AGENDA ITEM SUMMARY		
	Meeting Date:	4/28/2014
	Meeting Type:	Work Session
	Staff Contact/Dept.:	Linda Pauly/ Len Goodwin/DPW
	Staff Phone No:	(541)726-4608
	Estimated Time:	60 minutes
SPRINGFIELD CITY COUNCIL	**Council Goals:**	Provide Financially Responsible and Innovative Government Services

ITEM TITLE:	SPRINGFIELD 2030 URBAN GROWTH STUDY: ANALYSIS OF SERVICEABILITY AND ESTIMATED COSTS TO PROVIDE URBAN LEVELS OF CITY SERVICES TO FIVE POTENTIAL UGB EXPANSION AREAS (METRO PLAN AMENDMENT FILE NO. LRP 2009-00014)
ACTION REQUESTED:	The Council requested more detailed infrastructure and City services cost estimates to consider as they review and discuss the Springfield 2030 Plan, potential UGB expansion areas and options for growth.
ISSUE STATEMENT:	Staff prepared a Serviceability Analysis and Cost Estimates for five UGB study areas (ATT1). The analysis: 1) examines the serviceability of potentially suitable lands by identifying transportation and infrastructure projects needed to provide urban services to each area; 2) examines whether services can likely be provided in the 2030 planning period, and 3) provides planning level cost estimates to provide services to five geographic areas. The City Council's 2030 Plan UGB proposal and the final UGB may include land within these five study areas or other lands identified through the 2030 Plan process, consistent with the prioritization requirements of ORS 197.298 and the Oregon Land Use Goal 14 Administrative Rule.
ATTACHMENTS:	1. Council Briefing Memorandum: Serviceability Analysis & Cost Estimates (with Exhibits) 2. Map of study areas showing needed infrastructure projects
DISCUSSION/ FINANCIAL IMPACT:	This is the first of a series of Council Work Sessions to discuss potential UGB expansion areas and options for growth. • This Session - UGB Study Areas Serviceability and Cost Analysis • May 5, 2014 - Session 2 Council Discussion and Public Involvement/Stakeholder Input 2008-2014 • May 12, 2014 - Session 3 Council Discussion At the March 18, 2013 Work Session, the Council received high level comparative cost estimates to serve five UGB study areas. At Council's request, Springfield engineering, transportation and finance staff prepared more detailed cost of infrastructure estimates, including itemized project lists. These estimates are in 2014 dollars and are likely to be exceeded at the actual time of project and/or land development. The cost estimates to extend services to each area are high so it is likely that most types of development in any new area will require a mix of public and private investment to build the necessary infrastructure. The serviceability and cost analysis are provided to assist the Council as they evaluate pros, cons and potential financial impacts of growth.

M E M O R A N D U M **City of Springfield**

Date: 4/24/2014
To: Gino Grimaldi, City Manager
From: Len Goodwin, DPW Director
Subject: Information for the 2030 UGB Expansion

COUNCIL BRIEFING MEMORANDUM

ISSUE: Staff prepared a Serviceability Analysis and Cost Estimates for five UGB study areas (ATT1). The analysis: 1) examines the ability to serve the study areas by identifying transportation and infrastructure projects needed to provide urban services to each area; 2) examines whether services can likely be provided in the 2030 planning period; and 3) provides planning-level cost estimates to provide services to the five study areas. The City Council's 2030 Plan UGB proposal and the final UGB may include land within these five study areas or other lands identified through the 2030 Plan process. The expansion of the UGB will be consistent with the prioritization requirements of ORS 197.298 and Oregon's Statewide Planning Goals.

COUNCIL GOALS/ MANDATE:

Provide Financially Responsible and Innovative Government Services

BACKGROUND: This work session provides Council with the requested information to inform their discussion of a potential expansion of the Urban Growth Boundary (UGB). This UGB expansion will consist of commercial and industrial land to address the needs identified in the Commercial Industrial Buildable Lands (CIBL) Study.

At this point, three work sessions are planned. More sessions may be added. The first work session will discuss the city services that will likely be required to serve the study areas. During the second work session, Council will have an opportunity to review the public input received thus far. At the third session, the Council will review the data previously provided by staff and discuss the merits of the study areas. The study areas will then be analyzed by staff, consistent with the prioritization requirements of ORS 197.298.

History

In previous work sessions, staff presented data analyzing all of the land around the current UGB and identified 10 possible areas where expansion might occur. Through an extensive process conducted between 2009—2013, those 10 study areas were reduced to the five that continue to be under consideration. In 2011, the City and County co-adopted parcel specific UGB and adopted the residential element of the 2030 Plan.

In July 2013, Council reviewed these five areas for employment expansion. Council directed staff to prepare more detailed information on the ability to serve each of the five areas, the approximate costs of those services, positive and negative characteristics of expansion of the UGB into each of the areas, and the public input received during the course of staff's public outreach efforts.

Analysis of Services

As described above, the first work session will address the infrastructure required to provide city services to each of the five study areas.

Included in this packet is a memorandum from the City Engineer outlining issues with respect to the provision of transportation, stormwater, and wastewater services. Staff concludes that each of the five areas is serviceable within the meaning of the Statewide planning goals. The City Engineer's memorandum is supplemented by costs analyses. It is important to keep in mind that these analyses are not budget-level cost estimations but rather estimates whose principal value is to permit comparison of relative levels of cost.

This packet also includes memoranda from each of the Chief of the Police Department and the Chief of the Eugene-Springfield Fire Department (with comments from the City's Finance Director included) presenting a rough analysis of providing police, fire and life safety services in the study areas. These, too, are principally directed at establishing a basis of comparison among the areas, and are not budgetary level estimates.

Other agencies provide parks and recreation, electricity, and water services. SUB provides an assessment of the impact of servicing these areas in staff comments summarized in Exhibit B2. It is important to note that in the case of the Seavey Loop study area and the Mahogany-Jasper Road area, that electric power would be provided by the Emerald People's Utility District, by virtue of their designation of exclusive territory by the Oregon Public Utilities Commission. The same Exhibit also reflects comments received from staff of the Willamalane Parks and Recreation District

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RECOMMENDED ACTION: No action is required at this time. However, Council may choose to give staff direction about other, different or additional information it receives in preparation for its discussion and selection of areas of potential expansion,

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M E M O R A N D U M City of Springfield

DATE: April 15, 2014

TO: Len Goodwin, Development and Public Works Director

FROM: Ken Vogeney, City Engineer

SUBJECT: Serviceability Review for Potential Urban Growth Boundary Expansion Areas

The City's Engineering staff has completed a review of the City's ability to provide wastewater, transportation, and stormwater services to each of the five potential Urban Growth Boundary Expansion Areas. The results of this review are summarized by Expansion Area and attached to this memorandum for your use.

The methodology for conducting these reviews is limited to conceptual-level analysis only. First, staff relied upon their knowledge and City records of existing wastewater, transportation, and stormwater systems to identify potential upgrades. Second, staff reviewed maps of the Expansion Areas and identified additional system components that may be needed to provide services external and internal to each Expansion Area. Narrative descriptions of these system improvements were prepared and the serviceability of each Expansion Area was summarized for each system. In addition, staff provided discussion of the potential regulatory constraints that the City and community will likely face with regard to developing in the regulatory flood plain that is present in each Expansion Area.

In addition to the narrative descriptions for each Expansion Area, staff prepared conceptual-level cost estimates for providing wastewater, transportation, and stormwater services to and within each Expansion Area. These cost estimates are also attached for your use. Please note that these cost estimates are not intended to be used for budgeting purposes. Rather, they are intended to provide a means of comparing the relative cost to provide services for each Expansion Area. The actual costs to provide services will certainly be different than these conceptual-level estimates.

North Gateway
Serviceability Review – April 2014

Following is a conceptual-level discussion of the wastewater, transportation, and stormwater improvements that would likely be needed to provide these public services to the North Gateway Expansion Area. This discussion is not based upon detailed analysis and is therefore subject to change.

Offsite Improvements

Wastewater: Four offsite upgrades/extensions are needed to provide service to this area:

1. Pump station upgrades will be required for the existing pump station at International Way and International Court.
2. Pump station upgrades will likely be needed for the existing pump station at Deadmond Ferry Road and Game Farm Road to accommodate the additional flows from the Corporate Way line.
3. A pressure main will need to be extended from the end of the existing 8-inch main on the south side of the Royal Caribbean site around this building and north to the existing UGB boundary.
4. A pressure main will need to be extended from the existing 8-inch main in Corporate Way northerly to the existing UGB line.

Transportation: Nine offsite road extensions/improvements are needed to provide service to the area:

1. Extension of Maple Island Slough Road northerly towards the Maple Island Slough then extending westerly to the connection with Sports Way.
2. Extension of Sports Way northerly to the existing UGB line.
3. Sprague Road overcrossing over I-5 will likely need to be improved or reconstructed to accommodate traffic load and meet current design standards. Associated with this improvement, are improvements to Sprague Road westerly to Armitage Road.
4. Armitage Road will likely need to be widened from Sprague Road to North Game Farm Road.
5. Intersection improvements will likely be needed at Armitage Road and North Game Farm Road, which will likely include the addition of a left turn lane and signal modifications.
6. A bridge connection from the extended Maple Island Slough Road to the Wicklund Living trust Property (Tax Lot 1703154000400) in order to reduce impacts to natural resource areas and to the flood plain carrying capacity.
7. Current studies for the Gateway/Beltline intersection and the Beltline/I-5 interchange show that current and planned development within the current UGB may not be able to be accommodated within the planning horizon, and potential mitigation projects have been identified. The additional vehicle trips from the North Gateway Area will require additional lane and intersection capacity that is not available in the planned mitigation projects, so that additional capacity will need to be provided.

