305 NW Pacific Highway
La Center, Washington 98629
T/360.263.7661 F/360.263.7666

PRE-APPLICATION CONFERENCE
Sunrise Terrace Subdivision (2014-003-PAC)
Meeting to be conducted on Thursday January 8, 2015 – 10:00 AM

PROJECT INFORMATION

Proposal: The applicant proposes to lift the urban holding zoning overlay and subdivide 34.4 acres into one hundred twenty one (121) detached single-family residential lots. The site lies within a Low Density Residential (LDR-7.5) zoning district.

Location: The site address is 1908 NE Lockwood Creek Road, La Center, WA and is southwest of the intersection of NE Lockwood Creek Road and NE 339th Street. Assessor parcel numbers are 209047-000, 209062-000, 986027-188 and 986027-189; NE ¼ of Section 2, T4N, R1E, WM.

Applicant: RK Land Development 1520 SW Eaton Blvd., Battle Ground, WA 98604, 360.608.3991, huntergina06@gmail.com

Representative: Ed Greer, Land Use Planning, 8002 NE Highway 99, #546, Vancouver, WA 98665, 360.904.4964, ed@ed-greer.net; Jeff Whitten, Wolfe Group, LLC, 2401 W. Main St., Suite 210, Battle Ground, WA 98604, jeff@wolfe_group.com

Owners/Addresses: John and Sandy Perrott, P.O. Box 128 La Center, WA 98629 and Lee Norden, 727 3rd St. Woodland, WA 98674

REVIEW

Development Standards

Subsequent application(s) shall address the following development standards. Failure of the City to cite specific requirements of the La Center Municipal Code (LCMC) in this report does not relieve the applicant of the responsibility to meet all applicable criteria.

Public Works and Engineering

Chapter 12.10 -- Public and Private Road Standards

City of La Center Engineering Standards for Construction shall apply to all public road improvements unless modified by the director. LCMC 12.10.040.

A performance bond in the amount not less than 110% of the construction estimate shall be provided prior to issuance of building permits. LCMC 12.10.110.

General roadway and right-of-way standards shall apply and provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels; LCMC 12.10.090.

The applicant shall provide full street improvements on interior streets according to the City of La Center Local Access standard ST-15.

In addition to the interior street improvements, street lights, street trees and stormwater improvements. LCMC 12.10.190.

For driveways to each lot the applicant will need to comply with maximum driveway width as shown on standard detail attached.

A bond for all public improvements shall be posted by the developer in the amount of 110% of the construction for final plat or when improvements are complete and accepted by the City

Comments

Streets and Circulation

The preliminary plat shows circulation to NE 339th Street per the City Engineering Standards if Avenue "D" is extended to 339th Street as shown in the future developed area shown in the northeast corner of the plat. To provide adequate circulation to 339th the applicant will be conditioned to extend Avenue "D" to 339th Street as part of the development application. Circulation through the development to NE 24 Avenue does not appear to meet the 500-foot maximum street spacing for this first phase of development. There is no access from the development south of 339th Street shown on the plat; only Cul-de-sacs dead-ending (Circle "E, "D" and future "F") just west of NE 24th Avenue. To meet the City circulation requirements at minimum Cul-de-Sac Circle "E" will need to be extended to NE 24th Avenue.

The minimum Cul-de-Sac radius is 108-feet to Right of Way line and 45-feet to gutter flowline with a 6-foot wide sidewalk including 0.5-foot curb. See attached Cul-de-sac detail

The City Local Access standard for all interior subdivision streets requires a 32-foot wide to gutter flowline dimension and 30-foot pavement width for a 0.5-foot wide curb. See the attached Local Access Standard ST-15.

A hammerhead turnaround is proposed for the west end of "D" Street for three lots. Section 2.12 (B) of the city engineering standards allows for the use of a temporary hammerhead that is under 200-feet in length. A temporary hammerhead must have sidewalk on both sides of the street, and one side of the half street, and have dimensions as shown on the attached standard. Once the street is extended the temporary hammerhead shall be removed and sidewalk extended through the hammerhead.

NE 339th Street is classified as a Rural Minor Collector and Lockwood Creek Road is classified as a Rural Major Collector. NE 24th Street is not classified but will be a collector street and will be designated as a Rural Minor Collector. See attached city standard details for Rural Minor and Rural Major Collectors. The Capital Facilities Plan requires bicycle lanes for collector roads and therefor the details show bike lane striping instead of parking lanes.

Streets naming (and addressing) will be conducted by the City.

Grading

A grading and erosion control permit is required as part of the subdivision plans. As part of the grading plans finished floor elevations need to be shown for the lots in addition to grading quantities, the plan shall show retaining walls necessary to grade the lots.

The City Erosion Control Standards require that any activity disturbance over 500 SF must comply with the City standards. As part of these standards a construction stormwater permit is required from the Department of Ecology and an SWPPP will be necessary as part of the plan submittal to the City.

Chapter 13.10 -- Sewer System Rules and Regulations

Connection to public sewer is required. LCMC 13.10. All work is to be performed by a duly licensed contractor in the City of La Center. LCMC 13.10.230. Work will be performed using an open trench method unless otherwise approved. LCMC 13.10.200. All costs associated with installing the side sewer shall be borne by the applicant. LCMC 13.10.110. The Applicant's Engineer proposes to add 50 homes to the existing pump station #3 in Lockwood Creek Development and existing pump station #2 adjacent to Stonecreek Development.

The City Engineer reviewed the Sunrise Terrace Sanitary Sewer Capacity Analysis for Pump Station #2 and #3. Although the General Sewer Plan shows that existing pump stations #2 and #3 have an existing peak capacity of 0.29 MGD each, this is not the capacity of the pumping stations, according to the Department of Ecology Sewage Design Manual (Orange Manual). As indicated in the attached "Orange Manual" it says "the number of pumps shall allow the station to provide the peak design flow with the largest pump out of order". This means that if there are currently two pumps, only one pump can be used for the peak capacity of each of the separate pumping systems. If one pump has a capacity of 100 gpm, then if it is running continually during the peak day flow, it will pump 0.144 MGD (100gpm x 60 min/hour x 24 hr/day).

According to the calculations for the Sunrise Terrace, there are 124 ERU's tributary to PS#3 (Parkside Estates 46 lots, Lockwood Creek 76 lots, Post Office 1 ERU, Library 1 ERU). This appears to be correct. The remaining tributary ERU's to pump station #2 is 78 (Stonecreek Estates, Elementary School, Middle School, High School, and Community Center & other uses i.e. splash pad, concession stand). This is for basin D1 and is shown on Table A2 from the GSP.

This gives a total 202 ERU's tributary to pump station #2 for a daily flow of 0.0599 MGD (202 x 2.7 persons per ERU x 110 gpd). Using a peaking factor calculated at 3.95 (per GSP) this gives a peak flow of **0.24 MGD tributary to PS#2**. This appears to verify the existing peak flow in the Sunrise Terrace calculations (see attached excerpts). The GSP appears to calculate the peak flow to the pump station at 0.179 MGD and the peak capacity at 0.29 MGD.

