Gold Canyon Estates

Outline Plan Amendments

February 2016

Prepared For:
Nasa Holdings Inc
Sonny Nakashima
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Lethbridge, AB
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Prepared By:
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Approved by the Municipal Planning Commission March 1, 2016

Associated Engineering | GLOBAL PERSPECTIVE. LOCAL FOCUS.

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August 28, 2015
File: 2014-3123.E.01.00

Jason Price
Senior Subdivision Planner
City of Lethbridge
910-4th Ave S
Lethbridge, AB
T1J 0P6

Re: GOLD CANYON ESTATES OUTLINE PLAN
GATE 4 SUBMISSION TO DRC

Dear Jason:

Associated Engineering has been engaged by Sonny Nakashima (NASA Holdings) to undertake a design review and amendments to the Gold Canyon Estates development. The site layout plan has been amended to accommodate a new storm water management system that does not require a retaining wall.

The attached PDF submission provides details of all the changes. The text in the Storm Water Management section and tables in Water and Wastewater have been updated. There are minor grammatical and sentence structure changes in the body of the document that do not alter the original context. All of the technical drawings have been updated to reflect the proposed design changes.

There are now 37 lots in the development, which is a reduction of 3. All the appendices in the approved Outline Plan by Hasegawa have been maintained without change.

Attached to this letter is our correspondence with the City's Real Estate and Land Development Department regarding permission to construct a portion of the north storm pond on City land.

We look forward to DRC's review of this submission. If any further information or clarifications are required contact me or Brian Johnson at Associated Engineering-403-329-1404.

Yours truly,

Travis Jensen, C.E.T.
Project Manager
TJ/mh

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July 17, 2015
File: 2014-3123.E.05.00

Michael Kelly, B.A.
Manager
City of Lethbridge
910 - 4th Avenue South
Lethbridge, AB
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Re: GOLD CANYONS
OUTLINE PLAN

Dear Michael:

Associated Engineering has been retained to review the Outline Plan for Gold Canyon with respect to constructability concerns outlined by DRC. In reviewing we have found some significant changes are required, particularly, the location of the Storm Water Management Facility. We have reviewed alternate locations for the facility and found that taking into account the City land to the north allows mutual benefits for both the developer and the City. This land was formally Future Urban Development and has now been rezoned to Parks and Recreation (PR).

We have reviewed alternate designs to accommodate the future parking lot which would restrict vehicles from entering and driving on the PR parcel. To accomplish this we have proposed to relocate and construct the parking lot on the Gold Canyon property and adjusted the storm pond location to the north partially within the PR parcel (Concept attached). This re-configuration provides storm water collection for the parking lot and an MR buffer. In addition this allows for a pedestrian friendly link to the PR parcel there by restricting vehicular access. This proposed alternate does not require any land transfers as the entire parcel becomes City owned Municipal Reserve.

We have reviewed the attached concept with the Planning Department and they are supportive of this concept.

We request permission from Real Estate and Land Development to construct a portion of this storm pond as shown the attached.

Yours truly,

Travis Jensen, C.E.T.
Project Manager

TJ/mh
Enclosure

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1.0 Introduction

1.1 Purpose

The purpose of the Gold Canyon Estates Outline Plan is to provide information regarding the policy framework that guides the development of Gold Canyon and specifically addresses:

- Land use by type, size and location
- Transportation network
- Proposed underground service designs
- General location of amenities
- Development setbacks from Six Mile Coulee
- Other development issues specific to the area

This Outline Plan sets the parameters to be used in the future design and development of the subdivision plan, construction of utility services and individual property development permits.

The details within this plan were derived using the gated outline plan process to ensure consistency with the City of Lethbridge's rules and regulations.

1.2 Location and Area

The lands subject to this Outline Plan are located in southeast Lethbridge. The parcel to be developed lies west of the Sandstone development. The lands encompass the northern half of the NW 17-08-21-W4. (See **Figure 1.1** and **Figure 1.2**)

The developable lands within the parcel are limited by the presence of coulees tributary to the Oldman River and Six Mile Coulee. Six Mile Coulee is used as a drain for the irrigation supply infrastructure of the St. Mary River Irrigation District. It also acts as the drainage system for surrounding agricultural lands and developed areas within the City of Lethbridge.

The Outline Plan area contains approximately 8.84 hectares of developable land. Developable land is defined as the area above the top of bank setback as determined by a geotechnical study. (See Section 2.3)

1.3 Land Ownership

The parcel to be developed is owned by Nasa Holdings Incorporated. The president and contact for Nasa Holdings is Sonny Nakashima. A copy of the land title is provided in Appendix A.

2.0 Situation Analysis

2.1 Site Overview

The parcel to be developed is rectangular and encompasses the entirety of the north half of the northwest quarter of section 17 in township 8, range 21. (**Figure 1.2**) The highpoint of the parcel is approximately 920 m.

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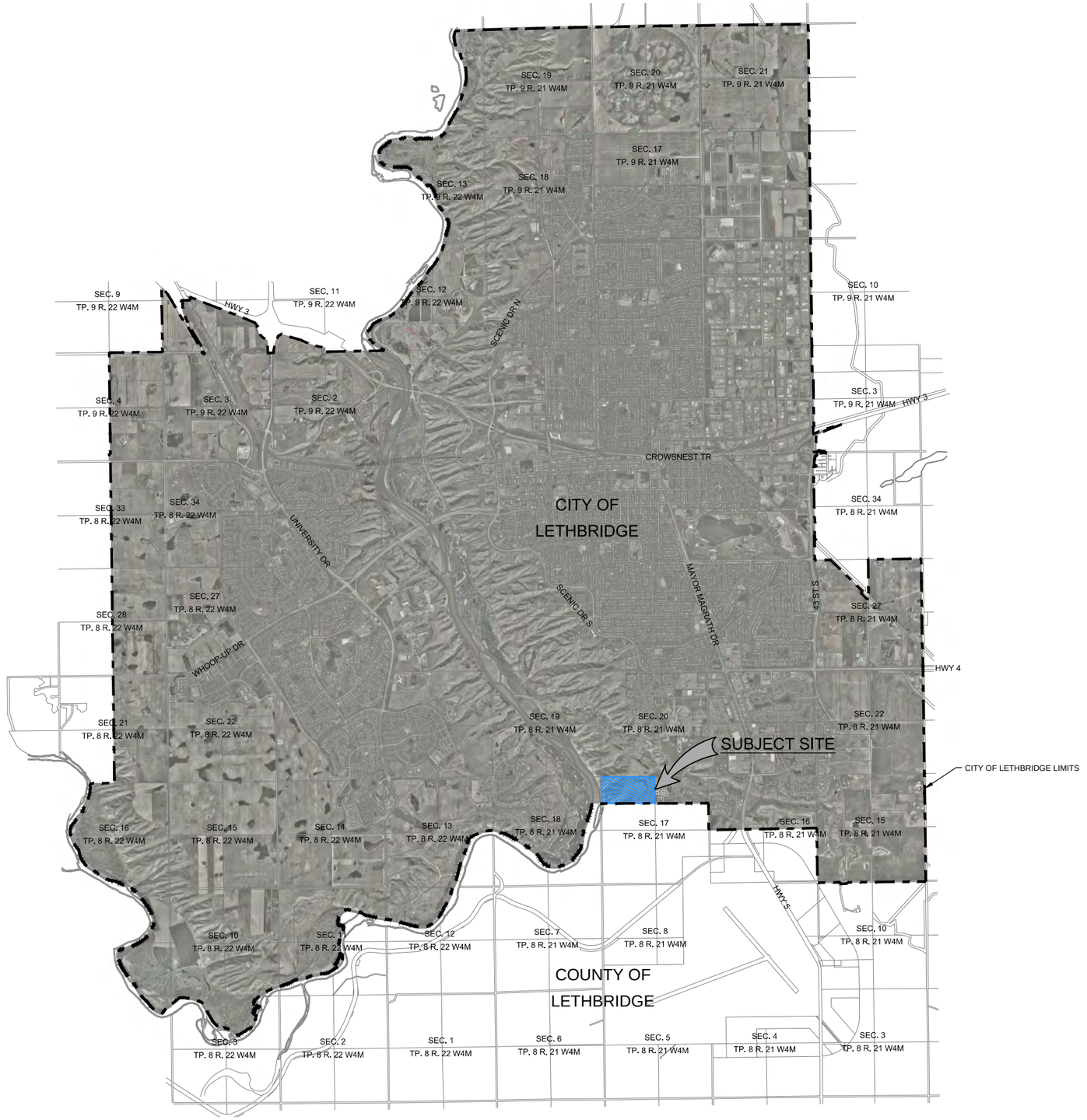

