

**AREA STRUCTURE PLAN  
FOR PROPOSED  
BRIDGE CROSSING SUBDIVISION**

**LOT 1; BLOCK 26; PLAN 2023GL**

**BLOCK 50; PLAN 2039I**

**Lots 22-26; Block 27; Plan 7810356**

**OT; PLAN 2039I**

**UI; Block 50; Plan 7810356**



Submitted To:  
Town of Raymond

**PREPARED FOR:**

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### APPENDIX A: FIGURES

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### APPENDIX C: SITE GEOTECHNICAL ANALYTICAL RESULTS

### APPENDIX D: LAND TITLES

## 1.0 INTRODUCTION

The purpose of this Area Structure Plan is to describe the development and the municipal servicing strategy for the proposed development.

This document outlines a conceptual plan for a proposed subdivision located at:

1. Lot 1; Block 26; Plan 2023GL – R-1 (General Residential)
2. Block 50; Plan 2039I – R-1 (General Residential)
3. Lots 22-26, Block 27, Plan 7810356 – R-1 (General Residential)
4. OT; Plan 2039I – DC-1 (Direct Control)
5. U1, Block 50, Plan 7810356 – DC-1 (Direct Control)

All of the above parcels are located within the municipality of Raymond, AB (refer to Figure 1.1 for location plan). The parcels under consideration are located south of 100 North, between 300 and 400 West, in Raymond, AB. (refer to Figures 1.2 & 2.1). There is one existing house located on Block 50; Plan 2039I, within the proposed development which will remain as a newly titled lot. The proposed subdivision is bordered by existing residential properties in all directions as well as an LDS church along the southeast side. The development includes **five** undeveloped parcels with **three** of those owned by the municipality of Raymond (road closure plan and parcel 14, both with legal description Plan 2039I).

The proposed land use is General Residential (R-1). The client proposes to develop approximately 8.69 hectares of mostly undeveloped grassland property from **five** parcels. An overview of the site and the proposed lot layout is provided in Figures 1.1 and 2.1. Proposed lot sizes are from 1/5 acre up to a maximum of 1/2 acre with the existing house lot sized at approximately .94ha.(2.32ac.).

The developer proposes to dedicate .59ha. (1.46ac.) as municipal reserve for a Storm Water Management and multi-recreational use facility. This facility will be completed as a grass field and also landscaped. As such, it will be used as a park area by residents. This is intended to match the Town of Raymond land use bylaw requirements.

The client is proposing to develop the property into a residential subdivision that meets Town of Raymond planning goals and objectives.

## 2.0 PLANS AND DRAWINGS

In order to illustrate the location of the property, site drainage, and the proposed subdivision layout, seven figures have been prepared. The figures are provided in Appendix A and are as follows:

- 1.1 Location Plan
- 1.2 Existing Legal & Zoning Site Plan
- 2.1 Site Plan, **Land Use Plan & Phasing Plan**
- 2.2 Traffic Integration Concept
- 3.1 Water, Storm, & Sanitary Servicing Plan
- 4.1 Existing Ground Contours
- 5.1 Existing Ground Section A-A Plan & Profile
- 5.2 Existing Ground Section B-B Plan & Profile
- 5.3 Standard Details
- 5.4 Standard Details

These maps are conceptual in nature and are to be used for planning purposes only. Upon ASP and re-zoning approval, design drawing and plans will be prepared and submitted for review.

## 3.0 LAND USE CONCEPT

### 3.1 *Development Objectives*

The overall goal of the subdivision is to establish a framework for merging new residential use properties with existing residential and public use areas. The proposed development has been designed to optimize land use within an existing parcel & integrate with the pre-developed areas. This land use also conforms to the Town of Raymond land use bylaw.

### 3.2 *Land Use & Zoning*

The existing zoning for the properties included in this development are shown in Figure 1.2. The entire development is proposed to be General Residential (R-1). **Although the initial plan is to provide single family lots, there is the future potential to allow for affordable housing. Many of the lots are sized adequately to allow for duplex sites. Based on current need we estimate that up to 10 lots could be used for duplex purposes. This would be approved at the discretion of the development authority in accordance with the land use bylaw. Road widths and other infrastructure will be designed to accommodate up to 62 new units. Accessory dwelling units will be considered in accordance with the land use bylaw. This ASP allows for 53 residential lots (including the existing house) and further subdivision thereof will require an ASP amendment. Tentative lot line locations have been shown but these are approximations only. Final lot**

lines will meet the standard set forth in the land use bylaw and will be finalized at the subdivision phase.

### 3.3 Proposed Land Use & Population Predictions

The distribution of land use within the proposed ASP is shown in Table 1 below. Population projections for the ASP area are provided in Table 2. The projected number of new dwelling units is 62 as shown on the Site Plan. The developable residential area is approximately 8.1 hectares giving an overall residential density of 7.65 units/hectares and a projected total population of 248.

**Table 1: Land Use Statistics**

	<b>Hectares (Ac.)</b>	<b>Percent</b>
<b>Developable Area</b>	<b>8.10 (20.01)</b>	<b>93.2%</b>
Road Allowance	1.14 (2.82)	14.1rr%
R-1 Single Detached Residential Lots	6.80 (16.80)	84.0%
Public Utility Lots	0.16 (0.39)	1.9%
<b>Municipal Reserve</b>	<b>0.59 (1.46)</b>	<b>6.8%</b>
<b>Gross Area</b>	<b>8.69 (21.47)</b>	<b>100%</b>

**Table 2: Population Projections**

	<b>Units</b>	<b>Persons per Unit</b>	<b>Total Population</b>
Developable Area +/- 11.34 ha	62	4	248

### 4.0 SERVICING

In order to determine the viability of this development, preliminary evaluations have been performed with respect to servicing. Key service items include water, sanitary sewer, storm water drainage collection, natural gas, telephone, television, and electric. Additional information on key services is included in this section.

As shown in the document, the storm pond and connection to the Town storm system is to be added as part of Phase 1. Phase 1 will not require any deep utilities but will be serviced from 100 North. The phasing has been specifically designed so that it connects in series so that the remainder of the shallow, and deep utilities and streets will correspond to the respective phase as shown on the map. Paving will be delayed to the end of each phase to minimize construction wear.

#### 4.1 Sanitary Sewer System

This development will be serviced using Town of Raymond sewage infrastructure. Design criteria and predicted sanitary sewage flows are shown in Table 3 below.

**Table 3: Sanitary Sewer Design Criteria**

POP	DWF (L/d/cap)	PF	PEAK FLOW (L/d/cap)	WWF (L/d/cap)	IA (L/d/cap)	TOTAL (L/d/cap)	TOTAL FLOW (L/m)
248	400	4.12	1648	500	150	2298	396

POP - Population

L/d/cap - Liters per day per Capita

DWF - Dry Weather Flows

L/m - Liters per minute

PF - Peaking Factor

WWF - Wet Water Flow

IA - Infiltration Allowance

Each lot will be serviced by a 100mm (4") diameter pipe at a min. slope of 2% from the property line to the sanitary main. Each new sanitary main to be a 200mm (8") diameter pipe with a minimum slope of 0.6% (refer to Figure 3.1). This pipe size will easily contain the predicted Peak Flow rates. All sanitary piping will be gravity fed back into the existing Town of Raymond sanitary manhole located in the intersection of 100 North and 300 West.

A temporary manhole, cleanout, or other structure will be provided where "dead ends" occur due to construction phasing.

This design will also evaluate alternatives for sump pump drainage so as to not overload the sanitary system.

#### 4.2 Water System

These lots will be serviced using Town of Raymond water supply. Predicted domestic Peak Flow rates are shown in Table 4 below.

**Table 4: Water System Design Criteria**

POP	MHD (L/m)	MDD (L/m)	2 HYD (L/m)	3 HYD (L/m)	TOTAL (L/m)
248	1.74	-	-	-	432
248	-	0.69	-	-	172
248	-	0.69	4,000	-	4,172
248	-	0.69	-	5,000	5,172

POP - Population

MHD - Maximum Hourly Demand

MDD - Maximum Daily Demand

2 HYD - 2 Hydrant Fire Flow of 4,000 L/m

3 HYD - 3 Hydrant Fire Flow of 5,000 L/m

L/m - Liters per minute

Since water lines servicing the area are only 150mm (6") in diameter, the system will meet Maximum Hourly Demand (MHD) but not meet fire-flow requirements currently. Fire flow will be improved as the Town upgrades existing water lines as part of their long term improvement plan.

The water distribution system shows (refer to Figure 3.1) a PUL for future looping of the proposed water system to meet the requirements of the Town of Raymond Engineering Standards.

Each lot will be serviced by a 20mm (3/4") diameter line complete with curb stop. Water mains located beneath each new road will be a min. of 200mm (8") diameter, running parallel to the new storm and sanitary piping located under the new roads as well. The new water mains will tie into the existing water main running east/west under 100 North at the 300 West intersection.

#### **4.3 Fire Protection**

A 200mm diameter water main will be provided throughout the development and connected to hydrants to provide a supply of water for firefighting purposes. Hydrants will be spaced at a maximum of 200 meters in residential areas. The fire protection piping network system for the development will be designed to conform to the Town of Raymond engineering standards including NFPA 1142 where possible.

#### **4.4 Storm Sewer System**

A storm drainage analysis was conducted for this site (refer to Section 6.0 & Appendix B). This section describes the Minor (underground) and Major (overland) drainage infrastructure.

##### **Minor System**

The Minor system is composed of underground sewers which will convey the storm water by gravity to the SWMF (refer to Figure 3.1). The storm sewer network will consist of catch basins, manholes, and piping which meeting the Town of Raymond engineering standards.

