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CITY OF RICHLAND

HORN RAPIDS MASTER PLAN UPDATE



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1. Executive Summary

The Horn Rapids Master Plan (HRMP) area is an approximately 2,466 acre industrial and business center development serving as a gateway to the City of Richland, Washington (City). With outstanding transportation access, the HRMP has been envisioned as an employment center for the community and is anticipated to provide employment and business opportunities for the region. The area generally resembles a large triangle, bounded on the first side by Horn Rapids Road, on the second side by the Landfill and Twin Bridges Road and on the third side by State Route 240 (SR 240). The site hosts a variety of existing industrial and business center uses. The Hanford Nuclear Reservation, located to the north of the site, is the dominant land use in the area. The Horn Rapids residential planned community, comprising 835 acres, is the major land use to the south and west. The Columbia River lies about three miles to the east and the Yakima River is about one mile to the west. The Vicinity Map (Figure 1) shows the general location of the HRMP in relation to the Tri-Cities. The HRMP was initially adopted in 1995, and updated in 2011. The changes in the region over the last 16 years highlight the need to re-evaluate how to better leverage the economic opportunity of this area as a burgeoning employment center.



Figure 1: Vicinity Map

The City initiated the HRMP to assess existing land uses and infrastructure, evaluate the untapped potential that the site possessed, and provide some guidelines for future development. This plan looks at the opportunities and challenges associated with developing the site. It also aims to balance the land requirements of current and future industrial and business uses. Staff met with key stakeholders at several City departments, including Public Works, Development Services, Parks, Energy Services, Survey and Economic Development, as well as the Port of Benton to solicit input on the HRMP update. Through these meetings, current issues and concerns were identified and recommendations for the updated plan were established.

The HRMP envisions the area as an active and vital employment and economic center, attracting new development, reinvestment and employment. This is realized with attractive buildings and practical streetscapes that enhance the marketability of the area. These improvements also serve to reinforce its place as a gateway to the community of Richland. Further, the updated master plan recognizes the requirements of large industrial-scale businesses. The HRMP provides for large-acreage users and lays out a plan that assures functional circulation patterns are provided and associated infrastructure needs are sufficiently met.

Three specific focal areas emerged during our HRMP update discussions with stakeholders:

- 1) Road standards for circulation systems within the HRMP needed to be agreed upon and adopted as part of the update process. Providing this consistency will sustain transportation functions and establish predictability through the permitting processes.
- 2) Open space areas needed to be re-evaluated, both for suitability of location as well as for landscape design standards. The initial plan envisioned a more manicured campus style of development that does not reflect development that has occurred on the site and is not the best fit for the climate or the region.
- 3) Development standards needed to be devised for the project to assure consistent growth patterns and provide the City with continuing oversight as parcels are sold.

1.1 Purpose of Plan

The HRMP supplements the Richland Comprehensive Plan and supersedes the previous Master Plan adopted in 1995. The HRMP presents the vision and policies related to the future development of properties within what is now the Horn Rapids Industrial Park and the Horn Rapids Business Center and consolidates this into one master plan for both areas.

In 1995, the City of Richland adopted a Master Plan to guide the development of the Business Center portion of the planning area. Since then, the master plan area has undergone significant changes. These include the development of business and industry onsite, as well as the associated infrastructure. This updated Plan adjusts for these changes as well input from current stakeholders. It addresses both the opportunities and constraints presented by the site and provides guidance for future development. It also ensures the needed infrastructure relates to adjacent properties and considers existing development on the site. Unlike the original plan, the update also includes the land in the Horn Rapids Industrial Park.

The HRMP represents a long term vision with flexible plan implementation approaches that respect market conditions and interests within the Plan's

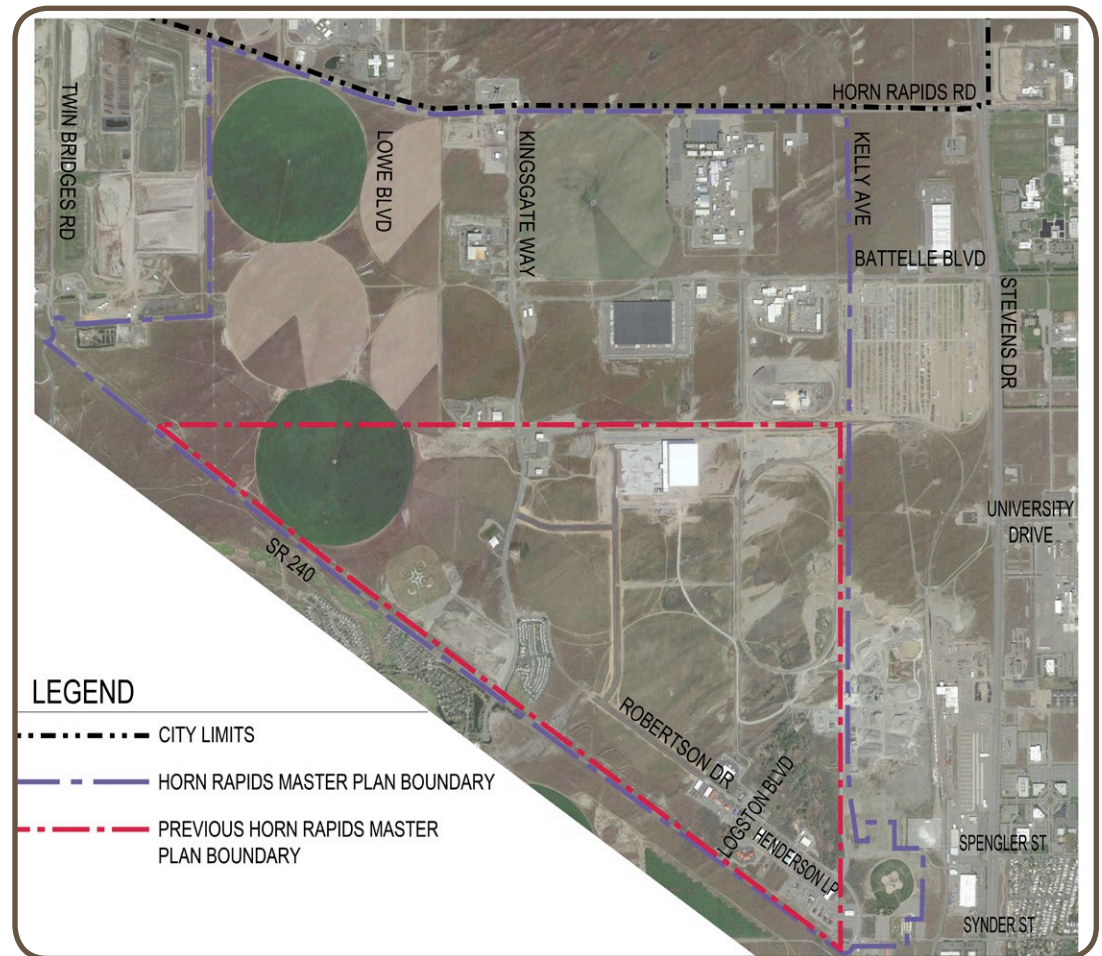


Figure 2: Study Area

anticipated 20 to 30 year build-out period. The Plan area is anticipated to continue to develop as a major employment center in Richland. In addition to employment center uses, the HRMP also provides open space and recreational amenities which will guide the development within this gateway to the City.

It is anticipated that the Horn Rapids Business Center will continue to grow and provide solid tax revenue generation for the City by appealing to companies and businesses associated with the Hanford Reservation as well as companies seeking a high quality business environment for their employees. Finally, supplemental planning and development efforts for the surrounding properties will also have an impact on how the Horn Rapids planning area ultimately builds out.

1.2 Planning Process

The update process began with interviews of key city staff responsible for transportation planning, energy services, survey, sanitary sewer, public water, storm facilities, development review and economic development. The goal of these meetings was to identify existing facilities, previous and ongoing issues as well as planned improvements for the area. Preliminary development alternatives were identified and a second round of stakeholder interviews was held.

Based on feedback received during the second round of stakeholder interviews, changes were made to the plan documents and prepared for review by the Planning Commission. The Planning Commission reviewed an initial draft of this plan in a public workshop on February 9, 2011. Additional public workshops will be held in 2016 along with the SEPA review. Approval and adoption of the plan is anticipated in March 2016.

2. Existing Conditions

The Study Area Plan (Figure 2) identifies the current status of the property as of the end of 2010. The HRMP is located on the north side of SR 240, about seven miles northwest of the City of Richland. The property, which is triangular shaped, consists of approximately 2,466 acres. As noted in the executive summary, the site is bounded on one side by Horn Rapids Road, on the second side by the Richland Landfill and the extension of Twin Bridges Road and on the third side by SR 240. The Hanford Nuclear Reservation is the dominant land user in the area and is located to the north and east of the site. The Horn Rapids residential master planned community, comprising of 835 acres, is the major land use to the south and west. The Columbia River lies about three miles to the east and the Yakima River is about one mile to the west. A legal description for the boundary can be found in Appendix A.

2.1 Land Use and Zoning

As seen in Figure 3: “City of Richland Zoning Map”, zoning in the HRMP is primarily heavy and medium industrial with a small amount of general business. The surrounding area consists of a mix of neighborhood retail business, limited business, agriculture and multiple family residence.

Land Use Designations

The Land Use Plan contains four (4) separate land use designations which are identified below and illustrated in the Land Use Plan (Figure 4). These land use categories are intended to accommodate the City of Richland’s ability to recruit new business opportunities. They are also anticipated to promote development which will provide employment for its residents and strengthen and expand its tax base. The following land use categories will be encouraged to implement sustainable development principles.

Industrial Land Use

The medium industrial use district (I-M) is a zone providing for

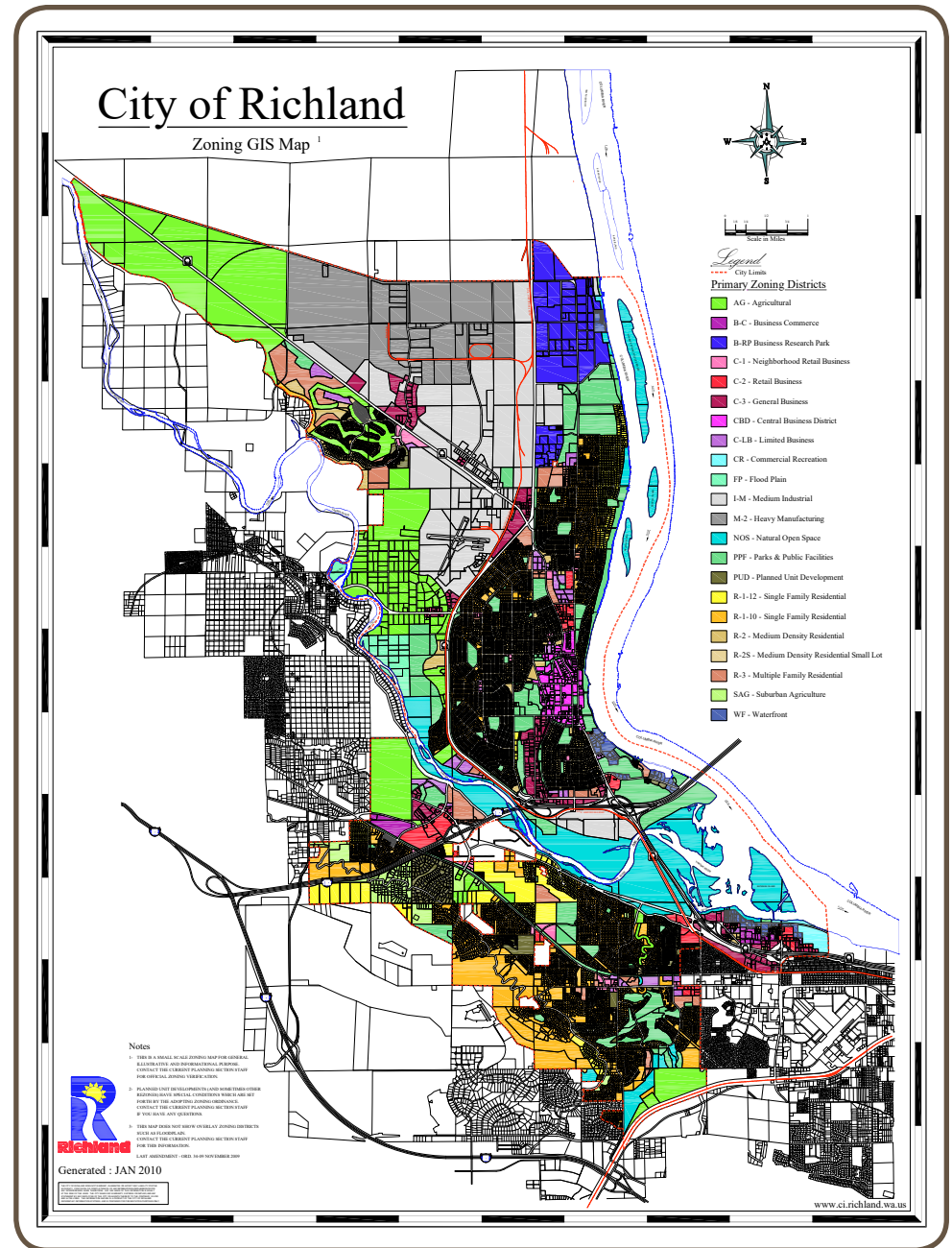


Figure 3: City of Richland Zoning Map

limited manufacturing, assembly, warehousing and distribution operations and retail and wholesale sales of products manufactured on the premises or products allied thereto; and administrative and research and development facilities for science-related activities and commercial uses that are supportive and compatible with other uses allowed in the district. Regulations are intended to prevent frictions between uses within the district, and also to protect nearby residential districts. This zoning classification is intended to be applied to some portions of the City that are designated Industrial under the City of Richland Comprehensive Plan.