PLAN 1:35000
LOCATION

SONNY NAKASHIMA

GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 1.1
LOCATION PLAN

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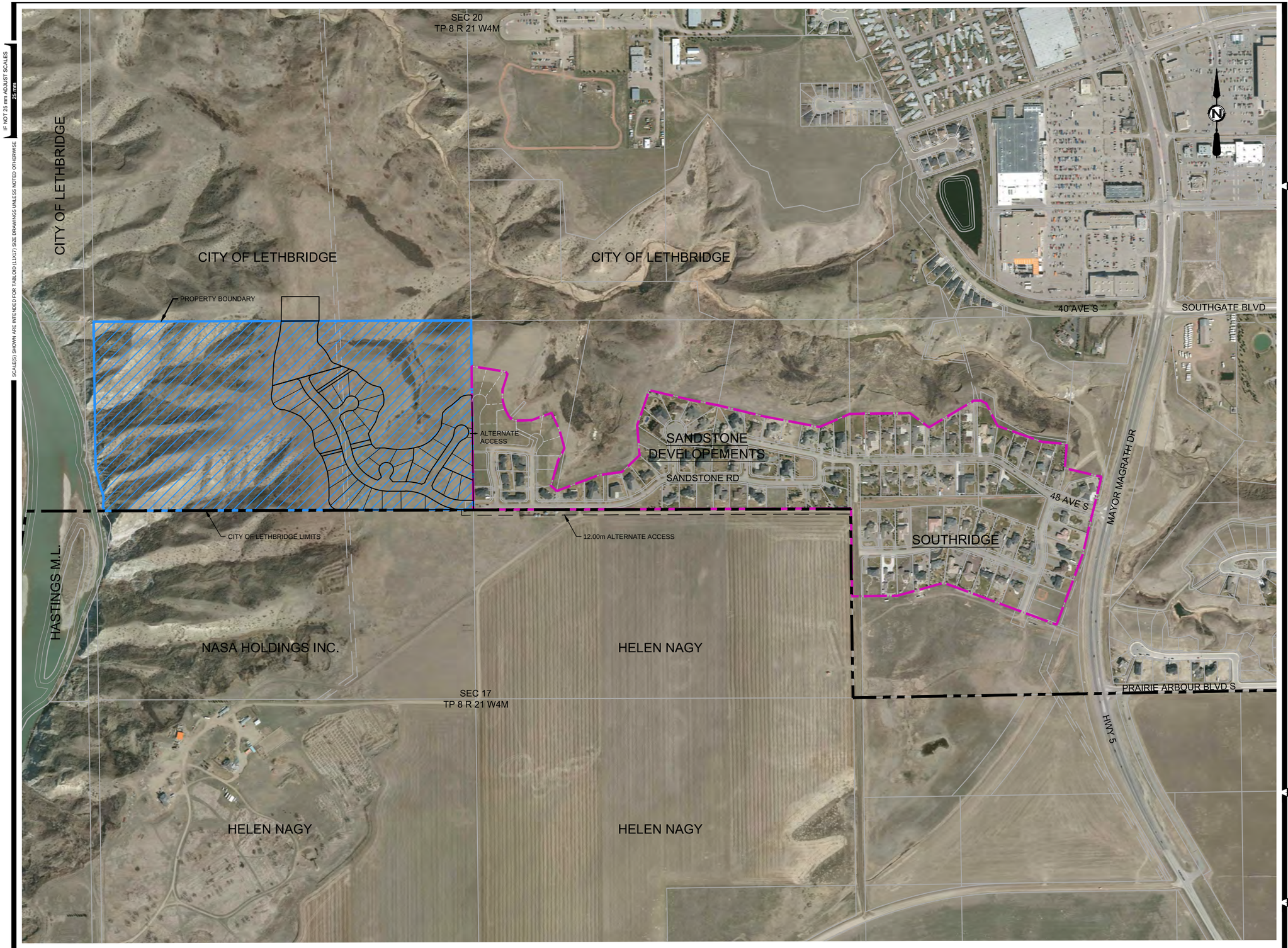

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LEGEND

- SANDSTONE DEVELOPMENTS
- NASA HOLDINGS INC

SONNY NAKASHIMA

GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 1.2
SITE PLAN

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The developable area within the parcel slopes gently downward to the northwest with the lowest part at approximately 909 m. At the edges of the developable area steeper inclines form coulees sloping toward the Oldman River (to the west) and Six Mile Coulee (to the north).

The Sandstone residential development lies at the eastern edge of the parcel which provides the access to Mayor Magrath Drive further east. Undeveloped farmland, within the County of Lethbridge, lies to the south.

2.2 Physical Environment

The developable area within the parcel has suitable topography, geology, soils and drainage for urban development.

A geotechnical evaluation of the parcel (Appendix B) was undertaken to assess the geology of the area. The geology consists of the bedrock layer of the Oldman Formation overlain by several layers of till and glacier lake and riverine deposits. The bedrock does outcrop within the parcel but only at elevations much lower than the developable area in the depths of Six Mile Coulee and adjacent to the Oldman River. The elevation of the top of the bedrock is approximately 865 m, about 43 m below the lowest point of the developable area. Of particular interest is the presence of the Lenzies Silt Unit layer because of the potential effect on slope stability (see section 2.3 below).

A Biophysical Impact Assessment (Appendix C) was also completed assessing the parcel for impacts to vegetation, wildlife, soils and water resources. While some instances of notable wildlife and vegetation were observed they were limited to non-developable areas within the coulees. The report concluded the proposed development would have ‘not significant’ impacts as long as appropriate construction methods and development guidelines were used to protect the coulee areas.

A Phase 1 Environmental Site Assessment (Appendix D) was conducted to assess whether any past or present landuse, either on or off site, may have potential to cause environmental impairment of the developable area. There were no onsite or offsite sources of potential impairment identified.

2.3 Slope Stability

Slope stability in Lethbridge has been an ongoing issue when stability is reduced with the application of water to the urban landscape.

The limits of the developable area were established by conducting a geotechnical study (Appendix B) that included a slope stability analysis. This study examines all of the setback methodologies defined by the River Valley Area Redevelopment Plan (RVARP).

The geotechnical study examined the slope stability of the coulee slopes and valley wall adjacent to the western and northeastern boundaries of the developable area. The study identified three potential areas of slope stability issues:

- the Lenzie Silts layer, located at an elevation of 890 m;
- the upper till (Buffalo Lake Till), located in varying depths from 0-8m below the surface; and
- nearby active bedrock

Based on the analysis conducted, it was recommended the development setback line be determined by taking a slope of 4:1 from the elevation of 890 m. A portion of the flatter prairie is therefore not developable in addition to the coulees. In October 2014 an adjusted setback was approved by EBA. The study was refined slightly and the revised developable area is shown on **Figure 2.1** and **Figure 2.2**. This plan is also included in the geotechnical report in Appendix B. The undevelopable area will be designated Environmental Reserve at time of subdivision.

2.4 Existing Land Use

The parcel has been a combination of natural coulees and grassland for at least 50 years according to aerial photos. The lack of fencing indicates the parcel is not used agriculturally for grazing presently. No buildings exist on the parcel.

2.5 Historical Resources

A Historical Resources Assessment (Appendix E) was conducted to determine if significant historical resources existed on the parcel. Two previously recorded sites are located on the parcel within the developable area, however they could not be located by the firm conducting the study. The study indicated that "no historical resources have been located that would prevent the subdivision from proceeding." However it did indicate that additional subsurface testing be conducted prior to construction.

3.0 Municipal Objectives and Policy

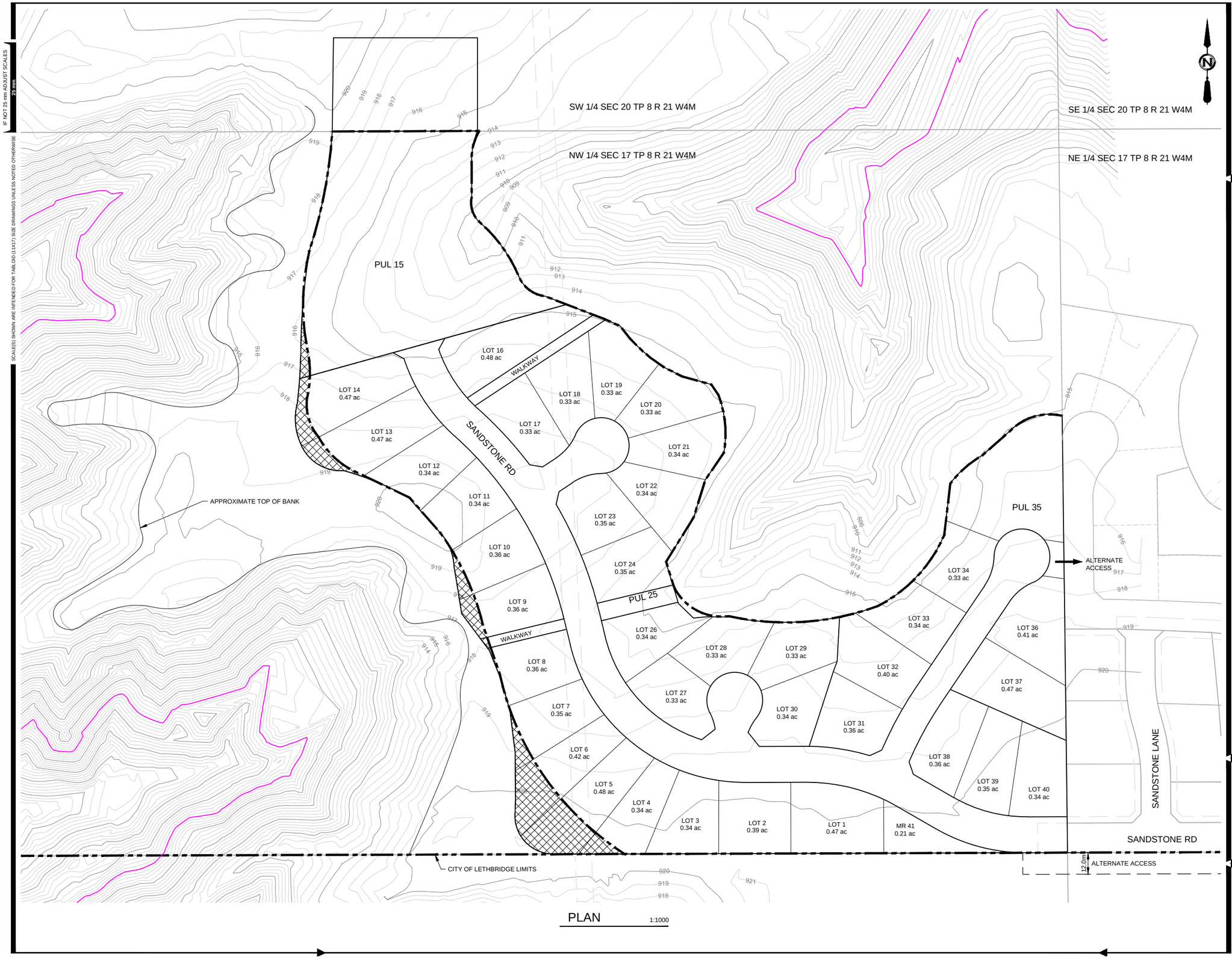
3.1 Municipal Development Plan

The Municipal Development Plan is a statutory plan which outlines the long term development vision for the City of Lethbridge. The Municipal Development Plan does not contain any policy that is specific to the parcel. There are a number of general policies regarding housing, environment, river valley trail system, parks and open space that have been reflected in this Outline Plan.

