City of Sherwood
Oregon
House of the Tualatin River National Wildlife Refuge

City of Sherwood
PLANNING COMMISSION
Sherwood City Hall
22560 SW Pine Street
Sherwood, OR 97140
April 14, 2009 – 7 PM

Planning Commission will hold a work session on April 14, 2009. Work sessions are informal. Public may attend.

Work sessions are informal meetings where the Commission and staff can discuss topics but no formal action is taken from these meetings. Work sessions are open to the public in accordance with public meeting laws.

Planning Commission Work Session agenda items:

1. Adams Avenue area concept plan
2. Industrial Design Standards
3. Area 48 – update on process

Next Regular Business Meeting: April 28, 2009

City of Sherwood, Oregon
Draft Planning Commission Minutes
February 10, 2009

Commission Members Present:

Chair Allen
Jean Lafayette
Todd Skelton
Raina Volkmer
Todd Skelton

Staff:

Julia Hajduk, Planning Manager
Heather Austin, Senior Planner
Karen Brown, Recording Secretary

Commission Members Absent: Commission Emery and Commissioner Nolan

Council Liaison –

1. **Call to Order/Roll Call – Chair Allen** called the meeting to order. **Zoe Monahan** called roll

2. **Agenda Review – Commercial Design Standards Update**

3. **Consent Agenda – Chair Allen** asked for comments or questions. None were given. Commissioner Lafayette moved to accept the consent agenda. Commissioner Walker seconded the motion. All were in favor. The motion carried.

4. **Staff Announcements** – Julia introduced Zoe to the Commission. Julia updated everyone on the Brookman Road project by saying that Planning Staff and City Council will be talking on February 17th, 2009 about the policy direction that needs to be taken. It is likely that staff will request that a decision be withheld until March 3rd, 2009. There has been new information released in the I-5/99 connector project and hopefully decisions will be made on the connector project at their meeting scheduled for February 25, 2009. Staff would like to wait so that any new decisions made can be factored into the discussion held by the City Council.

5. **City Council Comments** – There is a new Council Liaison, Dave Heironimus.

6. **Community Comments** – None were given.

7. **Old Business –**

8. **New business – Chair Allen** opened the public hearing on PA08-04 Commercial Design Standards update and read the public hearing script. He then as the Commission to disclose any conflicts of interest. None were disclosed.

   Heather Austin presented the Staff report. No comprehensive plan changes are proposed with this update. The applicable State goals, comprehensive plan policies and the related

development code sections are included. There are also several sections of code language including the new process for a "Design Upgraded" site plan review which is the expedited process, changes to the matrix including alternatives to the existing standards. the current option which is to use the current Old Town standards and the additional option that would allow an applicant that may not meet any of the standards, but believe they have a stellar project and want to come before the Planning Commission and have more of a discretionary review. There are also a couple of "house-keeping" items including clarification of the "off street loading standards" and clarification that 8' Public Utility Easements are not required in the Old Town Overlay since building in that area are required to be built flush to the right-of-way. The change also includes clarification regarding the construction of new private streets. Construction of new private streets is prohibited unless you are serving 2 or more lots in a residential area.

Commissioner Lafayette asked if the intent was to allow commercial and industrial areas to have multiple lots served by one private street, but not allow residential development streets to serve only one lot.

Heather agreed that her understanding was correct and went onto explain that the intent of the private street section was to prevent situations like major flag lots where several lots being accessed of a private street behind the street, rather than building a public street. In commercial developments the scenario is often seen where staff requires shared access between two parcels then a third will want to take access, but are precluded because access is limited to two.

The final change to the code language includes on more house-keeping item. The proposed change is to not require the visual corridor in the Old Town overlay as again, the building are required to be built to the property line. The vision clearance triangle standard will still be required to insure traffic safety.

Heather continued her presentation by saying that Exhibit B that was handed out in the packets is the matrix that staff will use to review site plans. The additional exhibits include a review of some existing developments and how they would score using the matrix.

Reviewing the Matrix results, (exhibit D) the two locations that scored the highest using the proposed criteria are Hunter's Ridge and Cedar Brook Professional Building. Hunter's Ridge scored well on building design, parking and landscaping. The good scores on parking came about since most of the parking is under the structure in a garage. They also did well on their total landscaping. They retained all of the existing trees adjacent and in the sensitive areas. Cedar Brook Professional Building has been built with the current standards including being oriented to the street also scored well on landscaping and building location. She also included the area 59 Schools as the code language does cover institutional uses. At this time they are pretty close to passing. One suggestion she would make can be found on exhibit C. Item d-6 gives higher points for lower amounts of grass, but she suggests not penalized schools for having larger amounts of grass. Walgreens, which is one that the Commission generally liked did not score as well. The building is oriented in the middle of the lot with parking all the way around, the landscaping is primarily grass. The tree count is low as well as the tree retention (every tree was removed from the site). These issues could be easily remedied. It scored

well on the materials due to the use of brick and the window glazing. Amenities could be added such as benches by the front entrance and increase landscaping by adding landscaped islands in the parking stalls that would raise their score. The theater and Rose's are weak in building design and orientation, pretty weak in landscaping as well. There are some miscellaneous issues as well like the use of wood fencing. There would be quite a few improvements that would need to be made to this site.

She found some points where the point values in the matrix don't match the point value in the code section, so she would recommend that the matrix number be what are adopted if there is a recommendation made as well as the exhibit C changes. On exhibit C there are several other changes recommended including: fenestration, mitigation of trees, amount of grass and the change to fences and walls to include retaining walls.

Chair Allen wanted to summarize what the design review system will be. He sees it being presented as Staff offering choices to the developer: the first option is the very prescriptive, thou shall or thou shall not, alternatively you can use the Design Review Matrix and "pick and choose" how your project will meet the standard as long as you get 60% of the score. Additionally if the project receives 80% of the score there is then an expedited process that will be allowed. If none of those options are appropriate then the developer can bring their proposal to the Planning Commission and undergo a Design/Review hearing. Lastly, developers can also follow the Old Town Review Design Criteria.

Heather confirmed that his summary follows her intent.

Commissioner Lafayette was reviewing the existing review standards asked for clarification on item 3 as to what minimum standards are currently required.

Heather addressed the question from her own experience doing site plan reviews; if the development has windows, be it 2 or 20, it has windows. Awnings do have a requirement of 3' of shelter so they are easier to verify. She is open to suggestions on clarifications on minimum window standards.

Conversation between Heather, Commissioner Lafayette and Chair Allen continued regarding the viability of letting Developers use the original standards requiring the use all 3 of the original standards, as well as the definition of "designed for the long term". Heather explained that "designed for the long term" relates to the use of the building and that those uses may change over time. So design of the building should not be based on current use. Her example was that Taco Bell should not be built in the shape of a bell. If that use changes, the building shape should not be prohibitive to new uses.

Chair Allen opened the meeting to public testimony.

Patrick Lucas a Sherwood resident addressed the Commission by first saying he thinks the City is heading in the right direction trying to fix some existing issues. One of his main concerns though relates to private streets, 16.118.050. He is currently developing two medical office buildings; Cedar Brook Dental Buildings. Those buildings front Meinecke, Cedar Brook Way, Handley and Hwy 99. When the building were in review by the Planning Department there were issues regarding orientation to pedestrian way.

He interpreted the code to say that since Handley Street is the only street that actually has access to the building that would be his front. He was told by staff that the front entrance needed to either face Hwy 99 or Meinecke, and that no parking would be allowed between Handley Street and the front door. On certain parcels it seems difficult to determine orientation. He sees from a City's stand point, the buildings along Tualatin-Sherwood road, near the theater that "back" to the road and that the code was written to try to correct that. As it was written, basically everything in Sherwood is now non-conforming use. He appealed the decision that was made on his property and was able to negotiate putting a door on Meinecke Road and reduced some parking spaces to work out his site plan.

Regarding the private road issue: he has submitted an independent living facility plan and had not received notice on the property next door so they didn't know where the road was going to align. They have since realigned Cedar Brook Way and changed their whole plan, and now have a private driveway. They have buildings that will front Meinecke even though there will be no access off of Meinkecke Road. Is it interpreted that pedestrian access and the front door will be off Meinecke and off Cedar Brook, but that the real access is a private drive in the back since there is no access from Meinecke? Under the private street plan serving residential developments; is that just residential developments or would the street/private driveway have to become a public street? If it does have to become a public street it would totally mess up his current plan. He wants to be sure that the code changes don't somehow "throw a monkey wrench in everything."

Chair Allen asked Heather is she would like to respond.

She did by saying, that while the project Patrick is referring to is in a commercially zoned property, but it was the intent to make it easier for commercial properties to do private streets. Adding the residential statement, " the construction of new private streets serving residential developments shall be prohibited, unless it provides principle access to two or fewer residential lots." So, private streets that are not serving residential developments are not prohibited now with this new code language. It is meant to limit the limit on private streets to residential developments. Patrick's property is considered a commercial development even though it is assisted living.

A conversation ensued among staff, commissioners regarding concerns about the language being residential uses or zones. Commissioner Lafayette stated that in the past they have interpreted the code by applying commercial design standards to an industrial zoned property because that is what the use is going to be. She understands Patrick's concerns because he has a residential use on a single lot and he has now created a private street which seems to be counter intuitive.

As a result of the discussion Heather suggested amending the language to say, "the construction of new private streets serving single family residential developments."

Commissioner Lafayette wanted to address the concern about determining the front of a building and why a project like Hunter's Ridge, that looks so good would not have scored high enough to be fast tracked.

Julia answered by saying that one of the things the alternative will allow if flexibility. What staff was hoping to accomplish is that while they want to have things at a pedestrian friendly scald and attractive to people viewing developments, they still wanted some flexibility.

Ryan Givens a Land Planner with WRG Design addressed the Commission by saying that his firm represents many commercial developers and the type of development they typically see in this area includes a large anchor tenant in the rear and the along the street a more traditionally oriented out-parcel that would block the parking. That is the type of development he has been tracking this proposal against and comparing the standards up against. He feels that this is a very good second attempt at this proposal, however does have one recommendation under the parking and loading area section of the code. Currently the way he reads the code you don't get any points if you locate in front or on the side of the building. Based on his earlier example with the anchor tenant in the back the proposed language would not allow that type of development. He would suggest removing the language "to the front and side of buildings" and replace it with " between any building and a public street." He believes that would allow some really good commercial development with these standards.

Eugene Stewart, a Sherwood resident began by questioning the citizens' involvement in this process as outlined by the Goal 1 in the Oregon's Statewide Planning Goals and Guidelines. He began by referring to page 3, section 6, and reading the section titled, Revisions. "the general public, through local citizen involvement programs should have the opportunity to review…"

Chair Allen reminded Mr. Stewart that the Planning Commission has been designated as the Citizen Involvement Committee for the City of Sherwood since they are all citizen volunteers. Chair Allen asked if Mr. Stewart wanted to provide a citizen input on this meetings subject, as it would be helpful to the Commission.

Mr. Stewart stated that one of his concerns is that if some of the ideas being discussed now had been brought forward sooner, there might have been a chance to develop a better plan that what is being proposed. He feels that FOOT (Friends of Old Town) had never been appraised of this process or given an opportunity to provide any input.

Chair Allen asked staff if any of the Old Town Design Standards will be effected by the proposed changes.

Heather stated that it does not. All that is being done is clarification of inconsistencies in the code. Currently, staff requires developers to provide a visual corridor if you are on an arterial, but in the Old Town Standards that cannot be accomplished because it is required that the buildings be pulled up flush with the right-of-way

Chair Allen added that specifically they are removing the things in other parts of the code that conflict with the Old Town Review Standards. The Old Town Review Standards are being kept exactly as they are.

Mr. Stewart asked if at the same time is staff considering parking in Old Town.

Chair Allen advised that the parking is not the issue being reviewed in this meeting.

Mr. Stewart's went on to say that he believes the Citizen's Advisory Committee is the Committee that is responsible for the 1989 Comprehensive Plan. (Chair Allen interjected that the Planning Commission is that body).

Mr. Stewart continued by saying, the CCI, the Committee for Citizen's Involvement is known as the Sherwood Citizen's Planning and Advisory Committee. They have not been involved in this process. It seems to him that if you read the code enough, Part One of the comprehensive plan, the ordinance that created it has been stricken. He asked rhetorically if we are doing an effective job of citizen's involvement. He doesn't know. As big of an issue as this is there doesn't seem to be much citizen participation. He thinks the Planning Commission and staff should strive to obtain more involvement. What his concern is that we are going to become one of those city's where everything looks the same. He went on to say that if you look at other old town areas around what is unique about all of them is the fact that there were individuals that developed each particular pieces of property. They haven't tried to conform. He feels that by trying to set a straight and narrow pattern you are taking away some good things that could have happened.
He stated that he was submitting this in the hopes that maybe he could get written comment on what the citizen's involvement program is.

Chair Allen asked if anyone else wished to speak. No other comments were given. He then closed public testimony on PA 08-04 and asked for final staff comments.

Heather began with responses to Mr. Lucas and Mr. Givens' testimony. Regarding the testimony by Mr. Lucas and concerns voiced by Commissioner Lafayette as to why Hunter's Ridge did not score higher she explained that it is very possible it could have been scored higher. What she had used for her scoring were the old plans that were submitted. She wanted to review them as if she were receiving a new submittal and only had the information provided in front of her, and not visiting the site. Hunter's Ridge may have amenities not shown on their original plans like benches or other pedestrian amenities that would increase their score.

Regarding the location of parking brought up in the testimony given by Mr. Givens believes that his proposal meets what she was suggesting. The wording stating parking of no greater than 50% and the different percentages between any building and a public street would accomplish the same outcome. She has no concerns about changing the wording as suggested.

Chair Allen asked for a possible change of wording regarding the alternative that developers can come to the Planning Commission as a design review body. He feels that changing the terms to say if a project meets or exceeds the objectives in 16.90.010.2. That way there would be a standard already written that they can refer to. Heather agreed.

Commissioner Lafayette asked about a statement that Heather had made early in her staff report about the matrix and code not matching.

Heather clarified her statement by saying that while she was reviewing the matrix she noticed that the point values in exhibit B don't exactly line up. An example is the LEED Certification in the code language shows you would get 3 points for that. The matrix had been adjusted to give 1 point. Projects were missing out on a many points and we have not seen a LEED project in Sherwood yet. We may in the near future, but 3 points seemed to be a lot to miss out on for something so rarely seen. The matrix embedded within the code values will be changed to reflect the values in exhibit B.

Chair Allen mentioned that the way Heather described LEED is exactly the opposite of what he understood. Heather suggested in that situation maybe a bonus point would be more appropriate. There is a bonus award possible earlier in the matrix already. For joint use or multiple use reduction for parking spaces you get 1 bonus point. They did not want to subtract points for projects just meeting the parking standards, because they met the standard, but they did want to give points for going beyond and using joint parking and reduction of impervious surfaces.

Chair Allan suggest removing the LEED points from the base calculation of points and adding them back in as 3 bonus points if met.

Commissioner Walker ask if there should be something added to the policy that stipulates the new process be reviewed in a designated amount of time to ensure it is meeting the intent.

Julia brought up the point that processing and adopting this is probably not the place to request that review. It is something that can and should be done, but not written into the ordinance.

Heather agreed that it could be added to the process.

Commissioner Lafayette referred to exhibit A-2, page 2 under required findings the language referrers to the proposed office retail, multi family, institutional AND/OR mixed use development. The Commission recommended changing the language to say … multi-family, institutional or mixed use. Omit the word and.

Staff and the Commission discussed an issue brought up by Commissioner Lafayette. She wants to be sure that this process really is going to make it easier for developers to submit a product that is better in the end rather than defaulting to items 1,2 and 3. Heather believes that there are 3 main issues she has heard about from the developers. Primary front entrances are being oriented to the street, buildings being located adjacent to and flush to the street and the architectural building being oriented to the pedestrian. Julia added that this new criteria is adding more flexibility to meeting the standards. Chair Allen offer a synopsis using the Rose's development as an example. If they came in today and wanted to be located in the middle of the parking lot, they would be told that they cannot have the sea of parking between the building and the street. You need to build tight to the street and have the windows and an entrance on the street. Under the current code, the steps 1,2,and 3 would be commercial difficult to do. That gets back to Commissioner Lafayette's point, that in a case like that, an applicant would not go through was is in the current standard prescriptive code, they could try to do something different by keeping the entrance toward the parking, which is logical, but would utilize

other options like using different building materials and the visual make-up of the building to offset the lost points on the entrance location and possibly still meet the score requirement.

Heather agreed and gave the new Taco Bell as an example. They had to orient their building to the street, which is not the typical Taco Bell layout. In this situation it is a very good decision for them. There is a bus layover very near the entrance and is a highly used pedestrian location. Using the prescriptive standards there was the best use. Due to the fact that the Taco Time building was in such poor repair it had to be demolished. Once it was demolished the new Taco Bell had to be located closer to the street and basically the whole site had to be re-oriented even though there us to be a fast food restaurant in the same location.

Chair Allen listed the items that had been discussed:

1. Clarification of the language on private roads that would tie that to single family residential developments
2. How to determine the "front" of a building
3. The issue raised by Chair Allen regarding the standard being the objectives at the beginning of the code section 16.90.010
4. The language brought up in public testimony suggesting that between any building and a public street for loading and parking
5. The bonus discussion on the matrix having to do with LEED certification.
6. Removing the and/or statement

Commissioner Lafayette moved to continue PA 08-04 to the February 24, 2009 meeting. Motion seconded and voted on. All were in favor. The motion carried.

Chair Allen then turned to Julia for the Staff Report for the Annual Report.

Julia began by telling the Commission that this report is something that had been started 4 years ago and she feels is still valuable. The Commission has each been given a copy of the report in their packets.

She believes that the customer service tally's and the number of land us applications reflect the state of the economy and should not come as a great surprise. We have noticed a decrease in all areas of contact, the phone, walk-in, e-mails. The department has still been very though, and have worked on a lot of long range planning and continue to gear up for more in the near future.

In response to a question Julia explained that the term ministerial refers to something handled "over the counter". Something with clear objective like home occupation permits and temporary use permits.

Chair Allen thanked Julia for the report and commented on how dramatic the fall off of contacts has been.

Julia agreed and went onto say that even though we have not been as busy at the counter the report doesn't really reflect the amount of time that is being spent with applicants. Staff is trying to get a better capture of the time actually being spent.

Chair Allen asked if the Planning Department review goes into a dedicated fund that could built up as a reserve then when times get tough use those funds and work on long range planning.

Julia's response was no that it is all general fund. The department was able to see this coming a little ahead of time and certainly have more staff working on long range planning projects. With Area 48 the department had to shift the plan and will utilize the consultant on a much smaller basis, partially due to lack of funds as well as having increase staff time available.

Julia then presented information on the status of the purpose statement and the work plan. Julia had sent an e-mail to the City Attorney asking how to use the purpose statement as a factor when making land use decisions. The response from the attorney said, where there is discretion, the Planning Commission can interpret the purpose statement as an approval criteria and apply it as such during a land use application. If the decision is appealed to Council and Council accepts the Planning Commissions' findings, then that becomes valid at LUBA. The attorney also said that amending the purpose statement in the code to make its role an approval criterion would be clearer. This is where the work plan piece comes in. It could be rolled into another code update or another action at a later date.

Chair Allen asked if it would be possible to find a place to do a one-time code provision that says unless contradicted by other specific code language any purpose statement in this code should be considered criteria for the area that is addressed.

Julia's concern is that it could be misleading to applicants. They could think they understand the criteria and not realized that there is an item in Chapter 1 that they have missed. She will however ask the question.

Next Meeting

Chair Allen closed the meeting at

End of minutes.

City of Sherwood
Oregon
Home of the Tualatin River National Wildlife Refuge

MEMORANDUM

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DATE: April 7, 2009

TO: Planning Commission

FROM: Julia Hajduk, Planning Manager

SUBJECT: Adams Avenue Concept Plan

At the April 14th Planning Commission work session we will review the draft concept plan and refined alternative established from input from the Commission, stakeholders, public and the City and consultant team. Enclosed is a draft concept plan report, memo from Kirsten Greene and Steve Faust of Cogan Owens Cogan regarding the employment land supply as it relates to the EOA and draft traffic memorandums from Chris Maciejewski of DKS and Associates.

It is our hope that the Commission will come prepared with questions and comments and any direction on proposed revisions to the concept plan and concept plan report. We hope to incorporate any modifications and clarification shortly after the work session in preparation of a May 12th public hearing on the issue.

To ensure the most efficient use of time, it would be appreciated if you can e-mail me any questions or comments that you may have ahead of time so that I can ensure the consultant team is fully prepared to respond at the work session.

Thank you!

Adams Avenue North Concept Plan

City of Sherwood Oregon

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS ◆ PLANNERS
LANDSCAPE ARCHITECTS ◆ SURVEYORS

Draft #1 - April 6, 2009

ADAMS AVENUE NORTH CONCEPT PLAN

Summary and Recommendations

Prepared by:
Harper Houf Peterson Righellis Inc. (HHPR)

Prepared for:
City of Sherwood

Consultant Team:
Cogan Owens Cogan, LLC
DKS Associates

Draft – April 6, 2009

PROJECT PARTICIPANTS

Stakeholder Involvement Group

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Cam Durrel	Les Schwab
Jim Morse	Juniper Ridge Investments LLC
Roger Fulop	Home Depot
Matt Langer	Langer Family LLC
Matt Grady	Gramor Development
Bill Blakeslee	Bilet Products Company Inc.
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Kirstin Greene	Cogan Owens Cogan, LLC
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4. Existing Conditions Report
5. Public Involvement Plan

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2. Traffic Alternatives Analysis Memorandum
3. City of Sherwood Economic Development Strategy
4. Downtown Sherwood Market Study

I. EXECUTIVE SUMMARY

The Adams Avenue North Concept Plan is a guide to development of 50 acres southeast of Highway 99W and north of Tualatin-Sherwood Road. Of this 50 acres, 33 acres was added to the regional urban growth boundary by Metro in 2002 at the request of the City of Sherwood. The primary objective in adding this land to the urban growth boundary was to allow construction of a collector street and alternative route between Highway 99W and Tualatin-Sherwood Road. Although not the primary purpose for expanding the urban growth boundary, this additional land will become available for urban development once the concept plan is finalized and implemented.

The purpose of this concept plan report is to document the following:

- Inventory key opportunities and constraints
- Present the input received from the stakeholder involvement group
- Make a recommendation of a final concept plan for adoption by the Sherwood Planning Commission and City Council
- Meet Metro Title 11 requirements for creation of a concept plan

Key features of the recommended concept plan are:

- Allow for gateway-oriented commercial development along Highway 99W and Tualatin-Sherwood Road
- Allow for industrial development in the interior of the plan area
- Encourage use of power line easements for trails, dog park and parking areas
- Encourage visual buffering of the power substation
- Encourage roads and trails that interconnect existing development to adjacent roads and property
- Encourage placement of buildings near roads and parking behind buildings

II. BACKGROUND

Introduction

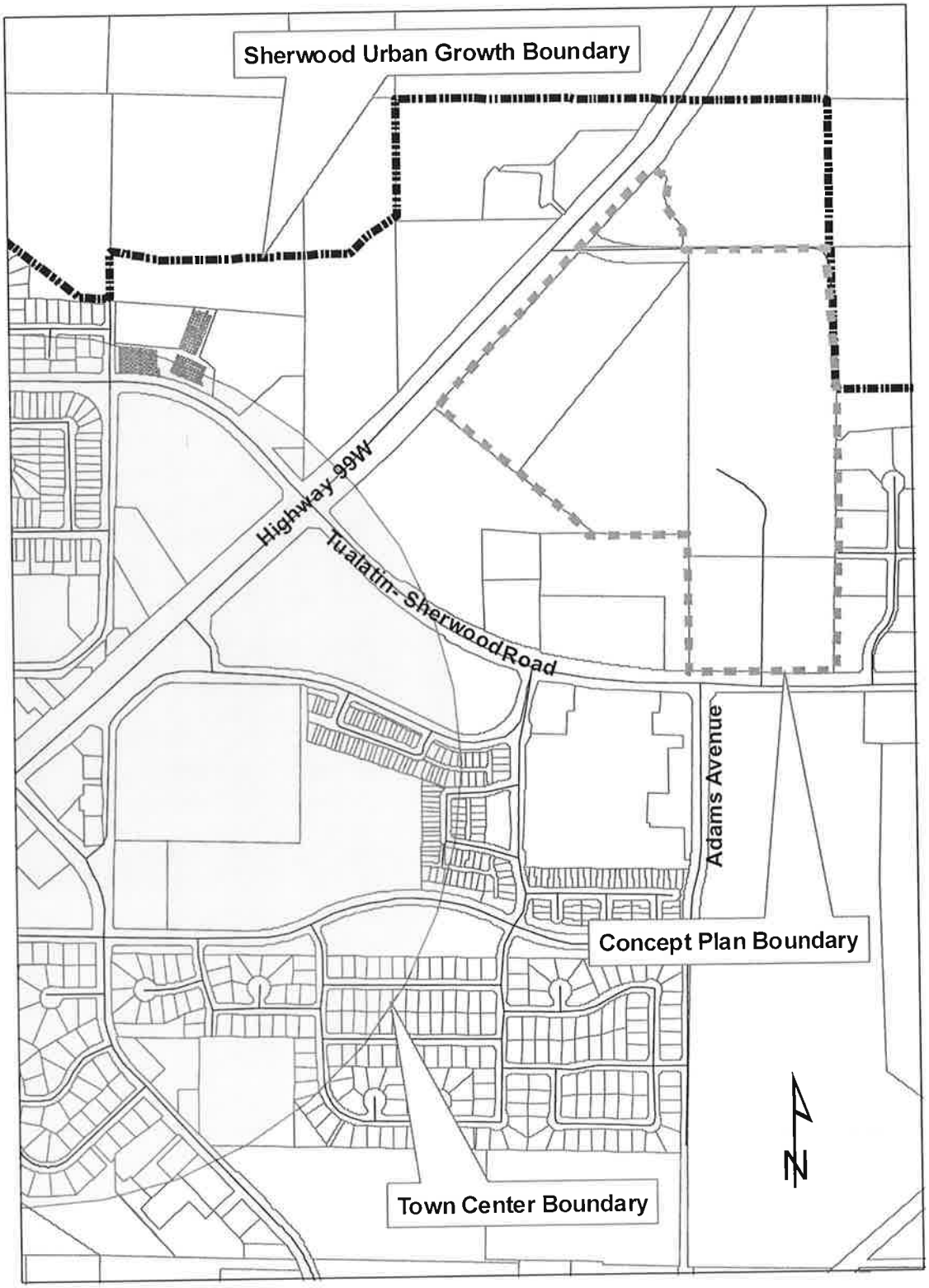
The Adams Avenue North planning area was brought into the Sherwood urban growth boundary (UGB) in 2002 to allow construction of a collector street and alternative route between Highway 99W and Tualatin-Sherwood Road. Although not the primary purpose for expanding the UGB, approximately 33 acres of land owned by Portland General Electric (PGE) will become available for urban development once the concept plan is finalized and implemented. However, much of this property is encumbered by a large electrical substation, high voltage transmission lines and tall transmission line towers. Much of the PGE infrastructure was constructed in the 1950s and 1960s prior to the development boom in Sherwood that took place over the last 20 years. Therefore, the area has grown up around this existing infrastructure.

Site Description

In general, the area is bounded by Highway 99W to the northwest, Tualatin-Sherwood Road to the south and the urban growth boundary to the east. There is a Portland General Electric (PGE) transmission facility located in the middle of the project area and a PGE training facility on the eastern portion. Large PGE and Bonneville Power Administration transmission towers and lines cross the project area. The area is mostly flat and areas not covered by the transmission towers, substation and training facility are currently being farmed. The project area parcels are currently zoned Light Industrial within the City Limits and Future Development-20 (FD-20) by the County in areas not within the city limits. FD-20 acts as a holding zone until the City annexes the property and rezones it for urban development.

Areas to the west, across Pacific Highway are mostly developed with office or professional and personal service uses but are zoned light industrial. The parcel to the north, although zoned for Light Industrial, is developed with a Home Depot, a commercial use. Much of these properties were allowed commercial uses at a time when the City allowed commercial uses within industrial zoning. The City has since revised the zoning code to no longer allow commercial uses in industrial zones. The City considers this a visual gateway to the Sherwood community. Areas to the east and north, outside the UGB, are agricultural and resource lands while property south and east is industrial. The area to the east and inside the city limits is zoned light industrial and is a developing industrial subdivision. There are large tracts of undeveloped light industrial property south of the study area on the opposite side of Tualatin-Sherwood Road that is expected to develop with commercial uses consistent with a prior Planned Unit Development approval.

See vicinity map on the next page.


Sherwood Urban Growth Boundary
Highway 99W
Tualatin-Sherwood Road
Adams Avenue
Concept Plan Boundary
Town Center Boundary
N

Regional and Local Context

The Adams Avenue North Concept Plan area is 50 acres of land located at the northeastern edge of Sherwood and the UGB. It marks a transition point between the City's current edge of urbanization and the rural and resource lands to the north and east.

The majority (33 of the 50 acres) was added to the Metro UGB in 2002. An additional 20 acres of undeveloped land already within the City limits was added to the concept plan study area. The Concept Plan area carries Metro design type designations of Employment and Industrial on the Region 2040 Growth Concept Map. Employment design type areas, as defined by Metro, allow various types of employment with some residential development and limited commercial uses. Industrial design type areas are set aside by Metro primarily for industrial activities with limited supporting uses.

The primary objective of planning this area is for a road connection between Highway 99W and Tualatin-Sherwood Road and completion of Adams Avenue that will eventually extend from Oregon Street near Sherwood's Old Town to Highway 99W. The UGB was expanded at the request of the City and the following findings were made by the Metro Council in the ordinance that expanded the growth boundary in this area:

- "Whereas, transportation improvements that make areas work is part of the transportation priorities of the Metro Council."
- "Whereas, this road alignment and extension of Adams road has the goal to relieve congestion"

Unlike larger areas that have been added to the Sherwood UGB such as the Brookman Road area, Area 59 and Area 48, the North Adams Avenue Concept Plan is limited in development potential and therefore does not carry as high of importance as a development area. Nevertheless the area does, serve as an important transportation connection and as an eventual new gateway to the City as people leave the highway and enter the City limits at the north end of the project area.