The heavy manufacturing district (M-2) is intended primarily for heavy manufacturing and other closely related uses. Regulations for this district are intended to provide protection principally against effects harmful to other districts. This zoning classification is intended to be applied to some portions of the City that are designated Industrial under the City of Richland Comprehensive Plan.

Commercial Land Use

The general business use district (C-3) is intended to provide a use district for commercial establishments which require a retail contact with the public together with incidental shop work, storage and warehousing, or light manufacturing and extensive outdoor storage and display, and those retail businesses satisfying the essential permitted use criteria of the C-2 (Retail Business) use district. This zoning classification is intended to be applied to some portions of the City that are designated commercial under the City of Richland Comprehensive Plan.

Business Center Land Use

The Business Research Park use classification (B-RP) is intended to provide location for a range of business research and business park uses, including office and administrative uses, designed to be conducted wholly within enclosed buildings. It is also a purpose of this land use classification to protect a portion of the existing industrial land base for research park facility development, which provides high-technology employment opportunities. Light manufacturing uses that compliment the business park or research park use, may be permitted if pertinent to the primary use. The business research park zoning classification provides opportunities for employment in modern, attractive buildings on well-landscaped sites which may be close to residential areas.

Open Space

The Parks and Public Facilities district (PPF) is a use classification intended to provide areas for retention of public lands necessary for open spaces, parks, playgrounds, trails, and structures designed for public recreation and to provide areas for the location of buildings and structures for public education, recreation, and other public and semi-public uses.

The Natural Open Space district (NOS) is a use classification intended to provide area for the retention of publicly owned, natural open spaces, that due to their proximity to wetlands, shorelines, flood plains, or critical habitat areas are too sensitive for intensive use or development.

2.2 Capital Facilities, Public Services and Utilities

Transportation

Built transportation infrastructure in the vicinity of Horn Rapids includes road, railroad and bike lanes. SR 240 runs the length of the southeast boundary of the site. Horn Rapids Road travels the entire north boundary of the HRMP study area. Kingsgate Way bisects the site, connecting Horn Rapids Road and SR 240. The site is also served by rail which connects from the east. This rail, owned by The City of Richland connects to the Port of Benton owned rail lines to the east. This portion of the Port of Benton rail is operated by Tri-City and Olympia Railroad Company (TCRY). (See Figure 9: “Transportation Plan” for a graphic showing additional transportation infrastructure.)

Water

There are two existing pressure zones onsite, roughly divided by a north-south line approximately 1,200 feet east of Kingsgate Way. Pressure Zone 1 is below 600 feet and Pressure Zone 2 is above 600 feet. An existing 30-in diameter concrete lined steel water main runs northwest along SR 240 and the southern boundary of the site. This line connects to an existing 20-in diameter line across SR 240 to serve the residential community to the south. A booster pump station is located on the north side of SR 240 at the end of this main, near the northwest corner of Phase 1, providing the pressure for Pressure Zone 2 above 600 feet. This 30-in main also feeds a 16-in diameter in Logston Blvd and 10-in diameter main in Henderson Loop serving the developed portions of Phase 1.

An existing 16-in diameter line in Horn Rapids Road, 12-in diameter line in Battelle Blvd., and 20-in diameter line in Kingsgate Way serve existing properties in the industrial area. These water mains are interconnected to create a looped water system. See Figure 5: “Water Plan” for additional existing water infrastructure.

Sanitary Sewer

There are four existing sanitary sewer basins onsite. An existing 12-in diameter sewer main in Kingsgate Way, 21-in diameter main in Robertson Drive, 24-in diameter north-south main, and 42-in diameter main in Henderson Loop all drain to the southeast. The existing 16-in main in Battelle Blvd drains south to the 24-inch diameter main and to Robertson Ave. Finally, an existing 18-in sewer line that crosses SR 240 at the southeast corner of the ball fields and drains to the residential master planned community south of SR 240. See Figure 6: “Sewer Plan” for additional existing sewer infrastructure.

Storm Facilities

The existing storm drainage systems onsite appear to utilize a combination of ditches and dispersed overland sheetflow. Existing roadways with curb-and gutter have curb-cuts or inlet pipes allowing stormwater runoff to drain into roadside ditches or swales.

Electricity

Power to the east side of the site is currently provided from three existing City of Richland substations. The Snyder substation supplies several feeders to the southern and far western portion of the site, and can be expanded by three more feeders. The University Drive substation provides several feeders to the northeast and north central parts of the site. The Horn Rapids Road substation provides several feeders to the northeast portion

of the master plan. Additional existing service is shown in Figure 8: “Electrical Plan”.

Other Plans – The Port of Benton

The Port of Benton owns land directly to the east of the HRMP. This land has been master planned for heavy industrial uses, similar in nature to those proposed in the industrial portions of the HRMP. Provisions have been made to extend a road stub for access as well as associated utilities.

3. Goals and Objectives

The HRMP goals and objectives focus on the City's vision for the Master Plan area. The HRMP is consistent with the Comprehensive Plan goals and policies. This alignment of goals will further encourage the HRMP goals in an area identified for employment growth. The new goals and objectives are listed below, following the Comprehensive Plan element goal most closely associated with it. These include goals pertaining to Land Use, Transportation, Public Facilities, Landscape and Open Space, and Economic Development.

Horn Rapids Master Plan Goals and Objectives

3.1 Land Use and Community Development

Comprehensive Plan Land Use Goal 2: The City will promote industrial development to provide employment for its residents, and strengthen and expand the tax base through its land use policies.

Goal 1: Create an attractive, well-designed industrial, office and commercial center consistent with the goals and policies set forth in the Richland Comprehensive Plan.

Objective 1.1 Adopt specific development standards for the HRMP that compliment the Richland Development Code and propose necessary amendments to the master plan to allow a mixture of light industrial, warehouse, related office, general office, and other ancillary uses.

Objective 1.2 Support the presence and further development of a mix of large and small industrial and business uses that meet employment density and wage targets.

Objective 1.3 Encourage a sustainable approach to site design. Development should follow the sustainability principles of equity, economic development, design, and environment.

3.2 Transportation and Circulation

Goal 2: Develop an efficient and safe circulation system for private vehicles, commercial vehicles, emergency vehicles, pedestrians, and cyclists both into and throughout the HRMP area.

Objective 2.1 Develop and implement Road Standards as part of the Master Plan process.

Objective 2.2 Construct and improve street, pedestrian, and bicycle connections to allow for safe and efficient access throughout the Horn Rapids Business Park.

Objective 2.3 Consider alternate road widths and or unique approaches to streetscape design to accommodate vehicle and bicycle transportation, enhance pedestrian safety and encourage walkability where appropriate.

3.3 Public Facilities and Services

Comprehensive Plan Utility Element Goal 1: The City will provide existing levels of service to current customers and establish policies to extend utility systems to meet new development requirements.

Goal 3: Ensure that new and existing development will be adequately served by municipal services and facilities.

Objective 3.1 Extend water, sewer and storm drainage systems in the area to support maximum development. Explore the viability of other financing options to fund infrastructure improvements.

Objective 3.2 Encourage the use of creative sustainable approaches to reducing runoff and managing stormwater such as rain gardens and rainwater collection for use in industrial operations and landscape maintenance as appropriate.

Objective 3.3 Preserve a parallel waterline for additional capacity and to irrigate crop circles

3.4 Landscape, Open Space and Recreation

Comprehensive Plan Land Use Goal 6: The City will protect and conserve its natural resources and critical lands and provide public access based on ability of the resource to support the use.

Goal 4: Provide for recreation, open space and landscaped areas by creating a cohesive open space plan.

Objective 4.1 Determine the amount of active recreational and passive open spaces necessary to meet the future needs of the business park and the community as a whole.

Objective 4.2 Encourage the preservation and enhancement of existing natural features.

Objective 4.3 Promote the use of native and drought tolerant landscaping material where possible.

Objective 4.4 Design location of trails, open space, and parks to incorporate areas of geological or environmental significance including steep slopes, wetlands, natural drainage patterns, and contours.

3.5 Economic Development

Richland has established a sense of place that appeals to citizens of all ages. The City has become the entertainment and upscale retail center for the Tri-Cities with a range of shopping and service business that meet the needs of local residents and visitors to the community.

Goal 5: Create a development plan which will protect and enhance long term economic and social interests.

Objective 5.1 Create an economic development climate that supports the existing business community and promotes new business opportunity.

Objective 5.2 Provide the necessary infrastructure to capture employment and industrial growth

Objective 5.3 Provide areas to accommodate a balance of intensity of uses which will enhance Richland's ability to recruit new business opportunities.

4. Land Use Plan and Zoning

4.1 Land Use Designations

The City of Richland zones that encompass the proposed Master Plan have been discussed previously under section “2. Existing Conditions”.

Figure 4: “Land Use Plan” shows how these areas are allocated on the site.

The uses shown on the Land Use Plan are general in nature and reflect the existing underlying zoning designations. This Plan does not propose any changes to existing zoning.

4.2 Land Use Summary Table

Land Use Summary Table

Development in the HRMP is intended to provide an attractive employment and economic center, which will draw new development and employment to the area. The Land Use portion of the plan is essential in creating desirable forms of development that captures future growth. The Master Plan is intended to provide for large-acreage users as well as business and commercial uses, civic and open spaces, and other uses that strengthen the City of Richland’s economic base. The Land Use Summary Table below provides an overall summary of the land uses with acreages.

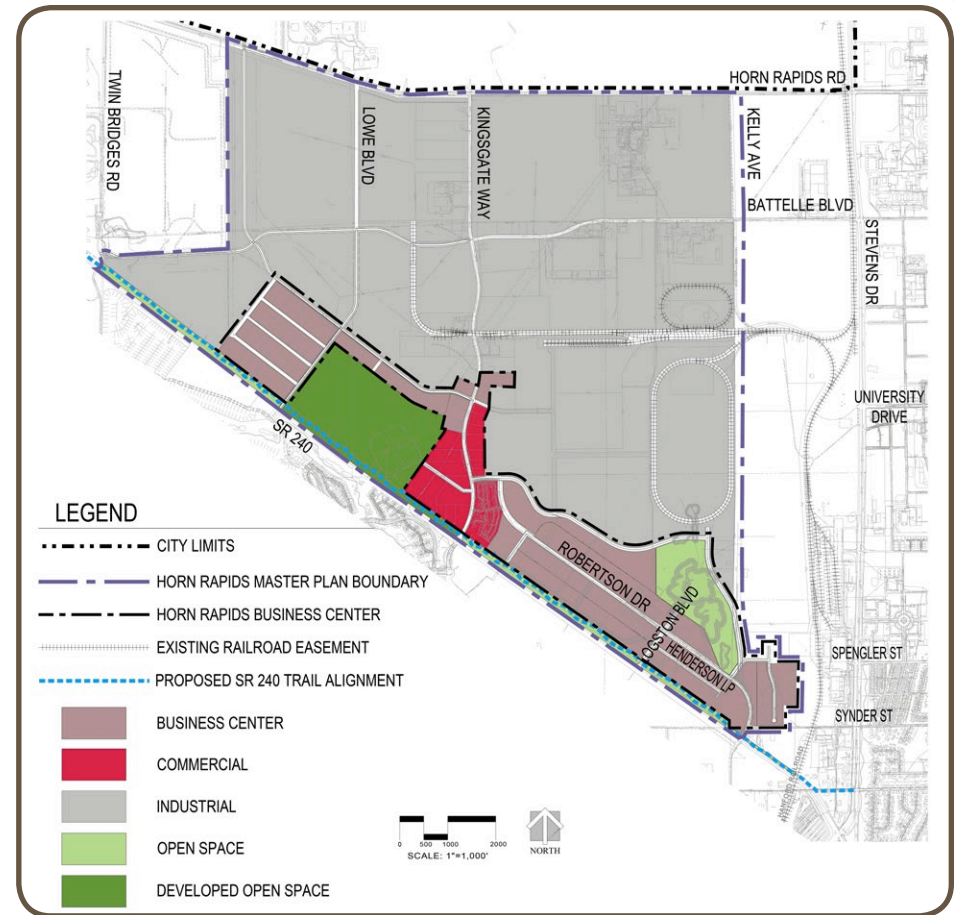


Figure 4: Land Use Plan

Table: Total Land Use Areas

Land Use Designation	Acres	Percent of Total
Business Center/Commercial	372	16%
Industrial	1,689	74%
Open Space	228	10%

5. Utilities

Utility Analysis

The HRMP area includes several sites that are ready for development as demonstrated on the existing utility plans as well as the availability of other infrastructure necessary to serve the site. Full build-out can be accommodated with key investments in sewer, water, rail, water and the other utility systems provided for in this Section.