##### **Major System**

The Major system is composed of surface features such as gutters, swales, roads, roof systems, and lot grading which is all designed to drain storm water to the SWMF. For additional details on the storm drainage design, refer to Section 6.0.

#### **4.5 Gas**

Natural gas distribution infrastructure in the area surrounding the site is operated by ATCO Gas. ATCO will distribute natural gas within the development. Each home owner is responsible for the cost of the service from the main line to their lot.

#### **4.6 Electrical Power**

Fortis will provide services to the proposed subdivision and underground services to each property line.

#### **4.7 Telephone**

Telus will provide services to the lots, but each individual owner must apply for the service when building.

#### **4.8 Shaw Cable**

Shaw Cable will provide services to the lots, but each individual owner must apply for the service when building.

### **5.0 TRANSPORTATION**

In developing this plan the existing street network and the inter-municipal development plan were studied and considered.

In 2008, the Town of Raymond completed a Master Transportation Plan document. The purpose of this plan was to evaluate the existing and future transportation issues. The plan projects traffic to the year 2028 and allows for 262 new homes and a new senior facility to be built in Raymond over that time period. As part of that analysis, 100 North is classified as a collection road with a potential capacity of up to 8000 cars/ day. 300 West and 250 West are both classified as local roads with a capacity of up to 1000 vehicles per day. This development could add up to 62 dwelling units to the Town, well below the predicted 262 homes to be added.

The study evaluates current and future peak traffic flow in the Town including on 100 North. In 2008, the measured traffic flow at the intersection of 100 North and 200 West was less than 100 total vehicles (both directions). The performance of that intersection is classified as Level of Service A, which means very short waiting periods. It is currently, and predicted in the future to work well within its designed capacity.

On June 3, 2015 a traffic count was performed at the intersection of 300 West and 100 North to evaluate existing traffic flow through that intersection. The count occurred from 7:30 a.m. until 8:30 a.m. to monitor the a.m. peak flow. During that period there were 11 vehicles straight through and 7 vehicles coming from 300 West onto 100 North and 1 vehicle turning into 300 West. No waiting or queuing was observed during that time period. This indicates the intersection is currently at a Level of Service A and is functioning well below its design capacity.

Adding this development will increase peak hour traffic on 100 North and 300 West by approximately 1.1 vehicles per unit. This could increase total peak hour traffic by approximately 80 vehicles. Adding this traffic to the total existing flow still results in total



traffic numbers well below the design capacity of both 100 North (collector) and 300 West (a local road).

A layout of the existing road network and future planning within the County and Town are shown in Figure 2.2. Key points in developing this road network included:

1. 100 North and 100 South are major east west collectors
2. Due to the location of the LDS church to the east, Church Avenue will not be an east-west connector
3. 400 West is proposed to be a future arterial.
4. Currently the Town does not own the 400 West right of way between 100 North and 100 South.
5. 300 West is currently classified as a local road.

The overall transportation concept was developed to maximize the effectiveness of the road work within the development while integrating into the existing and proposed transportation network. Currently 300 West connects to Highway 52 and although it is currently a local road, has the potential to act as a minor collector to serving the south side of town. As such, 300 West is designed to be a through road and will be sized as a collector. A connection to 400 West has also been provided (refer to Figure 2.1). In addition, the cul de sac has been oversized to allow for better access to buses and other municipal services. This will minimize congestion and allow room for snow removal and other services to be provided.

The primary access to the subdivision will be from 300 West which will be extended approximately 320 meters to the south of 100 North where it will “dead end”. The 300 West extension will be a 20 meter wide minor collector roadway. There are two proposed roads which will “T” off to the west from the 300 West extension. These two roadways will be 18 meter wide local roads (see Figure 2.1 for new road layouts).

Sidewalks have been limited to one side of each proposed road within the development (refer to Figure 5.3 for road cross sections). The new roads within the subdivision will be paved in asphalt complete with curb and gutter systems which comply with Town of Raymond engineering standards.

The proposed bike path will be dedicated in the form of Municipal Reserve or public utility lots on the final plan of the subdivision to provide for pedestrian and bicycle circulation through the development. However, the land east of the development is not owned by the developer.

## 6.0 SITE DRAINAGE AND GRADING

All drainage onsite must conform to Town of Raymond and Alberta Environmental requirements. Documents referred to when completing this analysis included Alberta Environment Storm Water Management Guidelines (1999). This document also includes descriptions of Best Management Practices (BMPs) which are used to mitigate peak runoff values. These practices combined with the dry pond, will provide control and containment of storm runoff over the entire development. As can be seen in Figures 4.1,

5.1, & 5.2 of the ASP, drainage on the existing ground generally flows towards the northeast.

## 6.1 **Site Drainage**

### Existing Conditions

The existing development site is mostly open grass land with no structures or landscaping, with the exception of the existing house.

The existing topography of the subject land shows that the ground generally slopes away from the south development boundary to the northeast and northwest downward toward to a low spot near the center of the development. There is a ditch and culvert at this low spot, under the existing gravel access road, to divert overland drainage to the northwest towards 100 North.

There are two high elevation points, one is the existing house and the other is a high mound located northwest of the house.

Pre-development storm drainage patterns are described in greater detail in the Hydrogeological and Site Drainage Analysis completed for the site by Hasegawa Engineering and attached to this document as Appendix B.

Drainage from the properties to the south and LDS church parking lot to the east both comes through the existing land. As such, provisions have been made to continue to accommodate these flows. They will be part of the overland flow in the road right of way.

### Post-development

A detailed drainage analysis was performed for the site to compare pre and post-development storm drainage patterns. The results of this analysis are included in Appendix B. A summary of the findings of this report appear below.

The curb and gutter systems of the internal roadways will provide the primary channels for storm drainage within the proposed development. Rear lot swales will be utilized to direct storm water east into catch basins or directly into the storm water management facility. Rear yards and the existing residential lot adjacent to the storm pond will be sloped to direct overland drainage into the storm water management facility.

Storm water runoff will be detained in the SWMF and released into existing Town of Raymond storm sewer system through an outlet structure. The outlet control structure will be designed to limit peak release rate to the peak pre-development runoff rate for a 1:5 year 4 hour design storm.

To determine the required active storage volume of the dry pond, a hydrologic model of the site was prepared using the PC SWMM hydrologic modeling software package. The hydrologic model was used to estimate the pre-development release rate for a 1:5 year, 4 hour storm event. The hydrologic model of the site post-development was then analyzed using a 1:100 year 24 hour design storm event. The SWMF was sized to

detain runoff and reduce the post-development peak flow rate to no more than the pre-development release rate. Detailed methods and results of surface runoff analysis are provided in Appendix B.

The results of the hydrologic modeling indicate a peak post development runoff rate of approximately 3.52 m<sup>3</sup>/s from the development to the SWMF and a required storage volume of 5,676 cubic meters to attenuate the peak runoff from the site. Refer to Appendix B for complete SWMM figures and models. Figure 2.1 shows the proposed dry pond footprint. As noted above, the outlet control structure and dry pond will attenuate the peak runoff from the site. A drain pipe from outlet structure will be required to drain the pond to the existing storm sewer located in 100 North. The hydrologic model will be reviewed during the detailed design stage to confirm the required capacity of the overland drainage system and culverts.

A diagram showing the proposed pond design as related to the site groundwater and storm drain is shown in Figure 5.5. As can be seen by this figure the bottom of the pond is situated above the observed water table. Also, it will be graded to drain to the storm sewer.

## 7.0 SITE GEOTECHNICAL SCREENING

Preliminary site investigation activities for the subject property included subsurface investigations to determine existing soil properties and suitability for development. These investigation activities involved the digging of two test holes, one at the north side of the property, and one on the south side of the property (refer to Figure 1.2 for test hole locations).

Each test hole was advanced to a depth of 1.8m (6') below grade. The upper water bearing zone (water table) was encountered at a depth of 1.7m (5.5') in TH-1, and 1.5m (5') in TH-2.

