PRINGLE CREEK COMMUNITY

REFINEMENT PLAN

Sustainable Development, Inc.
Opsis Architecture[LLP]

Approved November 2005
Amended September 21, 2021

team

Developer

Sustainable Development, Inc.

Masterplan Coordination

A.C. Nielson Development Services, Inc.

Design Team

Opsis Architecture LLP, Portland Oregon
Master architect and planner, Building Regeneration and Commercial Mixed-Use Architect

Ramsay Worden Architects, Vancouver, BC
Master planning, Residential Mixed-Use and Multi-Family Architect

PMC Associates, Vancouver, BC
Sustainability Principles, Visioning and Design Guidelines

Ronald Kellett, Vancouver, BC
Building Typology Analysis and Design Guidelines

Nathan Good Architect, Salem, Oregon
Carbon-Neutral Homes Design Collaborator

David Evans and Associates, Portland, Oregon
Sustainability Assessment

Greenworks, PC, Portland, Oregon
Landscape Architect

DCI Engineers, Portland, Oregon
Structural Engineer

W+H Pacific, Portland, Oregon
Civil Engineer

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note: SRC 143C100(e) Refinement Plan requirement items are cross referenced to the right of the page numbers.

summary

INTRODUCTION

In November 2004 Sustainable Investments LLC, a local investment company purchased the north 32 acres of the former Fairview Training Center and entered a development agreement with Sustainable Development Inc (SDI). SDI then created an innovative plan for the property that set new standards for excellence in sustainable development, both in Oregon and nationally. The opportunity to create a vital community within Fairview and Salem stimulates tremendous excitement among the SDI team. In addition to local leadership a superb group of nationally recognized advisors compliments this team.

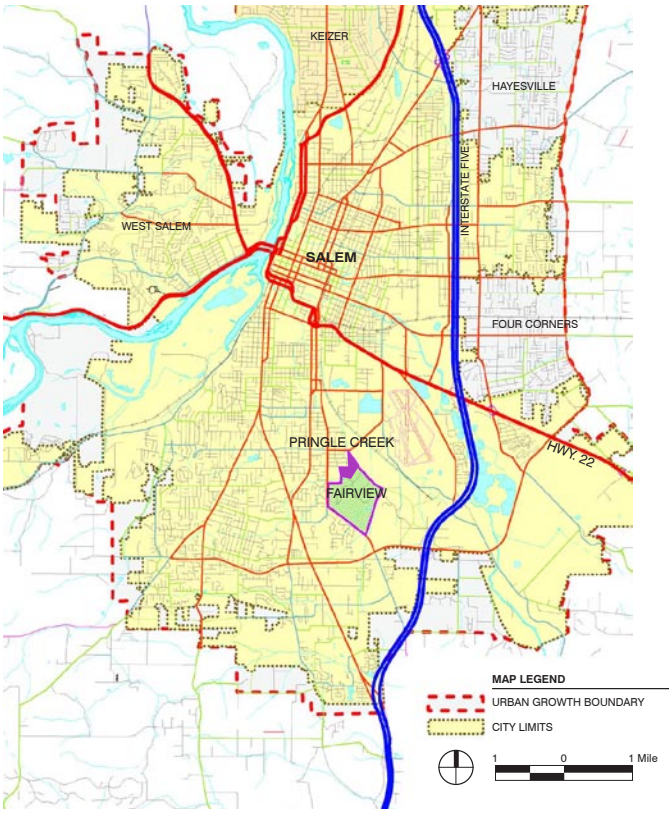
From day one, SDI recognized the special environmental features of the north 32 acres and named the project: Pringle Creek Community

In the early visioning process there emerged three major goals:

Embrace sustainable land use principles,
Build ecological systems, and
Promote smart transportation and movement principles.

Pringle Creek Community will feature walkable neighborhoods, ten acres of meandering creek and wetlands, open community plazas, historical buildings of great character, and green space for all to enjoy. This combination of preserving the natural environment while adding community amenities and a wide array of housing options will be a unique opportunity for people seeking a livable community setting.

SDI has retained community leader, Don Myers to serve as President. Don has assembled an able local team of committed individuals who, as soon as City of Salem building approvals can be obtained, will make this exciting project happen.

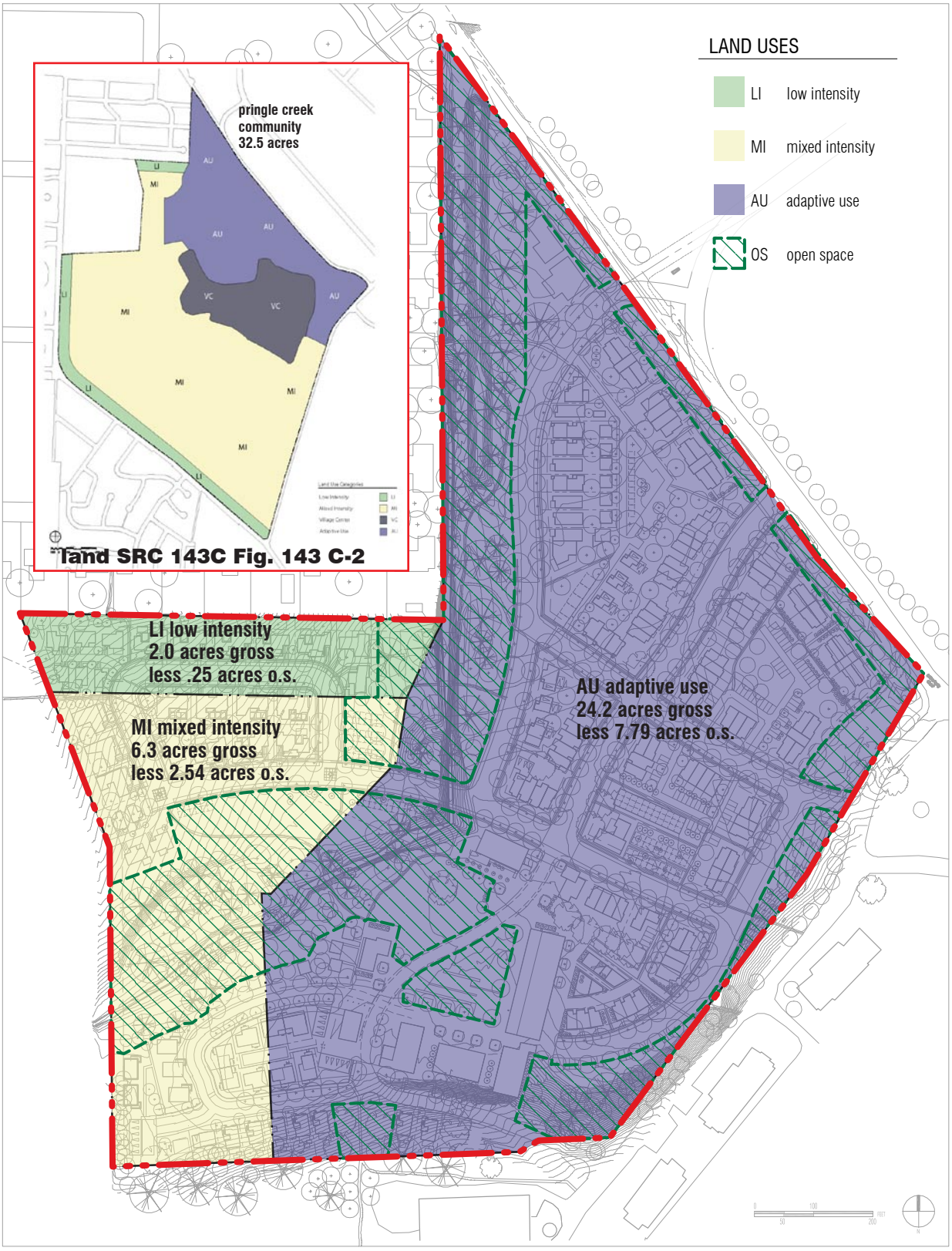


STANDARDS FOR INTERPRETING THE REFINEMENT PLAN

Development standards and regulations established under the Pringle Creek Community Refinement Plan are designed to meet the intent of the Fairview Plan and the Fairview Mixed-Use zone. Where a provision in the Pringle Creek Community Refinement Plan varies from other provisions of the zoning code, the provisions of the refinement plan shall govern.

pringle creek community in the sustainable fairview context

master plan and land uses



land use plan & fairview mixed use overlay plan (inset)

illustrative plan with key features

land use

SUSTAINABILITY PRINCIPLES FOR LAND USE

1. Encourage Economic and Social Diversity

The plan for the Pringle Creek Community accommodates 133 – 315 (depending on the eventual number of secondary rental units provided) for 400–500 residents. These proposed units range from single family homes on their own parcels to efficiency units in small apartments or secondary suites. Unit sizes may range from affordable 600 sf studios to 2,500 sf single family detached homes. The plan provides the widest possible diversity of housing choices, making aging in place possible and providing good homes for moderate income owners and families of different sizes and types.

2. Create a Village Center

The main village centre for the Sustainable Fairview project is located on another part of the site. The Pringle Creek Community is thus a sub centre, comprised of restored industrial and agricultural buildings grouped around a village green and seasonal pavilions. A small amount of convenience commercial retail is anticipated. Most of the restored space will be used for institutional functions (adult education, social functions, and community rooms) with some spaces made available for office rental. The community gardens and the restored greenhouse will provide much of the social and visual focus for the community, and cement the image of the community as a place where residents care about the earth and can produce their own food.

3. Reuse and Retrofit existing buildings

The majority of the existing buildings on the site will serve new functions for the Pringle Creek Community and for other residents of Salem. Three of the existing buildings have undergone a first phase cosmetic improvements to the exterior, with many of the existing build around the community square and the greenhouses being analyzed for future regeneration in the new plan. This space will be preserved as a graphic reminder of the past, and as an emblem of the strength of the new community at Pringle Creek. Pringle Creek residents will likely take the most advantage of these community amenities, but they will be available to other citizens of the city as well.

4. Create Local Employment

Most of the new employment opportunities in Fairview will be in the campus crescent area; however, significant job opportunities are part of the plan for Pringle Creek Community too. Allowing home occupations would enhance the sustainability of the plan, thus we hope to incorporate authorization for home occupations. Additionally, the preserved structures on the site will provide locations for at least 7 full time jobs but potentially many more.

5. Build Efficiencies by Building Green

At the Pringle Creek Community, new residential structures will perform at the highest efficiency level practical. The single family home area at the west side of the school (adjacent to the school property) is planned for "carbon neutral" status, meaning these homes will be entirely self sufficient for heating and cooling. This will be the first residential subdivision of its kind in America. The Pringle Creek Community has set a goal of national significance for energy and materials conservation.

LAND USE SUMMARY

Pringle Creek Community land use development requirements per SRC 143C. FMU zones are indicated in the table below:

		residential (du)		non-residential (sf)	
required dwelling units	**acres**	**min**	**max**	**min**	**max**
total site area	32.50				
AU zone du per gross acre		6	30		
gross area per src 143c-2	24.20				
less dedicated open space	*-7.79*				
net area	16.41				
AU required du per src 143		*98*	*492*		
area 1		8	11		
area 3		4	95	11,700	45,200
area 4		9	12		
area 5		18	21		
area 6		10	15	5,500	6,000
area 7		18	27		
area 8		18	57		
area 9		18	36		10,000
AU zone estimated du/sf		103	274	17,200	61,200
LI zone du per gross acre		5	8		
gross area per src 143c-2	2.00				
less dedicated open space	*-0.25*				
net area	1.75				
LI required du per src 143		*9*	*14*		
area 2		9	13		
LI zone estimated du		9	13		
MI zone du per gross acre		7	35		
gross area per src 143c-2	6.30				
less dedicated open space	*-2.54*				
net area	3.76				
MI required du per src 143		*26*	*132*		
area 2		10	15		
area 4		11	13		
MI zone estimated du/sf		21	18		
summary gross area per src 143C-2	32.50				
less dedicated total open space	10.58				
summary total net area	21.92				
est. total range of du planned		**133**	**315**		
est. s.f. for non-residential				**17,200**	**61,200**
total required du per src 143		*134*	*638*		

Mandatory elements

Street requirements -- private streets throughout the development
Fire sprinklers -- automatic fire suppression system required for all structures
Street parking restrictions -- one queuing space per block to facilitate fire department access

PERMITTED LAND USES

A complete table of permitted land uses per SRC 143 is located in appendix C.

AREA 1

Area one is the smallest parcel and geographically centered on site. It has been planned to accommodate a mix of the following land uses:*

primary use -- residential units including but not limited to attached, detached and accessory dwelling units.
secondary use-- live/work units

Due to the small parcel size, an alley will not be required.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	
parcel area gross[1]	(1.17 acres)		
parcel area net	(.65 acres)		
required residential units per 143		*7/35*	
total estimated residential units		**8/11**	
total est. area for non-residential uses (in s.f.)			none
building requirements			
lot area		src 143/none	none/none
coverage		none/none	none/none
depth		50'/none	none/none
width		16'/none	16'/none
building setbacks[2]			
front/street		2'/10'	2'/10'
interior/side		0'/20'	0'/30'
interior rear to ROW @ alley		na/na	na/na
building frontage per unit[3]		16'/none	16'/none
building height		none/45'	none/45'
parking		residential	commercial
cars[4]		none/1	1 per 500
bikes		na	2/none
loading		na	0
street		yes	yes[5]
driveways[6]			
single parking		8' driveway	
multiple		12' driveway	12' driveway
setbacks[7]		none/none	none/none

notes

1. Gross parcel area measured to the centerline of adjacent right of ways and/or property lines. Gross area to be confirmed upon final plat during the SRC 63 submission.

2. The following are exempt from setback requirements: roof overhangs, roof covered porches, demountable sun screens, steps or ramps to porches.

3. All cottage courtyard housing types are exempt from required street frontage but must meet the minimum 16' frontage onto a shared common courtyard for private cars and residents.

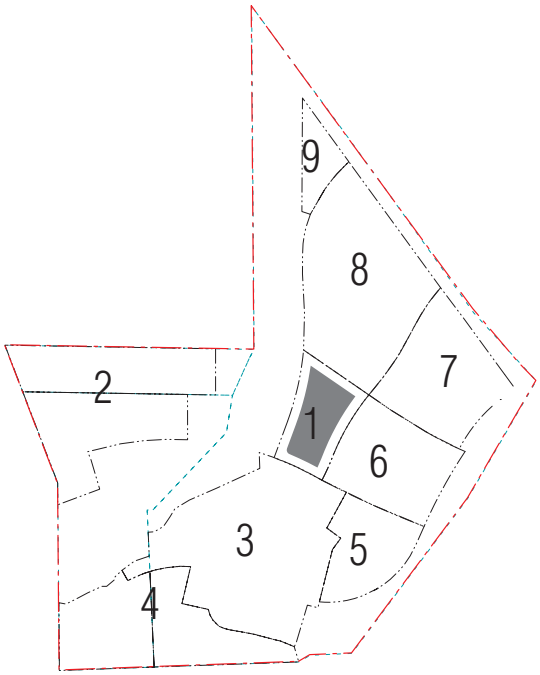
4. One parking space per unit for single family detached and accessory dwelling units (coach lane house). Cottage courtyard units are allowed to have remote detached garage parking. Attached dwelling units to have 1 per building unit with remaining parking on street.

5. Commercial parking shall be provided off-street unless at the time of future development it can be demonstrated that adequate on-street parking exists to accommodate a portion or all of the off-street parking requirements.

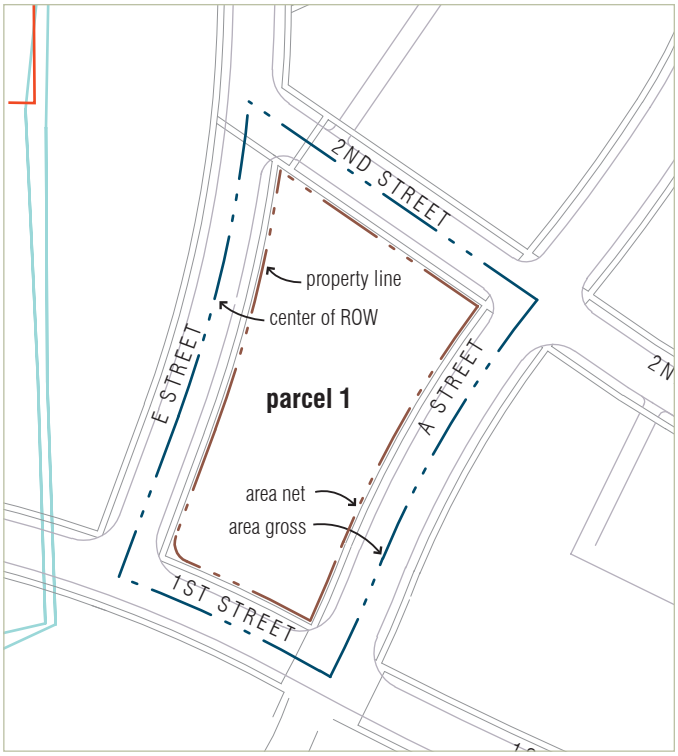
6. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable drivable surfaces.

7. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22.



parcel location



parcel map

AREA 2

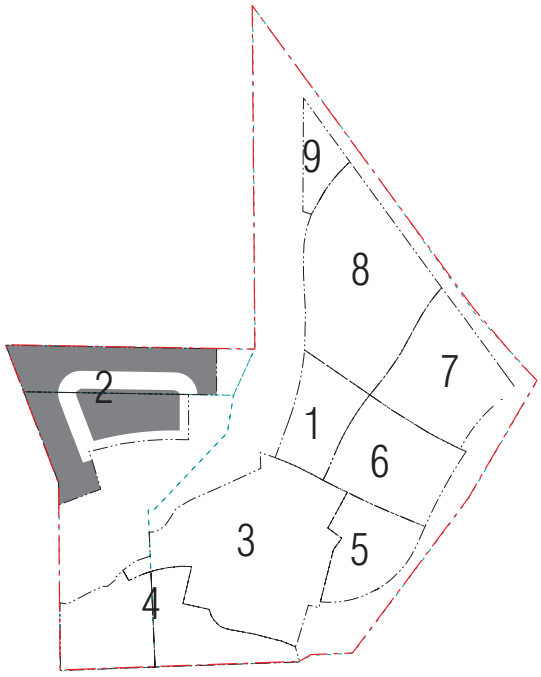
Area 2 is unique to Pringle Creek Community in that it has the adjacency of the Morningside Heights Neighborhood, is zoned for both LI and MI land-uses per SRC 143, and is the only site on the property with a south facing hillside without tree cover. It has been planned to enhance it's natural features by providing lots that are oriented for solar access and to use the sloping site to provide views of the Cascade Mountain Range to the east. The mix of land-uses are as follows:*

primary use -- single family dwelling units
secondary use-- cottage courtyard units

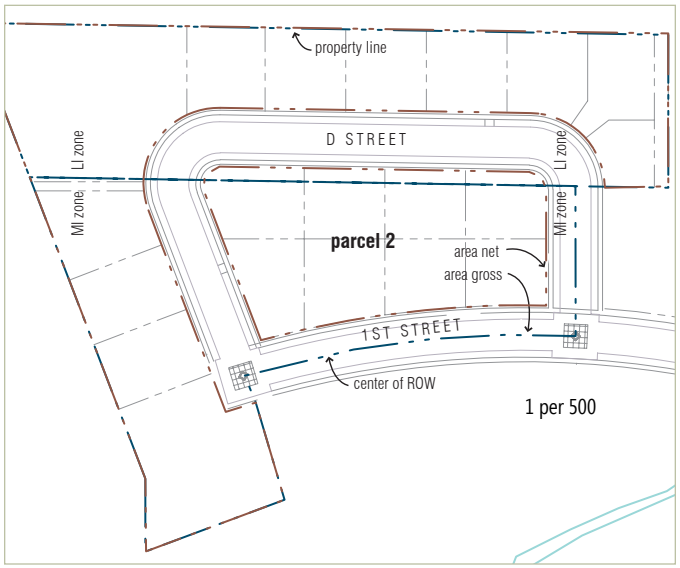
Due to the small parcel size, an alley will not be required.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
LI zone du per gross acre		5/8	na
parcel area gross[1]	(2.00 acres)		na
parcel area net	(1.75 acres)		na
required residential units per 143		*10/16*	na
MI zone du per gross acre		7/35	na
parcel area gross[1]	(1.90 acres)		na
parcel area net	(1.45 acres)		na
required residential units per 143		*13/67*	na
total required residential units per 143		*23/83*	na
total estimated residential units		**19/28**	na
total est. area for non-residential uses (in s.f.)			na
building requirements			
lot area		src 143/none	na
coverage		none/src 143	na
depth		30'/none	na
width		16'/none	na
building setbacks[2]			
front/street		2'/10'	na
interior/side		0'/20'	na
interior rear to ROW @ alley		na/na	na
FMU zone boundary		20'/none	na
building frontage per unit[3]		16'/none	na
building height		none/45'	na
parking		residential	commercial
cars [4]		none/1	na
bikes		na	na
loading		na	na
street		yes	na
driveways[5]			
single parking		8' driveway	
multiple		12' driveway	na
setbacks[6]		none/none	none/none



parcel location



parcel map

notes

1. Gross parcel area measured to the centerline of adjacent right of ways and/or property lines. Gross area to be confirmed upon final plat during the SRC 63 submission.

2. The following are exempt from setback requirements: roof overhangs, roof covered porches, demountable sun screens, steps or ramps to porches.

3. All cottage courtyard housing types are exempt from required street frontage but must meet the minimum 16' frontage onto a shared common courtyard for private cars and residents.

4. One parking space per unit for single family detached and accessory dwelling units (coach lane house). Cottage courtyard units are allowed to have remote detached garage parking. Attached dwelling units to have 1 per building unit with remaining parking on street.

5. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable driveable surfaces.

6. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22

AREA 3

Area 3 is developed as the community center with an active open space plaza of 1.5 acres featuring 2 large Native Oak trees as an anchor to the community square. The square is bounded by the regeneration of existing buildings of Fairview Training Center (see page #25 for existing structures), new infill buildings and by Pringle Creek riparian corridor. Proposed land uses include:*

primary use-- regeneration of existing building into a mix of uses to support the community square activities with potential uses, but not limited to the following: cultural facilities, bed and breakfast, boutique hotel, interpretive museum, performing arts facility, artists studio's, carpentry workshop, craft workshop, office, community storage, restaurant, day-care facilty, cafe with performing arts events, community meeting hall, community cooperative uses, library, mixed-use commercial/residential, bakery, artist galleries, classroom facilities, retail, open air pavilion for farmers market and community events.

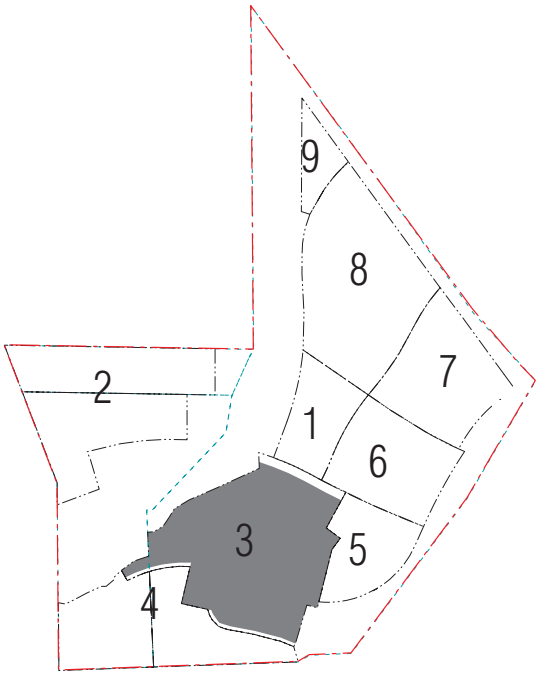
secondary use-- Live/ work residential, seasonal temporary pavilions for public use.

The community square open space will be bounded by "woonerf" streets and plaza's designed to calm traffic by integrating pedestrians, bikes and cars in the community square, see illustrative plan pg. #9 and major streets plan pg. #35.

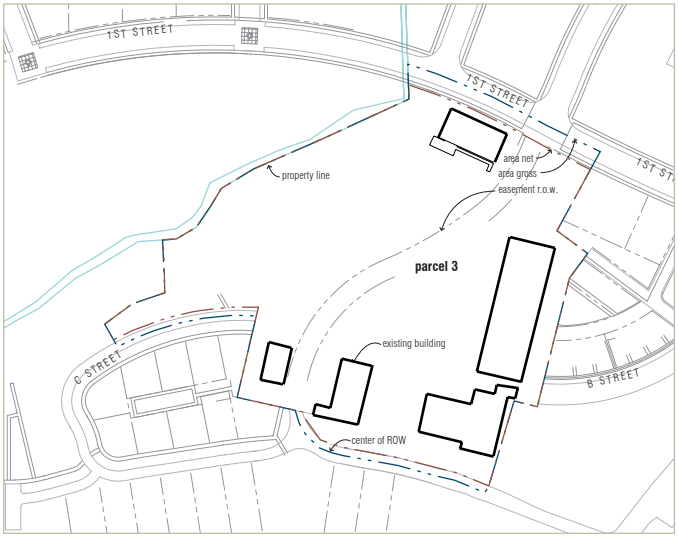
The building will be allowed to project within the area a maximum of 15' to accomodate architectural features and requirements for accessibility, see note #2. All existing buildings will be required to meet all applicable building code requirements. All property lines within area 3 to be determined during SRC 63 subdivision submission. All development restrictions and responsibilities will be governed as indicated in the table on page 42 in the Refinement Plan.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	
parcel area gross[1]	(4.5 acres)		
parcel area net	(4.23 acres)		
required residential units per 143		*27/135*	
total estimated residential units		**4/95**	
total est. area for non-residential uses (in s.f.)			**11,700-45,200**
lot and building requirements			
lot area		src 143/none	none/none
coverage		none/none	none/none
depth		50'/none	none/none
width		16'/none	16'/none
building setbacks[2]			
front/street (or woonerf)		2'/10'	none/none
interior/side		0'/20'	10'/20'
interior rear to ROW @ alley		na/na	none/none
building frontage per unit[3]		**13'** /none	**13'** /none
building height		none/45'	none/60'
parking		residential	commercial
cars		none/1	1 per 500
bikes		na	2/none
loading		na	0
street		yes	yes[4]
driveways[5]			
single parking		8' driveway	
multiple		12' driveway	12' driveway
setbacks[6]		none/none	none/none



parcel location



parcel map

notes

1. Gross parcel area measured to the centerline of adjacent right of ways and/or property lines. Gross area to be confirmed upon final plat during the SRC 63 submission.

2. The following are exempt from setback requirements: roof overhangs, roof covered porches, decks, demountable sun screens, steps or ramps to porches.

3. All cottage courtyard housing types are exempt from required street frontage but must meet the minimum 16' frontage onto a shared common courtyard for private cars and residents.

4. Commercial parking shall be provided off-street unless at the time of future development it can be demonstrated that adequate on-street parking exists to accommodate a portion or all of the off-street parking requirements.

5. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable drivable surfaces.

6. Parking setbacks do not require a buffer yard, there will be no traditional parking lots in the community square and woonerf streets.

* For definitions of land uses, see page 22.

AREA 4

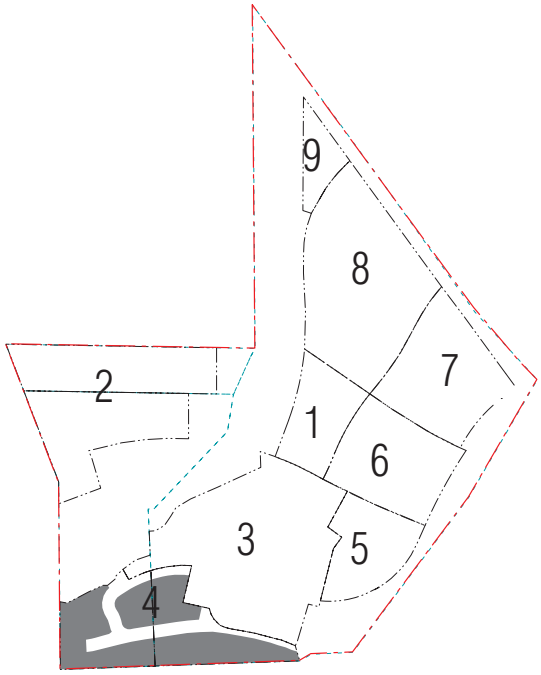
Area 4 is unique to Pringle Creek Community in that it has the adjacency of the Sustainable Fairview Property to the south, is zoned for both MI and AU land-uses per SRC 143, and is the only site on the property with a portion of the sloping site set within a stand of conifer and deciduous trees. It has been planned to enhance it's natural features by providing lots nestled within the trees on sloping sites to provide views of the Cascade Mountain Range to the east. The mix of land-uses are as follows:*

primary use- single family dwelling units.
secondary use- cottage courtyard units with a shared open space courtyard for car access and residents use.

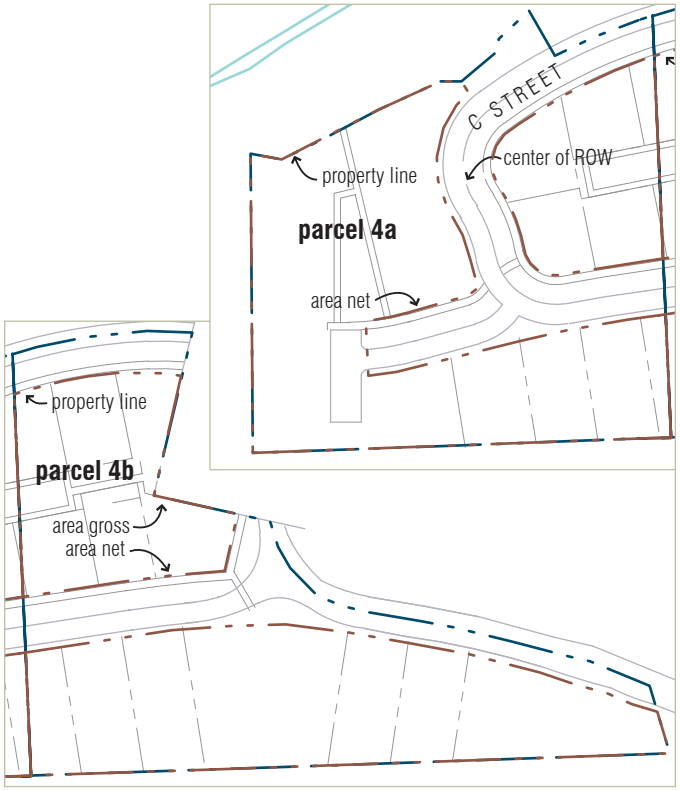
Due to the small parcel size an alley will not be required.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	na
parcel area gross[1]	(1.38 acres)		
parcel area net	(1.06 acres)		
required residential units per 143		*8/41*	na
MI zone du per gross acre		7/35	na
parcel area gross[1]	(1.46 acres)		
parcel area net	(1.10 acres)		
required residential units per 143		*10/51*	na
total required residential units per 143		*19/93*	na
total estimated residential units (2.84 acres)		**20/25**	
total est. area for non-residential uses (in s.f.)			none
lot and building requirements			
lot area		src 143/none	na
coverage		none/src 143	na
depth		30'/none	na
width		16'/none	na
building setbacks[2]			
front/street		2'/10'	na
interior/side		0'/20'	na
interior rear to ROW @ alley		na/na	na
FMU zone boundary		20'/none	
building frontage per unit[3]		16'/none	na
building height		none/35'	na
parking		residential	commercial
cars [4]		none/1	na
bikes		na	na
loading		na	na
street		yes	na
driveways[5]			
single parking		8' driveway	
multiple		12' driveway	na
setbacks[6]		none/none	na



parcel location



parcel map

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1. Gross parcel area measured to the centerline of adjacent right of ways and/or property lines. Gross area to be confirmed upon final plat during the SRC 63 submission

2. The following are exempt from setback requirements: roof overhangs, roof covered porches, demountable sun screens, steps or ramps to porches.

3. All cottage courtyard housing types are exempt from required street frontage but must meet the minimum 16' frontage onto a shared common courtyard for private cars and residents.

4. One parking space per unit for single family detached and accessory dwelling units (coach lane house). Cottage courtyard units are allowed to have remote detached garage parking. Attached dwelling units to have 1 per building unit with remaining parking on street.

5. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide pathways, and/or permeable driveable surfaces.

6. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22

AREA 5

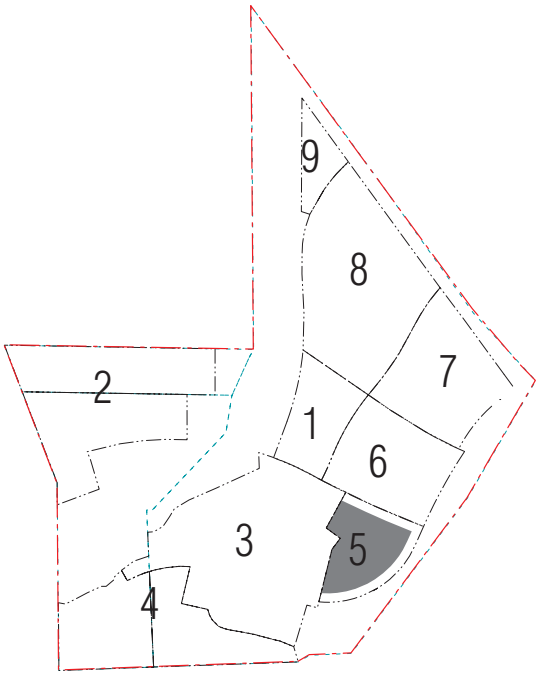
Area 5 is bounded to south and east by the tree covered hillside separating Pringle Creek Community from the Crescent buildings of Fairview. It has a row of mature native Oak trees that frame a view of the Crescent building named Withycombe, this will be maintained. The area has been developed as a dense urban pocket to the south of the oak trees incorporating residential live/work units within a woonerf plaza. The mix of land-uses are as follows:*

primary use- Live/work, accessory dwelling units, attached and detached residential units.
secondary use- multi-family residential and mixed-use residential..

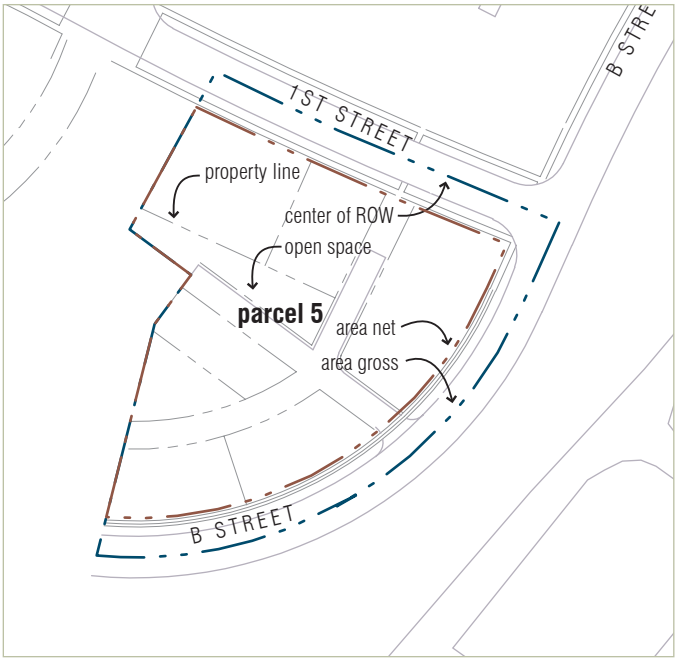
This block will incorporate a combination of rear alley streets and woonerf plaza/streets for internal service and circulation.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	
parcel area gross[1]	(1.31 acres)		
parcel area net	(0.95 acres)		
required residential units per 143		*8/39*	
total estimated residential units		**18/21**	
total est. area for non-residential uses (in s.f.)			none
lot and building requirements			
lot area		src 143/none	none/none
coverage		none/none	none/none
depth		50'/none	none/none
width		16'/none	16'/none
building setbacks[2]			
front/street (or woonerf)		2'/10'	2'/10'
interior/side		0'/20'	0'/20'
interior rear to ROW @ alley		na/na	na/na
building frontage per unit[3]		16'/none	16'/none
building height		none/45'	none/45'
parking		residential	commercial
cars [4]		none/1	1 per 500
bikes		na	2/none
loading		na	0
street		yes	yes [5]
driveways [6]			
single parking		8' driveway	
multiple		12' driveway	12' driveway
setbacks [7]		none/none	none/none



parcel location



parcel map

notes

1. Gross parcel area measured to the centerline of adjacent right of ways and/or property lines. Gross area to be confirmed upon final plat during the SRC 63 submission.

2. The following are exempt from setback requirements: roof overhangs, roof covered porches, demountable sun screens, steps or ramps to porches.

3. All cottage courtyard housing types are exempt from required street frontage but must meet the minimum 16' frontage onto a shared common courtyard for private cars and residents.

4. One parking space per unit for single family detached and accessory dwelling units (coach lane house). Cottage courtyard units are allowed to have remote detached garage parking. Attached dwelling units to have 1 per building unit with remaining parking on street.

5. Commercial parking shall be provided off-street unless at the time of future development it can be demonstrated that adequate on-street parking exists to accommodate a portion or all of the off-street parking requirements.

6. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable drivable surfaces.

7. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22.

AREA 6

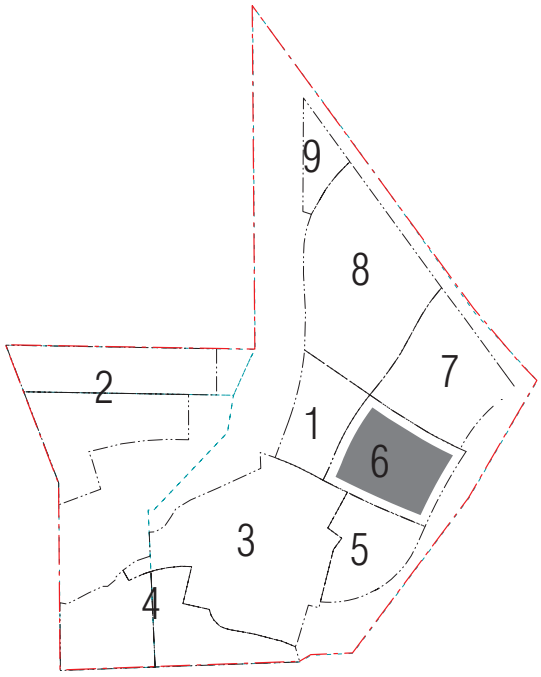
Area 6 is defined by the existing greenhouses and will become the central hub for the community gardens to be planned throughout the community. The area has been planned to accommodate the following land uses:*

primary use- attached and detached residential units including accessory dwelling units.
secondary use- greenhouse growing plants and herbs for commercial or cooperative use, mixed-use retail with residential, multi-family residential units

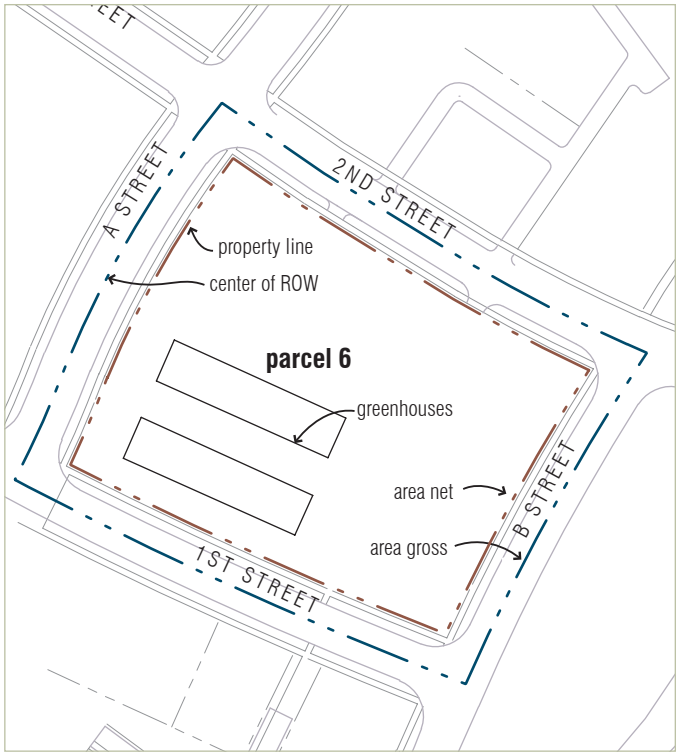
Alley access to an internal services and parking area will be required.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	na
parcel area gross[1]	(1.95 acres)		
parcel area net	(1.31 acres)		
required residential units per 143		*12/59*	na
total estimated residential units (2.84 acres)		**10/15**	
total est. area for non-residential uses (in s.f.)			**5,500-6,000**
lot and building requirements			
lot area		src 143/none	none/none
coverage		none/none	none/none
depth		50'/none	none/none
width		16'/none	16'/none
building setbacks[2]			
front/street		2'/10'	2'/10'
interior/side		0'/20'	0'/20'
interior rear to ROW @ alley		na/na	na/na
building frontage per unit[3]		16'/none	16'/none
building height		none/45'	none/45'
parking		residential	commercial
cars[4]		none/1	1 per 500
bikes		na	2/none
loading		na	0
street		yes	yes[5]
driveways[6]			
single parking		8' driveway	
multiple		12' driveway	12' driveway
setbacks[7]		none/none	none/none



parcel location



parcel map

notes

1. Gross parcel area measured to the centerline of adjacent right of ways and/or property lines. Gross area to be confirmed upon final plat during the SRC 63 submission

2. The following are exempt from setback requirements: roof overhangs, roof covered porches, demountable sun screens, steps or ramps to porches.

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4. One parking space per unit for single family detached and accessory dwelling units (coach lane house). Cottage courtyard units are allowed to have remote detached garage parking. Attached dwelling units to have 1 per building unit with remaining parking on street.

5. Commercial parking shall be provided off-street unless at the time of future development it can be demonstrated that adequate on-street parking exists to accommodate a portion or all of the off-street parking requirements.

6. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable drivable surfaces.

7. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22.

AREA 7

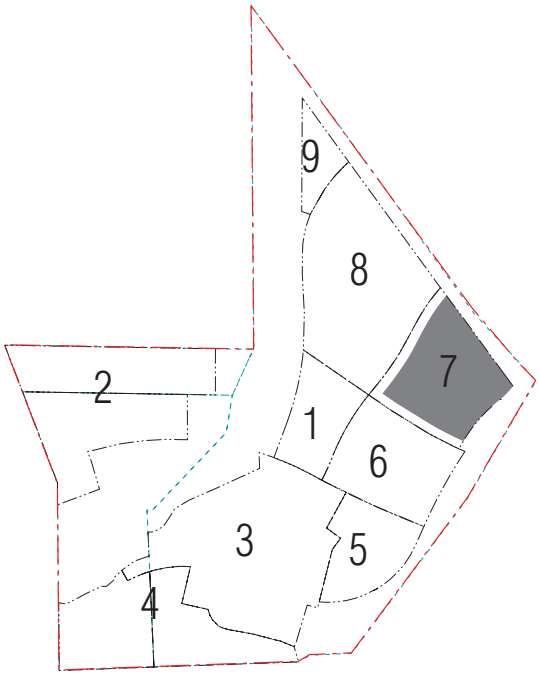
Area 7 is defined by the natural features of the site that include a grove of Sequoia trees, the row of Pine trees along Strong Road and an infiltration pond to the east that will replace the man-made "duck pond" on the eastern portion of the parcel. The grove of Sequoia trees will provide the layout of an internal park for the residents of this area and the whole community to enjoy. The area has been planned to accommodate the following land uses:*

primary use- attached and detached residential units.
secondary use- accessory dwelling units, multi-family residential units and live/work dwelling units.

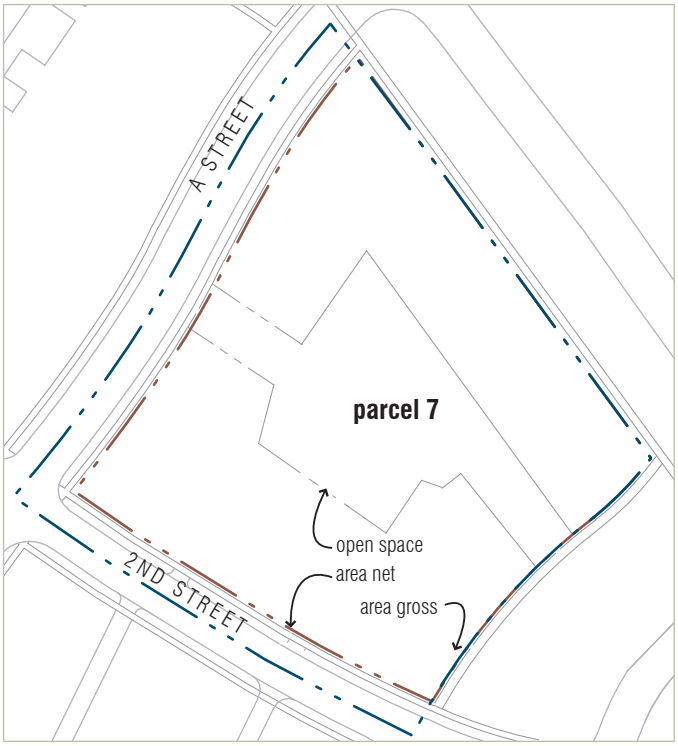
Alley access to an internal services and parking area will be required and must integrate with the existing grove of Sequoia trees.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	
parcel area gross[1]	(2.21 acres)		
parcel area net	(1.82 acres)		
required residential units per 143		*12/59*	
total estimated residential units		**18/27**	
total est. area for non-residential uses (in s.f.)			none
lot and building requirements			
lot area		src 143/none	none/none
coverage		none/none	none/none
depth		50'/none	none/none
width		16'/none	16'/none
building setbacks[2]			
front/street (or woonerf)		2'/10'	2'/10'
interior/side		0'/20'	0'/20'
interior rear to ROW @ alley		na/na	na/na
building frontage per unit[3]		16'/none	16'/none
building height		none/45'	none/45'
parking		residential	commercial
cars[4]		none/1	1 per 500
bikes		na	2/none
loading		na	0
street		yes	yes[5]
driveways[6]			
single parking		8' driveway	
multiple		12' driveway	12' driveway
setbacks[7]		none/none	none/none



parcel location



parcel map

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4. One parking space per unit for single family detached and accessory dwelling units (coach lane house). Cottage courtyard units are allowed to have remote detached garage parking. Attached dwelling units to have 1 per building unit with remaining parking on street.

5. Commercial parking shall be provided off-street unless at the time of future development it can be demonstrated that adequate on-street parking exists to accommodate a portion or all of the off-street parking requirements.

6. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable drivable surfaces.

7. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22.

AREA 8

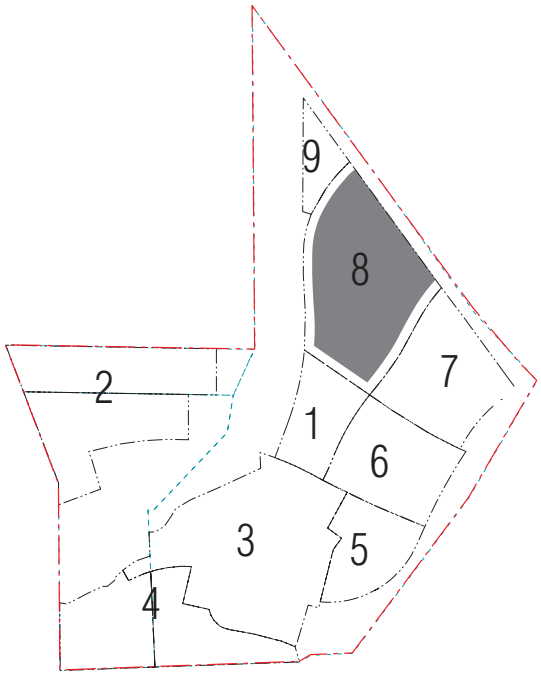
Area 8 is the largest primarily residential area in the development. It has been planned to accommodate a mix of the following land uses:*

primary use- residential units including but not limited to attached, detached, accessory dwelling units and coach lane houses. Dwelling unit are allowed to have detached garages. mixed-use retail with residential, multi-family residential units
secondary use- multi-family residential units and live/work units.

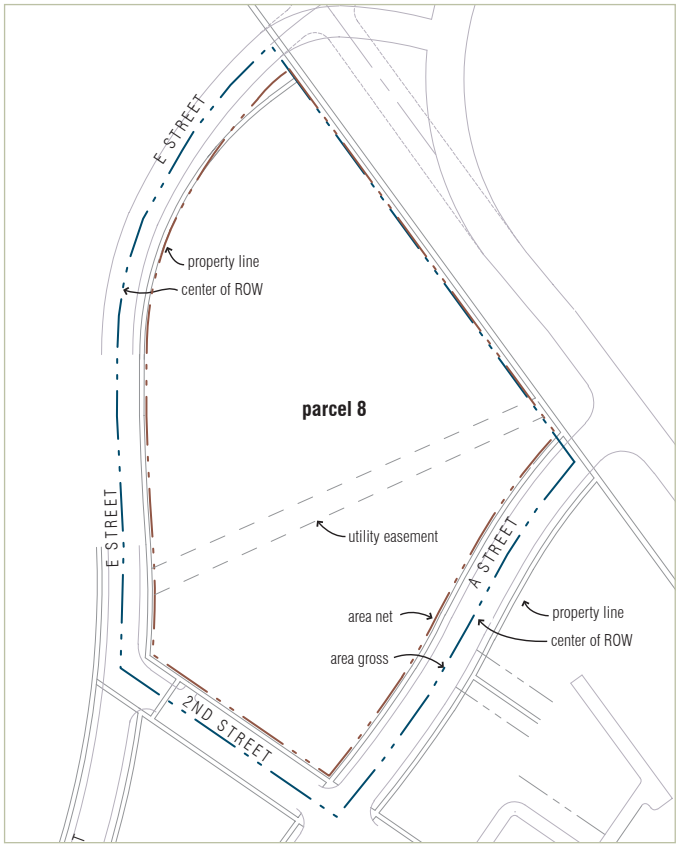
Alley access to an internal services and parking area will be required and must integrate an open space park area for all residents.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	na
parcel area gross[1]	(3.73 acres)		
parcel area net	(3.06 acres)		
required residential units per 143		*12/59*	na
total estimated residential units (2.84 acres)		**18/57**	
total est. area for non-residential uses (in s.f.)			none
lot and building requirements			
lot area		src 143/none	none/none
coverage		none/none	none/none
depth		50'/none	none/none
width		16'/none	16'/none
building setbacks[2]			
front/street		2'/10'	2'/10'
interior/side		0'/20'	0'/20'
interior rear to ROW @ alley		na/na	na/na
building frontage per unit[3]		16'/none	16'/none
building height		none/45'	none/45'
parking		residential	commercial
cars [4]		none/1	1 per 500
bikes		na	2/none
loading		na	0
street		yes	yes [5]
driveways [6]			
single parking		8' driveway	
multiple		12' driveway	12' driveway
setbacks [7]		none/none	none/none



parcel location



parcel map

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5. Commercial parking shall be provided off-street unless at the time of future development it can be demonstrated that adequate on-street parking exists to accommodate a portion or all of the off-street parking requirements.

6. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable drivable surfaces.

7. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22.

AREA 9

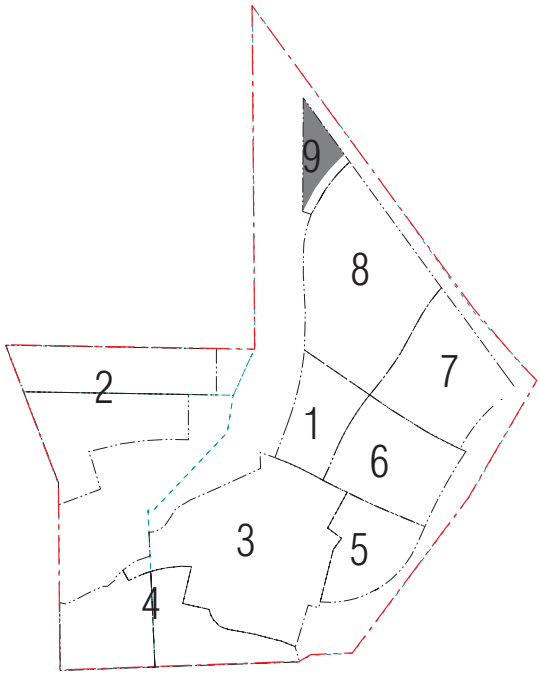
Area 9 is the most northerly area in the development and it's triangular shape bounded on the west by the open space dedicated to the Pringle Creek riparian corridor. It has been planned to accommodate the following land uses:*

primary use- potential uses include but are not limited to assisted living facility, neighborhood classrooms, bio-diesel cooperative and community recycling center.
secondary use- potential uses include but are not limited to detached, attached and multi-family dwelling units

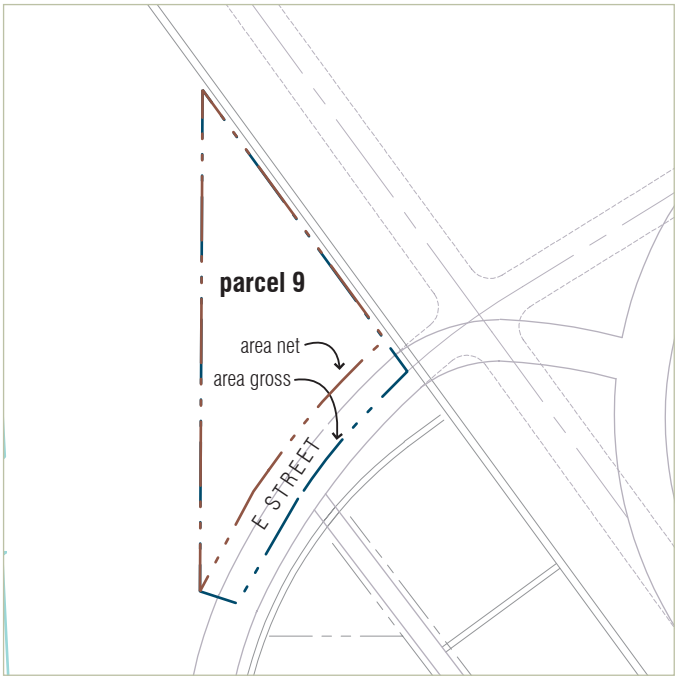
Due to the small area size an alley will not be required.

required elements

FMU zone du gross per acre		residential min/max	non-residential min/max
AU zone du per gross acre		6/30	
parcel area gross[1]	(.53 acres)		
parcel area net	(.42 acres)		
required residential units per 143		*12/59*	
total estimated residential units		**18/36**	
total est. area for non-residential uses (in s.f.)			**none/10,000**
lot and building requirements			
lot area		src 143/none	none/none
coverage		none/none	none/none
depth		50'/none	none/none
width		16'/none	16'/none
building setbacks[2]			
front/street (or woonerf)		2'/10'	2'/10'
interior/side		0'/20'	0'/20'
interior rear to ROW @ alley		na/na	na/na
building frontage per unit[3]		13' /none	13' /none
building height		none/45'	none/45'
parking		residential	commercial
cars [4]		none/1	1 per 500
bikes		na	2/none
loading		na	0
street		yes	yes [5]
driveways [6]			
single parking		8' driveway	
multiple		12' driveway	12' driveway
setbacks [7]		none/none	none/none



parcel location



parcel map

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6. Driveways will be exempt from requirements in SRC 80. Acceptable alternatives are as follows: (2) 2'-wide tire track pathways, and/or permeable drivable surfaces.

7. Parking setbacks do not require a buffer yard.

* For definitions of land uses, see page 22.

design standards

PRINGLE CREEK COMMUNITY DESIGN STANDARDS

The Pringle Creek Community will be governed by the Pringle Creek Conservation Trust (PCCT), Homeowners Association (HOA) and Code Covenants + Restrictions (CC+R) documents of the development. The development is proposing the following alternative standards in addition to those previously identified in the individual area description sheet.