5.1 WATER

The water system that will serve Horn Rapids consists of two pressure zones (see Figure 5: "Water Plan"). Pressure zone 1 will be below 600 feet and pressure zone 2 will be above 600 feet.

Water lines are proposed in all of the major roadways including a 12-inch diameter north-south water main parallel to and about 0.5 miles east of Twin Bridge Road. Additionally a 12-inch diameter water main is proposed around the northern limits of the Business Center area. There is uncertainty as to the required size of the proposed water lines, especially in the industrial area where there is the potential for a high water-user such as a processing facility. Therefore, prior to final decision on pipe sizing, some limited modeling effort will need to take place using expected demands based on property acreage and type of use. The size of the existing lines in the Kingsgate area are based on similar modeling which was conducted during the preparation of the Comprehensive Plan, and can likely serve as a model for this effort. The water system will be designed and constructed to provide for the demand of development as well as the minimum fire flow rates as required by the City of Richland Building Codes and Fire Marshall.

Additionally, a proposed 8-in stub is provided at the south end of the Port of Benton property (near Spengler Street) property.

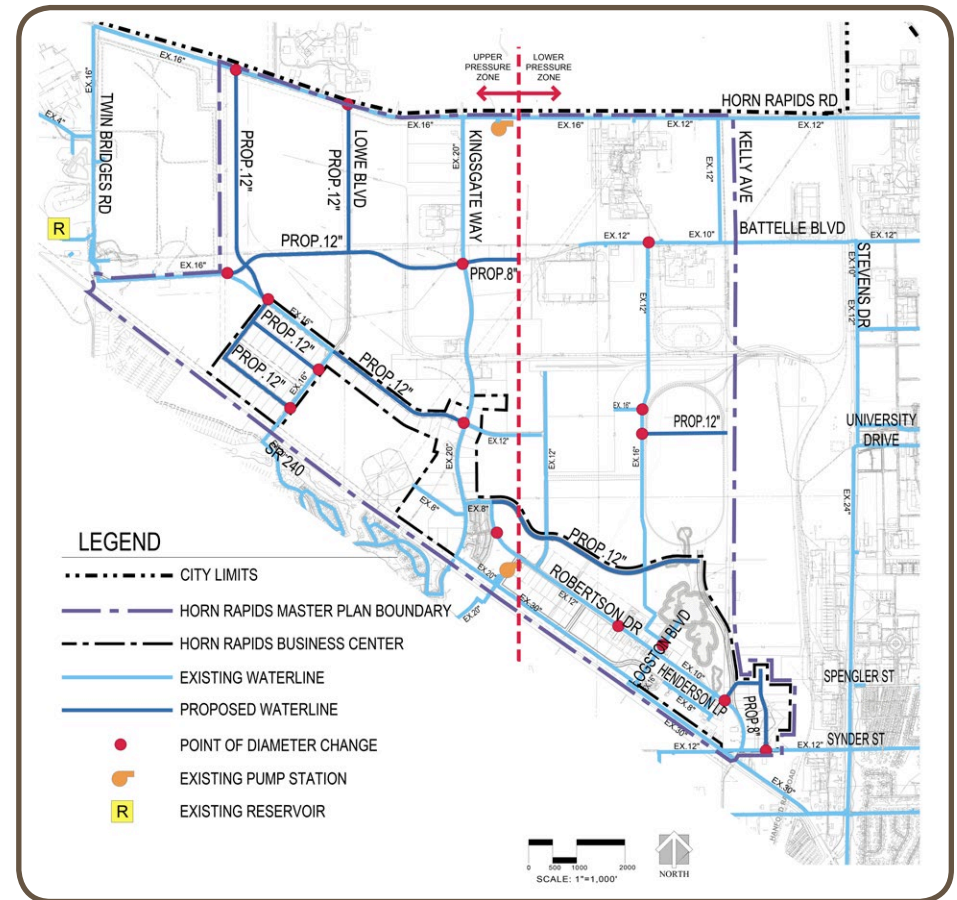


Figure 5: Water Plan

5.2 SANITARY SEWER

Wherever possible, all sanitary sewer improvements will be constructed in the public right-of-way. Where construction in the public right-of-way is not possible, sanitary mains will be constructed along with a maintenance and operations access road. In general, Business Center roadways are proposed to be constructed with 8-in diameter sewer mains, while Industrial roadways are proposed to be constructed with 12-in diameter sewer mains. Deviations from this generalization can be seen in Figure 6: "Sewer Plan". Sanitary sewer infrastructure will be installed with each Phase of the Business Center and as needed in the Industrial area. There is an existing 12-in diameter sewer main in Kingsgate Way, 21-in diameter main in Robertson Drive and an existing 42-in diameter main in Henderson Loop. Phases 1 and 2 of the Business Center as well as the majority of the Industrial lands will be served by collectors and laterals connected to this system. Phase 3 of the Business Center will be collected in a proposed 12-in diameter main in Lowe Blvd., and drain into a proposed 18-in diameter main running southeast along SR 240 just south of Phase 2, and ultimately through the Horn Rapids development sanitary sewer system (this system eventually discharges back to the Robertson Drive sanitary main).

A 24-in diameter sewer main has also been constructed from Battelle Boulevard, south to Logston Boulevard. This sewer main was constructed with a gravel access road because it does not fall within a roadway. This main is designed such that the existing sanitary lift station on Battelle Boulevard can be removed from service. This pipe also provides sanitary sewer service to properties east of Kingsgate Way.

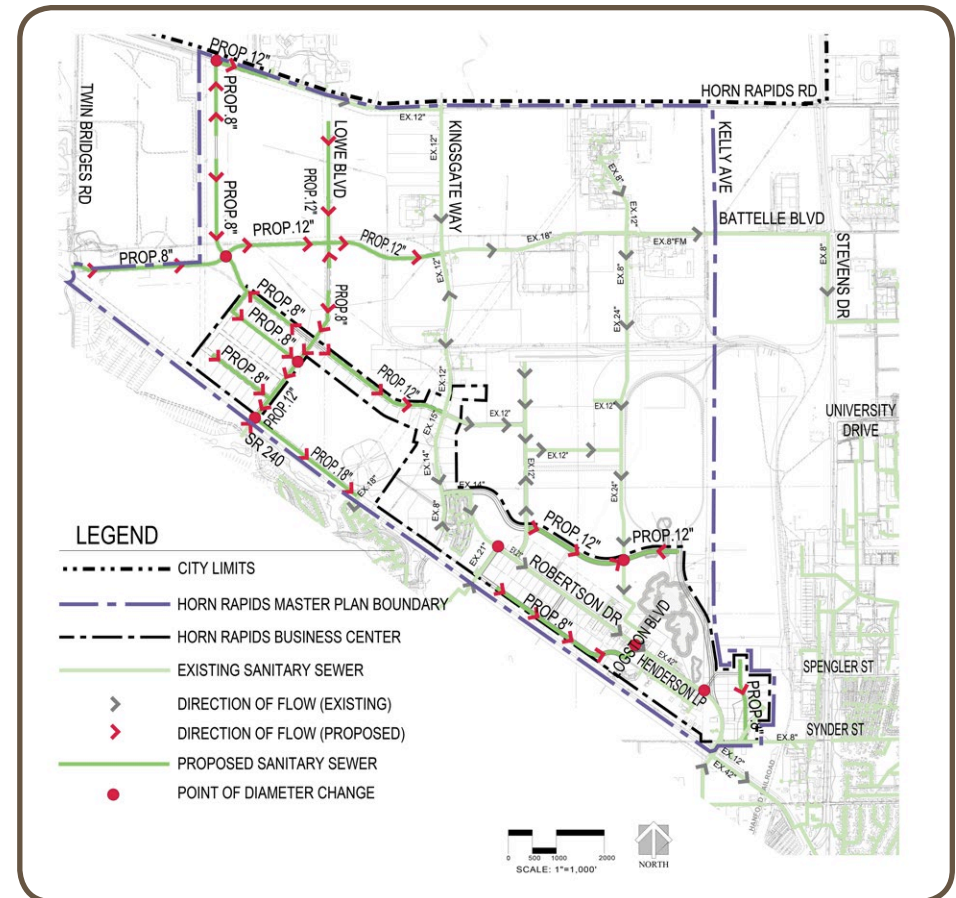


Figure 6: Sewer Plan

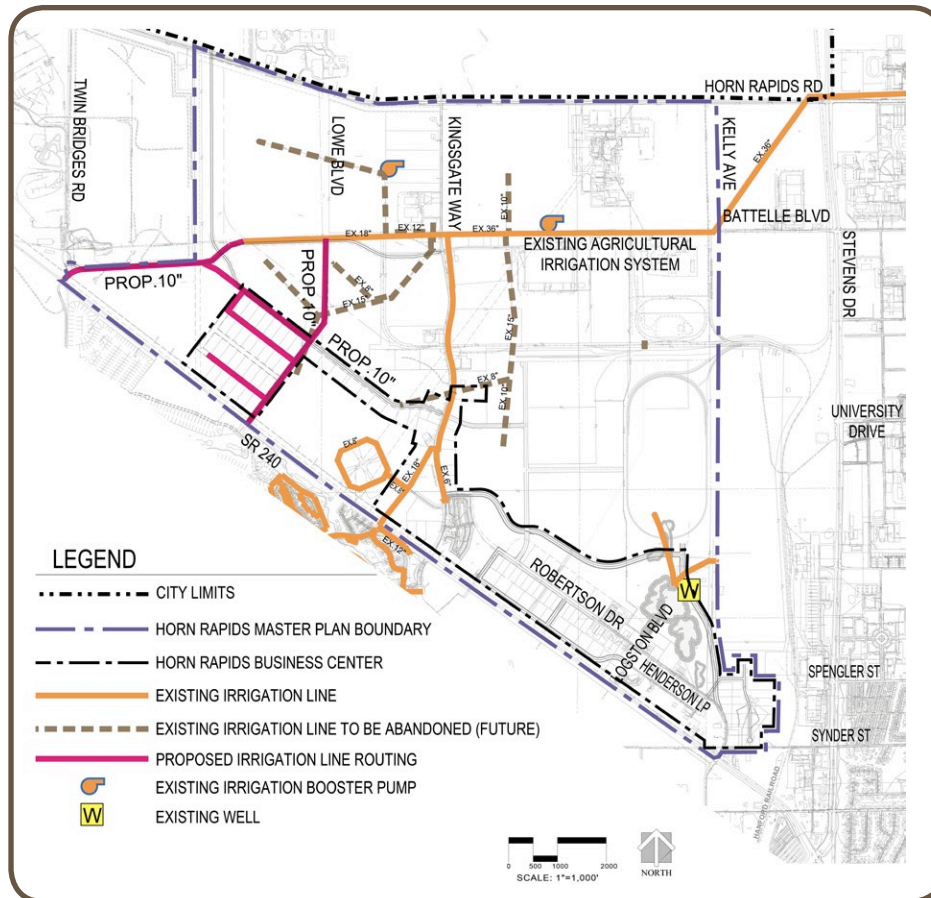


Figure 7: Irrigation Plan

5.3 IRRIGATION

Irrigation water may be distributed from two different sources which would serve separate systems (see “Irrigation Plan” Figure 7). The primary source is the existing agricultural system which is currently used to irrigate crop circles that are currently within the industrial park. These water rights may be used for the irrigation of developed lots, specifically in the Business Center area. Irrigation in the industrial park is not anticipated due to the significantly lower road and frontage standards for this land use. As part of the sustainability component of the Master Plan the industrial properties should be developed to provide building shading and innovative stormwater systems. These site elements may require irrigation. Where cost effective to access the existing irrigation main, irrigation water will be extended to industrial properties for landscape improvements. A second available source of irrigation water is an existing well located northeast of the intersection of Robertson Drive and Logston Boulevard. This source may be used to serve the Phase 1 Business Center on a separate system, or interconnected with the primary system to provide additional water. New irrigation lines will be constructed per the Irrigation Plan. For the purposes of the cost estimate it was assumed that only the existing primary irrigation system would be used. The portions of the existing irrigation system no longer required may be abandoned in place or removed and disposed of as needed. The phasing of the cost estimate also assumes that Phase 1 and Phase 2 will be irrigated with the existing irrigation system, and no new irrigation infrastructure will be installed for these phases.