Housing	Ensure that the community's wide range of housing needs are met.
Environment	Adhere to the top-of-bank setback line policies outlined in the River Valley Area Redevelopment Plan.
River Valley Trail System	Continuous trails along the top of the river valley should be a major feature of new residential developments overlooking the valley.
Parks and Open Space	Locate parks and open spaces in new residential areas to maximize use, accessibility and aesthetic appeal while reducing overall land requirements.

3.2 Southeast Lethbridge Urbanization Plan

In June 2003, the Lethbridge City Council adopted the Southeast Lethbridge Urbanization Plan (SELUP). This plan provides a conceptual framework for the eventual urbanization of the southeast region of the City. In the SELUP document, it is suggested the area subject to this Outline Plan be used for country estate purposes. Country estates are defined in SELUP as



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LEGEND

- CATCHMENT BOUNDARY
- PRE-DEVELOPMENT MAJOR CONTOURS (5.0m INTERVALS)
- PRE-DEVELOPMENT MINOR CONTOURS (1.0m INTERVALS)
- 890m CONTOUR LINE (TOP OF LENZIE SILTS)
- SETBACK AS DEFINED BY EBA (SEPT 2009)
- ADDITIONAL DEVELOPABLE AREA ADJUSTED SETBACK APPROVED BY EBA (OCT 2014)

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 2.1
DEVELOPMENT SETBACK

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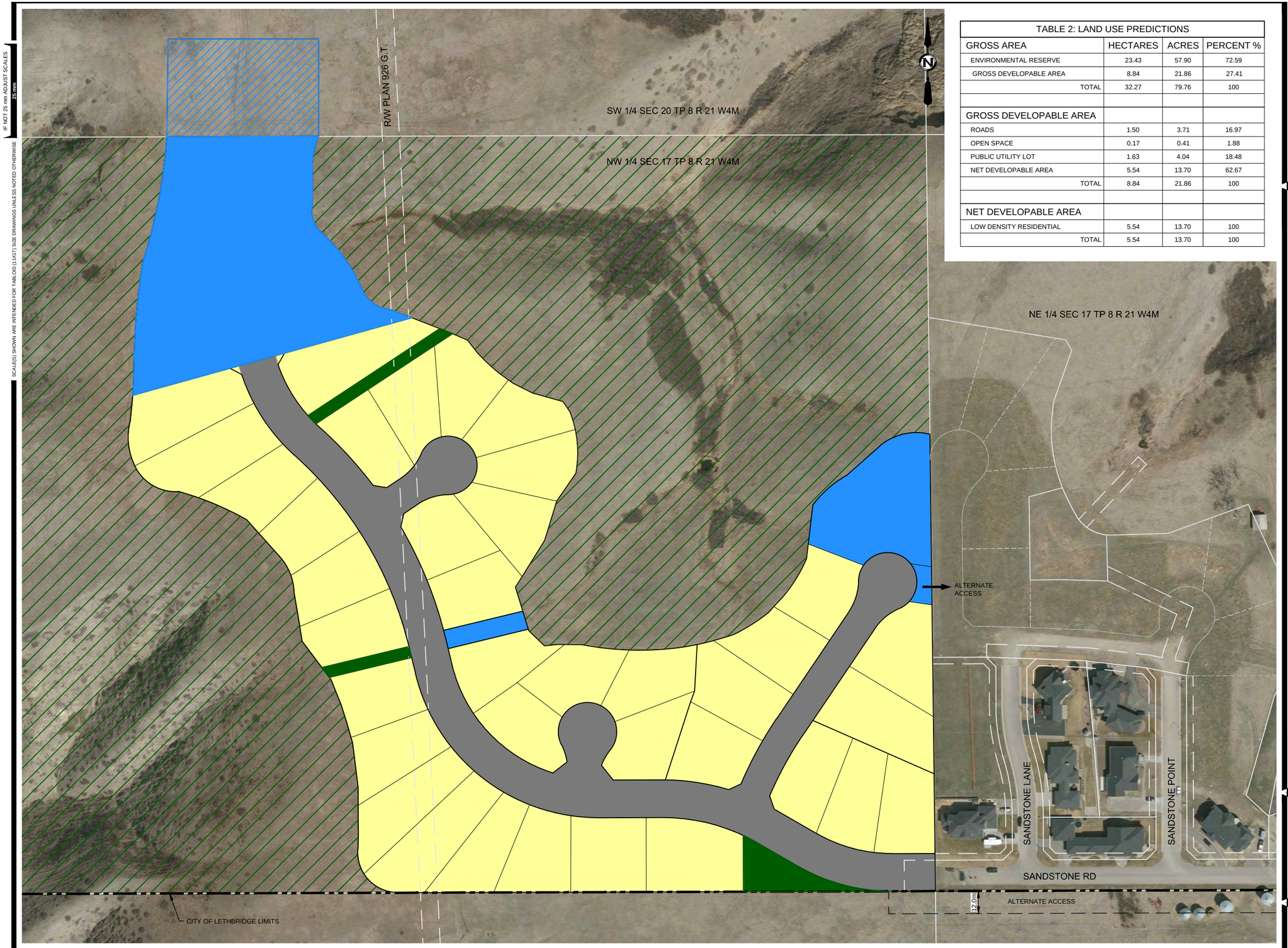

PLAN 1:1000

TABLE 2: LAND USE PREDICTIONS			
GROSS AREA	HECTARES	ACRES	PERCENT %
ENVIRONMENTAL RESERVE	23.43	57.90	72.59
GROSS DEVELOPABLE AREA	8.84	21.86	27.41
TOTAL	32.27	79.76	100
GROSS DEVELOPABLE AREA			
ROADS	1.50	3.71	16.97
OPEN SPACE	0.17	0.41	1.88
PUBLIC UTILITY LOT	1.63	4.04	18.48
NET DEVELOPABLE AREA	5.54	13.70	62.67
TOTAL	8.84	21.86	100
NET DEVELOPABLE AREA			
LOW DENSITY RESIDENTIAL	5.54	13.70	100
TOTAL	5.54	13.70	100

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- RESIDENTIAL AREA
- ENVIRONMENTAL RESERVE (ER)
- PUBLIC UTILITY LOT (PUL) - OFF SITE
- PUBLIC UTILITY LOT (PUL) - ON SITE
- MAIN ROADS R/W
- OPEN SPACE (PATHWAYS & GREEN SPACE)

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 2.2
LAND USE PLAN

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large lot single family homes on sites between 0.2 and 0.4 hectares in size. In July 2005 City Council reviewed the size requirements associated with county estate development and reduced the minimum size to 0.135 hectares (0.33 acres).

Specific planning goals in SELUP which apply to this Outline Plan include:

Land Use	Harmonize new development with existing land uses.
	Provide compatibility between various land uses.
	Accommodate an orderly transition from rural to urban.
	Protect private property from natural hazards.
Transportation	Maintain current high service levels for automobile mobility.
Storm Water Management	Improve quality of storm water before it is released into the river.
	Provide public safety and property protection from stormwater flooding.
Natural Areas	Recognize the biophysical uniqueness of Six Mile Coulee and ensure that the health and future of the natural systems of the coulee are maintained and enhanced.
	Integrated wildlife into the urban environment.
Neighbourhood Character	Design complete neighbourhoods with themes that complement community values.
	Create neighbourhoods that the residents can relate to.
	Encourage a safe and pleasant walking environment in residential areas.
	Ensure appropriate inclusion of and connections to natural areas.

Figure 3.1 contains the Development concept map from SELUP and demonstrates the land use context in which the Outline Plan has been prepared.

3.3 Land Use Bylaw

Currently the parcel is classified as FUD (Future Urban Development). The purpose of this classification is for the control of subdivision and development until the required municipal services are available, area structure or area redevelopment plans are approved, and more appropriate alternative districts are applied.

Upon adoption of the Outline Plan, an application will be made to amend the Land Use Bylaw in a manner that will facilitate the intended urban development described in the Outline Plan.

