

VISTA CROSSING

AREA STRUCTURE PLAN

TOWN OF CROSSFIELD

APPROVED BY CROSSFIELD TOWN COUNCIL
BYLAW 2015 - 07
JUNE 16, 2015

Prepared by:



In partnership with:



Prepared for:





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1.0 INTRODUCTION

1.1 Purpose of the Plan

The Vista Crossing Area Structure Plan (ASP) provides a land use and servicing framework and policies to guide development on approximately 64.45 hectares (159.26 acres) of land in northwest Crossfield. This long-term policy document provides direction for more detailed planning stages. The land was annexed in 2010 into the Town of Crossfield for the purpose of future urban development.

1.2 Authority of the Plan

In Section 633 of the Municipal Government Act municipalities are provided the right and responsibility to create Area Structure Plans. The MGA states that Area Structure Plans are developed for the following:

“For the purpose of providing a framework for subsequent subdivision and development of an area of land, a council may by bylaw adopt an area structure plan.”

An area structure plan

- a. *must describe:*
 - i. *the sequence of development proposed for the area,*
 - ii. *the land uses proposed for the area, either generally or with respect to specific parts of the area,*
 - iii. *the density of population proposed for the area either generally or with respect to specific parts of the area, and*
 - iv. *the general location of major transportation routes and public utilities,*
 - b. *may contain any other matters the council considers necessary.”*
-

The Vista Crossing ASP sets out the land use, transportation and servicing, purpose, objectives and policies to regulate the detailed planning and implementation stages.

1.3 Interpretation of the Plan

The ASP policies are written as ‘shall’ and ‘should’ statements. Policy statements utilizing ‘shall’ outline mandatory compliance. ‘Should’ policy statements outline policies to which compliance is encouraged and recommended.

1.4. Amendment of the Plan

The land use and development framework set through the plan provides a concept for future development. Amendments to this ASP should only be processed where there is significant departure from the intent of the policy as determined by the Town of Crossfield.

1.5 Engagement & Consultation

Preparation of the ASP involved engagement, participation and collaboration of the landowner and Town planning and engineering representatives. Town representatives were involved throughout the ASP preparation to ensure Town requirements and vision for the ASP were achieved.

A pre-application presentation was provided to Town Council to inform Council of the planning process and development concept and also to provide an opportunity for early feedback and input into the plan.

The public consultation program in preparation of the ASP included a public open house. On April 22, 2015, approximately 80 people attended this open house, an event intended to engage residents in community plans and provide grounds for dialogue where feedback could be given and discussed with the project team.

Themes from this open house include potential impacts to existing Town of Crossfield utility servicing, environmental protection, and the possible effects of new development on adjacent land.

The issues raised include the need to provide housing designs for those with mobility restrictions, the number of housing units proposed, and increased traffic volumes that may result from new development.

A summary of written comments received from the residents is available from the Town of Crossfield. A response to public concerns was prepared by Dream Development and is also available from the Town of Crossfield.

1.6 Planning Context

1.6.1 South Saskatchewan Regional Plan

The South Saskatchewan Regional Plan (SSRP) sets the stage for robust growth, vibrant communities and a healthy environment within the region over the next 50 years. With that long-term horizon in mind, the SSRP identifies strategic directions for the region over the next 10 years. Areas of implementation and consideration reflected through the Vista Crossing ASP include: Biodiversity and Ecosystems, Water, Efficient Use of Land and Community Development.

1.6.2 Rocky View / Crossfield Intermunicipal Development Plan

Upon annexation of land from Rocky View County to the Town of Crossfield, the Intermunicipal Development Plan (IDP) was developed to guide collaborative and sensitive planning of adjacent lands and joint decision making on a variety of development issues and topics. The Vista Crossing ASP land is within the Intermunicipal Development Plan Area and the Interface Boundary area. The IDP Plan Area and Boundary provides the spatial context for the intermunicipal collaboration between the County and the Town with respect to jointly reviewing applications, projects, or studies and making decisions that work for both jurisdictions.

In alignment with IDP policy, the ASP application will be referred to the Intermunicipal Collaborative Planning Team for review.

1.6.3 Crossfield Sustainability Plan

The Crossfield Sustainability Plan sets out a vision and principles for becoming a sustainable municipality. There are strategic areas outlined to support the goal. The Vista Crossing ASP supports the following strategies:

Eco-Friendly Town

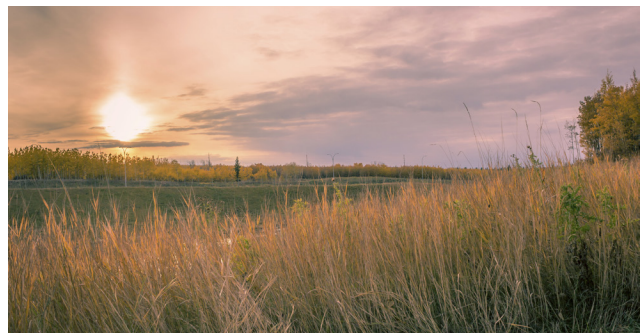
The ASP promotes sustainable parks and housing by providing diversity in size, type and affordability, of homes with access to a variety of active and passive recreational spaces.

Well Planned Town

The land use, development, facilities, and infrastructure concepts in the Vista Crossing ASP demonstrate comprehensive, efficient and forward thoughtful design in planning.

Quality of Life

The Vista Crossing ASP promotes an attractive, unique, vibrant, welcoming, friendly, green, and diverse community integrating with and respecting existing Town development.



1.6.4 Town of Crossfield Municipal Development Plan

The Town of Crossfield's Municipal Development Plan (MDP) outlines the long-range plan for the Town in terms of land use planning, development and provision of servicing infrastructure. The ASP aligns with the policies of the MDP and supports the key MDP policy goals, through the following land use strategy and development objectives:

Environmental Stewardship and Sustainability

The ASP reflects the Town's focus on incorporating natural environmental features by incorporating an existing significant natural wetland and vegetation as a feature in the open space and community design.

Land Use and Development & Housing

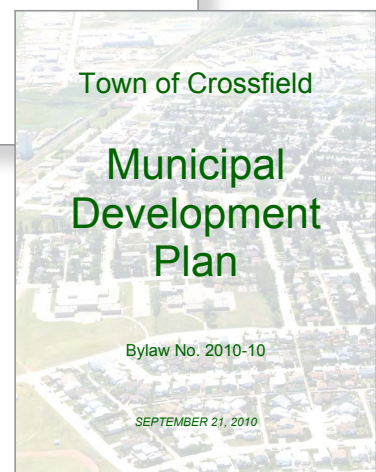
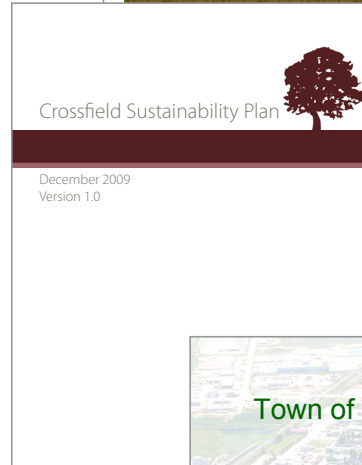
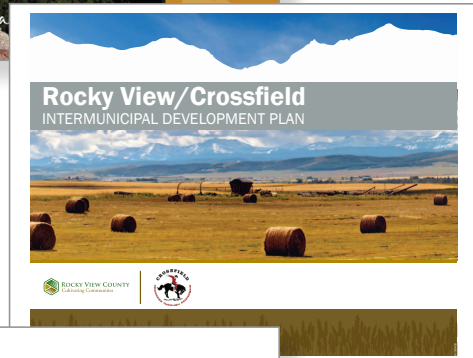
The plan promotes a variety of housing types, sizes and affordability within a community with purposeful open spaces. The community seamlessly integrates with the existing surrounding development. The residential community focuses on housing Crossfield residents who will support the goods and service providers in central Crossfield.

Transportation

The plan accommodates multiple modes of transportation through local and regional pathway connections and streets that accommodate active modes of transportation as well as vehicular traffic.

Servicing and Utilities

A comprehensive plan for municipal services is part of the ASP to provide for efficient, safe and quality service to residents.



2.0 SITE CONSIDERATIONS

2.1 Location, Ownership & Uses

The Plan area is located in northwest Crossfield, as highlighted in *Figure 1: Location Plan*, and was annexed into the Town in 2010. The Vista Crossing ASP lands:

- Consist of 64.45 ha (159.26 ac);
- Are legally described as the SW 1/4 Section 35, Township 28, Range 1 West of 5 Meridian;
- Incorporate a small separated parcel in the northwest created by a right-of-way related to the diversion of Range Road 12;

- Are bound by:
 - Highway 574 (Limit Avenue) to the south and existing residential development
 - Town and Rocky View County boundary and Range Road 12 to the west
 - Current agricultural uses identified for future residential development to the north and
 - Existing residential development to the east
- Are legally owned by Dream Asset Management Corp;
- Currently held as Urban Reserve District (UR), an urban holding district and utilized for agricultural purposes;
- Are outlined in *Figure 2: Plan Area*.