Existing Conditions Inventory – Policy and Regulatory Background

Development of a successful concept plan begins with inventorying existing conditions. A detailed existing conditions report was completed before commencement of the project and is attached for reference. Review of existing conditions should identify categories that have policy and regulatory requirements for land use. These categories start at the State level as the 19 Statewide Planning Goals. Metro is responsible at a regional level for implementing these goals and does so through the 2040 Growth Concept. Each community in Metro, including Sherwood must be in compliance with the State and Metro in applying zoning and land use regulations. Sherwood implements the 2040 Plan and Statewide Planning Goals through the City's Comprehensive Plan, Transportation System Plan and utility and facility master plans.

The following land use categories were studied in review of existing conditions:

1. ***Public Involvement***

   The following groups were established to solicit input for the plan:

   Stakeholder Work Group (SWG) – an advisory committee comprised of property owners, business owners, institutional partners, and developers charged with providing input and advice to the Project Design Team and ultimately to the City Council.

Planning Commission (PC) – charged with providing on-going input and guidance to the Project Team about technical aspects of the concept plan and recommendation to the City Council.

Three meetings were held with the stakeholder involvement group to develop a preferred plan. Work sessions were held with the Planning Commission to review the stakeholder work group's preferred alternative. A public open house was held to inform the public of the stakeholder working group's preferred alternative. Updates were provided on the City's webpage.

A public involvement plan was developed to identify stakeholders and interested parties. The public involvement plan is attached. Further discussion of the stakeholder involvement process is provided in Section III of this report.

2. *Natural Resources*

Wetlands, streams and sensitive areas are regulated by four agencies in Sherwood. The Army Corps of Engineers and Oregon Division of State Lands regulate what is termed as jurisdictional streams and wetland. While these agencies regulate the wetland itself, Clean Water Services regulates mandatory vegetated corridors or buffers from these features. These regulations are aimed at protection of riparian habitats. In addition to these riparian protections, the City of Sherwood has voluntary regulations for projects with upland habitats that may be in excess of the riparian protections. These additional upland regulations were developed to be in compliance with Nature in Neighborhoods, Title 13 of Metro's 2040 Urban Growth Management Functional Plan.

Fieldwork was conducted to delineate wetland boundaries and to determine wetland buffers. A small jurisdictional wetland was identified on the site by the project team. The project team did not note any high quality habitat areas near the jurisdictional wetland. A natural resource assessment was conducted to determine the vegetated corridor buffer. This fieldwork was done along the road corridor for Adams Avenue. No significant features of note have been identified within the concept plan boundaries but specific field work must be done prior to development of areas outside the road corridor as required by Clean Water Services.

3. *Natural Hazards*

Statewide Planning Goal 7 identifies natural hazards as floods, landslides, earthquakes and related hazards as well as tsunamis, coastal erosion, and wildfires. The City of Sherwood Comprehensive Plan Part II, Chapter 5 indentifies the following potential hazards for Sherwood where development should be restricted and/or limited:

- 100-year floodplains
- Areas with slopes which have slide or erosion potential
- Areas with weak foundation soils
- Wetlands

The study area is not within the 100-year floodplain, is mostly flat and does not contain steep slopes or weak foundation soils. Construction within wetlands is not contemplated by the concept plan. Wetlands have been delineated and will be protected as described above.

4. ***Parks and Historic Resources***

The adopted Sherwood Parks and Recreation Master Plan shows no parks or recreation facilities proposed for the study area. The Bonneville Power Administration easement is identified as open space on the Master Plan. The City adopted the Sherwood Cultural Resource Inventory as an appendix to the Comprehensive Plan. No historic or cultural resources have been identified within the study area.

5. ***Economic Development***

The City of Sherwood completed an Economic Development Strategy in 2007. Economic Development Policy 5 states that, "The City will seek to diversify and expand commercial and industrial development in order to provide nearby job opportunities, and expand the tax base."

Residential and institutional uses have not been considered for the site as industrial and commercial uses are most appropriate next to the power infrastructure and existing commercial and industrial developments. The proposed commercial and industrial land proposed is consistent with the policies of the Economic Development Strategy.

6. ***Public Facilities and Services***

The City of Sherwood Comprehensive Plan Part II, Chapter 7 – Community Facilities and Services lists public facility and services as follows:

- Public Utilities
- Private/Semi-Public Utilities
- Transportation (Listed in Item 7 below)
- Public Health and Safety
- Recreation (Listed in Item 4 above)
- Schools

The concept plan impacts these areas as follows:

A. **Public Utilities**

Public utilities include water, sanitary sewer and stormwater. The City of Sherwood updated these utility master plans in 2005 and 2007. The City works in conjunction with Clean Water Services (CWS) and Tualatin Valley Water District (TVWD) to provide these services through intergovernmental agreements. The master plan updates done after the area was added to the growth boundary in 2002 reviewed this area for utility service and did not identify deficiencies. The area will be able to be serviced by utilities provided with the Adams Avenue Road extension. These utilities are addressed as follows:

Water: The City's primary water supply is from four groundwater wells owned by the City and operated by TVWD. The City also supplements supply from the groundwater wells through a 24-inch diameter connection to the City of Tualatin's 36-inch diameter Tualatin- Portland supply main.

For the project area, there is currently an 8-inch water line in Highway 99W and an 8-inch water line in Tualatin-Sherwood Road. The Master plan recommends upsizing the 8-inch in Tualatin-Sherwood Road to a 12-inch and installing a 16-inch water line in Adams Avenue North for connectivity and service.

Sanitary: The City owns, operates and maintains the wastewater collection system within the City limits. Wastewater is collected from residential, commercial, and industrial services and is discharged into interceptor sewers owned and operated by CWS. Wastewater is then pumped by CWS for treatment at their Durham Advanced Wastewater Treatment Facility located in the City of Tigard. The City is responsible for all wastewater collection piping smaller than 24 inches in diameter located within the City limits, and CWS owns and maintains interceptor sewers 24 inches and larger, as well as all pump stations and force mains.

For the project area, sanitary sewer can be provided from existing lines north and south of the study area. These lines drain to the Rock Creek trunk line. Although the proposed development of the concept plan does not adversely impact capacity, future development of the industrial zones in Area 48, a large urban growth boundary expansion in northeastern Sherwood, will lead to capacity issues that will need to be addressed with the eventual planning and development of Area 48.

Stormwater: Stormwater treatment is typically done on a project-by-project basis with each developer creating their own facility. In some cases, the developer or the City builds regional treatment facilities that are maintained by the City and that cover larger areas.

The study area generally has one low point. A storm drainage system will be constructed with Adams Avenue to convey runoff to this location at the east end of the study area near the wetland. Use of the storm drainage system installed with construction of Adams Avenue as a regional facility for the entire study area is being reviewed.

B. Private/Semi-Public Utilities

These include power, natural gas, telephone, fiber optic and cable television. The design team is coordinating with these service providers and will be located in underground conduit within the Adams Avenue extension. No deficiencies have been identified.

C. Public Health and Safety

This includes police and fire services. The study area is within Tualatin Valley Fire & Rescue (TVF&R) District and fire and emergency services will be provided by TVF&R. The City of Sherwood has a police department that will provide police services. No deficiencies have been identified.

D. Schools

The Sherwood School District provides public K-12 education within the City limits. The proposed industrial and commercial use will have no impact on school capacity or school facilities.

7) ***Transportation***

The Transportation System Plan (TSP), adopted in March 2005, is a master plan for all modes of transportation. The TSP identifies the need for local street connectivity in the industrial areas of Sherwood north of SW Tualatin-Sherwood Road, specifically connecting Highway 99W to Tualatin-Sherwood Road. The TSP analysis identified the Adams Avenue North Extension as a necessary improvement to mitigate forecasted circulation issues on Tualatin-Sherwood Road and Highway 99W by the year 2020.

Updated transportation studies based upon build-out scenarios for the comprehensive plan have been completed to a 20-year time horizon as required by the State's Transportation Planning Rule (TPR). No deficiencies have been identified.

Tualatin-Sherwood Road is a Washington County-maintained road and Highway 99W is an Oregon Department of Transportation (ODOT) facility. These agencies must approve connection of Adams Avenue to their roadways and therefore have interest in any rezoning of property that can have impacts to these facilities. The City of Sherwood has prepared transportation reports to Washington County and ODOT standards and is coordinating with these agencies.

A multi-use path is proposed on the eastside of the road. This path is planned to extend the length of Adams Avenue and will eventually connect Highway 99W to Oregon Street.

Transit service is provided from Sherwood to Downtown Portland and the movie theater parking lot east of the study area is park-and-ride lot for this bus line.

Opportunities and Constraints

Stakeholders identified opportunities and constraints at a November 19th, 2008 meeting as well as answered questions on a project web page. The project team, together with the stakeholder involvement group, identified the following key opportunities and constraints:

Opportunities:

5. Reduce traffic congestion between Highway 99W and downtown Sherwood
6. Provide access to underdeveloped property
7. Provide alternative access to developed property
8. Provide a continuous pedestrian pathway between downtown Sherwood and Highway 99W
9. Promote economic development by providing additional land to be developed within the City
10. Improve visibility of the Home Depot store
11. Provide for internal road opportunities
12. Allow for development of the triangle property (after easements) along Tualatin-Sherwood Road
13. Provide for conduit in Tualatin-Sherwood Road that will improve signal timing
14. Allow for compatible development under power lines such as parks, fields, parking lots
15. Allow for access for property to redevelop
16. Potential for "new" zone that allows focus of type of use that is a lower trip generator

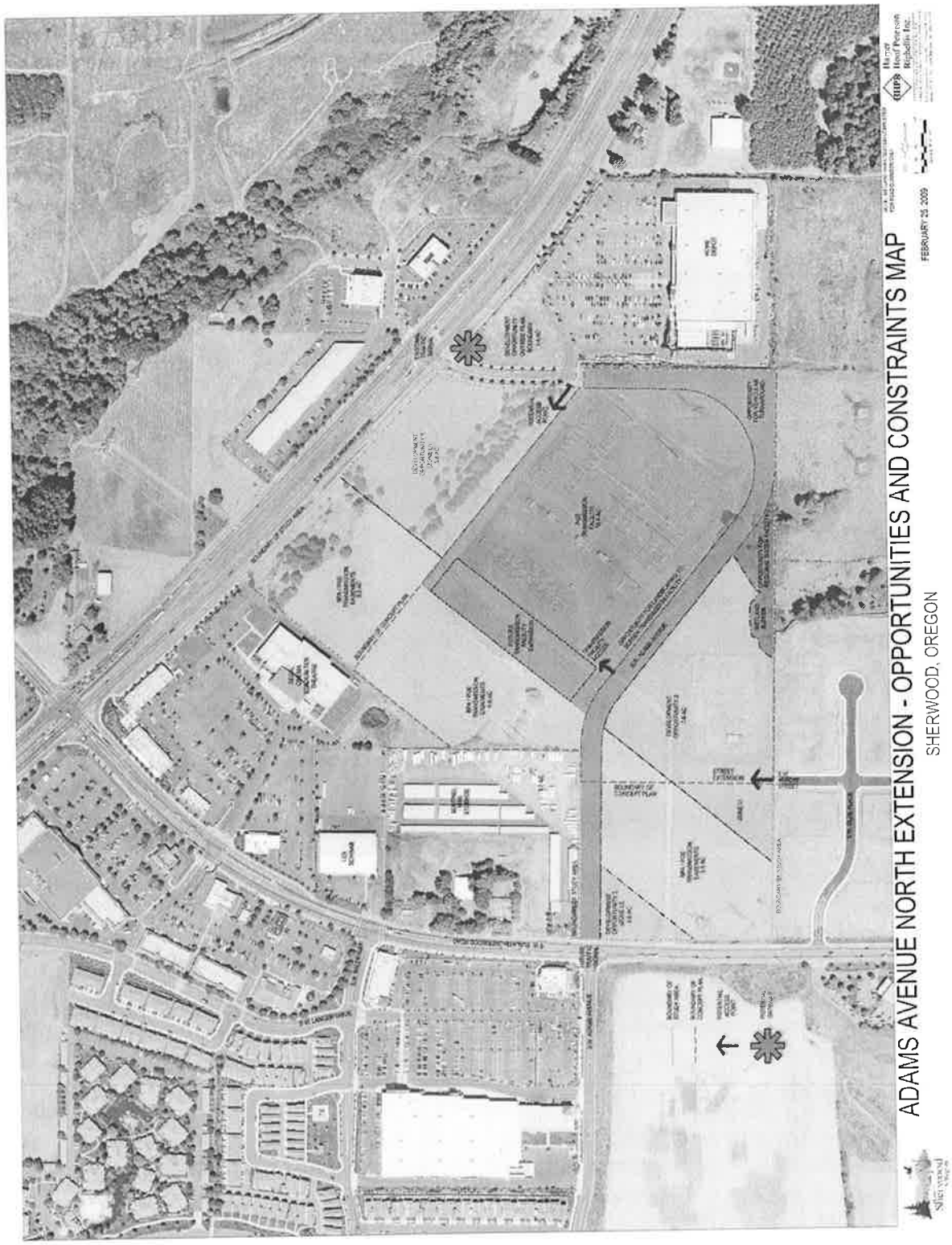
Constraints:

1. Limited development allowed near and under power lines
2. Large power substation that must remain
3. Need for road to curve around existing power lines structures
4. Additional traffic conflicting with trucks off-site
5. Change of access and circulation on the Home Depot site
6. Property owner existing agreements that may limit access options
7. Intersections that are already over capacity for traffic
8. Existing intersection configuration at Tualatin-Sherwood Road and Highway 99W that is near capacity
9. Finding compatible development with existing power infrastructure
10. Existing light industrial zoning near major roads
11. Traffic signal spacing and potential need to remove signals on Tualatin-Sherwood Road

Opportunities and Constraints Mapping

From stakeholder input, including a meeting with PGE engineers and planners, an opportunities and constraints map was produced. The map reveals that within the study area after the substation, transmission line easements and land needed for the road improvement, three development sites are available. The map marks these sites as Development Opportunity 1 (5.8 acres), Development Opportunity 2 (7.6 acres) and Development Opportunity 3 (0.9 acres). An additional development site was also identified and is a 1.4 acre parcel on Highway 99W adjacent to the Home Depot parking lot.

See opportunity and constraints map on the next page.



ADAMS AVENUE NORTH EXTENSION - OPPORTUNITIES AND CONSTRAINTS MAP

SHERWOOD, OREGON

III. CONCEPT PLAN SELECTION PROCESS

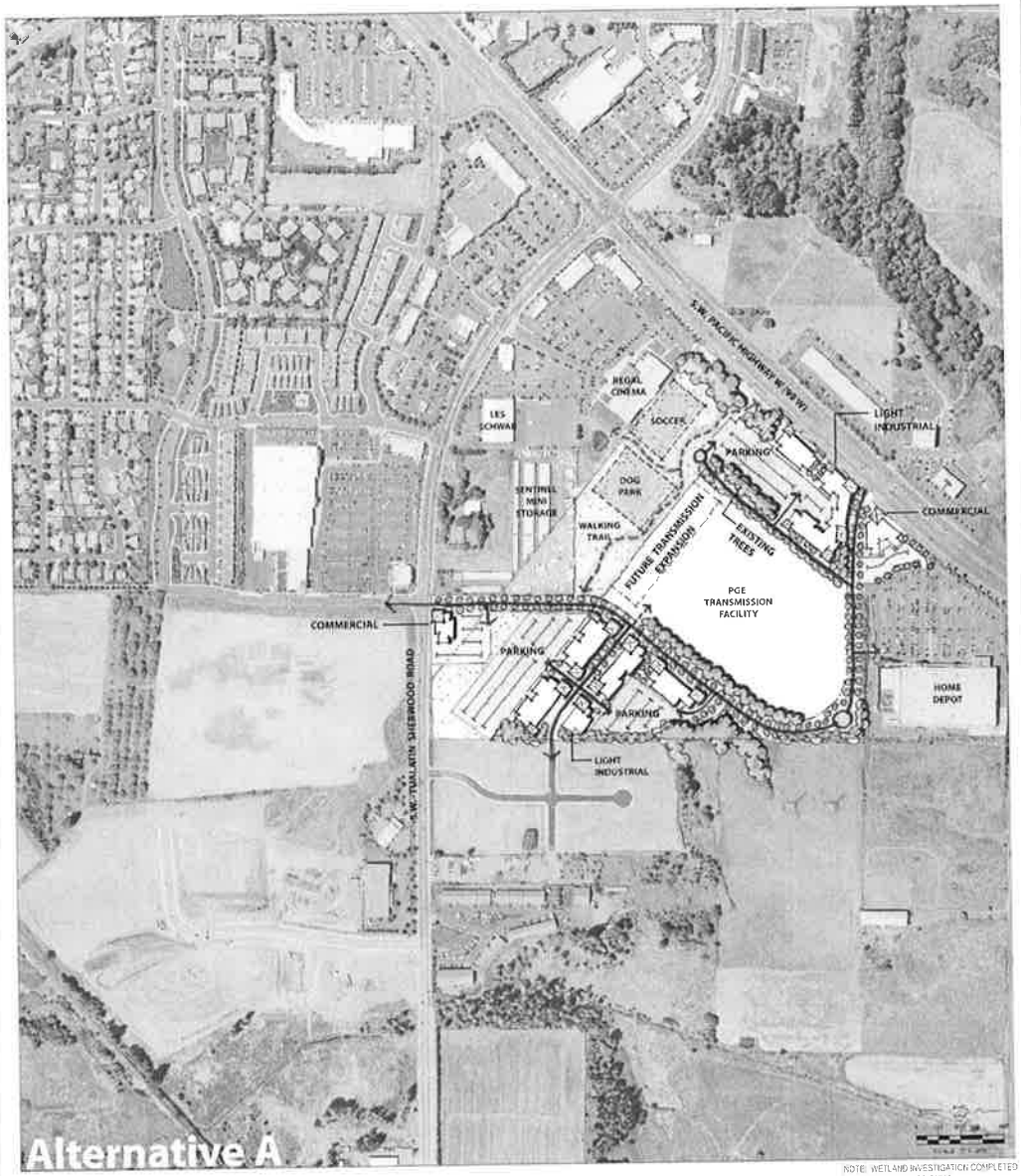
Stakeholder Involvement Group

The project team, as part of the public involvement plan, established a stakeholder involvement group. This group consisted of surrounding business owners, developers and agency staff. The group met three times. Through this process, a preferred concept plan was created along with project goals and objectives for the concept plan. The Sherwood Planning Commission was selected to act as the project's steering committee to provide final direction on a preferred concept plan alternative after consideration of project team, stakeholder and public and agency comments.

Three alternatives were presented for stakeholder review. These alternatives included zoning and development options for vacant developable land, options for development of open spaces and options for access to surrounding properties. From these options, the stakeholders selected elements from each to create a preferred alternative.

See alternative maps on following pages.

Concept Plan Selection Process



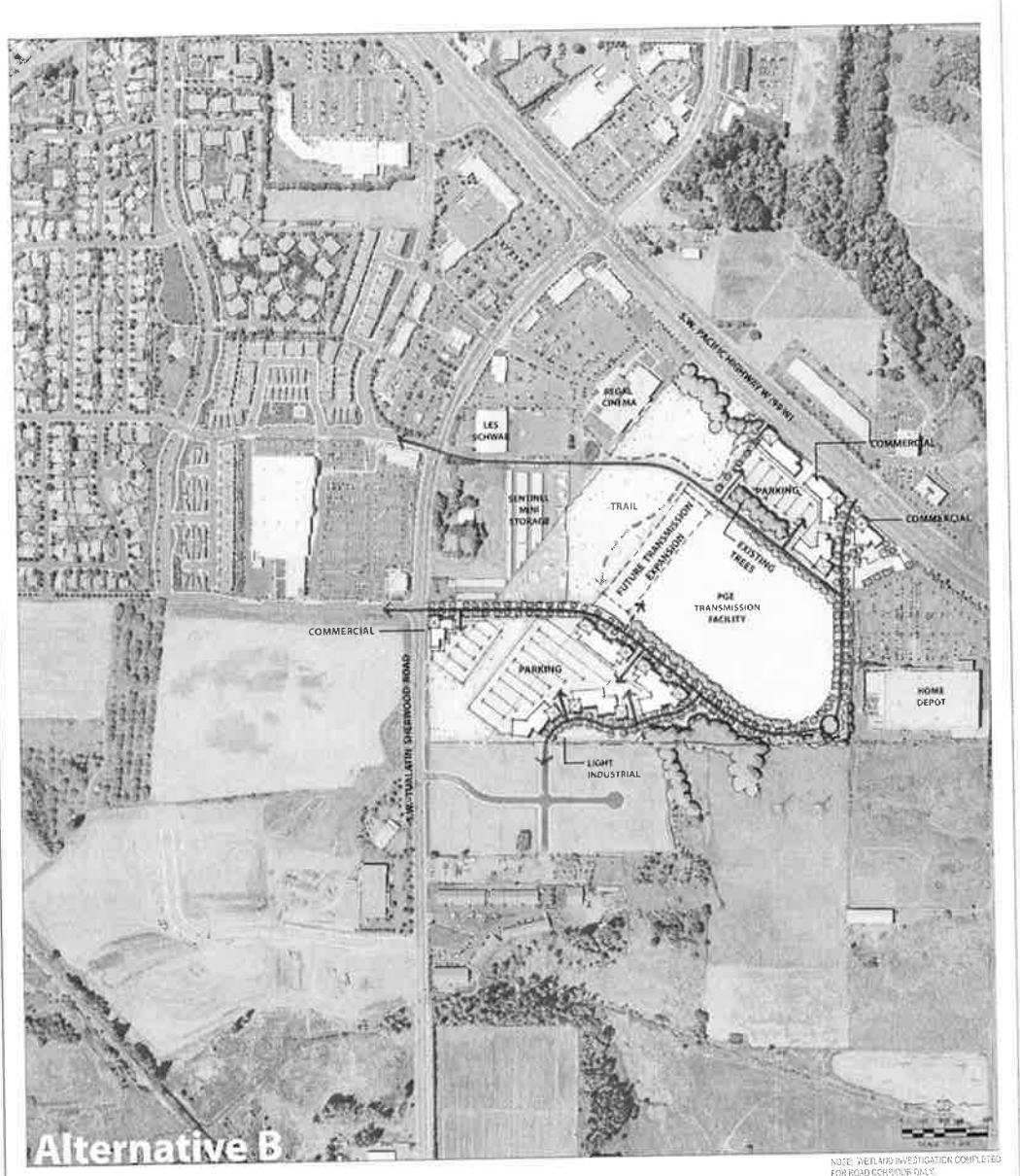
ADAMS AVENUE NORTH EXTENSION - CONCEPT DRAWING

SHERWOOD, OREGON

FEB 04, 2009

Harper Houf Peterson Righellis Inc.

Concept Plan Selection Process



ADAMS AVENUE NORTH EXTENSION - CONCEPT DRAWING

SHERWOOD, OREGON

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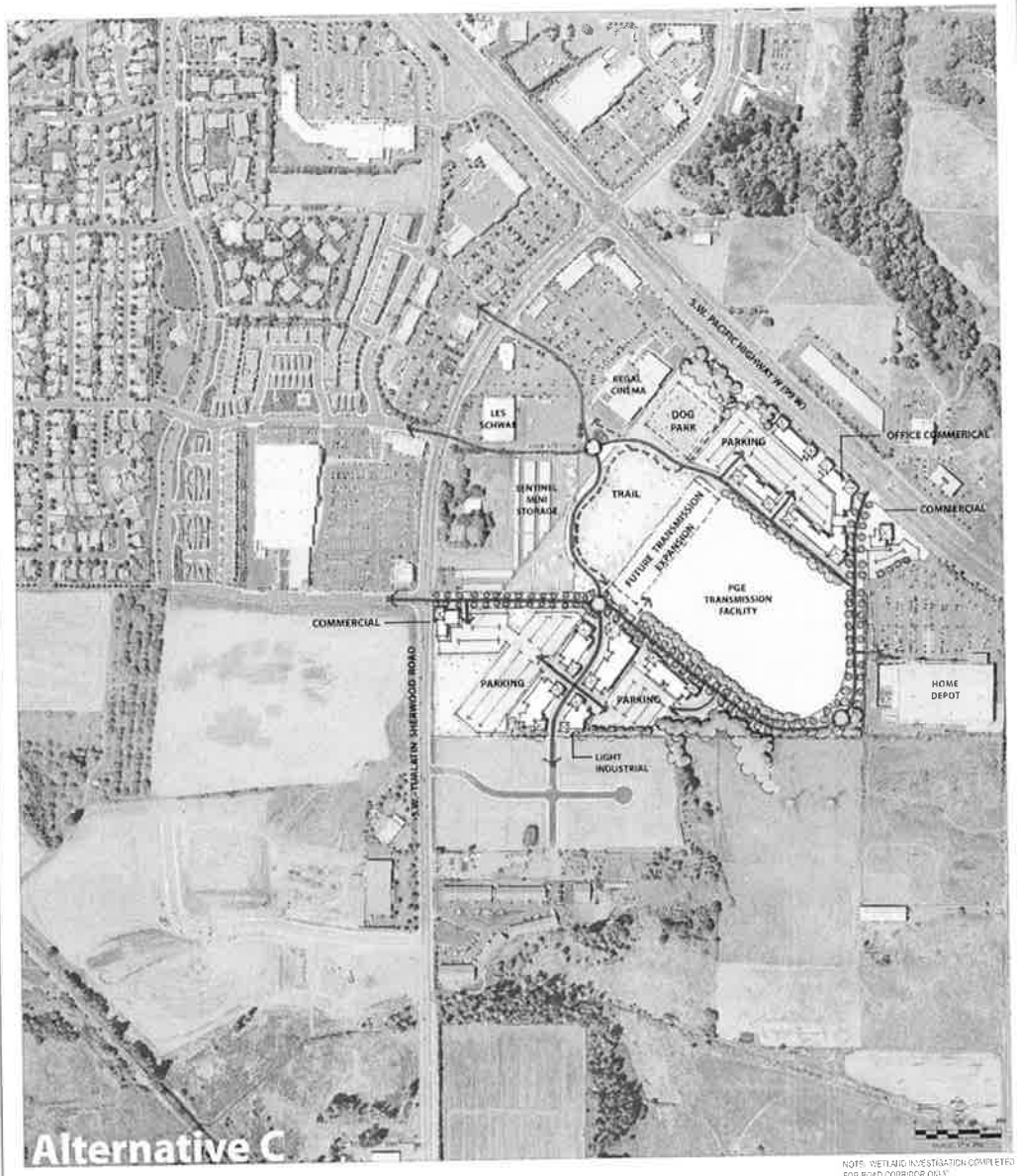


ADAMS AVENUE NORTH EXTENSION - CONCEPT DRAWING

SHERWOOD, OREGON

FEB 04, 2009

Harper Houf Peterson Righellis Inc.

Project Goals and Objectives

The project team in consultation from the stakeholder involvement group and the Sherwood planning commission established the following goal and objectives for the project:

Project Goal

The Adams Avenue North extension is intended to give local traffic an alternative connection between 99W and downtown Sherwood and reduce reliance on the 99W/Tualatin-Sherwood intersection. The road will provide secondary access to developed property between Tualatin-Sherwood Road and 99W and provide access for undeveloped land added to the Sherwood urban growth boundary in 2002.

Project Objectives

The concept plan should consider the following:

1. **Gateways**
   The area will act as an entrance to Sherwood and eventually a major route to downtown. The area has the potential to act as a gateway for the community.

2. **Access**
   Access within the study area and to neighboring developments should be addressed.

3. **Zoning and Compatibility**
   Development should be compatible with surrounding development.

IV. FINAL PLAN

The Adams Avenue North Concept Plan purpose is to provide a framework for future development of the area. The plan is comprised of generalized maps and policies that address land use, transportation and open space. The concept plan is intended to be implemented by adoption of comprehensive plan zoning designations and through existing City regulations.

The plan goals, objectives and map are intended to be used as a guide for development. Key features of the plan include the following:

Use of Roundabouts

Roundabouts have been proposed as an access alternative particularly as way to access Development Opportunity 1 on Highway 99W. Due to the existing substation, the parcel's access will be close to the highway and may be required to have limited access. A roundabout will provide an alternative way to turnaround or access the site where a full access point cannot be provided.

Eastern Connections

The concept plan shows a connection to the east and connects to an existing street stub. This will provide an eventual connection for all properties north of Tualatin-Sherwood Road and west of Rock Creek to access Adams Avenue and the proposed traffic signal at Tualatin-Sherwood Road. Currently these properties do not have access to a traffic light.

Use of Power line Easements

The plan indicates potential to use the power line easements for parking, a dog park and open spaces where full development is restricted.

Use of Commercial Development

The plan suggests rezoning existing light industrial properties along Highway 99W and Tualatin-Sherwood Road to commercial. These parcels that have access and visibility from major roads are best served with commercial uses and have greater opportunity to provide a physical and aesthetic gateway into the City. Gateway treatments are proposed to mark a symbolic entrance to the city and draw attention to the business environment. Gateway elements can include physical gateways or arches; flowers, trees and other landscaping; benches or other public space; public art or natural sculptural features; unique fencing or walls; and signage. Gateways should reflect the history, culture and character of Sherwood and its residents.

For the parcel that fronts Highway 99W (Development Opportunity 1) and the vacant 1.4-acre parcel next to Home Depot, a General Commercial or Office Commercial is being considered. The project team believes that Office Commercial is the best use for these parcels. Sherwood's designated town center is at the intersection of Highway 99W and Tualatin-Sherwood Road know as Six Corners and boarders this parcel to the west. The City currently does not have any properties zoned Office Commercial within the town center. This would provide office and limited retail uses that are in support of the town center. This would provide offices and workers consistent with the Metro design type designation of employment. The Adams Avenue project will provide a multi-use path that will connect the site to Sherwood's Old Town for those who bike and walk. The movie theater parking lot west of the site is the park-and-ride lot for Tri-Met Bus Line 94 that runs from Sherwood to Downtown Portland through Tigard.