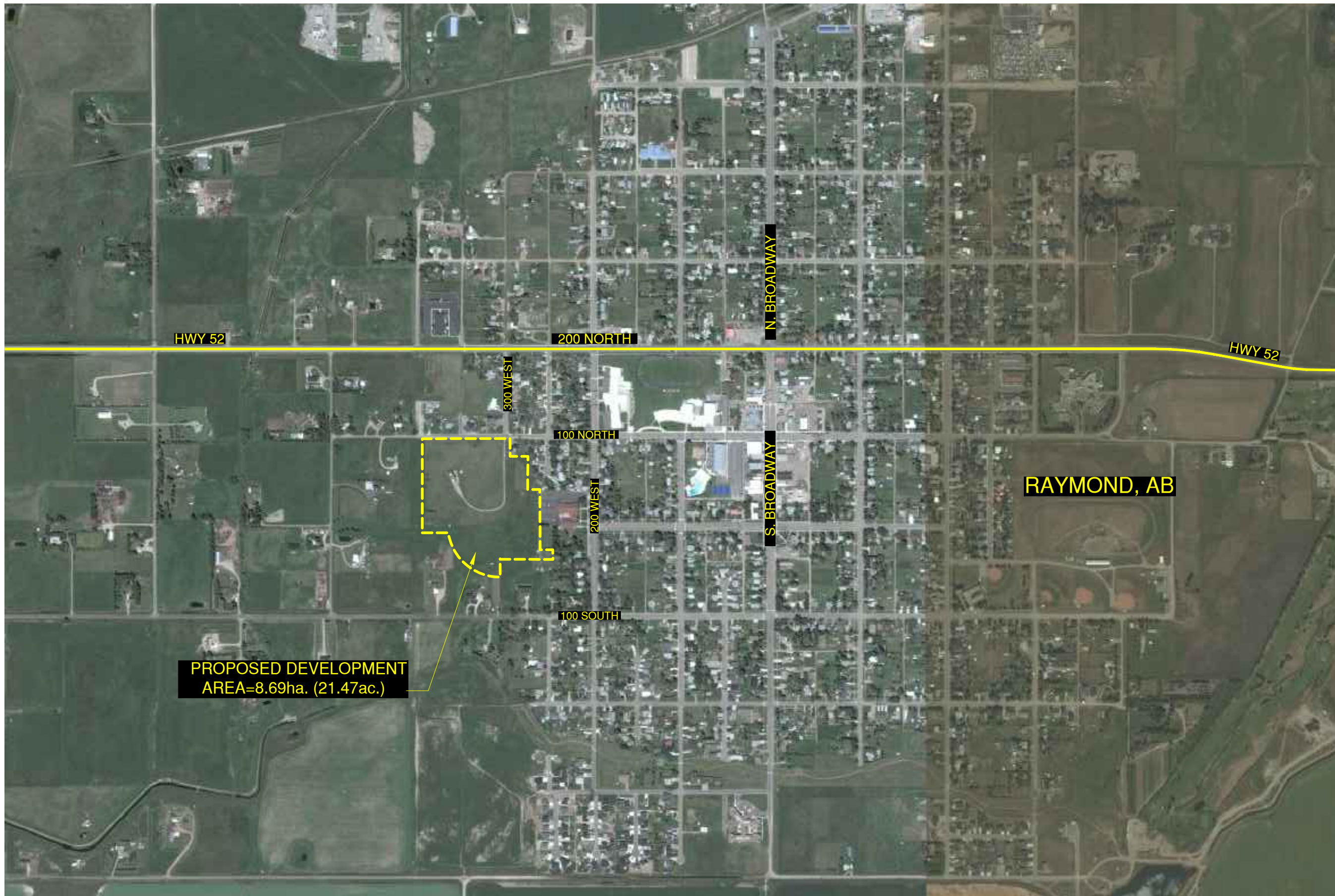
Soil characteristics of each test hole showed topsoil from 0 – 0.2m (8") below grade and light brown silty-clay for the remaining depth to the bottom of the test hole. One soil sample was collected from each test hole and submitted for laboratory for Atterberg limits and moisture content analysis. The Atterberg Limits test classified both soil samples CI, which is a medium plastic clay (refer to Appendix C for complete analytical results).

The depth of water has been taken into consideration in preparing a grading plan for the site. The lots will be designed so that final basement elevations are above the groundwater table (refer to Figure 5.3 for detail).

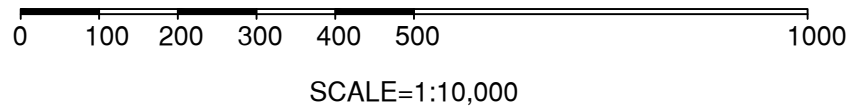
## **8.0 ARCHITECTURAL CONTROLS**

Architectural controls will be prepared prior to subdivision. Key items addressed in these controls will include:

- Building size
- Building timelines for exterior completion
- Fencing guidelines for interior and boundary fences.
- Acceptable building and exterior finishing materials.



**PROPOSED DEVELOPMENT  
AREA=8.69ha. (21.47ac.)**



NOTES

#	DATE	DRAWING STATUS	DSN	DRW	CHK	APP
1	15/06/05	FOR APPROVAL				
0	15/03/12	FOR APPROVAL				

**HASEGAWA**  
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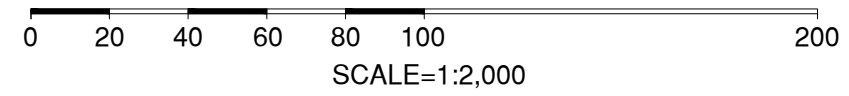
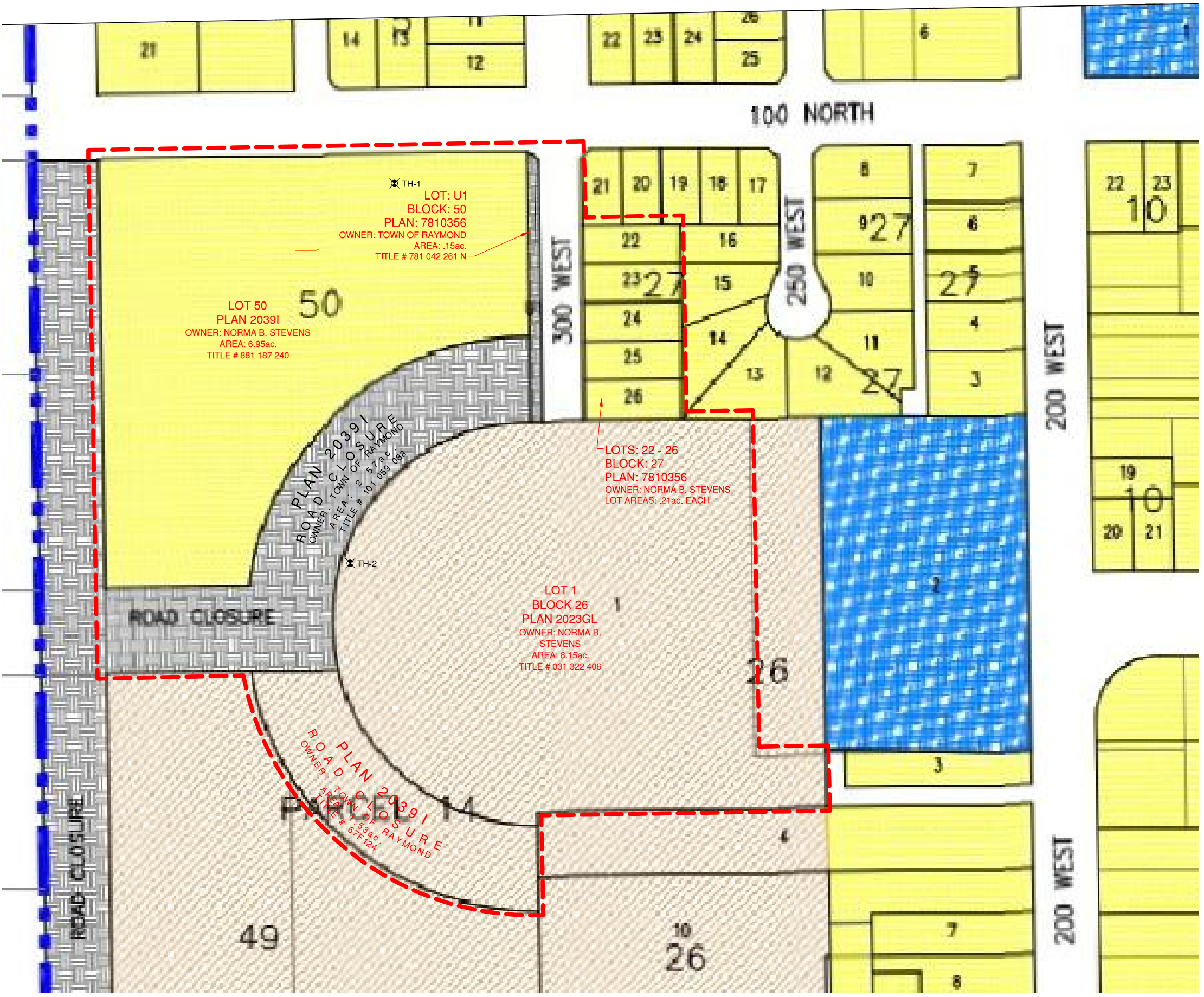
CLIENT  
**BRIDGE CROSSING**

PROJECT TITLE  
**BRIDGE CROSSING  
AREA STRUCTURE  
PLAN**

DRAWING TITLE  
**LOCATION PLAN**

PROJECT NUMBER  
**14-072**

SHEET NUMBER  
**1.1**



### TOWN OF RAYMOND

LAND USE DISTRICTS MAP  
Bylaw No. 987-11  
June 7, 2011

- General Residential - 'R-1'
- Manufactured Home Park - 'R-2'
- General Commercial - 'C-1'
- Neighbourhood Commercial - 'NC-1'
- Industrial - 'I-1'
- Parks & Open Space - 'POS-1'
- Public & Institutional - 'PI-1'
- Urban Reserve - 'UR-1'
- Direct Control - 'DC-1'