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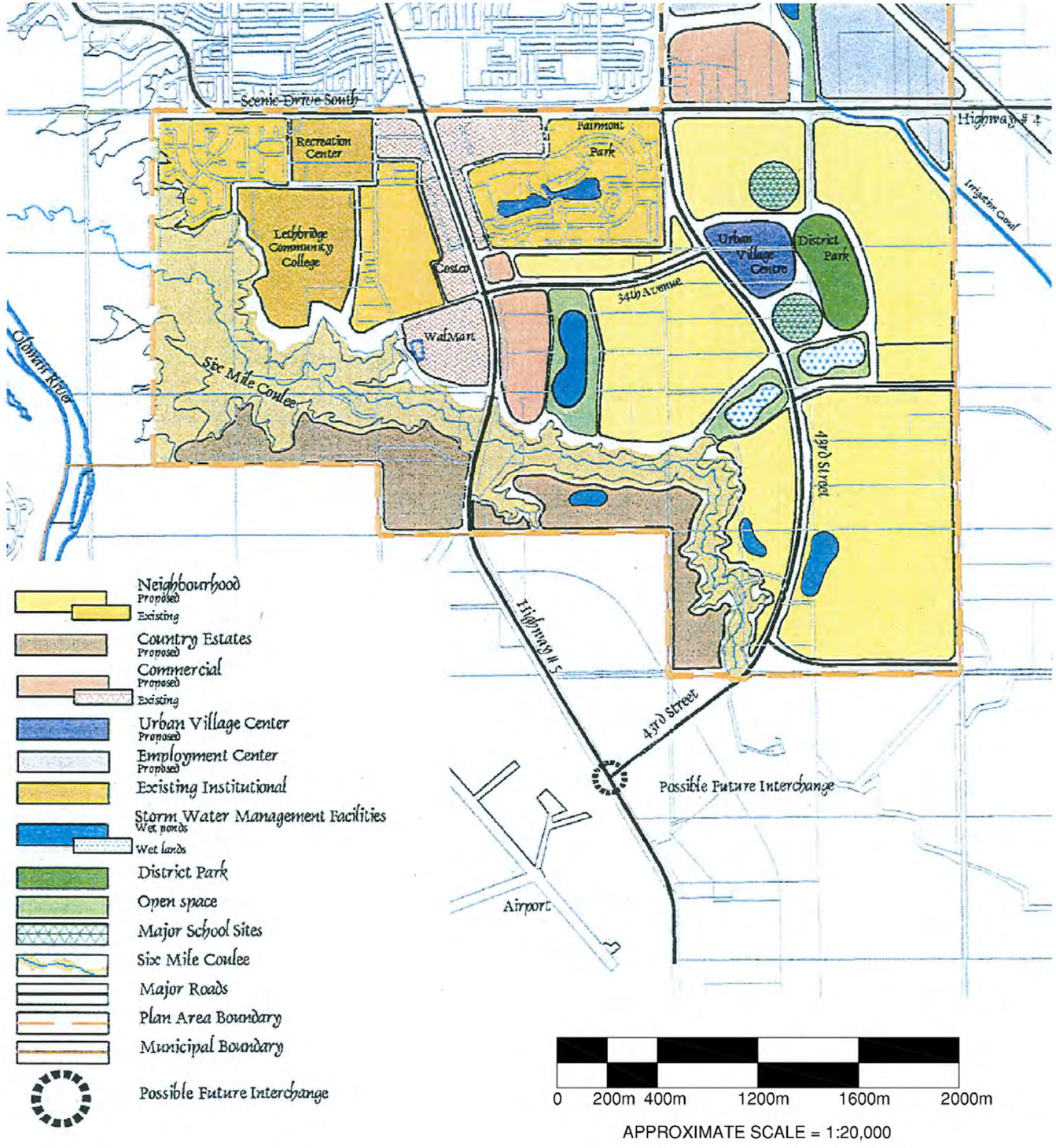

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 3.1
SELUP DEVELOPMENT CONCEPT

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4.0 Land Use Concept

4.1 Development Objectives

The overall goal of the Gold Canyon Outline Plan is to create a well-designed, attractive and liveable residential area. The key objectives of this Outline Plan are:

- Provide design detail to demonstrate the viability of this development and consistency with Lethbridge planning and design requirements;
- Ensure that development is setback sufficiently from the edge of Six Mile Coulee to protect development;

4.2 Land Use Concept Overview

The general land use concept is depicted on **Figure 2.2**. The purpose of the land use concept is to show the general relationship of proposed land uses. It is intended to guide future growth and development within the boundaries of the Outline Plan area. Therefore the location and size of the land uses shown on **Figure 2.2** are conceptual and general.

The Gold Canyon Estates development, when complete, will be comprised of single detached homes on large lots. The isolated location of the development and relatively small size does not warrant the provision of land uses normally found in other residential areas in Lethbridge. It has been concluded that local commercial, religious assembly and school sites, for example are not warranted in this area. Stormwater storage facilities will be designed for passive amenity purposes.

The overall gross developable area is 8.84 hectares. The net area available for residential lots will be 5.54 hectares. Based upon the minimum lot size of 0.135 hectares (0.33 acres) the maximum number of dwelling units is expected to be 37. Currently 1.63 ha (4.04 acres) of PUL has been set aside for storm drainage retention facilities. (See **Table 1 & Table 2**)

Table 1: Dwelling Units and Population Estimate

Dwelling Units	37
Total Estimated Population	104

TABLE 2: LAND USE AREAS			
GROSS AREA	Hectares	Acres	Percent %
ENVIRONMENTAL RESERVE	23.43	57.90	72.58
GROSS DEVELOPABLE AREA	8.84	21.86	27.41
TOTAL	32.27	79.76	100
GROSS DEVELOPABLE AREA			
ROADS	1.50	3.71	16.97
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TOTAL	8.84	21.86	100
NET DEVELOPABLE AREA			
LOW DENSITY RESIDENTIAL	5.54	13.70	100
TOTAL	5.54	13.70	100

5.0 Transportation

The TIA, undertaken by Bunt Associated in 2013, was originally based on a 40 unit buildout. The subdivision now has 37 lots. The revised development is expected to generate 28 trips during the AM peak hour and 36 trips during the PM peak hour. This will generate approximately 320 trips a day.

The analysis of study area road links and the intersections identified for analysis by the City of Lethbridge are expected to continue to operate within acceptable capacity parameters with the inclusion of the expected site traffic volumes. Traffic signals are not warranted based on traffic volumes.

Theoretical gap analysis confirmed that there would continue to be adequate time gaps for eastbound left and northbound left turning traffic at this intersection.

The intersection safety review covering collision history, intersection sight distance and the traffic speed along northbound Mayor Magrath Drive S (Highway 5) at the adjacent to the intersection, reveals that the safety aspects are adequately addressed by providing necessary traffic control devices at and adjacent to the intersection. However, in order to reinforce the safety and operation at the intersection, it is recommended that a Guide and Informatory Sign be provided conveying the message “Entering City Limits – Reduce Speed’, south of the horizontal curve as northbound Mayor Magrath Drive S (Highway 5) approaches the south City limits. It is also recommended that a Concealed Intersection Sign (WA-13L) be provided along the northbound Mayor Magrath Drive S (Highway 5), north of Township Road 82A at the horizontal curve, south of the study intersection.

The development transportation network is displayed on **Figure 4.1** and **Figure 4.2**. A non-standard 20m road right of way will traverse the area from the east to the northwest. The roadway will connect to the Sandstone Road. Alternate access will be available through easements adjacent to Sandstone Road and the southern boundary of the development, allowing for dual road access to the development in the event of an emergency. Three small cul-de-sacs (local roadways) will branch from the collector roadway which will end within the development.

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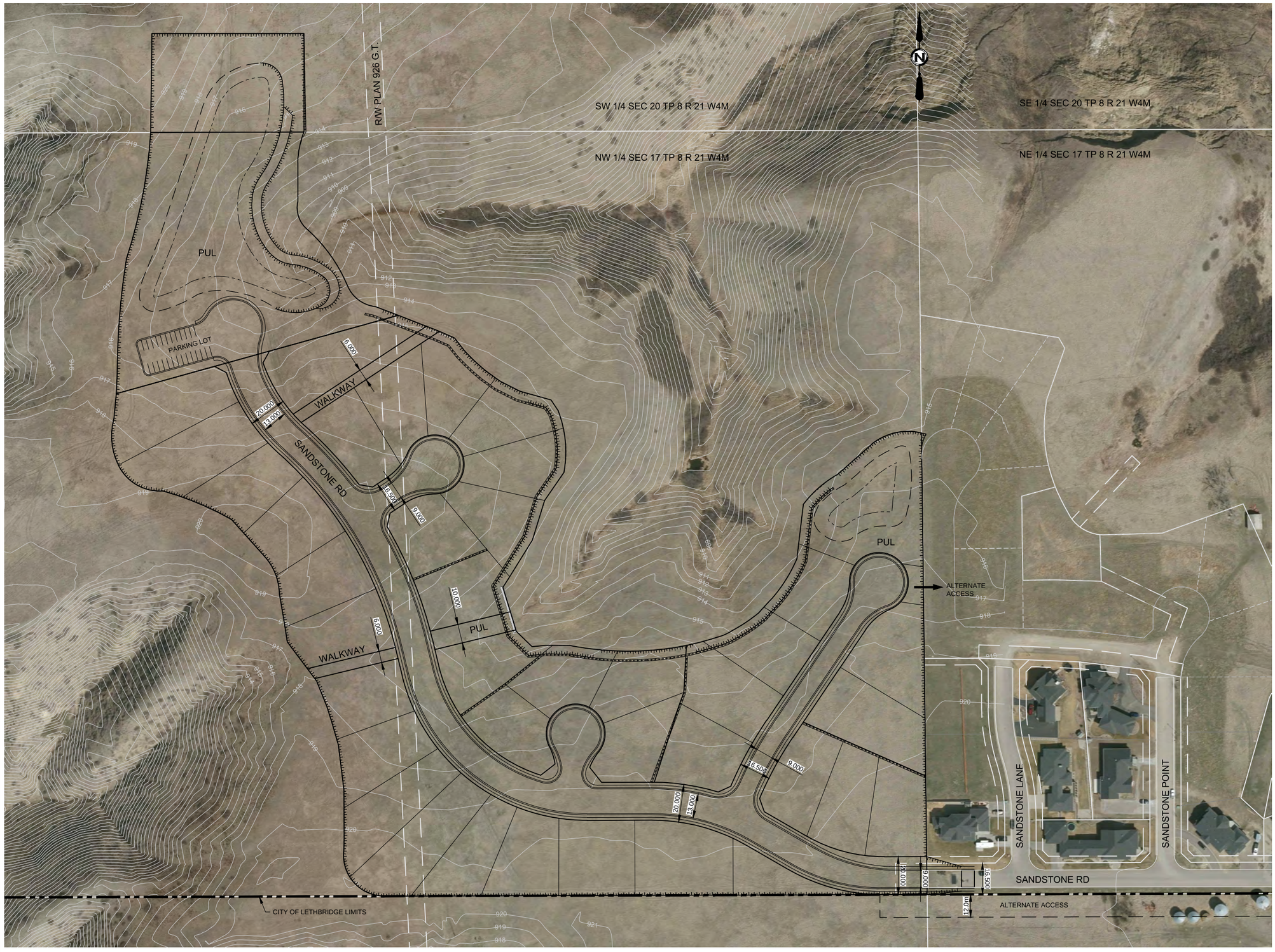