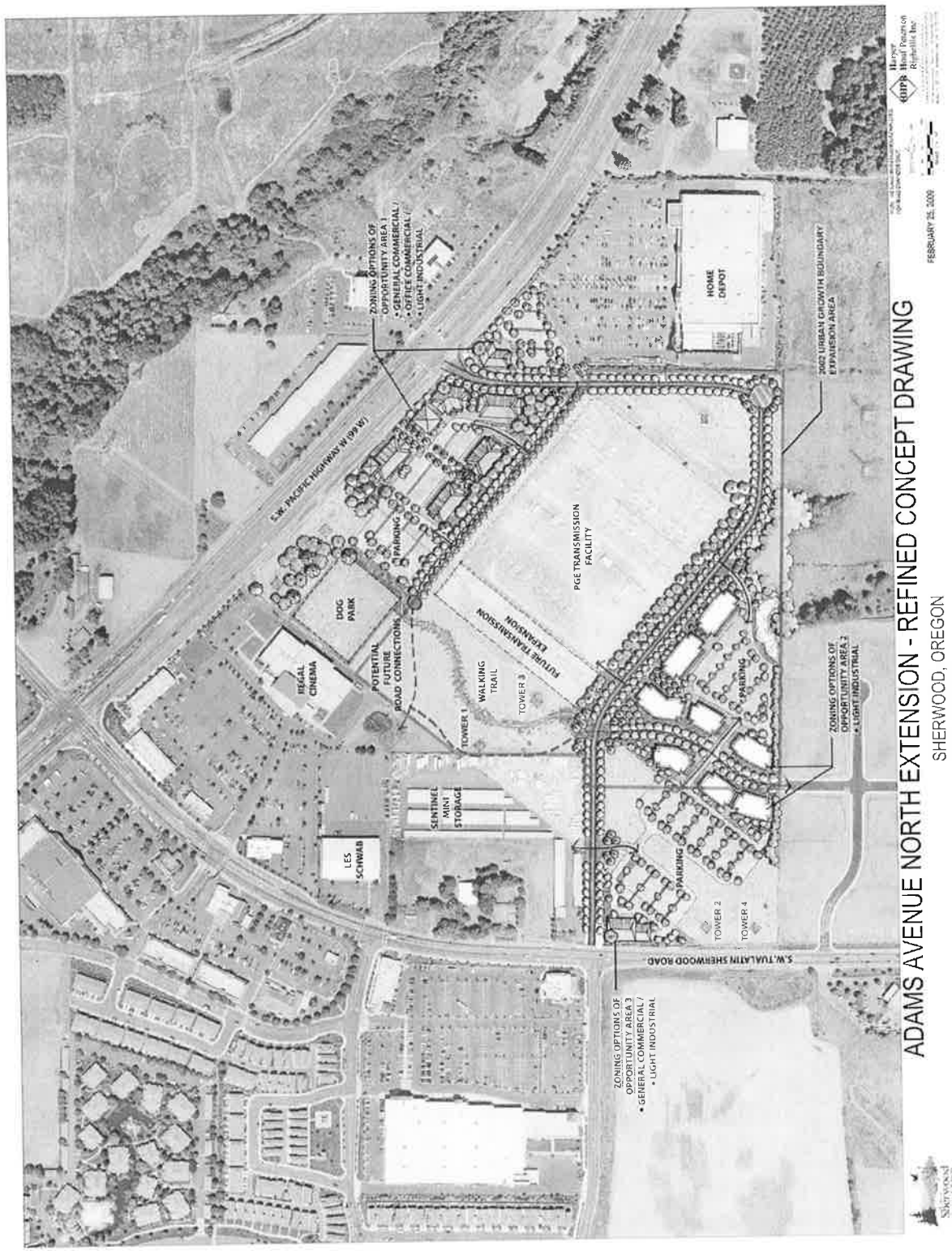
For the development area that fronts Tualatin-Sherwood Road (Development Opportunity 3) a 0.9 acre site, the project team believes that General Commercial is the best use for this site. The site is too small to support light industrial and is not adjacent to other offices areas. Therefore, a small retail user would likely be best for this site that is adjacent to existing and future commercial areas to the south and west.

Recent market studies including the "Downtown Sherwood Market Study" from June of 2008 shows a high demand for retail within the City. The Economic Opportunities Analysis completed in 2005 shows demand for land for industrial and commercial. As evidenced by the memorandum from Cogan Owens Cogan dated April 2, 2009, there is adequate land supply for commercial and industrial if these parcels area rezoned.

Use of Industrial Development

Industrial development is proposed within the interior of the project area where visibility from major road is limited. The internal area is also contiguous to industrial property to the east and is close to the power lines and substation that make an industrial use more compatible.

See concept plan map on the next page.


ADAMS AVENUE NORTH EXTENSION - REFINED CONCEPT DRAWING
SHERWOOD, OREGON
FEBRUARY 25, 2009
Harper Houf Peterson Righellis Inc
S.W. PACIFIC HIGHWAY W (99 W)
S.W. TUALATIN SHERWOOD ROAD
ZONING OPTIONS OF OPPORTUNITY AREA 1
• GENERAL COMMERCIAL /
• OFFICE COMMERCIAL /
• LIGHT INDUSTRIAL
ZONING OPTIONS OF OPPORTUNITY AREA 2
• LIGHT INDUSTRIAL
ZONING OPTIONS OF OPPORTUNITY AREA 3
• GENERAL COMMERCIAL /
• LIGHT INDUSTRIAL
2002 URBAN GROWTH BOUNDARY EXPANSION AREA
HOME DEPOT
PGE TRANSMISSION FACILITY
FUTURE TRANSMISSION EXPANSION
PARKING
DOG PARK
POTENTIAL FUTURE ROAD CONNECTIONS
REGAL CINEMA
WALKING TRAIL
TOWER 1
TOWER 2
TOWER 3
TOWER 4
SENTINEL MINI STORAGE
LES SCHWAB

V. IMPLEMENTATION

The construction of Adams Avenue will drive development of the project area. Adams Avenue will bring access and utilities to the area. Portland General Electric owns all the property within the study area and will need to sell property to private developers who will fully fund construction of developable areas. At this time the construction of Adams Avenue is proposed to be funded by private development as mitigation for construction of the large undeveloped commercial property south of Tualatin-Sherwood Road.

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COMMUNICATIONS
CONFLICT RESOLUTION
SUSTAINABLE DEVELOPMENT
ENVIRONMENTAL PROJECT MANAGEMENT
GOVERNMENTAL/COMMUNITY RELATIONS

MEMORANDUM

DATE: April 2, 2009

TO: Keith Jones

FROM: Kirstin Greene and Steve Faust

RE: **North Adams Avenue Area Zoning Designation Impact on Sherwood Employment Land Supply**

City of Sherwood Commercial and Industrial Lands Supply

On September 20, 2006, the Sherwood Urban Renewal Policy Advisory Committee endorsed a preferred growth strategy consistent with a medium growth forecast as described in the 2006 Economic Opportunities Analysis (EOA). This forecast projects the following commercial and industrial needs and means for accommodating those needs for the City of Sherwood over the next 20 years:

- An additional 27 acres of commercial land to be accommodated in the long term by "integrated commercial development within future master-planned employment and neighborhood districts, including areas 28, 54-55 and 59."[1] Since the EOA was adopted, the former Driftwood Mobile Home Park was rezoned to Retail Commercial, adding 5.74 acres to the commercial lands supply, decreasing the need to 21.26 acres. In addition, the 52-acres Langer property zoned Light Industrial has a planned unit development (PUD) overlay that allows commercial development. This could potentially add 52 acres to the supply of commercial land eliminating the need for additional commercial lands.
- An additional 74 acres of industrial land to be accommodated in the long term by "planning for new industrial sites (with integrated commercial and residential development) within future master planned employment districts in Area 48."[2] As mentioned in the description of commercial land needs, the Langer PUD could result in a 52-acre reduction of industrial land supply. This would increase the 20-year need for additional light industrial lands to 126 acres.

A concurrent concept planning process for the Brookman Road employment area is not included in this analysis. The Brookman Road Concept Plan area has 28.71 acres of employment land, which includes both commercial and industrial uses.

These land needs are expressed as gross buildable acres, and exclude land that is constrained by environmental factors including wetlands, floodplains, and steep slopes.

Chapter 8 of Sherwood's Comprehensive Plan addresses urban growth boundary additions. The Chapter indicates that the Metro Region 2040 Growth Concept Map designates land use

[1] 2006 City of Sherwood Economic Opportunities Analysis, p.41
[2] 2006 City of Sherwood Economic Opportunities Analysis, p.43

for future urban growth areas. Table 1 summarizes the acreage and planned land use designations for land that was brought into the urban growth boundary (UGB).[3]

Table 1 (Comprehensive Plan Table VIII -1). Summary of UGB Additions 2002-2004

UGB Addition	Year	Acres	2040 Land Use Type
Area 59	2002	85	Nbhd Commercial
Area 54-55 (Brookman)	2002	235	Inner Neighborhood
99W Areas	2002	23	Employment/Industrial
Area 48 (Tonquin)	2004	354	Industrial

The summary table indicates that the industrial land need could potential be met by the 354-acre Area 48 (Tonquin Industrial Area).

North Adams Avenue Concept Plan

The North Adams Avenue Concept Plan involves 33.2 acres within the 2002 Urban Growth Boundary (UGB) expansion area, but outside Sherwood's city limits. The study area includes an additional 20.2 acres that are within the city limits. Of the 20.2 acres, 9.2 are undeveloped and 11 have limited development potential due to high voltage overhead power lines and easements. The Concept Plan identifies four development opportunity areas within the concept plan study area. Table 2 provides a summary of the location relevant to city limits, acreage, existing zoning designation, proposed zoning designation and net result for each development opportunity area.

[3] City of Sherwood Comprehensive Plan, Ch. 8 "Urban Growth Boundary Additions", p. 2

Table 2. Summary of North Adams Avenue Concept Plan Zoning Designations

Development Opportunity Area	**Area #1**	**Area #2**	**Area #3**	**Area #4**
Description	99W Parcel	Central Area	Tualatin/Sherwood Road	Home Depot
City Limits	Inside	Outside (6.5 acres) Inside (1.1 acres)	Inside	Inside
Acreage	5.8 acres	7.6 total acres	0.9 acres	1.4 acres
Existing Zone	Light Industrial	FD-20 (6.5 acres) Light Industrial (1.1 acres)	Light Industrial	Light Industrial
Proposed Zone	1) General Commercial 2) Office Commercial 3) Light Industrial	Light Industrial	1) General Commercial 2) Light Industrial	1) General Commercial 2) Office Commercial 3) Light Industrial
Net Result	1) -5.8 acres Industrial +5.8acres Commercial	+6.5 acres Industrial	1) -0.9 acres Industrial +0.9 acres Commercial	1) -1.4 acres Industrial +1.4acres Commercial
	2) -5.8 acres Industrial +5.8 acres Commercial			2) -1.4 acres Industrial +1.4 acres Commercial
	3) No net change		2) No net change	3) No net change

North Adams Avenue Concept Plan Zoning Designation Impact on Employment Land Supply

An evaluation of potential impacts from proposed North Adams Avenue Concept Plan zoning changes shows that any net change in Sherwood's commercial or industrial land supply will not affect the City's ability to accommodate the projected demand over the next 20 years. Proposed zoning changes in the Concept Plan could result in an 8.1-acre increase in commercial land supply. The commercial land supply would be more than enough to accommodate the commercial land demand identified in the EOA. Zoning changes may result in a 1.6-acre decrease in industrial lands. Despite this reduction in industrial land supply, it appears that Area 48 is large enough to accommodate the industrial land demand.

Table 3. North Adams Avenue Zoning Designation Impact on Employment Land Supply

	Commercial	Industrial
2006 EOA		
City-wide Demand	40 acres	276 acres
City-wide Supply	13 acres	74 acres
City-wide Need	27 acres	202 acres
2008 (Includes Driftwood and Langer Zone Changes)		
Driftwood/Langer Zone Changes	+57.74 acres	-52 acres
Demand	40 acres	276 acres
Revised Supply	70.74 acres	150 acres
Revised Need	0 acres	126 acres
2009 (Includes Potential Adams Avenue Zone Changes)		
Adams Avenue Change	+8.1 acres	-1.6 acres
Demand	40 acres	276 acres
Revised Supply[4]	78.84	148.4 acres
Revised Need	0 acres	127.6 acres
Potential Supply to Meet Need	None Needed	354 acres (Area 48)

[4] 28.71 acres of commercial and industrial land within the Brookman Road Concept Plan employment area is not included in this analysis.

DKS *Associates*
TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM

TO: Ben Austin, P.E., Harper Houf Peterson Righellis

FROM: Chris Maciejewski, P.E.
France Campbell, E.I.T.

DATE: March 10, 2009

SUBJECT: **Sherwood Adams Avenue North Improvements**
Transportation Tech Memo #1: Existing and Future Conditions

P08232-000

The memorandum presents the results of an updated existing and future conditions analysis for the Sherwood Adams Avenue North Improvements Project. It includes documentation of existing facilities, documentation of applicable agency transportation standards, existing operations analysis, future no-build operations analysis, and future operations analysis with the Adams Avenue North extension.

This project consists of the extension of Adams Avenue from Tualatin-Sherwood Boulevard to the Home Depot access along Highway 99W. The initial project study area is shown in Figure 1.

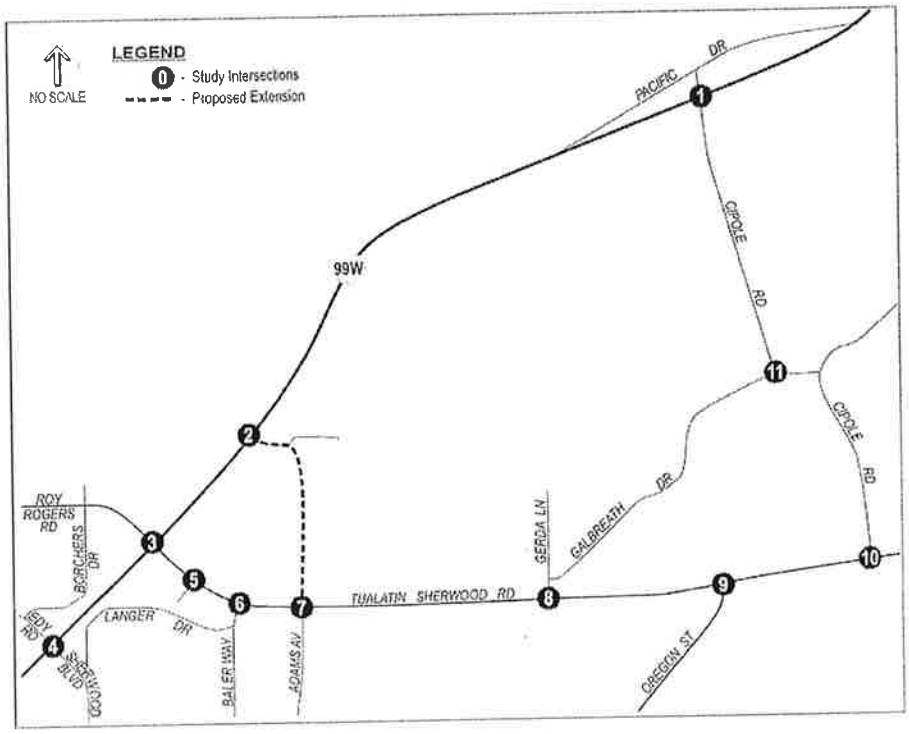

Figure 1: Study Area

Existing Facilities

The following sections discuss the existing transportation facilities in the project area, including a review of existing pedestrian, bicycle, and motor vehicle facilities.

Pedestrian Facilities

An inventory of sidewalks along key roadways within the study area was conducted. Currently, Tualatin-Sherwood Road has sidewalks on both sides through the study area. Highway 99W has sidewalks on both sides until just north of the Home Depot store, where the sidewalks terminate with the beginning of the rural highway section. Edy Road and Sherwood Boulevard also have sidewalks near the intersection with Highway 99W in the study area.

Bicycle Facilities

To assess the adequacy of bicycle facilities within the study area, a brief field inventory of designated bike lanes and shoulder bikeways along key roadways was conducted. There are bike lanes in both directions along Highway 99W, Tualatin-Sherwood Road, Edy Road, and Sherwood Boulevard through the study area. No other key study area roads have bike lanes.

Motor Vehicle Facilities

Field inventories were conducted to determine characteristics of roadways within the study area. Data collected included posted speed limits, roadway lanes, lane configurations, and intersection controls. These characteristics define corridor capacity and operating speeds through the street system, which affect travel path choices for drivers in the study area. The results are listed in Table 1.

Table 1: Existing Key Study Area Roadway Characteristics

Roadway	Agency	Functional Classification	Posted Speed Limit (mph)	Number of Lanes	Lane Width (ft)	Shoulder Width (ft)
Highway 99W	ODOT	Principal Arterial	45/55[a]	4	12	6.0
Tualatin-Sherwood Road	County	Arterial	35/45[a]	3/4	12	6.0
Edy Rd	ODOT/City	Collector	40	2/3	12	6.0
Sherwood Blvd	City	Arterial	25	3	12	6.0
Oregon Street	City	Arterial	35	3	12	1.5
Cipole Road	County	Collector	45	2	11	1.5
Adams Road	City	Collector	35	2/3	11	2.0

[a] Highway 99W is posted as 45 south of Home Depot and 55 mph to the north. Tualatin-Sherwood Road is posted at 35 mph west of Adams Avenue and 45 mph to the east.

Agency Transportation Standards

Two key agency transportation standards that are required to be addressed for this project include intersection operations/mobility standards and access management standards. An explanation of each is given in the following sections, along with the applicable standards.

Intersection Operations and Mobility Standards

Level of service (LOS) and volume to capacity (v/c) ratios as defined in the *2000 Highway Capacity Manual*[1] (HCM) are two measures of effectiveness (MOEs) that are used as the basis for intersection operations and mobility standards. Explanations of each are given below.

LOS is similar to a "report card" rating based upon average vehicle delay. Level of Service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of Service D and E are progressively worse peak hour operating conditions. Level of Service F represents conditions where average vehicle delay exceeds 80 seconds per vehicle entering a signalized intersection and demand has exceeded capacity. This condition is typically evident in long queues and delays. Unsignalized intersections provide levels of service for major and minor street turning movements. For this reason, LOS E and even LOS F can occur for a specific turning movement; however, the majority of traffic may not be delayed (in cases where major street traffic is not required to stop). LOS E or F conditions at unsignalized intersections generally provide a basis to study intersections further to determine availability of acceptable gaps, safety and traffic signal warrants.

Volume to capacity (v/c) ratio is the peak hour traffic volume at an intersection divided by the maximum volume that intersection can handle. For example, when a v/c is 0.80, peak hour traffic is using 80 percent of the intersection capacity. If traffic volumes exceed capacity, excessive queues will form and will lengthen until demand subsides below the available capacity (e.g. vehicles waiting to travel through a signalized intersection may have to wait for multiple signal cycles). When the v/c approaches 1.0, intersection operation becomes unstable and small disruptions can cause traffic flow to break down.

The minimum operational standard specified in the City of Sherwood Transportation System Plan is LOS D[2]. The maximum v/c ratio specified by Washington County is 0.99 for signalized intersections.[3] The minimum operational standard for unsignalized intersections specified by Washington County is LOS E. In the case of Highway 99W, ODOT operating performance standards for the study area utilize a v/c ratio of 0.99 for intersections not in a town center and 1.1 for those that are.[4] The intersection of Highway 99W/Tualatin-Sherwood Road and Highway 99W/Edy Road-Sherwood Boulevard are within the Town Center limits.[5]

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[1] *Highway Capacity Manual*, Transportation Research Board, 2000.
[2] Page 8-25, City of Sherwood Transportation System Plan, March 15, 2005.
[3] Washington County 2020 Transportation Plan, Adopted October 29, 2002, Table 5.
[4] 1999 Oregon Highway Plan, Amendment to Table 7, December 13, 2000.
[5] This is according to the Metro Regional and Town Center Map.
(http://www.oregonmetro.gov/index.cfm/go/by.web/id=15467&x=7599901&y=629257&locID=27)

Access Management Standards

Proper roadway access spacing is important to maintain operating characteristics and safety. While all parcels are allowed access, it is desired that access to parcels along major roadways be limited to side streets or consolidated. When roadway access points are located too frequently along a roadway, safety and roadway capacity are diminished. Access management practices can help roadways operate more efficiently and include closure, consolidation, or relocation of accesses. It is best to incorporate appropriate access spacing practices upon initial development or redevelopment to limit the amount of management required in the future.

The ODOT access management standards, as defined in OAR 734-051, call for minimum distances between access points on the same side of statewide highways. The standards vary depending on posted speed on the roadway. Highway 99W is a 45 mph statewide highway that meets ODOT access spacing standards for all roadway intersections and driveways located along the highway within the study area. Additional access spacing standards for study area roadways are identified in the Sherwood TSP and are included in Table 2.

Table 2: Access Management Standards

Facility (by Agency)	Minimum Access Spacing (ft)	Maximum Access Spacing (ft)
ODOT [a]		
- Statewide Highway (45 mph)	990	-
Washington County [b]		
- Arterial	600	-
- Collector	100	-
City of Sherwood [c]		
- Arterial	600	1,000
- Collector	100	400

[a]Source: Oregon Highway Plan, Table 13, ODOT (1999)
[b]Source: Washington County Community Development Code, Article V. Section 01-8.5.B
[c]Source: Sherwood TSP, Table 8-12

HCM Delay vs. Micro-Simulation Delay

Agency delay standards are based on the results of a HCM analysis. However, the HCM methodology treats intersections as isolated nodes that are not impacted by operations at other nearby intersections. The project study area includes seven intersections along Tualatin-Sherwood Road that, under peak hour traffic conditions, experience excessive vehicle queuing impacts that significantly increase driver delay. Therefore, the HCM delay is not an accurate measure of the true intersection delay. While agencies do not have adopted standards for micro-simulation delay, the micro-simulation delay can give a more accurate picture of congestion. Therefore, the intersection operations analysis for this study reports both HCM and micro-simulation delay.

Existing Intersection Operations

The existing intersection operations analysis includes a summary of the existing study intersection volumes and an analysis of the existing intersection operations.

Existing Volumes

An inventory of peak hour traffic conditions was performed in the fall of 2008. Eleven study intersections within the study area were selected for focused analysis in order to address areas of concern along major roadways and to monitor impacts of potential built-out within the Concept Plan area. During the AM peak hour (7:00 to 9:00 a.m.) and the PM peak hour (4:00 to 6:00 p.m.), turn movement counts were conducted at the study intersections. The count data was then used as a basis for evaluating traffic performance at the study intersections for existing PM peak hour conditions. The existing AM and PM peak hour traffic volumes at study intersections are shown in Figure 2.

The traffic volumes were compared to year 2006 historic data in the study area documented in the I-5 to 99W Connector Project[6]. Current traffic volumes were found to have decreased significantly during the PM peak hour on Tualatin-Sherwood Road in the westbound direction, with reductions up to 300 vehicles per hour. While these reductions in traffic volume could be a result of day-to-day or seasonal fluctuation, they could also be the result of decreased traffic volumes in the area due to current economic conditions or they could reflect driver route changes to other less congested corridors.

Existing Operations

The 30th highest hour intersection volumes[7] were used to determine the existing study intersection operating conditions based on the HCM methodology for signalized and unsignalized intersections. The results of this analysis are listed in Table 3 for the AM peak hour and Table 4 for the PM peak hour. As listed, each of the signalized study intersections meets mobility standards during both the AM and PM peak hour. The unsignalized intersections of Tualatin-Sherwood Road/Gerda Lane and Tualatin-Sherwood Road/Adams Avenue fail to meet LOS standards due to the side-street movements.

The micro-simulation results for the study intersections indicate a few locations where particular traffic movements are over capacity, which cause significant increased to driver delay. During the AM peak hour, the eastbound approach of Tualatin-Sherwood Road (Roy Rogers Road) at Highway 99W experiences traffic signal cycles that fail to clear all of the queued vehicles. During the PM peak hour, westbound traffic volumes on Tualatin-Sherwood Road approaching Highway 99W queue back through the Shopping Center signal and significantly increases driver delay.

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[6] I-5 to 99W Connector Project: Baseline Transportation Conditions Report, David Evans and Associates and DKS Associates, April 2007.

[7] 30th Highest Hour Volumes (30th HHVs) are used to account for seasonal trends in traffic patterns. . A seasonal adjustment factor of 1.09 was applied to Highway 99W through volumes based on local traffic trends and ODOT procedures for calculating a seasonal adjustment factor.

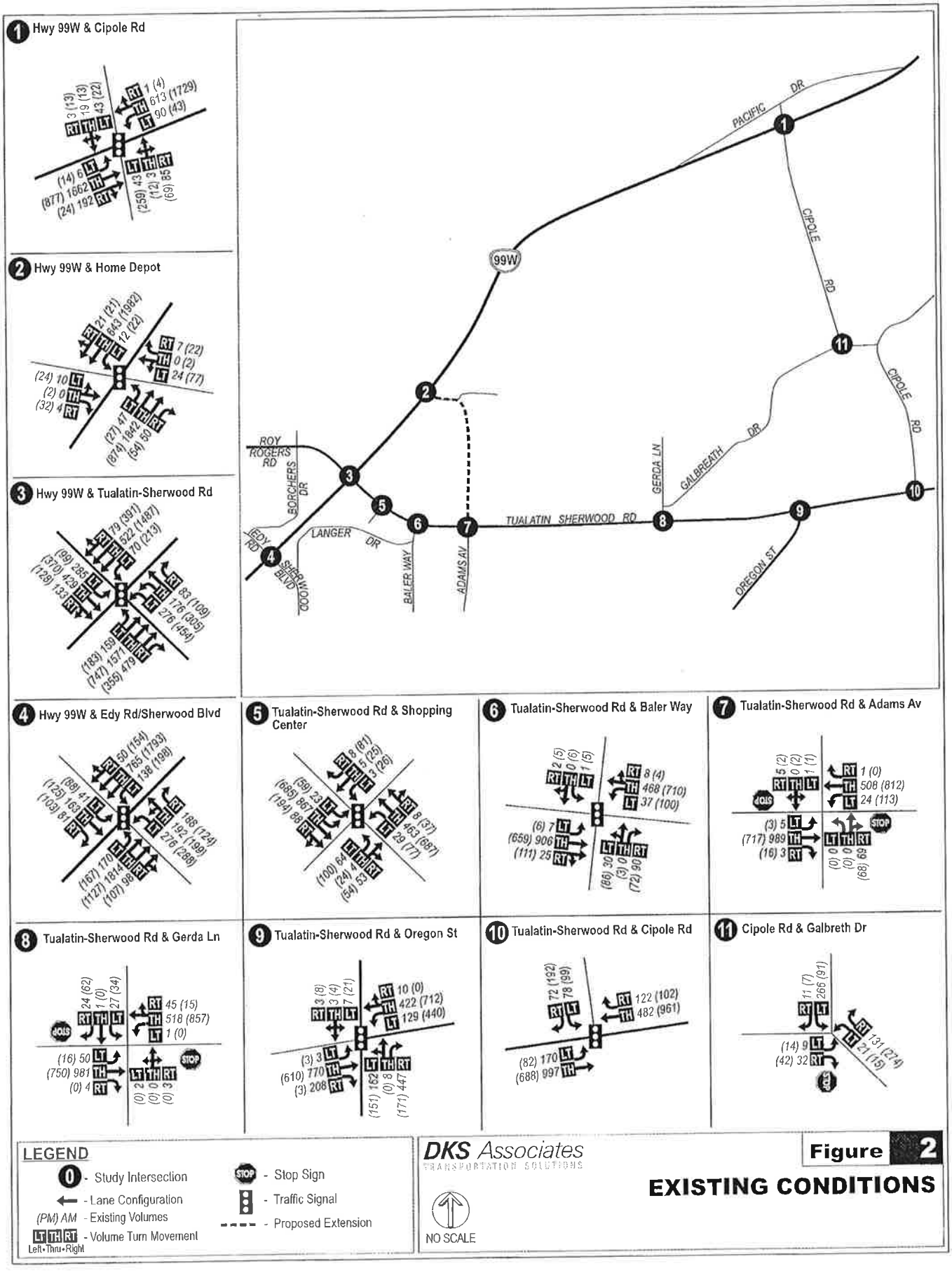

1 Hwy 99W & Cipole Rd
2 Hwy 99W & Home Depot
3 Hwy 99W & Tualatin-Sherwood Rd
4 Hwy 99W & Edy Rd/Sherwood Blvd
5 Tualatin-Sherwood Rd & Shopping Center
6 Tualatin-Sherwood Rd & Baler Way
7 Tualatin-Sherwood Rd & Adams Av
8 Tualatin-Sherwood Rd & Gerda Ln
9 Tualatin-Sherwood Rd & Oregon St
10 Tualatin-Sherwood Rd & Cipole Rd
11 Cipole Rd & Galbreth Dr
99W
PACIFIC DR
CIPOLE RD
ROY ROGERS RD
BORCHERS DR
EDY RD
SHERWOOD BLVD
LANGER DR
BALER WAY
ADAMS AV
TUALATIN SHERWOOD RD
GERDA LN
GALBREATH DR
OREGON ST
LEGEND
Study Intersection
Lane Configuration
(PM) AM - Existing Volumes
LT TH RT - Volume Turn Movement
Left • Thru • Right
STOP - Stop Sign
Traffic Signal
Proposed Extension
DKS Associates
TRANSPORTATION SOLUTIONS
NO SCALE
Figure 2
EXISTING CONDITIONS

Table 3: 2008 Existing Intersection Performance (AM Peak Hour)

Intersection	HCM Delay (sec)	Simulation Delay (sec)	LOS	v/c Ratio	MOEs	
					Agency	Standard
-Signalized intersections						
Highway 99W/Cipole Rd	31.3	25.7	C	0.90	ODOT	v/c ≤ 0.99
Highway 99W/Home Depot	7.8	6.3	A	0.72	ODOT	v/c ≤ 0.99
Highway 99W/Tualatin-Sherwood Rd	59.0	55.6	E	0.81	ODOT	v/c ≤ 1.1
Highway 99W/Edy Road	52.2	>100	D	0.94	ODOT	v/c ≤ 1.1
Tualatin-Sherwood Rd/Shopping Center	11.3	10.9	B	0.47	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Baler Wy	9.8	12.4	A	0.43	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Oregon St	31.5	44.3	C	0.79	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Cipole Rd	9.3	12.5	A	0.71	County	v/c ≤ 0.99
- Unsignalized Intersections						
Tualatin-Sherwood Rd/Adams Ave	>100	57.2	D/F	1.00	County	LOS E
Tualatin-Sherwood Rd/Gerda Ln	76.3	18.5	B/F	0.66	County	LOS E
Cipole Rd/Galbreath Rd	11.6	4.3	A/B	0.18	County	LOS E

Signalized intersection:

HCM Delay = Average Intersection Delay (sec.)

Simulation Delay = Simulation Average Intersection Delay (sec.)

