BYLAW 27-2004

A BYLAW OF STRATHCONA COUNTY IN THE PROVINCE OF ALBERTA, FOR THE PURPOSE OF ADOPTING THE BALMORAL HEIGHTS AREA STRUCTURE PLAN.

WHEREAS it is deemed advisable to adopt the Balmoral Heights Area Structure Plan;

NOW THEREFORE, the Council of Strathcona County, pursuant to the authority conferred upon it by the *Municipal Government Act, R.S.A. 2000, c. M-26*, and amendments thereto, enacts as follows:

1. That this Bylaw is to be cited as the "Balmoral Heights Area Structure Plan".

2. That Schedule "A" attached hereto is hereby adopted as part of this Bylaw.

Read a first time this 23 day of March, 2004.

Read a second time this 23 day of March, 2004.

Read a third time and finally passed this 25 day of May, 2004.

Mayor

Manager,
Legislative and Legal Services

Date Signed: July 2, 2004

PDRS Admin #64187

STRATHCONA
County

Balmoral Heights

Area Structure Plan

Bylaw 27-2004

The LANDREX INVESTMENT CORPORATION

June 2004

Lovatt Planning Consultants Inc.

ISL Infrastructure Systems Ltd.

Balmoral Heights

Area Structure Plan

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1. INTRODUCTION

1.1 Purpose

This Area Structure Plan Technical Report has been prepared on behalf of The LANDREX Investment Corporation, and provides a framework for the subdivision and development of the N ½ of the SE ¼ of 21-52-23-W4M. The Plan Area comprises some 34 hectares (84 acres), and is proposed to be developed as an estate residential community.

For Area Structure Plan purposes, the Plan Area includes a fragment of the S ½ of 21-52-23-W4M that is owned by Fountain Creek Estates, and a site owned by the Robin Hood Association.

1.2 Locational Context

The Plan Area is located ½ mile south of the Sherwood Park Urban Service Area in the east central portion of Strathcona County (see Figure 1). The boundaries of the area are also shown on Figure 1, and include Orzde Park and Wye Road Gardens to the north, Range Road 233 to the east, Fountain Creek Estates to the south, and the Transportation and Utilities Corridor to the west.

1.3 Policy Context

This Area Structure Plan meets the requirements of Section 633 of the Municipal Government Act. As such, it describes the sequence of development, land uses, general future population levels and infrastructure requirements.

Strathcona County's 1998 Municipal Development Plan Bylaw 38-98 designates the site as County Residential Policy Area, so that the Municipal Development Plan will need to be amended to allow for the proposed estate residential use. Relevant Municipal Development Plan policies dealing with this use type are as follows:

Policy 10.32 Estates Residential developments may be allowed in the Estates Residential Policy Area provided that the development:

a) is part of an approved Area Structure Plan;

b) has access to an internal road system;

c) is fully serviced with a piped community water and sewer system;

d) incorporates subdivision design principles to allow for a transition of parcel sizes between residential subdivisions outside of the Estates Residential Policy Area. Specifically, the parcel sizes of any new estates residential development abutting, or immediately adjacent to, an existing country residential development shall be similar in size.

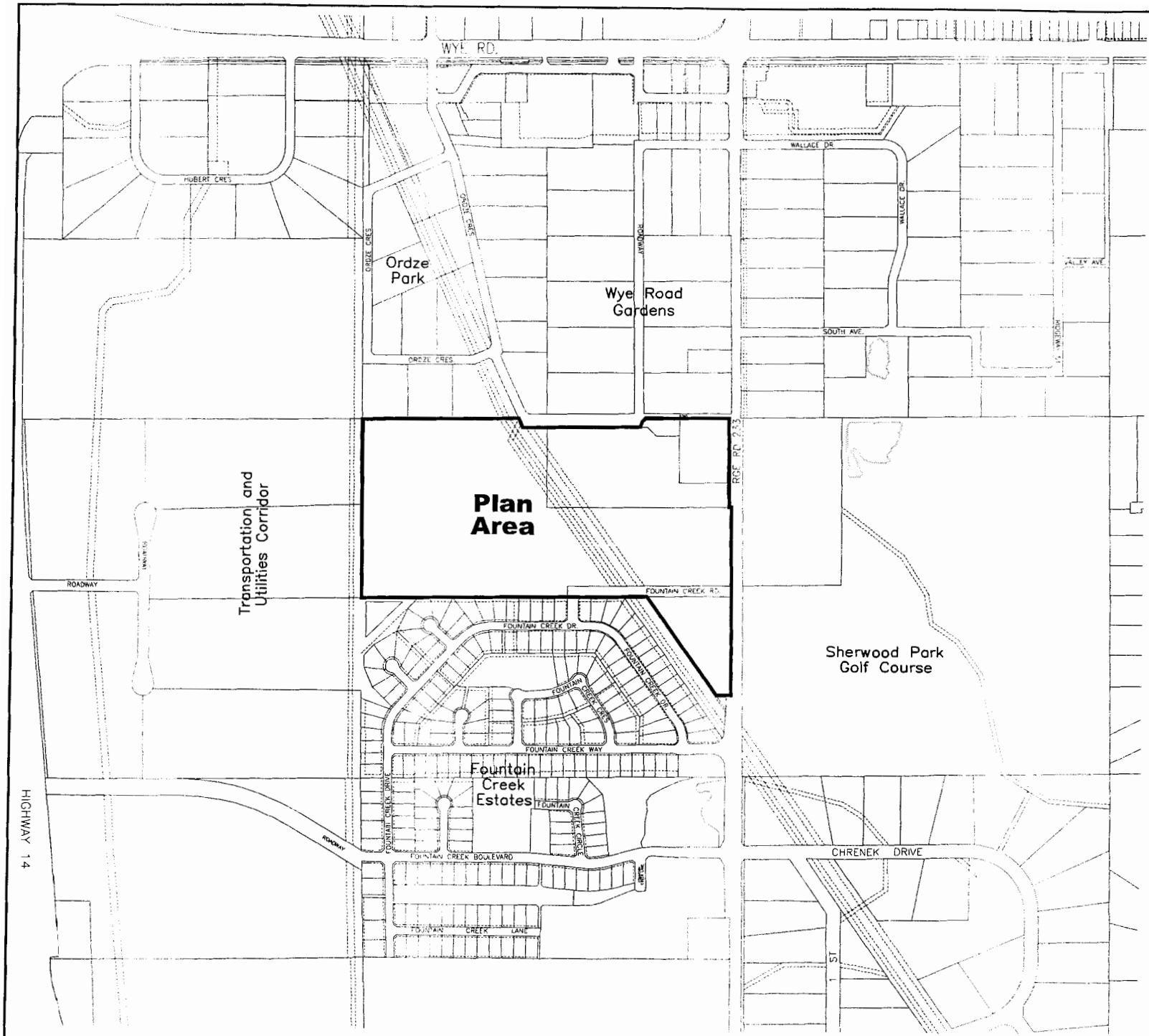
Policy 10.33 The minimum parcel size for estate residential use shall not be less than 0.135 hectare (0.33 acres).

Policy 10.34 The guidelines for estates residential developments are intended to conserve environmental and open space features; to minimize the costs associated with capital, operations and maintenance of municipal infrastructure; and to provide an alternative housing form. These guidelines include, amongst others, the use of a range of environmental protection mechanisms (i.e. conservation easement, environmental reserve) in conjunction with the estate residential developments.

Balmoral Heights
Area Structure Plan
Strathcona County

Figure 1

Regional Context



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This Area Structure Plan complies with the foregoing Municipal Development Plan policies in that it proposes a development which:

- Provides for access to an internal road system;
- Is fully serviced with a piped community water and sewer system;
- Incorporates subdivision design principles to allow for a transition of parcel sizes between residential subdivisions outside of the Estates Residential Policy Area, in that the existing country residential parcels that abut the north side of the Plan Area are buffered from the future estate residential parcels in Balmoral Heights by a combination of Municipal Reserve, Environmental Reserve and a County utility right-of-way. As such, no transition in parcel size is required since the design concept eliminates abutting lots to the north. To the south, a transition is not required since the abutting parcels are estate residential.
- Allows for a minimum parcel size that is not less than 0.135 hectare (0.33 acres).
- Conserves all environmental and natural features through Environmental Reserve and Municipal Reserve. The open space feature that comprises a major pipeline corridor that extends diagonally through the site is conserved as a Public Utility Lot.
- Minimizes the costs associated with capital, operations and maintenance of municipal infrastructure.
- Provides for an alternative housing form.

Most of the Plan Area, including the triangular fragment located in the S ½ of 21-52-23-W4M, is presently zoned Future Development (AD) by the 2001 Land Use Bylaw. However, a 6.52 hectare parcel located in the northeast segment of the Plan Area that is owned by LANDREX is zoned Rural Residential/Agriculture (RA). Also, a 1.57 hectare parcel located in the very northeast corner of the Balmoral area is zoned Services (PS). As is noted above, the parcel is owned by the Robin Hood Association for the Handicapped and accommodates two group homes.

1.4 Land Ownership

The land ownership pattern for Balmoral Heights is shown on Figure 2 and, and is summarized in Table 1 below. **Land areas shown in the table are based on current Certificates of Title.** As is noted in Section 1.1, The LANDREX Investment Corporation owns most of the lands.