- LEGEND**
- EXISTING PROPERTY LINES
  - PROPOSED DEVELOPMENT BOUNDARY
  - TEST HOLE LOCATION - REFER TO APPENDIX C

#### NOTES

#	DATE	DRAWING STATUS	DSN	DRW	CHK	APP
1	15/06/05	FOR APPROVAL		MH	MH	MH
0	15/04/06	FOR APPROVAL		MH	MH	MH

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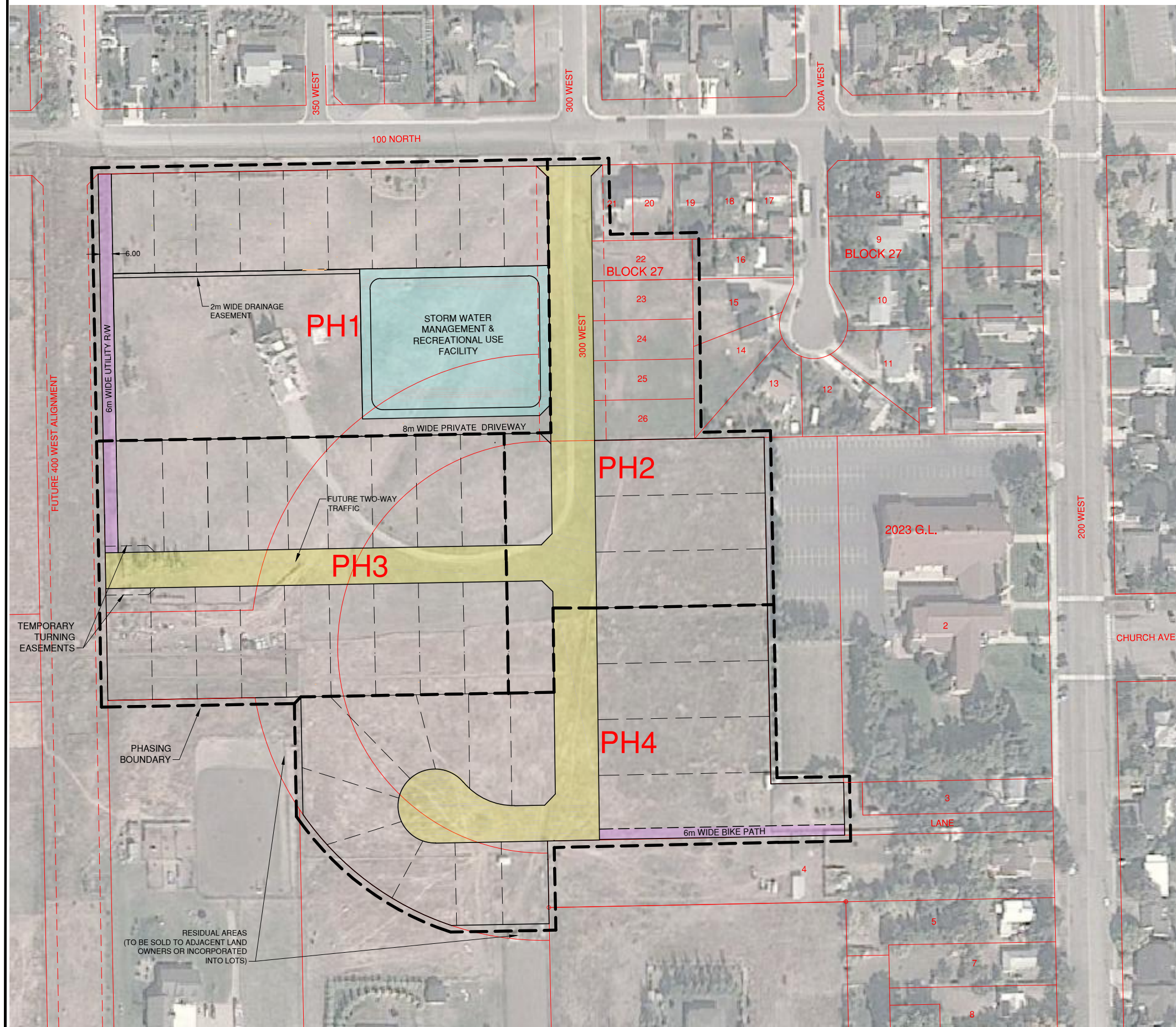
#### BRIDGE CROSSING

#### BRIDGE CROSSING AREA STRUCTURE PLAN

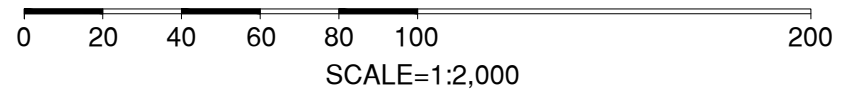
#### EXISTING LEGAL & ZONING SITE PLAN

PROJECT NUMBER  
**14-072**

SHEET NUMBER  
**1.2**



- LEGEND**
- EXISTING LOTS
  - PROPOSED DEVELOPMENT
  - TENTATIVE LOT LINES (FINAL DIMENSIONS TO BE INCLUDED IN SUBDIVISION PLAN)
  - R-1 SINGLE DETACHED RESIDENTIAL LOTS = 6.80ha. (16.80ac.) (SEE SECTION 3.2 FOR RESIDENTIAL USES)
  - PUL (PUBLIC UTILITY LOTS) = .16ha. (.39ac.)
  - ROAD ALLOWANCE = 1.14ha. (2.82ac.)
  - MUNICIPAL RESERVE (MR) = .59ha. (1.46ac.)



**NOTES**

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1	15/06/05	FOR APPROVAL				
0	15/04/06	FOR APPROVAL				

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**BRIDGE CROSSING**

**LANDUSE & PHASING PLAN**

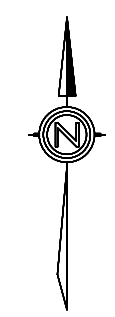
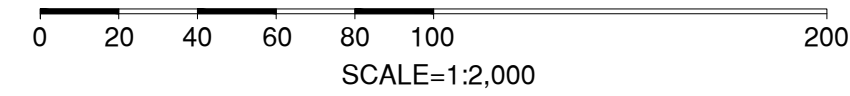
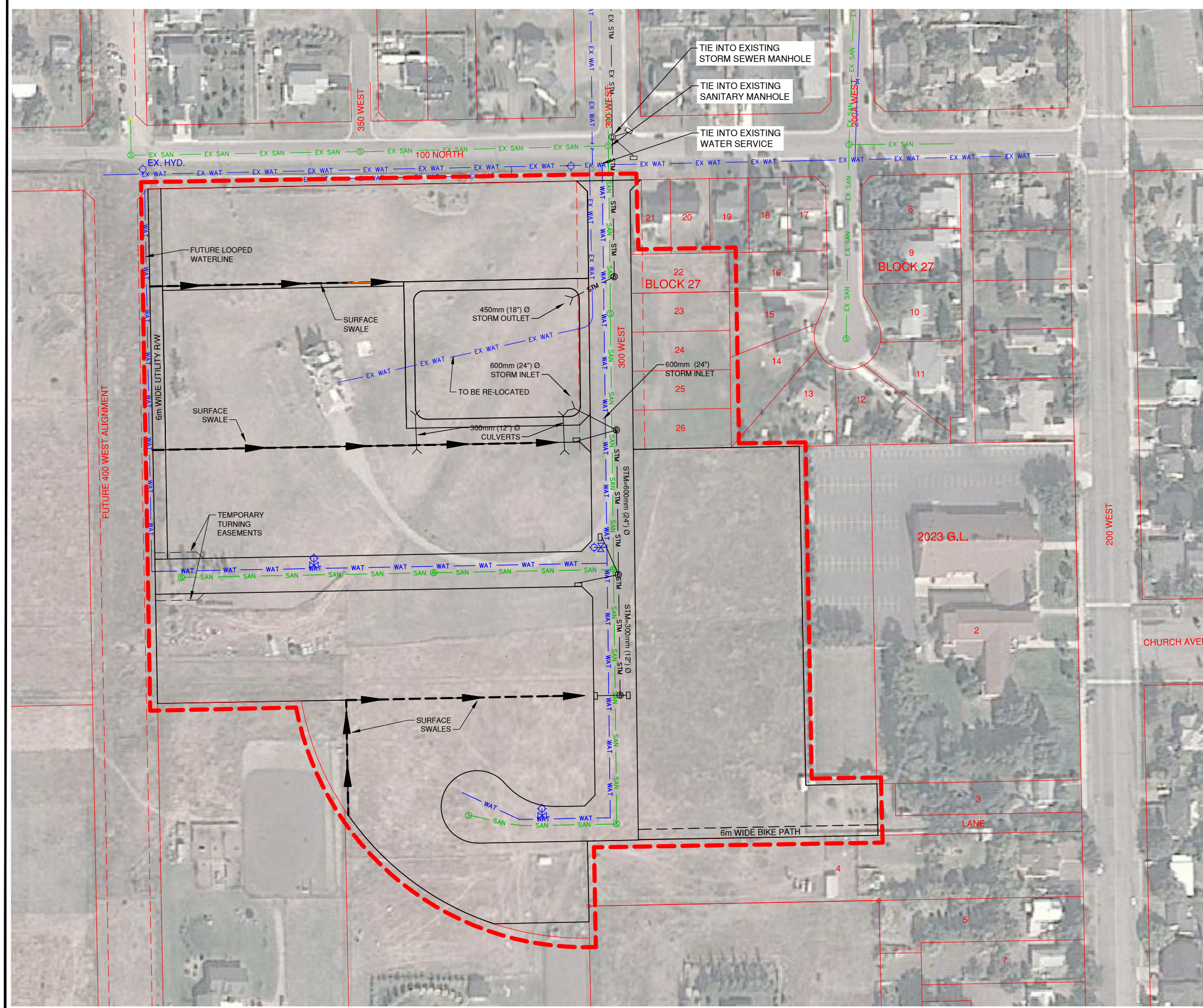
**SITE PLAN**

PROJECT NUMBER  
**14-072**

SHEET NUMBER  
**2.1**







**LEGEND**

PROPOSED	EXISTING	
---	---	PROPERTY LINE
---	---	EASEMENT
WAT	EX WAT	WATERMAIN
BLOCK 1	BLOCK 1	BLOCK NUMBER
1	1	LOT NUMBER
←	←	OVERLAND DRAINAGE
⊕	⊕	HYDRANT
∩	∩	CULVERT
GAS	EX GAS	GAS LINE
□	□	FENCE
SAN	EX SAN	SANITARY
STM	EX STM	STORM
⊙	⊙	SANITARY MANHOLE
⊙	⊙	STORM MANHOLE
□	□	CATCH BASIN - CURB
⊕	⊕	CATCH BASIN - ROUND
⊗	⊗	LIGHT STANDARD
⊙	⊙	POWER POLE
⊙	⊙	TRAFFIC SIGNAL
⊙	⊙	GW WELL
⊕	⊕	VALVE
⊕	⊕	CURB STOP

- NOTES:
- SANITARY SEWER MAINS TO BE 200mm (8") DIAMETER.
  - WATER MAINS TO BE 200mm (8") DIAMETER.
  - CATCH BASIN LEADS TO BE MIN. 150mm (6") DIAMETER.
  - STORM SEWER MAINS SIZED AS SHOWN (SIZES ARE ESTIMATED AND WILL BE CONFIRMED AT OUTLINE PLAN PHASE).