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 4.1
CONCEPTUAL LAYOUT

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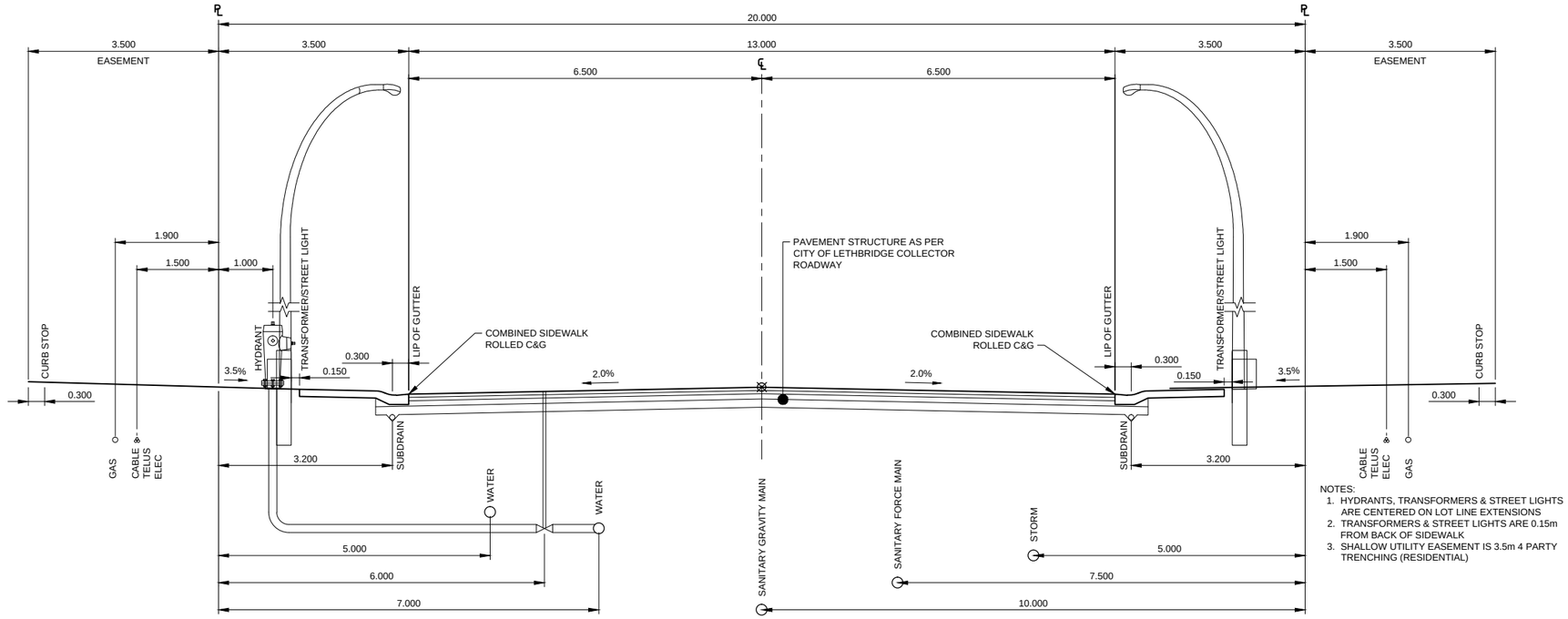

NOTES:
1. HYDRANTS, TRANSFORMERS & STREET LIGHTS ARE CENTERED ON LOT LINE EXTENSIONS
2. TRANSFORMERS & STREET LIGHTS ARE 0.15m FROM BACK OF SIDEWALK
3. SHALLOW UTILITY EASEMENT IS 3.5m 4 PARTY TRENCHING (RESIDENTIAL)

SECTION 1:50

20.00m RIGHT-OF-WAY

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 4.2
ROAD CROSS SECTION

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Emergency access will be accommodated in an easement that exists along the northern edge of the S ½ of NE 17-08-21-W4 (Helen Nagy) for the benefit of NW 17- 08-21-W4. The easement will be continued into the NW 17. (Bunt & Associate Gold Canyon TIA Oct 2013) The gravel road will be extended and finished to an all-weather standard as required.

Figure 4.3 shows the traffic generated by this development and the post-development traffic volumes at the connection points to the existing transportation network. A preliminary Traffic Impact Assessment (TIA) was completed prior to the twinning of Highway 5 beyond the Prairie Arbour development. A revised TIA was completed and both are included in Appendix F.

6.0 Municipal Infrastructure

6.1 Stormwater Management

Stormwater from the site will be collected in two dry stormwater management facilities. Each pond will have a controlled discharge to Six Mile Coulee.

A minor drainage system will be provided to convey frequent rain events to the stormwater management facilities. The minor system will be designed based on a unit release rate of 90 l/s/ha. The proposed minor stormwater system is show in **Figure 5.1.**

A major drainage system will be provided to convey extreme rainfall events to the stormwater management facilities. The proposed major stormwater system is shown in **Figure 5.1**.

All site drainage up to the 1:100 year, 24 hour design rainstorm will be directed to two stormwater ponds. Each pond is sized to discharge at a rate not exceeding 6.25 l/s/ha. The approved release rate will significantly reduce the peak flow to 6 Mile Coulee during major rain events. **Figure 5.2** shows the estimated pre-development catchment areas and flows, compared to the post development condition. In order to mitigate the effects of the additional runoff volume, erosion protection will be required downstream of the pond outlets. The erosion measures are expected to include a combination of synthetic and bio-engineering features in strategic locations that are most prone to erosion.

Pond design requirements are summarized in **Table 3**.

Table 3 Storm Pond Design Requirements

	West Catchment	East Catchment
Total Area	7.4 ha	1.7 ha
Impervious Area	55%	55%
Total Design Rainfall	120 mm	120 mm
Runoff Volume	6, 200 m3	1,500 m^3
Pond Details	Dry Pond	Dry Pond
Release Rate1	46.0 l/s	10.7 l/s
Volume	4,350 m3	1,050 m3
Area at HWL	0.38 ha	0.11 ha
Depth	1.5 m	1.5 m
Side Slopes	5:1	5:1

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1 PLAN 1:4000
SITE GENERATED TRAFFIC VOLUMES

2 PLAN 1:4000
POST DEVELOPMENT TRAFFIC VOLUMES

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	VEHICLE VOLUME DIRECTION
XX	VEHICLE VOLUME AM PEAK
(YY)	VEHICLE VOLUME PM PEAK