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

Bold values do not meet standards.

Unsignalized intersection:

HCM Delay = Critical Movement Approach Delay (sec.)

Simulation Delay = Simulation Critical Movement Approach Delay (scc.)

LOS = Major Street LOS/Minor Street LOS

V/C = Critical Movement Volume-to-Capacity Ratio

Table 4: 2008 Existing Intersection Performance with 30th HV (PM Peak Hour)

Intersection	HCM Delay (sec)	Simulation Delay (sec)	LOS	v/c Ratio	MOEs	
					Agency	Standard
-Signalized intersections						
Highway 99W/Cipole Rd	28.7	30.1	C	0.89	ODOT	v/c ≤ 0.99
Highway 99W/Home Depot	14.1	19.2	B	0.81	ODOT	v/c ≤ 0.99
Highway 99W/Tualatin-Sherwood Rd	70.1	61.6	E	1.00	ODOT	v/c ≤ 1.1
Highway 99W/Edy Road	41.0	60.5	D	0.85	ODOT	v/c ≤ 1.1
Tualatin-Sherwood Rd/Shopping Center	16.6	35.9	B	0.45	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Baler Wy	12.9	19.5	B	0.57	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Oregon St	22.2	39.7	C	0.76	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Cipole Rd	14.8	21.8	B	0.69	County	v/c ≤ 0.99
- Unsignalized Intersections						
Tualatin-Sherwood Rd/Adams Ave	>100	20.0	B/**F**	0.50	County	LOS E
Tualatin-Sherwood Rd/Gerda Ln	32.5	18.2	B/D	0.53	County	LOS E
Cipole Rd/Galbreath Rd	10.1	4.0	A/B	0.09	County	LOS E

Signalized intersection:

HCM Delay = Average Intersection Delay (sec.)

Simulation Delay = Simulation Average Intersection Delay (sec.)

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

Bold values do not meet standards.

Unsignalized intersection:

HCM Delay = Critical Movement Approach Delay (sec.)

Simulation Delay = Simulation Critical Movement Approach Delay (sec.)

LOS = Major Street LOS/Minor Street LOS

V/C = Critical Movement Volume-to-Capacity Ratio

Future No-Build Operations

Future operations analysis was performed for the study intersections under the no-build scenario, which assumes the completion of financially constrained roadway improvements but does not include the extension of Adams Avenue to the north. In addition, the lands with the Concept Plan area for the project were assumed to develop under existing zoning. The planned roadway improvements include:

Signalization of Tualatin-Sherwood Road/Adams Avenue
Conversion of Tualatin-Sherwood Road/Baler Way to right-in/right-out and signal removal
Widening of Tualatin-Sherwood Road and Roy Rogers Road to 5-lanes from Teton Avenue to Borchers Drive
Completion of the Adams Avenue South Extension
Intersection geometric, turn lane, and signal phasing improvements at Highway 99W/Tualatin-Sherwood Road
Completion of the 124th Avenue extension from Tualatin-Sherwood Road to Tonquin Road
Widening of Tonquin Road to 3-lanes
Signalization of Tualatin-Sherwood Road/Gerda Lane

The existing zoning of the lands within the City of Sherwood in the Concept Plan area is light industrial. The Concept Plan area outside of the City limit is zoned for rural density (e.g., one home per 20 acres). The Metro 2030 travel demand model includes approximately 150 non-retail employees in the Concept Plan area, which is equivalent to a floor-area-ratio (FAR) of 0.30 for the lands not restricted by the BPA easements. Therefore, the base Metro forecast for the area represents a reasonable build-out of existing zoning.

The following sections include a summary of the future intersection volume forecasting and the resulting intersection operations.

Future Volumes

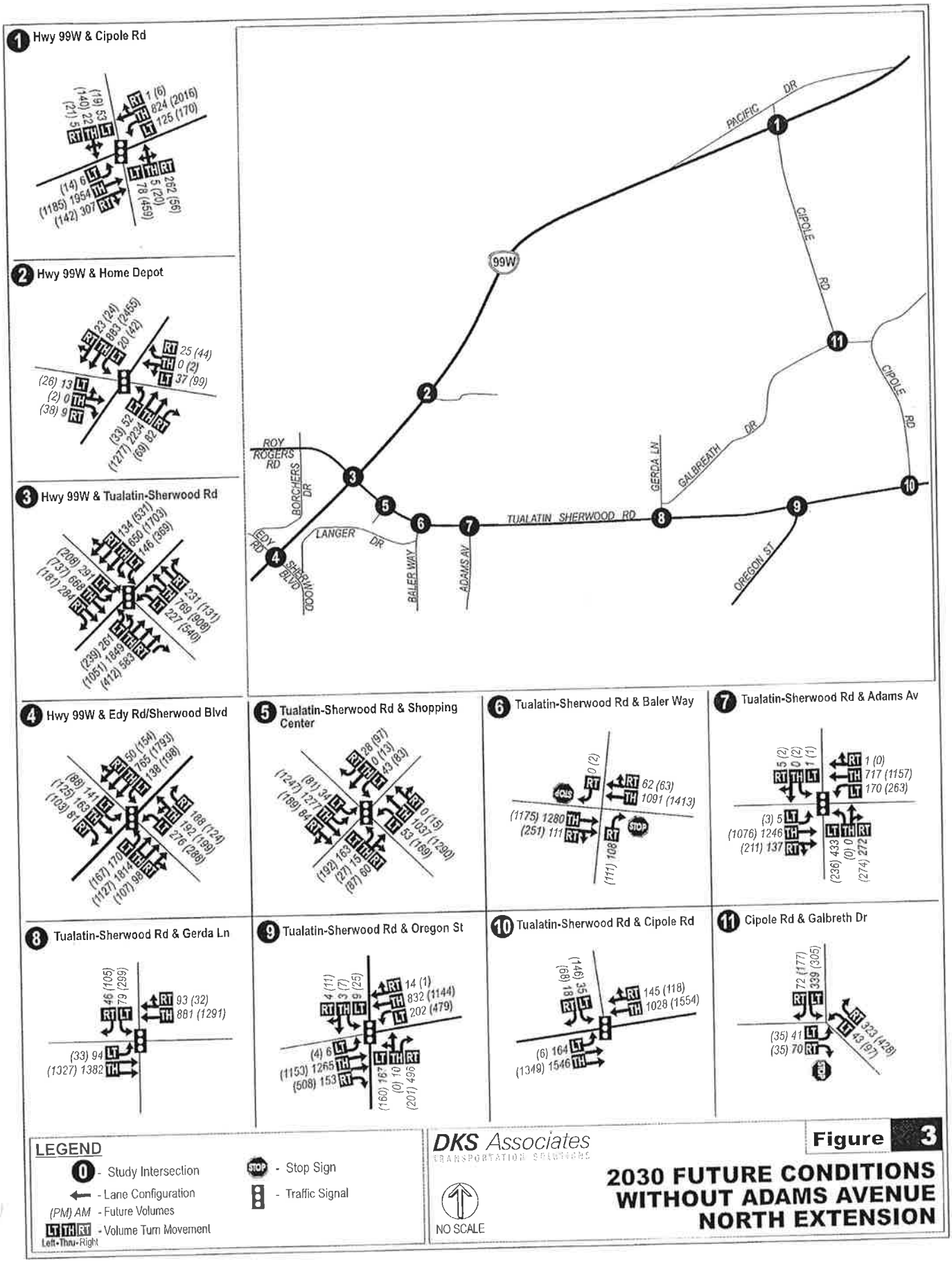
Future year 2030 turning movement volumes were estimated for the study intersections using the travel demand model developed by Metro, Washington County, and the I-5 to 99W Connector Project team. To further refine the forecasts, a sub-area model was developed for the study area that includes all public streets and utilizes HCM node delays for trip assignment in order to evaluate changes in circulation and traffic control. The boundaries for the sub-area model include Highway 99W to the northeast, Roy Rogers Road to the northwest, Oregon Street to the southeast, Sherwood Boulevard/Edy Road to the southwest, and Cipole Road to the east.

Calibration was performed on the enhanced 2005 base year model using the existing 30th highest hourly volumes (30th HV) at the study intersections. A future year 2030 sub-area model was then developed by coding the planned improvements into the model network re-assigning the 2030 Metro model trip tables. The 2030 future year volumes were then estimated by a post processing methodology that includes adding the growth increment between the 2005 base year and 2030 future year models for each turn movement to the 2008 existing year 30th HV. The future volumes under the future no-build scenario are shown in Figure 3.

Future Operations

The traffic volumes forecasted for the 2030 No-Build Scenario were used to analyze operating conditions at the study intersections. The results of this analysis are listed in Table 5 for the AM peak hour and Table 6 for the PM peak hour. As shown in the tables, operating standards are exceeded at Highway 99W/Cipole Road during the AM and PM peak hours.

There are two main differences between the future and existing operations. First, the Highway 99W/Cipole Road intersection was not failing under existing operations but is expected to fail in the future. Second, the intersections of Tualatin-Sherwood Road/Adams Avenue and Tualatin-Sherwood Road/Gerda Lane were failing under the existing conditions, and no longer fail in the 2030 No-Build scenario; this is because the intersections will be signalized and also because of the Tualatin-Sherwood Road widening. Significant increases in vehicle delay and v/c ratios were found at the majority of study intersections due to future growth.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6 Tualatin-Sherwood Rd & Baler Way
7 Tualatin-Sherwood Rd & Adams Av
8 Tualatin-Sherwood Rd & Gerda Ln
9 Tualatin-Sherwood Rd & Oregon St
10 Tualatin-Sherwood Rd & Cipole Rd
11 Cipole Rd & Galbreth Dr
99W
PACIFIC DR
CIPOLE RD
ROY ROGERS RD
BORCHERS DR
EDY RD
SHERWOOD BLVD
LANGER DR
BALER WAY
ADAMS AV
TUALATIN SHERWOOD RD
GERDA LN
GALBREATH DR
OREGON ST
LEGEND
- Study Intersection
- Lane Configuration
(PM) AM - Future Volumes
LT TH RT - Volume Turn Movement
Left-Thru-Right
STOP - Stop Sign
- Traffic Signal
NO SCALE
DKS Associates
TRANSPORTATION SOLUTIONS
Figure 3
2030 FUTURE CONDITIONS
WITHOUT ADAMS AVENUE
NORTH EXTENSION

Table 5: 2030 Intersection Performance without Adams Ave Extension (AM Peak Hour)

Intersection	HCM Delay (sec)	Simulation Delay (sec)	LOS	v/c Ratio	MOEs Agency	MOEs Standard
-Signalized intersections						
Highway 99W/Cipole Rd	>100	54.6	F	**1.15**	ODOT	v/c ≤ 0.99
Highway 99W/Home Depot	18.0	7.9	B	0.80	ODOT	v/c ≤ 0.99
Highway 99W/Tualatin-Sherwood Rd	52.4	>100	D	0.98	ODOT	v/c ≤ 1.1
Highway 99W/Edy Road/ Sherwood Blvd	74.4	>100	E	1.03	ODOT	v/c ≤ 1.1
Tualatin-Sherwood Rd/Shopping Center	23.0	25.6	C	0.66	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Adams Ave	30.4	>100	C	0.89	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Gerda Ln	4.3	11.5	A	0.54	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Oregon St	18.9	22.8	B	0.78	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Cipole Rd	4.4	6.7	A	0.54	County	v/c ≤ 0.99
- Unsignalized Intersections						
Tualatin-Sherwood Rd/Baler Wy	13.3	10.3	A/B	0.55	County	LOS E
Cipole Rd/Galbreath Rd	16.1	9.9	A/C	0.27	County	LOS E

Signalized intersection:

HCM Delay = Average Intersection Delay (sec.)

Simulation Delay = Simulation Average Intersection Delay (sec.)

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

Bold values do not meet standards.

Unsignalized intersection:

HCM Delay = Critical Movement Approach Delay (sec.)

Simulation Delay = Simulation Critical Movement Approach Delay (sec.)

LOS = Major Street LOS/Minor Street LOS

V/C = Critical Movement Volume-to-Capacity Ratio

Table 6: 2030 Intersection Performance without Adams Ave Extension (PM Peak Hour)

Intersection	HCM Delay (sec)	Simulation Delay (sec)	LOS	v/c Ratio	MOEs	
					Agency	Standard
-Signalized intersections						
Highway 99W/Cipole Rd	92.5	>100	F	**1.29**	ODOT	v/c ≤ 0.99
Highway 99W/Home Depot	25.7	19.7	C	0.88	ODOT	v/c ≤ 0.99
Highway 99W/Tualatin-Sherwood Rd	61.2	>100	E	0.93	ODOT	v/c ≤ 1.1
Highway 99W/Edy Road/ Sherwood Blvd	84.0	>100	F	1.08	ODOT	v/c ≤ 1.1
Tualatin-Sherwood Rd/Shopping Center	23.0	>100	C	0.74	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Adams Ave	17.5	40.2	B	0.71	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Gerda Ln	13.7	27.3	B	0.64	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Oregon St	18.0	34.5	B	0.85	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Cipole Rd	9.1	12.0	A	0.67	County	v/c ≤ 0.99
- Unsignalized Intersections						
Tualatin-Sherwood Rd/Baler Wy	13.2	19.2	A/B	0.57	County	LOS E
Cipole Rd/Galbreath Rd	20.7	>100	A/C	0.32	County	LOS E

Signalized intersection:
- HCM Delay = Average Intersection Delay (sec.)
- Simulation Delay = Simulation Average Intersection Delay (sec.)
- LOS = Level of Service
- V/C = Volume-to-Capacity Ratio
- **Bold** values do not meet standards.

Unsignalized intersection:
- HCM Delay = Critical Movement Approach Delay (sec.)
- Simulation Delay = Simulation Critical Movement Approach Delay (sec.)
- LOS = Major Street LOS/Minor Street LOS
- V/C = Critical Movement Volume-to-Capacity Ratio

The simulation delay attained from micro-simulation runs holds distinctly different results due to corridor congestion. Both Highway 99W through the study area and Tualatin-Sherwood Road from Highway 99W through Adams Avenue would experience substantial congestion with average vehicle delays well above acceptable levels.

Future Operations with Adams Avenue North Extension

Future 2030 forecasting and operations analysis was performed for a scenario that includes the Adams Avenue North extension between the Tualatin-Sherwood Road/Adams Avenue intersection and the Home Depot access to Highway 99W. The financially constrained roadway improvements that were included in the future no-build scenario and the base land use for the Concept Plan area were maintained for this scenario.

Future Volumes with Adams Avenue North Extension

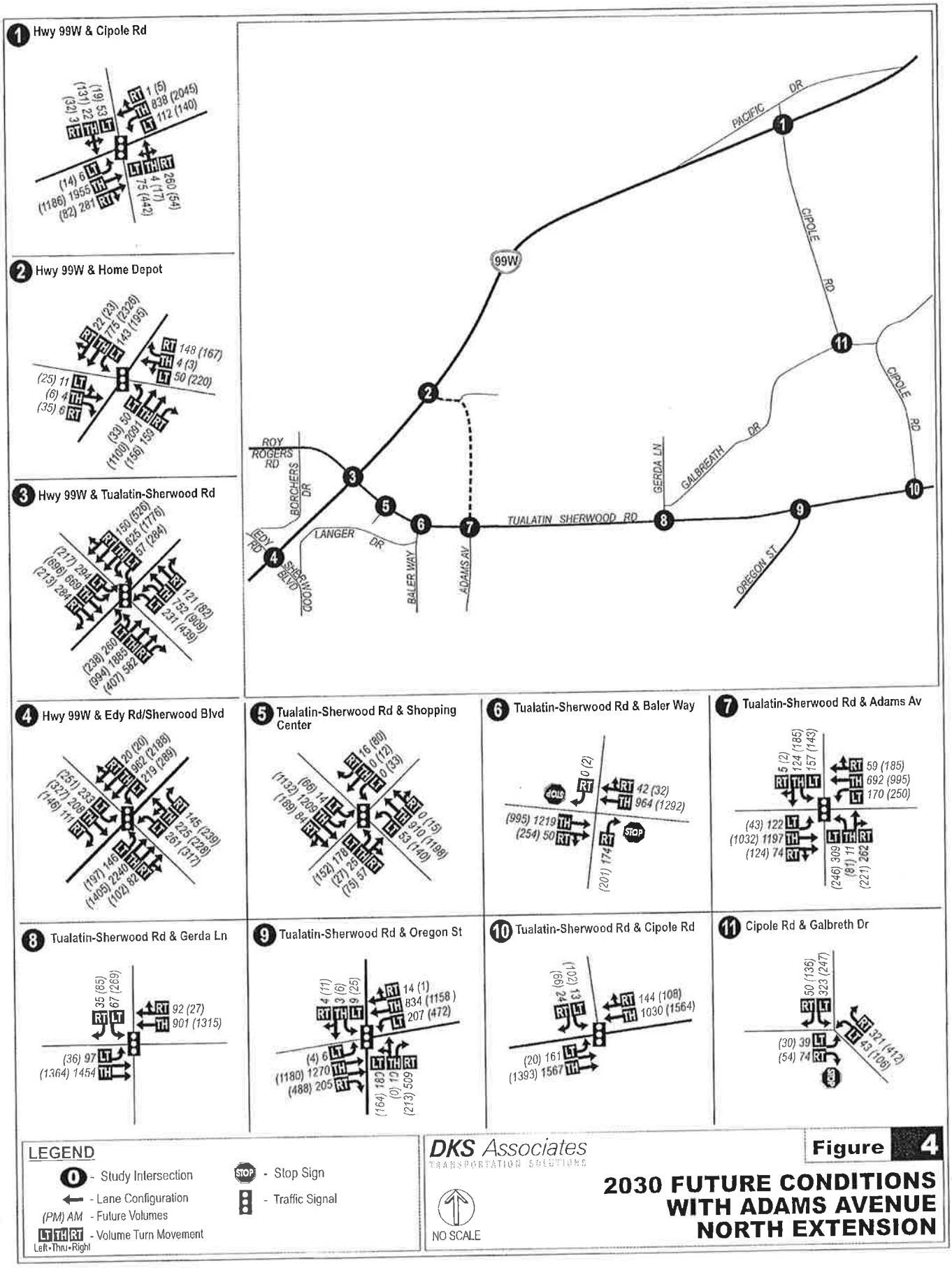
The forecasted traffic volumes that were estimated are shown in Figure 4. With the addition of the Adams Avenue North Extension, a portion of traffic moves between Tualatin-Sherwood Road and Highway 99W to utilize Adams Avenue and avoid the congested intersection of Highway 99W/Tualatin-Sherwood Road. During the AM Peak hour, approximately 500 vehicles would use Adams Avenue North. During the PM peak hour, approximately 700 vehicles use Adams Avenue North.

Future Operations with Adams Avenue North Extension

In addition to the volume analysis, study intersection operations were analyzed and are summarized in Table 7 for the AM peak hour and Table 8 for the PM peak hour. As shown in the tables, operating standards are exceeded at Highway 99W/Cipole Road in AM and PM peak hours.

The future operations are consistent with the no-build scenario and Highway 99W/Cipole Road failed to meet operating standards with and without the Adams Avenue north extension. Traffic operations at Highway 99W/Cipole Road did slightly improve with the Adams Avenue North Extension.

The micro-simulation delay is fairly consistent with the no-build scenario, as study intersections do not show major differences in average vehicle delay. As with the no-build scenario, the Highway 99W and Tualatin-Sherwood Road corridors continue to be over-capacity with excessive queues creating additional vehicle delays at upstream intersections.



DKS Associates
TRANSPORTATION SOLUTIONS

Figure 4

2030 FUTURE CONDITIONS WITH ADAMS AVENUE NORTH EXTENSION

Table 7: 2030 Intersection Performance with Adams Ave Extension (AM Peak Hour)

Intersection	HCM Delay (sec)	Simulation Delay (sec)	LOS	v/c Ratio	MOEs	
					Agency	Standard
-Signalized intersections						
Highway 99W/Cipole Rd	>100	49.8	F	**1.12**	ODOT	v/c ≤ 0.99
Highway 99W/Adams Ave	33.8	12.0	C	0.85	ODOT	v/c ≤ 0.99
Highway 99W/Tualatin-Sherwood Rd	52.1	>100	D	0.96	ODOT	v/c ≤ 1.1
Highway 99W/Edy Road/ Sherwood Blvd	71.3	>100	E	1.03	ODOT	v/c ≤ 1.1
Tualatin-Sherwood Rd/Shopping Center	17.6	21.2	B	0.62	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Adams Ave	28.1	51.8	C	0.83	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Gerda Ln	3.7	9.6	A	0.53	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Oregon St	19.3	22.2	B	0.79	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Cipole Rd	3.1	5.8	A	0.52	County	v/c ≤ 0.99
- Unsignalized Intersections						
Tualatin-Sherwood Rd/Baler Wy	13.7	12.9	A/B	0.52	County	LOS E
Cipole Rd/Galbreath Rd	15.3	6.9	A/C	0.26	County	LOS E

Signalized intersection:

HCM Delay = Average Intersection Delay (sec.)

Simulation Delay = Simulation Average Intersection Delay (sec.)

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

Bold values do not meet standards.

Unsignalized intersection:

HCM Delay = Critical Movement Approach Delay (sec.)

Simulation Delay = Simulation Critical Movement Approach Delay (sec.)

LOS = Major Street LOS/Minor Street LOS

V/C = Critical Movement Volume-to-Capacity Ratio

Table 8: 2030 Intersection Performance with Adams Ave Extension (PM Peak Hour)

Intersection	HCM Delay (sec)	Simulation Delay (sec)	LOS	v/c Ratio	MOEs	
					Agency	Standard
-Signalized intersections						
Highway 99W/Cipole Rd	87.4	>100	F	**1.27**	ODOT	v/c ≤ 0.99
Highway 99W/Adams Ave	40.5	37.1	D	0.98	ODOT	v/c ≤ 0.99
Highway 99W/Tualatin-Sherwood Rd	55.4	98.3	E	0.97	ODOT	v/c ≤ 1.1
Highway 99W/Edy Road/ Sherwood Blvd	81.0	>100	F	1.07	ODOT	v/c ≤ 1.1
Tualatin-Sherwood Rd/Shopping Center	19.4	56.7	B	0.64	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Adams Ave	29.1	69.2	C	0.74	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Gerda Ln	11.3	21.9	B	0.63	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Oregon St	19.9	34.1	B	0.86	County	v/c ≤ 0.99
Tualatin-Sherwood Rd/Cipole Rd	7.4	10.2	A	0.64	County	v/c ≤ 0.99
- Unsignalized Intersections	92.0					
Tualatin-Sherwood Rd/Baler Wy	12.8	9.8	A/B	0.52	County	LOS E
Cipole Rd/Galbreath Rd	16.6	>100	A/C	0.25	County	LOS E

Signalized intersection:

HCM Delay = Average Intersection Delay (sec.)

Simulation Delay = Simulation Average Intersection Delay (sec.)

LOS = Level of Service

V/C = Volume-to-Capacity Ratio

Bold values do not meet standards.

Unsignalized intersection:

HCM Delay = Critical Movement Approach Delay (sec.)

Simulation Delay = Simulation Critical Movement Approach Delay (sec.).

LOS = Major Street LOS/Minor Street LOS

V/C = Critical Movement Volume-to-Capacity Ratio

Progression Analysis

In addition to the intersection operations analysis presented in the previous sections, ODOT also requires a corridor progression analysis to assure travel times and corridor through capacity will be maintained. To establish a baseline for the alternatives analysis, a traffic signal progression analysis was conducted for the Highway 99W corridor section that includes the following signalized and coordinated intersections:

Highway 99W/Home Depot

Highway 99W/Tualatin-Sherwood Road

Highway 99W/Sherwood Boulevard-Edy Road

The signal analysis progression analysis is based on the 2008 existing and 2030 future no-build traffic signal system operations during both the AM peak hour and the PM peak hour. The through traffic bandwidths (i.e., the window of time where a platoon of vehicles can travel through all three signals without stopping) along Highway 99W in the study corridor for the 2008 Existing and 2030 future no-build conditions are shown in Table 9.

The through traffic bandwidths shown in Table 9 were used to determine the study area corridor progression volume to capacity (V/C) ratios[8]. These maximum bandwidths assume that each signal reaches its maximum initial phase time, which is the worst case scenario.

Table 9: Signal Progression Bandwidths on Highway 99W

	AM Peak				PM Peak			
	Northbound		Southbound		Northbound		Southbound	
Scenario	BW	V/C	BW	V/C	BW	V/C	BW	V/C
2008 Existing	30	2.11	30	0.74	18	1.67	20	3.41
2030 without Adams Ave Ext.	29	2.43	30	0.93	18	2.24	21	3.69
2030 with Adams Ave Ext.	22	3.00	30	0.82	18	1.93	21	3.50

BW = Traffic bandwidth
V/C = Corridor progression volume to capacity ratio

As shown in Table 9, the corridor progression volume to capacity ratio is above 1.00 for many of the existing and future time periods, indicating that there is not enough bandwidth to efficiently serve existing and projected traffic volumes in the coordinated system.

The critical intersection in the study corridor (the intersection carrying the highest through volume per lane) is the Highway 99W/Home Depot intersection. The intersections in the study corridor had a common cycle length of 120 seconds. Adequate pedestrian timing was provided at the intersections where appropriate.

[8] ((Volume/Saturation Flow Rate)*(Cycle Length/Arterial Bandwidth))

DKS Associates
TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM

TO: Ben Austin, P.E., Harper Houf Peterson Righellis

FROM: Chris Maciejewski, P.E.
France Campbell, E.I.T.
Garth Appanaitis, E.I.T.

DATE: March 27, 2009

SUBJECT: **Sherwood Adams Avenue North Concept Plan**
Transportation Tech Memo #2: Preliminary Concept Alternatives Analysis
P08232-000

The purpose of this memorandum is to review the transportation performance of the five land use alternatives created for the Sherwood Adams Avenue North Concept Plan. The first two sections of this memorandum discuss compliance of the proposed alternatives with City functional classification and access spacing standards. The final three sections discuss the traffic impacts of the alternatives, including land use and trip generation, study area operations analysis, and recommended mitigation measures. The traffic impact analysis for the potential land use addresses long term issues (to address TPR[1] requirements) utilizing a forecast year of 2030.

Functional Classification

Highway 99W is classified as a statewide highway in the Oregon Highway Plan[2] and a principle arterial in the City of Sherwood Transportation Plan (TSP)[3]. The City's TSP identifies Tualatin-Sherwood Road, Sherwood Boulevard, and Oregon Street as arterials and Edy Road, Cipole Street, Gerda Lane, Galbreath Drive, and Adams Road as collectors. The proposed Adams Avenue North Extension is classified as a collector in each of the five Concept Plan Alternatives, which is consistent with the City's adopted TSP.

Access Spacing Review

The functional classification establishes the access spacing standards for transportation facilities. Along the proposed Adams Avenue north extension, a collector roadway, access spacing should be a minimum of 100 feet and a maximum of 400 feet[3]. In addition, access should be limited within the influence area of other intersections (i.e., not allowing full access near Tualatin-Sherwood Road or Highway 99W where vehicle queues would block the access). In all of the

[1] Transportation Planning Rule, Oregon DLCD, http://www.oregon.gov/ODOT/TD/TP/TPR.shtml
[2] *1999 Oregon Highway Plan*, Oregon Department of Transportation, January 2006.
[3] *City of Sherwood Transportation System Plan*, Prepared by DKS Associates, March 2005.

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alternatives, access along Adams Avenue can be designed to meet the minimum spacing standard. Maximum spacing standards may not be met along the PGE substation and the UGB boundary, where land would not develop and access is not needed.

Land Use and Trip Generation

Five land use alternatives were generated to represent the range of land use and traffic impact for the plan area. The Concept Plan development areas are displayed in Figure 1 and the corresponding land use assumption for each alternative is shown in Table 2. The BPA/PGE transmission easement and the PGE facility were assumed to be used as public facility, open space or parking to support the developable areas with no potential for generating significant additional future motor vehicle traffic. Alternative 1 assumes that the land within the study area fully develops according to the existing zoning. A portion of the Concept Plan area east of the proposed Adams Avenue north extension (Area C in Figure 1) is currently outside of the City limit and is zoned for rural density. Therefore, Alternative 1 did not include development in the portion of the Concept Plan area outside of the City limits. The total new PM peak hour trips generated by the concept plan alternatives range from approximately 150 trips to 480 trips.

To determine the impact of rezoning the study area, the amount of motor vehicle traffic generated by each alternative was determined. Trip generation was estimated based on rates provided by the Institute of Transportation Engineers[4] (ITE) for similar land use types (e.g. light industrial, restaurants, retail uses, and office uses). Table 2 lists the estimated PM peak hour trips for each of the alternatives. Pass-by trips[5] for Alternatives 3 through 5 are also listed in Table 2 and the total new trips account for the estimated pass-by trips. The total number of new trips was used to verify that the City's 43 trips per net developable acre CAP[6] was not exceeded in any of the Concept Plan development areas shown in Figure 1 for the five alternatives. Any locations exceeding the City's trip CAP were scaled down to conformance.

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[4] *Trip Generation Manual, 8th Edition*, Institute of Transportation Engineers, 2008.
[5] *Trip Generation Handbook, 2nd Edition*, Institute of Transportation Engineers, 2004.
[6] City of Sherwood Municipal Code Chapter 16.108.070 (CAP), Section D4.