Figure 1: Location Plan

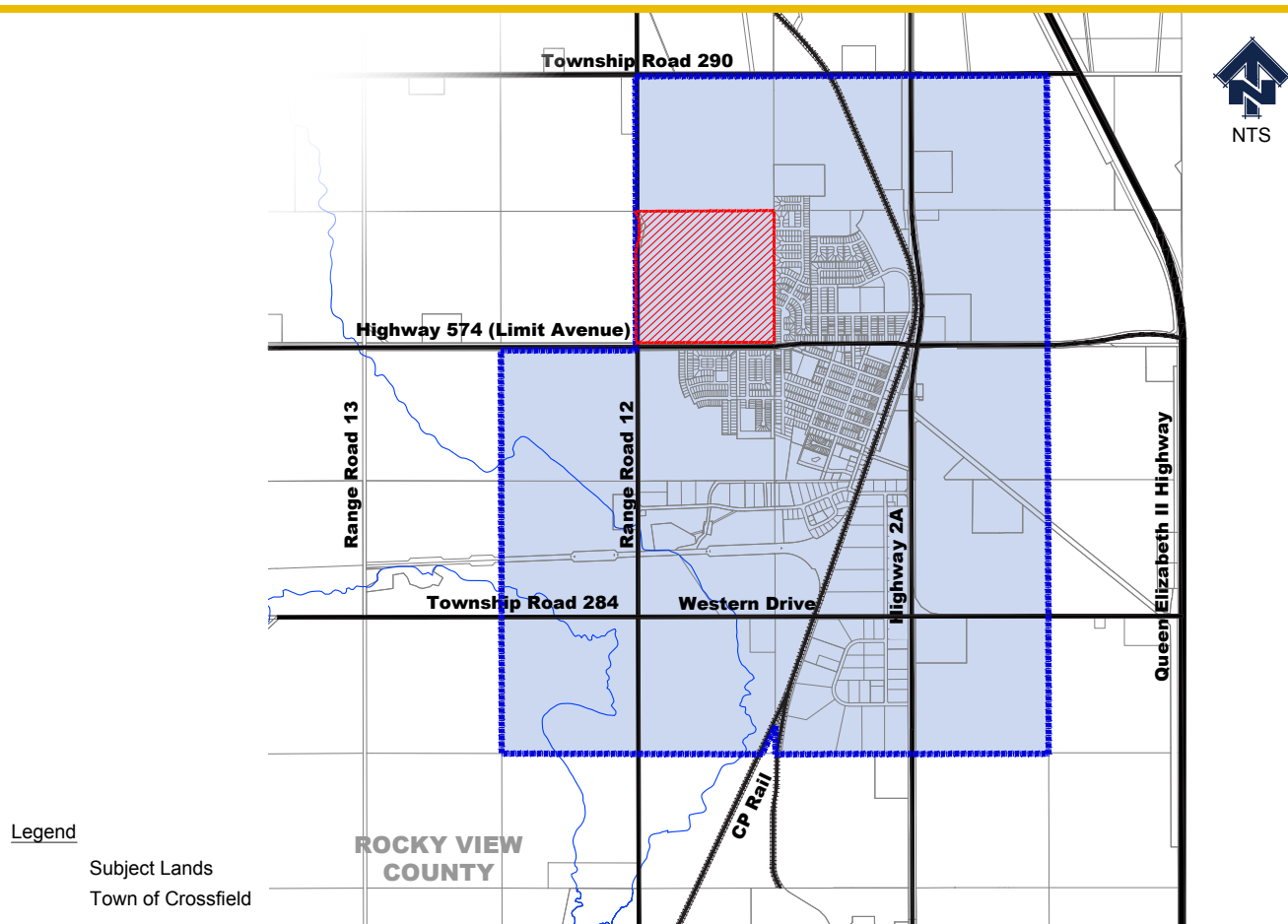
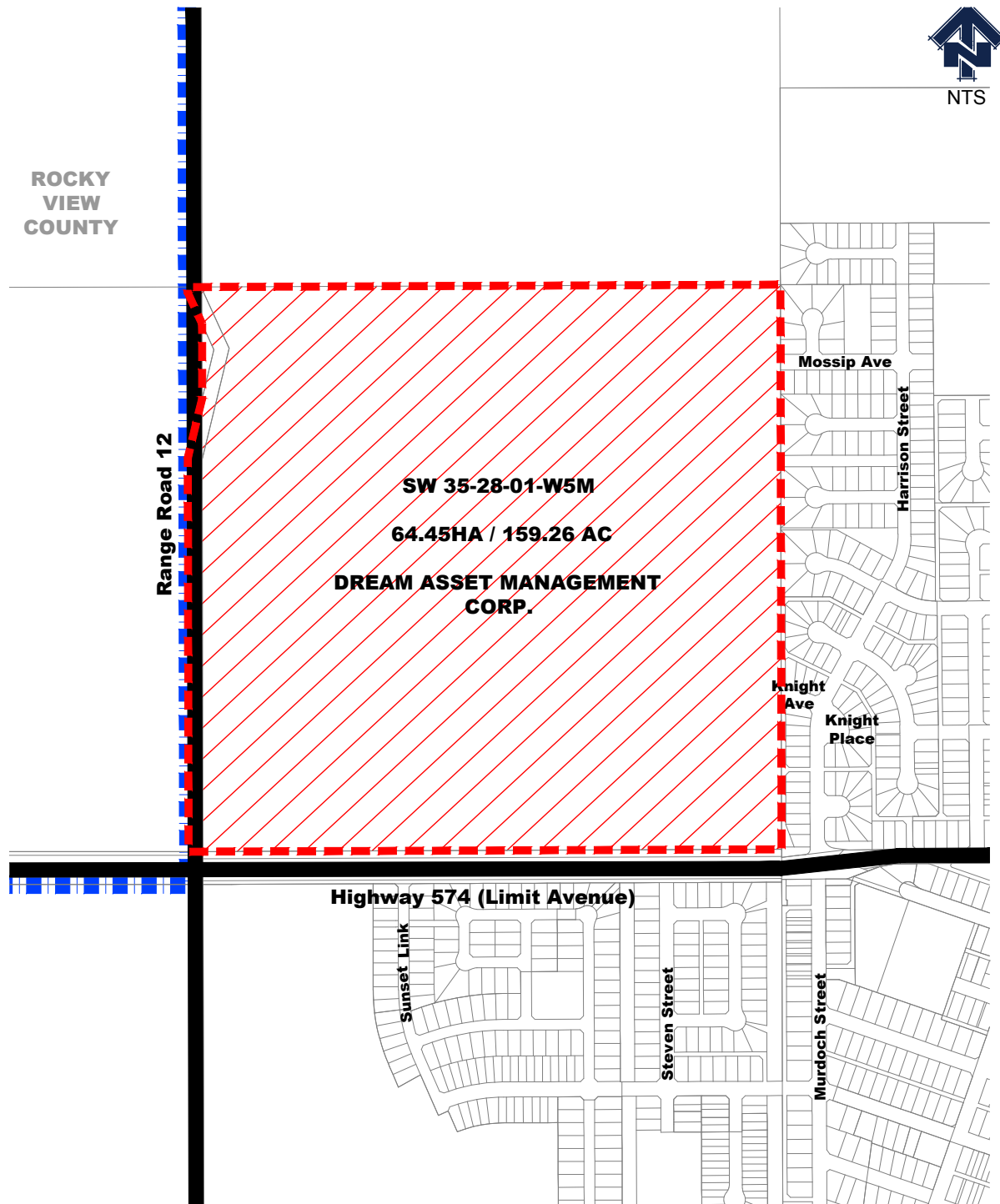




Figure 2: Plan Area



Legend

-  Subject Lands
-  Town of Crossfield Boundary

2.2 Physical & Man-made Site Features

2.2.1 Topography

The site topography consists of rolling hills gently sloped from high ground in the northeast as well as west portion of the site. Surface drainage is directed to the southeast and western portions of the site.

Policies:

2.2.1(a) *Grading of the ASP lands should respect the natural topography, and drainage where feasible.*

2.2.2 Utility Rights-of-Way

A surface lease relates to a water metering station for a fresh water pipeline owned by TAQA in the southeast portion of the site. A utility right-of-way for a fuel gas pipeline and an abandoned sour gas pipeline traverses in the western portion of the site and is owned and operated by TAQA.

An ATCO natural gas line traverses the eastern portion of the site. The TAQA and ATCO pipelines will be relocated as identified on **Figure 3: Site Characteristics**.

The Town of Crossfield has the existing Mountain View Regional Water System pipeline within a utility right-of-way on the site adjacent the east boundary.

Policies:

2.2.2(a) *15.24 metre habitable building setback shall apply, centered on any gas pipeline.*

2.2.2(b) *Additional setbacks and/or guidelines of the operator or AER shall be followed.*

2.2.3 Existing Natural Features

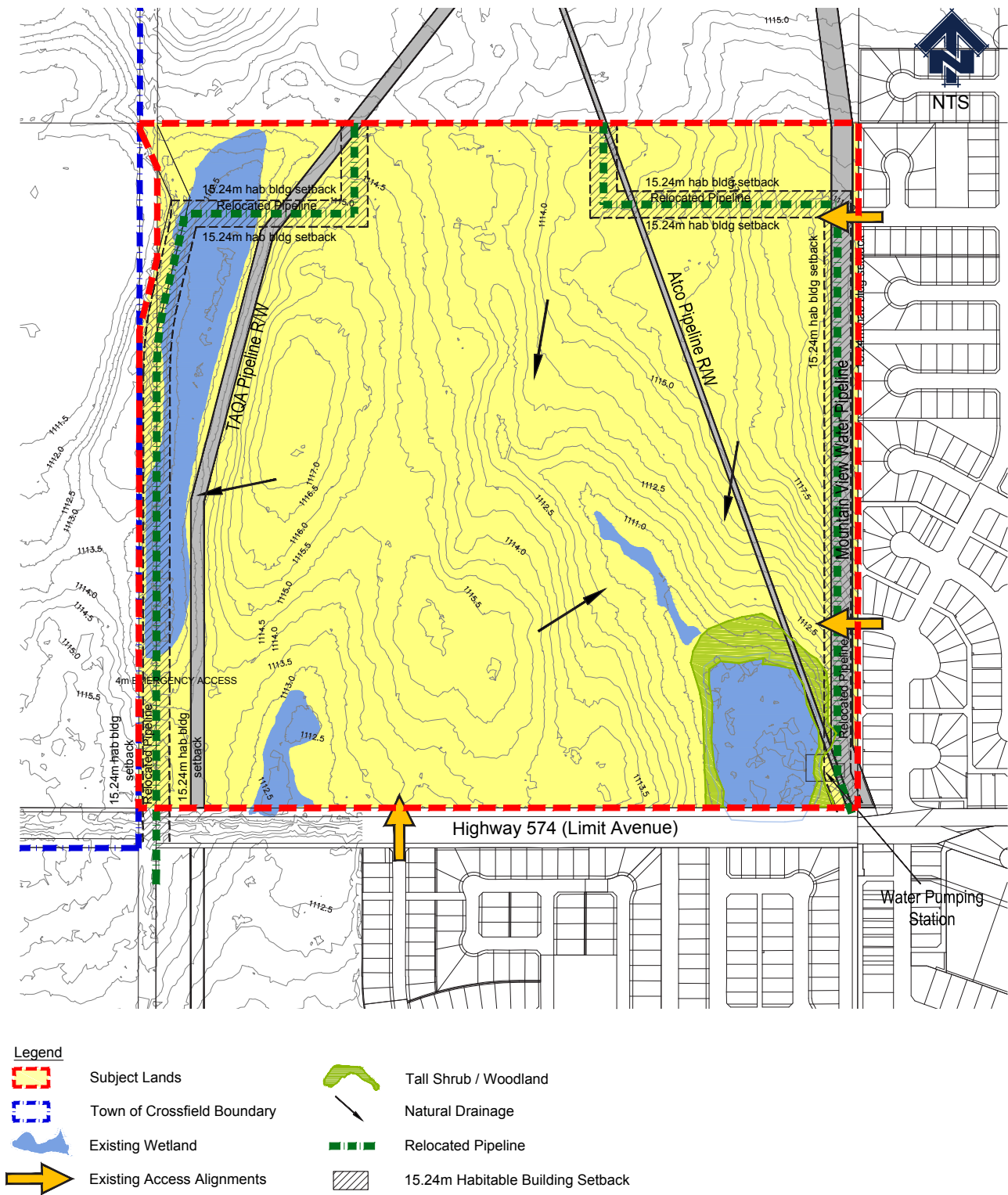
Five wetlands are identified on site, two located in the western portion of the site, a linear wetland in the east within the low lying area and a fourth wetland in the southeast portion of the site. A fifth wetland within the ASP area is a sliver of area on the west side of RR12 that was routed around a larger wetland that is present in the quarter section to the west of the ASP. The Town of Crossfield MDP identifies a natural area of Tall Shrub and Woodland to the north and east of the southeast wetland.