Table 1: Balmoral Heights Land Ownership

Owner	Legal Description	Area (hectares|)
1. LANDREX Corporation	N ½ of SE ¼ 21-52-23 W4M Plan 4561 TR, Lot A	23.35 5.72 29.07
2. Fountain Creek Estates	Lot 1, Block 2, Plan 8721745 (Part of S ½ of 21-52-23-W4M)	2.37
3. Robin Hood Association	Lot 1, Plan 9720753	1.57
Total		**33.01**

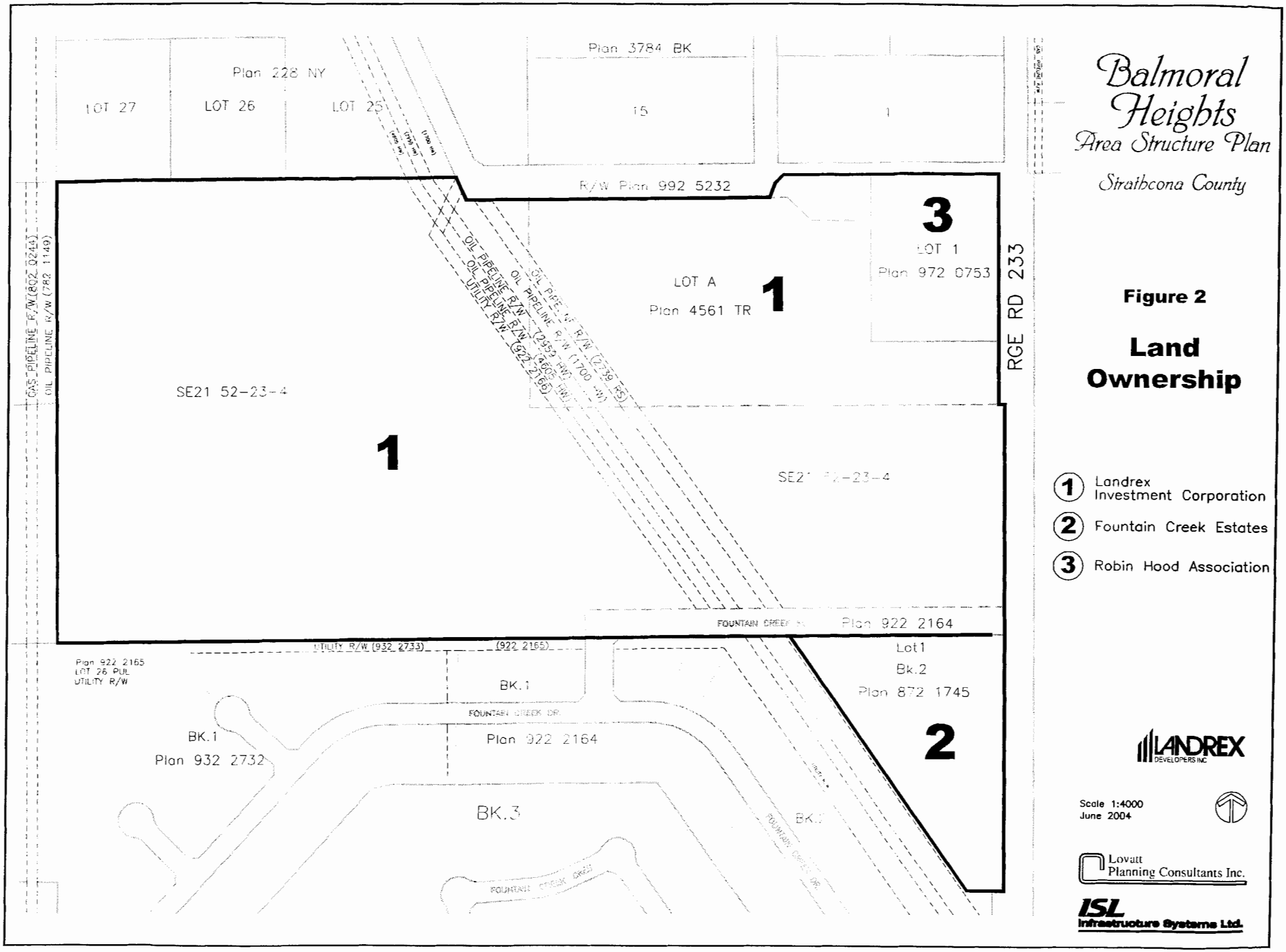

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Figure 2

Land Ownership

1. Landrex Investment Corporation
2. Fountain Creek Estates
3. Robin Hood Association

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2. EXISTING CONDITIONS

2.1 Surrounding Land Uses

Existing uses surrounding the Balmoral Heights Plan Area are shown on Figure 1 and include:

- To the east, Range Road 233, a developed 8.0 hectare country residential parcel and the Sherwood Park Golf Course;
- To the south, the first two stages of the Fountain Creek Estates subdivision that include about 140 lots, and a third stage of Fountain Creek Estates further to the south that includes about 100 lots;
- To the west, the Transportation and Utilities Corridor, Highway 216, and the City of Edmonton; and,
- To the north, the older well established country residential subdivisions of Orzde Park and Wye Road Gardens.

The two country residential subdivisions to the north contain larger 3.0 acre lots and significant tree cover. The only segment of the boundary between these subdivision and the Plan Area that is not treed is a portion of a linear pipeline corridor that extends diagonally through Balmoral Heights, and beyond. All this existing northerly tree cover will be retained.

An amendment to the Municipal Development Plan and an Area Structure Plan to allow for estate residential development on a portion of the Sherwood Park Golf Course are being considered by Strathcona County

2.2 Existing Land Use

The dominant land use within the Plan Area is agriculture, with a focus on grain and forage crop production. The County operates a tree farm on the east side of the Balmoral Plan Area along the Range Road, and has used these lands as a *snow dump* site. This portion of the Plan Area is accessed directly off Range Road 233, and will continue to be leased to the County for a five year period. The staging pattern proposed for Balmoral Heights recognizes this lease agreement.

As is noted above, two group homes operated by the Robin Hood Association for the Handicapped are located on the northeast Robin Hood parcel. This parcel is served by two approaches off the Range Road. The design concept proposed by the Area Structure Plan provides an opportunity to access the Robin Hood site through Balmoral Heights.

A residence that is part of the original farmstead is located on the fragment located in the S ½ of 21-52-23-W4M. This fragment comprises a remnant parcel that is separated from the balance of the existing Fountain Creek subdivision by the pipeline corridor. The fragment is accessed directly off the Range Road, and is buffered from this road by a small, isolated tree stand.

2.3 Natural Features

A natural woodlot and a wetland feature, with associated wetland vegetation, extend along the entire north boundary of the Plan Area (see Figure 3). The area exhibits undulating to rolling terrain, and small swales in the cultivated field appear to supply at least part of the surface water flow to the wetland along the northeast boundary of the property.

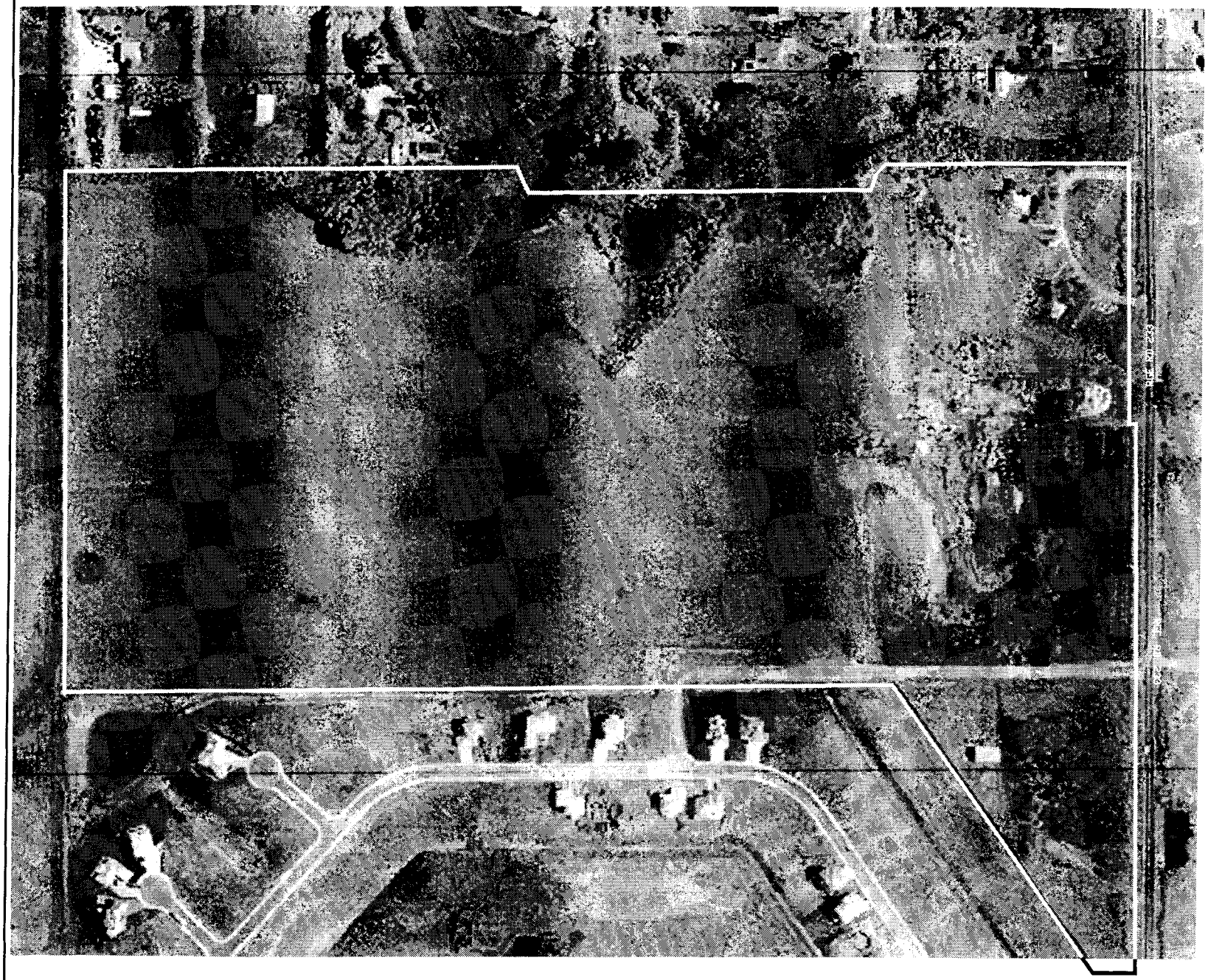

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Figure 3

Aerial Photograph

Plan Area

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The cultivated field bordering the south edge of the woodlot slopes toward the stand, and surface runoff from this part of the field appears to drain into the stand. As a result, the lands along the north boundary of the property tend to be moist to wet.

An Environmental Investigation (see Appendix A) of the woodlot and the wetland complex has been completed by Spencer Environmental Management Service Ltd. in support of this Area Structure Plan (ASP) and the County's Tree Policy Bylaw 6-2001.

The Tree Bylaw was created to help conserve significant wooded areas in areas where development is proposed. While the focus of the investigation was on the woodlot, the adjacent wetland also contributes to the value of the woodlot so that the relationship between the two features was investigated. However, because the wetland complex, including the wet meadows, is proposed to be retained in its natural state as Environmental Reserve, the factors that were considered most relevant for the assessment are:

- the ecological value of the woodland according to the criteria of the Tree Policy, and
- its sustainability in light of the proposed residential development for the property.

The significant conclusions of the assessment are as follows:

1. The woodland now exists in fairly moist soil conditions supplied at least partly by surface water drainage from the field to the south. The soil moisture regime would be altered by grading and site preparation activities in the adjacent lands of the new subdivision. The stand supports several moisture-loving species, such as birch and dogwood, that would be affected by the change in moisture conditions, but the main tree overstory of aspen is likely to adapt to the change, as aspen can tolerate a wide range of soil moisture regimes. The species composition of the shrub and subdominant tree layer may shift to those species that prefer dryer conditions, but the stand itself would be sustainable in terms of overall tree and shrub composition once the lands to the south are developed.

