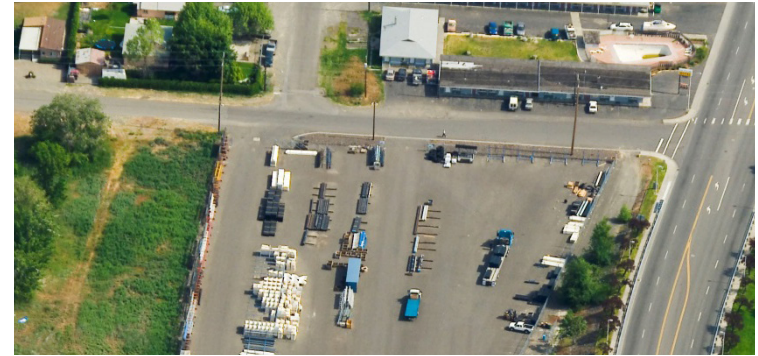


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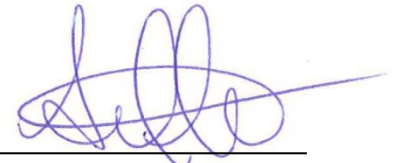
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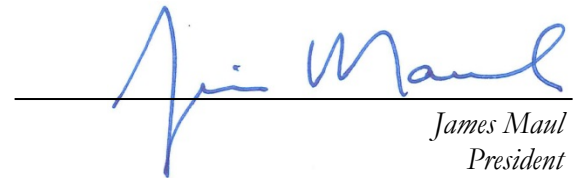
LGEA ACTION PLAN

*The material and data in this report were prepared
under the supervision and direction of the undersigned.*

MAUL FOSTER & ALONGI, INC.



*Seth Otto
Project Manager*



*James Maul
President*

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1 INTRODUCTION

The Lower Grand Employment Area (LGEA) in Vancouver, Washington is the subject of an Environmental Protection Agency (EPA)-funded Area-Wide Planning (AWP) project focused on encouraging economic growth and community development in this vital employment center. The following report summarizes the findings generated from analysis of existing conditions in the LGEA completed through the first phase of the AWP program. The summary findings will assist the project team in determining the appropriate next steps in the implementation phase of the project program.

The primary areas of analysis include the existing zoning and land use context, street conditions, utilities and drainage conditions, real estate market and development opportunities, and direct engagement with and feedback from key property and business owners in the LGEA. Additional, more detailed information is provided in the technical memoranda attached to this report.

BACKGROUND

In 2008, the City of Vancouver (City) prepared the LGEA Subarea Plan “to evaluate the potential of the area as an industrial employment center.” As it is currently defined, the LGEA encompasses 178 acres situated north of SR-14, east of the Pearson Field Airport, west of Blandford Drive, and south of 6th Street (west of Grand Boulevard) or 5th Street (east of Grand Boulevard but also including the full site of the Washington School for the Deaf).

The implementation of the subarea plan received funding under the EPA’s Brownfields AWP Program. The program assists communities in responding to local brownfields challenges, particularly where multiple brownfield sites are in close proximity, connected by infrastructure, and limit the economic, environmental, and social prosperity of their surroundings. The resulting area-wide plans provide direction for future brownfields area improvements that are protective of public health and the environment, are economically viable, and are reflective of the community's vision for the area.

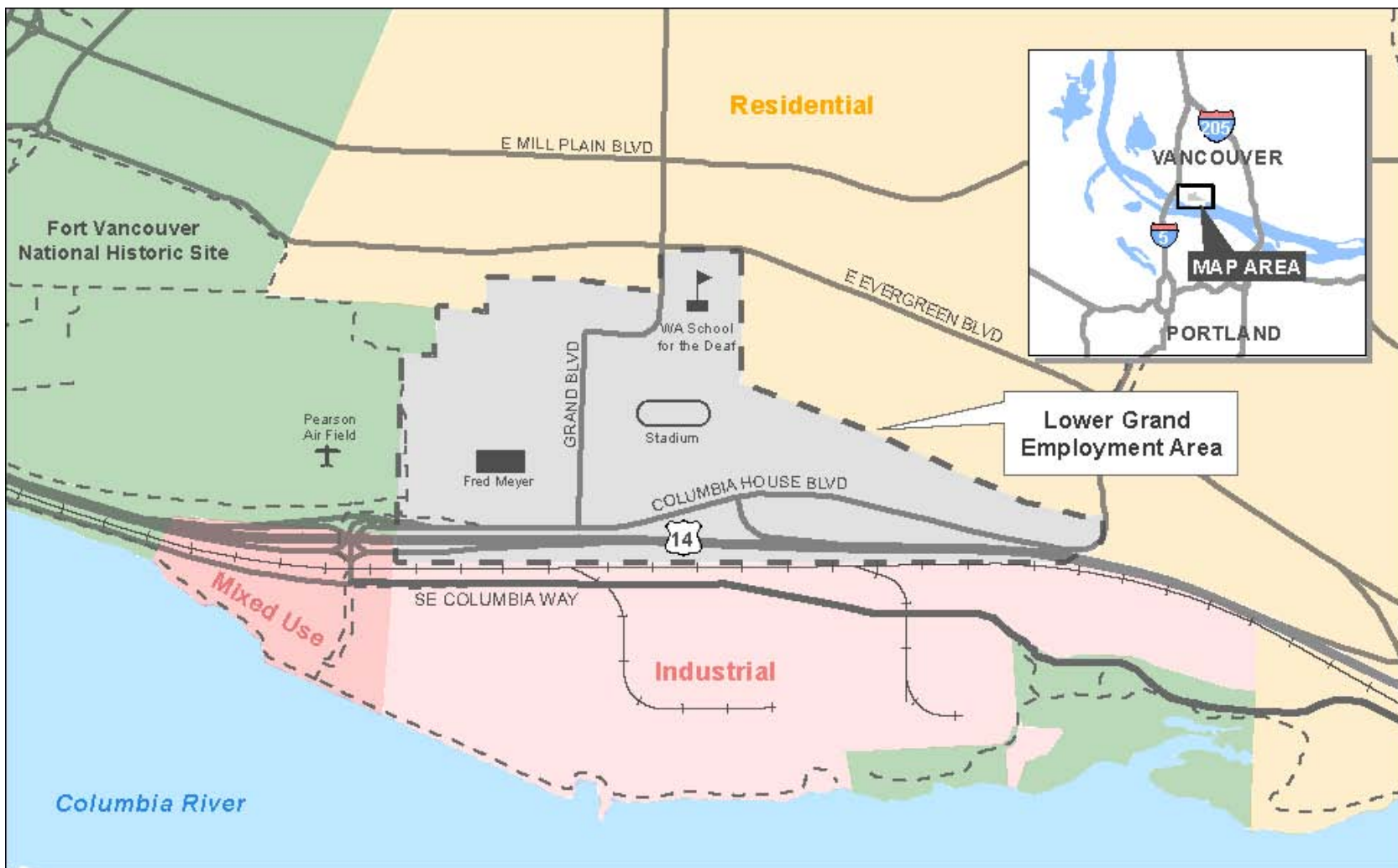


Figure: Lower Grand Employment Area

Building on the LGEA Subarea Plan, the City is using the AWP grant to work with business and property owners and the community to take steps to resolve identified infrastructure issues and inform brownfields assessment and cleanup needs.

The LGEA action plan will identify future road alignments and infrastructure design solutions, and include strategies for funding infrastructure improvements and assessing and remediating brownfields. The goal of this work is to create conditions for a thriving employment center by developing an action plan that is grounded in market feasibility and reflects business and property owner goals and community priorities.

2 ZONING

Approximately 139 acres of the LGEA is zoned for light industrial (IL) use, providing “appropriate locations for combining light, clean industries including industrial service, manufacturing, research/development, warehousing activities, and general office uses and limited retail.” Another 14.8 acres are zoned for General Commercial (CG) use. This land was re-zoned in 2005 to CG from IL with subsequent development for the Grand Central retail center, anchored by Fred Meyer. In the north central portion of the LGEA, 26.6 acres remain zoned for R-30 residential use, which allows residential densities ranging from 22-30 units per acre. This area consists primarily of facilities owned by the Washington School for the Deaf up the hill north of 5th Street.

It is assumed that zoning of the area will not change as a result of the LGEA plan. The intent of the LGEA action plan is to implement the already completed subarea plan focused on industrial development consistent with City policy, including existing Comprehensive Plan and zoning designations.

3 PHYSICAL CONDITIONS & INFRASTRUCTURE

PHYSICAL CONDITIONS

The majority of the LGEA is low-lying and flat with gentle slopes ranging from 0 to 5 percent. The slopes of properties north of East 5th Street along the northern portion of the LGEA are as steep as 50 percent and have erosion hazard potential. There are localized areas that are lower than the 100-year base flood elevation for this area, especially to the north of East 1st Street and within the rights-of-way of Y Street and Grand Boulevard. The gentle slopes and low areas are factors relating to poor drainage and flooding recognized during normal storm events in the area.

Groundwater in most of the LGEA is perched in dredge spoils that underlie the majority of the area. Perched groundwater elevations vary by 2 feet seasonally. The depth to groundwater ranges from 7 to 10 feet below ground surface. The measured infiltration rates suggest that the north and west sections of the northwest quadrant (identified in the Subarea Plan as subarea 1) are more suitable for construction of new infiltration facilities to address the drainage issues identified there.

UTILITIES

Water, power, and sanitary sewer are all adequate to serve existing and potential future development in the LGEA, assuming average use and no excessive consumption demands.

There are several public storm water systems within the project area, including those in Grand Boulevard, Grove Street and V Street. There is also a public main which conveys runoff from the Hudson's Bay neighborhood to the north of the project area. The majority of the developed properties within the LGEA, especially those to the north of East 5th Street, utilize infiltration trenches or bio-retention facilities for management of stormwater runoff. A number of properties located in the northwest quadrant utilize drywells. The LGEA lacks an emergency overflow system to manage flooding from large storm events and/or the failure of the infiltration systems currently in use.

The most prominent stormwater drainage problem area is understood to be in the area of E 1st Street and Y Street and the surrounding vicinity. The entire street has been known to flood regularly during moderate to high intensity storm events.

TRANSPORTATION

The LGEA has a diversity of transportation infrastructure conditions. Grand Boulevard has been improved and provides multi-modal service to the area. However, all other roadways to the west of Grand Boulevard are in very poor condition and do not comply with City standards. The streets lack sidewalks, well-defined edges, and proper drainage. The pavement has deteriorated to a point where resurfacing will not likely be sufficient. To the east of Grand Boulevard, the roadway conditions are also deteriorated. However, the large area east of Grove Street (referred to as the Quad Industrial Property) remains vacant, and therefore usage of the street is currently low, limiting the demand for better infrastructure. When the property develops, improvements will be needed on the surrounding streets.

Visibility is impaired throughout the northwest quadrant. The lack of clarity of the public right-of-way (ROW) is the primary contributor to this problem. Because the edge of ROW cannot be easily determined, and because there is no striping in the area, it is not possible for drivers to know where the lane is, where they should stop at intersections, etc. There is also a lack of clarity about on-street parking and parking in front of businesses. There are many private vehicles and large trucks parked adjacent to the roadway. Some businesses are storing containers or other materials in these areas as well. The following locations were identified as having unsafe visibility or poor site triangles:

- East 1st Street and Y Street

- East 1st Street and V Street
- East 2nd Street and 3rd Loop (or East 2nd Street and V Street)
- East 2nd Street and 3rd Loop (or East 2nd Street and X Street)

Trails and Pedestrian Connectivity

The LGEA is adjacent to the Discovery Historic Loop trail system which connects the Historic Reserve with central Vancouver and the Columbia waterfront. The trail system does not connect through the LGEA to the east, and there is no good pedestrian or bike connection from the LGEA to the neighborhoods to the north.

4 BROWNFIELDS

A total of four sites were identified within the LGEA that have been impacted by hazardous substances and could present challenges to development.

Two sites within the LGEA are listed on the federal National Priorities List (NPL); both sites have an implemented remedy and neither site appears to represent an obstacle to development.

Two sites are in the Washington State Voluntary Cleanup Program. One received a no further action determination in 2004. It is unlikely that this site represents an obstacle to redevelopment within the district. However, if the property is developed, it will have to comply with the conditions specified by the environmental covenant. The other site is undergoing cleanup, which is located within its industrial operation. The cleanup has no impact on redevelopment of the district.

No additional properties were identified within the LGEA as having environmental contamination issues that would rise to the level of adversely impacting future development plans and plans to improve the district. The area has a relatively long history of industrial use, and, therefore, it is reasonable to assume there are localized releases of hazardous substances that will be identified and dealt with under normal market-driven property transactions. The City's efforts to improve the district for continued industrial uses will help to ensure issues can be dealt with effectively at the time of future transactions. It is also possible that the City's Community-Wide Assessment program can assist in identifying opportunities for remediation and addressing any uncertainty associated with environmental conditions.

5 MARKET ANALYSIS AND DEVELOPMENT OPPORTUNITIES OPTIONS

Based on the assessment of market trends and prospects for land uses within the LGEA, three overall strategic site use options have been identified as a basis for further analysis and stakeholder discussion:

1. Industrial expansion and business enhancement – a strategy focused on encouraging and facilitating the plans for added job-creating investment by existing LGEA firms. Priority emphasis on improved utilization of existing sites followed by expansion on suitable vacant LGEA sites. The overall market opportunity for expansion and enhancement of existing LGEA firms can be distinguished between:
 - a. Plans of Columbia Machine and associated property ownership holdings (through Quad Industrial Park). A key question is the extent to which these lands will be reserved for the long-term expansion needs of Columbia Machine, the LGEA’s largest industrial employer, versus availability for potential development by other firms.
 - b. Industrial employers, generally located in the northwest quadrant of the district west of Grand Boulevard and north of the commercial center development. A pivotal question is the extent to which resolution of long-standing street and drainage questions will serve to facilitate expansion and re-investment by existing businesses.
 - c. Office and retail businesses which tend to be clustered more toward Columbia House Boulevard. As existing LGEA uses reach build-out of their current sites, further expansion capacity appears limited unless other suitable nearby sites could be secured.
2. Industrial/flex development on vacant parcels – a strategy that assumes aggressive marketing coupled with supportive public infrastructure improvements to attract new firms for which there could be demonstrated competitive advantage for a close-in LGEA location. Development of industrial or flex space for other users not currently located in the LGEA may represent a future opportunity depending on:
 - a. availability of land that can be served and priced on a basis competitive with other greenfield sites; and
 - b. ability to draw industrial interest to a higher value and more urban Clark County location.

The combination of higher land values and regional trends may favor flex over traditional industrial to the extent that outside investment can be accommodated on as-yet vacant LGEA sites.

3. Ancillary commercial infill potential – considered as a secondary function to expand and strengthen industrial-oriented employers with supportive office and ancillary retail uses.

LGEA Advantages Key attributes of the LGEA for existing firms include the presence of long-established local industries (e.g., J. H. Kelly and Columbia Machine as an anchor users) coupled with proximity to Columbia Business Center, across SR 14, as a combined urban industrial cluster for Vancouver and Clark County.

For prospective business and industrial uses that might consider an LGEA location in the future, major potential advantages of this area include outstanding highway/freeway access, demonstrated demand (with low vacancies but as yet affordable space), and tax advantages of Washington over Oregon for high profit-margin firms.

LGEA Disadvantages Issues that affect operations of existing LGEA industries include poor roadway, safety, and drainage conditions, especially for northwest quadrant firms. Until resolved, these conditions will likely serve as a continued disincentive to added capital investment. Another concern expressed by industrial users was the possibility of additional commercial/retail expansion in the area.

For prospective new businesses, potential disadvantages include uncertainty around development plans for the vacant industrial area east of Grand Boulevard coupled with issues of weak demand and image of the existing industrial inventory. This is a particular negative for tech firms that typically are more oriented to newer, campus-style or business park development.

6 STAKEHOLDER OUTREACH

Area business and property owners and other key stakeholders such as business groups and area neighborhood associations were sent an introductory letter and project fact sheet in March 2014. The purpose of the mailing was to introduce the project and invite them to participate, starting with an online survey. The introductory letter was followed by site visits to businesses within the LGEA to encourage participation in the online survey, confirm contact information and answer questions.

Project team members met one-on-one with 12 business and property owners to focus on key issues identified from the survey. Consistent themes from the stakeholder interviews, online survey, and business site visits include:

- Many business owners are interested in expanding their businesses either on their own property or through the acquisition of more property within the LGEA.
- There was a diversity of opinion about the extent to which infrastructure hurts or helps business growth within the LGEA. Generally, owners of older light manufacturing or warehouse facilities don't believe the condition of the infrastructure has much to do with the future success of their businesses. These "status quo" businesses appear less likely to be interested in growing or expanding their businesses.

- Other property and business owners stated that road conditions and flooding are the biggest obstacle to business growth because it is difficult for clients and employees to safely access their businesses, or these issues impact their day-to-day operations.
- The majority of property and business owners in the northwest quadrant state that the western segment of 1st Street and all streets north of 1st Street need to be improved.
- Many owners think that as long as the area remains light industrial, only the asphalt and stormwater drainage should be improved and curbs and other improvements are not needed in the northwest quadrant of the LGEA.
- Flooding and road debris cause damage to vehicles and impact business access for employees and customers—most online survey respondents described flooding and the damage it causes to their company, supplier, and employee's vehicles.
- Business and property owners and area employees are interested in continuing to be involved in the project as it progresses with a stated preference for e-mail updates and in-person meetings as the preferred communication methods.

7 CONCLUSIONS & RECOMMENDATIONS

The first phase of the AWP project, including existing conditions analysis and early stakeholder engagement, has provided the City and project team with substantial input on needed infrastructure improvements and preferences for how to engage key stakeholders and the public through the remainder of the project. As a result, we believe that the best course of action is to focus narrowly on planning and designing improvements to catalyze substantial business expansion and employment. Focusing on improvements to the infrastructure of the northwest quadrant of the LGEA and working directly with the specific stakeholders in that area will allow for identification of key opportunities and facilitate redevelopment and business expansion plans.