2.2.4 Roads and access points

Two existing roads to the east of the plan, Mossip Avenue and Knight Avenue, provide access points into the subject site. From Highway 574 (Limit Avenue) access to the site will align with Sunset Link to the south.



Figure 3: Site Characteristics



2.3 Site Assessments

2.3.1 Historical Resources

Aresco Ltd completed a Statement of Justification for Historical Resources indicating no features of historical significance on the site.

Policy:

2.3.1 (a) *A Historical Resources clearance letter from the Government of Alberta shall be required prior to land use approval.*

2.3.2 Geotechnical Assessment

A Geotechnical Assessment was conducted by exp. Services Inc. in preparation of the Vista Crossing ASP to provide general geotechnical discussions and recommendations pertaining to the design and construction of the proposed development. Based on the information obtained during the geotechnical explorations, the site is considered suitable for the proposed development.

Policy:

2.3.2(a) *The recommendations of the Geotechnical Assessment shall be implemented at the time of construction.*

2.3.3 Biophysical Resources

A Biophysical Impact Assessment was completed by HAB-TECH for the subject site. The majority of the ASP area contains habitat types of Low overall ecological significance including agriculture lands, disturbed grasslands and domestic trees. One significant feature, a Class V wetland, was identified and recommended for retention located in the southeast corner of the subject site. Impacts on wetlands with future development will require compensation to the appropriate authority. Impacts on wetlands with future development will require crown land clearance.

Formal biophysical surveys will be completed in the spring and summer months of 2015 including rare plant and wildlife species at risk surveys. Particular attention will focus on areas of ecological significance

including all Wetlands and the Tall Shrub/Woodland (*Figure 4: Biophysical Areas of Ecological Significance*). Land use redesignation of ecologically significant areas is contingent upon completion of the field level biophysical assessment. Results from these surveys will be provided as an addendum to the Biophysical Impact Assessment.

Policy:

2.3.3(a) *Areas identified on Figure 4: Biophysical Areas of Ecological Significance, shall require a field level biophysical assessment to be completed prior to land use approval, and implementation of any recommendations from the assessment on any affected parcel of land.*

2.3.3(b) *As per the Municipal Government Act, a 6 metre Environmental Reserve setback shall be provided from the bed and shore of retained wetland area(s).*

2.3.3(c) *A 24 metre naturalized buffer shall be provided from the Environmental Reserve around any retained wetland(s). This setback shall be creditable Municipal Reserve. Permitted activities shall include low impact activities that are compatible in a natural setting, such as:*

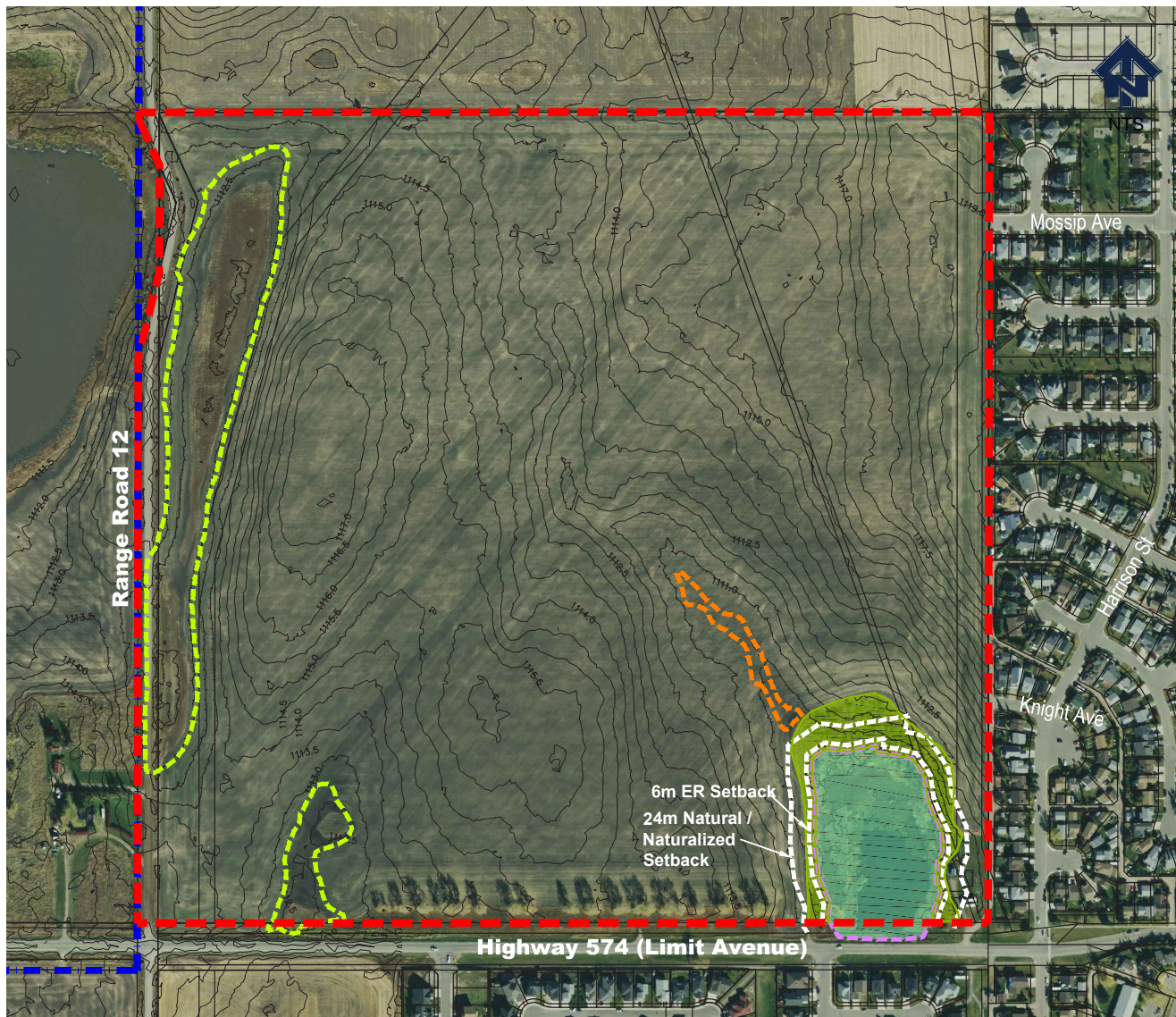
- *wildlife viewing structures,*
- *pathways,*
- *stormwater management infrastructure, and*
- *supplementary irrigation for recharge.*

2.3.3(d) *Impacts on wetlands from future development shall require a Wetland Impact Assessment, crown clearance, and compensation to the appropriate authority.*

2.3.4 Environmental Site Assessment

Trace Associates Inc. conducted a Phase 1 Environmental Site Assessment for the subject site to identify and describe actual and potential sources of soil and/or groundwater contamination that may be present at the site. Based on the results of this assessment, Trace did not identify any actual or potential sources of contamination from on-site or off-site sources.

Figure 4: Biophysical Areas of Ecological Significance



Policy:

- 2.3.4(a) *The Phase 1 Environmental Site Assessment recommendations shall be referred to at the time of relocating and/or decommissioning of oil and gas related infrastructure on the site.*
- 2.3.4(b) *The recommendations of the Phase 1 Environmental Site Assessment shall be a condition of subdivision approval.*
- 2.3.4(c) *The relocation of existing pipelines will appear as a condition of subdivision approval.*

Legend

-  Subject Lands
-  Town of Crossfield Boundary
-  Retained Wetland
-  Class 1 Wetland
-  Class 3 Wetland
-  Class 5 Wetland
-  Tall Shrub / Woodland

3.0 LAND USE PLAN

3.1 Plan Vision

The Vista Crossing ASP area is an inclusive community that provides a variety of residential options in a community layout that is well-connected and integrates natural and man-made open space amenities. The range of housing offers affordable housing options in single-family and multi-family forms. A system of pathways link the open spaces throughout the community, offering pedestrians and cyclists alternative routes. The pathways and road system also integrate with surrounding existing residential development.

The community plan respects significant natural features, particularly the wetland and tree stands in the southeast portion of the site. The natural amenity is enhanced with a storm pond system that connects to a pathway system and other destinations in the community. The linear open spaces provide active and passive recreational opportunities and connects to the neighbourhood parks where diverse recreational facilities and programs are supported.