At this time MacKay Sposito has not conducted a full accounting of the acres of water right available to Horn Rapids development, but due to the nature of developed properties they are likely more than sufficient to accommodate all future irrigation needs. There may be some possibility of converting the excess irrigation water right to domestic water right to add to the City’s existing water system, however, the feasibility of this was not evaluated for this master plan.

5.4 STORMWATER

Stormwater runoff from the roadways will be handled in roadside swales. Stormwater will be collected and retained in the roadside swales where it will infiltrate or evaporate, and be prevented from being released into wetland areas. Infiltrated stormwater will be treated through the soil layer under the bottom of swales. Stormwater runoff from individual properties shall be handled onsite and treated through approved pre-treatment facilities (such as swales, oil-water separators, filters, etc.) prior to infiltration. Due to high infiltration rates in this area and low rainfall, quantity of runoff is not considered an issue; however low-points where large volumes of runoff would tend to pond in an extremely large storm event should have an outfall to low undeveloped land.

5.5 ELECTRICAL

The power for Horn Rapids will be supplied from three existing and one future City of Richland substations (see Figure 8 “Electrical Plan”). The Snyder substation will supply five to six feeders, the University Drive substation supplies two feeders, and the Horn Rapids substation supplies three to four feeders to serve the east half of the project. A new substation with 4-5 feeders will be constructed near the western limits of the master plan to serve the new industrial users on the west side of the project. (See Figure 8: “Electrical Plan”)

5.6 NATURAL GAS

There is an existing 4-in natural gas line in Robertson Avenue, an existing 8-in line in SR 240, and an existing 8-in line in Kingsgate Way. No master plan graphic is provided for natural gas.

5.7 TELECOMMUNICATIONS

Business center and Industrial tenants have a wide range of potential telecommunications infrastructure needs. Included in the lineal footage road costs is an allowance for dry utility conduits including fiber, phone, and cable. No master plan graphic is provided for telecommunications.

5.8 TYPICAL UTILITY SECTION

All of the streets shall have utilities placed in the general locations

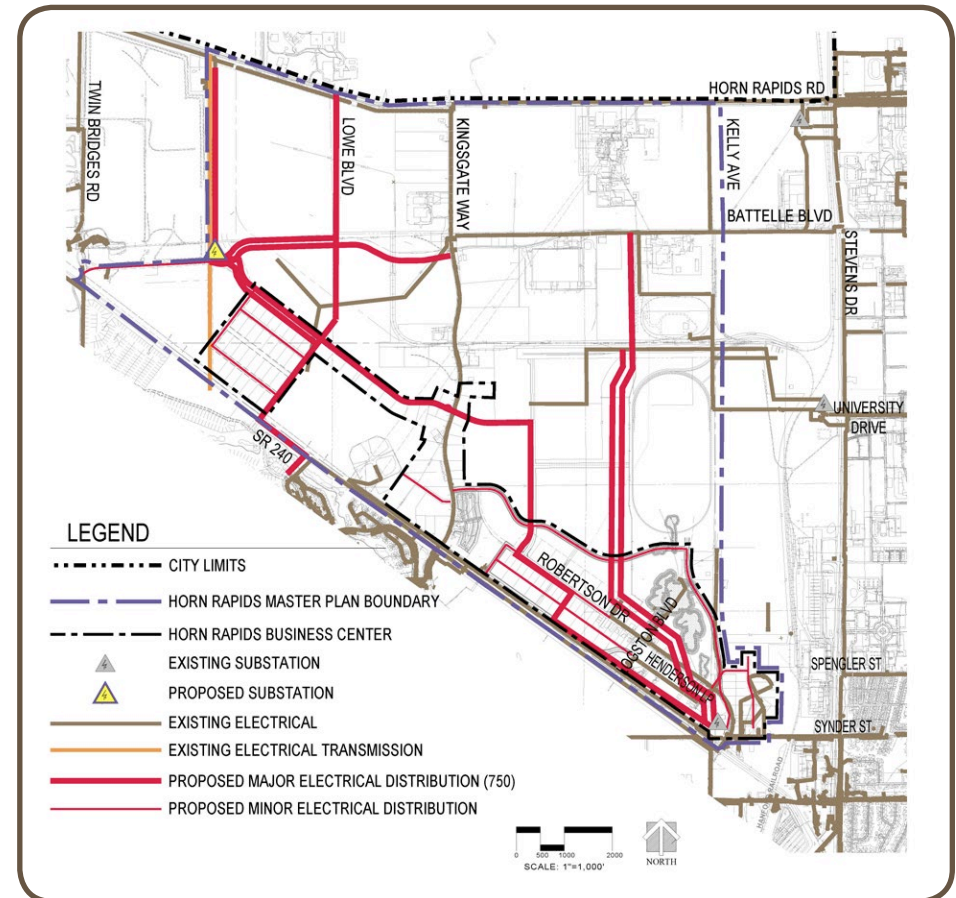


Figure 8: Electrical Plan

shown in the section below (see “Transportation Plan”, Figure 9). A utility easement is provided on both sides of Industrial and Business Center roadways sections, immediately outside of the right-of-way, and shall be used for all underground electrical, telephone, cable and communications utilities as well as above-ground vaults or junction boxes. Utilities shall not be placed in the roadside swales.

6. Transportation

There is tremendous growth potential within the boundaries of the HRMP, with extensive pre-planning already undertaken to assure appropriate circulation systems. The Transportation Plan (Figure 9) identifies the transportation improvement projects that can be completed for continued growth.

6.1 Transportation Analysis

The road network plan and associated phasing of construction improvements has been designed to comply with the following policies of the Comprehensive Plan:

- The City should ensure that direct access is provided to property through the development of a network of collector and access streets, whose design would be as unobtrusive as possible to serve, rather than be the dominant feature of the area.
- The City should ensure that transportation facilities are designed to be aesthetically pleasing.
- The City should ensure the improvement of existing circulation systems to provide for maximum efficiency in vehicle movement.
- The City should encourage the development and enhancement of principle entrance ways into Richland.
- The City should ensure that there is adequate access and transportation facilities should be provided to industrial sites.
- The City should ensure vehicular traffic to industrial sites is be routed away from the central business route.

The primary components of the existing road network serving Horn Rapids are SR 240 along the south boundary, Horn Rapids Road which runs along the north boundary, and Kingsgate Way a north-south principal arterial which runs between them, roughly bisecting the property. Ultimately it is planned to extend Kingsgate Way to the south through the residential master planned community and connect to Van Giesen Street, thereby providing a new route to Van Giesen Street for Hanford-related traffic.

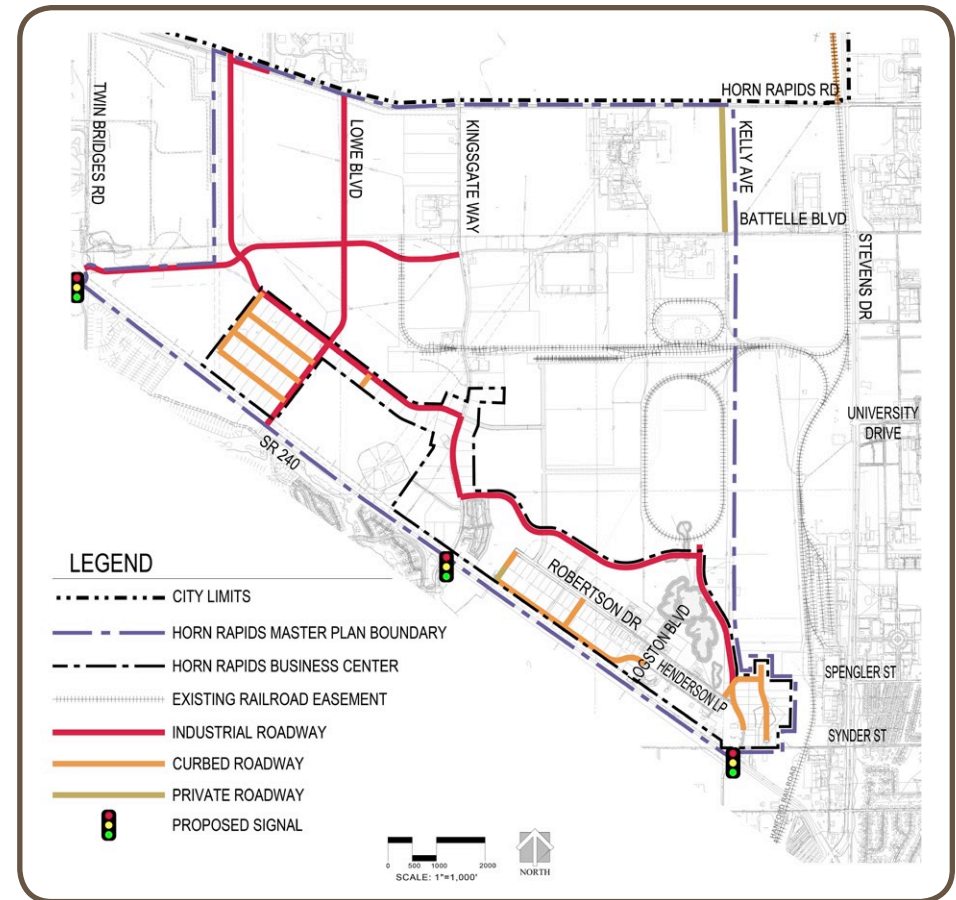


Figure 9: Transportation Plan

Additional access points to SR 240 will be limited to those approved by the Washington State Department of Transportation (WSDOT). Currently Robertson Avenue and Logston Boulevard provide access to SR 240 for the eastern portion of the master plan and Business Center. One additional connection to SR 240 is proposed at Lowe Boulevard. WSDOT intersection spacing requirements for state highways should allow the connection of Lowe Boulevard. Three signals are proposed at the major access points along SR 240: Twin Bridges Road, Kingsgate Way, and Robertson Drive. Signals would not be constructed until traffic volumes at these access points warrants signaling them.

As part of the Master Plan, a series of internal collector streets are also proposed. These streets which will distribute traffic between the major roads, individual properties, and other internal streets would primarily serve the proposed Business Park. Industrial roadways are proposed in strategic alignments to provide access to development areas within the industrial lands.

6.2 Road Standards and Road Sections

Industrial Roadway Section

The proposed industrial roadway section shown below consists of an 85' right-of way with a three lane street and roadside swales on both sides for collection and retention of stormwater. The west or south side of the roadway has a trail corridor for potential future trail improvements. A 10' wide utility easement is located on both sides of the street, immediately outside of the right-of-way. (See Figure 10: "Industrial Roadway Section")

Curbed Roadway Section

The proposed business center roadway section shown below consists of a 80' right-of way, three lane street with monolithic curb and gutter and roadside swales on both sides for collection and retention of stormwater. Stormwater will be routed to the swales through curb-cuts. The east or north side of the roadway has a 6' concrete sidewalk. A 10' utility easement is located on both sides of the street, immediately outside of the right-of-way. (See Figure 11: "Curbed Roadway Section")