Based upon the project goals, geographic focus, identified infrastructure improvements, and stakeholder preferences for engagements, the following recommendations are provided for the next phase of project implementation:

1. Improve existing private stormwater management systems with low-impact design approaches tailored for site-specific conditions.
2. Make improvements to the public stormwater system to serve the poorly draining properties by collecting and conveying stormwater runoff to areas with higher infiltration potential or functional stormwater infrastructure. Expand

the stormwater collection system by installing stubs to private properties with nuisance flooding. Additionally, the individual stormwater collection and conveyance systems that currently serve these poorly-drained properties can be retrofitted to direct the stormwater runoff to a regional stormwater treatment area. This may involve the creation of a local stormwater improvement district. However, the city would likely consider looking at a regional public/private infiltration system only if the private properties cannot construct, maintain and provide for onsite drainage and infiltration.

3. Further evaluate the possibility of expanding and connecting to the public stormwater system which currently bypasses the west side of the LGEA focus area to collect allowed releases from properties with localized or regional retention/detention systems.
4. Install piezometers or groundwater monitoring wells to collect data to evaluate seasonal trends in groundwater conditions in sensitive areas.
5. Complete the necessary survey work to identify the public ROW in the northwest quadrant area.
6. After better understanding redevelopment plans of individual property owners, develop a conceptual development pattern for the northwest quadrant area. The plan is intended to help clarify reconstruction options for city streets in their current configuration. From this master plan, derive a list of street and pathway improvements.
7. Utilize full street improvements consistent with existing standards and develop unique street segments only where constraints require such.
8. Develop a conceptual alignment connecting V Street to East 5th Street to the north.
9. Consider options to connect an improved street system in the NW Quadrant area to the Discovery Loop Trail.
10. Implement the following outreach strategies to complete the project:
 - a. Provide website and stakeholder email updates and report the results of the existing conditions phase and invite business and property owners to meet and engage with the City.
 - b. Hold a business and property owner meeting and review results of existing conditions work and discuss and get feedback on draft action plan concepts including stormwater treatment options, street improvements, and cross sections.

APPENDIX A

SITE CONDITIONS SUMMARY



MEMORANDUM

To: Bryan Snodgrass, City of Vancouver

Date: July 24, 2014

From: Seth Otto, AICP

Project: 0363.08.01

A handwritten signature in blue ink, appearing to read 'Seth Otto', is written over the 'From:' line.

RE: LGEA Existing Conditions Summary

This memorandum evaluates existing conditions within the Lower Grand Employment Area (LGEA) to assist the City of Vancouver (the City) with its development of an area-wide brownfield and infrastructure revitalization plan. The emphasis of this analysis is on the conditions of the public utility system in the area, and identifying areas of underperformance and presenting recommendations to address them. The memo also summarizes the current understanding of known brownfield issues in the LGEA.

BACKGROUND

In 2008, the City completed a Subarea Plan for the LGEA that summarized existing conditions, opportunities and constraints impacting industrial and employment growth in the area. Of the major barriers to redevelopment identified in the Plan, transportation, flooding, and real or perceived environmental contamination have emerged as the primary issues of concern. This memo focuses analysis on stormwater management and brownfields. Transportation has been addressed in a separate summary memo.

The Subarea Plan divided the LGEA into six subareas (see Figure 1). Each subarea differed in the level of development intensity, mix of uses, site conditions, and potential for infill or redevelopment.

KNOWN CONDITIONS

The following section presents analysis completed based on previous studies prepared for or by the City, and through original research and field reconnaissance by the project team. The analysis expands on the assessment of critical conditions completed as part of the 2008 Subarea Plan.

Physical

Topography

The majority of the slopes within the LGEA are gentle, ranging from 0 to 5 percent (see Figure 2). The slopes of properties north of E 5th Street, especially within subarea 3, are as steep as 50 percent and have erosion hazard potential. There are localized areas that are lower than the 100-year base flood elevation for this area (29.0 feet National Geodesic Vertical Datum 88) within subareas 1

and 4, especially to the north of E 1st Street and within the rights-of-way of Y Street and Grand Boulevard (see Figure 2). The gentle slopes and low areas are factors relating to poor drainage and flooding recognized during normal storm events in the area.

Wetlands

Clark County (the County)'s GIS database shows a very small area to the west of Grand Boulevard within subarea 1 as an area with wetlands. The County's database also shows a portion of the Quad Investments property, within subarea 5, as an area with potential wetland presence (based on the National Wetland Inventory), however the database indicates that there are no permitted or modeled wetlands within the project area. Based upon our review, wetlands do not appear to be a major factor impacting development within the LGEA.

Groundwater

Maul Foster & Alongi (MFA) reviewed County GIS data and site-specific groundwater data from hazardous substance cleanup sites and developments in the LGEA. Groundwater in most of the LGEA is perched in dredge spoils that underlie most of the area. Perched groundwater elevations vary by 2 feet seasonally. The unsaturated thickness (depth to groundwater) ranges from 7 to 10 feet below ground surface (see Figure 3). A deeper groundwater zone exists in the area. Groundwater depths vary depending upon the hydrostratigraphic unit the data is collected from. Groundwater from the deeper hydrostratigraphic units can be misleading if used to assess infiltration capacity. For the purposes of evaluating infiltration capacity in the LGEA, data from the upper perched zone should be used. Data hydrostratigraphic units is not representative of the actual shallow groundwater conditions throughout the LGEA.

Infiltration

MFA reviewed data from reports prepared on behalf of private interests in the LGEA for various developments throughout the study area. The measured infiltration rates vary from 1,000 inches/hour to 12 inches/hour. The infiltration rates measured on the north side of E 5th Street are significantly higher than the rest of the area (250 inches/hour to 1,000 inches/hour). The infiltration rates observed at the central segments of subarea 1 and 2 are lower than the rest of these two quadrants (12 inches/hour to 15 inches/hour). The measured infiltration rates suggest that the north and west sections of subarea 1 are more suitable for construction of new infiltration facilities to address the drainage issues.

The LGEA also lacks an emergency overflow system to manage flooding from large storm events and/or the failure of the infiltration systems currently in use. An emergency overflow will need to be installed with any future systems.

Infrastructure

Power

Based on preliminary research, there is adequate power to serve the entire area, and current power systems can be expanded for future development. Local electrical power is provided by Clark Public

Utilities, which maintains a substation east of Grove Street within the state highway right-of-way between Grand Boulevard and State Highway 14.

Water

The LGEA is served by a well station, which is located at the east end of the area, through a network of 8-to 12-inch pipes (see Figure 4). According to the 2008 Subarea Plan, the public water system has adequate capacity to meet the potable and fire suppression demands of the LGEA (including potential new developments with average use/no excessive water consumption). The eastern portion of the Quad Investments properties is within the 1,900 feet diameter wellhead protection buffer that surrounds the city's municipal water supply wells.

Sanitary Sewer

The LGEA area is currently served by a network of 8-to 12-inch gravity pipes connected to two pump stations. One pump station is located on E 1st Street to the west of Grand Boulevard and the second is located to the east of Grove Street, between E 5th Street and Columbia House Boulevard. The gravity mains and the lift station have adequate capacity to serve development in the study area(see Figure 4).

Storm Water Management

There are several public storm water system with in the project area. A description of each is provided below (see Figure 4):

- **Grand Boulevard** – the public main in Grand Boulevard is connected to a network of catch basins that collect runoff from Grand Boulevard and the eastern portion of E 1st Street and discharges to a drywell infiltration system.
- **Grove Street** – the public main connects a network of catch basins that collect runoff from Gove Street and discharges to a drywell infiltration system.
- **V Street** – the public main connects a network of catch basins that collects runoff from the V Street right-of-way and discharges to a drywell infiltration system.

There is also a public main which conveys runoff from the Hudson's Bay neighborhood to the north of the project area. This main runs in the V Street right-of-way and discharges to the drywell system located south of Pearson Airfield.

The majority of the developed properties within the LGEA, especially those to the north of East 5th Street, utilize infiltration trenches or bio-retention facilities for management of stormwater runoff. A number of properties located in the northwest quadrant utilize drywells. The central southwest (Grand Central) utilizes pervious concrete for stormwater infiltration, along with subsurface infiltration chambers. The Quad Investments property also employs a detention facility which discharges to the Columbia River through a culvert at the south east corner of the site.

The most prominent stormwater drainage problem area is understood to be in the area of E 1st Street and Y Street and the surrounding vicinity (see Figure 1). The entire street has been known to flood.

Table 1 summarizes the characteristics of the stormwater systems in each subarea. The categories listed in the table are defined as follows:

- **Drainage System** - the type of stormwater treatment and disposal system that is currently in place.
- **Measured Infiltration Rate** – measured as inches per hour. The infiltration rates were obtained from numerous technical information reports that have been completed over the past 15 years. All of the rates obtained are sufficient to allow for the use of traditional infiltration facilities for stormwater disposal.
- **Depth to Groundwater** – groundwater depth less than 10 feet can prohibit the use of a traditional infiltration system (drywells and perforated pipes). A 5-foot separation must be maintained between the groundwater elevation and the infiltration surface elevation of any facility. Washington State Department of Ecology (Ecology) conditionally allows 3 feet, if the “presumptive approach” from Ecology guidelines are followed. This will affect the determination of where facilities could be located increasing the areas of allowable infiltration, so more private properties could infiltrate using the “presumptive approach”.

TABLE 1
 STORMWATER CHARACTERISTICS IN SUBAREAS OF THE LOWER GRAND
 EMPLOYMENT AREA

FACILITY/PROPERTY	DRAINAGE SYSTEM	MEASURED INFILTRATION RATE (INCHES PER HOUR)	AVERAGE DEPTH TO GROUNDWATER* (FEET)
Subarea 1			
VARIOUS	Biofiltration swales, bio-retention facilities, infiltration trenches, dry wells,	Ranges from 12 to 1,000	Ranges from <10 in lower areas to >30 in areas above E 5 th
Subarea 2			
KIEWIT INFRASTRUCTURE CO.	Infiltration trenches	120 in	7 - 10
FRED MEYER STORES INC.	Pervious concrete, Roof drain infiltration trenches, Drywells	15 in	7 - 10
Subarea 3			
WASHINGTON SCHOOL FOR THE DEAF	Bioswales, Infiltration trenches	240	>30
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	Unknown	Not Available	7 - 10
Subarea 4			
COLUMBIA MACHINE INC.	Drywells	No data available	7 - 10
Subarea 5			
QUAD INVESTMENTS INC.	Bioswale, Detention Pond	No data available	7 - 10
Roads			
COLUMBIA HOUSE BLVD	Drywells	Not Available	7 - 10
GRAND BLVD	Drywells	Not Available	10-30
E 1 ST STREET	Drywells	Not Available	7 - 10
E 2 ND STREET	Unknown	Not Available	7 - 10
V STREET	Drywell	Not Available	7 - 10
Y STREET	Drywell	Not Available	7 - 10
E 3 RD LOOP	Unknown	Not Available	>20
E 2 ND STREET (EAST OF GRAND BLVD.)	Unknown	Not Available	7 - 10

FACILITY/PROPERTY	DRAINAGE SYSTEM	MEASURED INFILTRATION RATE (INCHES PER HOUR)	AVERAGE DEPTH TO GROUNDWATER* (FEET)
E 5 TH ST	Roadside surface infiltration ditches	Not Available	>30
MARTIN AVENUE	Unknown	Not Available	7 – 10
GROVE STREET	Roadside surface infiltration ditches	Not Available	7 – 10
NOTE: *Based on Clark County GIS data and monitoring well data provided by City of Vancouver and Columbia Machine			

BROWNFIELDS

MFA evaluated state and federal databases, as well as material provided by the City and their consultant, Stantec, to identify properties within the LGEA that have been impacted by hazardous substances and could present challenges to development. The following sites were identified:

- Two sites within the LGEA are listed on the federal National Priorities List (NPL): Frontier Hard Chrome and Vancouver City Blandford Station 4. Both sites have an implemented remedy. Neither site appears to represent an obstacle to development.
- Columbia Machine is in the Washington State voluntary cleanup program. The cleanup is being conducted by Columbia Machine, and the cleanup area is located within its industrial operation. The cleanup has no impact on redevelopment of the district.
- Cascade Manufacturing (2424 E 2nd Street) entered the voluntary cleanup program and received a no further action determination in 2004. There is reportedly an environmental covenant on the property, suggesting some contamination remains in place. It is unlikely that this site represents an obstacle to redevelopment within the district. However, if the property is developed, it will have to comply with the conditions specified by the environmental covenant.

A number of businesses in the area are connected to drywells and appear to be in compliance with state and federal regulations. The primary business activity in the area is industrial and therefore a number of businesses use a variety of chemicals and are small quantity generators of hazardous waste. Again, these businesses appear to be in compliance with state and federal regulations that govern chemical use and handling, along with requirements for waste disposal. Six properties were identified that had underground storage tanks that were removed within the last 20 years. There were no records of environmental impacts. There was one dry cleaner identified in the study area (New Town Cleaners at 2520 Columbia House Boulevard). There was no record of contamination. No properties outside of the LGEA that have the potential to adversely impact properties within the study area were identified.

Brownfield Summary

No properties were identified within the LGEA that have environmental contamination issues that would rise to the level of adversely impacting future development plans and plans to improve the district. The area has a relatively long history of industrial use, and, therefore, it is reasonable to assume there are localized releases of hazardous substances that will be identified and dealt with under normal market-driven property transactions. The City's efforts to improve the district for continued industrial uses will help to ensure issues can be dealt with effectively at the time of future transactions.

CONCLUSIONS

This memo was prepared to analyze the existing conditions for the purpose of identifying barriers to development. The study area is adequately served by water, sanitary sewer system, and power. As is already known, stormwater drainage can significantly impact existing business operations and is an impediment to business development and expansion.

Each developed property employs its own isolated stormwater management system. A majority of the properties in the study area utilize infiltration for stormwater management via drywells, bio-filtration facilities (swales), and infiltration trenches. The roads within the study area use roadside bio-filtration facilities, and a network of catch basins and drywells to dispose of stormwater runoff.

The most problematic drainage issue is located within subarea 1, specifically, the area to the north of the Y Street/E 1st Street intersection and the central area between E 1st Street and E 2nd Street. The relatively shallow groundwater and low infiltration rates cause the areas to be prone to poor drainage conditions.

As shown on Figure 4, the depth to groundwater beneath most of the LGEA likely ranges from 7 to 10 feet. There does not appear to be a great deal of seasonal variation (Figure 3) in groundwater data from the perched water-bearing zone reviewed by MFA. The lack of seasonal variation suggests that storage capacity in the unsaturated zone beneath the LGEA is fairly uniform throughout year. Flooding issues are more likely due to inadequate infiltration in certain areas and specific facilities within the LGEA. We believe that the next phase of the project should assess steps to improve design of existing system (e.g., LID approaches) and identify where to install emergency overflow systems for larger storm events. Specific recommendations are provided below.

RECOMMENDATIONS

1. Improve existing private stormwater management systems with LID approaches tailored for site-specific conditions:
 - Bioretention facilities - can be used in areas even with high groundwater and lower infiltration rates.
 - Permeable pavements – can be used in flatter areas and can be easily integrated into roadway surface improvements.

- Proprietary Treatment Unit (Filterra Bioretention Vault) – Treed bioretention vault unit that can be used as a street tree and is compact, limiting surface impacts.
2. Make improvements to the public stormwater system to serve the poorly draining properties, by collecting and conveying stormwater runoff to areas with higher infiltration potential or functional stormwater infrastructure:
 - Expand the stormwater collection system by installing stubs to private properties with nuisance flooding. Additionally, the individual stormwater collection and conveyance systems that currently serve these poorly-drained properties can be retrofitted to direct the stormwater runoff to a regional stormwater treatment area. This may involve the creation of a local stormwater improvement district. (Given current policies, the city would likely consider looking at a regional public/private infiltration system only if the private properties cannot construct, maintain and provide for onsite drainage and infiltration.)
 3. Further evaluate the possibility of expanding and connecting to the public stormwater system which currently bypasses the west side of the LGEA focus area to collect allowed releases from properties with localized or regional retention/detention systems.
 4. Install piezometers or groundwater monitoring wells to collect data to evaluate seasonal trends in groundwater conditions in sensitive areas.

Table 2 outlines MFA's suggested approach to address the issues identified above based on site characteristics, specific for subarea 1. The categories listed in the table are defined as follows:

- **Site characteristics** – consists of site-specific depth to groundwater data and measured infiltration rates. For the purpose of our analysis, groundwater observed at 10 feet and deeper below ground surface is classified as deep groundwater, and the groundwater observed within 10 feet of ground surface are identified as shallow groundwater. Similarly, infiltration rates lower than 10 inches-per-hour are classified as lower infiltration rate, and infiltration rates higher than 10 inches-per-hour are considered higher infiltration rate for the purpose of our analysis.
- **Suggested stormwater improvements** – lists the suggested stormwater improvements based on the site specific groundwater and infiltration rate scenario.