3.2 Land Use & Design Principles

The Vista Crossing ASP is designed in alignment with the Municipal Development Plan and the following design principles:

- a. maintain and integrate significant natural features;
- b. provide a wide range of housing forms and tenure;
- c. design appropriate residential interface with highways and arterial roadways;
- d. provide safe and efficient streets and lanes layout;
- e. include adequate park spaces to provide local recreational facilities/programming;
- f. offer connected linear open spaces for passive and active recreational opportunities;
- g. encourage walking, cycling and public transit through connected street layout, connected sidewalk networks and the pathway system.

Figure 5: Design Framework highlights the design framework upon which the concept plan developed and formed.





3.3 Land Use Policy Areas

3.3.1. Low Density Residential Forms

The low density mixed dwelling types include single-detached dwelling forms of varying lot widths, as well as semi-detached dwelling units. A mix of low density dwelling types will be distributed throughout the community and phases to create diverse and heterogeneous residential cells. Lanes will be incorporated for some of the low density residential forms, increasing the variety of housing type and streetscape.

Objectives

- Promote variety in residential cells and throughout the community
- Provide flexibility in the specific land use designation throughout the area while offering diversity in unit size and type that responds to the local market

Policies

3.3.1(a) *Land Use should be in general accordance with Figure 6: Land Use.*

3.3.1(b) *Low density residential forms shall be the predominant housing type within the plan area.*

3.3.1(c) *The low density residential area shall include a variety of single-detached housing sizes, ranging in lot width, as well as semi-detached housing form.*

3.3.1(d) *No single land use designation shall comprise more than 50% of the total units in the community and as such, the applicant shall provide a housing mix summary with each tentative plan of subdivision.*

3.3.1(e) *Laned housing product should be incorporated to provide additional diversity in housing choice within the low density residential area and shall not require an ASP amendment should more lanes be added in subsequent phases.*

3.3.1(f) *Innovative lot layouts should be encouraged, for example, where lots front onto public open space with only lane access. Special land use considerations may be required.*

3.3.2 Medium Density Residential Forms

Medium density residential forms will include townhouse, stacked townhouse or apartments. Medium density development will be appropriately located to provide for sufficient site access and well-connected to local amenities.

Objectives:

- Enhance affordability in the community with multi-family residential forms
- Sensitive interface with surrounding developments

Policies:

3.3.2(a) *Buildings should provide for active street fronts, incorporating porches, entrances, or other design elements to promote eyes on the street and activity at grade along streets.*

3.3.2(b) *Parking should be internalized to the site and screened from public streets.*

3.3.2(c) *Building massing should be sensitive where multi-family development is adjacent to or facing lower profile residential development.*

3.3.2(d) *Landscaping should contribute toward a strong entrance feeling as Crossfield's western gateway.*

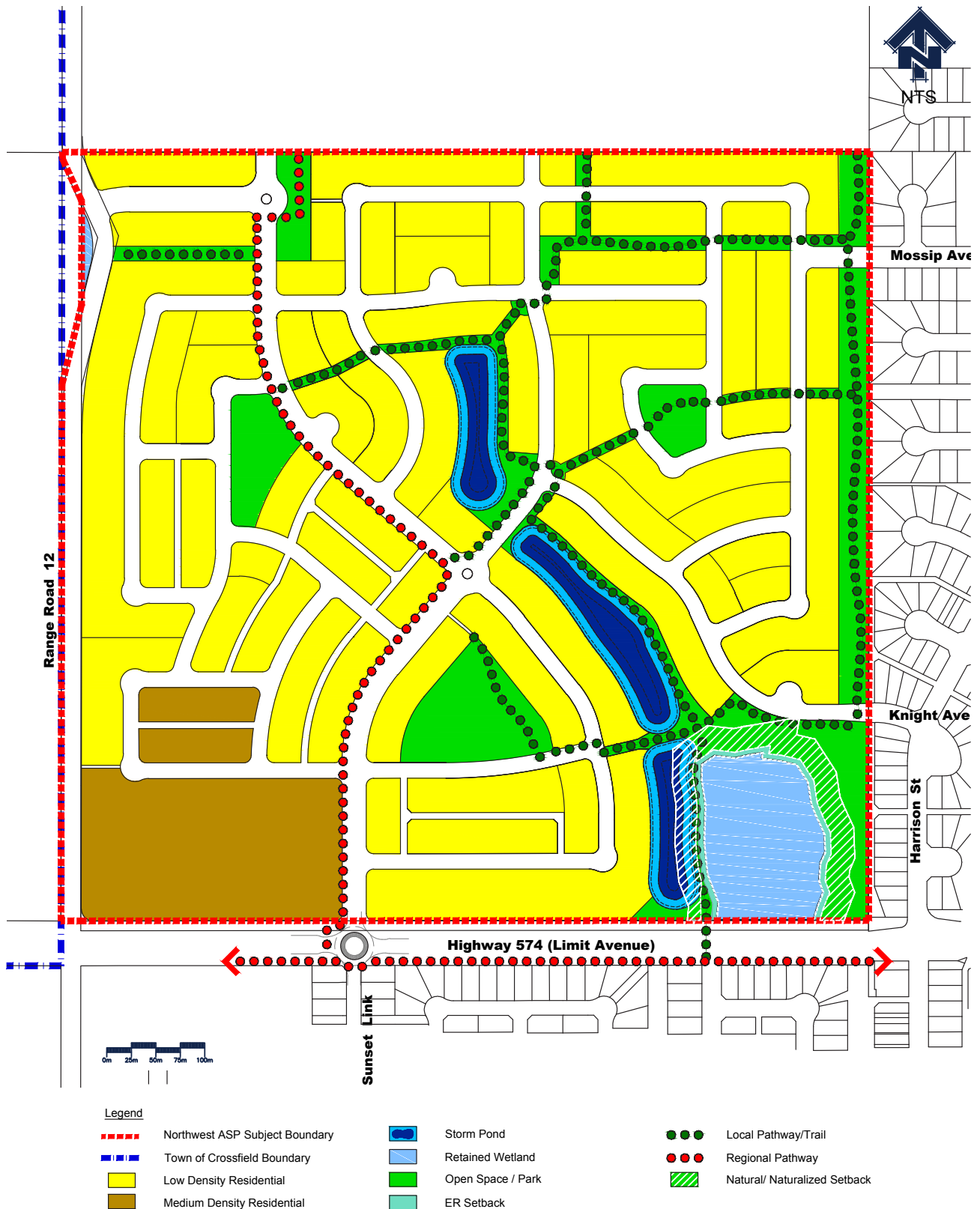
3.3.2(e) *Appropriate screening from Range Road 12 and Highway 574 (Limit Avenue) should be considered with appropriate landscaping features.*

3.3.2(f) *Strong pedestrian connectivity throughout the ASP area shall be encouraged to provide walkability and healthier lifestyles.*

3.3.2(g) *Housing affordability should be encouraged throughout the ASP area.*

3.3.2(h) *Comprehensively planned sites shall incorporate a well-connected pathway system that links to the rest of the plan area.*

Figure 6: Land Use



3.3.3 Population Projection & Density

The overall residential density for the ASP will align with the Town of Crossfield's Municipal Development Plan. Residential density will range from 15 to 20 dwelling units per gross developable hectare (6 to 8 units per gross developable acre) of the Area Structure Plan. **Table 1: Vista Crossing Development and Population Statistics** breaks down the development area into the land use categories and provides the maximum expected units and density for the ASP, as well as an estimated population of approximately 2900 people.

Objectives:

- Accommodate an increase in residential density of the area over the development time of the community in response to growth conditions of the Town, in line with the Municipal Development Plan policies on residential density.

Policy:

3.3.3(a) Residential density for the ASP area shall range from 15 to 20 dwelling units per gross developable hectare (6 to 8 units per gross developable acre).

3.3.4 Architectural Controls

The Vista Crossing ASP development is integrated through the physical layout but also with specific and unique design elements throughout the community. Streetscapes, entrance features and park facilities will express a unique community theme which will be extended to the architectural elevations and materials of the buildings.

Objectives:

- Promote a unifying theme throughout the community expressed in the architecture and design of community facilities, signs and features.
- Ensure high quality of residential design and consistency in design.

Table 1: Vista Crossing Development and Population Statistics

VISTA CROSSING ASP AREA	HA	AC	UNITS
Vista Crossing ASP Total Area	64.45 ha	159.26 ac	
Less Range Road 12 Area	1.59 ha	3.93 ac	
Less Environmental Reserve /Wetland	2.16 ha	5.34 ac	
GROSS DEVELOPABLE AREA	60.70 ha	149.99 ac	
Low Density Residential	32.42 ha	80.10 ac	736 units
Medium Density Residential	4.73 ha	11.69 ac	267 units
Total	37.15 ha	91.79 ac	1003 units
Maximum Density	16.5 upha	6.7 upa	
Population @ 2.9 ppu	2909		
Municipal Reserve	7.99 ha	19.74 ac	13.2 %
Public Utility Lot	2.76 ha	6.83 ac	4.6 %
Road Areas	12.80 ha	31.63 ac	21.1 %

Policies:

3.3.4(a) *Architectural controls for each tentative plan of subdivision shall be provided by the developer for review by the Approving Authority prior to Tentative Plan approval.*

3.3.4(b) *Fencing and landscaping treatments along Range Road 12 and Highway 574 (Limit Avenue) should be of high quality with attractive rear elevations and to be sensitive to visual variation.*

3.3.5 Integration with existing and future development

The new residential community is designed to sensitively interface with the surrounding existing and future development. The Town of Crossfield MDP requires that future development be integrated in a compatible manner with neighbouring land uses.