The Sunrise calculations add another 50 ERU's to pump station #2 which would make a peak flow of 0.29 MGD. Since the peak flow per D.O.E. is one pump (100 gpm = 0.144 MGD), **the development would far exceed the peak flow of pump station #2**. In addition the existing peak flow tributary to pump station number #3 is also 100 gpm or 0.144 MGD. The existing peak flow tributary to pump station #3 is 0.15 MGD (124 ERU), which currently exceeds the pump capacity at pump station #3.

At a minimum additional pumping capacity will be needed at pump stations #2 and #3 or enlarging the existing pumps to be able to pump the peak flow with development with one pump.

Our Sewer Department is planning to verify the actual pumping rate of the existing pumps to determine if they each are pumping 100 gpm. In addition we need to verify that the existing wet well has capacity to operate for the existing peak flow (diameter, depth, elevations of inlet pipe, pump height, etc.). Once we know this information **the applicant will need to calculate if the basins have capacity with additional pumps or larger pumps.** We will review these calculations.

The force main size tributary to pump station #3 and pump station #2 will also need to be verified by the applicant for the additional flow to the system from the development.

Once the city has collected data of the existing pumps and wet well it will be given to the applicant to verify the system requirements for the proposed development.

Connections shall be made at a manhole at the intersection of East 18th Place and Lockwood Creek Road. Connection to the manhole, sewer main open-trench installation in Lockwood Creek Road shall be constructed per City Engineering Standards. LCMC 13.10.180. A minimum 8 inch diameter public main pipe will be installed between the proposed Sunrise development to the point of connection at the City manhole. LCMC 13.10.190. A back water valve is required, if the lots are lower than the street, on each sewer connection from the lots and will be located at the property line within the applicants property. A cleanout is required at the property line. LCMC 13.10.110. *La Center Engineering Standards for Construction* are also applicable.

Calculations shall be submitted to determine design compliance of the sewer system within the development, the future upstream incoming influent and the adequacy of the downstream facilities shall be submitted for approval.

Existing septic system must be abandoned or removed as necessary per Clark County Environmental Health permitting.

Chapter 18.10 Development Code General Provisions

Geotechnical Study. A complete application will include a geotechnical study and report, prepared by a geotechnical engineer or geologist, licensed in the state of Washington. The report shall include at a minimum, testing to support the structural section of the roadway, site building construction, grading, retaining wall design, as applicable, and subsurface drainage. LCMC 18.212.050.

Traffic Impact Analysis. A compete application will require a traffic impact analysis and circulation plan which considers adjacent land parcels, topography, natural features, sensitive lands, existing improvements, and existing streets together with their potential alignments in relation to this site. The impact analysis should be conducted at intersections along Lockwood Creek Road, NE 339th Street, NE 24th Avenue, Highland Road, East 4th Street and Pacific Highway, and Aspen Avenue. The report shall include average daily traffic and peak hour traffic for intersections and streets as noted above. LCMC 18.212.050(n).

Chapter 18.320 (Stormwater and Erosion Control)

Section 18.320.120 (1) LCMC states that ground-disturbing activities of more than 500 square feet are subject to the requirements of *City of La Center Erosion Control Guidelines*. Section 18.320.120 (2)(a) LCMC states that the creation of more than 2,000 square feet of impervious surface is subject to stormwater regulation.

The applicant proposes to create new impervious interior streets in the subdivision. Per LCMC 18.320.210, treatment BMPs shall be sized to the treat the water quality design storm, defined as the six-month, 24-hour storm runoff volume.

The applicant proposes to treat stormwater from pollution generating surfaces (impervious) with rain gardens or bioswales, or other approved BMP's. The treatment will need to meet the City of La Center and 1992 Puget Sound Manual which requires compliance with the Water Pollution Control Act and the Water Resources Act.

Per LCMC 18.320.220, if infiltration is used for disposal of stormwater, the project must infiltrate the 100-year storm where local soil types and ground water conditions are suitable. Per the Puget Sound Manual, an emergency overflow above the 100-year storm event needs to be shown.

If infiltration of stormwater is not feasible for quality treatment and quantity disposal, stormwater runoff must be detained meeting the requirements of Chapter 18.320 LCMC and then discharged into the existing low point on the site. Clark County Soil Groups or USDA may be used to determine the hydrology of the site. Isopluvials shall be used to determine the design storm frequency (attached). Per the City Ordinance, a forested condition must be used for the pre-developed surface condition. The HEC-1 flood hydrograph package or HEC HMS may be used for hydrologic computation of site quantity control.

The collection system shall designed by the rational method using HEC-12 1984 edition standards for gutter and storm pipe capacity. As an alternate, WSDOT Hydraulics Manual can be used for inlet capacity design. The 100-year rainfall intensity must be used for pipe capacity design using the rational method. Attached is the City rainfall intensity chart.

Per LCMC 14.10.140, a preliminary stormwater plan and preliminary stormwater report shall be submitted for review as part of the land use application. The stormwater report must also address stormwater how energy dissipation will be accomplished so that the downstream property is not impacted by stormwater.

Downspouts connections from the houses must connect directly into the site stormwater system. Laterals from the storm main in the street must be shown to serve each lot. A Technical Information Report (TIR) is required along with the development plans for approval of the stormwater system.

Maintenance of Stormwater Facility

If the stormwater treatment and disposal facility is within public Right of Way, the applicant shall maintain the facility for two years after development. An operations manual must be submitted for City review approval for the maintenance of the facility in all cases. The City is disinclined to own or maintain the stormwater facility. Adequate bonding is required to guarantee maintenance of the facility for a period of two years following final plat. Stormwater facilities must be located in a separate tract.

Potable Water

Water system connections are regulated by Clark Public Utility (CPU) and a permit and plan approval will be required for City plan approval. You were provided with a copy of the CPU Water Availability report at the meeting. Provide proof that the on-site well was properly abandoned.

Street Lighting

Street light design and installation is reviewed and approved by CPU. LID for street lighting is preferred.

Chapter 15.10 (Fire Code):

The builder shall plan for access road widths to accommodate the fire district's engines and aerial ladder truck. The ladder truck is 39 feet long and requires a clear area 20 feet wide to deploy its ladder outriggers.

Any *cul-de-sac* must have a 45-foot radius with no on-street parking allowed.

Hydrants. Fire hydrants during this development would normally be spaced every 500' feet (IFC 508.5.1). A looped water main system is preferred. The fire district urges the developer to install these hydrants before road paving and sidewalk construction begins. No obstruction will be allowed that would keep fire apparatus further than 10 feet from any hydrant in the project. A three foot clear radius shall be maintained around all hydrants. The location of all hydrants should be approved by the Fire District.

