CITY OF KIRKLAND
Planning and Community Development Department
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MEMORANDUM

To: Planning Commission

From: David Barnes, Green Building Team Lead and Project Manager
Paul Stewart, Deputy Planning Director

Date: August 16, 2011

Subject: Green Codes Project
File No. ZON10-00031

RECOMMENDATION

Staff recommends the Planning Commission review and provide direction on the approach to the Clustered Housing/Low Impact Development concept and make comments on the Phase One Sustainable Action Items for City Council Review.

INTRODUCTION

This memo is divided into two parts. Section I will cover the Clustered Housing/ Low Impact Development concept as it has been modified from previous meetings with the Planning Commission, Houghton Community Council and staff. This section provides an introduction to Low Impact Development and Clustered Housing and provides proposed parameters or development standards that illustrate the requirements and the incentives and visual representations in the form of site plans. Staff will need to receive final direction on this concept so that regulations can be drafted. The discussion portion should provide a format to facilitate this process.

Section II will discuss City Council only action items as shown on the Sustainable Actions Worksheet (see Attachment 1). These are City Council items and not subject to the Planning Commission or HCC review however staff is requesting feedback from both the Houghton Community Council and the Planning Commission as useful input prior to bringing this to the City Council.

BACKGROUND DISCUSSION

Staff met with the Planning Commission on June 9, 2011 to present the Clustered Housing/LID concept and draft code for Electric Vehicle Infrastructure (EVI). Feedback from that meeting has been incorporated into a revised Clustered Housing/Low Impact Development concept. Staff also met with the Houghton Community Council on June 28, 2011 to receive feedback on the same materials. The Houghton Community Council asked a few clarifying questions, but deferred their comment until after further comments from the Planning Commission and staff. The Houghton Community Council suggested that graphics or drawings of the clustered Housing/Low Impact Development concept would be helpful in visualizing the end product of the code change.

In response to the Houghton Community Council's request, the Planning Department retained the services of Makers (an urban planning and architectural services firm). Their tasks included providing visuals to help evaluate how the Clustered Housing/Low Impact Development concept might look when the development standards were applied.

Staff used an example of an existing 4-lot short plat (Wang Short Plat) using current regulations and then provided two options that depict how lot sizes could be reduced, homes could be placed closer to each other and the access roads and open space could be created (see Attachment 2).

For comparative purposes, an existing 24 lot subdivision (Garden Gate) was also studied and two options were provided to evaluate how larger sites might perform (see Attachment 3). It is important to note that these are only a few examples and meant to show the flexibility of the Clustered Housing/Low Impact development parameters. An applicant may choose to apply the proposed regulations in a different layout than shown in the site plan options.

I. Clustered Housing/Low Impact Development Concept

What is Low Impact Development?

Low Impact Development (LID) is an approach to stormwater management that emphasizes the use of on-site natural and built features to reduce the impacts of increased flow rates and volumes associated with increases in impervious area. LID involves assessing and understanding the site, protecting native vegetation and soils, and minimizing and managing stormwater at the source. LID techniques may be considered an alternative to traditional, structural stormwater management solutions. Some examples of LID techniques are rain gardens,

green roofs, pervious pavement, infiltration, and dispersion using splash blocks (see attachment 4).

What is Clustered Development?

Clustered development is a site plan arrangement in which buildings are concentrated on a portion of the site, leaving the remainder of the site undeveloped. This contrasts with the conventional land development and subdivision approach, which is to divide an entire site into lots, each of which meets minimum zoning lot size requirements. By clustering buildings together on smaller lots rather than spreading development throughout the site, a developer has greater flexibility in lot layout design around environmentally sensitive areas and other constraints, without having to reduce the total number of developable lots. As a result, cluster development can provide a win-win approach for communities and developers to protect and buffer environmentally sensitive areas, to preserve important site features, or to provide recreation areas or natural open space.

In urban areas, cluster development's greatest value may be to provide site design flexibility, although it may also provide for recreation, open space and resource protection. The open space tracts in cluster developments are generally permanently preserved. Clustering also can reduce infrastructure costs for developers and communities since the length of roads and utility lines are reduced. Cluster development generally refers to residential developments, although they are sometimes defined to include commercial or industrial development.

Intent of the Clustered Housing/Low Impact Development Concept

The intent of the Clustered Housing/Low Impact Development is to encourage developers to provide appropriate open space in a development and to reduce the amount of the hard surfaces such as building footprints, access roads and driveways in order to reduce surface water runoff. This approach provides incentives which are granted if the development meets the development standards and is approved through the short plat or subdivision review process.

Allowing homes to be clustered and flexible lot sizes provide opportunities to build homes of different sizes and locate them closer together, which may allow them to share infrastructure and reduce development costs. In addition, using low impact development techniques and facilities instead of traditional stormwater detention facilities can also lower costs. The benefits to homeowners, citizens and the City as a whole are numerous and include more

open space to be used for recreation, natural vegetation and significant tree preservation. The entire city benefits by having less stormwater entering into wetlands, streams and Lake Washington. This enhances water quality and helps protect salmon habitat and the safe enjoyment of Lake Washington.

DISCUSSION

The following incentives, requirements and menu of selected LID facilities for the Clustered Housing/LID concept are listed here for reference:

Incentives

- Flexibility in lot sizes and layout
- Reduced driveway widths
- Reduced setback yards
- Flexible access road widths

Requirements

- Divert 50% of stormwater runoff generated from new impervious surfaces to LID facilities.
- Clustered Housing
- Shared driveways (or minimum amount of impervious surfaces for non-Shared driveways)
- Open Space standards
- Review of proposal is included with applicable land use permit

Menu of selected LID facilities to meet targeted reductions

- Rain Garden
- Permeable pavement
- Rainwater Harvesting
- Infiltration
- Dispersion
- Proven Best Management Practices as defined in the current adopted King County Stormwater Design Manual

Parameters for Clustered Housing/Low Impact Development

The parameters and development standard presented below include staff's recommendations and should be discussed and clarified prior to presenting draft code language. The Planning Commission and Houghton Community Council should provide direction on these parameters. For a number of these, staff highlighted particular items for discussion. Discussion points are noted following the chart with a staff recommendation.

Parameters	
Housing Types	• Detached Dwelling Units
Lot Size Reductions	• Allow 50% reduction of lot size based on minimum lot size for underlying Zone. For Example, if 7,200 sq-ft is the zone's minimum, lots can be a small as 3,600 sq-ft. and for 8,500 sq. ft. it would be 4,250 sq-ft.
Minimum Size Development	• 4 lots are required
Low Impact Development	• Low Impact Development facilities must be employed to control stormwater runoff generated from 50% of all new hard surfaces. This includes all new vehicular and pedestrian access. LID facilities must be designed according to Public Works stormwater development regulations as stated in KMC 15.52.
Zoning Locations	Allowed in the following Single Family Residential Zones: • RS 35; RSX 35; RS 12.5; RSX 12.5; RS 8.5; RSX 8.5; RSA 8; RS 7.2; RSX 7.2; RS 6.3; RSA 6; RS 5.0; RSX 5.0; RSA 4
Public Notice	• Pre-submittal Meeting required prior to application process for Land Use review • Normal Publishing and posting after application received • Mailing of Notice to adjacent residents and property owners within 300 feet of proposed development after application received
Access Requirements	• Flexibility exists within KZC 105 and there are modification processes available to reduce road width as necessary.
Parking Requirements	• 2 stalls per detached dwelling unit
Parking Pad Requirements	***Discussion:*** *Consider reducing parking pad width* ***Discussion:*** *Tandem Parking*
Ownership Structure	• Subdivision

Additional Development Standards	
Front Setbacks	• 20′ for all front yards adjacent to exterior development boundaries • Internal front yard setbacks shall not be less than 10′ ***Discussion:*** *Allow porches to encroach 5′ into internal front yard setback?* ***Discussion:*** *Garage Setback Requirement – None, 5′ or 8′*
Other Setbacks	• 5′ minimum for all yards other than front property lines
Distance between Structures	• 10′ minimum
Lot Coverage (All impervious surfaces)	• Maximum lot coverage is based on the underlying zone's minimum lot size. For example, if 7,200 square feet is the underlying zone's minimum lot size then maximum lot coverage is 3,600 square feet for each new lot. • Lot coverage is calculated individually for each lot ***Discussion:*** *How should lot coverage be calculated?*

Open Space	• Minimum of 30-60% of entire development ***Discuss Options:*** *Should Open Space determined by size of development?* • Native & undisturbed vegetation is preferred • Can accommodate passive recreational uses • Allow 300 square feet for shelters or other recreational structures to encourage use of the open space • Paths connecting open space to development must be pervious • Covenant required to protect and keep open space undeveloped in perpetuity • Planning Director approval required for sport courts installed in open space. Approval Criteria needs to be developed to allow them
Height	• The maximum allowed in the Use Zone in which the development is located.
Floor Area Limitations	• Maximum F.A.R. for all lots is 50% of the underlying zone's minimum lot size. • Floor Area Ratio is calculated individually for each lot ***Discussion:*** *Should floor area ratio be aggregated?*
Parking	***Discussion:*** *Allow clustered garages in separate tract? Or shall it be on each individual lot only?*
Accessory Dwelling Units	***Discussion:*** *Allow Accessory Dwelling Units?*

Discussion Points:

Housing Types: This Concept has been designed to work with Single Family Dwelling units. Most of the research and development regarding Low Impact Development has centered on single family dwelling units in residential zones.

Lot Size Reductions: Allowing reductions in lot sizes up to 50% of the underlying zone has not been previously allowed in Kirkland. However, the flexibility to reduce lot sizes is consistent with the cluster concept and provides additional opportunities for utilities and infrastructure costs savings, effective LID stormwater techniques and appropriate open space areas.

Minimum Development Size: 4 lots are considered the minimum number for shared low impact development infrastructure to be cost effective.

Low Impact Development: Currently, Low Impact Development is required as feasible. In Kirkland, if feasible, a development would need to divert 10% of the stormwater from all new hard surfaces to LID facilities such as rain gardens and splash blocks instead of sending all the water to the stormwater system. Staff believes that this requirement will become more stringent in the coming years. Diverting 50% of the stormwater from new surfaces is a reasonable percentage to achieve the incentives under this program.

Zoning Locations: This concept could be applied for in most Single Family Dwelling residential Zones. The zones that are excepted from this concept are RSA 1 and any zone that is covered by the Holmes Point overlay and the South Houghton Slope (PLA 3C). The RSA 1 Zone requires clustered housing and 50% open space and the Holmes Point overlay has a very low target for a site's lot coverage that would be difficult to work effectively with this concept. PLA 3C, while not yet adopted, has its own special clustering provisions.

Public Notice: There are public notice requirements for land use decisions such as short plat and subdivisions. The Clustered Housing/LID concept would be reviewed concurrently with those permits and therefore the public would be given notice of the type of development proposed.

Access Requirements: Kirkland's roadway widths are narrow when compared with many other jurisdictions. It is not the intent of this concept to reduce public safety or cause traffic issues by allowing roads that are too narrow. However, there are modification provisions that exist in the Zoning Code that can be applied and reviewed concurrently with a Clustered Housing/LID proposal.

Parking Requirements: 2 parking stalls is the minimum amount of parking required in residential zones for single family. This concept would not result in any changes to that standard.

Parking Pad width: The current regulations require a 20' X 20' parking pad in front of garages. The depth of the parking pad may be necessary to avoid encroachment of vehicles into access roads**,** but the width could be narrowed to reduce hard surfaces.

- ***Staff recommendation:***
  Allow reduction in parking pad width from 20 feet to 18 feet.

Tandem Parking: Cars parked in this manner may provide more flexibility in design and provide an opportunity for narrower driveways.

- ***Staff recommendation:*** *Allowing tandem parking and making a provision for a reduction in driveway width to as narrow as 10 feet.*

Ownership Structure: The concept is presented for use with subdivisions as this is the most compatible type of land use decision that can be linked to this concept.

Front Setbacks: Front setback on the perimeter will remain the same and should look similar to adjacent parcels or developments. The setbacks for internal roads are reduced so that less pavement is required to access the new homes from the road. Current regulations (except in Houghton jurisdiction) allow front entry porches to encroach 7 feet into the 20 foot front setback yard and steps to encroach an additional 5 feet. For this proposed regulation, allowing porches to encroach 5′ into a required 10′ front yard setback reduces walkway depth to connect sidewalks to front entrance and achieves a comparable encroachment allowed under existing regulations . Current Zoning Code regulations in single family residential zones also require garages to be setback an additional 8′ feet from front façade of the home.

- ***Staff Recommendation:*** *Allowing 5′ encroachment into 10′ front yard setback for front entry porches. Require garages to be setback 8′ from front façade of home. A front porch that encroaches into the 10′ front yard setback shall not be considered part of the front façade. The face of a garage will also need to be 20 feet from the front property line to accommodate the parking pad requirement in the Zoning Code.*

Other Setbacks: Other setbacks are reduced to work with the concept of smaller lots. This also promotes clustering of homes and potential for more open space on a project site.

Distance between Structures: 10 feet distance is sufficient distance between structures.

Lot Coverage: With the exception of cottage developments, the calculation of lot coverage has traditionally been calculated on an individual lot basis. For most residential use Zones in Kirkland, 50% is the maximum lot coverage percentage. Therefore in the RS 7.2 Zone, a 7,200 square foot lot could have up to 3,600 square feet of lot coverage. The RS 5.0 Zone allows for 60% lot coverage. Providing each lot a stated percentage of coverage allows each individual owner of his/her land to cover it as they wish. The concept of aggregating lot coverage may be very confusing for an individual owner to understand what they can do with their property and may become problematic for staff to administer. Staff

would also be required to recalculate the entire site's lot coverage each time a permit is submitted that increased lot coverage. One owner's lot coverage could limit an adjacent property owner's ability to add-on or rebuild.