Objectives:

- Present compatible land uses adjacent the existing residential development in the Town
- Integrate with the existing Town road network
- Consider interface with agricultural land in Rocky View County
- Do not adversely impact the development potential of surrounding land

Policies:

3.3.5(a) *Vehicular and pedestrian access points shall align with existing roads and pathways in the Town.*

3.3.5(b) *Future road extensions to the north shall be accommodated.*

3.3.5(c) *Back of lots should be located along Range Road 12 and Highway 574 (Limit Avenue).*

3.3.5(d) *Lots backing on to Range Road 12 shall have a deeper lot depth than similar land uses in the ASP area.*



4.0 OPEN SPACE

4.1 Open Space Network

The open space network incorporates natural amenities, naturalized and programmed spaces to satisfy the passive and active recreational and social needs of the community. The central open space spine offers wet ponds and walking paths that are connected in multiple directions to other open spaces and residential cells in the ASP area. A retained wetland and natural features in the southeast corner of the plan anchors the open space system and offers natural amenity and educational opportunities for the community. Playgrounds are distributed throughout the community to provide residents with convenient access to an open play area and programmed space from their home. Overall, the open space network is enhanced by linear open spaces and pathways.

Objective:

- To provide for a variety of recreational and social opportunities in the community.
- To offer a linked network of open spaces to promote biking, walking and other activities throughout the community.
- Integrate and enhance natural open space features.
- Create safe and comfortable open spaces.

Policies:

- 4.1(a) *Open space should be designed for four season use and accommodate both passive and active recreation opportunities.*



- 4.1(b) *The southeast wetland and surrounding natural vegetation shall be retained and incorporated into the open space network and educational and interpretive elements, such as descriptive signs, shall be provided.*
- 4.1(c) *A system of local and regional pathways shall be incorporated within linear open spaces to enhance circulation.*
- 4.1(d) *The wet ponds should be naturalized to encourage biodiversity and to seamlessly integrate into the open space network and enhance it as a feature.*
- 4.1(e) *Municipal Reserve dedication shall be a minimum of 10% of developable lands within the plan area.*
- 4.1(f) *Plant material in open space and boulevards should be Chinook hardy with a preference for native species.*
- 4.1(g) *Credit for Municipal Reserve should be considered for linear open space containing pipeline easements provided the linear open space includes a pathway that adheres to Town standards.*
- 4.1(h) *Multifamily land uses should be located in close proximity to the regional pathway system and have access to open space features.*



Figure 7: Open Space Concept



5.0 TRANSPORTATION

5.1 Internal Road Network

Watt Consulting Group completed a Transportation Impact Assessment (March 2015) in support of the Vista Crossing ASP. **Figure 8: Road Classification** indicates the Major, Collector and Residential road concept. This road network provides for multiple access points to the community to ensure integration with surrounding development. The concept establishes a well-connected system facilitating multiple modes of transportation.

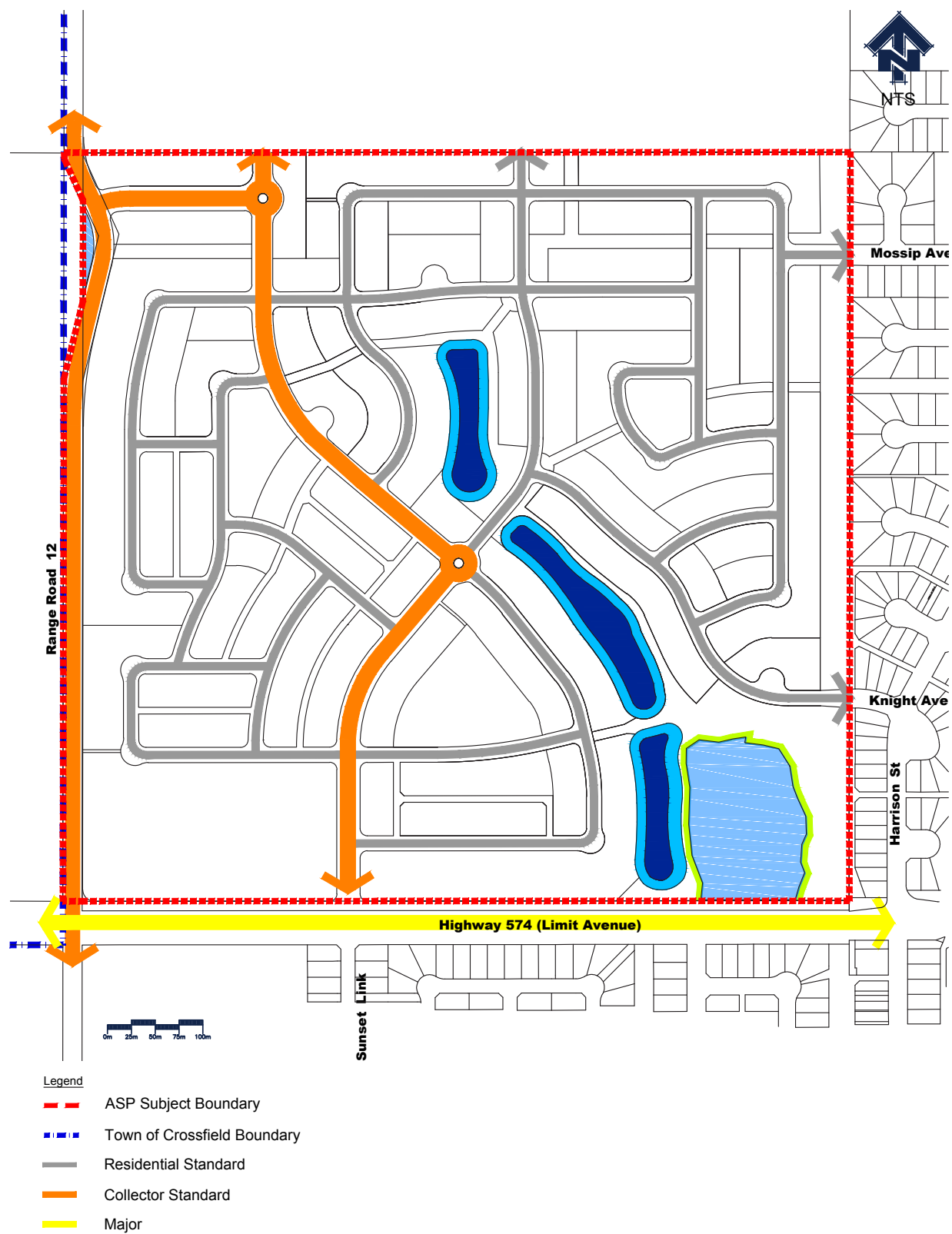
Objectives:

- To enhance connectivity through and permeability of the community.
- To accommodate multi-modal transportation on streets.
- To provide multiple routes throughout the community.
- To offer multiple access and egress points to the community.

Policies

- 5.1(a) *A community entrance road shall be provided from Highway 574 (Limit Avenue) opposite the existing Sunset Link.*
- 5.1(b) *Road cross-sections shall match the existing Mossip Avenue and Knight Avenue cross-sections at the boundary of the ASP area, but taper to the current residential road cross-section within the ASP area.*
- 5.1(c) *Two access points shall be provided to the future residential development to the north, generally as shown on **Figure 8: Road Classifications**.*
- 5.1(d) *Prior to Tentative Plan approval and in consultation with the Town of Crossfield, visual screening and sound attenuation for residential development adjacent to Highway 574 (Limit Avenue) and Range Road 12 shall be addressed, where appropriate, to the satisfaction of the Town of Crossfield.*
- 5.1(e) *Detailed design of traffic circles and/or other traffic management devices shall be determined at tentative plan stage.*
- 5.1(f) *An update to the Transportation Impact Assessment shall be required for each phase of the development if changes to the land use, distribution of traffic or road network within the ASP area are proposed or as a result of changes to background traffic volumes, land use or road networks due to new developments.*
- 5.1(g) *Additional road Right-of-Way shall be dedicated to the Town of Crossfield or to Alberta Transportation at no cost to the Town of Crossfield or Alberta Transportation based on the requirements of the Transportation Impact Assessment and its updates.*

Figure 8: Road Classifications



5.2 Active Transportation Modes

The pedestrian circulation network and open space connectivity is a key feature of the Vista Crossing ASP. Sidewalks and pathways throughout the linear open spaces allow pedestrians, cyclists, and joggers to utilize the connected system to access local open space amenities and link with existing pathways and destinations beyond the ASP area.

Sidewalks are provided on both sides of all roads and pathways supplement the well-connected street network to provide multiple routes and dedicated active mode spaces.

Objective:

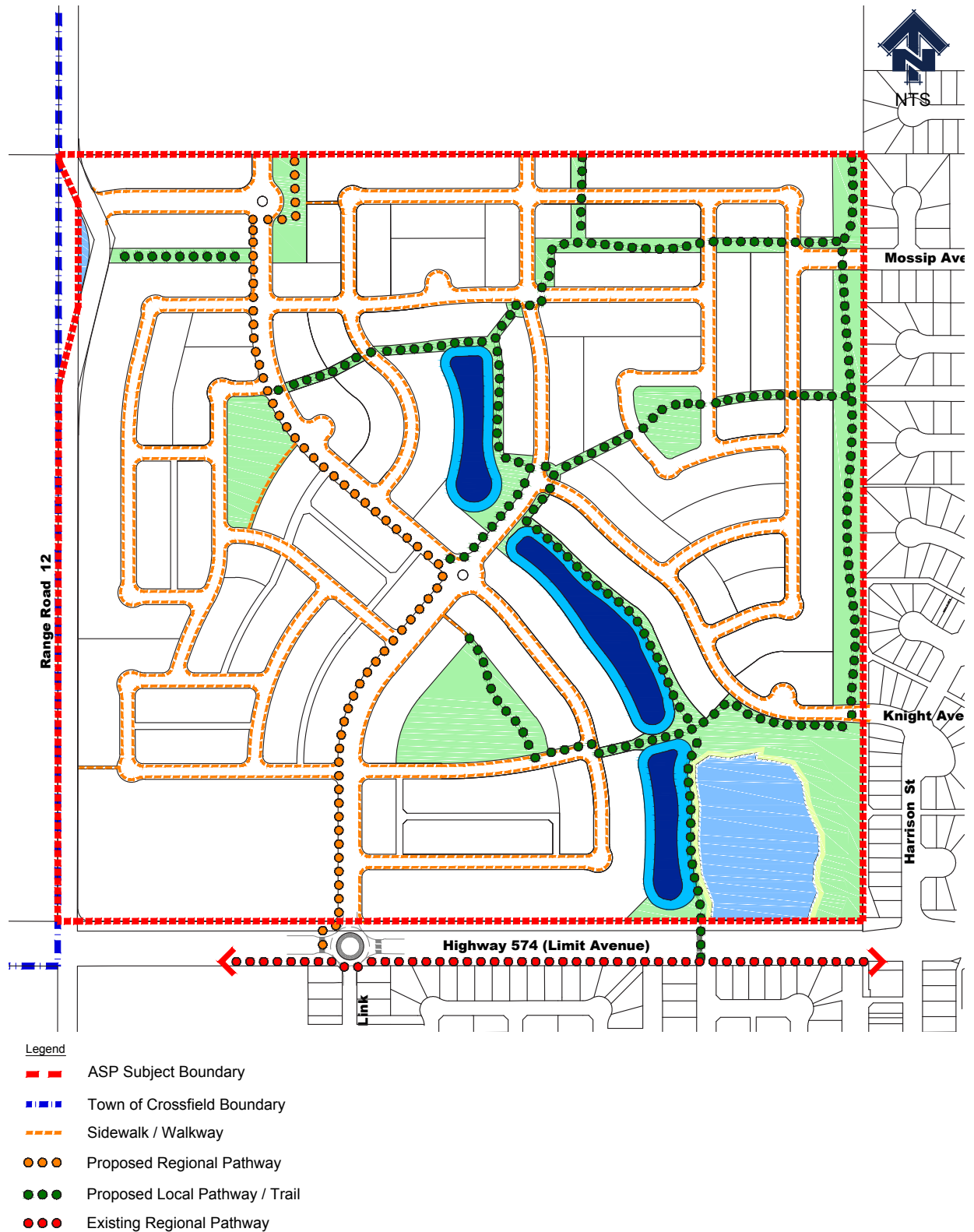
- Enhance connectivity throughout the community
- Link to existing pathways to regional facilities
- Offer direct and multiple routes and local amenities and facilities

Policies:

- 5.2(a) *A connected system of sidewalks and pathways shall be provided throughout the community.*
- 5.2(b) *Where a regional or local pathway is to be provided within an open space it should replace the sidewalk in the abutting road right-of-way if pedestrian connectivity can be maintained, to the satisfaction of the Town of Crossfield.*
- 5.2(c) *Pathways should be incorporated within linear open spaces to provide additional routes and connections for active transportation modes.*
- 5.2(d) *A road right-of-way shall be widened to accommodate a 3.0 metre wide regional pathway in place of a walk where the regional path is located within the road right-of-way.*



Figure 9: Active Transportation Modes



6.0 SERVICING & UTILITIES

A Staged Master Drainage Plan / Pond Report by LGN Consulting Ltd., a Sanitary Servicing Report by exp Services Inc., and a Water Network Analysis by exp Services Inc., were completed in support of the Vista Crossing ASP. The reports outline on-site and off-site servicing requirements, with each prepared in accordance with City of Calgary Design Guidelines. These reports follow policy from the Town of Crossfield Master Drainage Plan (SSI Stormwater Solutions Inc.), Master Sanitary Servicing Study (Watt Consulting Ltd.), and Master Water System Study (Watt Consulting Ltd). Proposed servicing is in accordance with the Town of Crossfield Municipal Development Plan.

6.1 Water Servicing

Water servicing will be provided by three (3) connections. Two east and one south of the subject site. The concept is illustrated on **Figure 10: Water Servicing**. The first water connection will extend a 300mm diameter water main from Sunset Link across Highway 574 (Limit Avenue) from the south, with a second main, 200mm diameter in size, extended from Knight Avenue from the east. The third connection will extend east from Mossip Avenue, with this final 200mm diameter water main providing for full build out of the subject site.

The layout of the water main grid and sizing of mains has been determined and outlined within the Water Network Analysis by exp. All watermains are located within public roadways. Operating pressures will be adequate without pressure boosting or reducing. Input parameters are based on collaboration with the Town of Crossfield and on-site testing of adjacent operational hydrants, all in accordance with City of Calgary Design Guidelines. The design of the water servicing system is in compliance with the Town's Master Water System Study.

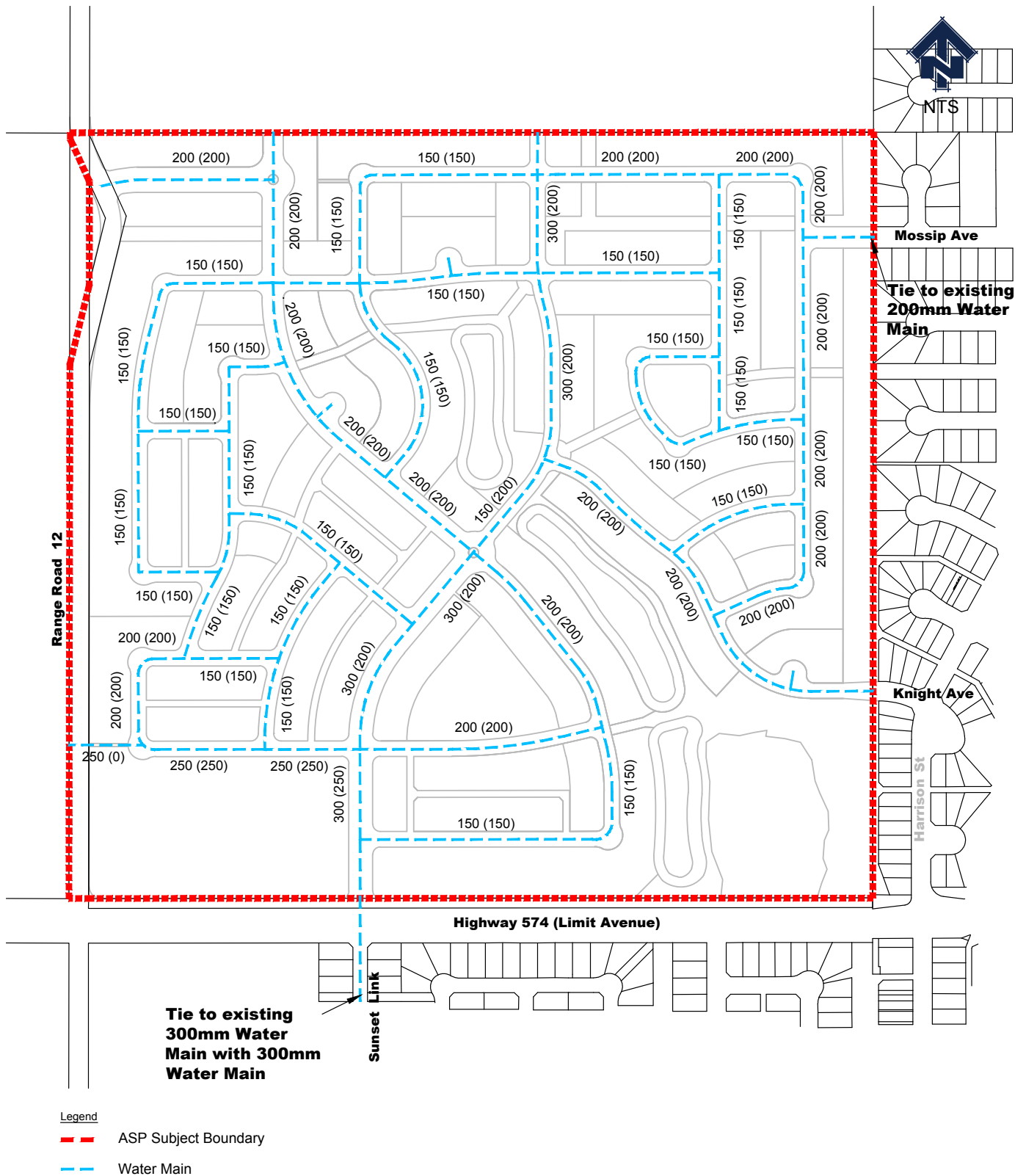
Objectives:

- To provide efficient water servicing for the Vista Crossing ASP in compliance with Town of Crossfield water servicing network.

Policies:

- 6.1(a) *The details of the water servicing system for the subject site, including water main sizing, flows, and pressures at all lot locations under various scenarios shall be provided in a Water Network Analysis report if changes to the land use, population densities, or distribution of the road network within the ASP area are proposed. With each Land Use Application confirmation of the oversize and developer size watermains will be made.*
- 6.1(b) *The water servicing system for the Plan Area shall be designed in accordance with the Town of Crossfield Municipal Development Plan, and Master Water System Study.*
- 6.1(c) *The water servicing system shall be in accordance with City of Calgary Guidelines, Town of Crossfield requirements and Alberta Environmental Guidelines.*
- 6.1(d) *All material used in the development shall be new and in compliance with City of Calgary standards and specifications.*
- 6.1(e) *Watermains shall be provided in the ASP area in compliance with the Town of Crossfield Municipal Development Plan, subject to oversizing and sharing of servicing costs as per the Water Network Analysis report identifying both oversize and developer size.*

Figure 10: Water Servicing



6.2 Sanitary Servicing

Sanitary servicing will be provided by three (3) connections: one east, one south, and one west of the subject site. The concept is illustrated on Figure 11: Sanitary Servicing and Figure 12: Sanitary Sewer Off-site Improvements. The first sanitary connection will utilize an existing 200mm sanitary main extended from Sunset Link, across Highway 574 (Limit Avenue) from the south, allowing servicing for the first area of Land Use. A second 200mm connection will be extended from Knight Avenue from the east. These two sanitary connections utilize existing downstream infrastructure, which trigger upgrades to three pipe segments as shown on **Figure 12: Sanitary Sewer Off-site Improvements**. These upgrades are located within Murdoch Park. Further upgrades are triggered to two pipe segments south of Murdoch Park, adjacent to Alberta Highway Services Ltd. at 1113 Laut Avenue, where this Vista Crossing sanitary flow combines with sanitary flow arriving via a tributary line from development within the Iron Landing ASP.