2. In terms of its ecological value, the woodland, viewed in isolation, would not be considered a significant natural area (SNA). In urban areas, a SNA classification is not usually given to upland stands of less than 2.0 hectares, regardless of habitat quality and potential diversity, because of the vulnerability of small stands to outside disturbance. The aspen stand is small (about 0.9 hectares) and, as a result, the stand interior has little buffer from invasive and weedy species and other effects of development. Regardless, the stand itself is vigorous and seems likely to support a diverse group of plant and wildlife species.

3. In terms of the woodland's value as a community amenity, its primary attraction would be the aesthetic value offered by the trees and songbirds likely to use the woodland. Its moist soils would be a limitation for trail development through the stand, although trails could be developed around its perimeter. However, according to the criteria outlined in the Tree Policy, this stand represents a moderate quality ecological feature as a community amenity, and is not likely to be sustained in isolation within a developed landscape.

4. Regardless, it is important to note that in its current setting, the aspen woodland is not isolated. First, it is continuous with the wetland complex to the east, forming a larger woodland-wetland unit of about 2.9 hectares. Second, beyond the property boundaries, the wetland complex is, in turn, linked to other forested and wetland habitat northeast of the property, along Range Road 233. The aspen stand is thus part of a larger block of natural habitat.

That larger block of habitat is more suitable for species with bigger home range requirements and allows for wildlife and plant species to move between adjacent habitats. Such areas can also support more individuals of a given species. Larger populations are better buffered from natural disturbances, so that events causing higher mortality are not as likely to result in local extinctions.

5. The proximity of wetland and upland habitat provides an uncommon combination of habitat features attractive to wildlife species unlikely to use an isolated upland stand, including amphibians, waterfowl and certain raptors, thus contributing to the biodiversity of the site. Considered in the context of their ecological setting, therefore, the wetland complex and woodland meet the aerial and diversity criteria for a SNA under commonly-used municipal systems. The woodland itself has greater ecological value than when considered in isolation because of its proximity to the wetland complex, and other natural habitat further northeast, and the ecological functions it can support through that connectivity.

6. The wetland complex is proposed to be maintained in its natural state and will be designated Environmental Reserve. Conserving the adjoining woodland as Municipal Reserve will maintain a natural transition zone between the new development and the existing rural residential subdivision north of the property. Also, the synergistic effect of these two natural areas should be considered. Together, the woodland, the wetland complex and other natural areas north of the property provide a larger block of habitat better capable of buffering human disturbance effects and sustaining the current level of biodiversity in both areas. Because the woodland has greater ecological value when considered in combination with other nearby natural features, justification for protecting the woodland as Municipal Reserve becomes more evident. Retaining the woodland as Municipal Reserve will provide an effective buffer, and will maintain a component of an existing ecosystem that provides an ecological value well beyond that of the woodland alone.

Based on the foregoing conclusions, Spencer Environmental recommends:

- Retaining the aspen woodland as Municipal Reserve, contiguous with the wetland complex to be protected as Environmental Reserve.
- If recreational trails are developed for the woodland and wetland complex, locating any trails near the perimeter of these features, due to the moist soils within the stand.
- Consider the contribution of surface water flows from the fields south of the wetland in designing stormwater management in the proposed subdivision. Ensure that existing water supply for the wetland complex is not adversely affected by the development.
- Ensure that the woodlot continues to receive some surface drainage. If this is not feasible through tying into the new stormwater system, site grading should be designed to ensure that some surface runoff from lands to the south is directed into the woodland.

The Crown claims ownership of a permanent slough located in the wetland complex.

2.4 Pipeline and Utility Rights-of-Way

A pipeline corridor extends diagonally through the Plan Area from southeast to northwest (see Figure 2). The corridor comprises four oil pipelines owned by Enbridge, as well as a Strathcona County sanitary sewer trunk and water main. The trunk serves Fountain Creek Estates and provides opportunities to also serve the Plan Area.

The corridor consumes some 2.7 hectares and may be used for open playing fields and trail systems. However, no other forms of development will be permitted. As such, the corridor will contribute to the open space system within Balmoral Heights. An oil pipeline and a gas transmission also extend along the west side of the Plan Area.

The County's Land Use Bylaw requires a 15 metre setback for a principal residence from a right-of-way of a petroleum products pipeline with a maximum licensed operating pressure of 3447.5kPa or greater, and 5.0 metres for a pipeline with less operating capacity. Appropriate setbacks will need to be considered by the design concept, and confirmed at the time of detailed design and subdivision.

2.5 Existing Roads

Fountain Creek Road (Right-of-Way Plan 922 2164) extends along part of the south boundary of the N ½ of SE ¼ 21-52-23 W4M, and provides a *back access* linkage between Fountain Creek Estates and Range Road 233. This road is located outside of, and is not part of the Fountain Creek development, and is a substandard rural cross section type road, whereas the internal subdivision roads in Fountain Creek Estates are constructed to the County's urban standard. The main entry into Fountain Creek is Fountain Creek Way, which located about ½ mile south of Balmoral Heights.

Because of its location and substandard rural condition, Fountain Creek Road cannot be efficiently or functionally integrated into a residential design concept for Balmoral Heights. As such, for the purposes of this Area Structure Plan, it is assumed that Fountain Creek Road will be closed in the longer term once an alternate access into Fountain Creek Estates is provided through Balmoral Heights. At that time, the Fountain Creek Road right-of-way may be incorporated into the subdivision layout for the Balmoral development.

Although road rights-of-way extend from Ordze Park and Wye Road Gardens to the north boundary of the Plan Area, these roads remain undeveloped. Linkages into Balmoral Heights are not feasible or desirable since any such roads would need to be constructed through the wetland complex described in Section 2.3, and Range Road 233 can be accessed directly from the Plan Area.

Construction of a road in the recently registered Right-of-Way Plan 992 5232 that extends along the north east boundary of the Plan Area will also require significant disturbance of the wetland complex, and does not provide a viable and efficient option for linking Balmoral Heights to the Range Road because it is too far north. Discussions with County representatives suggest that a road is not likely to be constructed within this right-of-way, and that some portion of it may be integrated into future lots.

A Functional Planning Study is currently being prepared on behalf of the County for Range Road 233. This Area Structure Plan will provide input into that study so that future intersection locations and spacing along the Range Road may be reconciled.

2.6 Historical Resources

Altamira Consulting Ltd has completed a Historical Resources Overview of the Plan Area. Based on the overview, Altamira recommends that a Historical Resources Impact Assessment be conducted prior to any surface disturbance occurring. The Overview Form is attached as Appendix B and has been forwarded to Alberta Community Development (Historical Resources Division).

2.7 Implications for Future Development

The existing conditions result in the following implications for future development.

1. The proposed estate residential use is compatible with the existing and proposed surrounding land use pattern.
2. The existing natural features extending along the entire north boundary of the Plan Area provide a very effective, high quality buffer between country residential lots to the north and future estate residential lots to the south. By maintaining the natural features, no lots located in Balmoral Heights will abut existing lots in Orzde Park and Wye Road Gardens, so that no transition in lot size will be required.
3. To the south, a transition in lot size is not required since the abutting parcels in Fountain Creek are estate residential. Also, a perimeter fence and a storm water drainage ditch extend along the north boundary of Fountain Creek Estates so that some buffering is already in place.
4. A direct road linkage to the east onto Range Road 233 to serve Balmoral Heights is more efficient and less intrusive than connecting into existing road rights-of-way to the north that extend through the mature country residential subdivisions. Any road construction through the wetland complex should be avoided, including a connection along the north side of the Robin Hood site.
5. Some portion of the road plan located along the north side of the Plan Area that is not included in the wetland complex may be integrated into the design concept.
6. The triangular fragment located in the S ½ of 21-52-23-W4M should be integrated into a design concept for Balmoral Heights since the fragment cannot be integrated with the existing Fountain Creek Estates subdivision, and can only be accessed from the north. Opportunities for retention of the small tree stand located on this triangle may be considered at the time of subdivision.
7. The wetland complex located in the northeast portion of the Plan Area will be designated Environmental Reserve. This complex is part of a larger significant natural area that extends further north and west, into the woodland located in the northwest corner of the Balmoral Plan Area.
8. Based on Spencer Environmental's recommendations, the woodlot should to designated Municipal Reserve to protect a larger block of significant habitat created through the synergistic effect of the woodlot and the wetland complex, and natural areas to the north.
9. The stormwater management concept for Balmoral Heights should consider preserving the moisture regime of the wetland and woodlot to the extent possible.
10. No disturbance will be permitted on the pipeline corridor extending through the Plan Area other than for trail or playing fields. This corridor will be designated PUL, and can be integrated to the open space system.
11. Appropriate setbacks to the petroleum products pipelines will need to be maintained as per the Land Use Bylaw. However, the setbacks do not apply to the sanitary sewer trunk that extends along the west side of the diagonal pipeline corridor.

12. Fountain Creek Road currently functions as a *back access* for Fountain Creek Estates. This road also provides access from the Range Road into the triangular fragment located in the southeast corner of the Plan Area. However, recognizing that the road:

    - does not meet county standards;
    - is constructed as a rural road, whereas all existing and future roads in Fountain Creek and Balmoral Heights are, or will be, constructed to urban standards;
    - is not the main entry into Fountain Creek Estates and is not integrated into the design of that community;
    - does not provide a direct, functional access from the Plan Area onto the Range Road; and
    - cannot be efficiently integrated into a subdivision design for Balmoral Heights since it is located along its south boundary;

    closure of this road should be considered in the longer term, once alternate access to Range Road 233 to Fountain Creek Estates and to the triangular fragment through Balmoral Heights is provided. The integration of the fragment into the Balmoral Heights Plan Area means that future residents will be part of a functional community.

13. The proposed road access into Balmoral Heights will need to be recognized by the Functional Planning Study for Range Road 233 and the number, type and spacing of intersections along this road will need to be reconciled.

3. THE DEVELOPMENT CONCEPT

3.1 Development Objectives

The primary objective of the Balmoral Heights Area Structure Plan is to create a high quality, estate residential community that provides an alternative urban housing form in a rural setting, and is sensitively integrated into the surrounding residential land use pattern. The development concept shown on Figure 4 reflects this objective, as well as most of the relevant policies of the Municipal Development Plan. Input provided by Strathcona County representatives is also reflected along with relevant information and recommendations resulting from environmental, and transportation and municipal servicing studies.

Specific plan objectives are:

1. To integrate residential development with significant natural and environmental features, without jeopardizing the integrity of such features.

2. To introduce high quality amenity features that will encourage and promote a high standard of residential development.

3. To maintain natural buffers as a transitional land use between the country residential subdivisions to the north and the Balmoral Heights Estate Residential community.

4. To provide opportunities for an integrated trail and open space system that links the natural features, the pipeline corridor and playground areas, as well as the regional trail proposed along Range Road 233.

5. To protect the integrity of the pipeline corridor and the adjacent petroleum products pipelines, and the Transportation and Utilities Corridor along the west side of the Plan Area by allowing for building setbacks as per the Land Use Bylaw.