Alternative Standards to SRC Chapter 132

(Landscaping) are as follows:

132.190 (Irrigation) - Add sentence to end of paragraph (a): *An above ground, temporary irrigation system shall be allowed as needed for establishment of natural meadow, shrub, tree plantings, or stormwater infiltration facilities.*

132.220 (Bufferyards and Screening) – See revised Table 132-1 below:

132.230 (Parking Lot and Vehicular Use Areas) – Part (1) Adjacent to the right-of-way of a public street… *This provision is not applicable since all streets in the Pringle Creek Community will be private.*

Alternative Standards to Multi-Family Development Design Handbook

Pringle Creek Community is intended to create a development of higher density housing types- ranging from fee simple and condominium townhouse configurations to detached accessory dwelling units ("coach lane" or "granny flats") configurations.

The following alternative standards are proposed:

A. Open Space Design Elements
   1. Design Goals & Objectives
      b. Open Space Design Objectives
         4.) Delete this sentence.

   2. Common Open Space Requirements
      b. Standards
         1.) Replace in entirety, with:
         Pringle Creek Community has designated over a third of the site area with Natural open space and common area open space to provide its residents with a variety of active and passive recreation activities. Common space is currently planned for access to all multi-family developments within 400 feet.

Table 132-1 BUFFER MATRIX The letter designations contained in the Table refer to the Buffer Category on Table 132-2, Bufferyard and Screening Standards PROPOSED USE	Abutting Use							
	Residential Uses	Parking Lots	Minimum Impact	Light Impact	Moderate Impact	Heavy Impact	Vacant Lot (Residential Zone)	Vacant Lot (Commercial, Industrial)
Three or More Dwellings on a single parcel	A	A	A	A	A	N/A	N/A	N/A
Parking Lots	A	A	A	A	A	N/A	N/A	N/A
Minimum Impact	A	A	A	A	A	N/A	N/A	N/A
Light Impact (Indoor Activity only)	A	A	A	A	A	N/A	N/A	N/A
Moderate Impact	A	A	A	A	A	N/A	N/A	N/A
Heavy Impact	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3. Children's Play / Adult Recreation Areas
   b. Standards
      1. and 3. delete requirement see Item A.2.b.1 above.

4. Private Open Space Requirements
Given the spatial configurations required to organize each multi-family housing type under considerations and the accessibility of open space within the development not all units planned may have single level access to an at grade exterior space. Therefore, we propose one of two options: 1. "Private Open Space" be defined to include features such as exterior decks, balconies, etc. which can be designed into each unit or the following standards should be waived:
   b. Standards
      2. and 3.

B. Landscaping Design Element

2. General Landscaping Requirements
   b. Standards
      3.) Delete the requirement for fencing at Strong Road.

3. Site Frontage Landscaping Requirements
   b. Standards
      1.) The intent of the project is to provide a tree lined canopy along the street with the exception of Parcel 3- in the community square and woonerf sections of street/plaza.

4. Exterior Buildings Requirements
   b. Standards
      1-3.) These items are to be discretionary.

5. Privacy Requirements
   b. Standards
      1.) Delete the word fencing.

6. Parking Lot Landscaping
   b. Standards
      2). Revise eighteen (18) feet to nine (9) feet.

D. Parking, Site Access, and Circulation

2. General Parking and Site Access Requirements
The Pringle Creek Community is design to favor pedestrian and bicycle traffic and to ensure the safety of those who choose to use these forms of circulation. Furthermore, great measures were taken to minimize the negative impacts of vehicular traffic on place making, community development, and public open space. Thus, the Pringle Creek Community design used incorporates a diversity of strategies towards these ends, including the creation shared parking lots wherever possible; minimizing the expanse of continuous parking areas; and integrating an secondary vehicular circulation (alley) system into the master plan through which parking is provided to each dwelling unit while minimizing views from public rights-of-way. Given this, we have the following revisions:
   a. Guidelines
      3). Revise to read: Locate parking accessible to the residents.
   b. Standards
      1.) Delete.
      3.) Delete
      4.) Delete

3. Site Access Requirements
   b). Standards:
      2). Delete
      4). Delete
      5). Delete

E. Building Mass & Façade Design Element

1.a..- delete #4
1.b.- delete #2,6, and 11.
3.a.- delete #3
3.b. – delete #1, 2 and 4, add: Use building massing to define the public space right-of-way. Provide architectural delineation of building facades to identify entry, semi-private porches and visual access from within the dwelling unit to monitor street activity.

4.a. – delete #1 and concept of building offset interval. Design building to provide massing that reinforces the public space of the right-of-way.

4.b. – delete #1 – 3 and associated graphic illustrations.

GENERAL NOTE ABOUT ALL LAND AREAS

Development standards and regulations established under the Pringle Creek Community Refinement Plan are designed to meet the intent of the Fairview Plan and the Fairview Mixed-Use zone. Where a provision in the Pringle Creek Community Refinement Plan varies from other provisions of the zoning code, the provisions of the refinement plan shall govern.

DEFINITIONS OF LAND USE TYPES

Small Commercial Small Commercial units at Pringle Creek Community shall be no larger than 2,500 square feet per unit.

Live Work Units Live Work Units are dwelling units that allocate a certain portion of the interior space for work space. Work space may be used for office, studio, or retail use. Work space shall have direct access to streets, lanes, courtyards or woonerf streets. No more than 35% of the total floor area of the unit may be given over to work activities.

Cottage Courtyard Units Cottage Courtyard Units are dwelling units arranged and fronting onto a common courtyard. Parking can be either attached to the dwelling units and accessed via the common courtyard or detached in common structures and accessible via the common courtyard..

Coach or Lane Houses Coach or Lane Houses are accessory dwelling units that are detached from the building or townhouse whose lot they occupy. They are let by the owner of the principle residence of the lot. Typically they are located above or above and beside car storage garages. Occasionally they are in stand-alone cottage structures similar to cottage units. Coach or Lane Houses are to be no smaller than 400 square feet for studio units.

Accessory Dwelling Unit Accessory Dwelling Units are interior portions of townhouse or detached buildings that owners choose to rent as habitable space. Accessory dwelling units will be no smaller than 400 square feet for studio units, and will not consume more than 40% of the total aggregate floor area on the lot.

site sustainability and analysis

site resources

SUSTAINABILITY PRINCIPLES FOR ECOLOGICAL SYSTEMS

1. Respect the Landscape The Pringle Creek Community will celebrate, not eliminate, the natural features of the site. The entire Fairview site drains into Pringle Creek; but the site only includes the creek channel itself on the Pringle Creek Community Property. The creek has been highly degraded over the decades, stripped of vegetation and unnaturally channelized. We propose to enhance the natural functions of the stream and adjacent floodplains with a 100 foot wide reforested riparian zone along its length. This voluntary and enthusiastic dedication of nearly 15% of the site to restoring Pringle Creek is a mark of commitment to sustainability and ecological protection on the part of the owners.

2. Eliminate Impact to the Regional Watershed
The Pringle Creek Project will incorporate a state of the art zero impact natural storm water system. Open street sections with infiltration verges, and buildings designed to infiltrate or store water on site, will insure that over 90% of all water that falls on the site during the year will infiltrate naturally, to be returned by natural interflow movement to streams. In fact, the ecological performance of the site for storm water will be substantially better post development, than it is now in its pre development but disturbed state.

3. "Layer" the Systems In conformance with this principle, drawn from ecological systems, all parts of the site will be integrated for maximum synergy. Simply stated, streets will be part of the natural water cycle system, recreational space will be part of the natural habitat system, commercial and institutional activities will be layered with residential uses, and community agricultural will be integrated with community social and economic system.

4. Close the Cycle of Energy and Material Flows Rainwater that falls on the site will recharge the aquifer below. Water captured in rain barrels will water community gardens. The community gardens and greenhouse, at the heart of the Pringle Creek community, will be a convenient location for recycling and composting, while providing a location where compost and certain recyclables can be reused. Old buildings are preserved, and new ones are made from recycled and green content. Energy is recycled and preserved on site.

STANDARDS FOR CONSERVATION OF NATURAL RESOURCES

Site vegetation is comprised of native riparian vegetation along the Pringle Creek corridor; a remnant mixed deciduous-coniferous forest located on a hillside in the SE corner of the site; with the majority of the site being a culturally-altered landscape, consisting of, introduced ornamental and nut trees and a groundlayer of primarily lawn grasses.

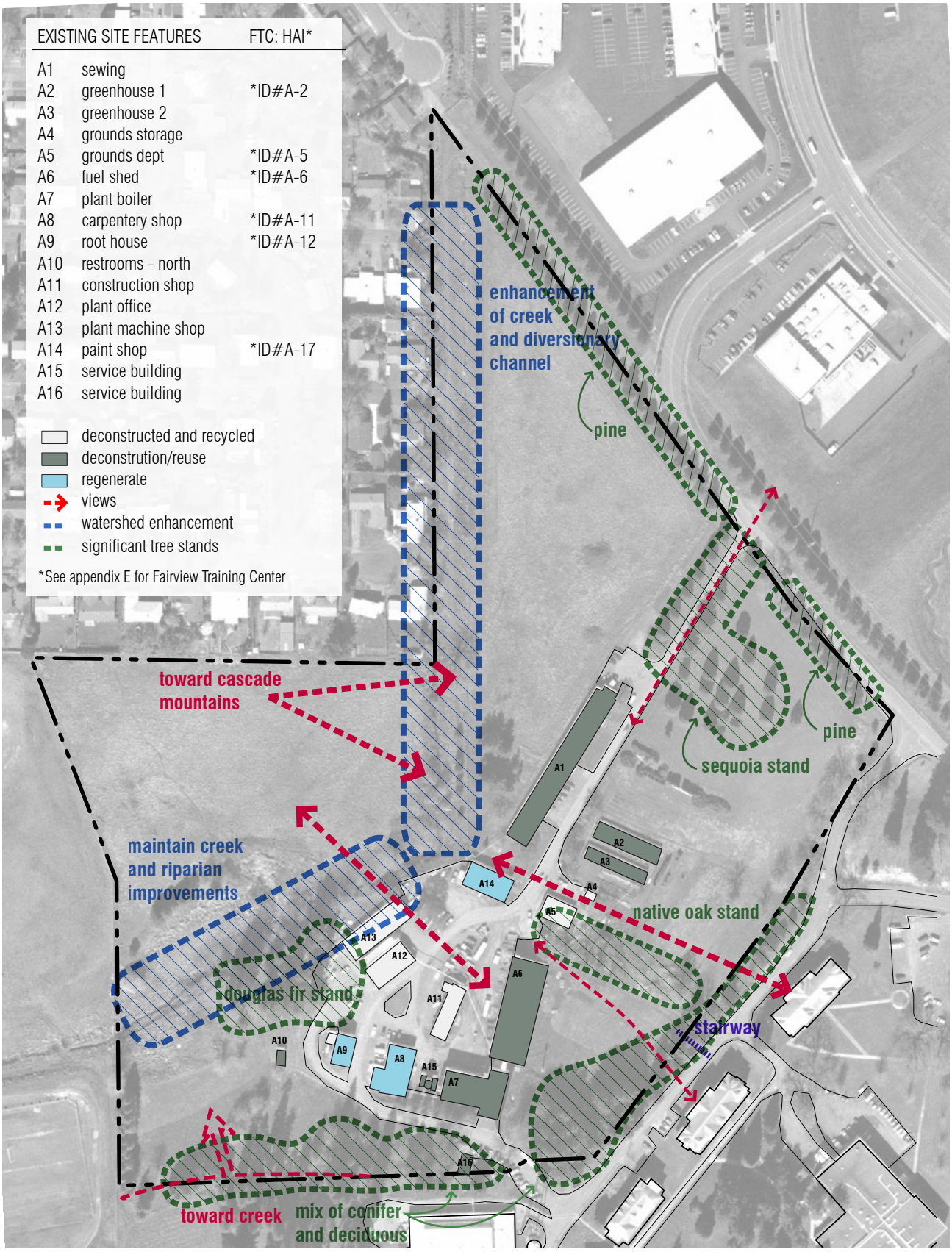
The Tree Protection Plan designates protection of the vast majority of the existing trees. There are 275 trees in the inventory with approximately 80% designated for protection. In the developed portions of the site, existing trees will be incorporated into the development scheme to reduce disturbance from constructing buildings, roads, and infrastructure. The riparian environment along Pringle Creek has two distinctive characters. The southern section of the stream is fairly intact with natural channel conditions and healthy riparian vegetation. The northern section of the creek suffers from past channeling activities and past vegetation clearing. The intent of Pringle Creek Community is to continue to enhance natural vegetation in the southern section of the creek and to develop a comprehensive enhancement program for the highly damaged channelized section in the northern section.

The goals for future creek enhancement work north of the bridge area as follows:

1. Foster stewardship of Pringle Creek within the community by creating a plan that can be implemented by the community in the future.
2. Enhance natural functions of the stream and the adjacent flood plain.
3. Reintroduction of topographic variation, clearing of non-native vegetation, and planting of appropriate native plant communities.

METHODS OF CONSERVATION OF NATURAL RESOURCES

All provisions required under Chapter 68 (Preservation of Trees and Vegetation) shall be met or exceeded. See Pringle Creek Tree Conservation Plan, pp. 28-31, for identification of all significant trees and natural features to be conserved on site.



viewsheds, natural features, and historic structures

landscape

GENERAL LANDSCAPE PLAN

The Pringle Creek Landscape Plan is comprised of five different landscape types, Natural Open Space, Open Space, Woonerf Hardscape Plaza, Community Gardens and Private Landscape. Natural Open Space forms the main spine through the community along Pringle Creek corridor, and on the eastern side of the site; the character of this area is native vegetation and wetlands planted in a natural manner. Open Space areas are smaller public open park spaces where active recreation is likely to happen. The Woonerf Hardscape Plaza blends pedestrian and vehicular modes in the central core of community and commercial buildings. Community Gardens are found in various locations through out the development, and Private Landscape is any landscaped areas falling within private property. Storm water from tree lined streets is managed and treated both through infiltration into gravel strips that comprise street parking, and rain gardens at locations of corner and mid-block curb extensions. A pedestrian network is formed by a system of trails and pedestrian ways. A Major Loop Trail encircles the site, with secondary trails adding connectivity. Sidewalks encircle all blocks with pedestrian access through many of the blocks.

See Pringle Creek General Landscape Plan (page 27) for location of all general landscape elements.

landscape plan

trees

TREE PRESERVATION PLAN

Pringle Creek Community has identified protection of existing trees as a key component in meeting sustainable design objectives for the community. A certified arborist was hired to evaluate all trees on-site. All trees were identified for species type, size, and general condition.

There were 275 trees evaluated on-site. Any obvious dead trees were not included in the inventory. There were 21 separate species identified, of which 6 were native to the Salem area and 15 were introduced ornamentals. The species and size of trees are indicated on the tree preservation plan figures. The figures also depict trees to be protected or removed.

The table below tabulates the both the arborists observations related to tree condition (Good, Marginal, Remove) and the potential tree impact based on the current site development plan.

For the purpose of tabulating overall tree preservation counts, we are assuming that all of the trees in the "remove" category will be deducted from the tree preservation quantities. We are assuming that the 9 remaining trees in the "marginal" category will be saved. With these assumptions, the plan calls for protecting 219 trees (210 +9) out of a total of 275 for a tree preservation count of 80% retained, far exceeding SRC Chapter 68 minimum requirements. Additional trees may be recommended for removal during the final design phase of the project, but the percentage of trees protected will continue to greatly exceed City requirements.

Total Trees Identified on Tree Plan

Deciduous	57
Coniferous	218
Total	275

	Good	Marginal	Remove
Tree Plan	231	13	31
Total Potential Trees Impacted			
Proposed Buildings	5	1	3
Proposed Roads	7	3	10
Proposed Grading *	9	0	5
Total Remaining	210	9	13
Percent	91%	69%	42%

* Additional trees can be saved by minor adjustments of the grades, and / or the use of low retaining walls.

TREE PROTECTION STANDARDS

Standards outlined below are recommendations for basic tree protection to be met during the construction phase of the project.

Maintain Tree Protection Zones around individual trees or groups of trees to remain during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated. Install temporary fencing around tree protection zones to protect remaining trees and vegetation from construction damage. Maintain temporary fence and remove when construction is complete. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations. Mulch areas within drip line of trees to remain and other areas indicated.

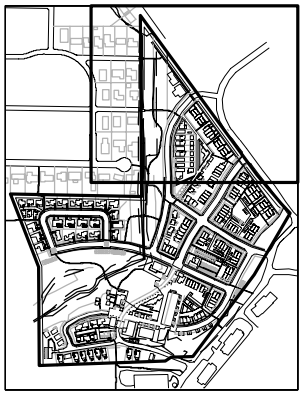
Do not store construction materials, debris, or excavated material inside tree protection zones. Do not permit vehicles or foot traffic within tree protection zones; prevent soil compaction over root systems. Maintain tree protection zones free of weeds and trash. Do not allow fires within tree protection zones.

Do not excavate within tree protection zones, unless otherwise indicated. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks and comb soil to expose roots. Where utility trenches are required within tree protection zones, tunnel under or around roots by drilling, auger boring, pipe jacking, or digging by hand.

Where new finish grade is indicated below existing grade around trees, slope grade beyond tree protection zones. Maintain existing grades within tree protection zones to the greatest extent possible. Where existing grade is 6 inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations. Where existing grade is more than 6 inches but less than 12 inches below elevation of finish grade, place drainage fill, filter fabric, and topsoil on existing grade.

Prune trees to remain that are affected by temporary and permanent construction. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist. Remove and replace trees indicated to remain that die or are damaged during construction operations that Owner's Representative determines are incapable of restoring to normal growth pattern.

SHEET KEY

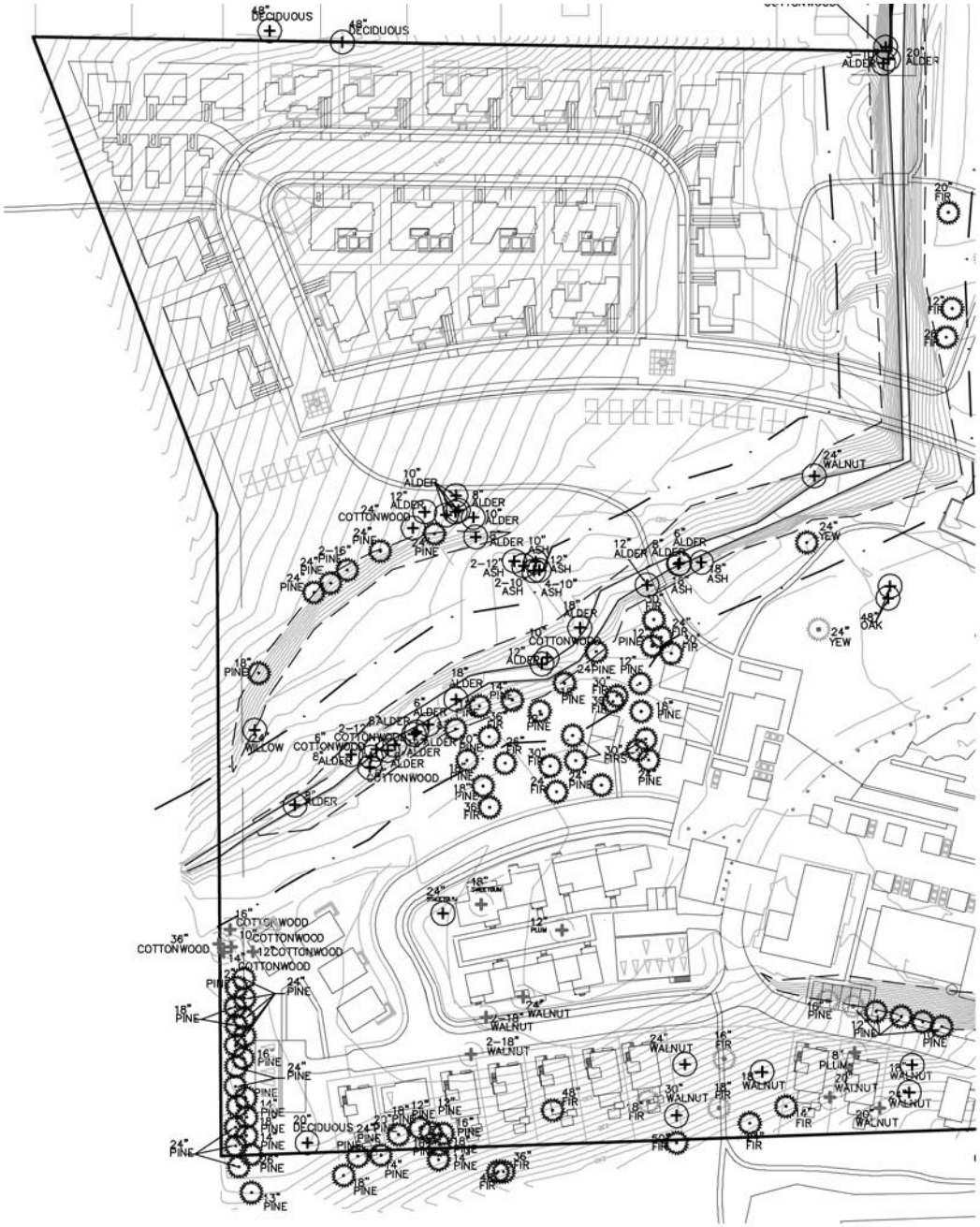


LEDGEND

- DECIDUOUS TREE TO BE PRESERVED
- EVERGREEN TREE TO BE PRESERVED
- DECIDUOUS TREE TO BE REMOVED
- EVERGREEN TREE TO BE REMOVED
- STREAM
- 50' RIPARIAN BUFFER SETBACK
- PROPERTY BOUNDARY
- SLOPES GREATER THAN 25%

0 100' 300'

tree preservation plan — part 1 of 3



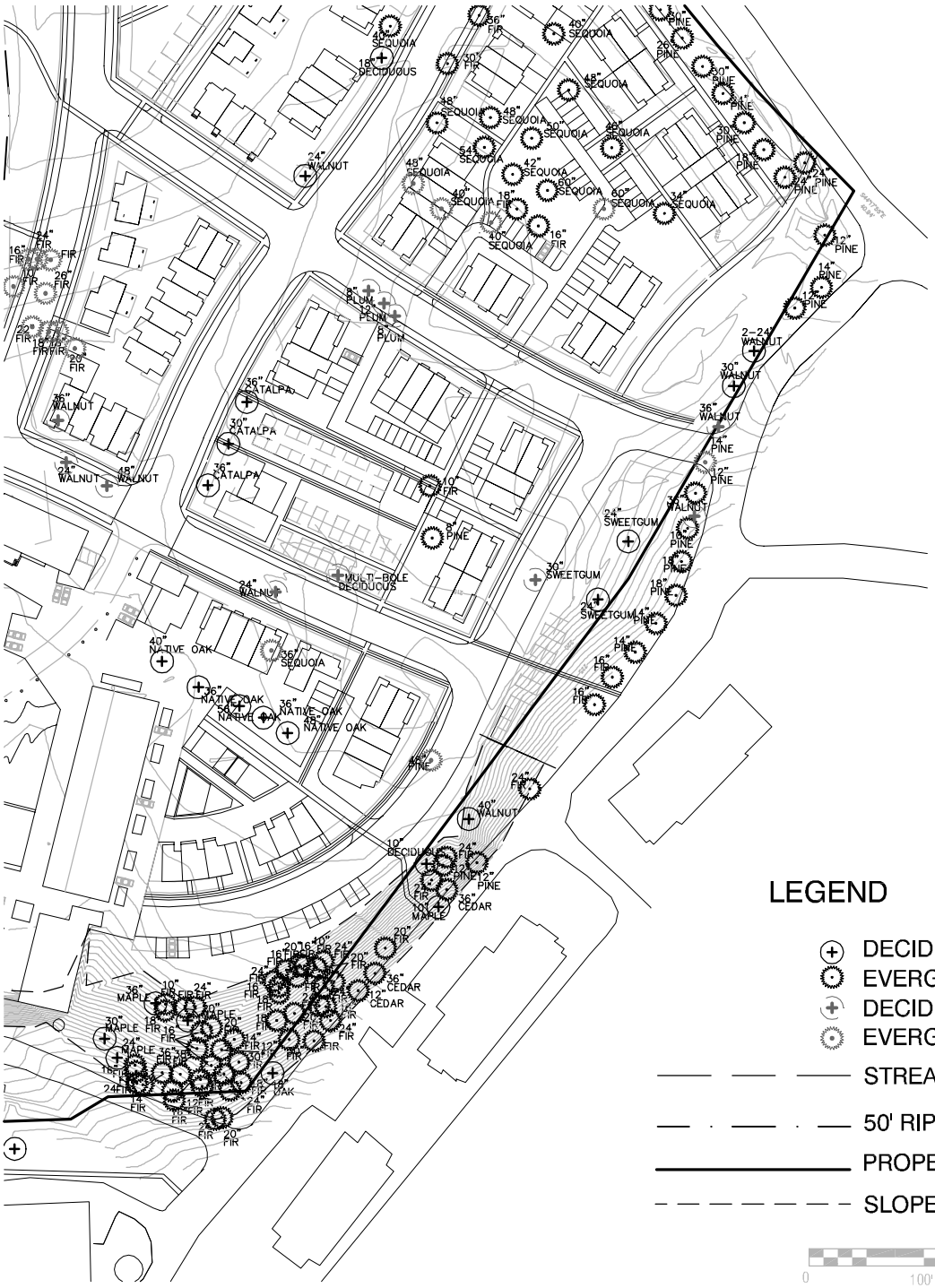
SHEET KEY

LEGEND

- DECIDUOUS TREE TO BE PRESERVED
- EVERGREEN TREE TO BE PRESERVED
- DECIDUOUS TREE TO BE REMOVED
- EVERGREEN TREE TO BE REMOVED
- STREAM
- 50' RIPARIAN BUFFER SETBACK
- PROPERTY BOUNDARY
- SLOPES GREATER THAN 25%

0 100 300'

tree preservation plan — part 2 of 3



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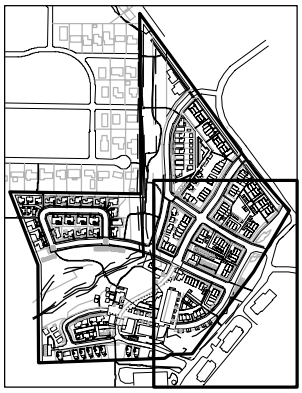


LEGEND

- DECIDUOUS TREE TO BE PRESERVED
- EVERGREEN TREE TO BE PRESERVED
- DECIDUOUS TREE TO BE REMOVED
- EVERGREEN TREE TO BE REMOVED
- STREAM
- 50' RIPARIAN BUFFER SETBACK
- PROPERTY BOUNDARY
- SLOPES GREATER THAN 25%

0 100' 300'

tree preservation plan — part 3 of 3

Infrastructure plan and standards

infrastructure

SUSTAINABILITY PRINCIPLES FOR TRANSPORTATION & MOVEMENT

1. Use Green Corridors for People and Living Things The entire Pringle Creek Community project is bounded by two protected green corridors. The corridor on the east celebrates the relationship between the new residential community and the campus above. This greenway also accepts natural drainage from the short blocks to the west, allowing it to filter naturally into grassy areas. The Pringle Creek corridor to the west is given over to riparian stream enhancement, providing habitat for future salmon spawning and rearing. Both corridors are part of a Fairview wide, and potentially district wide, greenway/walkway system—providing attractive walking paths to a variety of destination on the site and, in time, beyond. All greenways are bounded by buildings that front onto them (in conformance with SEPTED [Crime Prevention Through Environmental Design] principles) enhancing safety by preventing a feeling of being "hidden out back"–providing ample "eyes on the street" instead.

2. Keep Transit Close at Hand Overall gross densities proposed for the Pringle Creek Community are high enough to support transit service (assuming the rest of the Fairview Project develops at the same average density). When there are 6,000 residents at Fairview, and potentially many times that number in developable parcels to the south, bus and potentially streetcar service on Strong Road will likely be frequent. The plan anticipates that eventuality, orienting walkways to Strong road toward an eventual transit stop in that location. All housing within the project is within a five minute walk of the probable Strong Road transit stop location.

3. Use an Interconnected Street System Block sizes at Pringle Creek are small to maximize interconnectivity and ease foot trips. Sidewalks are on both sides of all streets. Thus all trips, whether by car or on foot are safe and by the shortest possible route. Response times for fire vehicles are also minimized. There are four vehicle connections from the project proposed at this time: two to Strong Road and two to the Fairview Campus above. There is one cul-de-sac proposed to an otherwise inaccessible portion of the site.

4. Walk Every Day In time Pringle Creek community will be part of the larger Sustainable Fairview Community. At that time Pringle Creek residents will probably walk to the community center daily. Meanwhile, more than a third of the Pringle Creek Community is given over to greenways creating ample opportunities for local recreation. Additionally, the village green provides a walkable destination with a variety of activities planned. It will become a daily routine for all who live in and around Pringle Creek Community. The Pringle Creek Community greenway and walkway system integrate with the larger community plan, providing ample opportunities for long strolls, bike rides, dog walking and jogging.

NAME, LOCATION AND EXTENT OF EXISTING OR PROPOSED STREETS

The existing and proposed streets are indicated on the Refinement Plan drawings. Strong Road SE is the only major existing road that will be utilized to serve the development. This road is proposed to be realigned at the vicinity of the ninety (90) degree turn where it connects into Fairview Industrial Drive. There is a potential for the future extension and connection of Madrona Court SE to the realigned Strong Road. This extension is not proposed as part of this application. All other proposed streets would be considered at a service level of a local street or less.

*see oversized drawing for clarity

existing and proposed major streets*

street sections

TYPICAL STREET SECTIONS

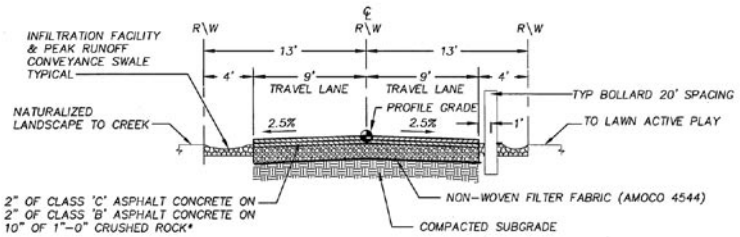
The proposed street sections have been provided on the attached drawings. See oversized drawing DT-1.

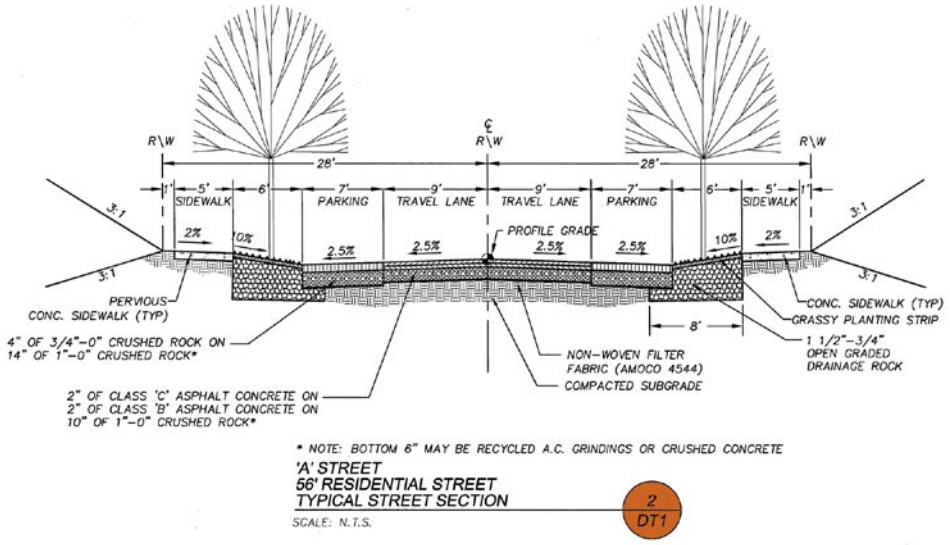
The drawings indicate the anticipated typical street section dimensions. Final design typical sections may vary to adjust for and to accommodate street tree placement, driveway crossings, intersection/ handicapped crossing construction, etc…

Proposed cross sections indicate areas of infiltration with clean drain rock. These areas may increase in size as necessary to infiltrate the desired runoff and will be determined during the final design phase.

Recommendations for the typical street structural sections in regards to asphalt pavement, leveling and base course thickness were provided in a geotechnical report dated June 1, 2005 prepared by GRI, the geotechnical engineer for the project.

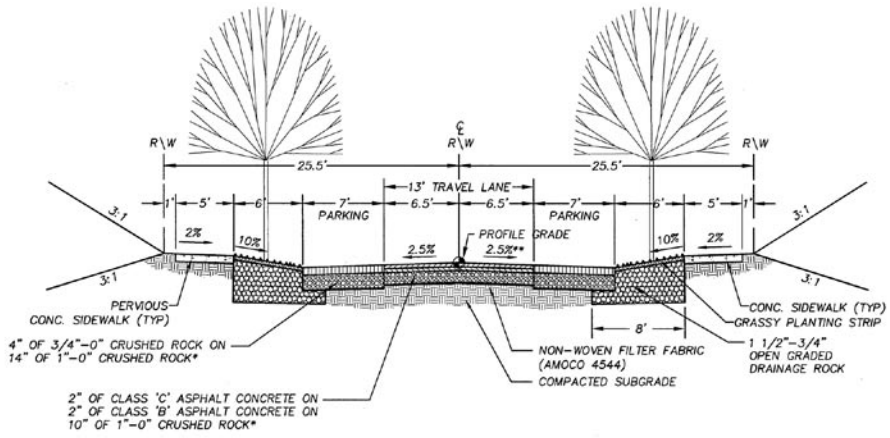
Truck turning studies of the intersections were conducted to determine the feasibility for trucks to negotiate the turns. The studies were performed utilizing the "Autoturn" version 5 program. The City of Salem "ladder assist" or platform fire emergency vehicle was used as the design vehicle. The results indicate that the overhang of the vehicles stay within the paved areas. A copy of a typical intersection layout and the dimensions of the design vehicle are included in the Refinement Plan submittal. See Appendix A for alternative means submission.





*see oversized drawing for clarity

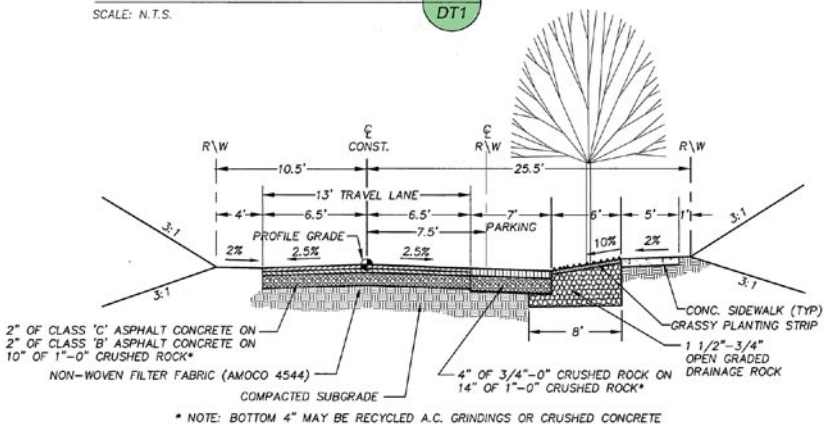
street sections*



* NOTE: BOTTOM 4" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE
** NOTE: 1ST STREET IS A SHED SECTION WEST OF PRINGLE CREEK.

1ST / 'B' / 'D' / 'E' STREETS
51' QUEING STREET
TYPICAL STREET SECTION — 3 / DT1

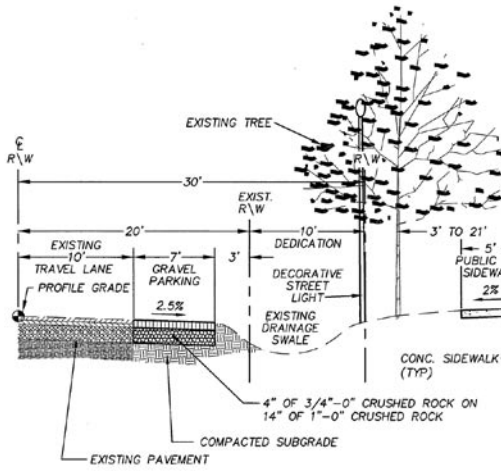
SCALE: N.T.S.



* NOTE: BOTTOM 4" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE

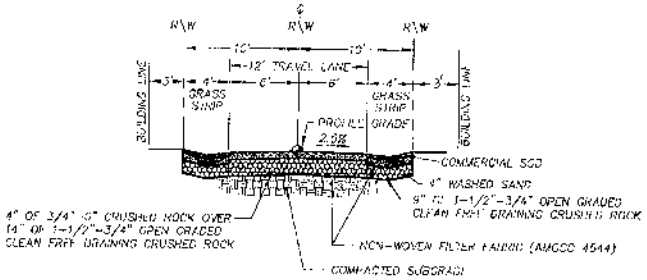
'C' STREET
36' MEWS STREET
TYPICAL STREET SECTION — 4 / DT1

SCALE: N.T.S.



STRONG ROAD SE
TYPICAL HALF STREET SECTION — 5 / DT1

SCALE: N.T.S.



20' REAR LANE / ALLEY
TYPICAL STREET SECTION — 8 / DT1

SCALE: N.T.S.

*see oversized drawing for clarity

street sections*

stormwater

GENERAL DRAINAGE PLAN

The Pringle Creek community storm drainage system will be designed to the greatest extent practicable, to simulated natural storm water runoff conditions. This includes the following design elements:

Design parameters used

1. All design storms will use a Soil Conservation Service type 1A rainfall distribution with a 24 hour minimum duration.
2. For all infiltration systems, a design storm with a rainfall of 1.25 inches or less in 24 hours will be used.
3. Runoff flow rates will be based on the Santa Barbara Urban Hydrograph (SBUH) method
4. Design parameters established for soil classifications, vegetation cover, channel hydraulic characteristics, and time of concentration will be based on the Washington State, King County, Puget Sound Surface Water Design Manual.
5. Detention requirements will be in accordance with the City of Salem standards.
6. Infiltration rates will be consistent with the infiltration testing performed by GRI

Design Approach

Water Quality

All typical roadway sections will include 4 storm water treatment elements:

- An infiltration system composed of rock filled trenches or "verges" (see drainage plan and typical street sections)
- A surface swale or roadway edge "seam" above the infiltration system for the purpose of peak flow stormwater conveyance.
- Vegetation within the surface swale designed for the purpose of bio-filtration.
- Gravel surface parking areas used to promote street infiltration and to retard storm water flow velocities.

Roadways will convey stormwater that exceeds infiltrative capacity within the roadside swale described above and, for peak storm events (e.g. 25, 50, 100 year recurrence intervals), will use the roadways in

#	ROOF LINE AREA	VEGATION–PERVIOUS SURFACE	ROAD OR SIDEWALK
1	0.088 AC	0.037 AC	0.006 AC
2	0.024 AC	0.056 AC	0.024 AC
3	0.042 AC	0.347 AC	0.057 AC
4	0.128 AC	0.260 AC	0.020 AC
5	0.092 AC	0.116 AC	0.066 AC
6	0.048 AC	0.092 AC	0.004 AC
7	0.065 AC	0.230 AC	0.129 AC
8	0.083 AC	0.019 AC	0.130 AC
9	0.195 AC	1.147 AC *	0.195 AC
10	0.041 AC	0.088 AC	0.074 AC
11	0.060 AC	0.095 AC	0.108 AC
12	0.000 AC	0.195 AC	0.044 AC
13	0.046 AC	0.689 AC *	0.088 AC
14	0.139 AC	0.178 AC	0.127 AC
15	0.035 AC	0.092 AC	0.117 AC
16	0.031 AC	0.037 AC	0.040 AC
17	0.000 AC	0.082 AC	0.035 AC
18	0.067 AC	0.239 AC	0.043 AC
19	0.079 AC	0.294 AC	0.141 AC
20	0.047 AC	0.271 AC	0.088 AC
21	0.068 AC	0.068 AC	0.137 AC
22	0.088 AC	0.169 AC	0.151 AC
23	0.000 AC	0.972 AC *	0.173 AC
24	0.386 AC	0.502 AC	0.238 AC
25	0.052 AC	0.825 AC *	0.167 AC
26	0.699 AC	2.842 AC	0.234 AC
27	0.231 AC	0.374 AC	0.210 AC
28	0.020 AC	0.252 AC *	0.138 AC
29	0.371 AC	0.476 AC	1.058 AC
30	0.121 AC	0.829 AC *	0.186 AC
31	0.045 AC	0.161 AC	0.076 AC
32	0.081 AC	0.110 AC	0.132 AC
33	0.110 AC	0.179 AC	0.000 AC
34	0.132 AC	0.020 AC	0.279 AC
35	0.085 AC	0.331 AC	0.074 AC
36	0.046 AC	0.080 AC	0.055 AC
37	0.055 AC	0.154 AC	0.102 AC
38	0.070 AC	0.169 AC	0.018 AC
39	0.367 AC	0.507 AC	0.140 AC
40	0.000 AC	0.060 AC	0.179 AC
41	0.367 AC	0.669 AC	0.485 AC
42	0.413 AC	0.402 AC	0.090 AC
43	0.092 AC	0.115 AC	0.062 AC
TOTAL	6.138 AC	20.397 AC	6.254 AC

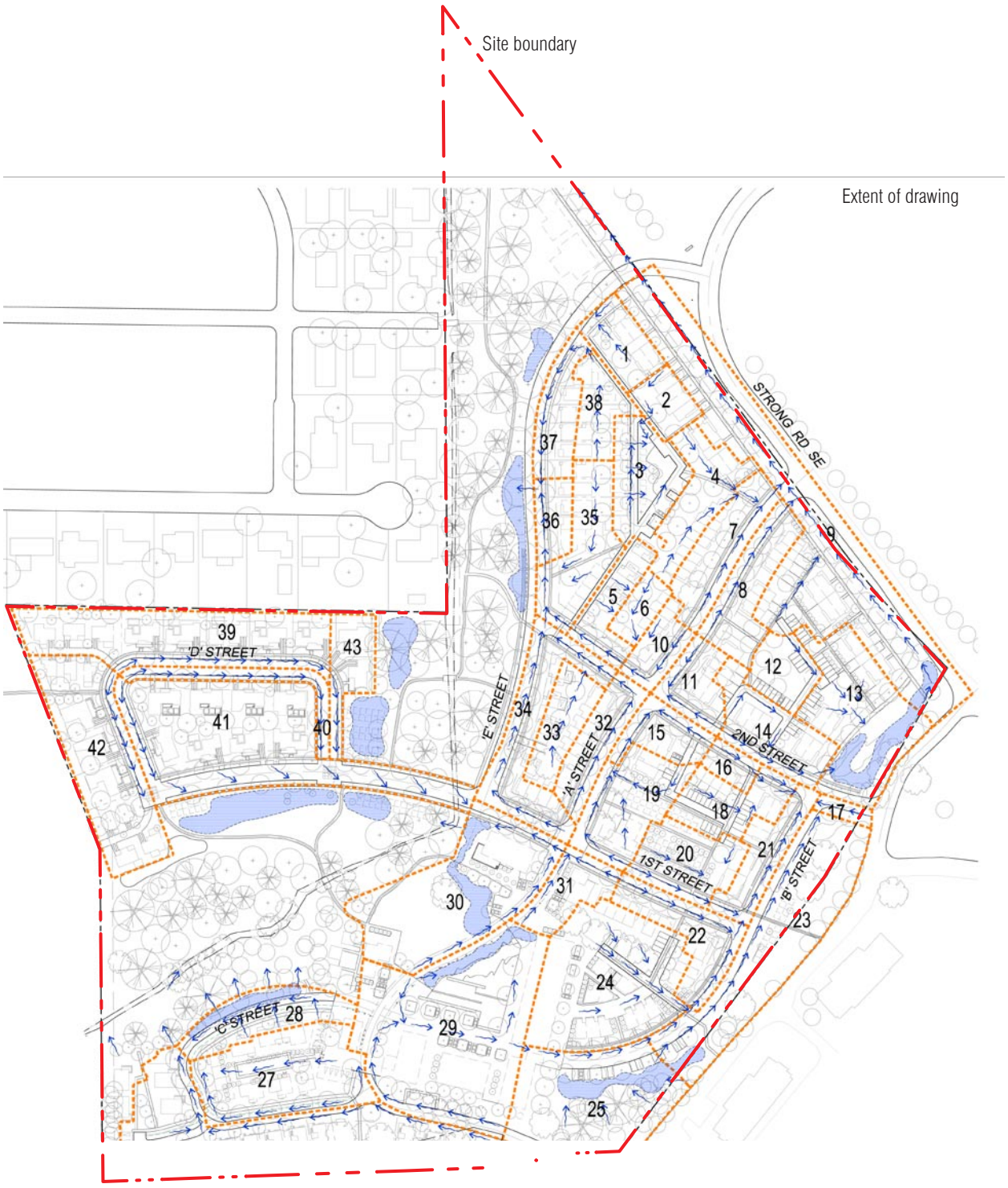
LEGEND

SWALE / INFILTRATION TRENCH

BLUE / GREEN INFILTRATION GARDENS

* TOTAL PERVIOUS SURFACE AREA INCLUDES BLUE / GREEN AREAS

TOTAL BLUE / GREEN AREA PROVIDED =53,871 SF



*see oversized drawing for clarity

general drainage and stormwater management plan*

conjunction with roadside swales as stormwater conveyance. Stormwater inlet structures, manholes or underground piping is not a central feature of the community drainage plan – only under issues where safety concerns are evident will underground piping be considered.

Stormwater conveyance through intersections will be accomplished within concrete cross gutters. Culverts are to be used only for safety considerations.

The roadside infiltration is designed to infiltrate a minimum of 1.25 inches of rainfall over a 24 hour period. The system may be able to dispose of greater or less amounts depending upon a multitude of factors: construction methods, preserved native soil conditions, rainfall distribution patterns, runoff rates, underground storage volumes, etc. 1.25 inches of rainfall is roughly equivalent to a design storm with a 1 year recurrence interval. The infiltration system proposed for the Pringle Creek community will be composed of a combination of infiltration facilities. These include: road side swales or verges, blue green shallow depressions (for more robust infiltration), flat yard areas that promote slow runoff and infiltration and small infiltration wells located at each roof downspout. Imbedded within the community CC&R's, performance goals will be included to promote additional infiltration innovations/ BMP's for individual block developments.

Flood control

Despite the infiltration systems proposed, the introduction of new impervious surface may result in an increase in storm water flow intensities into Pringle Creek during peak storm events (2yr, 10yr, 25yr, 100yr). Because of this potential, additional storm water detention will be considered as part of the final project design. It should be noted, however, that the extensive use of infiltration systems will significantly dispose of storm water runoff volume increases that result from development. Infiltration is the most effective style of detention since it removes storm water volume from contributing to creek flows during peak events.

The goal of flood control is to understand the area hydrology and the natural drainage system hydraulics so that impacts due to new development can be determined within that drainage system. An increase in flow volume, intensity and erosive velocity can have significant impacts to riparian areas and its associated ecology.

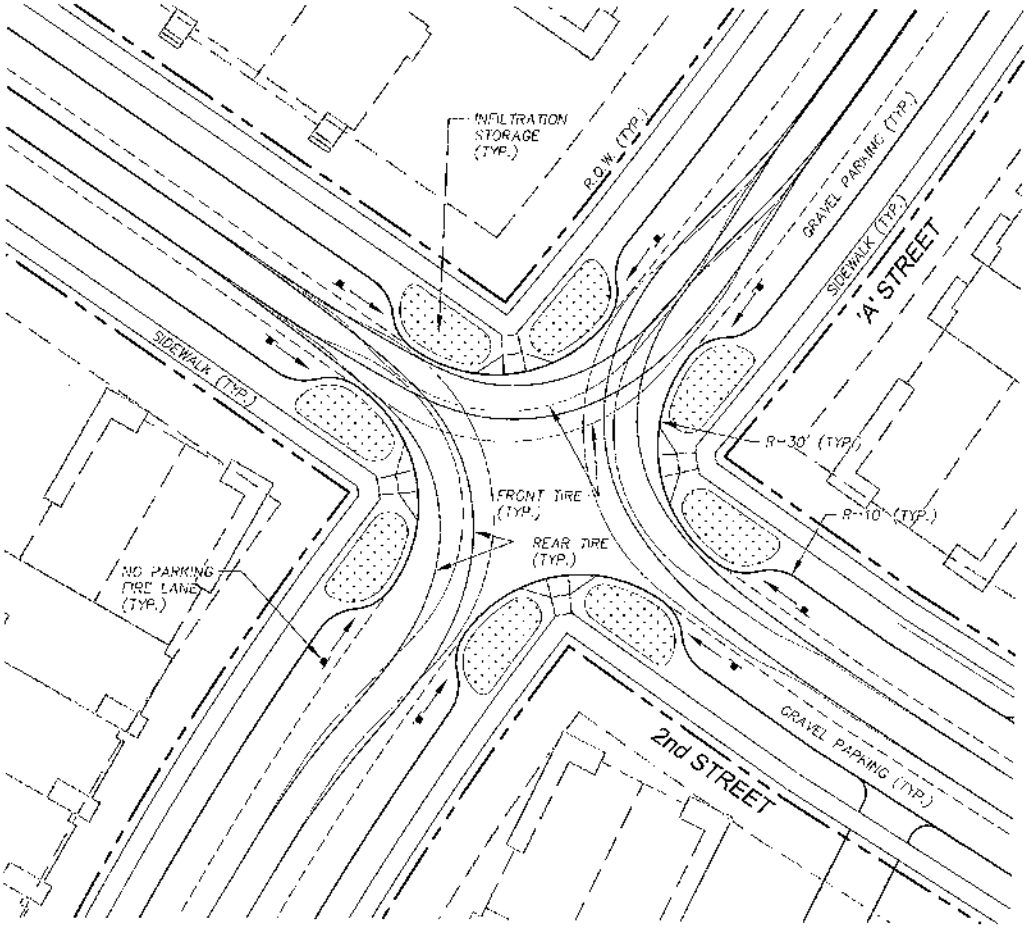
Within the Pringle Creek community property, a flood control facility was previously constructed to divert creek flows away from the main channel during peak storm events. Through a culvert restriction, Pringle Creek flows will back up until it overflows a designed weir spillway which leads into a defined channel. Before the diversion channel receives water from the spillway, it receives storm water runoff from adjacent land only. The time it takes to receive diverted Pringle Creek flows is contingent upon the time of concentration fro the Pringle Creek watershed. Since the Pringle Creek watershed is much larger than the project site its time of concentration will be significantly longer. This is a significant fact relative to the designed storm water release rates for the proposed development.

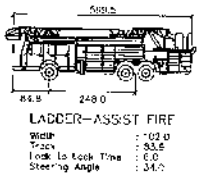
In order to minimize potential erosive impacts to the diversionary channel resulting from the project development, there two possible choices:

1. Develop a detention pond that has adequate size to store the increase volume of runoff from the new project until the peak flow in the diversionary channel has past and then release that water at a calculated pre-developed rate. Or
2. Release the flood waters immediately into the diversionary channel knowing that peak flows from the development will flow into the diversionary channel well before Pringle Creek begins to back up water from behind the culvert and spill over the flood control weir.

Option number 1 is only recommended if a large enough detention pond can be developed to significantly retard the release rate during the period when peak flows in Pringle Creek are passing.

From a probability perspective (which is essentially the basis for all flood control design considerations), option number 2 will usually yield the greatest results. As part of the flood control design for the project, the capacity of the diversionary channel and the predevelopment flows it currently receives will be verified. This data will then be analyzed relative to the flood release rates for a direct, unimpeded discharge from the proposed development. The goal of not increasing flow rates in the diversionary channel can then be determined. If adverse impacts to the Pringle Creek diversionary channel are realized as a result of the analysis, detention pond considerations will be investigated.