Upgrades, when required, will be performed to accommodate sanitary flow from all upstream development, including both Vista Crossing and Iron Landing. This policy will facilitate growth as per the Town of Crossfield Municipal Development Plan, while it is understood that making use of existing downstream mains where possible, provides efficient use of existing infrastructure for long term sustainability. The upgrades required are detailed within the Sanitary Servicing Report by exp Services Inc.

The third sanitary connection will include installation of the Range Road 12 sanitary trunk, as illustrated on **Figure 12: Sanitary Sewer Off-site Improvements**, and consistent with the Town's Master Sanitary Servicing Study. This trunk will extend north through the subject site to also accommodate future development. South of the subject site, the trunk will exit north of the Multi-Family parcel to Range Road 12, then along Range Road 12 southward across Highway 574 (Limit Avenue), ultimately connecting to the existing 600mm PVC sanitary trunk at Laut Avenue and Range Road 12.

The Range Road 12 sanitary trunk has been hydraulically designed, and will accommodate flows from the subject site, along with flows from NW Sec 35 – Twp 28 – Rge 1 – W5th and NE Sec 27 – Twp 28 – Rge 1 – W5th, as per the Town's Master Sanitary Servicing Study. Design flows are based on future population densities of 55 persons per hectare based on City of Calgary Design Standards, which is more conservative than the parameters outlined within the Town of Crossfield Municipal Development Plan and Master Sanitary Servicing Study. The sanitary trunk design is detailed within the Sanitary Servicing Report by exp Services Inc.

Existing flows, Vista Crossing flows, and ultimate flows, for the entirety of the sanitary system, including definition of the three catchment areas originating within the subject site, ultimately reaching the Laut Avenue Sanitary Lift Station, are included within the Sanitary Servicing Report by exp Services Inc.

As indicated by Watt Consulting Ltd., upgrades to the existing Laut Avenue Lift Station are required prior to full build out of the Town's annexed lands. These upgrades are defined under the Town's long term planning and Offsite Levy Bylaw.

Objective:

- To provide efficient and effective sanitary servicing for the Vista Crossing ASP while considering provisions for future development areas.
- To comply with existing Town of Crossfield sanitary servicing system.

Figure 11: Sanitary Servicing

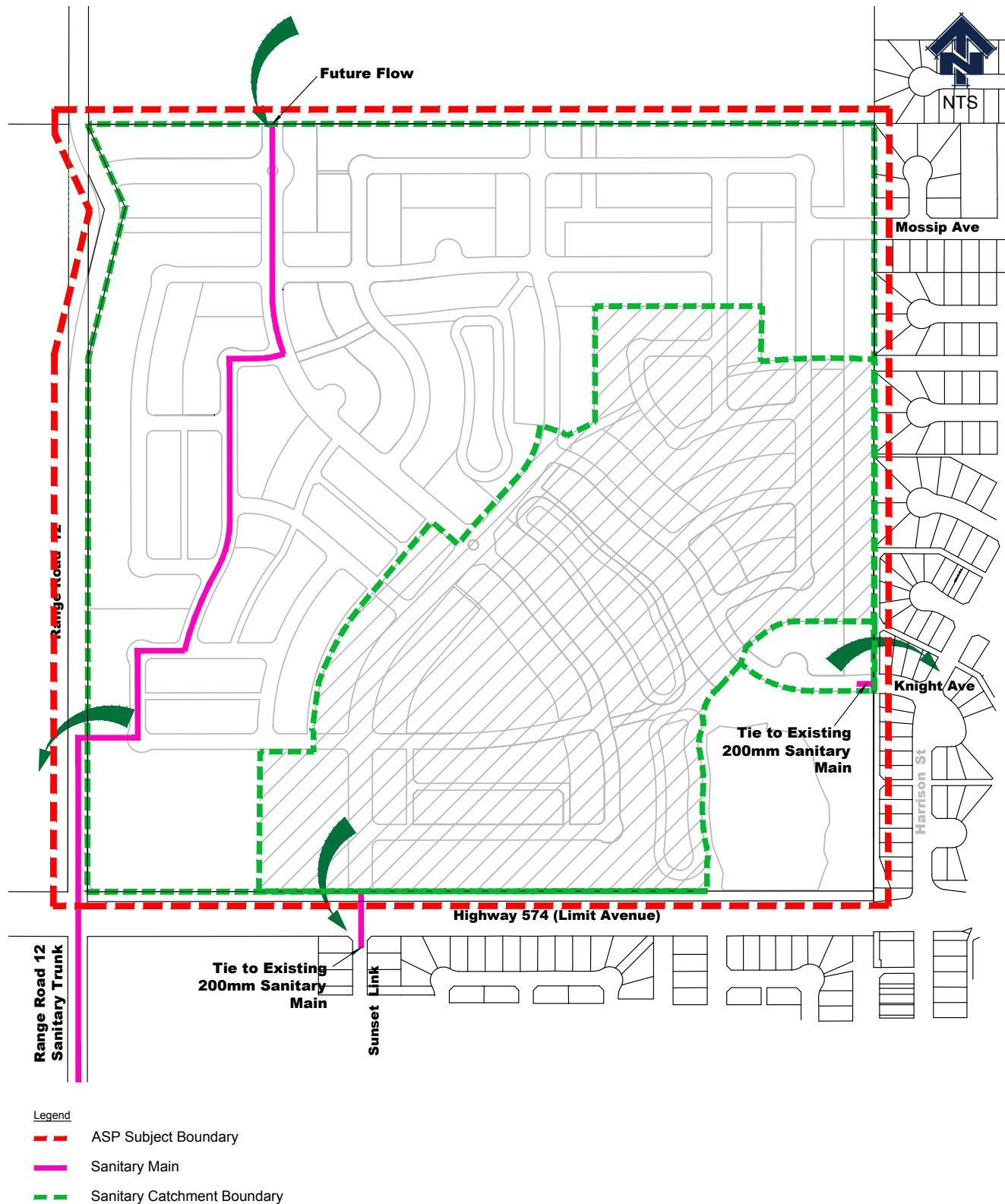
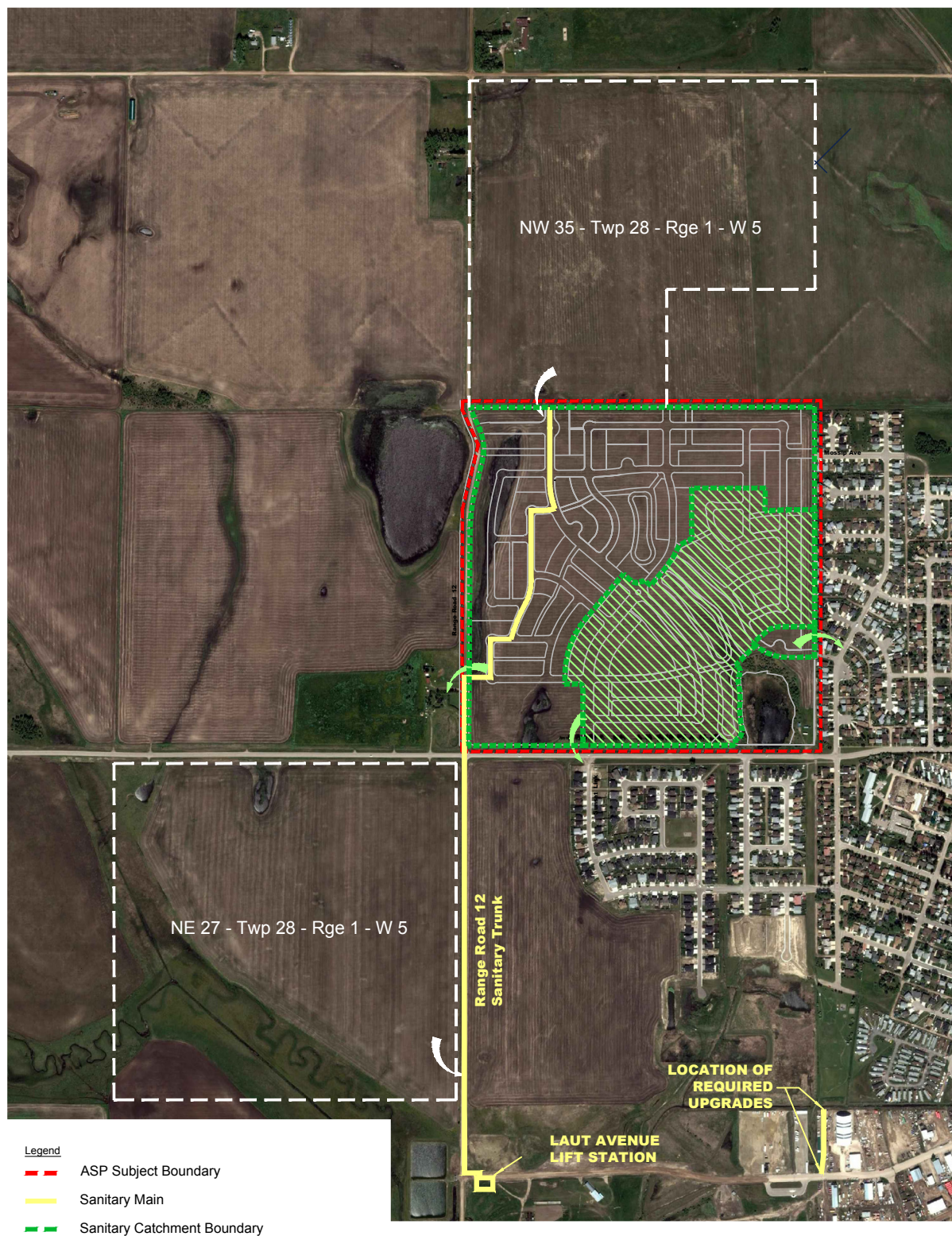


Figure 12: Sanitary Sewer Off-site Improvements



Policies:

- 6.2(a) *Sanitary system design should make efficient use of existing infrastructure where possible for sustainable growth.*
- 6.2(b) *The sanitary system for the Plan Area shall be designed in accordance with the Town of Crossfield Municipal Development Plan and Master Sanitary Servicing Study. Flows are based on future population densities of 55 persons per hectare based on City of Calgary Design Standards.*
- 6.2(c) *The details of the off-site sanitary trunks, including flows, capacities, and sizes, shall be provided as part of a Sanitary Servicing report.*
- 6.2(d) *The sanitary system for the Plan Area shall be in accordance with City of Calgary Guidelines, Town of Crossfield requirements, and Alberta Environmental Guidelines.*
- 6.2(e) *All material used in the development shall be new and in compliance with City of Calgary standards and specifications.*
- 6.2(f) *Any new construction or system upgrades that are outside of the subject ASP area and which benefit lands in addition to the subject ASP area, shall be eligible for cost recovery through the granting of an endeavour to assist to the developer that incurred the costs, pro-rated based on the catchment area making use of the new infrastructure or system upgrades.*
- 6.2(g) *A Sanitary Servicing Analysis will be prepared in support of each Land Use Redesignation application to evaluate proposed sanitary flows in comparison to the downstream capacity of the Town's system at the time of the respective Land Use application. Approval of the Land Use Redesignation by the Town, with or without conditions, will confirm that capacity is available for the Land Use Redesignation area.*

6.3 Stormwater Management

Stormwater servicing for the subject site will be provided by gravity mains to three (3) interconnected wet ponds. The concept is illustrated on **Figure 13: Stormwater Management**, including overall catchments for each pond. Stormwater from the site, after treatment and retention within the stormwater facility, will be directed beneath Highway 574 (Limit Avenue) to the existing downstream storm trunk, in accordance with stormwater servicing plans for the subject area. This existing storm trunk flows south and ultimately discharges into a tributary of Nose Creek. The stormwater management facility of three interconnected wet ponds have identical pond bottoms, normal water levels, high water levels, and free board levels, controlling stormwater quantity, rate of discharge, and quality prior to release into the existing storm trunk. Stormwater quality is provided by Oil and Grit Separators, as per City of Calgary Stormwater Design Guidelines as wet pond forebays are no longer preferred.

The Staged Master Drainage Plan (SMDP) and Pond Report prepared by LGN Consulting Engineering Ltd. has studied the drainage concept and has determined pre-design information for the Stormwater Management Facility (SWMF). Low Impact Development (LID) measures have been proposed for the development to promote sustainability, but in order to allow the effectiveness of the LID measures to be determined during the initial stage of the development the ASP area, excess storage capacity has been built into the SWMF sizing. It is anticipated that after a suitable time to monitor the effectiveness, the three interconnected wet ponds will still have excess capacity, in which case later stages of the development of the ASP can be revised to reduce the pond area or, additional drainage area can be added from outside of the ASP area.

Objectives:

- To provide efficient stormwater servicing infrastructure that maximizes capacity.
- To ensure stormwater quality and quantity meet Town standards and Alberta Environment Guidelines.

Policies:

- 6.3(a) *The details of stormwater management for the development, including the three interconnected wet ponds, volumes, size and discharge rate shall be specified through a SMDP / Pond Report.*
- 6.3(b) *The stormwater system for the Plan Area shall be designed in accordance with the Town of Crossfield Municipal Development Plan and Master Drainage Plan.*
- 6.3(c) *Stormwater quantity, rate of discharge, and quality of water shall be in accordance with City of Calgary Guidelines, Town of Crossfield requirements, and Alberta Environmental Guidelines.*
- 6.3(d) *All material used in the development shall be new and in compliance with City of Calgary standards and specifications.*
- 6.3(e) *The effectiveness of LID measures employed in the ASP area shall be monitored by the developer and an amendment to the SMDP should be prepared if it is determined that there is excess capacity in the Stormwater Management Facility.*
- 6.3(f) *Any drainage area outside of the ASP that is accommodated in the SWMF shall be eligible for cost recovery through the granting of an endeavour to assist to the developer that incurred the SWMF construction cost, pro-rated based on the catchment area draining to the SWMF.*
- 6.3(g) *A Stormwater Management Report and Plans consistent with the Staged Master Drainage Plan, as approved by the Town and the Province, shall be submitted with any application for Subdivision. The Stormwater Management Report and plans will conform to stormwater policies in place at the time of Land Use Redesignation for the Subdivision area.*

6.4 Shallow Utilities

Shallow utilities include telephone, natural gas, electrical, Internet and cable services. The developer will be responsible for the provision of these services and extension from adjacent developed/developing areas.

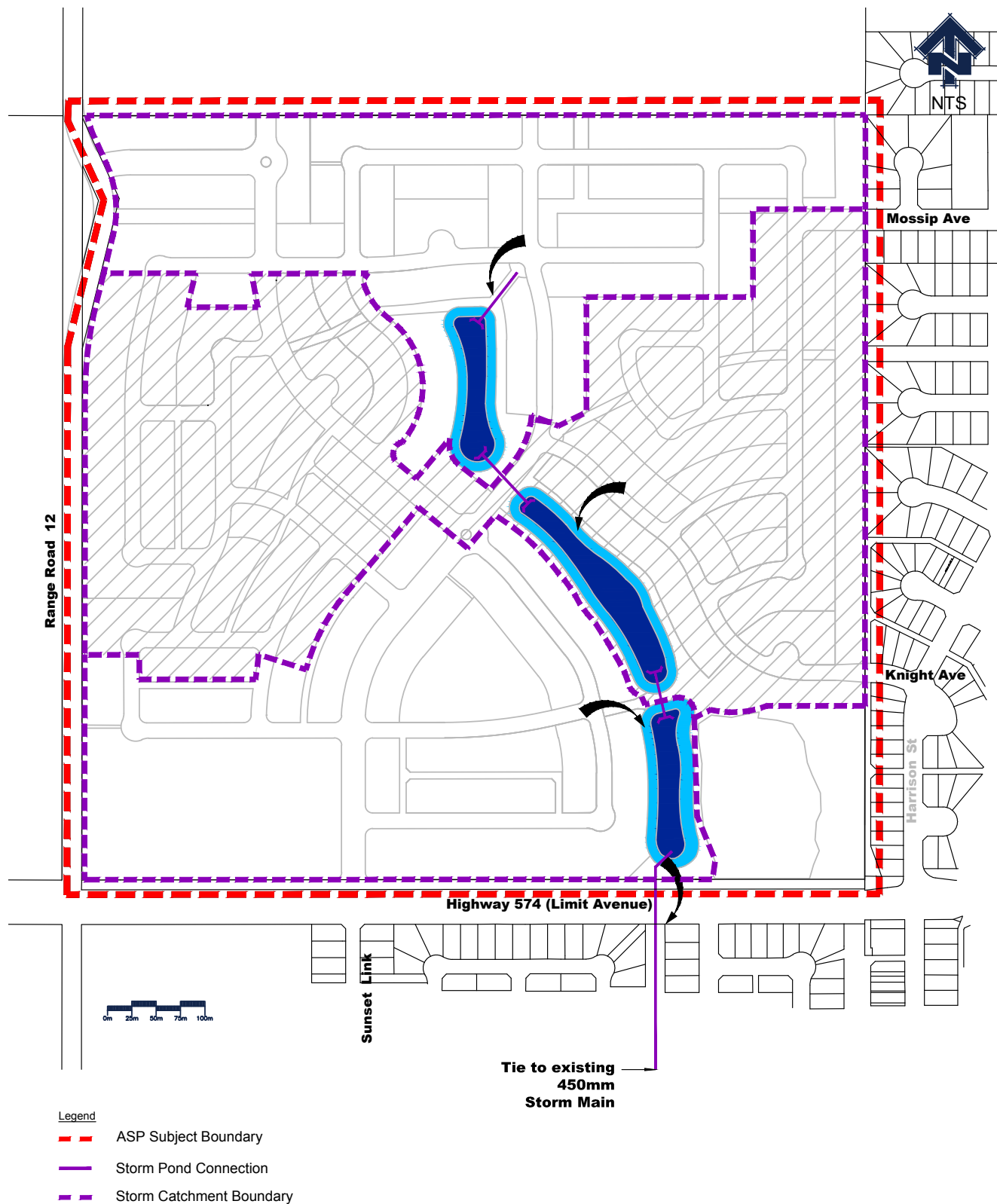
Objective:

- Ensure safe and complete utility services are accessible to all residents of the community.

Policy:

- 6.4(a) *Detailed design of shallow utilities shall occur at the subdivision stage of development.*
- 6.4(b) *All costs associated with any alteration to ATCO pipelines and/or appurtenance shall be borne by the Developer and any additional ROW shall be dedicated as required at no cost to the Town of Crossfield or ATCO.*
- 6.4(c) *All costs associated with any alteration to TAQA pipelines and/or appurtenance shall be borne by the Developer and any additional ROW shall be dedicated as required at no cost to the Town of Crossfield or TAQA.*

Figure 13: Stormwater Management Concept



7.0 DEVELOPMENT PHASING

7.1 Phasing

Vista Crossing ASP development will occur following the efficient extension of servicing from Highway 574 (Limit Avenue). It is anticipated that residential development will begin east of the community entrance road from Highway 574 (Limit Avenue). Phases incorporating biophysical areas of interest for further study will not gain land use approval until all biophysical studies are complete and accepted by the Approving Authority.

Implementation of the Vista Crossing ASP will occur through the land use redesignation and subdivision process. **Figure 14: Phasing Plan** demonstrates the anticipated phasing plan which is conceptual and subject to change based on servicing and development considerations.

Objective:

- To identify the general direction of phasing.

Policies:

- 7.1(a) *Land use redesignation shall be approved by Council prior to commencement of subdivision and development of land.*
- 7.1(b) *A general phasing plan is provided in the ASP. Deviations in size or direction of phasing supported by technical and planning rationale shall be permitted without the requirement of ASP amendment, at the discretion of the Approving Authority.*
- 7.1(c) *The landowner(s) shall cooperate with the future owners/developers in the Vista Crossing ASP area by providing access, easements, and any required right-of-ways to allow for the timely development of future phases.*

Figure 14: Phasing Plan