The project engineering staff should work closely with the fire district in regard to hydrant placement in the development.

Sprinklers. The fire district urges every developer and builder to consider installation of residential sprinklers in all homes in all projects. There are many advantages to residential sprinkler systems for the buildings occupants and firefighter safety.

Fire flow. The applicant shall provide a documented fire flow of 1,000 GPM to the subdivision. The Clark County Fire Marshal and Fire District 12 would lower this requirement to 500 GPM if every structure had an approved residential sprinkler system and a long term plan in place to eventually improve fire flow.

Building Comments

The building Official provided the following comments during the meeting:

1. Identify the proposed setbacks for each lot.
2. Submit a geotechnical report analyzing the development design and for lot infill. The report should propose plat development conditions for the builders, by lot if required.
3. The plat notes should stipulate amount of impervious/saturation development allowed (Maximum building lot coverage is 35 % and maximum impervious surface area is 50%).
4. Plat conditions for individual lot build out should include provision of adequate foundation drainage, in particular on the high side of the each lot.
5. If retaining walls are to be constructed there needs to be design details in the plat conditions for the builder(s). Any required walls shall be installed and approved before final occupancy approval. Other walls built shall be built to a plat standard detail.
6. Fencing should be uniform. Provide a fence detail.
7. An adequate absorption/dissipater design should be included in the plat conditions for storm water that can't flow by gravity to the storm lateral.
8. No lot's development shall create hazards or conditions for any adjacent lot.
9. Stormwater collected from newly created impervious sources or surfaces (roof, slabs, flatworks, etc) shall be terminated in an approved manner.
10. Provide a plat note and detail for a concrete truck washout area which builders and contractors shall be required to use and maintain until final build out.
11. Coordinate with Tim Dawdy, CCF&R regarding hydrant spacing and related fire flow and fire protections issues he might have.

Land Use

Legal Lot Determination:

Please submit an application for legal lot determination.

Chapter 18.130 (Low Density Residential)

The site is zoned LDR-7.5, low density residential with a minimum lot size of 7,500 feet. Single-family detached residential dwelling units are a permitted use within the zoning district.

The minimum average lot size in the district is 7,500 S.F. and the development must meet a minimum of 4 units per gross acre, minus right-of-way. The applicant proposes 4.6 units per net acre.

Ninety percent (90%) of all new parcels in this district must average within 10 percent of 7,500 square feet as a total development and any phase within the development. The remaining 10 percent of lots may

be reduced to 6,000 square feet as a result of density transfer per LCMC 18.300.130. Individual parcels may not be smaller than 6,000 square feet or larger than 11,000 square feet. LCMC 18.130.020(1)(a). All proposed lots exceed 7,500 S.F. except for two lots approximately 6,500 S.F. abutting proposed D St. No proposed lots exceed 11,000 S.F.

Clark County GIS indicates a mapped National Wetland on tax lot 986027-189. Washington Department Natural Resources FPARS web site indicates a class N seasonal stream that traverses the southeast corner of tax lot 98027-189. If Critical Areas are present density transfer is available. A maximum of 10% of the lots may be reduced if the applicant proposes to use the density transfer provisions of LCMC 18.300.

Each lot shall comply with the dimensional standards within Table 18.130.090.

Minimum Lot Width (feet)	Minimum Lot Depth (feet)	Minimum Front Yard Setback (feet)[1, 2]	Minimum Side Yard Setback (feet)[2]	Minimum Street Side Yard Setback (feet)[2]	Minimum Rear Yard (feet)[2, 3]
60	90	20	7.5	10	20

2 The city may permit a minimum lot area of 6,000 square feet when critical areas are present and a transfer of density is proposed per LCMC 18.300.130. Under no circumstances may lots of less than 6,000 square feet be permitted.

3 The maximum lot area of a lot abutting the urban growth area boundary may exceed 11,000 square feet pursuant to this section. A border lot also is subject to different setbacks. The maximum lot area also can be exceeded for multifamily development.

Maximum building lot coverage shall not exceed 35 percent. Maximum impervious surface area shall not exceed 50 percent. Your proposed plat should calculate building lot coverage per lot and total amount of impervious surface area to be created.

Chapter 18.190 Urban Holding District

The property currently has an Urban Holding 10 (UH-10) overlay. If the Public Works Director or City engineer certifies that the capital facility deficiencies associated with the property have been resolved, the City may remove the UH-10 overlay. The overlay can be removed concurrently with the approval of the Final Plat for development or as a separate Type II application and land use review not associated with subdivision approval. LCMC 18.190.060.

18.210 Subdivisions

Submittal Requirements (§§18.210.030): A completed application form and the following materials will be required, if applicable, prior to a determination of technical completeness (ten copies and an electronic version of all materials), please):

1. The information listed in LCMC §§18.210.010(2), provided an environmental checklist or EIS is required for a technically complete application unless categorically exempt.
2. Written authorization to file the application signed by the owner of the property that is the subject of the application, if the applicant is not the same as the owner as listed by the Clark County assessor.
3. Proof of ownership document, such as copies of deeds and/or a policy or satisfactory commitment for title insurance.
4. A legal description of the property proposed to be divided.
5. If a subdivision contains large lots or tracts which at some future time are likely to be re-subdivided, the application shall include a master plan of all land under common ownership in order to provide for extension and opening of streets at intervals which will permit a subsequent division of each divisible parcel into lots of smaller size.

6. A copy of the pre-application conference summary, if the application was subject to pre-application review, and all information required to address issues, comments and concerns in the summary.
7. A written description of how the proposed preliminary plat does or can comply with each applicable approval criterion for the preliminary plat, and basic facts and other substantial evidence that support the description.
8. The names and addresses of owners of land within a radius of 300 feet of the site. Owner names and addresses shall be printed on mailing labels.
   a. The applicant shall submit a statement by the assessor's office or a title company certifying that the list is complete and accurate, based on the records of the Clark County assessor within 30 days of when the list is submitted.
   b. If the applicant owns property adjoining or across a right-of-way or easement from the property that is the subject of the application, then notice shall be mailed to owners of property within a 300-foot radius, as provided above, of the edge of the property owned by the applicant adjoining or across a right-of-way or easement from the property that is the subject of the application.
9. Applications necessarily associated with the preliminary plat, such as applications for exceptions, adjustments or variances to dimensional requirements of the base or overlay zones or for modifications to the road standards in Chapter 12.10 LCMC that are required to approve the preliminary plat application as proposed.
10. A critical area delineation and assessment if required by Chapter 18.300 LCMC and an application for a critical area permit.
12. Preliminary grading, erosion control and drainage plans, which may be a single plan, consistent with applicable provisions of Chapter 18.320 LCMC.
13. Evidence that potable water will be provided to each lot from a public water system, and that each lot will be connected to public sewer.
14. A phasing plan, if proposed.
15. An archaeological predetermination
16. Additional information:
    a.
    b. A signed *Agreement to Pay Outside Professional Review Expenses Related to Land Use Application.* (Provided during the meeting.)