8. Extension of Maple Island Slough Road Southerly from Game Farm Road to a connection point with Beltline Road.
9. The addition of capacity improvements will likely be needed for the interchange operations at Beltline Road and Interstate 5.

Internal Study Area Improvements

Anticipated Improvements: In addition to Internal Roads, Wastewater and Stormwater improvements, four major improvements are anticipated to be needed to provide internal service to the area:

1. A new medium sized wastewater pump station located at the intersection of Sports Way extension and the existing UGB.
2. A new small sized wastewater pump station located in the vicinity of the Sprague Road overcrossing will likely be needed to the serve areas north of this location.
3. A new small sized wastewater pump station located at the existing UGB to connect to the pressure main extension from Corporate Way.
4. Bridge connection from Wicklund Living Trust Property (Tax Lot 17031540004000) over the Maple island Slough to the Puzzle Parts Property (Tax Lot 1703100002500) to provide internal circulation and reduce impacts to natural resource areas and to the flood plain carrying capacity.

Stormwater: Physical connections to the McKenzie River or Maple Island Slough can be made with little or no impact on existing systems, although Maple Island Slough is currently blocked from flowing into the McKenzie River and a flow path would need to be restored if a significant amount of runoff is directed to the Slough. Restoring a flow path from the Slough to the River will involve several other regulatory agencies because the work would affect threatened and endangered species habitat, a designated Riparian Resource area, excavation in the waters of the state and waters of the United States, and potential wetlands. New stormwater outfalls to the McKenzie River will also involve several other regulatory agencies for the same reasons as outfalls to Maple Island Slough. Stormwater management through the use of on-site retention and/or infiltration may not be allowable in the southerly half of this area due to its proximity to Springfield Utility Board's I-5 well field.

Potential Flood Plain Development Constraints:

As currently mapped by the Federal Emergency Management Agency (FEMA), all of the North Gateway Area is within the McKenzie River's 100-year flood plain. In 2010, FEMA entered into a settlement agreement resulting from a lawsuit concerning Endangered Species Act requirements for threatened and endangered salmonids in Oregon. The McKenzie River is federally classified as critical salmonid habitat and Maple Island Slough may become federally classified as critical salmonid habitat if it is reconnected to the River. FEMA has prepared draft National Flood Insurance Program changes that include prohibitions against development within 170 feet of the top of bank of a mapped habitat waterway, restrictions on amount and/or extent of fill in a flood plain, and restrictions on development within a channel migration zone. Channel migration zones are not currently mapped for the McKenzie River, though the National Flood Insurance Program changes may require that this mapping be done whenever a flood plain map is updated. The draft National Flood Insurance Program changes are

currently under federal review and may be finalized in 2014. While we do not know what will be included in the final changes, we do know that federal requirements for flood plain development will be significantly more restrictive than in the past. Note, too, that the Endangered Species Act "take" prohibition is in effect today for all lands subject to the National Flood Insurance Program.

Summary

- **Wastewater**: Service to this area is **feasible**.

- **Transportation:** Service to this area **may be feasible**, however considering that two bridges are needed to provide service to the area, another bridge is required to provide internal circulation, and substantial off-site traffic mitigation improvements will be required at Gateway/Beltline and Beltline/I-5, service will be subject to significant challenges for development within the planning horizon.

- **Stormwater:** Considering the multiple overlapping regulatory jurisdictions for constructing new stormwater outfalls into the McKenzie River and/or the Maple Island Slough, and the limitations regarding on-site stormwater management, stormwater service for this area **may present significant challenges and require atypical restrictions and limits**.

- **Flood Plain Development Potential**: Considering that essentially all of the land in this area is in the flood plain, development in this area is **very likely subject to significant challenges and restrictions**.

N. Springfield Highway 126
Serviceability Review – April 2014

Following is a conceptual-level discussion of the wastewater, transportation, and stormwater improvements that would likely be needed to provide these public services to the North Springfield Highway 126 Expansion Area. This discussion is not based upon detailed analysis and is therefore subject to change.

Offsite Improvements

Wastewater: One offsite upgrade will be needed to provide service to this area:

1. A new large wastewater pump station is required to get flow from this area into the existing 15-inch main in High Banks Road. The location for the new large pump station is assumed to be in the vicinity of High Banks Road and 52nd Street. The existing main should have adequate capacity.

Transportation: Four offsite road extensions/improvements are needed to provide service to the area:

1. A new at grade intersection or interchange will be need at the intersection of Highway 126 and 52nd Street.
2. Intersection improvements for increased capacity will be needed at the intersection of Main Street and Highway 126.
3. A new at grade intersection improvement will be needed for the intersection of 52nd Street and High Banks Road.
4. A new at grade intersection improvement will be needed for the intersection of 58th Street and High Banks Road.

Internal Study Area Improvements

Anticipated Improvements: In addition to Internal Roads, Wastewater and Stormwater improvements, three major improvements are anticipated to be needed to provide internal service to the area:

1. A new small sized wastewater pump station located in the vicinity of the EWEB property (Tax Lot 1702280000304).
2. A new small sized wastewater pump station located in the vicinity of the Northwest portion of the Geraldine property (Tax Lot 1702280000103).
3. The potential for two bridge connections over existing ditches and creeks to access the northern portion of the study area.

Stormwater: Physical connections to Cedar Creek or the McKenzie River can be made with little or no impact on existing stormwater systems. However, Oregon's Three Basin Rule (OAR 340-041-0350) restricts new stormwater outfalls and other discharges to the McKenzie River upstream of Hayden Bridge. It is unclear whether these restrictions apply to tributaries to the River such as Cedar Creek.

New stormwater outfalls to Cedar Creek or to the McKenzie River will involve several other regulatory agencies because the work would affect threatened and endangered species habitat, excavation in the waters of the state and waters of the United States, and potential wetlands. Stormwater management through the use of on-site retention and/or infiltration may be allowable in this area as it is outside of the zone of contribution for Springfield Utility Board's wells.

Potential Flood Plain Development Constraints:

As currently mapped by the Federal Emergency Management Agency (FEMA), almost all of the North Springfield Highway 126 Area is within the McKenzie River's 100-year flood plain. In 2010, FEMA entered into a settlement agreement resulting from a lawsuit concerning Endangered Species Act requirements for threatened and endangered salmonids in Oregon. The McKenzie River and Cedar Creek are federally classified as critical salmonid habitat. FEMA has prepared draft National Flood Insurance Program changes that include prohibitions against development within 170 feet of the top of bank of a mapped habitat waterway, restrictions on amount and/or extent of fill in a flood plain, and restrictions on development within a channel migration zone. Channel migration zones are not currently mapped for the McKenzie River or Cedar Creek, though the National Flood Insurance Program changes may require that this mapping be done whenever a flood plain map is updated. The draft National Flood Insurance Program changes are currently under federal review and may be finalized in 2014. While we do not know what will be included in the final changes, we do know that federal requirements for flood plain development will be significantly more restrictive than in the past. Note, too, that the Endangered Species Act "take" prohibition is in effect today for all lands subject to the National Flood Insurance Program.

Summary

- **Wastewater**: Service to this area is **feasible**.

- **Transportation:** Service to this area **may be feasible**, however significant improvements will be required to the intersection at Highway 126 and 52nd Street (possible new interchange) as well as the potential for several bridges in order to provide circulation internal to the site.

- **Stormwater:** Considering the multiple overlapping regulatory jurisdictions for constructing new stormwater outfalls into the McKenzie River and/or Cedar Creek, stormwater service for this area **may be feasible** if on-site stormwater management techniques that maximize stormwater retention and infiltration are required.

- **Flood Plain Development Potential**: Considering that essentially all of the land in this area is in the flood plain, development in this area is **very likely subject to significant challenges and restrictions**.

South Mill Race
Serviceability Review – April 2014

Following is a conceptual-level discussion of the wastewater, transportation, and stormwater improvements that would likely be needed to provide these public services to the South Mill Race Expansion Area. This discussion is not based upon detailed analysis and is therefore subject to change.

Offsite Improvements

Wastewater: Two offsite upgrades/extensions will be needed to provide service to this area:

1. A new small sized wastewater pump station located near the south side of the South 28th Street Bridge over the Mill Race.
2. A main line extension in south 28th Street from the South F Street interceptor to the new pump station will be needed.

Transportation: Five offsite road extensions/improvements are needed to provide service to the area:

1. South 28th Street will need to be improved from Main Street southerly to the existing UGB near the Mill Race.
2. Crossing improvements for the intersection of South 28th Street and the Union Pacific Railroad will be needed.
3. Upgrades to the existing South 28th Street bridge at the Mill Race will be required due to weight limit restrictions.
4. Intersection improvements will be needed at the intersection of Main Street and South 28th Street.
5. A secondary access will be needed, however the feasibility is in question due to the Agnes Stuart Middle School complex possibly resulting in the need to bridge over the Mill Race and Jasper Slough to a connection point near the intersection of Jasper Road and South 32nd Street.