TABLE 2
 POTENTIAL APPROACHES TO LGEA SUBAREA 1 STORMWATER ISSUES

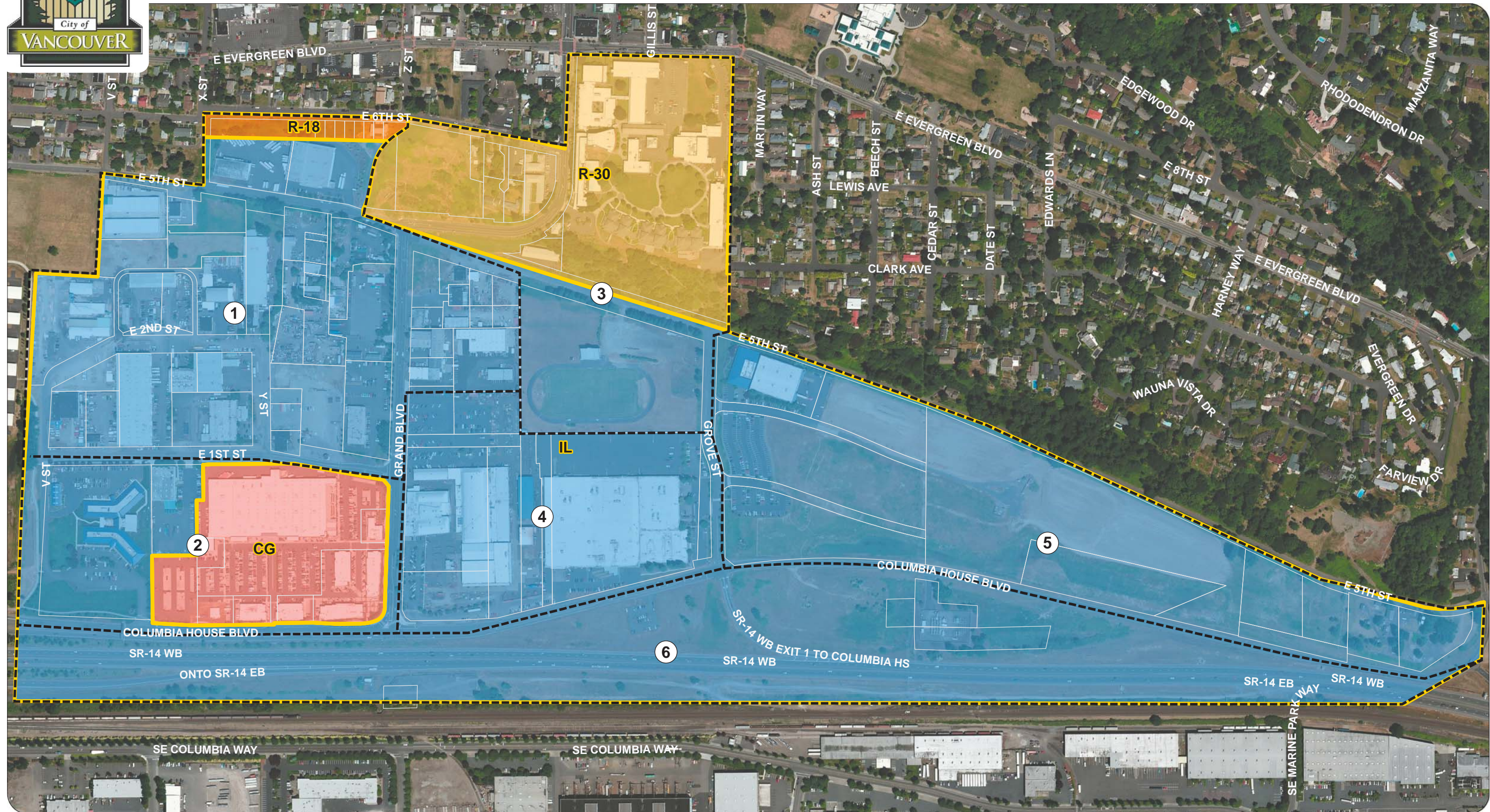
SUBJECT AREA	SITE CHARACTERISTICS*	SUGGESTED STORMWATER IMPROVEMENTS
East 1 st Street	Shallow groundwater, lower infiltration rate	LID systems (i.e. Bioretention facilities)
East 2 nd Street	Deep groundwater, higher infiltration rate	Traditional infiltration systems (i.e. Drywells, Infiltration trenches/basins), LID systems (i.e. Bioretention facilities)
V Street	Shallow to deep groundwater, higher infiltration rate	Traditional infiltration systems (i.e. Drywells, Infiltration trenches/basins), LID systems (i.e. Bioretention facilities)
Y Street	Shallow to deep groundwater, lower infiltration rate	LID systems (i.e. Bioretention facilities)
NOTE: *The groundwater elevations listed in the table above were based on Clark County GIS data and monitoring well data provided by Vancouver and Columbia Machine. The infiltration rate information was obtained from various stormwater reports for the developments within subarea 1.		

Attachments: Figures 1-4



Lower Grand Employment Area

FIGURE 1 SUB-AREAS AND ZONING





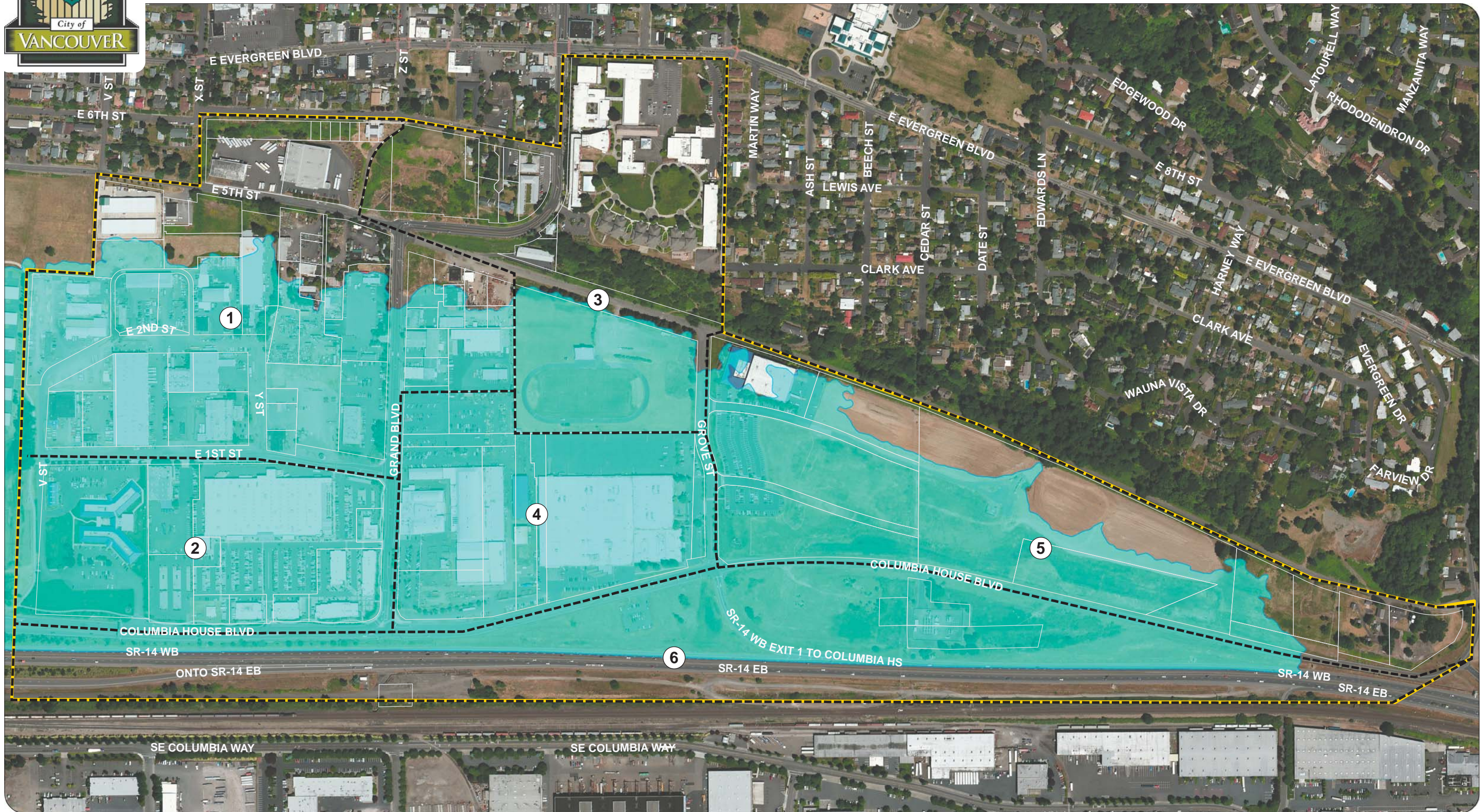
Lower Grand Employment Area

FIGURE 2 TOPOGRAPHY AND 100-YEAR FLOODPLAIN



Lower Grand Employment Area

FIGURE 3 GROUNDWATER





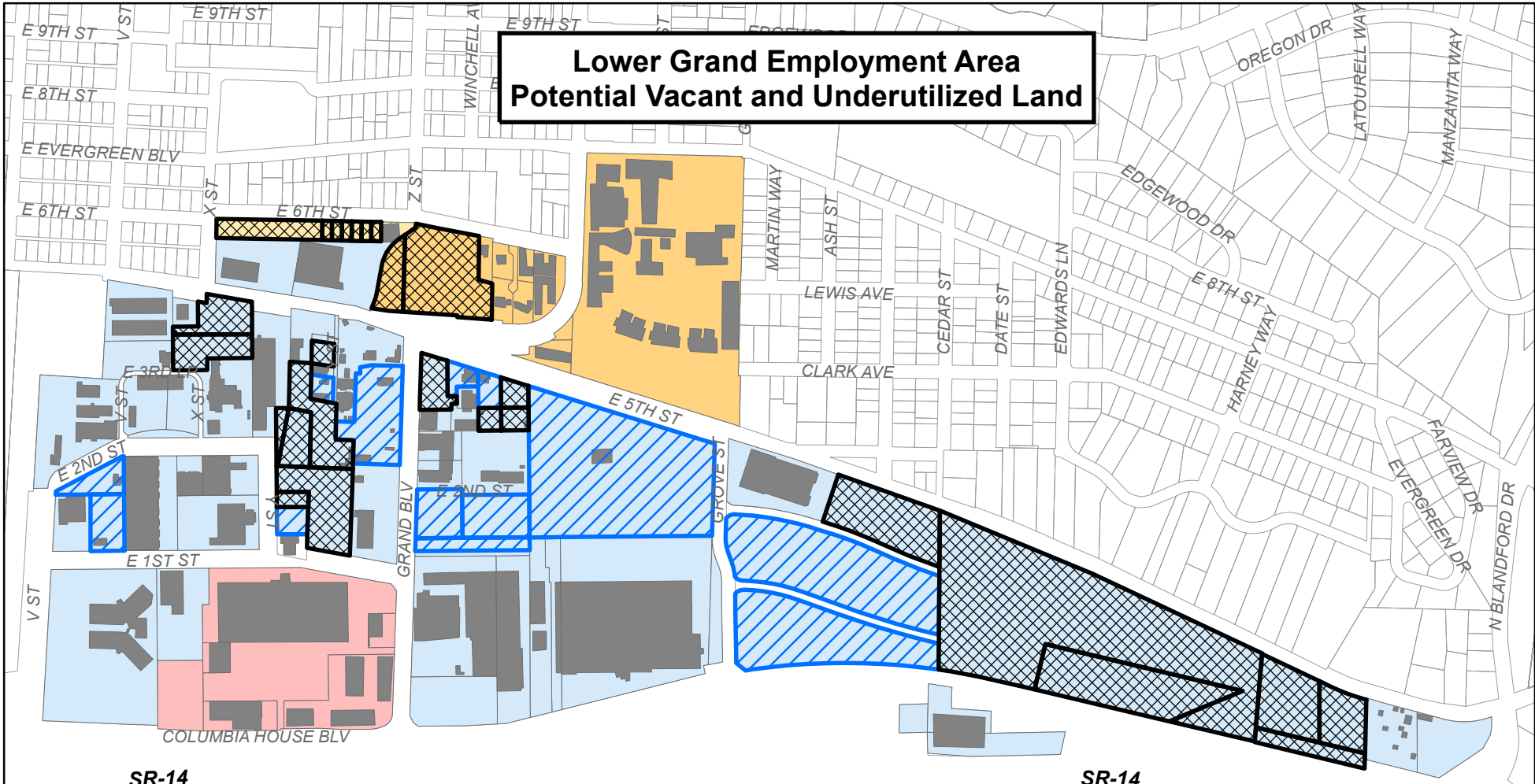
Lower Grand Employment Area

FIGURE 4 EXISTING UTILITY INFRASTRUCTURE

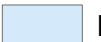



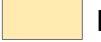





Subarea	LGEA Boundary (Approximate)	Stormwater Manhole	Water Well	Sanitary Manhole
Parcels in LGEA	Detention pond	Catchbasin	Hydrant	Sanitary Sewer Line
Stormwater Line		Water Line		

Lower Grand Employment Area Potential Vacant and Underutilized Land



Legend

 IL Zone- 132 Acres	 Vacant- 37.81 acres
 CG Zone- 14.76 acres	 Underutilized- 27.80 acres
 R-18 Zone-1.65 acres	 Building footprint
 R-30 Zone- 24.60 acres	 Taxlots

0 0.125 0.25 0.5 Miles

N

APPENDIX B

TRANSPORTATION CONDITIONS TECHNICAL MEMO

Technical Memorandum



700 Washington St.
Suite 401
Vancouver, WA 98660
Phone (360) 737-9613
Fax (360) 737-9651

To: Bryan Snodgrass

From: Derek Chisholm and Don Hanson

Prepared by: Derek Chisholm and Cory Kratovil

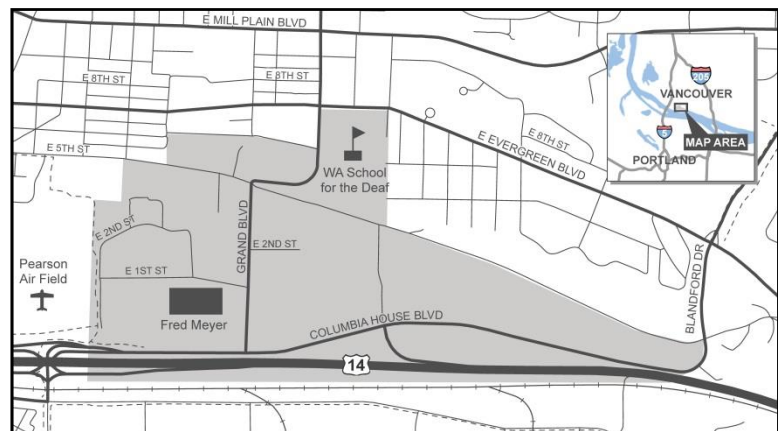
Copies: Seth Otto

Date: April 29, 2014

Subject: LGEA Transportation: Existing Conditions

The City of Vancouver has initiated the preparation of an area-wide brownfield and infrastructure revitalization plan to foster economic development in the industrial area at lower Grand and Columbia House Boulevards. For the Lower Grand Employment Area (LGEA) the Otak team is tasked with assessing the existing transportation system and recommending cost-effective, sustainable solutions to identified deficiencies. This memorandum addresses the transportation facilities, system, and plans for the Lower Grand Employment Area. This memorandum includes the following sections:

- Background
- Access
- Local Conditions
- Policy Context
- Traffic Operations
- Transportation Demand Management
- Planned Improvements
- Recommendations



Lower Grand Employment Area

Background

The City of Vancouver has received a grant from the Environmental Protection Agency and is managing two projects intended to facilitate clean-up and development of brownfields sites in the City. The implementation of the Lower Grand Employment Area subarea plan has received funding under the EPA's *Brownfields Area-Wide Planning (AWP) Program*. The program assists communities in responding to local brownfields challenges, particularly where multiple brownfield sites are in close proximity, connected by infrastructure, and limit the economic, environmental and social prosperity of their surroundings. The resulting area-wide plans provide direction for future brownfields area improvements that are protective of public health and the environment, economically viable, and reflective of the community's vision for the area.



Figure 1. LGEA Industrial Uses as seen from E. 5th Street

The Lower Grand Employment Area (LGEA) includes 173 acres, most industrially zoned, with access to Interstate 5, State Highways, and local arterials. The north side of the subarea is bordered by residential neighborhoods. The Vancouver National Historic Reserve (VNHR), including the Pearson Airfield lies to the west. State Highway 14 and the BNSF railroad corridor are to the south.

Access

The transportation network surrounding the study area is well developed and multi-modal. Near to the study area, C-TRAN has a hub of stops downtown; there are two interchanges with Interstate 5, and other State Routes; and arterial streets transverse the greater downtown area.

Major access routes include:

- Columbia House Blvd, which provides good access to SR 14 and I-5.
- Grand Blvd, which provides access north, through the surrounding neighborhoods and to SR 500, Mill Plain and Fourth Plain Boulevards.
- E. 5th Street, which provides access to the west, with limited connections to other surface streets terminating within the VNHR.

A recently completed multi-use path now provides access from E 5th Street to V Street and E 2nd Street. This allows walkers and cyclists more direct access to the shopping center and area employers. It allows cyclists to avoid the intersection of Grand Blvd and E 5th Street. The pathway also serves as a segment of the Historic Discovery Loop (see below).

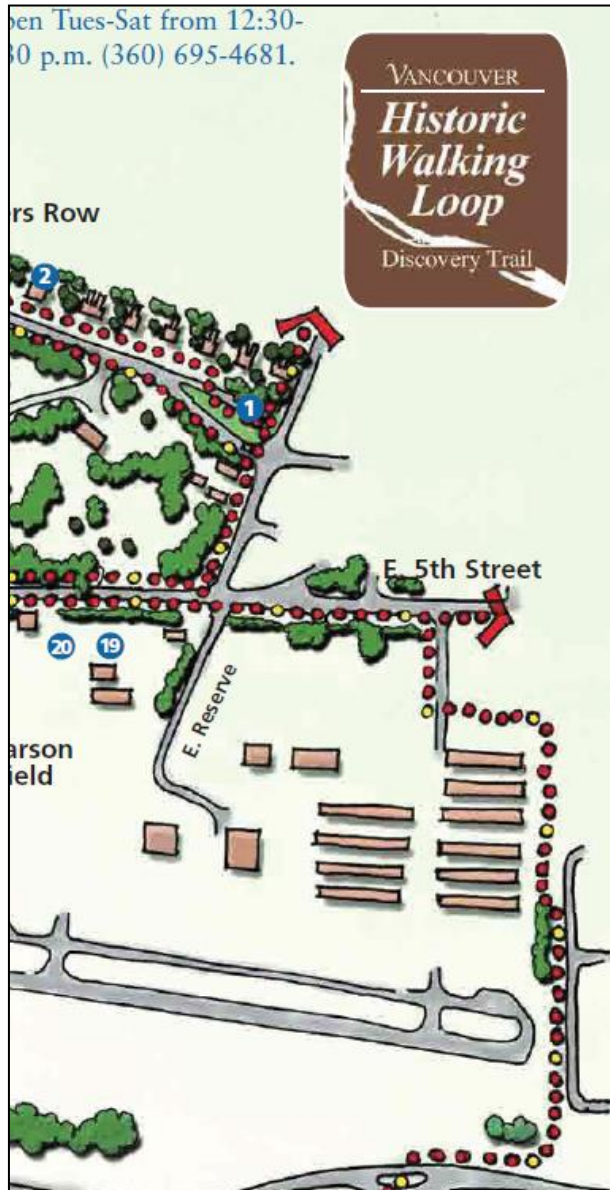


Figure 3. Discovery Trail alignment as depicted on City map

make improvements to East 1st St, Grand Blvd, and numerous nearby intersections. The City has also invested in some intersection improvements, striping, and small pedestrian improvements. WSDOT has made modest improvements in the park-and-ride lot on the south side of Columbia House Blvd.