**NOTES**

NO.	DATE	BY	CHK	APP	DESCRIPTION
1	15/04/06				FOR APPROVAL
2					FOR APPROVAL
					DRAWING STATUS
					#



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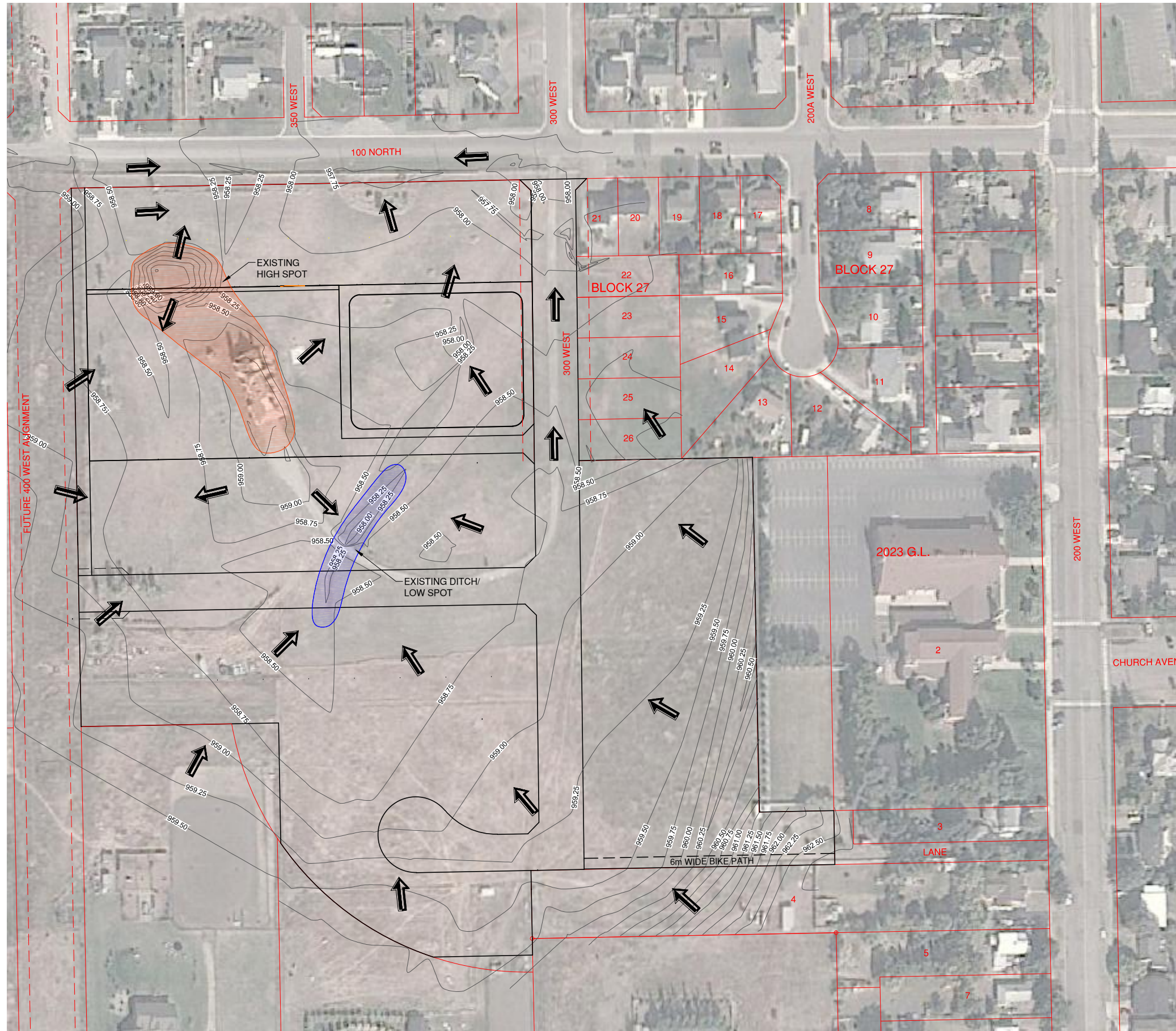
**BRIDGE CROSSING**

**BRIDGE CROSSING AREA STRUCTURE PLAN**

**WATER, STORM, & SANITARY SERVICING PLAN**

PROJECT NUMBER  
**14-072**

SHEET NUMBER  
**3.1**



- LEGEND**
- EXISTING LOTS
  - EXISTING GROUND CONTOURS (0.25m INTERVALS)
  - PROPOSED DEVELOPMENT
  - EXISTING GROUND DRAINAGE DIRECTION

**NOTES**

#	DATE	DRAWING STATUS	DSN	DRW	CHK	APP
1	15/06/05	FOR APPROVAL			MH	MH
0	15/04/06	FOR APPROVAL			MH	MH

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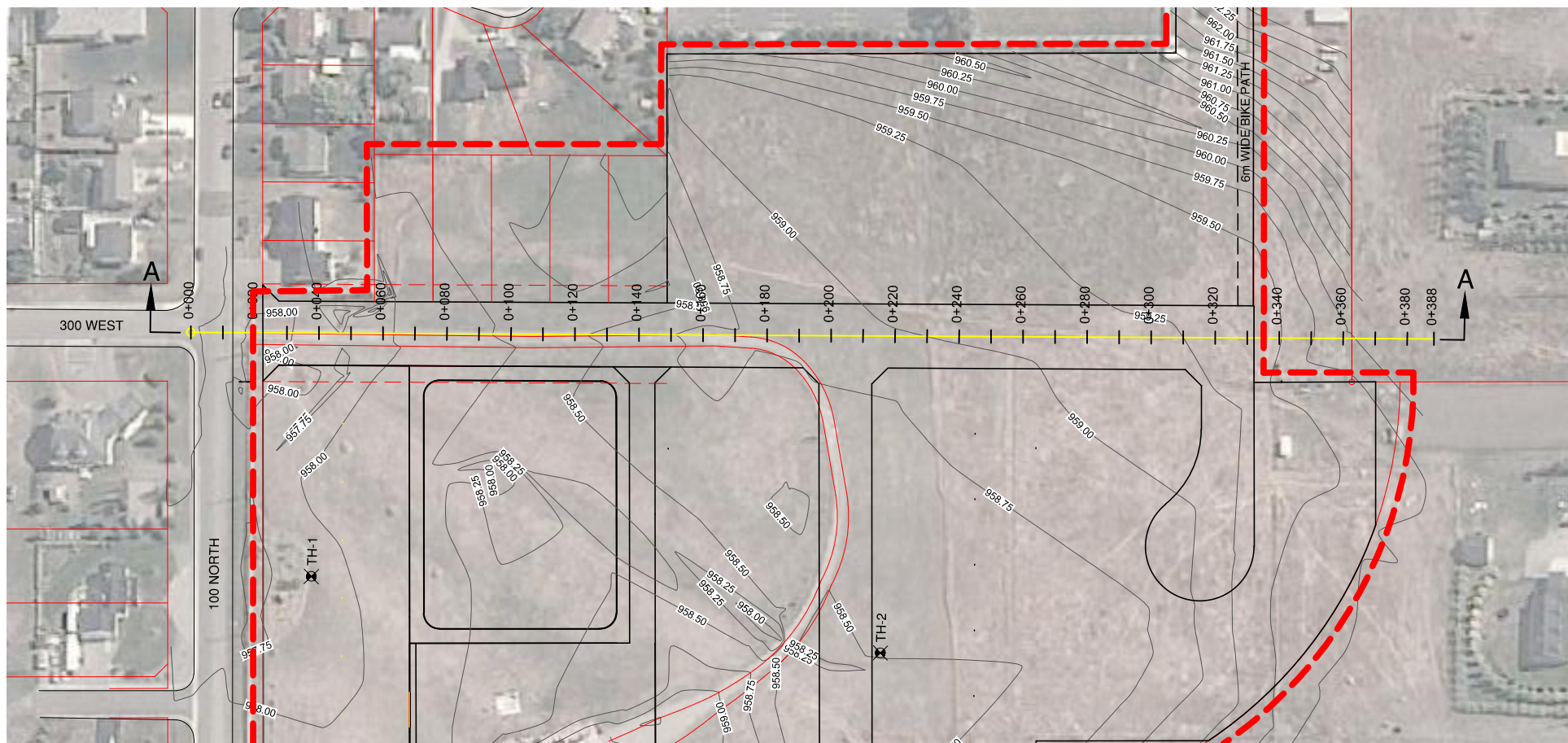
CLIENT  
**BRIDGE CROSSING**