Internal Study Area Improvements

Anticipated Improvements: There are no major improvements anticipated to meet the internal transportation, storm or wastewater needs to serve this area.

Stormwater: Physical connections to the Springfield Mill Race, Gory Creek or Quarry Creek can be made with little or no impact on existing systems, although the flow capacity of the two creeks would likely need to be increased before additional runoff could be directed to them. New stormwater outfalls to any of these three receiving waters will involve several other regulatory agencies because the work would affect threatened and endangered species habitat, a designated Riparian Resource area, excavation in the waters of the state and waters of the United States, and potential wetlands. New stormwater outfalls to the Springfield Mill Race are also regulated by an intergovernmental agreement with the US Army Corps of Engineers as part of the Mill Race enhancement project. Stormwater management through the use of on-site retention and/or infiltration would likely not be allowed in this area due to its proximity to Springfield Utility Board's Willamette well field.

Potential Flood Plain Development Constraints:

As currently mapped by the Federal Emergency Management Agency (FEMA), much of the South Mill Race Area is outside of the Middle Fork Willamette River's 100-year flood plain, although new flood plain study is currently underway by FEMA and the US Army Corps of Engineers and may be finalized in 2014 or 2015. In 2010, FEMA entered into a settlement agreement resulting from a lawsuit concerning Endangered Species Act requirements for threatened and endangered salmonids in Oregon. The Middle Fork Willamette River is federally classified as critical salmonid habitat and the Springfield Mill Race enhancement project was performed to provide additional salmonid habitat. FEMA has prepared draft National Flood Insurance Program changes that include prohibitions against development within 170 feet of the top of bank of a mapped habitat waterway, restrictions on amount and/or extent of fill in a flood plain, and restrictions on development within a channel migration zone. Channel migration zones are not currently mapped for the Middle Fork Willamette River or Springfield Mill Race, though the National Flood Insurance Program changes may require that this mapping be done whenever a flood plain map is updated. The draft National Flood Insurance Program changes are currently under federal review and may be finalized in 2014. While we do not know what will be included in the final changes, we do know that federal requirements for flood plain development will be significantly more restrictive than in the past. Note, too, that the Endangered Species Act "take" prohibition is in effect today for all lands subject to the National Flood Insurance Program.

Summary

- **Wastewater**: Service to this area is **feasible**.

- **Transportation:** Service to this area **may be feasible**; however providing service will have significant challenges due to the need for secondary access. This access would likely require constructing a bridge over Mill Race and Jasper Slough to a connection point near the intersection of Jasper Road and South 32nd Street.

- **Stormwater:** Although the extent of the flood plain is limited, service to this area **may require atypical restrictions and present significant challenges** considering the multiple overlapping regulatory jurisdictions for constructing new stormwater outfalls into the Springfield Mill Race, Gory Creek or Quarry Creek, and the limitations regarding on-site stormwater management.

- **Flood Plain Development Potential**: Considering that FEMA is preparing new flood plain mapping for the Middle Fork Willamette River, development in this area **may present significant challenges**.

Seavey Loop
Serviceability Review – April 2014

Following is a conceptual-level discussion of the wastewater, transportation, and stormwater improvements that would likely be needed to provide these public services to the Seavey Loop Expansion Area. This discussion is not based upon detailed analysis and is therefore subject to change.

Offsite Improvements

Wastewater: Three offsite upgrades/extensions will be needed to provide service to this area:

1. Upgrades to the existing MWMC Glenwood pump station will be needed.
2. A new large sized wastewater pump station located near the intersection of Seavey Loop and Franklin Boulevard will be needed.
3. A pressure main extension will be needed from the new pump station at Seavey Loop and Franklin Boulevard to Franklin/McVay Trunk Sewer project (completed 2015).

Transportation: Three offsite road extensions/improvements are needed to provide service to the area:

1. An Extension of 30th Avenue as a grade separated to the intersection with Franklin Boulevard and Seavey loop near the southeast corner of the EPUD property (Tax Lot 1803113003803). This excludes I-5 interchange improvements or upgrades.
2. Intersection improvements will be needed at Seavey Loop and Highway 58.
3. The north end of Seavey Loop will need to be reconfigured to terminate South of Franklin Boulevard (North of EPUD).

Internal Study Area Improvements

Anticipated Improvements: In addition to Internal Roads, Wastewater and Stormwater improvements, five major improvements are anticipated to be needed to provide internal service to the area:

1. A new small sized wastewater pump station located near the intersection of 30th Avenue and College View Road.
2. A new wastewater gravity/pressure main extension will be needed from the new pump station at 30th Avenue and College View Road to the new pump station at the intersection of Seavey Loop and Franklin Boulevard, also including a gravity main extension along College View Road southerly ending near the intersection with Franklin Boulevard in order to serve existing properties.
3. A new small sized wastewater pump station located near the intersection of Franklin Boulevard and Twin Buttes Road.
4. A new small sized wastewater pump station located in the vicinity south of Seavey Loop Road near the West property line of the Strother property (Tax Lot 1803141000305).
5. A new small sized wastewater pump station located near the center of the Straub Family Trust property (Tax Lot 1803141000300).

Stormwater: Physical connections to Oxley Slough and/or the Coast Fork Willamette River can be made with little or no impact on existing stormwater systems, although the connection locations may need to be outside of the proposed expansion area. New stormwater outfalls to these receiving waters will involve several other regulatory agencies because the work would affect riparian areas, excavation in the waters of the state and waters of the United States, and potential wetlands. Stormwater management through the use of on-site retention and/or infiltration may be allowable in this area as it is outside of the zone of contribution for Springfield Utility Board's wells and no other wellhead protection zones have been identified to our knowledge.

Potential Flood Plain Development Constraints:

As currently mapped by the Federal Emergency Management Agency (FEMA), the westerly and southerly portions of the Seavey Loop Area are outside of the Coast Fork Willamette River's 100-year flood plain, although a new flood plain study is currently underway by FEMA and the US Army Corps of Engineers and may be finalized in 2014 or 2015. In 2010, FEMA entered into a settlement agreement resulting from a lawsuit concerning Endangered Species Act requirements for threatened and endangered salmonids in Oregon. While the Coast Fork Willamette River is not federally classified as critical salmonid habitat, the State has designated the Coast Fork Willamette River as essential salmonid habitat. FEMA has prepared draft National Flood Insurance Program changes that include prohibitions against development within 170 feet of the top of bank of a mapped habitat waterway, restrictions on amount and/or extent of fill in a flood plain, and restrictions on development within a channel migration zone. Channel migration zones are not currently mapped for the Coast Fork Willamette River or Oxley Slough, though the National Flood Insurance Program changes may require that this mapping be done whenever a flood plain map is updated. The draft National Flood Insurance Program changes are currently under federal review and may be finalized in 2014. While we do not know what will be included in the final changes, we do know that federal requirements for flood plain development will be significantly more restrictive than in the past. Note, too, that the Endangered Species Act "take" prohibition is in effect today for all lands subject to the National Flood Insurance Program. It is not known at this time if the State will apply the final National Flood Insurance Program changes to waterways that it has designated as "essential" salmonid habitat when the federal government did not designate that waterway as "critical" salmonid habitat, as is the case with the Coast Fork Willamette River.

Summary

- **Wastewater**: Wastewater Service to this area **may be feasible,** however given its removed location from the rest of Springfield, and the number of new pump stations that will likely be needed to provide service, there will be long-term operational costs associated with providing this service.

- **Transportation:** Service to this area **may be feasible**, however there are expected to be some challenges surrounding the 30th Avenue extension and potential for interchange improvements at Interstate 5.

- **Stormwater:** Considering the multiple overlapping regulatory jurisdictions for constructing new stormwater outfalls into the Coast Fork Willamette River and/or Oxley Slough, stormwater

service for this area **may be feasible** if on-site stormwater management techniques that maximize stormwater retention and infiltration are required.

- **Flood Plain Development Potential**: Considering that the Coast Fork Willamette River is not federally designated as critical salmonid habitat, flood plain development in this area **is likely feasible**.

Mahogany Lane
Serviceability Review – April 2014

Following is a conceptual-level discussion of the wastewater, transportation, and stormwater improvements that would likely be needed to provide these public services to the Mahogany Lane Expansion Area. This discussion is not based upon detailed analysis and is therefore subject to change.

Offsite Improvements

Wastewater: One offsite upgrade will be needed to provide service to this area:

1. A large wastewater pump station will be need at the intersection of Mt. Vernon Road and Jasper Road on the north side of the Union Pacific Railroad mainline to get flows from Mahogany Lane area into the Jasper Trunk Sewer. Capacity in this Trunk Sewer is not expected to be a concern because flow timing and rates can be managed via the pump station.