Figure 1: Adams Avenue North Concept Plan Developable Areas

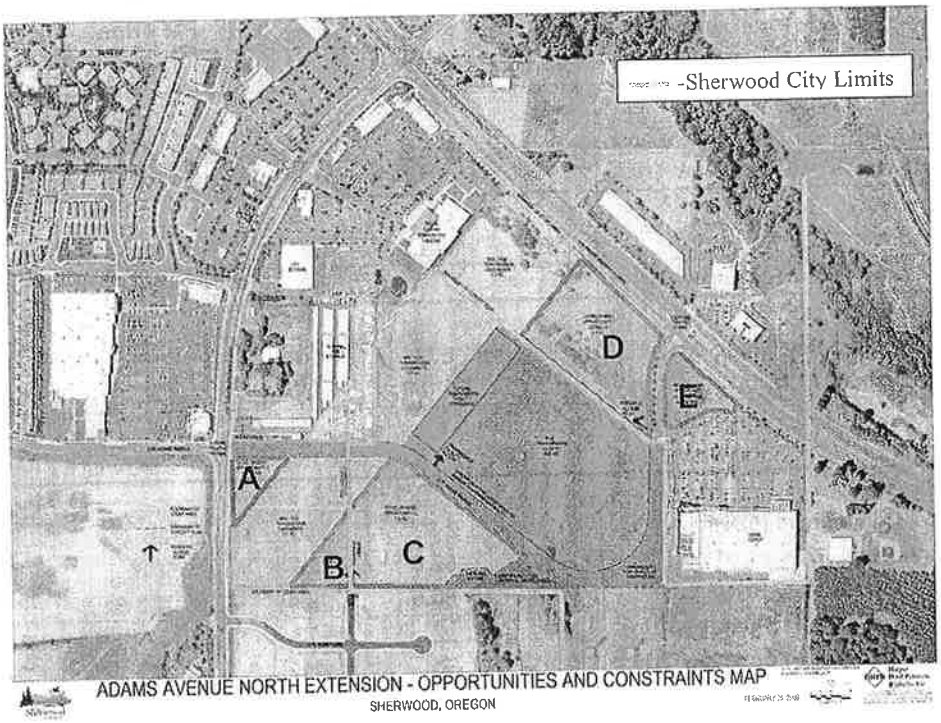

Table 1: Alternatives Land Use Scenarios

Alternative	Concept Area (See Figure 1)				
	A	B	C	D	E
1	LI	LI	R	LI	LI
2	LI	LI	LI	LI	LI
3	LI	LI	LI	GC	LI
4	GC*	LI	LI	OC	OC
5	GC*	LI	LI	GC	GC*

* Area developed was limited by City's 43 trips per acre CAP
GC – General Commercial
LI – Light Industrial
OC – Office Commercial
R – Rural

Table 2: Motor Vehicle Trip Generation Comparison – PM Peak Hour

Scenario / Land Use (ITE Code)	Acres	KSF*	PM Trips In	PM Trips Out	PM Trips Total
Alternative 1					
Light Industrial (710)	9.4	102.4	26	111	153
Total New Trips			26	111	153
Alternative 2					
Light Industrial (710)	15.9	173.2	44	214	258
Total New Trips			44	214	258
Alternative 3					
General Commercial (820, 934)	5.8	63.2	210	206	416
Light Industrial (710)	10.1	110.0	28	136	164
Pass-by Trips			88	86	174
Total New Trips			150	256	406
Alternative 4					
General Commercial (934)	0.9	2.3**	40	36	76
Light Industrial (710)	7.6	82.8	21	102	123
Office Commercial (710, 934)	7.4	80.6	124	190	314
Pass-by Trips			73	67	140
Total New Trips			112	261	373
Alternative 5					
General Commercial (820, 934)	8.3	82.8**	317	309	626
Light Industrial (710)	7.6	82.8	21	102	123
Pass-by Trips			138	132	270
Total New Trips			200	279	479

*KSF – Building area, thousand square feet
** Area developed was limited by City's 43 trips per acre CAP

Operations Analysis

The following sections describe the future forecasting and operations analysis completed for the Adams Avenue North Concept Plan alternatives. The future conditions evaluation includes future forecasting, identification of funded study area improvements, and motor vehicle intersection capacity analysis.

Future Forecasting

Future travel demand forecasting for the Adams Avenue North study area utilized the latest 2030 VISUM travel demand model developed by Metro, Washington County, and DKS Associates for the I-5 to 99W Connector Study. As part of the model development for the I-5 to 99W Connector Study, the Sherwood TSP travel demand model zone structure and network detail was used as a guideline to refine the regional model. In addition, a detailed focus model was created for the

Adams Avenue North Concept Plan study area, which incorporates the use of *HCM 2000 Methodology* for turn delays (instead of the regional model macroscopic delay functions).

Future 2030 PM peak hour volumes at study intersections were developed for the five Adams Avenue North Concept Plan land use scenarios by adjusting the travel demand model trip tables to reflect the trip rates listed in Table 2. These volumes were then used to analyze and determine future impacts from the proposed Adams Avenue North area on the planned roadway network.

Planned Study Area Roadway Improvements

Assumed transportation improvements in the study area were limited to Metro 2035 Regional Transportation Plan (RTP)[7] financially constrained roadway improvements and the extension of Adams Avenue to the north. Other capacity improvement projects in Metro's RTP or other plans without committed funding were not included in any of the future analysis scenarios in order to meet OAR 660-012-060 requirements. The planned roadway improvements include:

- Signalization of Tualatin-Sherwood Road/Adams Avenue
- Conversion of Tualatin-Sherwood Road/Baler Way to right-in/right-out and signal removal
- Widening of Tualatin-Sherwood Road and Roy Rogers Road to 5-lanes from Teton Avenue to west of Highway 99W (tapers to three lanes east of Borchers Drive)
- Completion of the Adams Avenue South Extension from Oregon Street to Century Drive
- Intersection geometric, turn lane, and signal phasing improvements at Highway 99W/Tualatin-Sherwood Road
- Completion of the 124th Avenue extension from Tualatin-Sherwood Road to Tonquin Road
- Widening of Tonquin Road to 3-lanes
- Signalization of Tualatin-Sherwood Road/Gerda Lane

In addition, the operations analysis found that turn lane and signal timing improvements would be required under any scenario (including 2030 Baseline Conditions) at Highway 99W/Adams Avenue. Therefore, construction of a dual westbound left-turn lane from Adams Avenue westbound to Highway 99W southbound and conversion to protected left phasing was assumed for all scenarios.

Capacity Analysis

In order to provide a baseline comparison to the future Adams Avenue North Concept Plan alternatives, the 2030 Alternative 1 scenario evaluates future traffic volumes assuming the planned roadway geometry and full development of the Adams Avenue North Concept Plan area under existing zoning. Each alternative was then evaluated to determine impacts to the study area. Intersections that do not meet performance standards must be mitigated to the level of performance (per Oregon's Transportation Planning Rule (TPR)) that would occur under development of the area with existing zoning (Alternative 1) or that would meet mobility standards, whichever is higher.

---

[7] Metro 2035 Regional Transportation Plan, http://www.oregonmetro.gov/index.cfm/go/by.web/id=25037.

The maximum v/c ratio specified by Washington County is 0.99 for signalized intersections.[8] The minimum operational standard for unsignalized intersections specified by Washington County is LOS E. In the case of Highway 99W, ODOT operating performance standards for the study area is a v/c ratio of 0.99 for intersections not in a town center and 1.1 for those that are located within a Town Center.[9] The intersection of Highway 99W/Tualatin-Sherwood Road and Highway 99W/Edy Road-Sherwood Boulevard are within the Town Center designation.[10]

As listed in Table 3, with the addition of land development in the Adams Avenue North Concept Plan, all study intersections meet ODOT/County standards under in all alternatives.

Mitigation Measures

With the addition of land development in the Adams Avenue North Concept Plan, all study intersections meet ODOT/County standards under in all alternatives. Therefore, no off-site transportation mitigations are required to offset the impacts of the Adams Avenue North Concept Plan for TPR compliance. However, on-site improvements may be required as part of the Adams Avenue North Extension (e.g. turn lane pocket extensions).

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[8] Washington County 2020 Transportation Plan, Adopted October 29, 2002, Table 5.
[9] 1999 Oregon Highway Plan, Amendment to Table 7, December 13, 2000.
[10] This is according to the Metro Regional and Town Center Map.
(http://www.oregonmetro.gov/index.cfm/go/by.web/id=15467&x=7599901&y=629257&locID=27)

Table 3: 2030 PM Peak Hour Intersection Performance

Intersection	Agency	Standard	Intersection Performance (Delay LOS V/C) Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Signalized Intersections							
Highway 99W/Adams Ave	ODOT	v/c ≤ 0.99	30.1 C 0.86	30.7 C 0.87	31.3 C 0.87	31.0 C 0.87	31.6 C 0.87
Highway 99W/Tualatin-Sherwood Rd	ODOT	v/c ≤ 1.10	66.2 E 0.98	66.3 E 0.99	68.2 E 0.99	68.3 E 0.99	69.7 E 1.00
Highway 99W/Edy Road	ODOT	v/c ≤ 1.10	71.5 E 1.06	72.4 E 1.07	75.4 E 1.08	74.8 E 1.08	77.7 E 1.09
Tualatin-Sherwood Rd/Shopping Center	County	v/c ≤ 0.99	19.5 B 0.73	20.2 C 0.74	20.1 C 0.75	20.0 B 0.74	20.3 C 0.75
Tualatin-Sherwcod Rd/Adams Ave	County	v/c ≤ 0.99	46.4 D 0.92	46.7 D 0.93	48.9 D 0.94	50.5 D 0.94	51.1 D 0.94
Tualatin-Sherwood Rd/Gerda Ln	County	v/c ≤ 0.99	9.6 A 0.62	9.7 A 0.62	9.7 A 0.63	9.7 A 0.63	9.6 A 0.63
Tualatin-Sherwood Rd/Oregon St	County	v/c ≤ 0.99	22.3 C 0.90	22.4 C 0.90	22.6 C 0.90	22.5 C 0.90	22.6 C 0.90
Unsignalized Intersections							
Tualatin-Sherwood Rd/Baler Wy	County	LOS E	13.8 A/B 0.67	14.1 A/B 0.67	14.1 A/B 0.68	14.0 A/B 0.68	14.1 A/B 0.69

Signalized intersection:
HCM Delay = Average Intersection Delay (sec.)
LOS = Level of Service
V/C = Volume-to-Capacity Ratio

Unsignalized intersection:
HCM Delay = Critical Movement Approach Delay (sec.)
LOS = Major Street LOS/Minor Street LOS
V/C = Critical Movement Volume-to-Capacity Ratio

City of Sherwood
Oregon
Home of the Tualatin River National Wildlife Refuge

MEMORANDUM

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DATE: April 7, 2009

TO: Planning Commission

FROM: Heather Austin, AICP, Senior Planner

SUBJECT: Industrial Design Standards Work Session- April 14, 2009

At the Planning Commission Work Session on February 24, 2009, the Planning Commission requested information regarding the industrial design standards and application of such in three jurisdictions: Wilsonville, Tualatin and Hillsboro. In addition, the Planning Commission requested product manuals for metal siding to see different applications.

Included in this packet is one product catalog for Reynolux® Metal Wall Panels (product manuals were difficult to obtain but this sample does show several applications of metal siding). Also in this packet are the pertinent sections of the development codes from Wilsonville, Tualatin and Hillsboro.

The section of the Wilsonville development code included with this packet is regarding the Day Road Design Overlay District- design standards specific to a particular area of industrial development. The Tualatin and Hillsboro code sections include standards for all types of uses as these codes do not differentiate between types of development. This is most similar to how the Sherwood Code is currently written. The Hillsboro code also includes standards specific to Special Industrial Districts (SIDs); however, these standards relate more to uses permitted and lot size than design standards.

Staff has spoken to planning staff in each of these jurisdictions regarding industrial development and will discuss observations from each jurisdiction at the work session on the 14th.

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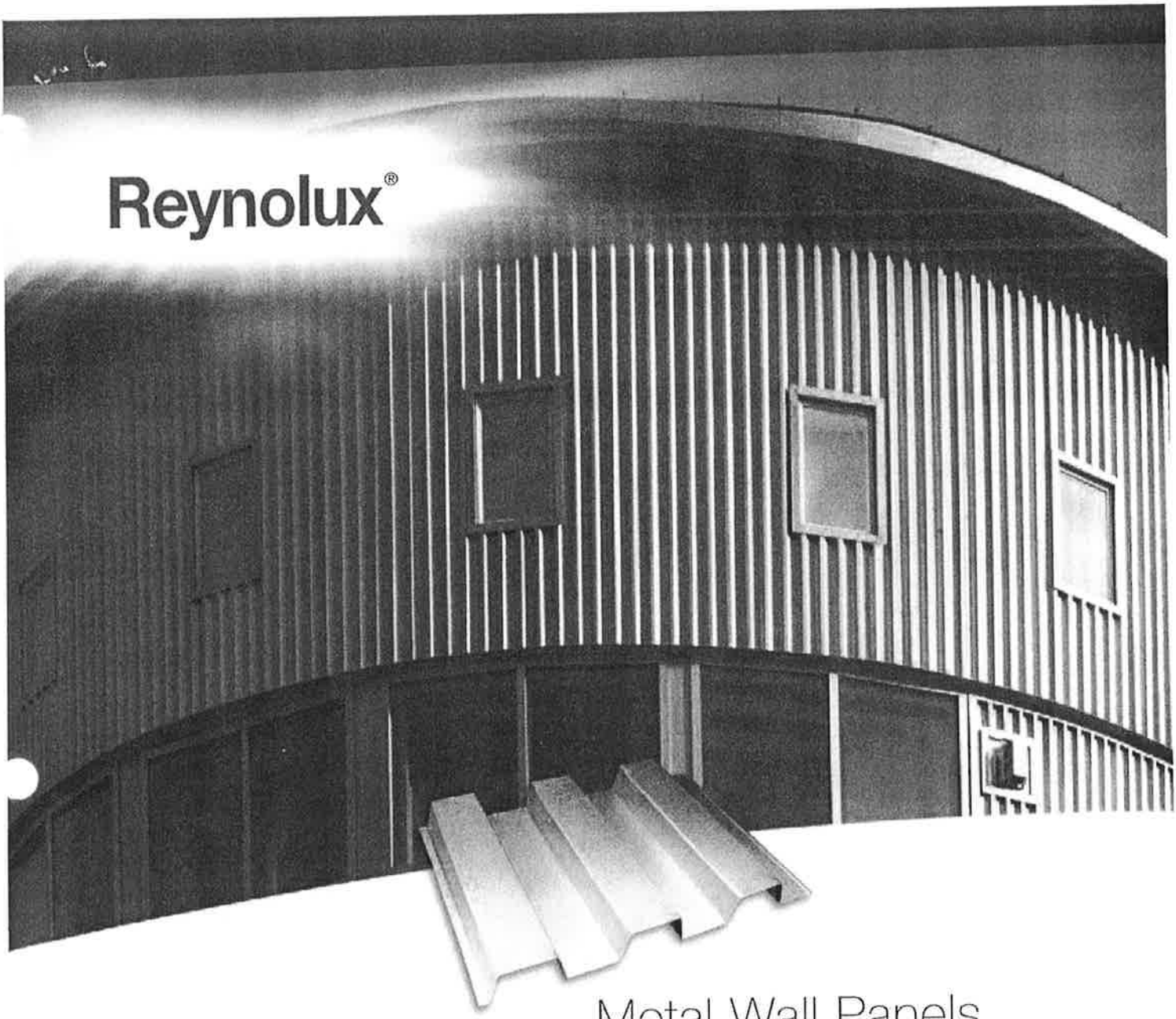

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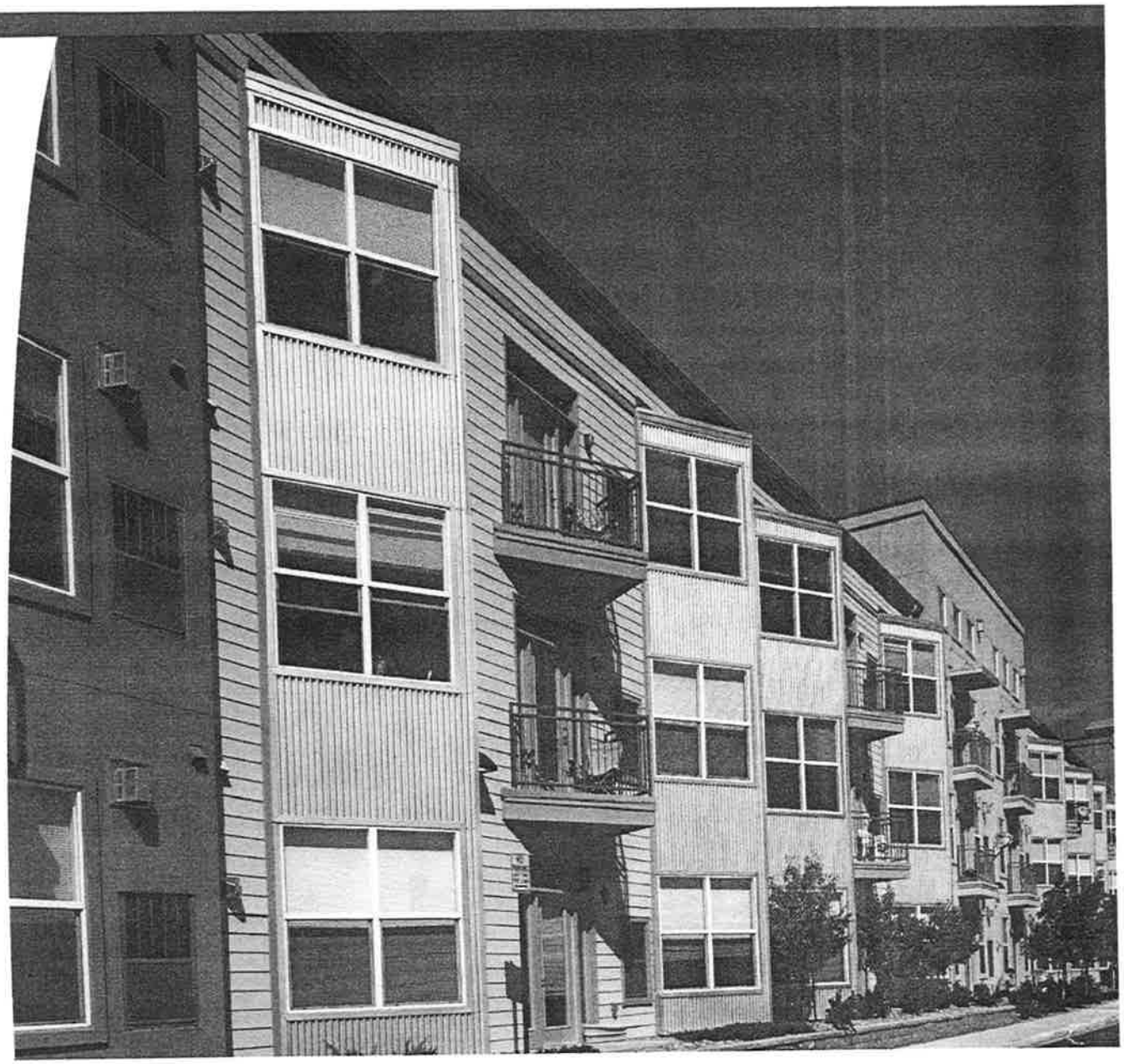
That's why we've built our company to provide comprehensive architectural solutions that enhance your ability to succeed. Everything we do is centered on making the design, specification and installation of our building panels as easy, as fast and as affordable as possible.

Our metal wall panels provide durability, design flexibility and enduring performance for projects that need a strong dose of personality. Available in a variety of substrates and profiles, these durable panels are ideally suited for a broad range of commercial and industrial uses — and are increasingly popular as design elements in architectural applications.

Our dedication to your success goes far beyond our products. By offering a wide range of support services such as comprehensive CAD drawings, custom design solutions, on-site consultation and more, the people of Alcoa Architectural Products work to ensure that your next project — and every project — is a success.



Metal wall panels

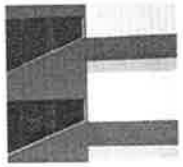
Reynolux® metal wall panels are increasingly used as design elements in architectural applications.

Enduring Strength

These durable panels come in a variety of substrates, from our standard aluminum to custom metals such as galvanized steel, stainless steel, GALVALUME® steel, copper and zinc. Flat sheet and coil products are also available to meet your application and performance needs.

Enhanced Production

As part of our renewed commitment to metal wall panels, we have enhanced our production capabilities and increased our quantities of available product. So you get a more economical, higher-quality product, delivered even faster.



Refreshing Practicality

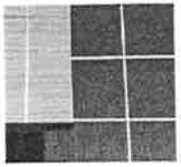
Reynolux metal wall panels are an ideal solution, whether you want to enclose, protect or meet thermal, acoustical, fire-rated or explosion performance requirements. Exposed and concealed fasteners make installation easy.

Exposed Fasteners

Our most widely used metal panels are offered in eight profiles, with coverage widths from 32" to a super-economical 48". They are available in a range of gauges and can be crimp-curved for radius corners, details and design features.

Concealed Fasteners

These easy-to-install panels are available in five different profiles. Concealed fasteners are offered in several different gauges to meet budget and spanning requirements and can be used to create a wide variety of attractive visual effects.



Dynamic Looks

These products can be installed horizontally or vertically to create dynamic visual effects. Metal panels can be delivered unpainted or with premium, long-life Colorweld® coatings. And Alcoa's expanded color system provides quick access to more colors—in more gauges—than ever before.

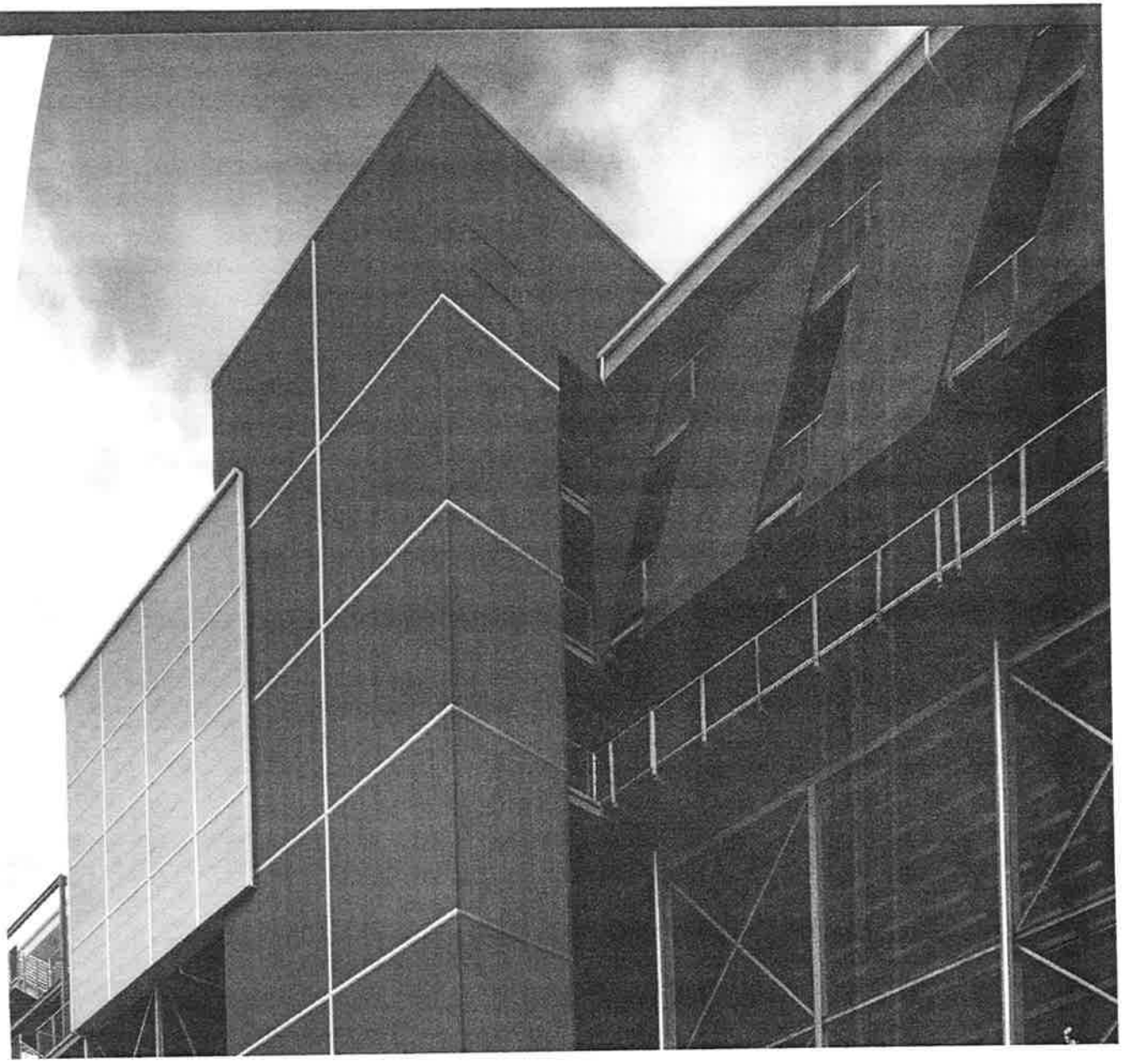
Perfect Combination

Reynolux metal wall panels can be combined with Alcoa Reynobond® exterior apolications in precisely matched colors — creating striking designs and contrasts in texture, while adhering to tight budget constraints.

Colorweld® 300 architectural finishes

Reynolux® metal wall panels are protected and colored with high-performance Colorweld 300 coatings — ensuring precise color matching.

From 2-coat and 3-coat (XL) systems to metallic and mica finishes, Alcoa Architectural Products can produce virtually any color. And many other coatings are available to meet your special requirements. Colorweld 300 finishes feature 70% KYNAR 500®/HYLAR 5000® polyvinylidene fluoride (PVDF) resins, coil coated to ensure the highest color uniformity and quality. These coatings exhibit outstanding color and gloss retention and are considered the premier architectural coating for metal. They provide excellent flexibility and film adhesion for forming and offer superior resistance to humidity, impact, salt spray, pollution, abrasion and graffiti. Only Alcoa Architectural Products can provide matching colors in profiled Reynolux metal wall panels and Reynobond® Aluminum Composite Material.



They're made for each other

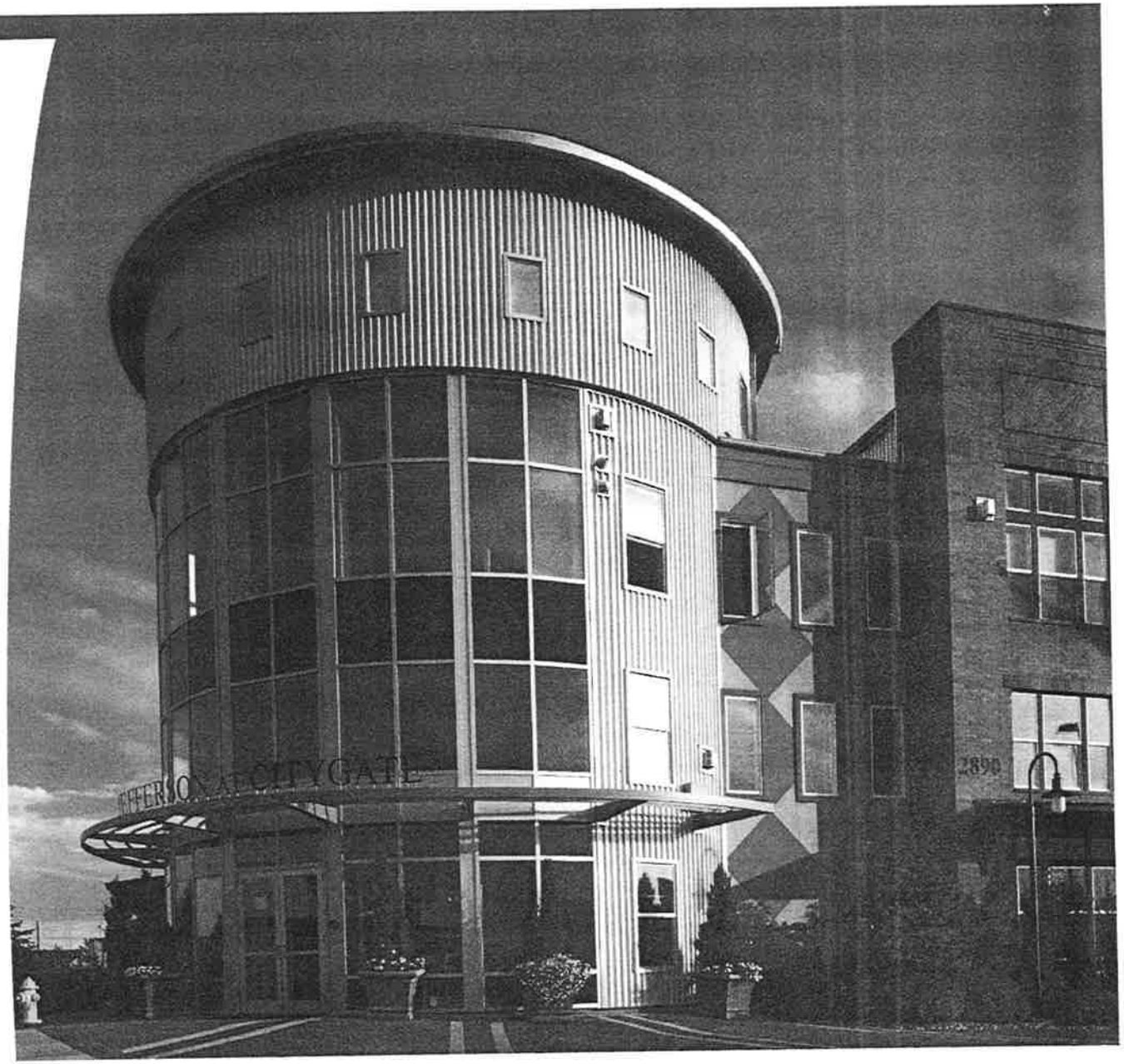
Reynolux® metal wall panels are protected and colored with high-performance Colorweld® 300 coatings — ensuring precise color matching.

Perfectly Complementary

Exceptionally flat and formable, ACM panels complement the texture and contrast of profiled metal wall panels. Use ACM on the frontal façade and entrance areas. Use metal wall panels and flat sheet for side-wall panels, flashing and other design elements. Combine both product lines perfectly with pre-matched colors or specify a custom color of choice.

Extreme Durability

Decrease building façade maintenance costs with the durability of coil-coated metal cladding. Ideal for any structure where a high-quality, consistent image is equally as important as adhering to budget constraints. Gain confidence with the consistency, service and strength of Alcoa.