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 4.3
TRAFFIC VOLUME PLAN

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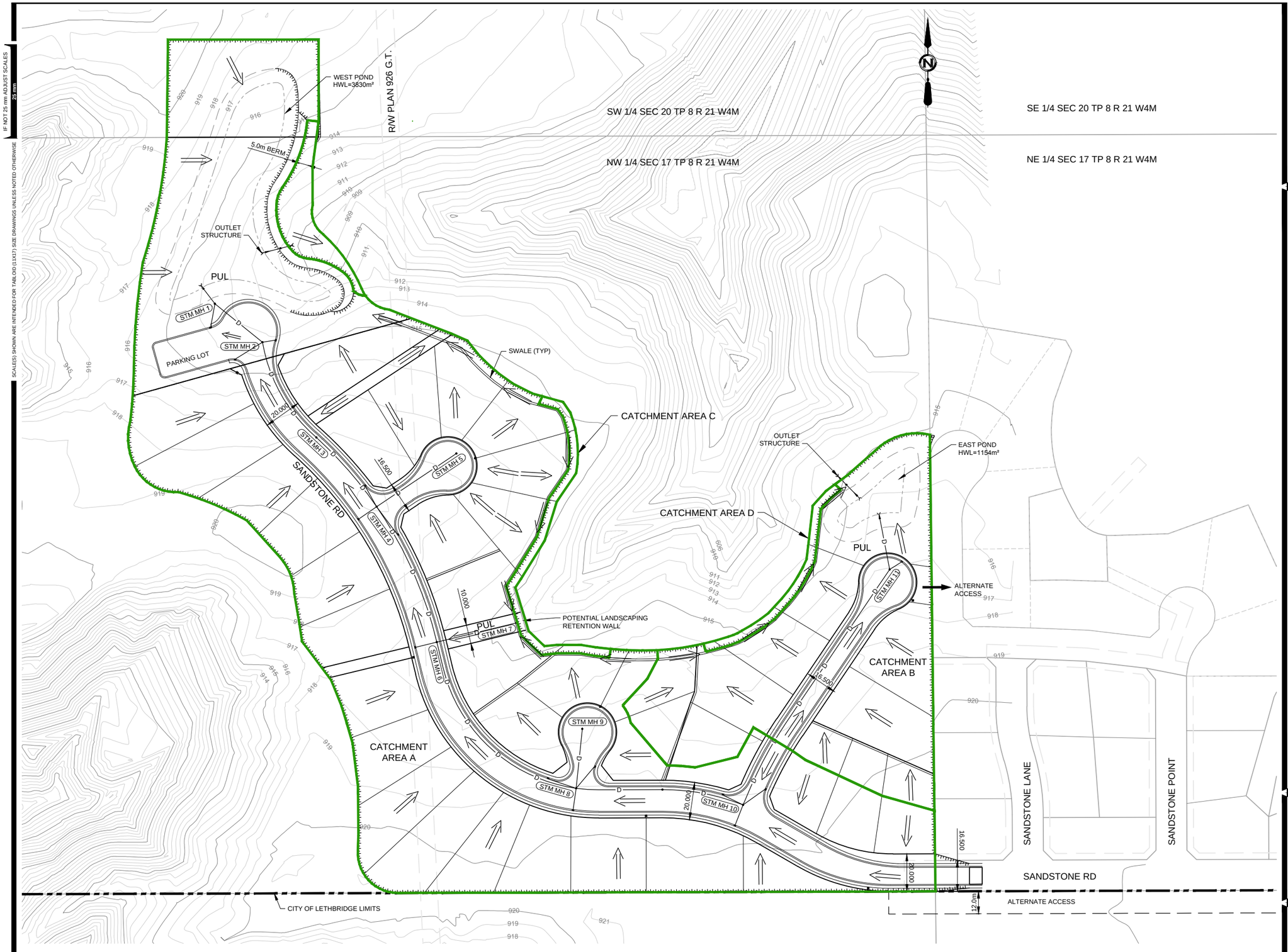

PLAN 1:1000

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LEGEND

- CATCHMENT BOUNDARY
- PRE-DEVELOPMENT MAJOR CONTOURS (5.0m INTERVALS)
- PRE-DEVELOPMENT MINOR CONTOURS (1.0m INTERVALS)
- OVERLAND FLOW DIRECTION
- STORM SEWER & DIRECTION OF FLOW
- STORM MANHOLE
- CATCH BASIN & LEADS
- DRY POND INLET/OUTLET

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 5.1
STORM SEWER LAYOUT

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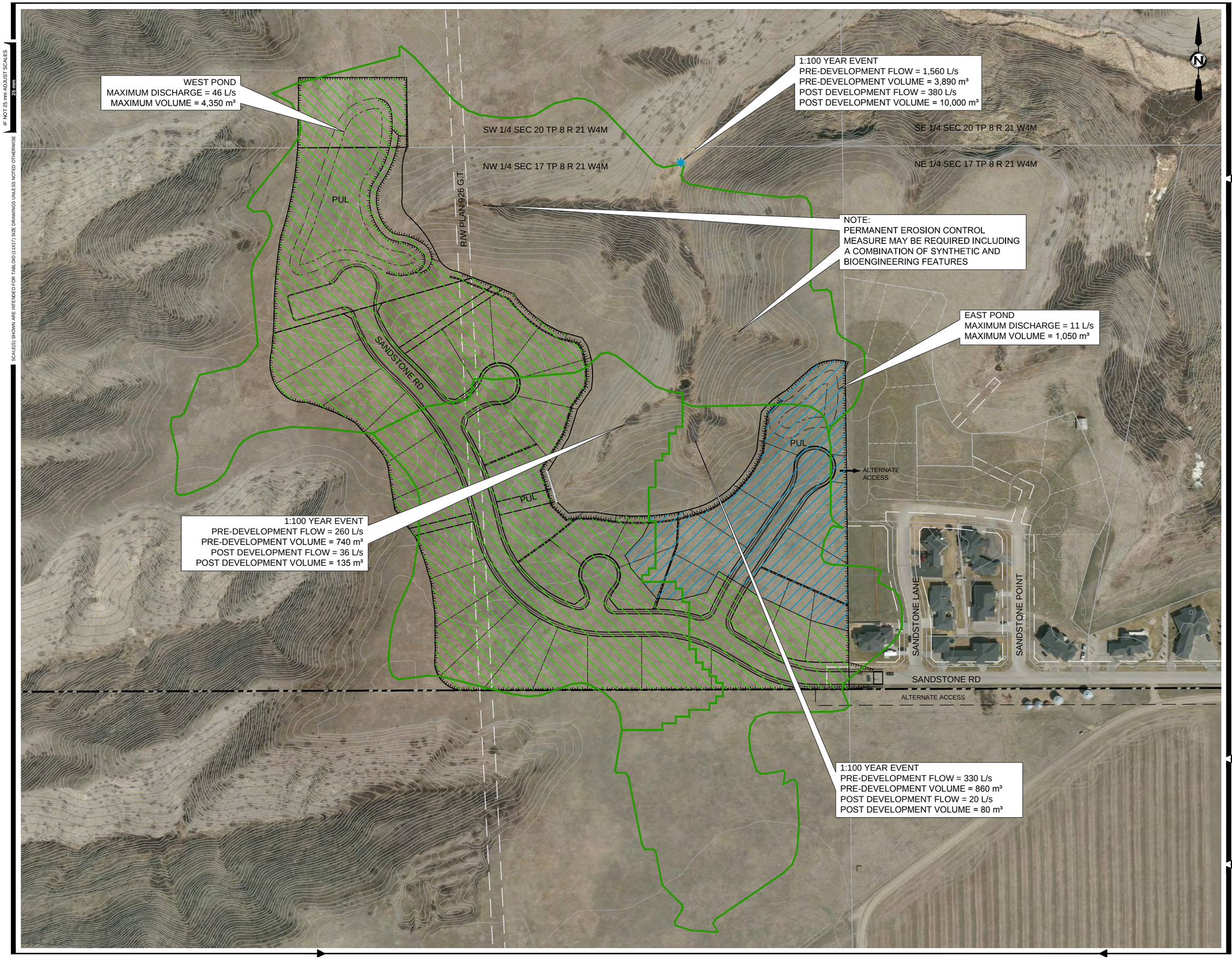
DATE	2015OCT09



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LEGEND

- COULEE OUTLET
- ESTIMATED PRE-DEVELOPMENT CATCHMENTS
- PROPOSED POST DEVELOPMENT WEST POND CATCHMENT
- PROPOSED POST DEVELOPMENT EAST POND CATCHMENT
- PRE-DEVELOPMENT MAJOR CONTOURS (5.0m INTERVALS)
- PRE-DEVELOPMENT MINOR CONTOURS (1.0m INTERVALS)

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 5.2
STORM WATER ANALYSIS

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6.2 Wastewater System

The sanitary sewer system for the planning area will discharge to the existing 200 mm sanitary sewer located at the west end of Sandstone Road. **Figure 6.1, 6.2 and 6.3** show the conceptual design of the proposed sanitary sewer system that will service the area. Portions of the sewer will need to be deeper installations and will require an upper main for service connections.

A lift station will be required to service the Gold Canyon area as well as the remaining un- serviced lands in the Sandstone Development. The estimated design flows for the development are presented in **Table 4** below.

Table 4 Sanitary Sewer Design Flows

Area	Lots	Population [1]	Peaking Factor	Dry Weather Flow[2] (m^3/day)	Wet Weather Flow[3] (m^3/day)	Infiltration[4] (m^3/day)	Total (m^3/day)	Total (l/s)
Gold Canyon	38	95	4.25	38.0	47.5	14.3	223.2	2.58
Sandstone	12	30	4.35	12.0	15.0	4.5	71.8	0.83
Total	50	125	4.22	50.0	62.5	18.8	292.0	3.38

[1]Population based on 2.5 persons per lot.
[2]Dry weather flow rate: 400 l/c/day
[3]Wet Weather flow rate: 500 l/c/day
[4]Infiltration allowance: 150 l/c/day

6.3 Water Supply and Distribution

Potable water will be provided to the site through a looped main installed in Sandstone Road. The water main loop will be connected at two points in Sandstone Road. The proposed water main sizes and alignments are shown in **Figure 7.1**. The estimated design flows for the development are presented in **Table 5** below.