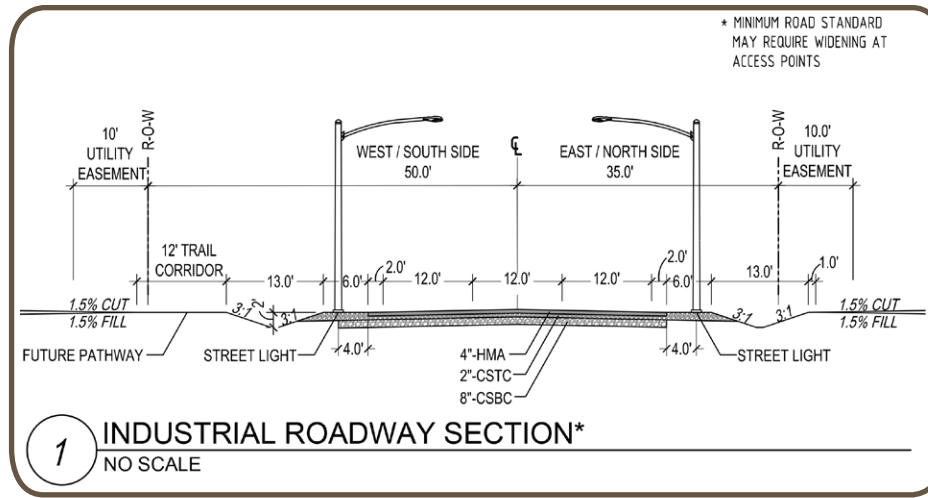


Figure 10: Industrial Roadway Section

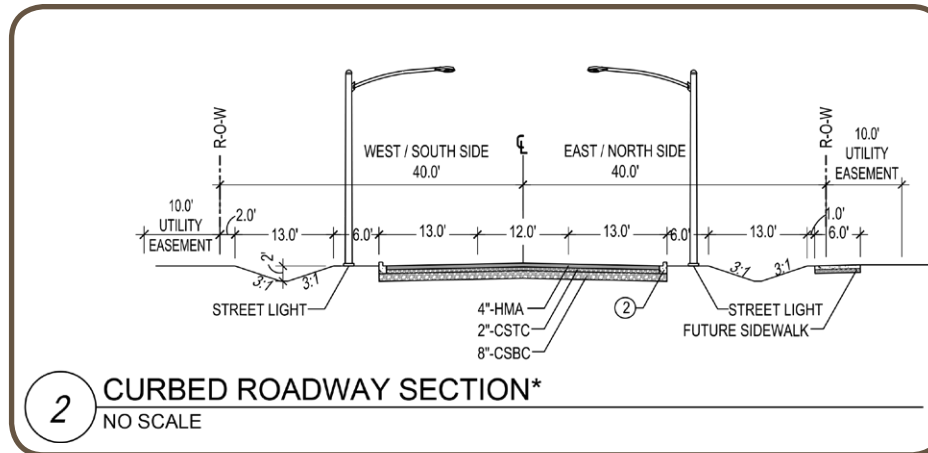


Figure 11: Curbed Roadway Section

6.3 RAILROAD

Existing railroad infrastructure has been installed through the central core of the master plan.

One railroad crossing is proposed at the future road crossing with Battelle Boulevard. This crossing would be installed when Battelle Boulevard is extended. No other railway improvements are proposed for the master plan. See Figure 12: Railroad Infrastructure Plan for a depiction of existing railroad network.

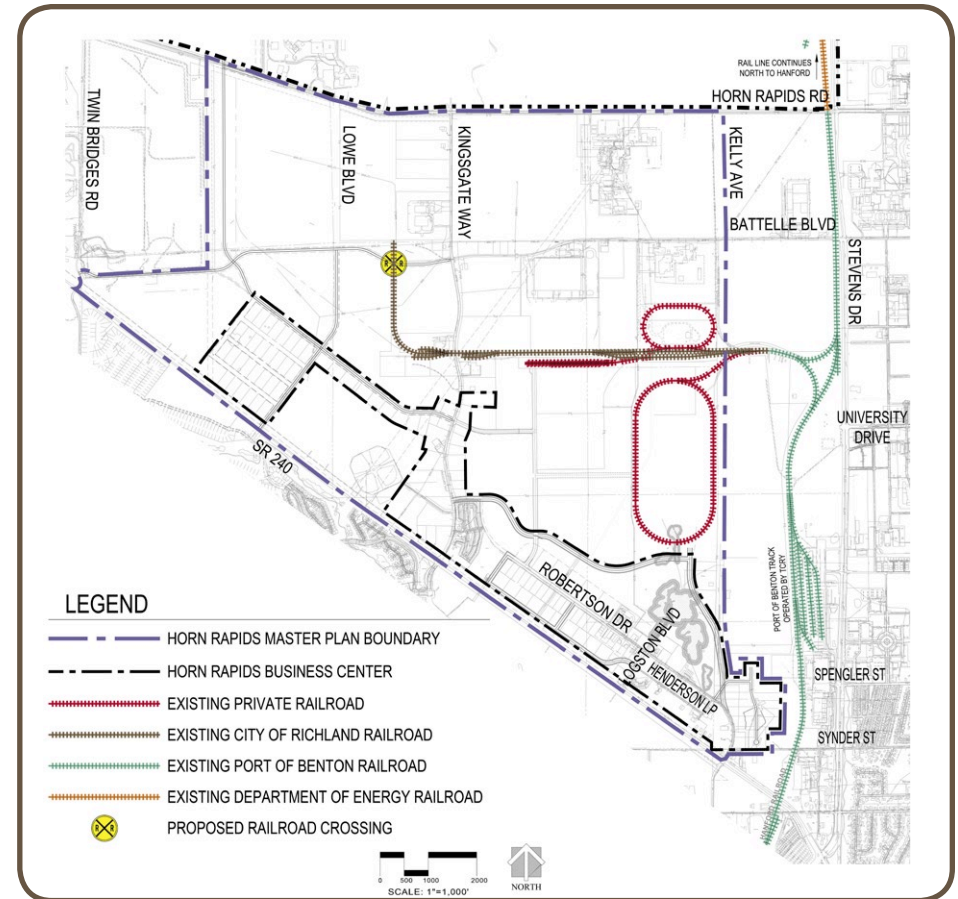


Figure 12: Railroad Infrastructure Plan

7. Wetland Impacts and Mitigation

As identified in the March 24, 2014 Wetland Boundary verification and Wetland Buffer and Mitigation Plan for the City of Richland Rail Loop Project nine separate wetlands were previously identified and delineated within the HRMP. These consist of Category II and III depressional wetlands, all containing similar hydrophytic vegetation, hydric soils, and hydrology. The construction of the rail loop impacted Wetland F, and associated wetland buffer. To compensate for this impact, the project provided mitigation by creating wetland between Wetlands D and J. Impacts consisted of 35 feet wide track embankment with 2:1 side slopes for a total width of 112' width where the track crossed through Wetland F and result in approximately 2,720 sf of permanent fill in a Category III emergent wetland. A 24" culvert was installed in the railroad embankment to connect the upper and lower portions of Wetland F and maintain hydrologic connection. The proposed railroad embankment is 50' wide where the track crosses through wetland buffer on either side of Wetland F and resulted in 5,030 sf of permanent buffer impacts. (See Figure 13: "Wetland Impacts and Mitigation Plan")

The project compensated for wetland and wetland buffer impacts through on-site, in-kind wetland, and wetland buffer mitigation. Mitigation create new wetlands by removing a portion of the gravel roadway embankment that separates Wetlands D and J. This consisted of removing the road material and excavating to the groundwater creating a hydrologic connection between Wetlands D and J. Soils were excavated, at varying elevations at or below the delineated wetland elevation of the adjoining wetlands, creating multiple hydrologic regimes and vegetation types. Wetland creation established a seasonally inundated, emergent wetland area as well as scrub-shrub/forested (SS/FO) wetland areas.

To compensate for buffer impacts, the existing buffer areas in between Wetlands D and J were enhanced by removing roadway gravel, decompacting the native soil, and establishing a native diverse plant community with native grass and forb seed mix and container

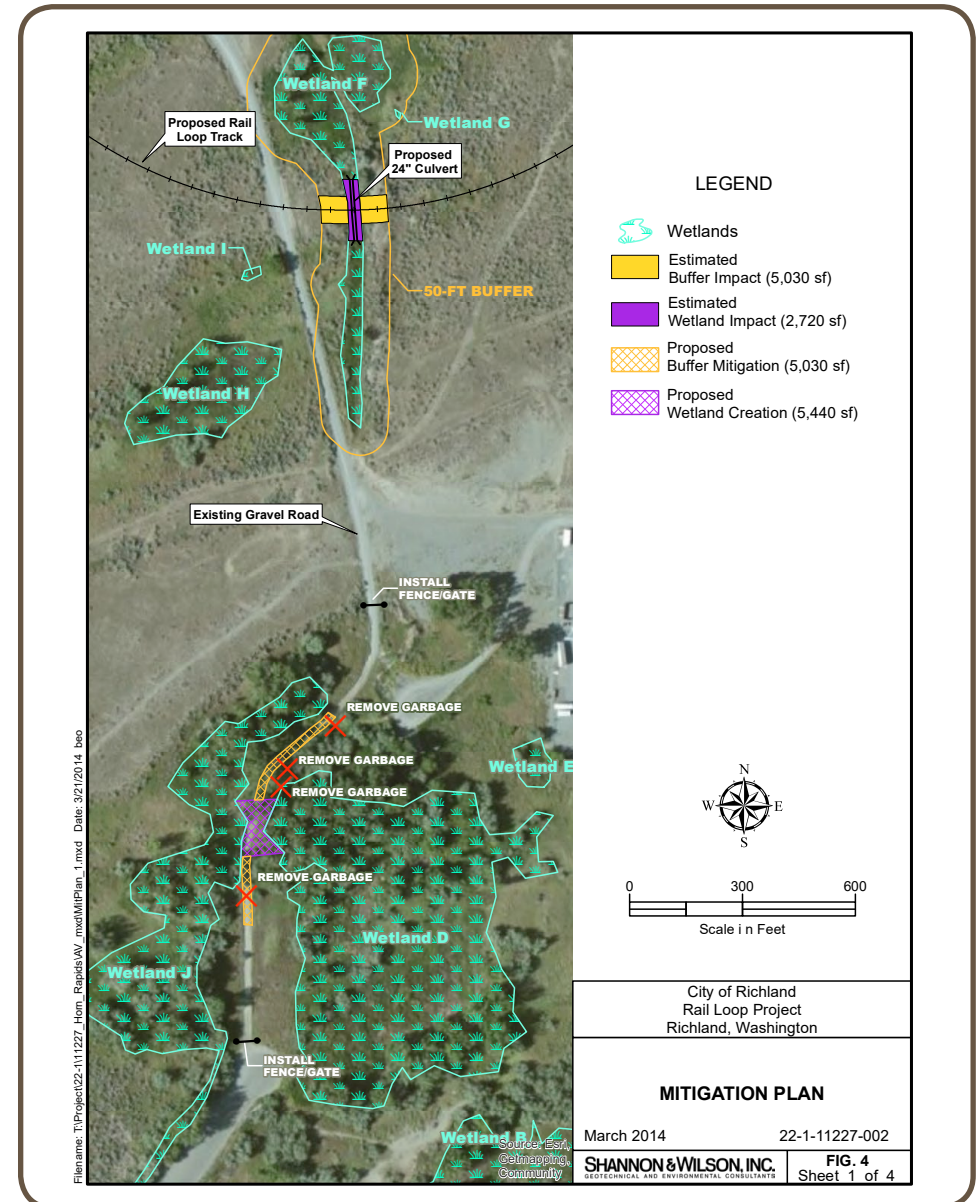


Figure 13: Wetland Impacts and Mitigation Plan

plantings of native shrubs and tree species.

The gravel road between Wetlands D and J appeared to be used for illicit dumpings. The mitigation effort removed the refuse on site and constructed a gate at the access point off of Logston Boulevard to deter human disturbance and degradation.

Wetland creation was at a ratio of 2:1 (5,440 sf of creation to 2,720 sf of impact). Buffer enhancement were at a ratio of 1:1 (5,030 sf of enhancement to 5,030 sf of buffer impact).

Under the Richland Municipal Code (RMC Section 22.10.120), Washington Department of Ecology (Ecology) regulations unavoidable impacts were mitigated by providing compensation. These wetlands have been determined by the US Army Corps of Engineers (USACE) to be isolated and therefore not subject to USACE regulation; however they are regulated by the City and Ecology. As the current project plans had permanent impacts to the wetland area, wetland and buffer mitigation was required by the City and Ecology.

8. Infrastructure Costs

General concepts for the provisions of basic infrastructure are illustrated and described in the previous sections. These infrastructure concepts are meant to inform and guide future development decisions; however, in all likelihood, the final design will vary from these concepts. Therefore, the rough cost estimates based on the Plan's concepts provide information to inform what one approach would look like and might cost in today's dollars. These Cost Estimates can be found in Appendix B. Figure 14 sets out a conceptual phasing plan associated with the Cost Estimates providing for logical project boundaries that can respond to market demands.

This estimate represents an engineer's opinion of costs based on the conceptual Master Plan, assumptions of unit prices, and past experiences. It does not represent a guaranteed development cost.

Utilities were generally estimated on a per lineal foot basis, inclusive of all tees, connections, valves, poles, backfill, excavation and other appropriate items incidental to the utility line. One new substation was included in the Industrial estimate as directed by the City of Richland energy services. Cost-sharing and alternative funding mechanisms may be pursued for these large capital improvements.

Two road sections are proposed with the Master Plan update. These are Industrial and Business Center. The costs for each were developed from measured material quantities and unit prices (in 2015 dollars), then converted to an average cost per lineal foot of roadway. These average costs were used in the estimates for each section for ease of approximation. All rail crossings were assumed to be at-grade. Any other rail crossing configuration would add substantial additional costs.