- ***Staff recommendation:*** *Calculate lot coverage on a lot by lot basis and not aggregated over the entire site.*

Open Space: Open Space is vegetated and pervious land not covered by building, roadways, sidewalks, driveways, parking areas, plazas, terraces, swimming pools, patios, decks or other similar impervious or semi-pervious surfaces. The Clustered Housing/LID concept requires a percentage of the entire development be dedicated to open space. The Puget Sound Action Team's Low Impact Development Guide for Puget Sound suggests that the open space percentage should be 30% to 60%. If a minimum of 30% is required, that may be the all that the development achieves. However, open space could include low impact facilities such as rain gardens or vegetation that also helps treat and infiltrate stormwater. Allowing open space to include LID stormwater facilities can help increase the overall percentage of open space provided. This area would need to be reserved through an easement or plat restriction.

- ***Staff recommendation:*** Require a minimum of 40% open space *for entire development. This space will help the efficiency of low impact development facilities, buffering from neighboring development, provide significant tree and vegetation retention and provide for wildlife habitat. Open space would allow additional flexibility for allowing recreational facilities such as a picnic shelter or sport court and benches within the open space area.*

Height: The height limits of the underlying zone apply.

Floor Area Ratio: With the exception of cottage developments, staff is recommending that the calculation of Floor Area Ratio (F.A.R.) be calculated on an individual lot basis. With the exception of the jurisdiction of the Houghton Community Council, the maximum floor area ratio in residential zones is 50% of the lot size. For example, where F.A.R. applies, in the RS 7.2 zone, a 7,200 square foot lot would be limited to 3,600 square feet of floor area. Homeowners understand their limitations to adding additional floor area to their individual homes. Having an aggregated FAR would be confusing and challenging to explain, track and administer. It would require staff to recalculate the entire site's floor area ratio each time a permit is submitted to increase floor area.

- ***Staff Recommendation:*** Calculate Floor Area Ratio on a lot by lot basis and not aggregated over the entire site.

Parking: Clustered garages could reduce the hard surface total for the development. This could also allow each of the homes to reserve more room for floor area on the individual lots. The cottage code encourages clustered garages area as a method for designing a more compact development. There may be some situations where having centrally located cluster of garages will be an advantage. However, allowing clustered garages will provide some flexibility in the design of the site.

- ***Staff Recommendation:*** *Allow clustered garages on separate tract with development standards and maintenance agreement*.

Accessory Dwelling Units: This concept does not use additional density as an incentive. Providing additional density by allowing ADU's would appear to be compatible with residential uses elsewhere in the City.

- ***Staff Recommendation:*** *Allow ADU's on individual lots.*

For additional information there are several informative links which discuss low impact development in more detail. Staff has utilized the Low Impact Development Technical Guidance Manual for Puget Sound, which was developed by the Puget Sound Action Team and the Washington State University Pierce County Extension. In addition, the Environmental Protection Agency provides a number of resources that have informed staff. The Washington State Department of Ecology is the entity that requires low impact development via our National Pollutant Discharge Elimination System (NPDESII) permit and provides some very good information about current and future requirements for local governments. The following links are very useful for understanding many different issues regarding low impact development:

http://www.ecy.wa.gov/programs/wq/stormwater/municipal/LIDstandards.html

http://www.epa.gov/owow/NPS/lid/costs07/

http://www.psp.wa.gov/ (need to scroll down to LID section)

http://www.lowimpactdevelopment.org/

http://econw.com/casestudies/casestudy?study=low-impact-development

II. Phase One – Sustainable Actions -City Council Review

The City Council Review items discussed below are administrative policies will be decided upon by the City Council. These issue items are being brought to both the Houghton Community Council and the Planning Commission for any thoughts and input prior to City Council review.

Green Infrastructure

ISSUE (A1) LEED Gold certification for all new public facilities and LEED Silver rating for all renovated public facilities:
Many Cities have developed policies to sustainably design, build and certify public buildings in their jurisdictions (see attachment 5 for a memo that provides additional information). The most notable program for commercial and public buildings is the LEED rating and certification system that was created by the United States Green Building Council. While the City of Kirkland has an informal policy to use the LEED rating system and has done so with the City Hall Annex, it has not been formalized. A resolution or ordinance is usually the path that most jurisdictions have chosen accomplish this policy change (see Attachment 6 for example from City of Tacoma).

ISSUE (A2) Evaluate existing policies for City's Capital Improvement roads projects and consider comparing to the Green Roads program or similar rating program:
Kirkland's Capital Improvement Program (CIP) has been evaluating best management practices and sustainable technologies and techniques when designing and building or rebuilding roads and public infrastructure. Most recently the 120th Street Extension project has used a rating system called Green Roads. The use of the Green Roads program is considered a test case or pilot for the CIP group. They will do a cost/benefit analysis in conjunction with this project to determine the suitability of using a rating and certification program for future road and infrastructure projects.

ISSUE (A3) Develop Measurable Goals for the Green Building section of Kirkland's Climate Protection Action Plan, with an emphasis on reduction of green house gasses (GHG):
The Green Building program could establish targets to assist in the reduction of GHG to help meet the City's goals. This effort would be best informed by future phases of amendments as the City has recently joined with other King County Cities (King County Climate Change Collaborative) to jointly research this topic and develop specific recommendations to address climate change. In the meantime, the Green Building Team will propose a new type of building permit, called a deconstruction permit.

Deconstruction is a technique that promotes taking a structure apart in such a manner that preserves much of the useable portions of the structure. This method that can significantly reduce energy used to demolish structures and preserve the embodied energy in useable salvaged building materials. The City encourages the deconstruction practice, but does not have permit review process other than a demolition permit to remove structures from existing building sites.

ISSUE (A4) Require all projects, public and private to complete a sustainability checklist and/or a carbon footprint calculator to help applicants estimate the impact of their proposals on the environment:
King County has an electronic form that is completed during SEPA review to approximate the GHG created by building and operating a structure. The intent of having an applicant complete a checklist may get them thinking about sustainable practices for their current project and for any future projects. A sustainability checklist could be created to suit Kirkland's needs and then be included in the building permit application.

Potable Water Conservation

ISSUE (B1) Develop tools to help promote rainwater harvesting, grey water reuse by creating an educational handout:
It is not commonly known that a homeowner can legally capture rainwater for reuse on their property. In fact, water that goes down sinks and water from laundry use can also be used outside of the structure for non-potable uses such as watering plants. The reuse of rainwater and grey water are in effect reducing the use of potable water (public drinking water) and is a conservation technique that should be encouraged and supported. Staff could be directed to produce an educational handout to provide to applicants.

Stormwater and Landscape

ISSUE (C1) Evaluate Seattle's Green Factor checklist after comparing with current landscaping regulations:
Staff examined the Green Factor program and checklist and compared it to the landscaping requirements in the Kirkland Zoning Code. After careful analysis, staff determined that the Green Factor would be difficult to administer as it was designed to work with the City of Seattle's zoning code requirements. In addition, the main focus of the Green Factor is to promote Low Impact Development techniques and vegetation. These specific issues are being addressed in the Green Code amendments. Therefore, staff concluded that the City should not pursue adopting this particular program, but certain elements of the program could be considered in future updates to Chapter 95 (Tree Management and Required Landscaping) of Kirkland's Zoning Code.

ISSUE (C2) Modify Surface Water Utility Rate to give discounts for Low Impact Development Stormwater (LID) facilities installed on individual sites:

The current Stormwater Management (SWM) fee for a single family residential home in Kirkland is $192 per year. It is likely the initial development costs associated with an LID facility such as pervious pavement, or a rain garden would exceed the SWM fee. Therefore a reduction in the rate may not be the best incentive to getting more LID facilities on existing single family home sites. Stormwater LID facilities are already required as feasible with new development and redevelopment, through Kirkland's stormwater permit with Washington State Department of Ecology. It is anticipated more stormwater LID will be required in the next several years. One part lacking in the permit is the requirement for retrofitting existing development projects with stormwater LID facilities. This area would be an excellent target for incentives.

If directed, Public Works could examine existing Surface Water budgets to determine if a pilot program could be created for retrofitting existing single family homes. Some potential options include:

1. Provide financial incentive for homeowner to use pervious pavement when existing impervious driveways are replaced.
2. Provide financial incentive for homeowners to disconnect their downspouts from the stormwater system and divert it to splash blocks, rain gardens or other onsite LID facility.

If directed, a pilot program could be developed and implemented. Staff could report the results back to the City Council for consideration in developing permanent funding for this incentive.

ISSUE (C3) Provide a rebate (Treebate) to residential homeowners to encourage them to plant additional trees on their private property:

Planting additional trees on residential sites will help contribute to the City's tree canopy and also help with controlling stormwater runoff as trees soak up water in the soil year round. In the past, the City has offered free trees and this incentive was not well utilized. However, staff believes a rebate or treebate is still a good idea. Staff recommends that a survey be produced to gauge support of this idea from the citizens of Kirkland. If directed, a pilot program could be developed and implemented using existing surface water budgets. Staff could report the results back to the City Council for consideration in developing permanent funding for this incentive.

Schedule

Attachment 7 is the meeting and hearing schedule. A joint public hearing with the Planning Commission and HCC is scheduled for December 8th, 2011.

Attachments:

Attachment 1: Phase One Sustainable Actions Worksheet, City Council Review Items
Attachment 2: Wang Short Plat site plan and Maker's alternative site plans
Attachment 3: Garden Gate Plat site plan and Maker's alternative site plans
Attachment 4: Low Impact Development photographs
Attachment 5: Memo to Green Building Team (Green Building Policy for City Owned Facilities)
Attachment 6: City of Tacoma Green Building Resolution
Attachment 7: Green Codes Project Schedule

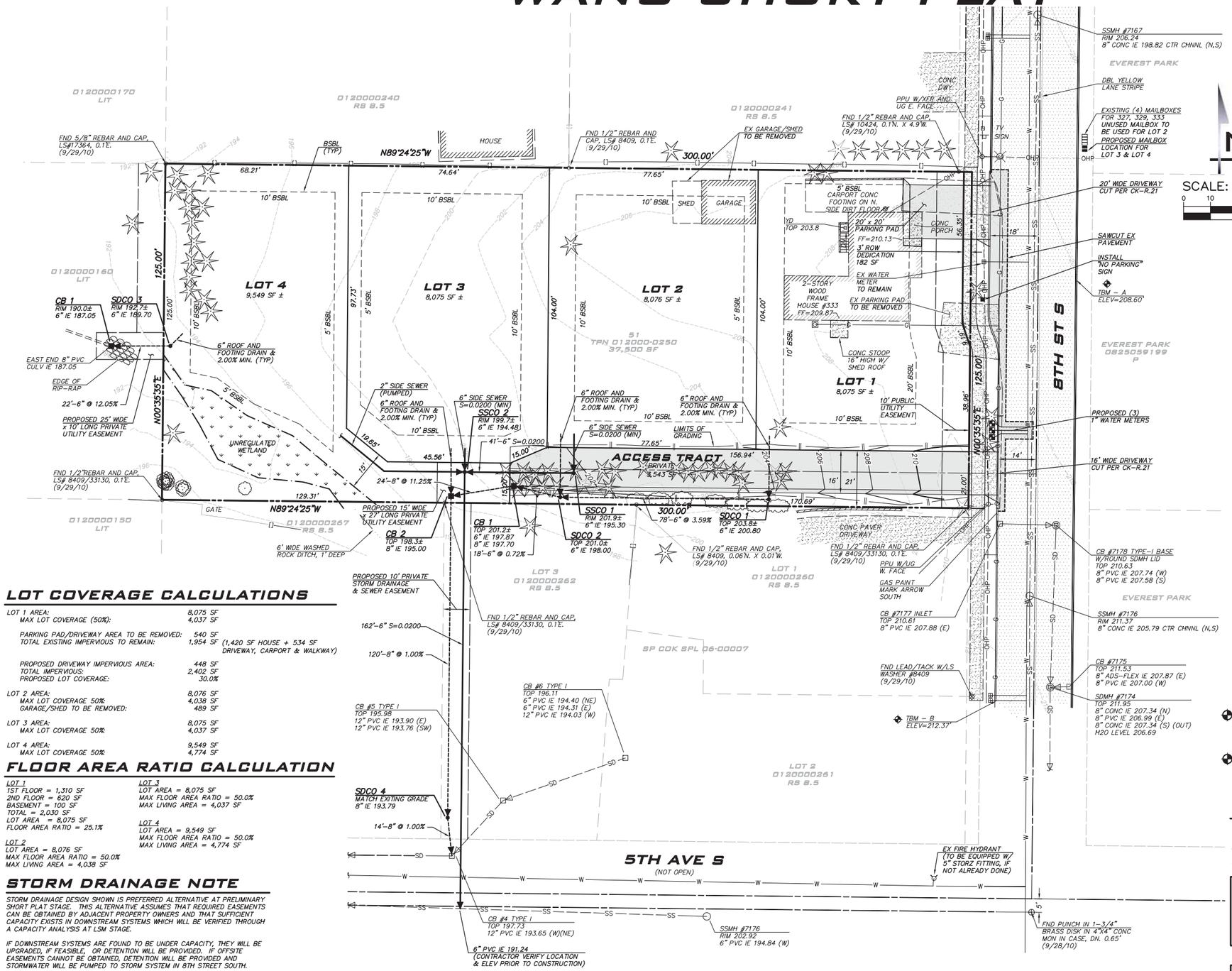
	PHASE ONE - SUSTAINABLE ACTIONS		
	CITY COUNCIL REVIEW	PROJECT TEAM	REQUIRED ACTION
A	**SUSTAINABLE "GREEN" INFRASTRUCTURE**		
1	LEED Gold certification for all new facilities and LEED Silver for all renovated facilities	Green Building Team (GBT)	Policy Decision/Ordinance
	Create ordinance requiring all new City facilities to achieve a LEED Gold certification and all renovated facilities to meet LEED Silver certification and/ or meet Energy Star requirements. Currently, policy is to achieve LEED Certification, but the level is not defined.	Scott Guter/Green Building Intern	
2	Evaluate existing policies for City Capital Improvement Roads Projects and consider comparing to Green Roads program or similar rating program.	GBT, CIP Department	
	Currently, best management practices are used and certification programs are being tested for possible use as a standard.		
3	Develop measurable goals for the Green Building Section of the Climate Protection Action Plan with an emphasis on GHG reduction.	Green Building Team	Policy Decision
	Revise Green Building section of the Climate Protection Action Plan to include new Green Building Program goals. The Green Building Program will establish goals for GHG reduction through updated program incentives. Possible program amendmends to include a deconstrucion v.s.demolition program.		
4	Require all project applicants to complete a Sustainability and/or Carbon Footprint checklist with building permit applications.	GBT	Policy Decision
	Require all building permit applicants to complete a Sustainability Feasibility Checklist (Pierce Co), or Carbon Calculator Checklist (King Co) prior to submitting building permit. New SEPA rules may require this.		
B	**POTABLE WATER CONSERVATION**		
1	Develop tools to help manage gray water and its reuse by creating an educational program	GBT	Educational Program
C	**STORMWATER & LANDSCAPING**		
1	Adopt the the City of Seattle's "Green Factor" list after comparing with current landscaping standards.	GBT	Policy Decision/Ordinance
	Need to compare with existing landscape standards and note differences. Green Factor will require additional City staff time in review and inspection.		
2	Modify Surface Water Utility Rate to give discounts for storm Low Impact Development (LID) installed on site	GBT, Jenny, Rob	Policy Decision
	Consider a discounted rate for new single-family, Multi-family and Commercial development based on actual impervious area. We would need to increase basic rate, and require verification of discount eligibility.		
3	Provide a rebate ("Treebate") to residential homeowners to encourage them to plant trees on their private property.	GT, UF	Policy Decision/Program