The somewhat recent improvements made concurrent with development of the shopping center are sharply contrasted against the other infrastructure in the LGEA, which is in very poor condition in many places. The streets to the north of Grand Central are in particularly poor condition. They are lacking in drainage, landscaping, bike and pedestrian facilities, and have a greatly deteriorated pavement condition.



Figure 2: Discovery Loop Trail looking south from 5th Street

The LGEA, however, is moderately cut-off from the surrounding area with major topographic barriers to the north, infrastructure barriers to the south (SR-14), and large government facilities impeding connectivity on the west (Pearson Airfield and the VNHR). Because of these constraints, the connections in and out of the study area are somewhat limited. Grand Blvd and SR-14 are heavily relied upon to access the subarea. Within the subarea, E 1st Street is heavily relied upon, providing access to all the businesses north of the Grand Central Shopping Center.

Local Conditions

Prior to the development of the Grand Central shopping center, the area had not benefitted from significant infrastructure improvements in years.

The shopping center development was required to



Figure 4. View of E. 2nd Street looking west

The LGEA has a diversity of uses and infrastructure conditions. The Grand Central Shopping Center is a recently-developed, well-designed site with green infrastructure, a new bus stop, and access breaks that are consistent with City standards. Grand Blvd has been improved and provides multi-modal service to the businesses which front along it. However, all other roadways to the west of Grand Blvd are in very poor condition and do not comply with City standards. The streets lack sidewalks, well-defined edges, and proper drainage. The pavement has deteriorated to a point where resurfacing will not likely be sufficient. To the east of Grand Blvd, the roadway conditions are not much better. However the large area east of Grove St (referred to as the Quad Industrial Property) remains vacant, and therefore usage of the street is currently low, limiting the demand for better infrastructure. When the property develops, improvements will be needed on the surrounding streets.

Visibility is impaired throughout the area north of Grand Central. The lack of clarity to the public right of way (ROW) is the primary contributor to this problem. Because the edge of ROW cannot be easily determined, and because there is no striping in the area, it is not possible for drivers to know where the lane is, where they should stop at intersections, etc. There is also a lack of clarity about on street parking and parking in front of businesses. There are many private vehicles and large trucks parked adjacent to the roadway. Later work will differentiate between public ROW and off-street parking. Some businesses are storing containers or other materials in these areas as well. During the first round of stakeholder interviews and in the initial survey, the following locations were identified as having unsafe visibility or poor site triangles:

- E 1st Street and Y street
- E 1st Street and V Street
- E 2nd Street and 3rd Loop (or E 2nd Street and V Street)

- E 2nd Street and 3rd Loop (or E 2nd Street and X Street)

The matrix below provides detailed information for each roadway in the study area. Data is based on field observations and desktop review of GIS files and aerial photography. The cells of the table are colored to indicate the need for improvements. For example, if there is a sidewalk but no bike lane, the bike/ ped cell is colored light red. If there is no accommodation or safe place for cyclists or pedestrians then the cell is colored red. Similarly, roadway pavement conditions that are poor will be indicated with red tinted cells, with brighter red cells used for the roadways with the worst condition.

Table 1. LGEA, Condition Assessment Matrix

Facility	Segment	Class	Property Access ¹ (estimate)	Defined Edge	Pavement Condition	Bike/ Ped	Other
Columbia House Blvd	W of Grand Blvd	Principal Arterial between Grand and Columbia Shores Blvds	2	Yes	Good	Partial, sidewalk on north	
	From Grand to Grove	Minor Arterial	5, only the Park and Ride on the south	Yes	Good	Partial, sidewalk on north	
	East of Grove	Collector Arterial	1, substation on south	Yes	Good	None	Largely unimproved, rural roadway design
Grand Blvd		Principal Arterial	13	Yes	Good	Partial, facilities on lower segment	Bus stops on east and west sides on lower Grand
E 1 st Street	East of Y Street	Collector Arterial	6	Moderately, better on south than north	Good	Partial, well-developed on south	Serves as a good example of required improvements (as it was half improved recently).
	West of Y Street	Local ²	8	No	Poor	Partial, well-developed on south	
E 2 nd Street	N V Street to Y Street	Local	7	No	Poor	None	No signage. Not clearly a public street
V Street	South, south of E 1 st Street	Local	1	Yes	Good	None, except for multi-use path	Private, fenced off at E 1 st Street
	From E 1 st Street to E 2 nd Street	Collector Arterial	4	No	Poor	None	
Y street		Local	4	No	Poor	None	
E 3 rd Loop (see notes)	From E 2 nd Street to E 2 nd Street (including short sections of V and X Streets)	Local	5	No	Poor	None	
5 th Street	West of Grand, to multi-use path terminus	Collector Arterial	23	Moderately	Good	Partial, incomplete sidewalks on north	
	East of Grand	Collector Arterial	7	Moderately	Fair	None	Largely unimproved, rural roadway design
E 2 nd Street	(short segment east of Grand)	Local	5	No	Fair	None	Not clearly a public street
Martin Avenue	(South of 5 th Street, becomes Grove	Local	3	Moderately	Good	Partial, incomplete sidewalks	
Grove Street		Local	2	Yes	Good	Partial, fairly complete sidewalks	

¹ Field and GIS observations have been used to estimate the number of access breaks (inc. curb cuts and street intersections), though in some areas the lack of a well defined roadway edge makes the estimate of accesses imprecise.

² The functional classification of some of these streets is considered “local” though the design standards for them may be for industrial roadways.

Roadways and other paved surfaces deteriorate over time. Frequent use and use by heavy vehicles can erode the protective top layer, exposing the more vulnerable base layers, leading to deterioration in these base layers. UV rays, from the Sun, cause bitumen (asphalt) to oxidize in the surface material. The road surface can then become brittle and more easily lose “chips” of materials as vehicles pass over the loosened surface. Cracks form allowing water into base layers. This enables the freeze and thaw cycles of winter to have such destructive effects. Cracks also allow water to penetrate the substructure of the roadway, which can lead to potholes and other deformations.

Timely intervention with appropriate maintenance will result in the lowest life-cycle costs. Many pavement management programs call for minor surface treatments (such as a fog seal or slurry seal) every 5 years. This routine maintenance helps avoid the much more expensive reconstruction projects for roadways in very bad conditions. The average cost of a 2 inch overlay and partial reconstruction can be twenty or thirty times the cost of a simple slurry seal. However, the deterioration of the roadways in the LGEA has progressed to a point where minor resurfacing will not be an effective solution.

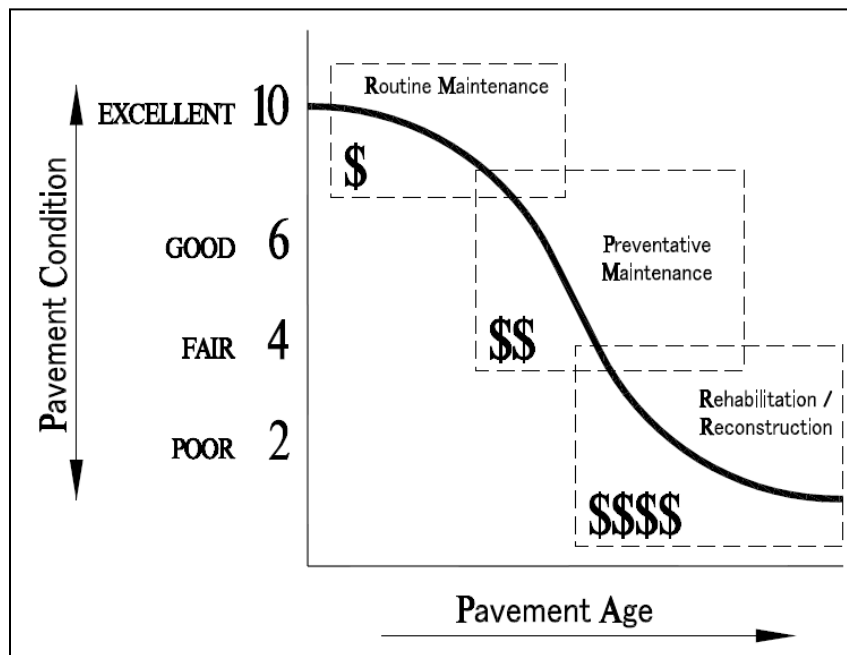


Figure 5. Pavement Condition Graph

to keep the good roads in good condition through maintenance while spending some funds on reconstruction of roads that are failing.

The graph in Figure 5 portrays the levels of pavement condition and deterioration. The graph shows how the cost of improvements goes up substantially as the pavement conditions worsens. Due to the very poor condition of the roads north of Grand Central, it can be assumed that improvement costs will be high. Table 2, below, illustrates the costs associated with street maintenance and construction. Using an asset management approach to street maintenance will provide a mix of treatments

Table 2. Recommended Asphalt Treatments and Associated Costs³

Condition	Treatment	Estimated Cost per mile
Excellent	No maintenance required	\$0
Very Good	Little or no maintenance	\$0
Good	Crack Sealing and Minor Patching	\$1,100
Fair-Good	Preservative treatments (non-structural)	\$225,000
Poor – Fair	Structural Improvement (overlay)	\$450,000
Failed	Reconstruction	\$950,000

Policy Context

In 2007, the City of Vancouver initiated the LGEA Subarea Plan to evaluate the potential of the area as an industrial employment center. The plan *envision[s] the LGEA as an active and vital employment and economic center, attracting new development, reinvestment, and employment, with attractive buildings and streetscapes that enhance the marketability of the area and its gateway function.*⁴

Three primary needs were identified during the subarea planning process and provide still-relevant direction for the current efforts to stimulate development in the LGEA.

- 1) *Right-of-way adjustments and street improvements are needed to improve transportation functions and enhance the marketability of the area for both development and redevelopment, and expansion of employment opportunities.*
- 2) *Drainage problems need to be fixed; flood zone requirements need to be clearly defined.*
- 3) *Assistance is needed to encourage and support existing and new business, large and small, in developing and promoting a positive economic image for the area.*

The LGEA Subarea Plan was adopted by council in 2008. A subarea plan is based on the specific conditions and needs of focus areas within the City. It guides development, city actions, and infrastructure provision. The following policies from the subarea plan provide the policy context for this new, grant-funded area-wide planning effort.

³ Based on data from Pavement Condition Survey. SME Project Number PP58667. Brian Coburnan and Ben Croy. 2009

⁴ City of Vancouver, Lower Grand Employment Area, Subarea Plan

LGEA Subarea Plan Policies

The following transportation policies are applicable to the current effort:

Policy 2.1 – The City will work actively and cooperatively with property owners to resolve street location and right-of-way mismatch issues, survey and establish property lines along public rights-of-way, and record necessary documents to establish clear title for affected parties.

Policy 2.2 – Bring all streets within the LGEA up to adopted City standards as development and redevelopment occur. Support the establishment of Local Improvement Districts as appropriate.

Policy 2.3 - Improve street, pedestrian, and bicycle connections to adjacent areas to allow for safe and efficient access both within and through the LGEA. Design and construct capacity and safety improvements as needed, especially to the intersection of Grand Boulevard and 5th Street.

Policy 2.4 - Consider and support alternative ways to provide pedestrian and bicycle access and required parking when standard approaches adversely affect family wage employment uses.

Policy 2.5 - Support development of a secondary connection to the waterfront if feasible.

The following subarea plan public facilities and services policies are also applicable to the current effort:

Policy 3.1 - Improve existing water, sewer and storm drainage systems in the area to support maximum development and redevelopment potential of the area. Explore the viability of a LID and other financing options to fund infrastructure improvements.

Policy 3.2 – Consider the cumulative effect of full development and/or more intense redevelopment of the area, and support area-wide solutions to common drainage issues.

These policies informed the development of the transportation assessment methodology. Though six years have passed since the adoption of the subarea plan, the area has not changed substantially. The Grand Central Shopping Center has continued to develop, adding restaurants and new stores. But the transportation impact of the development, at full build-out, was assessed during the City's development review. Very little new industrial activity has occurred since 2008. And the City has not yet prioritized and identified funding for infrastructure improvements in the area.

Therefore we recommend that the subarea plan policies and their implementing measures remain relevant and do not warrant a public or administrative review. Rather, the AWP's recommended actions related to transportation will start from and build on this policy context, focusing on implementation and physical improvements. These policies and their respective implementing measures have framed the next steps section at the end of this memorandum.

Traffic Operations

No new traffic counts were collected for this memorandum. Nor did the project team complete a traffic operational analysis. The most recent and robust analysis of area traffic is from 2007, and was submitted as part of the development review application package for the Grand Central Shopping Center. Though this analysis was completed many years ago, there has been very little development activity in the immediate area or region since 2007. Therefore, the findings still have relevance.

City Standards

Vancouver standards require that Level of Service (LOS) D or better be maintained at signalized intersections. Signalized intersections located on concurrency corridors are not held to this standard if the overall minimum concurrency corridor travel speed is maintained. The concurrency corridors near the LGEA subarea include: Mill Plain Blvd (I-5 to Andresen), Fourth Plain Blvd (I-5 to Stapleton and Stapleton to I-205), and Andresen Road (SR 500 to Mill Plain Blvd). Unsignalized intersections acceptably operate when the minor movement has a volume-to-capacity ratio less than 1.0 and the major street movements operate at LOS E or better. Lastly, Vancouver requires improvements or mitigation of design deficiencies for intersections with a crash rate greater than one crash per million entering vehicles (MEV).

Analysis Findings

Kittelson & Associates, Inc (KAI) completed a traffic impact analysis for Grand Central. The City reviewed it in detail, and conditioned the shopping center's approval with intersection and roadway improvements. The analysis for the Grand Central development concluded that all intersections, even with the full build-out of Grand Central, would all operate acceptably to the standards above.

Some modeled intersections had better LOS than did others, but all of the study intersections were forecast to operate acceptably under forecast future conditions. Also, forecast queues were found to be adequate, with the proposed development, for most intersections. However, a year-2030 queuing analysis led to recommendations to improve queues for the eastbound left turn into the shopping center from SE Columbia House Blvd and at the SE Columbia House Blvd /SE Grand Blvd intersection.

These findings cannot be assumed to apply to the build-out potential of the LGEA subarea. However the modeling of traffic did include "background" traffic including greater utilization of the LGEA industrial lands. A detailed traffic analysis would be necessary to update this study. But for this AWP project, the consultant team will assume that no signal delays, even with additional industrial activity, will necessitate intersection improvements.

In the Grand Central study, many of the streets were found to be in need of full or half street improvements. The improvements made as part of the shopping center development are listed below. Safety at the Grand Blvd/ E 5th St intersection was an expressed local concern during development review of the proposed commercial center. Staff from Kittelson & Associates, Inc. studied the roadway geometry and its operations. Based on their study and the crash rate, which was 0.35 Crash Rate (MEV), a modest set of signing and striping improvements was recommended.

Crash histories for all other study intersections were found to be lower than the 1.0 crash/MEV standard.

Improvements Provided as Part of the Grand Central Development

The following list of improvements was agreed to by the City of Vancouver and has been completed with minor exceptions. Some of the signing was installed in keeping with the intent of these recommendations but not exactly as described.

- Half-width improvements along southern side of E 1st St
- A road diet on SE Grand Blvd (restriping to a three-lane section)
- Shopping center driveway provided, modified or closed
- New bike lanes on 1st St and elsewhere
- A raised median on SE Columbia House Blvd at the primary shopping center access
- Grand Blvd/E 5th St intersection improvements including restriping, installation of warning signs and arrows, and a 10 MPH advisory speed sign

Transportation Demand Management

Transportation Demand Management techniques can be used to provide access to new jobs and shopping without placing significant additional demand on area roadways. Elements of effective demand management include carpooling, bike and walking modes, telecommuting, and transit.

Transit Service

C-TRAN provides transit service to the study area as well as para-transit services as requested. The only bus stop in the study area is served by the Number 3 Route bus. The Number 41 Limited and Number 32 routes pass by the study area. Details are provided below.

Route #3

There is a 3A and a 3B which differ only in their alignments through the City Center.

Roadways: Grand Blvd and Columbia House Blvd

Stops: Grand Blvd and 1st St

Reach: City Center, Kauffman Ave, 33rd St on the north

Headway: 45 min (peak period same)

Route # 41 Limited

Roadways: SR 14

Stops: No stops in or near study area
(Stops downtown and at Fisher's Landing Transit Center)

Reach: City Center, Fisher's Landing Transit Center

Headway: Only two runs each day



Figure 6. C-TRAN Stop on Grand Blvd

Route # 32

Roadways: Evergreen Blvd

Stops: No stops in or very near study area (Stops at Evergreen and Grand Blvd)

Reach: Hazel Dell, Evergreen Blvd, Andresen Rd

Headway: 30 min (peak period same)

Other TDM

In 2006 the State Legislature passed the Commute Trip Reduction (CTR) Efficiency Act to improve the efficiency of the state's transportation system. The Act requires local jurisdictions to develop local and regional CTR plans, and provides them the opportunity to create Growth and Transportation Efficiency Centers (GTEC). GTECs are intended to be developed in a jurisdiction's most dense employment or residential areas. A GTEC can utilize customized transportation demand management programs and efficient land-use policies to improve transportation system performance.

The City of Vancouver GTEC program is a collection of adopted goals and policies, facility and service improvements and marketing strategies to increase progress towards the reduction of drive alone trips and vehicle miles traveled. The program also specifies a financial plan and organizational structure for implementing the program strategies and services. Building upon the success of the existing CTR program, the GTEC partners strive to meet the goals of the plan by working in partnership and coordination with other agencies.