DESIGN VEHICLE

fire truck turning exhibit

responsibilities

ALL ITEMS ARE TO BE *OWNED PRIVATELY* UNLESS NOTED OTHERWISE IN THE TABLE BELOW. All private infrastructure and community amenitites will be owned and managed by a combination of the Pringle Creek Community Conservation Trust (PCCT) and Homeowners Association (HOA). Management responsibilities will be included in the Pringle Creek Communities Codes Conenants And Restrictions (CC+R's). Funding for the maintenance and management will be provided by the Community Conservation trust and dues from HOA members.

item	ownership	management
circulation		
streets	PCCT/HOA	PCCT/HOA
main street	^	^
queing street	|	|
mews street	|	|
rear lane / alley	|	|
woonerf plaza	|	|
bridge	|	|
parking	|	|
street	|	|
residential combined	|	|
commercial lot's	|	|
sidewalks (see riparian for paths & bridges)	|	|
public space	|	|
street trees	|	|
softscape	|	|
hardscape	|	|
light fixtures	|	|
site furnishings	|	|
furniture	|	|
trash cans	v	v
recycling cans	PCCT/HOA	PCCT/HOA
fire hydrants	public	city of salem
retaining walls	PCCT/HOA	PCCT/HOA
community gardens	PCCT/HOA	PCCT/HOA
mail	public	u.s. post office
structures		
root cellar	PCCT/HOA	PCCT/HOA
painter's building	^	^
carpentry building	|	|
hog fuel shed	|	|
boiler plant	|	|
smokestack	|	|
greenhouse- small	v	v
greenhouse- large	PCCT/HOA	garten, shangrala, or santiam sanitary.
recycling	franchise	
refuse	franchise	santiam sanitary.

item	ownership	management
utilities		
water	public	city of salem
well	PCCT/HOA	PCCT/HOA
gshp	^	^
irrigation	|	|
gray water reuse	v	v
tel/data	franchise	qwest
sewer	public	city of salem
electricity	franchise	pge
gas	franchise	nw natural gas
bio-deisel	co-op	flower-power
stormwater	PCCT/HOA	PCCT/HOA
verges	^	^
bioswales	|	|
detention areas	|	|
intersection conveyance	|	|
	|	|
riparian	|	|
creek	|	|
riparian cooridor	|	|
pedestrian/bike paths	v	v
pedestrian/bike bridges	PCCT/HOA	PCCT/HOA

MAINTENANCE OF INFRASTRUCTURE

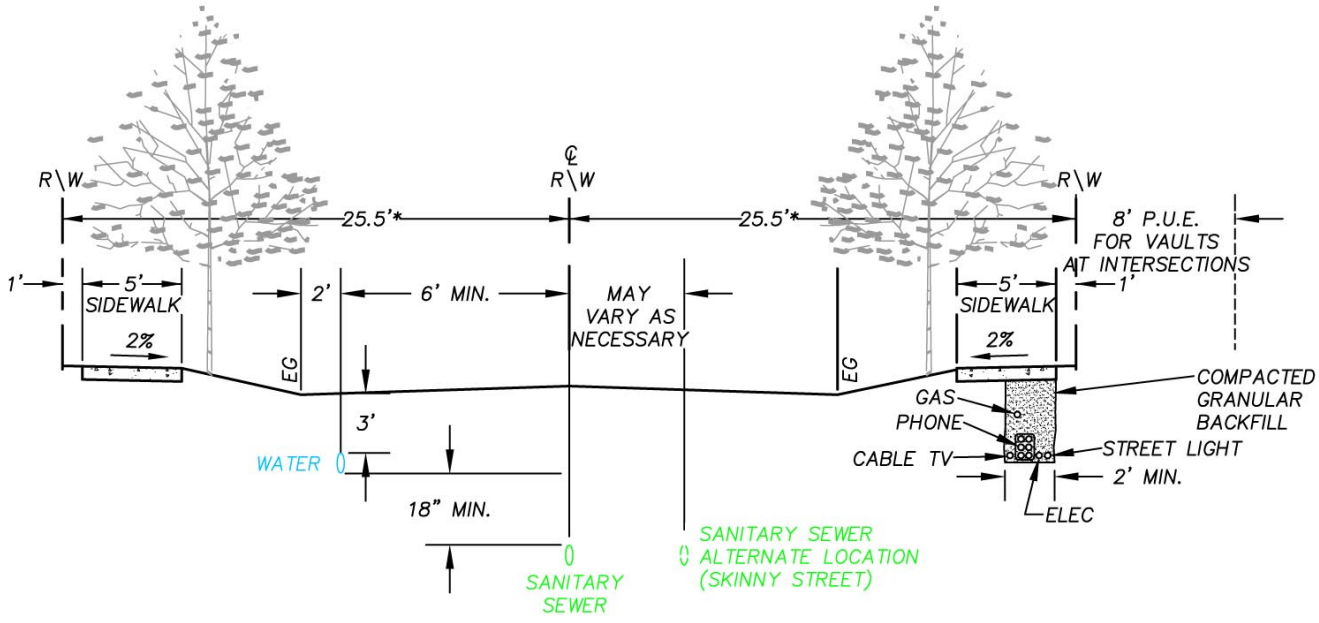
- Maintenance of public utilities, e.g. water and sewer will be in accordance with public works standards. In order to insure these maintenance standards are achievable, these public utilities must be designed and approved in accordance with public works standards for utilities installed under a privately maintained street system. Placement of water and sewer mains within the proposed roadways may not conform to the City of Salem Public Works Standards in regards to location. Due to the narrowed street sections, sewer lines and water lines will be shifted as necessary. However, minimum water and sewer separation will be maintained in accordance with Oregon State Health Division requirements.
- Access to public utilities must be provided. The development will demonstrate that maintenance equipment currently in use by the city at the time of the development can access all elements of the public utility.
- The City of Salem Public Works department will restore private streets, and sub grade conditions when open cut trenches are made to access utilities. "T" trenches will be used for open cuts in asphalt. City maintenance crews will be responsible to restore all street areas associated with utility repair operations to its original design or as-constructed condition, which ever is more structurally and functionally superior.
- The City will keep on record a copy of the Pringle Creek storm drainage system plan that shows the location of significant infiltration facilities (roadside systems, ponds, etc.). City maintenance of public facilities will avoid impact to infiltration systems (this includes preventing compaction of subsurface soil media that will reduce or cause failures to the infiltration system). Where impacts to private infiltration systems are unavoidable, the city will restore the impacted areas to its original functional design and condition.
- Public utility temporary shut downs as part of routine maintenance will follow the City's standard practices for public notification. This includes road closures.
- Private roadway closures must be done in accordance with City standards regarding traffic control measures and prior public notification.
- City maintenance will incorporate best practices regarding erosion control and the control of sediment laden water and the disposal of other contaminants (oil and grease spills, equipment fluids, etc.).
- The recycling of all construction waste material generated by either by the community or the City will be reused or recycled to the maximum extend practical.
- Maintenance of private streets, tracks and common areas will be in accordance with covenants, conditions and restrictions (CC&R) established for the community. The CC&R's will establish operation and maintenance standards for street cleaning, parking area maintenance, infiltration system maintenance, surface drainage system function, street tree and tree boulevard landscaping maintenance, etc

public private designation of infrastrucure ownership and maintenance

utilities

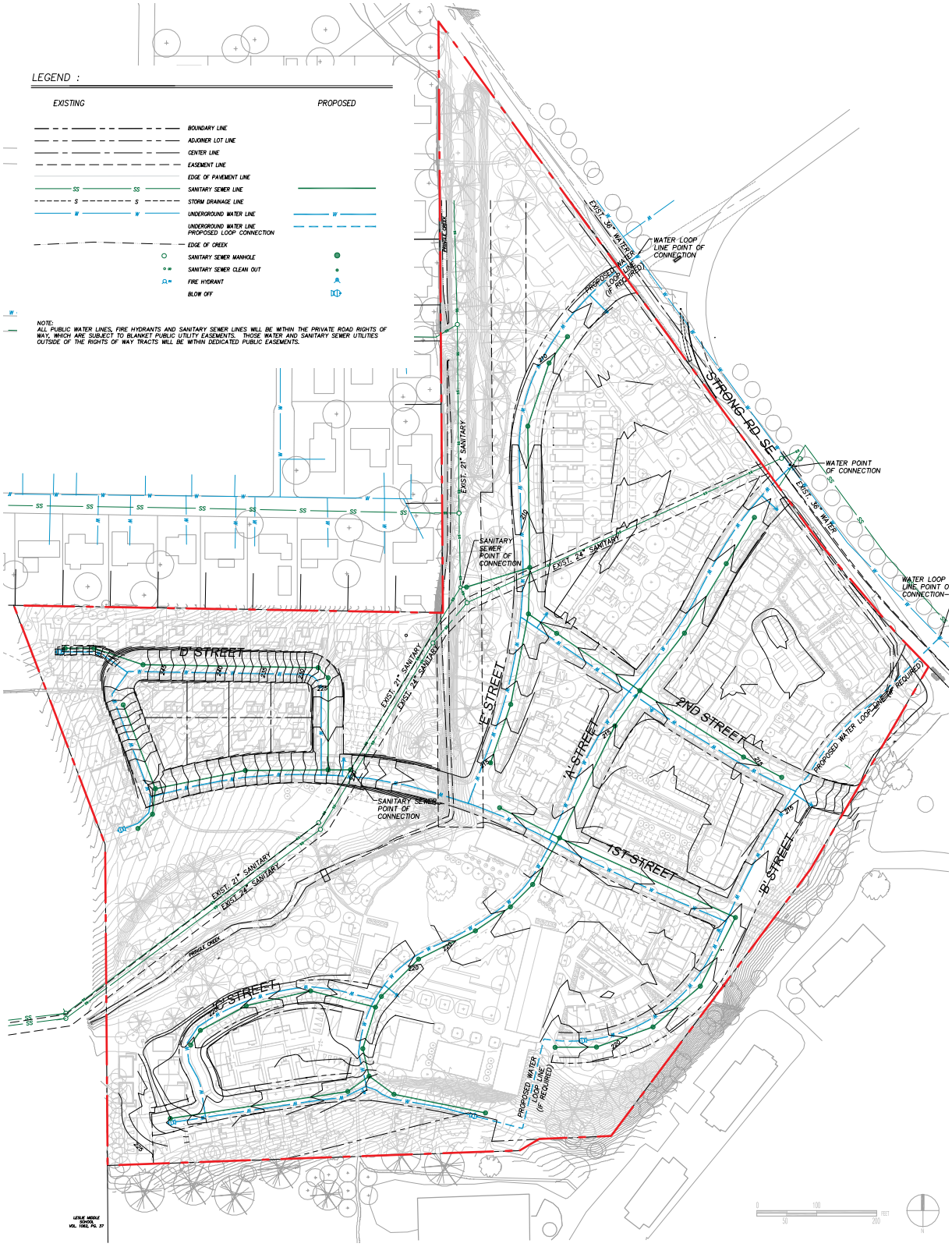
LOCATION AND EXTENT OF PROPOSED PROVISIONS

- The Refinement Plan proposes to construct sanitary sewer, domestic water, and other "dry" utilities such as gas, power, CATV, and telephone within the private street rights of way.
- Separate public utility easements (PUE) may be necessary to locate transformers telephone or CATV pedestals outside the rights of way.
- Separate public water and sewer easements outside of the rights of way may be necessary to serve proposed housing units or to complete a loop for an adequate domestic and fire water supply system.
- The number of connections (or loops) of the onsite system to this water main will be analyzed per City of Salem Public Works Standards and determined at the final construction document design phase. The size of the proposed water system will also be determined at this time as well. A final calculation report justifying the proposed water system sizing will be provided to the City for review and approval.
- Placement of water and sewer mains within the proposed roadways may not conform to the City of Salem Public Works Standards in regards to location. Due to the narrowed street sections, sewer lines and water lines will be shifted as necessary. However, minimum water and sewer separation will be maintained in accordance with Oregon State Health Division requirements.



TYPICAL UTILITY LOCATION DETAIL (R.O.W.) — 2 UP

SCALE: NTS



*see oversized drawing for clarity

general grading and utilities plan*

phasing schedule
and development impacts

phasing

CONSTRUCTION PHASING OF STREETS

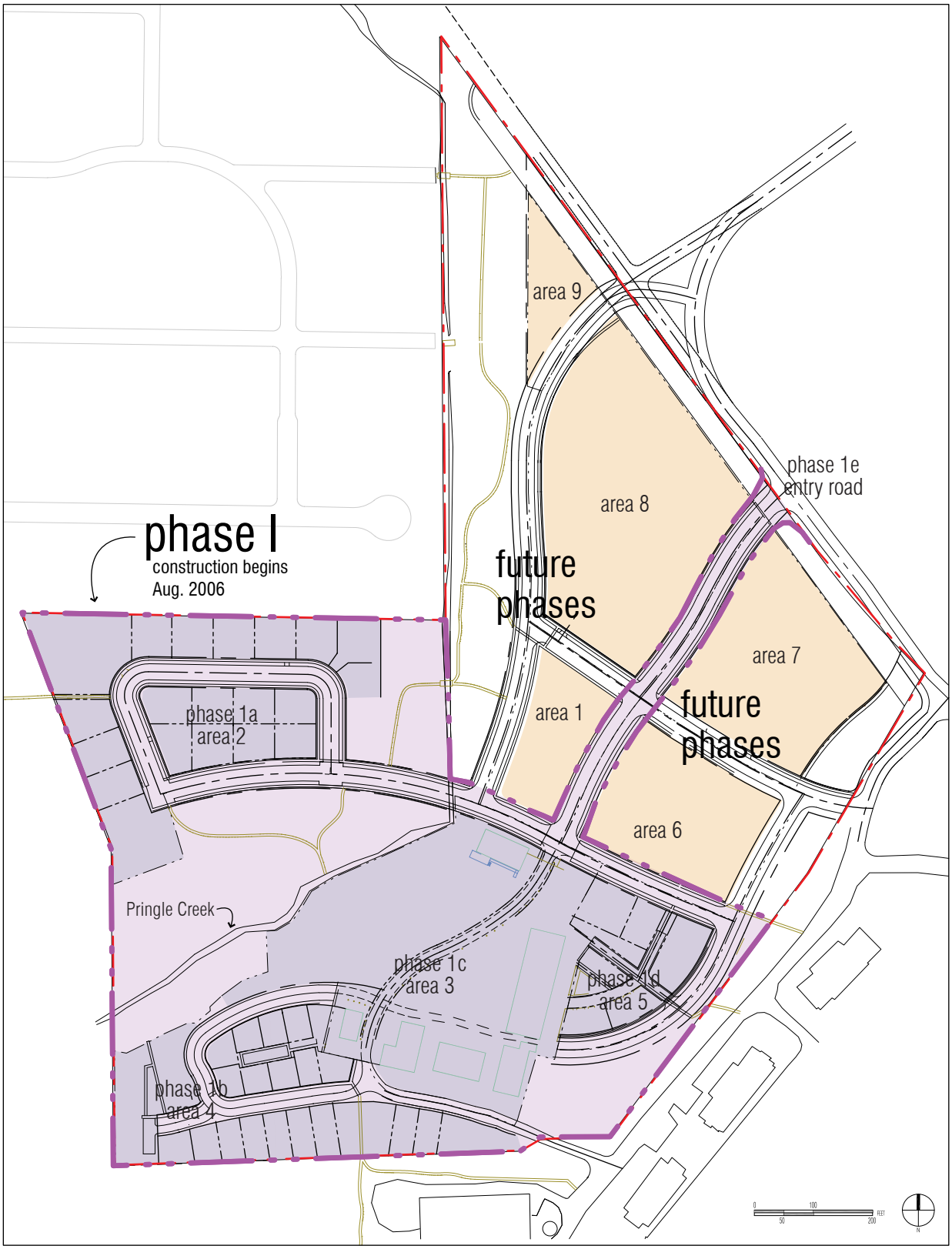
- All street design (e.g. capacity) will be consistent with the projected traffic loading provided as part of a TIA for the complete project. Street construction for each phase will reflect the street sizing for the complete project (i.e. no future widening is anticipated due to additional phase construction).
- Each individual phase will be submitted to the City for review relative to utility capacities serving that specific phase and relative to the needed capacities of future phases.

STANDARDS FOR PHASING OF PUBLIC UTILITIES

- Master plan approach based on proposed development land use and densities to determine traffic, water, sewer, power, communications and natural gas loading projections. All facility and utility sizing will anticipate future development. Traffic and utility sizing criteria will be submitted to the City for each phase to verify loading assumptions and calculations. Each phase will demonstrate how full services will be provided, including all utility extensions and roadways to be constructed or accessed outside each phase boundary.

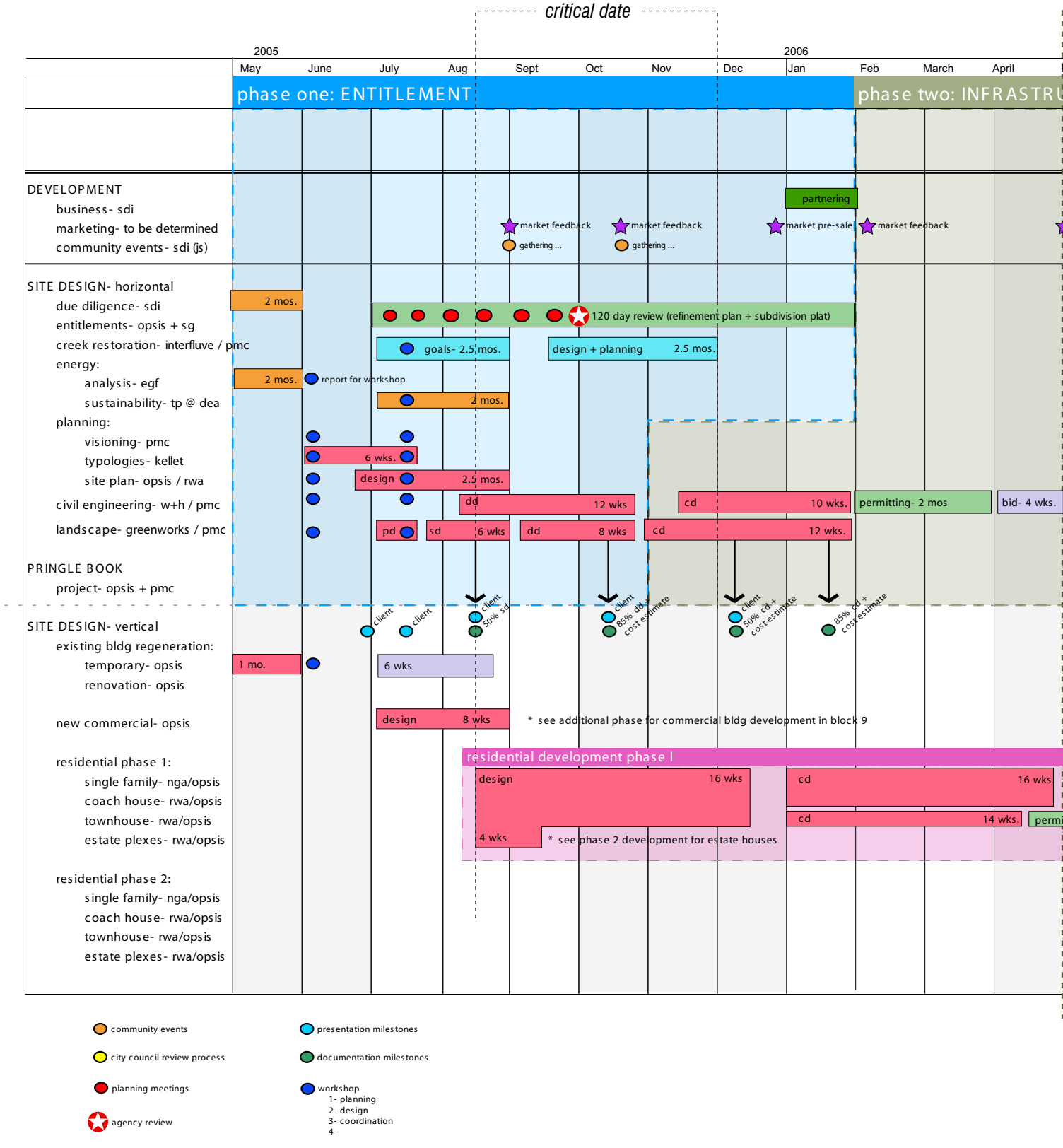
FINANCIAL ASSURANCES

Sustainable Fairview Associates has entered into an Infrastructure Agreement with the City of Salem that establishes a Development District for all future infrastructure improvements. Pringle Creek Community will meet the criterion by the terms of the recorded infrastructure agreement and development district.

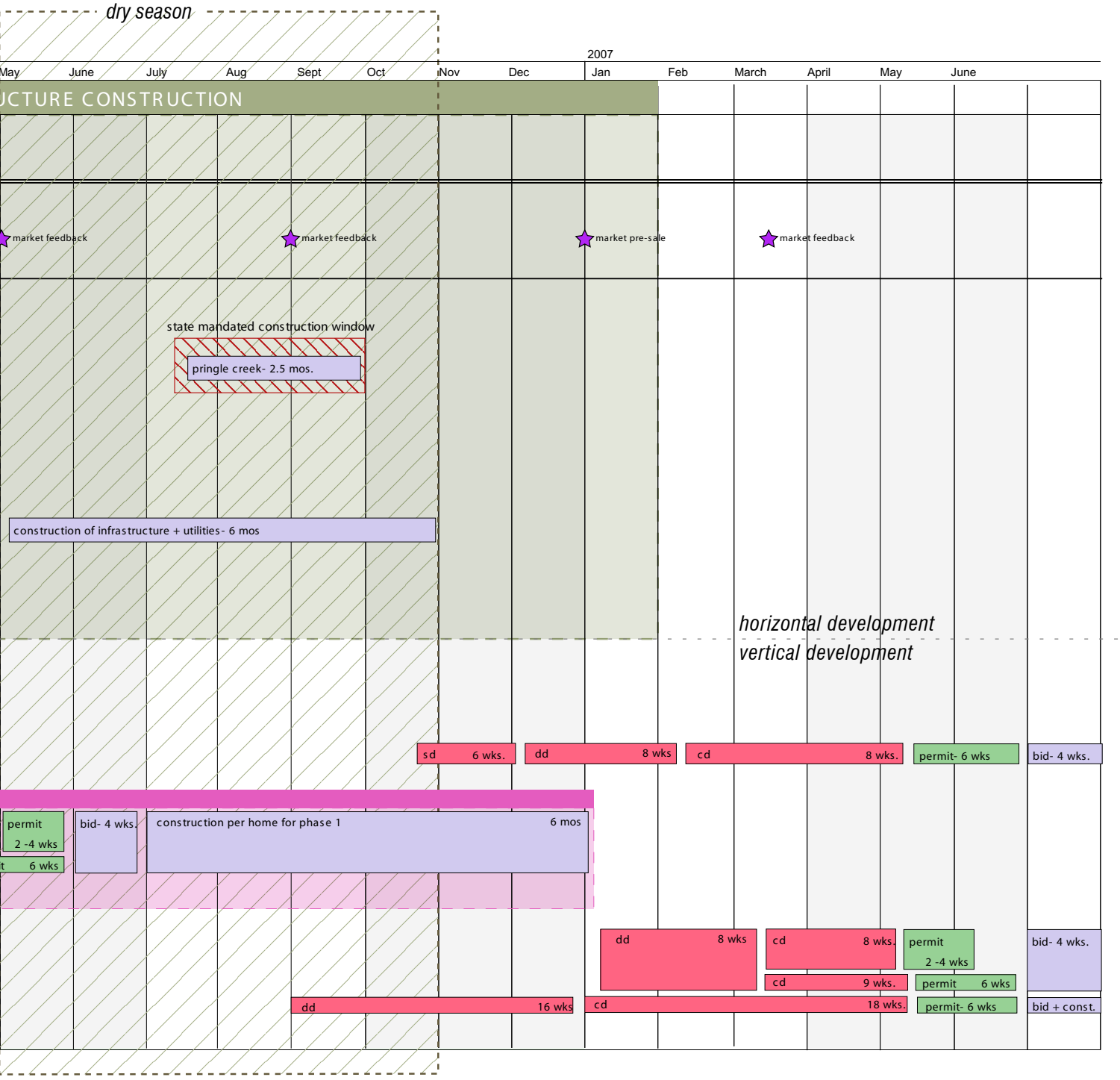


phasing plan

schedule



schedule


dry season
2007
May
June
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
March
April
May
June
UCTURE CONSTRUCTION
market feedback
market feedback
market pre-sale
market feedback
state mandated construction window
pringle creek- 2.5 mos.
construction of infrastructure + utilities- 6 mos
horizontal development
vertical development
sd 6 wks.
dd 8 wks
cd 8 wks.
permit- 6 wks
bid- 4 wks.
permit
2 -4 wks
6 wks
bid- 4 wks.
construction per home for phase 1
6 mos
dd 8 wks
cd 8 wks.
permit
2 -4 wks
bid- 4 wks.
cd 9 wks.
permit 6 wks
dd 16 wks
cd 18 wks.
permit- 6 wks
bid + const.

development impacts

TRAFFIC IMPACT ANALYSIS REPORT

Kittleson and Associates, Inc. (K&A) prepared the refined trip generation estimates for the mixed use Pringle Creek Community located in the northeast corner of the former Fairview Training Center site in Salem, Oregon. This development represents the first phase of the development described in the *Sustainable Fairview Development Plan*, previously submitted in August 2004 to the City of Salem and subsequently approved. The purpose of the K&A report is to determine the number of daily, weekday a.m., and weekday p.m., peak-hour site-generated trips and determine if any transportation improvements identified in the development's Area Facilities Plan will be required as a result.

The Pringle Creek Community development is anticipated to generate approximately 1,770 net new daily trips. This phase will generate fewer trips than the 2,000 required by the Area Facilities Plan to trigger any transportation improvement. Therefore, no transportation improvements will be required.

For the full report, see appendix F.

IMPACTS ON EXISTING INFRASTRUCTURE AND PUBLIC SERVICES.

- The impacts of this development on the public sewer system should be minimal and consistent with any other development of this size. Some existing structures are to be razed thereby eliminating some of the original demand on the system.
- This development will research water use options using the existing well and rainwater to further reduce the added demand on the system.
- The proposed sanitary sewer will connect into the existing 21 inch or 24 inch sewer mains upstream of manholes 45-460092 and/or 45-460087 as directed in an email from Keith Garlinghouse dated February 21, 2003.
- As discussed in a meeting with City staff on August 18, 2005, it was indicated that the development reserved the right to pursue sanitary sewer connections to the sewer main in Strong Road, if the option proves beneficial. This is based on the presumption that the roof drain disconnects and the removal of the existing sanitary connections on the SFA property provides additional capacity in the sewer main offsetting the minor increased sanitary load from the new development.
- The project proposes connecting to the existing 36" diameter water main in Strong Road, the only water main across the development's frontage that serves the "GO" zone. This water main should provide adequate pressure and flow to the majority of the development.
- The design team understands that development of homes above elevation 235 may require the installation of individual booster pumps to increase water pressure. Based on a meeting with City staff on August 18, 2005, we understand that there is approximately 100 feet of head or 43.3 psi of static pressure at elevation 235.

IMPACTS ON EXISTING DEVELOPMENT

Pringle Creek Community is designed in accordance with the Fairview Master Plan and has not altered the intent of the plan.

Pringle Creek is adjacent to Leslie Middle School, Morningside Neighborhood, and Fairview Industrial Park. The following are issues we are working to address:

- SDI has and will continue to work with Leslie Middle School administration to coordinate on site learning activities for their school children. SDI is working with the school to provide pedestrian connectivity to the school property.
- Morningside Neighborhood has been consulted by SDI in the development. The Fairview Master Plan has identified the need for identical uses in this adjacency and SDI has complied. SDI is coordinating with Morningside Neighborhood residents about a dedicated pedestrian connection at their southern boundary.
- SDI is exploring complimentary uses to the Fairview Industrial Park.
- SDI intends to coordinate with Sustainable Fairview Associates and their developer for reconnecting Strong Road to Madronna Avenue in order to increase connectivity and provide multiple means of travel through the neighborhood.

Appendices

A. Fires Dept. alternative means request

B. GRI geotechnical report

C. Permitted Land Uses

D. Natural Resouces Inventory

E. Historic Resources Inventory

F. Kittelson TIA update report

A. Alternate Means Request

opsis architecture LLP

920 nw 17th ave
portland oregon 97209
tel 503 525 9511
fax 503 525 0440

MEMORANDUM

Date: **9.30.05**

To: **Joe Parrott**
Deputy Chief
Salem Fire Department
370 Trade St. SE
Salem, OR 97301

From: **Mark Kogut**

Project: **Pringle Creek Community**

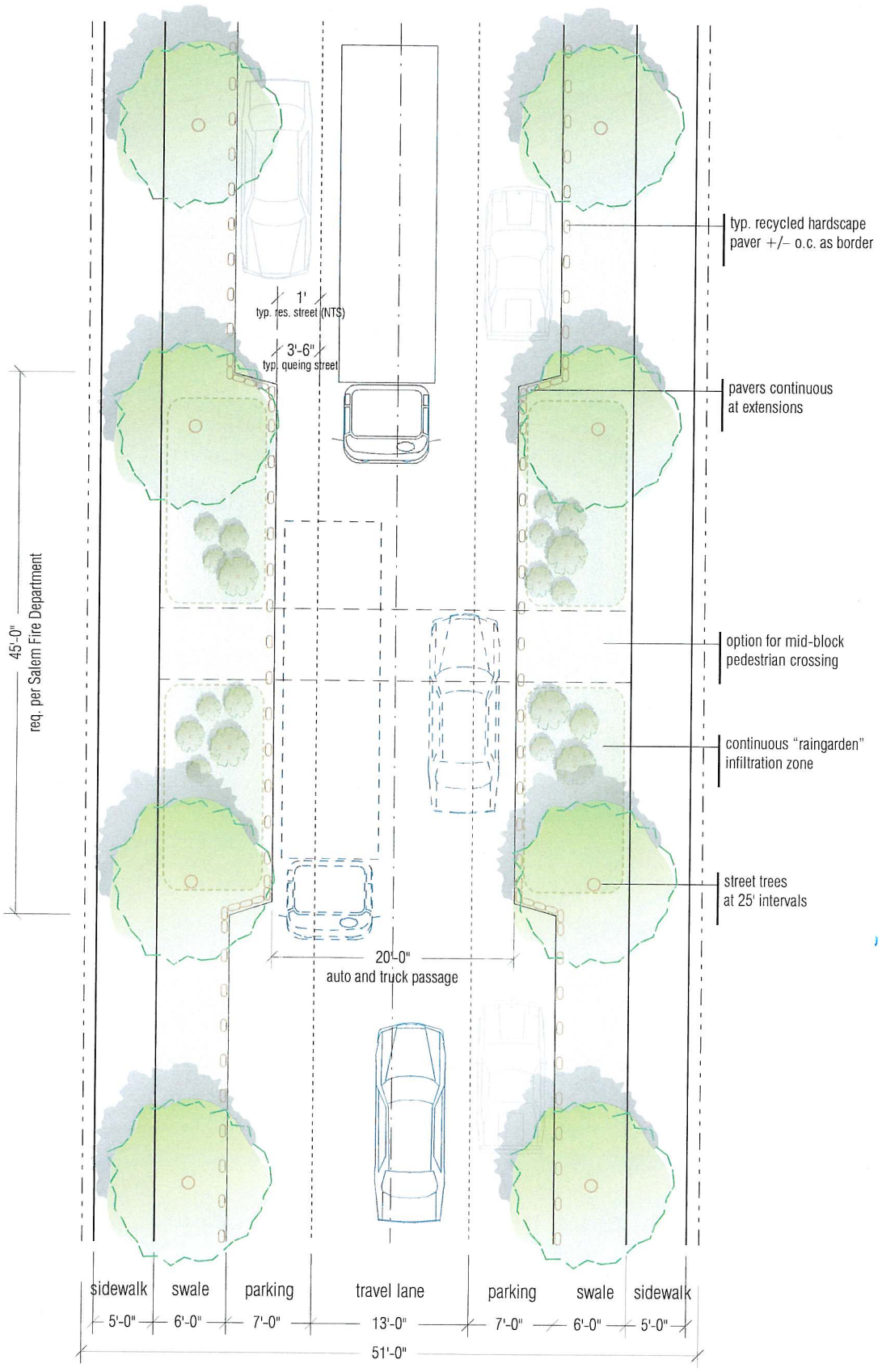
Project No.: **4261**

Reference: **Alternate Means and Methods Request**

Pringle Creek Community is developing a transportation network that is consistent with the City of Salem's approved Sustainable Fairview Master Plan that will incorporate narrow "Green Streets" as a defining feature for this sustainable community. It is understood that the narrow streets do not meet criteria for Fire Department access within the development, to this end, we are requesting an alternate methods and materials with the following mandatory requirements for all development within Pringle Creek Community:

1. Fire sprinklers of all habitable structures per NFPA standards for the application
    a. 13D for single family.
    b. 13R for multi-family/townhouse.
    c. 13 for commercial.
    d. An exemption will be provided for the existing Fuel Shed as long as it maintains it's unenclosed perimeter.
2. The fire sprinkler requirement will be a part of the deed of individual parcels and properties within Pringle Creek Community's development subdivision and platting process.
3. All blocks with a length greater than 200' will require a mid-block queuing space as indicated in the attachment.
4. See the attached street layout and street sections plans.
5. See location of fire hydrants per utility plans.
6. Fire department accessibility at B Street and the existing Fuel Shed / Boiler will either provide a R.O.W. for fire department access and connection to A Street or Parcel 5 will be designed to allow for a loop access thru a planned woonerf plaza in Parcel 5.
7. All private infrastructure will be owned and managed by a combination of the Pringle Creek Community Conservation Trust and Homeowners Association (HOA). Management responsibilities will be included in the Pringle Creek Communities Codes Covenants And Restrictions (CC+R's). Funding for the maintenance and management of infrastructure will be provided by the Community Conservation trust and dues from HOA members.

end of memorandum



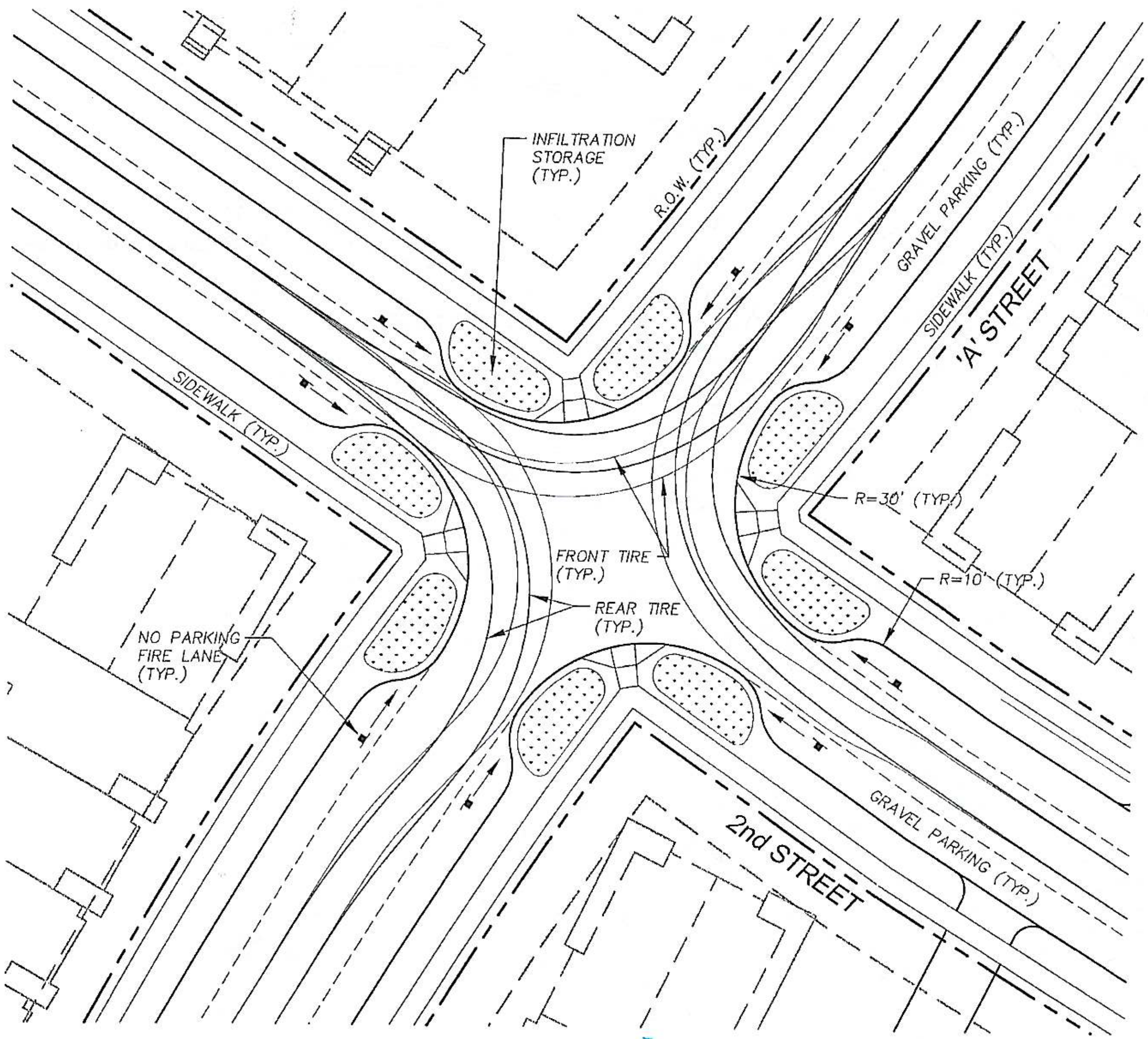
queing and residential street
(note: res. street has 56' ROW w/ 18' travel lane)

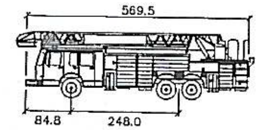
mid-block access and queing device [required for all blocks greater than 200' per Salem Fire Department]

09 29 2005

pringle creek community | salem, oregon

opsis architecture LLP | kellett + villagomez
pmc associates | ramsay worden architects





LADDER–ASSIST FIRE

Width	: 102.0
Track	: 83.9
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

DESIGN VEHICLE

SUSTAINABLE DEVELOPMENT INC.
PRINGLE CREEK COMMUNITY

FIRE TRUCK TURNING EXHIBIT

CITY OF SALEM — OREGON

SCALE: 1"=20'

PROJECT NO. 32228

DRAWING FILE NAME: 32228-PLAN-EP02

W&H PACIFIC
8755 SW Barnes Road
Suite 300
Portland, Oregon 97225
Planners • Engineers • Surveyors • Landscape Architects

DESIGNED BY: JTT CHECKED BY: CEG
DRAWN BY: JTT APPROVED BY: CEG
LAST EDIT: PLOT DATE: 09/28/05

DATE	BY	REV#	REVISION	CK'D	APPR

SHEET EX1

DWG INDEX:

Office: PORTLAND | System: WHP-PDX-DVSB631 | User: JTRUONG | Time: 09/28/2005 13:10:36

B. GRI Geotechnical Report

GRI Geotechnical & Environmental Consultants
9725 SW Beaverton Hillsdale Hwy, Ste 140
Portland, Oregon 97005-3364
PHONE 503/641/3478 FAX 503/644/8034

June 1, 2005

4275 GEOTECHNICAL RPT

Sustainable Development, Inc.
PO Box 2071
Salem, OR 97308

DRAFT

Attention: Don Myers, President

SUBJECT: **Geotechnical Investigation**
Pringle Creek Community
SE Stone Road
Salem, Oregon

At your request, GRI has conducted a geotechnical investigation for the proposed Pringle Creek Community residential project in Salem, Oregon. The site is located south of Strong Road SE, west of Reed Road SE, and occupies the northerly 32 acres of the former Fairview Training Center (FTC). The general location of the site is shown on the Vicinity Map, Figure 1. The investigation was conducted to evaluate subsurface materials and conditions at the site and develop recommendations for earthwork, foundation and floor support, on-site infiltration of stormwater runoff, and pavement design within the development. The investigation included subsurface explorations, field infiltration testing, laboratory testing, and engineering analyses. This report describes the work accomplished and provides our conclusions and recommendations for use in the design and construction of the project.

PROJECT DESCRIPTION

We understand the site will be developed with a planned residential community with a street system. The preliminary configuration of the development is shown on the Site Plan, Figure 2. We also understand that approximately six of the existing FTC buildings will be retained, and the others will be demolished. We anticipate the new housing units will be of wood-frame construction and will have two or three levels. It is anticipated that minor grading will be required on the east side of the creek. Due to the sloping ground west of the creek, we understand that cuts and fills up to about 5 ft high may be made in this area.

A bridge for roadway access to the northwest portion of the site is planned and will likely be located near the bend in Pringle Creek. We understand the bridge structure may likely be a bottomless culvert-type structure, which may be precast or cast-in-place concrete or large-diameter corrugated metal. Based on the presently proposed bridge location and our understanding of the site grading, we anticipate the bridge will have a clear span of about 20 to 25 ft, a clear height of about 8 to 10 ft, and a length of about 30 to 40 ft. We anticipate the structure may be supported on continuous spread footings and have up to about 5 ft of fill over the structure.

To the maximum extent possible, on-site infiltration will be used for disposal of surface water runoff. We understand infiltration measures will likely include shallow swales and installation of a thickened base of crushed rock in street and parking sections to collect runoff and facilitate infiltration.

SITE DESCRIPTION

Topography and Surface Conditions

The topographic information provided on Figure 2 indicates the site is relatively flat on the east side of the creek with elevations ranging from about 210 to 225 ft. The west side of the creek slopes upward toward the northwest from about elevation 220 to 260 ft. The property is divided by Pringle Creek, which flows to the north. The portion of the property east of the creek contains several FTC buildings and associated roadway and paved areas. The portion of the property west of the creek is open and covered with grass. The ground along the west side of the creek is low lying, wet, and contains some trees and scattered bushes. Large trees are scattered through most of the east portion of the property, including trees along Strong Road SE. A pond/wetlands area is present in the northeast portion of the property.

We understand the creek bed was straightened several years ago along the north portion of the west property line. The creek banks are covered with substantial concrete debris, and the ground near the creek may have been filled as part of the channel modification work. Review of an older USGS map suggests the creek modification work may have included filling and removing a small impoundment (dam) on the creek near the south property line.

Geology

The property is underlain by Quaternary to mid-Pleistocene alluvial terrace deposits of fine-grained sands, silts, and clays that may contain soft, compressible organic material. The alluvial terrace deposits may be underlain by gravel deposits and/or Columbia River Basalt (Bela, 1981).

SUBSURFACE CONDITIONS

General

Subsurface materials and conditions at the site were investigated between April 29 and May 6, 2005, with 28 test pits, designated TP-1 through TP-28, and three hand-augered borings, designated HA-1 through HA-3, at the locations shown on Figure 2. The test pits and borings were advanced to depths of 4 to 10 ft. A 2- to 5-in.-thick heavily rooted zone was observed at the ground surface of each exploration. Falling-head infiltration tests were conducted in test pits TP-1 through TP-7 and in borings HA-2 and HA-3. The field exploration and laboratory testing programs completed for this study are discussed in detail in Appendix A. Logs of the test pits are shown on Figures 1A through 4A, and logs of the borings are shown on Figure 5A. The terms used to describe the soils are defined in Table 1A.

Soils

For the purpose of discussion, the materials disclosed by the explorations have been grouped into the following categories based on their physical characteristics and engineering properties. Listed as they were encountered from the ground surface downward, the units are:

1. FILL
2. SILT
3. GRAVEL

1. FILL. Fill was encountered at the ground surface in test pits TP-21 and TP-23 through TP-25. The fill ranges from about 2.5 to 6.5 ft thick. In test pit TP-21, the fill consists of a 1.5-ft thickness of crushed rock base course over 2.5 ft of medium stiff to stiff, reddish-brown silt fill that contains some fine-grained sand

and varying amounts of clay, ranging from some clay to clayey. The fill also contains scattered gravel and brick debris. In test pit TP-23, the fill consists of a 2.5-ft thickness of stiff, reddish-brown silt with a trace of clay. The relative consistency of the reddish-brown silt fill is medium stiff to stiff based on Torvane shear strength values of 0.5 to 0.7 tsf. The natural moisture content of the reddish-brown silt fill ranges from about 28 to 44%.

In test pits TP-24 and TP-25, the fill consists of layers of stiff silt, crushed rock base course, intact asphaltic concrete, brick fragments, and wood debris. The moisture content of two representative samples of the fill from a depth of 2 ft ranges from about 19 to 39%.

2. SILT. Silt was encountered at the ground surface in test pits TP-1 through TP-20, TP-22, and TP-26 through TP-28, and in borings HA-1 through HA-3. Silt was also encountered below the fill at depths of about 2.5 to 6.5 ft in test pits TP-21 and TP-23 through TP-25. The silt is typically brown to brown mottled rust, tan, black, red, light gray, and/or greenish gray. The silt contains varying amounts of clay and fine-grained sand, generally ranging from none to some clay and sand. Varying quantities of gravel were encountered in portions of the silt in test pits TP-3, TP-11, TP-15, and TP-24, ranging from a trace of gravel to gravelly. The test pits and borings were all terminated in silt at a maximum depth of 10 ft, except test pit TP-27, which was terminated in gravel, as discussed below. Broken pieces of clay tile were encountered in the silt at a depth of 2.5 ft in test pit TP-17.

Torvane shear strengths of the silt range from 0.2 to 1.0 tsf, and are typically in the range of 0.5 to 1.0 tsf. The Torvane shear strengths and our observations during advancement of the test pits and borings indicate the relative consistency of the silt ranges from medium stiff to very stiff. The natural moisture of the silt ranges from about 12 to 72%, and is typically in the range of about 25 to 45%. The dry unit weight of several representative samples of the silt at depths of 2 to 4 ft, range from about 86 to 96 pcf at moisture contents of about 26 to 31%.

Consolidation tests were performed on three representative samples of silt from depths of 3.5, 3.0 and 5.5 ft in test pits TP-12, TP-17, and TP-22, respectively. The test results indicate the silt is highly overconsolidated and displays a low compressibility in the preconsolidated range and a high compressibility in the normally consolidated range of pressures. The results of the consolidation tests are summarized on Figures 6A through 8A.

A compaction (moisture vs. density) test was performed in conformance with ASTM D 698 (standard Proctor) on a representative sample of silt obtained from a depth of about 2.5 ft in test pit TP-16. The testing indicates the compacted soil has a maximum dry density of 93 pcf and optimum moisture content of 28%, see Figure 9A.

California Bearing Ratio (CBR) tests were performed on two relatively undisturbed silt samples from test pits TP-10 and TP-20, and on a remolded silt sample from test pit TP-16 that was compacted to about 95% of the maximum dry density as determined by ASTM D 698. Test results performed on the relatively undisturbed samples from test pits TP-10 and TP-20 yielded CBR values in the range of 1.4 to 2.8% and 3.6 to 4.2%, respectively. Test results on the remolded sample from test pit TP-16 indicate the compacted soil has a CBR value in the range of 3.3 to 4.2%. The sample from test pit TP-10 contained numerous holes up

to 1/8 in. in diameter, which is likely the reason for the relatively low CBR values. The results of the CBR tests are summarized on Figures 10A through 12A.

3. GRAVEL. Gravel in a matrix of sand and silt was encountered in test pit TP-27 at a depth of about 7.5 ft. The gravel is fine to coarse and angular to subrounded. Based on visual observation, we estimate the relative density of the gravel is medium dense to dense. Test pit TP-27 was terminated in gravel at a depth of 10 ft.

Groundwater

We anticipate the groundwater level at the site will fluctuate in response to precipitation and may approach the ground surface during the wet, winter months. At the time of our explorations, groundwater was encountered at depths of 2.5 to 8 ft in test pits TP-8 through TP-14 and TP-16 through TP-28, and in borings HA-1 and HA-3. Groundwater levels observed in the explorations at the time of our field work are summarized on the logs, Figures 1A through 5A.

Observation standpipes were installed in explorations TP-11 and TP-28 and HA-1 and HA-3 to permit measurement of water levels. Water levels measured in the explorations are summarized in the table below.

Exploration	Approximate Ground Surface Elevation, ft	Depth to Groundwater, ft	
		5/13/05	5/23/05
TP-11	211	5.1	4.8
TP-28	222	2.0	--
HA-1	215	4.7	3.7
HA-3	225	2.2	1.8

Infiltration Testing

Falling-head infiltration tests were conducted at depths of 2 and 4 ft in test pits TP-1 through TP-7 and boring HA-2, and at a depth of 2 ft in boring HA-3. The size of the test pits used for infiltration tests were generally about 2 ft wide by 8 ft long and the borings were about 3 1/4 in. in diameter. During the test, the change in water level was measured with respect to time. The test results are provided on Figures 13A through 20A. Infiltration test results show the average infiltration rates over the full testing period range from about 2.9 to 11.2 in./hr. It should be noted that groundwater was encountered at or just below the testing depth in borings HA-2 and HA-3 at depths of 4 and 2 ft, respectively, which resulted in relatively flat curves at the end of testing. The infiltration test methodology is discussed in Appendix A.

CONCLUSIONS AND RECOMMENDATIONS

General

The subsurface explorations generally disclosed silt soils to a depth of at least 10 ft, the maximum depth explored. Fill was encountered at the ground surface in four test pits located in the southeastern portion of the site and the thickness of the fill ranges from about 2.5 to 6.5 ft. Groundwater was generally encountered in the explorations at depths ranging from about 2.5 to 8 ft. We anticipate that groundwater levels at the site may approach the ground surface during periods of intense or prolonged precipitation.

The primary geotechnical considerations associated with construction of the proposed development are the presence of uncontrolled fill and moisture-sensitive silt soils and the potential for high groundwater levels. In our opinion, foundation support for the planned buildings can be provided by conventional spread footings. The following sections of this report provide our conclusions and recommendations concerning design and construction of the project.

Site Preparation and Grading

The ground surface within building, pavement, and areas to be filled should be stripped of vegetation, surface organics, and loose surface soils. Stripping should generally be accomplished to a depth of about 4 to 5 in. in the vegetated areas. Greater or lesser amounts of stripping may be required locally. In our opinion, the loose, organic surface soils should be removed from the site or stockpiled on-site for use in landscaped areas. Following stripping or excavation to subgrade level within building and pavement areas and areas to receive fill, the subgrade should be evaluated by a geotechnical engineer. Proof rolling with a loaded 10 yd^3 dump truck may be part of the evaluation. Soft areas or unsuitable materials should be overexcavated and replaced with structural fill as described below. In particular, areas of possible uncontrolled fill exposed during site preparation should be evaluated. It may be necessary to excavate shallow test pits in these areas to document the extent, thickness, and condition of existing fill and determine whether additional overexcavation is necessary to remove soft, loose, or deleterious materials. During and following stripping and excavation, the contractor must use care to protect the silt subgrade from disturbance by construction traffic.

The fine-grained soils disclosed by the subsurface investigation are sensitive to moisture content. Typically, when these soils are in excess of 4 to 5% of their optimum moisture content, they become weak, unstable, and softened when subjected to construction traffic. For this reason, we recommend that all site preparation and earthwork be accomplished during the dry summer months, typically extending from mid-May to mid-October of any given year. It has been our experience that even during periods of extended warm, dry weather, the moisture content of the soils below a depth of 2 to 3 ft will remain relatively unchanged and well above the optimum moisture content. As shown on the test pit logs, the in situ moisture content of the silt soils is typically in the range of 28 to 35%. The optimum moisture content of the on-site silt soils is anticipated to be about 26 to 28%. As a result, even during warm, dry, favorable working conditions, the earthwork contractor will need to exercise care to avoid disturbance and softening of the subgrade.

If construction is to proceed during the wet months of the year, we recommend that all construction traffic be limited to movement on granular work pads. We further recommend that any excavation during wet ground conditions be performed using large hydraulic excavators (backhoes), in lieu of scrapers and/or bulldozers, to prevent softening of the subgrade soils. Also, the contractor should plan the earthwork operations such that construction equipment, i.e., bulldozers, dump trucks, etc., does not traffic the fine-grained subgrade soils. This will require the placement of imported granular fill for a working pad as the earthwork progresses. If the subgrade is disturbed during construction, soft, disturbed soils should be overexcavated to firm soil and backfilled with granular structural fill.

In our opinion, a 12-in.-thick granular work pad should be sufficient to prevent disturbance of the subgrade by lighter construction equipment and limited traffic by dump trucks. Haul roads and other high-density traffic areas will require an 18- to 24-in. thickness of fragmental rock to reduce the risk of subgrade

deterioration. Any subgrade soils disturbed by construction activity should be overexcavated to firm soil and backfilled with structural fill placed and compacted as recommended in the following section. Haul road requirements will be minimized if work is accomplished during the driest months of the year.

Geotextile fabrics may be used between the granular work pad materials and the underlying fine-grained subgrade soils as a separation filter to prevent the movement of fines into the fragmental rock. Use of these fabrics may improve haul road performance and reduce maintenance, particularly during wet-weather conditions.

Permanent cut and fill slopes should be no steeper than 2H:1V. Temporary cut and fill slopes should be constructed at 1H:1V, or flatter.

Structural Fill

We understand the maximum height of compacted structural fills will be about 5 ft. All fill placed beneath structures, such as foundations, floor slabs, pavement, and sidewalk areas, should be installed as structural fill. On-site or imported organic-free soils approved by the geotechnical engineer may be used to construct structural fills. However, on-site and imported silt soils are sensitive to moisture content and can be placed and compacted as structural fill only during dry conditions when the moisture content can be controlled. During the wet winter and spring months, fills should be constructed using relatively clean, granular materials. All structural fills should extend a minimum horizontal distance of 5 ft beyond the limits of building footprints and 2 ft beyond edge of pavement and sidewalk areas. Slopes constructed of structural fill should be no steeper than 2H:1V. We anticipate the settlement due to placement of fills up to approximately 5 ft thick, placed in accordance with our recommendations, will be about 1 in. The majority of the settlement will occur during placement of the fill.

Approved, organic-free, fine-grained soils used to construct structural fills should be placed in 9-in.-thick lifts (loose) and compacted to at least 95% of the maximum dry density as determined by ASTM D 698. In our opinion, the moisture content of fine-grained soils used to construct structural fill should be controlled to within 3% of optimum at the time of compaction. Some aeration and drying of the on-site fine-grained soils may be required to achieve the compaction criteria. We recommend that fill placed in landscaped areas be compacted to about 88 to 90% of the maximum dry density as determined by ASTM D 698. We anticipate that segmented pad rollers will be most effective for compacting the on-site fine-grained (silt) soils.

Granular material used to construct structural fills or work pads during wet weather can consist of sand, sandy gravel, fragmental rock, or recycled concrete, with a maximum size of up to about 6 in. with not more than about 5% passing the No. 200 sieve (washed analysis). The first lift of granular fill material placed over the silt subgrade should be in the range of 12 to 18 in. thick (loose). Subsequent lifts should be placed 12 in. thick (loose). Granular material less than 2-in. maximum size should be compacted to at least 95% of the maximum dry density as determined by ASTM D 698. Coarse granular material should be compacted until well keyed. Generally, at least four passes with a medium-weight, smooth-drum vibratory roller are required to achieve compaction.

Recycled, on-site or imported AC grindings or crushed concrete with a maximum nominal size of about 1½ in. may be used as structural fill, trench backfill, or for a portion of the granular base course section in pavement areas.

Creek Crossing Structure

Details, including location, of the bridge structure to access the northwest portion of the site are presently unknown. However, we understand it will likely consist of a bottomless culvert-type structure, which commonly consists of a cast-in-place or precast concrete structure or a large-diameter corrugated metal arch section. The new structure will likely be sited near the bend in Pringle Creek. The following recommendations regarding the creek crossing are preliminary and should be reviewed and expanded by GRI following selection of the crossing location and type of structure.

We anticipate excavation for the crossing will encounter relatively firm, silty soils at subgrade level. It is our opinion that spread footing foundations for the structure established in the firm natural silt soils may be designed to impose a bearing pressure of at least 2,000 psf. In our opinion, the base of the spread footing should be embedded at least 2 ft below the lowest adjacent grade or potential depth of scour, whichever is lowest. Spread footings should be at least 2 ft wide. To reduce the risk of disturbance by construction activities and provide uniform support, we recommend the footing subgrade be overexcavated at least 12 in. and backfilled with compacted crushed rock. In addition, it may be prudent to line the streambed within the open-bottom culvert structure with material that will minimize erosion or scour. Streambed protection should be sized on the basis of design storm event and stream velocities.

Since the actual foundation loads are presently unknown, settlement of the foundation is difficult to estimate. Based on our present understanding of the proposed structure, we anticipate the total settlement of the footings could be in the range of 1 to 2 in. To minimize post-construction settlement of the pavement, we recommend waiting 1 to 2 months following completion of the crossing structure and fill prior to placing the roadway pavement.

Horizontal shear forces can be resisted partially or completely by frictional forces developed between the base of the foundation and the underlying soil. The frictional resistance between the footing and the soils is the normal force times the coefficient of friction. We recommend an ultimate value of 0.35 and 0.40 for the coefficient of friction for concrete placed over silt soil and clean granular material, respectively. The normal force is the sum of the vertical forces (dead load plus real live load). If additional lateral resistance is required, passive earth pressures against the embedded wall footing can be computed on the basis of an equivalent fluid having a unit weight of 225 pcf. This design passive earth pressure would be applicable only if the backfill for the footing is placed as granular fill. This value also assumes the ground in front of the foundation is nearly horizontal, and the footings are established below the potential depth of erosion and scour.

Utilities

In our opinion, there are three major considerations in the design and construction of new utilities.

1. Provide stable excavation side slopes or support for trench sidewalls to minimize loss of ground.
2. Provide a safe working environment during construction.

3. Minimize post-construction settlement of the utility and ground surface.

The method of excavation and design of trench support are the responsibility of the contractor and subject to applicable local, state, and federal safety regulation, including the current OSHA excavation and trench safety standards. The means, methods, and sequencing of construction operations and site safety are also the responsibility of the contractor. The information provided below is for the use of our client and should not be interpreted to mean that we are assuming responsibility for the contractor's actions or site safety.

According to the most recent OSHA regulations, the majority of the fine-grained soils materials encountered within the explorations may be classified as Type C. In our opinion, trenches less than 4 ft deep may be cut vertically and left unsupported during the normal construction sequence, i.e., assuming trenches are excavated and backfilled in the shortest possible sequence, and excavations are not allowed to remain open longer than 8 hrs. Excavations more than 4 ft deep should be laterally supported or alternatively provided with stable side slopes of 1H:1V or flatter. In our opinion, adequate lateral support may be provided by common methods, such as the use of a trench shield or hydraulic shoring systems.

As discussed previously, light to heavy groundwater seepage was encountered in several of the test pits made for this investigation, and standing water was observed in the lower elevations of the site near the creek. In those areas where groundwater inflow occurs, it may be necessary to overexcavate the trench bottom and place clean, fragmental rock up to about 4-in. size to stabilize the trench bottom. We anticipate that groundwater inflow, if encountered, can be controlled by pumping from sumps.

All backfill placed in utility trench excavations within the limits of building, pavement, and sidewalk areas, should consist of granular material, such as sand, sand and gravel, crushed rock, or recycled crushed concrete, with a maximum size of up to 2 in. and not more than about 8% passing the No. 200 sieve (washed analysis). The granular backfill should be placed in lifts and compacted using vibratory compactors or tamping units to at least 95% of the maximum dry density as determined by ASTM D 698. The use of hoe-mounted vibratory plate compactors is usually most efficient for this purpose. Flooding or jetting to compact the backfill should not be permitted.

Sidewalks

Fill placed beneath sidewalks should be placed as compacted structural fill. We recommend that sidewalks be underlain by a 4- to 6-in. thickness of compacted crushed rock. Crushed rock of 3/4- or 1-in.-minus gradation would be suitable for this purpose. Soft areas of subgrade should be repaired prior to placement and compaction of the crushed rock base course.