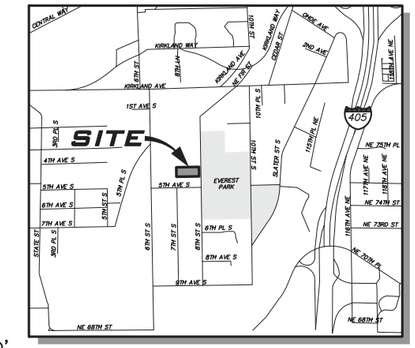
	PHASE ONE - SUSTAINABLE ACTIONS, CONTINUED		
	PLANNING COMMISSION REVIEW	PROJECT TEAM	REQUIRED ACTION
A	**SUSTAINABLE "GREEN" INFRASTRUCTURE**		
1	Modify design regulations to incorporate bicycle storage and low-emission & fuel-efficient vehicle parking.	Green Building Team (GBT)	Zoning Code Amendment
	Increase ratio of bicycle racks to required parking stalls. Require a portion of parking areas to include stalls for low emission & fuel efficient vehicles (much like requirements for ADA stalls). LEED Req. for commercial & multi-family.		
2	Create regulations for Electric Vehicle Infrastructure (EVI) in Use Zones as required by WA State Law	GBT	Zoning Code Amendment
	Amend Zoning Code Chapter 115 for allowed zones and chapter 5 for definitions for EVI.		
B	**STORMWATER & LANDSCAPING**		
1	Promote LID through lot coverage/open space standards. Incorporate vegetated roof provisions into KZC Chapter 5 (definitions) and KZC 115.90 (lot coverage exemptions).	GBT, UF, PW and PCD	Zoning Code Amendment
	The issue is that most storm LID uses more open space than traditional sw structures (like dispersion and rain gardens vs. underground pipes). Possibly reduce standard lot coverage from 50% to 40% (or other), but allow 50% if the applicant uses stormwater LID. Goal is to keep more existing trees and existing landscape. Trees and existing landscape detain more runoff. Reducing allowable lot coverage to 40% would help keep some existing landscape. Use KC definition for compatibility with KMC standards. Example: Reduce lot coverage from 50 to 40%, but then allow back up to 50% if structure has vegetated roof.		
2	Provide incentives for single family use regulations to encourage clustered housing (like King County).	GBT, Jeremy	Zoning /Municipal Code Amendment
	Consider modifying subdivision regulations removing minimum lot size requirements and replacing with units per acre.		
3	Revise standards to encourage pervious surfaces for driveways, private roads and parking lots.	GBT, Jenny, Rob	Zoning Code Amendment
	Modular grid pavement, grassed modular grid pavement, or ribbon grass strips for residential driveways or private streets - incorporate into KZC Chapter 105? Recently added LID section to 2010 Pre-Approved Plans, with rain gardens and porous concrete sidewalks. Could be expanded to include other pervoius pavement, bioinfiltration boxes, etc. Verify if other standards should be updated.		
4	Revise landscape regulations to incorporate natural drainage structures and native plants requirements for commercial and multi-family sites	GBT	Zoning Code Amendment
	Incorporate natural drainage landscapes (bioswales, rain gardens, and bioengineered planting strips) within parking lots in KZC Chapter 105 and 95.		
5	Incorporate soil amendment provisions into KZC Chapter 95	GBT, Jenny, Rob	Zoning Code Amendment
	Zoning code requires amended soil for tree installation, but does not define amended soil. Apply Ecology definition of amended soil for consistency with stormwater KMC.		
C	**ENERGY EFFICIENCY & INDEPENDENCE**		
1	Create regulations and incentives for small scale wind, photovoltaic, solar hot water, and passive solar design.	GBT	Zoning Code Amendment
	1. Possible incentives: height exemption for solar equipment installations 2. Add code language to prevent development from impeding the solar access of neighboring properties. 3. Allow height and setback encroachments for small scale wind energy systems (KZC 115.60 and 115.115)		
	Allow building envelopes to encroach into required setback yards for exterior rigid insulation	GBT	Zoning Code Amendment
2	Add language to allow reasonable encroachment into required yards to exceed energy code in new construction or to retro fit existing structure. Consider using Passive House concepts as a guideline.		

Attachment 2

NE SEC 8, TWP 25N, RGE 5E, W.M.

WANG SHORT PLAT





VICINITY MAP

NOT TO SCALE

PROJECT TEAM

OWNER

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333 8TH ST S
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(206) 694–9523

CIVIL ENGINEER

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SURVEYOR

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SITE DATA

PARCEL NUMBER:	0120000250
SITE AREA:	37,500 SF
ACREAGE:	0.861 AC
TOTAL NUMBER OF LOTS:	4
ZONING:	RS 8.5
AVERAGE LOT SIZE:	8,444 SF
PROPOSED USE:	SINGLE FAMILY RESIDENTIAL
SEWAGE DISPOSAL:	CITY OF KIRKLAND
WATER SYSTEM:	CITY OF KIRKLAND
SETBACKS:	20' FRONT, 5'/10' SIDE (15' TOTAL), 10' REAR

DATUM/BASIS OF BEARINGS

NAD 83(91)
HELD N89°24'25"W ALONG THE SOUTH BOUNDARY LINE BETWEEN THE SOUTHWEST CORNER AND SOUTHEAST CORNER, PER AUBRY SHORT PLAT BY JIM HART, DATED OCTOBER 14, 2009 AND RECORDED IN VOLUME 268 OF SURVEYS, PAGE 41&42, UNDER RECORDING NO. 20091217900013, RECORDS OF KING COUNTY, WASHINGTON.

LEGAL DESCRIPTION

TRACT 51 OF ALEXANDER ACRE TRACTS, AS PER PLAT RECORDED IN VOLUME 12 OF PLATS, PAGE 59, RECORDS OF KING COUNTY AUDITOR;

EXCEPT THE EAST 5 FEET THEREOF CONVEYED TO KING COUNTY FOR RIGHT OF WAY FOR 110TH AVENUE NE AND RECORDED UNDER RECORDING NO. 3095563;

SITUATE IN THE CITY OF KIRKLAND, COUNTY OF KING, STATE OF WASHINGTON.

ORIGINATING BENCHMARK:

CITY OF KIRKLAND MONUMENT NO. 14, AS PUBLISHED ON THE CITY OF KIRKLAND SURVEY CONTROL DATABASE WEBSITE.

VERTICAL DATUM: NAVD 88
ELEVATION: 266.76'

TBM – A
SET SCRIBED "SQUARE" ON TOP BACK OF CURB ON SOUTH WING CONC RAMP EAST TO PARK. EAST SIDE OF 8TH ST S, OPPOSITE HOUSE NUMBER 333.
ELEV=208.60

TBM – B
SET SCRIBED "SQUARE" ON TOP BACK OF CURB @ SOUTH END CURB, ADJACENT HOUSE #301 WEST SIDE OF 8TH ST.
ELEV=212.37

SHEET INDEX

1 PU-01 PRELIMINARY UTILITY PLAN
2 PP-01 PRELIMINARY ROAD PROFILE
3 TR-01 TREE RETENTION PLAN

LOT COVERAGE CALCULATIONS

LOT 1 AREA:	8,075 SF
MAX LOT COVERAGE (50%):	4,037 SF
PARKING PAD/DRIVEWAY AREA TO BE REMOVED:	540 SF
TOTAL EXISTING IMPERVIOUS TO REMAIN:	1,954 SF (1,420 SF HOUSE + 534 SF DRIVEWAY, CARPORT & WALKWAY)
PROPOSED DRIVEWAY IMPERVIOUS AREA:	448 SF
TOTAL IMPERVIOUS:	2,402 SF
PROPOSED LOT COVERAGE:	30.0%
LOT 2 AREA:	8,076 SF
MAX LOT COVERAGE 50%:	4,038 SF
GARAGE/SHED TO BE REMOVED:	489 SF
LOT 3 AREA:	8,075 SF
MAX LOT COVERAGE 50%:	4,037 SF
LOT 4 AREA:	9,549 SF
MAX LOT COVERAGE 50%:	4,774 SF

FLOOR AREA RATIO CALCULATION

LOT 1
1ST FLOOR = 1,310 SF
2ND FLOOR = 620 SF
BASEMENT = 100 SF
TOTAL = 2,030 SF
LOT AREA = 8,075 SF
FLOOR AREA RATIO = 25.1%

LOT 2
LOT AREA = 8,076 SF
MAX FLOOR AREA RATIO = 50.0%
MAX LIVING AREA = 4,038 SF

LOT 3
LOT AREA = 8,075 SF
MAX FLOOR AREA RATIO = 50.0%
MAX LIVING AREA = 4,037 SF

LOT 4
LOT AREA = 9,549 SF
MAX FLOOR AREA RATIO = 50.0%
MAX LIVING AREA = 4,774 SF

STORM DRAINAGE NOTE

STORM DRAINAGE DESIGN SHOWN IS PREFERRED ALTERNATIVE AT PRELIMINARY SHORT PLAT STAGE. THIS ALTERNATIVE ASSUMES THAT REQUIRED EASEMENTS CAN BE OBTAINED BY ADJACENT PROPERTY OWNERS AND THAT SUFFICIENT CAPACITY EXISTS IN DOWNSTREAM SYSTEMS WHICH WILL BE VERIFIED THROUGH A CAPACITY ANALYSIS AT LSM STAGE.

IF DOWNSTREAM SYSTEMS ARE FOUND TO BE UNDER CAPACITY, THEY WILL BE UPGRADED, IF FEASIBLE, OR DETENTION WILL BE PROVIDED. IF OFFSITE EASEMENTS CANNOT BE OBTAINED, DETENTION WILL BE PROVIDED AND STORMWATER WILL BE PUMPED TO STORM SYSTEM IN 8TH STREET SOUTH.

SANITARY SEWER NOTE

SEWER DESIGN SHOWN IS PREFERRED ALTERNATIVE AT SHORT PLAT STAGE. IF OFFSITE EASEMENT CANNOT BE OBTAINED, LOTS 2–4 WILL BE BUILT WITH GRINDER PUMPS WHICH WILL PUMP TO A CLEANOUT AND 6–INCH GRAVITY STUB TO SEWER MAIN IN 8TH STREET SOUTH.

FIRE HYDRANT NOTE

HOUSES ON LOTS 3 & 4 TO BE EQUIPPED WITH FIRE SPRINKLERS.

UTILITY CONNECTIONS

ALL PROPOSED ON–SITE UTILITY TRANSMISSION LINES SHALL BE UNDERGROUNDED.

