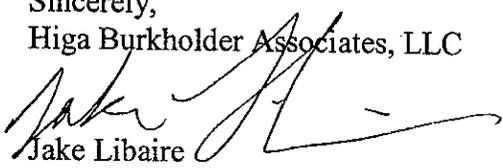
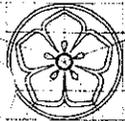

Jake Libaire
Project Manager

EXHIBIT S-3g



HIGA-BURKHOLDER

ASSOCIATES, LLC

LAND USE PLANNING / CIVIL ENGINEERING

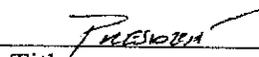
The following analyses of each of these items are offered by the developer:

- A. ROADS: Primary access to the site is to be provided from Bryant Road only. Based on the traffic analysis recently performed for this proposal, proposed and existing rights-of-way appear to be sufficient for any projected impacts. The applicant understands that traffic impact fees in the amount of \$1,837.00 per unit are due upon issuance of an occupancy permit.
- B. POTABLE WATER: Potable water will be made available to each proposed unit by extending the City of Sultan's existing water system. The City of Sultan Public Works Director has provided a letter of water availability.
- C. WASTEWATER: The applicant will improve the City of Sultan's existing sewer system facilities to provide service to the proposed units. The City of Sultan Public Works Director has provided a letter of sewer availability.
- D. POLICE PROTECTION: Police protection will be provided by the Sultan Police Department. This proposed development is within the city limits and should not place unreasonable stress upon police resources. However, the applicant understands that that the City may require mitigation fees for impacts to police services, to be paid upon issuance of an occupancy permit.
- E. PARKS AND RECREATION: This project will provide open space as required by SMC 16.10.140. The applicant understands that park impact fees in the amount of \$300 per unit are due upon issuance of an occupancy permit.

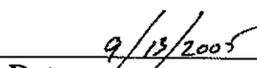
Based on the above information, the applicant feels that this proposed project meets the criteria for issuance of a Certificate of Concurrency.



Applicant Signature



Title



Date

EXHIBIT

S-3h

M E T R O S C A N

Reference Farm
Snohomish (WA)

Addresses updated
4/21/08

Address	Phone	Ref Number
Amador Juan; Tammy	13725 329th Ave SE Sultan 98294	46
Bassett Stepehn S	1108 Yew Ave Sultan 98294	19
Borchart Rock A	13527 Sultan Basin Rd Sultan 9829 P.O. Box 870	39
Casillas Jose; Buenrostro Ma	1111 Sultan Basin Rd Sultan 98294	2
Coon Mable S	13420 Sultan Basin Rd Sultan 9829	31
Dean Jason; Loretta	1106 Yew Ave Sultan 98294 Ashok Nayudu	18
Degnin Michael A	1114 Yew Ave (No Mail) Sultan 9 13802 Karry Lane, San Diego CA 92130	22
Demco John Atty Nothing	*no Site Address*	37
England Mike R; Cheryl L	1117 Yew Ave Sultan 98294 Eric Eggleston	6
Golembek Rebecca J; Martin H	1021 Yew Ave Sultan 98294	15
Goodman Brooke N; Tisha M	1118 Yew Ave Sultan 98294	24
Grandview Inc	*no Site Address*	26
Grandview Inc	1107 Yew Ave Sultan 98294 P.O. Box 159, Arlington, WA 98223	
Grandview Inc	3316 135th St SE Sultan 98294 ? Can't Find	29
Grandview Inc	32205 Bryant Rd Sultan 98294 P.O. Box 159, Arlington WA 3498223	
Grandview Inc	1112 Yew Ave Sultan 98294 P.O. Box 159, Arlington, WA 2198223	
Green Charles T; Delores	32400 132nd St SE Sultan 98294	41
Green Charles T; Delores	32400 132nd St SE Sultan 98294	42
Green Charles T; Delores	32400 132nd St SE Sultan 98294	44
Green Charles T; Delores	32400 132nd St SE Sultan 98294	43
Jean B Hale	32110 135th St SE Sultan 98294	35
Hanseth Ronald P Hanseth	32012 135th St SE Sultan 98294	30
Hardy Rodney B	1025 Yew Ave Sultan 98294 Beth & Jesse Wiecher	13
Horn Mary R	1105 Yew Ave Sultan 98294 360-799-1351	12
Karvonen Denise E	1019 Yew Ave Sultan 98294	16
Lambrecht Daniel	1120 Yew Ave Sultan 98294	25
Lee Sang H	13316 Sultan Basin Rd Sultan 9829	28
Lee Sang H	*no Site Address* ? Can't Find	27
Malan Elizabeth Peter Riehle	1113 Yew Ave Sultan 98294 P.O. Box 2, Sultan, wa. 98294	
Mcclain Donald J; Brooke R	1110 Yew Ave Sultan 98294 11404 Bollenbaugh Hill Rd,	20 Monroe 98272
Mayer Trevor J Dan Veenhuizen	1119 Yew Ave Sultan 98294 360-799-1155	5
Ochoa Josh; Brandy Amberlee Light	13208 Sultan Basin Rd Sultan 9829	4
Payne Larry; Deborah	13409 Sultan Basin Rd Sultan 9829	40
Ramsey Bruce; Kelly	717 Fir Ave Sultan 98294 P.O. Box 854, Sultan	38
Raney Mark S	*no Site Address* 31931 135th St. S.E. Sultan - mailing	36 P.O. Box 735
Raney Mark S; Wyckoff-raney	*no Site Address* ? Can't Find	33
Rsg Associates Llc Rober Kaeser	13633 329th Ave SE Sultan 98294 Inactive Acct since 2005	
Sallee D Joseph, Diane C Tony Wahl	31922 135th St SE Sultan 98294 360-793-2475	32
Schiffler Peggy Darlene	1023 Yew Ave Sultan 98294	14
Smith Martin M; Sheila Kay	1109 Sultan Basin Rd Sultan 98294 P.O. Box 1324, Sultan	
Sod David; Christine	1116 Yew Ave Sultan 98294 360-799-1990	23
an Robert P Sheila McCarty	1115 Yew Ave Sultan 98294	7
Sokol Joseph M SoKol	1111 Yew Ave Sultan 98294	9
Sroufe Ty; Patricia I	1113 Sultan Basin Rd Sultan 98294	3
Whitish Dana L	1104 Yew Ave Sultan 98294	17

EXHIBIT S-31

M E T R O S C A N

Reference Farm

Snohomish (WA)

Address

Phone

Ref Number

Wilde Scott W;Jennifer M

1109 Yew Ave Sultan 98294

10

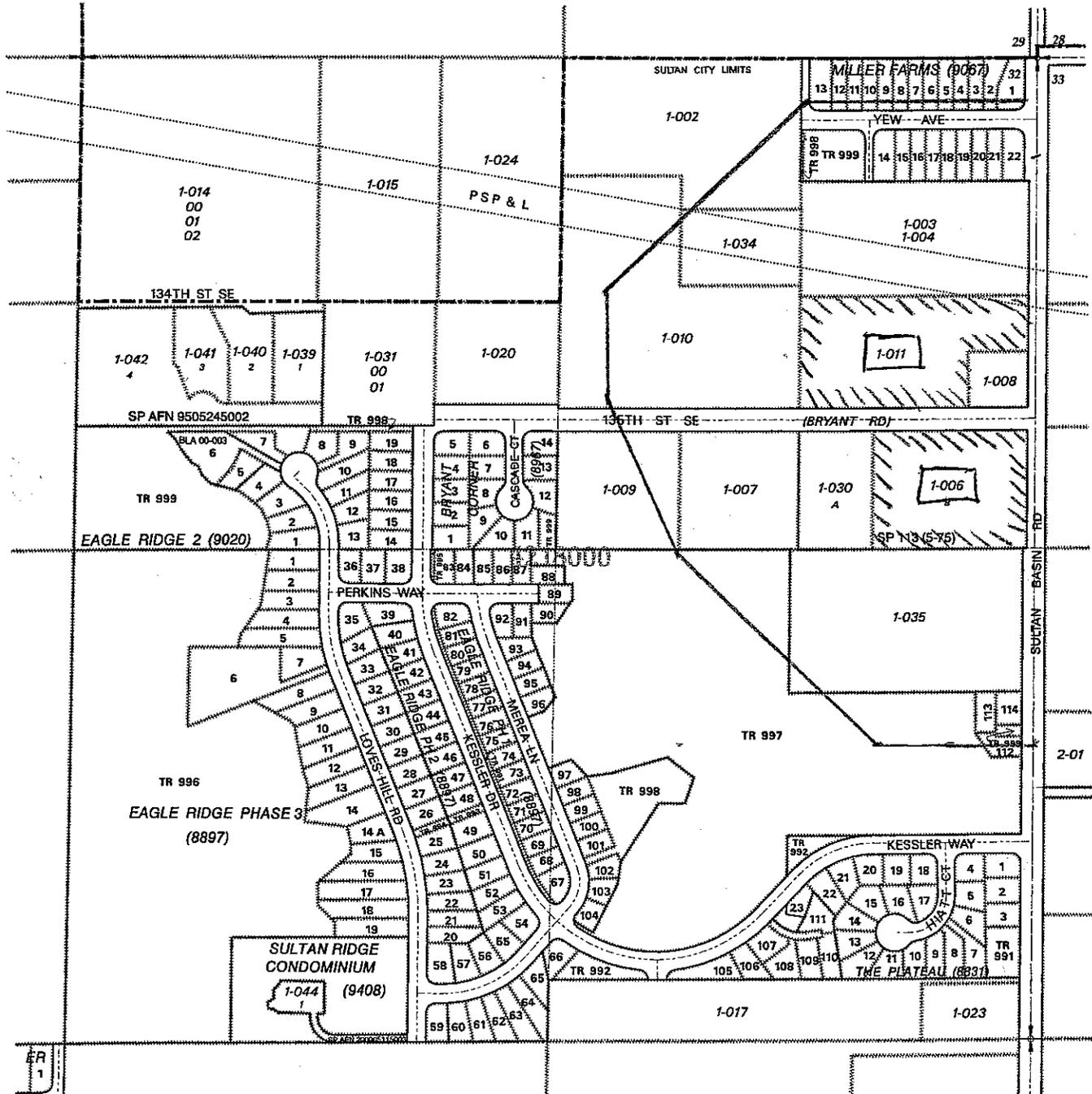
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QUARTER	SECTION	TOWNSHIP N.W.B.L.	RANGE E.W.M.
NE	32	28	8

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Map produced on January 18, 2004

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SE-29-28-8



NW-32-28-8

NW-33-28-8

SE-32-28-8

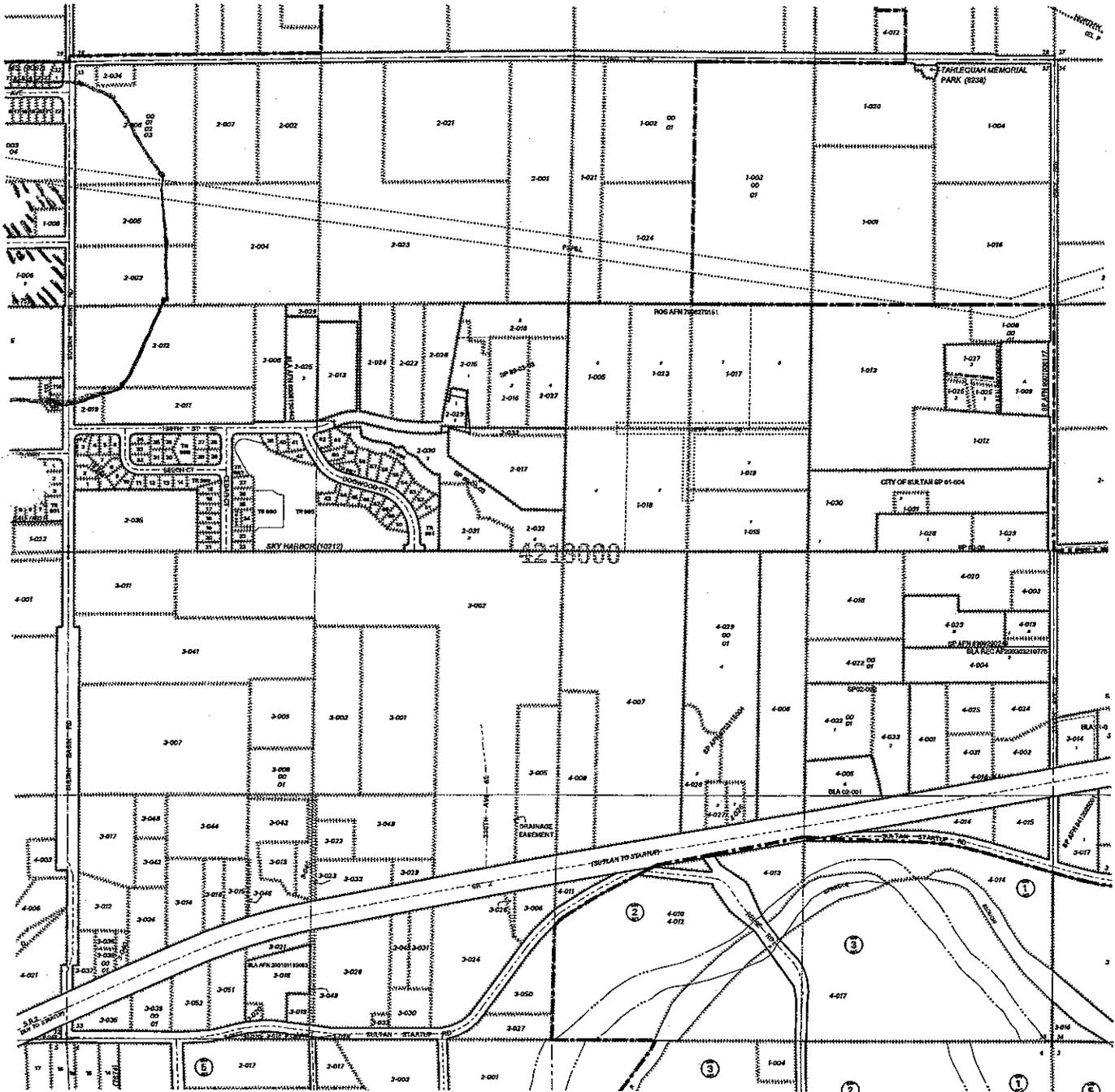
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QUARTER	SECTION	TOWNSHIP N.W.B.L.	RANGE E.W.M.
ALL	33	28	8

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Map produced on June 28, 2005

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28-28-8



32-28-8

34-28-8

4-27-8

51



August 12, 2005

Mr. Rick Cisar
City of Sultan
319 Main Street
P.O. Box 1199
Sultan, WA 98294

Re: Traffic Analysis for the Anderson Farms Residential Development, 36 Units
GTC Project No. 05-197

Mr. Cisar:

Gibson Traffic Consultants (GTC) has been retained to complete a traffic impact analysis for the proposed Anderson Farms residential development. This traffic report memorandum addresses trip generation, trip distribution, level of service/concurrency and mitigation payments.

PROPOSED SITE DEVELOPMENT AND ACCESS

The proposed Anderson Farms development is a single-family detached residential development. The development is proposed to consist of 36 total single-family detached residential units. There is currently 1 single-family detached residential unit on the site that will be removed and have been credited to the site. The analysis contained in this memorandum is for 35 new single-family detached residential units.

The development is generally located west of Sultan Basin Road on the north and south sides of 135th Street SE. A site vicinity map has been included in **Figures 1A and 1B**. The development is proposed to have three accesses to 135th Street SE, 1 for the north piece of the property and 2 for the south piece of property. The access to the north piece of the property and one of the accesses to the south piece of property will create a 4-leg intersection with 135th Street SE, 370 feet west of Sultan Basin Road. The development is scheduled to be completed by the year 2007; analysis has therefore been performed for the year 2007.

US-2 is the primary east-west State highway in east Snohomish County, and connects the City of Sultan with the City of Gold Bar and recreational areas to the east as well as the City of Monroe and the City of Everett to the west. In downtown Sultan, US-2 has a center two-way left-turn lane (TWLTL) and a 35-mph posted speed limit. There are pedestrian facilities on the north side of US-2 west of Main Street and on both sides of the highway east of the same point. Community Transit provides transit service both along US-2 and into the city along 4th Street.

EXHIBIT S-3-1

The State highway right-of-way and access intersections are under the jurisdictional control of WSDOT. The average daily traffic (ADT) along US-2 west of 4th Street is 20,000, according to WSDOT's 2003 Annual Traffic Report. Near Sultan Basin Road US-2 is a 2-lane rural type highway with no sidewalks or turning lanes. The ADT along US-2 at west of Sultan Basin Road is 14,400.

Sultan Basin Road north of US-2 is primarily a 2-lane roadway with widening along the frontages of recent developments that allow for a turn lanes. The city has a programmed/funded improvement project to realign the intersection with US-2 to the east and provide channelization.

TRIP GENERATION

Trip generation for the development is based on rates published in The Institute of Transportation Engineers (ITE) *Trip Generation, 7th Edition* (2003). The Land Use Code used to determine the trip generation is 210, residential single-family detached. Based on the trip generation rates, the Anderson Farms development will generate approximately **334.95 Average Daily Trips with 25 AM Peak-Hour Trips (6 inbound/9 outbound) and 35 PM Peak-Hour Trips (22 inbound/13 outbound)**. A summary of the trip generation calculations have been included in **Table 1**. The trip generation calculations have been included in the attachments.

TRIP DISTRIBUTION

The trip distribution for the Anderson Farms residential development were determined from approved trip distributions of surrounding residential developments. It is estimated that 15% of the site traffic will travel to and from the east, 5% will travel to and from local destinations to the west and 80% will travel to and from the west. Approximately thirty percent of the development's trips will be local to the Main Street area of the City of Sultan. A detailed trip distribution has been included in **Figures 2A and 2B** for the AM peak-hour and **Figure 3A and 3B** for the PM peak-hour.

The interlocal agreement between Snohomish County and the City of Sultan requires detailed development trip turning movement data at county key intersections impacted with three or more directional trips in the AM and PM peak-hours. The development will impact 4 county key intersections with 3 or more directional development trips in the AM and PM peak-hours. Individual development trip turning movements at county key intersections are shown in **Figure 4** for the AM and PM peak-hours. The development's key intersection volumes have also been summarized in tabular form in **Table 2A and 2B** for the AM and PM peak-hours, respectively.

ACCESS ANALYSIS

The northern portion of the development is proposed to have one site access intersection to Bryant Road and the southern portion is proposed to have two site access intersections to Bryant Road. The site access for the northern portion is proposed to align with the western site access for the southern portion of the road. The eastern site access to the southern portion of the development is proposed to be located 110 feet, centerline to centerline, from Sultan Basin Road. The only other access alternative for the eastern site access intersection is for it to be moved to intersect with Sultan Basin Road. The separation between the site access intersections is proposed to be 260 feet.

Sight Distance Analysis

Sight distance analysis was performed along 135th Street SE using the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*. The posted speed limit on 135th Street SE is 25 mph. The posted speed limit would require 280 feet of entering sight distance and 155 feet of stopping sight distance. There would more than 500 feet of entering and stopping sight distance at the proposed site access intersections. **The required sight distances along 135th Street SE will be satisfied for the proposed site access intersections.**

LEVEL OF SERVICE

Traffic congestion is generally measured in terms of level of service (LOS). In accordance with the 2000 *Highway Capacity Manual*, road facilities and intersections are rated between LOS A and LOS F, with LOS A being free flow and LOS F being forced flow or over-capacity conditions. The level of service at intersections is measured in terms of average delay per vehicle in seconds. For two-way stop-controlled intersection the level of service is determined by the worst case of stop-controlled approaches at the intersection. The level of service for signalized and all-way stop-controlled intersections is calculated as the average delay for all vehicles. Geometric characteristics and conflicting traffic movements are taken into consideration when determining level of service values. The level of service criteria has been included in **Table 3**. The acceptable level of service for WSDOT intersections is LOS E.

The independent count firms of All Traffic Data and Traffic Data Gathering conducted PM peak-hour and daily counts that are approximately 18 months old or newer. Additionally, GTC obtained an April 2004 count from WSDOT for the US-2 at Sultan Basin Road intersection.

2005 Existing Intersection Level of Service

The 2005 existing level of service results show that the US-2 at Main Street intersection operates at LOS C for the stop controlled southbound movement that the development would add traffic to. At the intersection of US-2 at Sultan Basin Road the southbound approach, the movement affected by the Anderson Farms development, operates at LOS B. The northbound approach, which the Anderson Farms development does not add traffic to, only has a total of 26 northbound vehicles (one every 2 minutes), but operates at acceptable LOS E. A summary of the existing level of service has been included in **Table 4**.

2007 Baseline Intersection Level of Service

To determine the 2007 baseline turning movements a 3% annually compounded growth rate plus pipeline trips from the Timber Ridge Estates development were applied to the existing turning movements. Under the 2007 baseline conditions the US-2 at Main Street stop-controlled intersection operates at LOS D.