Profiled Reynolux® metal wall panel specifications*

Metal wall panels are available in**:

Aluminum
- 3000 Series Alloy
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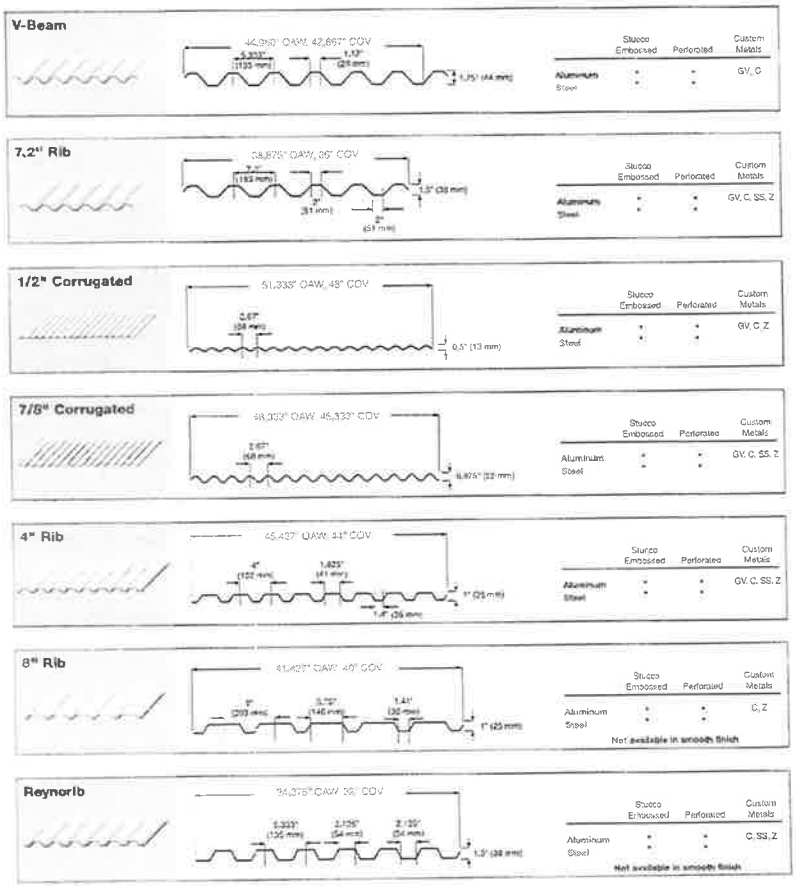
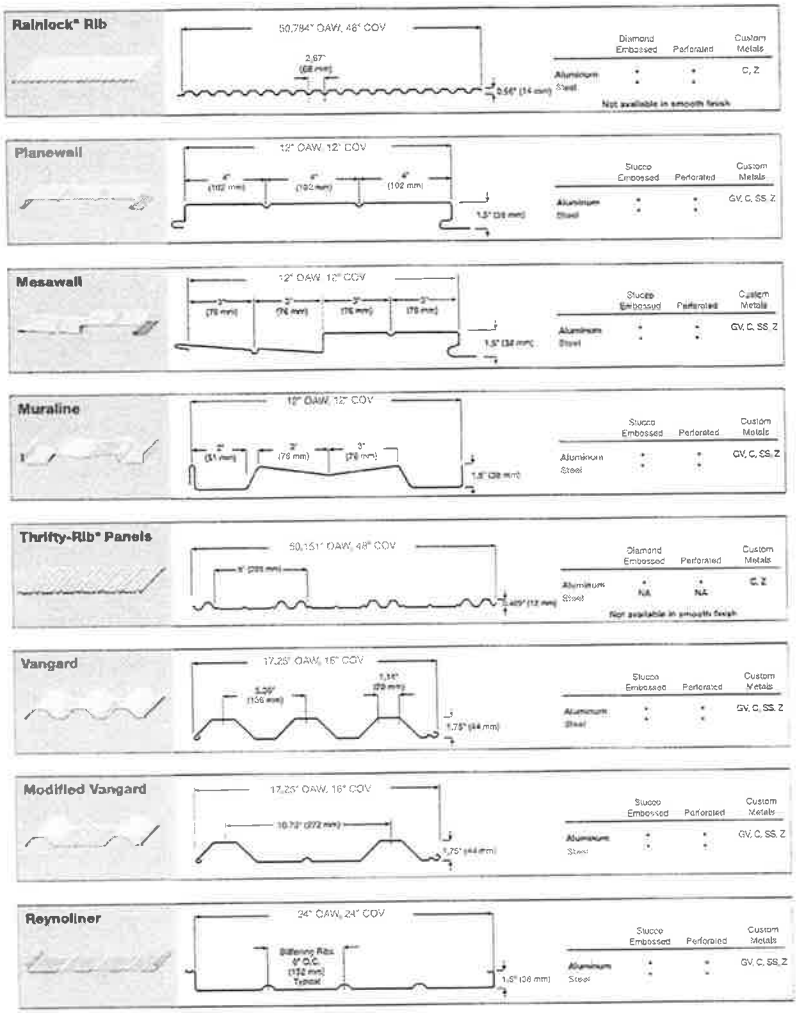
- Alloy 3004 Alclad® available
- Diamond embossed is standard on Rainlock® Rib and Thrifty-Rib®

Custom Metals
- Galvanized Steel
- Stainless Steel
- GALVALUME® Steel
- Copper
- Zinc



* Flat sheet is available in standard colors for all profile products.
Perforated steel for interior use only.



For a complete technical overview of all profile metal wall panels, visit www.alcoaarchitecturalproducts.com.

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478.374.4746 phone

www.alcoaarchitecturalproducts.com

Wilsonville

Section 4. 134. Day Road Design Overlay District

(.01) Purpose. The Day Road Design Overlay District (DOD) is an overlay district within the larger Planned Development Industrial - Regionally Significant Industrial Area (RSIA) Zone. It is the purpose of the Day Road DOD to establish standards for site design and exterior architecture of all structures located in the Day Road DOD in order to ensure high quality design of development and redevelopment at the Day Road gateway to the City of Wilsonville. These standards are intended to create an aesthetically pleasing aspect for properties abutting Day Road by ensuring:

A. Coordinated design of building exteriors, additions and accessory structure exteriors

B. Preservation of trees and natural features

C. Minimization of adverse impacts on adjacent properties from development that detracts from the character and appearance of the area

D. Integration of the design of signage into architectural and site design, and

E. Minimization of the visibility of vehicular parking, circulation and loading areas.

It is the intent to create improved pedestrian linkages and to provide for public transit. It is also the intent of this section to encourage architectural design in relationship to the proposed land use, site characteristics and interior building layout.

(.02) Applicability. The Day Road DOD shall apply to all properties abutting Day Road. The provisions of this section shall apply to:

A. All new building construction

B. Any exterior modifications to existing, non-residential buildings

C. All new parking lots

D. All outdoor storage and display areas

E. All new signage

F. All building expansions greater than 1,250 square feet.

(.03) Exceptions. This section does not apply to the following activities:

A. Maintenance of the exterior of an existing industrial/employment structure such as painting to the approved color palette, reroofing, or residing with the same or similar materials

B. Industrial/employment building expansions less than 1,250 square feet

C. Interior remodeling

D. Essential public facilities

E. Existing dwellings and accessory buildings

F. Agricultural buildings

(.04) Review Process.

A. Compliance with the Day Road DOD shall be reviewed as part of Stage One – Preliminary Plan, Stage Two - Final Approval and Site Design Review. Such review shall be by the Development Review Board. Building expansions less than 2500 square feet and exterior building modifications less than 2500 square feet may be reviewed under Class II Administrative procedures.

B. Waivers. Under City Code [4.118(.03)], waivers to several development standards may be approved, including waivers to height and yard requirements, and architectural design standards, provided that the proposed development is equal to or better than that proposed under the standards to be waived. For example, a height waiver might be granted on a smaller site if the façade presentation was significantly enhanced, additional landscaping or open space is provided and site modifications are necessary to preserve significant trees. Waivers to the additional front yard setback for future improvements on Day Road may not be granted. [4.134(.05)(C)(1)]

(.05) Design Review Standards. The DRB shall use the standards in this section together with the standards in Sections 4.400 – 4.421 to ensure compliance with the purpose of the Day Road DOD. These standards shall apply on all Day Road frontages, and on the frontage of corner lots abutting both Day Road and either Boones Ferry Road, Kinsman Road, Garden Acres Road or Grahams Ferry Road.

A. Natural Features. Buildings shall be sited in compliance with WC 4.171, Protection of Natural Features and Other Resources and with WC 4.600, Tree Preservation and Protection.

B. Building Location and Orientation: New buildings shall have at least one principal building entrance oriented towards the Day Road frontage. All building elevations fronting on Day Road or on the frontage on corner lots as described in (.05) above, shall have at least 20% glazing.

C. Setbacks:

1. Front Yard: For public health and safety reasons, the front yard setback shall be 30' plus additional setback (15' minimum) to accommodate future improvements to Day Road.
2. Side and rear setbacks shall be 30'. Side and rear yard setbacks may be reduced from the 30' minimum setback requirement where the setback is adjacent to industrial development subject to meeting other requirements of this section and Building Code requirements.

D. Building Height: A minimum building height of three stories, 48' is required. on the Day Road frontage and on frontages described in (.05) above. Sites may contain a combination of taller building space abutting the identified street frontages together with 1 or 2-story lab, R&D, and/or manufacturing building space on the remainder of the site. The 1 and 2-story portions of the buildings will be designed to be compatible with the taller structure's design, building materials and colors. Increased building height is encouraged, particularly in combination with site amenities such as under-structure parking, preservation of

significant trees rated good or better in the arborist's report, and/or provision of trail segments or of open space areas open to the public.

E. Building Design:

1. Buildings shall be planned and designed to incorporate green building techniques wherever possible.
2. Exterior Building Design: Buildings with exterior walls greater than 50 feet in horizontal length shall be constructed using a combination of architectural features and a variety of building materials and landscaping near the walls. Walls that can be viewed from public streets or public spaces shall be designed using architectural features for at least 60% of the wall. Other walls shall incorporate architectural features and landscaping for at least 30% of the wall. Possible techniques include:
   a. Vary the planes of the exterior walls in depth and/or direction.
   b. Vary the height of the building, so that it appears to be divided into distinct massing elements.
   c. Articulate the different parts of a building's facade by use of color, arrangement of facade elements, or a change in materials.
   d. Avoid blank walls at the ground-floor levels. Utilize windows, trellises, wall articulation, arcades, change in materials—textured and/or colored block or similar finished surface, landscape, or other features to lessen the impact of an otherwise bulky building.
   e. Define entries within the architecture of the building.
   f. Incorporate, if at all possible, some of the key architectural elements used in the front of the building into rear and side elevations where seen from a main street or residential district.
3. Building Color: All colors shall be harmonious and compatible with colors of other structures in the development and the natural surroundings. Concrete finishes must be painted. The general overall atmosphere of color must be natural tones. Stained wood, natural stone, brick, dark aluminum finishes, etc. shall be used as background colors. The use of corporate colors is permitted provided that such colors are not patterned so as to compete for visual attention. The use of corporate colors shall not create an advertisement of the building itself. Corporate colors shall not violate any other color or design limitations within the Code.
4. Building façade articulation: Both vertical and horizontal articulation is e required. If a building is at a corner, all facades must meet the requirement. Incorporation of several of the techniques is the preferred option. The purpose is not to create a standard rigid solution but rather to break up the mass in creative ways.
   a. Horizontal articulation: Horizontal facades shall be articulated into smaller units. Appropriate methods of horizontal façade articulation include two or more of the following elements:
      i. change of façade materials
      ii. change of color

iii. façade planes that are vertical in proportion
iv. bays and recesses
v. breaks in roof elevation, or other methods as approved

Building facades shall incorporate design features such as offsets, projections, reveals, and/or similar elements to preclude large expanses of uninterrupted building surfaces. Articulation shall extend to the roof.

b. Vertical Facade Articulation: The purpose is to provide articulation, interest in design and human scale to the façade of buildings through a variety of building techniques. Multi-story buildings shall express a division between base and top. Appropriate methods of vertical façade articulation for all buildings include two or more of the following elements:
   i. Change of material
   ii. Change of color, texture, or pattern of similar materials
   iii. Change of structural expression (for example, pilasters with storefronts spanning between at the base and punched openings above)
   iv. Belt course
   v. The division between base and top shall occur at or near the floor level of programmatic division
   vi. Base design shall incorporate design features such as recessed entries, shielded lighting, and/or similar elements to preclude long expanses of undistinguished ground level use
   vii. Differentiation of a building's base shall extend to a building's corners but may vary in height

5. Building Materials:
   a. No less than 50% of the exterior exposed walls of any new building, or any expansion over 1,250 square feet, shall be constructed of noncombustible, non-degradable and low maintenance construction materials such as face brick, architectural or decorative block, natural stone, specially designed pre-cast concrete panels, concrete masonry units, concrete tilt panels, or other similar materials. Metal roofs may be allowed if compatible with the overall architectural design of the building. Where an elevation of the building is not currently, or will not likely in the future, be exposed to public view, the above standard does not apply.
   b. Accessory structures visible to the public shall be constructed of materials similar to or the same as the principal building(s) on the site.
6. Roof Design:
   a. Roofs shall be designed to reduce the apparent exterior mass of a building, add visual interest and be appropriate for the architectural design of the building. Variations within an architectural style are highly encouraged. Visible rooflines and roofs that project over the exterior wall of buildings, and especially over entrances, are highly encouraged.
   b. Mechanical Equipment and Service Areas: Mechanical equipment and service areas shall be screened from adjacent properties, from Day Road

and on Day Road corner properties abutting SW Boones Ferry Road, Kinsman Road, Garden Acres Road and Grahams Ferry Road. The architectural design of the building shall incorporate design features which screen, contain and conceal all heating, ventilation, air conditioning units, trash enclosures, dumpsters, loading docks and service yards. Such screening shall blend visually with the related structure.

7. Pedestrian Walkways:
   a. A continuous pedestrian walkway shall be provided from the primary entrance to the sidewalk along Day Road for access to building entrances and to transit facilities.
   b. Walkways from parking areas to building entrances shall be at least six (6) feet in width, and shall be separated from moving vehicles. Walkways shall be distinguished from vehicular areas through the use of special pavers, bricks, scored concrete or similar materials providing a clear demarcation between pedestrian and vehicular traffic.
   c. Buildings shall be connected with onsite walkways at least six (6) feet in width.
8. Community Amenities: Community amenities such as patio seating, water features, art work or sculpture, clock towers, pedestrian plazas with park benches, connections to area trails, parks and open spaces, and similar amenities are strongly encouraged.
9. Lighting and Flag Poles: All lighting shall be shielded and directed interior to the site, including parking lot lighting. Lighting shall not spill over onto adjacent properties. Light poles, light fixtures and flagpoles shall conform to the City's Outdoor Lighting Standards. Flagpoles shall not exceed 40' in height.
10. Signage: Signage shall include a monument sign on the Day Road frontage identifying the industrial/business park and buildings therein. Each building may have wall signage, and such other directional and informational signage as allowed by WC 4.156. Pole signs are prohibited. The design of signage must be integrated into the overall architectural and site design for the project.
11. Parking: Employee parking shall be located at the rear of the building, or in courtyard parking areas between buildings. If no other option is available due to site limitations, then employee parking may be located to the side of buildings. Time and number limited visitor parking is allowed at the front of the building. Within a Stage I master plan, employee parking may be combined in a shared facility or facilities with mutual use agreements. Any parking areas visible from Day Road shall be screened from view with broadleaf evergreen or coniferous shrubbery and/or architectural walls or berms.

(.06) Infill construction. The following general rules shall be followed when constructing a new building adjacent to existing industrial/employment buildings built under the Day Road DOD. Adjacent includes buildings north of Day Road built under the Day Road DOD.

A. Proportions and Façade: The average height and width of the surrounding buildings determines a general set of proportions for an infill structure or the bays of a larger structure. The infill building shall fill the entire space and reflect the characteristic rhythm of facades along Day Road. If the site is large, the mass of the façade must be broken into a number of smaller bays to maintain a rhythm similar to the surrounding buildings.

B. Composition: The composition of the infill façade (i.e. the organization of its parts) shall be similar to surrounding buildings. Rhythms that carry throughout the block, such as window and door spacing, shall be similar to those on surrounding facades.

C. Detailing/Textures: Infill architecture shall reflect some of the detailing of surrounding buildings in window shapes, cornice lines, brick or stone work, etc. Textures of exterior surfaces shall be reflected in the design of new buildings.

D. Materials: An infill façade shall be composed of materials similar to adjacent facades. The new building(s) shall not standout from existing buildings.

E. Color: All colors shall be harmonious and compatible with colors of other structures in the development and the natural surroundings.

F. Setbacks: Setbacks for new buildings shall be an average of the setbacks of the two adjacent buildings built under the Day Road DOD, or if none exist, shall meet the setback requirements of the Day Road DOD. Rear yard setbacks may be reduced from the 30' minimum setback requirement in Section 4.135(.06)(D) where the setback is adjacent to industrial development subject to meeting Building Code requirements. Front yard setbacks must include additional setback (15'minimum) to accommodate future improvements to Day Road.

G. Building Height: A minimum building height of three stories, 48' is required on the Day Road frontage and on frontages described in (.05) above. Sites may contain a combination of taller building space abutting the identified street frontages together with 1 or 2-story lab, R&D, and/or manufacturing building space on the remainder of the site. The 1 and 2-story portions of the buildings will be designed to be compatible with the taller structure's design, building materials and colors. Increased building height is encouraged, particularly in combination with site amenities such as under-structure parking, preservation of significant trees rated good or better in the arborist's report, and/or provision of trail segments or of open space areas open to the public.

H. Lighting and Flag Poles: All lighting shall be shielded and directed interior to the site, including parking lot lighting. Lighting shall not spill over onto adjacent properties. Light poles, light fixtures and flagpoles shall conform to the City's Outdoor Lighting Standards. Flagpoles shall not exceed 40' in height.

Section 4. 134. Day Road Design Overlay District

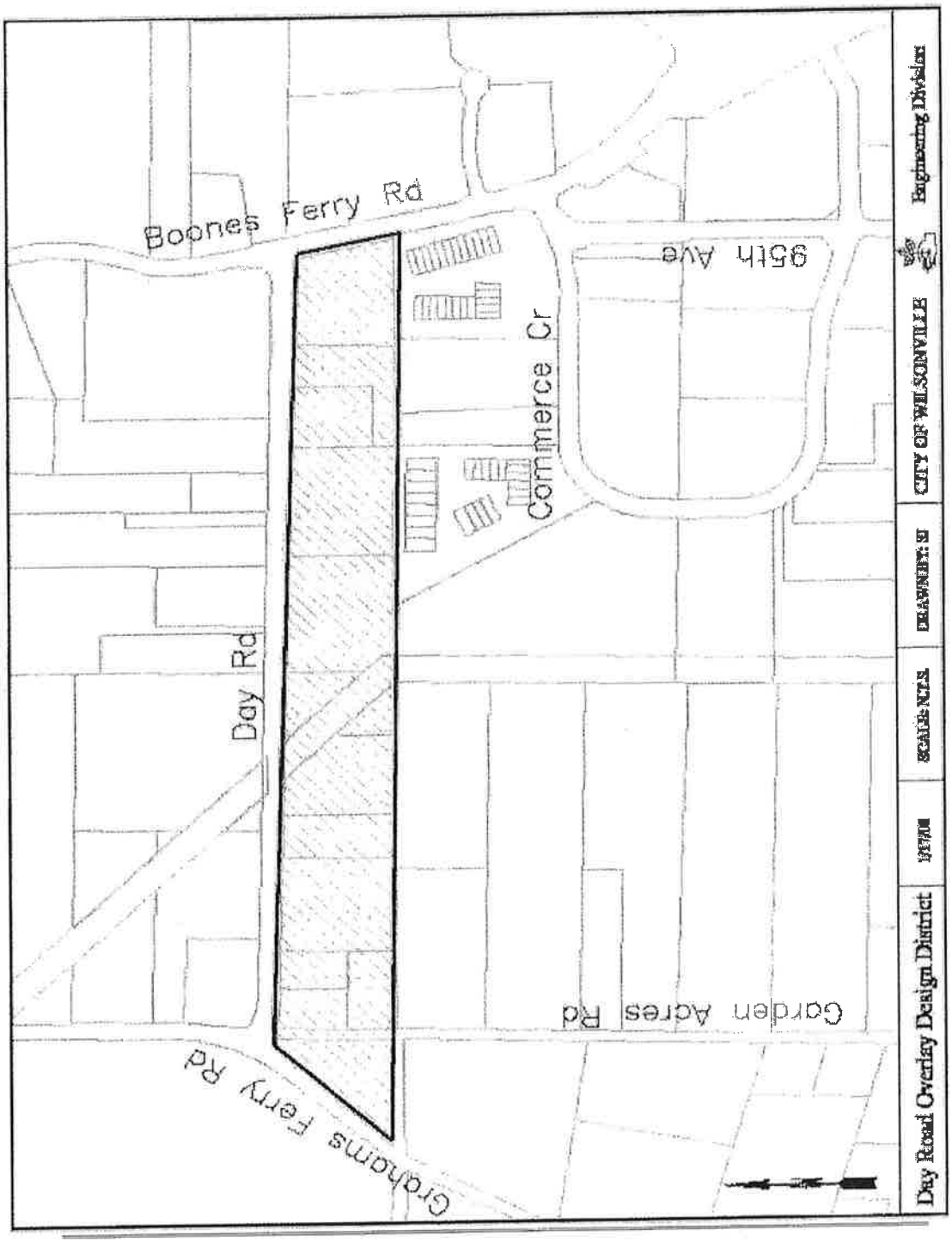

Figure D-1: Day Road Design Overlay District Area Map

Section 4.135. PDI- Planned Development Industrial Zone.

(.01) Purpose: The purpose of the PDI zone is to provide opportunities for a variety of industrial operations and associated uses.

(.02) The PDI Zone shall be governed by Section 4.140, Planned Development Regulations, and as otherwise set forth in this Code.

(.03) Uses that are typically permitted:

A. Warehouses and other buildings for storage of wholesale goods, including cold storage plants.

B. Storage and wholesale distribution of agricultural and other bulk products, provided that dust and odors are effectively contained within the site.

C. Assembly and packing of products for wholesale shipment

D. Manufacturing and processing

E. Motor vehicle services, or other services complementary or incidental to primary uses, and which support the primary uses by allowing more efficient or cost-effective operations

F. Manufacturing and processing of electronics, technical instrumentation components and health care equipment.

G. Fabrication

H. Office complexes - Technology

I. Corporate headquarters

J. Call centers

K. Research and development

L. Laboratories

M. Repair, finishing and testing of product types manufactured or fabricated within the zone.

N. Industrial services

O. Any use allowed in a PDC Zone, subject to the following limitations:

1. Service Commercial uses (defined as professional services that cater to daily customers such as financial, insurance, real estate, legal, medical or dental offices) not to exceed 5000 square feet of floor area in a single building, or 20,000 square feet of combined floor area within a multi-building development.

2. Office Complex Use (as defined in Section 4.001) shall not exceed 30% of total floor area within a project site.

3. Retail uses, not to exceed 5000 square feet of indoor and outdoor sales, service or inventory storage area for a single building and 20,000 square feet

necessary to span a designated greenway or wetland to provide a connection, the City may limit the number and location of accessways to reduce the impact on the greenway or wetland;

(ii) adjoining arterial or collector streets upon which transit stops or bike lanes are provided or designated;

(iii) adjoining undeveloped residential or commercial property; and

(iv) adjoining developed sites where an accessway is planned or provided.

(c) Accessways to undeveloped parcels or undeveloped transit facilities need not be constructed at the time the subject property is developed. In such cases the applicant for development of a parcel adjacent to a vacant parcel shall enter into a written agreement with the City guaranteeing future performance by the applicant and any successors in interest of the property being developed to construct an accessway when the adjacent undeveloped parcel is developed. The agreement shall be subject to the City's review and approval.

(d) Accessways for multi-family development shall:

(i) be a minimum of 8 feet in width;

(ii) be constructed in accordance with the Public Works Construction Code if they are public accessways, and if they are private accessways they shall be constructed of asphalt, concrete or a pervious surface such as pervious asphalt or concrete, pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable;

(iii) not have fences or gates which prevent pedestrian and bike access at the entrance to or exit from any accessway; and

(iv) have curb ramps wherever the accessway crosses a curb.

(e) Outdoor Recreation Access Routes shall be provided between the development's walkway and bikeway circulation system and parks, bikeways and greenways where a bike or pedestrian path is designated.

(7) Walkways.

(a) Except for townhouses, walkways for multi-family development shall be a minimum of 6 feet in width and be constructed of asphalt, concrete, or a pervious surface such as pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable.

(b) Curb ramps shall be provided wherever a walkway crosses a curb.

(8) The Federal Americans With Disabilities Act (ADA) applies to development in the City of Tualatin. Although TDC Chapter 73, does not include the Oregon Structural Specialty Code' s (OSSC) accessibility standards as requirements to be reviewed during the Architectural Review process, compliance with the OSSC is a requirement at the Building Permit step. It is strongly recommended all materials submitted for Architectural Review show compliance with the OSSC.

[Amended by Ord. 725-87, Sec. 4, passed June 22, 1987; Ord. 862-92, Sec. 51, passed March 23, 1992; Ord. 882-92, Sec. 13, passed Dec. 14, 1992; Ord. 895-93, Sec. 6, passed May 24, 1993; Ord. 898-93, Sec. 4, passed June 14, 1993; Ord. 904-93, Sec. 46, passed Sept. 13, 1993; Ord. 947-95, Sec. 6, passed July 24, 1995; Ord. 1008-98, Sec. 1-5, passed July 13, 1998; Ord. 1025-99, Sec 35, passed July 26, 1999; Ord. 1224-06 §21, Amended, 11/13/06; Ord. 1252-08 §1, Amended, 2/11/08.]

Section 73.140 Site Planning - Commercial, Industrial, Public and Semi-Public Uses.

Purpose.

The purpose of commercial, industrial, public and semi-public site planning design objectives is to implement the purposes and objectives of TDC 73.020(2) by focusing on the placement, design and relationship of proposed site elements such as buildings, vehicular parking and circulation areas, bikeways and bike parking, accessways, walkways, buffer areas and landscaping. [Amended by Ord. 862-92, Sec. 51, passed March 23, 1992; Ord. 895-93, Sec. 7, passed May 24, 1993.]

Section 73.150 Objectives.

All commercial, industrial, public and semi-public projects should strive to meet the following objectives to the maximum extent practicable. Architects and developers should consider these elements in designing new projects. In the Central Design District, the Design Guidelines of TDC 73.610 shall be considered. In the case of conflicts between objectives, the proposal shall provide a desirable balance between the objectives.

Site elements shall be placed and designed, to the maximum extent practicable, to:

(1) Provide convenient walkways and crosswalks which separate pedestrians from vehicles and link primary building entries to parking areas, other on-site buildings and the public right-of-way.

(2) Avoid barriers to disabled individuals.

(3) Locate and design drive-through facilities in a manner which does not conflict with pedestrian routes or other vehicular circulation and minimizes adverse impacts on adjacent properties.

(4) Break up parking areas with landscaping (trees, shrubs and walkways) and buildings to lessen the overall impact of large paved areas.

(5) Utilize landscaping in parking areas to direct and control vehicular movement patterns, screen headlights from adjacent properties and streets, and lessen the visual dominance of pavement coverage.

(6) Provide vehicular connections to adjoining sites.

(7) Emphasize entry drives into commercial complexes and industrial park developments with special design features, such as landscaped medians, water features and sculptures.

(8) Locate, within parking lots, pedestrian amenities and/or landscaping in areas which are not used for vehicle maneuvering and parking.

(9) Encourage outdoor seating areas which provide shade during summer and sun during winter, trash receptacles and other features for pedestrian use. Plantings with a variety of textures and color are encouraged.

(10) Create opportunities for, or areas of, visual and aesthetic interest for occupants and visitors to the site.

(11) Conserve, protect and restore fish and wildlife habitat areas, and maintain or create visual and physical corridors to adjacent fish and wildlife habitat areas.

(12) Provide safe pathways for pedestrians to move from parking areas to building entrances.

(13) Design the location of buildings and the orientation of building entrances for commercial, public and semi-public uses such as churches, schools and hospitals to provide adequate pedestrian circulation between buildings and to provide preferential access for pedestrians to existing or planned transit stops and transit stations.

(14) Provide accessways between commercial, public and semi-public development and publicly-owned land intended for general public use; arterial and collector streets where a transit stop and/or a bike lane is provided or designated; and abutting residential, commercial and semi-public property.

(15) Provide accessways between industrial development and abutting greenways where a bikeway or pedestrian path is provided or designated.

(16) Accessways should be designed and located in a manner which does not restrict or inhibit opportunities for developers of adjacent properties to connect with an accessway, and provide continuity from property to property for pedestrians and bicyclists to use the accessway.

(17) Provide preferential parking for carpool and vanpools to encourage employees to participate in carpools and vanpools.

(18) Screen elements such as mechanical and electrical equipment, above ground sewer or water pump stations, pressure reading stations and water reservoirs from view.

(19) Parking structure exteriors and underground parking should be designed to be harmonious with surrounding buildings and architecturally compatible with the treatment of buildings they serve.

(20) When a fish and wildlife habitat area abuts or is on the subject property the applicant and decision authority for a development application should consider locating buildings farther away from the fish and wildlife habitat area.

[Amended by Ord. 635-84, Sec. 36, passed June 11, 1984; Ord. 649-84, Sec. 7, passed Nov. 26, 1984; Ord. 661-85, Sec. 10, passed March 25, 1985; Ord. 827-91, Secs. 6 and 7, passed March 25, 1991; Ord. 849-91, Secs. 38 and 39, passed Nov. 25, 1991; Ord. 862-92, Sec. 51, passed March 23, 1992; Ord. 895-93, Sec. 8, passed May 24, 1993; Ord. 904-93, Sec. 47, passed Sept. 13, 1993; Ord. 920-94, Sec. 17, passed April 11, 1994; Ord. 965-96, Sec. 82, passed Dec. 9, 1996; Ord. 979-97, Sec. 52, passed July 14, 1997; Ord. 1097-02, Amended, 02/11/2002; Ord. 1224-06 §22, Amended, 11/13/06.]

Section 73.160 Standards.

The following standards are minimum requirements for commercial, industrial, public and semi-public development, and it is expected that development proposals shall meet or exceed these minimum requirements.

(1) Pedestrian and Bicycle Circulation.

(a) For commercial, public and semi-public uses:

(i) a walkway shall be provided between the main entrance to the building and any abutting public right-of-way of an arterial or collector street where a transit stop is designated or provided. The walkway shall be a minimum of 6 feet wide and shall be constructed of concrete, asphalt, or a pervious surface such as pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable;

(ii) walkways shall be provided between the main building entrances and other on-site buildings and accessways. The walkways shall be a minimum of 6 feet wide and shall be constructed of concrete, asphalt, or a pervious surface such as pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable;

(iii) walkways through parking areas, drive aisles, and loading areas shall be visibly raised and of a different appearance than the adjacent paved vehicular areas;

(iv) accessways shall be provided as a connection from the development's internal bikeways and walkways to all of the following locations that apply: abutting arterial or collector streets upon which transit stops or bike lanes are provided or designated; abutting undeveloped residential or commercial areas; adjacent undeveloped sites where an agreement to provide an accessway connection exists; and to abutting publicly-owned land intended for general public use, including schools;

(v) fences or gates which prevent pedestrian and bike access shall not be allowed at the entrance to or exit from any accessway.