Vesting: Applications are vested on the date the city deems the application to be technically complete.

Subdivision Review Process: All correspondence must be submitted to the La Center City Clerk. Subdivision applications are processed as a Type III land use review requiring a public hearing before the La Center Hearing Examiner. Within 14 days after the Clerk finds the application technically complete, the Clerk shall mail a Notice of Application to you and adjacent property owners. The comment period shall remain open for a minimum of 14 days. The City will schedule a hearing within 78 days after the City finds the application to be technically complete. The City shall issue a staff report a minimum of seven calendar days prior to the hearing date. An appeal of the Hearing Examiner's decision must be made to the City Council within 14 days after the date of issuance of the decision.

Subdivision Approval criteria (LCMC 18.210.040): The applicant carries the burden of proof to demonstrate that the proposal complies with the following city regulations and standards:

- Chapter 12.05 LCMC, Sidewalks;
- Chapter 12.10 LCMC, Public and Private Road Standards;
- Chapter 15.05 LCMC, Building Code and Specialty Codes;
- Chapter 15.35 LCMC, School Impact Fees;

- Chapter 18.245 LCMC, Supplemental Development Standards;
- Chapter 18.300 LCMC, Critical Areas;
- Chapter 18.310 LCMC, Environmental Policy;
- Chapter 18.320 LCMC, Stormwater and Erosion Control;
- Title 18, Development Code;
- The subdivision must make appropriate provision for parks, trails, potable water supplies and disposal of sanitary wastes; and
- The subdivision complies with Chapter 58.17 RCW.

Subdivision General Issues:

1. To approve the preliminary plat, the Hearing Examiner must make an affirmative finding that "appropriate provision for potable water supplies and for the disposal of sanitary wastes".
2. All existing wells and septic systems must be properly decommissioned prior to final plat.
3. The City may refuse bonds in lieu of improvements at the time of final platting if such bonding has not been previously discussed and documented.
4. Flag lots are discouraged.
5. The preliminary plat shall expire five years from the date of the Final Order. RCW 17.58.140(3)(a).
6. Phasing is permitted. All phases must be identified on the preliminary plat.

Chapter 18.245 Supplementary Development Standards

The applicant did not include specific information regarding the fencing, hedging, solid waste, lighting, noise, and landscaping requirements regulated by Chapter 18.245. The subsequent application must address these specific issues.

Chapter 18.260 Variances

No variances have been requested.

Chapter 18.275 Sign Requirements

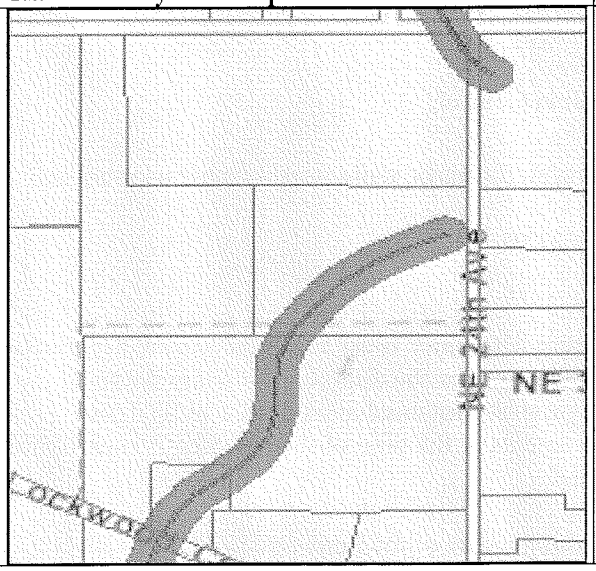
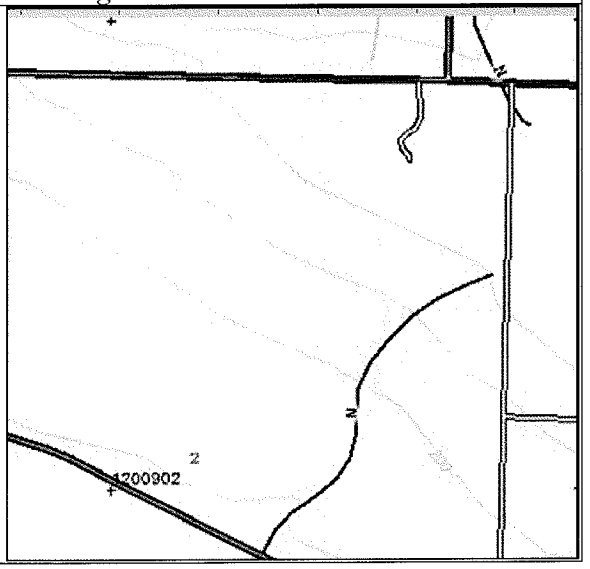
If proposed, monument signs must comply with this chapter.

Chapter 18.280 Off-Street Parking and Loading Requirements

Each dwelling unit shall be provided with two off-street parking spaces per Table 18.280.010. This may be accommodated with a note on the plat requiring each lot to provide two off-street parking spaces. Parking spaces within garages, carports and driveways serve to meet this requirement.

Chapter 18.300 Critical Areas

Department Natural Resources FPARS web site indicates a class N seasonal stream that traverses the southeast corner and northeast corner of tax lot 98027-189

Clark County GIS: Riparian Habitat	Washington DNR: FPARS – Class N Streams
	

Clark County GIS indicates a mapped National Wetland Inventory (NWI) and the presence of hydric soils (Odne) on tax lot 986027-189.

The applicant provided a "Preliminary Wetland Assessment" prepared by Cascadia Ecological Services, Inc. (Cascadia) dated October 14, 2014. Cascadia conducted wetland assessments and soil sampling in the mapped NWI wetlands and Odne soils. Cascadia concluded that based on field sampling and observations of "upland soils, lack of hydrophytic vegetation, and hydrology indicators, the property does not contain any City of La Center regulated wetlands …".

Cascadia reports the "presence of a "large drainage ditch" along the south boundary of Tax lot 986027-179. In places "the ditch is in excess of six feet deep". Cascadia concluded the ditch does not contain indicators of wetland hydrology and that it "likely conveys seasonal stormwater from the east rather quickly through the study area given the relatively consistent slope from east to west."

Cascadia's assessment of the "ditch" is consistent with that of a seasonal stream Cascadia did not address the possible Class N stream at the northeast corner of tax lot 98027-179. Type Np streams with low mass wasting potential and less than 3 feet in width on average require a 150-foot buffer. Type Ns streams with high mass wasting potential within a defined channel require a 75-foot buffer. LCMC Table 18.300.090(2)(f) – Riparian Areas. A complete applicant must include an assessment of the quality and function of both Class N streams.