The intersection of US-2 at Sultan Basin Road would operate at LOS C for the southbound approach, but LOS F for the northbound approach under the baseline conditions. The city has a project identified on its 6-year TIP to realign and provide additional channelization for the north leg of the intersection. This would create two separate intersections, US-2 at Cascade View Drive and US-2 at realigned Sultan Basin Road. With the realignment the existing Cascade View Drive intersection would operate at LOS D and the realigned Sultan Basin Road intersection would operate at LOS B. It is possible that the northbound and southbound approaches of the Sultan Basin Road intersection could both be realigned and the intersection signalized. This signalized intersection would provide a better level of service for the stop-controlled approaches. The analysis performed for the realigned intersections in this report can therefore be considered conservative. A summary of the 2007 baseline conditions have been included in **Table 4**.

2007 Future with Development Intersection Level of Service

The Anderson Farms development trips have been added to the baseline turning movements to determine the 2007 future with development turning movements. The intersection of US-2 at Main Street would operate at acceptable LOS E with the addition of the Anderson Farms development.

The US-2 at Sultan Basin Road would operate at LOS C for the southbound approach and LOS F for the northbound approach without any improvements. The intersection of Cascade View Drive would operate at LOS D and the Sultan Basin Road approach would operate at LOS B with the realignment and channelization improvements. Any additional improvements performed at this intersection, including signalization, would further improve the intersections' levels of

service. A summary of the intersection levels of service with the Anderson Farms development has been included in Table 4.

Arterial Level of Service/Concurrency

Qualitative arterial level of service was performed along Sultan Basin Road and Main Street. These are the only two arterials impacted with any significant volume of development traffic. The 24-hour machine count shows the existing daily traffic volume to be less than 2,700 ADT on Sultan Basin Road north of US-2. Additionally, the Main Street 24-hour machine count west of US-2 shows the existing daily traffic volume to be less than 2,500 ADT. Therefore, even with 3-years of 3% annually compounded growth plus the pipeline trips and the development's daily traffic the ADT will be approximately 3,200, well below the 6,200 ADT LOS C thresholds on both Sultan Basin Road and Main Street.

MITIGATION

City of Sultan

The Anderson Farms residential development will be required to pay mitigation payments to the City of Sultan. The city bases their mitigation payments on new PM peak-hour trips added to the city streets. The mitigation cost is \$1,837.00 per new PM peak-hour trip. The development will generate 35 new PM peak-hour trips. The mitigation fees that will be due the City are **\$64,295.00**, equivalent to \$1,785.97 per unit for 36 total units. A summary of the mitigation fees has been included in Table 4.

WSDOT

A signal improvement project is currently under study at the intersection of US-2 and 5th Street. The mitigation payment to this project will be based in a proportionate share of the daily traffic added to the intersection. Based on prior proportionate share calculations accepted by the city; the project should contribute \$125.79 per PM peak-hour trip through the proposed improvement. The development would add 11 peak trips through the improvement therefore should be required to pay \$1,383.69 towards the improvement.

The intersection of US-2 at Sultan Basin Road is not identified as a safety problem in the latest WSDOT review. However, the city, WSDOT and the county are still proceeding with a realignment improvement for the intersection. The development would add 285 daily trips. The cost of the realignment project is approximately \$1,100,000. Additional, mitigation may be required if it is not all part of the city's cost fee basis for its traffic mitigation fee. With the center left-turn channalization US-2 would be the equivalent of a 3 lane roadway at this intersection. Based on WSDOT's proportionate share calculations, developments should

Mr. Rick Cisar
August 12, 2005
Page 6

contribute \$27.71 per daily trip through the US-2 at Sultan Basin Road intersection. Therefore the development should contribute \$7,897.35 for this improvement.

The total WSDOT mitigation fees will be \$9,281.04, equivalent to \$257.81 per unit for 36 total units. A summary of the mitigation fees has been included in Table 4.

Snohomish County Interlocal Agreement

The City of Sultan and Snohomish County have signed an interlocal agreement addressing impacts to arterial unit in arrears and inadequate roadway conditions in the county. The only arterial units in arrears in TSA C are Airport Road east of SR-9 and Marsh Road west of SR-9. This development would not add 3 directional peak-hour trips to either of those roadways (See **Figures 2B** and **3B**). Additionally, there are no Inadequate Roadway Conditions (IRCs) in TSA C. Therefore the development would not be required to provide additional analysis or mitigation towards Snohomish County per the interlocal agreement.

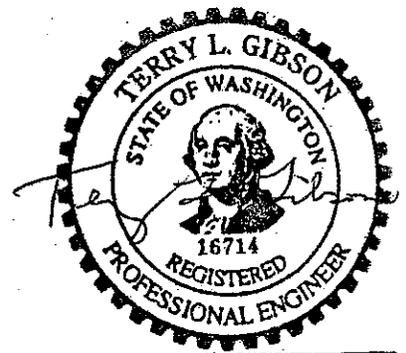
We trust that GTC's traffic impact analysis conducted for the proposed Anderson Farms residential development provides adequate information, as needed by the City of Sultan, Snohomish County and WSDOT to complete their SEPA reviews of the subject development. Please call us at (425) 339-8266 if you have any questions or comments regarding the information documented herein.

Sincerely,

GIBSON TRAFFIC CONSULTANTS, INC.

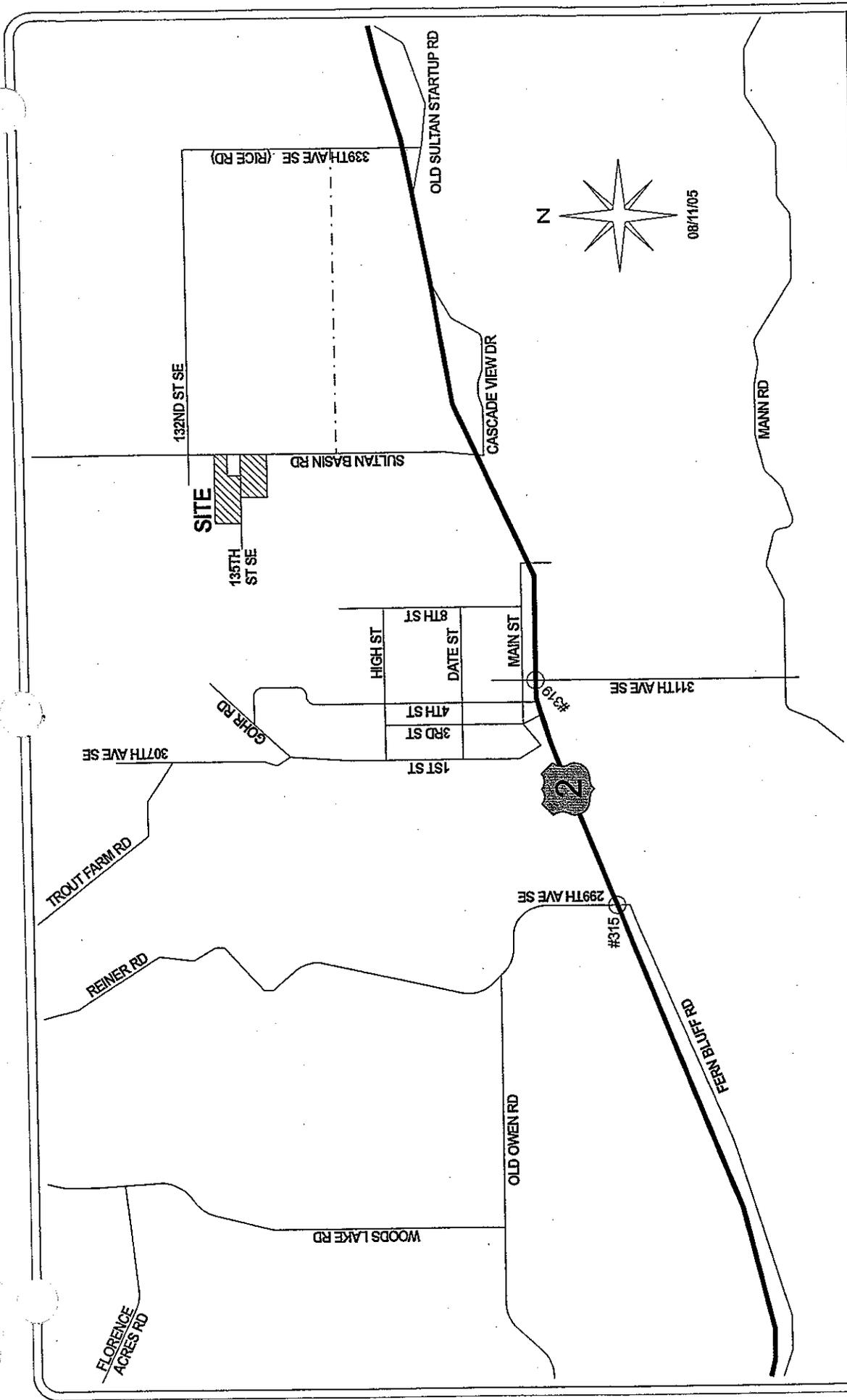

Edward T. Koltonowski
Senior Traffic Engineer

Attachments



EXPIRES 9/29/05

GIBSON
TRAFFIC
CONSULTANTS



TRAFFIC IMPACT STUDY
GTC #05-197

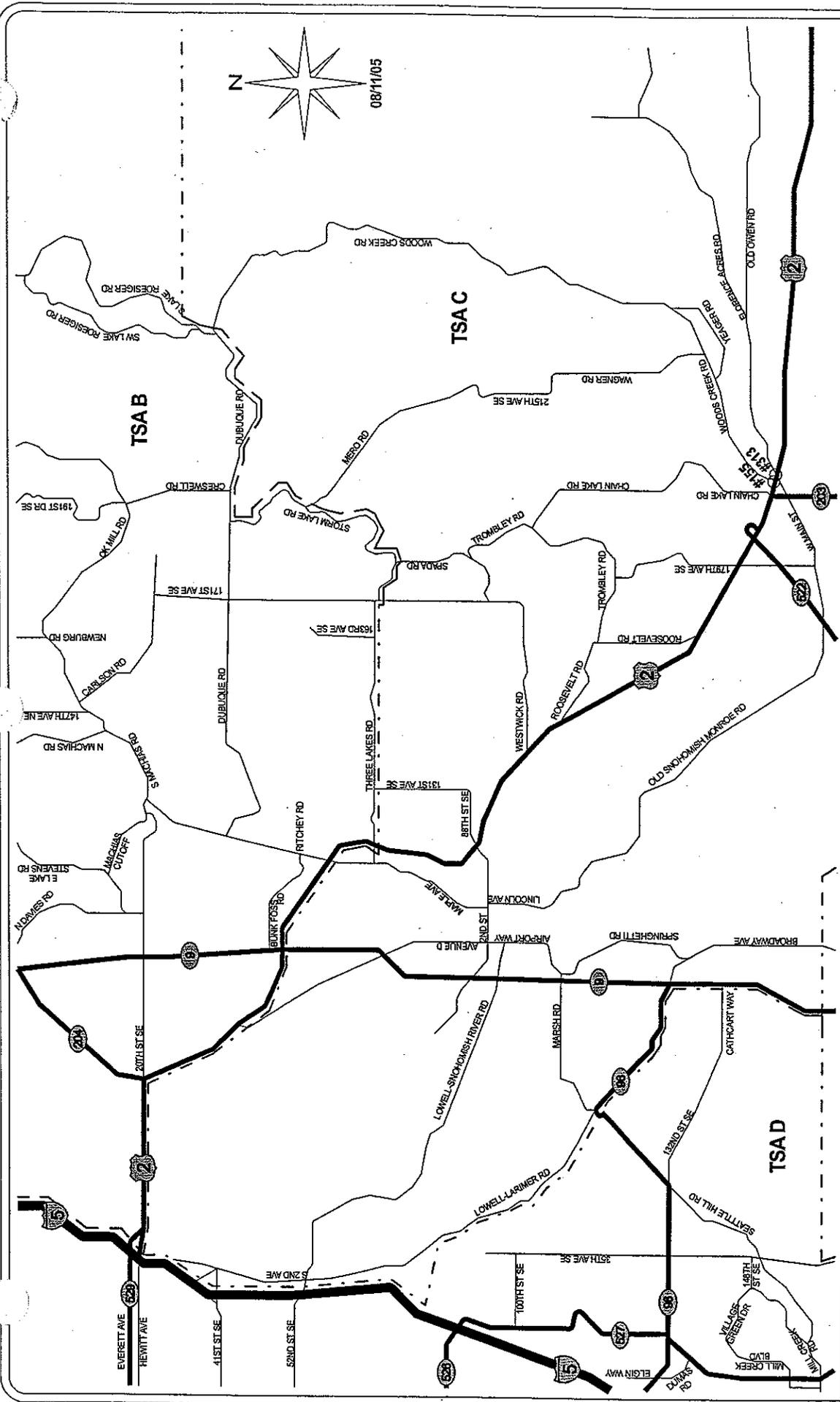
FIGURE 1A
SITE VICINITY
MAP

GIBSON TRAFFIC CONSULTANTS

LEGEND

-  DEVELOPMENT SITE
-  KEY INTERSECTION

ANDERSON FARMS
35 NEW
RESIDENTIAL UNITS
CITY OF SULTAN

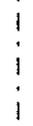


TRAFFIC IMPACT STUDY
GTC #05-197

FIGURE 1B
SITE VICINITY
MAP

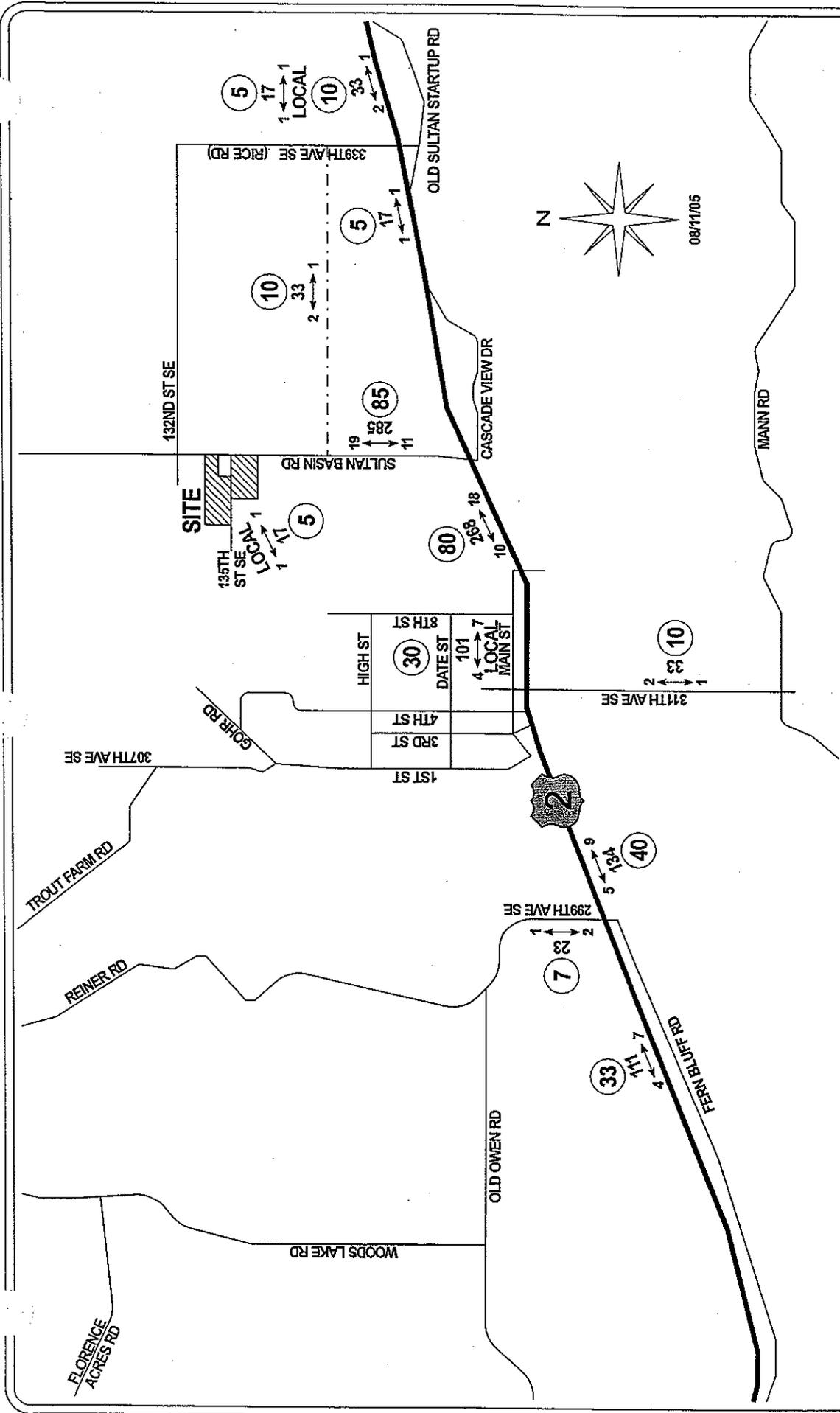
GIBSON TRAFFIC CONSULTANTS

LEGEND

-  KEY INTERSECTION
-  TSA BOUNDARY

ANDERSON FARMS
35 NEW
RESIDENTIAL UNITS

SNOHOMISH COUNTY



TRAFFIC IMPACT STUDY
GTC #05-197

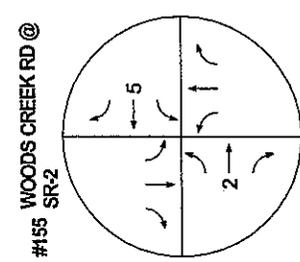
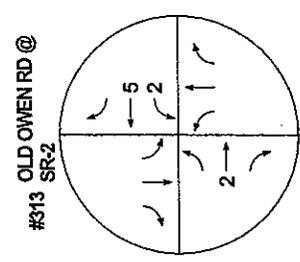
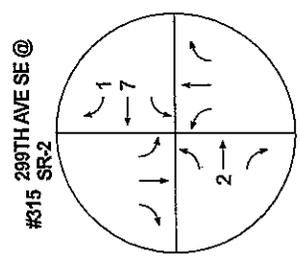
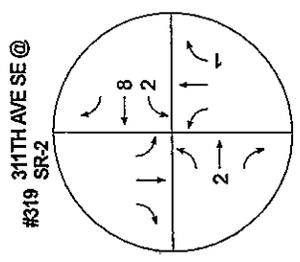
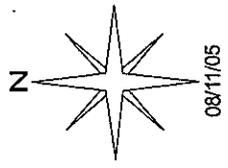
FIGURE 3A
DEVELOPMENT
TRIP DISTRIBUTION
PM PEAK-HOUR

GIBSON TRAFFIC CONSULTANTS

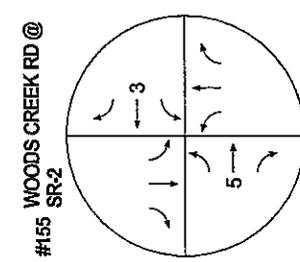
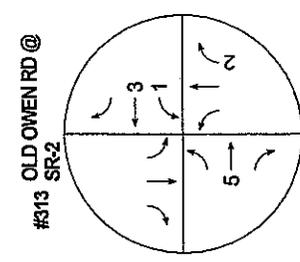
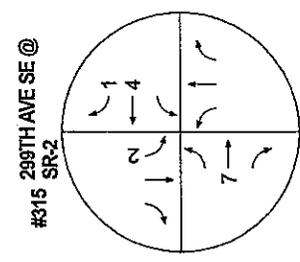
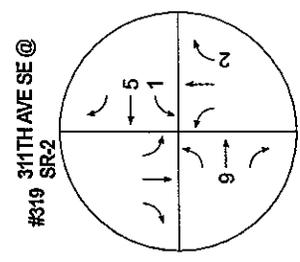
LEGEND
AWDT → PEAK
← PM
NEW SITE TRAFFIC (DAILY/PEAK HOUR)
TRIP DISTRIBUTION %

**ANDERSON FARMS
35 NEW
RESIDENTIAL UNITS**

CITY OF SULTAN



AM PEAK



PM PEAK

TRAFFIC IMPACT STUDY
GTC #05-197

GIBSON TRAFFIC CONSULTANTS

ANDERSON FARMS
35 NEW
RESIDENTIAL UNITS
SNOHOMISH COUNTY

LEGEND
XX → PEAK HOUR
TURNING MOVEMENT VOLUME

FIGURE 4
KEY INTERSECTION
TURNING MOVEMENT VOLUMES
AM & PM PEAK HOUR

Anderson Farms
 GTC #05-197

TABLE 1

TRIP GENERATION SUMMARY

Proposed Land Use	Size	Average Daily Trips	AM Peak-Hour			PM Peak-Hour Trips		
			Total	Inbound	Outbound	Total	Inbound	Outbound
Single-Family Residential	35 Units	334.95	25	6	19	35	22	13

Anderson Farms
 GTC #05-197

TABLE 2A

DEVELOPMENT KEY INTERSECTION IMPACTS AM PEAK-HOUR

INTERSECTION	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#155: US-2 @ Woods Creek Road	0	2	0	0	5	0	0	0	0	0	0	0
#313: US-2 @ Old Owen Road	0	2	0	2	5	0	0	0	0	0	0	0
#315: US-2 @ 299th Avenue SE	0	2	0	0	7	1	0	0	0	0	0	0
#319: US-2 @ 311th Avenue SE	0	2	0	2	8	0	0	0	1	0	0	0

66

Anderson Farms
 GTC #05-197

TABLE 2B

DEVELOPMENT KEY INTERSECTION IMPACTS PM PEAK-HOUR

INTERSECTION	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#155: US-2 @ Woods Creek Road	0	5	0	0	3	0	0	0	0	0	0	0
#313: US-2 @ Old Owen Road	0	5	0	1	3	0	0	0	2	0	0	0
#315: US-2 @ 299th Avenue SE	0	7	0	0	4	1	0	0	0	2	0	0
#319: US-2 @ 311th Avenue SE	0	9	0	1	5	0	0	0	2	0	0	0

TABLE 3

INTERSECTION LEVEL OF SERVICE (LOS) CRITERIA

Level of ¹ Service	Expected Delay	Control Delay (Seconds per Vehicle)	
		Unsignalized Intersections	Signalized Intersections
A	Little/No Delay	≤10	≤10
B	Short Delays	>10 and ≤15	>10 and ≤20
C	Average Delays	>15 and ≤25	>20 and ≤35
D	Long Delays	>25 and ≤35	>35 and ≤55
E	Very Long Delays	>35 and ≤50	>55 and ≤80
F	*	>50	>80

* When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection.