WATER SERVICE NOTE

THE EXISTING WATER SERVICE MAY BE USED FOR LOT 1 PROVIDED THAT IT IS IN THE CORRECT LOCATION, IS NOT GALVANIZED, AND IS SIZED ADEQUATELY TO SERVE THE BUILDING (PER THE UNIFORM PLUMBING CODE) (CONTRACTOR TO VERIFY)

U. S. POSTAL SERVICE

APPROVED FOR MAILBOX LOCATION(S)

BY: ON FILE

DATE: ON FILE

UNDERGROUND UTILITY NOTE

UNDERGROUND UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 1–800–424–5555 AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

BLUELINE
25 CENTRAL WAY, SUITE 400 KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4051
WWW.BLUELINEGROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: BRIAN J. DARROW, PE
PROJECT ENGINEER: BRIAN J. DARROW, PE
DESIGNER: DOMINQUE GABALDON
ISSUE DATE: 3/31/2011

NO	DATE	BY	REVISIONS

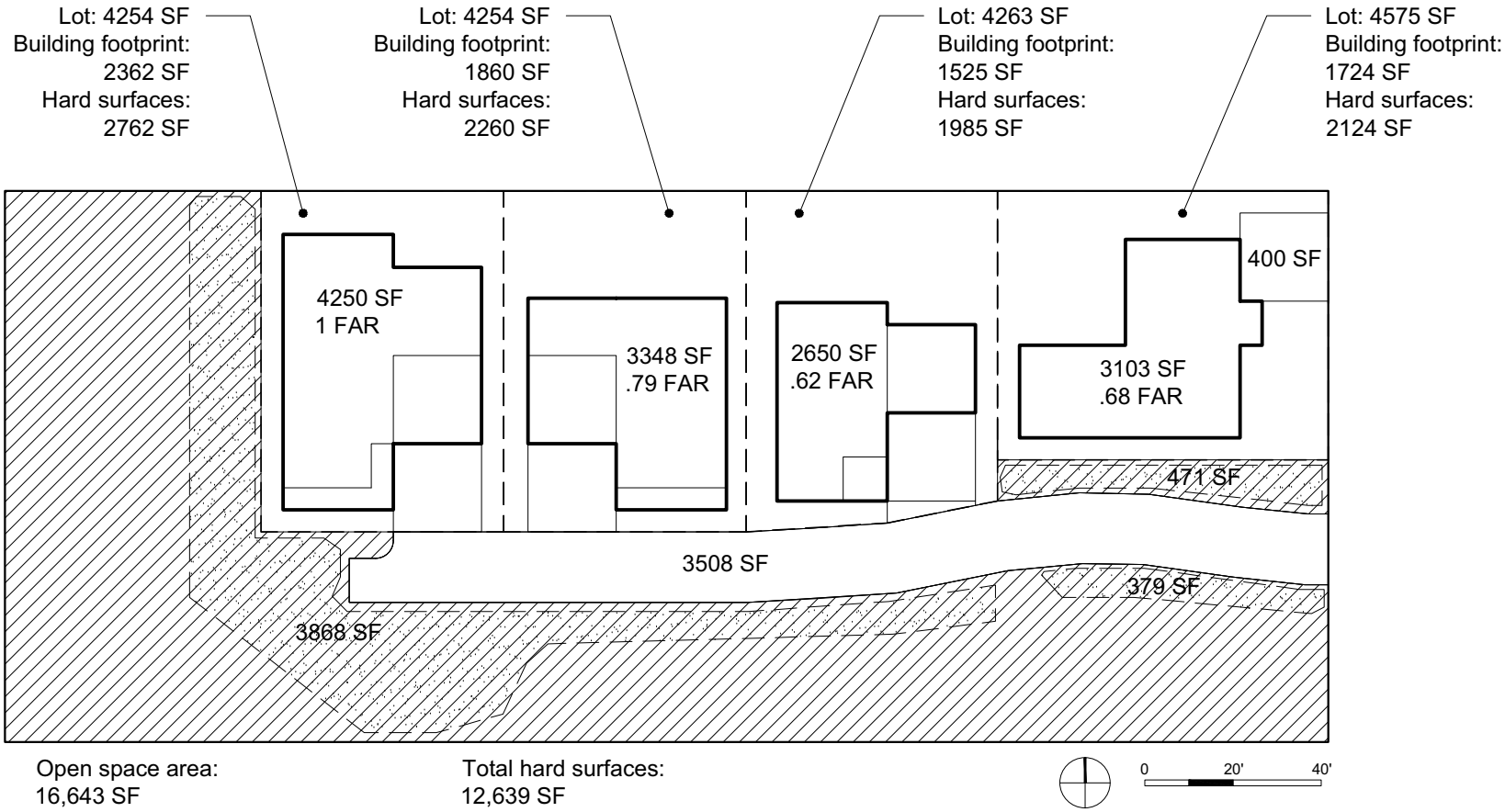
PRELIMINARY UTILITY PLAN
WANG SHORT PLAT
333 8TH ST S
CITY OF KIRKLAND WASHINGTON

BRIAN J. DARROW STATE OF WASHINGTON 32126 REGISTERED PROFESSIONAL ENGINEER
3/31/2011

JOB NUMBER: 10-073
SHEET NAME: PU-01
SHT 1 OF 3

22x34
March 31, 2011 – 11:21am – User bdarrow
E:\Projects\10073\dwg\Prelim\Preplat\10073PU.dwg

© 2010 THE BLUELINE GROUP



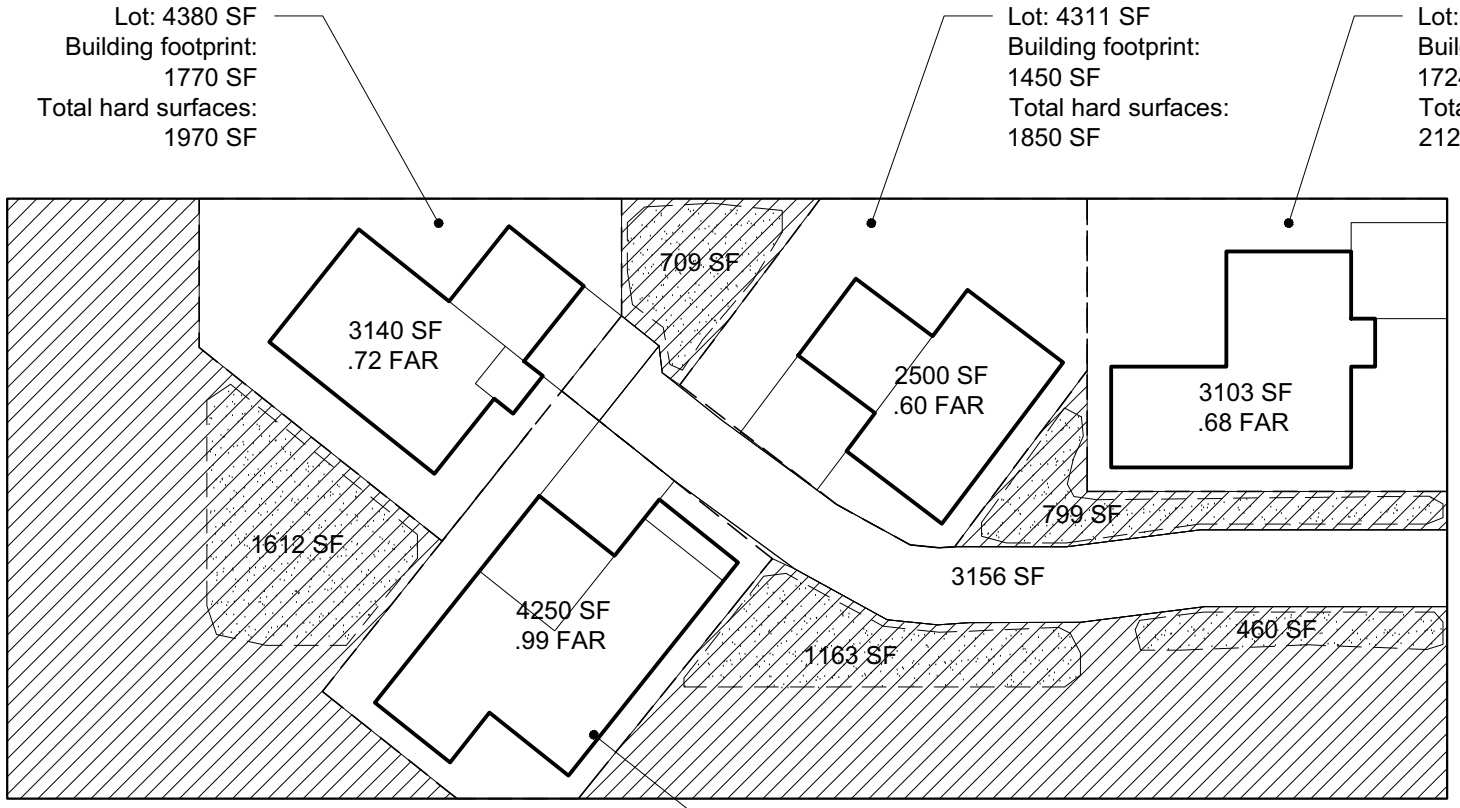
Open space area:
16,643 SF
Total site area:
37,500 SF

Total hard surfaces:
12,639 SF
Total rain garden area:
4718 SF

44% of site is open space

Wang Short Plat
OPTION 1

Attachment 2



Open space area:
16,735 SF
Total site area:
37,500 SF

45% of site is open space

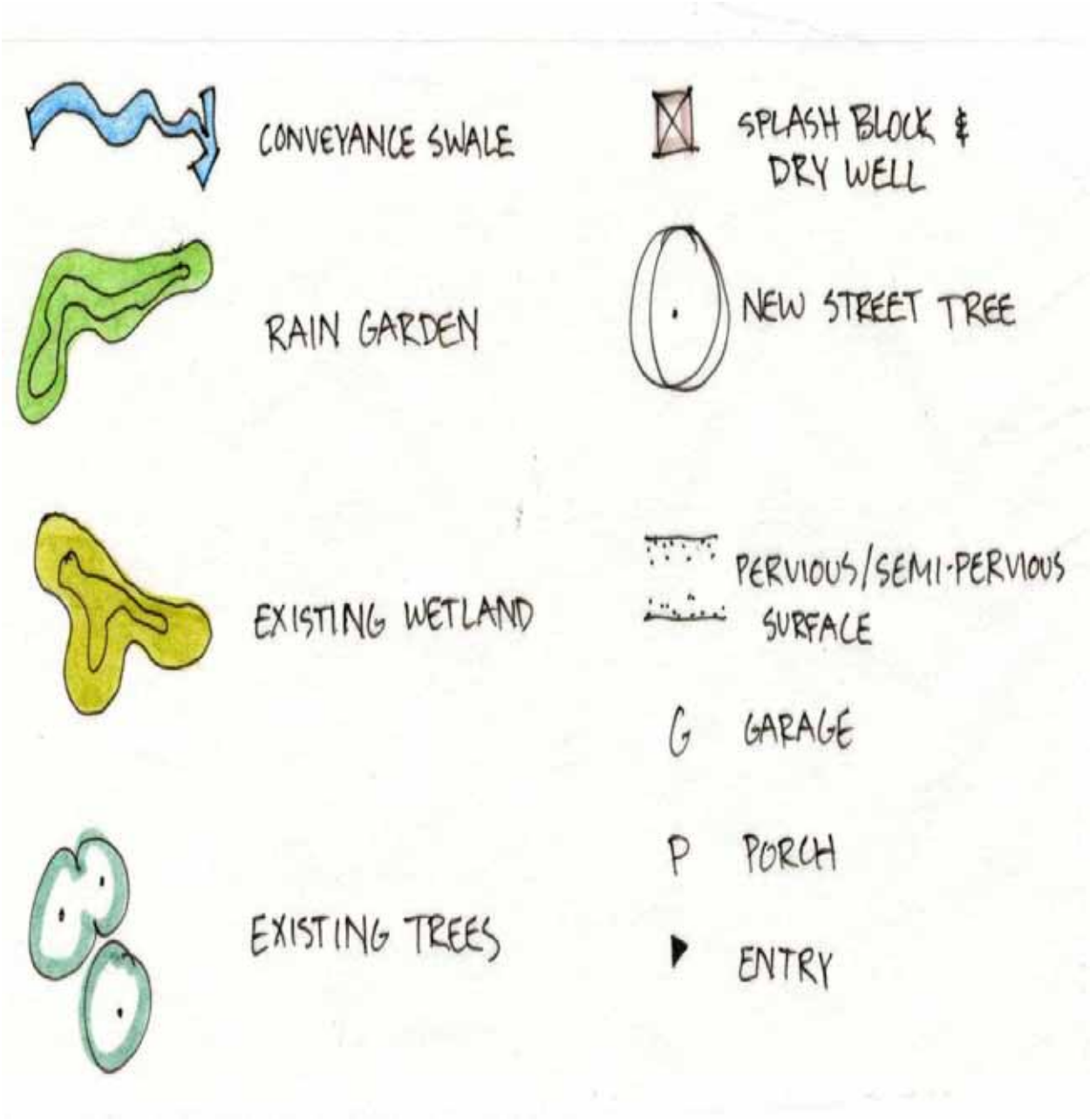
Total hard surfaces:
11,792 SF
Total rain garden area:
4743 SF

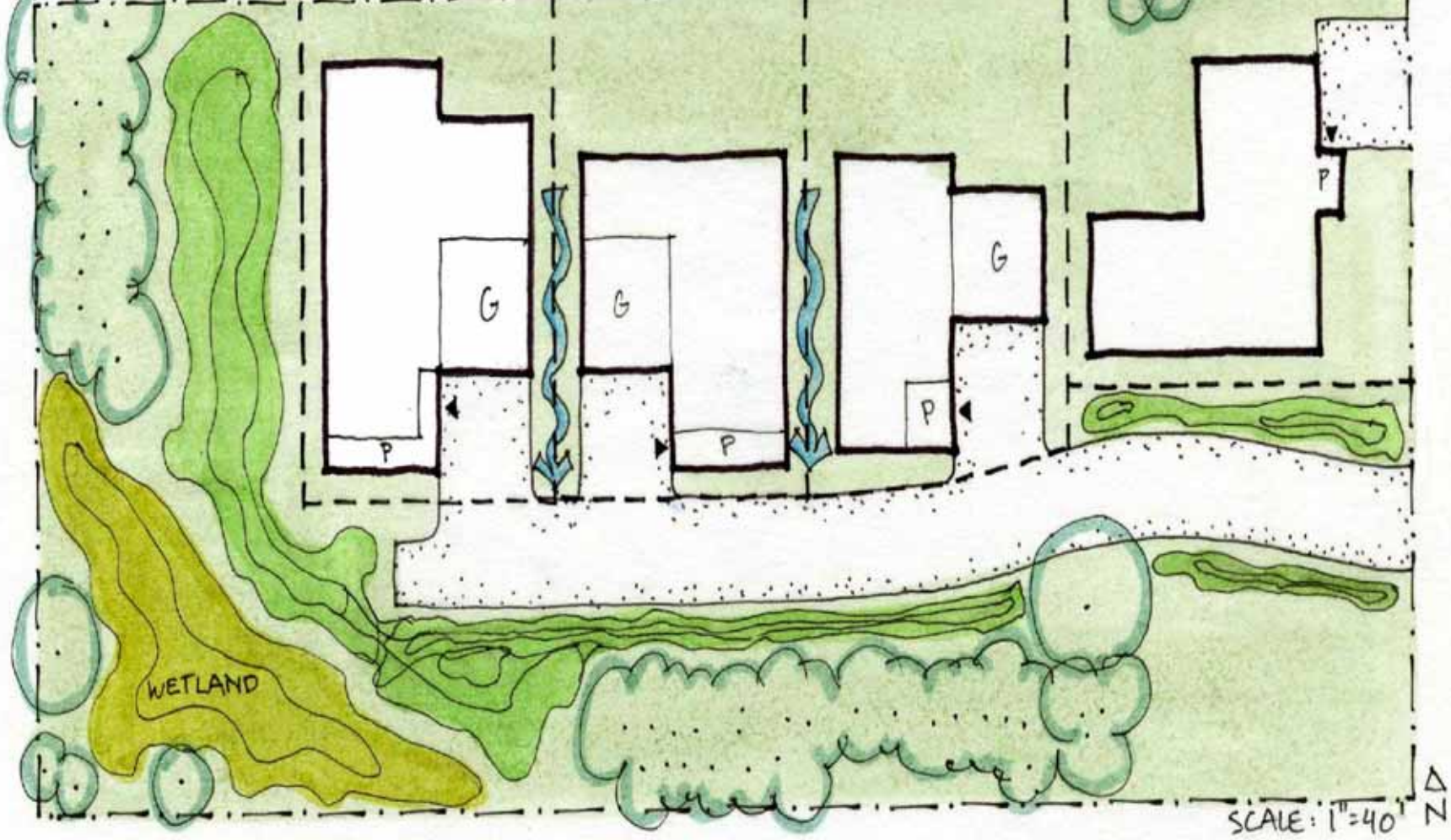
Lot: 4309 SF
Building footprint:
2292 SF
Total hard surfaces:
2692 SF