Transportation: Eight offsite road extensions/improvements are needed to provide service to the area:

1. Intersection improvements will be needed at Jasper Road and Mt. Vernon Road, which will include improvements to the Union Pacific Railroad crossing and a new traffic signal.
2. Improvements to Mt. Vernon Road from Jasper Road to South 57th Street will be required for additional capacity.
3. Intersection improvements will be needed at Bob Straub Parkway and Mt. Vernon Road, which will include a new traffic signal.
4. Intersection improvements will be needed at Bob Straub Parkway and Jasper Road, which will include a new traffic signal.
5. A new road connection from Bob Straub Parkway to Jasper Road will be needed in the vicinity of the Webb property (Tax Lot 1802090000103), which will include a new grade separated crossing over the railroad.
6. Improvement of the entire length of Jasper Road to urban standards and upgrade to 4 lanes to Main Street via South 42nd Street, including Union Pacific mainline crossing upgrades on South 42nd Street and intersection upgrades along the length of the entire corridor.
7. Improvements to Bob Straub Parkway from Jasper Road to Daisy Street, upgrading to 4 lanes.
8. Intersection improvements will be needed at Bob Straub Parkway and Daisy Street.

Internal Study Area Improvements

Anticipated Improvements: In addition to Internal Roads, Wastewater and Stormwater improvements, five major improvements are anticipated to be needed to provide internal service to the area:

1. A new small sized wastewater pump station will likely be needed located near the southerly end of the Ireta Whiteaker property (Tax Lot 1802090000600).
2. A new small sized wastewater pump station will likely be needed located near the easterly side of the McDougal Bros Investments Property (Tax Lot 1802090000200)
3. It is anticipated one or two additional small pump stations may be needed to serve some portions of the area depending upon future development configuration and topography.

4. Improvements to the existing Mahogany Lane will be needed for additional capacity.
5. The potential for two bridge connections over flood plain designated sloughs to facilitate internal circulation.

Stormwater: Physical connections to the Middle Fork Willamette River and Jasper Slough system can be made with little or no impact on existing stormwater systems, although the flow capacity of portions of Jasper Slough system would likely need to be increased before additional runoff could be directed to it. In addition, few if any of the intermittent flow channels of the Jasper Slough system are maintained as drainage ways. Development of the area will require public acquisition and improvement of at least some of these channels to ensure that stormwater runoff can be safely conveyed to the River. New stormwater outfalls will involve several other regulatory agencies because the work would affect threatened and endangered species habitat, excavation in the waters of the state and waters of the United States, and potential wetlands. Stormwater management through the use of on-site retention and/or infiltration would likely not be allowed in the northerly portion of this area due to its proximity to Springfield Utility Board's Willamette well field.

Potential Flood Plain Development Constraints:

As currently mapped by the Federal Emergency Management Agency (FEMA), much of the Mahogany Lane Area is outside of the Middle Fork Willamette River's 100-year flood plain, although new a flood plain study is currently underway by FEMA and the US Army Corps of Engineers and may be finalized in 2014 or 2015. In 2010, FEMA entered into a settlement agreement resulting from a lawsuit concerning Endangered Species Act requirements for threatened and endangered salmonids in Oregon. The Middle Fork Willamette River and Jasper Slough system are federally classified as critical salmonid habitat. FEMA has prepared draft National Flood Insurance Program changes that include prohibitions against development within 170 feet of the top of bank of a mapped habitat waterway, restrictions on amount and/or extent of fill in a flood plain, and restrictions on development within a channel migration zone. Channel migration zones are not currently mapped for the Middle Fork Willamette River or the Jasper Slough system, though the National Flood Insurance Program changes may require that this mapping be done whenever a flood plain map is updated. The draft National Flood Insurance Program changes are currently under federal review and may be finalized in 2014. While we do not know what will be included in the final changes, we do know that federal requirements for flood plain development will be significantly more restrictive than in the past. Note, too, that the Endangered Species Act "take" prohibition is in effect today for all lands subject to the National Flood Insurance Program.

Summary

- **Wastewater**: Wastewater service is probably **feasible.**

- **Transportation:** Service to this area **may be feasible**, however depending on the initial development pattern the required improvements up front to provide service to the area will present significant challenges not only in the length of improvements, but also the multiple at grade railroad crossings that will likely be needed along Jasper Road. In addition, Jasper Road will likely need to be upgraded to provide capacity for employment development.

- **Stormwater:** Considering the multiple overlapping regulatory jurisdictions for constructing new stormwater outfalls into the Middle Fork Willamette River and/or Jasper Slough system, stormwater service for this area **may be feasible** if the primary intermittent flow channels are brought under public control.

- **Flood Plain Development Potential**: Considering that much of this Area is outside of the Middle Fork Willamette River flood plain, development of the Area **is likely feasible** if development in the flood plain itself is significantly restricted.

DRAFT

North Gateway

UGB Study Areas

Probable Cost of Infrastructure to Develop Study Area - Prepared April 2014

Note: Improvement descriptions and estimated costs are conceptual-level only and are not binding and are not intended to be used for budgeting or construction purposes. Costs associated with acquiring additional right of way for noted improvements are not included.

Offsite Improvements

Wastewater

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
1	Pump Station Upgrade - Int. of International Way and International Court	EA	1	$2,000,000	$2,000,000
2	Pump Station Upgrade - Int. of Deadmond Ferry Road and Game Farm Road	EA	1	$2,000,000	$2,000,000
3	8" Pressure Main Extension from South side of Royal Caribbean site around building North to existing UGB boundary	LF	1,700	$428	$1,000,000
4	8" Pressure Main Extension from existing sewer in Corporate Way North to existing UGB Boundary	LF	500	$428	$500,000
				Subtotal	$5,500,000

Transportation

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
5	Extension of Maple Island Slough Road North and West to the connection with Sports Way	LS	1	$4,000,000	$4,000,000
6	Extension of Sports Way North to existing UGB Boundary	LS	1	$1,000,000	$1,000,000
7	Sprague Road overcrossing over I-5 Improvement/Reconstruction, including improvements to Sprague Road West to Armitage Road	LS	1	$4,500,000	$4,500,000
8	Armitage Road widening from intersection with Sprague Road to North Game Farm Road	LS	1	$1,000,000	$1,000,000
9	Intersection Improvements at Armitage Road and North Game Farm Road	LS	1	$500,000	$500,000
10	Bridge connection from Maple Island Slough Road to Wicklund Living Trust Property (Tax Lot 1703154000400)	LS	1	$3,000,000	$3,000,000
11	Gateway and Beltline intersection capacity improvements	LS	1	$12,000,000	$12,000,000
12	Extension of Maple Island Slough Road South from Game Farm Road to Beltline Road	LS	1	$3,000,000	$3,000,000
13	Add Capacity improvements for interchange operations at Beltline Road and Interstate 5	LS	1	$15,000,000	$15,000,000
				Subtotal	$44,000,000

Internal Study Area Improvements

Anticipated Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
14	Medium Pump Station located at intersection of Sports Way extension and existing UGB Boundary	EA	1	$4,000,000	$4,000,000
15	Small Pump Station located in the vicinity of the Sprague Road overcrossing to serve areas to the North	EA	1	$1,500,000	$1,500,000
16	Small Pump Station Located at the existing UGB boundary to connect to the pressure main extension from Corporate Way	EA	1	$1,500,000	$1,500,000
17	Bridge Connection from Wicklund Living Trust Property (Tax Lot 17031540004000) over the Maple Island Slough to the Puzzle Parts Property (Tax Lot 1703100002500) to provide internal circulation	SF	5,600	$250	$1,500,000
				Subtotal	$8,500,000

Internal Circulation and Utilities for Suitable Acreage

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
N/A	Internal Roads, Wastewater, Stormwater	ACRE	226	$226,800	$51,500,000
				Subtotal	$51,500,000
				Contingency +/-(15%)	$17,000,000
				Estimated Total Cost	**$127,000,000**

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North Springfield Hwy 126

UGB Study Areas

Probable Cost of Infrastructure to Develop Study Area - Prepared April 2014

Note: Improvement descriptions and estimated costs are conceptual-level only and are not binding and are not intended to be used for budgeting or construction purposes. Costs associated with acquiring additional right of way for noted improvements are not included.

Offsite Improvements

Wastewater

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
18	Large Pump Station near the intersection of High Banks Road and 52nd Street	EA	1	$7,500,000	$7,500,000
				Subtotal	$7,500,000

Transportation

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
19	Highway 126 and 52nd Street at grade intersection or interchange	LS	1	$40,000,000	$40,000,000
20	Main Street and Highway 126 intersection capacity improvements	LS	1	$1,000,000	$5,000,000
21	52nd Street and High Banks Road intersection improvements	LS	1	$3,000,000	$3,000,000
22	58th Street and High Banks Road intersection improvements	LS	1	$3,000,000	$3,000,000
				Subtotal	$51,000,000

Internal Study Area Improvements

Anticipated Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
23	Small Pump Station located in the vicinity of the EWEB property (Tax Lot 1702280000304)	EA	1	$1,500,000	$1,500,000
24	Small Pump Station located on the Northwest portion of the Geraldine property (Tax Lot 1702280000103)	EA	1	$1,500,000	$1,500,000
25	Bridge connections to access property North of creeks/ditches (2 total)	SF	5,600	$250	$1,500,000
				Subtotal	$4,500,000

Internal Circulation and Utilities for Suitable Acreage

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
N/A	Internal Roads, Wastewater, Stormwater	ACRE	265	$226,800	$60,500,000
				Subtotal	$60,500,000
				Contingency +/-(15%)	$19,000,000
				Estimated Total Cost	**$142,500,000**

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South Mill Race

UGB Study Areas

Probable Cost of Infrastructure to Develop Study Area - Prepared April 2014

Note: Improvement descriptions and estimated costs are conceptual-level only and are not binding and are not intended to be used for budgeting or construction purposes. Costs associated with acquiring additional right of way for noted improvements are not included.