Source: *Highway Capacity Manual 2000.*

¹ LOS A: free-flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection).

LOS B: generally stable traffic flow conditions.

LOS C: occasional back-ups may develop, but delay to vehicles is short term and still tolerable.

LOS D: during short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e. vehicles delayed one cycle or less at signal).

LOS E: intersections operate at or near capacity, with long queues developing on all approaches and long delays.

LOS F: jammed conditions on all approaches with excessively long delays and vehicles unable to move at times.

TABLE 4

LEVEL OF SERVICE
Weekday PM Peak Hour

Intersection/Movement	EXISTING CONDITIONS			FUTURE 2007 CONDITIONS ¹											
				Baseline			Baseline ² w/ Realignment			W Development			W Development ² & Realignment		
	LOS	Delay		LOS	Delay		LOS	Delay		LOS	Delay		LOS	Delay	
1. US-2 @ Cascade View Drive/ Sultan Basin Road	E	41.9 sec		F	81.4 sec		D	27.9 sec		F	95.7 sec		D	29.0 sec	
	B	12.6 sec		C	15.1 sec		B	13.4 sec		C	16.1 sec		B	13.8 sec	
2. US-2 @ Main Street	C	24.1 sec		D	32.9 sec					E	35.2 sec				

¹ Includes a 3% annually compounded growth factor and pipeline trips to account for planned/programmed developments in the area.

² Realignment consists of separate intersections for Cascade View Drive and Sultan Basin Road and channelization improvements.

TABLE 5
MITIGATION FEES

Mitigation Type	Cost Per Trip Type	Trip Type	Trips	Mitigation Fee	Mitigation Fee ¹ Per Lot
City of Sultan	\$1,837.00	PM Peak-Hour	35	\$64,295.00	\$1,785.97
WSDOT US-2 at 5th Street	\$125.79	PM Peak-Hour	11	\$1,383.69	\$38.44
WSDOT US-2 at Sultan Basin Road	\$27.71	ADT	285	\$7,897.35	\$219.37
TOTAL				\$73,576.04	\$2,043.78

¹ Mitigation per lot is based on 36 lots (36 total building permits).

Trip Generation Worksheet for Rate-Based Calculations

Project: Anderson Farm
Project Number: 05-197
Land Use: Single-Family Detached Housing
Land Use Code: 210

Analyst: BJL
Date: 8/11/2005
Checked By: _____
Date: _____

AM Version

Site Information			
Component	Quantity	Units of Measure	Source
Project / Site Variable (X)	35	Dwelling Units	Site Plan

Weekday Daily Traffic (ADT)			
Component	Quantity	Units of Measure	Source
ADT Trip Generation Rate	9.57	Trips / Dwelling Units	ITE Trip Generation, 7th Edition
Gross ADT	334.95	Gross ADT	Rate x Site Variable (X)
New ADT	334.95	New ADT	100% of Gross Trips

Weekday AM Peak Hour of Adjacent Street Traffic			
Component	Quantity	Units of Measure	Source
AM Peak Hour Trip Generation Rate	0.75	Trips / Dwelling Units	ITE Trip Generation, 7th Edition
Gross AM Peak Trips	26.25	Gross Trips	Rate x Site Variable (X)
New AM Peak Hour Trips	26.25	New Trips	100% of Gross Trips

	Trip Factors (%)		ADT	AM Peak Hour Trips		
	ADT	Peak Hour	Total	Total	25% In	75% Out
Gross Total	100%	100%	334.95	26.25	6.56	19.69
TDM Credit	0%	0%	0.00	0.00	0.00	0.00
Pass-By Trips	0%	0%	0.00	0.00	0.00	0.00
Diverted Trips	0%	0%	0.00	0.00	0.00	0.00
New Trips	100%	100%	334.95	26.25	6.56	19.69
Subtotal Check	100%	100%	334.95	26.25	6.56	19.69
Subtotal vs. Gross	OK	OK	OK	OK	OK	OK

Table to Check for Rounding Inaccuracies

	Trip Factors (%)		ADT	AM Peak Hour Trips		
	ADT	Peak Hour	Total	Total	25% In	75% Out
Gross Total	OK	OK	OK	OK	OK	OK
TDM Credit	OK	OK	OK	OK	OK	OK
Pass-By Trips	OK	OK	OK	OK	OK	OK
Diverted Trips	OK	OK	OK	OK	OK	OK
New Trips	OK	OK	OK	OK	OK	OK
Subtotal Check	OK	OK	OK	OK	OK	OK

Trip Generation Worksheet for Rate-Based Calculations

Project: Anderson Farm **Analyst:** BJL
Project Number: 05-197 **Date:** 8/11/2005
Land Use: Single-Family Detached Housing **Checked By:** _____
Land Use Code: 210 **Date:** _____

PM Version

Site Information			
Component	Quantity	Units of Measure	Source
Project / Site Variable (X)	35	Dwelling Units	Site Plan

Weekday Daily Traffic (ADT)			
Component	Quantity	Units of Measure	Source
ADT Trip Generation Rate	9.57	Trips / Dwelling Units	ITE Trip Generation, 7th Edition
Gross ADT	334.95	Gross ADT	Rate x Site Variable (X)
New ADT	334.95	New ADT	100% of Gross Trips

Weekday PM Peak Hour of Adjacent Street Traffic			
Component	Quantity	Units of Measure	Source
PM Peak Hour Trip Generation Rate	1.01	Trips / Dwelling Units	ITE Trip Generation, 7th Edition
Gross PM Peak Trips	35.35	Gross Trips	Rate x Site Variable (X)
New PM Peak Hour Trips	35.35	New Trips	100% of Gross Trips

	Trip Factors (%)		ADT	PM Peak Hour Trips		
	ADT	Peak Hour	Total	Total	63% In	37% Out
Gross Total	100%	100%	334.95	35.35	22.27	13.08
TDM Credit	0%	0%	0.00	0.00	0.00	0.00
Pass-By Trips	0%	0%	0.00	0.00	0.00	0.00
Diverted Trips	0%	0%	0.00	0.00	0.00	0.00
New Trips	100%	100%	334.95	35.35	22.27	13.08
Subtotal Check	100%	100%	334.95	35.35	22.27	13.08
Subtotal vs. Gross	OK	OK	OK	OK	OK	OK

Table to Check for Rounding Inaccuracies

	Trip Factors (%)		ADT	PM Peak Hour Trips		
	ADT	Peak Hour	Total	Total	63% In	37% Out
Gross Total	OK	OK	OK	OK	OK	OK
TDM Credit	OK	OK	OK	OK	OK	OK
Pass-By Trips	OK	OK	OK	OK	OK	OK
Diverted Trips	OK	OK	OK	OK	OK	OK
New Trips	OK	OK	OK	OK	OK	OK
Subtotal Check	OK	OK	OK	OK	OK	OK

Anderson Farm
GTC #05-197

PM Version

%	New ADT	New PM Peak Hour Trips		
		In	Out	Total
100%	335	22	13	35
1%	3.35	0.22	0.13	0.35
2%	6.70	0.45	0.26	0.71
3%	10.05	0.67	0.39	1.06
4%	13.40	0.89	0.52	1.41
5%	16.75	1.11	0.65	1.77
6%	20.10	1.34	0.78	2.12
7%	23.45	1.56	0.92	2.47
8%	26.80	1.78	1.05	2.83
9%	30.15	2.00	1.18	3.18
10%	33.50	2.23	1.31	3.54
11%	36.84	2.45	1.44	3.89
12%	40.19	2.67	1.57	4.24
13%	43.54	2.90	1.70	4.60
14%	46.89	3.12	1.83	4.95
15%	50.24	3.34	1.96	5.30
16%	53.59	3.56	2.09	5.66
17%	56.94	3.79	2.22	6.01
18%	60.29	4.01	2.35	6.36
19%	63.64	4.23	2.49	6.72
20%	66.99	4.45	2.62	7.07
21%	70.34	4.68	2.75	7.42
22%	73.69	4.90	2.88	7.78
23%	77.04	5.12	3.01	8.13
24%	80.39	5.34	3.14	8.48
25%	83.74	5.57	3.27	8.84
26%	87.09	5.79	3.40	9.19
27%	90.44	6.01	3.53	9.54
28%	93.79	6.24	3.66	9.90
29%	97.14	6.46	3.79	10.25
30%	100.49	6.68	3.92	10.61
31%	103.83	6.90	4.05	10.96
32%	107.18	7.13	4.19	11.31
33%	110.53	7.35	4.32	11.67
34%	113.88	7.57	4.45	12.02
35%	117.23	7.79	4.58	12.37
36%	120.58	8.02	4.71	12.73
37%	123.93	8.24	4.84	13.08
38%	127.28	8.46	4.97	13.43
39%	130.63	8.69	5.10	13.79
40%	133.98	8.91	5.23	14.14
41%	137.33	9.13	5.36	14.49
42%	140.68	9.35	5.49	14.85
43%	144.03	9.58	5.62	15.20
44%	147.38	9.80	5.76	15.55
45%	150.73	10.02	5.89	15.91
46%	154.08	10.24	6.02	16.26
47%	157.43	10.47	6.15	16.61
48%	160.78	10.69	6.28	16.97
49%	164.13	10.91	6.41	17.32
50%	167.48	11.14	6.54	17.68

%	New ADT	New PM Peak Hour Trips		
		In	Out	Total
100%	335	22	13	35
51%	170.82	11.36	6.67	18.03
52%	174.17	11.58	6.80	18.38
53%	177.52	11.80	6.93	18.74
54%	180.87	12.03	7.06	19.09
55%	184.22	12.25	7.19	19.44
56%	187.57	12.47	7.32	19.80
57%	190.92	12.69	7.46	20.15
58%	194.27	12.92	7.59	20.50
59%	197.62	13.14	7.72	20.86
60%	200.97	13.36	7.85	21.21
61%	204.32	13.58	7.98	21.56
62%	207.67	13.81	8.11	21.92
63%	211.02	14.03	8.24	22.27
64%	214.37	14.25	8.37	22.62
65%	217.72	14.48	8.50	22.98
66%	221.07	14.70	8.63	23.33
67%	224.42	14.92	8.76	23.68
68%	227.77	15.14	8.89	24.04
69%	231.12	15.37	9.03	24.39
70%	234.47	15.59	9.16	24.75
71%	237.81	15.81	9.29	25.10
72%	241.16	16.03	9.42	25.45
73%	244.51	16.26	9.55	25.81
74%	247.86	16.48	9.68	26.16
75%	251.21	16.70	9.81	26.51
76%	254.56	16.93	9.94	26.87
77%	257.91	17.15	10.07	27.22
78%	261.26	17.37	10.20	27.57
79%	264.61	17.59	10.33	27.93
80%	267.96	17.82	10.46	28.28
81%	271.31	18.04	10.59	28.63
82%	274.66	18.26	10.73	28.99
83%	278.01	18.48	10.86	29.34
84%	281.36	18.71	10.99	29.69
85%	284.71	18.93	11.12	30.05
86%	288.06	19.15	11.25	30.40
87%	291.41	19.37	11.38	30.75
88%	294.76	19.60	11.51	31.11
89%	298.11	19.82	11.64	31.46
90%	301.46	20.04	11.77	31.82
91%	304.80	20.27	11.90	32.17
92%	308.15	20.49	12.03	32.52
93%	311.50	20.71	12.16	32.88
94%	314.85	20.93	12.30	33.23
95%	318.20	21.16	12.43	33.58
96%	321.55	21.38	12.56	33.94
97%	324.90	21.60	12.69	34.29
98%	328.25	21.82	12.82	34.64
99%	331.60	22.05	12.95	35.00
100%	334.95	22.27	13.08	35.35

Anderson Farm
GTC #05-197

AM Version

%	New ADT	New AM Peak Hour Trips		
		In	Out	Total
100%	335	6	20	26
1%	3.35	0.06	0.20	0.26
2%	6.70	0.12	0.40	0.52
3%	10.05	0.18	0.60	0.78
4%	13.40	0.24	0.80	1.04
5%	16.75	0.30	1.00	1.30
6%	20.10	0.36	1.20	1.56
7%	23.45	0.42	1.40	1.82
8%	26.80	0.48	1.60	2.08
9%	30.15	0.54	1.80	2.34
10%	33.50	0.60	2.00	2.60
11%	36.84	0.66	2.20	2.86
12%	40.19	0.72	2.40	3.12
13%	43.54	0.78	2.60	3.38
14%	46.89	0.84	2.80	3.64
15%	50.24	0.90	3.00	3.90
16%	53.59	0.96	3.20	4.16
17%	56.94	1.02	3.40	4.42
18%	60.29	1.08	3.60	4.68
19%	63.64	1.14	3.80	4.94
20%	66.99	1.20	4.00	5.20
21%	70.34	1.26	4.20	5.46
22%	73.69	1.32	4.40	5.72
23%	77.04	1.38	4.60	5.98
24%	80.39	1.44	4.80	6.24
25%	83.74	1.50	5.00	6.50
26%	87.09	1.56	5.20	6.76
27%	90.44	1.62	5.40	7.02
28%	93.79	1.68	5.60	7.28
29%	97.14	1.74	5.80	7.54
30%	100.49	1.80	6.00	7.80
31%	103.83	1.86	6.20	8.06
32%	107.18	1.92	6.40	8.32
33%	110.53	1.98	6.60	8.58
34%	113.88	2.04	6.80	8.84
35%	117.23	2.10	7.00	9.10
36%	120.58	2.16	7.20	9.36
37%	123.93	2.22	7.40	9.62
38%	127.28	2.28	7.60	9.88
39%	130.63	2.34	7.80	10.14
40%	133.98	2.40	8.00	10.40
41%	137.33	2.46	8.20	10.66
42%	140.68	2.52	8.40	10.92
43%	144.03	2.58	8.60	11.18
44%	147.38	2.64	8.80	11.44
45%	150.73	2.70	9.00	11.70
46%	154.08	2.76	9.20	11.96
47%	157.43	2.82	9.40	12.22
48%	160.78	2.88	9.60	12.48
49%	164.13	2.94	9.80	12.74
50%	167.48	3.00	10.00	13.00

%	New ADT	New AM Peak Hour Trips		
		In	Out	Total
100%	335	6	20	26
51%	170.82	3.06	10.20	13.26
52%	174.17	3.12	10.40	13.52
53%	177.52	3.18	10.60	13.78
54%	180.87	3.24	10.80	14.04
55%	184.22	3.30	11.00	14.30
56%	187.57	3.36	11.20	14.56
57%	190.92	3.42	11.40	14.82
58%	194.27	3.48	11.60	15.08
59%	197.62	3.54	11.80	15.34
60%	200.97	3.60	12.00	15.60
61%	204.32	3.66	12.20	15.86
62%	207.67	3.72	12.40	16.12
63%	211.02	3.78	12.60	16.38
64%	214.37	3.84	12.80	16.64
65%	217.72	3.90	13.00	16.90
66%	221.07	3.96	13.20	17.16
67%	224.42	4.02	13.40	17.42
68%	227.77	4.08	13.60	17.68
69%	231.12	4.14	13.80	17.94
70%	234.47	4.20	14.00	18.20
71%	237.81	4.26	14.20	18.46
72%	241.16	4.32	14.40	18.72
73%	244.51	4.38	14.60	18.98
74%	247.86	4.44	14.80	19.24
75%	251.21	4.50	15.00	19.50
76%	254.56	4.56	15.20	19.76
77%	257.91	4.62	15.40	20.02
78%	261.26	4.68	15.60	20.28
79%	264.61	4.74	15.80	20.54
80%	267.96	4.80	16.00	20.80
81%	271.31	4.86	16.20	21.06
82%	274.66	4.92	16.40	21.32
83%	278.01	4.98	16.60	21.58
84%	281.36	5.04	16.80	21.84
85%	284.71	5.10	17.00	22.10
86%	288.06	5.16	17.20	22.36
87%	291.41	5.22	17.40	22.62
88%	294.76	5.28	17.60	22.88
89%	298.11	5.34	17.80	23.14
90%	301.46	5.40	18.00	23.40
91%	304.80	5.46	18.20	23.66
92%	308.15	5.52	18.40	23.92
93%	311.50	5.58	18.60	24.18
94%	314.85	5.64	18.80	24.44
95%	318.20	5.70	19.00	24.70
96%	321.55	5.76	19.20	24.96
97%	324.90	5.82	19.40	25.22
98%	328.25	5.88	19.60	25.48
99%	331.60	5.94	19.80	25.74
100%	334.95	6.00	20.00	26.00

WASHINGTON STATE DEPT OF TRANSPORTATION

Site Code : 00223143

PAGE: 1

LOCATION : SR 2

FILE: 02314PM

JCT : SULTAN BASIN/CEMETERY RD :

DATE: 4/27/04

MILEPOST : 23.14

Movements by: Primary

Time Begin	From South			From West			From North			From East			Vehicle Total
	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
4:00 PM	0	0	6	6	99	26	17	0	2	0	102	0	258
4:15	0	0	5	5	138	29	16	0	0	0	84	0	277
4:30	2	2	3	12	148	32	17	0	0	0	103	0	319
4:45	0	2	7	10	105	34	17	0	1	1	88	1	266
HR TOTAL	2	4	21	33	490	121	67	0	3	1	377	1	1120
5:00 PM	0	1	3	6	147	21	13	0	1	0	89	0	281
5:15	2	0	4	6	153	30	20	0	1	2	91	0	309
5:30	1	1	5	7	130	39	15	0	0	0	106	0	304
5:45	0	0	9	5	92	21	16	0	1	0	63	0	207
HR TOTAL	3	2	21	24	522	111	64	0	3	2	349	0	1101
DAY TOTAL	5	6	42	57	1012	232	131	0	6	3	726	1	2221

PEAK PERIOD ANALYSIS FOR THE PERIOD: 4:00 PM - 6:00 PM

DIRECTION FROM	START PEAK HOUR	PEAK HR FACTOR VOLUMES PERCENTS		
			Right	Thru	Left	Total	Right	Thru	Left
South	4:00 PM	0.75	2	4	21	27	7	15	78
West	4:30 PM	0.92	34	553	117	704	5	79	17
North	4:00 PM	0.92	67	0	3	70	96	0	4
East	4:00 PM	0.92	1	377	1	379	0	99	0

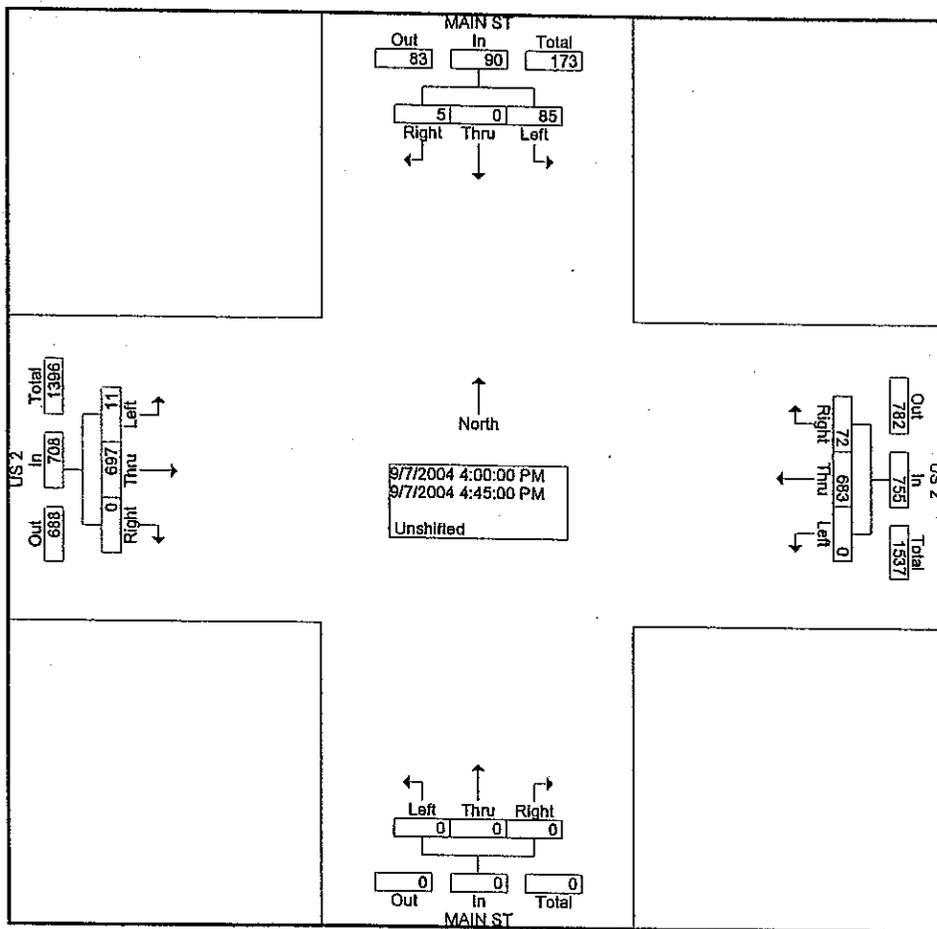
Entire Intersection

South	4:30 PM	0.72	4	5	17	26	15	19	65
West		0.92	34	553	117	704	5	79	17
North		0.83	67	0	3	70	96	0	4
East		0.91	3	371	1	375	1	99	0