(vi) bikeways shall be provided which link building entrances and bike facilities on the site with the adjoining public right-of-way and accessways.

(vii) Outdoor Recreation Access Routes shall be provided between the development's walkway and bikeway circulation system and parks, bikeways and greenways where a bike or pedestrian path is designated.

(b) For Industrial Uses:

(i) a walkway shall be provided from the main building entrance to sidewalks in the public right-of-way and other on-site buildings and accessways. The walkway shall be a minimum of 5 feet wide and constructed of concrete, asphalt, or a pervious surface such as pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable.

(ii) Walkways through parking areas, drive aisles and loading areas shall have a different appearance than the adjacent paved vehicular areas.

(iii) Accessways shall be provided as a connection between the development's walkway and bikeway circulation system and an adjacent bike lane;

(iv) Accessways may be gated for security purposes;

(v) Outdoor Recreation Access Routes shall be provided between the development's walkway and bikeway circulation system and parks, bikeways and greenways where a bike or pedestrian path is designated.

(c) Curb ramps shall be provided wherever a walkway or accessway crosses a curb.

(d) Accessways shall be a minimum of 8 feet wide and constructed in accordance with the Public Works Construction Code if they are public accessways, and if they are private accessways they shall be constructed of asphalt, concrete or a pervious surface such as pervious asphalt or concrete, pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable.

(e) Accessways to undeveloped parcels or undeveloped transit facilities need not be constructed at the time the subject property is developed. In such cases the applicant for development of a parcel adjacent to an undeveloped parcel

shall enter into a written agreement with the City guaranteeing future performance by the applicant and any successors in interest of the property being developed to construct an accessway when the adjacent undeveloped parcel is developed. The agreement shall be subject to the City's review and approval.

(f) Where a bridge or culvert would be necessary to span a designated greenway or wetland to provide a connection to a bike or pedestrian path, the City may limit the number and location of accessways to reduce the impact on the greenway or wetland.

(g) Accessways shall be constructed, owned and maintained by the property owner.

(2) Drive-up Uses.

(a) Drive-up uses shall provide a minimum stacking area clear of the public right-of-way and parking lot aisles from the window serving the vehicles as follows:

(i) Banks--each lane shall provide a minimum capacity for five automobiles.

(ii) Restaurants--each lane shall provide a minimum capacity for eight automobiles.

(iii) Other Drive-Up Uses--each lane shall provide a minimum capacity for two to eight automobiles, as determined through the architectural review process.

(iv) For purposes of this Section, an automobile shall be considered no less than twenty feet in length. The width and turning radius of drive-up aisles shall be approved through the architectural review process.

(b) Parking maneuvers shall not occur in the stacking area. The stacking area shall not interfere with safe and efficient access to other parking areas on the property.

(c) Locate drive-up aisles and windows a minimum of 50 feet from residential planning districts to avoid adverse impacts. A wall or other visual or acoustic may be required through the architectural review process.

(3) Safety and Security.

(a) Locate windows and provide lighting in a manner which enables tenants, employees and police to watch over pedestrian, parking and loading areas.

(b) In commercial, public and semi-public development and where possible in industrial development, locate windows and provide lighting in a manner which enables surveillance of interior activity from the public right-of-way.

(c) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way without shining into public rights-of-way or fish and wildlife habitat areas .

(d) Provide an identification system which clearly locates buildings and their entries for patrons and emergency services.

(e) Shrubs in parking areas must not exceed 30 inches in height. Tree canopies must not extend below 8 feet measured from grade.

(f) Above ground sewer or water pumping stations, pressure reading stations, water reservoirs, electrical substations, and above ground natural gas pumping stations shall provide a minimum 6' tall security fence or wall.

(4) Service, Delivery and Screening.

(a) On and above grade electrical and mechanical equipment such as transformers, heat pumps and air conditioners shall be screened with sight obscuring fences, walls or landscaping.

(b) Outdoor storage, excluding mixed solid waste and source separated recyclables storage areas listed under TDC 73.227, shall be screened with a sight obscuring fence, wall, berm or dense evergreen landscaping.

(c) Above ground pumping stations, pressure reading stations, water reservoirs; electrical substations, and above ground natural gas pumping stations shall be screened with sight-obscuring fences or walls and landscaping.

(5) The Federal Americans With Disabilities Act (ADA) applies to development in the City of Tualatin. Although TDC, Chapter 73 does not include the Oregon Structural Specialty Code' s (OSSC) accessibility standards as requirements to be reviewed during the Architectural Review process, compliance with the OSSC is a requirement at the Building Permit step. It is strongly

recommended all materials submitted for Architectural Review show compliance with the OSSC.

(6) (a) All industrial, institutional, retail and office development on a transit street designated in TDC Chapter 11 (Figure 11-6) shall provide either a transit stop pad on-site, or an on-site or public sidewalk connection to a transit stop along the subject property's frontage on the transit street.

(b) In addition to (a) above, new retail, office and institutional uses abutting major transit stops as designated in TDC Chapter 11 (Figure 11-6) shall:

(i) locate any portion of a building within 20 feet of the major transit stop or provide a pedestrian plaza at the transit stop;

(ii) provide a reasonably direct pedestrian connection between the major transit stop and a building entrance on the site;

(iii) provide a transit passenger landing pad accessible to disabled persons;

(iv) provide an easement or dedication for a passenger shelter as determined by the City; and

(v) provide lighting at the major transit stop. [Added by Ord. 862-92, Sec. 51, passed March 23, 1992; amended by Ord. 895-93, Sec. 9, passed May 24, 1993; Ord. 898-93, Sec. 5, passed June 14, 1993; Ord. 904-93, Secs. 48, 49 and 50, passed Sept. 13, 1993; Ord. 947-95, Secs. 8, 9, 10 and 11, passed July 24, 1995; Ord. 965-96, Secs. 83 and 84, passed Dec. 9, 1996.; Ord. 1008-98, Sec. 6, passed July 13, 1998; Ord. 1046-00 §35, passed Feb. 14, 2000; Ord. 1103-02, Amended, 03/25/2002; Ord. 1224-06 §23, Amended, 11/13/06.]

Section 73.170 Structure Design – Single-family and Multi-family Uses.

(1) Purpose – Single-family Uses.

The purpose of single-family building design objectives and standards is to implement the purposes and objectives of TDC 73.020(2). The objectives and standards are intended to promote functional, safe, innovative and attractive buildings that are compatible with the surrounding environment. This concerns the building form including the articulation of walls, roof design, materials, and placement of elements such as windows, doors, and identification features.

(2) Purpose – Multi-family Uses.

The purpose of multi-family, including townhouse, building design objectives and standards is to implement the purposes and objectives of TDC 73.020(2). The objectives and standards are intended to promote functional, safe, innovative and attractive buildings which are compatible with the surrounding environment. This concerns the building form including the articulation of walls, roof design, materials, colors, placement of elements such as windows, doors, mechanical equipment and identification features. [Added by Ord. 862-92, Sec. 51, passed March 23, 1992. Amended by Ord. 1025-99, Sec 36, passed July 26, 1999; Ord. 1260-08 §7, Amended, 5/12/08.]

Section 73.180 Objectives – Single-family and Multi-family Uses.

(1) Objectives – Single-family Uses.

All new single-family dwellings, including an addition or alteration to an existing single-family dwelling when it results in a 35% or more expansion of the structure's existing footprint or a new second or higher story or a 35% or more alteration of an existing wall plane (except for the wall plane of a side of the dwelling located in a side yard where the side yard of the dwelling abuts the side yard of an adjacent dwelling), should strive to meet the following objectives to the maximum extent practicable. Architects and developers should consider these elements in designing new projects. Development subject to Level I (Clear and Objective) Single-family Architectural Review approval may be permitted to vary from one or more of the clear and objective standards set forth in TDC 73.190(1)(a), provided that the Level II (Discretionary) approval criteria set forth in TDC 73.190(1)(b) are considered. New single-family dwellings, including an addition or alteration to an existing single-family dwelling when it results in a 35% or more expansion of the structure's existing footprint or a new second or higher story or a 35% or more alteration of an existing wall plane (except for the wall plane of a side of the dwelling located in a side yard where the side yard of the dwelling abuts the side yard of an adjacent dwelling), shall be designed, to the maximum extent practicable, to:

surface, and to create a sense of visual interest for passersby and neighboring property owners.

(iii) The architectural character (i.e., exterior materials, architectural articulation, design elements, etc.) of the front façade (elevation) of the dwelling should be utilized on all sides of the structure to create a unified appearance and to avoid a single block or box appearance.

(iv) New dwellings should be designed and situated on a property in order to create and maintain a visual sense of harmony with surrounding development and should not overwhelm the scale of surrounding development.

(v) The overall architectural design of the dwelling should foster a compatible, positive relationship with the scale and character of the street, and the scale and character of surrounding existing development.

(2) Standards - Multi-family Uses.

The following standards are minimum requirements for multi-family and townhouse development.

(a) Storage.

(i) Except as provided in Subsection (a)(ii), enclosed storage areas are required and shall be attached to the exterior of each dwelling unit to accommodate garden equipment, patio furniture, barbecues, bicycles, etc. Garages are not intended to satisfy storage requirements. Each storage area shall be a minimum of 6 feet in height and have a minimum floor area of:

(A) 24 square feet for studio and one bedroom units;

(B) 36 square feet for two bed-room units; and

(C) 48 square feet for greater than two bedroom units.

(ii) For townhouses and residential and mixed use residential developments in the Central Design District, or within the Mixed Use Commercial Overlay District as determined in the Architectural Review process, some provision shall be made for outdoor storage adjacent to private outdoor areas. Such provisions shall be reviewed for adequacy through Architectural Review and shall be designed to accommodate barbecues or other small deck equipment.

(b) Carports and Garages.

(i) If carports and garages are provided for multi-family development, except townhouses, the form, materials, color and construction shall be compatible with the complex they serve.

(ii) At least one garage space shall be provided for townhouses.

[Amended by Ord. 705-86, Sec. 6, passed Sept. 8, 1986; Ord. 862-92, Sec. 51, passed March 23, 1992; Ord. 882-92, Sec. 14, passed Dec. 14, 1992; Ord. 1025-99, Sec 38, passed July 26, 1999; Ord. 1252-08 §2, Amended, 2/11/08; Ord. 1260-08 §9, Amended, 5/12/08.]

Section 73.200 Structure Design - Commercial, Industrial, Public and Semi-Public Uses.

Purpose. The purpose of commercial, industrial, public and semi-public building design objectives and standards is to implement the purpose and objectives of TDC 73.020(2) and are intended to promote functional, safe, innovative and attractive buildings which are compatible with the surrounding environment. This concerns the building form including the articulation of walls and roof design, materials, colors, placement of elements such as windows, doors, mechanical equipment and identification features.

Section 73.210 Objectives.

All commercial, industrial, public and semi-public projects should strive to meet the following objectives to the maximum extent practicable. Architects and developers should consider these elements in designing new projects. In the Central Design District, the Design Guidelines of TDC 73.610 shall be considered. In case of conflicts between objectives, the proposal shall provide a desirable balance between the objectives. Buildings shall be designed, to the maximum extent practicable, to:

(1) Minimize disruption of natural site features such as topography, trees and water features.

(2) Provide a composition of building elements which is cohesive and responds to use needs, site context, land form, a sense of place and identity, safety, accessibility and climatic fac-

tors. Utilize functional building elements such as arcades, awnings, entries, windows, doors, lighting, reveals, accent features and roof forms, whenever possible, to accomplish these objectives.

(3) Where possible, locate loading and service areas so that impacts upon surrounding areas are minimized. In industrial development loading docks should be oriented inward to face other buildings or other loading docks. In commercial areas loading docks should face outward towards the public right-of-way or perimeter of the site or both.

(4) Enhance energy efficiency in commercial and industrial development through the use of landscape and architectural elements such as arcades, sunscreens, lattice, trellises, roof overhangs and window orientation.

(5) Locate and design entries and loading/service areas in consideration of climatic conditions such as prevailing winds, sun and driving rains.

(6) Give consideration to organization, design and placement of windows as viewed on each elevation having windows. Surveillance over parking areas from the inside, as well as visual surveillance from the outside in, should be considered in window placement.

(7) Select building materials which contribute to the project's identity, form and function, as well as to the surrounding environment.

(8) Select colors in consideration of lighting conditions and the context under which the structure is viewed, the ability of the material to absorb, reflect or transmit light and the color's functional role (e.g., to identify and attract business, aesthetic reasons, image-building).

(9) Where possible, locate windows and provide lighting in a manner which enables tenants, employees and police to watch over pedestrian, parking and loading areas.

(10) Where practicable locate windows and provide lighting in a manner which enables surveillance of interior activity from the public right-of-way or other public areas. [Amended by Ord. 904-93, Sec. 51, passed Sept. 13, 1993.] (Ord. 1097-02, Amended, 02/11/2002)

Section 73.220 Standards.

The following standards are minimum requirements for commercial, industrial, public and semi-public development and it is expected that development proposals shall meet or exceed these minimum requirements.

(1) Safety and Security.

(a) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way or other public areas without shining into public rights-of-way or fish and wildlife habitat areas .

(b) Provide an identification system which clearly identifies and locates buildings and their entries.

(c) Shrubs in parking areas shall not exceed 30 inches in height, and tree canopies must not extend below 8 feet measured from grade, except for parking structures and underground parking where this provision shall not apply. [Amended by Ord. 904-93, Sec. 52, passed Sept. 13, 1993; Ord. 920-94, Sec. 18, passed April 11, 1994; Ord. 1224-06 §24, Amended, 11/13/06.]

Section 73.221 Purpose and Objectives.

(1) Purpose. The purpose of fence design standards in the RL and RML Planning Districts for access-restricted lot lines and property lines abutting major and minor collector and arterial and expressway streets is to implement the community design objectives of TDC 10.020.

(2) Objectives. Fences shall be designed to the maximum extent practicable, to achieve the following:

(a) Rear yards and side yards adjacent collector, arterial and expressway streets shall be screened from public view.

(b) Fences shall be constructed of highly durable materials that are low-maintenance and weather-resistant.

(c) Fence materials and design shall be compatible and harmonious with the required fence design type detailed in TDC 34.330 and 34.340. The design shall incorporate stone-look or brick-look elements. Colors shall be subdued and natural earth-tones, brown-tones, or grey-tones. [Added, Ord. 1244-07 §5, 7/23/07.]

Hillsboro Zoning Ordinance Section 133: Development Review

VI. Design Standards and Guidelines. (Added by Ord. No. 5778/8-07.)

New multi-family residential, commercial, industrial, and institutional developments are subject to the following design standards and guidelines. Except where the word "shall" is used, the criteria are not to be construed as mandatory approval standards subject to review and approval.

A. Design Standards.

1. Buildings shall demonstrate pedestrian scale and orientation on the elevation facing the public street. Street-side building facades shall be varied and articulated to provide visual interest and avoid a flat appearance.
2. Utilitarian functions shall be shielded from public view. Delivery and loading operations, HVAC equipment, trash compacting and collection, and other utility and service functions shall be incorporated into overall building and landscaping design. Visual and acoustic impacts of these functions, and wall- or ground-mounted mechanical, electrical and communications equipment shall be screened.
3. Surface stormwater retention, detention and treatment facilities shall be integrated into site landscaping, or placed underground. In campus developments, stormwater facilities should be consolidated to reduce the area devoted to such use. Consolidated facilities shall also be naturally integrated into the site design, landscaping and usable open space.
4. In townhouse and multi-family residential developments, uniform building design and architectural repetition shall be avoided. Townhouse structures shall demonstrate discernible differences in façade articulation, colors, materials, and detailing between units. Multi-family structures larger than four units shall include ridge and gable offsets, saddles, dormers, or other structural features to avoid extended uniform roof lines. Exceptions to this standard may be approved for development where the architecture style reflects a historically symmetrical pattern or rhythm.
5. In townhouse and multi-family developments, maintenance access to rear yards for interior lots or units shall be provided without the necessity for easements through adjacent lots or properties.
6. Except as noted below, all public utility distribution and service connections to new buildings shall be underground. Aerial utility service (electricity, telephone, cable, etc.) may be used in new construction where all of the following circumstances apply:

   a. The project is an in-fill building or dwelling within an existing neighborhood where utility service is provided aerially rather than underground;

   b. The project is located between other utility users on the same block face;

c. It would not be practicable to serve the new project underground without also serving the neighboring uses; and

d. The neighboring uses on the same block face and the utility company are unwilling to pay the additional cost of undergrounding their service.

7. Developments abutting streets or corridors where overhead utilities may be placed underground in the future shall install underground utility duct banks to facilitate future relocation of such utilities.

B. Design Guidelines

1. Building design should be site specific, fit into the context of the area, preserve important view corridors, complement the natural setting and other nearby buildings, and relate to adjacent public and private streets.

2. Building facades should balance features which make them more prominent while retaining pedestrian scaled detailing. Diversity of architectural styles is encouraged. Building architecture is particularly important at intersections, where special corner architectural features should be incorporated.

3. Prominent public assembly and civic buildings such as theaters, hotels, cultural centers, schools, churches, and government buildings should include appropriately-scaled building features, such as towers, cupolas or pediments.

4. Edges of development projects should be designed to harmonize with and enhance adjoining public and private streets. Edges adjacent to transit streets and major pedestrian routes should include street furniture such as seating, shelters, ornamental pedestrian scale lighting and an inside row of canopy trees to complement those in the curbside landscape strip.

5. Developments should be designed to encourage informal surveillance of public areas from buildings, public and private streets and from adjacent developments. Sight lines to and from buildings, and within and around the site should maximize pedestrian visibility of store entrances, public areas and transit stops.

6. For buildings designed for occupancy by general retail, office and service commercial businesses, traditional storefront elements are encouraged for any facade facing a major pedestrian route. These elements include:

a. Front and side building walls placed within 10 feet of abutting street right-of-way boundaries.

b. Clearly delineated upper and lower facades.

c. Large display windows and recessed entry in the lower façade.

d. Smaller, regularly spaced windows in upper stories.

e. Decorative trim such as window hoods around upper floor windows.

f. Decorative cornices near the top of the facade.

g. Piers or pilasters, typically masonry.

7. Upper stories should be articulated with features such as bays and balconies.

8. To balance horizontal features on longer facades, vertical building elements should be emphasized.

9. Sloped roofs should be compatible with roof lines and slope of adjacent buildings, add interest to and reduce the scale of large buildings, and complement the character of buildings in adjacent developments.

10. Windows allowing views into interior activity areas or displays in non-residential buildings are encouraged. At the pedestrian level, glass curtain walls, reflective glass and painted or darkly tinted glass, smooth faced concrete block, concrete panels, steel panels, and non-durable materials are discouraged unless privacy issues are involved.

11. Exterior building materials and colors should be harmonious and compatible with materials and colors in adjacent developments. Soft lighting of the building exterior which complements the architectural design is encouraged if the light source is not visible.

12. Building entrances should include clearly recognizable features such as: canopies, porticoes, recessions, projections, arcades, and raised cornice parapets. Pedestrian spaces at entrances incorporating landscaping and eating amenities are encouraged.

13. Exterior masonry finishes should include decorative patterns.

14. Ornamental devices, such as molding, entablatures, pediments and friezes, are encouraged at the roofline.

15. Internal sidewalks should be anchored by special design features such as towers, arcades, porticos, pedestrian light fixtures, and planter walls which define circulation and outdoor spaces. Examples of outdoor spaces are plazas, patios, courtyards, and window shopping areas. Design of these features and outdoor spaces together should (i) tie site features together, (ii) relate to a common use area, and (iii) complement the surrounding streetscape. (Amended by Ord. No. 5892/12-08.)

16. Landscaping should be designed as an integral part of the site, streetscape, building design and parking area. Landscaping should also be used to enhance pedestrian orientation by creating a sense of enclosure and to reduce the scale of large buildings and paved areas. Arbors or trellises supporting landscape materials should be considered for ornamentation of exterior walls.

17. Signage should be consistent with the nature and scale of the project and its environment. Exterior signage should be architecturally compatible with the building and neighboring buildings.

18. Residential and mixed use projects containing residential uses should include a range of housing types and styles to suit a variety of lifestyles and incomes, both on an ownership and rental basis

19. Commercial, industrial, institutional, mixed use, and multi-family residential buildings constructed with less than three feet (3') setback to any parallel sidewalk or pedestrian way should incorporate features over sidewalk or pedestrian way for weather protection.

Special Industrial District (SID)

Section 134. Special Industrial District (SID)

A. Purpose. The Special Industrial District (SID) is an overlay zone supplementing the provisions of the underlying zone. The purposes of the Special Industrial District are:

1. To Protect and enhance development opportunities for industrial uses which may require large sites in a planned campus industrial park setting;

2. To provide the opportunity for small and medium size industrial uses, compatible with planned campus industrial parks, to locate near large single user industrial uses;

3. To preserve large lots for single major industrial uses until such time as there is no demonstrated demand or need for such large lots.

4. To provide a location for visually attractive, well designed industrial development.

B. Applicability. The provisions of this Section shall be applied on the industrially-designated area in the West Union neighborhood, within the following boundaries: on the north, NW West Union Road; on the south, NW Jacobson Road; on the east, the western edge of the Burlington Northern Railroad right-of-way; and on the west, the eastern edge of the Bonneville Power Administration easement. (Section 134B amended by Ord. No 4548/4-97.)

C. Definitions. For the purposes of Section 134:

1. A "lot of record" shall be defined as any lot or parcel of property described on Washington County Tax Maps on the date of annexation of the lot or parcel of land to the City of Hillsboro; and

2. "Contiguous lots of record in common ownership" means all contiguous lots or parcels which are either owned by a single individual or entity at the time land is placed in this district or which are thereafter acquired by a single individual or entity.

D. Standards. All lands designated by the City of Hillsboro as a Special Industrial District (SID) shall comply with the following standards:

1. Lot of Record. Construction shall be allowed on a lot of record, except as set forth below:

a. Contiguous lots of record in common ownership totaling thirty (30) acres or less shall be developed only in accordance with Subparagraph 2(c) (Reconfiguration) or Subparagraph 2 (d) (Staged Development) .

b. Lots of record five (5) acres in size or smaller shall not be

subject to the provisions of Subparagraph 2(c) (Reconfiguration) or Subparagraph 2(d) (Staged Development), and shall be subdivided consistent with Section 134D.3.

2. Thirty (30) Acre Minimum Lot Size. The land area of any lot of record shall not be reduced below its original size as of the date of annexation to the City, unless the lot is divided pursuant to the following circumstances or standards:

a. Implementing the Transportation Plan. Lots smaller than thirty (30) acres shall be allowed if they are created by the dedication and/or construction of public collector or arterial roadways necessary to implement Section 13. Transportation of the Hillsboro Comprehensive Plan.

1) The division of any single lot by public road construction necessary to implement Section 13. Transportation of the Hillsboro Comprehensive Plan, shall not preclude additional subdivision as defined in Subparagraph d. Staged Development, Creating Lots Smaller Than 30 Acres. Any single parcel on the date of annexation qualifying for Subparagraph 2.d. Staged Development that is divided by public road dedication and/or construction shall continue to qualify for Staged Development pursuant to Subparagraph 2.d. Staged Development. In such event, the land area, subject to the 20% division as described in Subparagraph 2.d., shall mean the land area of the original parcel at the time of annexation.

b. Natural & Hazard Areas. Lots smaller than thirty (30) acres shall be allowed if they are created by the bisection of the original lot by a natural area, flood hazard area or other resource or hazard designation restricting development pursuant the provisions of the Hillsboro Comprehensive Plan or Zoning Ordinance. Lots smaller than thirty (30) acres shall be allowed for the sole purpose of segregating common or public ownership of natural areas, flood hazard areas or other natural resource or hazard areas within an industrial park.

1) The division of any single lot by a natural area, flood hazard area or other resource or hazard designation restricting development pursuant the provisions of the Hillsboro Comprehensive Plan or Zoning Ordinance shall not preclude additional subdivision as defined in Subparagraph d. Staged Development , Creating Lots Smaller

Than Thirty (30) Acres . Any Single parcel on the date of annexation qualifying for Subparagraph 2.d. Staged Development that is divided by natural area, flood hazard area or other resource or hazard designation shall continue to qualify for Staged Development pursuant to Subparagraph 2.d. Staged Development . In such event, the land area, subject to the 20% division as described in Subparagraph 2.d., shall mean the land area of the original parcel at the time of annexation.

c. Reconfiguration of Contiguous Lots in One Ownership. New lots smaller than thirty (30) acres may be created when all contiguous lots of record, owned by a single individual or entity meet the following requirements:

1) The number of newly created lots are not greater than the number of the original lots of record; and

2) The newly created lots may be more easily aggregated into larger lots for large industrial users than the original lots of record; and

3) The reconfiguration includes all contiguous lots of record owned by a single individual or entity; and

4) Where the proposed reconfiguration includes greater than thirty (30) acres, at least one 30 acre parcel shall be retained subject to the right to further divide the final 30 acre parcel consistent with the provision of subparagraph 2(d)(4) Staged Development; and

5) The reconfiguration shall be processed administratively with notice to adjacent property owners.

d. Staged Development, Creating Lots Smaller Than Thirty (30) Acres. All lots of record greater than thirty (30) acres and all contiguous lots of record owned by a single individual or entity collectively totaling thirty (30) acres or more, may be divided into lots smaller than thirty (30) acres subject to the following restrictions:

1) No more than twenty percent (20%) of the land area may be divided into lots smaller than thirty (30) acres, except as set forth in subsections 2), 3), and 4), below.

2) At such time as plans are approved pursuant to Section 133. Development Review/Approval of Plans, or building permits are issued on sixty percent (60%) of the lots or sixty percent (60%) of the acreage, an additional twenty percent (20%) of the original land area may be divided into lots smaller than thirty (30) acres.

3) The subdivision described in 2), above, may continue to occur in twenty percent (20%) increments so long as at least one thirty (30) acre parcel suitable for a single major industrial use remains undivided within the original lot of record or group of contiguous lots of record in common ownership. No division of this final thirty (30) acre parcel may occur except in accordance with part 4) of this Subsection.

4) The final thirty (30) acre parcel within an ownership may be divided in accordance with the procedures described in this Section (d) Staged Development, only if the Planning Commission or City Council (if appealed), after a public hearing, finds that the existing supply of thirty (30) acres or larger vacant lots in the Special Industrial District, or in a Washington County Industrial zoning district with substantially similar land division restrictions, is adequate to supply the present and projected countywide demand for large lots without retaining the subject property. Should the final 30 acre parcel be subdivided pursuant to this Subsection it shall not be subject to the staging requirements set forth in this Section (d).

3. **Development Review Standards**. All development within the Special Industrial District (SID) shall conform to the following development standards and procedures:

a. Minimum lot size shall be one acre.

b. Development shall be consistent with the provisions of the M-P Industrial Park Zone as provided in Sections 65 through 74; and

c. Final development plans shall conform to the provisions of Section 133. Development Review/Approval of Plans.

d. Subdivision of lots shall conform to the City of Hillsboro Subdivision Ordinance .

(Section 134 Added by Ord. No. 3681/2-87.)

Section 134A. Shute Road Site Special Industrial District

A. **Purpose**. The Shute Road Site Special Industrial District (SSID) is an overlay zone intended to supplement most of the provisions of the underlying M-P, Industrial Park Zone for the Shute Road Site. If any provision of this District conflicts with a provision in the underlying M-P Industrial Park Zone as applied to the Site, the provisions of this District shall control. The purposes of this District are:

1. To provide and enhance within planned campus industrial park settings development opportunities within the Shute Road Industrial Site for businesses engaged in "high technology product manufacturing" that may require large sites, and for supporting industrial uses and accessory commercial businesses that may also locate within the same large sites.

2. To provide the opportunity for smaller, compatible industrial uses and accessory commercial uses that can support the businesses engaged in high-technology product manufacturing uses and may require small and medium size sites in a planned campus industrial park setting.

3. To provide large lots within the Shute Road Industrial Site for businesses engaged in high technology product manufacturing uses.

4. To provide for aesthetically attractive, well designed industrial development within every development site whether large, medium or small within the Shute Road Industrial Site.

B. **Applicability**. The provisions of this District shall apply only to the Shute Road Industrial Site shown on Figure 134A - 1, which is a part of this ordinance. Upon annexation to the City of properties within the Shute Road Industrial Site, the Official Zoning Map of the City of Hillsboro shall be amended to apply the M-P Industrial Park zone and the SSID overlay zone to each of the properties included within the boundaries of the Shute Road Industrial Site as shown on Figure 134A-1.

C. **Definitions**. For the purposes of this District:

1. A "high-technology product manufacturing" use means and includes any high technology enterprise engaged in the business of manufacturing high-technology-related products, either as the main on-site activity or in conjunction with on-site experimental product research, testing or prototype production; or, any other high-technology industrial use that needs to use a dependable and uninterruptible supply of specialized dual-feed electric power or nitrogen gas in order to engage in the manufacture of its products.

2. A "lot of record" means any lot or parcel of property described on Washington County Tax Maps on the date of annexation of the lot or parcel of land to the City of Hillsboro .

3. "Contiguous lots of record in common ownership" means all contiguous lots or parcels which are either owned by a single individual or entity at the time land is placed in this district or which are thereafter acquired by a single individual or entity.

D. **Standards**. All land uses, development and lot size requirements within the Shute Road Site Special Industrial District (SSID) shall comply with the following standards:

1. **Land Use**. Development within the SSID shall be allowed in accordance with the following requirements:

a. Land uses within the SSID shall be limited to:

(1) Businesses engaged in high-technology product manufacturing;
(2) Businesses and other land uses that support high-technology product manufacturing; and
(3) Commercial office uses that are accessory to and in the same building containing businesses engaged in high-technology product manufacturing or businesses and other land uses that support high-technology product manufacturing.

b. New commercial retail uses shall not be permitted within the SSID.