PROJECT TITLE  
**BRIDGE CROSSING  
 AREA STRUCTURE  
 PLAN**

DRAWING TITLE  
**EXISTING GROUND  
 CONTOURS**

PROJECT NUMBER  
**14-072**

SHEET NUMBER  
**4.1**



SECTION A-A EXISTING GROUND - PLAN VIEW  
SCALE: 1:2,000



- LEGEND**
- EXISTING LOTS
  - EXISTING GROUND CONTOURS (0.25m INTERVALS)
  - PROPOSED DEVELOPMENT

**NOTES**

#	DATE	DESCRIPTION	BY	CHK	APP
1	15/06/05	FOR APPROVAL	MH	MO	MH
0	15/04/06	FOR APPROVAL	MH	MO	MH

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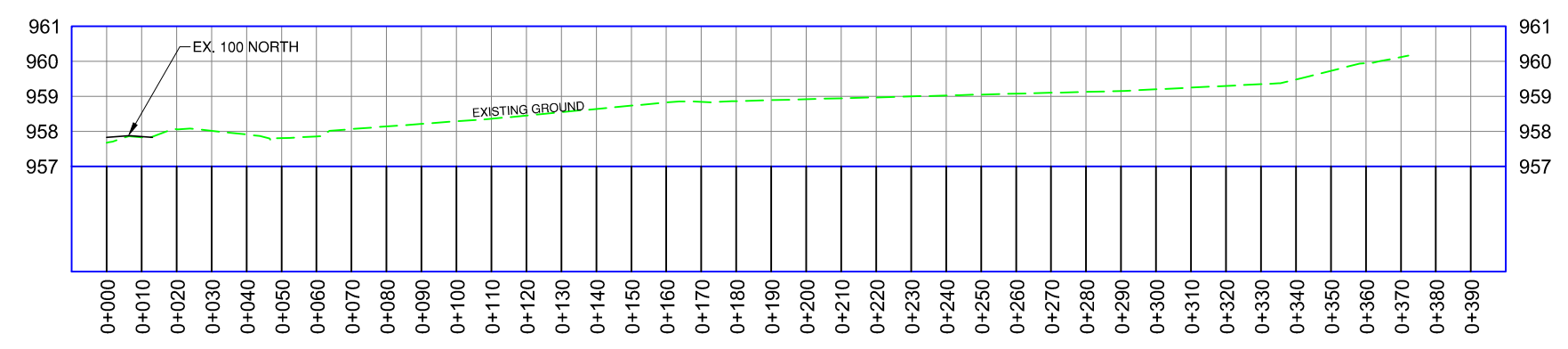
CLIENT  
**BRIDGE CROSSING**

PROJECT TITLE  
**BRIDGE CROSSING  
AREA STRUCTURE  
PLAN**

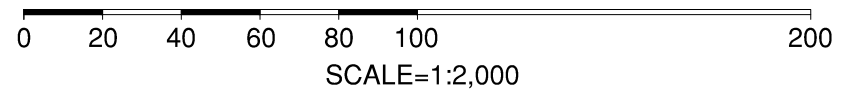
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SECTION A-A  
PLAN & PROFILE**

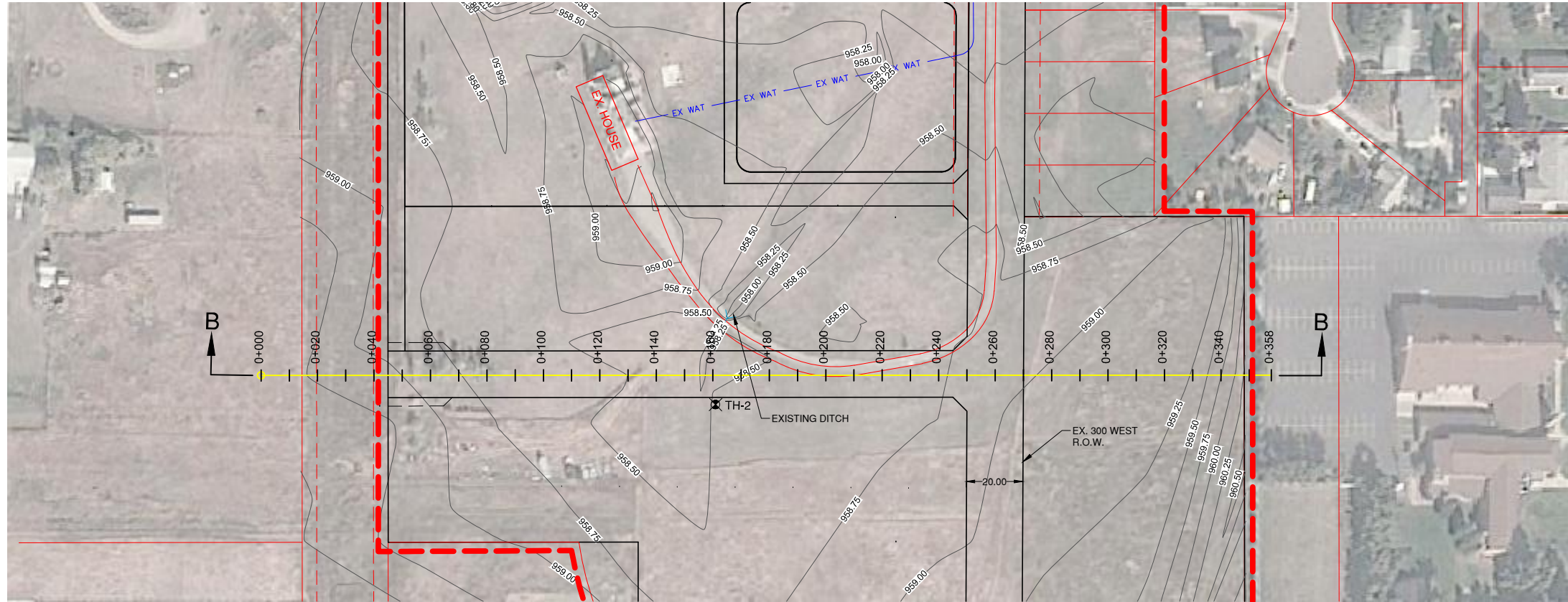
PROJECT NUMBER  
**14-072**

SHEET NUMBER  
**5.1**



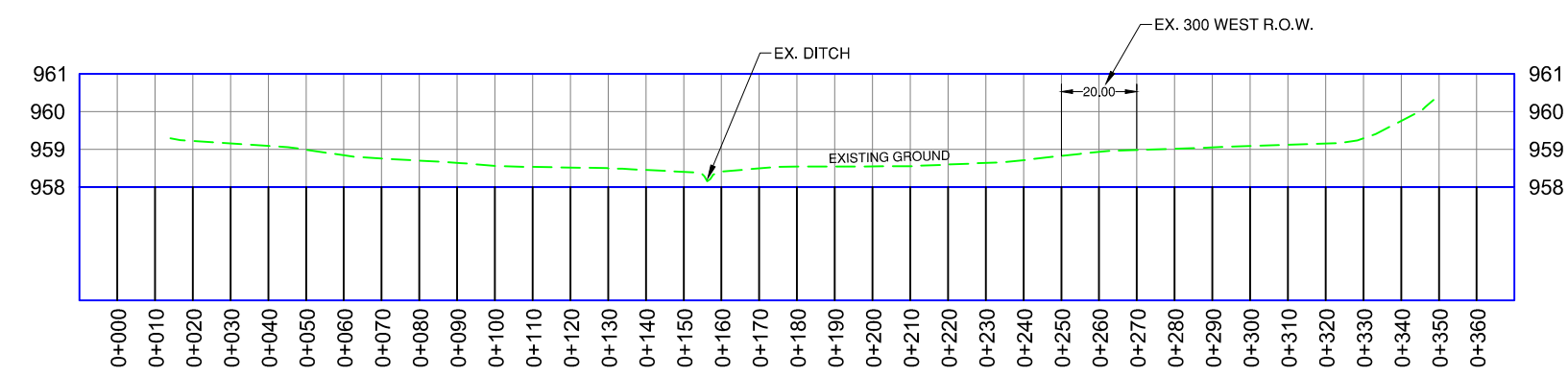
SECTION A-A EXISTING GROUND - PROFILE VIEW  
SCALE: 1:2,000



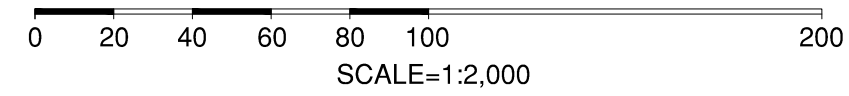


- LEGEND**
- EXISTING LOTS
  - EXISTING GROUND CONTOURS (0.25m INTERVALS)
  - PROPOSED DEVELOPMENT

SECTION B-B EXISTING GROUND - PLAN VIEW  
SCALE: 1:2,000



SECTION B-B EXISTING GROUND - PROFILE VIEW  
SCALE: 1:2,000



**NOTES**

NO.	DESCRIPTION	DATE	BY	CHK	APP
1	FOR APPROVAL	15/06/05	MH	MO	MH
0	FOR APPROVAL	15/04/06	MH	MO	MH
#	DATE	(Y/M/D)			

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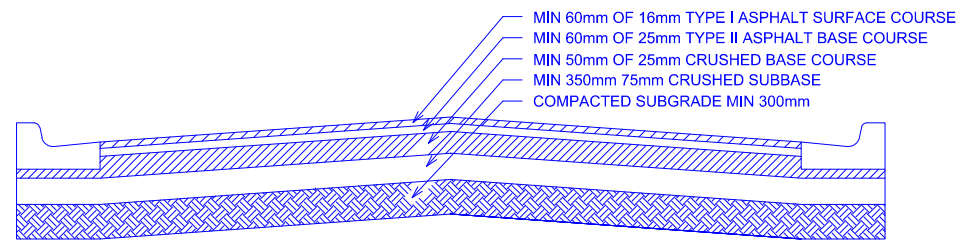
CLIENT  
**BRIDGE CROSSING**