All Traffic Data Services Inc.
 1800 NE 40th Ave J-1
 Renton, WA 98056
 Ph. 206-251-0300

File Name : Main&US2PM
 Site Code : 00000000
 Start Date : 9/7/2004
 Page No : 2

Start Time	MAIN ST Southbound				US 2 Westbound				MAIN ST Northbound				US 2 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:00 PM																
Volume	85	0	5	90	0	683	72	755	0	0	0	0	11	697	0	708	1553
Percent	94.4	0.0	5.6		0.0	90.5	9.5		0.0	0.0	0.0		1.6	98.4	0.0		
04:30 Volume	31	0	1	32	0	194	15	209	0	0	0	0	2	165	0	167	408
Peak Factor																	0.952
High Int. Volume	04:30 PM																
Volume	31	0	1	32	0	194	15	209	3:45:00 PM				04:00 PM				
Peak Factor				0.703				0.903	0	0	0	0	3	168	0	171	0.927



Start Time	15-Jun-04 Tue	EB	WB	Total
12:00 AM		3	4	7
01:00		4	2	6
02:00		3	2	5
03:00		3	7	10
04:00		1	21	22
05:00		16	59	75
06:00		19	60	79
07:00		29	72	101
08:00		23	57	80
09:00		48	92	140
10:00		50	68	118
11:00		55	76	131
12:00 PM		72	78	150
01:00		60	70	130
02:00		71	90	161
03:00		104	92	196
04:00		110	96	206
05:00		140	111	251
06:00		122	70	192
07:00		81	50	131
08:00		59	48	107
09:00		63	25	88
10:00		28	20	48
11:00		14	16	30
Total		1178	1286	2464
Percent		47.8%	52.2%	
AM Peak		11:00	09:00	09:00
Vol.		55	92	140
PM Peak		17:00	17:00	17:00
Vol.		140	111	251
Grand Total		1178	1286	2464
Percent		47.8%	52.2%	
ADT		Not Calculated		

Traffic Data Gathering

11410 - 13th Street SE
 Laku Stevens, WA 98258

Site: 04-105-01
 Date: 01/20/04

Location: Sultan Basin Rd n/o US-2
 Sultan, WA
 Counter: 1389

Day: Tuesday

Interval	SB				NB				Combined			
	AM		PM		AM		PM		AM		PM	
Begin												
12:00	1	3	21	90	2	3	14	52	3	6	35	142
12:15	2		15		1		18		3		33	
12:30	0		27		0		10		0		37	
12:45	0		27		0		10		0		37	
01:00	0	4	25	95	0	2	22	64	0	6	47	159
01:15	2		28		0		18		2		46	
01:30	1		28		2		8		3		36	
01:45	1		14		0		16		1		30	
02:00	0	1	23	83	0	0	23	103	0	1	46	186
02:15	0		21		0		22		0		43	
02:30	0		19		0		31		0		50	
02:45	1		20		0		27		1		47	
03:00	2	8	35	95	0	0	17	114	2	8	52	209
03:15	2		20		0		22		2		42	
03:30	4		18		0		40		4		58	
03:45	0		22		0		35		0		57	
04:00	5	49	19	91	2	7	38	145	7	56	57	236
04:15	7		26		0		40		7		66	
04:30	18		24		3		35		21		59	
04:45	19		22		2		32		21		54	
05:00	14	99	11	60	1	6	32	142	15	105	43	202
05:15	36		18		2		37		38		55	
05:30	23		18		0		37		23		50	
05:45	26		18		3		36		29		54	
06:00	36	126	24	74	3	18	29	108	39	144	53	182
06:15	29		8		4		20		33		28	
06:30	26		24		3		21		29		45	
06:45	35		18		8		38		43		56	
07:00	13	104	13	58	6	35	19	71	19	139	32	129
07:15	31		20		4		16		35		36	
07:30	38		15		19		20		57		35	
07:45	22		10		6		16		28		26	
08:00	18	94	8	30	14	48	20	69	32	142	28	99
08:15	18		10		12		24		30		34	
08:30	22		9		7		12		29		21	
08:45	36		3		15		13		51		16	
09:00	32	90	9	29	16	51	15	50	48	141	24	79
09:15	17		11		10		12		27		23	
09:30	20		7		7		13		27		20	
09:45	21		2		18		10		39		12	
10:00	22	66	4	13	13	40	3	16	35	106	7	29
10:15	16		2		10		4		26		6	
10:30	14		2		10		5		24		7	
10:45	14		5		7		4		21		9	
11:00	12	69	2	6	17	57	2	14	29	126	4	20
11:15	28		2		14		5		42		7	
11:30	15		1		13		2		28		3	
11:45	14		1		13		5		27		6	
Totals	713		724		267		948		980		1,672	
Split	72.8		43.3		27.2		56.7					
Day Totals		1,437				1,215				2,652		
Day Splits		54.2				45.8						
Peak Hour	06:00		12:45		11:00		03:30		08:15		03:45	
Volume	126		108		57		153		158		239	
Factor	0.88		0.96		0.84		0.96		0.77		0.91	

Traffic Data Gathering

11410 - 13th Street SE
Lake Stevens, WA 98258

Site: 04105-01
Date: 01/21/04

Location: Sultan Basin Rd n/o US-2
Sultan, WA
Counter: 1389

Day: Wednesday

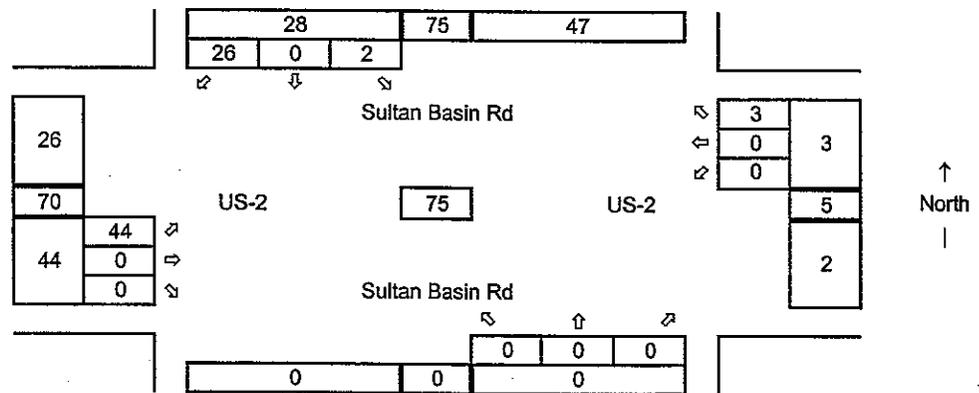
Interval	SB		NB		Combined	
	AM	PM	AM	PM	AM	PM
12:00	0	15	2	12	2	27
12:15	1	18	5	14	6	32
12:30	1	20	1	18	2	38
12:45	0	17	0	16	0	33
01:00	0	22	0	16	0	38
01:15	2	20	1	14	3	34
01:30	2	13	2	12	4	25
01:45	0	15	2	8	2	23
02:00	3	24	2	19	5	43
02:15	0	26	0	24	0	50
02:30	0	26	3	27	3	33
02:45	1	24	0	26	1	50
03:00	1	18	1	20	2	38
03:15	3	26	5	32	8	58
03:30	2	18	2	25	4	44
03:45	1	24	0	30	1	54
04:00	3	20	0	32	3	52
04:15	10	29	0	28	10	57
04:30	15	25	4	36	19	61
04:45	16	16	3	42	19	58
05:00	26	11	3	26	29	37
05:15	28	23	2	34	30	57
05:30	28	22	1	32	29	54
05:45	30	20	1	37	31	57
06:00	28	23	3	38	31	61
06:15	38	24	8	38	46	62
06:30	27	20	3	28	30	48
06:45	24	20	6	19	30	39
07:00	26	12	5	24	31	36
07:15	28	6	5	15	33	21
07:30	27	6	11	17	38	23
07:45	34	12	6	24	40	36
08:00	23	26	3	25	26	51
08:15	16	7	8	15	24	22
08:30	22	6	12	16	34	22
08:45	28	9	12	7	40	16
09:00	31	6	18	16	49	22
09:15	21	7	10	18	31	25
09:30	17	6	8	10	25	16
09:45	22	2	18	14	40	16
10:00	15	2	12	5	27	7
10:15	18	2	9	3	27	5
10:30	23	3	14	2	37	5
10:45	17	3	19	2	36	5
11:00	20	2	10	8	30	10
11:15	17	1	7	5	24	6
11:30	20	2	12	5	32	7
11:45	14	1	16	2	30	3
Totals	729	700	275	937	1,004	1,637
Split	72.6	42.8	27.4	57.2		

Day Totals	1,429		1,212		2,641	
Day Splits	54.1		45.9			
Peak Hour	05:30	02:00	09:00	05:30	08:30	05:30
Volume	124	100	54	145	154	234
Factor	0.82	0.96	0.75	0.95	0.79	0.94

80

Pipeline Trips
Average Weekday
PM Peak Hour

Timber Ridge Estates

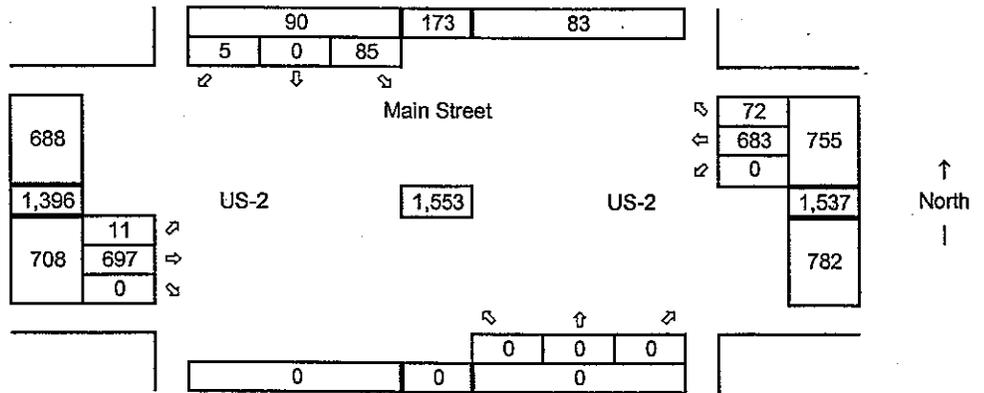


Synchro ID: 2

Existing
Average Weekday
PM Peak Hour

Year: 9/7/04

Data Source: ATD



Future without Project

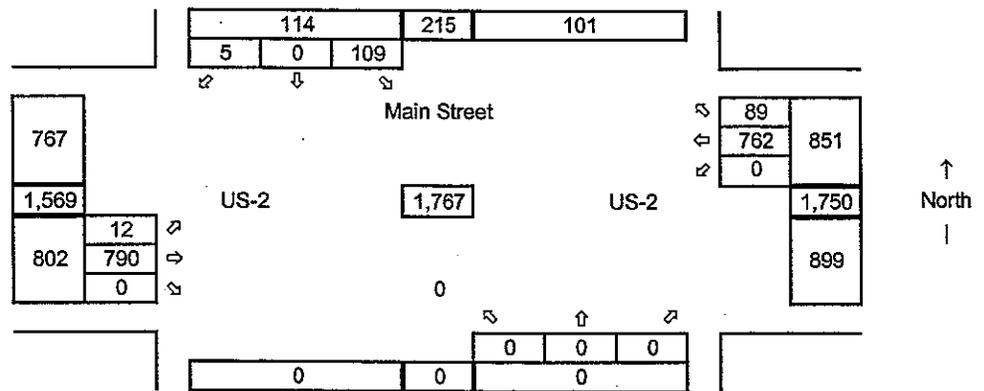
Average Weekday
PM Peak Hour

Year: 2007

Growth Rate = 3.0%

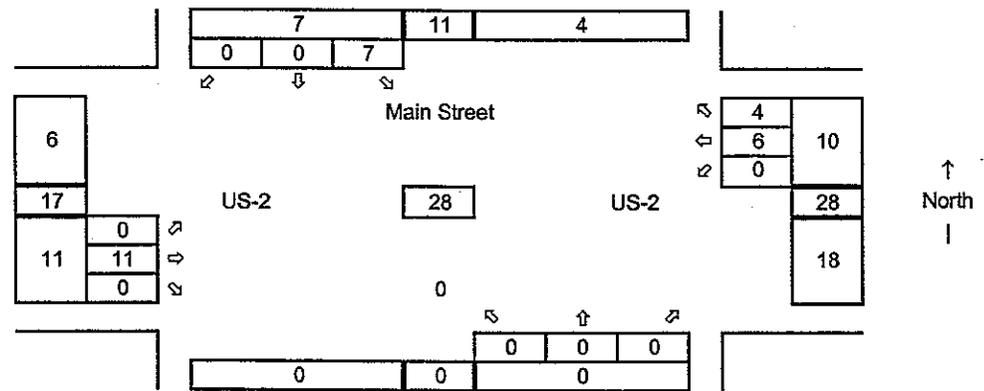
Years of Growth = 3

Total Growth = 1.0927



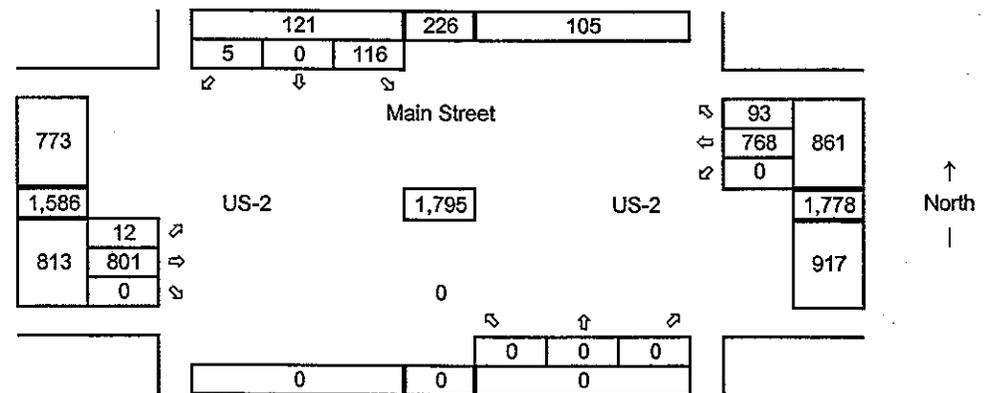
Total Project Trips

Average Weekday
PM Peak Hour



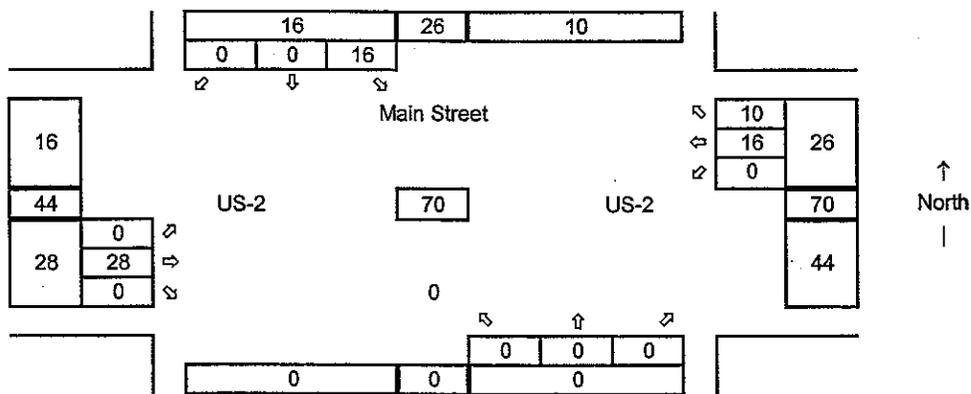
Future with Project

Average Weekday
PM Peak Hour



Pipeline Trips
Average Weekday
PM Peak Hour

Timber Ridge Estates

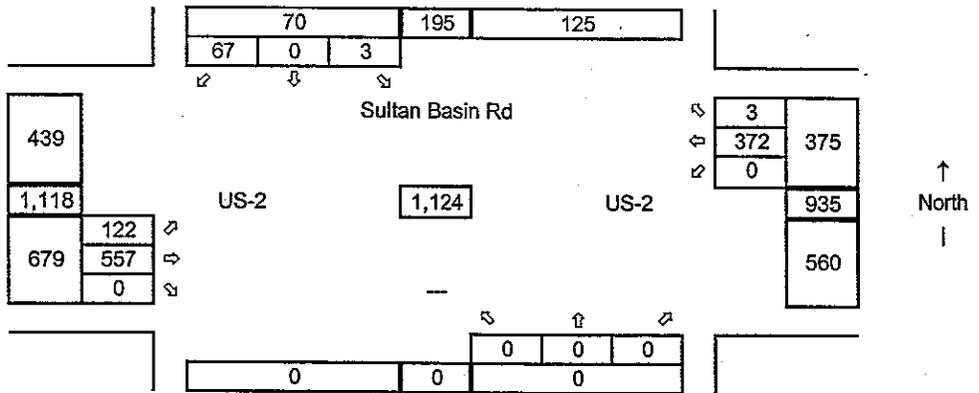


Synchro ID: 1

Existing
Average Weekday
PM Peak Hour

Year: 4/27/04

Data Source: WSDOT



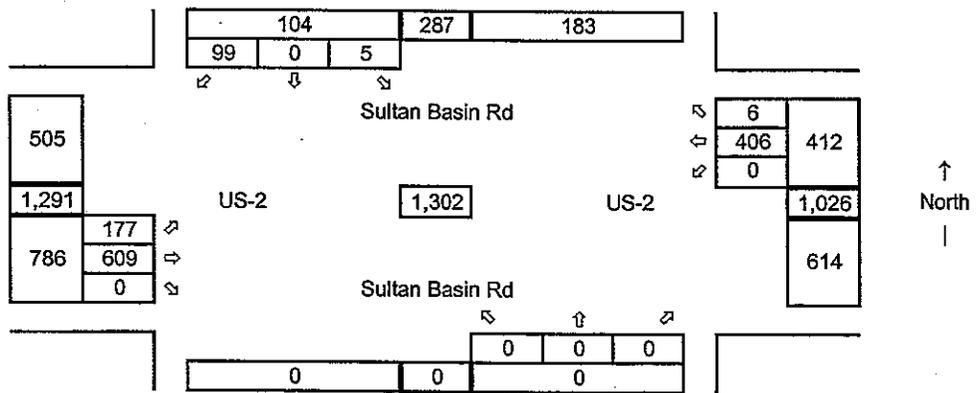
Future without Project
Average Weekday
PM Peak Hour