6. To functionally integrate the triangular fragment in the southeast corner of the Plan Area with the Balmoral Heights community.

7. To provide high quality alternate access through the Balmoral Heights subdivision for Fountain Creek Estates such that Fountain Creek Road may be closed in the longer term.

8. To provide for alternate access to the Robin Hood group home site through Balmoral Heights so that the number of intersections along Range Road 233 can be minimized.

9. To create an opportunity for the future integration of the Robin Hood site into the Balmoral Heights estate residential community.

10. To provide a centrally located road access onto Range Road 233 that provides safe and efficient access to Balmoral Heights, as well as an alternate access to Fountain Creek Estates, thereby creating an opportunity for an all-directional intersection that can also access the lands to the east.

11. To encourage efficiencies in the provision of municipal services and recognize the opportunities provided by proximate water and sanitary sewer trunks.

12. To implement a storm water management concept that will protect the integrity of the wetlands complex and the woodlot.

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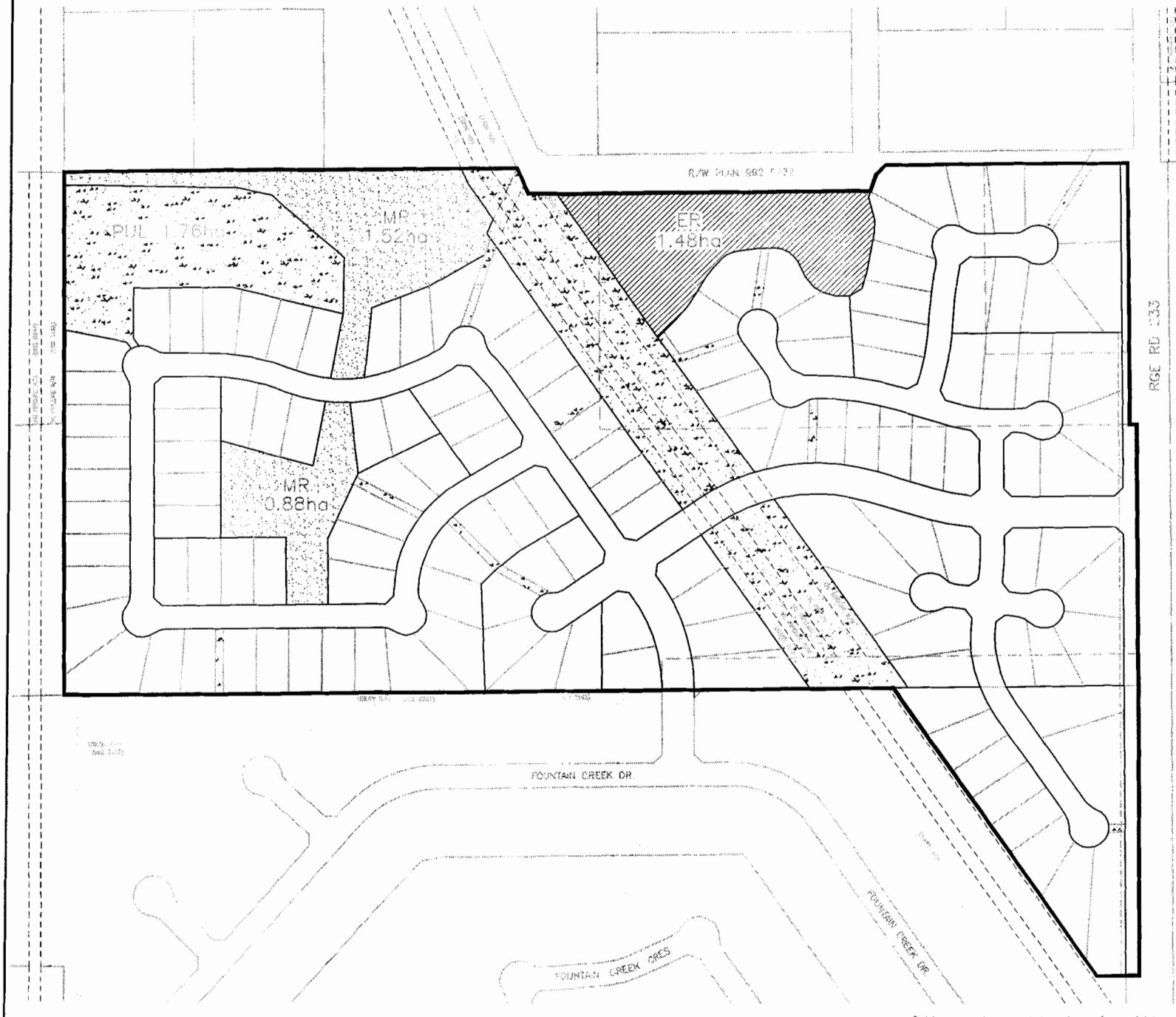

Figure 4

Development Concept

- Residential
- Environmental Reserve
- Municipal Reserve
- PUL

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Table 2 provides a summary of the land use breakdown proposed by the concept.

Table 2 – Land Area Breakdown

Area	Hectares
Gross Area	**34.21**
Range Road 233 Widening	0.53
Environmental Reserve	1.48
Public Utility Lots	4.79
Developable Area	**27.41**
Municipal Reserve	2.40
Residential	19.93
Roads	5.08

Note: The areas shown in Table 2 are approximate, and will be verified at the time of subdivision detailed survey.

3.2 Design Elements

The major design elements of the development concept are as follows:

1. The design concept allows for the implementation of a comprehensive landscaping plan that will result in an attractive community with landscaped boulevards throughout, and a superb architecturally designed entry feature. The entrance has been flared to include a landscaped island, and the internal road right-of-way has been widened to allow for boulevards and sidewalks on both sides of the street. A common landscaping theme will be developed to create an elegant ***green*** community, with tree-lined streets reminiscent of attractive, older well-established neighbourhoods.

2. The significant swath of green pipeline corridor extending diagonally through the Plan Area, combined with the storm water retention feature in the northwest corner, the Environmental Reserve wetland complex and the Municipal Reserve woodlot, contributes substantially to the ***greening*** of Balmoral Heights. Some ***30 percent*** of the total Plan Area will be maintained as ***green open space***.

3. The trail proposed along the west side of Range Road 233 will be extended into Balmoral Heights to link with a trail proposed within the pipeline corridor. Discussions with representatives of Enbridge have determined that trail constriction is acceptable. The trail will extend around the storm water pond along the perimeter of the woodlot to avoid excessive disturbance as per the recommendations of Spencer Environmental's investigation, and will provide a linkage to the playground site and Fountain Creek's storm water management feature. This trail, combined with the proposed sidewalk system, will result in a high quality recreation and pedestrian circulation system that will benefit of residents of Balmoral as well as neighbouring communities.

The land use components proposed by the preliminary design concept are described below.

1. Estate Residential

The design concept allows for about 130 estate residential lots pursuant to the provisions of the Estates Residential (RE) District of the County's Land Use Bylaw 8- 2001. As such, all lots shown on the design concept are a minimum of 0.135 hectares (0.33 acres) in size. ***The number and size of lots will be confirmed at the time of subdivision***.

Architectural guidelines will be applied at the time of lot sales, marketing and house construction as a method of promoting quality control. Examples of the types of guidelines that may be applied include minimum house size, roofing siding and finishing materials, colour, fencing and on-site landscaping. On-site landscaping guidelines will be developed that replicate and reinforce the boulevard, entry area and open space landscaping plan. Methods for maintaining an interesting streetscape may also be considered.

2. Municipal Reserve

Some 2.7 hectares of Municipal Reserve, or 10 percent of the developable area as per County policy, are owing. The design concept assumes that 2.4 hectares will be dedicated resulting in two open space features.

- The northwest woodlot is proposed to be preserved as Municipal Reserve based on Spencer Environmental's assessment and recommendations. This woodlot feature is 1.52 hectares in size.
- A 0.88 hectare playground area is located central to the larger westerly portion of the Plan Area, and is accessible by trail and roads from the easterly portion.

Both Municipal Reserve features are linked by the internal trail system. The balance of Municipal Reserve owing will be reconciled at the time of subdivision.

3. Environmental Reserve

The 1.48 hectare wetland complex that includes the Crown owned slough, as well as the surrounding wetland vegetation zone, is proposed as Environmental Reserve. The synergies formed by maintaining the wetland complex combined with the woodlot will ensure that a larger block of natural area and wildlife habitat is maintained.

4. Public Utility Lots

As is previously noted, the significant pipeline corridor that extends diagonally through Balmoral Heights will be designated as a Public Utility Lot. This corridor consumes 2.7 hectares and, by introducing a meandering trail to extend through the corridor to link with the internal trail and sidewalk system, will be integrated into the community to form a significant and functional component of the open space system. Naturalized grass planting is proposed for this corridor. Planting details will be considered as part of the comprehensive landscape plan.

A 1.76 hectare storm water feature that will be designated as a Public Utility Lot will also provide additional open space, and will assist in buffering existing country residential lots to the north from the new development.

The Robin Hood site will continue to provide group home care, and representatives of the Robin Hood Association have expressed an interest in being integrated, to the extent possible, with the Balmoral Heights community.

3.3 Population and School Generation

The projected population for the Balmoral Heights Area Structure Plan is 416 persons, assuming 3.2 persons per unit. The resulting school generation projection is 84 students, as per Table 3 below.

Table 3 – Student Generation

	Elementary	Junior High	Senior High
Public	34	15	17
Separate	10	5	2
Total Students	**44**	**20**	**19**
Combined Total			**83**

School generation figures are shown below. These figures are for the year 2001 as provided by the Elk Island Public and Separate School Board, and include Kindergarten.

Table 5 – Student Generation Factors

	Public School	Separate School	Total Students/unit
Elementary	0.2640	0.0753	0.3393
Junior High	0.1116	0.0400	0.1516
Senior High	0.1298	0.0185	0.1483

The school population generated by the Balmoral Heights development will be accommodated within the Elk Island School Board system.

4. MUNICIPAL SERVICES

A comprehensive Engineering Design Report prepared by Infrastructure Systems Ltd. has been submitted to Strathcona County as a supplement to this Area Structure Plan. The contents of that report are summarized below.

4.1 Roadways and Pedestrian Trails

A new access to Balmoral Heights will be constructed north of the existing Fountain Creek Road (see Figure 5). Another north/south road will allow for the connection to the existing Fountain Creek Subdivision. Improvements to the new access will be designed to incorporate the upgrading of Range Road 223 (Range Road 233 will be consistent with the Functional Plan currently being prepared for the County by Earth Tech).

Construction of the new access will result in the closure of the existing Fountain Creek Road. However, this road will remain open for the initial stages of construction that are proposed west of the pipeline corridor. Eventually, a Road Closure By-law will be required.