Private improvements in critical areas are not permitted. Pervious trails and public facilities and services may be placed in critical areas and buffers. LCMC 18.300.050. **Platting lots in critical areas, such as riparian buffers is strongly discouraged.**

Chapter 18.310 (Environmental Policy)

The project review application must include a SEPA checklist and appropriate processing fees. The City will review the SEPA checklist and application materials and will make a threshold determination. The City will run the SEPA comment and land use comment period concurrently and will not make a

decision on the land use application until after the close of the SEPA comment period. An archeological predetermination is required.

Application Fees

An estimated fee schedule was provided during the meeting. Based upon the information provided to date, we estimate that the land use application fees will include: Critical Area review ($340); Legal Lot Determination ($425 + $75/lot); Preliminary subdivision plat ($3,400 +$135/lot); SEPA ($170 x 3); Variances (ranges from $425-$2,125/variance request). The applicant is responsible for payment of fees related to development/engineering review costs as contained in La Center Resolution No. 13-372 (copy provided at pre-application conference).

The City requires an applicant pay actual costs of outside professional services including engineering, legal, and planning. Impact fees shall be assessed against each lot at time of building permit.

January 8, 2015 - Conference Attendees

Name	Address	Phone	Email
Jeff Sarvis, Public Works Director	419 E Cedar Ave., Suite 201 La Center, WA 98629	360-263-7661	j.sarvis@ci.lacenter.wa.us
Tony Cooper, P.E., City Engineer	419 E Cedar Ave., Suite 201 La Center, WA 98629	360-263-2889	acooper@ci.lacenter.wa.us
Dave Johnson, Building Inspector	419 E Cedar Ave., Suite 201 La Center, WA 98629	360-262-7665	djohnson@ci.lacenter.wa.us
Eric Eisemann, Planning Consultant	215 W 4th St., #201 Vancouver, WA 98662	360-750-0038	e.eisemann@e2landuse.com

City of La Center

Rational Method Rainfall Intensity Design Values

Tc	Intensity (in./hr)			
minutes	2-year	10-year	25-year	100-year
5	**1.88**	**2.84**	**3.33**	**4.13**
10	1.32	2.00	2.32	2.86
15	1.08	1.63	1.87	2.31
20	0.93	1.40	1.61	1.98
25	0.83	1.25	1.43	1.76
30	0.76	1.14	1.30	1.60
35	0.70	1.06	1.20	1.47
40	0.65	0.99	1.12	1.37
45	0.62	0.93	1.05	1.29
50	0.58	0.88	1.00	1.22
55	0.56	0.84	0.95	1.16
60	0.53	0.80	0.91	1.11
120	0.38	0.56	0.63	0.77
180	0.31	0.46	0.51	0.62
240	0.26	0.40	0.44	0.53
300	0.24	0.35	0.39	0.47
360	0.21	0.32	0.35	0.43
420	0.20	0.30	0.33	0.40
480	0.19	0.28	0.30	0.37
540	0.18	0.26	0.29	0.35
600	0.17	0.25	0.27	0.33
660	0.16	0.24	0.26	0.31
720	0.15	0.23	0.25	0.30
780	0.15	0.22	0.24	0.29
840	0.14	0.21	0.23	0.27
900	0.14	0.20	0.22	0.26
960	0.13	0.20	0.21	0.26
1020	0.13	0.19	0.21	0.25
1080	0.12	0.18	0.20	0.24
1140	0.12	0.18	0.19	0.23
1200	0.12	0.17	0.19	0.23
1260	0.11	0.17	0.18	0.22
1320	0.11	0.17	0.18	0.22
1380	0.11	0.16	0.18	0.21
1440	0.11	0.16	0.17	0.21

Exhibit C
Isopluvial Maps for Design Storms in Clark County

2-Year, 24-Hour Isopluvials

Use no less than 2" for design storms

LA CENTER 2.25"