Year: 2007

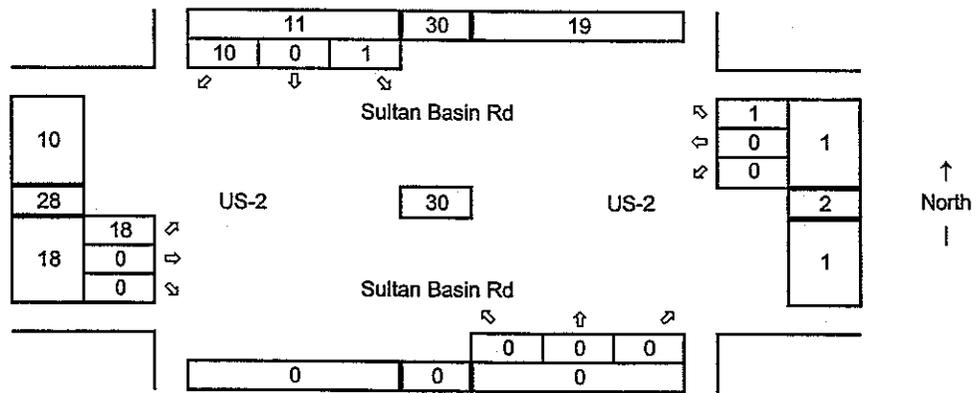
Growth Rate = 3.0%

Years of Growth = 3

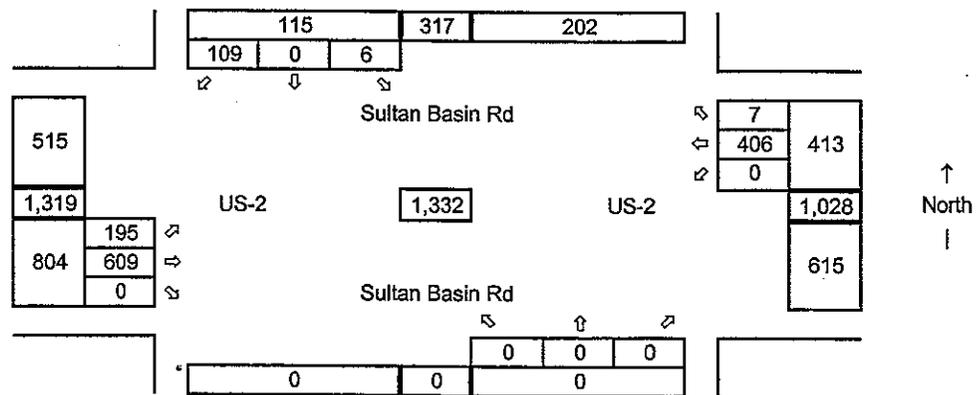
Total Growth = 1.0927

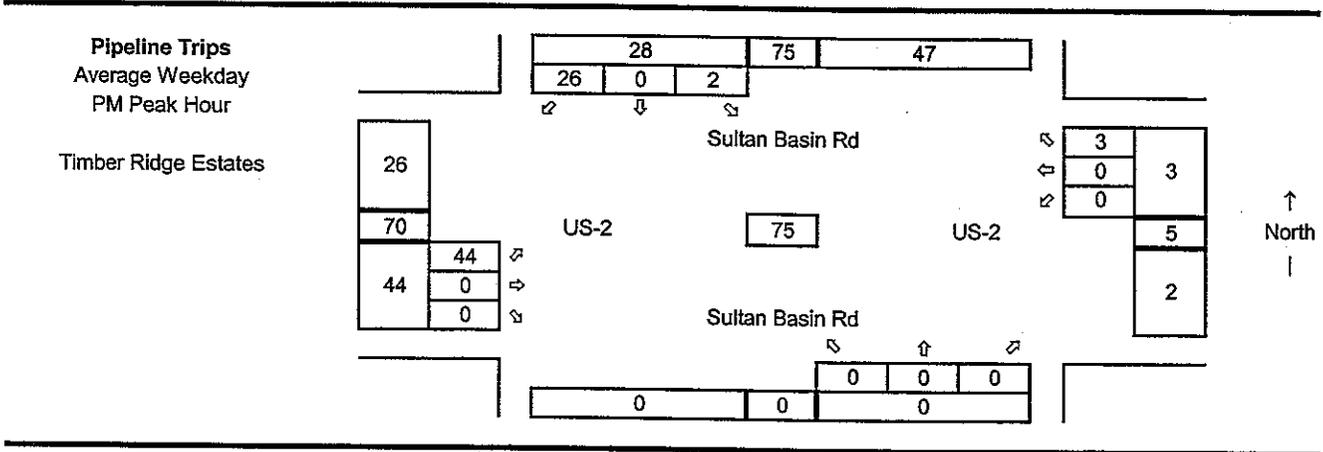


Total Project Trips
Average Weekday
PM Peak Hour



Future with Project
Average Weekday
PM Peak Hour



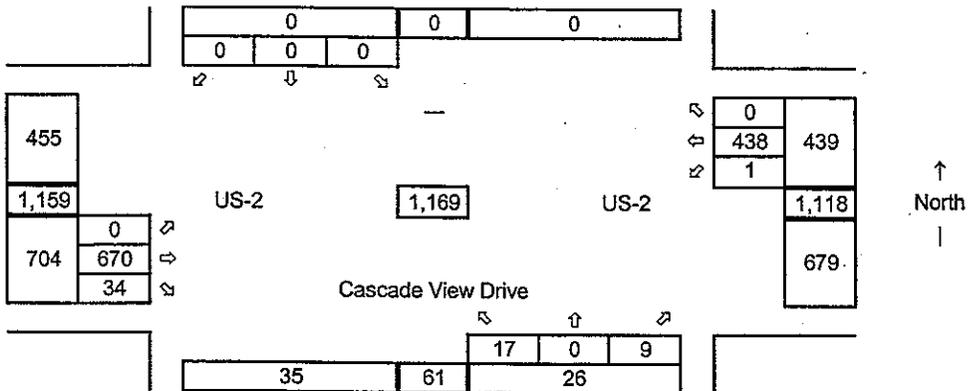


Synchro ID: 2

Existing
Average Weekday
PM Peak Hour

Year: 9/7/04

Data Source: ATD



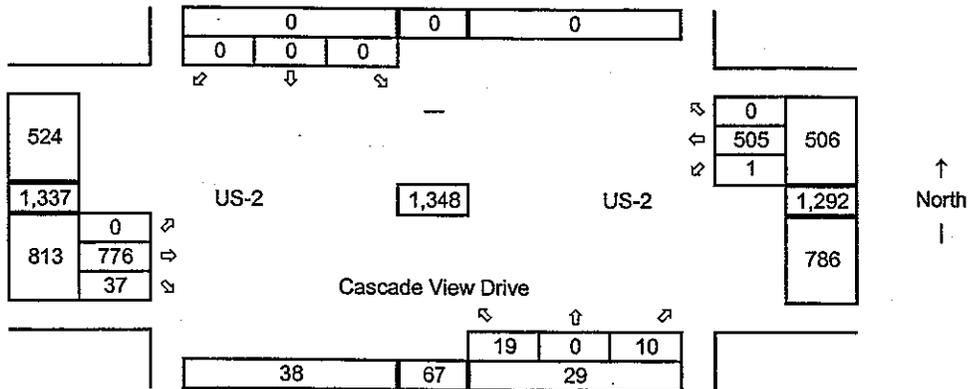
Future without Project
Average Weekday
PM Peak Hour

Year: 2007

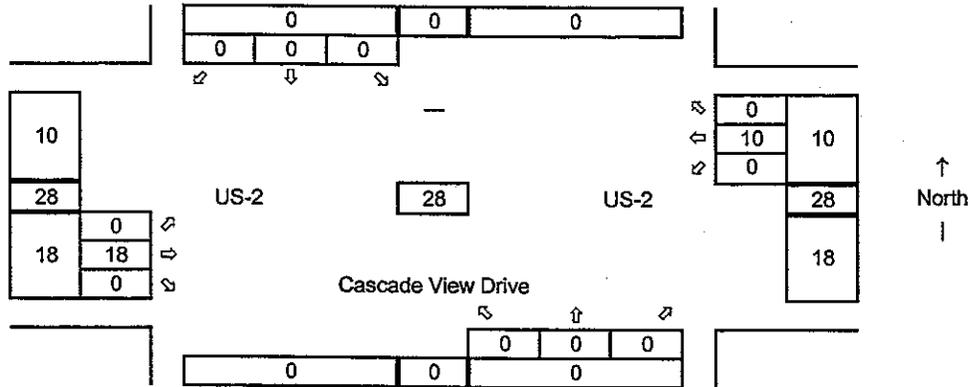
Growth Rate = 3.0%

Years of Growth = 3

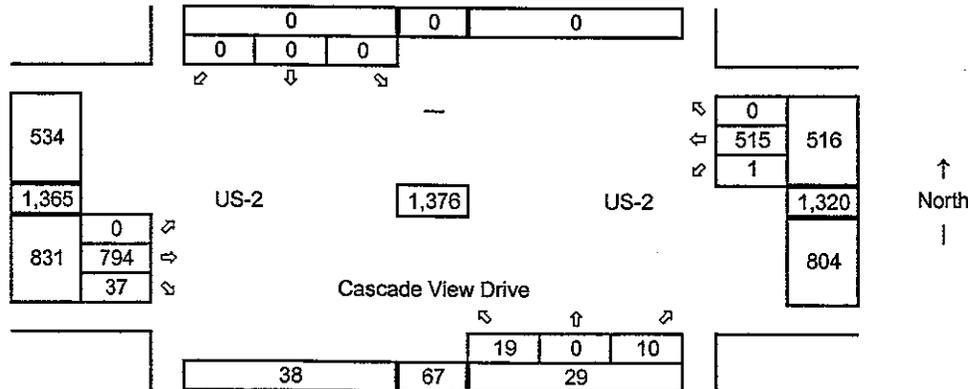
Total Growth = 1.0927



Total Project Trips
Average Weekday
PM Peak Hour

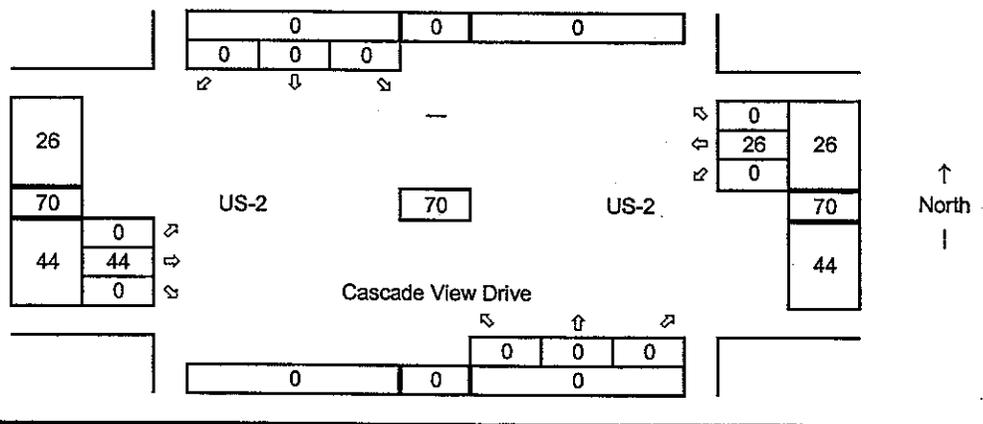


Future with Project
Average Weekday
PM Peak Hour



Pipeline Trips
Average Weekday
PM Peak Hour

Timber Ridge Estates



HCM Unsignalized Intersection Capacity Analysis

1: US-2 & Sultan Basin Road

Anderson Farms (05-197)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	117	553	34	1	371	3	17	5	4	3	0	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	127	601	37	1	403	3	18	5	4	3	0	73
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	407			638			1354	1283	620	1288	1299	405
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	407			638			1354	1283	620	1288	1299	405
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			82	96	99	97	100	89
cM capacity (veh/h)	1152			946			103	147	488	124	143	646
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	765	408	28	76								
Volume Left	127	1	18	3								
Volume Right	37	3	4	73								
cSH	1152	946	125	547								
Volume to Capacity	0.11	0.00	0.23	0.14								
Queue Length 95th (ft)	9	0	20	12								
Control Delay (s)	2.7	0.0	41.9	12.6								
Lane LOS	A	A	E	B								
Approach Delay (s)	2.7	0.0	41.9	12.6								
Approach LOS			E	B								
Intersection Summary												
Average Delay			3.3									
Intersection Capacity Utilization			75.5%		ICU Level of Service				D			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 2: US-2 & Main St

Anderson Farms (05-197)

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	11	697	683	72	85	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	12	734	719	76	89	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage (veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	795				1476	719
vC1, stage 1 conf vol					719	
vC2, stage 2 conf vol					757	
vCu, unblocked vol	795				1476	719
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				68	99
cM capacity (veh/h)	827				277	428
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	12	734	719	76	95	
Volume Left	12	0	0	0	89	
Volume Right	0	0	0	76	5	
cSH	827	1700	1700	1700	282	
Volume to Capacity	0.01	0.43	0.42	0.04	0.34	
Queue Length 95th (ft)	1	0	0	0	36	
Control Delay (s)	9.4	0.0	0.0	0.0	24.1	
Lane LOS	A				C	
Approach Delay (s)	0.1		0.0		24.1	
Approach LOS					C	
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			48.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: US-2 & Sultan Basin Road

Anderson Farms (05-197)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	172	604	37	1	405	6	19	5	4	5	0	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	657	40	1	440	7	21	5	4	5	0	108
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	447			697			1604	1499	677	1503	1516	443
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	447			697			1604	1499	677	1503	1516	443
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	83			100			66	95	99	93	100	82
cM capacity (veh/h)	1114			899			61	101	453	83	99	614
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	884	448	30	113								
Volume Left	187	1	21	5								
Volume Right	40	7	4	108								
cSH	1114	899	76	469								
Volume to Capacity	0.17	0.00	0.40	0.24								
Queue Length 95th (ft)	15	0	39	23								
Control Delay (s)	3.9	0.0	81.4	15.1								
Lane LOS	A	A	F	C								
Approach Delay (s)	3.9	0.0	81.4	15.1								
Approach LOS			F	C								
Intersection Summary												
Average Delay			5.2									
Intersection Capacity Utilization			83.5%		ICU Level of Service				E			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 2: US-2 & Main St

Anderson Farms (05-197)

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	12	790	762	89	109	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	13	832	802	94	115	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage (veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	896				1659	802
vC1, stage 1 conf vol					802	
vC2, stage 2 conf vol					857	
vCu, unblocked vol	896				1659	802
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				53	99
cM capacity (veh/h)	758				242	384
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	13	832	802	94	120	
Volume Left	13	0	0	0	115	
Volume Right	0	0	0	94	5	
cSH	758	1700	1700	1700	246	
Volume to Capacity	0.02	0.49	0.47	0.06	0.49	
Queue Length 95th (ft)	1	0	0	0	62	
Control Delay (s)	9.8	0.0	0.0	0.0	32.9	
Lane LOS	A				D	
Approach Delay (s)	0.1		0.0		32.9	
Approach LOS					D	
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			54.6%		ICU Level of Service	A
Analysis Period (min)			15			

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HCM Unsignalized Intersection Capacity Analysis
 1: US-2 & Sultan Basin Road

Anderson Farms (05-197)

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	177	609	406	6	5	99
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	192	662	441	7	5	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	448				1491	445
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	448				1491	445
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				95	82
cM capacity (veh/h)	1112				113	613
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	192	662	448	5	108	
Volume Left	192	0	0	5	0	
Volume Right	0	0	7	0	108	
cSH	1112	1700	1700	113	613	
Volume to Capacity	0.17	0.39	0.26	0.05	0.18	
Queue Length 95th (ft)	16	0	0	4	16	
Control Delay (s)	8.9	0.0	0.0	38.6	12.1	
Lane LOS	A			E	B	
Approach Delay (s)	2.0		0.0	13.4		
Approach LOS				B		
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			44.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: US-2 & Cascade View Drive

Anderson Farms (05-197)

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	776	37	1	505	19	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	843	40	1	549	21	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			884		1415	864
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			884		1415	864
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		86	97
cM capacity (veh/h)			766		151	354
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	884	550	32			
Volume Left	0	1	21			
Volume Right	40	0	11			
cSH	1700	766	189			
Volume to Capacity	0.52	0.00	0.17			
Queue Length 95th (ft)	0	0	15			
Control Delay (s)	0.0	0.0	27.9			
Lane LOS		A	D			
Approach Delay (s)	0.0	0.0	27.9			
Approach LOS			D			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			53.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 1: US-2 & Sultan Basin Road

Anderson Farms (05-197)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	190	604	37	1	405	7	19	5	4	6	0	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	207	657	40	1	440	8	21	5	4	7	0	118
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	448			697			1654	1540	677	1543	1556	444
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	448			697			1654	1540	677	1543	1556	444
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	81			100			62	94	99	91	100	81
cM capacity (veh/h)	1112			899			54	94	453	76	92	614
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	903	449	30	125								
Volume Left	207	1	21	7								
Volume Right	40	8	4	118								
cSH	1112	899	68	448								
Volume to Capacity	0.19	0.00	0.45	0.28								
Queue Length 95th (ft)	17	0	44	28								
Control Delay (s)	4.2	0.0	95.7	16.1								
Lane LOS	A	A	F	C								
Approach Delay (s)	4.2	0.0	95.7	16.1								
Approach LOS			F	C								
Intersection Summary												
Average Delay			5.8									
Intersection Capacity Utilization			84.6%		ICU Level of Service				E			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 2: US-2 & Main St

Anderson Farms (05-197)

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	12	801	768	93	116	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	13	843	808	98	122	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLTL	
Median storage (veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	906				1677	808
vC1, stage 1 conf vol					808	
vC2, stage 2 conf vol					868	
vCu, unblocked vol	906				1677	808
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				49	99
cM capacity (veh/h)	751				239	381
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	13	843	808	98	127	
Volume Left	13	0	0	0	122	
Volume Right	0	0	0	98	5	
cSH	751	1700	1700	1700	242	
Volume to Capacity	0.02	0.50	0.48	0.06	0.53	
Queue Length 95th (ft)	1	0	0	0	70	
Control Delay (s)	9.9	0.0	0.0	0.0	35.2	
Lane LOS	A				E	
Approach Delay (s)	0.1		0.0		35.2	
Approach LOS					E	
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			55.6%		ICU Level of Service	B
Analysis Period (min)			15			

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HCM Unsignalized Intersection Capacity Analysis

1: US-2 & Sultan Basin Road

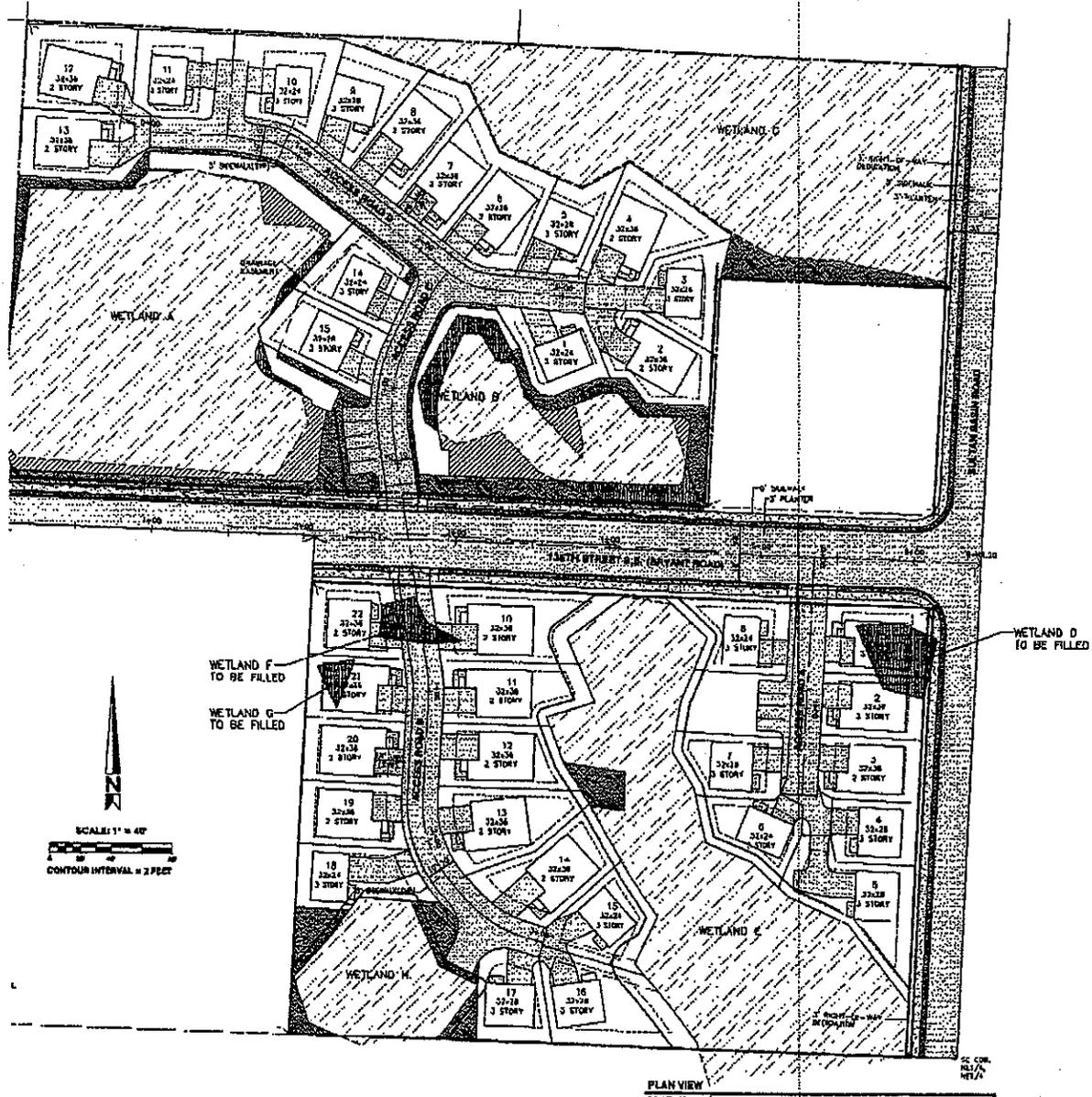
Anderson Farms (05-197)

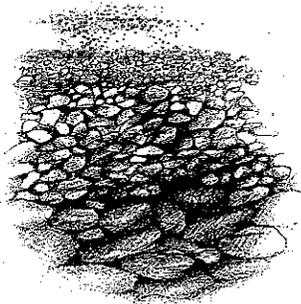
						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	195	609	406	7	6	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	212	662	441	8	7	118
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	449				1531	445
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	449				1531	445
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				94	81
cM capacity (veh/h)	1111				104	613
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	212	662	449	7	118	
Volume Left	212	0	0	7	0	
Volume Right	0	0	8	0	118	
cSH	1111	1700	1700	104	613	
Volume to Capacity	0.19	0.39	0.26	0.06	0.19	
Queue Length 95th (ft)	18	0	0	5	18	
Control Delay (s)	9.0	0.0	0.0	41.9	12.3	
Lane LOS	A			E	B	
Approach Delay (s)	2.2		0.0	13.8		
Approach LOS				B		
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			45.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: US-2 & Cascade View Drive

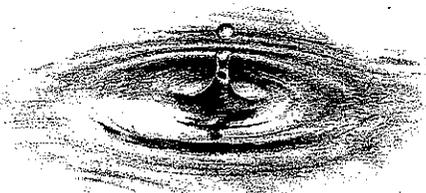
Anderson Farms (05-197)

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	794	37	1	515	19	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	863	40	1	560	21	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			903		1445	883
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			903		1445	883
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		86	97
cM capacity (veh/h)			753		145	345
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	903	561	32			
Volume Left	0	1	21			
Volume Right	40	0	11			
cSH	1700	753	181			
Volume to Capacity	0.53	0.00	0.17			
Queue Length 95th (ft)	0	0	15			
Control Delay (s)	0.0	0.0	29.0			
Lane LOS		A	D			
Approach Delay (s)	0.0	0.0	29.0			
Approach LOS			D			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			54.0%		ICU Level of Service	A
Analysis Period (min)			15			

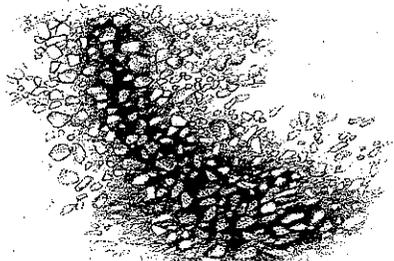




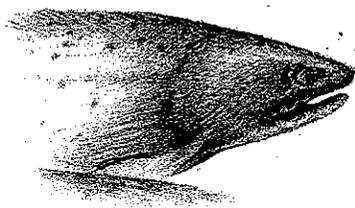
Geotechnical Engineering



Water Resources



Solid and Hazardous Waste



Ecological/Biological Sciences



Geologic Assessments



Associated Earth Sciences, Inc.