Pavement Design

General. We understand the project will include new paved and unpaved streets. The unpaved roadways will be used to store and promote infiltration of stormwater runoff. We anticipate the roadways will be primarily subjected to automobile, school bus, and limited heavy truck traffic, such as garbage service. We understand the roadways will not be subjected to heavy buses, such as City buses. Traffic estimates for the roadways and parking areas of the proposed development are presently unknown.

Paved Roadways. Based on our experience with similar projects and subgrade soil conditions, and the results of CBR testing completed to characterize the subgrade conditions at this site, we recommend the pavement sections below.

	Minimum Asphaltic-Concrete Thickness, in.	Minimum Crushed Rock Base Thickness, in.
Main Access Routes	3 to 4	10
Pavements Primarily Subject to Automobiles	3	8

The recommended thicknesses assume that all pavement sections will be constructed during the dry season. If wet-weather pavement construction is considered, it will likely be necessary to increase the thickness of crushed rock base course for both pavement sections to support construction equipment. We can review the above-recommended sections when traffic estimates become available. The indicated sections are not intended to support extensive construction traffic, such as dump trucks and concrete Redi-mix trucks. Pavements subject to construction traffic may require repair.

If recycled AC grindings or crushed concrete is used to replace a portion of the crushed rock base course, we recommend placing these materials in the lower portion of the base course layer and capping it with at least 4 in. of crushed rock base course.

In those areas where the pavement will be placed over a granular work pad, it will probably only be necessary to remove the contaminated surface material, i.e., the upper few inches, and replace this with the crushed rock base course prior to paving. However, prior to any grading or paving, the granular work pad should be proof rolled with a fully loaded 10 yd^3 dump truck. Any soft and/or wet areas should be overexcavated and backfilled with compacted structural fill.

For the above-indicated sections, drainage is an essential aspect of pavement performance. Unless pavement sections are designed to permit storage and infiltration of stormwater runoff, as discussed in the following section, all paved areas should be provided with positive drainage to remove surface water and water within the base course. This will be particularly important in cut sections or at low points within the paved areas, such as at catch basins. Effective methods to prevent saturation of the base course materials include roadside drainage ditches in communication with and below the base course, providing weep holes in the sidewalls of catch basins, subdrains in conjunction with utility excavations, and separate trench drain systems. To provide quality materials and construction practices, we recommend the pavement work conform to Oregon Department of Transportation standards.

Unpaved Roadways. We understand unpaved roadways are being considered to store and promote infiltration of stormwater runoff. For this use, we recommend the base course consist of a minimum 18-in. thickness of a relatively clean, free-draining, crushed rock, having a maximum size of about 1 1/2 in. with less than 2% passing the No. 200 sieve (washed analysis). Open-graded crushed rock of 1 1/2- to 3/4- in. size is often used for this purpose. Additionally, the thickness of the base course should be reviewed by the civil engineer for the required storage capacity.

The recommended thickness assumes that the unpaved roadway sections will be constructed during the dry season. If wet-weather pavement construction is considered, it may be necessary to increase the

thickness of crushed rock base course to support construction equipment. We can review the above-recommended section when traffic estimates become available.

A non-woven filter fabric, such as AMOCO 4544 or similar product, should be placed beneath the course over the silt subgrade to reduce the risk of fine-grained subgrade soils migrating into the free-draining crushed rock base course. The base course should be compacted until well keyed by a minimum of four passes with a medium-weight vibratory roller. The open-graded rock will be difficult to finish-grade, and will tend to roll and shove under foot traffic. For this reason, we recommend replacing the upper 4 in. of the crushed rock base course with clean, compacted 3/4-in.-minus crushed rock conforming to ODOT specifications.

Construction Considerations. We recommend all roadway areas be prepared as discussed in the Site Preparation and Grading section of this report. Prior to placing base course materials, all roadway areas should be proof rolled with a fully loaded 10 yd^3 dump truck. Any soft areas detected by the proof rolling should be overexcavated to firm ground and backfilled with compacted structural fill. Subgrade that will be used for infiltration should be backfilled with relatively clean granular material.

On-Site Stormwater Disposal

We understand that to the maximum extent possible, on-site infiltration will be used for the disposal of stormwater runoff. Infiltration methods may include drainage swales, infiltration trenches, roadway granular base course, and possibly shallow drywells.

Within roadways, runoff storage and infiltration can be accommodated by placing a thickened section of open-graded, free-draining crushed rock in the lower portion of the base course. As discussed previously, a thickness of 3/4- to 1 1/2-in. drain rock capped with at least 4 in. of 3/4–in.-minus crushed rock would be suitable for this purpose. The open-graded crushed rock should be separated from the silt subgrade by a player of non-woven geotextile filter fabric.

In those areas where the pavement base course will be used for storage and infiltration of runoff, the water level should be maintained at least 4 in. below the bottom of the AC pavement or at least 6 in. below the surface of unpaved roadways.

At the time of our field work in May, the groundwater level was measured at depths of 1.8 to 5 ft below the ground surface. The groundwater level will respond to seasonal rainfall and may approach the ground surface during periods of intense or extended rainfall.

Falling-head infiltration tests were performed in test pits TP-1 through TP-7 and boring HA-2 with the bottom of the explorations at a depth of 2 and 4 ft, and in boring HA-3 at a depth of 2 ft. The test results are provided on Figures 13A through 20A as graphs showing the change in water level as a function of time. The slope of the curve at any elapsed time corresponds to the infiltration rate for a given water level, or head. The average infiltration rates over the full range of the testing interval ranges from about 3 to 11 in./hr. We recommend reducing the field infiltration rates by at least 50% to account for the potential for clogging over time.

Preliminary Guidelines for Residential Structures

General. The following guidelines for construction of buildings are preliminary and are intended for planning purposes. Residential buildings may range from depths detached single units to two- to three-level condominiums or townhouse-type structures.

Foundation Support. Based on review of the grading plans, our observations and our experience on site, the undisturbed on-site silt soils or compacted structural fill installed in accordance with our recommendations will provide suitable support for residential type of structures. Spread footings can be designed to impose an allowable bearing value of up to 1,500 psf. This value applies to continuous wall footings and pedestal or column footings having a minimum dimension of 16 in. Continuous wall and isolated column footings having a minimum width of 24 in. can be designed to impose an allowable bearing pressure of 2,000 psf. Footings should be established at least 18 in. below lowest adjacent exterior grade. During wet weather, a 3-in.-thick (minimum) layer of 3/4-in.-minus crushed rock should be placed in the bottom of footing excavations to minimize disturbance and softening of the silty foundation soils. The leveling course should be compacted using a vibratory plate compactor.

Embedded Walls. Design lateral earth pressures for embedded or retaining walls depend on the type of construction, i.e., the ability of the wall to yield. Possible conditions are 1) a wall which is laterally supported at its base and top and therefore is unable to yield, and 2) a wall that yields by tilting about its base. The following embedded wall design recommendations assume the wall backfill is compacted to 90 to 95% of the dry density as determined by ASTM D 698, and the embedded wall is fully drained, i.e., hydrostatic pressure cannot act on the wall.

For walls with horizontal backfill, the lateral earth pressures acting on yielding and non-yielding walls can be evaluated on the basis of an equivalent fluid having a unit weight of 35 and 45 pcf, respectively. We further recommend that earth pressures due to live loads near the top of embedded walls be taken as an additional horizontal pressure acting over the height of the wall. Temporary excavation slopes should be made no steeper than 1H:1V.

The drainage system for the retaining walls should consist of a minimum 2-ft-wide zone of drainage material adjacent to the wall that is drained by slotted drain pipe wrapped in geotextile placed at the base of the wall. The drainage material should consist of sand, sandy gravel, or crushed rock of up to about 2-in. maximum with less than about 2% passing the No. 200 sieve (washed analysis). The upper foot of wall backfill should consist of on-site silt soils. During wet conditions, wall backfill should consist of granular material having less than 5% passing the No. 200 sieve (washed analysis).

Overcompaction of the backfill behind walls should be avoided. In this regard, we recommend compacting the backfill to about 90 to 95% of the maximum dry density (ASTM D 698). Heavy compactors and large pieces of construction equipment should not operate within 5 ft of any embedded wall to avoid the buildup of excessive lateral pressures. Compaction close to the walls should be accomplished using hand-operated vibratory plate compactors.

Horizontal shear forces can be resisted partially or completely by frictional forces developed between the base of spread footings and the underlying soil and by passive resistance. The total frictional resistance between the footing and the soil is the normal force times the coefficient of friction between the soil and

the base of the footing. We recommend an ultimate value of 0.35 for the coefficient of friction for concrete placed directly on silt soil subgrade. If additional lateral resistance is required, passive earth pressures against embedded footings can be computed on the basis of an equivalent fluid having a unit weight of 225 pcf. This design passive earth pressure would be applicable only if footings are constructed neat against undisturbed firm soil or if the backfill for the footings or walls is placed as structural fill.

Subdrainage. Slab-on-grade floors should be underlain by a granular base course to provide more uniform floor support and a capillary break between the underlying subgrade soils and the floor slab. Within areas where it is desirable to avoid a damp or moist floor, the base course should be at least 8 in. thick and consist of crushed rock up to 1 in. size with less than 2% passing the No. 200 sieve (washed analysis); 3/4- to 1/4-in. size is suitable for this use.

In addition, slab-on-grade floors established below adjacent final exterior grades should also be provided with a subdrainage system to reduce hydrostatic pressure and the risk of wet floors. In this regard, the base course should be drained by a system of subslab perforated drain pipes and all groundwater collected by the system should be drained by gravity or pumped from sumps to the stormwater system.

In other areas where slabs may be subject to the weather and water, the granular base course should be at least 6 in. thick and can consist of 1-in.-minus crushed rock with a gradation in conformance with Oregon Department of Transportation gradation requirements for aggregate base.

Seismic Considerations

Based on the results of our subsurface investigation and review of the current International Building Code (2003) and the 2004 Oregon Specialty Seismic Code, we recommend using a stiff soil profile Site Class D to evaluate the seismic design of the structures. Based on our studies, we are of the opinion that the potential for earthquake-induced fault displacement, landslides, liquefaction, settlement, and subsidence at this site is low during the anticipated ground motions associated with a strong seismic event. The risk of damage by tsunamis and/or seiches is absent.

Design Review and Construction Services

We welcome the opportunity to review and discuss construction plans and specifications for this project as they are being developed. In addition, GRI should be retained to review all geotechnical-related portions of the plans and specifications to evaluate whether they are in conformance with the recommendations provided in our report. Additionally, to observe compliance with the intent of our recommendations, design concepts, and the plans and specifications, we are of the opinion that all construction operations dealing with earthwork, foundations, and drainage should be observed by a GRI representative. Our construction-phase services will allow for timely design changes if site conditions are encountered that are different from those described in our report. If we do not have the opportunity to confirm our interpretations, assumptions, and analyses during construction, we cannot be responsible for the application of our recommendations to subsurface conditions that are different from those described in this report.

LIMITATIONS

This report has been prepared to aid the project team in the design of the residential development. The scope is limited to the specific project and location described herein, and our description of the project

represents our understanding of the significant aspects of the project relevant to the design and construction of the earthwork, foundations, floor support, drainage, and pavements. In the event that any changes in the design and location of the project elements as outlined in this report are planned, we should be given the opportunity to review the changes and to modify or reaffirm the conclusions and recommendations of this report in writing.

The conclusions and recommendations submitted in this report are based on the data obtained from the explorations made at the locations indicated on Figure 2 and from other sources of information discussed in this report. In the performance of subsurface investigations, specific information is obtained at specific locations at specific times. However, it is acknowledged that variations in soil conditions may exist between subsurface exploration locations. This report does not reflect any variations that may occur between these explorations. The nature and extent of variation may not become evident until construction. If, during construction, subsurface conditions different from those encountered in the explorations are observed or encountered, we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary.

Please contact the undersigned if you have any questions regarding this report.

Submitted for GRI,

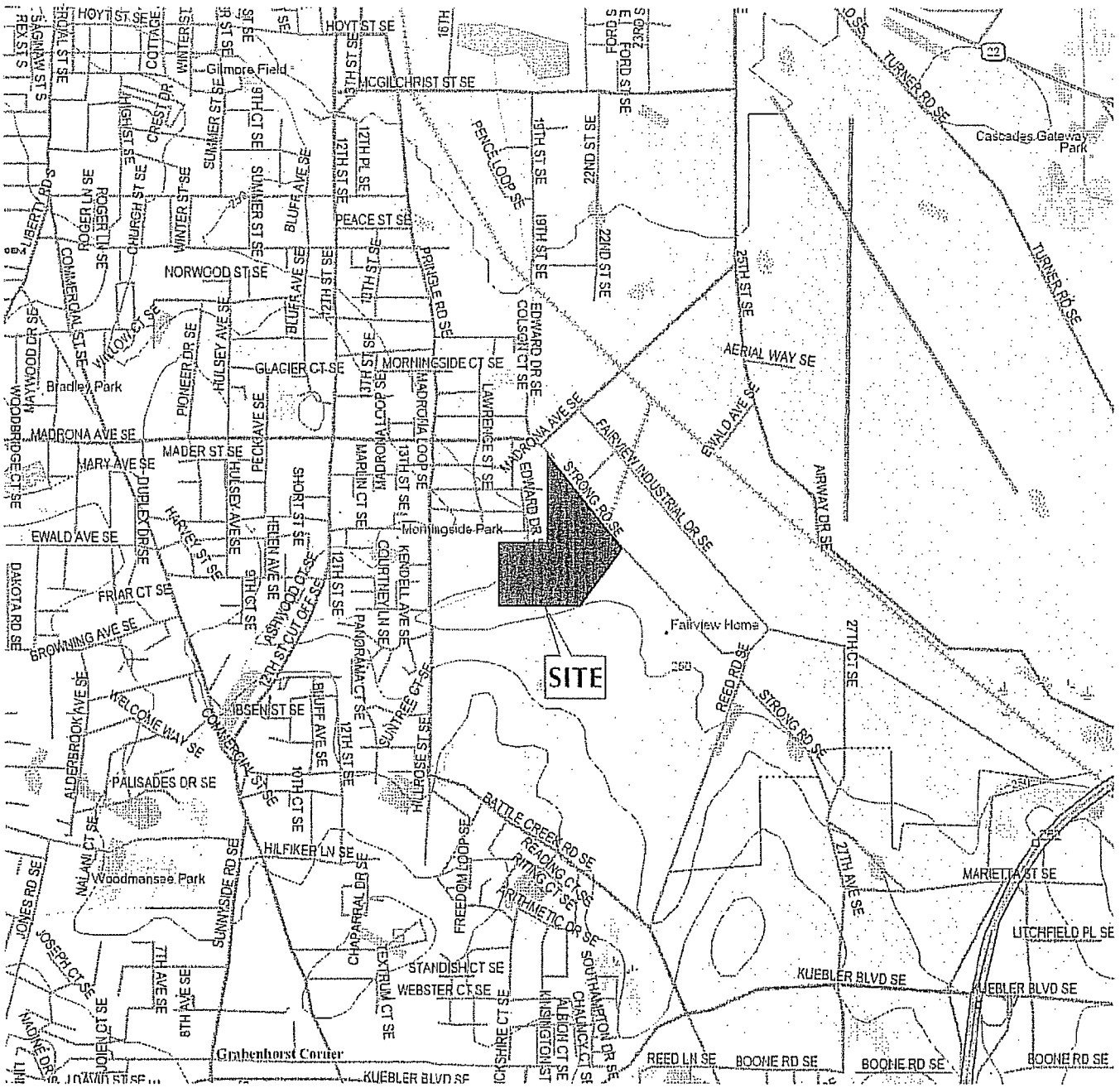
Dwight J. Hardin, PE
Principal

Gene M. Tupper, PE
Project Engineer

Reference

Bela, J. L., 1981, Geology of the Rickreall, Salem West, Monmouth, and Sidney 7 1/2-minute quadrangles, Marion, Polk, and Linn Counties, Oregon: Oregon Department of Geology and Mineral Industries Geologic Map Series 18.

American Association of State Highway Transportation Officials (AASHTO), 2004, Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 24th Edition, Vol. 1A, Method M145-91 (2000).



DELORME 3-D TOPOQUADS, OREGON
SALEM WEST, OREC. (Adb) 2004

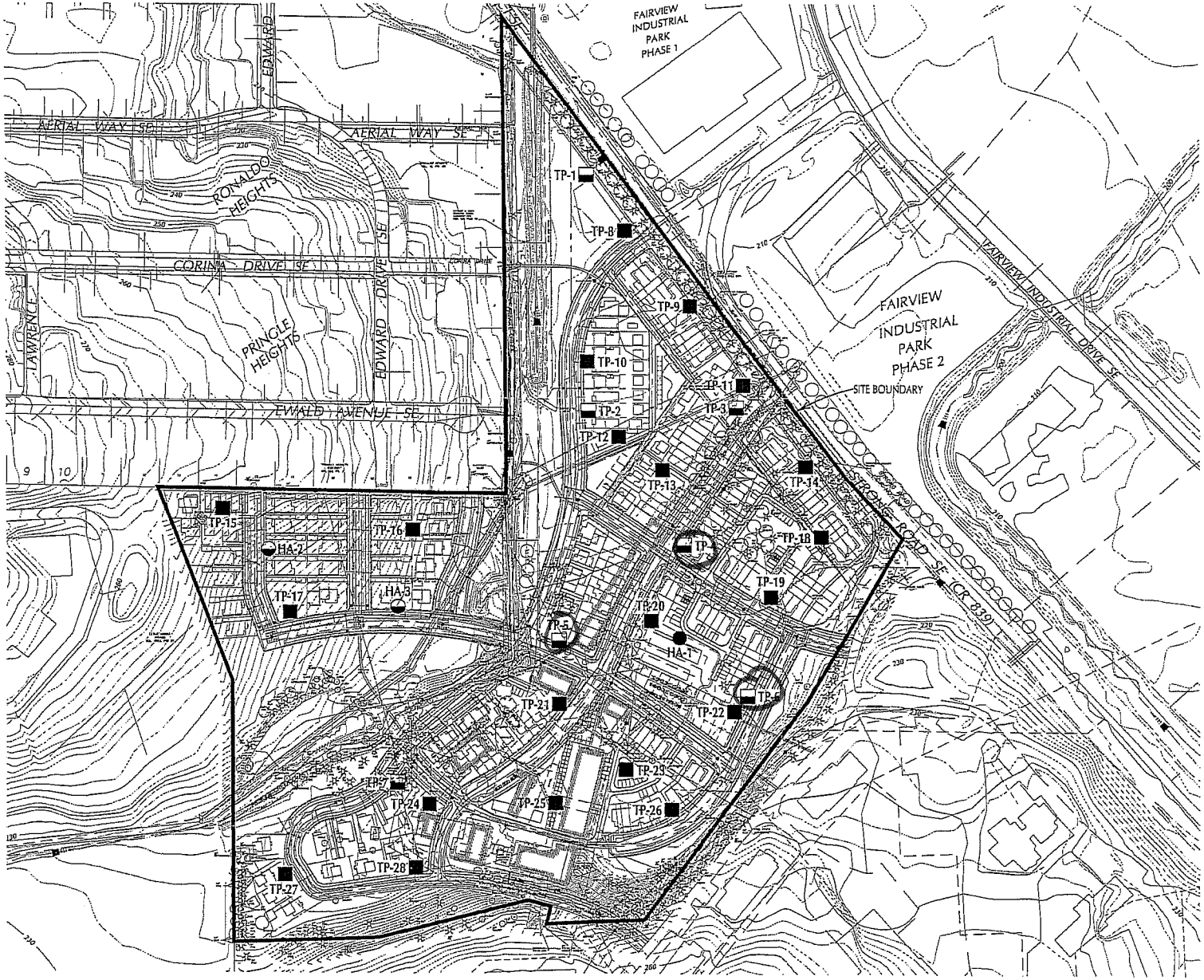
GRI SUSTAINABLE DEVELOPMENT, INC.
PRINGLE CREEK COMMUNITY

VICINITY MAP

JUNE 2005 JOB NO. 4275 FIG. 1

APPENDIX A

Field Explorations and Laboratory Testing



- HAND-AUGER (HA) BORING MADE BY GRI (MAY 3 - 4, 2005)
- TEST PIT (TP) MADE BY GRI (APRIL 29 - MAY 6, 2005)
- INFILTRATION TEST PERFORMED IN HA AND TP EXPLORATION

SITE PLAN FROM FILE BY W&H PACIFIC INC. (UNDATED)

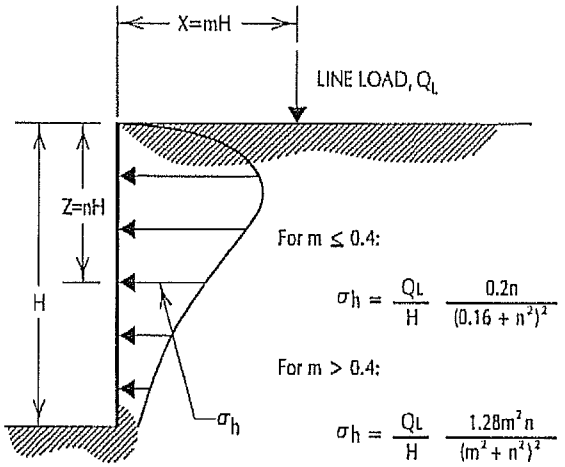
North

0 200 400 FT

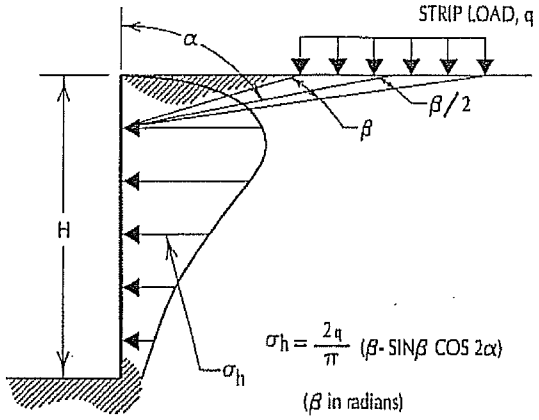
GRI SUSTAINABLE DEVELOPMENT, INC.
PRINGLE CREEK COMMUNITY

SITE PLAN

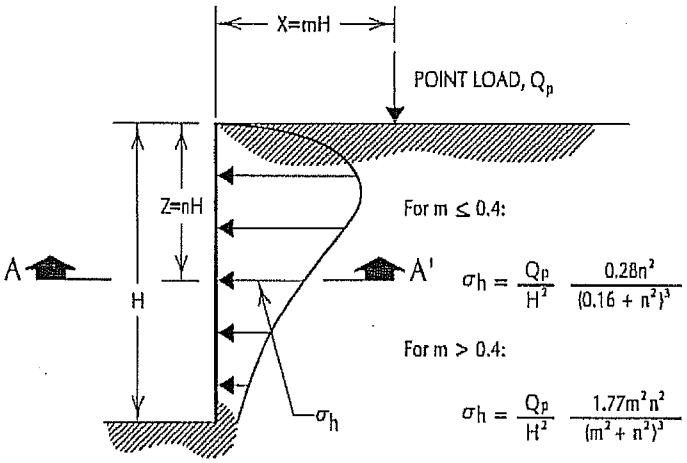
JUNE 2005 JOB NO. 4275 FIG. 2

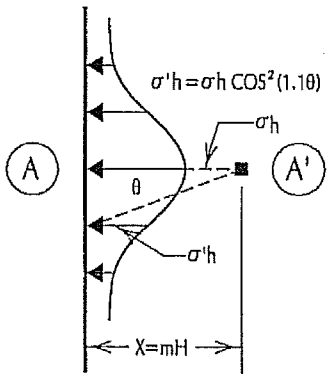


LINE LOAD PARALLEL TO WALL



STRIP LOAD PARALLEL TO WALL





DISTRIBUTION OF HORIZONTAL PRESSURES

VERTICAL POINT LOAD

NOTES:

1. THESE GUIDELINES APPLY TO RIGID WALLS WITH POISSON'S RATIO ASSUMED TO BE 0.5 FOR BACKFILL MATERIALS.
2. LATERAL PRESSURES FROM ANY COMBINATION OF ABOVE LOADS MAY BE DETERMINED BY THE PRINCIPLE OF SUPERPOSITION.

GRI SUSTAINABLE DEVELOPMENT, INC.
PRINGLE CREEK COMMUNITY

SURCHARGE-INDUCED LATERAL PRESSURE

JUNE 2005 JOB NO. 4275 FIG. 3

APPENDIX A

FIELD EXPLORATIONS AND LABORATORY TESTING

FIELD EXPLORATIONS

Subsurface materials and conditions at the site were investigated by GRI between April 29 and May 6, 2005, with 28 test pits, designated TP-1 through TP-28, and three hand-augered borings, designated HA-1 through HA-3. Test pits and borings were advanced to depths of about 4 to 10 ft at the locations indicated on the Site Plan, Figure 2. The test pits were excavated using a Case 580 rubber-tired extend-a-hoe provided and operated by Emery & Sons of Stayton, Oregon. The field exploration work was coordinated and documented by an experienced geotechnical engineer provided by our firm, who maintained a detailed log of the materials and conditions disclosed during the course of the work.

Disturbed grab samples were obtained from the test pits and borings at frequent intervals of depth. The samples were examined in the field, and representative portions were stored in airtight jars. Relatively undisturbed samples of the silt soils were obtained from the test pits by pushing 3.0-in.-O.D. Shelby tubes into undisturbed soil using the excavator. The soil exposed in the end of the Shelby tube were examined and classified by our engineer. The tube was then sealed and returned to our laboratory for further examination and physical testing.

The hand-augered borings were about 3½ in. in diameter and were advanced to depths of 4 to 9 ft.

Logs of the test pits are provided on Figures 1A through 4A, and logs of the borings are provided on Figure 5A. Each log provides a descriptive summary of the various types of materials encountered in the explorations and notes the depths at which the materials and characteristics of the material change. To the right of the descriptive summary, the depths of samples are indicated along with natural moisture contents, dry unit weight, and Torvane shear strength. The terms used to describe the soils encountered in the explorations are defined in Table 1A.

Infiltration Testing

Falling-head infiltration tests were conducted at depths of 2 and 4 ft in test pits TP-1 through TP-7 and boring HA-2, and at a depth of 2 ft in boring HA-3. Water was pumped from a water truck into the test pits and poured from a bucket into the borings. Water was allowed to rise in the explorations to a height of about 1 to 2 ft. Infiltration testing was then performed immediately following a period of saturation. The change in water level was measured with respect to time. The test results are provided on Figures 13A through 20A in the form of curves showing the change in depth to water with respect to time. The explorations were backfilled with on-site soils at the end of testing. The average infiltration rates over the full testing interval are summarized in the table below.

Exploration	Depth to Bottom of Exploration at Time of Test, ft	Average Rate of Infiltration, in./hr
TP-1	2	5.3
	4	6.8
TP-2	2	6.0
	4	3.3
TP-3	2	6.3
	4	6.2
TP-4	2	6.6
	4	8.0
TP-5	2	9.7
	4	11.2
TP-6	2	7.9
	4	3.9
TP-7	2	5.1
	4	4.8
HA-2	2	5.4
	4	3.9*
HA-3	2	2.9*

*The groundwater table was encountered during the test.

LABORATORY TESTING

The samples obtained from the test pits and hand-augered borings were examined in our laboratory where the physical characteristics of the samples were noted, and the field classifications were modified where appropriate. At the time of classification, the natural moisture content of each sample was determined. Additional testing included determinations of undisturbed unit weight, washed sieve analyses, Torvane shear strength, consolidation testing, compaction (moisture-density) testing, and California Bearing Ratio (CBR) determinations. The following sections describe the testing program in more detail.

Natural Moisture Content

Natural moisture content determinations were made in conformance with ASTM D 2216 and are summarized on Figures 1A through 5A.

Washed Sieve Analysis

The percent of soil passing the No. 200 sieve was determined for selected on-site soil samples to aid in the classification of the soils. Oven-dried samples were placed on the No. 200 sieve and the silt and clay fraction was washed through the sieve. The sample remaining on the sieve was collected and oven dried. The results of the tests are tabulated below.

SUMMARY OF WASHED SIEVE ANALYSES

Location	Sample	Depth, ft	Percent Passing No. 200 Sieve	Soil Type
TP-1	S-1	2.0	79	SILT; some sand
TP-2	S-2	4.0	98	SILT; trace sand
TP-3	S-2	4.0	79	SILT; some sand

Location	Sample	Depth, ft	Percent Passing No. 200 Sieve	Soil Type
TP-5	S-1	2.0	89	SILT; some sand
TP-7	S-2	4.0	96	SILT; trace sand
TP-8	S-1	2.0	88	SILT; some sand
TP-9	S-4	10.0	95	SILT; trace sand
TP-10	S-1	2.0	99	SILT
TP-11	S-3	7.0	94	SILT; trace sand
TP-12	S-4	7.0	97	SILT; trace sand
	S-5	9.5	99	SILT; some clay
TP-13	S-3	7.0	98	SILT; trace sand
TP-14	S-4	9.5	97	SILT; trace sand
TP-15	S-1	2.0	97	SILT; trace sand
TP-16	S-1	2.0	93	SILT; trace sand
	S-2	4.0	98	SILT; trace sand
	S-3	7.0	98	SILT; trace sand
TP-17	S-1	2.0	96	SILT; trace sand
TP-18	S-5	10.0	97	SILT; trace sand
TP-19	S-2	4.0	74	SILT; some sand
	S-4	9.5	81	SILT; some sand
TP-20	S-2	4.0	81	SILT; some sand
TP-21	S-2	4.0	79	SILT; some sand
	S-3	6.5	86	SILT; some sand
	S-4	10.0	96	SILT; trace sand
TP-23	S-3	7.0	83	SILT; some sand
TP-25	S-4	7.0	98	SILT; trace sand
TP-26	S-1	2.0	84	SILT; some sand
	S-4	10.0	99	SILT; trace clay
TP-28	S-4	7.0	98	SILT; trace sand
HA-1	S-2	4.0	79	SILT; some sand
HA-3	S-1	2.0	96	SILT; trace sand

Torvane Shear Strength

The approximate undrained shear strength of soil exposed in the sidewalls of the test pits and in relatively undisturbed soil samples was determined using a Torvane shear device. The Torvane is a hand-held apparatus with vanes that are inserted into the soil. The torque required to fail the soil in shear around the vanes is measured using a calibrated spring. The results of the Torvane shear strength tests are shown on Figures 1A through 5A.

One-Dimensional Consolidation

Three one-dimensional consolidation tests were performed in conformance with ASTM D 2435 on relatively undisturbed samples obtained from test pits TP-12, TP-17, and TP-22. The tests provide data on the compressibility of the underlying fine-grained soils, necessary for settlement studies. The test results are summarized on Figures 6A through 8A in the form of curves showing percent strain versus applied

effective stress. The initial and final dry unit weight and moisture content of the samples are also shown on the figures.

Moisture-Density (Compaction)

A moisture-density (compaction) test was performed in conformance with ASTM D 698 (standard Proctor) on a representative sample of silt from test pit TP-16 to determine the moisture/density relationship (maximum dry density and optimum moisture content) necessary to establish a standard for compaction control during fill placement. The results of the test are summarized on Figure 9A.

California Bearing Ratio (CBR)

CBR testing was performed in substantial conformance with ASTM D 1883 using representative samples of undisturbed silt obtained from test pits TP-10 and TP-20. CBR testing was also performed on a remolded sample of silt from test pit TP-16, compacted to about 95% of the maximum dry density as determined by ASTM D 698. The tests were used to evaluate the subgrade support properties of the soils beneath new pavements. The test results are summarized on Figures 10A through 12A.

Table 1A

GUIDELINES FOR CLASSIFICATION OF SOIL

Description of Relative Density for Granular Soil

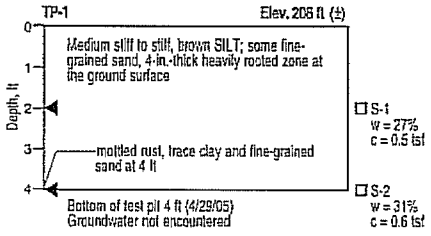
Relative Density	Standard Penetration Resistance (N-values) blows per foot
very loose	0 - 4
loose	4 - 10
medium dense	10 - 30
dense	30 - 50
very dense	Over 50

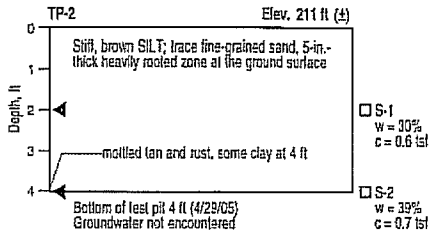
Description of Consistency for Fine-Grained (Cohesive) Soils

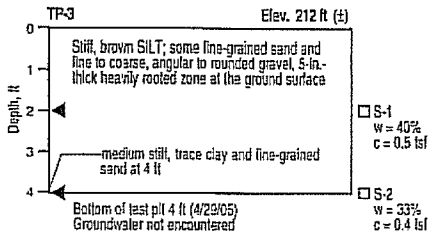
Consistency	Standard Penetration Resistance (N-values) blows per foot	Torvane Undrained Shear Strength, tsf
very soft	2	less than 0.125
soft	2 - 4	0.125 - 0.25
medium stiff	4 - 8	0.25 - 0.50
stiff	8 - 15	0.50 - 1.0
very stiff	15 - 30	1.0 - 2.0
hard	over 30	over 2.0

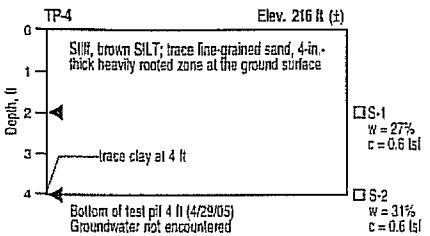
Sandy silt materials, which exhibit general properties of granular soils, are given relative density description.

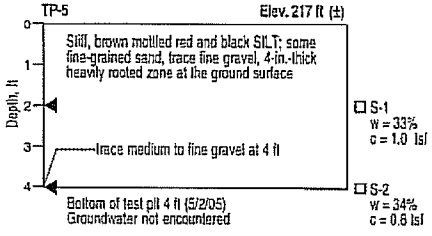
Grain-Size Classification	Modifier for Subclassification	
Boulders 12 - 36 in.	Adjective	Percentage of Other Material In Total Sample
Cobbles 3 - 12 in.	clean	0 - 2
Gravel 1/4 - 3/4 in. (fine) 3/4 - 3 in. (coarse)	trace	2 - 10
	some	10 - 30
Sand No. 200 - No. 40 sieve (fine) No. 40 - No. 10 sieve (medium) No. 10 - No. 4 sieve (coarse)	sandy, silty, clayey, etc.	30 - 50
Silt/Clay - pass No. 200 sieve		

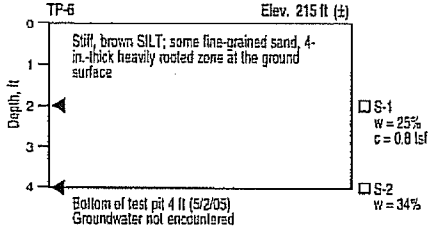


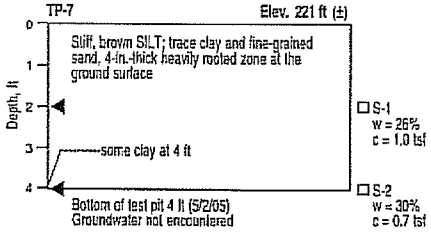


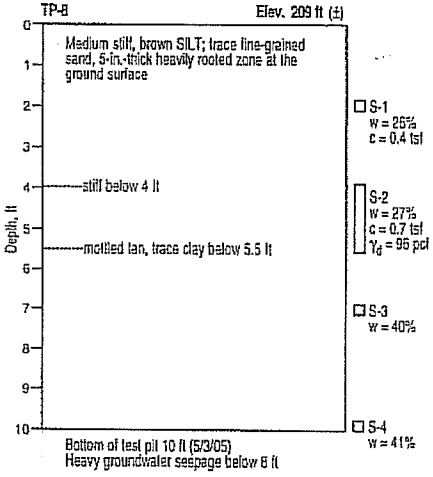


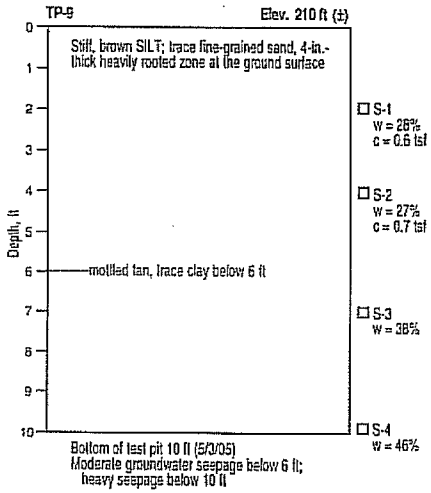


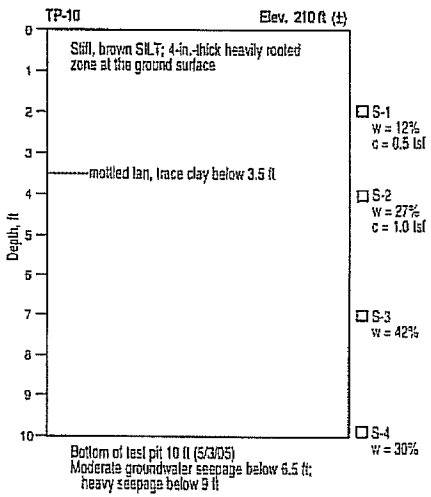












LEGEND

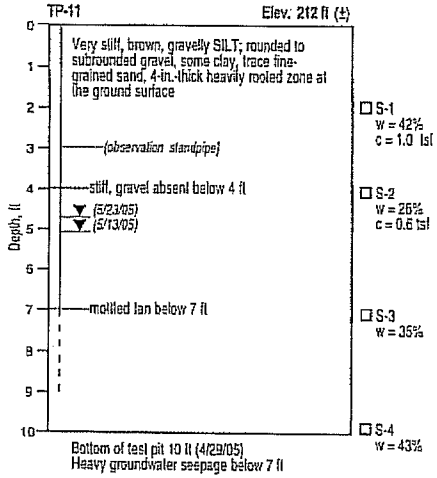
- □ = GRAB SAMPLE
- ▯ = 3-IN.-OD SHELBY TUBE SAMPLE
- w = NATURAL MOISTURE CONTENT
- c = TORVANE SHEAR STRENGTH
- γ_d = DRY UNIT WEIGHT
- ◀ = INFILTRATION TEST (BOTTOM OF TEST)

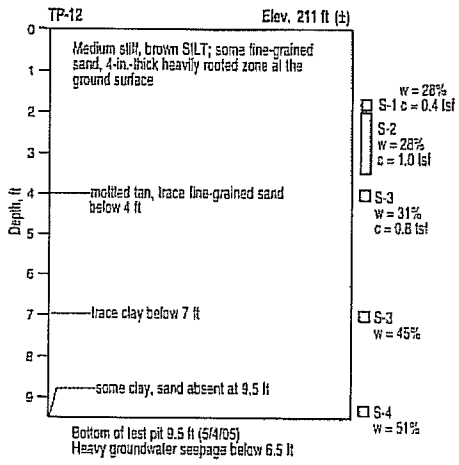
GROUND SURFACE ELEVATIONS FROM SITE PLAN, FIGURE 2

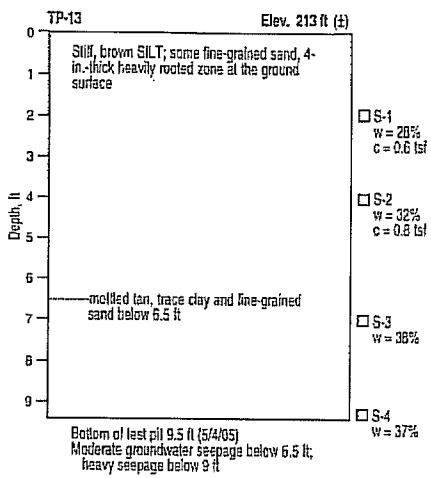
GRI

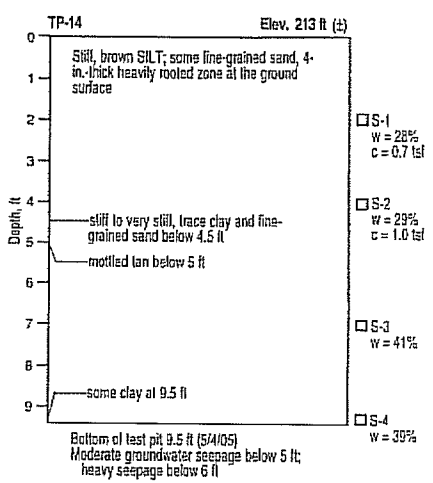
TEST PIT LOGS

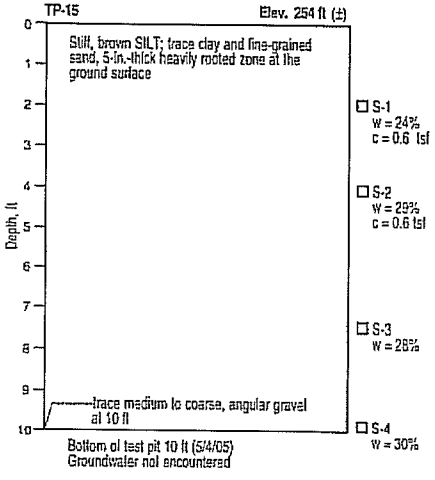
JUNE 2005 | JOB NO. 4275 | FIG. 1A

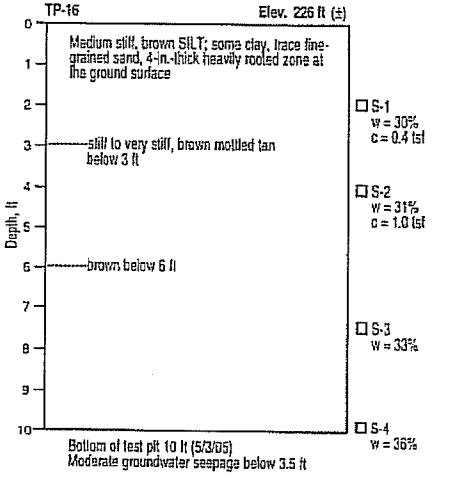


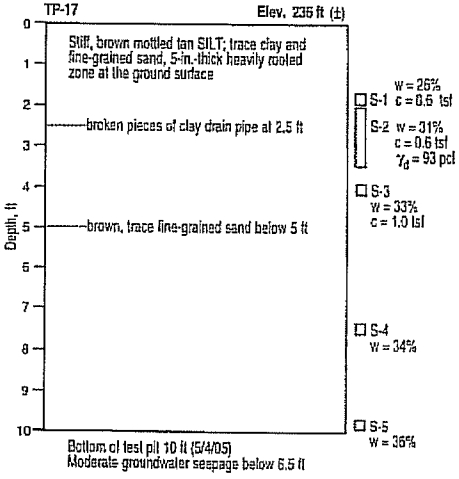












LEGEND

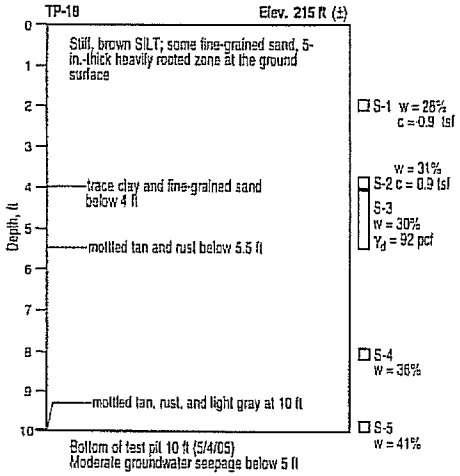
- ☐ = GRAB SAMPLE
- ▯ = 3-IN.-OD SHELBY TUBE SAMPLE
- w = NATURAL MOISTURE CONTENT
- c = TORVANE SHEAR STRENGTH
- γ_d = DRY UNIT WEIGHT
- ◀ = INFILTRATION TEST (BOTTOM OF TEST)

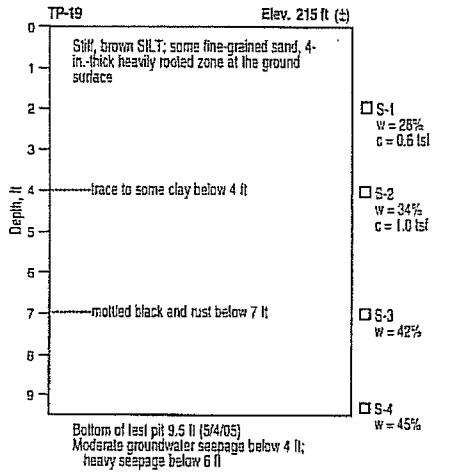
GROUND SURFACE ELEVATIONS FROM SITE PLAN, FIGURE 2

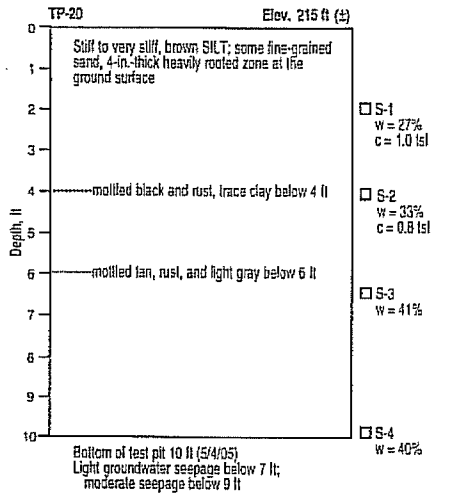
GRI

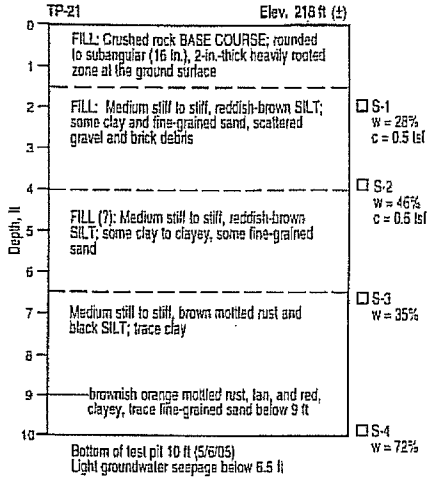
TEST PIT LOGS

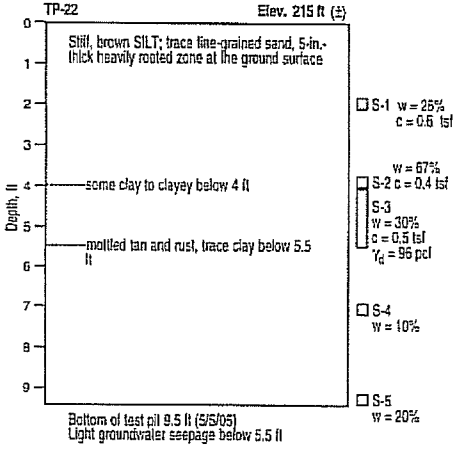
JUNE 2005 JOB NO. 4275 FIG. 2A

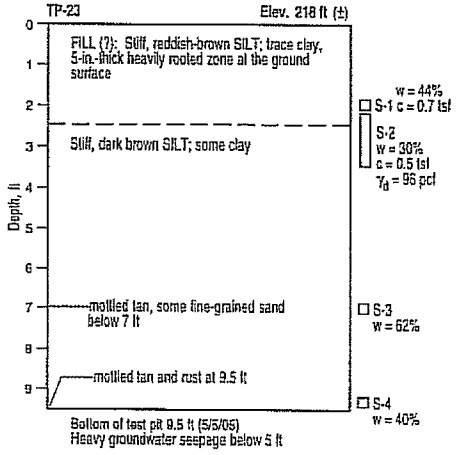


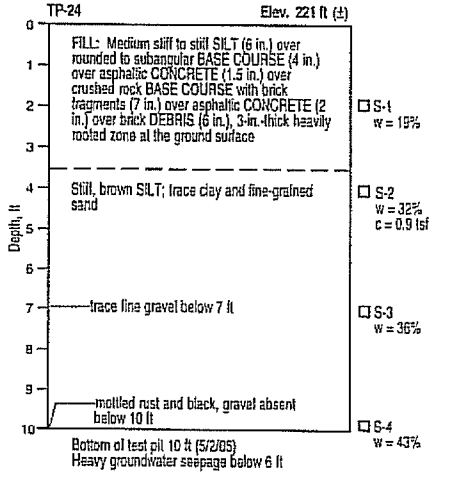












LEGEND

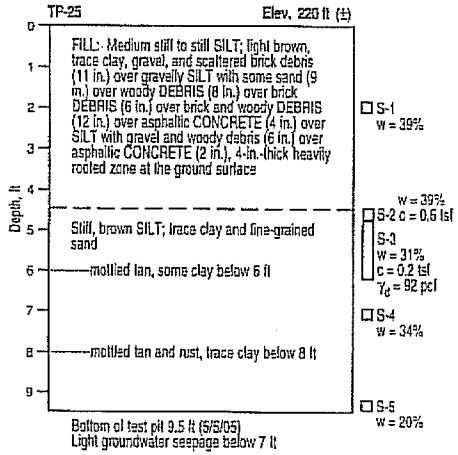
- ☐ = GRAB SAMPLE
- ▯ = 3-IN.-OD SHELBY TUBE SAMPLE
- w = NATURAL MOISTURE CONTENT
- c = TORVANE SHEAR STRENGTH
- γ_d = DRY UNIT WEIGHT
- ◀ = INFILTRATION TEST (BOTTOM OF TEST)

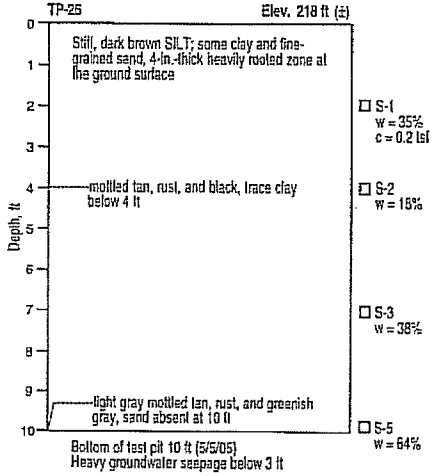
GROUND SURFACE ELEVATIONS FROM SITE PLAN, FIGURE 2

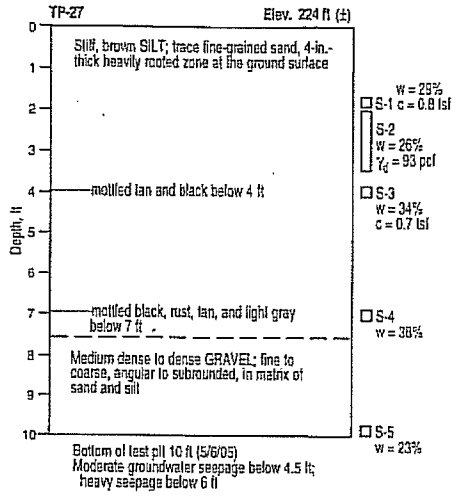
GRI

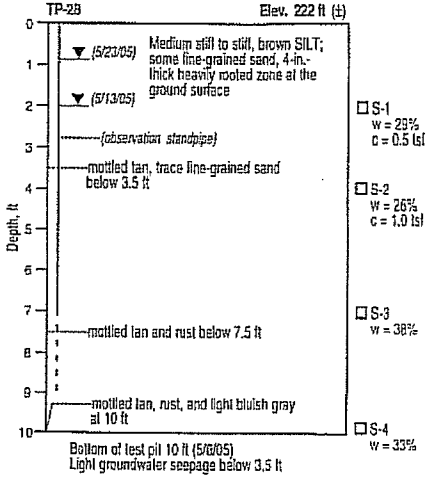
TEST PIT LOGS

JUNE 2005 | JOB NO. 4275 | FIG. 3A









LEGEND

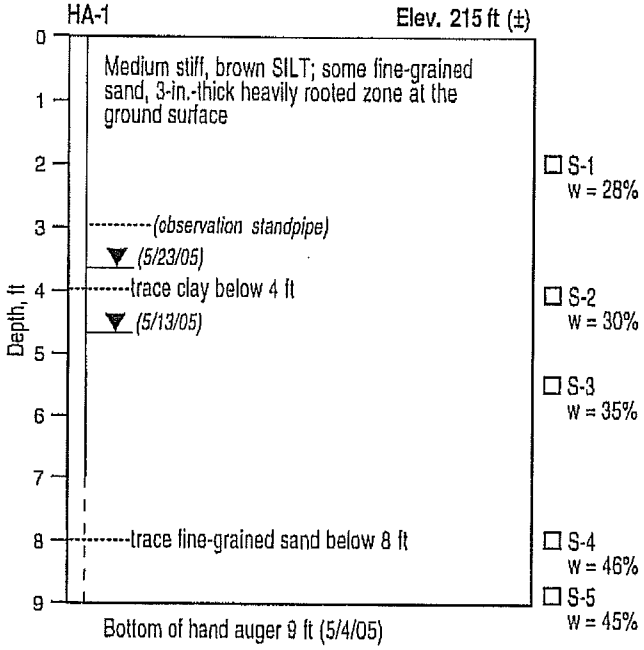
- □ = GRAB SAMPLE
- ▯ = 3-IN.-OD SHELBY TUBE SAMPLE
- w = NATURAL MOISTURE CONTENT
- c = TORVANE SHEAR STRENGTH
- γ_d = DRY UNIT WEIGHT
- ◀ = INFILTRATION TEST (BOTTOM OF TEST)

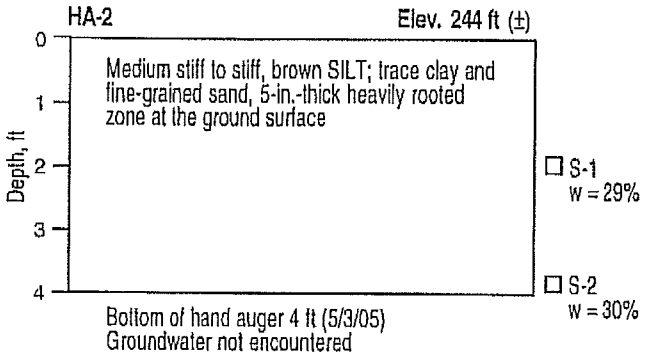
GROUND SURFACE ELEVATIONS FROM SITE PLAN, FIGURE 2

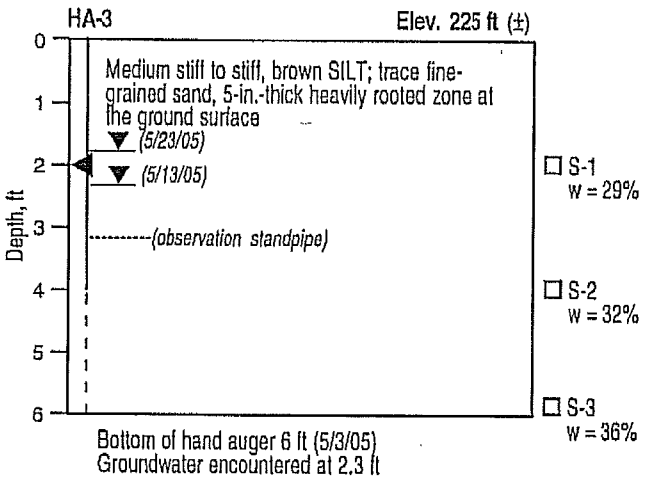
GRI

TEST PIT LOGS

JUNE 2005 JOB NO. 4275 FIG. 4A







LEGEND

□ = GRAB SAMPLE

w = NATURAL MOISTURE CONTENT

◀ = INFILTRATION TEST (BOTTOM OF TEST)