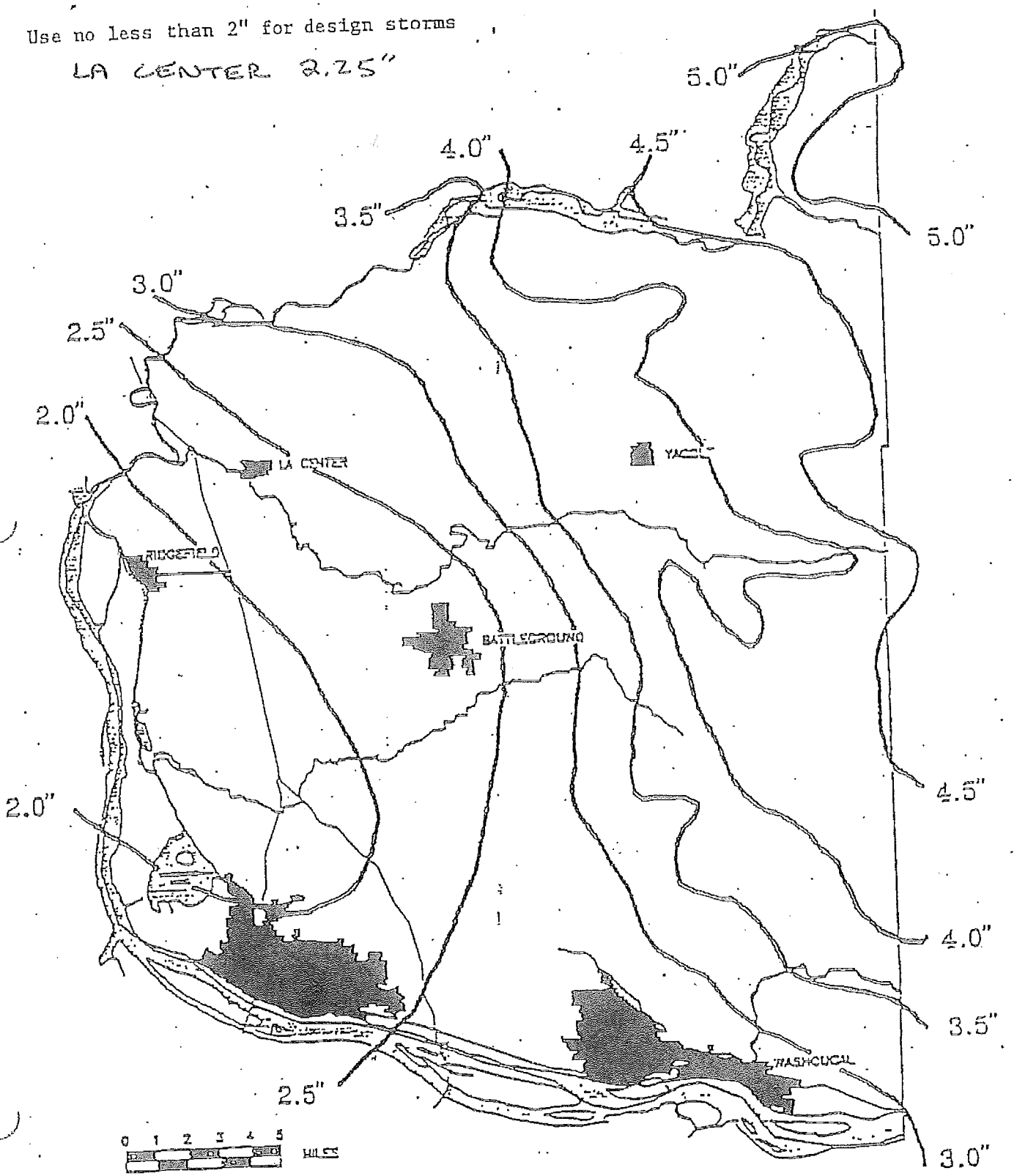
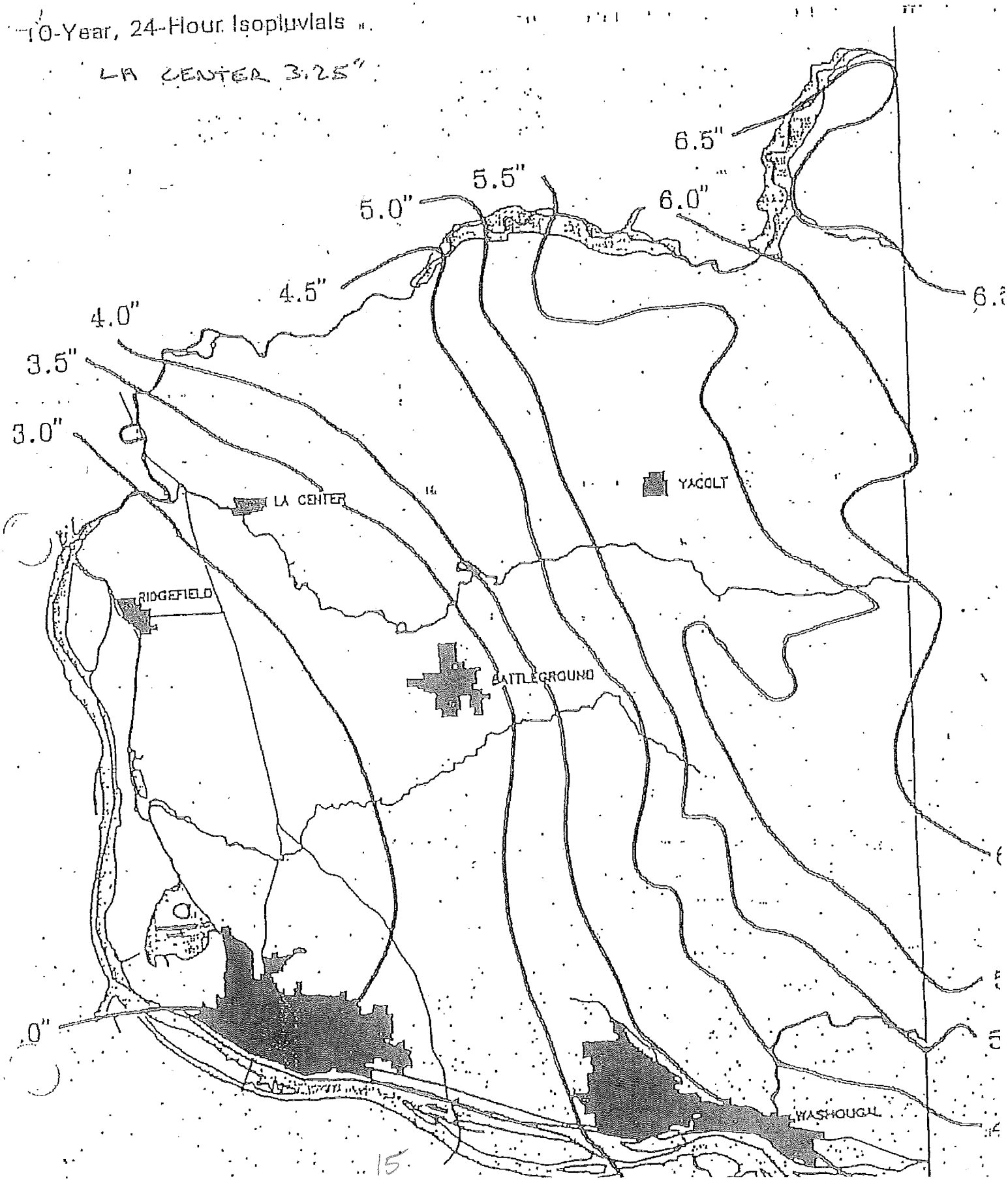