An emergency access may be constructed linking Balmoral Heights to Ordze Park to the north. However, the access will only be constructed if and when the secondary access to Ordze Park via Hulbert Crescent is closed. The access will be 6 metres wide and paved as per Strathcona County's standards. An emergency access will also be provided as per County standards from the end of the cul de sac in the Robin Hood site to Range Road 233.

Generally, road cross sections will be in accordance with the County's Servicing Standards Manual. Provision will be made in the design for a trail connector from RR 233 through to the pipeline corridor and around the storm water pond as shown on Figure 5. Secondary trails will be built linking open space areas throughout the development, and to Fountain Creek to the south.

In accordance with County Policy, noise attenuation in the form of a berm and perhaps a berm/fence combination will be provided along Range Road 233 (see Figure 6). A copy of the Traffic Noise Impact Assessment is provided in the Engineering Design Report.

4.2 Water Distribution

The development will be served by an existing 300mm water main running through the site along the same alignment as the sanitary sewer (see Figure 7). The existing water main will largely be abandoned and replaced by the proposed water distribution system, which will connect to the existing main at the north and south end of the site. Provision will be made to allow the watermain to be extended for future connections to lands to the east, and the proposed feeder main along Range Road 233. Some oversize recovery may be eligible for this work from future benefiting lands. Similarly, Balmoral Heights may be responsible for oversizing costs due to the original Fountain Creek development.

The distribution system will be designed to provide adequate flows and fire protection in accordance with Strathcona County requirements, and as a minimum, consistent with Fountain Creek developments. The County advise that the existing 300mm main can accommodate the initial stages of development in Balmoral without looping to the east.

Balmoral Heights
Area Structure Plan
Strathcona County

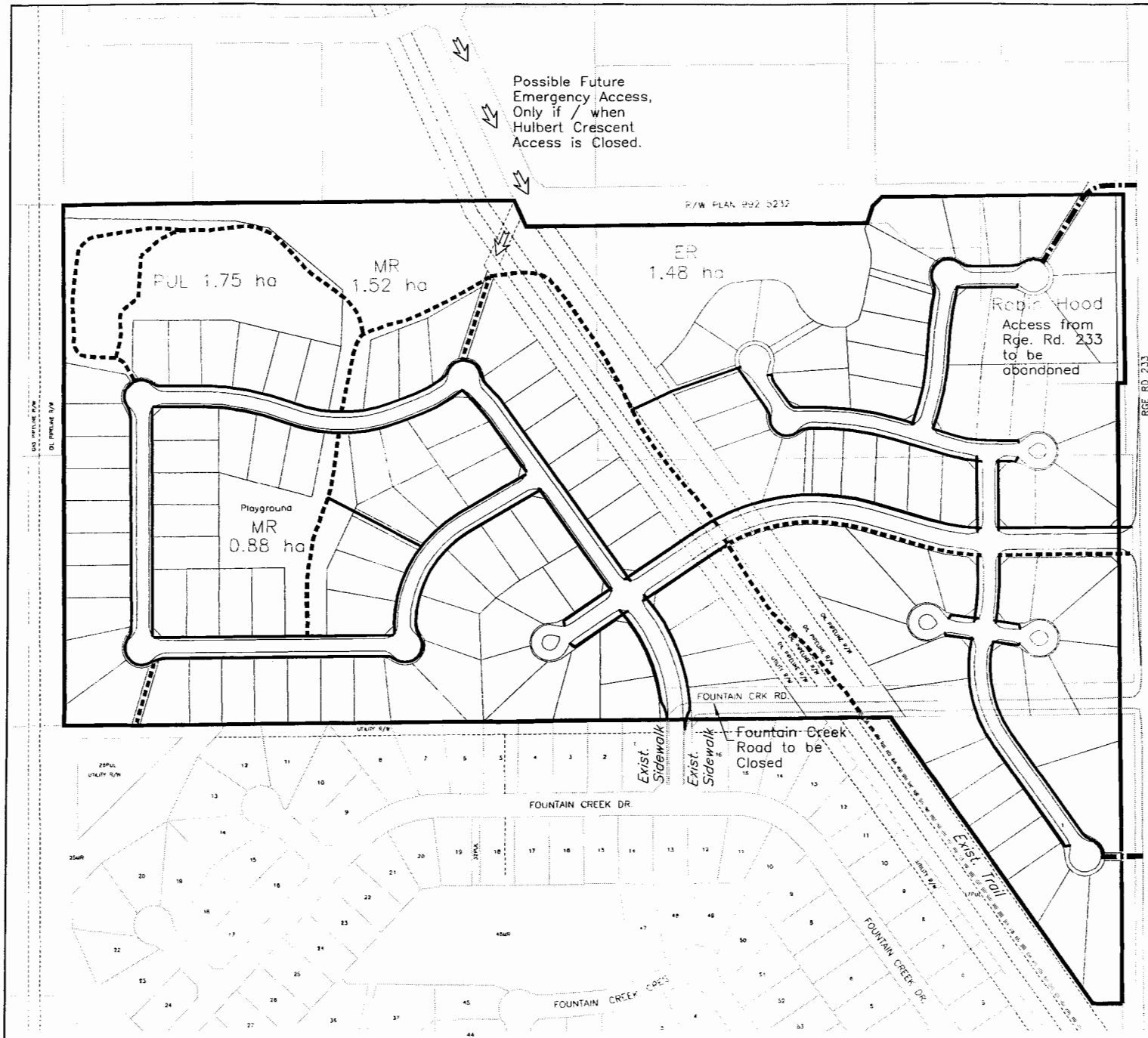

Figure 5

Circulation Concept

- Separate Walk
- Trail Link
- Emergency Access

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June 2004

Lovatt Planning Consultants Inc.

ISL Infrastructure Systems Ltd.

Balmoral Heights
Area Structure Plan
Strathcona County

Figure 6

Noise Attenuation Concept

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Balmoral Heights
Area Structure Plan
Strathcona County

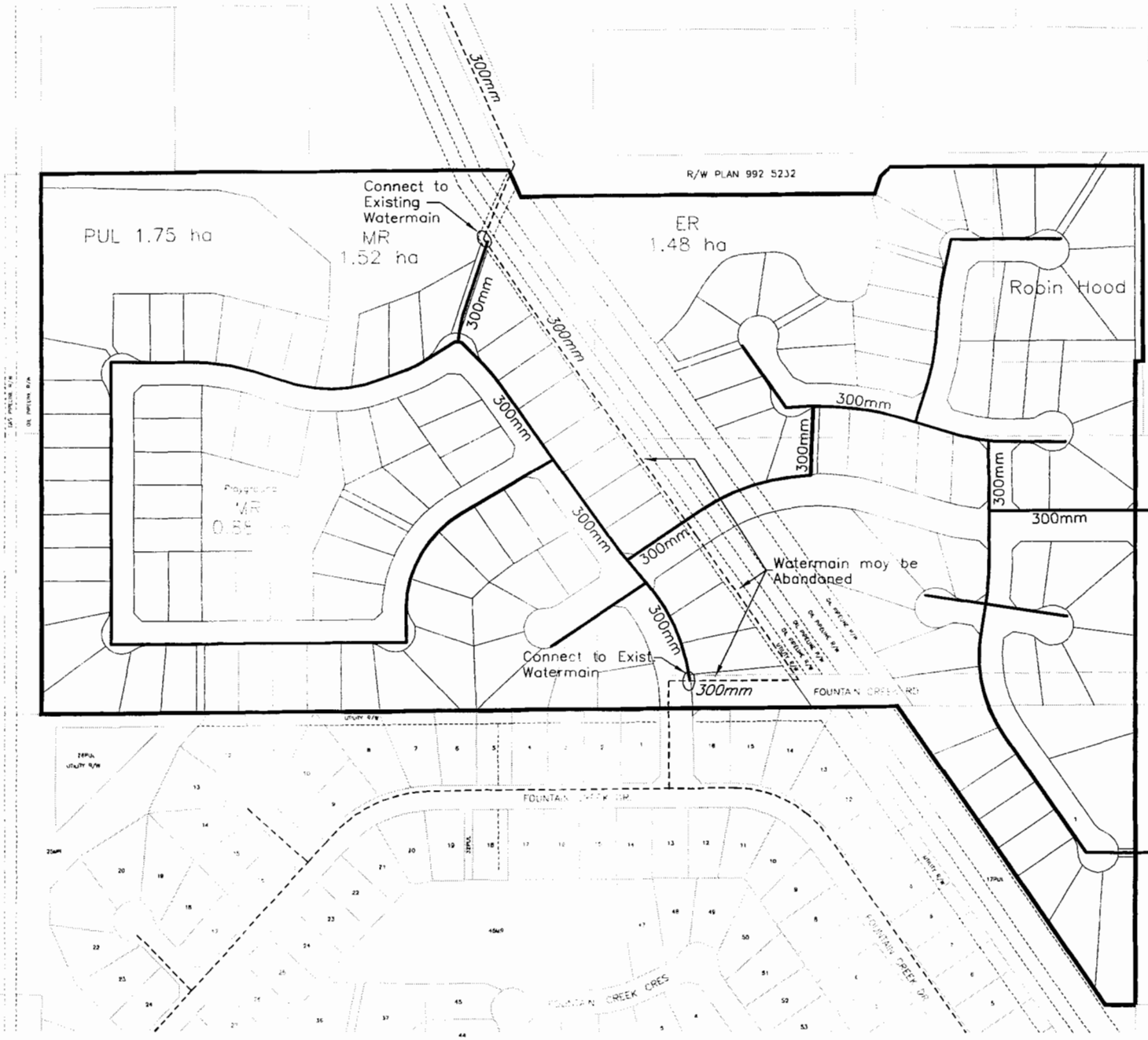

Figure 7

Water Distribution Concept

------ Existing Watermain

——— Proposed Watermain

Note:
Watermain sizes will be verified at time of detailed design.

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ISL Infrastructure Systems Ltd.

4.3 Sanitary Drainage

An existing 300mm sanitary sewer crosses the middle of the site in a northwest/southeast direction paralleling the watermain (see Section 4.2) and providing service to both Balmoral Heights and Fountain Creek Estates (see Figure 8). Two connections to this sewer will be made at the north end to optimize the depth of cover for both this development and for the proposed development of lands east of Range Road 233.

By connection to the sewer to the north, much of the existing sewer will be abandoned along with the water line noted above with minimum interruption of service to Fountain Creek Estates. The sewer system will be a series of 200mm, 250mm and 300mm mains. By providing two connections at the north, it will be possible to avoid augering beneath the pipeline corridor. Some over sizing recovery will be eligible once lands to the east connect to the system. The County will administer this recovery through future Development Agreement(s).

The County advise that there is adequate capacity in the downstream system to accommodate the Balmoral lands. Some oversize recoveries may be required from Balmoral Heights and the lands east to the developer of Fountain Creek.