During 2010, a Blue Ribbon Committee determined how to effectively provide such a GTEC program in downtown. There was interest downtown, but few business saw the need for a TMA. The City instead used grants and other resources to start a related program, within the City's organization, called Destination Downtown.

Destination Downtown is a trip reduction program currently being coordinated by the City of Vancouver in partnership with the Washington State Department of Transportation (WSDOT) and C-TRAN. The program strives to reduce drive-alone trips to and traffic congestion in downtown Vancouver through customized programs for employees, business owners, and property owners.

The City set short, three-year, and long-term goals for Destination Downtown. The long-term goals are:

- 15% transit mode split
- 5% bike mode split
- 5% walking mode split
- 10% carpool mode split



According to surveys conducted to measure the effectiveness of the GTEC program six months into its operation, 37% of respondents indicated that they drove alone less frequently than before the program. This is a remarkable achievement, especially with a modest budget.

The following TDM recommendations are part of the policy context for the LGEA. The following strategies were developed for the as-yet-unformed downtown GTEC, but are applicable to the LGEA study area as well.

4.2.1.3 Zoning code regulations:

- Establish GTEC Plan Overlay zone
- Eliminate or reduce certain parking space minimum requirements for future developments
- Lower parking space maximum requirements for future developments
- Require CTR and GTEC participation for new and future developments

Planned Improvements

The Otak team has reviewed the City's 6-year Transportation Improvement Plan (TIP) and the 20 Year Vancouver Transportation Plan. The Framework Plan (part of the 20 year plan) provides policy-level guidance for the development of the 6-year TIPs. The map of the street system in the Framework Plan shows 2 improvements:

- E 5th St from E Reserve St to Grand Blvd
- Grand Blvd north from E 5th St to Fourth Plain Blvd, and south from E 5th St to the terminus of the existing improvements around E 1st St

The Framework Plan also includes a map of bike and pedestrian improvements. These include:

- Bike/Ped improvements on E 5th St from Grove to S Blandford Drive
- Columbia House Blvd from SE Columbia Shores Blvd to S Blandford Drive

No programmed improvements (from the TIP) were found that would be within or substantially affect the study area. The planned Columbia River Crossing improvements of Interstate 5, and the introduction of light rail transit to Vancouver, would affect much of the City, including the lands in the LGEA. However, this project is on hold, pending the development of new funding strategies and a financial commitment from one of the sponsoring agencies.

Recommendations

The subarea plan policies provide still-relevant guidance for the implementation of the plan and the increased number and density of jobs in the Lower Grand Employment Area. The next steps in this grant-funded Area Wide Planning project are to:

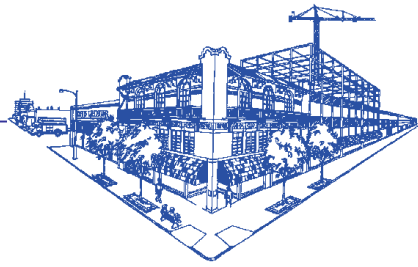
1. Discuss existing conditions with City staff
2. Inform the infrastructure studies with the market analysis and the public input gathered from property owners.
3. Further collaborate with stormwater planning staff on project design and prioritization.
4. Develop recommendations for public street and drainage improvements and the financing of these improvements.

The draft recommendations for transportation changes and improvements include:

1. Complete the necessary survey work to identify the edge of the public ROW in the area north of Fred Meyer.
2. After better documenting redevelopment plans of individual property owners, develop a conceptual development pattern for the area north of Fred Meyer. The plan is intend to help clarify and evaluate two options, reconstruction of city streets in their current configuration, or broad redevelopment with new street alignments. From this master plan, derive a list of street and pathway improvements.
3. Utilize full street improvements consistent with existing standards; and develop unique street segments only where constraints require such.
4. Develop a conceptual; alignment connecting V Street to E 5th Street to the north.

APPENDIX C

MARKET CONDITIONS TECHNICAL MEMO



MEMORANDUM

To: Seth Otto – Maul Foster & Alongi, Inc. (MFA)
From: Eric Hovee
Subject: General Market Study for Lower Grand Employment Area Plan
Date: May 2, 2014

On behalf of MFA and the City of Vancouver, this memorandum provides a general market study associated with existing and potential businesses in Vancouver's Lower Grand Employment Area (LGEA). Purposes of this initial market reconnaissance are to:

- Identify current LGEA business and property ownership patterns, including characterization of existing property and business uses.
- Review the existing demand for added industrial, business park/flex and related office and ancillary retail for the Vancouver/Clark County market and, more specifically for the State Route 14 corridor extending from West Vancouver to Interstate 205.
- Distinguish between opportunities for industrial expansion and business enhancement, industrial/flex build-out of major vacant parcels, and ancillary commercial potential as with infill sites proximate to Columbia House Boulevard, Grand Boulevard or 5th Streets.
- Use this preliminary assessment as background information to orient and focus subsequent stakeholder discussion (including review with a property owner workshop), providing a foundation for considering realistic business development options supported by current and anticipated market conditions.

Based on comments received from related stakeholder discussions, this general market study will be refined as part of a second phase, more detailed evaluation. Phase 2 analysis will draw from the results of work to date and characterize both near- and long-term opportunities for intensified business use, new development and site reuse.

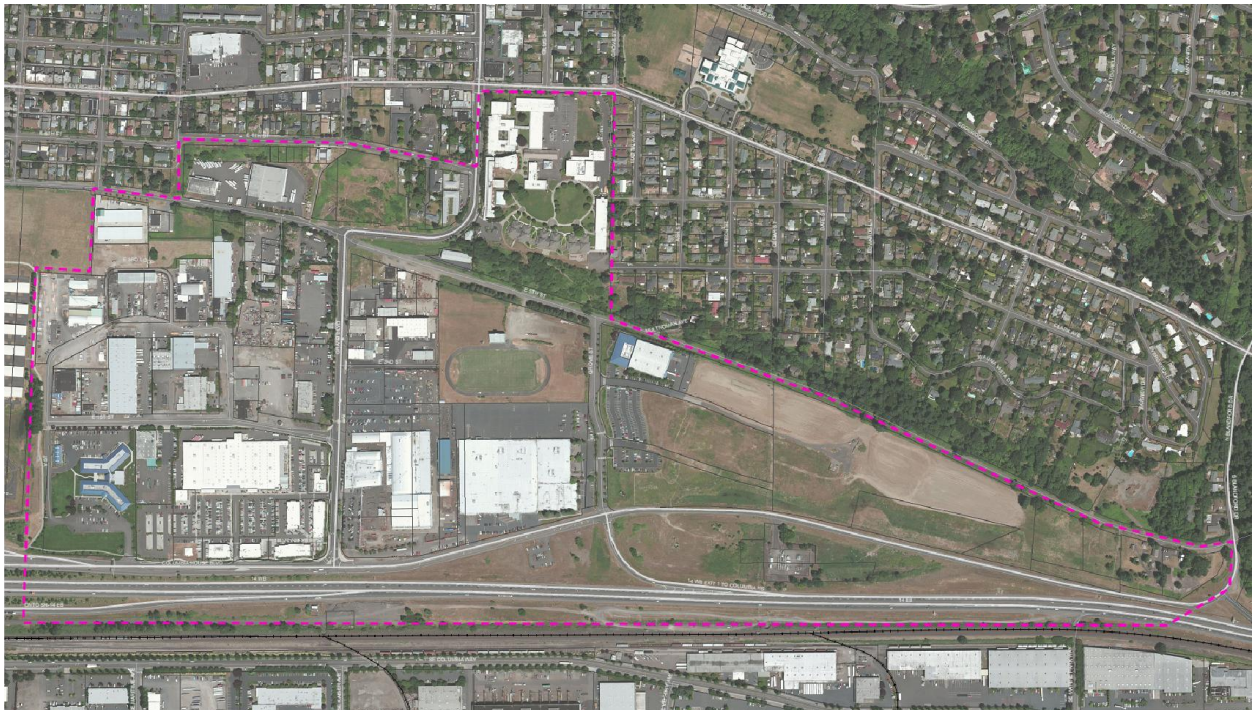
Revisions and refinements to this general market analysis have been made based on comments received. More detailed second phase market feasibility analysis is anticipated with Task 4 Site Reuse Planning.

LGEA PROFILE

This general market study begins by briefly profiling the LGEA study area – including a review and discussion of pertinent zoning, property ownerships, valuation, neighboring uses, transportation and utility infrastructure, and environmental considerations.¹

Background & Study Area Definition. In 2008, the City of Vancouver prepared the *LGEA Subarea Plan* “to evaluate the potential of the area as an industrial employment center.”

Lower Grand Employment Area (LGEA) Defined



Source: Maul Foster & Alongi, Inc., 2013.

As currently defined, the LGEA encompasses the geographic area situated north of SR-14, east of the Pearson Field Airport, west of Blandford Drive, and south of 6th Street (west of Grand Boulevard) or 5th Street (east of Grand Boulevard but also including the full site of the Washington School for the Deaf).

¹ Information for this LGEA general market study has been obtained from sources generally deemed to be reliable. However, the accuracy of information obtained from third party sources is not guaranteed and is subject to change without notice. The observations and findings contained in this report are those of the author. They should not be construed as representing the opinion of any other party prior to their express approval, whether in whole or part.

Zoning. Approximately 139 acres of the LGEA is zoned for light industrial (IL) use, providing “appropriate locations for combining light, clean industries including industrial service, manufacturing, research/development, warehousing activities, and general office uses and limited retail.”²

Another 14.8 acres are zoned for General Commercial (CG) use – situated at the NW corner of Columbia House and Grand Boulevards. This land was re-zoned in 2005 to CG from IL with subsequent development for the Grand Central retail center, anchored by Fred Meyer.³

In the north central portion of the LGEA, 26.6 acres remain zoned for R-30 residential use – allowing residential densities ranging from 22-30 units per acre. This area consists primarily of facilities owned by the Washington School for the Deaf (WSD) up the hill north of 5th Street.⁴

With this general market study, it is assumed that zoning of the area will not change appreciably as a result of the LGEA plan process. The intent of the LGEA plan is to implement the already completed subarea plan focused on industrial development consistent with City policy including existing Comprehensive Plan and zoning designations.

LGEA Development Profile. As of the 2008 LGEA Subarea Plan, an estimated 1,600 workers were employed at firms located in the study area. The LGEA was noted as comprising “a mixture of large and small businesses – manufacturers, wholesalers, contractors, consultants, and a variety of industrial service providers.”

More recent U.S. Census data indicates an employment estimate of 1,023 workers as of 2011. Lower job estimates can be attributed to the effects of the recession and slowness of initial economic recovery. As regional employment has picked up since 2011, it is likely that employment may now be higher, though detailed LGEA current counts are not available.

² Easting and drinking establishments are limited to 10% of an industrial building or total site gross building area. General retail that includes sales-oriented, personal service and repair-oriented business is limited to 20% of building square footage in a development complex and to 40,000 square feet per building or business. Commercial-related uses prohibited in the IL zone include lodging, indoor and major event entertainment, artisan small scale manufacturing, bulk/outdoor sales, motor vehicle sales/rental, and vehicle fuel sales. Also intended with the IL district is a limitation to uses that “do not require rail or marine access and have limited outside storage.” Residential uses are precluded from the IL district except for caretakers residences and limited home occupation uses.

³ As stipulated by the City of Vancouver Zoning Code, “The CG zoning district is designed to allow a full range of retail, office and civic uses with a City-wide to regional trade area.”

⁴ This reflects the football field south of 5th as is currently zoned IL for industrial use. The property was previously zoned for residential use but has been re-designated consistent with surrounding uses south of 5th Street.

As of 2008, 32 net acres (mostly toward the eastern portion of the study area) were considered as vacant or underimproved by the Clark County assessor. However, the plan also noted that much of the land in the NW quadrant of LGEA is underdeveloped and could be “more intensively developed if street and drainage issues can be resolved.”

Property Ownerships. As depicted by the chart to the right and the map on the following page, the LGEA has 107 identified tax parcels comprising a total of 180.41 acres. The average parcel is less than two acres in land area.

The five largest owners account for over 106 acres (or 59% of the total LGEA land area). As noted by the chart, the larger owners all own multiple tax parcels.

Major ownerships include Columbia Machine as a large industrial employer, situated east of Grand and north of Columbia House Boulevard. To the east of this is the associated Quad Business Center which includes completed structures and as yet undeveloped land extending toward the eastern end of the LGEA.

The athletic fields of the Washington State School for the Deaf are owned by the Washington State Department of Transportation (WSDOT).

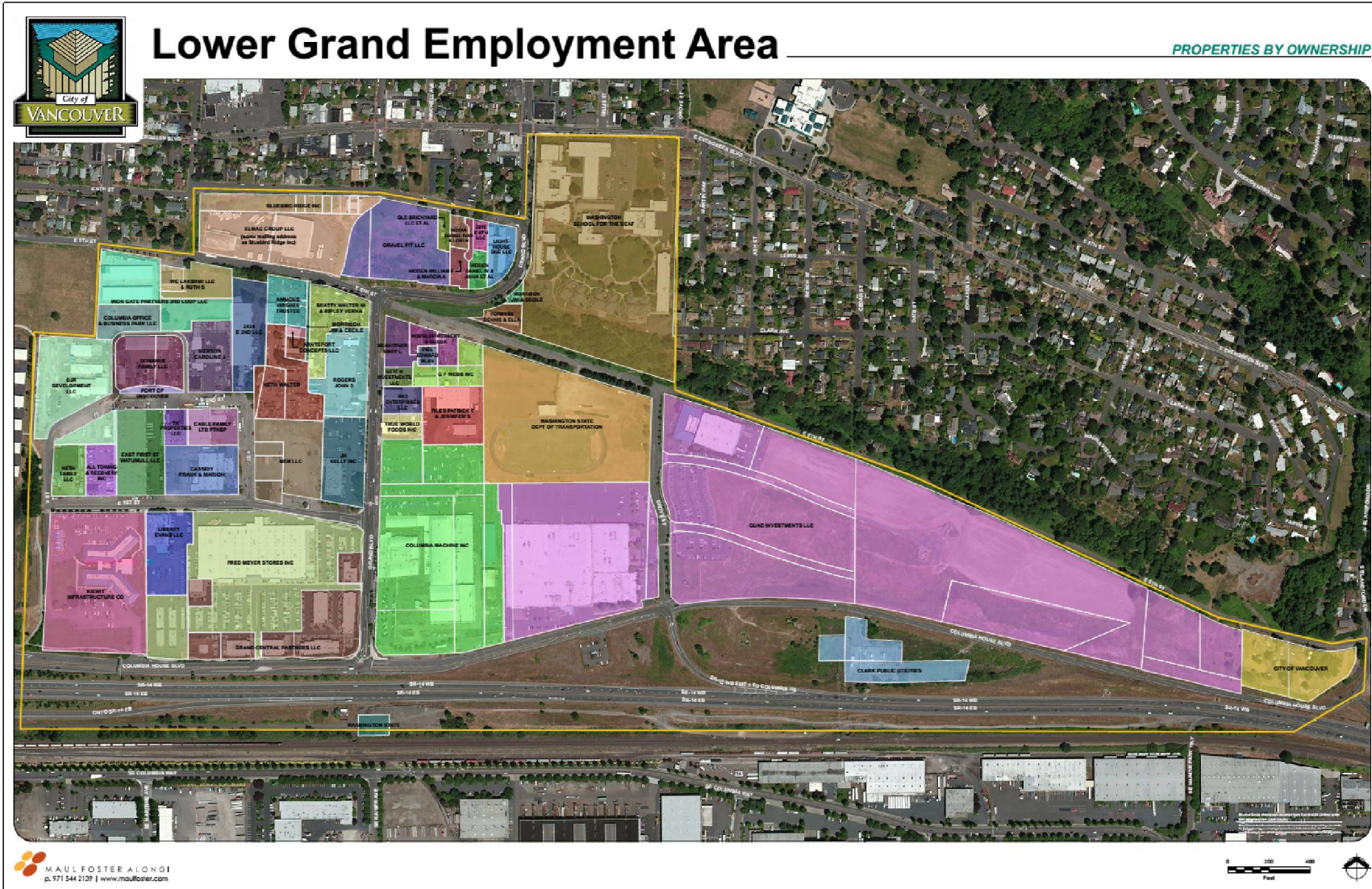
Properties in the NW quadrant of the LGEA are spread among a wide range of owners, generally involving smaller parcels. The Grand Central retail center located on the west side of Grand Boulevard and north of Columbia House Boulevard is partially owned by Fred Meyer Stores and partially by the real estate development firm Grand Central Partners LLC.

