Bonnie Doon Shopping Centre Redevelopment Design Brief – EPCOR Water
82nd Avenue & 83rd Street

Project No: 17-1234
April 4, 2018
Aplin & Martin Consultants Ltd.
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1.0 INTRODUCTION

Aplin Martin was retained by Morguard Investments Limited to provide a servicing report to support the proposed redevelopment of Bonnie Doon Shopping Centre. This document is intended to outline the servicing requirements of the redevelopment and to provide a tentative schematic servicing plan that reflects those servicing requirements. Preliminary analysis of sanitary flows, major and minor storm design and grading elevations are included.

Also contained within this report is an interim servicing concept to allow efficient servicing of the initial stages of the redevelopment.

Parallel to the innovative and collaborative planning approach between Morguard, their consultants, and the City of Edmonton, items within this servicing brief have been discussed in detail with drainage/EPCOR over the course of multiple meetings and correspondence. This report sums up the concept that has been proposed.

1.1. Study Area and Background

The 12.05ha property is bounded by 82nd (Whyte Ave), to the south, 83rd Street to the east, 85th Street to the west, and numerous buildings to the north. In addition to this, a 0.37ha. parcel on the west side of 85th Street exists that is currently used as a drop off recycling depot. The combined site area is 12.42ha.

Bonnie Doon Shopping Centre was originally developed in 1958. Since then numerous additions and modifications have occurred. Major highlights of these modifications that impact servicing include:

- Multiple extensions to the mall. Most of these extensions included new servicing to adjacent mains to service the extension. As a result, the existing servicing scheme is complex and represents different materials and standards according to the era of development. As the mall expanded, mains that connect the street grid from the east to the west side of the mall were built over and protected via easements.
- Realignment of 85th Street. Originally, 85th Street did not bend, and the alignment along the southern portion of the mall continued beyond the mall property to the north. As a result, easements exist for the mains under the old alignment and easements exist adjacent to it for shallow utilities.
- LRT along 83rd Street. Extending along the entire east boundary of the site, land was exchanged to accommodate the wider ROW required for 83rd Street and the LRT construction.

Currently, there is no Neighborhood Design Report (NDR) that governs servicing in the area.
1.2. Proposed Development

With the development of the adjacent Valley Line LRT this property has significant potential to be redeveloped into a mixed use development to incorporate residential, retail, commercial and institutional uses that align with numerous policy goals of the City of Edmonton and Edmonton Metropolitan Region.

This development will be built in numerous stages. The phasing and build out time will be market dependent. Demolition of the existing structure will also be competed in phases as redevelopment requires. As a result, redevelopment must ensure existing servicing is maintained for remaining portions of the shopping Centre.

Figure 1.0 contains the existing site plan. Figure 1.1 contains the proposed site plan. All figures within this report reflect the most up to date information we have been provided for proposed infrastructure associated with Valley Line LRT construction as well as the associated parking lot reconfiguration by Morguard to accommodate the 83rd Street widening associated with the LRT alignment.

1.3. Methodology and Assumptions

This initial servicing concept for the redevelopment is designed as a traditional civil methodology with utilities within the roadway. However, it is expected that many of the roadways will be built above underground parking, thus many of the buildings will be serviced mechanically as part of the building mechanical systems. The location of these parkades is not known at this time and will not be known until detailed design of each individual building. Ensuring that the redevelopment can proceed with civil servicing will allow modifications to be made when necessary to permit more flexible mechanical servicing while ensuring interim servicing will function.

With storm, sanitary, and water all contained within the building mechanical system within the structure, it creates opportunities to more easily service various buildings. This removes the constraint of routing infrastructure under roadways and allows for more direct servicing connections between buildings. Additionally, it potentially eliminates depth of cover constraints as infrastructure as frost penetration would no longer be a concern. This could potentially also allow for pumps and pressurized components if necessary.

Another significant opportunity that would present itself with servicing within building structures is the cost-effective potential of modifying servicing within each structure to provide near unlimited flexibility with phasing. Infrastructure supported from a parkade ceiling can be easily modified and adapted to drain a different direction as required by phasing, this is not the case with buried infrastructure under roadways.

Because the extent of underground parking is not known at this time and will likely not be known and confirmed until detailed design proceeds with each phase the cautious approach would be to explore a traditional civil servicing plan. This will provide guidance for temporary infrastructure required to service initial phases and to ensure that civil connections are possible in roadways if those roads will not be placed above underground parking.
2.0 WATER

2.1. Existing System

The existing water network that surrounds Bonnie Doon Shopping Centre, and the water network within the site are shown on figure 2.0. A 400mm main distribution line extends east-west across the mall.

2.2. Proposed System

A schematic of the proposed system is shown on figure 2.1. At this time, it is assumed that all roads, and servicing infrastructure, will be private. No determination has been made regarding further subdivision of the site into separately titled lots.

As the rezoning process evolves, we will provide a hydraulic network analysis to determine pipe sizing to accommodate daily demands and fire protection.

Two schematic options have been provided for the relocation of the existing 400mm main given the current proposed layout. Final determination of the placement of this line will need to be made at a later date when extents of underground parkades have been determined.

Development is expected to first occur on the east side of the site, north of the existing 400mm main and then proceed counter clockwise. Development occurring in the vicinity of the 400mm main is expected in the later stages of this project.

3.0 CONCLUSION

An updated version of this report will be provided with a Hydraulic Network Analysis when additional information is known to provide proposed sizes to meet daily demand and fire flow.

Phasing and the extent of underground parkades under roadways will significantly impact the proposed servicing concepts presented in the document. As a result, detailed and preliminary design associated with each stage of development will need to consider both the short term and long term serviceability at each stage and to ensure flexibility to accommodate full build out.
CORPORATE AUTHORIZATION

This Design Report titled “Bonnie Doon Shopping Centre Redevelopment Design Brief” has been created by:

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EXISTING SITE PLAN

LEGEND

EXISTING BUILDING FOOTPRINT
EXISTING BONNIE DOON PROPERTY
EXISTING PROPERTY LINE
EXISTING EASEMENT
EXISTING CURB & GUTTER
CONSTRUCTION ASSOCIATED WITH SEWER

BONNIE DOON SHOPPING CENTRE SERVICING BRIEF

LOT E
PLN 3849 NY

LOT F
PLN 3849 NY

LOT G
PLN 3849 NY

LOT A
PLN 2224 KS

LOT B
PLN 2224 KS

LOT C
PLN 2224 KS

LOT D
PLN 2224 KS

LOT E
PLN 3849 NY

LOT F
PLN 3849 NY

PLAN 3849 NY

PLAN 2224 KS

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ENGINEERS STAMP

SHOPPING CENTRE (82 AVENUE & 83 STREET NW)

FIGURE 1.0

2018-04-04
FIGURE 2.1

PROPOSED WATER SERVICES