Table 5 Water Design Flows

Demand Scenario	Full Development	
	MLD	**L/s**
Average Day Demand	0.07	0.8
Maximum **Day Demand**	0.15	1.7
Peak **Hour Demand**	0.23	2.7
Design **Population**	95	

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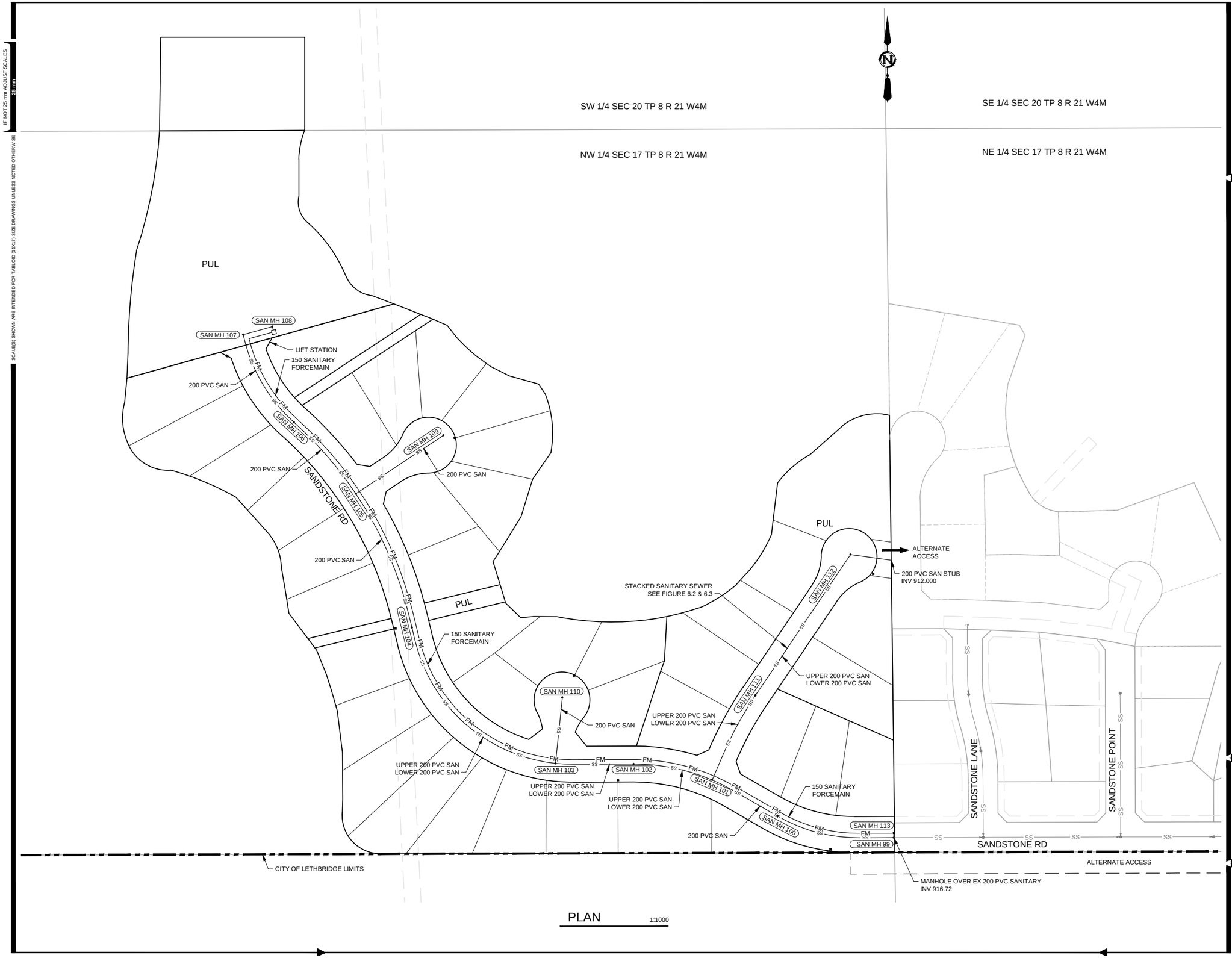

PLAN 1:1000

LEGEND

- SS —— SANITARY SEWER & DIRECTION OF FLOW
- SANITARY MANHOLE
- FM —— SANITARY FORCEMAIN
- SS —— EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 6.1
SANITARY SEWER LAYOUT

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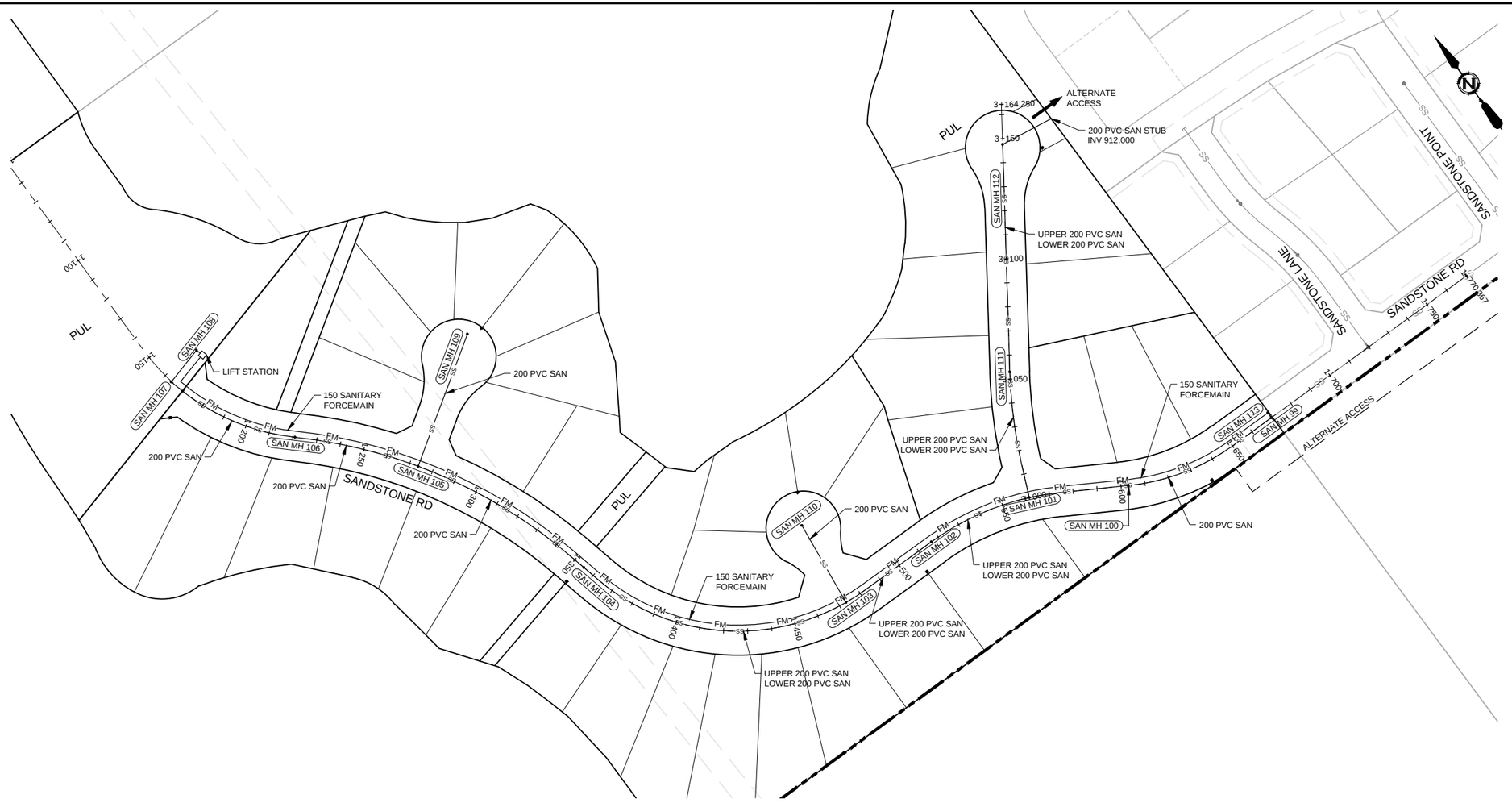
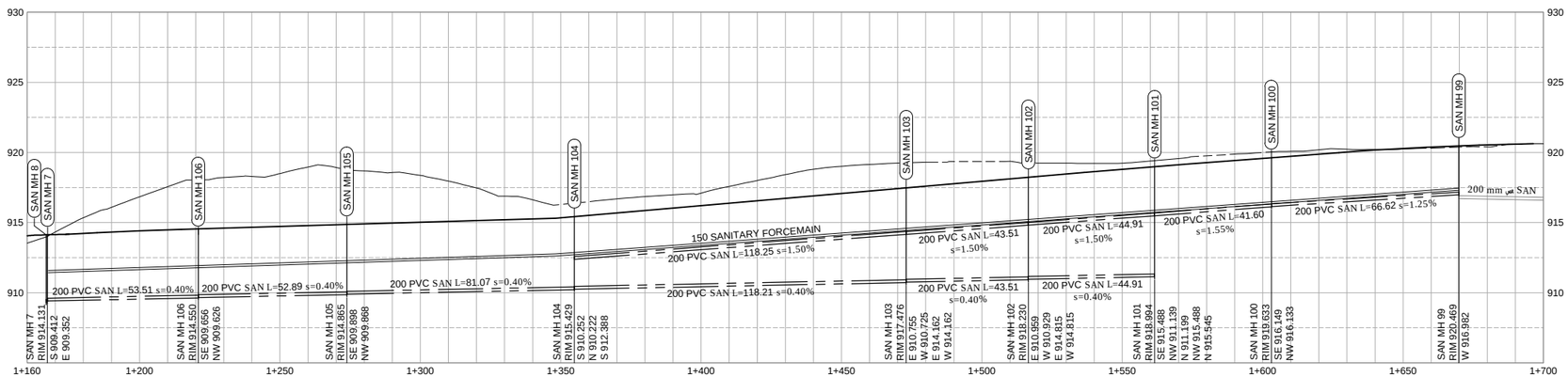


PLAN 1:1000



PROFILE H 1:1000 V 1:200

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LEGEND

- SS — SANITARY SEWER & DIRECTION OF FLOW
- SANITARY MANHOLE
- FM — SANITARY FORCEMAIN
- SS — EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE

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FIGURE 6.2
SANITARY SEWER PLAN AND PROFILE 1