PROJECT TITLE  
**BRIDGE CROSSING AREA STRUCTURE PLAN**

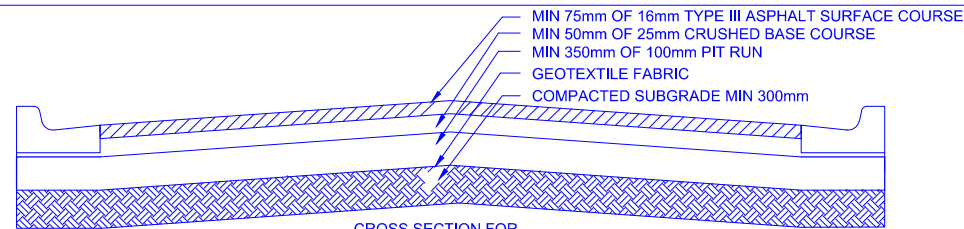
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**EXISTING GROUND SECTION B-B PLAN & PROFILE**

PROJECT NUMBER  
**14-072**

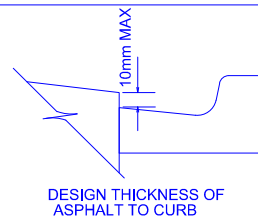
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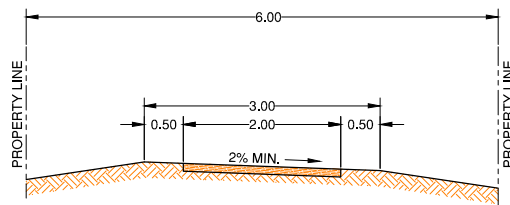
CROSS SECTION FOR COLLECTOR



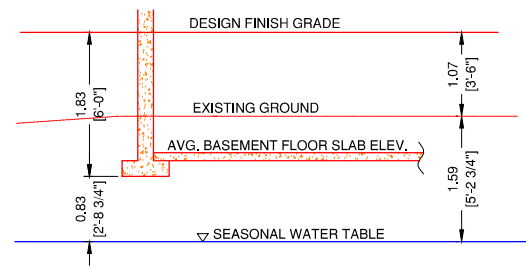
CROSS SECTION FOR LOCAL



DESIGN THICKNESS OF ASPHALT TO CURB

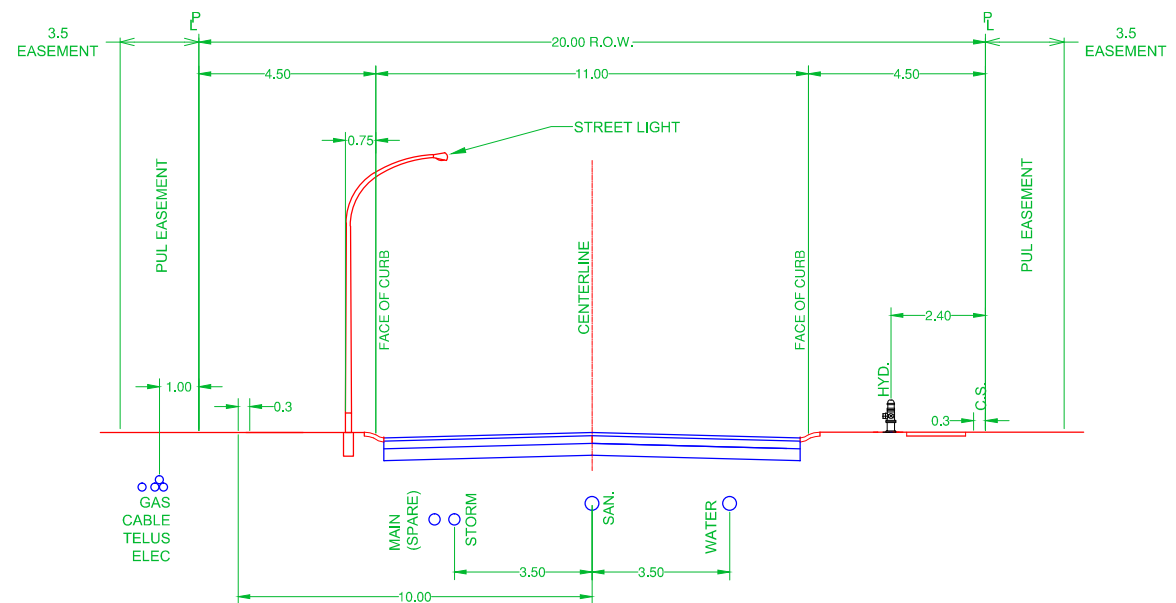
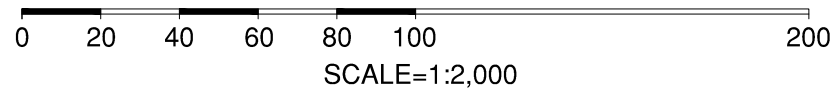


6m WIDE SHALE BIKE PATH - CROSS SECTION  
SCALE: 1:100



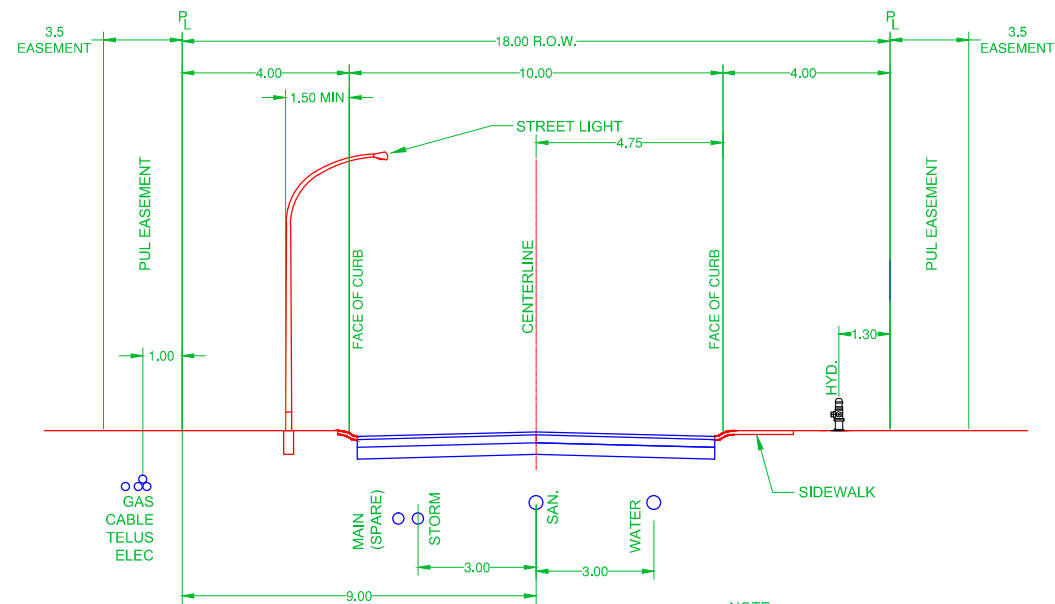
TYP. BASEMENT FLOOR SLAB ELEVATION  
SCALE: 1:100

SECTION B-B EXISTING GROUND - PROFILE VIEW  
SCALE: 1:2,000



NOTE:  
NOT FOR CONSTRUCTION  
FOR CONCEPTUAL APPROVAL ONLY

20 METER MONO-WALK ROAD CROSS SECTION  
SCALE: NTS



NOTE:  
NOT FOR CONSTRUCTION  
FOR CONCEPTUAL APPROVAL ONLY

18 METER MONO-WALK ROAD CROSS SECTION  
SCALE: NTS

NOTES

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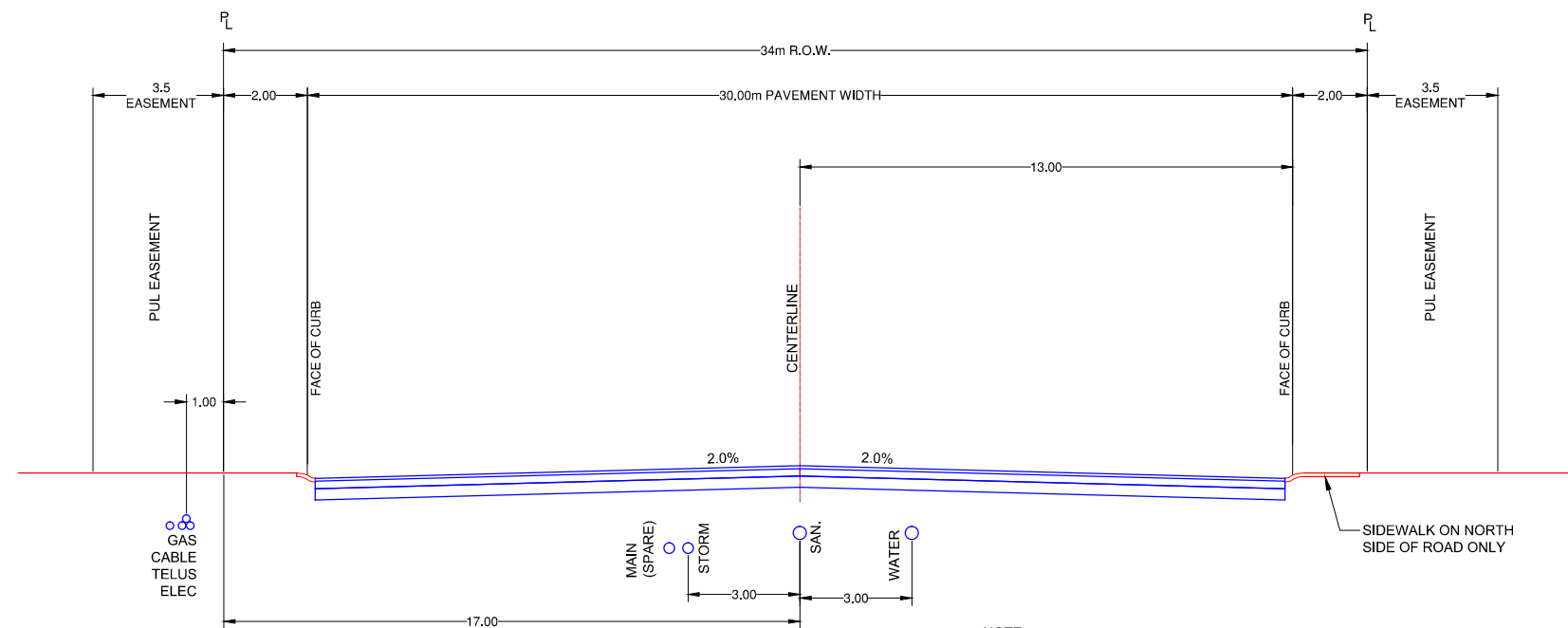
BRIDGE CROSSING