The Cost Estimate is divided into five sections:

- Phase 1 – Business Center east of Kingsgate Way to the eastern boundary of the Master Plan.

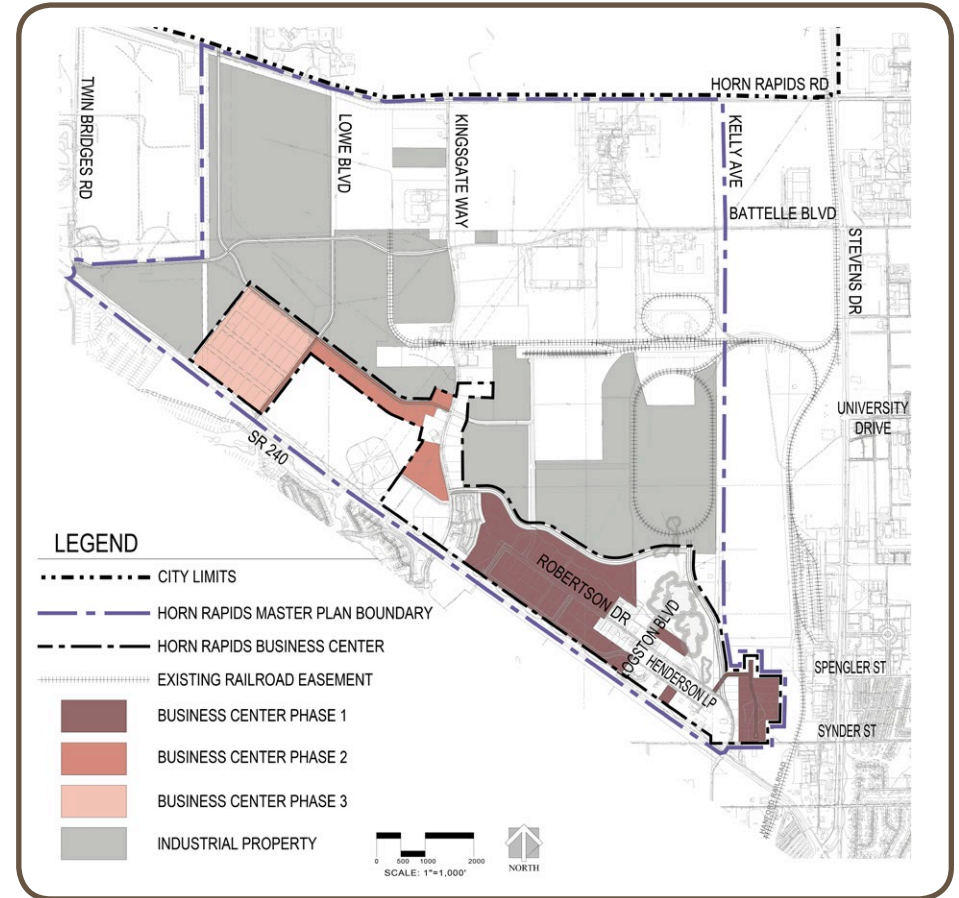


Figure 14: Cost Estimate Plan

Table: Proposed Development Areas

Land Use Designation	Acres	Percent of Total
Business Center	276	26%
Industrial Property	793	74%

-
- Phase 2 – Business Center west of Kingsgate Way and east of Lowe Blvd.
 - Phase 3 – Business Center west of Lowe Blvd. to the western boundary of the Business Center.
 - Industrial – All Industrial lands including potential rail improvements.

The Industrial land development costs are included together as a separate phase, however this is not intended to indicate that these improvements will be built at once or the order in which they will be constructed relative to the Business Center Phases. This estimate is only intended to capture all of the costs associated with the full build-out of all industrial lands. It is assumed that the improvements will be built as needed, as users come to the park.

The total development cost for Phases 1, 2, and 3 of the Business Center (including hard costs, engineering, permitting, construction administration, etc.) were divided across remaining developable acres served by the improvements to yield an anticipated cost per developable square foot. This number can inform future lot prices.

9. Implementation

9.1 Economic Development Strategy

Over the life of the HRMP, many important decisions will be made. These choices will impact how development evolves and the specific phasing of improvements. A range of ways to fund the basic infrastructure, with site specific infrastructure connections being the responsibility of the developer of the individual sites, could be available to the City, for example:

-Public/Private Development Agreements: New development agreements between the City and a developer specifying financing needs and responsibilities for infrastructure needs that serve a wider area than the developer is contemplating.

-Tax Increment Financing (TIF) or Local Revitalization Financing (LRF). This is a method of distributing property tax collections within designated areas to finance infrastructure improvements within these designated areas. Under the TIF method, infrastructure is financed by the incremental increase in tax revenue that is made possible by infrastructure improvement within the designated area. The City has been successful in obtaining an allocation under the State's current LRF program.

-Grant Opportunities: While no specific grant opportunities have been identified that would be a good match for needed improvements in the HRMP, over the build out period of development, grant opportunities will likely emerge. HRMP includes aspects that should make it attractive for grants that promote economic development, especially in these current times of economic recession

-Local Improvement District (LID): The City can work with purchasers/developers to establish a local improvement district which includes an agreed upon repayment schedule based on agreed upon equitable criteria; the City sells bonds to cover the costs of infrastructure to be built within the district, and the owners/developers pay off the bonds through regular payments usually over a 10 to 20 year period.



Appendix A - HRMP Boundary Legal Description

HORN RAPIDS - R.A.I.S.E DESCRIPTION

A PORTION OF LAND LYING IN SECTIONS 14,15,16,17,19,20,21,22,23,26,27,28 AND 34, ALL WITHIN TOWNSHIP 10 NORTH, RANGE 28 EAST, ., CITY OF RICHLAND, STATE OF WASHINGTON, BEING DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT BEING THE INTERSECTION OF THE NORTHERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY SR-240 AND THE NORTH SECTION LINE OF SECTION 34, SAID POINT ALSO BEING THE NORTH QUARTER CORNER OF SAID SECTION 34; THENCE NORTHWESTERLY ALONG SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 16,200 FEET MORE OR LESS TO THE EASTERLY RIGHT-OF-WAY LINE OF TWIN BRIDGES ROAD; THENCE NORTHERLY ALONG SAID EASTERLY RIGHT-OF-WAY LINE TO THE NORTH LINE OF SAID SECTION 19; THENCE EASTERLY ALONG SAID NORTH LINE OF SECTION 19, 2 FEET MORE OR LESS TO THE COMMON SECTION CORNER OF SECTIONS 17, 18, 19 & 20; SAID SECTION CORNER BEING ON THE SOUTH LINE OF THAT PROPERTY KNOWN AS THE CITY OF RICHLAND LANDFILL, AND THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SECTION 20 BEARS NORTH $86^{\circ}37'55''$ EAST A DISTANCE OF 2618 FEET MORE OR LESS; THENCE CONTINUING ALONG SAID PROPERTY LINE THE FOLLOWING FIVE COURSES;

1. EASTERLY ALONG THE NORTHERLY SECTION LINE OF SECTION 20 A DISTANCE OF 100.00 FEET TO A POINT IN A CHAIN LINK FENCE;
2. THENCE LEAVING SAID SECTION LINE ALONG SAID CHAIN LINK FENCE SOUTH $03^{\circ}19'06''$ EAST A DISTANCE OF 399 FEET MORE OR LESS TO THE CORNER THEREOF;
3. THENCE CONTINUING ALONG SAID CHAIN LINK FENCE AND EXTENDING BEYOND A CORNER THEREIN, NORTH $86^{\circ}40'54''$ EAST A DISTANCE OF 2,497 FEET MORE OR LESS TO THE SOUTHERLY PROJECTION OF THE NORTH-SOUTH CENTERLINE OF SECTION 17 THROUGH THE SAID NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SECTION 20:
4. THENCE NORTH $00^{\circ}15'25''$ WEST A DISTANCE OF 400.91 FEET ALONG SAID SOUTHERLY PROJECTION TO SAID NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SECTION 20:
5. THENCE CONTINUING NORTH $00^{\circ}15'25''$ WEST A DISTANCE OF 3809.00 FEET MORE OR LESS TO THE SOUTHERLY RIGHT-OF-WAY LINE OF HORN RAPIDS ROAD; THENCE SOUTHEASTERLY ALONG THE SOUTHERLY LINE THEREOF A DISTANCE OF 3,700 FEET MORE OR LESS TO AN ANGLE POINT THEREIN;

THENCE EASTERLY, CONTINUING ALONG THE SOUTH RIGHT-OF-WAY LINE THEREOF A DISTANCE OF 9,300 FEET MORE OR LESS TO A POINT ON THE WEST RIGHT-OF-WAY LINE OF STEVENS DRIVE; THENCE NORTHERLY ALONG THE WESTERLY LINE THEREOF A DISTANCE OF 2,700 FEET MORE OR LESS TO A POINT ON THE WESTERLY PROJECTION OF THE NORTHERLY RIGHT-OF-WAY LINE OF A ROAD KNOWN AS GEORGE WASHINGTON WAY AS SHOWN ON RECORD OF SURVEY 3673, SAID COUNTY SURVEY RECORDS; THENCE SOUTHEASTERLY ALONG SAID NORTHERLY LINE THEREOF A DISTANCE OF 3,800 FEET MORE OR LESS TO A POINT THE NORTH BOUNDARY OF THAT TRACT OF LAND CONVEYED TO THE PORT OF BENTON, AS DESCRIBED IN QUIT CLAIM DEED FROM THE U.S.A. TO THE PORT OF BENTON, RECORDED IN AUDITOR'S FILE NO. 521608, RECORDS OF BENTON COUNTY; THENCE EASTERLY ALONG SAID NORTH BOUNDARY A DISTANCE OF 1,667.00 FEET MORE OR LESS TO THE ORDINARY HIGH WATER LINE OF THE COLUMBIA

RIVER: THENCE SOUTHERLY ALONG SAID WATER LINE A DISTANCE OF 8,200 FEET MORE OR LESS TO THE SOUTH LINE OF SAID SECTION 24; THENCE WESTERLY ALONG SAID SOUTH LINE A DISTANCE OF 85.00 FEET MORE OR LESS TO THE COMMON SECTION CORNER OF SECTIONS 23, 24, 25 & 26 BEING ON THE CENTERLINE OF SPROUT ROAD AS SHOWN IN RECORD OF SURVEY 1199; THENCE CONTINUING ALONG SAID CENTERLINE AND THE SOUTH LINE OF SECTION 23 A DISTANCE 2,765 FEET MORE OR LESS TO THE CENTERLINE OF SAID GEORGE WASHINGTON WAY; THENCE NORTHERLY ALONG SAID CENTERLINE OF GEORGE WASHINGTON WAY 532 FEET MORE OR LESS TO THE EASTERLY PROJECTED CENTERLINE OF CURRY ROAD AS SHOWN ON RECORD OF SURVEY 4048 (CURRY STREET); THENCE WESTERLY ALONG SAID PROJECTED CENTERLINE A DISTANCE OF 1,009 FEET MORE OR LESS TO A POINT ON THE WEST BOUNDARY OF "PARCEL A" AS DEPICTED IN RECORD OF SURVEY 4104; SAID POINT ALSO BEING ON THE CAMP HANFORD LINE; THENCE SOUTHERLY ALONG A PORTION OF THE WEST LINE OF "PARCEL A" AND ALONG THE CAMP HANFORD LINE A DISTANCE OF 2,940 FEET MORE OR LESS TO AN ANGLE POINT MARKED BY A BRASS DISK, "CH-10-1"; SAID ANGLE POINT BEING ON THE WESTERLY LINE OF "PARCEL B" OF SAID RECORD OF SURVEY 4104; THENCE SOUTHWESTERLY CONTINUING ALONG SAID WESTERLY BOUNDARY A DISTANCE OF 1,600 FEET MORE OR LESS TO THE NORTH RIGHT-OF-WAY LINE OF SPENGLER STREET; THENCE WESTERLY ALONG SAID NORTH LINE A DISTANCE OF 1,500 FEET MORE OR LESS TO THE SAID WEST RIGHT-OF-WAY LINE OF STEVENS DRIVE; THENCE SOUTHERLY ALONG SAID WEST LINE A DISTANCE OF 1,300 FEET MORE OR LESS TO THE NORTH RIGHT-OF-WAY LINE OF SNYDER STREET; THENCE WESTERLY ALONG SAID NORTH LINE A DISTANCE OF 1,200 FEET MORE OR LESS TO THE WEST LINE OF A PARCEL OWNED BY THE PORT OF BENTON AS DESCRIBED IN DEED 2001-006829, RECORDS OF BENTON COUNTY, WASHINGTON; THENCE NORTHERLY ALONG SAID WEST LINE THEREOF A DISTANCE OF 1,300 FEET MORE OR LESS TO A SOUTHERLY LINE OF SAID PARCEL; THENCE WESTERLY ALONG SAID SOUTHERLY LINE A DISTANCE OF 1,350 FEET MORE OR LESS TO THE WEST LINE THEREOF; ALSO BEING A POINT ON THE EASTERLY LINE OF "TRACT A" AS SHOWN IN RECORD OF SURVEY 2056, SAID COUNTY RECORDS; THENCE SOUTH ALONG THE SOUTHERLY PROJECTION OF THE WEST LINE THEREOF A DISTANCE OF 240 FEET MORE OR LESS TO A POINT ON THE NORTH RIGHT-OF-WAY LINE OF ROBERTSON DRIVE; THENCE SOUTHEASTERLY, SOUTHERLY, AND SOUTHWESTERLY ALONG THE SAID RIGHT-OF-WAY LINE OF ROBERTSON DRIVE AND THE SOUTHWESTERLY PROJECTION THEREOF A DISTANCE OF 1,500 FEET MORE OR LESS TO THE NORTH LINE OF SAID SR240; THENCE NORTHWESTERLY ALONG THE NORTH LINE THEREOF A DISTANCE OF 340 MORE OR LESS TO THE SAID TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM THE RIGHT-OF-WAY FOR SAID GEORGE WASHINGTON WAY AND SPROUT ROAD.