LGEA Property Ownerships (by Acreage)

Property Owner	# of Parcels	Acreage
QUAD INVESTMENTS LLC	14	53.39
WASHINGTON SCHOOL FOR THE DEAF	1	19.29
COLUMBIA MACHINE INC	7	12.91
WA STATE DEPT OF TRANSPORTATION	1	10.43
FRED MEYER STORES INC	2	10.34
KIEWIT INFRASTRUCTURE CO	1	7.47
ELMAC GROUP LLC	2	4.84
GRAND CENTRAL PARTNERS LLC	6	4.44
GRAVEL PIT LLC	2	3.80
CLARK PUBLIC UTILITIES	3	3.75
DJR DEVELOPMENT LLC	2	3.70
MEH LLC	4	2.91
IRON GATE PARTNERS	2	2.70
NETH WALTER	4	2.43
EAST FIRST STREET WATUMULL LLC	1	2.26
STROUD BONNIE K	1	2.17
CITY OF VANCOUVER	2	2.16
J H KELLY INC	1	2.05
CASSIDY FRANK & CASSIDY MARION	1	1.98
2424 E 2ND LLC	1	1.92
FILES PATRICK T & FILES JENNIFER S	1	1.92
DONAHUE FAMILY LLC	2	1.88
LIBERTY EVANS LLC	1	1.87
IVERSON CAROLINE J	1	1.66
BLUEBIRD RIDGE INC	9	1.65
MORRISON JIM & MORRISON CECILE	2	1.55
WC LAKSHMI LLC & KODA RUTH S	2	1.26
AMMONS VIRGINIA TRUSTEE	3	1.07
CABLE FAMILY LTD PTNSP	1	1.00
COLUMBIA OFFICE & BUSINESS PARK LLC	1	1.00
LIGHTHOUSE ONE LLC	1	1.00
NETH FAMILY LLC	1	0.92
ALL TOWING & RECOVERY INC	1	0.86
G F WEBB INC	3	0.82
HIDDEN WILLIAM F & HIDDEN MARCIA A	2	0.73
KOEGLER HERBERT & KOEGLER GERDA	2	0.71
FORBESS DENNIS & FORBESS ELLA	1	0.59
RH3 ENTERPRISES LLC	1	0.57
TRUE WORLD FOODS INC	1	0.57
BRANDTNER GARY L	1	0.54
TK PROPERTIES LLC	1	0.46
WASHINGTON STATE	1	0.35
PORT OF VANCOUVER	1	0.33
GETCH INVESTMENTS LLC	1	0.32
OLD BRICKYARD LLC ETAL	1	0.30
NOVAK DANIEL IVAN & NOVAK LORI M	1	0.28
WEBB GARY F TRUSTEE	1	0.28
HIDDEN DANIEL W & HIDDEN ANNA ETAL	1	0.27
2815 E 6TH LLC	1	0.25
PIEL EDWARD ALAN	1	0.21
BEATTY WALTER W & RIPLEY VERNA	1	0.14
ARNTSPORT CONCEPTS LLC	1	0.11
Total Major Owners	107	180.41

Sources: City of Vancouver, Maul Foster & Alongi, Inc.

LGEA Property Ownership Mapping



Sources: Maul Foster & Alongi, Inc.

LGEA Property Valuation & Utilization. The 180 acre LGEA area is comprised of 52 separate identifiable property ownerships and 107 tax parcels. Clark County assessment data as provided by the City of Vancouver provides added information regarding building area and property valuation as indicated by the following summary chart.

LGEA Property Summary (2013)

Land Area (acres)	180.41
Number of Parcels	107
Number of Property Owners	52
Total Building Square Footage	1,553,489
Floor Area Ratios (FARs)	
All LGEA Properties	0.20
Developed Sites Only	0.30
Land Value	\$32,196,030
Building Value	\$84,111,678
Total Value	\$116,307,708
Land Value per SF of Land Are	\$4.10
Ratio Building to Land Values	2.61

Sources: City of Vancouver, Clark County Assessor, E. D. Hovee & Company, LLC

As indicated by this data table:

- The LGEA currently encompasses an estimated 1.55 million square feet of building space. This includes both occupied and vacant building area.
- Intensity of building is measured in terms of floor area ratio (FAR), calculated as the amount of building area divided by land area (in square feet). Current FAR is estimated at 0.20 across both developed and undeveloped sites. When considered for developed sites only, a 0.30 average FAR is indicated.
- Total LGEA assessed valuation is \$116 million – of which 72% is represented by valuation of buildings and related improvements, with the remaining 28% as land value. Assessed land value is estimated at just over \$4 per square foot of land area – a figure that is above average for industrial properties in Clark County.

Relationship of Building to Land Values. Overall, the ratio of LGEA building to land values is relatively high – at over \$2.60 of improvements valuation for every dollar of land valuation. However, there is considerable variation between properties as depicted by the chart on the next page.

Of the total LGEA land area, nearly half (48%) accommodates structures worth at least as much as the land. While further infill may be possible on some sites, these properties generally should not be expected to experience substantial redevelopment.

Distribution of LGEA Acreage by Ratio of Building to Land Values (2013)

Ratio Building to Land Values	Acreage	% of Acreage
No Building Value	59.53	33%
< 0.5	23.32	13%
0.5 - 1.0	10.2	6%
1.0 +	87.36	48%
Total	180.41	100%

Sources: City of Vancouver, E. D. Hovee & Company, LLC

Over 59 acres are undeveloped at this time with another 33-34 acres having structures valued at less than land value. Essentially 52% of the LGEA comprises properties that either are not developed or potentially underdeveloped. These properties likely represent the most viable opportunities for new development or redevelopment in the years ahead.⁵

LGEA Business Inventory. As depicted by the following chart, there are 77 identified businesses in the LGEA currently occupying 1.47 million square feet of building space. Based on classifications by the Clark County Assessor's Office, 62% of the occupied square footage is comprised of manufacturing and other industrial uses. Another 28% is indicated as comprising office/service use with 10% as retail space.

LGEA Business Characteristics Summary (2013)

Business Type	# of Businesses	% of Businesses	Building SF	% of Building SF
Manufacturing	3	4%	25,982	2%
Other Industrial	32	42%	885,914	60%
Office/Service	18	23%	405,651	28%
Public/Utility	5	6%	4,000	0.3%
Retail	19	25%	148,589	10%
Total	77	100%	1,470,136	100%

Note: Many of the businesses summarized in the data table above are located on a tax lot parcel with other businesses. Business Type is designated according to predominant use on a tax lot.

Sources: City of Vancouver, Clark County Assessor, E. D. Hovee & Company, LLC

⁵ Based on earlier preliminary analysis conducted by Stantec as consultant for brownfields throughout the City, a somewhat greater figure estimated at more than 65% of the LGEA land area was viewed as having medium to high potential for redevelopment. This estimate was based on an assessment of current property use and environmental constraints. Less than 5% has low redevelopment potential. The Stantec analysis indicated that the remaining 35% of land area consists of relatively high value uses deemed as having no potential for redevelopment.

Neighborhoods & Uses Adjoining LGEA. The Lower Grand Employment Area is surrounded by a wide range of uses representing the economic and cultural diversity of Vancouver:

- *To the south* of LGEA across SR-14 and the Burlington Northern rail berm is Columbia Business Center (CBC) – the largest privately owned business park in the Pacific Northwest with 2.4 million square feet of industrial building space on 220 acres.
- *To the west* is the 366 acre Fort Vancouver National Site – the only national park in the metro area encompassing the Pearson Airpark and Museum, Fort Vancouver, Officers Row, and Vancouver Barracks.
- *To the north* are the Hudson’s Bay and Edgewood Park neighborhoods – primarily a residential area that also includes the Evergreen Boulevard business district and Washington School for the Deaf.
- *To the east* of Blandford Drive there is a sharp elevation gain – rising to the neighborhoods of Vancouver Heights that overlook SR-14 and the Columbia River below.

While serving initially as an employment area since about World War II for residential neighborhoods to the north, the LGEA has come to fulfill a more diverse role in recent years – including as a pivotal visitor gateway to the Fort Vancouver National Site, for office related development and as a day-to-day shopping destination for residential areas extending from downtown Vancouver east toward the I-205 interstate freeway.

Transportation Access. With recent improvements to Columbia House Boulevard and associated interchanges, the LGEA offers good access to SR-14 – a major east-west limited access highway in Clark County. Less than 1 mile to the west of the SR-14 interchange with Columbia House is the connection with the north-south I-5 interstate freeway. The interchange between SR-14 and I-205 is 5 miles to the east, also providing direct access to Portland International Airport.

Local street access between LGEA and surrounding neighborhoods and destinations is available from corridors including SE Grand Boulevard, Columbia House Boulevard, Blandford Drive, East 5th Street and East 1st Street. Two major transportation challenges are noted by the 2008 LGEA Subarea Plan:

- Poor street conditions in the NW quadrant of the district (west of Grand and north of 1st) including questions as to the exact location of street rights-of- way.
- Poor visibility and resulting safety issues at the intersection of 5th and Grand.

Both of these are issues that are pivotal to address as a means to encourage further LGEA economic development while also improving connections to the national historic site and adjoining residential neighborhoods.

Utility Infrastructure. As described by the LGEA Subarea Plan, this close-in industrial district is currently well-served with public sewer and water by the City of Vancouver. Electric power,

natural gas and telecommunications are also viewed as being generally available to existing developed areas – though utility extensions may be required with future development of the vacant land at the eastern end of the district.

The primary utility infrastructure issue affecting existing and prospective industrial users is related to inadequate storm drainage. This is exacerbated by the high water table of the district in close proximity to the Columbia River and flood plain designations that historically have affected portions of the LGEA.

Drainage needs are particularly apparent with storm events in street rights of way and on adjoining private properties in the NW quadrant of the district. Need for improvement is cited by business and property owners as critical to encouraging greater utilization of existing developed properties and new development on vacant or underutilized sites.

Environmental. As noted, drainage issues have been complicated by flood zone designations and requirements that the 2008 Subarea Plan indicates “need to be clearly defined.” Anticipated is that FEMA flood map changes will reflect that most of the area is no longer in a flood zone.

Of importance to the eastern as yet undeveloped end of the district are potential wetland and wellhead protection issues. Wellhead protection requirements affect an area 1,900 feet in diameter surrounding City wells at the extreme eastern edge of the LGEA.

Summary Notes. Prospective market opportunities for expanded business and redevelopment on properties within the LGEA study area are shaped by zoning, property ownership and business use patterns, transportation, infrastructure, and environmental considerations. To be competitive for new development and redevelopment, issues that have been identified are important to be addressed in a manner that can be viewed by businesses and developers as cost effective relative to other sites as available in Vancouver/Clark County and the Vancouver/Portland metro region.

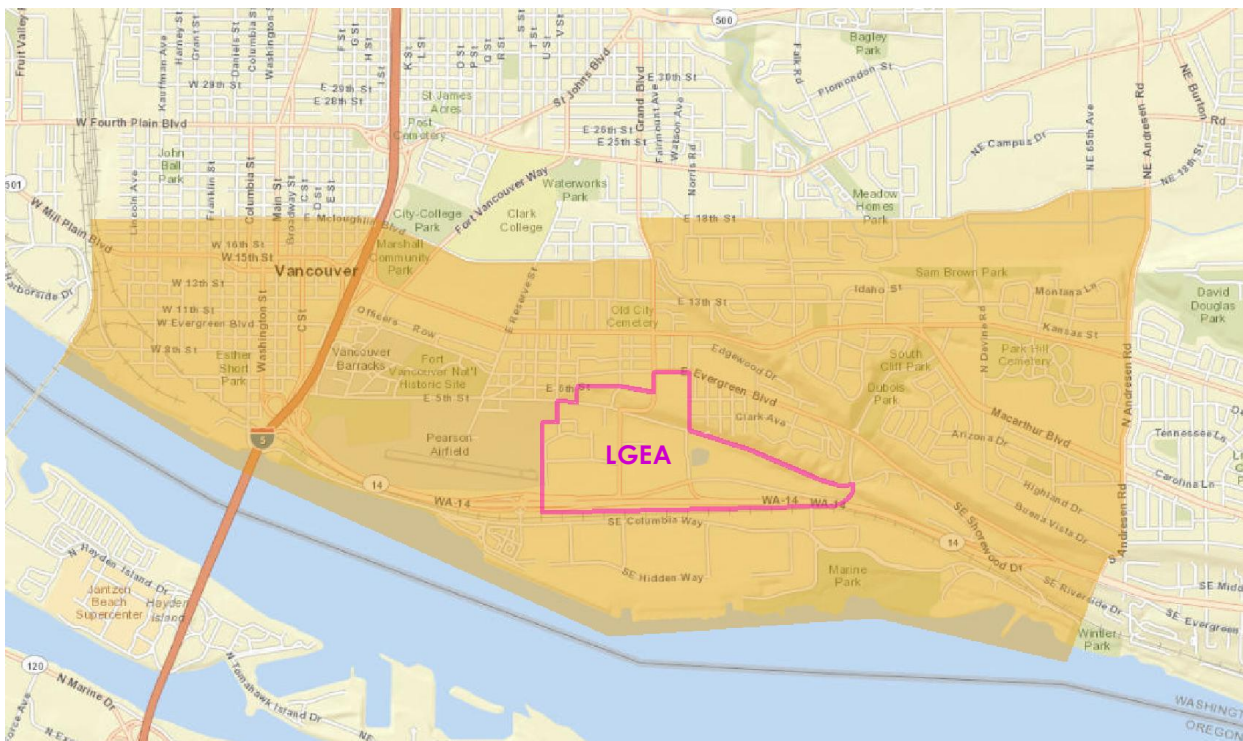
Based on this review, the focus of this market analysis is on the potential for industrial and related uses including flex, office and supportive or ancillary retail. These conditions serve as a starting point for more in-depth discussion of specific topics now considered with the remainder of this general market study.

LGEA MARKET AREA

For purposes of this analysis, three geographic market areas are identified as a basis for evaluating potential opportunities for LGEA industrial, business park/flex, office and retail uses:

- **Central Vancouver Submarket Area (CV)** – starting at the Columbia River from east of the BNRR bridge and tracks north to McLoughlin, with railroad tracks on west, extending east to Grand, then up Grand to 18th, east on 18th to Andresen, then south on Andresen to Columbia River (as illustrated by the following map).
- **Clark County** – encompassing the full City of Vancouver together with the other incorporated cities and unincorporated areas of Clark County.
- **Portland-Vancouver Metro Area** – a seven county region as defined by the U.S. Census Bureau including Clark and Skamania County (in Washington state) together with Multnomah, Washington, Clackamas, Columbia and Yamhill Counties (in Oregon).

Central Vancouver Submarket Geography



Source: Esri and E. D. Hovee & Company, LLC.

The Portland-Vancouver metro geography provides the most encompassing perspective and broader context that is useful to profile the economic vitality and trends affecting the workings of this integrated regional economy. Due to a state boundary and limited river crossings between the two states, it is also useful to describe distinct characteristics of the Clark County portion of the full metro economy.

Primary attention in this report is given to the more localized Central Vancouver submarket which includes Columbia Business Center (immediately to the south), Downtown Vancouver (to the west) and residential neighborhoods of the Heights (to the north and east). Whether for industrial or other uses, this geography also provides a useful understanding of properties which may be both complementary to and competitive with existing and future LGEA employment.

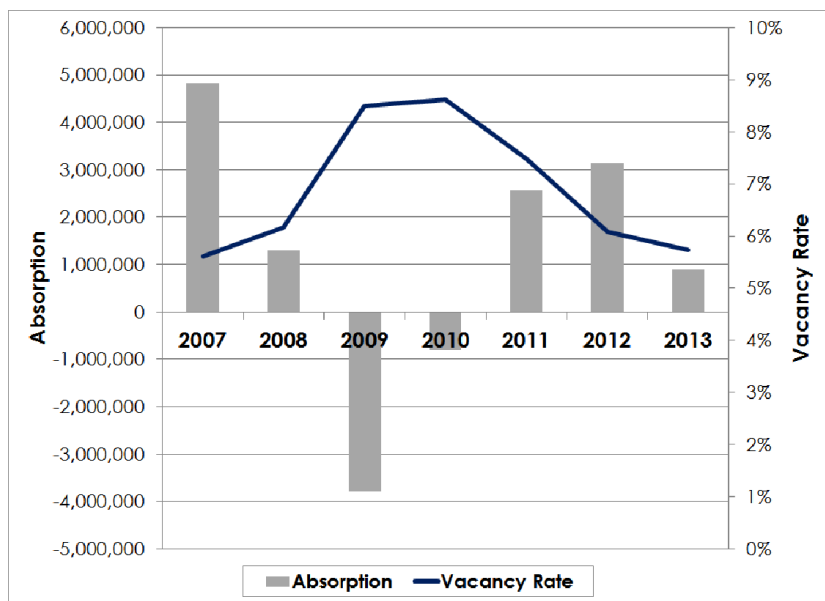
INDUSTRIAL MARKET

For industrial and other uses, this report briefly reviews the trend of vacancy and occupancy of the Portland-Vancouver market pre- and post recession. This is followed by more detailed discussion focused on the Central Vancouver submarket.

Regional Industrial Market. As illustrated by the graph to the right, the recession resulted in by negative net regional space absorption (meaning that vacated space outpaced new leases) in 2009-10. Industrial vacancies for the Portland-Vancouver metro area peaked at 8.6% in 2010.

Economic recovery became apparent for the region’s industrial space market in 2011. By 2013, vacancies had dropped back below 6%, at close to pre-recession levels.

Regional Industrial Absorption/Vacancy (2007-13)



Sources: CoStar and E. D. Hovee & Company, LLC.

Central Vancouver Industrial Submarket. As of year-end 2013, the Central Vancouver (CV) submarket comprised 118 buildings totaling close to 4.2 million square feet of industrial space – averaging just over 35,000 square feet per industrial building. As depicted by the following chart, the Central Vancouver submarket represents 22% of the total Clark County industrial inventory of nearly 19 million square feet and about 2% of the more than 191 million square feet of competitive industrial space throughout the 7-county Portland metro region.

Within the Central Vancouver submarket, approximately 2.6 million square feet (62%) is located south of SR-14, primarily within Columbia Business Center (CBC) but also including other non-CBC properties. CoStar identifies 774,000 square feet (19%) as being located within the immediate LGEA boundaries north of SR-14 and east of Pearson Airport. Another 597,000 square feet (14%) is located in the downtown area, primarily west of about Esther Short Park to

the rail track area. The remaining 216,000 square feet (5%) is somewhat dispersed throughout the rest of the Central Vancouver (CV) submarket.

Comparative Industrial Market Indicators (Year-End 2013)

	CV Submarket	Clark County	Portland Metro
Total Inventory (SF)	4,178,209	19,344,114	191,085,618
% Warehouse/Distribution	71.24%	66.65%	69.67%
% Other	28.76%	33.35%	30.33%
Vacancy Rate	8.80%	4.80%	5.70%
Average Age (in years)	38.6	32.0	41.7
Net Absorption (2013)	(81,686)	75,340	964,986
Planned SF	0	784,213	5,235,418
Construction SF	0	70,000	897,675
Rental Rates (nnn)			
Average	\$6.35	\$6.18	\$5.30
Range	Starting at \$4.20	Starting at \$3.00	Starting at \$2.16

Sources: CoStar and E. D. Hovee & Company, LLC.