Wang Short Plat
OPTION 2

Attachment 2

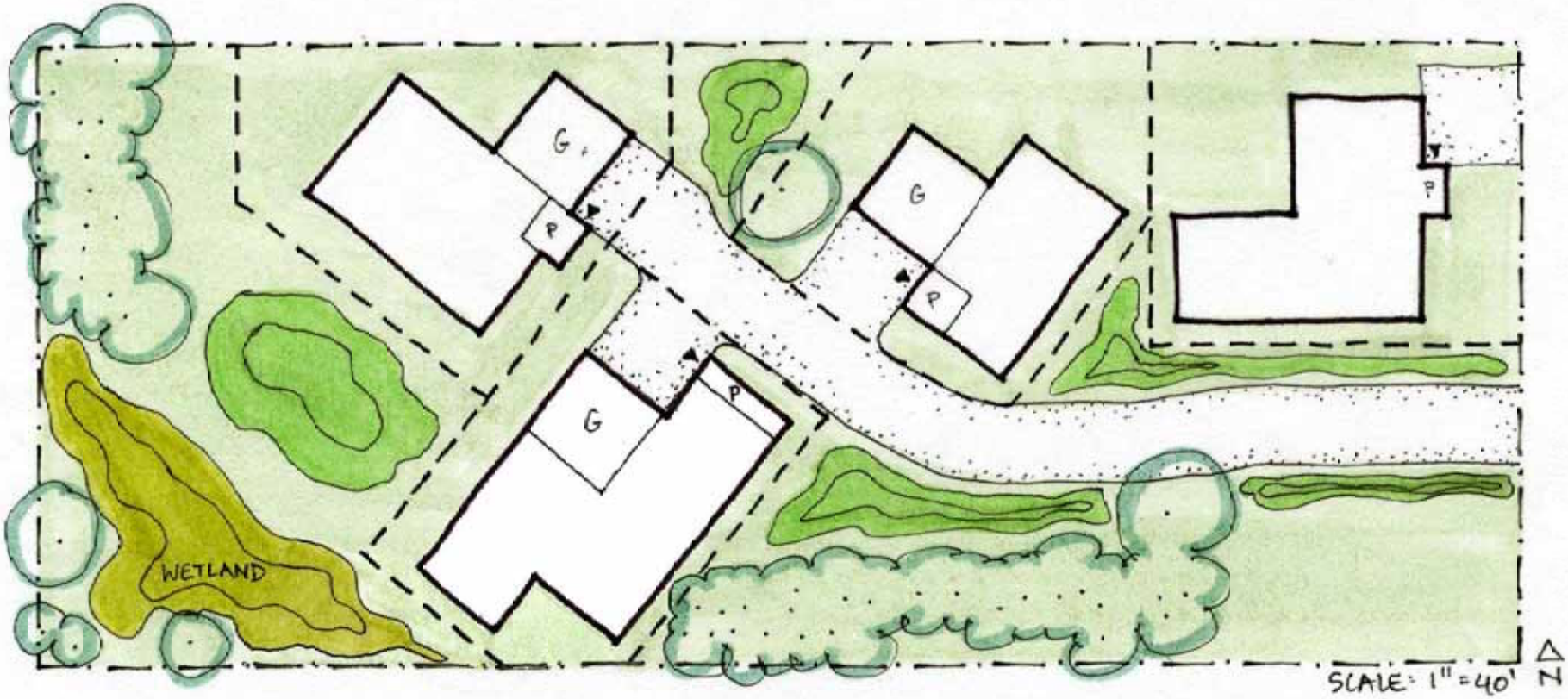
LEGEND


CONVEYANCE SWALE
SPLASH BLOCK & DRY WELL
RAIN GARDEN
NEW STREET TREE
EXISTING WETLAND
PERVIOUS/SEMI-PERVIOUS SURFACE
G GARAGE
P PORCH
EXISTING TREES
ENTRY



Wang

OPTION 1



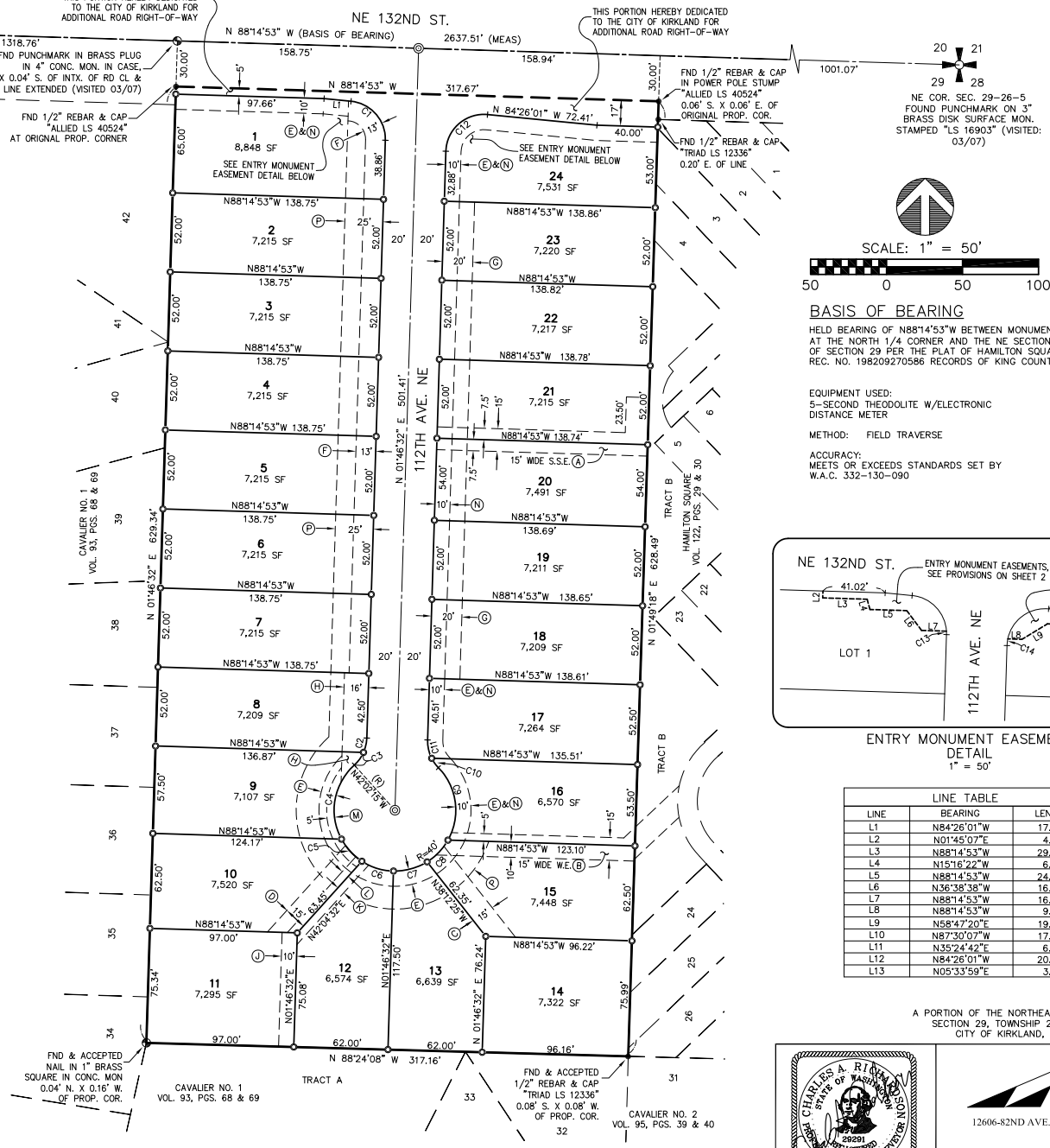
Wang
OPTION 2

Attachment 2

GARDEN GATE

CITY OF KIRKLAND FILE NO. PSB07-00001

A PORTION OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 29, TOWNSHIP 26 NORTH, RANGE 5 EAST, W.M.,
CITY OF KIRKLAND, KING COUNTY, WASHINGTON



LEGEND

- ◎ CONCRETE MONUMENT WITH PUNCHMARK IN BRASS DISK IN CASE, STAMPED "29291" (TO BE SET AS CONSTRUCTION IS COMPLETED).
- ⊙ SET 1/2" X 24" REBAR & PLASTIC CAP "SSI LS 29291", AT CORNERS AND ANGLE POINTS, AS SHOWN (TO BE SET AS CONSTRUCTION IS COMPLETED).
- ● FOUND PROPERTY CORNER AS NOTED (VISITED: MARCH, 2007)
- (R) RADIAL BEARING
- Ⓐ EXISTING 15' WIDE SANITARY SEWER EASEMENT PER RECORDING NO. 20080429001814
- Ⓑ EXISTING 15' WIDE WATER LINE EASEMENT PER RECORDING NO. 20080429001815
- Ⓒ 15' WIDE ACCESS & UTILITY EASEMENT AS GRANTED BY THIS PLAT & EXISTING 15' WIDE SANITARY SEWER EASEMENT PER RECORDING NO. 20080429001780
- Ⓓ 15' WIDE ACCESS & UTILITY EASEMENT AS GRANTED BY THIS PLAT & EXISTING 15' WIDE SANITARY SEWER EASEMENT PER RECORDING NO. 20080429001781
- Ⓔ 10' WIDE UTILITY & PUBLIC STORM DRAINAGE EASEMENT PARALLEL WITH AND ADJOINING THE STREET FRONTAGE ALONG THE NORTH PORTION OF LOT 1 AND PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF THE EASTERLY PORTION OF LOTS 9 AND 10, AS SHOWN, AND PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF LOTS 12 THROUGH 17 AND LOT 24, AS SHOWN.
- Ⓕ 13' WIDE UTILITY, PUBLIC STORM DRAINAGE & PUBLIC SIDEWALK/PEDESTRIAN EASEMENT, PARALLEL WITH AND ADJOINING THE STREET FRONTAGE ALONG THE EAST PORTION OF LOT 1 AND PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF LOTS 2 THROUGH 7, AS SHOWN.
- Ⓖ 20' WIDE UTILITY & PUBLIC STORM DRAINAGE EASEMENT, PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF LOTS 18 THROUGH 23, AS SHOWN.
- Ⓗ 16' WIDE UTILITY, PUBLIC STORM DRAINAGE & PUBLIC SIDEWALK/PEDESTRIAN EASEMENT, PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF LOT 8, OR AS SHOWN, AND THE NORTHEAST PORTION OF LOT 9, AS SHOWN.
- Ⓙ 10' WIDE PUBLIC SIDEWALK/PEDESTRIAN EASEMENT
- Ⓚ 5' WIDE PRIVATE STORM DRAINAGE EASEMENT
- Ⓛ 5' WIDE PUBLIC SIDEWALK/PEDESTRIAN EASEMENT
- Ⓜ 5' WIDE PUBLIC SIDEWALK/PEDESTRIAN EASEMENT, PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF LOTS 9 AND 10, AS SHOWN.
- Ⓝ 10' WIDE PUGET SOUND ENERGY EASEMENT, PER RECORDING NO. 20080807000600, PARALLEL WITH AND ADJOINING THE STREET FRONTAGE ALONG THE NORTH PORTION OF LOT 1 AND PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF LOTS 16 THROUGH 24, AS SHOWN.
- Ⓟ 25' WIDE PUGET SOUND ENERGY EASEMENT, PER RECORDING NO. 20080807000600, PARALLEL WITH AND ADJOINING THE STREET FRONTAGE ALONG THE EAST PORTION OF LOT 1, AS SHOWN, AND PARALLEL WITH AND ADJOINING THE STREET FRONTAGE OF LOTS 2 THROUGH 15, AS SHOWN.
- S.S.E. SANITARY SEWER EASEMENT
- W.E. WATER LINE EASEMENT

NOTE: SEE EASEMENT PROVISIONS ON SHEET 2.