4.4 Storm Water Drainage

Storm drainage from lands east of the pipeline corridor and Range Road 233 will be directed to the existing wetland located in the north portion of the Plan Area. The run-off will be channelled into a sediment pond before releasing flows to the wetland. A low level berm will be constructed along the north boundary of the wetland to prevent uncontrolled discharge flowing into Orzde Park, but with the use of a culvert through the berm, the resulting controlled discharge will help maintain the wetland areas located just inside Ordze Park. Implementing this concept will result in an increased runoff volume entering the existing wetland, maintaining a more permanent water feature. The wetland will be enhanced in accordance with guidelines established by the County and Alberta Environment.

During major run-off events, a paved overland channel will be constructed across the pipeline corridor, west of the existing wetland. The channel will be paved to prevent erosion and to provide a high capacity flow channel. This channel will continue west through a grassed swale, to an engineered wetland in the northwest corner of the Plan Area.

The drainage from the lands west of the pipeline corridor will also be directed to this engineered wetland. The outlet from the wetland will be discharged by a grassed swale across the Transportation and Utilities Corridor (TUC) to an existing wetland to the east side of Highway 14. This land is owned by Alberta Infrastructure, and the proposed construction will require Provincial approval. Outlet control from the engineered wetland will ensure discharge is in accordance with the requirements of both the County and Gold Bar Creek Basin study.

More information on the proposed Stormwater Management System is included in the Engineering Design Brief.

Balmoral Heights
Area Structure Plan
Strathcona County

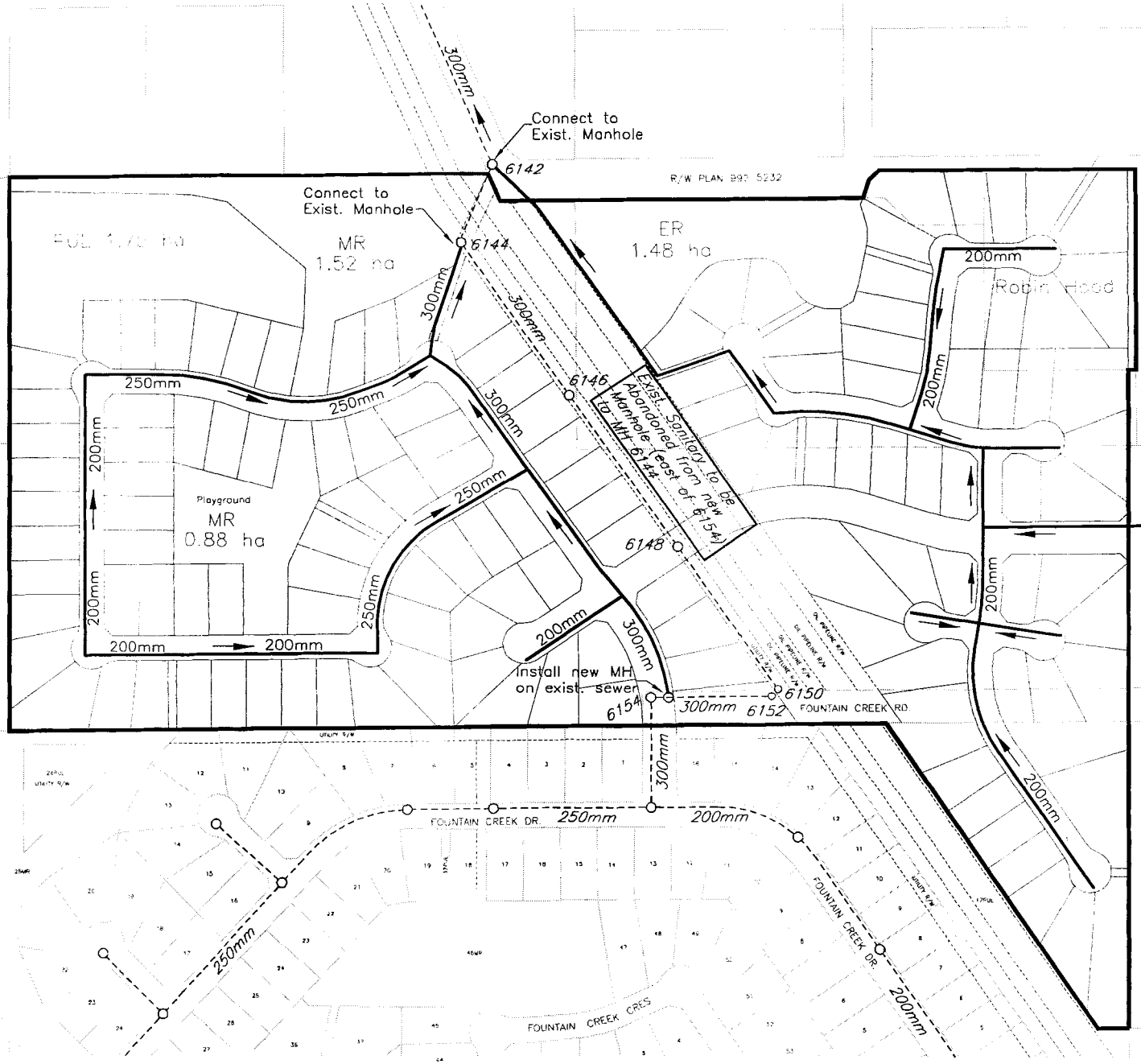

Figure 8

Sanitary Drainage Concept

------ Existing Sanitary

——— Proposed Sanitary

←——— Direction of Flow

Note:

Sanitary sizes will be verified ot time of detailed design.

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Balmoral Heights
Area Structure Plan
Strathcona County

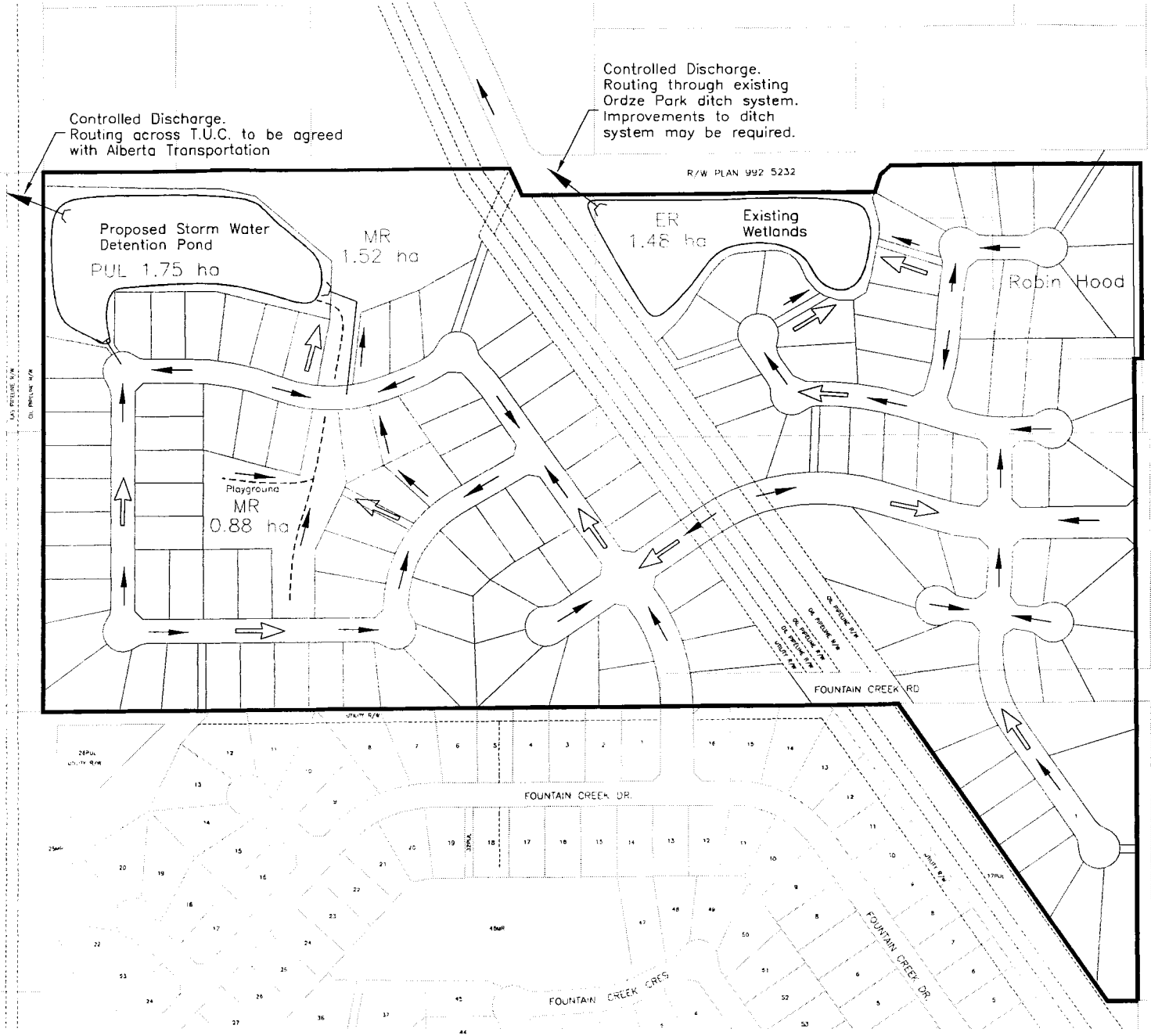

Figure 9

Stormwater Drainage Concept

Storm Outfall

Direction of Flow

Direction of Major Overland Flow

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ISL Infrastructure Systems Ltd.

4.5 Geotechnical Investigation

A site specific geotechnical/hydrogeological investigation has been carried out by Sabatini Earth Technologies Inc. in June, 2003. This report is contained in the Engineering Design Report. Based on a series of eleven boreholes throughout the site, the Sabatini report concludes that Balmoral Heights is suitable for residential development.

Thurber Environmental Consultants carried out a Phase 1 Environmental Site Assessment in June 2003 (see Engineering Design Report). Although the majority of the site has been confirmed as *clear*, the report identified a small portion of the land as a previous snow dump.

A Phase 2 Environmental Site Assessment has been completed and has been forwarded to Strathcona County under separate cover. This assessment confirms that no major problems exist, and that the subject site is suitable for residential development.

4.6 Franchise Utilities

Power, gas, telephone, and cable TV may be provided to the Plan Area by the extension of existing facilities. Both power and telephone have indicated that temporary feeds will be required to the first stages of development either overland or underground. Their closest services are on RR 233.

Atcogas proposes to bring a new feed line through the Transportation and Utilities Corridor to Balmoral Heights to provide gas to both this development and other proposed developments along RR 233. The alignment will be determined through liaison with the County and Atcogas, and may result in some modification to the design at the time of subdivision.

Alignments of the shallow utilities within the subdivision will be in accordance with the County Servicing Standards Manual.