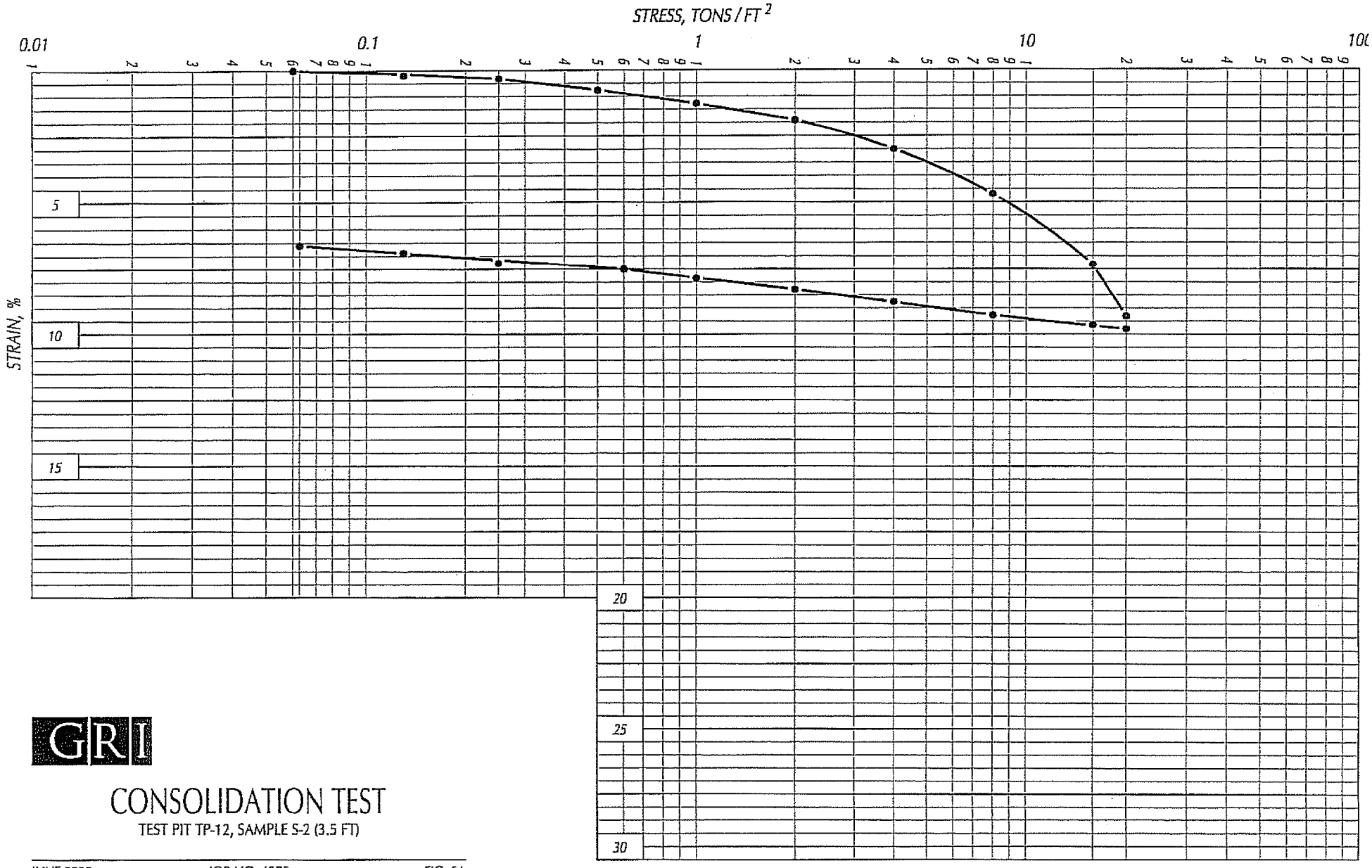
GROUND SURFACE ELEVATIONS FROM SITE PLAN, FIGURE 2

GRI

HAND-AUGER BORING LOGS

JUNE 2005 JOB NO. 4275 FIG. 5A

TEST PIT	SAMPLE	DEPTH, FT	MOISTURE CONTENT, % (INITIAL)	MOISTURE CONTENT, % (FINAL)	DRY UNIT WEIGHT, PCF (INITIAL)	DRY UNIT WEIGHT, PCF (FINAL)	SOIL DESCRIPTION
TP-12	S-2	3.5	30	30	91	97	MEDIUM STIFF, BROWN, SILT; SOME FINE GRAINED SAND



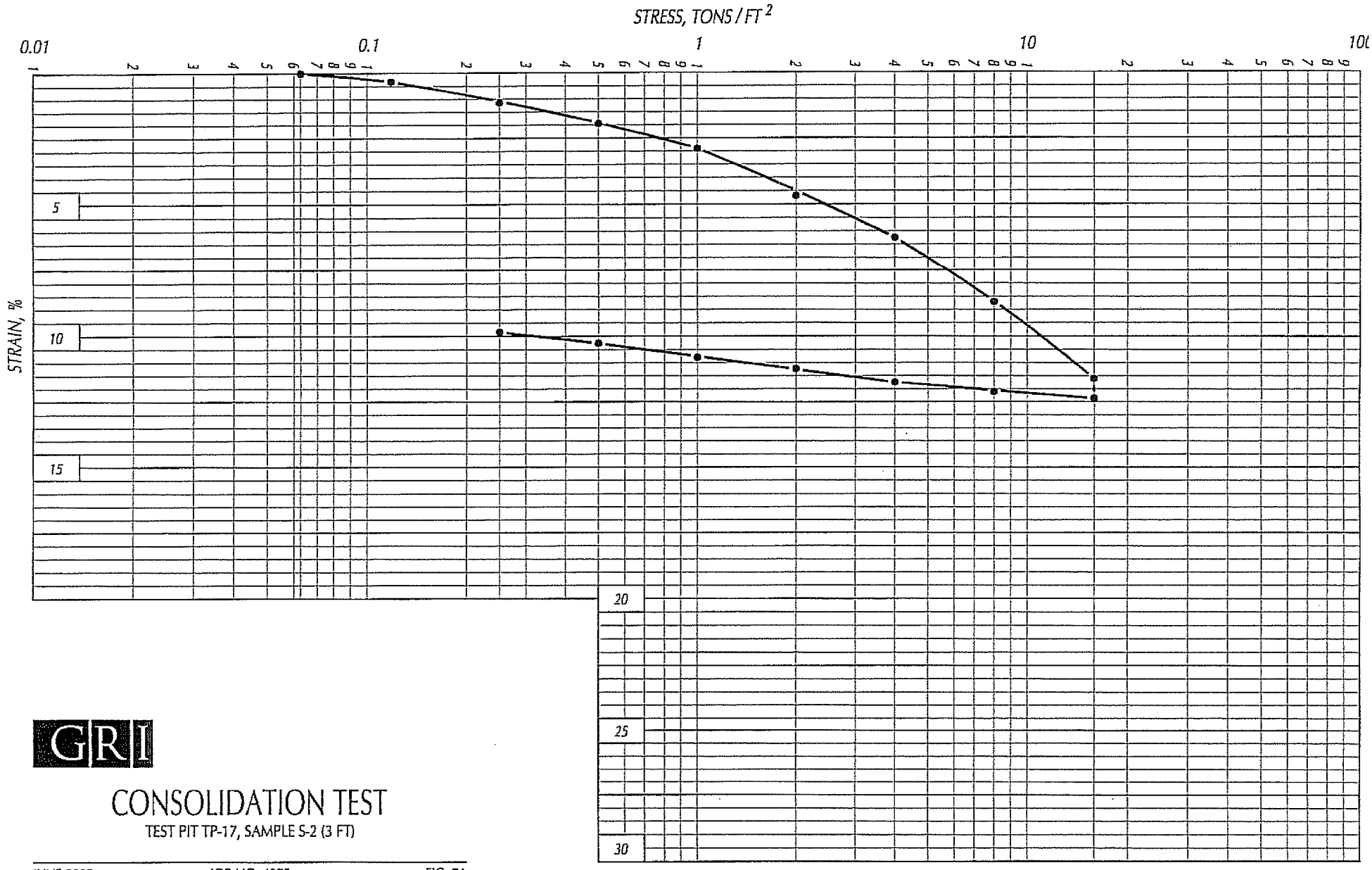
GRI

CONSOLIDATION TEST

TEST PIT TP-12, SAMPLE S-2 (3.5 FT)

JUNE 2005 JOB NO. 4275 FIG. 6A

TEST PIT	SAMPLE	DEPTH, FT	MOISTURE CONTENT, % (INITIAL)	MOISTURE CONTENT, % (FINAL)	DRY UNIT WEIGHT, PCF (INITIAL)	DRY UNIT WEIGHT, PCF (FINAL)	SOIL DESCRIPTION
TP-17	S-2	3	26	26	91	101	STIFF, BROWN SILT; TRACE CLAY AND FINE-GRAINED SAND



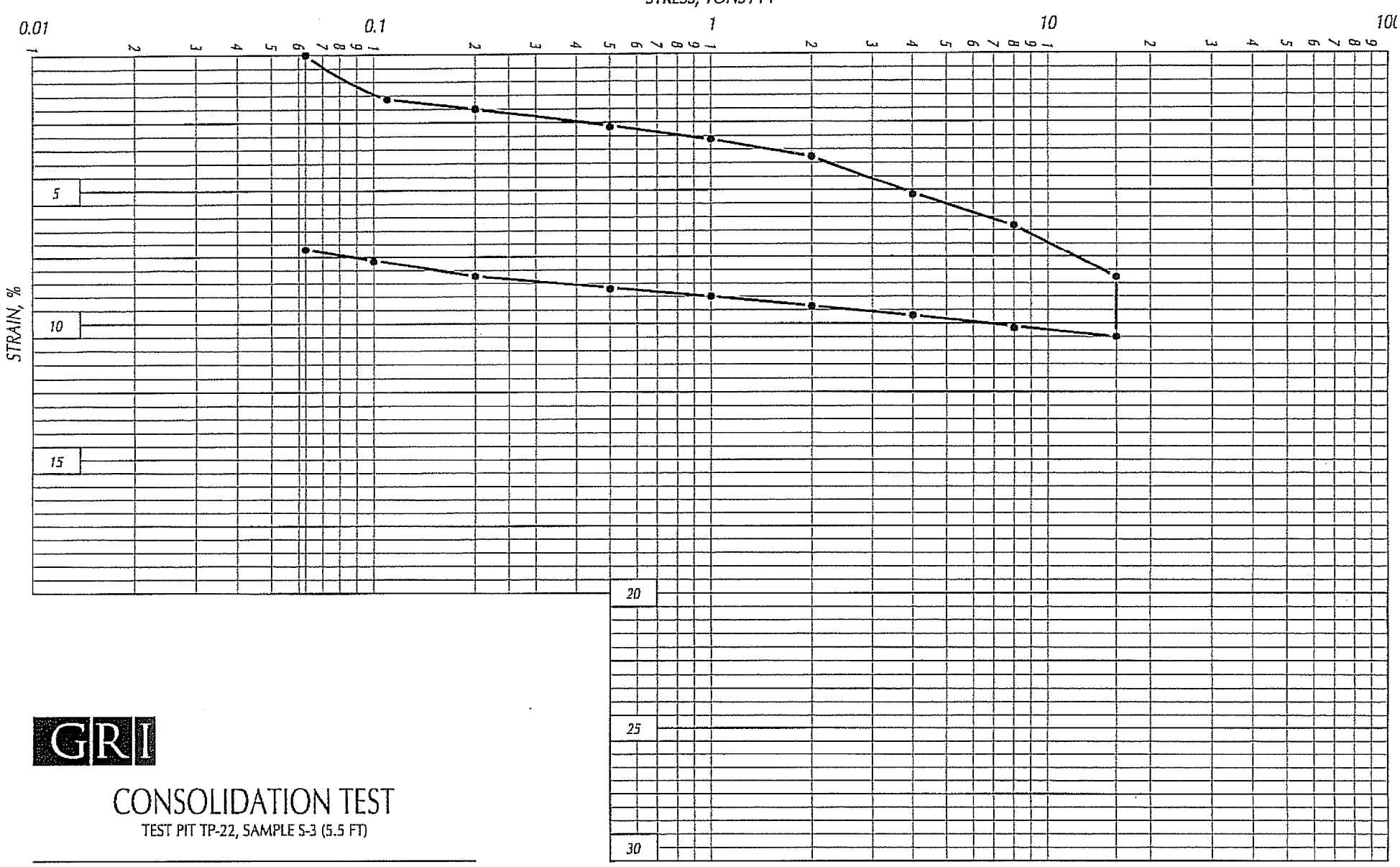
GRI

CONSOLIDATION TEST

TEST PIT TP-17, SAMPLE S-2 (3 FT)

JUNE 2005 JOB NO. 4275 FIG. 7A

TEST PIT	SAMPLE	DEPTH, FT	MOISTURE CONTENT, % (INITIAL)	MOISTURE CONTENT, % (FINAL)	DRY UNIT WEIGHT, PCF (INITIAL)	DRY UNIT WEIGHT, PCF (FINAL)	SOIL DESCRIPTION
TP-22	S-3	5.5	24	25	100	108	STIFF, BROWN SILT; TRACE FINE-GRAINED SAND

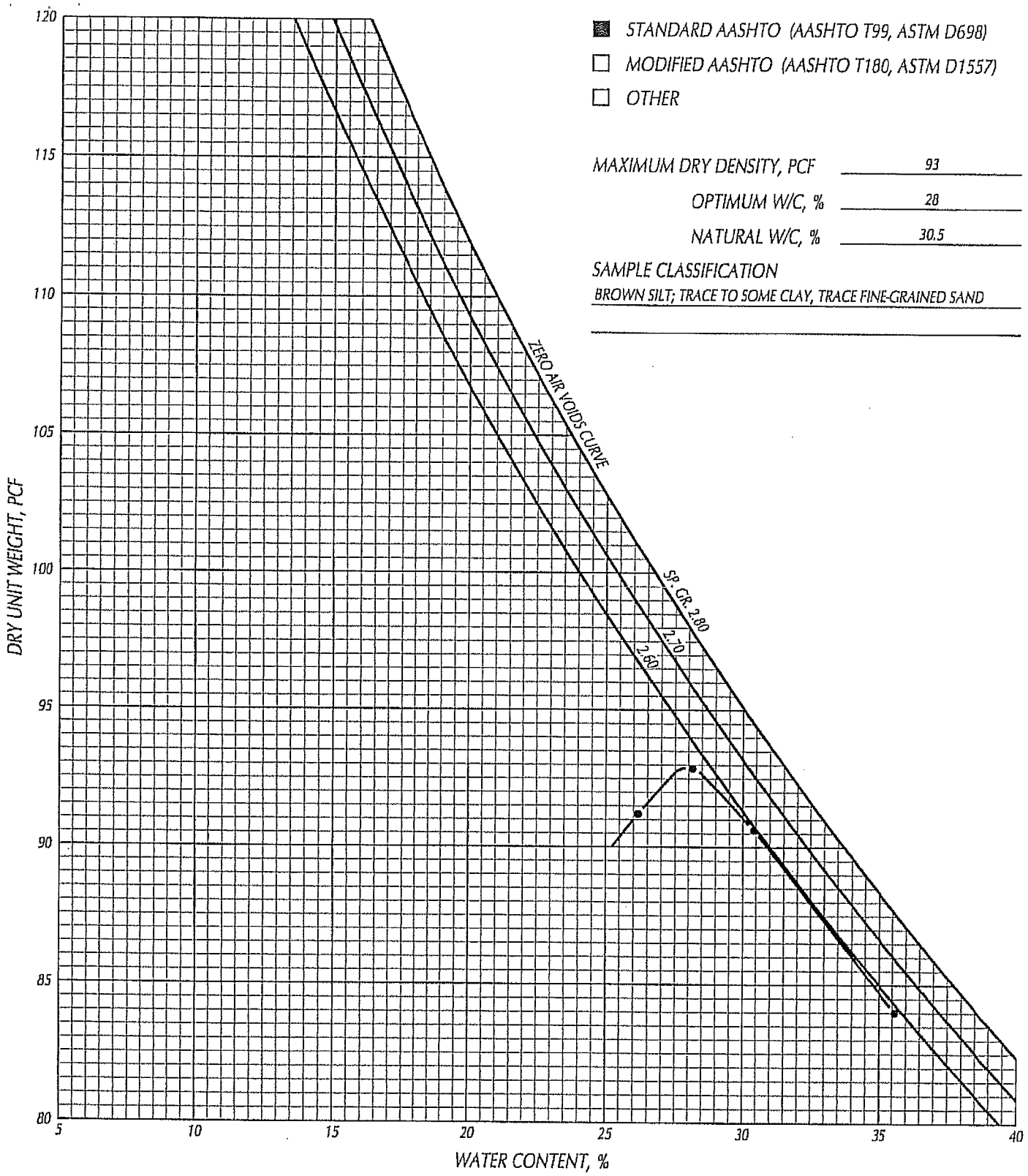


GRI

CONSOLIDATION TEST

TEST PIT TP-22, SAMPLE S-3 (5.5 FT)

JUNE 2005 JOB NO. 4275 FIG. 8A



■ STANDARD AASHTO (AASHTO T99, ASTM D698)

□ MODIFIED AASHTO (AASHTO T180, ASTM D1557)

□ OTHER

MAXIMUM DRY DENSITY, PCF 93

OPTIMUM W/C, % 28

NATURAL W/C, % 30.5

SAMPLE CLASSIFICATION

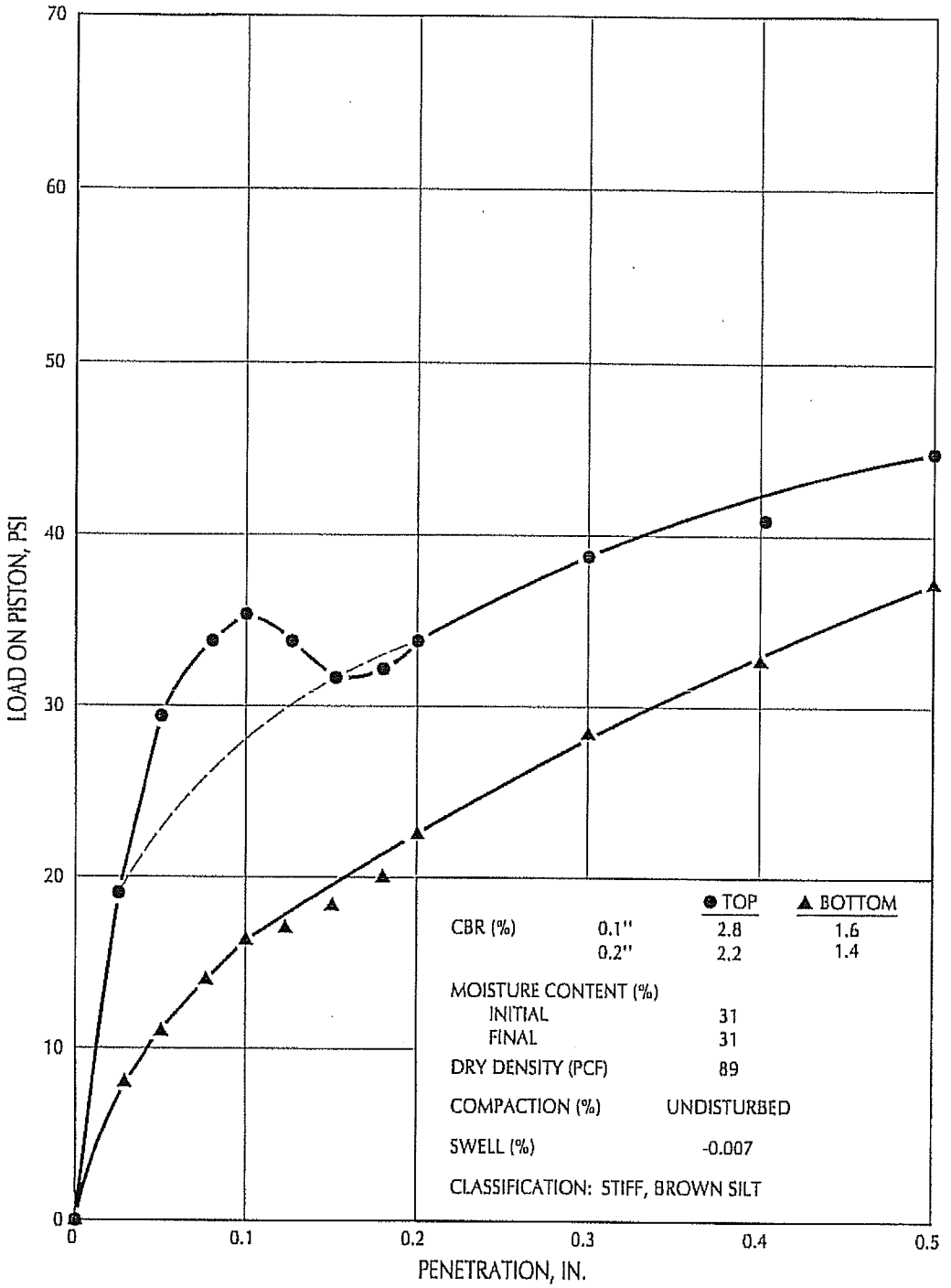
BROWN SILT; TRACE TO SOME CLAY, TRACE FINE-GRAINED SAND

GRI

COMPACTION TEST

TEST PIT TP-16 (2.5 FT)

JUNE 2005 JOB NO. 4275 FIG. 9A



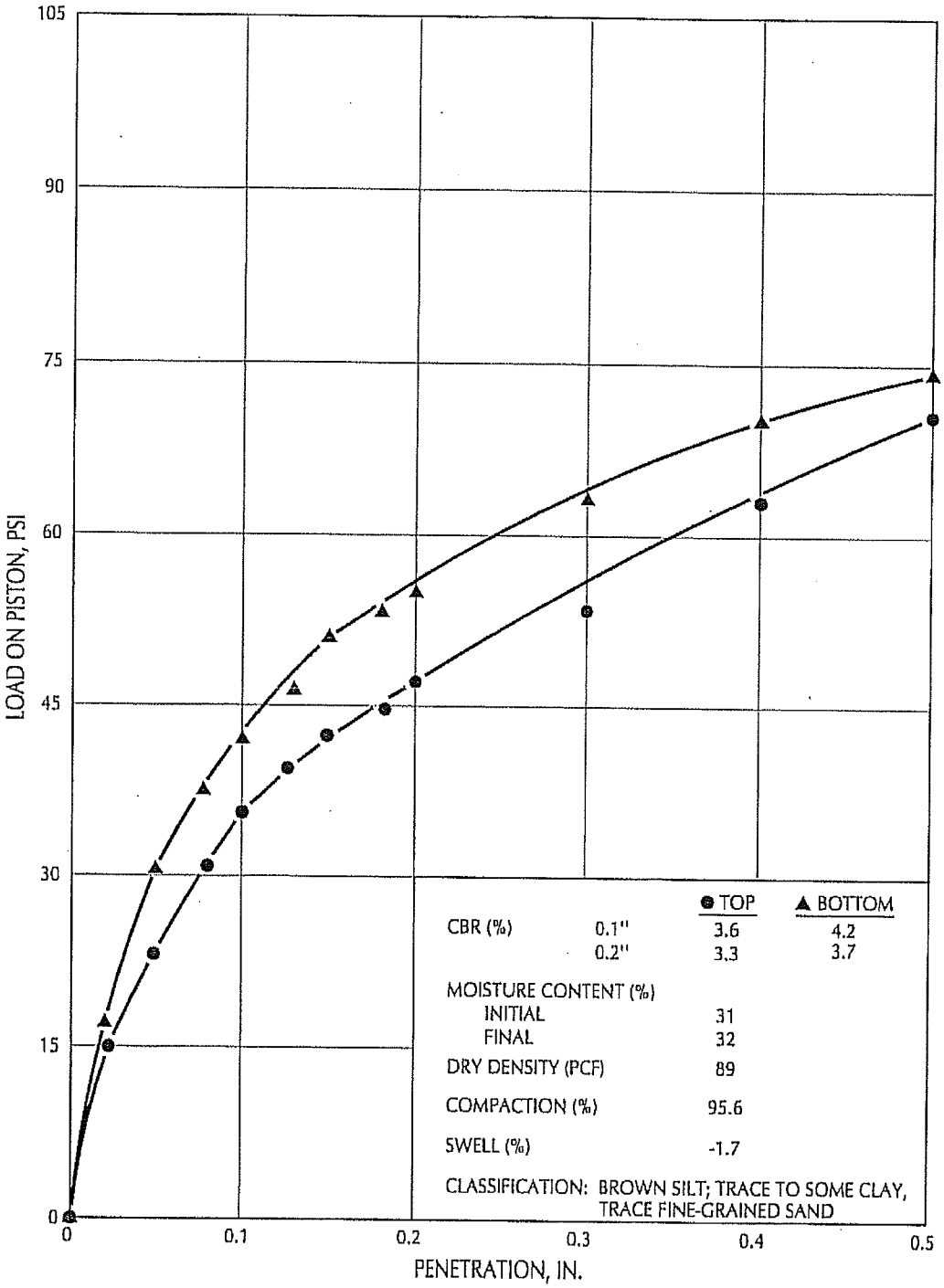
GRI

(UNDISTURBED)

CBR TEST

(TP-10, DEPTH 3 FT)

JUNE 2005 JOB NO. 4275 FIG. 10A



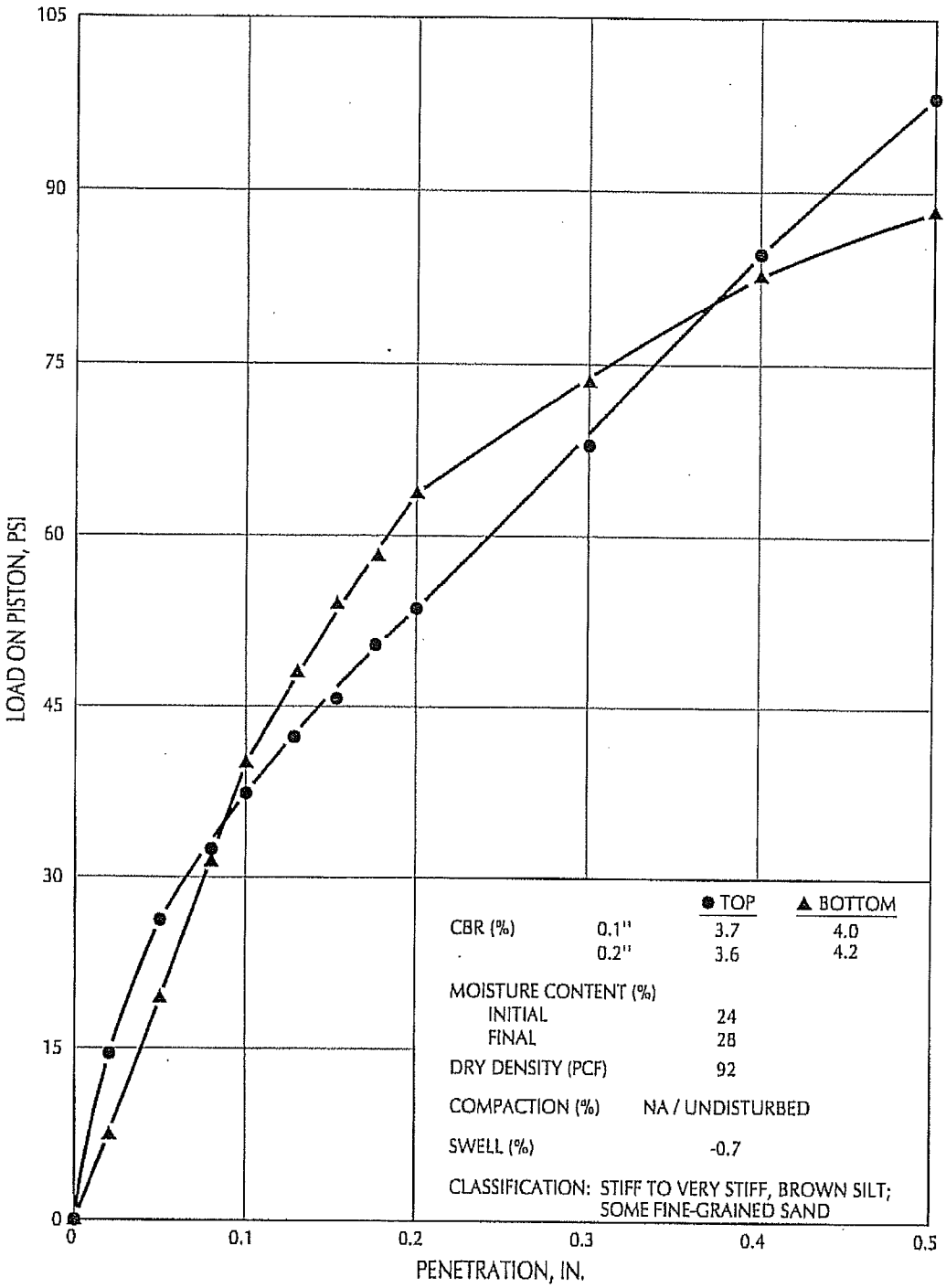
GRI

(REMOLDED)

CBR TEST

(TP-16, DEPTH 2.5 FT)

JUNE 2005 JOB NO. 4275 FIG. 11A



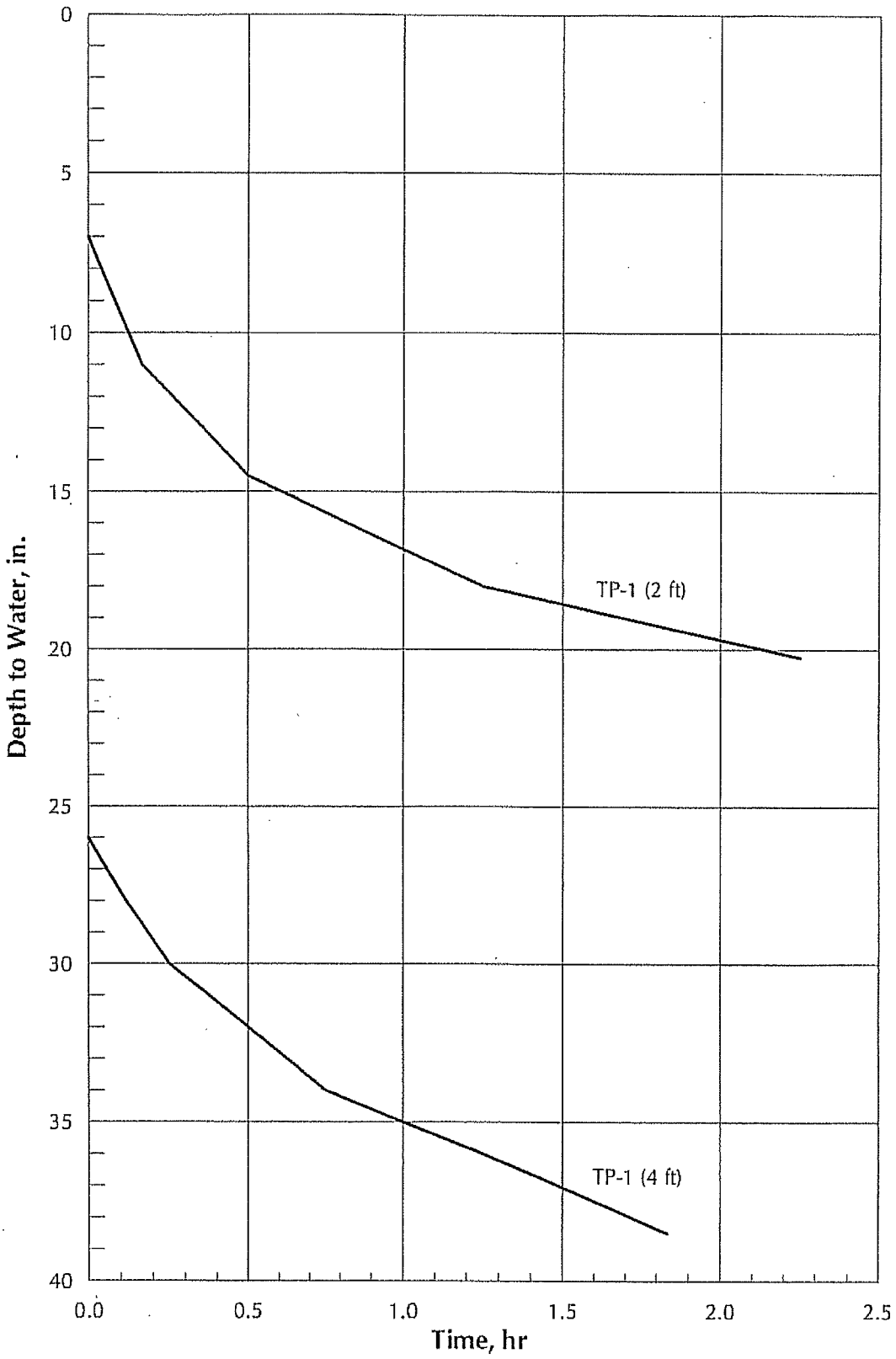
GRI

(UNDISTURBED)

CBR TEST

(TP-20, DEPTH 3 FT)

JUNE 2005 JOB NO. 4275 FIG. 12A

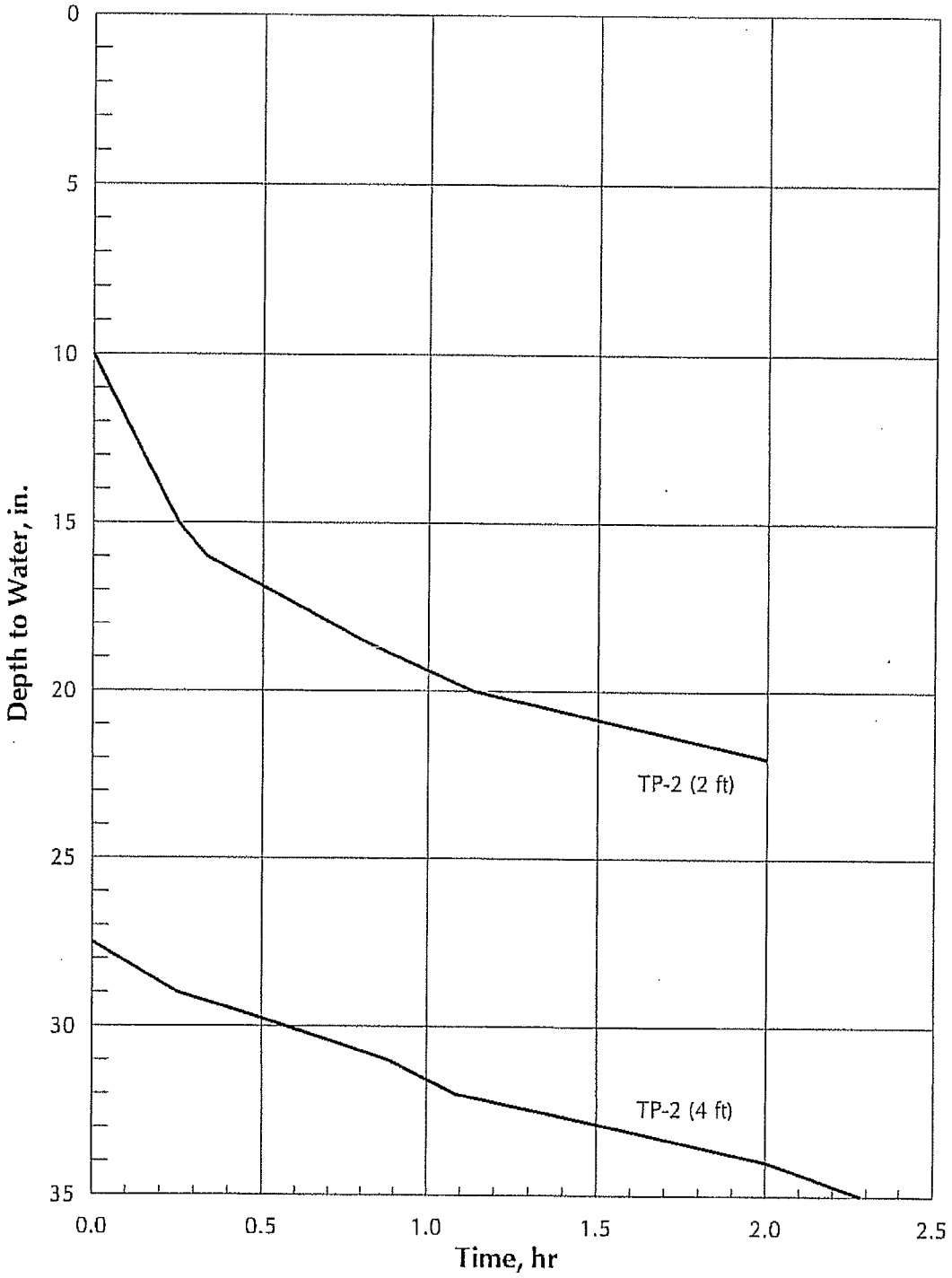


GRI

INFILTRATION GRAPHS

(TEST PIT TP-1)

JUNE 2005 JOB NO. 4275 FIG. 13A

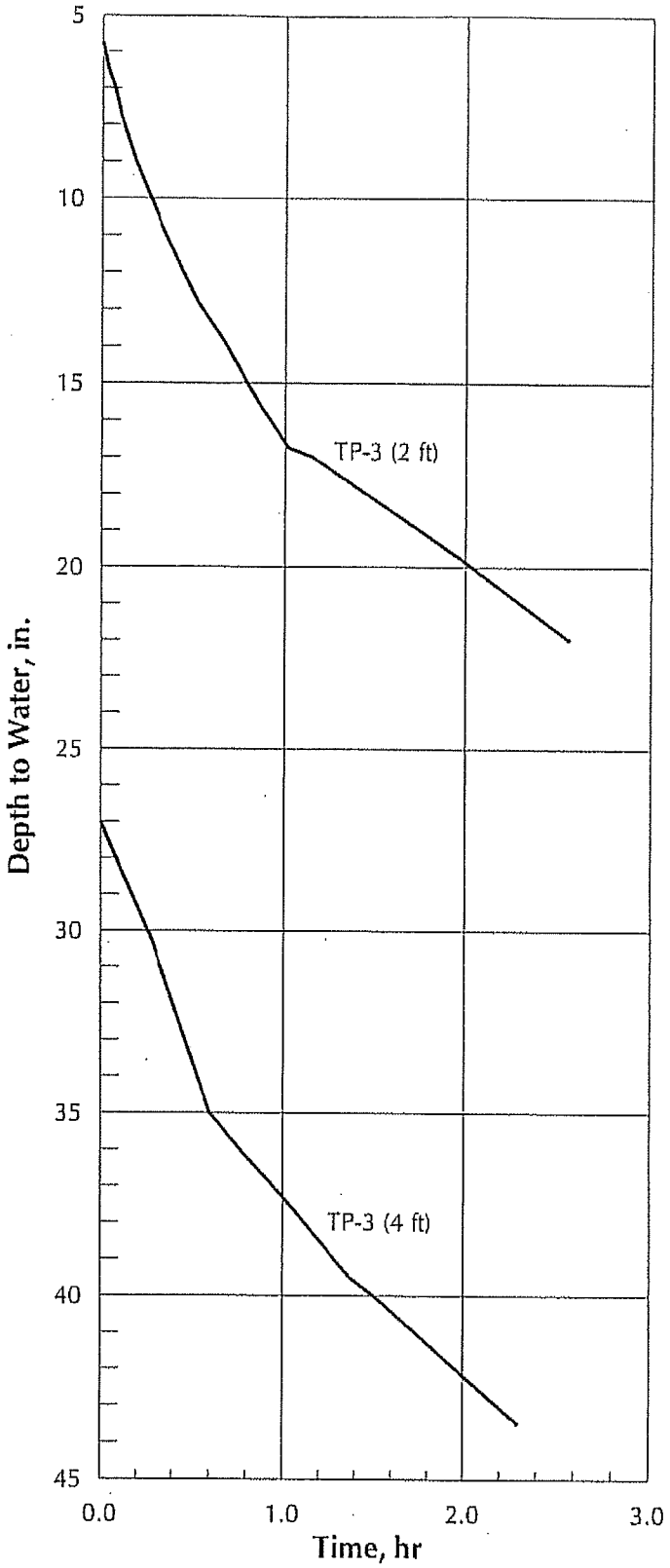


GRI

INFILTRATION GRAPHS

(TEST PIT TP-2)

JUNE 2005 JOB NO. 4275 FIG. 14A

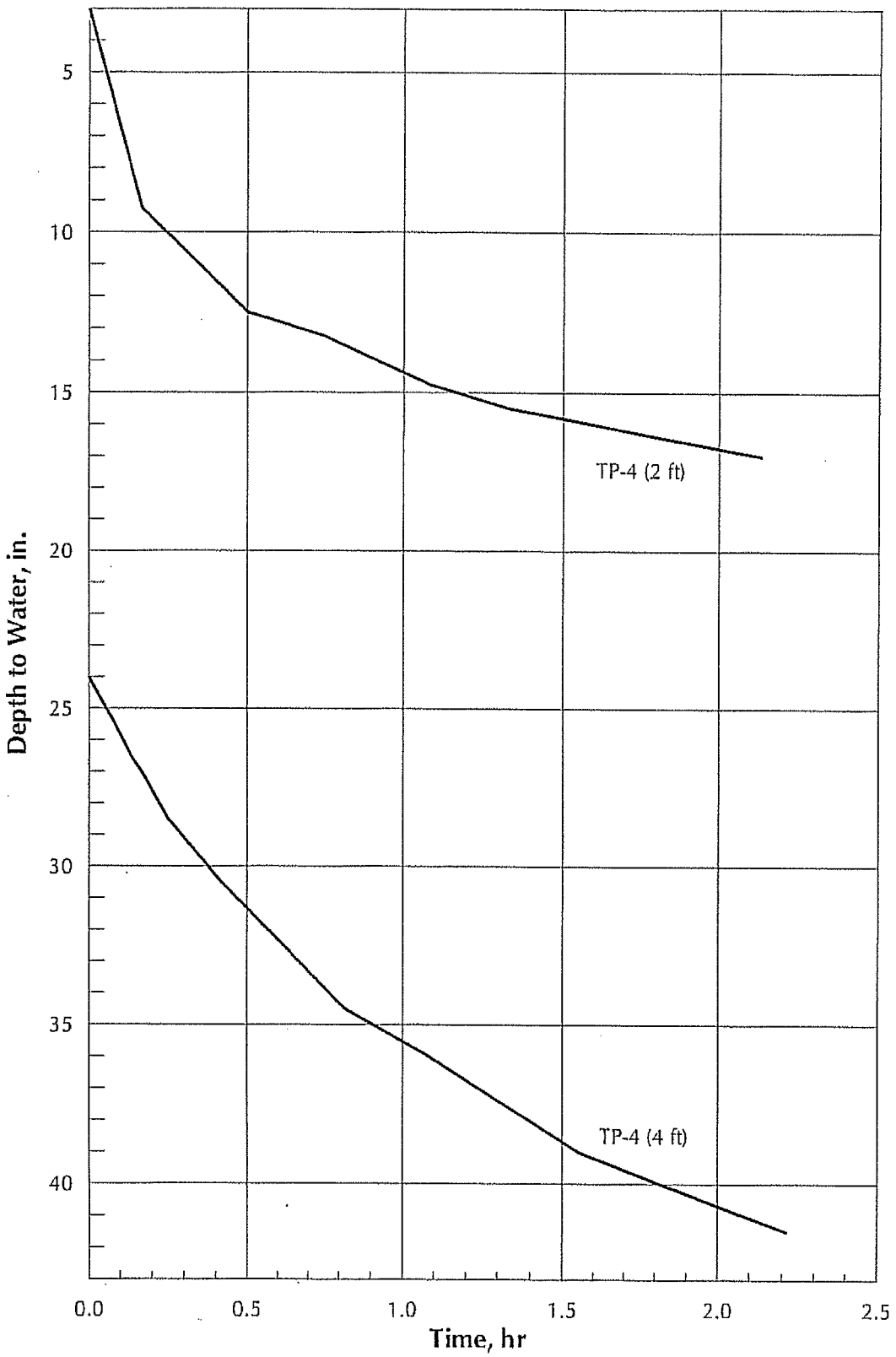


GRI

INFILTRATION GRAPHS

(TEST PIT TP-3)

JUNE 2005 JOB NO. 4275 FIG. 15A

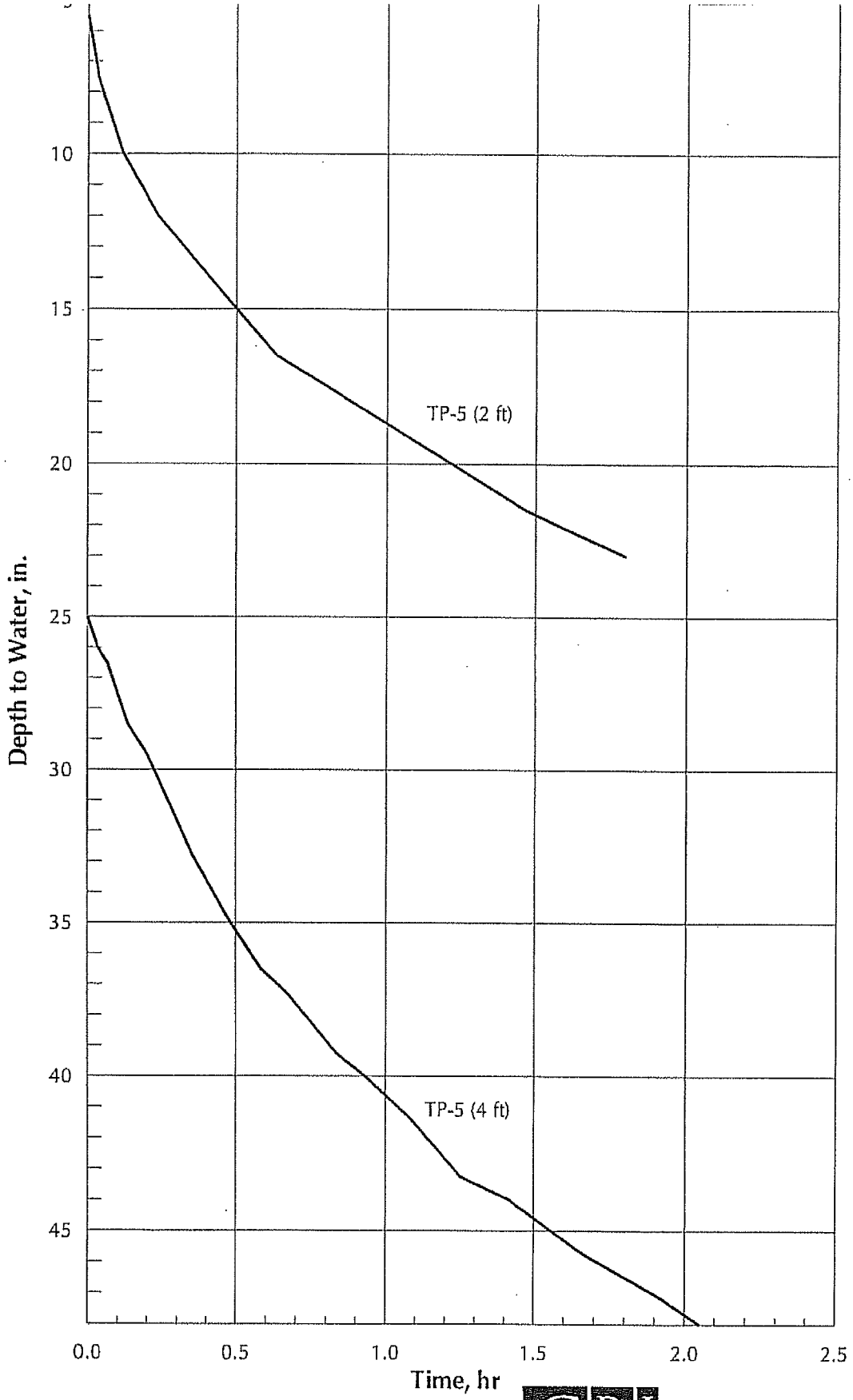


GRI

INFILTRATION GRAPHS

(TEST PIT TP-4)

JUNE 2005 JOB NO. 4275 FIG. 16A

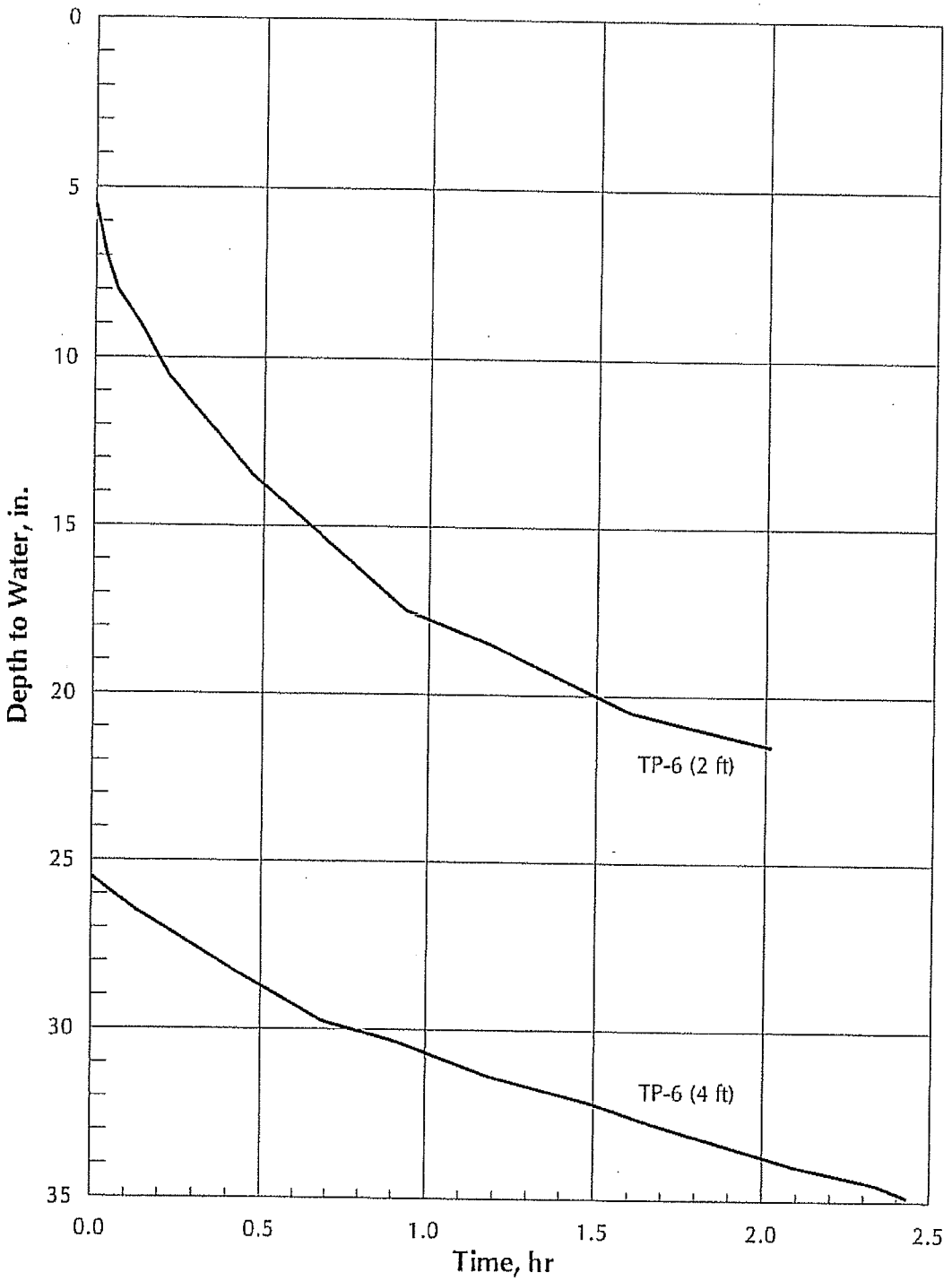


GRI

INFILTRATION GRAPHS

(TEST PIT TP-5)

JUNE 2005 JOB NO. 4275 FIG. 17A

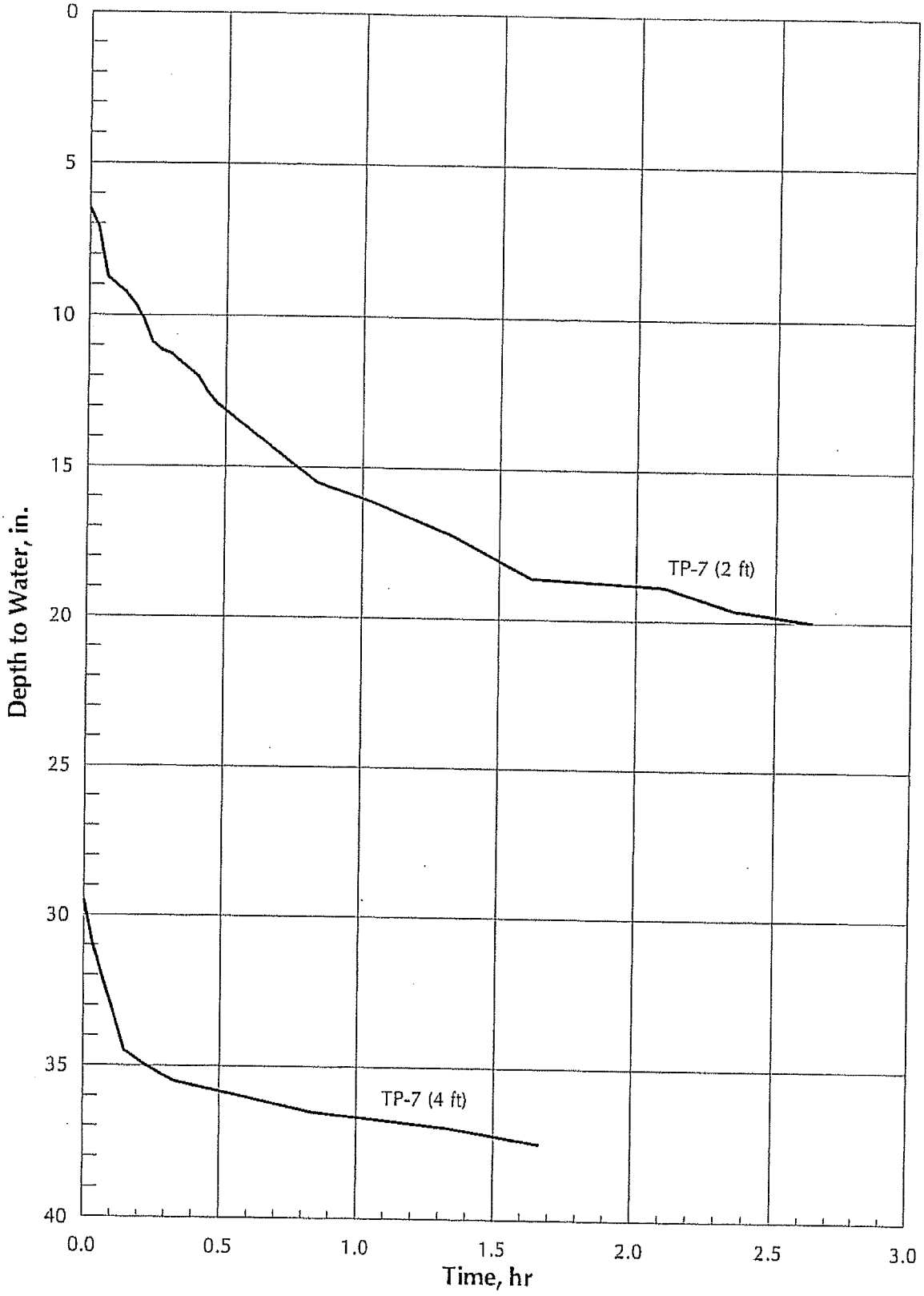


GRI

INFILTRATION GRAPHS

(TEST PIT TP-6)