Other key features of the overall CV submarket industrial space inventory are noted as follows:

- Over 70% of the CoStar inventory is described as warehouse/distribution space. The remainder includes manufacturing and other industrial-related activities.
- As of year-end 2013, industrial vacancy for the Central Vancouver submarket was at 8.8% – well above the 4.8% vacancy county-wide and 5.7% rate for the metro region.
- Rental rates for the submarket average \$6.35 per square foot annually on a triple-net (tenant pays all expenses basis) – starting at just over \$4.00. Central Vancouver area rental rates appear to exceed averages for Clark County and the Portland metro area.
- Conversely, reported submarket net absorption for 2013 was negative, meaning that more industrial square footage was vacated than by space taken with new leases. In contrast, positive absorption was noted both on a county-wide and regional basis.
- There is significant planned and actual construction underway both county-wide and regionally. Currently, no new industrial projects are reported as being planned or underway for the Central Vancouver submarket which includes the LGEA.

As detailed by the Appendix to this report, there are nine industrial properties of 50,000+ square feet in the Central Vancouver submarket. By far the largest is the 2.4 million square foot Columbia Business Center, noted as the largest private business park in the Pacific Northwest.

Directly within the LGEA, the largest properties are the Quad Industrial Park plus previously built Columbia Machine structures – all owned by Columbia Machine and together comprising over 436,000 square feet of industrial building space. Also within the LGEA is the 61,400 square

foot East 1st Street Distribution Center. The largest LGEA industrial vacancy comprises approximately 72,500 square feet of building area.

In summary, the Central Vancouver industrial submarket is dominated by Columbia Business Center and the Columbia Machine/Quad Business Center – which together account for over two-thirds (68%) of the CV submarket’s industrial space inventory. The remainder of the submarket’s industrial inventory is spread across smaller holdings – whether considered in terms of location or ownership.

At present, barriers to development appear to be market-related as well as attributable to identified infrastructure constraints. Future development can be expected to be driven by expansion of existing development and business interests coupled with attraction of new companies attuned to what likely will be a more diverse industrial and related business use mix.

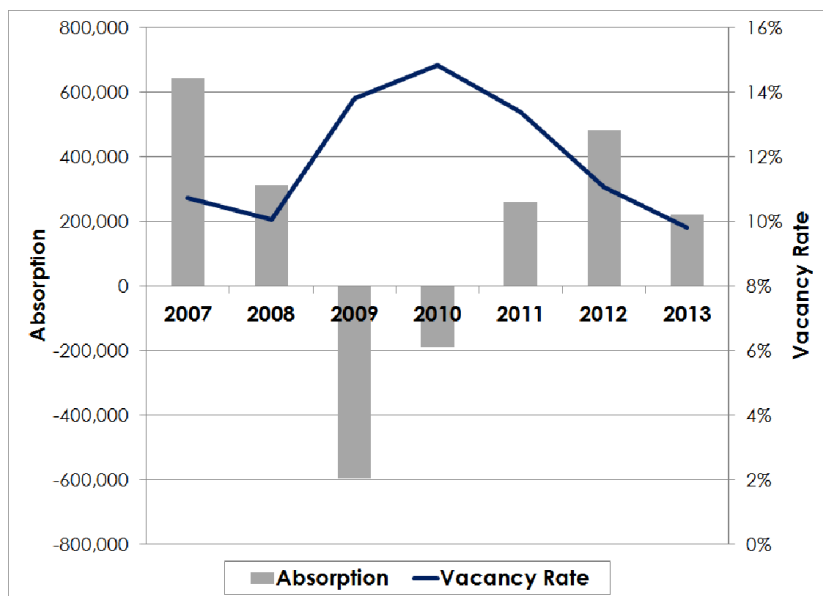
FLEX SPACE

Regionally and in Vancouver/Clark County, flex space represents a relatively new commercial real estate product type – a hybrid of traditional office and industrial space. CoStar defines *flex* as a type of building designed to be versatile; at least half of the rentable area of the building must be used as office space. Flex buildings are typically located in areas zoned for light industrial use and have ceiling heights under 18 feet.

A flex-space use could involve a technology firm that has some combination of office, R&D, and production or distribution facilities on-site. A more traditional industrial firm that wants a high-image corporate office might also choose to locate in flex space.

Regional Flex Market. As of year-end 2013, there was an estimated 18.6 million square feet of flex building space region-wide. The flex market comprises less than 10% as much building space as the traditional industrial market (and 20% of the region’s office inventory). However, flex space has become a significant part of the commercial development product mix in some submarkets of the region, especially Washington County’s Sunset Corridor.

Regional Flex Absorption & Vacancy (2007-13)



Sources: CoStar and E. D. Hovee & Company, LLC.

The pattern of absorption and vacancy from 2007-13 parallels that of office space regionally. Vacancies peaked at nearly 15% in 2010 but have since dropped sharply to the range of 10%. Unlike office space, flex vacancies are now lower than they were pre-recession.

Central Vancouver Flex Submarket. A total of 16 buildings encompassing 223,000 square feet are identified by CoStar as comprising the existing flex space inventory in the Central Vancouver submarket. Average building size is relatively small at just over 14,500 square feet. Of this total inventory, only four buildings with a combined total of less than 12,000 square feet of building area are located directly in the LGEA.

Comparative Flex Market Indicators (Year-End 2013)

	CV Submarket	Clark County	Portland Metro
Total Inventory (SF)	223,388	2,317,855	18,629,441
Vacancy Rate	4.40%	15.10%	10.00%
Net Absorption (2013)	7,919	(104,991)	219,356
Planned SF	0	200,652	474,652
Construction SF	0	0	1,910,911
Rental Rates (nnn)			
Average	\$6.01	\$8.66	\$9.40
Range	\$5.40-\$7.66	\$3.60-\$19.00	\$3.60-\$23.00

Sources: CoStar and E. D. Hovee & Company, LLC.

While accounting for about 10% of the Clark County flex space inventory, the Central Vancouver submarket represents only a bit over 1% of the 7-county metro region's flex market:

- Currently, Central Vancouver submarket reported vacancy rates are only 4.4% – well below comparable Clark County and regional vacancy figures.
- At about \$6.00 per square foot annually, Central Vancouver submarket rents appear modest for flex space in comparison with the rest of the county and metro area.
- Surprisingly, average flex space rents are even somewhat below average rates quoted for Central Vancouver submarket industrial space. Flex typically commands higher rental rates than industrial space, due to a typically greater proportion of office build-out. In larger part, lower CV submarket rental rates appear due to a mix of comparatively older buildings dating as far back to 1940 currently being marketed locally as flex space.
- In contrast with Clark County for which negative net absorption is indicated for 2013, there was a relatively modest increase in Central Vancouver submarket space leased. However, the bulk of net new flex demand currently is being experienced on the Oregon side of the Columbia River, especially in Washington County's Sunset Corridor close to area technology firms. Emerging use of flex (and office) space is also now occurring in Portland's Central Eastside – with creative service firms seeking a less finished or industrial aesthetic.

- There is no new flex development planned or underway within the LGEA or the greater local submarket. Despite relatively high current vacancies, over 200,000 square feet of new flex is currently planned in Clark County. Reducing vacancies for existing space may well influence whether and when planned new space proceeds to construction.
- Close to 2.5 million square feet new flex space construction is underway or planned throughout the metro area. Of particular note is that the 1.9 million square feet of flex space now under construction is more than double the level of construction for more traditional industrial space across the Portland-Vancouver metro region.

In summary, both the Central Vancouver submarket and Clark County continue to be under-represented in the region’s flex market –oriented to Washington County’s Sunset Corridor. Yet, as evidenced by substantial new construction, this represents a commercial real estate product type that will be of increased importance throughout the region in the years ahead.

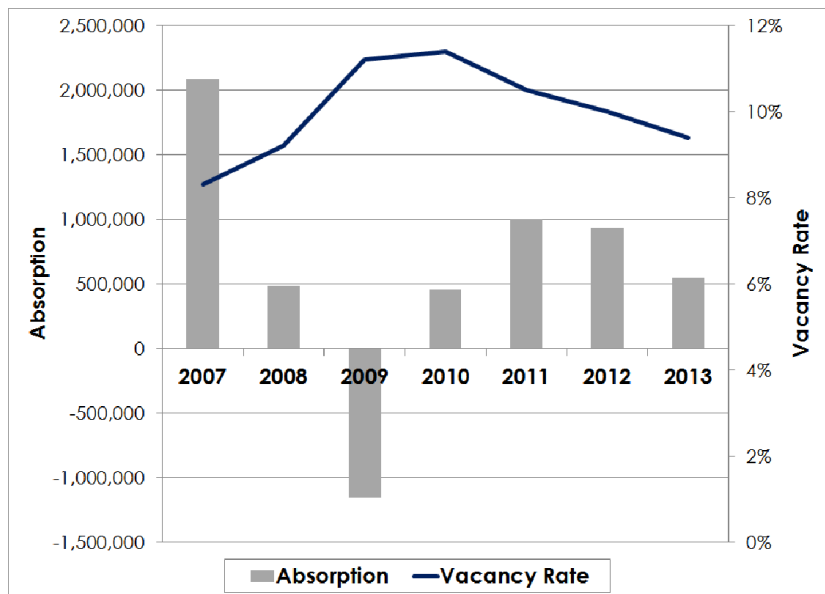
OFFICE

Due to industrial zoning of most of the LGEA area and limited inventory of space to date, past trends would suggest limited office potential for the years ahead. However, this may change as current LGEA zoning allows office use and as new development close-in begins to favor a greater mix of office as the district transitions from a purely industrial to broader employment focus. This has already happened to some extent on the west side of downtown Vancouver and with office space as part of the mix at Columbia Business Center (CBC) and at Columbia Shores.

Regional Office Market. As with industrial and flex uses, 2007 was the last year of robust absorption and low vacancies before the recession. The metro area market experienced negative absorption of 1.2 million square feet in 2009 (with lease terminations far outpacing new lease transactions), with vacancy peaking in 2010 at 11.4%.

Since 2010, vacancies have been reduced each year – back to just over 9% as of 2013. Absorption is positive, but not at the robust pace experienced before the recession – and with some drop-off in leasing activity noted for 2013. Sub-par job growth has contributed to a weaker recovery of office space demand than has been

Regional Office Absorption & Vacancy (2007-13)



Sources: CoStar and E. D. Hovee & Company, LLC.

the case with other forms of investment property. Also of note is that more office users are now migrating to other real estate product types – notably business park and flex space.

Relatively low vacancies (of 7% or less) are now reported for submarkets of Airport Way, in-city areas of Portland, and Central Vancouver. High vacancy rates (of 15%+) continue for Beaverton/217, Kruse Way, Sherwood and Tualatin (on the Oregon side of the Columbia River), and for Orchards and Camas-Washougal (in Clark County).

Central Vancouver Office Submarket. As of year-end 2013, the Central Vancouver submarket (including the LGEA) comprised 228 buildings with close to 3.3 million square feet of office space. About 75% of this office space is in downtown Vancouver.

Eight office buildings are identified as having an LGEA address. The three largest LGEA office properties are Kiewit Infrastructure West Co. with 45,300 square feet, the 200 Grand Building measuring 22,600 square feet, and the Columbia Office Building at 18,000 square feet.

The “typical” Central Vancouver (CV) submarket building averages just over 14,000 square feet in size. The single largest building is the Bank of America office structure in downtown Vancouver with 203,000 square feet of rentable space.

Comparative Office Market Indicators (Year-End 2013)

	CV Submarket	Clark County	Portland Metro
Total Inventory (SF)	3,268,403	10,929,488	98,305,980
% Class A	30%	20%	28%
% Class B	43%	55%	45%
% Class C	28%	26%	27%
Vacancy Rate	9.80%	10.10%	9.20%
Net Absorption (2013)	(12,451)	11,139	520,931
Planned SF	243,200	1,155,004	4,147,993
Construction SF	0	23,521	390,182
Rental Rates (fsg)			
Average	\$21.05	\$20.34	\$20.73
Range	Starting at \$9.96	Starting at \$7.80	Starting at \$7.80

Sources: CoStar and E. D. Hovee & Company, LLC.

This Central Vancouver submarket accounts for about 30% of the total Clark County office inventory of nearly 11 million square feet and 3% of the more than 98 million square feet of competitive office space located throughout the 7-county Portland metro region:

- Due to construction of mid-high rise office buildings in the downtown area over the last three decades, an estimated 30% of the CV submarket consists of Class A space, more than is the case county- or region-wide.

- As of year-end 2013, reported office vacancy rates are in the 9-10% range – whether considered locally, county- or region-wide.
- Average rental rates also are comparable across all geographies considered – at about \$20-\$21 per square foot when considered on an annualized, full service basis. Rental rates for older Class C space can range to below \$10; rates for new high-rise office building construction can be expected to be above \$30 for project feasibility.
- For the 2013 calendar year just completed, reported net absorption was negative for the CV submarket. Clark County experienced minimal absorption while over 520,000 square feet of net absorption was realized throughout the 7-county region.
- Across the metro area, more than 4.5 million square feet is indicated as planned or under construction – including 5 projects representing up to 245,000 square feet for the CV submarket (primarily in downtown Vancouver). Over 90% of the identified future development regionally comes in the category of “planned,” with actual construction dependent on obtaining pre-lease commitments adequate to secure project financing.

Looking forward, office space development in Central Vancouver will be dependent on continued economic recovery in Clark County coupled with increased capture of regional office space demand and attraction of new tenants to Vancouver. LGEA office development likely will remain relatively nominal, except possibly for individual employer build-to-suit projects.

ANCILLARY RETAIL

While there is a substantial retail presence in the LGEA with the Grand Central development, limited added retail development is anticipated for the remainder of the district in the years ahead. Added retail development is expected to be focused on ancillary small-scale infill uses as are most appropriate to support industrial, flex, and office employment.

CoStar data indicates that the Central Vancouver market area comprises approximately 1.6 million square feet of competitive retail space. This represents about 9% of the 18.8 million square feet of retail space in Clark County and 1-2% of the retail space in the Portland metro region. By comparison, the LGEA trade area accounts for about 3.5% of Clark County and 0.7% of metro region population.

Of the Central Vancouver retail space inventory, over 190,000 square feet (12%) is located in the LGEA, 980,000 square feet (60%) in downtown Vancouver – with more than 470,000 square feet (28%) dispersed elsewhere including the Uptown Village area north of downtown and along Fourth Plain and Mill Plain Boulevards.

Virtually all of the LGEA retail space is accounted for by the Grand Central development, completed in 2008. At approximately 190,000 square feet, Vancouver’s Grand Central development on 14.5 acres represents, by far, the largest multi-tenant retail center in the CV submarket and the only identified retail space in the LGEA.

As noted, further retail development is limited by the light industrial zoning designation for all of the LGEA from about 5th Street south (except for the existing Grand Central site). Retail development that might be considered in the future is planned to occur via small-scale infill or ancillary retail development. Added retail uses should be expected to support area employment activity as is consistent with the adopted subarea plan together with supportive light industrial zoning for LGEA's inventory of vacant and underdeveloped sites.

MARKET HYBRIDS

Much as new forms of residential and commercial mixed use have come to reshape downtown and urban neighborhoods in recent years, the opportunity to mix varied forms of commercial and industrial activity is now a clearly emerging trend for urban employment centers. Much of the current job-related buzz in the Portland metro area is currently focused on the Central Eastside Industrial District, situated just east of the Willamette River from downtown Portland.

The City of Portland is beginning a project to work with the nationally recognized Urban Land Institute (ULI) to formulate a strategy that can better “position the Central Eastside as a 21st century employment district.” Overlapping business functions and the challenge that they pose for existing city codes are described by a city planner as follows: “The lines are really blurred right now whether a business is actually manufacturing, distribution or design. They’re combined now where in the past it was more segregated.”⁶

The trend toward adaptive reuse and new construction for creative space in what is often a grittier or less mainstream environment is particularly appealing to firms that draw a large portion of their workforce from a younger demographic – those in their 20s and 30s. This type of space is typically designed with open floor plans and exposed structural/mechanical systems and with on-site amenities ranging from bike racks to spaces for team collaboration. This type of creative space essentially reflects a merging of office and flex space functions.

Ancillary retail activity can also be a more important part of the industrial business mix in two respects – as design showroom space integrated with a design/manufacturing operation and as employee-focused places ranging from espresso/delis to brewpubs for business networking.

A challenge posed by market hybrids is that they may be accompanied by increased job density and traffic, creating potential conflicts with freight movement and storage. As an industrial district becomes more desirable to a broader range of employment uses, rents and property values can be expected to increase. In Portland's Central Eastside district, rehab space rents are now edging closer to office rates west of the river in the more traditional CBD.

Because the creative space market is primarily urban focused, it is not expected to substantially change business and development opportunities for suburban industrial areas at least in the

⁶ As referenced by the business publication *DJC Oregon* in a February 14, 2014 article by Lee Fehrenbacher titled “Solutions sought to ease Central Eastside growing pains.”

near term. However, this market opportunity could be extended toward other parts of the region that offer proximity to urban amenities and transportation (including public transit).

Of industrial areas in Clark County, close-in districts such as the LGEA may offer the best potential to transition in this direction – if supported by affected business and property owners together with associated public planning policy and infrastructure investments. This transition can also be facilitated by supportive private-public initiatives that extend beyond critical infrastructure improvements to also encompass a common vision, branding and marketing.

LGEA STRATEGIC DEVELOPMENT OPTIONS

Based on this assessment of market trends and prospects for LGEA uses considered, three overall strategic site use options have been identified as a basis for further analysis and stakeholder discussion:

- *Industrial expansion and business enhancement* – a strategy focused on encouraging and facilitating the plans for added job-creating investment by existing LGEA firms. Priority emphasis on improved utilization of existing sites followed by expansion on suitable vacant LGEA sites.
- *Industrial/flex development on vacant parcels* – a strategy that assumes aggressive marketing coupled with supportive public infrastructure improvements to attract new firms for which there could be demonstrated competitive advantage for a close-in LGEA location.
- *Ancillary commercial infill potential* – considered as a secondary function to expand and strengthen industrial-oriented employers – with supportive office and ancillary retail uses.