THIS DESCRIPTION IS FOR PLANNING PURPOSES ONLY AND NOT TO BE USED IN THE TRANSFER OF REAL PROPERTY.

Appendix B - Cost Estimate



Horn Rapids Conceptual Master Plan

1.00 Industrial Roadway Section (40' of pavement)		Unit Price	Total Per Foot
1.01	TN Furnish and Install HMA Class PG 64-28 (4" Thick)	\$ 85.00	\$ 86
0.46	TN Furnish and Install Crushed Surfacing Top Course (2" Thick)	\$ 16.50	\$ 8
2.15	TN Furnish and Install Crushed Surfacing Base Course (8" Thick)	\$ 16.00	\$ 34
66.00	SF Subgrade Prep	\$ 0.20	\$ 13
2.00	SF Furnish and Install Crushed Surfacing Top Course Shoulder (3" Thick) (\$16.50/TO	\$ 0.30	\$ 1
6.00	LF Striping	\$ 1.00	\$ 6
1.00	LF Power	\$ 60.00	\$ 60
2.00	LF Stormwater Swale (Includes Earthwork, Seeding, Placement, Etc)	\$ 4.25	\$ 9
1.00	LS Street Lights (Every 300')	\$ 17.33	\$ 17
1.00	LF Fiber	\$ 15.00	\$ 15
1.00	LF Other Dry Utilities	\$ 30.00	\$ 30
0.00	TN Trail-Furnish and Install HMA Class PG 64-28 (2" Thick)	\$ 85.00	\$ -
0.00	TN Trail-Furnish and Install Crushed Surfacing Top Course (4" Thick)	\$ 20.00	\$ -
9.44	CY Earthwork (3' Depth Over Full ROW Width)	\$ 6.00	\$ 57
			\$ 336 per LF

1.00 Business Center Roadway Section (37' from Face of Curb to Face of Curb)		Unit Price	Total Per Foot
0.91	TN Furnish and Install HMA Class PG 64-28 (4" Thick)	\$ 85.00	\$ 77
0.41	TN Furnish and Install Crushed Surfacing Top Course (2" Thick)	\$ 16.50	\$ 7
1.64	TN Furnish and Install Crushed Surfacing Base Course (8" Thick)	\$ 16.00	\$ 26
66.00	SF Subgrade Prep	\$ 0.20	\$ 13
2.00	LF Furnish and Install Concrete Curb and Gutter	\$ 10.00	\$ 20
6.00	SF 6' Wide (4" conc.) Sidewalk w/base	\$ 4.50	\$ 27
4.00	LF Striping	\$ 1.00	\$ 4
1.00	LF Power	\$ 60.00	\$ 60
0.00	LF Fiber	\$ 15.00	\$ -
2.00	LF Stormwater Swale (Includes Earthwork, Seeding, Placement, Etc)	\$ 4.25	\$ 9
1.00	LS Street Lights (Every 300')	\$ 17.33	\$ 17
1.00	LF Other Dry Utilities	\$ 30.00	\$ 30
9.44	CY Earthwork (3' Depth Over Full ROW Width)	\$ 6.00	\$ 57
			\$ 348 per LF

1.00 Alley Section		Unit Price	Total Per Foot
0.68	TN Furnish and Install HMA Class PG 64-28 (3" Thick)	\$ 85.00	\$ 58
0.62	SF Furnish and Install Crushed Surfacing Top Course (3" Thick)	\$ 16.50	\$ 10
1.23	SF Furnish and Install Crushed Surfacing Base Course (6" Thick)	\$ 16.00	\$ 20
43.00	SF Subgrade Prep	\$ 0.20	\$ 9
2.00	LF Furnish and Install Concrete Curb and Gutter	\$ 10.00	\$ 20
1.00	LF Power	\$ 60.00	\$ 60
2.00	LF Stormwater Swale (Includes Earthwork, Seeding, Placement, Etc)	\$ 4.25	\$ 9
9.44	CY Earthwork (3' Depth Over Full ROW Width)	\$ 6.00	\$ 57
			\$ 186 per LF

Business Center Phase 1 AREA: 153.19 ACRES (development area)

Unit	Description of Work	Unit Price		
Administration				
1	LS	Equipment Mobilization (5%)	\$ 451,170.63	\$ 451,171
1	LS	Project Maintenance, Erosion Control, Watering, Clearing and Grubbing (2%)	\$ 180,468.25	\$ 180,468
1	LS	Construction Bonds and Permits (1%)	\$ 90,234.13	\$ 90,234
				\$ 721,873
Roads				
8,520	LF	Curbed Roadway Section	\$ 348.00	\$ 2,964,960
8,541	LF	Industrial Roadway	\$ 186.00	\$ 1,588,626
1	EA	Traffic Signal	\$ 200,000.00	\$ 200,000
				\$ 4,753,586
Non-Road Work				
108	AC	Misc Site Work (Includes Utility Stubs and Basic Cleanup for Sale as Needed)	\$ 1,500.00	\$ 162,000
				\$ 162,000
Trail				
5,800	LF	Trail		
698	TN	Furnish and Install HMA Class PG 64-28 (2" Thick)	\$ 85.00	\$ 59,343
1,160	SF	Furnish and Install Crushed Surfacing Top Course (4" Thick)	\$ 20.00	\$ 23,200
81,200	SF	Subgrade Prep	\$ 0.20	\$ 16,240
8	EA	Bollards	\$ 1,200.00	\$ 9,600
23,200	SF	Restoration along Trail in Open Space	\$ 0.35	\$ 8,120
				\$ 116,503
Utilities				
Utility Misc				
10	EA	Pothole Existing Utilities	\$ 250.00	\$ 2,500
Sewer				
3,406	LF	12" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 26.50	\$ 90,259
5,266	LF	8" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 22.50	\$ 118,485
22	EA	48" San. Manholes (Approx 400' Spacing)	\$ 2,450.00	\$ 53,900
4	EA	Connection to Ex. Main	\$ 1,500.00	\$ 6,000
Water				
4	EA	Hot-tap Existing	\$ 2,500.00	\$ 10,000
4,906	LF	12" Ductile Iron Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 50.00	\$ 245,300
2,659	LF	8" Ductile Iron Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 40.00	\$ 106,360
4	EA	Fire hydrant	\$ 4,200.00	\$ 15,960
Irrigation				
0	EA	Tap Existing Irrigation	\$ 1,500.00	\$ -
0	LF	10" PVC Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 25.00	\$ -
Power Transmission				
0	EA	New Substation	\$ 3,750,000.00	\$ -
	LF	OH Transmission	\$ 45.00	\$ -
	LF	OH Distribution	\$ 25.00	\$ -
15,388	LF	Underground Transmission	\$ 120.00	\$ 1,846,560
18,700	LF	Underground Distribution	\$ 80.00	\$ 1,496,000
				\$ 3,991,324
(1) SUBTOTAL CONSTRUCTION			\$ 9,023,412.59	
(2) Administration			721,873.01	
(3) Planning Level Contingency (25%)			2,436,321.40	
(4) SUBTOTAL CONSTRUCTION (1+2+3)			\$ 12,181,607.00	
(5) Tax (8.6% of Water, Power, and Sewer)			343,253.86	
(6) Construction Total (4+5)			\$ 12,524,860.86	
PROFESSIONAL SERVICES				
1	LS	Engineering and Geotechnical (12%)	\$ 1,461,793	\$ 1,461,793
1	LS	Environmental Permitting (3%)	\$ 270,702	\$ 270,702
1	LS	Construction Staking (1.5%)	\$ 135,351	\$ 135,351
1	LS	Construction Administration (3%)	\$ 270,702	\$ 270,702
		SUBTOTAL		\$ 2,138,549
COST PER ACRE				
Total (6 + Professional Services)			\$ 14,663,410	
Developable Acres Served (total area less roads)				113.6
Cost per Developable Acre			\$	129,095
Cost per Developable Square Foot			\$	2.96

Business Center Phase 2 AREA: 45.80 ACRES (development area)

Unit		Description of Work	Unit Price	
Administration				
1	LS	Equipment Mobilization (5%)	\$ 109,324.16	\$ 109,324
1	LS	Project Maintenance, Erosion Control, Watering, Clearing and Grubbing (2%)	\$ 43,729.66	\$ 43,730
1	LS	Construction Bonds and Permits (1%)	\$ 21,864.83	\$ 21,865
				\$ 174,919
Roads				
330	LF	Curbed Roadway Section	\$ 348.00	\$ 114,840
3,200	LF	Industrial Roadway - University Way	\$ 336.00	\$ 1,075,200
1	EA	Traffic Signal	\$ 150,000.00	\$ 150,000
				\$ 1,340,040
Non-Road Work				
79	AC	Misc Site Work (Includes Utility Stubs and Basic Cleanup for Sale as Needed)	\$ 1,500.00	\$ 118,500
				\$ 118,500
Trail				
2,590	LF			
312	TN	Furnish and Install HMA Class PG 64-28 (2" Thick)	\$ 76.00	\$ 23,694
518	SF	Furnish and Install Crushed Surfacing Top Course (4" Thick)	\$ 20.00	\$ 10,360
36,260	SF	Subgrade Prep	\$ 0.20	\$ 7,252
4	EA	Bollards	\$ 800.00	\$ 3,200
10,360	SF	Restoration along Trail in Open Space	\$ 0.35	\$ 3,626
				\$ 48,132
Utilities				
Utility Misc				
4	EA	Pothole Existing Utilities	\$ 200.00	\$ 800
Sewer				
2,801	LF	12" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 26.50	\$ 74,227
8	EA	48" San. Manholes (Approx 400' Spacing)	\$ 2,450.00	\$ 19,600
1	EA	Connection to Ex. Main	\$ 1,500.00	\$ 1,500
Water				
2	EA	Hot-tap Existing	\$ 2,500.00	\$ 5,000
3,225	LF	12" Ductile Iron Water Main (Includes 2-16" x 12" Tees, all valves, TB, etc.)	\$ 50.00	\$ 161,250
1	EA	Fire hydrant	\$ 4,200.00	\$ 4,200
Irrigation				
0	EA	Tap Existing Irrigation	\$ 1,500.00	\$ -
0	LF	10" PVC Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 25.00	\$ -
Power Transmission				
0	EA	New Substation	\$ 3,750,000.00	\$ -
7,071	LF	OH Transmission	\$ 45.00	\$ 318,195
	LF	OH Distribution	\$ 25.00	\$ -
	LF	Underground Transmission	\$ 120.00	\$ -
1,188	LF	Underground Distribution	\$ 80.00	\$ 95,040
				\$ 679,812
			(1) SUBTOTAL CONSTRUCTION	\$ 2,186,483.20
			(2) Administration	\$ 174,918.66
			(3) Planning Level Contingency (25%)	\$ 590,350.47
			(4) SUBTOTAL CONSTRUCTION (1+2+3)	\$ 2,951,752.33
			(5) Tax (8.6% of Water, Power, and Sewer)	\$ 58,463.79
			(6) Construction Total (4+5)	\$ 3,010,216.11
PROFESSIONAL SERVICES				
1	LS	Engineering and Geotechnical (12%)	\$ 354,210	\$ 354,210
1	LS	Environmental Permitting (3%)	\$ 65,594	\$ 65,594
1	LS	Construction Staking (1.5%)	\$ 32,797	\$ 32,797
1	LS	Construction Administration (3%)	\$ 65,594	\$ 65,594
SUBTOTAL				\$ 518,197
COST PER ACRE				
			Total (6 + Professional Services)	\$ 3,528,413
			Developable Acres Served (total area less roads)	71.97
			Cost per Developable Acre	\$ 49,028
			Cost per Developable Square Foot	\$ 1.13