2. **Required 100-Acre or 50-Acre Lots** . The land area of any lot of record or contiguous lots of record in common ownership required to be developed only with high-technology product manufacturing uses defined in Section 134A, C.(1) of this ordinance shall not be reduced in size without prior approval by the Portland Metropolitan Service District and the City of Hillsboro.

a. Development within the SSID shall provide at least one (1) 100-acre lot of record or contiguous lots of record in common ownership, or three (3) 50-acre lots of record or sets of contiguous lots of record in common ownership on which development shall be limited to businesses engaged in high technology product manufacturing as defined in Section 134A,C. (1) of this ordinance. All other lots of record or contiguous lots of record in common ownership within the SSID may be smaller than 50-acres in size and may contain any business or use described in Section 134A.A.(1)-(3) of this ordinance.

b. Implementing the Transportation Plan . The required 100-acre lot or 50-acre lots may be reduced in size to the extent necessary to allow the dedication and/or construction of public collector or arterial roadways necessary to implement Section 13. Transportation of the Hillsboro Comprehensive Plan.

c. Natural & Hazard Areas. The required 100-acre lot or 50-acre lots may be reduced in size to the extent made necessary by the bisection of the lot (s) by a natural area, flood hazard area or other resource or hazard designation restricting development pursuant the provisions of the Hillsboro Comprehensive Plan or Zoning Ordinance; or for the sole purpose of segregating common or public ownership of natural areas, flood hazard areas or other natural resource or hazard areas within an industrial park.

3. **Development Review Standards** . All development within the SSID shall conform to the following development standards and procedures:

a. Development within the SSID shall be subject to review and approval by the Planning Director in accordance with the procedures prescribed in Section 133 of this Zoning Ordinance. The Planning Director may permit developments to occur within the SSID within any lot of record or contiguous lots of record in common ownership in any arrangement and development sequence that accomplishes the requirement in Section 134A,D.2(a) in accordance with the purpose of the District.

b. Development shall be consistent with underlying applicable provisions of the M-P Industrial Park Zone as provided in Sections 65 through 74; and

c. Final development plans for any lot or record or contiguous lots of record in common ownership shall conform to the provisions of Section 133, Development Review/Approval of Plans .

d. Subdivision of lots shall conform to the City of Hillsboro Subdivision Ordinance.

(Section 134A added by Ord. No. 5331/1-04)

Section 134B. Evergreen Area Special Industrial District (ESID)
(Added by Ord. No. 5833/2-08)

A. **Purpose.** *Evergreen Area Special Industrial District (ESID)* Zone provisions contained in this Section shall apply to and regulate land within the Evergreen Area shown on attached map Exhibit "A" upon adoption of this Ordinance and annexation of such land to the City. The purpose of the *ESID* Zone Ordinance is to:

1. Provide industrial sites and land development opportunities within the Evergreen Area that can accommodate on large and small development sites *high technology and related companies and businesses* and local, national and international *"sustainable industries" businesses and companies* (including uses that support or complement such companies and businesses).

2. Facilitate and nurture the establishment, development and growth of a *"sustainable industries" cluster* and a *"bio-tech/bio-medical/bio-pharmaceutical" industry cluster* within the Evergreen Area.

3. Encourage and accommodate the *creation of larger industrial parcels* including at least one parcel 100-acres or larger in size within Sub-area "A" of the Evergreen Area through *ESID* Zone provisions that facilitate land assembly consolidations to create large campus-like industrial sites.

4. Facilitate and accommodate *business clusters on smaller industrial sites* within Sub-area "B" of the Evergreen Area for business start-ups, incubators and spin-offs that derive from high-tech, sustainable industries and bio-tech/bio-medical/bio-pharmaceutical industry clusters and for supporting public and private facilities and utilities.

5. Support and implement the development goals, development program, and corresponding implementation measures described in Section 24, Evergreen Area Industrial Plan, of the Hillsboro Comprehensive Plan.

B. **Applicability.** *ESID* Zone provisions apply to properties within two *ESID* Zone Sub-areas: "*East Evergreen*" – Sub-area "A", and "*West Evergreen*" – Sub-area "B" as shown on attached Exhibit "A" attached to, and hereby made a part of this *ESID* Zone Ordinance. Some *ESID* Zone provisions apply differently in Sub-area "A" than in Sub-area "B" in response to unique industrial development opportunities and constraints presented in each Sub-area. The Official City of Hillsboro Zoning Map shall be amended to incorporate and include the attached Exhibit "A" as the official City Zoning Map only for properties in both Evergreen Area Sub-areas upon their annexation to the City.

C. **Definitions**. The industrial use category defined in this Section shall be interpreted and applied narrowly and exclusively to exclude from the *ESID* Zone land uses that fall under other general industrial categories not specifically listed in this Section. However, the range and types of industry uses covered within each industrial category listed in this Section may be broadly interpreted and applied to include uses currently associated with the category by recognized industry classification systems and new kinds of uses that may evolve in the future from businesses in that category. As used in the application and enforcement of this *ESID* Zone Ordinance:

1. "*Sustainable Energy and Environmental Businesses*" means and includes industrial businesses and land uses engaged in the research and design or development, manufacturing, processing, marketing (and combinations of such activities) of products or services associated with local, national and international sustainable energy and environmental industries. Such businesses include, but are not limited to large and small firms and companies engaged in high technology research and products development and manufacturing; solar and wind energy products and parts

manufacturing; and, other high-tech and sustainable industry operations. These businesses usually require parcels of various sizes, especially large parcels (e.g., 50 – 100 or more acres in size), to accommodate vertically-integrated business operations, entirely within a single business site.

2. *"Biotech Campus"* means and includes industrial businesses and land uses engaged in research and design or development, manufacturing and processing, marketing (and combinations thereof) of bio-technology, bio-medical, bio-pharmaceutical business products or services and like-kind businesses. Biotech campuses usually require medium-sized parcels (35 – 50 or more acres in size).

3. "*Industrial Incubators, Start-ups and Spin-offs Business Parks*" means and includes small-to-medium sized specialized business parks that contain (within leased, building spaces) a mix of small, emerging industrial companies that evolve from, or support the established, larger high tech, sustainable industries and bio-tech companies nearby. Typical business parks present a unifying brand and image controlled by project covenants or conditions and restrictions (CC&Rs). Some Business Parks may provide raw industrial building space, while others may provide industrial flex building spaces. Leased spaces often contain combined business office and product production operations. These types of business parks usually require medium-sized parcels (20 – 40 acres in size).

4. "*Industry Research & Development (R&D) Parks*" means and includes industrial R&D business parks that primarily provide industry flex-space developments for vertically-integrated research and development businesses and research laboratories that develop new products and/or industry technologies in smaller campus-like projects. Industry Business Parks, R& D Parks also usually require small-to-medium sized parcels (20 – 30 acres in size).

5. "*Industry Suppliers*" means and includes businesses that manufacture, process, distribute or provide production materials, parts, product components and business services used by local high tech, sustainable industry and bio-tech businesses in the Portland Region. They include, but are not limited to suppliers of test equipment, uniforms and linens, lab supplies, sub-components and circuit boards, and packaging materials. Industry suppliers usually require smaller-sized parcels (10 – 20 or more acres in size).

6. "*Support Commercial Services*" means and includes a clustering within a single development project of support commercial retail uses and professional services that directly and primarily serve the daily commerce needs of businesses and employees in the immediate surrounding industrial area. Such a building cluster may not contain more than 50,000 sq. ft. of total structural or building floor area, and the total floor area within such a building cluster that may be allocated to a single use, tenant or business to be located within the building may not exceed 20,000 sq. ft. of floor area. Typical uses include food services and restaurants, banking, convenience shops, child care facilities, automated businesses support services and like-kind limited retail and professional business services. A support commercial service cluster usually requires a small geographic land area (not more than 5 - 10 acres of land) located to be both visible to drive-by traffic and within reasonable walking or driving distance to/from businesses and employees in the surrounding industrial area. Free-standing, single user commercial retail uses or professional offices do not fall within this land use category and are not permitted in the *ESID* Zone.

7. "*Distribution Businesses*" are industries that require good access to the transportation network, via Highway 26, in order to deliver goods throughout the region.

8. "*Lot of Record*" means any lot or parcel of property described on Washington County Tax Maps on the date of annexation of the lot or parcel of land to the City of Hillsboro.

9. "*Contiguous Lots of Record in Common Ownership*" means all contiguous lots or parcels which are either owned by a single individual or entity at the time land is placed in this district or which are thereafter acquired by a single individual or entity.

10. "*Pre-Existing Use*" means any lawfully created use or structure established and in existence on the date of adoption of this ordinance.

D. **Standards.** All land uses, land development and lot partition and lot development requirements within the *ESID* Zone shall comply with the standards contained in Sections D. and E. of this *ESID* Zone Ordinance and the standards of the M-P Industrial Park Zone of Hillsboro Zoning Ordinance specifically identified or referenced in this *ESID* Ordinance. All land uses, land development and lot partition and lot development requirements within the *ESID* Zone shall also be subject to review and approval under Section 133, Development Review/Approval, of the Hillsboro Zoning Ordinance:

1. **Land Use.** Land uses, new development and redevelopment within the *ESID* Zone shall be allowed and shall occur in accordance with the following requirements:

   a. Permitted land uses:

   Sub-area "A": East Evergreen
   Permitted uses within Sub-area "A": East Evergreen shall be limited to kinds of land uses described in the following Industrial use categories as defined in Section C. of this *ESID* Zone Ordinance:

   (1) Sustainable, Environmental, and Energy Businesses
   (2) Biotech Campus
   (3) Industry Research & Development (R&D) Parks
   (4) Industrial Incubators, Start-ups and Spin-offs Business Parks
   (5) Support Commercial Services [described in Section D.1.d. of this Ordinance]
   (6) Transportation facilities, including public improvements for streets, transit, parking, and bicycle and pedestrian facilities
   (7) Public service or utility uses and facilities
   (8) Other uses similar in type and character to the permitted use categories in Sub-area "A" as determined by the Planning Director pursuant to Section 117 of the Hillsboro Zoning Ordinance if proposed to be developed on properties less than twenty five (25) acres in land area, and by the Planning Commission if proposed to be developed on properties containing twenty five (25) or more acres in land area.

   Sub-area "B": West Evergreen
   Permitted uses within Sub-area "B": West Evergreen shall be limited to the kind of land uses described in the following Industrial use categories as defined in Section C. of this Ordinance:

   (1) Sustainable, Environmental, and Energy Businesses
   (2) Biotech Campus
   (3) Industry Research & Development (R&D) Parks
   (4) Industrial Incubators, Start-ups and Spin-offs Business Parks
   (5) Distribution Businesses

(6) Industry Suppliers
(7) Support Commercial Services [described in Section D.1.d. of this Ordinance]
(8) Transportation facilities, including public improvements for streets, transit, parking, and bicycle and pedestrian facilities
(9) Public service or utility uses and facilities
(10) Other uses similar in type and character to the permitted use categories in Sub-area "B" as determined by the Planning Director pursuant to Section 117 of the Hillsboro Zoning Ordinance if proposed to be developed on properties less than twenty five (25) acres in land area, and by the Planning Commission if proposed to be developed on properties containing twenty five (25) or more acres in land area.

b. Conditional uses:
Only the following Conditional Land Uses may be permitted within the *ESID* Zone when proposed, processed, approved and developed in accordance with the provisions Sections 78 to 83 of the Hillsboro Zoning Ordinance and Section 133, Development Review/Approval, of the Zoning Ordinance:

(1) Transit Park and Ride
(2) Radio transmission facilities

c. Excluded uses:
Unless a use is permitted outright or as a conditional use, or is determined to be permissible by the Planning Director or the Planning Commission in accordance with the provisions of this *ESID* Zone Ordinance, the use shall be excluded from, and may not be permitted to develop within the *ESID* Zone.

d. Special Provisions for Support Commercial Services uses:
(1) At least one million (1,000,000) total square feet of building floor area of permitted industrial development within Sub-area "A", and at least one-half million (500,000) total square feet of building floor area of permitted industrial development within Sub-area "B", must first be approved by the City (as documented by building permits issued for industrial projects) before the City may consider and approve the development within Sub-area "A" and Sub-area "B", respectively, of a support commercial service use permitted under Section C.6. of this *ESID* Ordinance. *

(2) Development of the support commercial service use will require an amendment to the Evergreen Area Plan Map, City zone change, and City Development Review approval of the proposed use.

(3) Specific retail and professional service uses to be included within a proposed Support Commercial Services development shall be consistent with the kinds of uses described in Section C. of this *ESID* Zone Ordinance which defines "Support Commercial Services". If a question arises whether a proposed retail or professional service use is consistent with that definition, the Hillsboro Planning Director shall issue a written determination of consistency of the proposed use with the definition of

"Support Commercial Services" pursuant to the Section 117 of the Hillsboro Zoning Ordinance. The Director's determination shall be based on documents that describe how the proposed retail or professional service use satisfies the definition. The documents shall be compiled and submitted to the director by the party seeking City approval of the proposed support commercial services use.

(4) The land area to be occupied by proposed Support Commercial Services use may not contain more than ten (10) net acres of developed land.

e. Pre-Existing Uses:
Any lawfully created use of any building, structure or land existing at the time of adoption of this *ESID* Zone Ordinance may continue to operate and may expand to add up to 20 percent (20%) more floor area and ten percent (10%) more land area.

2. **Lot Size**.
   a. Sub-area "A": East Evergreen:

   (1) Industrial developments allowed by this *ESID* Zone Ordinance within Sub-area "A" shall have a minimum lot size of 50-acres. All other lots of record or contiguous lots of record in common ownership within the *ESID* Zone smaller than 50-acres in size may contain any business or use described in Section D.1.a. of this Ordinance . **

   (2) Subdivision of parcels within Sub-area "A" will be permitted for lots larger than 50-acres in size so long as the resulting land division creates one lot or parcel of at least 50-acres and the remaining lot(s) created contains at least one parcel of 25-acres of contiguous land.

   b. Sub-area "B": West Evergreen:

   (1) Industrial developments allowed by this *ESID* Zone Ordinance within Sub-area "B" shall have a minimum lot size of 10-acres. All other lots of record or contiguous lots of record in common ownership within the *ESID* Zone smaller than 10-acres in size may contain any business or use listed in Section D.1.a. of this ordinance.

   (2) Subdivision of parcels within Sub-area "B" will be permitted for lots larger than 10-acres in size so long as the resulting land division creates one lot or parcel of at least 10-acres and the remaining lot(s) contains at least one parcel of 5-acres of contiguous land.

3. **Implementing the City Transportation System Plan**.
The required minimum lot sizes for Sub-areas "A" and "B" may be reduced in size to the extent necessary to allow the dedication and/or construction of public collector or arterial roadways necessary to implement Section 13: Transportation of the Hillsboro Comprehensive Plan.

4. **Natural & Hazard Areas**. The required minimum lot sizes for Sub-areas "A" and "B" may be reduced in size to the extent made necessary by the presence on the lot(s) of a natural area, flood hazard area or other resource or hazard designation restricting development pursuant the provisions of the Hillsboro Comprehensive Plan or Zoning Ordinance; or for the sole purpose of segregating common or public ownership of natural areas, flood hazard areas or other natural resource or hazard areas within an industrial park.

1. **Land Development Standards**. The following M-P District provisions shall apply to all developments within the *ESID* Zone unless modified by the Planning Director as a result of Development Review to achieve improved project design, protect or enhance significant natural resources, achieve public infrastructure efficiencies and economies of scale or other practicable project development solutions.

    1. **Setback Requirements**. The yard setback requirements set forth in Section 68 of the Hillsboro Zoning Ordinance shall apply.

    2. **Height of Buildings**. The building height limits and standards set forth in Section 69 of the Zoning Ordinance shall apply.

    3. **Lot Coverage**. The maximum lot coverage standard in Section 70 of the Zoning Ordinance shall apply.

    4. **Off-Street Parking and Loading**. The off-street parking and loading standard in Section 71 of the Zoning Ordinance shall apply.

F. **Performance Standards**. The land and structure use and development performance standards in Section 72 of the Zoning Ordinance shall apply. In the *ESID* Zone, as a condition for granting of a building permit, it shall be agreed that, upon request of the City, information sufficient to determine the extent of compliance with the performance standards in Section 72 shall be furnished by the owner of the property to which the building permit was granted or all successors and assignees of the owner. Such requests may include a requirement for continuous records of operation likely to violate the standards, for periodic checks to assure maintenance of standards, of for special surveys in the event a question arises regarding compliance with Section 72 performance standards.

Development within properties situated in Sub-area "A", the "East Evergreen" Area and Sub-area "B", the "West Evergreen" Area shall comply with Airport Safety and Compatibility Overlay Zone (Section 135B) requirements pertaining to the height of structures; smoke, glare, dust, wildlife attractants, and electronic emissions and interferences; and, construction of public or private facilities or infrastructure in locations that may create hazardous or safety conflicts with the safe landing and departure of aircraft from the Hillsboro Airport.

G. **Development Review Standards**. All developments within the *ESID* Zone are subject to, and shall comply with the development standards and procedures set forth in Section 133, Development Review/Approval of Plans, of the Hillsboro Zoning Ordinance:

1. The Planning Director shall review and may approve each proposed development within the *ESID* Zone in accordance with the review standards and procedures prescribed in this *ESID* Zone Ordinance and in Section 133 of this Zoning Ordinance. If the provisions of this *ESID* Zone Ordinance and Section 133 are inconsistent or conflict as applied to any proposed development, the provisions of the *ESID* Zone Ordinance shall apply and control.

2. Within the *ESID* Zone, final development plans for any proposed land use to be built or site

alteration to take place on a lot of record or contiguous lots of record in common ownership within the *ESID* Zone shall comply with the applicable provisions of Section 133.

3. Any subdivision of lots and parcels within this *ESID* Zone shall comply with the applicable provisions of this *ESID* Zone Ordinance and the City of Hillsboro Subdivision Ordinance. If the provisions of this *ESID* Zone Ordinance and the City Subdivision Ordinance are inconsistent or conflict as applied to any proposed development in the *ESID* Zone, the provisions of the *ESID* Zone Ordinance shall apply and control.

(Added by Ord. No. 5833/2-08)

*This provision limiting the development of retail commercial and professional offices only to one (1) site in Sub-area "A" and one (1) site in Sub-area "B" that may not exceed 10-acres in size and must include retail and offices uses demonstrated to directly and primarily serve the daily needs of immediately surrounding industrial businesses and employees is intended to accommodate and achieve the intent and objectives of applicable Metro Urban Growth Management Functional Plan Title 4 restrictions on large retail commercial, professional offices and Title 4 Regionally Significant Industrial Area (RSIA) requirements.

** This 50-acres minimum lot size standard for industrial developments and 50-acres lot-creation subdivision standard established by Subsection D.2.a.(1) and D.2.a.(2) for Sub-area "A" are intended to:

1. Encourage and facilitate parcel aggregations and consolidations into several large lots within Sub-area "A" containing at least 50-acres and, therefore, better accomplish an Evergreen Area UGB Condition of Approval requiring the establishment of one 100-acre industrial lot within the Evergreen Area; and,
2. Address ORS 197.352 (Ballot Measure 37) considerations.

Section 134C. Helvetia Area Special Industrial District (HSID)
(Added by Ord. No. 5835/2-08)

A. **Purpose**. *Helvetia Area Special Industrial District (HSID)* provisions shall apply to and regulate land within the Helvetia Area shown on map Exhibit A upon adoption of this Ordinance and land annexation to the City. The purpose of the *HSID* Zone Ordinance is to:

1. Encourage and accommodate the *creation of larger industrial parcels* within the Helvetia Area through *HSID* Ordinance provisions that facilitate land assembly consolidations to create large campus-like industrial sites.

2. Facilitate and accommodate *business clusters on smaller industrial sites* within the Helvetia Area for business start-ups, incubators and spin-offs that derive from high-tech, sustainable industries and bio-tech/bio-medical/bio-pharmaceutical industry clusters and for supporting public and private facilities and utilities.

3. Accommodate land development opportunities within the Helvetia Area that can accommodate *high technology and related companies and businesses* and local, national and international *"sustainable industries" businesses and companies* (including uses that support or complement such companies and businesses).

4. Accommodate the establishment, development and growth of *"sustainable industries"* and *"bio-tech/bio-medical/bio-pharmaceutical" industries* within the Helvetia Area.

5. Support and implement the development goals, development program, and corresponding implementation measures described in Section 25, Hillsboro Area Industrial Plan, of the Hillsboro Comprehensive Plan.

B. **Applicability**. *HSID* Ordinance provisions apply to properties within the Helvetia Area shown on map Exhibit A. The Official City of Hillsboro Zoning Map shall be amended to incorporate the *HSID* Ordinance provisions which shall regulate properties within the Helvetia Area upon their annexation to the City.

C. **Definitions**. The industrial use category defined in this Section shall be interpreted and applied narrowly and exclusively to exclude from the *HSID* Zone land uses that fall under other general industrial categories not specifically listed in this Section. However, the range and types of industry uses covered within each industrial category listed in this Section may be broadly interpreted and applied to include uses currently associated with the category by recognized industry classification systems and new kinds of uses that may evolve in the future from businesses in that category. As used in the application and enforcement of this *HSID* Ordinance:

1. *"Sustainable Energy and Environmental Businesses"* means and includes industrial businesses and land uses engaged in the research and design or development, manufacturing, processing, marketing (and combinations of such activities) of products or services associated with local, national and international sustainable energy and environmental industries. Such businesses include, but are not limited to large and small firms and companies engaged in high technology research and products development and manufacturing; solar and wind energy products and parts manufacturing; and, other high-tech and sustainable industry operations. These businesses usually require parcels of various sizes, especially large parcels (e.g., 50 – 100 or more acres in size), to accommodate vertically-integrated business operations, entirely within a single business site.

2. "*Biotech Campus*" means and includes industrial businesses and land uses engaged in research and design or development, manufacturing and processing, marketing (and combinations thereof) of bio-

technology, bio-medical, bio-pharmaceutical business products or services and like-kind businesses. Biotech campuses usually require medium-sized parcels (35 – 50 or more acres in size).

3. "*Industrial Incubators, Start-ups and Spin-offs Business Parks*" means and includes small-to-medium sized specialized business parks that contain (within leased, building spaces) a mix of small, emerging industrial companies that evolve from, or support the established, larger high tech, sustainable industries and bio-tech companies nearby. Typical business parks present a unifying brand and image controlled by project covenants or conditions and restrictions (CC&Rs). Some Business Parks may provide raw industrial building space, while others may provide industrial flex building spaces. Leased spaces often contain combined business office and product production operations. These types of business parks usually require medium-sized parcels (20 – 40 acres in size).

4. "*Industry Research & Development (R&D) Parks*" means and includes industrial R&D business parks that primarily provide industry flex-space developments for vertically-integrated research and development businesses and research laboratories that develop new products and/or industry technologies in smaller campus-like projects. Industry Business Parks, R& D Parks also usually require small-to-medium sized parcels (20 – 30 acres in size).

5. "*Industry Suppliers*" means and includes businesses that manufacture, process, distribute or provide production materials, parts, product components and business services used by local high tech, sustainable industry and bio-tech businesses in the Portland Region. They include, but are not limited to suppliers of test equipment, uniforms and linens, lab supplies, sub-components and circuit boards, and packaging materials. Industry suppliers usually require smaller-sized parcels (10 – 20 or more acres in size).

6. "*Distribution Businesses*" are industries that require good access to the transportation network, via Highway 26, in order to deliver goods throughout the region.

7. "*Lot of Record*" means any lot or parcel of property described on Washington County Tax Maps on the date of annexation of the lot or parcel of land to the City of Hillsboro.

8. "*Contiguous Lots of Record in Common Ownership*" means all contiguous lots or parcels which are either owned by a single individual or entity at the time land is placed in this district or which are thereafter acquired by a single individual or entity.

9. "*Pre-Existing Use*" means any lawfully created use or structure established and in existence on the date of adoption of this ordinance.

D. **Standards**. All land uses, land development and lot partition and lot development requirements within the *HSID* Zone shall comply with the standards contained in Sections D. and E. of this *HSID* Ordinance and the standards of the M-P Industrial Park Zone of Hillsboro Zoning Ordinance specifically identified or referenced in this *HSID* Ordinance. All land uses, land development and lot partition and lot development requirements within the *HSID* Zone shall also be subject to review and approval under Section 133, Development Review/Approval, of the Hillsboro Zoning Ordinance:

1. **Land Use.**
Land uses, new development and redevelopment within the *HSID* Zone shall be allowed and shall occur in accordance with the following requirements:

a. Permitted land uses:

Permitted uses within the *HSID* Zone Ordinance shall be limited to the kind of land uses described in the following Industrial use categories as defined in Section C of this Ordinance:

(1) Sustainable, Environmental, and Energy Businesses
(2) Biotech Campus
(3) Industry Research & Development (R&D) Parks
(4) Industrial Incubators, Start-ups and Spin-offs Business Parks
(5) Distribution Businesses
(6) Industry Suppliers
(7) Support Commercial Services [described in Section D.1.d. of this Ordinance]
(8) Transportation facilities, including public improvements for streets, transit, parking, and bicycle and pedestrian facilities
(9) Public service or utility uses and facilities
(10) Other uses similar in type and character to the permitted use categories in this Helvetia Area as determined by the Planning Director pursuant to Section 117 of the Hillsboro Zoning Ordinance.

b. Conditional uses:
Only the following Conditional Land Uses may be permitted within the *HSID* Zone when proposed, processed, approved and developed in accordance with the provisions Sections 78 to 83 of the Hillsboro Zoning Ordinance and Section 133, Development Review/Approval, of the Zoning Ordinance:

(1) Transit Park and Ride
(2) Communication transmission facilities

c. Excluded uses:
Unless a use is permitted outright or as a conditional use, or is determined to be permissible by the Planning Director or the Planning Commission in accordance with the provisions of this *HSID* Ordinance, the use shall be excluded from, and may not be permitted to develop within the *HSID* Zone.

d. Special Provisions for Support Commercial Services uses:
Commercial land uses within the *HSID* Zone shall be limited to:

(1) Retail commercial and professional services uses that primarily serve the needs of the workers within the Helvetia and immediately adjacent industrial areas. Buildings for these retail uses and professional services shall not occupy more than 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project.

(2) Training facilities whose primary purpose is to provide training to meet industrial needs.

e. Pre-Existing Uses:
Any lawfully created use of any building, structure or land existing at the time of adoption of this Ordinance may continue to operate and may expand to add up to 20 percent (20%) more floor area and ten percent (10%) more land area.

2. **Lot Size**.

a. Minimum Lot Size:

(1) Industrial developments allowed by this *HSID* Ordinance within the *HSID* Zone shall have a minimum lot size of 10-acres. All other lots of record or contiguous lots of record in common ownership within the *HSID* Zone smaller than 10-acres in size may contain any business or use listed in Section D.1.a. of this Ordinance. *

(2) Subdivision of parcels the *HSID* Zone will be permitted for lots larger than 10-acres in size so long as the resulting land division creates one lot or parcel of at least 10-acres and the remaining lot(s) created contains at least one parcel of 5-acres of contiguous land.

3. **Implementing the City Transportation System Plan**.
The required minimum lot sizes for parcels within the *HSID* Zone may be reduced in size to the extent necessary to allow the dedication and/or construction of public collector or arterial roadways necessary to implement Section 13: Transportation of the Hillsboro Comprehensive Plan.

4. **Natural & Hazard Areas**.
The required minimum lot sizes for parcels within the *HSID* Zone may be reduced in size to the extent made necessary by the bisection of the lot(s) by a natural area, flood hazard area or other resource or hazard designation restricting development pursuant the provisions of the Hillsboro Comprehensive Plan or Zoning Ordinance; or for the sole purpose of segregating common or public ownership of natural areas, flood hazard areas or other natural resource or hazard areas within an industrial park.

E. **Land Development Standards**.
The following M-P District provisions shall apply to all developments within the *HSID* Zone unless modified by the Planning Director as a result of Development Review to achieve improved project design, protect or enhance significant natural resources, achieve public infrastructure efficiencies and economies of scale or other practicable project development solutions.

1. **Setback Requirements**.
The yard setback requirements set forth in Section 68 of the Hillsboro Zoning Ordinance shall apply.

2. **Height of Buildings**.
The building height limits and standards set forth in Section 69 of the Zoning Ordinance shall apply.

3. **Lot Coverage**.
The maximum lot coverage standard in Section 70 of the Zoning Ordinance shall apply.

4. **Off-Street Parking and Loading**.
The off-street parking and loading standard in Section 71 of the Zoning Ordinance shall apply.

5. **Performance Standards**.
The land and structure use and development performance standards in Section 72 of the Zoning Ordinance shall apply. In the *HSID* Zone, as a condition for granting of a building permit, it shall be agreed that, upon request of the City, information sufficient to determine the extent of

compliance with the performance standards in Section 72 shall be furnished by the owner of the property to which the building permit was granted or all successors and assignees of the owner. Such requests may include a requirement for continuous records of operation likely to violate the standards, for periodic checks to assure maintenance of standards, of for special surveys in the event a question arises regarding compliance with Section 72 performance standards.

F. **Development Review Standards**. All developments within the *HSID* Zone are subject to, and shall comply with the development standards and procedures set forth in Section 133, Development Review/Approval of Plans, of the Hillsboro Zoning Ordinance:

1. The Planning Director shall review and may approve each proposed development within the *HSID* Zone in accordance with the review standards and procedures prescribed in this *HSID* Ordinance and in Section 133 of this Zoning Ordinance. If the provisions of this *HSID* Ordinance and Section 133 are inconsistent or conflict as applied to any proposed development, the provisions of the *HSID* Ordinance shall apply and control.

2. Within the *HSID* Zone, final development plans for any proposed land use to be built or site alteration to take place on a lot or record or contiguous lots of record in common ownership within the *HSID* Zone shall comply with the applicable provisions of Section 133.

3. Any subdivision of lots and parcels within this *HSID* Zone shall comply with the applicable provisions of this *HSID* Ordinance and the City of Hillsboro Subdivision Ordinance. If the provisions of this *HSID* Ordinance and the City Subdivision Ordinance are inconsistent or conflict as applied to any proposed development in the *HSID* Zone, the provisions of the *HSID* Ordinance shall apply and control.

(Added by Ord. No. 5835/2-08)

* This 10-acres minimum lot size standard for industrial developments and 10-acres lot-creation subdivision standard established by Subsection D.2.a.(1) and D.2.a.(2) for the *HSID* are intended to:

1. Encourage and facilitate parcel aggregations and consolidations within the *HSID*, therefore, better accomplish the Helvetia Area UGB Condition of Approval requiring the establishment of one 50-acre industrial lot within the Helvetia Area; and,
2. Address ORS 197.352 (Ballot Measure 37) considerations.