Offsite Improvements

Wastewater

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
26	Small Pump Station located on South 28th Street on South side of bridge over the Mill Race	EA	1	$1,500,000	$1,500,000
27	8" Main Line extension in South 28th Street from South F Street interceptor South to new Pump Station	LF	1,700	$428	$1,000,000
				Subtotal	$2,500,000

Transportation

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
28	South 28th Street Improvements from Main Street South to existing UGB Boundary	LS	1	$5,000,000	$5,000,000
29	UPRR main Line Crossing Improvements	LS	1	$1,000,000	$1,000,000
30	South 28th Street bridge upgrades at the Mill Race due to weight limit restrictions	SF	5,600	$250	$1,500,000
31	Main Street and South 28th Street intersection improvements	LS	1	$3,000,000	$3,000,000
32	Secondary access improvements (potential bridge over Mill Race and Jasper Slough)	SF	16,800	$250	$8,000,000
				Subtotal	$18,500,000

Internal Study Area Improvements

Anticipated Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
N/A	No Major Improvements (see Internal Circulation and Utilities section)				$0
				Subtotal	$0

Internal Circulation and Utilities for Suitable Acreage

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
N/A	Internal Roads, Wastewater, Stormwater	ACRE	126	$226,800	$29,000,000
				Subtotal	$29,000,000
				Contingency +/-(15%)	$7,000,000
				Estimated Total Cost	**$57,000,000**

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Seavey Loop

UGB Study Areas

Probable Cost of Infrastructure to Develop Study Area - Prepared April 2014

Note: Improvement descriptions and estimated costs are conceptual-level only and are not binding and are not intended to be used for budgeting or construction purposes. Costs associated with acquiring additional right of way for noted improvements are not included.

Offsite Improvements

Wastewater

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
33	MWMC Glenwood Pump Station Upgrade	EA	1	$3,500,000	$3,500,000
34	Large Pump Station near intersection of Seavey Loop and Franklin Blvd.	EA	1	$7,500,000	$7,500,000
35	Pressure main extension from pump station at Seavey Loop and Franklin Blvd. to Franklin/McVay Trunk Sewer project (completed 2015)	LF	5,600	$428	$2,500,000
				Subtotal	$13,500,000

Transportation

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
36	Extension of 30th Avenue as grade separated to intersection with Franklin Blvd and Seavey Loop near the Southeast corner of EPUD property (Tax Lot 1803113003803) *Excludes I-5 interchange improvements or upgrades*	LS	1	$8,000,000	$8,000,000
37	Intersection upgrades at Seavey Loop and Hwy 58	LS	1	$1,500,000	$1,500,000
38	Reconfigure North End of Seavey Loop to terminate South of Franklin Blvd (North of EPUD)	LS	1	$1,000,000	$1,000,000
				Subtotal	$10,500,000

Internal Study Area Improvements

Anticipated Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
39	Small Pump Station at 30th Avenue and College View Road	EA	1	$1,500,000	$1,500,000
40	Gravity/Pressure main extension North from pump station at 30th Avenue and College View Road to pump station at intersection of Seavey Loop and Franklin Blvd. To also include gravity main extension along College View Road South near intersection with Franklin to serve existing properties	LF	3,800	$428	$2,000,000
41	Small Pump Station at Franklin and Twin Buttes Road	EA	1	$1,500,000	$1,500,000
42	Small Pump Station south of Seavey Loop Road near the West line of the Strother property (Tax Lot 1803141000305)	EA	1	$1,500,000	$1,500,000
43	Small Pump Station near the center of the Straub Family Trust property (Tax Lot 1803141000300)	EA	1	$1,500,000	$1,500,000
				Subtotal	$8,000,000

Internal Circulation and Utilities for Suitable Acreage

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
N/A	Internal Roads, Wastewater, Stormwater	ACRE	152	$226,800	$34,500,000
				Subtotal	$34,500,000
				Contingency +/-(15%)	$9,500,000
				Estimated Total Cost	**$76,000,000**

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Mahogany Lane

UGB Study Areas

Probable Cost of Infrastructure to Develop Study Area - Prepared April 2014

Note: Improvement descriptions and estimated costs are conceptual-level only and are not binding and are not intended to be used for budgeting or construction purposes. Costs associated with acquiring additional right of way for noted improvements are not included.

Offsite Improvements

Wastewater

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
44	Large Pump Station at the intersection of Mt. Vernon Road and Jasper Road, North side of the UPRR mainline	EA	1	$7,500,000	$7,500,000
				Subtotal	$7,500,000

Transportation

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
45	Intersection Improvements at Jasper Road and Mt. Vernon Road (Includes improvements to UPRR rail crossing)	LS	1	$4,000,000	$4,000,000
46	Mt. Vernon Road improvements from Jasper Road to South 57th Street	LS	1	$3,000,000	$3,000,000
47	Intersection Improvements at Bob Straub Parkway and Mt. Vernon Road	LS	1	$1,500,000	$1,500,000
48	Intersection Improvements at Bob Straub Parkway and Jasper Road	LS	1	$5,000,000	$5,000,000
49	New road connection from Bob Straub Parkway to Jasper Road through the Webb property (Tax Lot 1802090000103), including grade separated crossing over railroad	LS	1	$5,000,000	$5,000,000
50	Improve Jasper Road to urban standards and upgrades to 4 lanes all the way to Main Street via South 42nd Street, includes UPRR mainline crossing upgrades on South 42nd Street and intersection upgrades along corridor	LS	1	$28,500,000	$28,500,000
51	Bob Straub Parkway improvements (4 lanes) from Jasper Road to Daisy Street	LS	1	$13,000,000	$13,000,000
52	Intersection improvements at Bob Straub Parkway and Daisy Street	LS	1	$2,000,000	$2,000,000
				Subtotal	$62,000,000

Internal Study Area Improvements

Anticipated Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
53	Small Pump Station near the Southerly end of the Ireta Whiteaker property (Tax Lot 1802090000600)	EA	1	$1,500,000	$1,500,000
54	Small Pump Station near the Easterly side of the McDougal Bros Investments Property (Tax Lot 1802090000200)	EA	1	$1,500,000	$1,500,000
55	Additional Small Pump Stations throughout the study area depending on ultimate configuration	EA	2	$1,500,000	$3,000,000
56	Mahogany Lane improvements	LS	1	$3,500,000	$3,500,000
57	Bridge crossings of flood plain designated sloughs	SF	5,600	$250	$2,000,000
				Subtotal	$11,500,000

Internal Circulation and Utilities for Suitable Acreage

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
N/A	Internal Roads, Wastewater, Stormwater	ACRE	574	$226,819	$130,500,000
				Subtotal	$130,500,000
				Contingency +/-(15%)	$32,000,000
				Estimated Total Cost	**$243,500,000**

UGB Serviceability Analysis

For City transportation, wastewater and stormwater services, see ATT 2-A

North Gateway Study Area



ODOT Transportation

"ODOT's primary comment for this study area relates to protecting the recent investment at the I-5/Beltline Interchange, which is undergoing significant improvements to address safety and operations. Future 2035 analysis, within the existing UGB and completed as part of the ongoing Eugene and Springfield TSP Update, illustrates that operations at the interchange will begin to experience congestion along mainline I-5 and at several ramp locations. To manage the interchange area, we will continue to look at strategies identified in the adopted Interchange Area Management Plan and Environmental Assessment. These documents developed the framework to address capacity and safety at the interchange and continue to apply today. If the City chooses this study area for expansion, we would work with the City to update the Interchange Area Management Plan to address future management and operation of the interchange, this includes, but is not limited to:

- Updating operational analysis (traffic analysis – safety and operation)
- Policies and strategies to protect the longevity of the interchange (traffic demand management, traffic system management)
- Management strategies for traffic growth (trip budgets, land use strategies)"

LTD Transit

Currently, EmX service is available on International Way.
"Large employer could trigger transit extension depending on % of overall ridership, may need to add vehicles."

"If only south segment of this study area were to be considered, it would make the need for a more southerly connection from Eugene even more essential for effective transit service provision. Easier to serve with better connections from Eugene side of I-5***.**

Public safety

"Difficult to respond out at Gateway due to traffic, but lots of staff already in the area." (Lewis, 8-19-13)

Fire and Life Safety
Area can be served if street connectivity is well-designed – if a direct road network connecting from International, Maple Island or Sportsway is built. Actual travel time study will be necessary to verify modeling of response times. If access is only provided via N. Game Farm/Armitage/Sprague Rds then response time requirements will not be met resulting in the need for a new fire station to meet response times at the urban service level.
Water
Served by Rainbow Water District. Relies solely upon groundwater to meet customers' needs. Majority of wells are near the McKenzie River at the north edge of the UGB. Serves County customers, utilizing water from 10 wells (3 co-owned by SUB) to serve 2,400 homes between Springfield UGB and City Limits. Sells water to SUB to indirectly serve around the same # of customers. SUB would bring service up from International Way, Gateway. SUB negotiating with EWEB re wells. Ex 12" line up Sportsway to Royal Caribbean; ex. 24" line to end of Corporate Way. NOTE for all SUB areas: SUB 20 year Master Plan for its service area will provide 3500 gpm fire flows throughout the system when planned system is built out, most of this is in the 10-year plan. Drinking Water Source Areas - Wellfield impacts; I-5 wells affected by urbanization; Most sensitive TOTZ 0-1 yr TOTZ.
Electricity
EWEB substation; No electric infrastructure (SUB); Transformer at Royal Caribbean; SUB would need easements; SUB would need a substation to serve a big user (5MW or more).
Willamalane Parks & Recreation
Relatively far from Park Services Center and Community Recreation Center, but good access.