Subsurface Exploration, Geologic Hazard, and Preliminary Geotechnical Engineering Report

ANDERSON FARM

Sultan, Washington

Prepared for

Grandview, Inc.

Project No. KE05615A
September 2, 2005

EXHIBIT

S-3k

**SUBSURFACE EXPLORATION, GEOLOGIC HAZARD, AND
PRELIMINARY GEOTECHNICAL ENGINEERING REPORT**

ANDERSON FARM

Sultan, Washington

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September 2, 2005
Project No. KE05615A

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of our subsurface exploration, geologic hazard, and preliminary geotechnical engineering study for the Anderson Farm property in Sultan, Washington. The site location is shown on the Vicinity Map, Figure 1. The locations of the proposed homes and access streets, the approximate locations of the explorations accomplished for this study, and other prominent site features are presented on the Site and Exploration Plan, Figure 2. Our recommendations are preliminary in that project plans are still under development at the time of our exploration and preparation of this report. In the event that any changes in the nature or design of the proposed lot layout is planned, the conclusions and recommendations contained in this report should be reviewed and modified, or verified, as necessary.

1.1 Purpose and Scope

The purpose of this study was to provide subsurface data to be used in the preliminary design and development of the subject project. Our study included a review of available geologic literature, excavation of exploration pits, and performing preliminary geologic studies to assess the type, thickness, distribution, and physical properties of the subsurface sediments and shallow ground water conditions. Geotechnical engineering studies were also conducted to assess the type of suitable foundation, allowable foundation soil bearing pressures, anticipated settlements, lateral earth pressures, floor support recommendations, and drainage considerations. This report summarizes our current fieldwork and offers preliminary development recommendations based on our present understanding of the project.

1.2 Authorization

Authorization to proceed with this study was granted by Mr. Scott Wammack of Grandview, Inc. This report has been prepared for the exclusive use of Grandview, Inc. and their agents for specific application to this project. Within the limitations of scope, schedule, and budget, our services have been performed in accordance with generally accepted geotechnical engineering and engineering geology practices in effect in this area at the time our report was prepared. No other warranty, express or implied, is made.

2.0 PROJECT AND SITE DESCRIPTION

The subject site is located north and south of Bryant Road just west of its intersection with Sultan Basin Road in Sultan, Washington. The two rectangular-shaped parcels occupy an overall area of approximately 7 acres. The south property is cleared, vacant, and relatively

flat-lying. The north property contains a residential structure near the center of the parcel and is also flat-lying. Several field-marked and unmarked but mapped wetlands occupy both properties as shown on Figure 2. The mapped, unmarked wetlands were dry at the time of our site visit, but contain standing water for most of the winter and spring months according to local residents. Some of the field-surveyed wetlands contained minor quantities of standing water during our site visit. The site is covered with grass, shrubs, wetland plants, and scattered trees except for the western portion of the south parcel, which contains a thicket of alder trees with scattered cedars and one very large cedar stump. The surrounding land use is primarily low-density residential and pastureland.

Our understanding of the project plans is based on discussions with Mr. Scott Wammack and with the architect, Mr. Jake Libaire of Higa Burkholder Associates, LLC. We understand that current development plans call for the construction of 22 residential homesites on the south parcel and 15 homesites on the north parcel with access roads, storm water facilities, buried utilities, and other typical improvements. The preliminary subdivision layout is depicted on the Site and Exploration Plan, Figure 2. We assume that the homes will be constructed at or above existing site grades and will utilize conventional timber-frame construction with crawl space or slab-on-grade floors. We understand that infiltration of storm water is under consideration for this project.

3.0 SUBSURFACE EXPLORATION

Our field study included excavating a series of 12 exploration pits to gain subsurface information about the site. The various types of sediments, as well as the depths where characteristics of the sediments changed, are indicated on the exploration logs presented in the Appendix. The depths indicated on the logs where conditions changed may represent gradational variations between sediment types in the field. Our explorations were approximately located in the field relative to known site features shown on the Site and Exploration Plan, Figure 2.

The conclusions and recommendations presented in this report are based, in part, on the exploration pits completed for this study. The number, locations, and depths of the explorations were completed within site and budgetary constraints. Because of the nature of exploratory work below ground, extrapolation of subsurface conditions between field explorations is necessary. It should be noted that differing subsurface conditions may sometimes be present due to the random nature of deposition and the alteration of topography by past grading and/or filling. The nature and extent of any variations between the field explorations may not become fully evident until construction. If variations are observed at that time, it may be necessary to re-evaluate specific recommendations in this report and make appropriate changes.

3.1 Exploration Pits

The exploration pits were excavated with a rubber-tired backhoe. The pits permitted direct, visual observation of subsurface conditions. Materials encountered in the exploration pits were studied and classified in the field by a geotechnical engineer from our firm. All of the exploration pits were backfilled immediately after examination and logging. Selected samples were then transported to our laboratory for further visual classification and testing, as necessary.

4.0 SUBSURFACE CONDITIONS

Subsurface conditions at the project site were inferred from the field explorations accomplished for this study, visual reconnaissance of the site, and review of applicable geologic literature. As shown on the field logs, the exploration pits generally encountered medium stiff to stiff silt overlying medium dense, granular glacial sediments overlain by topsoil. One exploration pit (EP-11) contained 1 foot of non-structural silty sand fill beneath the topsoil.

4.1 Stratigraphy

Topsoil

A surficial, organic topsoil layer was encountered in all exploration pits. The thickness of the topsoil layer varied considerably across the site from a minimum of 7 inches to a maximum of 24 inches. The average thickness across the site is approximately 16 inches. The organic topsoil is not suitable for foundation or roadway support, or for use in structural fills.

Vashon Recessional Outwash

Sediments encountered below the topsoil layer consisted of about 5 feet of moist, medium stiff to stiff, mottled gray and brown silt overlying wet, medium dense, fine to coarse sand with gravel, occasional cobbles, and minor quantities of silt. In EP-4, the silt only extended to a depth of 2.5 feet below grade. At depths of roughly 8 to 9 feet, the sand was underlain by saturated, medium dense silty fine sand or soft to medium stiff sandy silt. We interpret these sediments to be representative of Vashon recessional outwash. The Vashon recessional outwash consists of sediments that were deposited by meltwater streams that emanated from the retreating glacial ice during the latter portion of the Vashon Stade of the Fraser Glaciation ending approximately 12,500 years ago. Where glacial sediments are exposed at the ground surface throughout the Puget Sound region, the upper several feet of these sediments typically become weathered. The Vashon recessional outwash sediments extended beyond the maximum depths explored of approximately 12 feet. When properly prepared, the recessional outwash

will be suitable for the support of foundations. However, the upper silt will be extremely moisture-sensitive and subject to disturbance when wet.

Review of the regional geologic map titled *Geologic Map of the Skykomish 30 x 60 Minute Quadrangle, Washington* by James Minard (1980) indicates that the area of the subject site is underlain by Vashon recessional outwash. Our interpretation of the sediments encountered in our explorations is in general agreement with the regional geologic map.

4.2 Hydrology

Ground water seepage or wet soils were encountered in all exploration pits below depths of 5 to 9 feet below grade. Where actual ground water seepage was observed, its flow varied from slow to rapid within the outwash sand unit at depths generally ranging from 5 to 7 feet. Based on our observation of mottling within the upper silt soil and our discussions with the north property residence and neighbors, the wetland areas contain standing water for much of the winter and spring months indicating that ground water levels fluctuate significantly at this site. Because of the winter high ground water elevations, infiltration of storm water on this site is not considered to be feasible. The ground water at this site appears to be perched above the lower-permeability silt that underlies the sand layer. However, a deeper aquifer may also be present below the maximum depth explored. It should be noted that the depth to ground water seepage at the site may vary in response to such factors as changes in season, precipitation, and site use.

II. GEOLOGIC HAZARDS AND MITIGATIONS

The following discussion of potential geologic hazards is based on the geologic, slope, and shallow ground water conditions as observed and discussed herein.

5.0 SEISMIC HAZARDS AND RECOMMENDED MITIGATION

Earthquakes occur in the Puget Lowland with great regularity. The vast majority of these events are small and are usually not felt by people. However, large earthquakes do occur as evidenced by the 1949, 7.2-magnitude event; the 2001, 6.8-magnitude event; and the 1965, 6.5-magnitude event. The 1949 earthquake appears to have been the largest in this region during recorded history and was centered in the Olympia area. Evaluation of earthquake return rates indicates that an earthquake of the magnitude between 5.5 and 6.0 is likely within a given 20-year period.

Generally, there are four types of potential geologic hazards associated with large seismic events: 1) surficial ground rupture; 2) seismically induced landslides; 3) liquefaction; and 4) ground motion. The potential for each of these hazards to adversely impact the proposed project is discussed below.

5.1 Surficial Ground Rupture

Generally, the largest earthquakes that have occurred in the Puget Sound area are sub-crustal events with epicenters ranging from 50 to 70 kilometers in depth. For this reason, no surficial faulting or earth rupture as a result of deep, seismic activity has been documented to date in the area of the subject site. Therefore, it is our opinion, based on existing geologic data, that the risk of surface rupture impacting the proposed project is low.

5.2 Seismically Induced Landslides

The site and adjacent areas have less than 5 feet of vertical relief, and therefore no landslide risk evaluation is warranted.

5.3 Liquefaction

Liquefaction is the temporary loss of shear strength that can occur in loose, saturated, granular soils when they are exposed to cyclic shaking, such as that which occurs during an earthquake. The outwash sand underlying this property was found to be in a medium dense condition and was interbedded with non-liquefiable silt layers. It is our opinion that these sediments have a low potential for liquefaction.

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5.4 Ground Motion

The guidelines presented in the 2003 *International Building Code* (IBC) Section 1615 should be used in the seismic design of the project. The United States Geological Survey (USGS) Earthquake Hazards Program website was used to determine the interpolated probabilistic ground motion values in percent of gravity (g) for an interpolated probabilistic exceedance in 50 years. Using the website, the project area is submitted using latitude and longitude for a mapped spectral acceleration for short periods (0.2 seconds) of $S_s = 1.05$ and a mapped spectral acceleration for a 1-second period of $S_1 = 0.35$. Based on the results of subsurface exploration and on an estimation of soil properties at depth utilizing available geologic data, Site Class "D" in conformance with Table 1615.1.1 of the IBC may be used. These values correspond to site coefficients $F_a = 1.1$ and $F_v = 1.7$ in conformance with IBC Tables 1615.1.2(1) and 1615.1.2(2), respectively. No additional mitigation efforts beyond these guidelines are recommended.

6.0 EROSION HAZARDS AND MITIGATIONS

The upper unit within the Vashon recessional outwash generally contains large amounts of silt and has very poor permeability. The silt soils are erodible, but the site has very low topographic relief, so there is little potential for significant erosion to occur. Raindrop impact on exposed soil will generate turbid runoff, and erosion efforts should therefore be focused on maintaining ground cover when not actively being worked. Primary earth-moving activities should not be attempted during wet weather. In order to control erosion and reduce the amount of sediment transport off the site during construction, the following recommendations should be followed.

1. Silt fencing should be placed around the perimeter. The fencing should be properly embedded and periodically inspected and maintained, as necessary, to ensure proper function.
2. A rock construction entrance should be established to minimize tracking sediment off-site.
3. We recommend that construction proceed during the drier periods of the year. Winter construction is not recommended for this site because utility construction will require large-scale dewatering and select, imported, free-draining granular fill material will be required to raise site grades significantly increasing project costs.

4. Areas stripped of vegetation during construction should be mulched and hydroseeded, replanted as soon as possible, or otherwise protected. Temporary erosion control measures should be maintained until permanent erosion control measures are established.

5. If excavated soils are to be stockpiled on the site for reuse, measures should be taken to reduce the potential for erosion from the stockpile. These could include, but are not limited to, covering the pile with plastic sheeting, the use of low stockpiles in flat areas, and the use of straw bales/silt fences around pile perimeters.

III. PRELIMINARY DESIGN RECOMMENDATIONS

7.0 INTRODUCTION

Our exploration indicates that, from a geotechnical standpoint, the parcel is suitable for the proposed development provided the risks discussed are accepted and the recommendations contained herein are properly followed. The bearing stratum is relatively shallow and spread footing foundations may be utilized.

8.0 SITE PREPARATION

Site preparation of building and pavement areas should include removal of all grass, trees, brush, debris, and any other deleterious materials. If the existing structures are not part of future development plans, the structures should be demolished and any remaining foundation elements or buried utilities that are not to remain operational should be removed. All existing fill around structures that are to be demolished should be removed. Existing septic systems that are not to be reused should be decommissioned in accordance with Snohomish County Health Department requirements and removed from beneath any areas where structures or paving are planned. If any water wells exist on-site, they should be decommissioned by a licensed well driller in accordance with *Washington Administrative Code* Section 173-160. If any heating oil storage tanks or other similar structures are present on-site, they should be decommissioned and removed in accordance with applicable Washington State Department of Ecology regulations. Any depressions below planned final grades caused by demolition activities should be backfilled with structural fill, as discussed under the *Structural Fill* section.

The existing topsoil and grass should be removed from areas where new buildings, paving, or other structures are planned. These materials will "swell" some 25 to 30 percent upon excavation. The actual observed in-place depth of topsoil and sod at the exploration locations is presented on the exploration logs in the Appendix. However, an average stripping depth of 16 inches should be assumed for project planning purposes. After stripping, remaining roots and stumps should be removed from structural areas. All soils disturbed by stripping and grubbing operations should be recompacted, as described below for structural fill.

Once excavation to subgrade elevation is complete, the stripped subgrade should be reviewed by the geotechnical engineer to verify that the area is properly prepared to receive structural fill. Any additional soft, loose, or yielding areas should be excavated to expose suitable bearing soils.

In our opinion, stable construction slopes should be the responsibility of the contractor and should be determined during construction. For estimating purposes, however, we anticipate

that temporary, unsupported cut slopes above the ground water level in the recessional outwash can be made at a maximum slope of 1.5H:1V (Horizontal:Vertical). These slope angles are for areas where ground water seepage is not encountered and assume that surface water is not allowed to flow across the temporary slope faces. If ground or surface water is present when the temporary excavation slopes are exposed, flatter slope angles will be required. As is typical with earthwork operations, some sloughing and raveling may occur and cut slopes may have to be adjusted in the field. In addition, WISHA/OSHA regulations should be followed at all times. As is typical with earthwork operations, some sloughing and raveling may occur and cut slopes may have to be adjusted in the field. In addition, WISHA/OSHA regulations should be followed at all times.

Permanent cut or fill slopes should not be steeper than 2H:1V where they will not be exposed to surface water, and 3H:1V where they will be exposed to surface water.

Utility excavations that penetrate about 1 or 2 feet below the static ground water level are expected to be feasible using conventional slip-box shoring and sump pumps during the summer months. If construction should extend into the winter months, utility excavations that must penetrate below the ground water level will likely require some type of dewatering effort, such as a well-point system.

The near-surface on-site soils contain substantial fine-grained material which makes them moisture-sensitive and subject to disturbance when wet. The contractor must use care during site preparation and excavation operations so that the underlying soils are not softened. If disturbance occurs, the softened soils should be removed and the area brought to grade with structural fill.

Due to the high in-situ moisture content of most of the site soils determined by field examination, it will be necessary to dry all of the site soils during favorable dry weather conditions to allow reuse in structural fill applications. The surficial silty soils may also require augmentation with admixtures in order to use them in structural fill applications and possibly even for use as bearing grade soils if they become disturbed. Because of the high water table and extreme sensitivity of the on-site silty soils, winter construction is not recommended for this project. However, if construction is unavoidable, drying is not expected to be feasible, and we anticipate that all of the silty soils and some of the granular outwash soils will be unsuitable for structural fill applications. Even during dry weather, site soils excavated for installation of buried utilities might not be suitable for utility backfill under paving or other structures. We recommend budgeting for backfill of buried utility trenches in structural areas with select, imported structural fill. For summer construction, significant, but unavoidable effort may be needed to scarify, aerate, and dry site soils that are above optimum moisture content to reduce moisture content prior to compaction in structural fill applications. Care should be taken to seal all earthwork areas during mass grading at the end of each workday by grading all surfaces to drain and sealing them with a smooth-drum roller.

Stockpiled soils that will be reused in structural fill applications should be covered whenever rain is possible.

If crushed rock is considered for the access and staging areas, it should be underlain by engineering stabilization fabric to maintain segregation between the underlying sand and the crushed rock. The fabric will also aid in supporting construction equipment, thus reducing the amount of crushed rock required. We recommend that at least 16 inches of rock be placed over the fabric; however, due to the variable nature of the near-surface soils and differences in wheel loads, this thickness may have to be adjusted by the contractor in the field.

9.0 STRUCTURAL FILL

We were not provided with preliminary grading plans. However, structural fill may be necessary to establish desired site grades. All references to structural fill in this report refer to subgrade preparation, fill type, placement, and compaction of materials as discussed in this section. If a percentage of compaction is specified under another section of this report, the value given in that section should be used.

After stripping has been performed to the satisfaction of the geotechnical engineer/engineering geologist, the upper 12 inches of exposed ground should be compacted to a firm, non-yielding condition. Structural fill is defined as non-organic soil, acceptable to the geotechnical engineer, placed in maximum 8-inch loose lifts with each lift being compacted to 95 percent of the modified Proctor maximum density using American Society for Testing and Materials (ASTM):D 1557 as the standard. In the case of roadway and utility trench filling, the backfill should be placed and compacted in accordance with current local or county codes and standards. The top of the compacted fill should extend horizontally outward a minimum distance of 3 feet beyond the locations of any perimeter footings or roadway edges supported on the fill before sloping down at an angle of 2H:1V or flatter.

The contractor should note that any proposed fill soils must be evaluated by Associated Earth Sciences, Inc. (AESI) prior to their use in fills. This would require that we have a sample of the material 72 hours in advance of filling activities to perform a Proctor test and determine its field compaction standard. Soils in which the amount of fine-grained material (smaller than the No. 200 sieve) is greater than approximately 5 percent (measured on the minus No. 4 sieve size) should be considered moisture-sensitive. Use of moisture-sensitive soil in structural fills should be limited to favorable dry weather conditions. The near-surface, on-site soils generally contained more than 50 percent silt and are considered extremely moisture-sensitive. Construction equipment traversing the site when the soils are wet will cause considerable disturbance. If fill is placed during wet weather or if proper compaction cannot be obtained, a select, imported material consisting of a clean, free-draining gravel and sand should be used. Free-draining fill consists of non-organic soil with the amount of fine-grained material (less

than the U.S. No. 200 sieve size) limited to 5 percent by weight when measured on the minus No. 4 sieve fraction with at least 25 percent retained on the No. 4 sieve.

A representative from our firm should inspect the stripped subgrade and be present during placement of structural fill to observe the work and perform a representative number of in-place density tests. In this way, the adequacy of the earthwork may be evaluated as filling progresses and any problem areas may be corrected at that time. It is important to understand that taking random compaction tests on a part-time basis will not assure uniformity or acceptable performance of a fill. As such, we are available to aid the owner in developing a suitable monitoring and testing program.