JUNE 2005 JOB NO. 4275 FIG. 18A

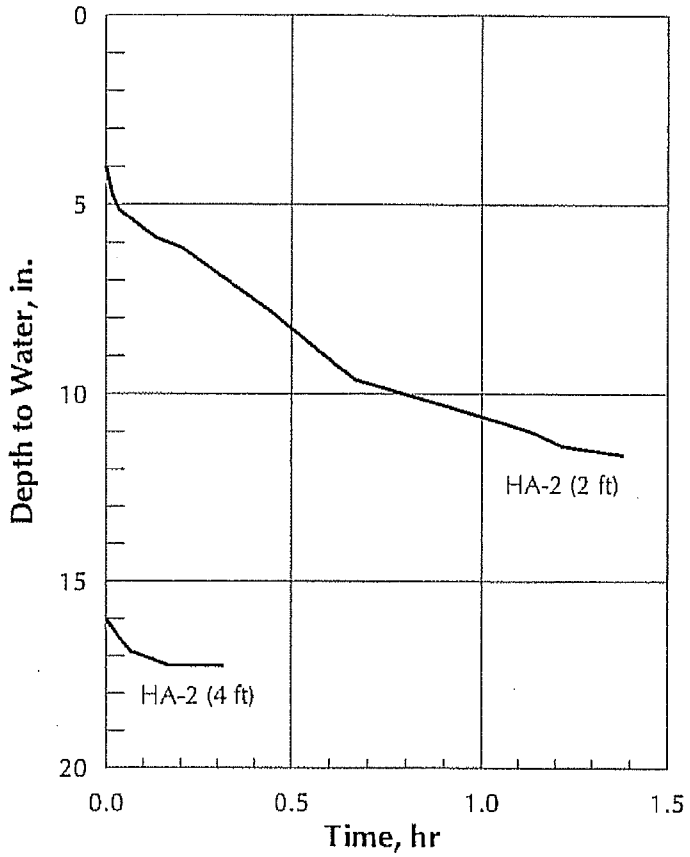


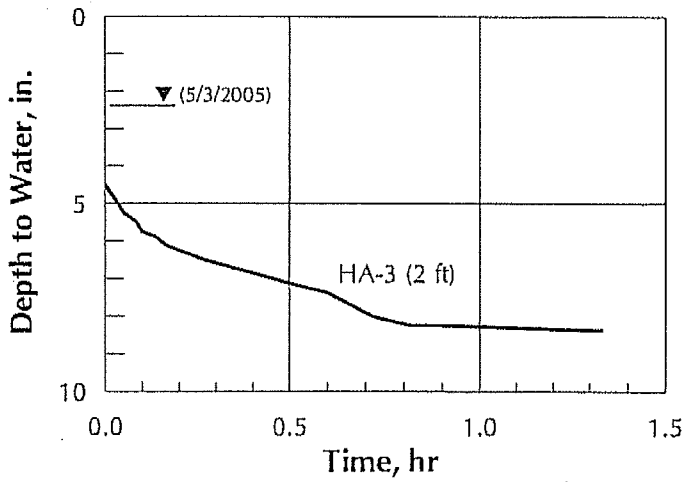
GRI

INFILTRATION GRAPHS

(TEST PIT TP-7)

JUNE 2005 JOB NO. 4275 FIG. 19A





GRI

INFILTRATION GRAPHS

(HAND AUGERS HA-2 & HA-3)

JUNE 2005 JOB NO. 4275 FIG. 20A

C. Permitted Land Uses

SRC 116.100 through 116.130. (Ord No. 1-2002; Repealed and Reenacted by Ord No. 53-2003)

Table 143C-1

P = permitted use; S = special use; C = conditional use; A = administrative conditional use

	LI	MI*	AU	VC
RESIDENTIAL				
One single family dwelling, townhouse, or duplex per lot	P	P	P	P
Unlimited number of dwelling units and guest rooms in apartment houses, court apartments, condominiums, and residential hotels, room and board facilities serving five or fewer persons		P	P	P
One manufactured home on a single lot [SRC 119.710]	S	S	S	S
AGRICULTURE and FORESTRY				
~~Agricultural production - crops (01)~~	~~P~~	~~P~~	~~P~~	~~P~~
Retail sales area for agricultural products, provided that the sales area is no greater than 1,000 square feet; that one ~~off-street~~ parking space for each **500** square feet of sales area is provided in addition to all other applicable parking requirements; ~~that the retail use is conducted only between dawn and sunset and only for a continuous period of no more than seven months per calendar year beginning no earlier than April 1;~~ and that any sign erected in connection with the retail use complies with the Salem Sign Code and is not in any way artificially illuminated or electrically operated		P	P	
Veterinary services (0742)		P	P	P
~~Farm labor and management services (076)~~			~~P~~	
Farm labor and management services (076), offices only		P	P	P
Landscape and horticultural services (078)			P	
Landscape and horticultural services (078), offices only		P	P	P
~~Timber tracts (081)~~		~~P~~	~~P~~	
Forestry services (085), offices only			P	
CONSTRUCTION				
Building construction - general contractors and operative builders (15), offices only		P	P	P
~~Heavy Construction other than building construction - contractors (16), offices only~~		~~P~~	~~P~~	~~P~~
Construction - special trade contractors (17), offices only		P	P	P
MANUFACTURING				
~~Dairy products (202)~~		~~C~~	~~P~~	
~~Canned, frozen and preserved fruits, vegetables and food specialties (203)~~			~~P~~	
Grain mill products (204)		C	P	
Bakery products (205)		C	P	
Candy and other confectionery products (2064 and 2068)		C	P	
Chocolate and cocoa products (2066)		C	P	
Beverages (208)		C	P	
Miscellaneous food preparations and kindred products (209)		C	P	
Textile mill products (22)		C	P	
Apparel and other finished products made from fabrics and similar materials (23)		C	P	
Wood kitchen cabinets (2434)		C	P	
~~Paperboard containers and boxes (265)~~		~~C~~	~~P~~	
Printing, publishing, and allied industries (27)		C	P	

Table 143C-1

P = permitted use; S = special use; C = conditional use; A = administrative conditional use

	LI	MI*	AU	VC
Leather and leather products (31) BUT EXCLUDING leather tanning and finishing (311)		C	P	
~~Metal cans and shipping containers (341)~~		~~C~~	~~P~~	
Cutlery, hand tools and general hardware (342)		C	P	
Heating equipment, except electric and warm air; and plumbing fixtures (343)			P	
Metal forgings and stampings (346)			P	
~~Computer and office equipment (357)~~		~~C~~	~~P~~	
~~Electronic and other electrical equipment and components, except computer equipment (36)~~ ~~BUT EXCLUDING storage batteries (3691) and primary batteries, dry and wet (3692)~~		~~C~~	~~P~~	
Measuring, analyzing, and controlling instruments; medical and optical goods; watches and clocks (38) BUT EXCLUDING photographic equipment and supplies (386)		C	P	
Signs and advertising specialties (3993)		C	P	
TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, and SANITARY SERVICES				
Local and suburban transit and interurban highway passenger transportation (41)			P	P
~~Motor freight transportation and warehousing (42)~~			~~P~~	~~P~~
U.S. Postal Service (43)		P	P	P
Transportation services (47)		P	P	P
Communication (48)		P	P	P
Wireless Communication Facilities [SRC 119.460]	A	A	A	A
~~Antennas attached to existing or approved structures [SRC 119.460]~~	~~S~~	~~S~~	~~S~~	~~S~~
WHOLESALE TRADE				
Wholesale trade-durable goods (50) BUT EXCLUDING scrap and waste materials (5093), and durable goods, not elsewhere classified (5099)			P	
Wholesale trade-non-durable goods (51) BUT EXCLUDING livestock (5154), and chemicals and allied products (516)			P	
RETAIL TRADE				
Building materials, hardware, garden supply (52), BUT EXCLUDING mobile home dealers (5271)			P	P
General merchandise stores (53)		P	P	P
Food stores (54) BUT EXCLUDING meat markets and freezer provisioners (542)		P	P	P
~~Automotive dealers and gasoline service stations (55) BUT EXCLUDING Auto and Home Supply Stores (553) and Gasoline Service Stations (554)~~		~~C~~	~~C~~	~~C~~
Auto and home supply stores (553)		P	P	P
Gasoline service stations (554) [SRC 119.150]			S	S
Apparel and accessories stores (56)		P	P	P
Furniture, home furnishings, and equipment stores (57)		P	P	P
Eating and drinking places (58) EXCEPT Drive-throughs		P	P	P
Miscellaneous retail (59) including, in addition to uses specifically listed in SIC group 599, electrical and lighting shops, office machines and equipment stores, and tractor and farm equipment shop		P	P	P
FINANCE, INSURANCE, and REAL ESTATE				
Depository Institutions (60)		P	P	P

Table 143C-1				
P = permitted use; S = special use; C = conditional use; A = administrative conditional use				
	LI	**MI***	**AU**	**VC**
Non-depository Credit Institutions (61)		P	P	P
Security and commodity brokers, dealers, exchanges and services (62)		P	P	P
Insurance carriers (63)		P	P	P
Insurance agents, brokers, and service (64)		P	P	P
Real estate (65)		P	P	P
Holding, and other investment offices (67)		P	P	P
SERVICES				
Hotels and motels (701) BUT EXCLUDING casino hotels			P	P
Bed and breakfast establishments		P	P	P
Personal services (72)		P	P	P
Business services (73)		P	P	P
Automotive repair services, and parking (75)			P	P
Miscellaneous repair services (76)			P	P
Motion pictures (78)		P	P	P
Amusement and recreation services (79) BUT EXCLUDING casinos, racing, including track operation (7948) and entertainment establishments, except as permitted as a special use in SRC 155.030(a)(2)		P	P	P
Health services (80) BUT EXCLUDING hospitals (806)		P	P	P
Legal services (81)		P	P	P
Educational services (82)		P	P	P
Social services (83) BUT EXCLUDING homeless shelters serving more than 5 persons			P	P
Child day care home		P	P	P
Adult day care home		P	P	P
Membership organizations (86), BUT EXCLUDING religious organizations (8661)		P	P	P
Religious organizations (8661)	P	P	P	P
Engineering, Accounting, Research, Management, and Related Services (87)		P	P	P
Accounting, auditing, and bookkeeping (893)		P	P	P
Services, not elsewhere classified (899)		P	P	P
PUBLIC ADMINISTRATION				
Executive offices (911)		P	P	P
Executive and legislative combined (913)		P	P	P
General government, not elsewhere classified (919)		P	P	P
Fire protection (9224)		P	P	P
Public order and safety, not elsewhere classified (9229)		P	P	P
Finance, taxation, and monetary policy (93)		P	P	P
Administration of human resources programs (94)		P	P	P
Administration of environmental quality and housing programs (95)		P	P	P
Administration of economic programs (96)		P	P	P
~~National security and international affairs (97)~~		~~P~~	~~P~~	~~P~~
OTHER USES				
Community or neighborhood clubs		P	P	P
Swimming pools, whether or not open to the public for a fee		P	P	P
Playgrounds, parks	P	P	P	P
Public buildings and structures, such as libraries, fire stations		P	P	P
Right-of-way for electric service lines, gas mains,	P	P	P	P

Table 143C-1				
P = permitted use; S = special use; C = conditional use; A = administrative conditional use				
LI		**MI***	**AU**	**VC**
communications and CATV lines, water lines, sewer lines				
Public utility structures and buildings such as pump stations, reservoirs, radiomicrowave relay stations, telephone substations, and electric substations	P	P	P	P
Dwelling unit or guest room for a caretaker or watchman on the premises being cared for or guarded		P	P	P
Recycling depots		P	P	P
Transit stop shelters	P	P	P	P
ACCESSORY USES and STRUCTURES				
Customary residential accessory buildings and structures for private use of the property and its occupants	P	P	P	P
A garage or parking area serving the main building or use	P	P	P	P
Sleeping quarters for domestic employees of the resident of the main building	P	P	P	P
Home occupations	P	P	P	P
The taking of boarders or leasing of rooms by a resident family, providing the total number of boarders and roomers does not exceed two in any dwelling unit	P	P	P	P
*Non-residential uses in the MI Overlay Area are limited to a maximum building footprint of 6,000 square feet.				

Natural Resources Inventory for:

Sustainable Fairview Site

Prepared for

Sustainable Fairview Associates

October 22, 2003

Prepared by

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Title: Natural Resources Inventory for Sustainable Fairview Site

Project: WHP Job No. 30527

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I INTRODUCTION AND PURPOSE OF REPORT

This report presents results of a natural resources inventory on the Sustainable Fairview Site (the former Fairview Training Center), located in Salem, Oregon. The project area is bounded on the north by Strong Road, on the east by Reed Road SE, on the south by Battle Creek Road, and on the west by Pringle Road SE. See Figure 1, Vicinity Map for the project area location. The site investigation took place on October 3, 2003.

The purpose of this report is to provide a natural resources factual base for the Fairview Plan, a master plan for the Sustainable Fairview site. Sustainable Fairview Associates are currently developing the Fairview Plan as required by the City of Salem Fairview Mixed-Use (FMU) zone (Salem Revised Code Chapter 143C). Part of the purpose of the FMU zone is to:

"Preserve, to the greatest extent possible, the existing natural areas and open space, that may not otherwise be protected through conventional development". (Ch. 143C.010 (h))

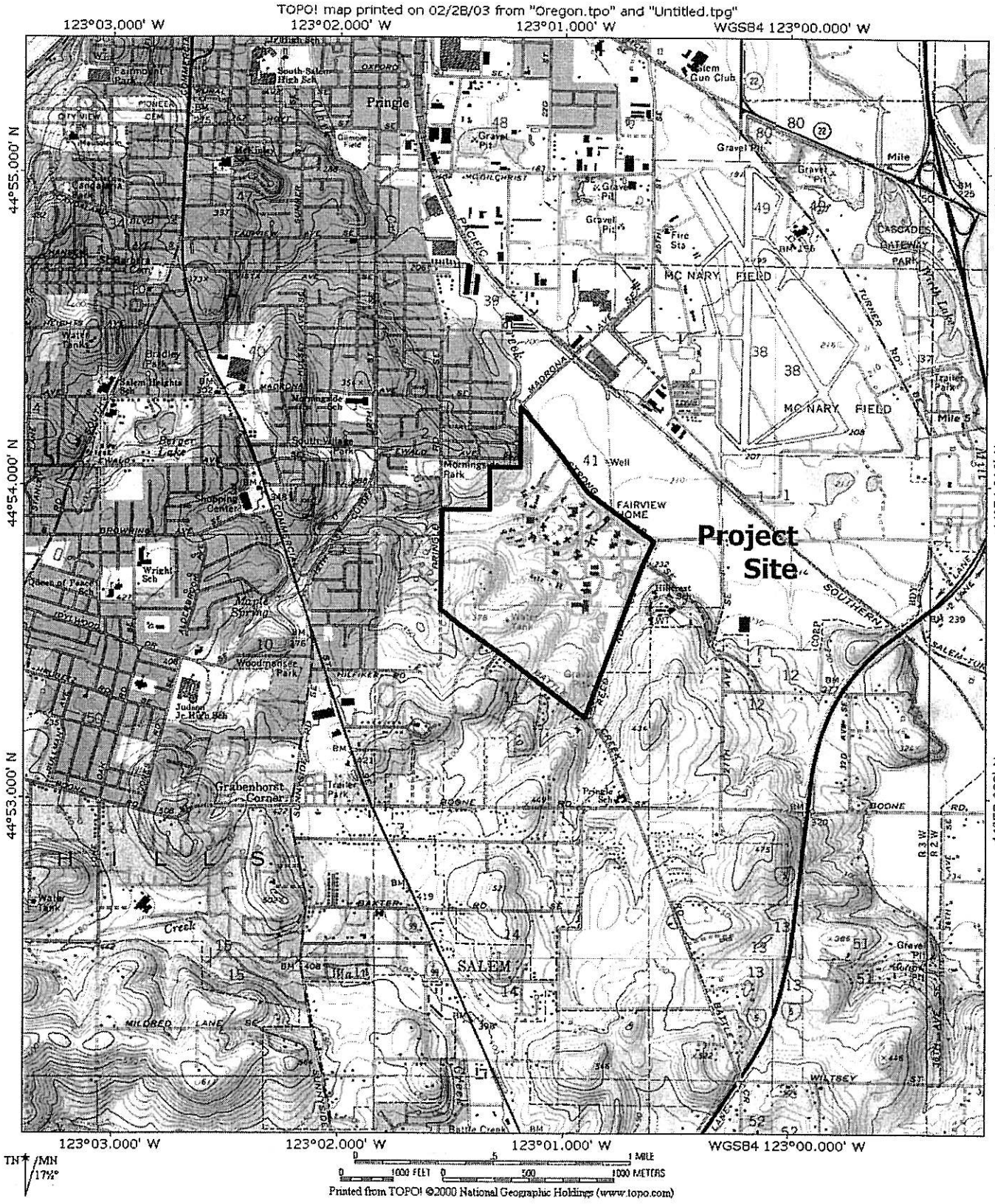
Among the requirements of the Fairview plan is an overall open space plan "identifying an integrated network of open spaces for the purpose of preserving and enhancing identified natural drainage patterns, significant trees and vegetation, and wetlands on the site, accommodating significant topographical features, and providing opportunities for active and passive recreation." (Ch. 143C.080 (b)(2))

The Fairview Plan includes a site analysis, which includes an "inventory and delineation of existing natural resources, including, but not limited to wetlands, as identified on the Local Wetlands Inventory, perennial and intermittent streams, and significant tree stands or groves, including any provisions for the preservation or conservation of these resources with attention given to the Natural Resource Guidelines in 143C.160." This report provides the inventory and delineation of natural resources required for the Fairview Plan.

The Natural Resources Guidelines state that the Fairview Plan shall identify how existing natural resources shall be protected through compliance with SRC Chapter 68, Preservation of Trees and Vegetation, and SRC Chapter 126, Wetlands. The Fairview Plan "shall consider all of the following:

1) The preservation of the natural drainage patterns of the site;
2) The existence and use of native plant species, where appropriate;
3) The integrity of mature stands of trees that are in good health;
4) The significant wildlife habitat.
5) The minimization of the amount of impervious surfaces near all waterways."

These code requirements provide the basis for this report.



Source: Topo! Oregon. 2000. National Geographic Holdings, Inc. Based on the 1986 USGS Salem West quadrangle map.

W&H PACIFIC	VICINITY MAP Sustainable Fairview Site Sustainable Fairview Associates Marion County, Oregon	Figure 1

II WETLANDS AND HYDROLOGY

A wetland delineation report, *Delineation of Wetlands and Other Waters of the United States for Sustainable Fairview Site,* has been prepared for the site, dated March 28, 2003. It has been filed with the Oregon Division of State Lands (DSL) for their review and "Jurisdictional Determination", but has not yet been filed with the U.S. Army Corps of Engineers (Corps). The report identifies 14 areas of "potential jurisdictional wetland" or "other waters" totaling 6.68 acres, as shown on Figure 2, Wetland Map. Wetlands and waters on the site include Pringle Creek and associated wetlands, two drainages in the southern part of the site which include small streams and associated wetlands, and various other emergent wetlands. In our judgment, certain of these areas, though they meet wetland criteria, may not be regulated by either the Corps of Engineers or Division of State Lands, or both. This may be due to their being artificially created in an upland location, or "isolated" from "waters of the U.S." (i.e. streams), or being in some other exempt category. Please refer to the wetland delineation report for discussion of jurisdictional issues.

SRC Chapter 126, Wetlands, sets forth standards for a Local Wetlands Inventory (LWI) and criteria for designating certain wetlands as **"locally significant wetlands"** (LSW). Revisions to Ch. 126 are currently proposed for adoption by the City Council. These revisions, if approved, will adopt the existing LWI (prepared in 1999). The revisions will also adopt a process for the City to add LSWs to the inventory if they meet the specified criteria. The inventory is to be updated as additional wetlands are identified, for instance by wetland delineation reports for proposed development sites, upon concurrence by the DSL. See Appendix B for the text of the proposed revisions to Chapter 126.

Currently, only two wetland areas within the Fairview site are mapped as "LSW": Pringle Creek and a small wetland on the western boundary that is associated with the creek. These areas are identified in the wetland delineation report as Area 4 (Pringle Creek) and Area 9. See the wetland delineation report for photographs of the wetland areas on the site.

The following is a summary description of wetlands and streams identified in the report, which provides additional information on vegetation, soils and hydrology. These descriptions do not classify additional wetlands as "LSW". This may be determined by the City, upon adoption of the above amendments to Chapter 126 using the adopted criteria.

Area 1 is located in a drainage in the southeastern part of the site and consists of a stream channel and three "slope" wetlands. The drainage begins at a culvert under Battle Creek Road. Stormwater from the adjacent residential area enters the drainage through the culvert. The wetlands are located in areas of shallow aquifer discharge (seeps), and provide base flow in the stream. The upper seep wetland is dominated by black cottonwood *(Populus trichocarpa)*, willow *(Salix spp.)*, and native herbaceous species. The smaller seep wetlands downstream are dominated by non-native grasses and native herbaceous species such as soft rush *(Juncus effusus)*. The stream passes through a culvert and ends in a low-lying basin near Reed Road. Water from this wetland appears to drain under Reed Road into a fork of Pringle Creek. No culvert could be located. Area 6 is associated with this drainage. This appears to be a former

farm pond impoundment into which the stream once flowed. The stream now flows beneath it through a culvert. Only the lowest part of this former impoundment is now wetland.

The seeps remain saturated at or just below the surface most of the year. The downstream seep was still discharging water to the stream at the time of the October 3 site investigation, after a dry summer.

Area 2 is located in a drainage that extends into the site from the southern boundary at Battle Creek Road. It consists of a stream channel and three wetlands. Stormwater from the adjacent residential area passes through a culvert under Battle Creek Road. The upper wetland appears to be a "slope" wetland like those in Area 1. The lower wetlands appear to have formed in shallow basins, with water feeding into them from the stream and wetland above. This lower wetland drains into a culvert and enters the drainage system beneath the Fairview building complex.

Area 3 is a short segment of a fork of Pringle Creek located in the southeastern corner of the site.

Area 4 consists of the channel of the mainstem of Pringle Creek and adjacent "slope" wetlands. (Note that the LWI does not show the adjacent wetlands.) The area is currently undergoing riparian restoration by Oregon Watersheds. This group has carried out bank stabilization, removal of invasive non-native species, such as Himalayan blackberry *(Rubus procerus)*, and planting of native trees and shrubs. Woody structures have also been placed in the stream channel. The adjacent wetland areas contribute ground water to the creek and help maintain baseflow. Wetland Area 10 is associated with Pringle Creek. It consists of a shallow basin in an adjacent "old field". It may also contribute to flow in Pringle Creek. Wetland Area 11 consists of a stormwater detention facility parallel to Pringle Creek. This broad, linear basin was excavated to receive overbank flows from the creek. Technically, it meets wetland criteria.

Area 5 consists of a shallow basin in an "old field" where a tile drain system has failed. This area is seasonally saturated. Precipitation in the drainage to the south infiltrates into the soil and is conveyed by the tile drain system. The system appears to be broken or blocked, creating Area 5. The tile drain system then carries the water to the east to a field inlet that connects to the drainage system under the Fairview building complex.

Area 7 is a flat grassy area below a zone of local shallow aquifer discharge near the eastern boundary. A shallow drainage ditch carries water to a culvert that leads to a roadside ditch along Reed Road. The existence of a connection to the fork of Pringle Creek across Reed Road could not be verified.

Area 8 and 9 are small "slope" wetlands located along the property boundary in areas of shallow aquifer discharge. . They are south of Pringle Creek on the opposite side of school playing fields, and have no surface connection, nor any apparent direct subsurface connection to the creek. Area 9 is, however, classified as "LSW" in the City's LWI.

Area 12 is a small pond near the main entrance that is reported to have been constructed as a visual amenity. It also receives stormwater, and in effect performs a stormwater detention

function.

Area 13 is a small localized area of seasonal saturation in a constructed drainage swale. Area 14 is a small wetland next to a building that appears to have developed as a result of leakage from within the building.

III STREAMS AND RIPARIAN VEGETATION

The Sustainable Fairview site contains reaches of four streams. All are within the Pringle Creek drainage basin. (See Figure 3, Natural Resources Inventory Map)

The mainstem of Pringle Creek flows through the northern part of the site. It drains an extensive basin within the developed part of the city to the west. Pringle Creek is a perennial, fish-bearing stream. Although this reach of the Pringle Creek has not been surveyed, cutthroat trout, a salmonid, have been found downstream, and also in the upper reaches of other branches. They are likely to be present therefore, in the reach on the project site (phone conversation between Phil Quarterman and Wayne Hunt, District Fish Biologist, ODFW, 10/23/03). Lower reaches of the creek beyond the site are known to support fall Chinook salmon, an anadromous species. This population was introduced in the 1970's, but continues to maintain a spawning run in the fall. Juvenile steelhead and probably also juvenile Chinook, have been found in the lower mainstem of Pringle Creek. Pacific lamprey, also an anadromous fish, have been found in this reach. Resident fish species include sculpin and shiners.

The small reach of stream in the southeastern corner of the site is a tributary of the West Fork of Middle Fork Pringle Creek. It may also provide potential habitat for cutthroat trout, though this cannot be confirmed.

The stream in the southeastern part of the site (Area 1 in the wetland delineation report) is perennial at least in its lower reach downstream from the lowest "slope" wetland. The stream was still flowing in this reach at the October 3 site investigation. The upstream reach has intermittent flow, estimated to extend from approximately November 1 to early summer. It is not fish –bearing, as it has no surface connection to the Pringle Creek system.

The stream further to the northwest (Area 2) has intermittent flow for most of its length. However, flow is apparently perennial within part of the lower wetland. We observed flow through a small channel and at the culvert within the lower wetland at the October 3 site investigation. The channel is not fish-bearing. There is no surface connection to the Pringle Creek system.

SRC Chapter 68: Preservation of Trees and Vegetation, states:

- "No trees or intact riparian corridor vegetation shall be removed within the riparian corridor of a fish-bearing waterway, " and

- "No trees shall be removed within the riparian corridor of a non fish-bearing waterway" (Ch. 68.050).

The code provides for exceptions and variances under certain circumstances. See Appendix C for the text of SRC Chapter 68.

"Tree" is defined in the code as "any living, standing, woody plant, having a trunk eight inches or more in diameter or 25 inches or more in circumference, measured at a point four feet above grade at the base of the trunk." The **"riparian corridor"** is measured 50 feet horizontally from the top of bank on each side of a waterway with less than 1,000 cubic feet per second average annual flow. Where a **"significant wetland"** lies within the riparian corridor, the corridor includes all of the wetland, and is measured from the outer wetland boundary. (This latter provision will become will become operational upon City Council adoption of the LWI).

"Fish-bearing waterway" is defined as a waterway that supports salmonid fish species. These waterways are shown on an official city map. Fish-bearing waterways include reaches upstream of those that have been studied, to the first natural or non-removable fish passage barrier.

"Intact riparian corridor vegetation" is defined as "(V)egetation that is characterized by a diverse, multi-layered assemblage of native trees and a vigorous, dense understory of native plants" that provides any of a number of water quality, flood control , or wildlife habitat benefits.

Riparian corridors on both fish-bearing and non fish-bearing streams, including those associated with "significant" wetlands, are shown on Figure 3. Also shown are areas of trees and "intact riparian corridor vegetation" that are protected by SRC Chapter 68, or will become protected upon adoption of the LWI.

The riparian corridor along the mainstem of Pringle Creek includes three wetlands that could potentially become classified as "significant". These wetlands are not shown currently on the LWI map. As Pringle Creek runs along the western property line, part of the riparian corridor includes some adjacent developed residential areas.

Vegetation in the riparian corridor includes a variety of tree species, including Douglas fir *(Pseudotsuga menziesii)*, Oregon white oak *(Quercus garryana)*, black cottonwood, red alder *(Alnus rubra)*, Ponderosa pine *(Pinus ponderosa)*, and Oregon ash *(Fraxinus latifolia)*, ranging in size from small saplings to mature individuals. Worthy of special note is a large (24 inch diameter) old Pacific yew *(Taxus brevifolia)* on the east bank of the stream. Also prevalent are willow, both Piper willow *(Salix piperi)*, a shrub species, and Pacific red willow *(S. lasiandra)*, which may reach tree size). Alder, cottonwood, ash, and willow are the most prevalent along the stream bank and in adjacent wetlands.

The understory consists of a mixture of tree saplings, native shrubs (willow and red osier dogwood *(Cornus sericea)* are the dominant native species), and dense Himalayan blackberry. Recent riparian restoration efforts by Oregon Watersheds, in conjunction with Oregon

Department of Administrative Services, have focused on fish habitat improvements, control of blackberry and replacement by native shrub and tree plantings along the southern part of the riparian corridor within the Fairview site (see Photos 1-3). Blackberry is still very prevalent in the untreated part of the corridor. Given the dominance of blackberry, it is questionable that the untreated part meets the definition of "intact riparian corridor vegetation". The goal of the restoration work is to return the riparian corridor to this condition.

The short reach of the tributary of the West Fork of East Fork Pringle Creek in the southeastern corner of the site has a riparian corridor consisting of black cottonwood, willow, Pacific ninebark *(Physocarpus capitatus)*, and Himalayan blackberry. The main creek is shown as a fish bearing stream. It is unknown whether fish passage exists through the culvert under Reed Road. For the purposes of this report, we assume there is no fish-passage barrier. There is sufficiently diverse native plant cover for the riparian corridor to be considered "intact riparian corridor vegetation".

The two non fish-bearing streams are shown on Figure 3. The larger of the two streams is shown as part of Wetland Area 1 (see Figure 2 and Photo 4). The smaller is part of Wetland Area 2. The non-fish bearing streams generally lack trees within their riparian corridors. The only stand of trees of sufficient diameter to be protected under SRC Chapter 68 is a group of mature black cottonwood in the uppermost seep wetland along the larger of the two streams.

The riparian corridors of these two streams are dominated mostly by dense Himalayan blackberry thickets. There are also openings dominated by non-native grasses. The wetland areas adjacent to the streams are dominated by a mixture of non-native grasses and native wetland herbaceous species. The upper reach of Area 1 passes through an overgrown orchard where the fruit trees remain, though now invaded by blackberry.

The wetlands along these two non fish-bearing streams are classified as "non-significant" in the LWI. These wetlands could potentially become classified as "significant" wetlands under the proposed revisions to SRC Chapter 68. For the purposes of this report, the riparian corridor includes both the streams and the adjacent wetlands.

IV SIGNIFICANT TREE STANDS AND NATIVE PLANT SPECIES

The Fairview site contains a number of significant tree stands, shown on Figure 3, Natural Resources Inventory Map. See Appendix A for a table summarizing the 16 tree stands that were identified, and their characteristics. "Significant tree stand" is not a defined term in City code. For the purposes of this inventory, the term is defined as a group of six or more standing live native trees 12 inches or more diameter at breast height (dbh). SRC Chapter 68 does include a definition of **"significant tree"** for individual trees rather than stands, which includes Heritage trees (as defined in SRC Chapter 86.010) and "rare, threatened, or endangered" trees.

SRC Ch. 68 regulates the removal of trees on parcels of 20,000 square feet or more (SRC 680.040). It also requires submittal of a Tree Conservation Plan in conjunction with a building permit or other types of development proposal, such as a planned unit development, on

properties with trees protected by the code. The criteria for "non-discretionary approval" include preservation of all "significant trees", as defined, and trees within riparian corridors, plus at least 25% of the existing trees on the property (SRC Ch. 68.075). There are a number of exceptions, including removal of "hazard trees".

The dominant native tree species in these stands are Douglas fir and Oregon white oak. In certain stands grand fir *(Abies grandis)* is also a dominant species. These native tree stands may be representative of pre-European settlement tree stands at least in their dominant tree and shrub species. The herbaceous layer has been much more heavily altered, and their historic composition is now not precisely known. Except perhaps for the largest trees, these trees are probably not old enough to date from the pre-European settlement era (approximately pre-1840), given the favorable growing conditions and relatively rapid growth rate for these species on this site, compared to higher elevations.

There are no known "rare, threatened, or endangered" tree species or Heritage Trees on the site.

Stand Number 5 in the southwestern corner of the site is the largest in area and the shrub layer is less disturbed than in many other stands. Part of the stand includes an area of former residences. It consists mainly of Douglas fir and Oregon white oak, with trees up to 48 in. dbh (see Photo 5). It has a diverse understory of native shrubs. There has been significant invasion, however, by Himalayan blackberry and English ivy *(Hedera helix)*.

Most of the stands in the developed part of the site have retained some large trees (mainly Douglas fir, Oregon white oak and grand fir), but the understory is maintained as open grass, or has become invaded by Himalayan blackberry or English ivy. Trees exceed 30 in. dbh in several stands, including one very large individual, a 72-in. diameter Douglas fir. One notable stand (Number 13) of large Douglas fir and Oregon white oak is located along the Strong Road frontage (see Photo 6).

Stands Number 9, 10 and 12 lie within the riparian corridor of Pringle Creek. Stand Number 4 lies within the riparian corridor of the southern non-fish bearing stream. (See discussion above).

Introduced trees have been planted within several of the stands. They include trees native to other regions of the Western United States: Port Orford cedar *(Chamaecyparis lawsoniana)*, giant sequoia *(Sequoiadendron gigantea)*, and grey pine *(Pinus sabiniana)*, and European trees, such as Scots pine *(Pinus sylvestris)*. The ponderosa pine seen in several stands may be examples of the native Willamette Valley ecotype, or may have been planted to non-native stock. Some ponderosa pine on site appears to have been planted, as they form rows. Certain stands of Douglas fir also appear to have been planted.

Two stands (Numbers 8 and 14) contain snags, apparently due to relatively recent mortality, the cause of which has not been determined.

A list of the primary native plant species on site is found in Appendix E. This list is not intended to be comprehensive. As outlined above, except in certain tree stands, the native shrub

community is not well represented, and has been invaded by species such as Himalayan blackberry or converted to open grass. Over significant areas of the undeveloped portion of the site, outside of tree groves, the plant community is dominated by introduced grasses, remnants of old fruit and nut orchards, or Himalayan blackberry thickets. Native trees and shrubs are beginning to regenerate, however, particularly within open grasslands and where the old orchard trees are sparser. Many young individuals of Douglas fir, Oregon white oak, black hawthorn *(Crataegus douglasii)*, and Indian plum *(Oemleria cerasiformis)*, in particular are becoming well established in a mixed sapling-shrub-grass habitat type.

V SIGNIFICANT WILDLIFE HABITAT

The term "significant wildlife habitat" is not specifically defined in City code. For the purposes of this inventory report, "significant wildlife habitat" includes significant tree stands, streams and riparian corridors already discussed above. "Significant wildlife habitat" also includes corridors between these resources that provide cover, feeding, resting, nesting, and breeding habitat for wildlife species known to be present on the site. In this broader sense, the entire undeveloped portion of the site can be considered significant habitat for certain wildlife species. This is due in large part to the absence of direct human influence and disturbance and the extensive area (more than 60% of the approximately 275 acres on the site). Additional native trees stands are located to the east of the site across Reed Road. Together with the areas to the east, the site provides a broad corridor for wildlife movement.

A list of animal and birds species observed on or near the site is provided in Appendix F.

The southern and western portions of the site are largely undeveloped, except for the former residential cluster within Tree Stand Number 5. There are also undeveloped areas of old fields in the northern portion of the site. The undeveloped area can be classified into six major habitat types:

- Significant tree stands
- Streams and riparian corridors
- Open grasslands and old fields
- Blackberry thickets
- Old orchards
- Mixed sapling/shrub/grassland/orchards.

These general habitat types form a complex mosaic across the undeveloped portion of the site. They are shown on Figure 3.

Open grasslands and old fields are gradually being invaded by blackberry and shrubs and trees such as hawthorn (black and English) and Douglas fir, but retain a predominantly open character (see Photo 8). Grasses and other herbaceous species are almost exclusively non-native and include tall fescue *(Festuca arundinacea)*, bentgrasses *(Agrostis spp.)*, orchardgrass *(Dactylis*

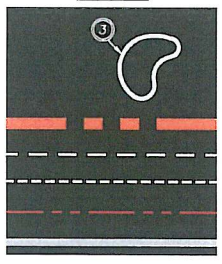
glomerata), and Queen Anne's lace *(Daucus carota)*. They support a population of small rodents, such as field mice and shrews, and provide valuable hunting habitat for raptors such as red-tailed hawk *(Buteo jamaicensis)* and coyote *(Canis latrans)*. We observed both species in this area, and abundant coyote scat.

The blackberry thickets have invaded large upland areas that were probably formerly grasslands, and much of the old orchard area (see Photo 9). They have also invaded much of the riparian corridor of the two small non fish-bearing streams. While blackberry eliminates most native species and reduces structural diversity by out-competing trees, it does provide dense cover that is utilized by black-tailed deer *(Odocoileus hemionus spp. columbianus)* and small mammals such as raccoon *(Procyon lotor)*. The fruit is also utilized by these species, and many birds. We observed numerous deer trails through the blackberry thickets. There is reported to be a substantial deer population utilizing the site (pers. conversation with Sam Hall, Sustainable Fairview Associates, 10/3/03).

The old orchards consist of apple, pear, cherry and nut trees. They have been invaded by Himalayan blackberry and Scots broom *(Cytisus scoparius)*. There has also been regeneration of native trees such as Douglas fir and bigleaf maple *(Acer macrophyllum)*. Together, these species have formed a dense matrix of vegetation that provides cover for a variety of species; deer, coyote, raccoon, striped skunk *(Mephitis mephitis)*, and a large number of songbird species. The fruit is also utilized by these species.

In the southwestern corner of the site, near Tree Stand Number 5, lies a more diverse hilly area of mixed saplings, shrubs and grassland with sparser orchard trees. Oregon white oak and Douglas fir have begun to regenerate within this more open area to form a savanna-like stand (see Photo 10). Shrubs regenerating in this area include red elderberry *(Sambucus racemosa)*, Indian plum, black hawthorn, English hawthorn *(Crataegus monogyna)*, and English holly *(Ilex aquifolium)*. While Himalayan blackberry and Scots broom have invaded this area, they are not as dense as in the old orchard area.

LEGEND



SIGNIFICANT TREE STAND

SITE BOUNDARY

FISH BEARING STREAM

NON-FISH BEARING STREAM

RIPARIAN CORRIDOR (50' BUFFER)

WILDLIFE HABITAT TYPES

N

SCALE

200 0 100 200 400

(FEET)

1 INCH = 200 FT

FIG. 3 SHEET

DESIGNED BY:		CHECKED BY:	PJQ
DRAWN BY:	JJG	APPROVED BY:	
LAST EDIT:	10/16/03	PLOT DATE:	03/07/05

DATE	BY	REV#	REVISION	CK'D	APPR

SUSTAINABLE FAIRVIEW ASSOCIATES
FAIRVIEW - SALEM, OREGON

FIGURE 3
NATURAL RESOURCE INVENTORY MAP

SALEM OREGON

SCALE:	PROJECT NO.	DRAWING FILE NAME:
1"=200'	30527 (839931)	839931-plan-pfvwwt07

W&H PACIFIC
9755 SW Barnes Road
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Portland, Oregon 97225
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Planners • Engineers • Surveyors • Landscape Architects

APPENDIX A

SIGNIFICANT TREE STANDS ON THE SITE

Stand Number *	Tree Species	Notes
1	Oregon white oak	Up to 24 in. dbh. Near wetland. Grass, blackberry understory
2	Oregon white oak, one ponderosa pine	Up to 24 in. dbh. Near wetland. Grass, blackberry understory
3	Oregon white oak, bigleaf maple, Douglas fir, black cottonwood	Young trees, some >12 in. dbh. Old quarry.
4	Black cottonwood	>36 in. dbh. In riparian corridor of intermittent stream. Some willow, other shrubs.
5	Oregon white oak, Douglas fir, ponderosa pine, madrone	Largest tree stand on site. Trees up to 48 in. dbh. Diverse native understory of black hawthorn, serviceberry, Nootka rose, Indian plum, snowberry, Oregon grape, poison oak vines. Some ornamental trees. Significant invasion by Himalayan blackberry and English ivy in places.
6	Red alder	Up to 12 in. dbh. Dense shrub and Himalayan blackberry understory. Seep area.
7	Douglas fir, grand fir	Up to 48 in. dbh. Open grass understory
8	Douglas fir, grand fir, ponderosa pine, walnut (introduced)	Up to 40 in. dbh, average 18 in. dbh. Mostly open grass understory. A few snags (recent mortality), potential cavity nester habitat. Pine appears to have been planted in row.
9	Douglas fir, ponderosa pine, Scots pine (introduced)	Up to 36 in. dbh. Open grass understory. In riparian corridor of Pringle Creek.
10	Black cottonwood, red alder, Oregon white oak, Oregon ash, ponderosa pine, Pacific yew	In riparian corridor of Pringle Creek. Mostly smaller trees. Yew is 24 in. dbh. Also some mature ash and oak. Many saplings of alder. Shrubs include willow, black hawthorn. Dense Himalayan blackberry in middle and northern part. Currently being restored.

11	Douglas fir, bigleaf maple, Oregon white oak black walnut, Scots pine, grey pine (last three introduced)	Mostly <18 in. dbh. Dense Himalayan blackberry understory, or open grasses.
12	Douglas fir	12-15 in. dbh. Open grass understory
13	Douglas fir, Oregon white oak, Oregon ash, catalpa (ornamental)	Stand of mature fir and oak along Strong Road frontage, up to 50 in. dbh, one individual fir about 72 in. dbh. Open grass understory.
14	Douglas fir, Oregon white oak, giant sequoia (ornamental)	Up to 36 in. dbh. Mostly 12-24 in. dbh range. Dense English ivy or open grass understory. Recent Douglas fir snags.
15	Douglas fir, grand fir, Oregon white oak, Port Orford cedar (ornamental)	Up to 36 in. dbh. Open grass understory. Three oak in separate cluster. Some Port Orford cedar mortality nearby, due to root rot.
16	Oregon white oak	Up to 36 in. dbh. In three clusters. Himalayan blackberry or open grass understory.

*** See Figure 3 for location of tree stands.**

APPENDIX B

SRC CHAPTER 126: WETLANDS (PROPOSED REVISION)

Section 1. SRC 126.010. Intent and Purpose. The intent and purpose of this ordinance is to ~~identify those wetlands within the City of Salem which are significant and non-significant, and to~~ establish the foundation for a wetlands protection program that will provide for the long-term protection of wetlands within the City of Salem~~.~~, by:

(a) Implementing the goals and policies of Salem's Comprehensive Land Use Plan;

(b) Satisfying the wetland protection requirements of Statewide Planning Goal 5;

(c) Protecting and restoring Salem's City Park wetland areas, thereby protecting and restoring the hydrologic and ecologic functions these areas provide for the community;

(d) Protecting fish and wildlife habitat;

(e) Enhancing and protecting water quality and natural hydrology, controlling erosion and sedimentation, and reducing the effects of flooding;

(f) Protecting and restoring the natural beauty and distinctive character of Salem's wetlands as community assets;

(g) Enhancing the value of properties near wetlands by utilizing the wetland as a visual amenity; and

(h) Providing for coordination among local, state, and federal agencies regarding development activities near wetlands.

Section 2. SRC 126.020. Definitions. As used in this chapter, except where the context otherwise clearly requires:

(a) "Best Available Information" means information used in making the classification of a wetland as Locally Significant, including, but not limited to the Salem-Keizer Local Wetland Inventory, ~~aerial photos taken in 2000;~~ most recent aerial photos that are available to the City of Salem prior to time of classification; Oregon Natural Heritage Program data; Department of Environmental Quality data for streams listed under the Clean Water Act (CWA, 33 U.S.C. 1250, *et seq.*, at 1313 (d)) Section 303(d); Geographic Information System (GIS) data from the City of Salem, including, but not limited to location of city parks, local waterways, tax lot data and property ownership, fish-bearing streams, FEMA and floodplain data; and any other data or information from a trustworthy source which may be verified by observation, investigation, or research, or which is considered authoritative by professionals in the scientific community.

(b) "Director" means the Community Development Director for the City of Salem or the Director's designee.

(c) "Indigenous Salmonids" means members of the family Salmonidae which are listed as

sensitive, threatened or endangered by a federal or state authority, including Chum, Sockeye, Chinook and Coho salmon, and Steelhead and Cutthroat trout.

(d) "Inhabited by" means the plant species grows on the site or the animal species uses the site for rearing, feeding, or breeding, or as a migration or dispersal corridor. As used in this definition, "inhabited by" does not include the incidental presence on the site by an animal species.

(e) "Land Use Action" means any development activity under the City of Salem zoning code, any subdivision or partition under SRC Chapter 63, or any amendment to the City of Salem Comprehensive Plan under SRC Chapter 64.

~~(e)~~ **(f)** "Locally Significant Wetland" means a wetland which provides functions or exhibits characteristics that are pertinent to planning decisions, including planning decisions within the UGB, and which has been determined to be significant under the criteria listed in OAR 141-086-0350.

~~(f)~~ **(g)** "Local Wetlands Inventory" means that systematic survey ~~of an area to~~ identifying, classifying and mapping the approximate boundaries of wetlands within the Salem-Keizer Urban Growth Boundary, and that includes the supporting documentation required by OAR 141-86-180, and which is designated the "Salem-Keizer Local Wetland Inventory, 1999, as amended," and adopted by the City of Salem pursuant to SRC 126.025.

~~(g)~~ **(h)** "Native Plant Community" means a recognized assemblage of plant species indigenous to Oregon, as identified in the "Classification and Catalog of Native Wetland Plant Communities in Oregon," published by the Oregon Natural Heritage Program.

~~(h) "Non-significant Wetland" means those wetlands that are part of the Salem-Keizer Local Wetlands Inventory which were not identified as Locally Significant Wetlands using the OFWAM process.~~

(i) "Oregon Freshwater Wetland Assessment Methodology (OFWAM)" means a wetland function and quality assessment methodology developed by the Oregon Division of State Lands~~. Local governments are required to use OFWAM~~, or an equivalent methodology that is approved in writing by the Director of the Oregon Division of State Lands, to assess wetland functions and determine significance.

(j) "Rare Plant Communities" means plants which are uncommon, unique or relictual in Oregon, as determined by the number of occurrences and threats according to Oregon Natural Heritage Program criteria. Listings of wetland communities in Oregon which meet this standard for rarity may be found in "Oregon Freshwater Wetland Assessment Methodology," Appendix G (1996), published by the Oregon Division of State Lands, and the Classification and Catalog of Native Wetland Plant Communities in Oregon, published by the Oregon Natural Heritage Program.

(k) "Regulatory delineation" means a delineation of the boundary of a wetland that is approved by the Oregon Division of State Lands (DSL) according to OAR 141-90-005 et seq.

~~(k)~~ **(m)** "UGB" means the ~~City of~~ Salem-Keizer Urban Growth Boundary.

~~(l)~~ **(n)** "Wetland" means an area inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which, under normal circumstances, does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

(o) "Wetland protection area" means a locally significant wetland lying within parks owned or otherwise within and managed by the City of Salem, and subject to the provisions of this chapter.

Section 3. SRC 126.025. Adoption of Local Wetlands Inventory and Locally Significant Wetlands Map.

(a) That certain document entitled the "Salem-Keizer Local Wetlands Inventory, 1999, as amended" (LWI) is hereby adopted as part of this Chapter, as if fully set forth herein. A certified copy of the LWI, along with any amendments thereto, shall be kept on file in the office of the City Recorder.

(b) That certain map designated the "Salem Locally Significant Wetlands Map," is hereby adopted as part of this Chapter, as if fully set forth herein. A certified copy of the Salem Locally Significant Wetlands Map, and amendments thereto, shall be kept on file in the office of the City Recorder.

(c) The Director shall compile, index and publish all adopted amendments as part of the LWI and the Locally Significant Wetlands Map, and shall, as practicable, represent the LWI and Locally Significant Wetlands Maps, and any amendments thereto, on the City's GIS coverage.

Section 4. SRC 126.030. Locally Significant Wetlands; Criteria for Identification.

(a) Using the Local Wetlands Inventory, a functional and quality assessment of all inventoried wetlands within the City and the UGB, and the best available information, the Director shall identify ~~local wetlands as~~ all Locally Significant Wetlands ~~or Non-Significant~~.

~~(a)~~ **(b)** A wetland shall be identified as Locally Significant if it meets one or more of the following criteria:

(1) The wetland performs any of the following functions according to the OFWAM:

(A) Provides diverse wildlife habitat;

(B) Provides intact fish habitat;

(C) Provides intact water quality function; or

(D) Provides intact hydrologic control function.

(2) The wetland or a portion of the wetland occurs within a horizontal distance of less than one-fourth mile from a water body listed by the Department of Environmental Quality as a water quality limited water body under Clean Water Act (CWA, 33 U.S.C. 1250, et seq., at 1313(d)) Section 303 (d), and the wetland's water quality function is described as "intact" or "impacted or degraded" using OFWAM. The 303(d) List specifies which parameters (e.g., temperature, pH) do not meet state water quality standards for each listed water body. The Director may determine a wetland is not significant under this paragraph upon documentation that the wetland does not provide water quality improvements for the specified parameter or parameters.

(3) The wetland contains one or more rare plant communities, as defined in this rule.

(4) The wetland is inhabited by any species listed by the federal government as threatened or endangered, or listed by the state as sensitive, threatened or endangered, unless the appropriate state or federal agency indicates that the wetland is not important for the maintenance of the species.

(A) The use of the site by listed species must be documented, not anecdotal. Acceptable sources of documentation may include but are not limited to, field observations at the wetland sites during the local wetlands inventory and functional assessments, and existing information on rare species occurrences ~~at~~ as maintained by agencies, including, but not limited to, the Oregon Natural Heritage Program, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service.

(B) Input originating from other locally knowledgeable sources constitutes documentation for the purposes of this paragraph if it is verified by one of the agencies identified under paragraph (A) of this subsection, or in a university or college reference collection.

(5) The wetland has a direct surface water connection to a stream segment mapped by the Oregon Department of Fish and Wildlife as habitat for indigenous salmonids, and the wetland is determined to have "intact" or "impacted or degraded" fish habitat function using OFWAM.

~~(b)~~ **(c)** A wetland may be identified as Locally Significant if the wetland meets one or more of the following criteria:

(1) The wetland represents a locally unique native plant community or, if the entire UGB has been inventoried, the wetland contains the only representative of a particular native wetland plant community in the UGB. To be identified as Locally Significant under this paragraph, the wetland must also have been assessed to perform at least one of the following functions according to OFWAM:

(A) The wetland provides diverse habitat, or provides habitat for some wildlife species;

(B) Its fish habitat is either intact, or impacted or degraded;

(C) Its water quality function is either intact, or impacted or degraded; or

(D) Its hydrologic control function is either intact, or impacted or degraded.

(2) The wetland is publicly owned and determined to "have educational uses" using OFWAM, and such use by a school or organization is documented for that site.

~~(c)~~ **(d) Exclusions.** Notwithstanding subsections ~~(b)~~ (c) and ~~(c)~~ (d) of this section, wetlands shall not be designated as Locally Significant if they fall within any one of the following categories:

(1) Wetlands artificially created entirely from upland that are:

(A) Created for the purpose of controlling, storing, or maintaining stormwater; or

(B) Active surface mining or active log ponds; or

(C) Ditches without a free and open connection to natural waters of the state, as defined in OAR 141-085-0010(9), and which do not contain food or game fish as defined in ORS 496.009; or:

(D) Less than one acre in size and created unintentionally as the result of:

(i) Irrigation water overflow or leakage; or

(ii) Construction activity not related to compensatory mitigation for permitted wetland impacts; or

(E) Of any size and created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.

(2) Wetlands or portions of wetlands that are contaminated by hazardous substances, materials or wastes under the following conditions:

(A) The wetland is documented as contaminated on either the U.S. Environmental Protection Agency's National Priority List ("Superfund List"), or the Oregon Department of Environmental Quality's Inventory of Hazardous Substance Sites.

(B) Only that portion of the wetland affected by such hazardous substances or wastes shall be excluded from the Locally Significant Wetland analysis. Affected portions shall be delineated in consultation with EPA and DEQ, and shall include areas potentially disturbed by clean-up activities.

(C) Contaminated wetlands that have subsequently been removed from the NPL or DEQ Inventory following clean-up shall be re-evaluated under the Locally Significant Wetlands criteria no later than the City of Salem's next periodic review.

Section 5. SRC 126.040. (SECTION MOVED TO SRC 126.045) ~~**Notification of Identification; Request for Redesignation; Delineations.**~~

~~**(a)** Each property owner whose property contains a wetland which is identified under SRC 126.030, and each person owning property within one hundred of such affected property, shall receive written notice of such designation. The notice shall contain the following:~~

~~**(1)** A description of the affected property;~~

~~**(2)** A statement that a wetland exists on the property, with a map of the approximate location of the wetland, which has been subject to evaluation and identification as Locally Significant or Non-Significant;~~

~~**(3)** A statement that such a determination was performed according to the requirements of the Oregon Division of State Lands and the Department of Land Conservation and Development pursuant to ORS 197.279(3)(b);~~

~~**(4)** A statement that the wetlands may be subject to local, state, or federal regulation.~~

~~**(5)** The name and phone number of a City of Salem staff person to contact for~~

~~further information.~~

~~(b) Any property owner who receives a notice under subsection (a) of this section may file a request for redesignation or delineation with the Director within 90 days of the date the notice is issued. No redesignation shall occur unless the property owner can show, using the best available information the designation fails to satisfy the criteria for "local significance under SRC 126.030(a) or (b). No adjustment to the official map based on a delineation shall be made unless the delineation has been approved by the Oregon Division of State Lands. Appeals from the decision of the Director shall be made to the hearings officer pursuant to SRC 114.020(b).~~

Amendments to LWI and Locally Significant Wetlands Maps. Amendments to the LWI or Locally Significant Wetlands Map may be made by the Director if:

(a) Wetlands are identified which are not listed in the Local Wetlands Inventory. Any newly identified wetland shall be assessed for significance as soon as practicable after discovery;

(b) A property owner demonstrates that the wetland significance determination should be redesignated because the criteria for a locally significant wetland under SRC 126.030(a)-(c) are no longer satisfied, and the factors or conditions that have changed the condition of the wetland were not caused by unlawful alteration, fill, or dredging;

(c) The receipt of a delineation approved by the Division of State Lands which changes the boundaries of a wetland identified as locally significant on the LWI or Locally Significant Wetlands Map; or

(d) The Director determines that the wetland significance determination was erroneous at the time of original significance designation.

Section 6. SRC 126.045. Procedure for Notification of Locally Significant Wetlands and Amendments Based on Newly Identified Wetlands.

(a) Each property owner whose property contains either a wetland which will be identified on the LWI or Locally Significant Wetlands Map as a Locally Significant Wetland or a wetland which will be redesignated, each person owning property within two hundred and fifty feet of such affected property, and any person who has requested notice in writing of designation of locally significant wetlands, shall receive written notice of such designation or proposed redesignation. The notice shall contain the following:

(1) A description of the affected property;

(2) A statement that a wetland exists on the property, with a map of the approximate location of the wetland, which has been subject to evaluation and

determination of significance;

(3) A statement that such a determination was performed according to the requirements of the Oregon Division of State Lands and the Department of Land Conservation and Development pursuant to ORS 197.279(3)(b);

(4) A statement that the wetlands may be subject to local, state, or federal regulation; and

(5) The name and phone number of a City of Salem staff person to contact for further information, and that any appeal shall be made to the hearings officer pursuant to SRC 114.010(b).

(b) Any property owner who receives a notice under subsection (a) of this section may file a request for redesignation with the Director at the time the property owner files an application for a land use action or building permit, whichever is first submitted. No redesignation shall occur unless the property owner can show, using the best available information, that the wetland fails to satisfy the criteria for locally significane under SRC 126.030(b) or (c).

Section 7. SRC 126.050. ~~Locally Significant and Non-Significant Wetlands Maps; Adoption and~~ Procedure for Amendments to the LWI and Locally Significant Wetlands Map Based on Revised Delineations.