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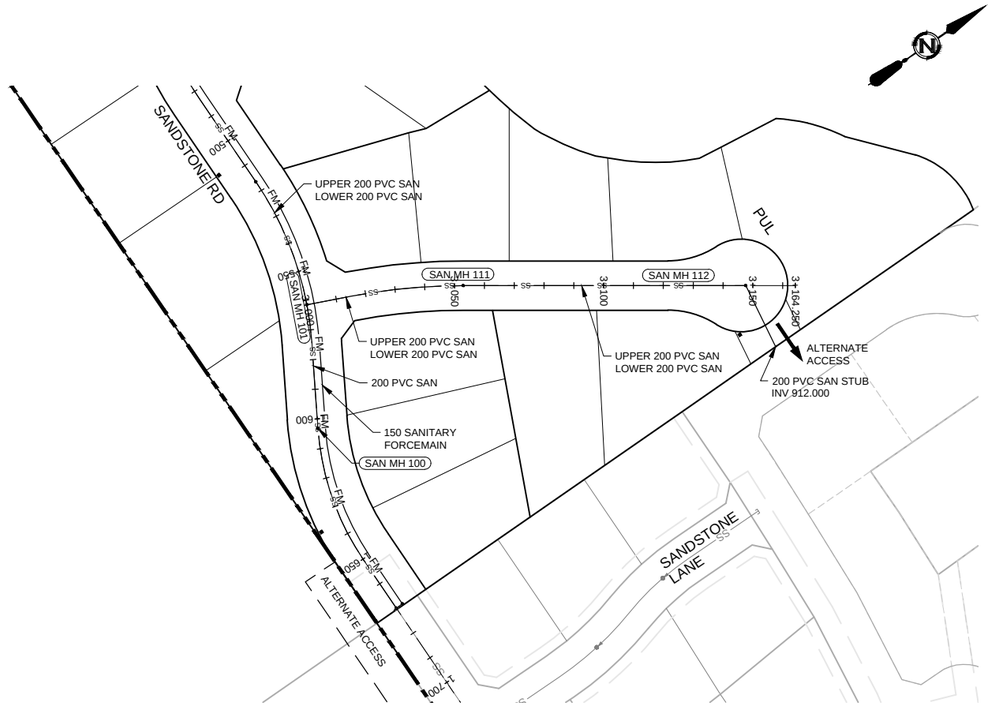
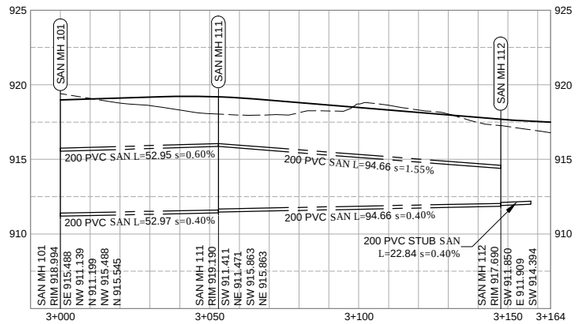


PLAN 1:1000



PROFILE H 1:1000 V 1:200

LEGEND

- SS —— SANITARY SEWER & DIRECTION OF FLOW
- SANITARY MANHOLE
- FM —— SANITARY FORCEMAIN
- SS —— EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 6.3
SANITARY SEWER PLAN AND PROFILE 2

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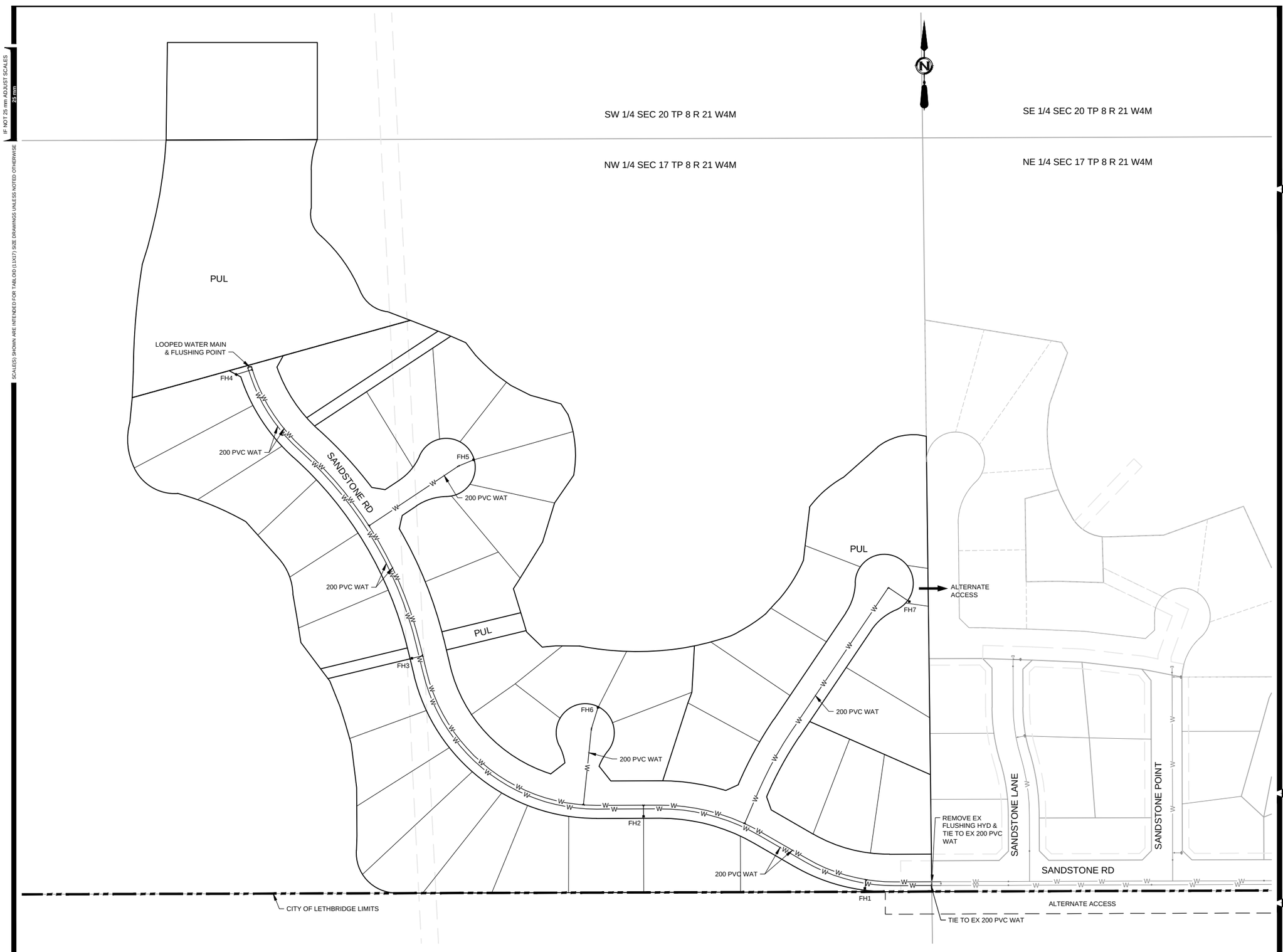

PLAN 1:1000

LEGEND

- SS — SANITARY SEWER & DIRECTION OF FLOW
- SANITARY MANHOLE
- FM — SANITARY FORCEMAIN
- SS — EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE

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GOLD CANYON ESTATES
OUTLINE PLAN

FIGURE 7.1
WATER LAYOUT

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6.4 Shallow Utilities

Shallow utilities, including electrical services, natural gas telephone and cable television required to service the development will be from extensions to the existing infrastructure. Detailed design for these utilities will be provided for the development in the subdivision plan stage.
Natural gas will be provided by ATCO gas and will come from a high pressure line located on the south east corner of the development area.
Electrical service will be provided by the City of Lethbridge and will come from Highway 5. A full electrical design will be provided for the development in the subdivision plan stage.

7.0 Sequence of Urban Growth

7.1 Phasing

The development phasing for the Outline Plan area should proceed in an orderly pattern based upon servicing availability commencing from the east.

8.0 Pathways and Greenspaces

The parcel to be developed has approximately 8.84 ha of developable area based upon the slope stability analysis. The remaining area will be dedicated to an environmental reserve as per the development concept of recognizing long term stability of the coulee slopes.

The pathways and greenspaces are displayed in Figure 2.2. Pedestrian access to the environmental reserve will be provided by a walkway to the north. At sometime in the future, the City of Lethbridge intends to construct a perimeter pathway around the development on the environmental reserve lands.

Two public utility lots are designed to be dry ponds for the stormwater collection system. During dry periods they will act as open green space that may be used by city residents. No playgrounds will be provided in this space as no area is provided above the predicted high water level.

Land surrounding the drainage ponds will be graded to meet Alberta Environment slope requirements. Landscaping will be designed to integrate the existing fabric to the pond land-scape design. Land adjacent to the coulee will be left in its natural state and consist of natural grasses and plants.

Municipal Reserve dedication shall be satisfied by a cash-in-lieu payment as per requirements of the Municipal Government Act.

9.0 Architectural Controls

Architectural controls will be finalized and enforced by an architect. Key points to be included in these controls include:

1) Minimum house size
2) Allowable construction type
3) Allowable finish materials
4) Minimum landscaping requirements
5) Covered garage requirements

10.0 Fire Protection

Public roadways will be designed to ensure safe emergency vehicle passage. The City of Lethbridge “Emergency Response Time Modelling” for Gold Canyon Estates will be reviewed at the time of subdivision approval in order to meet applicable provincial regulations. Modeling completed by the City of Lethbridge indicates that the HIRF requirements of the Alberta Building code will apply to a portion of the subdivision.

11.0 Mail Service

The location of community mailboxes will be determined in conjunction with Canada Post at the time of detailed design. Community mailboxes are typically located adjacent to the City sidewalk along the long frontage of corner lots or along the opening of park space.