10.0 FOUNDATIONS

Spread footings may be used for building support when founded on the medium stiff to stiff, unsaturated recessional outwash deposits or approved structural fill soils that extend down to these bearing soils and are compacted as described in the *Structural Fill* section. We recommend that an allowable bearing pressure of 2,000 pounds per square foot (psf) be utilized for design purposes, including both dead and live loads. An increase of one-third may be used for short-term wind or seismic loading. Perimeter footings should be buried at least 18 inches into the surrounding soil for frost protection; interior footings require only 12 inches burial. However, all footings must penetrate to the prescribed bearing stratum and no footing should be founded in or above loose, organic, or existing fill soils. All footings should have a minimum width of 18 inches.

Anticipated settlement of footings founded on recessional outwash or approved structural fill should be on the order of 1 inch. However, disturbed soil not removed from footing excavations prior to footing placement could result in increased settlements. All footing areas should be inspected by AESI prior to placing concrete to verify that the design bearing capacity of the soils has been attained and that construction conforms to the recommendations contained in this report. The governing municipality may require such inspections. Perimeter footing drains should be provided, as discussed under the section on *Drainage Considerations*.

11.0 FLOOR SUPPORT

If crawl space floors are used, an impervious moisture barrier should be provided above the soil surface within the crawl space. A slab-on-grade floor may be used over structural fill or pre-rolled, medium stiff natural ground compacted to at least 95 percent of the modified Proctor maximum dry density. The floor should be cast atop a minimum of 6 inches of washed pea gravel to act as a capillary break. It should also be protected from dampness by an impervious moisture barrier or otherwise sealed.

12.0 DRAINAGE CONSIDERATIONS

Ground water levels on the site are shallow and will be encountered during excavation activities, especially during the spring months. As previously stated, it may be necessary to perform some type of dewatering in order to create the planned cuts for utilities and potential storm water vault excavations. Provision will need to be made in advance for where the water will be pumped to and how it will need to be treated.

All footing and retaining walls should be provided with a drain at the footing elevation. Drains should consist of rigid, perforated, polyvinyl chloride (PVC) pipe surrounded by washed pea gravel. The level of the perforations in the pipe should be set at the bottom of the footing at all locations and the drain collectors should be constructed with sufficient gradient to allow gravity discharge away from the buildings. In addition, all foundation walls taller than 3 feet should be lined with a minimum, 12-inch-thick, washed gravel blanket provided to within 1 foot of finish grade that ties into the footing drain. Roof and surface runoff should not discharge into the footing drain system but should be handled by a separate, rigid, tightline drain. In planning, exterior grades adjacent to foundations should be sloped downward away from the structures to achieve surface drainage.

Because of the surficial layer of silt and high ground water, infiltration of storm water is not considered feasible for this site. Therefore, site planning will need to include detention and water quality treatment facilities. AESI should be allowed to review plans for storm water disposal facilities in order to offer site-specific recommendations. Additional subsurface exploration may be warranted if deep excavations are planned for these facilities.

13.0 PAVEMENT RECOMMENDATIONS

The pavement for this project is expected to be supported by medium stiff to stiff silt or structural fill soils. The existing silt soils will only be suitable for pavement subgrade during summer construction, with proper preparation, and if they are not disturbed. If disturbance occurs, it may be necessary to stabilize the soils with an admixture or import structural fill to provide an adequate pavement subgrade. Because some of the site soils were substantially above optimum moisture content at the time of our exploration program, remedial subgrade preparation may also be required below the paving regardless of the time of construction. Remedial preparation measures could include removal of some of the existing site soils below the planned pavement section and restoring the planned subgrade elevation with select, imported structural fill, treating the native soil subgrade with Portland cement to stabilize the wet soils, or aeration and drying of existing soils prior to compaction of the road subgrades. We recommend that the final determination of how to prepare the road subgrades be made at the time of construction when weather and field conditions are known.

*2 must have them
recommendations
now!*

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Asphalt pavement design is a compromise between initial cost and expected design life. In order to provide a 20-year design life with normal maintenance, we recommend a pavement section consisting of 2½ inches of asphalt surfacing above 4 inches of crushed surfacing base course per Washington State Department of Transportation (WSDOT) Standard Specification 9-03.9[3] above a granular subgrade compacted to at least 95 percent of the modified Proctor maximum dry density as determined by ASTM:D-1557.

All structural fill and all native subgrades less than 4 feet below finished grade for a planned roadway should be compacted to 95 percent of the modified Proctor maximum dry density as determined by ASTM:D-1557. Prior to structural fill placement, or to placement of base course materials over native subgrades, the area should be proof-rolled under the observation of AESI with a loaded dump truck or other suitable equipment to identify any soft or yielding areas. Any soft or yielding areas should be repaired prior to continuing work.

Depending on construction staging and desired performance, the crushed surfacing base course material may be substituted with asphalt treated base (ATB) beneath the final asphalt surfacing. If the substitution of ATB for crushed rock is chosen, 4 inches of crushed rock may be substituted with 3 inches of ATB. If ATB is used for construction access and staging areas, some rutting and disturbance of the ATB surface should be expected. The general contractor should remove affected areas and replace them with properly compacted ATB prior to final surfacing.

14.0 PROJECT DESIGN AND CONSTRUCTION MONITORING

At the time of this report, site grading, structural plans, and construction methods have not been finalized, and the recommendations presented herein are preliminary. We are available to provide additional geotechnical consultation as the project design develops and possibly changes from that upon which this report is based. We recommend that AESI perform a geotechnical review of the plans prior to final design completion. In this way, our earthwork and foundation recommendations may be properly interpreted and implemented in the design.

We are also available to provide geotechnical engineering and monitoring services during construction. The integrity of the foundations for buildings and of new pavement depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field in the event that variations in subsurface conditions become apparent. Construction monitoring services are not part of the current scope of work. If these services are desired, please let us know and we will prepare a cost proposal.

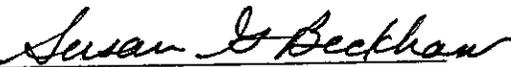
Anderson Farm
Sultan, Washington

Subsurface Exploration, Geologic Hazard, and
Preliminary Geotechnical Engineering Report
Preliminary Design Recommendations

We have enjoyed working with you on this study and are confident that these recommendations will aid in the successful completion of your project. If you should have any questions, or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



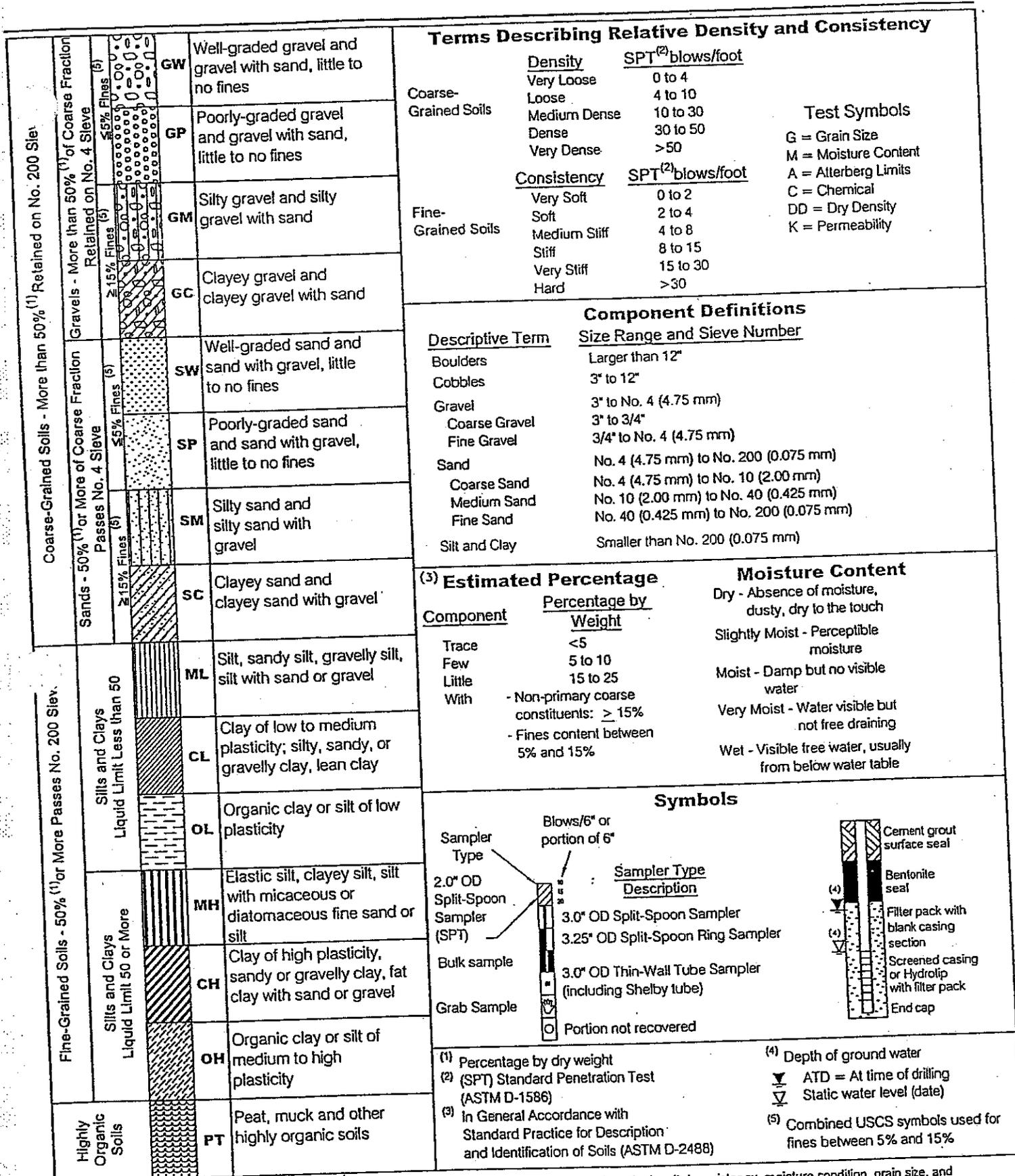

Susan G. Beckham, P.E.
Project Engineer

Jamey S. Battermann, PE, PG, CPESC
Senior Associate

Attachments: Figure 1: Vicinity Map
Figure 2: Site and Exploration Plan
Appendix: Exploration Logs

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APPENDIX



Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.



lockatlog_key.dwg 11/02

LOG OF EXPLORATION PIT NO. EP-1

Depth (ft)	
	<p>This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.</p> <p>DESCRIPTION</p>
1	Duff and Topsoil
2	Recessional Outwash
3	Stiff, moist, slightly mottled gray and brown, SILT with fine sand. Grades to very stiff at 3'.
4	
5	
6	Medium dense, wet, gray and brown mottled, fine SAND with silt.
7	Grades to silty SAND below 7'.
8	Medium dense, saturated, fine to medium SAND with silt, few gravel.
9	
10	Bottom of exploration pit at depth 9 feet Moderately rapid ground water seepage at 9'. No caving.
11	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.



Logged by: SGB

Approved by:

Project No. KE05615A

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8/31/05

LOG OF EXPLORATION PIT NO. EP-2

Depth (ft)	DESCRIPTION
1	Grass, Topsoil, and Old Power Lines
2	Recessional Outwash
3	Medium stiff, moist, gray and brown, SILT with fine sand.
4	
5	
6	Medium dense, very moist, gray and brown mottled, fine SAND with silt.
7	
8	
9	Medium stiff to stiff, very moist, gray and brown mottled, silty SAND to sandy SILT. Grades to stiff to very stiff at 9'.
10	
11	Soft, wet, gray, SILT with fine sand.
12	
13	Bottom of exploration pit at depth 12 feet No ground water seepage. No caving.
14	
15	
16	
17	
18	
19	
20	

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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.



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Project No. KE05615A

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8/31/05

LOG OF EXPLORATION PIT NO. EP-3

Depth (ft)	DESCRIPTION
1	Grass, Brush, and Topsoil
2	Recessional Outwash
3	Medium stiff to stiff, moist, gray and brown mottled, sandy SILT.
4	
5	
6	
7	Medium dense, very moist, gray and brown mottled, silty very fine SAND.
8	
9	Medium dense, wet, gray, silty fine SAND.
10	
11	Bottom of exploration pit at depth 10 feet No ground water seepage. No caving.
12	
13	
14	
15	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.

Logged by: SGB

Approved by:



Project No. KE05615A

120

8/31/05

LOG OF EXPLORATION PIT NO. EP-4

Depth (ft)	DESCRIPTION
1	Duff, Topsoil, and Roots
2	Recessional Outwash Loose grading to medium dense, moist, brown, silty fine SAND with roots and organics. Medium dense at 2'.
3	Medium dense, moist, mottled gray and brown, silty fine SAND with lenses of fine to medium sand with silt (5' to 6').
4	
5	Becomes very moist at 5'.
6	Wet at 6'.
7	
8	
9	Medium dense, wet, fine SAND with silt and lenses of fine sandy SILT.
10	
11	
12	Medium dense, wet, very fine SAND with silt.
13	Bottom of exploration pit at depth 12 feet Slow ground water seepage at 9' and 11'. Slight caving at 5' to 9'.
14	
15	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.



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Approved by:

Project No. KE05615A

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8/31/05

LOG OF EXPLORATION PIT NO. EP-5

Depth (ft)	DESCRIPTION
	Grass and Topsoil
1	Recessional Outwash
2	Medium stiff, moist, brown, sandy SILT.
3	Stiff, very moist, gray and brown mottled, SILT with very fine sand and lenses of fine to medium SAND with silt.
4	
5	Dense, saturated, brown, fine to medium SAND, few silt with cobbles and few boulders. Cobbles at 5' and few boulders.
6	
7	Medium dense, saturated, gray, silty very fine SAND.
8	
9	Bottom of exploration pit at depth 8 feet Moderately rapid seepage at 5'. Slight caving 4' to 7'.
10	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.

Logged by: SGB
Approved by:



Project No. KE05615A

122 8/31/05

LOG OF EXPLORATION PIT NO. EP-6

Depth (ft)	DESCRIPTION
1	Duff and Topsoil
2	Recessional Outwash
3	Medium stiff, very moist, mottled gray and brown, SILT with fine sand.
4	
5	
6	Medium dense, wet to saturated, brown, fine to medium SAND with silt, gravel, and cobbles.
7	Soft to medium stiff, wet, gray-brown, SILT with fine sand.
8	
9	Bottom of exploration pit at depth 8 feet Slow ground water seepage at 7' to 8'. Slight caving 7' to 8'.
10	
11	
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KCTP3 05615A.GPJ \$6,000.00 8/1/2005

**Anderson Farm
Sultan, WA**

Associated Earth Sciences, Inc.



Logged by: SGB

Approved by:

Project No. KE05615A

123 8/31/05

LOG OF EXPLORATION PIT NO. EP-7

Depth (ft)	DESCRIPTION
1	Duff and Topsoil
2	Recessional Outwash
3	Loose/medium stiff, moist, silty very fine SAND to sandy SILT with organics and roots. Stiff, moist, gray mottled, SILT with fine sand.
4	
5	Medium dense, wet, brown, fine to medium SAND with gravel and few cobbles.
6	
7	Medium dense/medium stiff, wet, brown, silty very fine SAND to sandy SILT.
8	Medium stiff, very moist, gray, SILT with fine sand.
9	Bottom of exploration pit at depth 8 feet No ground water seepage.
10	
11	
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14	
15	
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17	
18	
19	
20	

This log is part of the report prepared by Associated Earth Sciences, Inc. (AESI) for the named project and should be read together with that report for complete interpretation. This summary applies only to the location of this trench at the time of excavation. Subsurface conditions may change at this location with the passage of time. The data presented are a simplification of actual conditions encountered.

Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.



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Approved by:

Project No. KE05615A

124 8/31/05

LOG OF EXPLORATION PIT NO. EP-8

Depth (ft)	DESCRIPTION
	Grass and Topsoil
1	Recessional Outwash
2	Loose, moist, silty fine SAND with fine roots.
3	Medium dense, moist, silty fine SAND.
4	Medium stiff/medium dense, moist, gray and brown mottled, silty very fine SAND to sandy SILT.
5	
6	Medium dense, moist, fine to medium SAND with silt, gravel, few cobbles. Very moist at 6'.
7	
8	Saturated at 8'.
9	Medium stiff, wet, SILT with very fine sand.
10	Bottom of exploration pit at depth 8.5 feet Slow ground water seepage at 7'. Slight caving 5' to 8'.
11	
12	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.



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Project No. KE05615A

125 8/31/05

LOG OF EXPLORATION PIT NO. EP-9

Depth (ft)	DESCRIPTION
	Grass and Topsoil
1	Recessional Outwash
2	Loose to medium dense, silty very fine SAND with roots.
3	Medium stiff, very moist, gray and brown mottled, SILT with very fine sand.
4	
5	
6	
7	
8	Medium dense, wet, brown, medium to coarse SAND with gravel and cobbles, few silt.
9	
10	Bottom of exploration pit at depth 9 feet Rapid ground water seepage from 7' to 9'. Moderate caving 7' to 9'.
11	
12	
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**Anderson Farm
Sultan, WA**

Associated Earth Sciences, Inc.

Project No. KE05615A

Logged by: SGB

Approved by:



8/31/05

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LOG OF EXPLORATION PIT NO. EP-10

Depth (ft)	DESCRIPTION
1	Grass and Topsoil
2	Recessional Outwash Medium stiff to stiff, moist, gray slightly mottled, SILT with very fine sand.
3	
4	
5	Medium dense, wet, fine to coarse SAND with gravel and cobbles.
6	
7	
8	Bottom of exploration pit at depth 7 feet Rapid ground water seepage at 6 1/2'. Slight caving 4' to 7'.
9	
10	
11	
12	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.

Logged by: SGB
Approved by:



Project No. KE05615A

8/31/05

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LOG OF EXPLORATION PIT NO. EP-11

Depth (ft)	DESCRIPTION
	Topsoil
1	Fill
2	Loose, moist, silty SAND with organics and plastic.
	Recessional Outwash
3	Medium dense/stiff, moist, brown, silty very fine SAND to SILT.
4	Medium stiff to stiff, moist, gray with brown mottling, SILT with fine sand.
5	
6	Medium dense, wet, brown, medium to coarse gravelly SAND to sandy GRAVEL with cobbles, few boulders.
7	Soft to medium stiff, wet, gray, SILT with fine sand.
8	Bottom of exploration pit at depth 7.5 feet No ground water seepage. Slight caving 5' to 6 1/2'.
9	
10	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.



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Project No. KE05615A

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8/31/05

LOG OF EXPLORATION PIT NO. EP-12

Depth (ft)	DESCRIPTION
	Grass and Topsoil
1	Recessional Outwash
1	Soft to medium stiff, moist, gray, SILT with fine sand.
2	Medium stiff to stiff, moist, gray with brown mottling, SILT with fine sand.
3	
4	Interbeds of fine to medium SAND at 4'.
5	Medium dense, wet, fine to medium SAND with silt, gravel, and few cobbles grading to gravelly medium to coarse SAND, few silt.
6	
7	
8	
9	Bottom of exploration pit at depth 8 feet Rapid ground water seepage at 6 1/2'. Severe caving 6 1/2' to 8'.
10	
11	
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Anderson Farm Sultan, WA

Associated Earth Sciences, Inc.