Exhibit C

Isopluvial Maps for Design Storms in Clark County



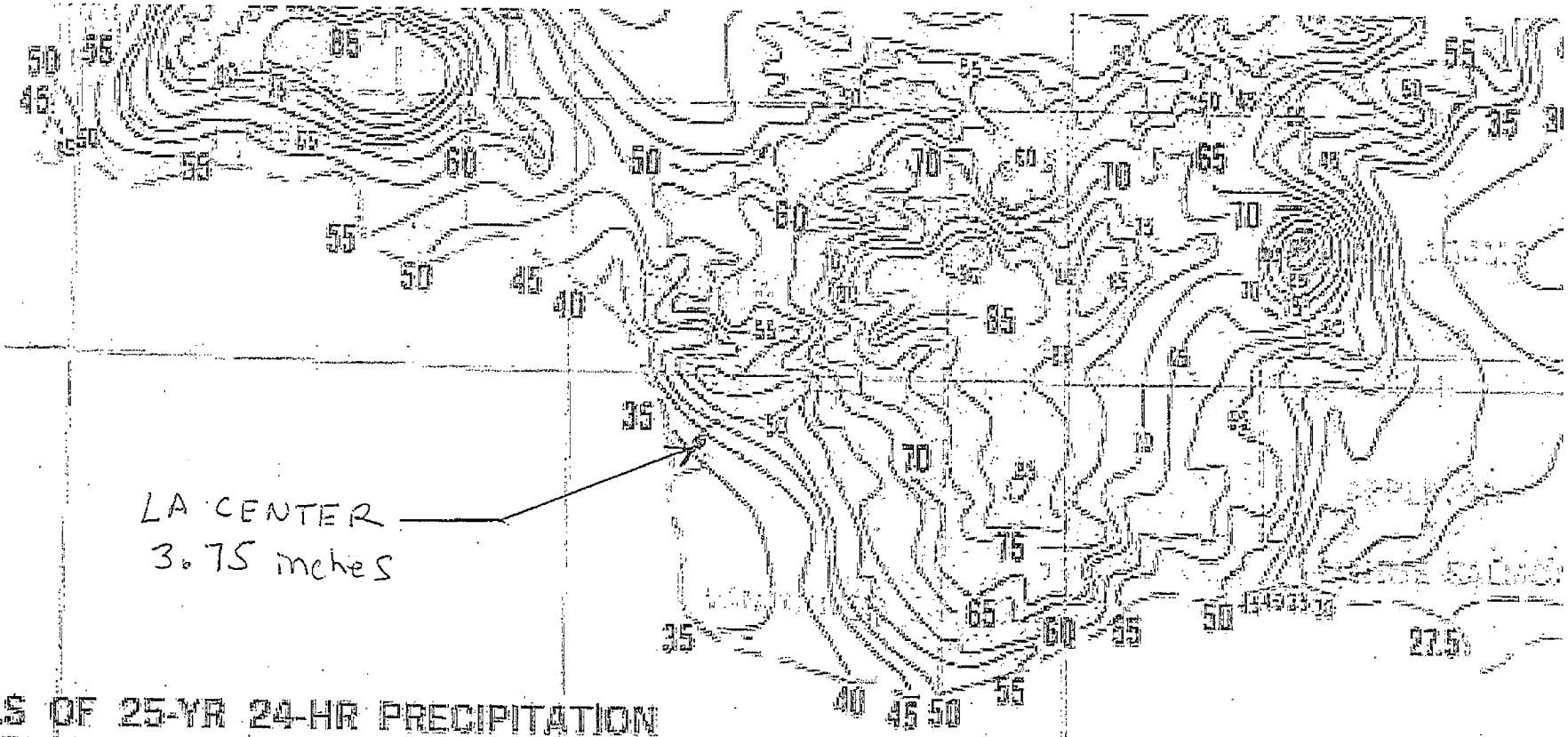


Figure 28

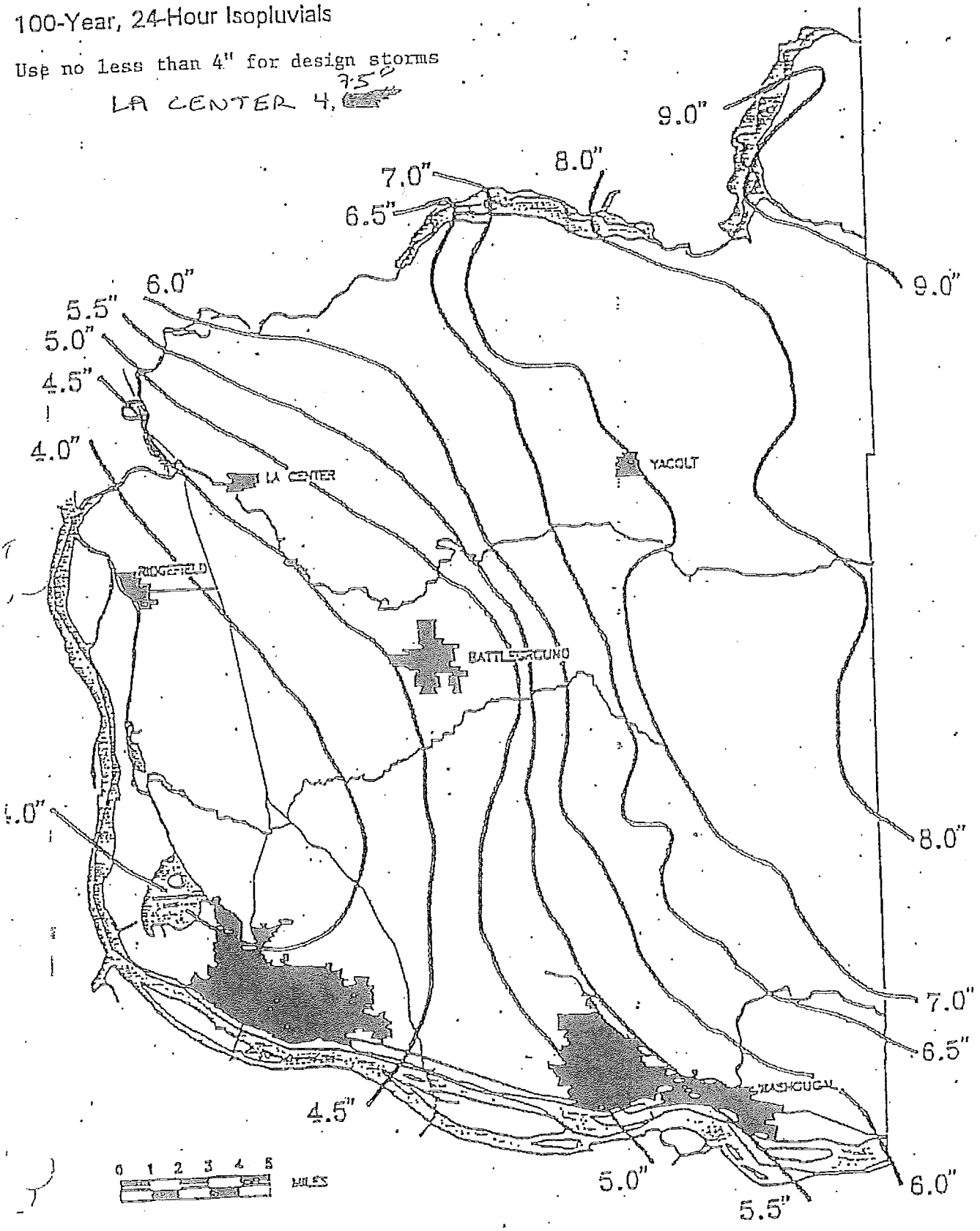
ISOPLUVIALS OF 25-YR 24-HR PRECIPITATION
IN TENTHS OF AN INCH

Exhibit C
Isopluvial Maps for Design Storms in Clark County

100-Year, 24-Hour Isopluvials

Use no less than 4" for design storms

LA CENTER 4, 7.5



C2-1.2.2 System Hydraulics

System hydraulics should provide an optimum balance for the project's force main characteristics, pump selection, and minimum and maximum flows. The force main should be small enough in diameter to minimize solids deposition yet large enough that the total head permits a good pump selection and minimizes the requirements for surge protection facilities. Recommended sizing considerations for force mains are covered under the force main section (see C2-3). A cost-benefit analysis is often useful in selecting the best alternative.

Pump stations shall be designed to operate under the full range of projected system hydraulic conditions. Both new and old pipe conditions should be evaluated, along with the various combinations of operating pumps and minimum and maximum flows, to determine the highest head and lowest head pumping conditions. The system should be designed to prevent a pump from operating for long periods of time beyond the pump manufacturer's recommended normal operating range.

Selection of head loss coefficients for pipes and valves should be conservative to allow for installation and equipment variations and normal aging of the pumping system.