~~(a) The Director shall develop a map depicting each wetland, using the criteria under SRC 126.030. The map shall show the boundary of the wetland, based on the best available information and shall identify each wetland as Locally Significant or Non-Significant. The wetland map shall be adopted or amended by resolution of the city council. Any wetland identified as Locally Significant on the official map shall be subject to the regulations for Locally Significant Wetlands under SRC Chapter 68.~~

~~(b) Wetlands not identified in the Local Wetlands Inventory shall be assessed for local significance pursuant to SRC 126.030 as soon as practicable after discovery, and added to the official wetland map, if determined by the Director to be locally significant.~~

~~(c) Amendments to the official wetland map may be made if the property owner demonstrates, using the best available information, that the designation fails to satisfy the criteria for a locally significant wetland under SRC 126.030(a) and (b), or the delineation is no longer accurate. No adjustment to the official map based on the accuracy of a delineation shall be made unless a redelineation has been approved by the Oregon Division of State Lands.~~

~~(d) Notice of proposed amendments to the official wetlands map shall be made pursuant to SRC 126.040(a). Any property owner who receives a notice of under subsection (d) of this~~

~~section may file a request for redesignation or delineation with the Director within 90 days of the date the notice is issued. Appeals from the decisions amending the official wetlands map shall be made to the hearings officer pursuant to SRC 114.020(b).~~

(a) The Director shall amend the LWI and Locally Significant Wetlands Map to reflect a new or revised delineation of any wetland identified on the LWI or Locally Significant Wetlands Map. Any amendment made pursuant to this section shall be deemed ministerial in nature.

(b) The Director shall give notice of any such amendment by providing a copy of the amendment available to any person who has requested notice, in writing, and by providing a copy to the owner of the real property affected by the amendment not less than fifteen days prior to adoption. For the purposes of this section, an owner is "affected" if the person owns the property upon which the wetland is located, or contains a buffer area surrounding the wetland. The notice shall include:

(1) A list of the principal documents, reports, or studies, if any, prepared by or relied upon by the Director in considering the need for and in preparing the intended amendment, and a statement of the location at which those documents are available for public inspection.

(2) Any person may request mailed copies of notices of intended amendments. The request shall be in writing, and shall be directed to the Director. Upon receipt, the Director shall acknowledge the request, establish a mailing list, and maintain a record of all mailings made to all persons submitting such requests.

Section 8. SRC 126.055. Basis and Validity for Amendments; Publication of Amendments. All amendments adopted in substantial compliance with SRC 126.045 and SRC 126.050 of this section shall be in effect from and after the date the amendment is adopted.

Section 9. SRC 126.060. Required Notification of the Oregon Division of State Lands. Within 5 working days of receiving a completed application for development or a land use action in an area designated as a wetland on the ~~official wetlands map,~~ Local Wetlands Inventory, the City shall:

(a) Send a Wetland Land Use Notification form to the Division of State Lands of any application for development or land use on a lot or parcel identified as containing a wetland ~~in~~ on the ~~official wetlands map~~ Local Wetlands Inventory; and

(b) Send a letter to the applicant, and, if different from the owner of the lot or parcel, and the watershed council functioning in the area within which the wetland lies, stating that Division of State Lands is being notified, along with a copy of the completed Wetland Land Use Notification form.

Section 10. SRC 126.070. Wetland Protection Areas, Applicability, and Application Submittal

Requirements.

(a) Any wetland identified as Locally Significant on the LWI or Locally Significant Wetlands Map shall be subject to the regulations for Locally Significant Wetlands under this chapter and SRC Chapter 68.

(b) The boundary of a Wetland Protection Area is the edge of a Locally Significant Wetland as determined by a regulatory delineation.

(c) Any application for a land use action or building permit, or any plan for the construction of public facilities, on a real property containing a Wetland Protection Area, or portion thereof, shall contain the following:

(1) A delineation of the Wetland Protection Area completed by a professional wetland scientist or similar expert, qualified to delineate wetlands in accordance with Oregon Division of State Lands rules. If the proposed development is designed to avoid the Wetland Protection Area, a wetland determination report may be provided in place of the delineation.

(2) A scale drawing that clearly depicts the Wetland Protection Area, the surface water source, existing trees and vegetation, property boundaries, and proposed site alterations including proposed excavation, fill, structures, and paved areas.

(3) Verification that the application packet has been submitted to the Oregon Department of Fish and Wildlife for review and comment.

(d) No review under SRC 126.070 through 126.110 is required if the proposed development is located 50 feet or greater from a Wetland Protection Area.

Section 11. SRC 126.080. Continued Signs, Structures and Landscaping.

(a) Signs or structures existing within a Wetland Protection Area that conform to the zoning code and development standards existing on **(give effective date of ordinance)** are deemed continued signs and structures. Except as otherwise provided in this section, such signs or structures may not be intensified, enlarged, or altered. The maintenance and alteration of pre-existing ornamental landscaping is allowed within a Wetland Protection Area, so long as no native vegetation is disturbed. The owner shall have the burden to demonstrate continuing status under this section.

(b) Any sign or structure that has been determined by the Building Official to be derelict or dangerous, as defined in SRC 50.600 and 56.230, shall be removed.

(c) Replacement of a sign or structure which is deemed continued pursuant to this section shall be allowed, provided, however, that the structure or sign has the same building footprint and does not disturb additional area.

(d) Expansion of a sign or structure which is deemed continued pursuant to this section shall be allowed, provided, however, that the area of expansion is not located within and does not disturb the Wetland Protection Area, and otherwise complies with the development standards applicable within the zone.

Section 12. SRC 126.090. Allowed Activities. The following activities, and maintenance thereof, are allowed within a Wetland Protection Area, provided that any applicable state or federal permits are secured:

(a) Wetland restoration and rehabilitation;

(b) Restoration and enhancement of native vegetation;

(c) Felling, and if necessary to protect wetland functions, removal of trees which pose a hazard to structures or people due to threat of falling;

(d) Removal of non-native vegetation, if replaced with native plant species at an appropriate coverage or density;

(e) Normal farm practices, such as grazing, planting, cultivation and harvesting, that meet the following criteria:

(1) The land is zoned Exclusive Farm Use;

(2) The farm practices were occurring on the property on **(give effective date of ordinance)**, are of no greater scope or intensity than the operations on this date; and

(3) The farm practice does not involve any new or expanded structures, roads, or other facilities, the placement of fill material, excavation, or any new drainage measures.

(f) Maintenance of existing drainage ways or ditches, other than structures, to maintain flow at original design capacity and mitigate upstream flooding, provided that management practices minimize sedimentation and impact to native vegetation;

(g) Emergency stream bank stabilization;

(h) Maintenance and repair of existing roads and streets, including repaving and repair of existing bridges and culverts, provided that effective practices are used to minimize sedimentation and other discharges into the Wetland Protection Area;

(i) Interpretative and educational improvements, including, but not limited to, boardwalks, elevated bridges and ramps, and new fencing, provided, however, that the applicant demonstrates to the Director that the following criteria are satisfied:

(1) The improvements or fencing do not affect the hydrology of the site;

(2) The improvements or fencing do not create an obstruction that would increase flood velocity or intensity;

(3) Fish habitat is not adversely affected;

(4) The improvements or fencing is the minimum necessary to achieve the applicant's purpose;

(5) Applications for improvements or new fencing within a Wetland Protection Area shall contain a scale drawing that clearly depicts the Wetland Protection Area boundary.

Section 13. SRC 126.100. Activities Prohibited within Wetland Protection Areas.

(a) Except as may otherwise be permitted under Section 126.080 or 126.090 above, the following activities are prohibited within a Wetland Protection Area:

(1) Placement of new structures or impervious surfaces;

(2) Excavation, drainage, grading, fill, or removal of vegetation, except for fire protection purposes or removing hazard trees;

(3) Expansion of ornamental landscaping, such as a lawn or garden, into the wetland protection area;

(4) Dumping, piling, or disposal of refuse, yard debris, or other material;

(5) New direct discharge of untreated stormwater, unless in compliance with the City Stormwater Master Plan; and

(6) Uses not allowed as a permitted use in the underlying zone.

Section 14. SRC 126.110. Exceptions.

(a) Notwithstanding SRC 126.090, the City may make excavation, fill, placement of impervious surfaces and vegetation removal in a Wetland Protection Area in order to provide for the improvement of a road in a public right-of-way that existed on (Add Date), where there is a clear public interest in providing the improvement, and there is no reasonable alternative that would result in less damage to the Wetland Protection Area.

(b) An exception to the provisions of SRC 126.070 through 126.100 may be granted to a property owner if all of the following criteria are satisfied:

(1) Through application of this ordinance, the property has been rendered not buildable or a significant hardship under SRC 115.020 has been imposed on the property;

(2) The applicant has sought a redesignation or redelineation, and been denied;

(3) The exception is the minimum necessary to afford relief, considering the potential for increased flood and erosion hazard, and potential adverse impacts on native vegetation, fish and wildlife habitat, and water quality;

(4) No significant adverse impacts on water quality, erosion, or slope stability will result from approval of this hardship variance, or these impacts have been mitigated to the greatest extent possible; and

(5) Loss of vegetative cover is minimized.

(b) Requests for exceptions under this section shall be processed under the provisions of to SRC Chapter 115.

APPENDIX C

SRC CHAPTER 68: PRESERVATION OF TREES AND VEGETATION

CHAPTER 68

PRESERVATION OF TREES AND VEGETATION

68.010. TITLE AND PURPOSE. The purpose of this chapter is to regulate the removal of trees in order to preserve the wooded character of the City and to protect trees and vegetation as natural resources of the City. (Ord. 13-2000)

68.020. DEFINITIONS. DEFINITIONS. As used in this chapter, except where the context otherwise clearly requires: (a) Words and phrases defined in SRC chapter 111 shall have the meaning set forth therein unless another definition is set forth in this section.

(b) Arborist means a person who has met the criteria for certification from the International Society of Arboriculture, American Society of Consulting Arborists, or similar professional organization, and maintains accreditation.

(c) Existing landscaping means an area existing prior to June 21, 2000 and within a waterway that is managed to provide human-oriented benefits and is comprised of, but not limited to, the following elements: a combination of native and non-native trees and vegetation, ponds, rocks, bark chips, cinders, terraces, vegetable or flower gardens, trellises, or pathways that has reasonably required, and continues to reasonably require, human management to distinguish the area from a natural area.

(d) Fish-bearing waterway means a waterway which supports salmonid fish species. Designation of fish-bearing waterways is based on information in "City of Salem Fish Distribution, 1999", prepared by the Oregon Department of Fish and Wildlife, data from the Oregon Division of State Lands, and maps prepared by the Oregon Department of Forestry. Fish-bearing waterways include those waterways upstream of studied waterways, from the point of connection with downstream water where fish presence is known, to the first natural or non-removable fish passage barrier.

(e) Fish Passage Barrier means an obstacle that prevents or impedes any life stage (juvenile to adult) of fish from successful upstream or downstream passage (recognizing that factors such as jumping ability, swimming speed and swimming endurance can vary between age class and species). Typical impediments to passage include: 1) drops or jump heights that are too high; 2) steep gradients; 3) high water velocities; 4) turbulence; 5) inadequate depth in a jump pool or a long reach of stream; 5) distances that require sustained swimming without rest; and, 6) openings too narrow or small for fish to pass through. Barriers can be either natural or artificial. Natural barriers are most often created by waterfalls or reaches of stream that are of extremely high gradient, turbulence, or velocity. Artificial barriers can include dams, culverts, some bridges, fords or even water quality (temperature, pollution) and flow modification.

(f) Hazard tree means a tree that is cracked, split, leaning or physically damaged to the degree that it is likely to fall and injure persons or property. Hazard trees include diseased trees, meaning those trees with a disease of a nature that, without reasonable treatment or pruning, is likely to spread to adjacent trees and cause such adjacent trees to become diseased or hazard trees.

(g) Intact riparian corridor vegetation means vegetation that is characterized by a diverse, multi-layered assemblage of native trees and a vigorous, dense understory of native plants that provide any or all of the following benefits: (1) maintains or improves water quality; (2) provides fish and wildlife habitat; (3) mitigates development-related hydrologic changes, (4) mitigates flood hazards; and, (5) provides other significant ecological, aesthetic, or educational benefits due to its natural conditions and functions.

(h) Invasive non-native vegetation means plant species that have been introduced to an area and due to aggressive growth patterns and lack of natural enemies spread rapidly into native

plant communities. For purposes of this chapter, a list of invasive non-native vegetation shall be prepared by the planning administrator and maintained at the city's permit center.

(i) Native vegetation means plant species which are indigenous to the area and appropriate to local site conditions such as hydrology, soils, light availability, and slope aspect.

(j) Non-Removable Fish Passage Barrier means a fish passage barrier, the removal of which is not practicable, considering the permanency of the barrier, the cost and value of its removal, and the availability of resources to effect removal.

(k) Percent slope means an inclined earth surface expressed as the ratio of vertical distance to horizontal distance, multiplied by 100; e.g., a 25 percent slope is a vertical rise of 25 feet over a horizontal distance of 100 feet multiplied by 100.

(l) Person means an individual, corporation, local or state government, association, firm, partnership, limited liability company or joint stock company.

(m) Planning administrator means the Urban Planning Administrator of the department of community development or designee.

(n) Restoration means the return of a stream, wetland, or riparian corridor to a state in which its functions and values approach its unaltered state as closely as possible.

(o) Riparian corridor means the land and water resources included in the area adjacent to a waterway consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem. The riparian corridor boundary is measured 50 feet horizontally from the top of bank on each side of a waterway with less than 1,000 cubic feet per second average annual stream flow, and 75 feet horizontally from the top of bank of each side of a waterway with 1,000 or more cubic feet per second average annual stream flow (Willamette River). Where such area includes all or portions of a significant wetland, the riparian corridor includes the whole of the wetland, and the corridor boundary is measured horizontally from the upland edge of the wetland. The upland edge of the wetland is indicated on the significant wetlands map or on a wetland delineation approved by the Oregon Division of State Lands under OAR 141-086-0120.

(p) Salmonid fish species are fish of the family Salmonidae which include salmon and trout.

(q) Significant tree means (1) Heritage, rare, threatened or endangered tree of any size as defined or designated under state or federal law and identified in records maintained by the Planning Administrator, or (2) Heritage tree defined in SRC 86.010, designated by council and identified in records maintained by the Planning Administrator.

(r) Significant wetland means a wetland that meets the criteria for locally significant wetland as defined in OAR 141-086-0350 and as determined by the city council.

(s) Top of bank means the elevation at which water overflows the natural banks and begins to inundate the upland. In the absence of physical evidence, the two-year recurrence interval flood elevation may be used to approximate the top of bank.

(t) Tree means any living, standing, woody plant, having a trunk eight inches or more in diameter or 25 inches or more in circumference, measured at a point four feet above grade at the base of the trunk. If a tree splits into multiple trunks above ground, but below four feet, the trunk is measured at its most narrow point beneath the split, and is considered one tree. If the tree splits into multiple trunks below the ground, each trunk shall be considered one tree. For the purposes of this chapter, English laurel, photinia, arborvitae, poison oak, and English ivy shall not be considered a tree.

(u) Tree conservation plan means a site plan submitted with a building permit or land use application identifying trees for preservation which is prepared, reviewed, and approved as provided in SRC 68.075.

(v) Tree removal, remove or removal means to cut down a tree or remove all or 50% or more of the crown, trunk, or root system of a tree; or to damage a tree so as to cause the tree to decline or die. "Removal" includes but is not limited to topping, damage inflicted upon a root system by application of toxic substances, operation of equipment and vehicles, storage of materials, change of natural grade due to unapproved excavation or filling, or unapproved alteration of natural physical conditions. "Removal" does not include normal trimming or pruning of trees.

(w) Vegetation means any living plant, other than a tree eight inches or more in diameter or 25 inches or more in circumference. Vegetation includes all grasses, plants and shrubs.

(x) Waterway means any perennial river, stream, or creek within the city as designated by the director of public works or designee.

(y) Water-dependent use means a use or activity which can be carried out only on, in, or adjacent to water areas because the use requires access to the water body for water-borne transportation, recreation, energy production, or source of water.

(z) Wetland means an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. (ORS 196.800).
(Ord. 13-2000; Ord No. 30-2000)

68.025. PROHIBITED ACTIVITIES. Except as provided in this chapter, it shall be unlawful for a person to cause, suffer or permit the removal of trees contrary to the provisions of this chapter. (Ord. 13-2000)

68.030. CONSISTENCY; RELATIONSHIP TO OTHER REGULATIONS. Where more than one section of this chapter applies to particular tree stands or significant trees, the sections shall independently apply, unless there is a conflict in which case the more restrictive, (preservation-facilitating) provision will apply. Where the provisions of this chapter conflict with other provisions of this code, or comparable state or federal law, the provisions that are the more restrictive shall govern. (Ord. 13-2000)

68.035. SIGNIFICANT TREES. No significant trees may be removed except pursuant to an approved tree conservation plan as described in SRC 68.075, or if excepted under SRC 68.070 (b) (1), or as permitted under the terms of a variance provided in SRC 68.080. (Ord. 13-2000; Ord. 33-2001)

68.040. TREE STANDS. On lots or parcels 20,000 square feet or more in area, or on contiguous property under the same ownership 20,000 square feet or more in area, no more than five trees or up to 15% of the trees on the property, whichever is greater, may be removed within a calendar year. Exceptions to the requirements of this section may be allowed pursuant to an approved tree conservation plan as described in SRC 68.075, or if excepted under SRC 68.070, or permitted under the terms of a variance as provided in SRC 68.080. (Ord. 13-2000)

68.050. TREES AND VEGETATION IN RIPARIAN CORRIDORS. (a) Corridors of fish-bearing waterways. No trees or intact riparian corridor vegetation shall be removed within the riparian corridor of a fish-bearing waterway.

(b) Corridors of non fish-bearing waterways.

No trees shall be removed within the riparian corridor of a non fish-bearing waterway.

(c) Fish-bearing and non fish-bearing waterways shall be shown on maps adopted as part of this chapter.

(d) Trees and vegetation in riparian corridors may be removed if excepted under Section 68.070 or permitted under the terms of a variance provided in Section 68.080. (Ord No. 30-2000)

68.065. REGULATED AREA MAPS; ADOPTION; AMENDMENT. (a) Maps the boundaries of fish-bearing and non fish-bearing waterways and significant wetlands shall be adopted by ordinance by the council and shall be available in the city's permit center and entered in the city's Geographic Information System data files.

(b) Amendments to these maps may be made by council based upon the receipt of corrected, updated or refined data or the revision of studies upon which the maps were initially based. When map amendments are requested by persons other than the city, field investigation and analysis by a qualified expert shall be required to confirm the extent of the regulated area. A "qualified expert" for the purposes of this subsection means a person who is professionally trained in the relevant area: e.g., wetlands biology or ecology; hydrology; stream and fisheries biology or ecology. (Ord No. 30-2000)

68.070 EXCEPTIONS; REVIEW. (a) **Exceptions Not Requiring Administrative Review.** Unless identified as an exception requiring administrative review under subsection (b) of this section, the following tree removals are excepted from the requirements of this chapter without the need for administrative review and approval.

(1) Those in vision clearance areas, defined in SRC 130.280.

(2) Those required by the city or a public utility for the installation or maintenance or repair of roads, utilities or other structures or improvements within publicly owned and accepted rights-of-way, easements or properties subject to immediate possession condemnation by any government.

(3) Those vegetation removals necessary for continued maintenance of existing landscaping.

(4) Those associated with commercial operation of orchards and Christmas tree farms;.

(5) Those necessary for the installation, maintenance or repair of any of the following: irrigation systems; stormwater detention areas; pumping stations; erosion control and soil stabilization features; and pollution reduction facilities. Maintenance includes the cleaning of existing drainage facilities and trash removal.

(6) Those constituting invasive non-native or nuisance vegetation in riparian corridors, as this vegetation is shown on a list prepared by the planning administrator and maintained in the city permit center.

(7) Those necessary for public trail development and maintenance.

(8) Those necessary to conduct flood mitigation.

(9) Those necessary to effect emergency actions which must be undertaken immediately or for which there is insufficient time for full compliance with this chapter when it is necessary to

prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property, or prevent an imminent threat of serious environmental degradation. Trees subject to emergency removal must present an immediate danger of collapse. For purposes of this subsection, "immediate danger of collapse" means that the tree is already leaning, with the surrounding soil heaving, and there is a significant likelihood that the tree will topple or otherwise fall and cause damage. The person undertaking emergency action shall notify the planning administrator within one working day following the commencement of the emergency activity. If the planning administrator determines that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action by the department of community development may be taken.

(10) Those on city-owned land, or "shade trees", "street trees" or "trees" defined in and subject to the provisions of SRC chapter 86.

(11) Those associated with the establishment or alteration of any public park.

(12) Those effected in the course and scope of the duties of agents of the city or public utility companies maintaining public facilities or public utilities.

(13) Those commercial timber harvests conducted in accordance with the Oregon Forest Practices Act (FPA), ORS 527.610 to 527.992, on properties enrolled in a forest property tax assessment program, and which are not being converted to a non-forestland use. Properties from which trees have been harvested under the FPA may not be partitioned, subdivided, developed as a planned unit development, or developed for commercial uses for a period of five years following the completion of the timber harvest.

(14) Those associated with mining operations conducted in accordance with an existing operating permit approved by the Oregon Department of Geology and Mineral Industries (DOGAMI) under Oregon Mining Claim law (ORS 517.750 to 517.955).

(b) **Exceptions Requiring Administrative Review**. The following exceptions shall require application to, review and approval by the planning administrator prior to any tree removal under the exception:

(1) Hazard and Diseased Trees. The applicant for a hazard tree exception must show that the condition or location of the tree presents a hazard or danger to persons or property; and that such hazard or danger cannot reasonably be alleviated by treatment or pruning. The applicant for an exception for a diseased tree shall demonstrate that the subject tree has a disease of a nature that even with reasonable treatment or pruning is likely to spread to adjacent trees and cause such trees to become hazard trees.

(2) Restoration Activity. The applicant for an exception for restoration activities must demonstrate that the proposed use or development is designed to improve the habitat, hydrology, or water quality function of the riparian corridor or wetland without reducing any of these functions; that short-term impacts of the activity will be minimized and effective erosion control measures will be implemented; and all necessary permits have been obtained. Examples of restoration activity warranting an exception include replacing non-native invasive species with native species, removing barriers to fish migration, re-shaping and planting a stream bank prone to erosion, or enhancing fish or wildlife habitat. In addition to other application requirements, the applicant must submit plans showing the topography, inventory of vegetation, and details of the area receiving restoration, including proposed work and anticipated results.

(3) Exceptions for maintenance or replacement of existing structure. The applicant for exceptions necessary for repair, alteration or replacement of structures existing as of June 21, 2000 must demonstrate that the exceptions are reasonably necessary to effect the otherwise lawful repair,

alteration or replacement of such structures; that the structure footprint is not enlarged; and that no additional riparian corridor area is disturbed beyond that essential to the undertaking.

(4) Exceptions necessary for water-dependent uses. The applicant for an exception to allow tree or vegetation removal necessary for the development of a water-dependent use shall demonstrate that the proposed use is a water-dependent use as defined, and that no additional riparian corridor area is disturbed beyond that essential to the development.

(5) Tree removal subject to a tree conservation plan under SRC 68.075 (b) when at least 25% of the trees on a property are proposed for preservation.

(6) Tree removal subject to a tree conservation plan under SRC 68.075 (c) when less than 25% of the trees on a property are proposed to be preserved.

(7) Exceptions in areas subject to map error. An applicant claiming a map error shall show that, based upon the information available when the subject map was adopted, a cartographic error or clear interpretational mistake caused the erroneous inclusion of the property.

(c) **Application and Review, Generally.** Applicants seeking exceptions requiring administrative review and determination shall file applications upon forms prescribed by the planning administrator along with such fee as the council shall establish by resolution. The application shall contain (1) the number, size, and location of trees to be removed on a site plan of the property, (2) a statement of the reason for removal, (3) demonstration of required basis for the exception, and (4) any other information reasonably required by the planning administrator. The applicant shall have the burden of proving that the application complies with this section and may be required by the planning administrator at applicant's expense to provide reports from an arborist. The city shall have the right, at its own expense, to hire a qualified expert to obtain a second or additional opinion. (Ord N. 30-2000; Ord. 33-2001)

68.075 TREE CONSERVATION PLANS. Tree conservation plans shall be required in conjunction with any building permit, land division, manufactured dwelling or mobile home placement permit or park permit, conditional use, variance, greenway permit or planned unit development, for properties with trees protected by this chapter and proposed for removal. Tree conservation plans shall be submitted and approved as follows:

(a) **Submittal Requirements**. Tree conservation plan submittals shall be filed with the planning administrator and shall be accompanied by such fee as council adopts by resolution. The submittal shall include a site plan of the subject property showing contour lines at two foot intervals, identification of slopes greater than 25 percent, identification of the type, size and location of all existing trees on the property, existing and proposed structures, parking areas, utilities and other improvements, buffer yards and required yards, and identification of those trees proposed for preservation and those designated for removal.

Where the property is the site of a fish-bearing riparian corridor or fish-bearing riparian corridor containing a significant wetland, the boundary of the riparian corridor and significant wetland shall be shown along with a description of the vegetation within any significant wetland or riparian corridor located on site.

(b) **Non-Discretionary Approval Criteria.** Tree conservation plans designating for preservation 1) all trees subject to SRC 68.035 and 68.050, and 2) at least 25% of the existing trees on the property, shall be approved administratively.

(c) **Discretionary Approval Criteria.** When less than 25% of the trees on a property are proposed for preservation, the applicant shall show, and the planning administrator shall find that

only those trees reasonably necessary to be removed to accommodate development are designated for removal. In designating trees, the applicant shall show, and the planning administrator shall find, that trees subject to SRC 68.035 are designated for preservation and that trees have been designated in a manner as to provide buffers from adjacent properties, unless the removal of such trees is shown to be reasonably necessary to accommodate development.

Trees subject to SRC 68.050 shall not be designated for removal unless the applicant demonstrates, and the planning administrator finds, that there are no reasonable design alternatives that would enable preservation of such trees.

Other trees shall be designated for preservation which best meet the following criteria: 1) have the greatest chance for survival; 2) will buffer adjacent properties; 3) are Heritage trees; 4) will be located within required yards and buffer yards; 5) are greater than 24 inches in diameter; 6) are located on slopes greater than 25 percent; and 7) are least subject to windthrow, determined based upon expected wind conditions, tree support conditions, and the impact of the removal of surrounding trees.

(d) **Tree Protection Measures During Construction.** All trees designated for preservation under the tree conservation plan shall be marked and protected from removal during construction.

(e) **Approval, Effect, Appeal.** When less than 25% of the trees on property are proposed for preservation under SRC 68.075 (c), the planning administrator shall adopt written findings and conclusions supporting the administrator's action, and shall serve by regular mail a copy of the decision on the applicant and each property owner in the notification area defined in SRC 111.150. Unless the council initiates review pursuant to SRC 114.210, or an appeal to the Hearings Officer filed within 15 calendar days from the date the decision is mailed, the planning administrator's decision shall be final.

Upon approval by the planning administrator, the tree conservation plan and any amendments of the plan shall be binding on the property and adherence to the plan shall become a condition of approval for any building permit or subdivision, partition, manufactured dwelling or mobile home placement or park permit, conditional use, variance, greenway permit or planned unit development. Tree conservation plans for single family residential land divisions shall be of no further force and effect on any lot following completion of a residence on that lot. Completion of the residence shall mean that a Final Occupancy Permit or Notice of Final Completion has been issued. No tree designated for removal shall be removed until the tree conservation plan is approved and the permit or action it is filed in conjunction with is issued. (Ord No. 13-2000; Ord No. 30-2000)

68.080. VARIANCES. Variances from the requirements of this chapter which are reasonably necessary to permit development or activity associated with an otherwise lawful use may be granted by the planning administrator. Variance applications shall be made upon forms prescribed by the planning administrator and accompanied by such fee as the council by resolution shall provide.

(a) **Hardship Variance**. The applicant for a hardship variance must demonstrate that the criteria set forth in SRC 115.020 are met and that the proposed variance is the minimum necessary to allow for the requested use. In granting a variance, the planning administrator may impose such conditions as are necessary to limit any adverse impacts that may result from granting relief. In addition, the variance to the requirements of SRC 68.050 shall be subject to the following conditions: those altered riparian corridor areas that can be reasonably restored, shall be restored, and

in no case shall alterations either (1) occupy more than 50 percent of the width of the riparian area measured from the upland edge of the corridor, or (2) result in less than 15 feet of vegetated corridor on each side of the waterway.

(b) **Economical Use Variance**. The applicant for an economical use variance shall demonstrate that without the exception, the applicant would be denied all economically viable use of the applicant's property or otherwise suffer an unconstitutional taking of property; that the standards of SRC 115.020 cannot be met; that no other application could result in permission for an economically viable use, considering all allowed uses; that the proposed exception is the minimum necessary to allow for economically viable use or otherwise avoid a taking of property, and that the proposed exception is consistent with all other applicable local, state and federal laws.

(c) The planning administrator shall adopt written findings and conclusions supporting the administrator's action, and shall serve by regular mail a copy of the decision on the applicant and each property owner in the notification area defined in SRC 111.150. Unless the council initiates review pursuant to SRC 114.210, or an appeal to the Hearings Officer is filed within 15 calendar days from the date the decision is mailed, the planning administrator's decision shall be final. (Ord. 13-2000; Ord No. 30-2000)

68.085. VIOLATIONS. (a) **Penalties.** A violation of any provision of this chapter or the breach of any condition of a variance or provision of a tree conservation plan shall be an infraction. The second and subsequent violation in any one year period shall be a misdemeanor. In addition to penalties associated with an infraction or misdemeanor, the city enforcement staff may require the person to pay as an enforcement fee an amount established by resolution of the council or in the absence of such resolution, the value of the tree as determined by an arborist in accordance with the methods set forth in the "Guide for Plant Appraisal," an official publication of the International Society of Arboriculture.

(b) **Cumulative remedies.** The rights, remedies and penalties provided in this chapter are cumulative and not mutually exclusive and are in addition to any other right, remedies and penalties available to the city under any other provision of law.

(c) **Evidence of violation.** In cases of tree removal, violations shall be determined by measuring the stump. Lacking evidence to the contrary, a stump that exceeds 110 percent of the regulated diameter shall be considered prima facie evidence of a violation of this chapter. Proof of violation of this chapter shall be deemed prima facie evidence that such violation is that of the owner of the property upon which the violation was committed. Prosecution of or failure to prosecute the owner shall not be deemed to relieve any other responsible person. (Ord. 13-2000)

APPENDIX D

PHOTOGRAPHS

Photo 9: Blackberry thickets and old orchards

Photo 10: Mixed saplings, shrubs and grassland

Photo 7: Significant Tree Stand Number 16

Photo 8: Open grasslands and old fields with blackberry thicket

Photo 5: Significant Tree Stand Number 5

Photo 6: Significant Tree Stand Number 13

Photo 3: Pringle Creek riparian corridor, showing area of plantings and red alder reproduction

Photo 4: Non fish-bearing stream (Area 1) showing incised channel and blackberry thickets

Photo 1: Pringle Creek, showing log structures placed as part of restoration work

Photo 2: Riparian corridor of Pringle Creek showing blackberry control and willow plantings

APPENDIX E

NATIVE PLANTS FOUND ON SITE

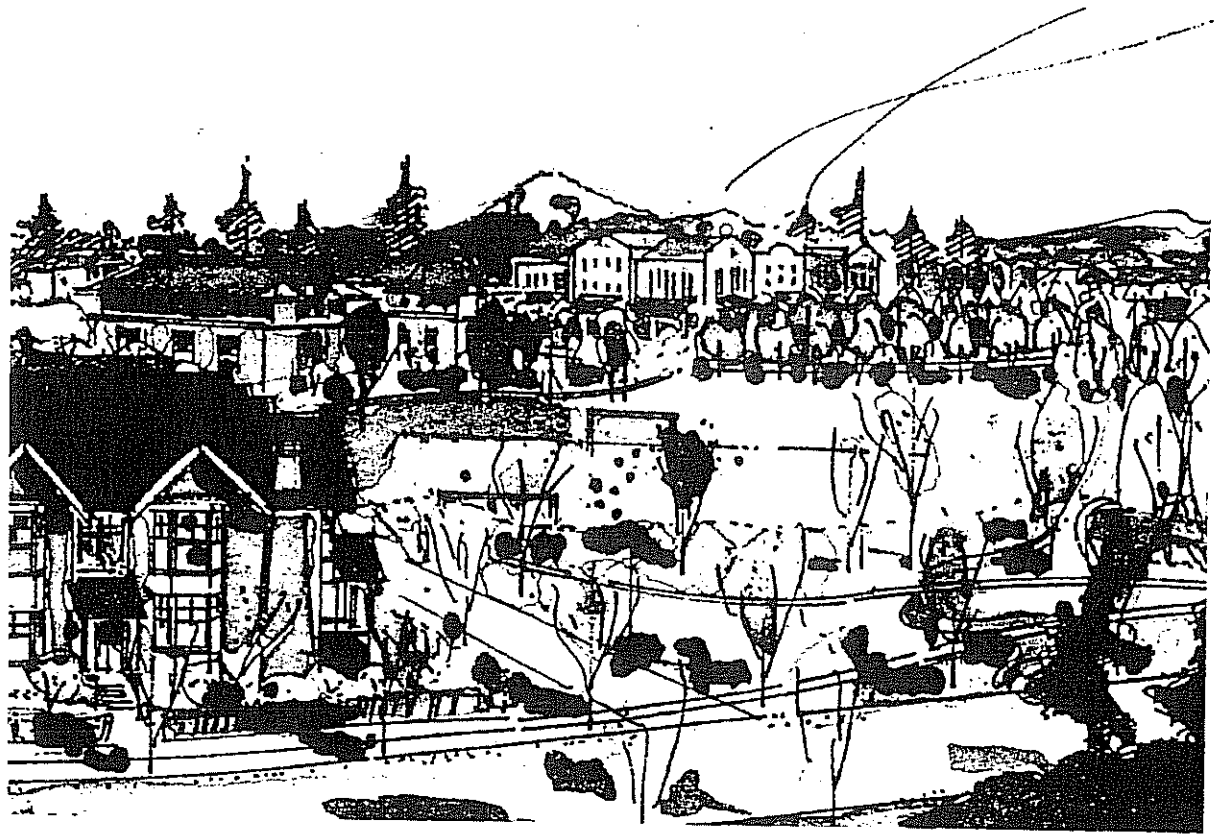
Botanical Name	Common Name
Abies grandis	Grand fir
Acer circinatum	Vine maple
Acer macrophylum	Bigleaf maple
Allium sp.	Wild onion
Alnus rubra	Red alder
Amelanchier alnifolia	Serviceberry
Arbutus meziesii	Pacific madrone
Athyrium filix-femina	Lady fern
Bidens frondosa	Beggars' ticks
Callitriche heterophylla	Water starwort
Cardamine oligosperma	Few-seeded bittercress
Carex densa	Dense sedge
Carex obnupta	Slough sedge
Cornus sericea	Red osier dogwood
Corylus cornuta *	Beaked hazelnut
Crataegus douglasii	Black hawthorn
Eleocharis palustris	Common spikerush
Epilobium ciliatum	Watson's willow herb
Equisetum telmateia	Giant horsetail
Fraxinus latifolia	Oregon ash
Gaultheria shallon	Salal
Geum macrophyllum	Large-leaf avens
Impatiens noli-tangere	Western touch-me-not
Juncus effusus	Soft rush
Juncus ensifolius	Daggerleaf rush
Mahonia aquifolium	Tall Oregon grape
Oemleria cerasiformis	Indian plum
Oenanthe sarmentosa	Water parsley
Quercus garryana	Oregon oak
Physocarpus capitatus	Pacific ninebark
Pinus ponderosa	Ponderosa pine
Polystichum munitum	Swordfern
Populus trichocarpa	Black cottonwood
Pseudotsuga menziesii	Douglas fir
Pteridium aquilinum	Brackenfern
Quercus garryana	Oregon white oak
Rhus diversiloba	Poison oak
Rosa nootkatensis	Nootka rose

Botanical Name	Common Name
Rosa pisocarpa	Clustered rose
Rubus spectabilis	Salmonberry
Rubus ursinus	Dewberry
Salix lasiandra	Pacific red willow
Salix piperi	Piper willow
Salix scouleriana	Scouler willow
Sambucus racemosa	Red elderberry
Scirpus microcarpus	Small-fruited bulrush
Symphoricarpos albus	Snowberry
Taxus brevifolia	Pacific yew
Tolmiea menziesii	Piggy-back plant
Typha latifolia	Common cattail
Veronica americana	Veronica
Vicia americana	American purple vetch

APPENDIX F

ANIMAL AND BIRD SPECIES OBSERVED ON SITE

E. Historic Resources Inventory



Fairview Training Center: Historic Analysis and Inventory

EXHIBIT 5

Ward Tonsfeldt Consulting, LLC

Introduction

The Institution for the Feeble Minded, later the Oregon Fairview Home, was established near Salem by the State of Oregon in 1908 as a central facility for developmentally disabled Oregonians. In concept, it was to be an institutional farm where residents would work the land to produce food for their own consumption. The original land base was sufficient for cereal crops, row crops, orchards, swine and fowl production, and a dairy. The "patients" lived in "cottages" with their caregivers, worked at appropriate jobs, and could expect to spend their lives in this sequestered environment.

As the 20th century unfolded, ideas about treatment of developmentally disabled children and adults changed. Institutions like Fairview reflected the 19th century model of treatment which segregated the developmentally disabled from the rest of society. In the post-World War II years, newer models of treatment emphasized training the developmentally disabled and returning them to their communities, to live with their families or in foster homes, or in small group living situations. The program at Fairview changed from asylum care to training and out-patient services.

The city of Salem gradually enveloped the Fairview property and what was a rural area in 1908 became industrial and residential land in the mid-20th century. The State sold portions of the original Fairview land for development and for the Salem Municipal Airport. While the physical size of the institution diminished, Oregon's population grew, and the need for services increased in proportion. Despite efforts to change with the times Fairview experienced financial and policy challenges during the 1960s and 1970s. The State of Oregon closed the last program at Fairview in 2000.

Setting

In its development during the historic period of significance (1908-1945) Fairview was an institutional farm. The original plan for the 670 acres included east-sloping hillside land and level bottom land. The elevation at the highest point on the Fairview property is 378' above sea level and the bottom land averages 200'. Pringle Creek drains the western portion of the property. This stream was dammed to create a pond west of the service buildings. An un-named seasonal creek drains the eastern

area of the property. This stream flows into a marshy area near the eastern boundary. Pringle Creek also has an impoundment and marsh on the western side of the property.

Indigenous plants on Fairview include oaks, grasses, and Douglas fir. After Euro-American settlement, the area was cleared and devoted to mixed agriculture. The bottom lands were well-suited to farming, and the hills were used as pasture because of their superior drainage.

During the historic period, Fairview looked much like the surrounding farms. The flat bottom fields were farmed for row crops such as potatoes, onions, beans, and carrots, and for cereals such as wheat and oats. Orchards of apple, pear and other fruit trees grew at the crest of the ridge along the property's southern boundary. Cane berries were planted below the orchards. The hills supplied pasture for cattle and sheep, and some hay fields for winter feed. Chickens and swine were confined in buildings in this zone. During the earliest years, there would have been some farm horses pastured here as well.

The farm buildings, including chicken and swine houses, silos, and dairy barns were clustered on the eastern edge of the property. Service buildings were clustered on the northern border along a railroad spur that served the institution. Administrative buildings and the Fairview cottages intruded into this pastoral setting, but the original design of placed the institutional buildings together in a crescent at the lowest part of the hill, thereby minimizing the impact to the landscape. The fir trees were left in place around the institutional buildings, and other trees were planted for shade and visual appeal. An open field remained at the center of the building crescent. This provided a green space and playing fields for the Fairview residents.

Architectural Background: The Cottage Plan

Considerable growth occurred in the state-funded treatment of the developmentally disabled in the United States during the nineteenth century. The growth of the state asylums or "hospitals" intensified as the population grew and the stress of the industrial society increased. Human rights activists and new therapeutic methods brought about a change in the way patients were treated and perceived. Instead of confining patients in prisons or poorhouses, new public hospitals were established that not only

housed the disabled but also intended to improve their lives by work training and medicinal therapies. This philosophical change paved the way for new trends in the design of mental institutions; Dr. Thomas Story Kirkbride was the driving force in the function and design of these state facilities.

In 1854, Dr. Kirkbride developed architectural standards that were adopted by many states that advocated constructing one main building that had a central section for administration and services with wards for patients to either side. Also integral to the "plan" was creating a home-like, calming atmosphere where natural light, fresh air and views of nature were incorporated into the design. Plans of this type were referred to as the Kirkbride Plan or the "congregate plan" because everything was housed under one roof.

By the late 1800s, the asylum philosophy began to change again, ushering in a new building type know as the "cottage plan" or "segregate plan." Instead of housing all the patients in one large building, promoters advocated designing a campus-like cluster of smaller cottages that allowed the flexibility of grouping patients according to their age, diagnosis, sex, and level of functioning. The cottage plan made it easier to expand as the demand increased and evacuate people if a fire occurred. The cottage plan was favored as contagious disease hospital such as tuberculosis centers, so patients could be separated from the population. These small, low-scale buildings erected for more specialized treatment, were often strategically located facing south or to open vistas so natural light was maximized. Open air porches, balconies, sunrooms, and home-like atmosphere were integral to the plan.

The focus on fresh air treatments reinforced the public's conviction that the agrarian lifestyle of hard outdoor work is good for one's health. Planners sited institutions in the rural edges of communities where a nearby railroad station or spur would provide savings in both construction and operating costs, and where acres of woods, orchards, and crops provided fuel and food as well as activities for patients. The opportunity for patients to work in fields, care for farm animals, or do the laundry seemed a practical way to defray public expense while providing activity and training. The layout and building types at the State Institution for the Feeble-Minded (later Fairview Home) are prime examples the cottage plan concept.

Building Layout and Types

Architect Walter David Pugh, a Salem architect, laid out and designed the first buildings at Fairview based on the cottage plan concept. The original 1908 layout consisted of the Administration Building (LeBreton), a male cottage (Steel), and a boiler house and laundry sited in the center. A cow barn and a horse barn, also part of the initial building phase, but were located outside the central core. The Administration Building, also the girls' dorm, and Steel Cottage (razed) were two-story Colonial Revival style wood-frame buildings with lap siding. The boiler house and laundry were made of brick that was produced locally by inmates of the State Penitentiary.

As the State erected more buildings at the institute, the crescent-shaped layout became more apparent. This U-shape configuration was a common layout of facilities based on the cottage plan because of its efficiency in its proximity to the other buildings as well as the ability to isolate people when needed. The more formal front façades faced outward maximizing the hilltop views. The rear facade of the cottages was more informal, and included porches and balconies, and back entrances fronting the interior park/play area. Sidewalks connected the cottages. Ten of the original buildings on the crescent are extant; three of the earliest cottages (Steel, Benson, and Jones) were demolished in the 1950s/60s-expansion period.

Soon after the first buildings were constructed, plans were underway to erect additional cottages to meet the demands for care. Prominent Willamette Valley architects William C. Knighton and Charles H. Burggraf designed the next series of cottages (Benson, Chamberlain, Jones, and Withycombe), erected between 1912 and 1918, in the Colonial Revival style. Similar in design, form, detailing, and interior layout, these buildings had low-pitched hip roofs often with intersecting pedimented front gables with fanlight windows, dormers, wide eaves decorated with modillions, multi-pane double-hung wood sash windows, lap siding finished with cornerboards, central front two-story porticos, raised daylight basements, and bilateral symmetry. The entrance porticos included tall Ionic columns, spanning the first and second stories, recessed entrances with open balconies above, and turned balustrades. The back of the buildings varied somewhat but generally had a decorative central rear entrance portico flanked by

entrances in the wings, porches on the lower stories, and balconies or sleeping porches on the upper stories.

The post-World War I buildings at the institution mark a change in the building material from wood to more fire resistant materials. These buildings, constructed between 1919 and 1931, were designed by Frederick A. Legg (later with his son, Kenneth Legge) and made of brick, concrete, and wood-frame with a stucco exterior finish. Although they were less ornate than the earlier wood frame buildings, these buildings were similarly designed in the Colonial and Georgian styles. The original hospital building, completed in 1933, was also designed in the Colonial style. This building was partially destroyed in 1949 and was remodeled extensively in the early 1950s as part of the new school.

Continuing on the principles of the cottage plan, these cottages had low-pitched hip roofs (some with intersecting pedimented front gables), hip and gable dormers, moderately projecting eaves, multi-pane double-hung wood sash windows, brick or stucco exterior finish, central front two-story porticos (except Kozer that was designed with a smaller one-story portico), raised daylight basements, and bilateral symmetry. The entrance porticos included a variety of column types including square, Ionic, and Doric, recessed entrances with open balconies above, and turned balustrades. The back of the buildings varied but generally had a central rear entrance area flanked by entrances in the wings, and porches and balconies in the dormitory wings.

The interiors of the cottages were similar in design with only slight variations according to the different patient classifications. Designed to house about 60 patients per cottage or 20-25 per dormitory, the patients were classified and grouped according to age and intellect with an attendant assigned to each ward. The cottages, with a comfortable, airy quality, were sited to maximize the natural light and vistas. Tall windows, open air porches, solariums, balconies, and sunrooms were part of the basic amenities.

The first floors' layout usually consisted of an entrance vestibule and a service core that included a stair hall (some cottages had ramps instead of staircases), a central hallway connecting the side wings, another back hall, toilet rooms, office space, attendant rooms, and closets. On either side of the service core were the patients' wings used as

dormitories and, in some cases, day rooms. Porches facing the courtyard/park area extended across the back of the dormitories.

The second floors were organized in a similar manner with the central service core that included toilet rooms, clothes closets, a central balcony, and a hall connecting the dormitory wings or wards. Attendant quarters were often small rooms off the dorms. Doors on the rear wall of the dormitories led to the porches. The basements were open areas only divided by series of support posts. These were later used as play areas for the patients, and also accommodated storage and utility rooms.

Farm and Operations Buildings

Two other clusters of buildings from the period of significance are located at Fairview; the structures associated with farming practice and the buildings associated with the operation of the facility. From 1908 to the early 1940s, various farm-related structures were built at the institution, including cow and dairy barns, a granary, a hog house, and chicken coops. This cluster was located southeast of the cottages. Since large farming operations ceased at institute in the 1960s and 1970s, there are only a few farm-related buildings remaining from the historic period. These include a cow barn and the 1940 silos. The remaining buildings post-date the period of significance. A wood-frame building, the 1942 cow barn was enlarged in the early 1950s to its current length. The building has a gable roof, wood siding, and sliding door for easy interior access. The silos, constructed in 1940, are constructed of concrete and replaced earlier wood silos. Several fires over the years destroyed many of the original farm buildings.

The operational and farm building clusters, northwest and southeast of the cottages, date from 1923 to 1942. These buildings are utilitarian in nature and include the heating plant/laundry (1924/1960s), fuel shed (1938), grounds building (1938), carpenter shop (1938), twin concrete silos (1940), cow barn (1940), granary (1941), greenhouse #1 (1942), and root house (1942). The original heating plant and root house are brick, the grounds building is a wood-frame structure, the carpenter and granary buildings are concrete buildings as are the twin silos. The greenhouse and fuel shed are metal frame structures; a railroad spur originally led from the main track to this area.

Architects and Builders

The designs for the cottages constructed between 1908 and 1931 at Fairview are attributed to five architects; Walter David Pugh, Charles H. Burggraf, William C. Knighton, Frederick A. Legg, and Kenneth C. Legge. Other architects or engineers designed some auxiliary buildings but these firms constructed the majority of the buildings.

Walter David Pugh

Walter David Pugh, who is responsible for the original buildings at Fairview, worked primarily in Portland and Salem in late 1800s and early 1900s. Born on April 4, 1863 in Salem, Pugh learned the building trade from his father David Pugh, a master carpenter and builder. In 1885, Pugh interned in the Portland office of McCaw & Wickersham and then began his career in Salem. He designed many of the city's and region's most prominent buildings including the first Salem High School (1893), the Bush-Breyman and Bush-Brey Blocks, the Thomas Kay Woolen Mills (1896), Chemawa Indian School buildings, the Shelton-McMurphy House (1888) in Eugene, and the Crook County Courthouse (1909) in Prineville. Under Governor Pennoyer, Pugh was hired to design many state-owned buildings including institutional housing at the State Hospital, Penitentiary, and at the Institute for the Feeble-Minded (Fairview). In 1907-08, Pugh was hired to design the original buildings at Fairview with his partner Frederick A. Legg. These included the administration building (1908), laundry, dorm, and boiler house/heating plant. H.N. Eley was awarded the contract for the buildings. About 1910, Pugh dissolved his architectural partnership with Legg, practicing on his own until he retired. Walter Pugh died in Salem on November 22, 1946.

Charles H. Burggraf

Soon after Pugh's first series of Fairview's buildings were completed and occupied, records indicate that additional cottages were needed to meet the housing demand. Charles H. Burggraf designed the second series of cottages constructed at Fairview. Burggraf, a prominent architect, was born in 1866 in Centralia, Marion County, Illinois. Burggraf learned his trade from his German father who was a builder and architect. After moving to Nebraska and attending Hasting College studying

engineering and architecture, Burggraf worked in his father's architectural firm from 1888 to 1889. After a stay in Colorado, Burggraf moved to Salem, Oregon in 1891 and started his architectural practice. In 1899, Burggraf moved to Albany, Oregon where he continued his practice. A prolific architect, Burggraf designed many county courthouses, libraries, schools, commercial buildings, residences, and churches in Oregon and Washington. Architectural plans located in the Oregon State Archives indicate that Burggraf designed buildings for different state institutions including the Oregon State Hospital, the Oregon Cottage Farm, and Steel, Benson, Jones, and Withycombe cottages at the Fairview Home. These cottages were built between 1913 and 1916 (all but Withycombe razed in the 1960s). It appears that Burggraf designed the cottages for Fairview in 1909 but the buildings were not constructed until later (1913-1918). Charles H. Burggraf died in 1942 after a long and successful architectural career.

William C. Knighton

In 1912-13, William Christmas Knighton designed Chamberlain Cottage at Fairview. Knighton was a prominent Portland architect, practicing from the late 1890s to the 1930s. Born in Indianapolis, Indiana on December 25, 1864, Knighton received his architectural training in Chicago and Alabama before moving to Oregon in the early 1890s. In 1896, Knighton left Oregon to practice in other states before returning to Portland in 1902. The well-known architect designed many buildings throughout Oregon including the State Supreme Court (1913), Deepwood Estate in Salem (1894), the Governor Hotel (1908), and the Administration Building on the University of Oregon campus (1914). Knighton served as the Oregon state architect from 1913 to 1917 and is responsible for supervising the remodel or construction of over 90 buildings throughout Oregon during this period. It was during this time that Knighton designed Chamberlain Cottage at Fairview. William C. Knighton continued his practice in Portland until his death in 1938.

Legg and Legge

Frederick Arthur Legg and his son, Kenneth Clair Legge (spelling is different than his father's) are responsible for designing several cottages at Fairview between 1919 and 1931. Frederick A. Legg, born in Oregon about 1866, was a druggist in Salem, Oregon prior to starting an architectural practice. From 1907-1910, Legg worked in

in partnership with Walter Pugh of Portland (Legg & Pugh). After the partnership was dissolved, Legg continued his practice in Portland before moving back to Salem in 1915. Legg's son, Kenneth Clair Legge joined his father's architectural practice in 1923 after receiving his degree in architecture from the University of Oregon. Legge worked with his father for several years prior to opening his own Salem office. He later moved to Portland where he was employed in the office of Jamieson Parker, worked for the WPA during the Depression, and was hired by the firm of Lawrence, Holdford & Allyn. In 1941, Legge joined the U.S. Army Corps of Engineers, serving as an architect-engineer until he retired in 1962. Kenneth C. Legge died in 1989 at the age of 90 in Milwaukie, Oregon.

Other Associated Architects

Records indicate that other architects/engineers designed some of the auxiliary buildings at Fairview from the mid-1920s to the end of World War II. Jay H. Keller, a Portland engineer, designed the existing heating plant/laundry in 1923. The greenhouses are attributed to Sam Emery, an engineer in Salem who designed the greenhouses in 1940 and 1941.

Lyle Pascoe Bartholomew, a Salem architect, designed a number of buildings including the Capital Journal Building (1934), Leslie Junior High (1937) and the Nurses Dormitory at the Oregon State Hospital (1946). Bartholomew designed the fuel shed at Fairview in 1938 and may have been responsible for the new school building at Fairview built circa 1950. Bartholomew died in the 1970s.

Frederick H. Eley, also a Salem architect, designed the granary at Fairview in 1940-41. Eley received his license in 1937 and from 1938 to 1940 was associated with Frederick R. Eley who later moved to Seattle to practice. Eley may have been related to H.N. Eley who was one of the first contractors hired to construct the original Fairview buildings.

Architects associated with Fairview after the end of the Period of Significance (1945) include Barrett & Logan (employee housing and new laundry), and Endicott and Wilmsen (DeNorval Unthank joined firm in 1955). Charles W. Endicott and Robert Wilmsen formed a partnership in 1948 and are responsible for the master plan for

Fairview that included remodeling existing cottages and constructing new buildings. The firm worked at Fairview from the late 1940s into the 1960s.

Construction

The proposed Fairview Historic District is a discrete area within the institution that includes the nine extant original cottages plus the historic administration building, all situated within the central crescent. All ten of these buildings are contributing features within the historic district. Additional contributing resources include eight features associated with the daily operation of the institution including a greenhouse, grounds building, fuel shed, carpentry shop, root house, granary (paint shop), cow barn and a pair of silos. The historic landscape and walkways in the central triangle also contribute to the properties historic associations. Non-contributing buildings within the central crescent include the Fairview Union (1969) and the (1959) Administration Building.

Information on the individual structures comprising the Fairview Historic District follows. Please refer to the district map for location, keyed by ID numbers.

Contributing Resources: Central Crescent

ID# B-1
Historic Name: Administration Building
Common Name: LeBreton Hall

Year Built: 1908
Architect: Walter D. Pugh
Historic/Contributing

The Administration Building (LeBreton Cottage), designed by Walter D. Pugh in the Colonial Revival style, is a two-story wood frame building with a daylight basement. Constructed in 1908, the 23,184 square foot building has a hip roof with an intersecting pedimented front gable with a circular decorative element with the 1908 date, hip dormers with multi-light windows, wide overhanging eaves, carved modillions, a wide frieze board, narrow lap siding, six-over-six double-hung wood sash windows, classically detailed cornerboards, and a wood watertable above the brick foundation. The front façade (northeast) has a wide central projecting entrance bay designed with two-story fluted Ionic columns and turned balustrades on both stories. The main entrance has sidelights and transoms. A disabled ramp has been added to the front facade. The

northwest elevation has a porch with balcony above supported by square columns; the balcony roof was added later. The southwest facade has a projecting addition that was originally a porch and balcony. This porch was enclosed after the 1960s. Another small one-story porch is located on the southeast façade. Added elements also include a fire escape, egress slides and steps at the northwest entry.

ID# B-3
Historic Name: Hoff Cottage

Year Built: 1919
Architect: Frederick A. Legg
Historic/Contributing

Hoff Cottage, a boy's dormitory built in 1919 in the Colonial style, is a two-story brick building with a daylight basement. Designed by Frederick A. Legg, the building has a hip roof, a central intersecting front gable portico on the southeast facade, hip dormers with multi-light windows, asphalt composition shingles, overhanging eaves, wide frieze, corner brick quoins, and six-over-six double-hung wood sash windows. Contrasting concrete flat arch lintels cap the first story windows. The front portico on the southeast façade has a pedimented gable with a fanlight window surrounded by wood siding. Two Ionic columns and two classically detailed pilasters support the portico. The upper story of the portico has been enclosed with siding and windows (1960s). The original multi-pane entrance door is flanked by sidelights and capped with a transom. Concrete stairs flanked by brick stepped side walls lead to the main entry. The single story rear entrance projecting from the cottage has boxed posts and pilasters. The rear entrance doors have a band of full-length, multi-pane sidelights and doors. Two pedimented gable bays flank the rear entrance. The southwest façade is an open porch with a low-pitched hip roof, small square columns and a low railing. This side entrance has a multi-light transom and a sidelight. The porch on the northeast side has been enclosed and a ramp added to the exterior. The rear elevation has two metal fire escapes.