Business Center Phase 3 AREA: 77.52 ACRES (development area)

Unit	Description of Work	Unit Price		
Administration				
1	LS	Equipment Mobilization (5%)	\$ 280,826.86	\$ 280,827
1	LS	Project Maintenance, Erosion Control, Watering, Clearing and Grubbing (2%)	\$ 112,330.75	\$ 112,331
1	LS	Construction Bonds and Permits (1%)	\$ 56,165.37	\$ 56,165
				\$ 449,323
Roads				
3,810	LF	Industrial Roadway - University Way & Lowe Blvd	\$ 336.00	\$ 1,280,160
6,637	LF	Curbed Roadway Section	\$ 348.00	\$ 2,309,676
1	EA	Traffic Signal	\$ 150,000.00	\$ 150,000
				\$ 3,739,836
Non-Road Work				
57	AC	Misc Site Work (Includes Utility Stubs and Basic Cleanup for Sale as Needed)	\$ 2,000.00	\$ 114,700
				\$ 114,700
Trail				
7,825	LF			
942	TN	Furnish and Install HMA Class PG 64-28 (2" Thick)	\$ 76.00	\$ 71,584
1,565	SF	Furnish and Install Crushed Surfacing Top Course (4" Thick)	\$ 20.00	\$ 31,300
109,550	SF	Subgrade Prep	\$ 0.20	\$ 21,910
4	EA	Bollards	\$ 800.00	\$ 3,200
31,300	SF	Restoration along Trail in Open Space	\$ 0.35	\$ 10,955
				\$ 138,949
Utilities				
Utility Misc				
5	EA	Pothole Existing Utilities	\$ 200.00	\$ 1,000
Sewer				
2,708	LF	18" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 56.00	\$ 151,648
2,186	LF	12" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 26.50	\$ 57,929
4,918	LF	8" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 22.50	\$ 110,655
25	EA	48" San. Manholes (Approx 400' Spacing)	\$ 2,450.00	\$ 61,250
2	EA	Connection to Ex. Main	\$ 1,500.00	\$ 3,000
Water				
3	EA	Hot-tap Existing	\$ 2,500.00	\$ 7,500
4,922	LF	12" Ductile Iron Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 50.00	\$ 246,100
2	EA	Fire hydrant	\$ 4,200.00	\$ 8,400
Irrigation				
1	EA	Tap Existing Irrigation	\$ 1,500.00	\$ 1,500
7,565	LF	10" PVC Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 25.00	\$ 189,125
Power Transmission				
0	EA	New Substation	\$ 3,750,000.00	\$ -
8,693	LF	OH Transmission	\$ 45.00	\$ 391,185
	LF	OH Distribution	\$ 25.00	\$ -
	LF	Underground Transmission	\$ 120.00	\$ -
4,922	LF	Underground Distribution	\$ 80.00	\$ 393,760
				\$ 1,623,052
			(1) SUBTOTAL CONSTRUCTION	\$ 5,616,537.26
			(2) Administration	449,322.98
			(3) Planning Level Contingency (25%)	\$ 1,516,465.06
			(4) SUBTOTAL CONSTRUCTION (1+2+3)	\$ 7,582,325.30
			(5) Tax (8.6% of Water, Power, and Sewer)	\$ 123,188.72
			(6) Construction Total (4+5)	\$ 7,705,514.02
PROFESSIONAL SERVICES				
1	LS	Engineering and Geotechnical (12%)	\$ 909,879	\$ 909,879
1	LS	Environmental Permitting (3%)	\$ 168,496	\$ 168,496
1	LS	Construction Staking (1.5%)	\$ 84,248	\$ 84,248
1	LS	Construction Administration (3%)	\$ 168,496	\$ 168,496
SUBTOTAL				1,331,119.33
COST PER ACRE				
			Total (6 + Professional Services)	\$ 9,036,633
			Developable Acres Served (total area less roads)	57.9
			Cost per Developable Acre	\$ 156,137
			Cost per Developable Square Foot	\$ 3.58

Industrial AREA: 793.03 ACRES (development area)

Unit	Description of Work	Unit Price		
Administration				
1	LS Equipment Mobilization (5%)	\$ 686,830.00	\$	686,830
1	LS Project Maintenance, Erosion Control, Watering, Clearing and Grubbing (2%)	\$ 274,732.00	\$	274,732
1	LS Construction Bonds and Permits (1%)	\$ 137,366.00	\$	137,366
			\$	1,098,928
Roads				
20,903	LF Industrial Roadway	\$ 336.00	\$	7,023,408
			\$	7,023,408
Open Space				
0	AC Open Space	\$ 1,000.00	\$	-
			\$	-
Railroad				
0	LF New Track (Southeast Industrial Loop)	\$ 150.00	\$	-
0	LF New Track (Southeast Industrial Spur)	\$ 150.00	\$	-
0	LF New Track (Northwest Industrial Loop and Extension to Horn Rapids)	\$ 150.00	\$	-
1	EA At-Grade Crossing (Includes Concrete Planks, Re-Laying the Tracks, Control Arms, Bungalow, Etc)	\$ 400,000.00	\$	400,000
			\$	400,000
Utilities				
Utility Misc				
10	EA Pothole Existing Utilities	\$ 200.00	\$	2,000
Sewer				
1	LS Decommissioning Pump Station	\$ 10,000.00	\$	10,000
8,626	LF 12" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 26.50	\$	228,589
8,792	LF 8" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 22.50	\$	197,820
44	EA 48" San. Manholes (Approx 400' Spacing)	\$ 2,450.00	\$	107,800
6	EA Connection to Ex. Main	\$ 1,500.00	\$	9,000
Water				
4	EA Hot-tap Existing	\$ 2,500.00	\$	10,000
14,061	LF 12" Ductile Iron Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 40.00	\$	562,440
1,120	LF 8" Ductile Iron Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 25.00	\$	28,000
Irrigation				
4	EA Tap Existing Irrigation	\$ 1,500.00	\$	6,000
706	LF 10" PVC Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 25.00	\$	17,650
Power Transmission				
1	EA New Substation	\$ 3,750,000.00	\$	3,750,000
29,198	LF OH Transmission	\$ 45.00	\$	1,313,910
2,799	LF OH Distribution	\$ 25.00	\$	69,975
			\$	6,313,184

(1) SUBTOTAL CONSTRUCTION	\$ 13,736,592.00
(2) Administration	1,098,928.00
(3) Planning Level Contingency (25%)	3,708,880.00
(4) SUBTOTAL CONSTRUCTION (1+2+3)	18,544,400.00
(5) Tax (8.6% of Water, Power, and Sewer)	538,491.92
(6) Construction Total (4+5)	19,082,891.92

PROFESSIONAL SERVICES

1	LS Engineering and Geotechnical (12%)	\$ 2,225,328	\$	2,225,328
1	LS Environmental Permitting (3%)	\$ 412,098	\$	412,098
1	LS Construction Staking (1.5%)	\$ 206,049	\$	206,049
1	LS Construction Administration (3%)	\$ 412,098	\$	412,098
	SUBTOTAL			3,255,572.40

COST PER ACRE

Total (6 + Professional Services)	22,338,464.32
Developable Acres Served (total area less roads)	692
Cost per Developable Acre	\$ 32,304
Cost per Developable Square Foot	\$ 0.74

Horn Rapids Conceptual Master Plan

Business Center Phase 1 B

Unit	Description of Work	Unit Price		
Administration				
1	LS Equipment Mobilization (5%)	\$ 238,605.57	\$	238,606
1	LS Project Maintenance, Erosion Control, Watering, Clearing and Grubbing (2%)	\$ 95,442.23	\$	95,442
1	LS Construction Bonds and Permits (1%)	\$ 47,721.11	\$	47,721
			\$	381,769
Roads				
7,743	LF Business Center Roadway - Logston Boulevard	\$ 348.00	\$	2,694,564
			\$	2,694,564
Open Space				
11.1	AC Open Space	\$ 1,000.00	\$	11,057
			\$	11,057
Trail				
5,890	LF Trail			
709	TN Furnish and Install HMA Class PG 64-28 (2" Thick)	\$ 85.00	\$	60,263
1,178	SF Furnish and Install Crushed Surfacing Top Course (4" Thick)	\$ 20.00	\$	23,560
82,460	SF Subgrade Prep	\$ 0.20	\$	16,492
8	EA Bollards	\$ 800.00	\$	6,400
23,560	SF Restoration along Trail in Open Space	\$ 0.35	\$	8,246
			\$	114,961
Mitigation				
143,005	SF Mitigation for Logston Extension	\$ 5.00	\$	715,025
			\$	715,025
Utilities				
Sewer				
1	LS Decommissioning Pump Station	\$ 10,000.00	\$	10,000
8,893	LF 24" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 45.00	\$	400,185
3,829	LF 12" Gravity Sewer Includes Excavation, Trench Safety, Backfill (Std. Rigid PVC conforming to ASTM D-1784)	\$ 21.00	\$	80,409
32	EA 48" San. Manholes (Approx 400' Spacing)	\$ 2,350.00	\$	75,200
2	EA Connection to Ex. Main	\$ 1,500.00	\$	3,000
1	EA 60" Std. MH @ Ex. Main	\$ 5,000.00	\$	5,000
Water				
3	EA Hot-tap Existing	\$ 2,500.00	\$	7,500
11,544	LF 12" Ductile Iron Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 40.00	\$	461,760
Irrigation				
1	EA Tap Existing Irrigation	\$ 1,500.00	\$	1,500
7,678	LF 10" PVC Water Main (Includes 2-Tees, 1-Cross, and all valves, TB, etc.)	\$ 25.00	\$	191,950
			\$	1,236,504
(1) SUBTOTAL CONSTRUCTION			\$	4,772,111.47
(2) Administration				381,768.92
(3) Planning Level Contingency (25%)			\$	1,288,470.10
(4) SUBTOTAL CONSTRUCTION (1+2+3)			\$	6,442,350.49
(5) Contractor General Overhead and Profit (10%)			\$	644,235.05
(6) Tax (8.3% of (4+5))			\$	588,186.60
(7) Construction Total (4+5+6)			\$	7,674,772.14
PROFESSIONAL SERVICES				
1	LS Engineering	\$ 1,030,776	\$	1,030,776
1	LS Environmental Permitting	\$ 334,048	\$	334,048
1	LS Construction Staking	\$ 71,582	\$	71,582
1	LS Construction Administration	\$ 143,163	\$	143,163
SUBTOTAL			\$	1,579,569
Total (6 + Professional Services)			\$	9,254,341

Appendix C - Resolution No. 78-16



RESOLUTION NO. 78-16

A RESOLUTION of the City of Richland adopting the updated Horn Rapids Master Plan for the continued development of the Horn Rapids Industrial Park and Horn Rapids Business Center.

WHEREAS, on February 5, 1995, the Richland City Council adopted Resolution No. 08-95 approving the Horn Rapids Business Center Master Plan; and

WHEREAS, on September 6, 2011, the Richland City Council adopted Resolution No. 51-11 adopting an update to the Horn Rapids Master Plan ; and

WHEREAS, a proposed update of the Horn Rapids Master Plan was developed in consultation with city staff from Public Works, Energy Services, Development Services and Economic Development; and

WHEREAS, the proposed update of the Horn Rapids Master Plan was presented to the Richland Planning Commission at their Workshop on February 10, 2016, where the Plan was updated to primarily indicate that the alignment of the new Hagan Road avoid the wetland areas; that Robertson Drive not be extended to Kingsgate Way, and that stormwater will not be released into wetland areas; and

WHEREAS, the proposed update was presented to the Richland Planning Commission at their February 24, 2016 regular meeting where the Planning Commission made a motion to recommend that the City Council adopt the Horn Rapids Master Plan; and

WHEREAS, the proposed update was presented to the Richland Economic Development Committee at their March 28, 2016 regular meeting where the Planning Commission made a motion to recommend that the City Council adopt the Horn Rapids Master Plan.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Richland that the proposed update to the Horn Rapids Master Plan is adopted and replaces the September 2, 2011 Master Plan in its entirety.

BE IT FURTHER RESOLVED that this resolution shall take effect immediately.

ADOPTED by the City Council of the City of Richland at a regular meeting on the 5th day of April 2016.






ROBERT J. THOMPSON
Mayor

ATTEST:



MARCIA HOPKINS
City Clerk

APPROVED AS TO FORM:



HEATHER KINTZLEY
City Attorney

MacKay  Sposito