5. STAGING AND IMPLEMENTATION

Proposed staging is shown on Figure 10. The first three stages of development are proposed to occur west of the pipeline corridor as per discussions with the County in regard to the tree farm lease.

Both the Municipal Development Plan and the Land Use Bylaw will need to be appropriately amended to allow for the construction of the Balmoral Heights community.

Balmoral Heights
Area Structure Plan
Strathcona County

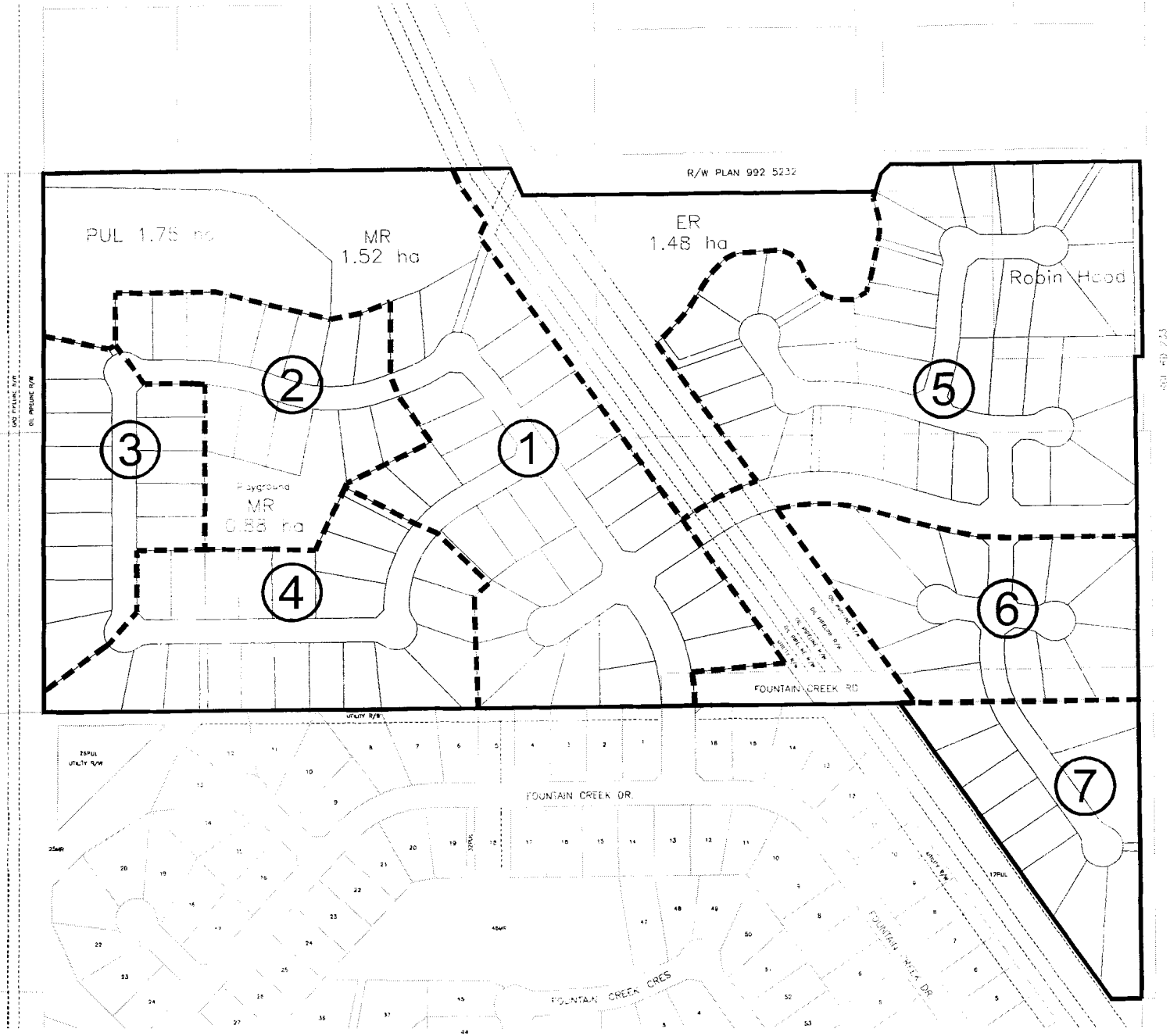

Figure 10

Staging Concept

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ISL Infrastructure Systems Ltd.

Appendix A

Spencer Environmental Management Services Ltd., Environmental Investigation – Strathcona County Development Site, July 2003

SPENCER ENVIRONMENTAL
MANAGEMENT SERVICES LTD.

401 Boardwalk, 10310 - 102nd Avenue, Edmonton, Alberta T5J 2X6
Phone (780) 429-2108 Fax (780) 429-2127
E-mail: spencer@planet.eon.net

Olga Lovatt
Lovatt Planning Consultants Inc.
9711-141 Street
Edmonton, Alberta
T5N 2M5

28 July 2003
EP-162

Dear Ms. Lovatt,

Re: Environmental Investigation – Strathcona County Development Site

In response to your request for a reconnaissance-level biophysical assessment of natural features on a parcel of land in Strathcona County (N1/2 of the SE-21-52-23-W4M), we conducted an overview site reconnaissance and review of aerial photography of the site to assess a small aspen stand at the site. This investigation is a requirement for a Suburban Estate Residential Area Structure Plan (ASP), and specifically, the County's Tree Policy (Bylaw 6-2001). That Bylaw was created to help conserve significant wooded areas in areas where development is proposed.

While most of the property has been cleared and is currently under cultivation for annual crops, the small aspen woodland and a wetland complex remain along the north boundary of the property. The developer will propose to retain the wetland complex (including wet meadows) as Environmental Reserve in the ASP. The wooded area could provide a buffer for residents immediately north of the property and the developer is also considering conserving the woodland under some form of protection in the ASP. Spencer Environmental was requested to assess two factors affecting the decision to protect the woodland:

- the ecological value of the woodland according to the criteria of the Tree Policy, and
- its sustainability in light of the proposed residential development for the property.

The County's Tree Policy outlines the process for assessment and protection of treed areas and the criteria against which such areas are to be evaluated. That bylaw regulates the clearing of "high quality tree stands" during development and was created to conserve treed areas that provide "an important biophysical resource and community amenity". The key criteria for the assessment, as outlined in the Policy, are the quality of biophysical resources and community amenity offered by the candidate site. Under the Policy, a biophysical assessment is required for any existing tree cover. Areas considered appropriate for protection are to be preserved through the provisions of an area structure plan or an area redevelopment plan (e.g., through Municipal or Environmental Reserve).

As defined by this process, our objectives in conducting an environmental investigation of the site were to evaluate the biophysical values of the aspen woodland and its potential use as a community amenity, most likely as a Municipal Reserve (MR). While the focus of the assessment was on the aspen stand, the adjacent wetland complex contributes to the value of the woodland, thus the relationship between the two features was also investigated. This letter provides an explanation of limitations applicable to the assessment, an overview of the ecological setting and a summary of the results of our investigation of the woodland. Lastly, we describe conclusions regarding the conservation and community amenity value of the site and recommendations for suitable protection, based on the investigation.

Study Limitations

This assessment was commissioned as a reconnaissance-level investigation, focusing primarily on the woodland. To gain perspective on the ecological role of the aspen stand in the landscape context, we also assessed the general habitat quality and ecological functions of the adjacent wetland complex. We did not conduct detailed surveys in either site. The study was requested during early spring, prior to the growing season, which limited our description of the woodland's vegetation. A detailed assessment was not requested for either natural feature, and our conclusions reflect the reconnaissance nature of the investigation and the focus on the woodland.

Ecological Setting

The proposed development site lies along the southeast boundary of developed Sherwood Park, just west of Range Road 233, within an area supporting agricultural use (primarily annual crops), rural residential development, and more recently, suburban estate residential subdivisions. The lands immediately north of the site have been developed as acreage style lots, and to the south is the higher-density Fountain Creek subdivision. Cropland and rural commercial development bound the west and east sides of the property, respectively.

The property has undulating to rolling terrain and small swales in the cultivated field appear to supply at least part of the surface water flow to the wetland along the northeast boundary of the property. The cultivated field bordering the south edge of the woodland slopes toward the stand, and surface runoff from this part of the field appears to drain into the stand. As a result, the lands along the north boundary of the property tend to be moist to wet.

Natural Features of the Property

The approximately 2 ha wetland complex occupies undulating terrain and, as a result of the variation in moisture regimes, a number of wetland vegetation communities have developed. There are several wetland basins within the complex: a large permanent pond in the northeast corner of the complex, a smaller cattail marsh directly south of the pond, and a small sedge-dominated temporary pond in an extension of the complex along its southwest boundary. Tall willow shrub groves border these wetlands and wet sedge meadows lie in the drier areas between them. Mature aspen shelterbelts occupy higher ground, extending along the north boundary of the section, and off the subject property.

Weeds have become established in sections of the wetland, particularly in the wet meadows, however with the variety of wetland and riparian habitats found in the complex, plant species diversity is likely to be relatively high. A mallard pair and a pair of Canada geese were observed near the two smaller wetlands during the site inspection, and habitat is suitable for nesting by these and other waterfowl, as well as supporting small populations of a variety of other wetland species (e.g., amphibians, songbirds and raptors).

The approximately 0.9 ha woodland comprises mature aspen (diameter at breast height (DBH) ranged from an estimated 15 to 23 cm) with minor inclusions of birch and white spruce. Young aspen form a sub-canopy in the stand. There is a vigorous and diverse shrub understory, including both tall and short shrub species. Hazel, dogwood, alder and willow form a moderately dense tall shrub layer. Rose was the primary short shrub species, although snowberry and currant were found scattered through the stand. There were a number of aspen snags of about 12-15 cm (DBH), some of which showed evidence of use by cavity nesting species. Downed woody debris, mainly fallen young aspen stems, was relatively abundant in the wetter sections of the stand. The presence of birch and dogwood suggests soil moisture conditions are typically moist, likely supplied at least partially by surface water flow from the field to the south.

The grass and forb layer was sparse, as most species had died off in the preceding winter and this year's growth had not yet emerged. Small tufts of *Poa* spp. (grasses) remaining from last growing season were evident but represented only a small portion (about 5%) of the cover in this layer of the understory. Conditions were such that a variety of forb species typical of aspen stands would be expected to occur. There was no evidence of either past or recent grazing in the stand: the shrub layer was quite diverse and dense, lower limbs of the trees were intact, and the leaf litter layer was undisturbed.

Deer pellets from the recent winter were abundant in the aspen stand, which indicates that it provides good winter deer habitat. Because of the small size of the stand, it is likely that only a few individuals use the woodland, but the density of pellets suggests use is fairly intensive, based on our experience with similar urban woodlands. No raptor nests were evident in the tree canopy. The trees had not yet begun to leaf out and nests, if they were present, would have been obvious. The stand would provide good nesting habitat for a variety of deciduous forest specialists, including cavity-nesters, but because of its small size, edge specialists and habitat generalists (e.g., chipping sparrow, magpies, American robins) would be anticipated to comprise the bulk of the avian diversity at this site.