CURVE TABLE			
CURVE	DELTA	LENGTH	RADIUS
C1	86°12'33"	37.62'	25.00'
C2	22°20'23"	9.75'	25.00'
C3	23°50'50"	10.41'	25.00'
C4	76°21'30"	53.31'	40.00'
C5	28°38'52"	20.00'	40.00'
C6	31°32'20"	22.02'	40.00'
C7	33°19'29"	23.27'	40.00'
C8	28°38'53"	20.00'	40.00'
C9	73°51'22"	51.56'	40.00'
C10	17°32'37"	7.65'	25.00'
C11	28°38'36"	12.50'	25.00'
C12	93°47'27"	40.92'	25.00'
C13	05°08'27"	2.24'	25.00'
C14	10°07'47"	4.42'	25.00'

SCALE: 1" = 50'

50 0 50 100

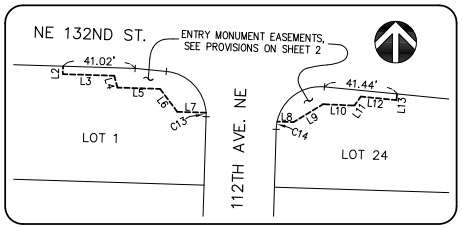
BASIS OF BEARING

HELD BEARING OF N88°14'53"W BETWEEN MONUMENTS FOUND AT THE NORTH 1/4 CORNER AND THE NE SECTION CORNER OF SECTION 29 PER THE PLAT OF HAMILTON SQUARE, REC. NO. 19820927058 6 RECORDS OF KING COUNTY, WA.

EQUIPMENT USED:
5-SECOND THEODOLITE W/ELECTRONIC DISTANCE METER

METHOD: FIELD TRAVERSE

ACCURACY:
MEETS OR EXCEEDS STANDARDS SET BY W.A.C. 332-130-090



ENTRY MONUMENT EASEMENT DETAIL
1" = 50'

LINE TABLE		
LINE	BEARING	LENGTH
L1	N84°26'01"W	17.78'
L2	N01°45'07"E	4.50'
L3	N88°14'53"W	29.22'
L4	N15°16'22"W	6.98'
L5	N88°14'53"W	24.27'
L6	N36°38'38"W	16.23'
L7	N88°14'53"W	16.39'
L8	N88°14'53"W	9.30'
L9	N58°47'20"E	19.63'
L10	N87°30'07"W	17.82'
L11	N35°24'42"E	6.24'
L12	N84°26'01"W	20.38'
L13	N05°33'59"E	3.50'

A PORTION OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 29, TOWNSHIP 26 NORTH, RANGE 5 EAST, W.M., CITY OF KIRKLAND, KING COUNTY, WASHINGTON

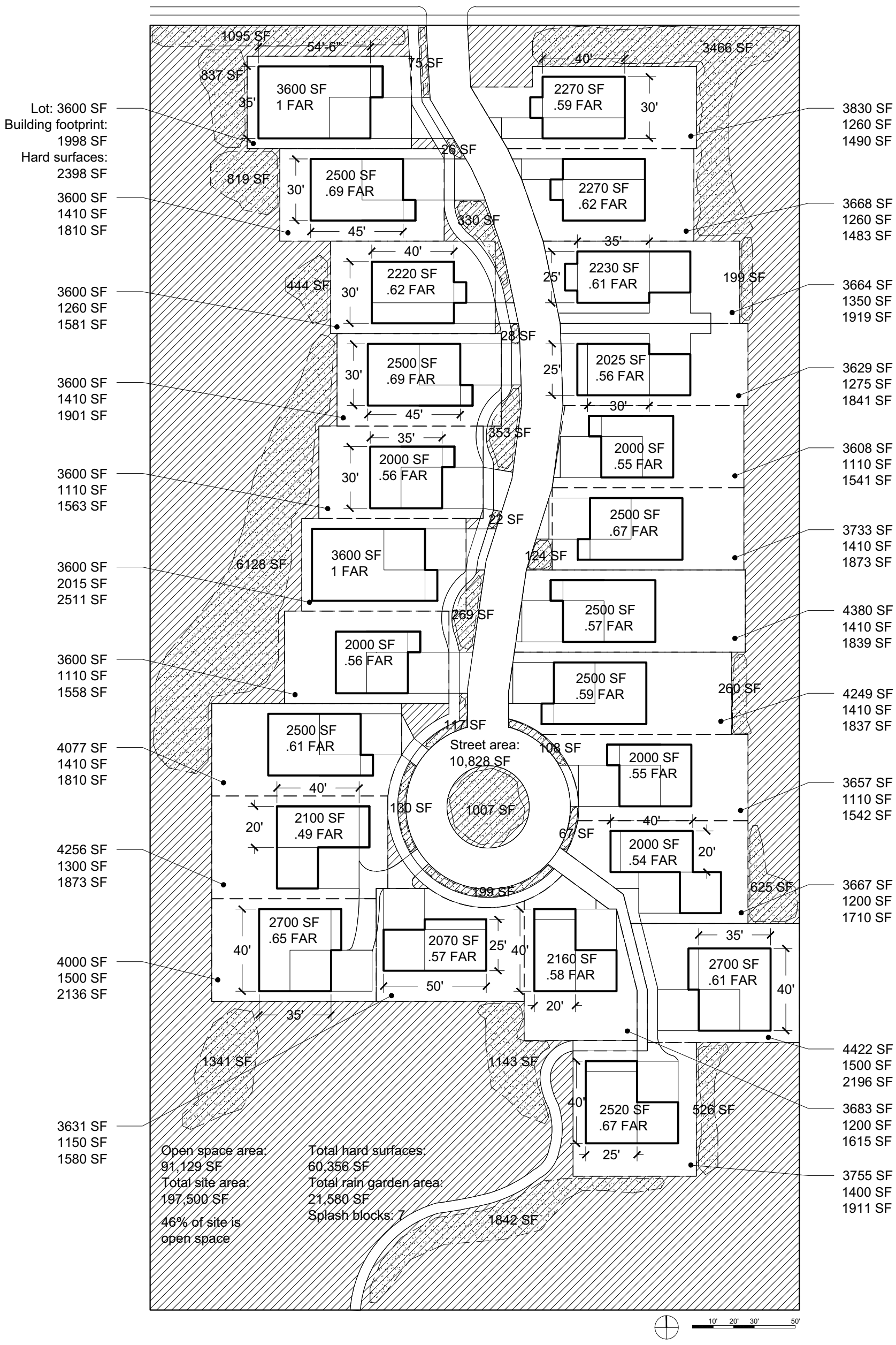
CHARLES A. RIDDER, STATE OF WASHINGTON, 29291, REGISTERED PROFESSIONAL LAND SURVEYOR, EXPIRES 6-29-09

08/14/08

SUMMIT SURVEYING
12606-82ND AVE. N.E., KIRKLAND, WA 98034
(425) 814-8487

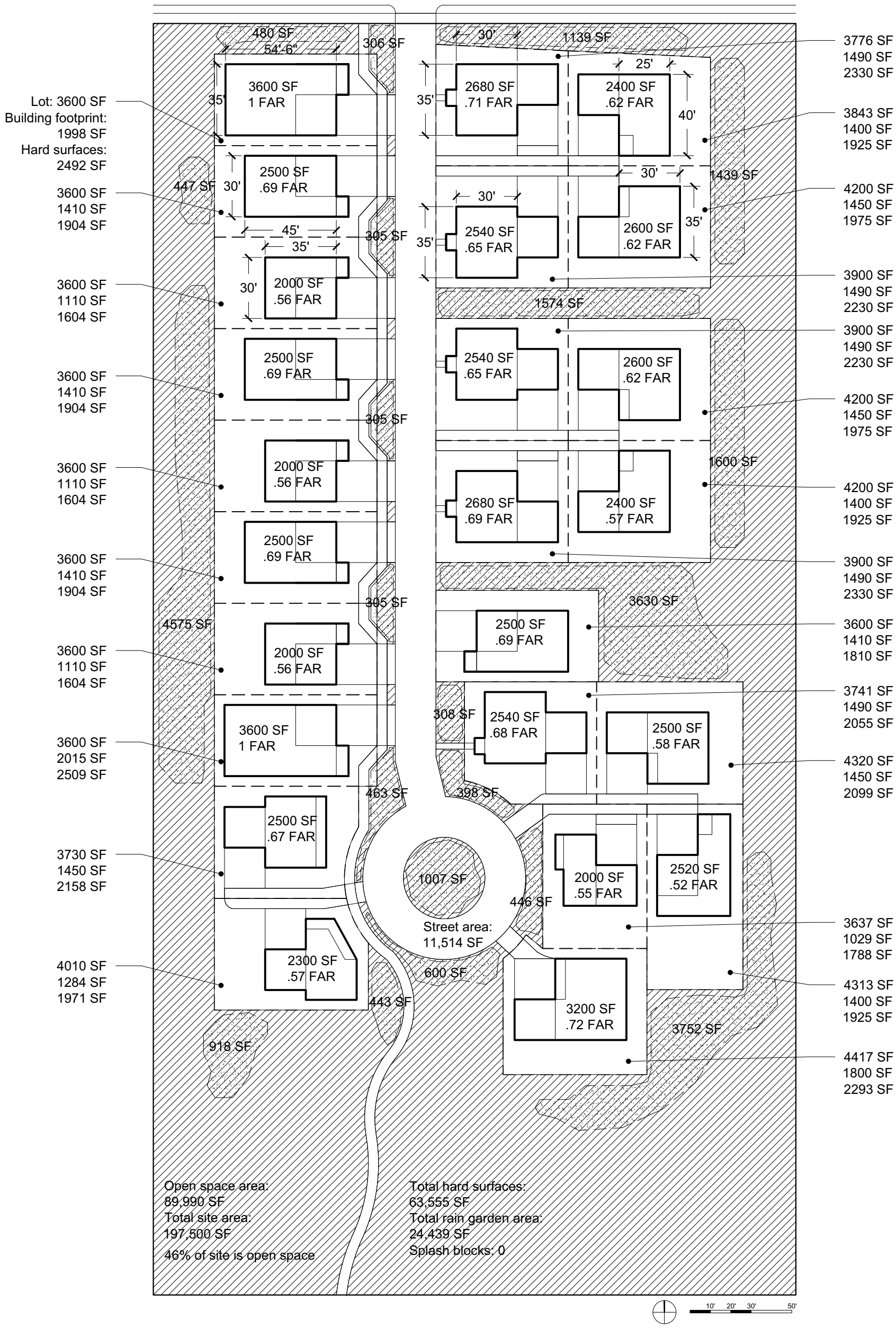
DRAWN BY: CR	DATE: MAY, 2008	JOB NO. 07109
CHECKED BY: CR/JT	SCALE: 1" = 50'	SHEET: 3 OF 3