NOTES	Located near I-5 interchange

North Springfield Highway 126/N. 52nd Street Study Area

ODOT Transportation

Area is primarily accessed by the OR126/52nd intersection and is currently signalized. Over the past decade, ODOT and the City have worked on various elements of an Expressway Management Plan to identify improvements along the OR126 Expressway. While not adopted, previous analysis indicates this intersection as exceeding capacity through 2031.Improvements at this location could be identified through a TSP update and/or through a facility plan (i.e. Expressway Management Plan). Potential improvements, identified in past analyses, could include:

- At-grade intersection improvements – Signalized intersection with upgraded and expanded infrastructure. Previous operational analysis indicate that an expanded intersection would just meet ODOT's mobility target, under *existing* land use scenarios.
- Interchange – Grade separated interchange and improvements to High Banks road. Previous analysis indicate that an interchange may be needed in the future and would have excess capacity.
- This analysis did not include the potential UGB expansion area, so further analysis would be necessary to identify full improvement need with traffic growth.

Development would have to help fund IAMP w public/private partrnership; lots of capacity within existing UGB so not a priority to build interchange.

LTD Transit

Eastern portion of study area much easier to serve from existing (and expected future) LTD service configuration than western portion of study area. Ranked area as easy to serve.

Public safety

No issues (Lewis 8-19-13)

Fire and Life Safety

Can serve this area at the urban level of service. Response time requirements are met from Station 14 and 16; Needs street network.

Water

SUB: Existing 12" line up 52nd, looped east of High Banks and down 56th, serves Bluewater Boats site; will bring 36" transmission line from Thurston behind Lively Swim Park, via Bonneville corridor.

NOTE for all SUB areas: SUB 20 year Master Plan for its service area will provide 3500 gpm fire flows throughout the system when planned system is built out, most of this is in the 10-year plan.

Electricity

SUB service to IP crosses freeway and south on 52nd St.; 3 feeders come off of EWEB substation (part of SUB/EWEB discussions about future service).

Willamalane Parks & Recreation
Relatively close to Park Services Center and Community Recreation Center; Somewhat distant from existing parks; Good access. NOTE: ODFW staff identified the Bluewater pond site as strong candidate for a future family fishing area.
NOTES



Mill Race/South 28th Study Area



ODOT Transportation
Need for new or improved rail crossings; Obtaining approval for new rail crossings can be difficult – work with ODOT and RR early on if this area is considered. Traffic congestion- log trucks at intersection; study connectivity S. 28th to Jasper Road.
LTD Transit
LTD: no comments ranked 1 easy to serve
Public safety
No issues, can serve this area. Better control if this area is in UGB. May experience increase in service calls, including calls to adjacent parks/open space areas.
Fire and Life Safety
Can serve this area at the urban level of service from Station 3; Response time requirements can be met from Station 3; response time dependent upon street network; single RR crossing will occasionally cause response time delay; An additional rail line crossing may be necessary; Ranked 1, easy to serve; sees positive benefits if this area brought in.
Water
Drinking Water Source Area; SUB Willamette Wellfield and facilities; most sensitive TOTZ 0-1 year; Gorrie Creek feeds well field; SUB 60" line in 28th ends at Mill Race; 36" line crosses the Mill Race; planned 24" transmission line to Booth Kelly along north side of Mill Race. NOTE for all SUB areas: SUB 20 year Master Plan for its service area will provide 3500 gpm fire flows throughout the system when planned system is built out, most of this is in the 10-year plan.
Electricity
SUB could handle a 10 MW load in this area w/ transmission via truck road.
Willamalane Parks & Recreation
Relatively close to Park Services Center and Community Recreation Center, existing and planned parks; Already within District boundaries

NOTES	School district doesn't need w. parcel for expansion; school board may review option to surplus property; close to recreation and planned bike/ped facilities. Recent change in property ownership of Knife River property.

Seavey Loop Study Area



ODOT Transportation

"May need to further study capacity at the I-5/30th Avenue interchange and I-5/Hwy 58 Interchange. Improvements at one or both locations may be needed depending on size and location of expansion area." (June 2013)

Located near I-5 interchange; Limited capacity at I-5/30th Street interchange; Need to provide rail and river (?)crossings; Isolated from transportation system

May trigger capacity improvements for McVey Highway in Glenwood

LTD Transit

Difficult to serve except via one-directional route variation from current #92 Lowell/LCC route which only runs three trips per weekday. (LTD June 2013)

Public safety

Worst access of 5 areas for Police Dept. Secluded, no routine patrols, would be a big burden on personnel resources due to remoteness, response times.

Fire and Life Safety

"Area cannot be served at the urban level. Area is outside both initial and secondary current response capability of the fire department. In order to serve this area a fire station would need to be constructed and staffed. Even with an additional station the delayed response for secondary units necessary to establish an effective fire fighting force would not allow this area to receive the fire department level of service. In order to meet the urban level of service a creative solution would be necessary with Goshen Fire District (the current Fire Protection Provider for the area)."

Goshen Fire District serves area today; 47 hydrants.

Water

Currently served by Willamette Water Co., a PUC regulated quasi-municipal utility; 70% of customers are non-residential, 40,000 feet of mainline 20" to 6" diameter; gravity fed by EWEB's Bloomberg reservoir, with overflow elevation of 700'; has 4 CFS water right on McKenzie River. Applied for add'l 34 CFS water right to expand its service area.

Electricity

Served by EPUD; BPA lines cross southern portion of area.

Willamalane Parks & Recreation

Far from Park Services Center and Community Recreation Center, existing and planned parks (although close to Buford; Large amount of wetlands and floodplain, limiting opportunities for active park development.

NOTES	CORP Railroad mainline but no existing branches for rail service to sites; close access to I-5 via the 30th Avenue and Franklin Blvd (McVay Highway) interchanges. Seavey Loop also connects to Hwy 58 which is a major freight route east. Hwy. 99S provides a secondary north-south highway route. Property owner (Straub) has cross easements on other parcels they formerly owned;

Mahogany-South Jasper Study Area

ODOT Transportation

Served by several local roadways; impacts to the OR126/Main Street intersection should be considered. Over the past decade, ODOT and the City have worked on an Expressway Management Plan to identify improvements along the OR126 Expressway, which includes the OR126/Main Street intersection. While not adopted, previous analysis indicate that the OR126/Main Street (OR126B), Main Street/54th Street, and Main Street/58th Street all exceed capacity by 2031.

Improvements at this location could be identified through a TSP update and/or through a facility plan (i.e. Expressway Management Plan). Potential improvements, identified in past analyses, could include:

- OR126/Main Street at-grade intersection improvements – Signalized intersection with upgraded and expanded infrastructure. While this could be a short term improvement, operational analysis has shown that even with significant at-grade improvements, this intersection will still exceed capacity.

- Interchange – Grade separated interchange and improvements to 54th and 58th Street. Operational analysis shows the need for a separated interchange at this location. With various forms of interchange designs, operations either just meet, or exceed, ODOT mobility targets, indicating heavy future traffic volumes. Under either scenario, the Main Street/58 intersection continues to exceed capacity and will experience significant delays. This analysis did not include the potential UGB expansion area, so further analysis would be necessary to identify full improvement need with traffic growth.

LTD Transit

A Frequent Transit Network (FTN) route is envisioned in LTD's future plans if the Jasper/Natron site is sufficiently developed and becomes a vibrant node. In that case, this area becomes even more attractive, especially the eastern portion.

Public safety

Access via 42nd or Straub Parkway, wide open, easy response time. (Lewis 8-19-13)

Fire and Life Safety

Area can be served at the urban level of service: response time can be partially met

from Station 14 and 16 – if area is limited and street network is well-designed for response time requirements from existing stations. Response time is dependent on street network but may require a 6th station – actual travel time study will be necessary to verify modeling of response times.

Water

Drinking Water Source Area; includes 1-5 yr TOTZ; located just upstream of SUB's intake; travel time of any contamination that reaches the river , wither through stormwater discharge or spills directly to river, has a travel time of less than one hour to SUB's intake. 24" water line to be constructed in 2013 to SW corner of school district property; will extend 24" line south; the 16" line from Westwind Estates/Linda Lane is a looped system. It is feasible to bore under railroad and Jasper Road to serve south side of Jasper Road.

NOTE for all SUB areas: SUB 20 year Master Plan for its service area will provide 3500 gpm fire flows throughout the system when planned system is built out, most of this is in the 10-year plan.