C2-1.2.3 Number of Pumps

The number of pumps selected shall allow the station to provide the peak design flow with the largest pump out of order. Also, the number of pumps should correlate to the wetwell size and prevent excessively short periods between pump starts. On constant speed pump stations, the number of pumps is often based on the pumping capacity required to provide a minimum scour velocity in the force main.

C2-1.2.4 Pump Selection

Pumps should be designed for pumping sewage and capable of passing solids at least 3 inches in diameter. Pump suction and discharge should be 4 inches or greater. Exceptions to these criteria are discussed in the sections on grinder pumps and septic tank effluent pumps (see C1-10).

C2-1.2.5 Wetwells

Sewage pump station wetwells should be designed to provide acceptable pump intake conditions, adequate volume to prevent excessive pump cycling, and sufficient depth for pump control, while minimizing solids deposition.

For constant speed pumps, the minimum volume between pump on and off levels can be calculated using the following general formula:

$V = tQ/4$, where

V = minimum volume (gallons)

t = minimum time between pump starts

Q = pump capacity (gallons/minute)

Recommendations for various pump intake designs can be found in the references included at the end of this chapter. At normal operating levels, the designer should consider the following recommendations:

ANALYSIS OF PUMP STATION 2

Existing Capacity: 0.29 MGD

Existing Gravity Flow Entering PS 2:

"Stonecreek Estates"
Elementary School
Middle School
High School
Community Center/Park

545 persons = 202 ERU
2.71

Total existing ERU's = 78 = 210 persons = 0.023 MGD (gravity feed)

Flow from PS 3 = 0.037 MGD (not peaked)

Peaking Factor = 3.96 (based on population from Basins D1 & D2 (545 persons))

=> Existing Peaked Flow = (0.023 MGD + 0.037 MGD)(3.96) = 0.24 MGD ✓

Proposed Flow Entering PS 2 (with additional 121 lots):

Total proposed ERU's = 202+121 = 323 = 872 persons = 0.096 MGD ✓

Peaking Factor = 3.84 ✓

=> Proposed Peaked Flow = (0.096 MGD)(3.84) = 0.37 MGD

The addition of 121 residential lots will exceed the current operating capacity of Pump Station 2 by approximately 28%.

ANALYSIS OF FORCE MAIN 2

Existing Capacity: 0.45 MGD

Proposed Flow Entering FM 2 (with additional 121 lots) = 0.37 MGD (from above)

The addition of 121 residential lots will not exceed the current operating capacity of Force Main 2.

As can be seen from the analysis on the previous sheets, the capacity of Pump Station 2 is the "choke point" of the downstream system with regards to the proposed "Sunrise Terrace" development project. As shown, Pump Station 3, Force Main 3, and Force Main 2 each have existing capacity to serve the proposed 121 lots in "Sunrise Terrace". Pump Station 2 actually has existing capacity to accommodate an additional 50 lots. Therefore, if the "Sunrise Terrace" project were phased, it would be reasonable to allow the development of up to 50 lots prior to requiring upgrades to Pump Station 2. The calculation below documents this finding.

ANALYSIS OF PUMP STATION 2 (with addition of only 50 lots)

Existing Capacity: 0.29 MGD ← 2 pumps simultaneously (N.G.) use 1 pump per P.I.E.

Proposed Flow Entering PS 2 (with additional 50 lots):

Peak = 0.144 MGD

Total proposed ERU's = 202+50 = 252 = 680 persons = 0.075 MGD

Peaking Factor = 3.90

=> Peaked Flow = (0.075 MGD)(3.90) = 0.29 MGD

The addition of 50 residential lots will not exceed but will bring Pump Station 2 to It's current operating capacity.

↳ Not Correct - Capacity one Pump @ 0.144 MGD capacity

In this study we have focused on the larger concerns that were emphasized within the General Sewer Plan for this portion of the city. Obviously, there are other areas of the existing sanitary sewer infrastructure that must be analyzed for capacity such as the sewer mains leading to Pump Station 3. Another item to consider is that any upgrades to either Pump Station 2 or 3 will likely require upgrades to the respective force mains to handle the higher flows that will be generated by the Pump Station upgrades.

The intent of this analysis has been to demonstrate that there is remaining capacity within the existing sanitary sewer system presently and to identify at what point upgrades to the system are needed in order to maintain a properly functioning system.

Proposed Flow with additional 50 ERU's

ANALYSIS OF PUMP STATION 3

Existing Capacity: 0.29 MGD

Existing Gravity Flow Entering PS 3:

"Parkside Estates" 46 lots
"Lockwood Creek" 76 lots
Post office (assume 1 ERU)
Library (assume 1 ERU)

Total existing ERU's = 124 = 335 persons = 0.037 MGD

Peaking Factor = 4.06

=> Existing Peaked Flow = (0.037 MGD)(4.06) = 0.15 MGD

0.144 pump capacity, peak pump station flow for one pump is 0.144/mg. Existing peak capacity of pump station #3 is currently exceeded.

Proposed Flow Entering PS 3 (with additional 121 lots):

Total proposed ERU's = 124+121 = 245 = 661 persons = 0.073 MGD

Peaking Factor = 3.91

=> Proposed Peaked Flow = (0.073 MGD)(3.91) = 0.29 MGD

The addition of 121 residential lots will not exceed but will bring Pump Station 3 to It's current operating capacity.

ANALYSIS OF FORCE MAIN 3

Existing Capacity: 0.45 MGD

Proposed Flow Entering FM 3 (with additional 121 lots) = 0.29 MGD (from above)

The addition of 121 residential lots will not exceed the current operating capacity of Force Main 3.

SANITARY SEWER NARRATIVE

The proposed "Sunrise Terrace" residential subdivision project comprises approximately 34.4 acres and is planned for a total of 121 lots. The project contains tax parcels 209047-000, 986027-188, 986027-189, and a portion of 209062-000. All of these properties lie within sewer drainage basin D2 as specified in the City of La Center's General Sewer Plan. The proposed point of connection to the existing city sewer system is near the intersection of Lockwood Creek Road and East 18th Place. A large amount of helpful information exists within the current General Sewer Plan prepared by Wallis Engineering in 2006. In it, all assumptions used in the analysis of existing and future flows is described and documented.

The purpose of this study is to analyze the effects that the proposed project will have on the existing sanitary sewer infrastructure. The study specifically examines existing Pump Stations 2 & 3 as well as their respective force mains. The primary concern is that when the additional sanitary sewer flows from the proposed development are added to the existing flow, the capacities of either of these pump stations and/or their force mains may be exceeded. We have used the same assumptions and design methodology as has been presented in the General Sewer Plan for our analysis of the impacts from the proposed "Sunrise Terrace" project. The primary assumptions dealing with the way flows are computed are listed below.

1 lot = 1 Equivalent Residential Unit (ERU)

1 ERU = 2.7 persons

Daily Use = 110 gal/day/person (includes Infiltration & Inflow (I & I))

Peaking Factor = 1+ 14/(4+P^.5) where P = population in thousands