BRIDGE CROSSING  
AREA STRUCTURE  
PLAN

STANDARD DETAILS

PROJECT NUMBER  
14-072

SHEET NUMBER  
5.3



NOTE:  
NOT FOR CONSTRUCTION  
FOR CONCEPTUAL APPROVAL ONLY

34 METER CUL DE SAC CROSS SECTION  
SCALE: NTS

NOTES

#	DATE	DESCRIPTION	BY	CHK	APP
1	15/06/05	FOR APPROVAL	MH	MO	MH
0	15/04/06	FOR APPROVAL	MH	MO	MH

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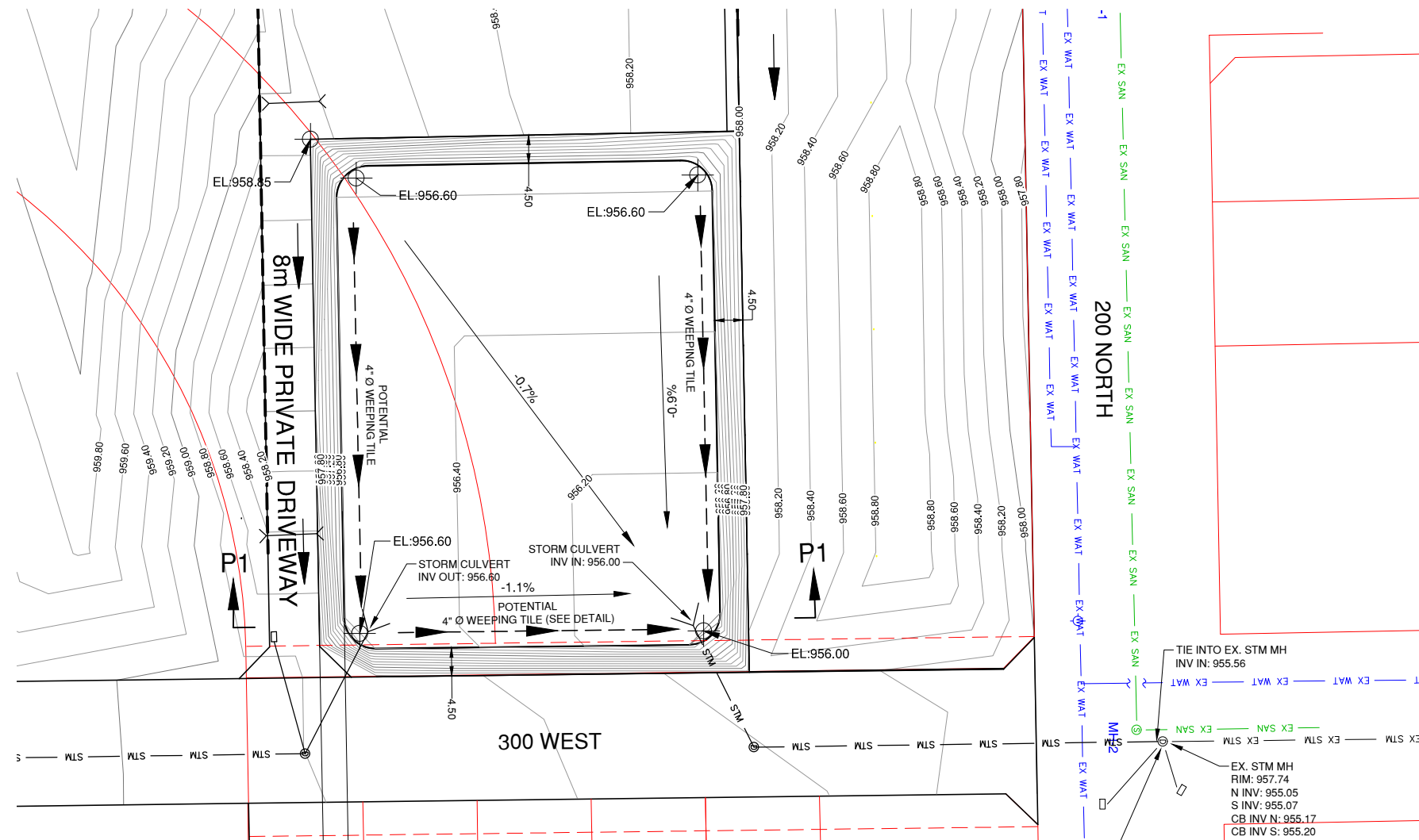
CLIENT  
**BRIDGE CROSSING**

PROJECT TITLE  
**BRIDGE CROSSING  
AREA STRUCTURE  
PLAN**

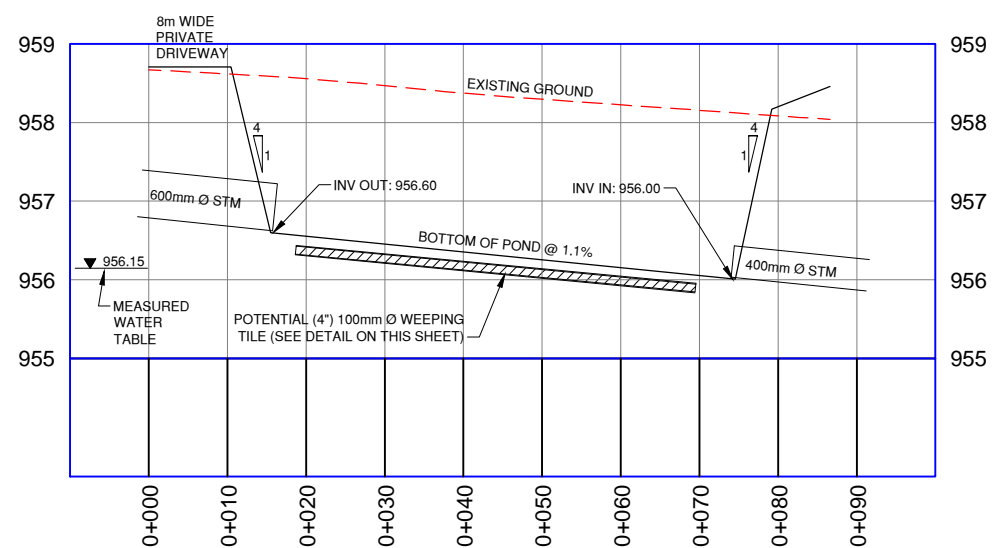
DRAWING TITLE  
**STANDARD DETAILS**

PROJECT NUMBER  
**14-072**

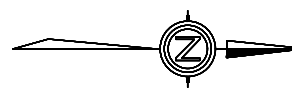
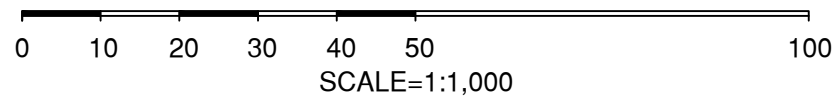
SHEET NUMBER  
**5.4**



STORMWATER RETENTION POND - PLAN VIEW  
SCALE: 1:1,000

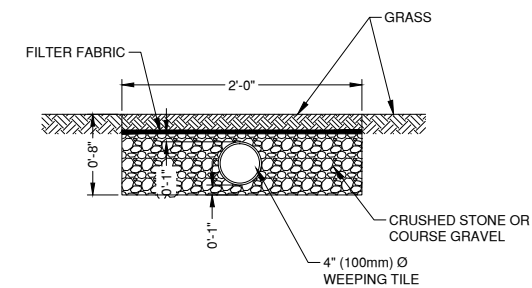


SECTION P1  
SCALE: 1:1,000



NOTES

- STORM POND DESIGN ELEVATION WILL CHANGE DURING THE FINAL DESIGN.
- IF NEEDED A WEEPING TILE SYSTEM AS SHOWN IN THIS DRAWING WILL BE USED TO AID THE FUNCTIONALITY OF THE DRY POND.



WEEPING TILE DETAIL  
SCALE: 1:20

NOTES

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0	15/04/06	FOR APPROVAL				



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BRIDGE CROSSING

BRIDGE CROSSING  
AREA STRUCTURE  
PLAN

PRELIMINARY  
DRY POND  
DESIGN

PROJECT NUMBER  
**14-072**

SHEET NUMBER  
**5.5**