Electricity/Fiber Network

Served by EPUD. EPUD is planning a substation in the area; has capacity and strong, hardened infrastructure; user rates support growth. BPA transmission lines cross the area; potential capacity to serve high elec. user industry.

SUB provides electricity north of Mt. Vernon (Mt. Vernon Substation); Excellent fiber network in vicinity.

Willamalane Parks & Recreation

Jasper Meadows Park accessible from Straub Parkway; Far from Park Services Center, Community Recreation Center, and existing parks; Poor access.

NOTES	Straub Parkway access is affected by agreements between Lane County, City and property owners; Jurisdictional transfer of Straub Parkway not clearly defined; County jurisdiction - Jasper Road

M E M O R A N D U M City of Springfield

DATE: April 21, 2014

TO: Len Goodwin, Development and Public Works Director

FROM: Randall Groves, Fire Chief/Department Director
Bob Duey, Finance Director

SUBJECT: Serviceability Review for Potential Urban Growth Boundary Expansion Areas

Last summer, Fire Marshal Al Gerard invited DPW staff Pauly (along with Eugene staff Hansen) to present information to the battalion chiefs about Springfield's 2030 Plan and Urban Growth Boundary Study and Envision Eugene. Staff requested information from the Department to compare the five study areas being considered by the Springfield City Council for potential expansion of the Springfield UGB. The Department's comments were forwarded to staff Pauly. Results of the Department's review are summarized by Expansion Area and attached to this memorandum for your use.

In addition to the comments for each Expansion Area, staff prepared a conceptual-level cost estimate to constructing and staff a new fire station. This information will assist the Council as they consider potential costs of serving new areas included in the UGB. Please note that these cost estimates are not intended to be used for budgeting purposes. Rather, they are intended to provide a means of comparing the relative cost to provide services for each Expansion Area. The actual costs to provide services will certainly be different than these conceptual-level estimates.

If the City expands its urban growth boundary and eventually brings one or more of these additional study areas inside the City boundaries there will anticipated impacts upon the service delivery capabilities of the Fire and Life Safety department. The degree of impact that any of these expansions and eventual annexations may have on the City will be unique to each of the 5 different study areas. One significant factor that is common to all the study areas in considering service impacts is that as a product of the Commercial Industrial Buildable Lands Study the absence of any residential zoning for these areas will greatly reduce the volume of expected service calls within the study areas.

With the exception of 1 of the 5 study areas, each is located on the edges of the existing areas to be served by the police and fire departments. In addition to just the increase in area size, the additional travel or response times to reach each of the study areas is noted and is a major contributing factor in looking at the service impacts.

In some cases when the City adds additional land to be included within its city limits, the Fire & Life Safety Department (F&LS) already serves these areas through existing service contracts

with 3 special service districts. In these cases, by expanding the UGB, these areas are all primarily outside the existing areas of service and capacity adding changes may be necessary to serve these areas. Examples would be:

- May be able to provide service to a particular area without the addition of another fire station or crew while being able to maintain current response times (e.g. South Mill Race)

- May require the relocation of a current station to a more central location for serving the newly added area. Cost would be the purchase of land and construction of a new station but existing personnel could be used for the station staffing (e.g Mahogany Lane).

- May require the construction of an additional station for the City and the hiring of additional personnel for staffing the new station. In this case, the existing 5 stations would most likely not be able to address the needs to the new area while maintaining appropriate response times in other parts of the community (e.g. Seavey Loop).

- It should be noted that any significant changes in station location or a particular area's volume of calls could require a full staffing study for the entire community as far as the number of appropriate engine companies and medic units that are placed in each of the stations to meet response time requirements in all parts of the City.

Additional Costs for Fire Services Scenarios

Construction of a new Fire Station	$3.5M (not including land, today's costs) Debt Service- Annual Amortization Cost $450K)
Staffing 1 Additional Engine Crew	$1.37M (annual cost for 11 FTE)
Staffing 1 Additional Engine Crew And 1 Medic Unit	$2.2M (annual cost for 18 FTE)
Additional Equipment, Training & OT	$218K annually (18 FTE)
1 Pumper Truck for Additional Station	$500K (5 to 8 years life)
1 Medic Unit for Additional Station	$200K (5 to 8 years life)
Additional Fuel, Station Maintenance	TBD

In addition to the potential UGB expansion, as Springfield continues to experience densification within its existing boundaries, the need for a dedicated ladder truck company also exists. Currently, Springfield provides its truck company service with a single crew and apparatus that serves as both a ladder truck and first response fire suppression company. As densification continues and larger and taller structures are built, the need for a dedicated ladder truck increases. In comparison, Eugene staffs two truck companies which are each co-located with a

fire engine company. Firefighters assigned to truck companies perform very different work than firefighters assigned to an engine company.

Springfield UGB Employment Land Suitability Analysis
Public Services Comparison
Fire and Life Safety

Study Area	*Comments regarding feasibility and cost to serve new suitable areas (shown in green in attached map)*	*Ranking* 1= Easy to serve 3=Medium 5=Most difficult
North Gateway	• **No street network:** o If access is provided only via N.Gamefarm/Armitage/Sprague Roads then response time requirements will not be met resulting in the need for a new fire station in order to meet response time at the urban service level. • **Yes, it appears that it can be served if street connectivity is well designed:** o Area can be served if a direct road network connecting from International, Maple Island or Sportsway is built. Actual Travel time study will be necessary to verify modeling of response times	3 1
North Springfield Highway	• **Can serve this area at the urban level of service:** o Response time requirements met from Fire Station 14 and Fire Station 16 o Needs street network	1
So. Mill Race/28th Street	• **Can serve this area at the urban level of service:** o Response time can be met from Fire Station 3 o Response time dependant on Street network o Single railroad crossing will occaisionally cause response time delay. An additional rail line crossing may be necessary	1
Mahogany/So. Jasper Rd	• **Can serve this area at the urban level of service:** o Response time can be partially met from Fire Station 14 and Fire Station 16 – if area is limited and street network is well designed for response time requirements from existing fire stations. o Response time dependant on Street network but may require a 6th station - Actual Travel time study will be necessary to verify modeling of response times	1 3

	▪ Note: 57th and Straub Pkwy – we're not considering this site as a viable station location anymore due to the merger of the two fire departments	
Seavey Loop	• **This area cannot currently be served at the urban level** o The area is outside both initial and secondary current response capability of the fire department. In order to serve this area a fire station would need to be constructed and staffed. Even with an additional station the delayed response for secondary units necessary to establish an effective fire fighting force would not allow this area to receive the fire department urban level of service. In order to meet the urban level of service a creative solution would be necessary with Goshen Fire District (the current Fire Protection Provider for the area).	5

M E M O R A N D U M City of Springfield

DATE: April 21, 2014

TO: Len Goodwin, Development and Public Works Director

FROM: Tim Doney, Chief of Police
Bob Duey, Finance Director

SUBJECT: Serviceability Review for Potential Urban Growth Boundary Expansion Areas

On August 19, 2013, Captain Rick Lewis met with DPW staff Pauly to review information about Springfield's 2030 Plan and Urban Growth Boundary Study. Staff requested information from the Department to compare the five study areas being considered by the Springfield City Council for potential expansion of the Springfield UGB. Captain Lewis' comments on serving each area are summarized in the UGB Serviceability Analysis (ATT2).

In addition to the comments for each Expansion Area, the Department was also asked to provide a conceptual-level cost estimate to estimate the probable cost of providing policing to new areas. This information will assist the Council as they consider potential costs of serving new areas included in the UGB. Please note that these cost estimates are not intended to be used for budgeting purposes. Rather, they are intended to provide a means of comparing the relative cost to provide services for each Expansion Area. The actual costs to provide services will certainly be different than these conceptual-level estimates.

If the City expands its urban growth boundary and eventually brings one or more of these additional study areas inside the City boundaries there will anticipated impacts upon the service delivery capabilities of the City's Police department. The degree of impact that any of these expansions and eventual annexations may have on the City will be unique to each of the 5 different study areas. One significant factor that is common to all the study areas in considering service impacts is that as a product of the Commercial Industrial Buildable Lands Study the absence of any residential zoning for these areas will greatly reduce the volume of expected service calls within the study areas.

With the exception of 1 of the 5 study areas, each is located on the edges of the existing areas to be served by the police and fire departments. In addition to just the increase in area size, the additional travel or response times to reach each of the study areas is noted and is a major contributing factor in looking at the service impacts.

Police would most likely serve the additional study areas by increasing the number of officers that would be available to respond to calls at any given time. With these outer edge expansion areas the effort to respond to calls in these areas without increasing the patrol numbers would decrease response times throughout the City. The addition of a sub-station could be considered

but the assumption at this time would be that all officers would be working out the main headquarters. It is also assumed that as industrial/light industrial job centers these expansion areas would not be high volume call areas and not require the addition of support staff within the department.