The chart on the following page provides a summary *matrix comparison* of the suitability of these site use options in terms of such factors as market trends, site advantages and disadvantages, potential economic returns, key issues to be addressed, and implementation requirements. From this comparative matrix, what follows is a summary of preliminary findings and recommendations from this analysis.

Lower Grand Employment Area - Comparative Economic Development Matrix

Potential Site Use	Market Opportunity	LGEA Advantages	LGEA Disadvantages	Economic Returns	Key Issues to Address	Implementation Requirements
Industrial Expansion & Business Enhancement	TBD based on results of stakeholder discussions	<ul style="list-style-type: none"> Long established local industries (e.g., Columbia Machine) CBC proximity (as a recognized industrial cluster south of SR-14) 	<ul style="list-style-type: none"> Poor roadways & drainage (NW quadrant) Uncertain development plans for vacant industrial area east of Grand 	<p><i># Jobs:</i> Low-Mid <i>Wages:</i> High <i>Taxes:</i> Mid</p>	<ul style="list-style-type: none"> Determination of business & property owner plans Internal roadways & drainage (esp. NW quadrant) 	Firm-specific development plans for industries with planned expansion coupled with City street & drainage improvement plan
Industrial / Flex Development on Vacant Parcels	Weak recent demand for both industrial & flex space for Central Vancouver (CV) & Clark County Regional market shifting to greater mix of higher value flex space	<ul style="list-style-type: none"> Direct SR-14 access with less than 5 minute proximity to I-5/I-205 interstate freeways Low vacancy rates & rents for existing flex Tax advantages for high profit business (vs. OR) 	<ul style="list-style-type: none"> Uncertain development plans for vacant industrial area east of Grand High vacancy rates & rents for industrial space Older inventory of flex space Distance from tech corridors 	<p><i># Jobs:</i> Mid-High <i>Wages:</i> Mid-High <i>Taxes:</i> Mid</p>	<ul style="list-style-type: none"> Street circulation & parcelization (east of Grand) Development suitable near wellfields Industrial marketing roles (owners, City, brokers, CREDC) 	<p>Master plan for build-out of Quad Business Center properties</p> <p>Joint private-public marketing of priority vacant sites</p> <p>Distinguish between needs of large & small users with marketing strategy</p>
Ancillary Commercial Infill Potential	Weak CV & county-wide office demand <i>but</i> creative service potential	<ul style="list-style-type: none"> Potential build-to-suit for office employers Good local & regional access with lower cost business park-type office space 	<ul style="list-style-type: none"> Central Vancouver (CV) market favors downtown area office cluster Limited added retail except for support to industrial uses 	<p><i># Jobs:</i> Mid <i>Wages:</i> Low-Mid <i>Taxes:</i> High</p>	<ul style="list-style-type: none"> Recruitment of campus office employers Zoning flexibility for small-scale ancillary retail & services with multiple business uses 	Development code review to facilitate creative & hybrid industrial-commercial uses

Source: E. D. Hovee & Company, LLC. Analysis is preliminary, intended for illustrative purposes, and subject to revision.

Market Opportunity. The overall market opportunity for expansion and enhancement of existing LGEA firms can be distinguished between:

- Plans of Columbia Machine (as the largest of the LGEA's largest industrial employers) and associated property ownership holdings (through Quad Industrial Park). A key question is the extent to which these lands will be reserved for long-term expansion needs of Columbia Machine versus availability for development by other firms.
- Plans of business and development firms who are already LGEA stakeholders. Firms like JH Kelly and Killian Pacific both have potential interest in further LGEA development.
- Smaller industrial employers, generally located in the NW quadrant of the district west of Grand and north of the commercial center development. A pivotal question for many of these firms is the extent to which resolution of long-standing street and drainage questions will serve to facilitate expansion and re-investment by existing businesses.
- Office and retail businesses which tend to be clustered more toward Columbia House Boulevard. As existing LGEA uses reach build-out of their current sites, further expansion capacity appears limited unless other suitable nearby sites could be secured.

It is emphasized that a better determination of realistic potentials for expansion and added investment from existing LGEA firms is to be more fully determined – from stakeholder interviews and other outreach yet to occur through this LGEA planning process. Development of industrial or flex space for *other users not currently located in the LGEA* may represent a future opportunity depending on: a) availability of land that can be served and priced on a basis competitive with other greenfield sites; and b) ability to draw industrial interest to a higher value and more urban Clark County location than has been demonstrated recently. The combination of higher land values and regional trends may favor flex over traditional industrial – to the extent that outside investment can be accommodated on as-yet vacant LGEA sites.

Ancillary commercial infill potential can be expected to be limited, at least in the near term. The concentration of Central Vancouver submarket office activity in the downtown core means that relatively little added multi-tenant office LGEA office development should be expected until office vacancies in the Central Vancouver market are further reduced with continued economic recovery. Single user, build-to-suit office buildings represent perhaps the best opportunity, especially if developed in conjunction with existing or new industrial/flex firms.

While the LGEA now represents the largest retail center serving the Central Vancouver submarket, the potential for added retail is expected to be limited to smaller scale retail that is directly supportive of industrial and flex employment uses. This might occur, for example, at nodes on the Grand Boulevard corridor to the extent allowed by existing light industrial zoning.

LGEA Advantages. Key attributes of the Lower Grand Employment Area for *existing firms* includes the presence of long-established local industries (including Columbia Machine as an anchor use) coupled with proximity to Columbia Business Center – as a combined urban industrial cluster for Vancouver/Clark County.

For prospective business and industrial uses that might consider an LGEA location in the future, major potential advantages of this area include outstanding highway/freeway access, demonstrated demand (with low vacancies but as yet affordable space) and tax advantages of Washington over Oregon for high profit-margin firms.⁷

LGEA Disadvantages. Issues that affect operations of *existing LGEA industries* include poor roadway/safety and drainage conditions, especially for NW quadrant firms. Until resolved, these conditions will likely serve as a continued disincentive to added capital investment.

For *prospective new businesses*, potential disadvantages include uncertainty around development plans for the vacant industrial area east of Grand coupled with issues of weak demand and image of the existing industrial inventory. This is a particular negative for tech firms that typically are more oriented to newer, campus style or business park development.

For commercial uses, the LGEA area is at some disadvantage for added office investment as compared with the downtown area as the primary Central Vancouver office center. For retail, further development will be limited to ancillary uses in support of industrial employment uses as consistent with Subarea Plan and zoning designations for vacant and underdeveloped LGEA properties.

Economic Returns. With this analysis, economic returns have been considered on a preliminary basis from three perspectives:

- *# of jobs created* – which is related to building site coverage and number of workers per square foot of building area. Of the uses considered, office typically yields the highest levels of employment on a square foot or per acre basis – followed by flex, retail, industrial manufacturing and then distribution.

Job potential with mixed use will be dependent on the proportion of the site developed for each of the uses separately, then added together.

- *Wage rates* – typically are relatively high for industrial and professional office uses, then lower for retail. However, there can be considerable wage rate variation within a particular employment sector.
- *Tax revenues* – focused on returns to Clark County and other local jurisdictions including schools. Due to the combination of growing reliance on sales tax and the 1% property tax limitation, tax revenues in Washington tend to be highest for retail related uses (except for grocery and pharmacy items which are tax exempt).

Construction activity is also represents a strong source of sales tax generation, though of temporary duration when considered on a site-specific basis.

⁷ Washington tends to present a tax advantage firms with a high profit margin due to lack of a state income tax. Conversely, Washington state can be disadvantageous for high volume, low margin firms due to the state's business and occupation (B&O) tax which is based on business revenue rather than profitability.

More detailed quantitative estimates of economic returns that might be anticipated will be conducted with a second phase refined market analysis. This will occur in conjunction with site specific development planning based on stakeholder, expert panel and public input in consultation with the City of Vancouver.

Key Issues to Address. For *existing industries*, the #1 question is to better understand business and property owner plans. #2 is the need to address NW quadrant roadways and drainage – to the extent to which this can serve to facilitate added business investment.

To attract *new firms* to the LGEA, a key issue is the need for completion of master planning for vacant properties east of Grand Avenue. A related question to address is to ascertain the degree to which wellfield protection measures will constrain industrial uses at the eastern end of the LGEA or, alternatively, the extent to which these concerns can be mitigated with appropriate, cost-effective design.

As these issues are addressed, it also will prove important to determine appropriate roles for marketing the LGEA opportunity. Key participants in a cooperative marketing initiative could be expected to include property owners/developers, industrial brokers, the City and CREDC.

With respect to *ancillary commercial*, key issues will be related zoning flexibility for small-scale retail or services for uses with multiple on-site business activities. The opportunity to recruit campus office employers might also be considered as part of a cooperative site marketing initiative.

Implementation Requirements. Priority actions to better assure site market feasibility are closely tied to key issues which vary by use considered, as follows:

- *Industrial expansion & business enhancement* – is dependent on ability to formulate and then effect firm-specific development plans for those industries interested in expansion *coupled with* a cost-effective City street and drainage improvement plan.
- *Industrial / flex development on vacant parcels* – will be keyed largely to a master plan for build-out of the Quad Industrial Center with joint private-public marketing of priority vacant sites. It may prove critical to distinguish between the needs of large and small industrial/flex users and target site marketing accordingly.
- *Ancillary commercial infill potential* – can be facilitated in a manner that complements the LGEA's industrial character by a code review to facilitate creative and/or hybrid industrial-commercial uses.

Questions and suggestions related to any aspect of this Phase I market overview are welcome. We look forward to proceeding with second phase refined market analysis, in conjunction with site reuse planning subsequent to a property owner workshop and public input.

APPENDIX. SUPPLEMENTAL DATA TABLES

LGEA Business Listing (2013)

Business Name	Description	Business Type
Bluebird Moving and Storage	Storage Warehouse	Other Industrial
Bluebird Moving and Storage	Storage Warehouse	Other Industrial
Iron Gate Mini Storage	Self Storage / Mini Warehouse	Other Industrial
Columbia Pacific Properties	Office Bldg: Leasing Class B & C	Office/Service
Western Construction	Construction	Office/Service
Western Design GRP	Office	Office/Service
Net RX	Office	Office/Service
Nobel Law	Office	Office/Service
Calvert Lumber	Mfg - Lumber & Wood Products	Manufacturing
Smart Pharmaceutical	Storage Warehouse	Other Industrial
RLD Co.	Flex Space	Other Industrial
Vancouver Roofing and Sheet Metal	Storage Warehouse	Other Industrial
InstaFab	Storage Warehouse	Other Industrial
Trailer World	Service Automotive	Office/Service
Civil Works NW	Storage Warehouse	Other Industrial
Roadlink International	Misc. Bldg. with Office Functionality	Office/Service
Drainage Masters	Service Automotive	Office/Service
ADCO Printing	Service Repair Shop	Office/Service
ADCO Printing	Storage Warehouse	Other Industrial
Scheffler NW	Service Repair Shop	Office/Service
TW Production Scream Entertainment	Storage Warehouse	Other Industrial
Pro Service Diapers	Service	Other Industrial
True World Foods	Storage Warehouse	Other Industrial
NW Renewable Energy Institute	Misc. Bldg. with Office Functionality	Office/Service
Worley Parsens Energy and Resources	Office	Office/Service
Smith Cooper NW	Storage Warehouse	Other Industrial
ProPlus Fastners	Storage Warehouse	Other Industrial
GEOTEK	Storage Warehouse	Other Industrial
Speeds Towing	Storage Warehouse	Other Industrial
AJ Custom Cabinets	Mfg - Lumber & Wood Products	Other Industrial
Premier Pump and Power	Mfg - Miscellaneous	Other Industrial
Vancouver Towing	Service Automotive	Office/Service
Electrix	Storage Warehouse	Other Industrial
Kiewit Construction	Office Bldg: Leasing Class B & C	Office/Service
JH Kelly	Storage Warehouse	Other Industrial
Gental Dental	Health Clinics: Medical/Dental/Other	Retail
Red Robin	Restaurants, Cafes	Retail
Budget Blinds	Retail	Retail
The Rock	Restaurants, Cafes	Retail

Business Name	Description	Business Type
Fred Meyer	Large retail building (>40,000 s.f.)	Retail
Columbia Credit Union	Banks & Credit Unions	Retail
Panda Express	Retail Eating and Drinking Places	Retail
The Barbers	Service	Retail
Fed EX	Service	Retail
Ginger Pop	Restaurants, Cafes	Retail
When the Shoe Fits	Retail	Retail
New Town Cleaners	Dry Cleaners, Laundries	Retail
Lapella	Restaurants, Cafes	Retail
Thatchers	Retail Eating and Drinking Places	Retail
We've Got Your Back Yogurt Shack	Retail Eating and Drinking Places	Retail
T-Mobile	Retail	Retail
Subway	Retail Eating and Drinking Places	Retail
Cotton Babies	Retail	Retail
Hasson Realty	Service	Retail
Columbia Machine	Mfg - Machinery	Manufacturing
Columbia Machine	Storage Warehouse	Other Industrial
Columbia Machine	Storage Warehouse	Other Industrial
Columbia Machine	Storage Warehouse	Other Industrial
Earth Link	Office	Other Industrial
City Pump Station	Pumping Station / City Well	Public/Utility
City Pump Station	Pumping Station / City Well	Public/Utility
Clark Public Utilities	Utilities: Electric, Gas, Plants, Structures	Public/Utility
Brayley Gray Real Estate GRP	Distribution Warehouse	Other Industrial
MEH LLC	Service Repair Shop	Office/Service
Columbia Machine	Parking Lot: Paved, for adjoining building	Other Industrial
Columbia Machine	Parking Lot: Paved, for adjoining building	Manufacturing
Clark Public Utilities	Utilities: Electric, Gas, Plants, Structures	Public/Utility
WC Lakshmi LLC	Service Automotive	Office/Service
Columbia Machine	Parking Lot: Paved, for adjoining building	Other Industrial
Columbia Machine	Parking Lot: Paved, for adjoining building	Other Industrial
Washington School for the Deaf	Schools for the blind, deaf	Office/Service
Quad Investments	Storage Warehouse	Other Industrial
Clark Public Utilities	Electric power boosters, transformers, sub-stations, right-of-ways	Public/Utility
Quad Investments	Parking Lot: Paved, for adjoining building	Other Industrial
Quad Investments	Storage Warehouse	Other Industrial
Washington School for the Deaf	Schools for the blind, deaf	Office/Service
Quad Investments	Parking Lot: Paved, for adjoining building	Other Industrial

Notes: *Description is based on the Clark County Assessor GIS field PT1DESC.

** Many of the businesses listed above are located on a tax lot parcel with other businesses.

Business Type is designated according to predominant use on a tax lot.

Source: City of Vancouver and E. D. Hovee & Company, LLC.

Central Vancouver Submarket Industrial Properties (50,000+ Square Feet)

Name	Building Address	RBA (SF)
Columbia Business Center	2111-3900 SE Columbia Way	2,400,618
Quad Industrial Park	3000 Columbia House Blvd	281,989
Columbia Machine	107 S Grand Blvd	154,263
Pedigo	4000 SE Columbia Way	120,000
The Columbian	701 W 8th St	98,217
8th Street Properties, LTD	1200 W 8th St	77,800
East 1st Street Distribution Center	2300 E 1st St	61,390
Portco Bldg	4200 SE Columbia Way	55,518
Vancouver Warehouse & Distribution	1101 W 11th St	52,704

Source: CoStar and E. D. Hovee & Company, LLC, as of Year-End 2013. Entries shown in **boldface** are in the LGEA. Ownership totals include multi-building assemblages.

Central Vancouver Submarket Area Flex Properties (All Sizes)

Name	Building Address	RBA (SF)
Columbia Business Center	2501 SE Columbia Way	69,023
MacArthur Building	5400 MacArthur Blvd	30,170
Pearson Air Museum	1105-1109 E 5th St	29,414
The ARC of Clark County	6511 NE 18th St	15,382
Garrett Sign Company	811 Harney St	13,651
PRO Staff Electric	6109 E 18th St	12,024
Creekside Business Park	6017 E 18th St	12,000
Hanabata, LLC	1720 NE 64th Ave	10,080
RSVP of Washington, LLC	901 W Evergreen Blvd	8,000
Delta Management Co	203 E Reserve St	7,322
Adco Commercial Printing & Graphics	355 N Grand Blvd	4,545
WC Lakshmi LLC	2305 E 5th St	3,300
Tetreault Property	4009 E 18th St	2,686
HR Street Inc	2717 E 5th St	2,463
Saratoga Woodworks, LLC	4001 E 18th St	1,705
Drainage Masters LLC	2801 E 5th St	1,623

Source: CoStar and E. D. Hovee & Company, LLC, as of Year-End 2013. Entries shown in **boldface** are in the LGEA. Ownership totals include multi-building assemblages.

Central Vancouver Submarket Area Office Properties (40,000+ Square Feet)

Name	Building Address	Class	RBA (SF)
Bank of America Building	805 Broadway St	A	202,975
Riverview Tower	900 Washington St	A	163,853
First Independent Place	1220 Main St	A	155,106
Town Plaza Center	5411 E Mill Plain Blvd	B	148,683
Clark County Public Service Center	1300 W Franklin St	B	144,825
New City Hall	415-515 W 6th St	A	120,823
Vancouver Center	700 Washington St	A	108,248
Murdock Executive Plaza	703 Broadway St	A	90,000
Main Place Bldg	1111 Main St	A	87,984
Western Federal Lands Highway Division	610 E 5th St	B	79,206
Officers Row	601-1607 Officers Row	C	79,125
Columbia Bank Building	500 Broadway St	A	70,353
The Academy	400 E Evergreen Blvd	C	70,000
Tidewater Cove Offices	5701-5721 SE Columbia Way	A	66,000
400 Mill Plain Center	400 E Mill Plain Blvd	B	60,833
Kiewit Infrastructure West Co	2200 Columbia House Blvd	B	45,287
Building 2	611 W Evergreen Blvd	B	42,973
Columbia Shores Office Building	501 SE Columbia Shores Blvd	B	41,969
Pacific Tower	915 Broadway St	B	40,000

Source: CoStar and E. D. Hovee & Company, LLC, as of Year-End 2013. Entries shown in **bold-face** are in the LGEA.
Ownership totals include multi-building assemblages.