CITY OF KIRKLAND WASHINGTON



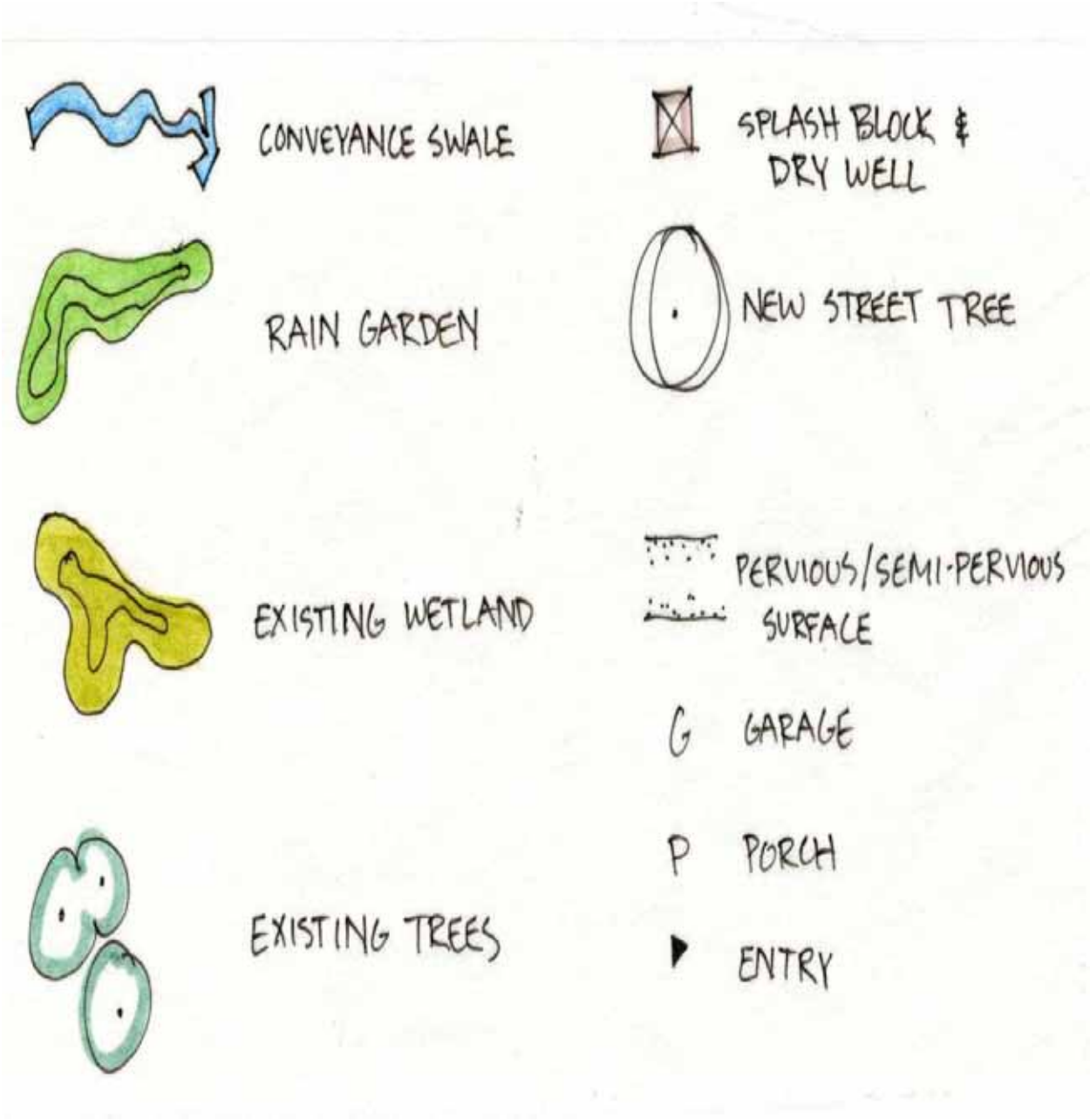
Garden Gate

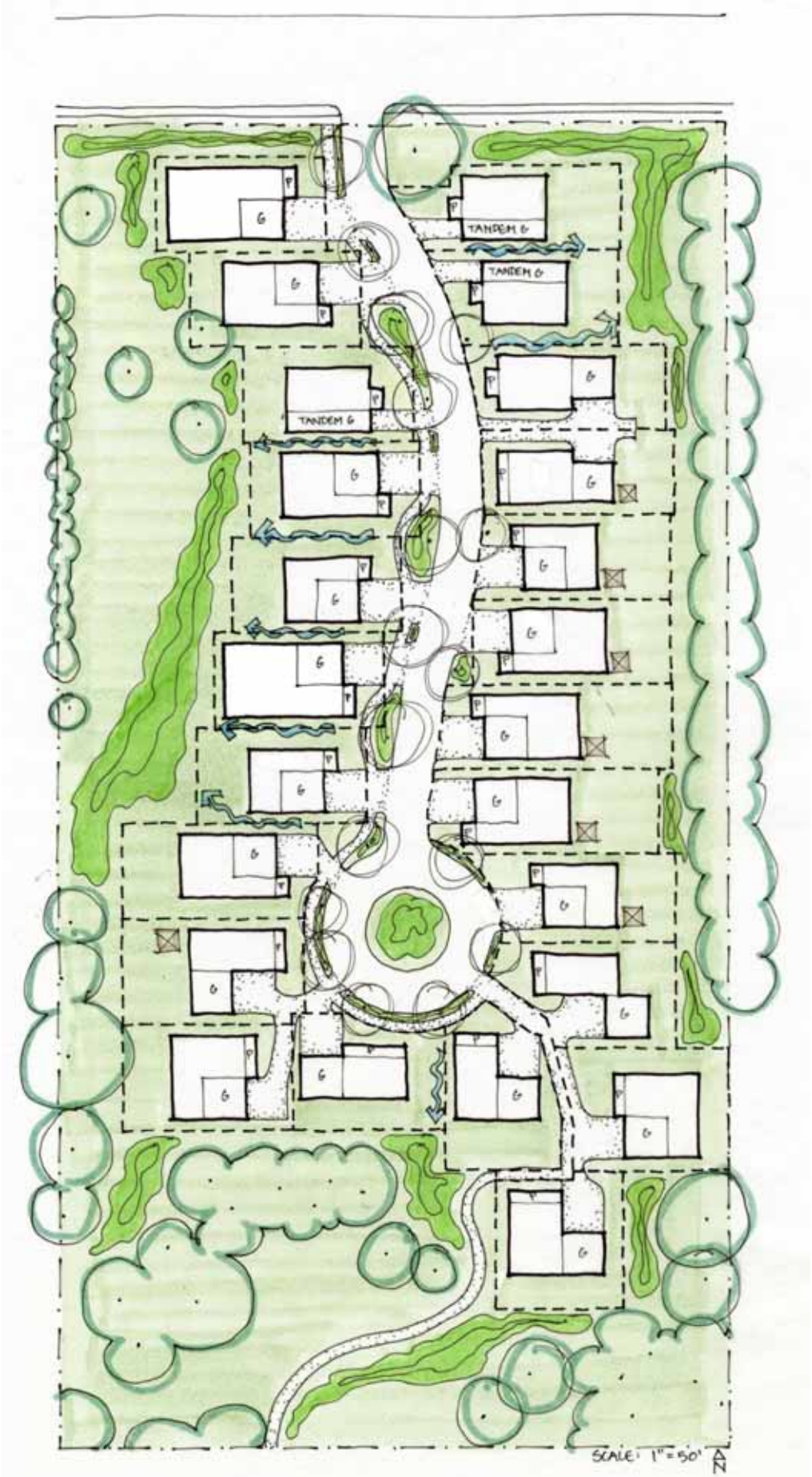
OPTION 1



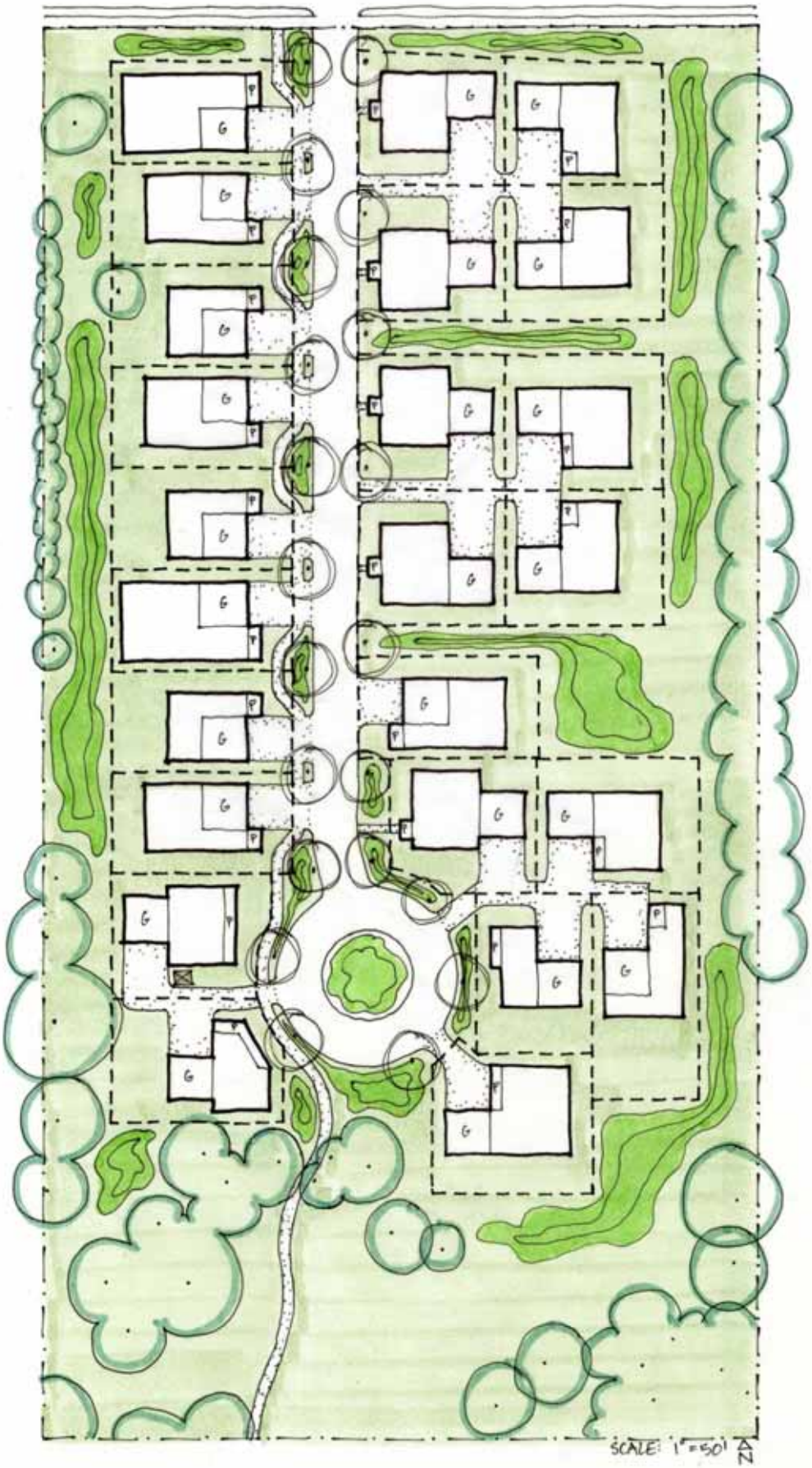
Garden Gate
OPTION 2

LEGEND


CONVEYANCE SWALE
SPLASH BLOCK & DRY WELL
RAIN GARDEN
NEW STREET TREE
EXISTING WETLAND
PERVIOUS/SEMI-PERVIOUS SURFACE
G GARAGE
P PORCH
EXISTING TREES
ENTRY



Garden Gate
OPTION 1



Garden Gate
OPTION 2

Splash Block	Rain Garden in Right-of-Way
Rain Garden in Parking Lot	**Rain Garden in Front Yard**

CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225
www.ci.kirkland.wa.us

MEMORANDUM

To: David Barnes, Planner
Scott Guter, Assistant Planner
Tom Jensen, Plan Review Supervisor
Stacey Rush, Storm Water Utility Engineer

From: Noa Ginger, Planning Intern
Date: October 14, 2010

Subject: Green Building Policy for City-Owned Facilities

RECOMMENDATION

When drafting a green building policy for city-owned facilities the following elements should be taken into consideration:

- Require minimum number of LEED points for water and energy efficiency
- Specify elements that have major effect on employees health and productivity
- Consider the which projects will require LEED certification

BACKGROUND DISCUSSION

What are major issues in city-owned green building policies?

The professional literature indicates several points that should be taken into account when drafting an ordinance for city-owned high performance facilities to ensure that the policy will be useful and applicable. An ordinance for requiring LEED certification for all city-owned facilities should specify areas of focus where most of the points should be achieved based on energy efficiency and employees health.

Is LEED Gold certification better than LEED Silver certification?

On average, LEED Gold certified buildings are more energy efficient than LEED Silver certified buildings. However, due to the nature of LEED point system buildings could receive a higher ranking certification without achieving significant energy efficiency improvements[1]. In order to achieve high efficiency level and to ensure best life-cycle returns a policy should specify the minimum number of points a project must receive from LEED's Energy & Atmosphere category.

[1] Turner and Frankel study Energy Performance of LEED for New Constructions shows that higher ranked certification does not ensure higher efficiency. In fact, some LEED Gold buildings perform worst than LEED certified buildings. See bibliography.

Several municipalities such as Multnomah County, OR, and Fayetteville, AR, specify the minimum number of point a building must receive for water and energy efficiency.

What types of buildings can a policy cover?

City-owned green building policies can vary in the type of buildings that require LEED certification. Policies can be directed at all city- funded projects, all city owned facilities, or all and city-owned and occupied buildings. Certification requirements for new construction and renovation projects could be limited to projects of a certain square footage or construction cost[2].

Which elements have the greatest effect on employees' health and productivity?

A literature review indicates four main elements that effect employees' productivity, reduce the number of sick leave days requested by employees, and reduce health care costs. Improvements in ventilation system, temperature control, lighting control, and increased daylighting are the largest contributors to a healthy work environment[3].

Enclosures: Appendix A – City Council Memo: supplementary material draft

[2] For a complete list of municipal policies please see policy study cases.

[3] Gregory Katz. Green Building Costs and Financial Benefits.

Appendix A – City Council Memo: supplementary material draft

In the U.S buildings account for 36% of total energy consumption, 65% of electricity consumption, 30% of raw material use, 30% of waste output (136 million tons annually)and 12% of all portable water consumption (15 trillion gallons per year). High performance (green) buildings use resources such as water and energy more efficiently and create healthier environments for occupants. There are two distinct financial benefit for Green building - direct benefit of reduction of energy use, and indirect saving by improving the health of the employees, decreasing sick leave and improving productivity. The benefits of green building include:

- Lower operational and maintenance costs
- Reduce energy use (30% on average)
- Reduce pollutants emission
- Improve employees' productivity and reduce health care costs
- Reduce need for refurbishment in the future
-

LEED (Leadership in Energy and Environmental Design) certified buildings are at least 20%-30% more energy efficient than conventional buildings and on average save $50-$70 per sq ft while the average additional cost is $3-$5 per sq ft with 2 to 1 benefit-cost ratio. On average LEED Silver certified buildings consume 32% less energy than conventional building while LEED Gold certified building require 44% less energy. A study conducted by Turner Construction Inc. conclude that given the benefits of green building 75% of executives in the field said that the recent economic and credit market development will not have negative influence on their decision to construct green buildings.

Using LEED certification system for city-owned facilities saves time and resources, and reduces technical and administrative investments by provides a uniform process and rating system. By adopting Green building policy cities protect public health, save money on maintenance and operation, reflecting community's consensus on the importance of environmental protection, raise awareness of environmental stewardship, and create demonstration projects.
LEED certification for Kirkland-owned facilities concurs with the city's Climate Protection Action Plan of 2009. In particular it answers the city's commitment for "make energy efficiency a priority through building code improvements, retrofitting City facilities with energy efficient lighting and urging employees to conserve energy and save money" (number 5) and "Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar program" (number 7).

In the region several municipalities have LEED certification policies for municipal projects. Bellingham's resolution 2005-12 (May 2005) requires all new municipal building construction and renovation over 5,000 sq ft where the City provides a majority of the funding to earn LEED Silver certification.

• Everett (May 2007) requires new City capital improvement projects 5,000 square feet or larger to meet LEED Silver. Additionally, the ordinance instructs the City to encourage the use of LEED through its land use regulations, building codes, and development standards.

• King County (October 2001) requires that all new municipal construction and renovation projects costing $250,000 or more achieve the highest achievable level of LEED certification.

• The City of Seattle (2000) requires LEED Silver certification of all city-owned projects and renovations over 5,000 sq ft. Seattle currently owns 8 LEED Gold certified buildings, 7 LEED Silver certified buildings, and two LEED certified buildings.

• Portland, OR (April 2005) requires all new public projects to achieve LEED Gold certification, all city-owned, occupied, existing buildings to achieve LEED for Existing Buildings at the Silver level, and all tenant improvements or leased facilities to achieve LEED for Commercial Interiors at the Silver level.