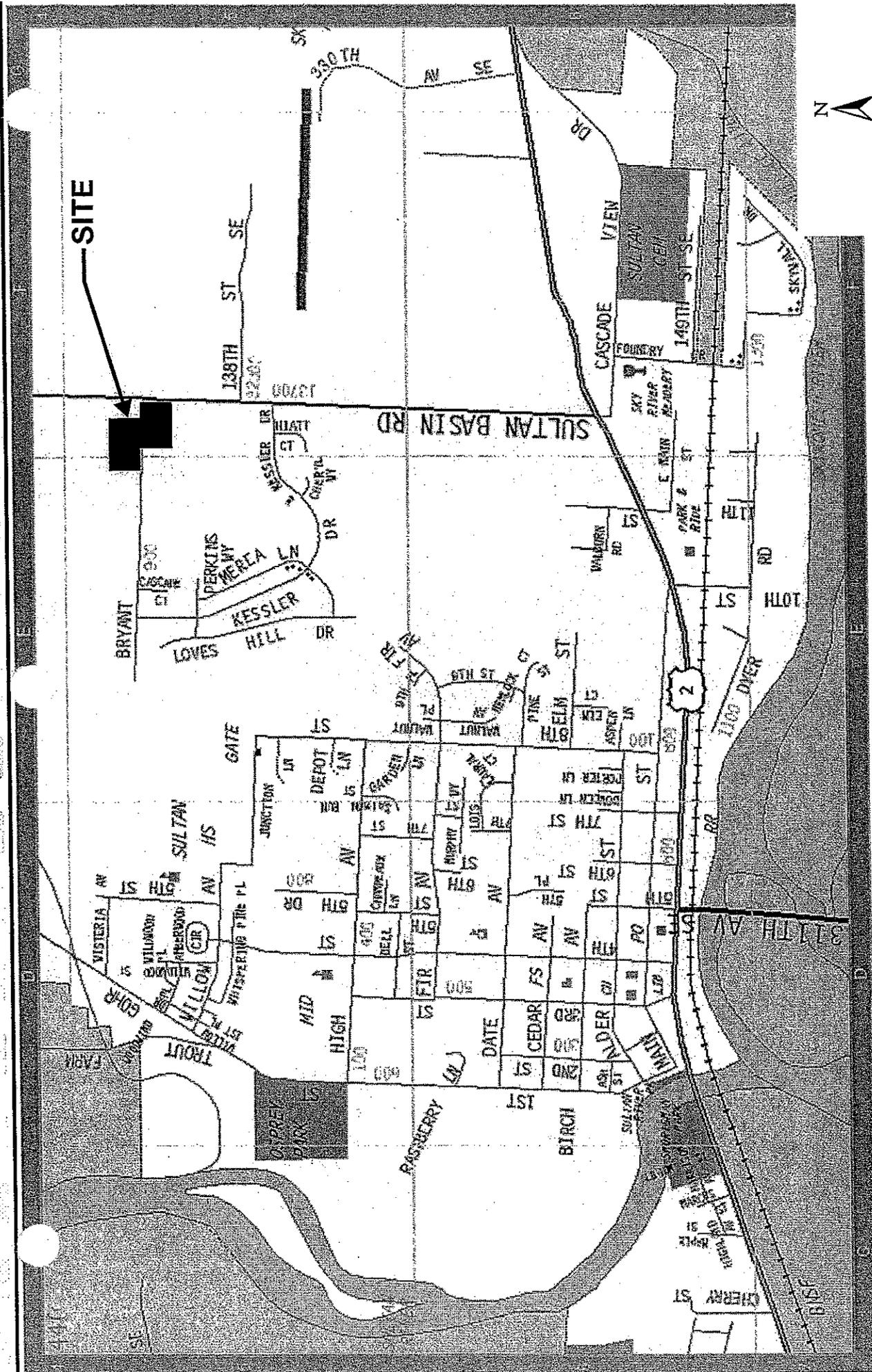


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Approved by:

Project No. KE05615A

129

8/31/05



NO SCALE

FIGURE 1
DATE 09/05
PROJ. NO. KE05615A

VICINITY MAP
ANDERSON FARM
SULTAN, WASHINGTON

Associated Earth Sciences, Inc.



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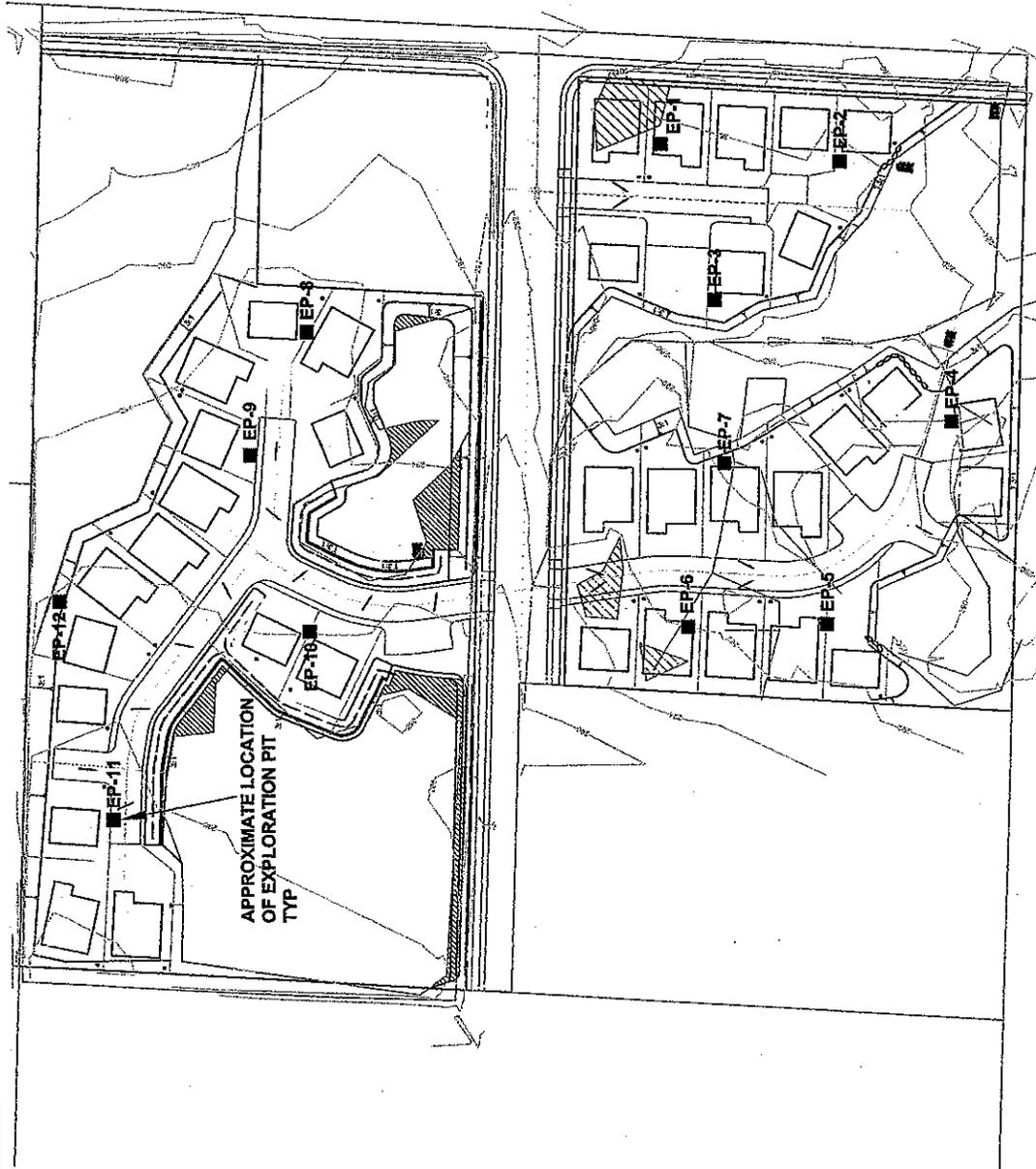


FIGURE 2
 DATE 09/05
 PROJECT NO. KEG0615A

SITE AND EXPLORATION PLAN
 ANDERSON FARM
 SULTAN, WASHINGTON

Associated Earth Sciences, Inc.



2721 Wetmore Avenue
Everett, Washington 98201
Phone (425) 317-7300

Sr. Title Officer: Linda Swayzee ; lswayzee@stewart.com
Title Officer: Tanya Cannon; tcannon@stewart.com Lynda Stow; lynda.stow@stewart.com
Title Assistant: Jessica Dale; jessica.dale@stewart.com Cheryl DeMario; cheryl.demario@stewart.com
Mandy Winter; mandy.winter@stewart.com Suzie Cordova; suzie.cordova@stewart.com
Recording Desk: Letty Contreras; lcontrer@stewart.com

Reference: Grandview Incorporated

Order Number: 17106
Escrow Number: 17106

SCHEDULE A

1. Effective Date: **August 30, 2005 at 8:00 a.m.**

2. **Policy Or Policies To Be Issued:**

- (X) ALTA OWNER'S POLICY, (10/17/92)
- (X) STANDARD () EXTENDED GENERAL SCHEDULE RATE

Amount: **TO BE DETERMINED**
Premium:
Tax:
Total: **\$ 0.00**

Proposed Insured:

- () ALTA LOAN POLICY

Amount:
Premium:
Tax:
Total: **\$ 0.00**

TO FOLLOW

3. The estate or interest in the land described or referred to in this Commitment and covered herein is:

Fee Simple Estate

4. Title to said estate or interest in said land is at the effective date hereof vested in:

Grandview Incorporated, a Washington Corporation

5. The land referred to in this commitment is described in Exhibit "A".

EXHIBIT S-31

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EXHIBIT "A"

Lot B of Short Plat No. 113 (5-75) recorded under Recording No. 2405151, records of Snohomish County, Washington, being a portion of the Northeast ¼ of Section 32, Township 28 North, Range 08 East,

Situate in the County of Snohomish, State of Washington.

SCHEDULE B - SECTION 1

The following are the requirements to be complied with:

ITEM (A) Payment to or for the account of the grantors or mortgagors of the full consideration for the estate or interest to be insured.

ITEM (B) Proper instrument(s) creating the estate or interest to be insured must be executed and duly filed for record

NOTE: Effective January 1, 1997, and pursuant to amendment of Washington State Statutes relating to standardization of recorded documents, the following format and content requirements must be met. Failure to comply may result in rejection of the document by the recorder.

FORMAT:

Margins to be 3" on top of first page, 1" on sides and bottom, 1" on top, sides and bottom of each succeeding page.

Font size of 8 points or larger and paper size of no more than 8 ½" by 14".

No attachments on pages such as stapled or taped notary seals, pressure seals must be smudged.

Information which must appear on the first page:

Title or titles of document. If assignment or reconveyance reference to auditor's file number or subject deed of trust.

Names of grantor(s) and grantee(s) with reference to additional names on following page(s), if any.

Abbreviated legal description (lot, block, plat name or section, township, range and quarter quarter section for unplatted).

Assessor's tax parcel number(s)

Return address which may appear in the upper left hand 3" top margin

SCHEDULE B - SECTION 2

GENERAL EXCEPTIONS

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the company.

- A. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
- B. Any facts, rights, interest, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
- C. Easements, claims of easement or encumbrances which are not shown by the public records.
- D. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by public records.
- E. (a) Unpatented mining claims, (b) reservations or exceptions in patents or in acts authorizing the issuance thereof; (c) water rights, claims or title to water; whether or not the matters excepted under (a), (b) or (c) are shown by the public records, (d) Indian Tribal codes or regulations, Indian treaty or aboriginal rights, including easements or equitable servitudes.
- F. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.
- G. Any service, installation, connection, maintenance, construction, tap or reimbursement charges/costs for sewer, water, garbage or electricity.
- H. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed insured acquires of record for value the estate or interest or mortgages thereon covered by this commitment.

END OF GENERAL EXCEPTIONS

**SCHEDULE B - SECTION 2
CONTINUED**

SPECIAL EXCEPTIONS

1. Payment of Real Estate Excise Tax, if required.

The property described herein is situated within the boundaries of local taxing authority of the City of Sultan.

Present Rate of Real Estate Excise Tax as of the date herein is 1.78%.

2. General taxes: First half delinquent May 1; Second half delinquent November 1:

Year:	2005
Amount Billed:	\$1,423.71
Amount Paid:	\$711.85
Amount Due:	\$711.86
Tax Account No.:	28083200100600
Levy Code:	0805
Land:	\$102,700.00
Improvements:	\$16,600.00

3. Deed of Trust and the terms and conditions thereof:

Grantor:	Grandview, Inc.
Trustee:	Evergreen Title
Beneficiary:	First Heritage Bank
Amount:	\$156,692.81
Dated:	January 7, 2000
Recorded:	January 14, 2000
Recording No.:	200001140781

The amount now secured by said Deed of Trust and the terms upon which the same can be discharged or assumed should be ascertained from the holder of the indebtedness secured.

4. If a mobile home is located on this property, it will be excepted from the legal description and not insured by the policy unless the certificate of title is eliminated and the mobile home converted to real property as required by Chapter 65.20 of the Revised Code of Washington, effective March 1, 1990.

A Manufactured Home Title Elimination Application should be obtained from the Department of Licensing. The application must be signed by the registered and legal owners of the mobile home, the owner of the land, the city or county building permit office, approved by the Department of Licensing and recorded. All taxes must be paid and proof given to the Department. A fee of \$45.25 will be charged (\$52.75 for subagents of department). A recording fee will also be charged (Chapter 171, Laws of 1990).

5. Right to make necessary slopes for cuts or fills upon property herein described as granted in deed:
Recorded: July 21, 1972
Recording No.: 2255856
Grantee: County of Snohomish

6. Waiver of Damages by reason of the construction of a roadway adjoining said premises.
Granted To: Snohomish County
Recording No.: 2255856

7. Roadway easement and reservation easement and the terms and conditions thereof:
Recorded: June 11, 1964
Recording No.: 1703766

8. Covenants, conditions and restrictions contained in Short Subdivision, copy attached:
Recorded: September 16, 1975
Recording No.: 2405151

9. Title is to vest in persons not yet revealed and when so vested will be subject to matters disclosed by a search of the records against their names.

NOTES:

NOTE A: in order to assure timely recording all recording packages should be sent to:

Stewart Title
2721 Wetmore Avenue
Everett, Washington 98201
Attn: Recorder

NOTE B: The description can be abbreviated as suggested below if necessary to meet standardization requirements. The full text of the description must appear in the document(s) to be insured.

Ptn: NE 32-28-08

NOTE C: Please be aware that should this transaction be cancelled, there will be a minimum cancellation fee of \$50.00 plus tax of \$4.15.

END OF SCHEDULE B

PS/TN



2721 Wetmore Avenue
Everett, Washington 98201
Phone (425) 317-7300

Sr. Title Officer: Linda Swayzee ; lswayzee@stewart.com
Title Officer: Tanya Cannon; tcannon@stewart.com Lynda Stow; lynda.stow@stewart.com
Title Assistant: Jessica Dale; jessica.dale@stewart.com Cheryl DeMario;
cheryl.demario@stewart.com
Mandy Winter; mandy.winter@stewart.com Suzie Cordova; suzie.cordova@stewart.com
Recording Desk: Letty Contreras; lcontrer@stewart.com

Reference: Grandview Incorporated

Order Number: 17107
Escrow Number: 17107

SCHEDULE A

1. **Effective Date:** August 30, 2005 at 8:00 a.m.

2. **Policy Or Policies To Be Issued:**

- (X) ALTA OWNER'S POLICY, (10/17/92)
- (X) STANDARD () EXTENDED
- GENERAL SCHEDULE RATE

Amount: **TO BE DETERMINED**
Premium:
Tax:
Total: **\$ 0.00**

Proposed Insured:

- () ALTA LOAN POLICY

Amount:
Premium:
Tax:
Total: **\$ 0.00**

TO FOLLOW

3. The estate or interest in the land described or referred to in this Commitment and covered herein is:

Fee Simple Estate

4. Title to said estate or interest in said land is at the effective date hereof vested in:

Grandview Incorporated, a Washington Corporation

5. The land referred to in this commitment is described in Exhibit "A".

EXHIBIT "A"

The North half of the Southeast quarter of the Northeast quarter of the Northeast quarter of Section 32, Township 28 North, Range 8 East, W.M.,

EXCEPT County Road on East known as Sultan Basin Road,
EXCEPT that portion deed to Snohomish County for road under Auditor's File No. 2255856,
AND EXCEPT the following:

Beginning at a point 980 feet South of the Northeast corner of said Section 32,
THENCE West 180.75 feet,
THENCE North 180.75 feet;
THENCE East 180.75 feet to the Section line,
THENCE South along the Section line for 180.75 feet to the True Point of Beginning

Situate in the County of Snohomish, State of Washington.

SCHEDULE B - SECTION 1

The following are the requirements to be complied with:

ITEM (A) Payment to or for the account of the grantors or mortgagors of the full consideration for the estate or interest to be insured.

ITEM (B) Proper instrument(s) creating the estate or interest to be insured must be executed and duly filed for record

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Font size of 8 points or larger and paper size of no more than 8 ½" by 14".

No attachments on pages such as stapled or taped notary seals, pressure seals must be smudged.

Information which must appear on the first page:

Title or titles of document. If assignment or reconveyance reference to auditor's file number or subject deed of trust.

Names of grantor(s) and grantee(s) with reference to additional names on following page(s), if any.

Abbreviated legal description (lot, block, plat name or section, township, range and quarter quarter section for unplatted).

Assessor's tax parcel number(s)

Return address which may appear in the upper left hand 3" top margin

SCHEDULE B - SECTION 2

GENERAL EXCEPTIONS

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the company.

- A. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
- B. Any facts, rights, interest, or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
- C. Easements, claims of easement or encumbrances which are not shown by the public records.
- D. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by public records.
- E. (a) Unpatented mining claims, (b) reservations or exceptions in patents or in acts authorizing the issuance thereof; (c) water rights, claims or title to water; whether or not the matters excepted under (a), (b) or (c) are shown by the public records, (d) Indian Tribal codes or regulations, Indian treaty or aboriginal rights, including easements or equitable servitudes.
- F. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the public records.
- G. Any service, installation, connection, maintenance, construction, tap or reimbursement charges/costs for sewer, water, garbage or electricity.
- H. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed insured acquires of record for value the estate or interest or mortgages thereon covered by this commitment.

END OF GENERAL EXCEPTIONS

**SCHEDULE B - SECTION 2
CONTINUED**

SPECIAL EXCEPTIONS

1. Payment of Real Estate Excise Tax, if required.

The property described herein is situated within the boundaries of local taxing authority of the City of Sultan.

Present Rate of Real Estate Excise Tax as of the date herein is 1.78%.

2. General taxes: First half delinquent May 1; Second half delinquent November 1:
- | | |
|------------------|----------------|
| Year: | 2005 |
| Amount Billed: | \$2,552.66 |
| Amount Paid: | \$1,276.33 |
| Amount Due: | \$1,276.33 |
| Tax Account No.: | 28083200101100 |
| Levy Code: | 0805 |
| Land: | \$110,000.00 |
| Improvements: | \$103,900.00 |

3. Deed of Trust and the terms and conditions thereof:
- | | |
|----------------|--------------------|
| Grantor: | Grandview, Inc. |
| Trustee: | Evergreen Title |
| Beneficiary: | Heritage Bank |
| Amount: | \$385,278.22 |
| Dated: | September 27, 2000 |
| Recorded: | October 5, 2000 |
| Recording No.: | 200010050128 |

The amount now secured by said Deed of Trust and the terms upon which the same can be discharged or assumed should be ascertained from the holder of the indebtedness secured.

4. Easement and the terms and conditions thereof:
- | | |
|----------------|---|
| Grantee: | Public Utility District No. 1 of Snohomish County and
West Coast Telephone Company |
| Purpose: | Electric transmission and distribution line |
| Area Affected: | As described |
| Recorded: | January 18, 1965 |
| Recording No.: | 1753273 |
5. Easement for septic tank drainfield and the terms and conditions thereof:
- | | |
|----------------|---------------|
| Recorded: | July 20, 1990 |
| Recording No.: | 9007200236 |

6. City of Sultan, Washington Ordinance No. 728-99 and the terms and conditions thereof:
Recorded: December 15, 1999
Recording No.: 199912150436
7. Ordinance 729-99 Pacific Development Reimbursement and the terms and conditions thereof:
Recorded: December 15, 1999
Recording No.: 199912150437
8. Title is to vest in persons not yet revealed and when so vested will be subject to matters disclosed by a search of the records against their names.
9. Pending action in Snohomish County:
Superior Court Cause No.: 03-2-07181-0
Being an Action For: Land Use Petition
Plaintiff: City of Sultan
Defendant: Grandview Inc.
Attorney For Plaintiff: Thom H. Graafstra
Telephone No.: (360) 568-3119

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NOTES:

NOTE A: in order to assure timely recording all recording packages should be sent to:

Stewart Title
2721 Wetmore Avenue
Everett, Washington 98201
Attn: Recorder

NOTE B: The description can be abbreviated as suggested below if necessary to meet standardization requirements. The full text of the description must appear in the document(s) to be insured.

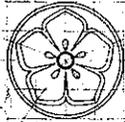
Ptn: NE 32-28-08

NOTE C: Please be aware that should this transaction be cancelled, there will be a minimum cancellation fee of \$50.00 plus tax of \$4.15.

NOTE D: To expedite your transaction it may be necessary to consult with your title unit in regards to Paragraph(s) 9.

END OF SCHEDULE B

PS/TN



HIGA-BURKHOLDER
ASSOCIATES, LLC
LAND USE PLANNING • CIVIL ENGINEERING

September 13, 2005

Mr. Rick Cisar
City of Sultan
319 Main Street
Sultan, Washington 98294

RE: Minutes from the June 29, 2005 pre-application meeting for the PUD-SF proposal of Anderson Farm

Individuals Present:

Rick Cisar, City of Sultan
Connie Dunn, City of Sultan
John Stack, City of Sultan

Applicant's representatives:

John Bissell, Higa Burkholder
Jake Libaire, Higa Burkholder

- Applicant describes project, drainage proposal, and critical area issues
- City states that a neighborhood group has claimed that there is a wetland in the NW corner of the N parcel
- The City stated their preferences for the design of this site:
 - 5,000 sf minimum lots
 - Parking on 1 side of access roads
 - 1 parking stall per unit (applicant's reps stated that each unit already has 4 parking spaces)
 - 2 recreation areas
 - Perimeter buffer
 - Structures shall be compatible w/ surrounding homes
- City will require ¼ ROW improvements in front of Mable's house
- Open space shall be dedicated to residents of the development or to the public
- Need mitigation fee for police department concurrency

If any individual has questions regarding the contents of this meeting summary, please do not hesitate to contact me at (425) 252-2826.

Sincerely,
Higa Burkholder Associates, LLC

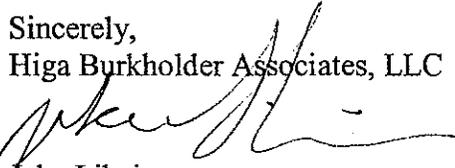

Jake Libaire
Project Manager

EXHIBIT S-3m

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