ID# B-4
Historic Name: Olcott Cottage

Year Built: 1919
Architect: Frederick A. Legg
Historic/Contributing

Olcott Cottage, designed in the Georgian style by Frederick A. Legge, is a two-story brick building with a daylight basement. Built in 1919 as a dormitory for males and

an infirmary, the 16, 899 square foot building has a hip roof with a central intersecting gable portico on the west facade, shed dormers, asphalt composition shingles, overhanging eaves, dentilated frieze, round-arched windows on the second story, and six-over-six double-hung wood sash windows on the lower floor. A decorative panel made of rowlock brick separates the first and second story windows, and a soldier course of brick visually separates the raised basement from the upper stories. The front portico on the southeast façade has a pedimented gable embellished with dentils, wood shingle siding, and a central rounded vent window. The portico is supported four square wood columns and paired brick pilasters capped with wooden cornices. Swags inset into panels are between the first and second story windows that flank the entrance door. The entrance door is capped with a fanlight transom. The single story rear entrance porch is recessed between the wings and has a shed roof supported by Tuscan columns, and wooden double doors capped with a transom. Metal fire escape chutes are on the side facades, and a concrete ramp was added to the southwest facade. Some windows have been replaced.

Drawings completed by F.A. Legge, Salem, and Kenneth L. Legge Portland, include an undated elevation of Olcott Cottage, also known as the "hospital [infirmary] building" (Oregon State Archives, NPIP No. 239, Map drawer 32). M.W. Lorenz is credited as the contractor for the building. The interior of Olcott Cottage was remodeled in 1957 and again in 1964-65, when the building began use as a community center for residents, (Sustainable Fairview Collection, No FAC-01-0043).

ID# B-5
Historic Name: Pierce Cottage

Year Built: 1923
Architect: Frederick A. Legg/ Kenneth C. Legge
Historic/Contributing

Pierce Cottage, constructed in 1923 with elements of the Colonial style, is a two-story wood frame building with a stucco skim coat, and a daylight basement. Designed by Frederick A. Legg and Kenneth C. Legge as a dormitory for males, the 19,455 square foot building has a hip roof and dormers, wide overhanging eaves, three-over-one double-hung wood sash windows, and slightly projecting stringcourse above the concrete foundation. The two-story central portico on the southeast façade has a hipped roof.

A flat roof covers the rear two-story entrance. This entrance has a slightly projecting cornice line, a multi-light window, and newer metal entry doors (1965) capped by a multi-light transom. The side facades have closely spaced windows that admit interior light. Side facades have metal fire-escape stairs; dormer windows have some modifications. Wilsem and Endicott Architects prepared plans for remodeling in 1964.

ID# B-6
Historic Name: Holman Cottage

Year Built: 1931
Architect: Frederick A. Legg
Kenneth C. Legge
Historic/Contributing

Holman Cottage, designed in the Colonial style by Frederick A. Legg and Kenneth C. Legge, is a two-story concrete building with stucco veneer and a daylight basement. Constructed in 1931 for males, the building has a hip roof, pedimented gable dormers, asphalt composition shingles, projecting eaves, wide frieze board, six-over-six double-hung wood sash windows, and a stringcourse separating the basement from the upper stories. The pedimented projecting front entrance bay on the south elevation has two-story Ionic columns and pilasters flanking a small one-story recessed entrance. The original two-story porch was enclosed in the 1960s. Concrete stairs with a low half-wall lead to the entrance. The rear façade (north) has a small projecting entrance bay with Palladian window over the porch supported by square posts. The rear entrance doors have sidelights and a transom. A solarium, on each wing of the upper story of the rear façade, has turned balustrades and original multi-light fixed-sash windows. The west side façade has a metal fire escape stairs and the east side has fire escape chute. The front portico roof may have been changed from a hip roof with pedimented gable dormer to a pedimented gable roof with two aluminum sliders in the gable end (1960s).

ID# B-7
Historic Name: Kay Cottage

Year Built: 1925
Architect: Frederick A. Legg
Kenneth C. Legge
Historic/Contributing

Kay Cottage, designed with elements of the Colonial style by Frederick A. Legg and Kenneth C. Legge, is a two-story frame building with stucco veneer and a daylight

basement. Constructed in 1925 as a dormitory for girls, the 22,595 square foot building has a hip roof, pedimented gable dormers, asphalt composition shingles, narrow eaves, six-over-six double-hung wood sash windows, and a stringcourse separating the raised basement from the upper stories. The front entrance portico was altered during the 1960s. Originally, the portico had four, two-story Doric columns, turned balustrades, and a recessed entrance with a balcony above. Currently, the portico has a small recessed entrance and evidence of two-story columns under the boxed pilasters. Concrete stairs are flanked by a low concrete side wall. The rear façade (northeast) has a central projecting portico that has eave returns, an arched multi-light window above the lower story recessed entrance. The porches on the wings of the rear elevation were enclosed during the 1960s, some dormer windows were closed. The side façades have metal fire escapes.

ID# B-8
Historic Name: Smith Cottage

Year Built: 1921
Architect: Frederick A. Legg
Historic/Contributing

Smith Cottage, designed in the Colonial style by Frederick A. Legg, is a two-story wood frame building with a stucco veneer, and a daylight basement. Constructed in 1921 as a dormitory for girls, the 19,074 square feet building has a hip roof, pedimented gable dormers, asphalt composition shingles, narrow eaves, six-over-six double-hung wood sash windows, and a stringcourse separating the raised basement from the upper stories. The projecting front entrance bay on the west facade has two-story Doric columns and pilasters, a turned balustrade, and concrete stairs that lead up to the recessed two-story entrance. Although the entrance door has been altered, the original multi-light transom window is intact. The rear façade (east) has a central entrance portico that has a slightly projecting cornice with block modillions, paired classical pilasters, and a half rounded multi-light window above the central door. This entrance door and surrounds have been modified most likely during the 1960s. The north side façade has a metal fire escape chute and stair, and the south side has metal fire escape stairs. Wilmsen and Endicott Architects prepared plans for remodeling during the mid-1960s. Chief among modifications are the closing of dormer windows and enclosing of the southeast entry porch.

ID# B-9
Historic Name: Kozer Cottage

Year Built: 1920
Architect: Frederick A. Legg
Historic/Contributing

Kozer Cottage, built in 1920 in the Colonial style, is a two-story brick building with a daylight basement. Designed by Frederick A. Legg, as a residence for infants, the 15,312 building has a hip roof and dormers, asphalt composition shingles, wide overhanging eaves with wood soffits, dentilated frieze board, six-over-six double-hung wood sash windows, and slightly projecting stringcourse above the concrete foundation. The side wings have larger six-over-six double-hung windows that are grouped on the end walls. The central entrance portico on the northwest façade has square columns that support the wide frieze and balcony with a low decorative wood railing. Multi-light sidelights and a transom surround the entrance door. Wide concrete stairs flanked by a low concrete side wall leads to the portico. The rear two-story sun porch in the center of the southeast façade was enclosed with horizontal siding (ca. 1965) to accommodate day rooms. Metal fire-escape chutes are on the end facades.

ID# B-10
Historic Name: Withycombe Cottage

Year Built: 1918
Architect: C.H. Burggraf
Historic/Contributing

Withycombe Cottage, constructed in 1918 in the Colonial Revival style as a dormitory for females, is a two-story wood frame building with a daylight basement. Attributed to an earlier design of Charles H. Burggraf, the 19, 611 square foot building has a hip roof with intersecting gables, hip dormers with multi-light windows, wide overhanging eaves decorated with carved modillions, narrow lap siding, six-over-six double-hung wood sash windows, decorative classically detailed cornerboards, and a wood watertable above the concrete foundation. The front façade (northwest) has a central pedimented gable portico designed with a fanlight window, two-story fluted Ionic columns, turned balustrade and recessed multi-light entrance doors flanked by sidelights and capped with a transom. Concrete stairs with a low rock half wall lead up to the entrance. The rear façade (southeast) has two pedimented gables flanking a small one story entrance portico supported by squat Tuscan columns resting on a low concrete half wall. Large windows and a rounded dormer window are above the portico. Two other

doors are located on the rear façade. The rear façade of each wing was originally an open, two-story porch, enclosed in the 1960s remodel for more interior living spaces. (Wilmsen and Endicott Architects drew plans in 1963 for remodeling the interior).

ID# B-11
Historic Name: Chamberlain Cottage

Year Built: 1913
Architect: William C. Knighton
Historic/Contributing

Chamberlain Cottage, designed by W.C. Knighton with elements of the Colonial Revival style, is a two-story wood frame building with a daylight basement. Constructed in 1913 as a dormitory for females, the 19, 603 square-foot building has a hip roof, hip dormers with multi-light windows, wide overhanging eaves decorated with carved modillions, narrow lap siding, six-over-six double-hung wood sash windows, classically detailed cornerboards, and a wood watertable above the concrete foundation. The front façade (northwest) has a wide central entrance bay designed with two-story fluted Ionic columns and pilasters, and turned balustrades on both stories. The original open porch above the entrance was enclosed during the 1960s. On either side of the front entrance is a two-story hexagonal bay. The rear façade (southeast) has two hip roof bays that flank the one story entrance portico supported by Tuscan columns. The original rear entrance area is composed of full-length, multi-pane sidelights and doors. A band of tall multi-light windows span the area above the rear porch. Originally, open two-story porches were on the wings of the rear and south-facing facade. These were enclosed to increase the interior square footage. Two other doors are located on the rear façade. Metal fire escapes have been added to the northeast and southwest side facades of the cottage. Windows on these side elevations have been altered to accommodate doors for the fire escape.

W.C. Knighton drawings (State Archives NPIP no. 248, Map Drawer 32) are dated September 26, 1912. Wilmsen and Endicott Architects prepared drawings in 1954 for a proposed interior remodel of the structure. (Sustainable Fairview maps FAC-01-0084). The State Department of Mental Health initiated further interior remodeling to the building in 1965.

ID# None
Historic Name: Cottage Landscaping

Year Built: 1908
Architect: None
Historic/Contributing

The central open field within the historic crescent of cottages has been a feature of the Fairview district since the first buildings in 1908. The field encompasses 3.6 acres in its present form, although it was more extensive prior to the construction of the Fairview Union in 1969. Plantings on the field include indigenous Douglas fir trees and several exogenous species of trees and shrubs. The grass on the fields is irrigated and mowed during the summer months. Historic photographs and historic aerial views show that the field has remained essentially the same over Fairview's history, allowing for seasonal variations in the grass and the growth of trees and shrubs. The Master Plan prepared in the 1950s shows the road around the back of the cottages, the walkways in front of the cottages, and the paths between the cottages. These comprise the essential hardscape elements of the historic crescent, and they remain in place today.

Non-contributing Resources: Central Crescent

ID# B-2
Common Name: Administration Building

Year Built: 1958
Architect: Wilmsen and Endicott
Non-Historic/Non-Contributing

The Administration Building, designed by Wilmsen and Endicott in 1958, is a low, two-story steel frame building that has steel panels and concrete on the exterior, a flat roof, built-up roofing, bands of single-light awning windows, and a concrete foundation. The 13,380 square-foot building was used as the administration building and is adjacent to LeBreton Hall. The Administration Building is a non-contributing element within the historic district.

ID# B-12
Historic Name: Fairview Union

Year Built: 1969
Architect:
Non-Historic/Non-Contributing

The Fairview Union, constructed in 1969, is a one-story, 50,354 square-foot concrete and brick veneer building that has a flat roof, built-up roofing, a slightly projecting concrete cornice, bands of fixed and operable single-light window, and a concrete foundation. The single-story building was used a food service building and is in the center of the original crescent-shaped green space. This building is a non-contributing element within the historic district.

Contributing Resources (Optional):

ID# A-2
Historic Name: Greenhouse No. 1

Year Built: 1942
Engineer: Sam Emery
Historic/Contributing

Greenhouse No. 1, completed in 1942, was designed by Sam Emery, a Salem engineer. The 2,274 square-foot, single-story greenhouse has a gable roof that extends down to meet the metal frame (galvanized pipe) side walls that are covered with operational glass windows. The upper windows and framing are supported by low concrete half-wall. The vents in the ridge could be opened for venting the interior. Doors opening are on the end walls of the structure. The greenhouse retains its architectural integrity, although its physical condition has deteriorated, with much of the glazing broken out of the roof and walls.

ID# A-5
Historic Name: Grounds Building

Year Built: 1938
Architect/Builder: Unknown
Historic/Contributing

The rectangular, 1,989 square foot building, located north of the fuel shed (A-6), has a gable roof, corrugated metal roofing, overhanging eaves with brackets on the gable ends, and horizontal wood siding finished with cornerboards. The east and west sides of the one-story building have no openings. The north and south facades have sliding doors

on rollers and boarded over windows. The siding on the south elevation has been replaced.

ID# A-6
Historic Name: Fuel Shed

Year Built: 1938
Architect: Lyle Bartholomew
Historic/Contributing

Architect Lyle Bartholomew designed the single-story fuel shed in 1938. The 10,800 square-foot structure has a modified low-pitched gable/shed roof that stands about 20' above the ground and is supported by steel trusses resting on concrete piers. Piers along the east and west sides are supported on concrete half walls. The bottom half of the east and south facades are enclosed by wooden slat crib. Wood slat cover the six ft. chain-link fence that spans the bottom of the north and west facades. The building has had only superficial modifications including some fencing around the perimeter.

ID# A-11
Historic Name: Carpentry Shop

Year Built: 1938
Architect/Builder: Unknown
Historic/Contributing

Built in 1938, the carpenter shop is located west of the heating plant. The one-story, 4,060 square foot concrete building has a hip roof with asphalt composition shingles, wide overhanging boxed eves, shallow pilasters framing the large, multi-light steel sash, and stucco surface. The north and east facades have wide wooden double doors. A lower, hip roof addition and a flat roof carport are on the west addition.

ID# A-12
Historic Name: Root House

Year Built: 1942
Architect/Builder: Unknown
Historic/Contributing

Constructed in 1942, the two-story 3,230 square-foot brick root house has a gable roof covered with asphalt composition shingles, bracketed eaves, lap siding on the gable ends, and a partial stucco exterior skim coat. Wood sash, six-light windows are on upper reaches of the each façade; one of the windows has been modified on the east elevation. A freight door is on the north elevation. The west façade has a one-story shed attachment

that has seamed metal roofing, wood shingle siding, shuttered windows, and a door on the north side. A wood-framed shed addition has been attached to the west side of the building. The window on the east elevation has been partially filled in.

ID# Adjacent to D-13
Historic Name: Silos

Year Built: 1940
Architect/Builder: Unknown
Historic/Contributing

Paired cast-concrete silos, constructed in 1940 in place of wooden silos that collapsed, are about 38' high and 16' in diameter. There are small rectangular openings in the concrete walls (on the sides of the silos facing each other). A wood shingled roof once covered both silos; the newer concrete silos, located south of the bull barn (D-14), have a gable roof covering the structures. The silos are well preserved, without additions or modifications.

ID# D-12
Historic Name: Cow Barn
Common Name: Cow Barn

Year Built: 1942
Architect: Unknown
Historic/Contributing

The cow barn, built in 1942, is a one-story wood frame structure located in the farm building area. The building has a gable roof with composition asphalt shingles, overhanging eaves with exposed rafter tails, and horizontal wood siding finished with cornerboards. Six-light windows with simple wood trim extend along the length of the barn. Sliding doors are located on various facades. An addition to the cow barn was made to the north elevation of the building in 1951.

ID# A-17
Historic Name: Granary
Common Name: Paint Shop

Year Built: 1941
Architect: Frederick H. Eley
Historic/Contributing

The granary, measuring 40' x 80', was designed by Frederick N. Eley in 1941, and was later used as a carpentry and paint shop. The reinforced poured concrete building has a gable roof with composition shingles, two ridge vents, a large, cylindrical metal roof vent in the southeast corner, and wood lap siding. Gothic-shaped louvered

vents are on the gable ends. The north and south facades have a series of battered pilasters with nine-light fixed steel sash windows in between. A pedestrian door is on the south façade. A low concrete block addition with a shed roof is on the west facade, and an earthen ramp leads up to the freight door on the east façade.

Summary

The buildings and landscape features that comprise the Fairview Historic District reflect the institution's historic associations with the initiation and development of care for the developmentally disabled during the first half of the 20th century. Although somewhat compromised by the diminished land base and the existence of newer buildings on the campus, the integrity of materials, setting, location, association, and feeling of the original cottage plan and support buildings remains strong.

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION PLANNING/TRAFFIC ENGINEERING
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September 28, 2005

Project #: 7665

Don Myers
Sustainable Development, Inc.
PO Box 2071
Salem, OR 97308

RE: Sustainable Fairview: Pringle Creek Community – Phase I Trip Generation

Dear Don,

This letter presents the refined trip generation estimates for the mixed-use Pringle Creek Community located in the northeast corner of the former Fairview Hospital site in Salem, Oregon. This development represents the first phase of development described in the *Sustainable Fairview Development Plan*, previously submitted in August 2004 to the City of Salem and subsequently approved. The purpose of this letter is to estimate the number of daily, weekday a.m., and weekday p.m. peak hour site-generated trips, and determine if any transportation improvements identified in the development's Area Facilities Plan will be required as a result.

The Pringle Creek Community development is anticipated to generate approximately 1,770 net new daily trips. This phase will generate fewer trips than the 2,000 required by the Area Facility Plan to trigger any transportation improvement. Therefore, no transportation improvements will be required.

DEVELOPMENT PLAN

Sustainable Development, Inc. proposes to develop a mixed-use development incorporating office and retail land uses as well as a mixture of residential dwellings. Several existing buildings are anticipated to be renovated and reused. An exact breakdown of the size, number, and mixture of these land uses is presented in the next section of this report.

TRIP GENERATION

As a starting point, Kittelson & Associates prepared estimates of daily, weekday a.m., and weekday p.m. peak hour vehicle trip ends for the proposed site development based on empirical observations at similar land uses. These observations are summarized in the standard reference *Trip Generation, 7th Edition*, published by the Institute of Transportation Engineers (Reference 1). This methodology is consistent with the methodology followed in the *Sustainable Fairview Development Plan*.

As the data represented in the ITE trip generation manual is primarily collected at suburban locations with little or no transit service and minimal pedestrian or bicycle facilities, the process likely overestimates the trip generation of the proposed mixed-use development. To adjust for this, we reduced trip generation estimates by 10 percent to represent this multi-modal development. The ten-percent reduction is consistent with the Transportation Planning Rule (TPR) policies and the City of Salem agreed to its application in this case.

The *Trip Generation Handbook*, published by the Institute of Transportation Engineers (Reference 2) provides estimates for pass-by and internal trips. The internal trip reductions for each identified land use was based on the mixed-use nature of the proposed development. The pass-by reduction is only applicable to the retail component of the development; as such, pass-by trips were deducted from the total new trips. The ITE pass-by rate of 43 percent for a high-turnover restaurant is calculated based on the p.m. peak hour, and was also applied to daily and a.m. peak hour trips in this analysis. Approximately 18 percent of the total site generated trips are related to retail uses. The product of these two percentages are then multiplied with the total site-generated trips less the internal and TPR trip reductions to calculate the final net new trips attributable to the site.

Table 1 summarizes the estimated site trip generation during a typical weekday as well as during the weekday a.m. and p.m. peak hours for Phase I of the development. Trip generation estimates shown in the table below are rounded to the nearest five trips.

Table 1
Weekday Trip Generation Estimates – Phase 1

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Residential Uses									
Single Family Houses	210	43 units	480	40	10	30	50	30	20
- Internal Trips (5%)			*(20)*	*(0)*	*(0)*	*(0)*	*(5)*	*(5)*	*(0)*
Apartment	220	61 units	520	35	5	30	50	30	20
- Internal Trips (5%)			*(30)*	*(0)*	*(0)*	*(0)*	*(5)*	*(5)*	*(0)*
Residential Condo/Townhouse	230	112 units	730	60	10	50	70	50	20
- Internal Trips (5%)			*(35)*	*(5)*	*(0)*	*(5)*	*(5)*	*(5)*	*(0)*
Village Center									
Single Tenant Office Building (Existing Paint and Carpentry Buildings)	715	6,000 s.f.	60	10	10	0	10	0	10
- Internal Trips (4%)			*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*
Special Events * (Existing Fuel Shed Building)	--	10,800 s.f.	0	0	0	0	0	0	0
- Internal Trips (4%)			*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*
High Turnover (Sit-Down) Restaurant (Existing Boiler Building)	932	3,200 s.f.	410	35	20	15	35	20	15
- Pass-by Trips (43%)			*(170)*	*(20)*	*(10)*	*(10)*	*(20)*	*(10)*	*(10)*
Motel (Guest House / Bed & Breakfast)	320	10 units	60	5	0	5	5	5	0
Total Phase 1 Generated Trips			2,260	185	55	130	220	135	85
- Total Internal Trips			*(85)*	*(5)*	*(0)*	*(5)*	*(15)*	*(15)*	*(0)*
- 10% TPR reduction			*(235)*	*(20)*	*(5)*	*(15)*	*(25)*	*(15)*	*(10)*
- 43% Pass-by Reduction (Retail Component)			*(170)*	*(20)*	*(10)*	*(10)*	*(20)*	*(10)*	*(10)*
Net New Trips - Phase 1			**1,770**	**140**	**40**	**100**	**160**	**95**	**65**

* The open-air pavilion area is intended for sporadic seasonal events which and is not anticipated to generate trips during the weekday a.m. and p.m. peak hours. No ITE data is available for this type of land use.

As shown in Table 1, Phase I of the development is anticipated to generate approximately 1,770 net new daily trips. Of these trips, 140 (40 in and 100 out) are anticipated during the weekday a.m. peak hour and 160 (95 in and 65 out) are anticipated during the weekday p.m. peak hour.

The existing fuel shed building (10,800 s.f.) is planned for renovation and is to be used as an open-air pavilion for sporadic seasonal events, such as a farmer's market. These events typically occur on weekends and evenings, outside the peak periods of trip generation. When no event is scheduled, this space will likely act as a small park or open space. As such, the trip generation of

this building can be considered negligible during all time periods studied. Therefore, no trips were associated with the building for this analysis.

AREA FACILITIES PLAN

The development team and City of Salem have collectively developed an area facilities plan for the entire Sustainable Fairview development to identify specific required public improvements and the trigger for each improvement. The plan identifies a transportation-related intersection improvement at the Battle Creek Road SE/Kuebler Boulevard SE at such time the development generates 2,000 total net new daily vehicle trip ends. Phase 1 of the Sustainable Fairview development is anticipated to generate approximately 1,770 net new daily trips. Because this phase will generate less trips than the 2,000 required to trigger the improvement, no transportation improvements associated with the Pringle Creek Community development will be required.

If you any questions, please call us at (503) 228-5230.

Sincerely,
KITTELSON & ASSOCIATES, INC.

Christopher Tiesler
Engineering Associate

cc: Mark Kogut, Opsis Architecture

References: 1. Institute of Transportation Engineers. *ITE Trip Generation Manual, Seventh Edition*. 2003.

2. Institute of Transportation Engineers. *Trip Generation Handbook*. 2004.

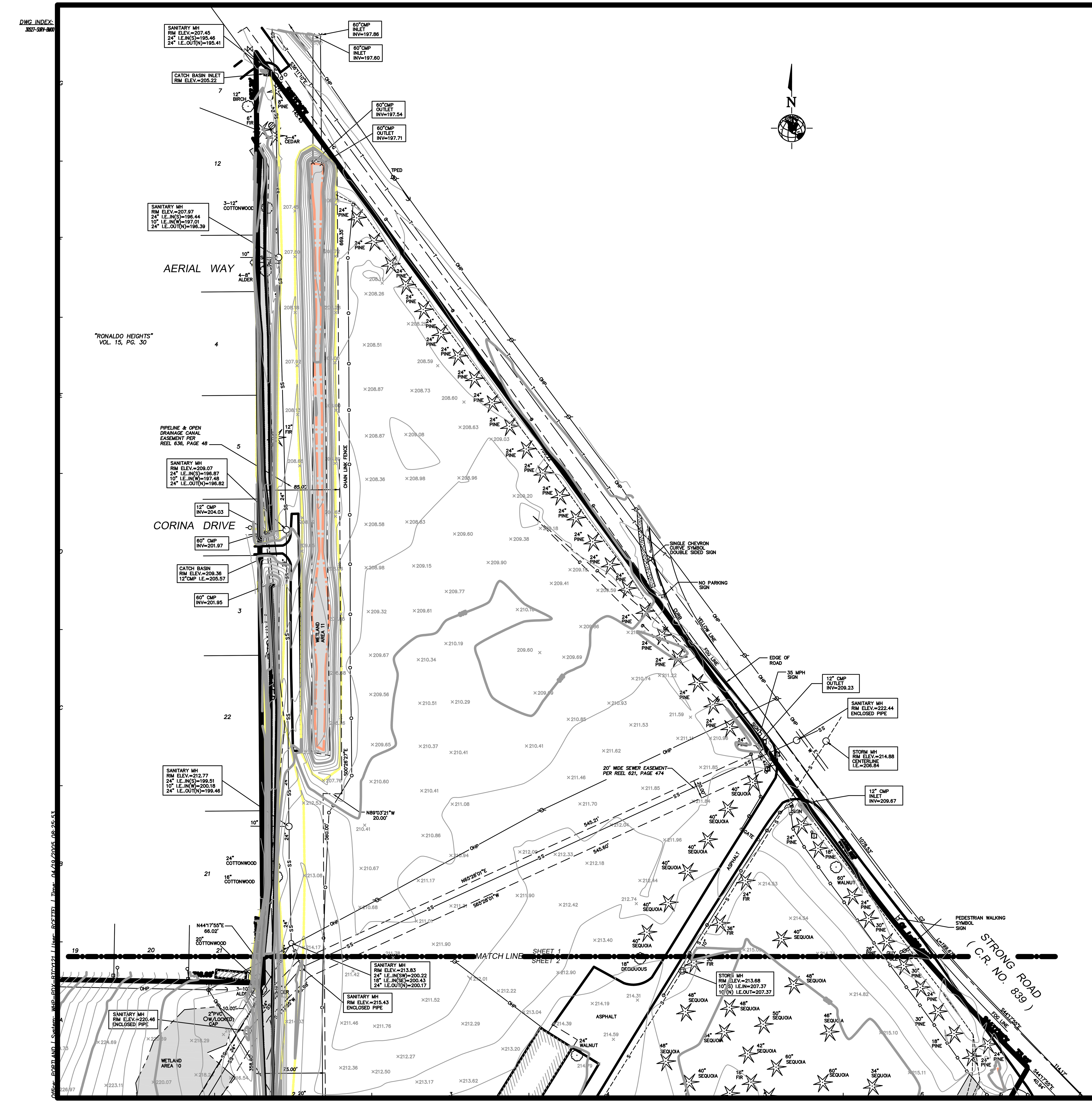
Oversized Drawings

topographic survey (1,2)

street plan and sections (DT)

drainage basin, conveyance and infiltration plan (SD)

water and sanitary sewer (UP)



PROPERTY LINE CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	CHORD
C1	202.49'	1429.59'	08°06'57"	S40°14'26"E 202.33'

CENTERLINE STRONG ROAD CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	CHORD
C2	199.67'	1409.59'	08°06'57"	S40°14'26"E 199.50'

MONUMENT TABLE:

POINT NO.	REFERENCE	DESCRIPTION
200	S.N. 34,773	FND 5/8" IRON ROD W/YPC, MARKED "LAND MARKERS"
203	S.N. 34,773	FND 5/8" IRON ROD W/YPC, MARKED "LAND MARKERS"
204	S.N. 34,773	FND 5/8" IRON ROD W/YPC, MARKED "LAND MARKERS"
205	S.N. 27,893	FND PK NAIL
206	S.N. 30,523	FND 3/4" IRON PIPE
207	S.N. 30,523	FND PK NAIL
246	S.N. 32,985	FND 5/8" IRON ROD W/YPC MARKED "LOREN F. JAY PLS 2293"
247	PRINGLE HEIGHTS ADDITION	FND 1/2" IRON PIPE
248	S.N. 32,985	FND 5/8" IRON ROD W/YPC MARKED "LOREN F. JAY PLS 2293"
249	S.N. 34,773	FND 5/8" IRON ROD W/YPC, MARKED "LAND MARKERS"
251	S.N. 34,773	FND 5/8" IRON ROD W/YPC, MARKED "LAND MARKERS"

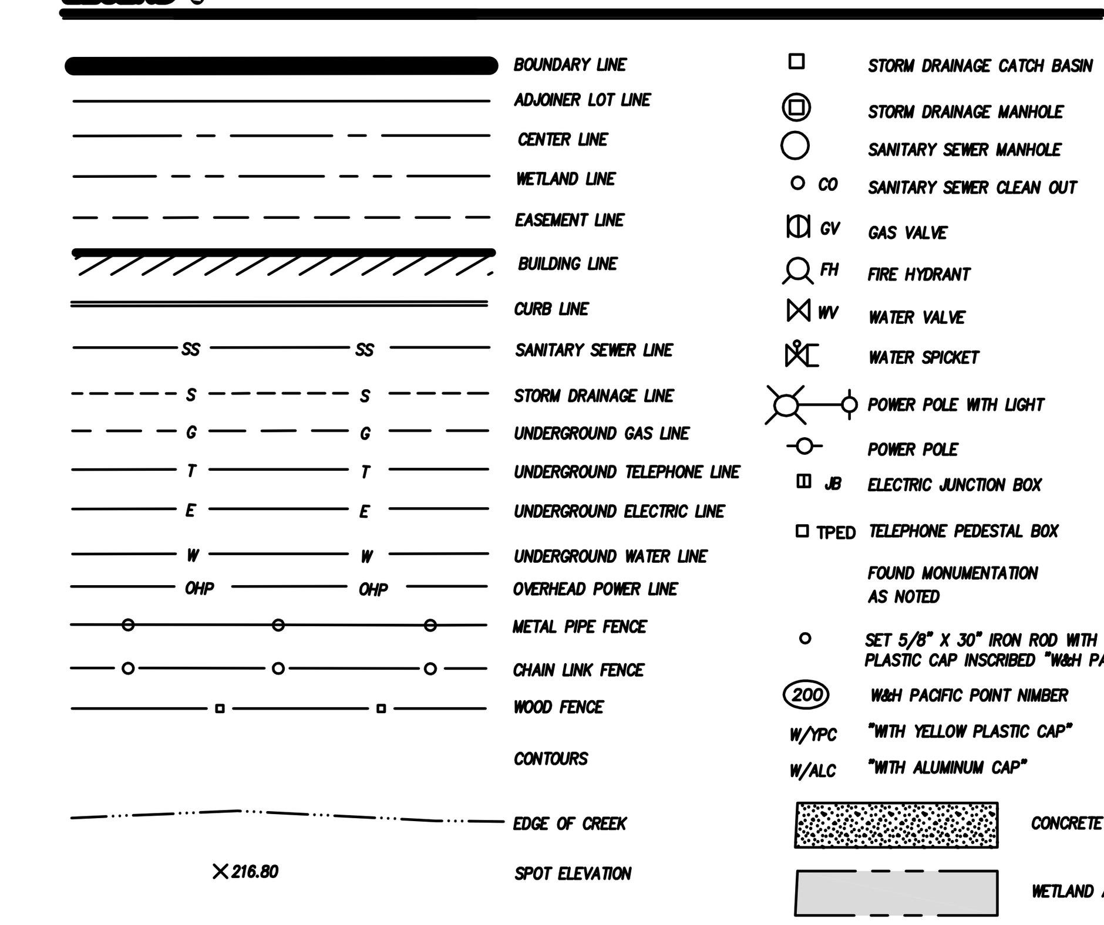
NOTES:

CONTOUR INTERVAL - 1 FOOT

UTILITY STATEMENT:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

LEGEND:



GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

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Planners · Engineers · Surveyors · Landscape Architects

SUSTAINABLE DEVELOPMENT, INC.
PRINGLE CREEK
TOPOGRAPHIC SURVEY

CITY OF SALEM / COUNTY OF MARION OREGON

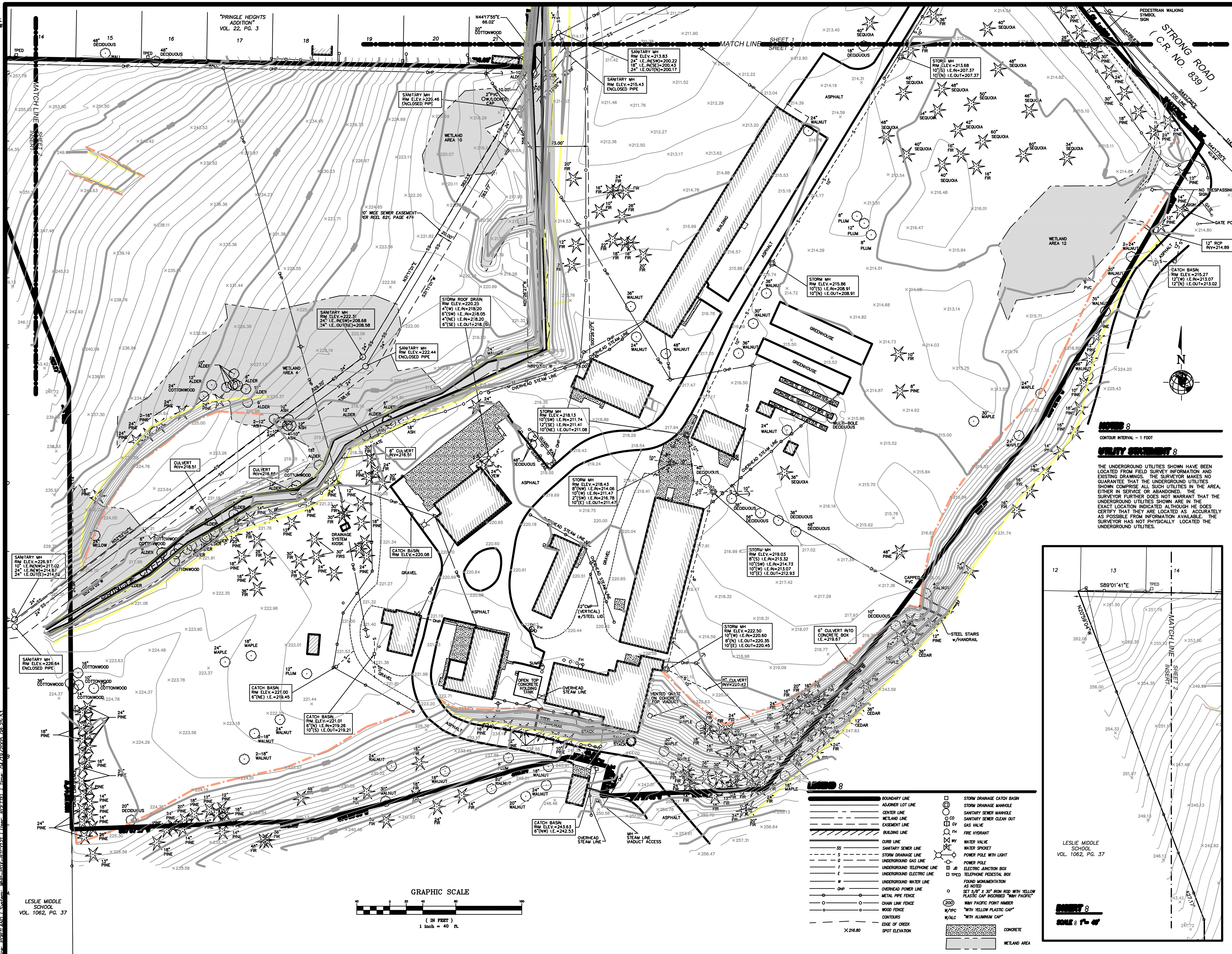
SCALE: 1" = 40'
PROJECT NO. 32228
DRAWING FILE NAME: 32228-SURV-SB02

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JULY 21, 1992 JACK A. BUTLER 2550
RENEWAL: 12-31-05

DESIGNED BY: | DRAWN BY: LPA | LAST EDIT:
CHECKED BY: JAB | APPROVED BY: | PLOT DATE: 04/19/05

DATE	BY	REV#	REVISION	CK'D	APPR

SHEET 1 1/2



NOTES

CONTOUR INTERVAL – 1 FOOT

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

LEGEND

BOUNDARY LINE
ADJOINER LOT LINE
CENTER LINE
WETLAND LINE
EASEMENT LINE
BUILDING LINE
CURB LINE
SANITARY SEWER LINE
STORM DRAINAGE LINE
UNDERGROUND GAS LINE
UNDERGROUND TELEPHONE LINE
UNDERGROUND ELECTRIC LINE
UNDERGROUND WATER LINE
OVERHEAD POWER LINE
METAL PIPE FENCE
CHAIN LINK FENCE
WOOD FENCE
CONTOURS
EDGE OF CREEK
SPOT ELEVATION
STORM DRAINAGE CATCH BASIN
STORM DRAINAGE MANHOLE
SANITARY SEWER MANHOLE
SANITARY SEWER CLEAN OUT
GAS VALVE
FIRE HYDRANT
WATER VALVE
WATER SPICKET
POWER POLE WITH LIGHT
POWER POLE
ELECTRIC JUNCTION BOX
TELEPHONE PEDESTAL BOX
FOUND MONUMENTATION AS NOTED
SET 5/8" X 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "W&H PACIFIC"
W&H PACIFIC POINT NUMBER
"WITH YELLOW PLASTIC CAP"
"WITH ALUMINUM CAP"
CONCRETE
WETLAND AREA

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3470 Pipebend Place
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SUSTAINABLE DEVELOPMENT, INC.
PRINGLE CREEK
TOPOGRAPHIC SURVEY

CITY OF SALEM / COUNTY OF MARION, OREGON

DRAWING FILE NAME: 32226-SURV-SB02

PROJECT NO. 32226

SCALE: 1"= 40'

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JULY 21, 1992 JACK A. BUTLER 2550
RENEWAL: 12-31-05

DESIGNED BY: JAB
DRAWN BY: LPA
CHECKED BY:
APPROVED BY:
LAST EDIT:
PLOT DATE: 04/19/05

DATE	BY	REV#	REVISION	CK'D	APPR

SHEET 2 2/2

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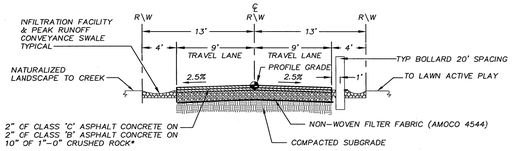
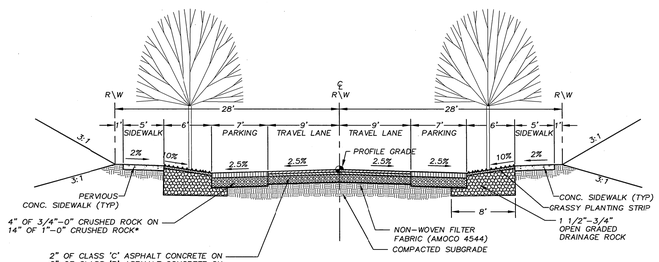


* NOTE: BOTTOM 4" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE

'A' STREET (SOUTH OF 1ST STREET)
COMMUNITY SQUARE AT LAWN
TYPICAL STREET SECTION — 1 / DT1

SCALE: N.T.S.



* NOTE: BOTTOM 6" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE

'A' STREET
56' RESIDENTIAL STREET
TYPICAL STREET SECTION — 2 / DT1

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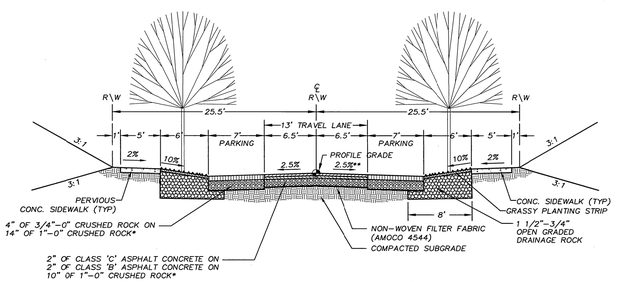
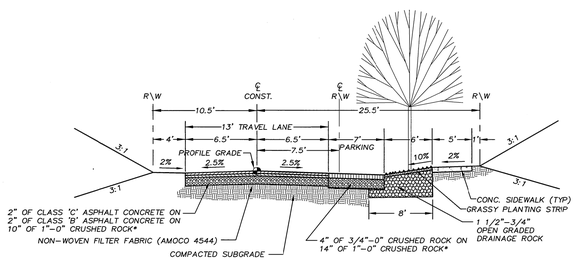


* NOTE: BOTTOM 4" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE
** NOTE: 1ST STREET IS A SHED SECTION WEST OF PRINGLE CREEK.

1ST / 'B' / 'D' / 'E' STREETS
51' QUEING STREET
TYPICAL STREET SECTION — 3 / DT1

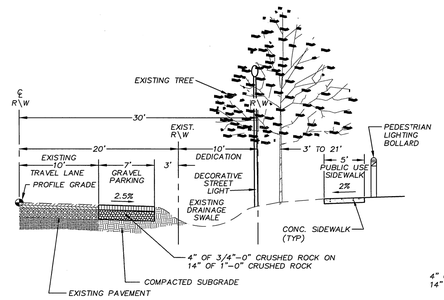
SCALE: N.T.S.



* NOTE: BOTTOM 4" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE

'C' STREET
34' MEWS STREET
TYPICAL STREET SECTION — 4 / DT1

SCALE: N.T.S.



STRONG ROAD SE
TYPICAL HALF STREET SECTION — 5 / DT1

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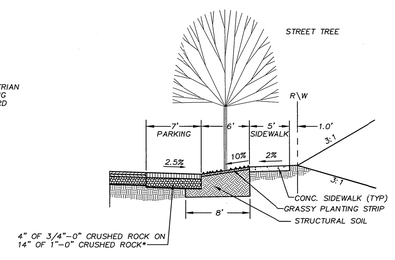
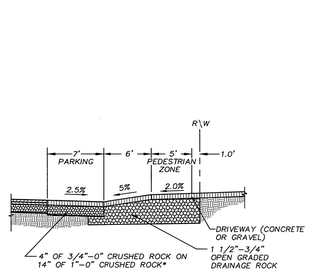


* NOTE: BOTTOM 4" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE

SWALE AT STREET TREE — 6 / DT1

SCALE: N.T.S.



* NOTE: BOTTOM 4" MAY BE RECYCLED A.C. GRINDINGS OR CRUSHED CONCRETE

SWALE AT DRIVEWAY — 7 / DT1

SCALE: N.T.S.

WHP JOB NO. 32228

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portland, oregon
v: 503.5
f: 503.5

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pringle creek community

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salem, or. 97302
sustainable development, inc.
po box 2071
salem, or. 97308

REVISIONS:

REVISION NUMBER IN PROCESS NO CHANGES TO SHEET	REVISION EDITION CLOSING DATE

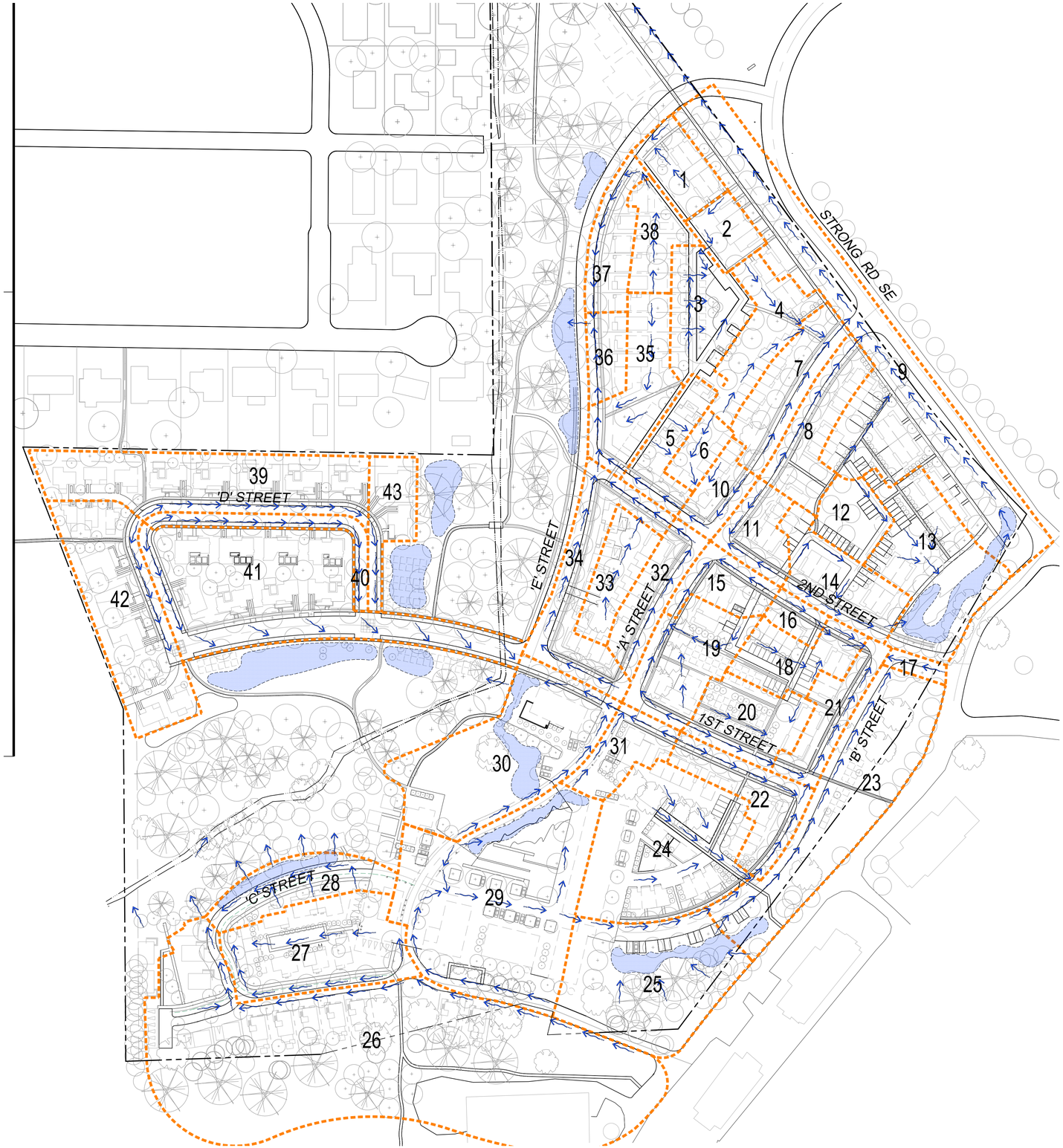
date
09-30-05

drawn by
RWI

Sheet Title
STREET SECTIONS

Sheet No.
DT1

Job No.
4261.01



#	ROOF LINE AREA	VEGATION–PERVIOUS SURFACE	ROAD OR SIDEWALK
1	0.088 AC	0.037 AC	0.006 AC
2	0.024 AC	0.056 AC	0.024 AC
3	0.042 AC	0.347 AC	0.057 AC
4	0.128 AC	0.260 AC	0.020 AC
5	0.092 AC	0.116 AC	0.066 AC
6	0.048 AC	0.092 AC	0.004 AC
7	0.065 AC	0.230 AC	0.129 AC
8	0.083 AC	0.019 AC	0.130 AC
9	0.195 AC	1.147 AC *	0.195 AC
10	0.041 AC	0.088 AC	0.074 AC
11	0.060 AC	0.095 AC	0.108 AC
12	0.000 AC	0.195 AC	0.044 AC
13	0.046 AC	0.689 AC *	0.088 AC
14	0.139 AC	0.178 AC	0.127 AC
15	0.035 AC	0.092 AC	0.117 AC
16	0.031 AC	0.037 AC	0.040 AC
17	0.000 AC	0.082 AC	0.035 AC
18	0.067 AC	0.239 AC	0.043 AC
19	0.079 AC	0.294 AC	0.141 AC
20	0.047 AC	0.271 AC	0.088 AC
21	0.068 AC	0.068 AC	0.137 AC
22	0.088 AC	0.169 AC	0.151 AC
23	0.000 AC	0.972 AC *	0.173 AC
24	0.386 AC	0.502 AC	0.238 AC
25	0.052 AC	0.825 AC *	0.167 AC
26	0.699 AC	2.842 AC	0.234 AC
27	0.231 AC	0.374 AC	0.210 AC
28	0.020 AC	0.252 AC *	0.138 AC
29	0.371 AC	0.476 AC	1.058 AC
30	0.121 AC	0.829 AC *	0.186 AC
31	0.045 AC	0.161 AC	0.076 AC
32	0.081 AC	0.110 AC	0.132 AC
33	0.110 AC	0.179 AC	0.000 AC
34	0.132 AC	0.020 AC	0.279 AC
35	0.085 AC	0.331 AC	0.074 AC
36	0.046 AC	0.080 AC	0.055 AC
37	0.055 AC	0.154 AC	0.102 AC
38	0.070 AC	0.169 AC	0.018 AC
39	0.367 AC	0.507 AC	0.140 AC
40	0.000 AC	0.060 AC	0.179 AC
41	0.367 AC	0.669 AC	0.485 AC
42	0.413 AC	0.402 AC	0.090 AC
43	0.092 AC	0.115 AC	0.062 AC
TOTAL	6.138 AC	20.397 AC	6.254 AC

LEGEND

SWALE / INFILTRATION TRENCH

BLUE / GREEN INFILTRATION GARDENS

* TOTAL PERVIOUS SURFACE AREA INCLUDES BLUE / GREEN AREAS

TOTAL BLUE / GREEN AREA PROVIDED =53,871 SF

N

SCALE

60 0 30 60 120

(FEET)

1 INCH = 60 FT

WHP JOB NO. 32228

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REVISIONS:

REVISION NUMBER PROGRESS PRINTINGS THIS SHEET	REVISION EDITION CLOSING DATE

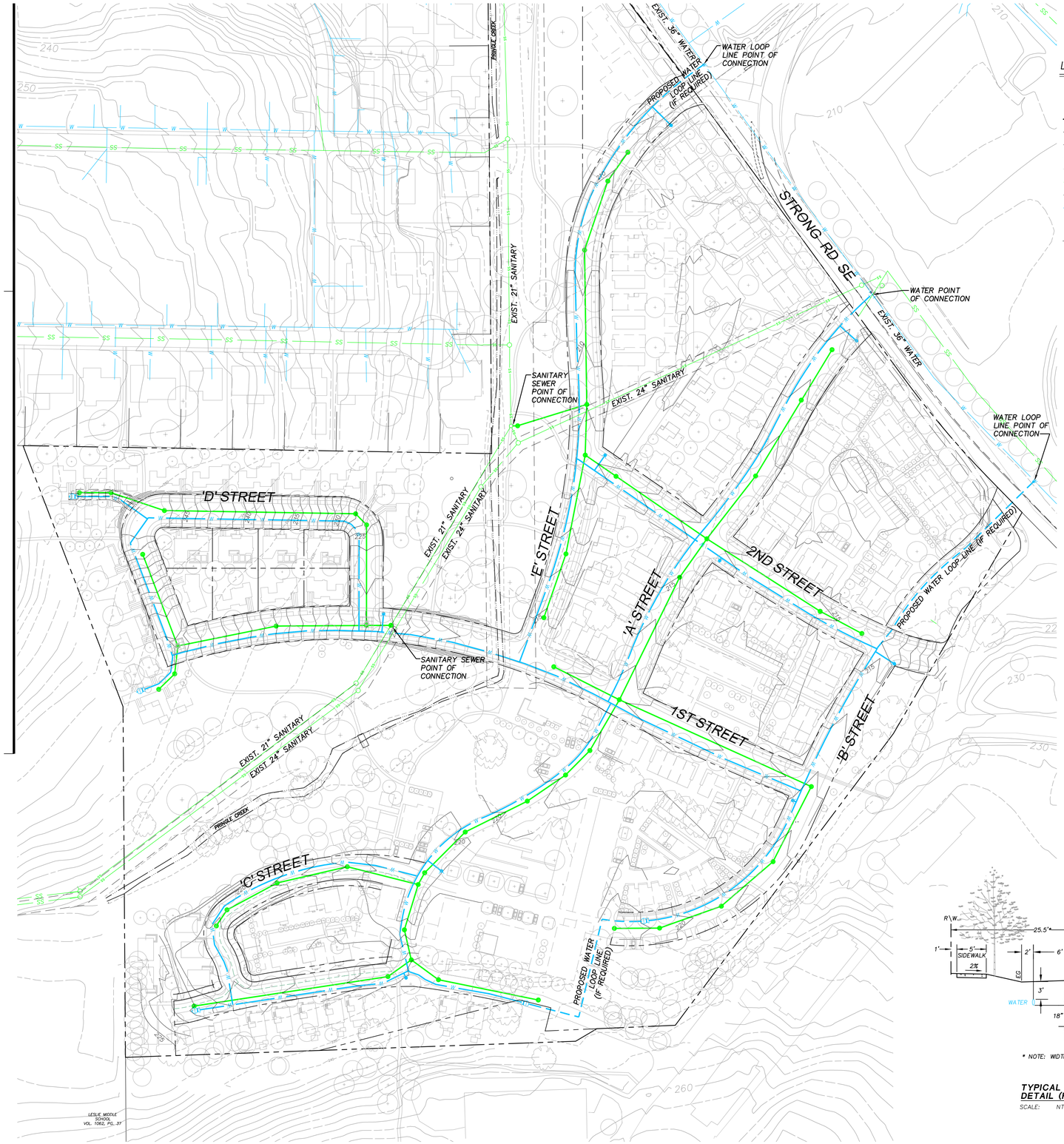
date
09-30-05

drawn by
RAI

Sheet Title
DRAINAGE BASIN, CONVEYANCE & INFILTRATION PLAN

Sheet No.
SD

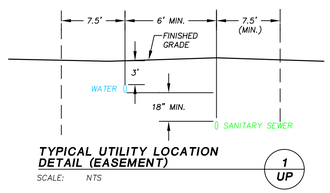
Job No.
4261.01



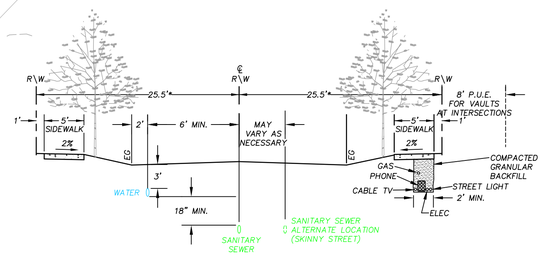
LEGEND :

EXISTING		PROPOSED
BOUNDARY LINE		
ADJOINER LOT LINE		
CENTER LINE		
EASEMENT LINE		
EDGE OF PAVEMENT LINE		
SS SS	SANITARY SEWER LINE	
S S	STORM DRAINAGE LINE	
W W	UNDERGROUND WATER LINE	W
	UNDERGROUND WATER LINE PROPOSED LOOP CONNECTION	
	EDGE OF CREEK	
○	SANITARY SEWER MANHOLE	●
○ ∞	SANITARY SEWER CLEAN OUT	●
∩ ≈	FIRE HYDRANT	●
	BLOW OFF	

NOTE:
ALL PUBLIC WATER LINES, FIRE HYDRANTS AND SANITARY SEWER LINES WILL BE WITHIN THE PRIVATE ROAD RIGHTS OF WAY, WHICH ARE SUBJECT TO BLANKET PUBLIC UTILITY EASEMENTS. THOSE WATER AND SANITARY SEWER UTILITIES OUTSIDE OF THE RIGHTS OF WAY TRACTS WILL BE WITHIN DEDICATED PUBLIC EASEMENTS.

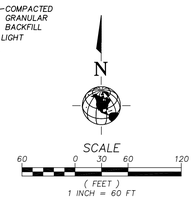


TYPICAL UTILITY LOCATION DETAIL (EASEMENT) — 1 UP
SCALE: NTS



* NOTE: WIDTH VARIES, SEE TYPICAL STREET SECTIONS

TYPICAL UTILITY LOCATION DETAIL (R.O.W.) — 2 UP
SCALE: NTS



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RWC

Sheet Title
WATER AND SANITARY SEWER

Sheet No.
UP

Job No.
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