Currently 172 agencies and municipalities in the U.S require LEED certification for city-owned facilities, city-funded projects and major renovation. Of them 105 require Minimum LEED Silver certification or equivalent, 8 require LEED Gold certification, and one requires LEED Platinum certification. 26 city hall buildings are currently certified, 14 of them have LEED gold certification or higher, including city halls in the City of Burien (gold), City of Mukilteo (Gold), City of Port Townsend (silver), City of Puyallup (gold), City of Shoreline (gold), and City of Seattle (gold). The net benefits of Seattle LEED Gold city hall over a 25 years analysis period are $1,580,000, which are Benefit Cost Ration of 332%.

Minimum requirements of agencies and municipalities

LEED Certification or equivalent	LEED Silver Certification or equivalent	LEED Gold Certification or equivalent	LEED Platinum Certification or equivalent
King County, WA	State of Washington Bellingham, WA Everett, WA Seattle, WA Whatcom County, WA		
Department o f Interior Department of State	Department of Agriculture-Forest Service Environmental Protection Agency	Costa Mesa, CA Dallas, TX	Greensburg, KS

Smithsonian Institution	General Services Administration	Durham County, NC
State of Colorado	National Aeronautics and Space Administration	Fort Collins, CO
State of Florida	U.S. Navy	Multnomah County, OR
Stale of Illinois	State of Arizona	Portland, OR - for new construction
Commonwealth of Kentucky	State of California	Scottsdale, AZ
Commonwealth of Massachusetts	State of Connecticut	
State of Nevada	State of Hawaii	
Commonwealth of Puerto Rico	State of Illinois >10,000 sq ft	
State of Rhode Island	State of Indiana	
Alameda, CA	State of Maryland	
Albany, CA	State of New Jersey	
Anaheim, CA	Commonwealth of Puerto Rico >30,000sq ft	
Anchorage, AK	state of South Carolina	
Athens- Clarke County, GA	State of South Dakota	
Bangor, ME	State of Utah	
Broward County, FL	Commonwealth of Virginia	
Chamblee, GA	Alameda County, CA	
Charleston, SC	Albuquerque, NM	
Chesapeake, VA	Alexandria, VA	
Chicago, IL	Annapolis, MD	
Cincinnati, OH	Arlington, MA	
Conyers, GA	Asheville, NC	

Cook County, IL	Atlanta, GA
Derry, NH	Austin, TX
Gainesville, FL	Baltimore, MD
Germantown, TN	Berkeley, CA
Grand Rapids, MI	Bloomington, IN
Irvine, CA	Brisbane, CA
Jacksonville, FL	Calabasas, CA
La Plata, MD	Campbell, CA
Long Beach, CA	Chandler, AZ
Los Altos Hills, CA	Chapel Hill, NC
Los Angeles, CA	Clayton, MO
Miami Lakes, FL	Cranford, NJ
Morgantown, WV	Cupertino, CA
Northbrook, IL	Denver, CO
Phoenix, AZ	Dublin, CA
Plano, TX	Durham County, NC >4,000 sq ft
Queen Creek, AZ	East Lansing, MI
Riverside County, CA	El Paso, TX
Rochester Hills, MI	El Segundo, CA
Sacramento, CA	Erie County, NY
San Diego, CA	Eugene, OR
San Mateo County, CA	Evanston, IL
Sarasota County, FL	Fairfax County, VA
Starkville, MS	Fayetteville, AR

Suffolk County, NY	Flagstaff, AZ
Sunnyvale, CA	Gaithersburg, MD
Temecula, CA	Gilroy, CA
Ventura, CA	Golden, CA
Washington Metropolitan Area Transportation Authority, DC	Grand Rapids, MI >10,000 sq ft
West Hollywood, CA	Greenwich, CT
Yorkville, IL	Howard County, MD
	Kansas City, MO
	Kearny, NJ
	Livermore, CA
	Logan City, UT
	Los Altos, CA
	Los Angeles County, CA
	Madison, WI
	Metropolitan Washington Council of Governments
	Miami Beach, FL
	Miami-Dade County, FL
	Monte Sereno, CA
	Monterey, CA
	Montgomery County, MD
	Morgan Hill, CA
	Nashville, TN
	New York, NY
	Niagara County, NY

Oakland, CA

Oro Valley, AZ

Pasadena, CA

Philadelphia, PA

Pima County, AZ

Portland, ME

Portland, OR

Richmond, CA

Richmond, VA

Rockland County, NY

Salt Lake City, UT

San Bernardino County, CA

San Francisco, CA

San José, CA

Santa Clara, CA

Santa Clarita, CA

Santa Monica, CA

Solana Beach, CA

Springfield, MO

St. Louis, MO

St. Paul, MN

Stamford, CT

Stockton, CA

Syracuse, NY

Tampa, FL

Tucson, AZ

York, Maine

Req. #12910 Amended 4-19-11

RESOLUTION NO. 38249

A RESOLUTION directing development of a Municipal Green Building Policy.

WHEREAS the City desires to minimize carbon emissions, air and water pollution, human health hazards caused by building construction and operation, and to reduce energy consumption and long-term operating and maintenance costs, and

WHEREAS the City desires that its buildings and facilities be models of environmental, economic, and social stewardship, contributing to the City's goals of protecting, conserving, and enhancing the region's environmental resources and setting a community standard of sustainable building, operation, and maintenance, and

WHEREAS, on January 25, 2011, the City Council adopted Resolution No. 38188, supporting lifecycle thinking as a way to identify possible sustainability improvements to procurement of goods and services, and

WHEREAS the City encourages and promotes the use of green building practices in the planning, location, design, construction, renovation, remodeling, and operation and maintenance of all City buildings, which are buildings owned or leased on a long-term basis by the City and in those instances in which the City participates in a public-private cooperative effort and achieves an ownership interest in the completed project, and

WHEREAS the intent of these practices is to provide environmental benefits; improve employee health, productivity, and workspace quality; and to adhere to the guidelines put forth in the Tacoma Climate Action Plan, the

Comprehensive Plan, and other related policies approved by the City Council, the Tacoma Public Utility Board, the City Manager, and the Director of Public Utilities, and

WHEREAS Leadership in Energy and Environmental Design ("LEED") is a nationally recognized, voluntary, consensus-based standard for developing high-performance sustainable buildings and for rating the performance of buildings, building operations, and maintenance; Now, Therefore,

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF TACOMA:

Section 1. That the City fully supports the development of a Municipal Green Building Policy to govern the City's planning, location, design, building, remodeling, renovation, operation, and maintenance of buildings the City owns, operates, leases long-term, or in which the City participates in by way of a public-private partnership.

Section 2. That the City Manager is directed to develop the Municipal Green Building Policy no later than one year after City Council adoption of this resolution.

Section 3. That the Municipal Green Building Policy will include the following requirements for City buildings:

1. Achieve a LEED New Construction Silver certification level and strive to achieve LEED Gold certification or an equally rigorous green development standard;

2. All new construction and major renovation shall exceed the Washington Energy Code by at least 5 percent;

3. All existing LEED-certified buildings shall seek LEED Existing Building: Operations and Maintenance ("EB O&M") Silver certification.

Section 4. That the City Manager and the Director of Utilities shall each respectively appoint a Green Building Team to assist in the development of the Green Building Policy and to provide assistance and information regarding the feasibility of achieving green building certifications.

Section 5. That the Green Building Team appointed by the City Manager will include representatives from those City departments with expertise in project management, construction management, architecture, landscape architecture, environmental planning, design, engineering, historic preservation and resource conservation, public health, building energy systems, building operations and management, budget analysis and other appropriate skills.

Section 6. That the Director of Public Utilities is encouraged to appoint a Green Building Team with similar representation to work cooperatively with the team appointed by the City Manager.

Section 7. That the City Manager shall report back to the City Council and the Sustainable Tacoma Commission semiannually on progress towards implementation of the Green Building Policy.

Adopted APR 19 2011

Mayor

Attest:

City Clerk

Approved as to form:

Cheryl Comer
Deputy City Attorney

Attachment 6

CITY CLERK USE ONLY

Tacoma

REQUEST FOR
☐ ORDINANCE ☒ RESOLUTION

RECEIVED APR 08 2011 CITY CLERK'S OFFICE

Request #: 12910
Ord./Res. #: 38249

1. DATE: April 6, 2011

2. SPONSORED BY: COUNCIL MEMBER(S) NA (If no sponsor, enter "N/A")		
3a. REQUESTING DEPARTMENT/DIVISION/PROGRAM City Manager/Office of Sustainability 3b. "DO PASS" FROM EPW ☒ Yes ☐ No ☐ To Committee as information only ☐ Did not go before a Committee 3c. DID THIS ITEM GO BEFORE THE PUBLIC UTILITY BOARD? ☐ Yes, on [Date] ☒ Not required	4a. CONTACT (for questions): Kristin Lynett	PHONE: 591-5571
	4b. Person Presenting: Kristin Lynett	PHONE: 591-5571
	4c. ATTORNEY: Martha Lantz	PHONE: 591-5633
Department Director/~~Utility Division~~	Budget Officer/Finance Director	City Manager/~~Director Utilities~~

5. REQUESTED COUNCIL DATE: April 19, 2011

(If a specific council meeting date is required, explain why; i.e., grant application deadline, contract expiration date, required contract execution date, public notice or hearing required, etc.)

6. SUMMARY AGENDA TITLE: (A concise sentence, as it will appear on the Council agenda.)

The City Council commits the City of Tacoma to develop a Municipal Green Building Policy.

7. BACKGROUND INFORMATION/GENERAL DISCUSSION: (Why is this request necessary? Are there legal requirements? What are the viable alternatives? Who has been involved in the process?)

The 2008 Climate Action Plans calls for development of a green building program with standards for new municipal buildings. This policy was brought to EPW by the Sustainable Tacoma Commission numerous times and most recently passed on March 23, 2011. This resolution was developed with involvement from staff and managers in all departments.

The creation of the Green Building Team and the development of the administrative policy over the next year will take some staff time and potentially consultant resources that have been budgeting for through the Office of Sustainability.

8. LIST ALL MATERIAL AVAILABLE AS BACKUP INFORMATION FOR THE REQUEST AND INDICATE WHERE FILED:

Source Documents/Backup Material	Location of Document
2008 Climate Action Plan	www.Cityoftacoma.org/sustainability On File with Clerk's Office

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CITY CLERK USE ONLY

Request #: 12910

Ord/Res #: 38249

REQUEST (CONT)

9. WHICH OF THE CITY'S STRATEGIC GOALS DOES THIS ITEM SUPPORT? (CHECK THE GOAL THAT BEST APPLIES)

A. ☐ A SAFE, CLEAN AND ATTRACTIVE COMMUNITY

B. ☒ A DIVERSE, PRODUCTIVE AND SUSTAINABLE ECONOMY

C. ☐ A HIGH-PERFORMING, OPEN AND ENGAGED GOVERNMENT

10. IF THIS CONTRACT IS FOR AN AMOUNT OF $200,000 OR LESS, EXPLAIN WHY IT NEEDS LEGISLATIVE APPROVAL:

11. FINANCIAL IMPACT: ☐ EXPENDITURE ☐ REVENUE

A. ☐ NO IMPACT (NO FISCAL NOTE)

B. ☐ YES, OVER $100,000, Fiscal Note Attached

C. ☒ YES, UNDER $100,000, (NO FISCAL NOTE)
Provide funding source information below:

FUNDING SOURCE: (Enter amount of funding from each source)

Fund Number & Name:	State $	City $	Other $	Total Amount
General Fund - Sustainability		$20,000		

If an expenditure, is it budgeted? ☒ Yes ☐ No Where? Cost Center: 20400

Acct #: 5414000

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Resolution No. 38249

Adopted: APR 19 2011 Amended

Maker of Motion: WALKER

Seconded: LONERGAN

Voice Vote:

MEMBERS	AYES	NAYS	ABSTAIN	ABSENT
Mr. Boe	✓			
Mr. Campbell	✓			
Mr. Fey	✓			
Mr. Lonergan	✓			
Mr. Manthou	✓			
Mr. Mello	✓			
Ms. Walker	✓			
Ms. Woodards	✓			
Mayor Strickland	✓			

Roll Call Vote:

MEMBERS	AYES	NAYS	ABSTAIN	ABSENT
Mr. Boe				
Mr. Campbell				
Mr. Fey				
Mr. Lonergan				
Mr. Manthou				
Mr. Mello				
Ms. Walker				
Ms. Woodards				
Mayor Strickland				

Green Codes Project Schedule
August 10, 2011

DATE	ITEM
January 4, 2011	City Council Update and Direction
January 27, 2011	Planning Commission (PC) Study Session – Scope/Work Program
February 4, 2011	Meetings with Technical Advisory Board & internet outreach
February 28, 2011	Houghton Community Council (HCC) Study Session – Review Project
March 4, 2011	Technical Advisory Board
March 24, 2011	PC Study Session – Review Alternatives
March 28, 2011	HCC – Review Alternatives
April 28, 2011	PC – 1st Draft of Code Amendments
May 23, 2011	HCC – 1st Draft of Code Amendments
June 9, 2011	PC - Study Session
June 27, 2011	HCC - Study Session
August 22, 2011	HCC – Clustered Housing/LID & City Council Action Items
August 25, 2011	PC– Clustered Housing/LID & City Council Action Items
August 2011	Outreach via Social Media Survey
September 2011	Convene Developers to review Clustered Housing/LID Concept
September 8, 2011	PC – Draft Code Language for All regulations
September 26, 2011	HCC - Draft Code Language for All regulations
September 30, 2011	Technical Advisory Board Meeting – Comments on Draft Codes
October 13, 2011	PC – Final Draft Code Regulations
October 24, 2011	HCC – Final Draft Code Regulations
December, 2011	SEPA Review and Determination
December, 2011	Notice to Commerce (at least 60 days prior to City Action)
December 8, 2011	PC & HCC – Joint Public Hearing
December 19, 2011	HCC –Make Recommendations
January 12, 2012	PC – Make Recommendations
February 7, 2012	City Council –Recommendations and Direction (Action?)
February 21, 2012	City Council Final Action
February/March 2012	HCC Final Action