Additional Costs for Police Services Scenarios

1 Additional Police Officer per Shift	$750K (1 Additional Officer per Shift 24 X 7 requires 6 FTE)
Additional Equipment, Training & OT	$72K annually (6 FTE)
Police Car	$28K (3 to 5 year life)

PROBABLE COSTS TO DEVELOP INFRASTRUCTURE PER STUDY AREA

*(*projects already identified in TSP/PFSP regardless of expansion)*

North Gateway

Offsite Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
Wastewater					
1	Pump Station Upgrade - Int. of International Way and International Court	EA	1	$2,000,000	$2,000,000
2	Pump Station Upgrade - Int. of Deadmond Ferry Road and Game Farm Road	EA	1	$2,000,000	$2,000,000
3	8" Pressure Main Extension from South side of Royal Caribbean site around building North to existing UGB	LF	1,700	$428	$1,000,000
4	8" Pressure Main Extension from existing sewer in Corporate Way North to existing UGB Boundary	LF	500	$428	$500,000
				Subtotal	$5,500,000
Transportation					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
5*	Extension of Maple Island Slough Road north and west to the connection with Sports Way	LS	1	$4,000,000	$4,000,000
6	Extension of Sports Way North to existing UGB	LS	1	$1,000,000	$1,000,000
7	Sprague Road overcrossing over I-5 Improvement/Reconstruction, including improvements to Sprague Road west to Armitage Road	LS	1	$4,500,000	$4,500,000
8	Armitage Road widening from intersection with Sprague Road to North Game Farm Road	LS	1	$1,000,000	$1,000,000
9	Intersection Improvements at Armitage Road and North Game Farm Road	LS	1	$500,000	$500,000
10	Bridge connection from Maple Island Slough Road to Wicklund Living Trust Property (Tax Lot 1703154004000)	LS	1	$3,000,000	$3,000,000
11*	Gateway - Beltline intersection capacity improvements	LS	1	$12,000,000	$12,000,000
12*	Extension of Maple Island Slough Road South from Game Farm Road to Beltline Road	LS	1	$3,000,000	$3,000,000
13*	Add Capacity improvements for interchange operations at Beltline Road and Interstate 5	LS	1	$15,000,000	$15,000,000
				Subtotal	$44,000,000
Internal Study Area Improvements					
Anticipated Improvements					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
14	Medium Pump Station located at intersection of Sports Way extension and existing UGB Boundary	EA	1	$4,000,000	$4,000,000
15	Small Pump Station located in the vicinity of the Sprague Road overcrossing to serve areas to the North	EA	1	$1,500,000	$1,500,000
16	Small Pump Station Located at the existing UGB to connect to pressure main extension from Corporate Way	EA	1	$1,500,000	$1,500,000
17	Bridge Connection from Wicklund Living Trust Property (Tax Lot 1703154004000) over the Maple Island Slough to the Puzzle Parts Property (Tax Lot 1703100002500) to provide internal circulation	SF	5,600	$250	$1,500,000
				Subtotal	$8,500,000

North Springfield Hwy 126

Offsite Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
Wastewater					
18	Large Pump Station near the intersection of High Banks Road and 52nd Street	EA	1	$7,500,000	$7,500,000
				Subtotal	$7,500,000
Transportation					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
19*	Highway 126 and 52nd Street at grade intersection or interchange	LS	1	$40,000,000	$40,000,000
20*	Main Street and Highway 126 intersection capacity improvements	LS	1	$1,000,000	$5,000,000
21	52nd Street and High Banks Road intersection improvements	LS	1	$3,000,000	$3,000,000
22	58th Street and High Banks Road intersection improvements	LS	1	$3,000,000	$3,000,000
				Subtotal	$51,000,000
Internal Study Area Improvements					
Anticipated Improvements					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
23	Small Pump Station located in the vicinity of the EWEB property (Tax Lot 1702280000304)	EA	1	$1,500,000	$1,500,000
24	Small Pump Station located on the Northwest portion of the Geraldine property (Tax Lot 1702280000103)	EA	1	$1,500,000	$1,500,000
25	Bridge connections to access property North of creeks/ditches (2 total)	SF	5,600	$250	$1,500,000
				Subtotal	$4,500,000

South Mill Race

Offsite Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
Wastewater					
26	Small Pump Station located on South 28th Street on South side of bridge over the Mill Race	EA	1	$1,500,000	$1,500,000
27	8" Main Line extension in South 28th Street from South F Street interceptor south to new Pump Station	LF	1,700	$428	$1,000,000
				Subtotal	$2,500,000
Transportation					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
28*	South 28th Street Improvements from Main Street south to existing UGB extent	LS	1	$5,000,000	$5,000,000
29	UPRR main Line Crossing Improvements	LS	1	$1,000,000	$1,000,000
30	South 28th Street bridge upgrades at the Mill Race due to weight limit restrictions	SF	5,600	$250	$1,500,000
31	Main Street and South 28th Street intersection improvements	LS	1	$3,000,000	$3,000,000
32**	Secondary access improvements (potential bridge over Mill Race and Jasper Slough) ****ID'd as a Study Area**	SF	16,800	$250	$8,000,000
				Subtotal	$18,500,000
Internal Study Area Improvements					
Anticipated Improvements					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
N/A	No Major Improvements (see Internal Circulation and Utilities section)				$0
				Subtotal	$0

Seavey Loop

Offsite Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
Wastewater					
33	MWMC Glenwood Pump Station Upgrade	EA	1	$3,500,000	$3,500,000
34	Large Pump Station near intersection of Seavey Loop and Franklin Blvd.	EA	1	$7,500,000	$7,500,000
35	Pressure main extension from pump station at Seavey Loop and Franklin Blvd. to Franklin/McVay Trunk Sewer project (completed 2015)	LF	5,600	$428	$2,500,000
				Subtotal	$13,500,000
Transportation					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
36	Extension of 30th Avenue as grade separated to intersection with Franklin Blvd and Seavey Loop near the Southeast corner of EPUD property (Tax Lot 1803113003803) *Excludes I-5 interchange improvements or upgrades*	LS	1	$8,000,000	$8,000,000
37	Intersection upgrades at Seavey Loop and Hwy 58	LS	1	$1,500,000	$1,500,000
38	Reconfigure North End of Seavey Loop to terminate south of Franklin Blvd (North of EPUD)	LS	1	$1,000,000	$1,000,000
				Subtotal	$10,500,000
Internal Study Area Improvements					
Anticipated Improvements					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
39	Small Pump Station at 30th Ave and College View Rd	EA	1	$1,500,000	$1,500,000
40	Gravity/Pressure main extension North from pump station at 30th Avenue and College View Road to pump station at intersection of Seavey Loop and Franklin Blvd. To also include gravity main extension along College View Road South near intersection with Franklin to serve existing properties	LF	3,800	$428	$2,000,000
41	Small Pump Station at Franklin and Twin Buttes Rd	EA	1	$1,500,000	$1,500,000
42	Small Pump Station south of Seavey Loop Road near the west line of Strother property (Tax Lot 1803141000305)	EA	1	$1,500,000	$1,500,000
43	Small Pump Station near the center of the Straub Family Trust property (Tax Lot 1803141000300)	EA	1	$1,500,000	$1,500,000
				Subtotal	$8,000,000

Mahogany Lane

Offsite Improvements

Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
Wastewater					
44	Large Pump Station at the intersection of Mt. Vernon Road and Jasper Road, North side of the UPRR mainline	EA	1	$7,500,000	$7,500,000
				Subtotal	$7,500,000
Transportation					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
45	Intersection Improvements at Jasper Road and Mt. Vernon Road (includes improvements to UPRR crossing)	LS	1	$4,000,000	$4,000,000
46	Mt. Vernon Road improvements from Jasper Road to South 57th Street	LS	1	$3,000,000	$3,000,000
47	Intersection Improvements at Bob Straub Parkway and Mt. Vernon Road	LS	1	$1,500,000	$1,500,000
48	Intersection Improvements at Bob Straub Parkway and Jasper Road	LS	1	$5,000,000	$5,000,000
49	New road connection from Bob Straub Parkway to Jasper Road through Webb property (Tax Lot 1802090000103), including grade separated crossing over RR	LS	1	$5,000,000	$5,000,000
50	Improve Jasper Road to urban standards and upgrades to 4 lanes all the way to Main Street via South 42nd Street, includes UPRR mainline crossing upgrades on South 42nd Street and intersection upgrades along corridor	LS	1	$28,500,000	$28,500,000
51	Bob Straub Parkway improvements (4 lanes) from Jasper Road to Daisy Street	LS	1	$13,000,000	$13,000,000
52	Intersection improvements at Bob Straub Parkway and Daisy Street	LS	1	$2,000,000	$2,000,000
				Subtotal	$62,000,000
Internal Study Area Improvements					
Anticipated Improvements					
Item No.	Description	Unit	Quantity	Approx. Unit Cost	Estimated Cost of Improvement
53	Small Pump Station near the Southernly end of the Ireta Whitewater property (Tax Lot 1802090000600)	EA	1	$1,500,000	$1,500,000
54	Small Pump Station near the Easterly side of the McDougal Bros Investments Property (Tax Lot 1802090000200)	EA	1	$1,500,000	$1,500,000
55	Additional Small Pump Stations throughout the study area depending on ultimate configuration	EA	2	$1,500,000	$3,000,000
56	Mahogany Lane improvements	LS	1	$3,500,000	$3,500,000
57	Bridge crossings of flood plain designated sloughs	SF	5,600	$250	$2,000,000
				Subtotal	$11,500,000