Conclusions

Initially we were asked to evaluate the aspen stand against the Tree Policy criteria without consideration of other, adjacent natural areas, to determine if there were significant values worthy of conservation and sustainable in a developed landscape that did not include other natural areas. Although the developer is considering protecting the wetland complex as Environmental Reserve, this is subject to approval by the County,

The developer wished to confirm whether the woodland would be sustainable (in terms of maintaining the present vegetation community) in the absence of other natural areas and if it would be considered a high quality stand, as defined by the County's Tree Policy, in this isolated state. The stand is not isolated, however, and it interacts with other natural areas within the property and beyond it, on a broader, regional level. We also evaluated the value of the woodland within that broader context, examining its ecological role in terms of connectivity and sustainability of biodiversity in that regional area.

Woodland Assessment

The woodland now exists in fairly moist soil conditions supplied at least partly by surface water drainage from the field to the south. The soil moisture regime would be altered by grading and site preparation activities in the adjacent lands of the new subdivision. The stand supports several moisture-loving species (e.g., birch and dogwood) that would be affected by the change in moisture conditions, but the main tree overstory of aspen is likely to adapt to the change, as aspen can tolerate a wide range of soil moisture regimes. The species composition of the shrub and subdominant tree layer may shift to those species that prefer dryer conditions, but the stand itself would be sustainable in terms of overall tree and shrub composition after development of the lands to the south.

In terms of its ecological values, the woodland, viewed in isolation, would not be considered a significant natural area (SNA). In urban areas, a SNA classification is not usually given to upland stands of less than 2 ha, regardless of habitat quality and potential diversity, because of the vulnerability of small stands to outside disturbance (e.g., O'Leary *et. al.* 1993). The aspen stand is small (about 0.9 ha) and as a result, the stand interior has little buffer from invasive and weedy species and other effects of human disturbance (e.g., noise and habitat alienation effects). It is not, however, without positive ecological features: the stand itself is vigorous and seems likely to support a diverse group of plant and wildlife species. It would sequester carbon and provide a benefit as a carbon sink, albeit this would be a small contribution, given stand size. The stand's chief limitation if it were the only natural area retained in a developed landscape would be the impact of its small size on its ability to sustain its current level of biodiversity.

In terms of the woodland's value as a community amenity, its primary attraction would be the aesthetic value offered by the trees and songbirds likely to use the woodland. Its moist soils would be a limitation for trail development through the stand, although trails could be developed around its perimeter. According to the criteria outlined in the Tree Policy, this stand represents a moderate quality ecological feature with limited opportunities as a community amenity, and is unlikely to be sustained isolated in a developed landscape.

Woodland in Regional Context

In its current setting, however, the aspen woodland is not isolated. First, it is continuous with the wetland complex to the east, forming a larger woodland-wetland unit of about 2.9 ha. Beyond the property boundaries, the wetland complex is, in turn, linked to other forested and wetland habitat northeast of the property, along Range Road 233. The aspen

stand is thus part of a larger block of natural habitat (Figure 1). That larger block of habitat is more suitable for species with bigger home range requirements and allows for wildlife and plant species to move between adjacent habitats. Such areas can also support more individuals of a given species. Larger populations are better buffered from natural disturbances, so that events causing higher mortality are not as likely to result in local extinctions. Areas with high abundance can also serve as a source to recolonize areas where localized extinctions have occurred, helping to sustain species diversity within nearby natural areas. The proximity of wetland and upland habitat provides an uncommon combination of habitat features attractive to wildlife species unlikely to use an isolated upland stand, including amphibians, waterfowl and certain raptors, thus contributing to the biodiversity of the site. Considered in the context of their ecological setting, the wetland complex and woodland meet the areal and diversity criteria for a SNA under commonly-used municipal systems. The woodland itself has greater ecological value than when considered in isolation because of its proximity to the wetland complex, and other natural habitat further northeast, and the ecological functions it can support through that connectivity.

Planning Considerations

We understand that the developer intends to propose retaining the wetland complex as Environmental Reserve, and would consider maintaining the woodland as a Municipal Reserve. Conserving the woodland has the added benefit of maintaining a natural transition zone between the new development and the existing rural residential subdivision north of the property. The woodland, considered in a future developed state with no adjacent natural areas, would be only marginally deserving of protection under the Tree Policy, mainly because its small size threatens its ability to sustain the level of biodiversity suspected to be present. However, because the adjacent wetland complex will be protected as Environmental Reserve, the synergistic effect of these two natural areas should be considered. Together, the woodland, the wetland complex and other natural areas north of the property provide a larger block of habitat better capable of buffering human disturbance effects and sustaining the current level of biodiversity in both areas. Because the woodland has greater ecological value when considered in combination with other nearby natural features, justification for protecting the woodland as Municipal Reserve becomes more evident. Retaining the woodland would provide the buffer required by the developer as well as maintain a component of an existing ecosystem that provides an ecological value well beyond that of the woodland alone.

Recommendations

Based on this evaluation, we provide the following recommendations:

- Retain the aspen woodland as Municipal Reserve, contiguous with the wetland complex to be protected as Environmental Reserve.
- If recreational trails are developed for the woodland and wetland complex, locate any trails around the perimeter of these features, due to the moist soils within the stand.
- Consider the contribution of surface water flows from the fields south of the wetland in designing stormwater management in the proposed subdivision.

Ensure that existing water supply for the wetland complex is not adversely affected by the development.

- Ensure that the woodlot continues to receive some surface drainage. If this is not feasible through tying into the new stormwater system, site grading should be designed to ensure that some surface runoff from lands to the south is directed into the woodland. Directing roof runoff from several lots could also be considered. Unfortunately, the desirable amount of runoff to be directed cannot be quantified at this time. We can say, however, that the volume of surface runoff directed into the woodland should be that required to ensure that soils remain moist but standing water is not frequently created. Creation of conditions that result in standing water for longer than approximately two days following rain events would likely significantly alter the composition of the vegetation understory and overstory.

Thank you for the opportunity to assist in planning this development. If you have any questions or comments regarding the assessment, please contact either of the undersigned.

Sincerely,

Spencer Environmental Management Services Ltd.

D. L. Patriquin, M.Sc., P.Biol.
Environmental Scientist

Lynn Maslen, M.Sc., P.Biol.
Environmental Scientist

References

O'Leary, D. J. Bentz, D. Ealey, and A. Schwabenbauer. 1993. Inventory of environmentally sensitive and significant natural areas. City of Edmonton. Prepared for Edmonton Planning and Development, Edmonton, AB.

Appendix B

Altamira Consulting Ltd, Historical Resources Overview for Balmoral Heights Subdivision, July 2003

HISTORICAL RESOURCES OVERVIEW FORM
Alberta Community Development

File Opened: _____ Historical Resources Division Project No: _____

Prepared By: _____ Archaeological Permit No: _____

Project Name: Balmoral Heights Subdivision Development. Applicants No: _____

Applicant's Corporate Name	Lovatt Planning Consultants Inc.		
Contact Person	Olga Lovatt		
Contact Address	9711-141 St		
	Edmonton	Alberta	T5N 2M5
Telephone	(780) 452-8326	**FAX** (780) 452-3820	

Agent's Corporate Name	Altamira Consulting Ltd		
Agent's Contact	Walt Kowal		
Agent's Address	Ste. 207, 10544 - 106 Street		
	Edmonton	Alberta	T5H 2X6
Telephone	(780) 423-5840	**FAX** (780) 423-5878	

Nature of Project Subdivision development.

Project Size 32.38 ha **Nearest Town** Sherwood Park

NTS Mapsheets 1:50,000 Map 83 H/11 - Edmonton

Legal Location N1/2 of the SE1/4 21-52-23-4

Existing Surface Disturbance	Agriculture, pipeline, and transmition lines.
Previous Permits in Development Area	80-62
Previous Permits in General Area	2003-071
Minor Borden Blocks	PjPh
Known Sites in Vicinity	PjPh-56 and four newly recorded sites under permit 2003-071.
Known Sites Impacted	None
Designated/Significant Sites In Vicinity	None
Designated/Significant Sites Impacted	None
Palaeontological Sensitivity	Unknown
IRP Reference & Sensitivity	Low

Evaluation Five previously recorded sites are located within 500 meters of the development area. As such, this area is considered to exhibit archaeological potential.

Recommendation It is recommended that an Historical Resources Impact Assessment be conducted for the Balmoral Heights Subdivision Development.

Signature _____ **Date** July 10, 2003

GOVERNMENT USE ONLY

HSAS _____ **Date** _____

Approved _____ **Date** _____
Regional Archaeologist

Approved _____ **Date** _____
Head Archaeological Survey

Approved _____ **Date** _____
Provincial Archaeologist

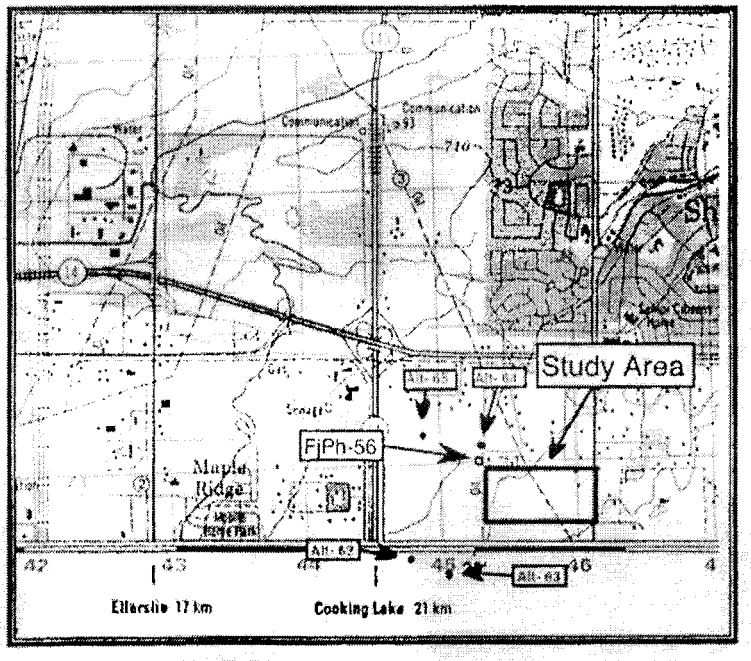

Figure 1: Location of the development area showing five previously recorded sites. Alt 62, 63, 64, and 65 are temporary names for sites that have not yet been given Borden designations (after 83 H/11 Edmonton 1:50 000 NTS Map).

Balmoral Heights Area Structure Plan Bylaw 27-2004

Date of Adoption May 25, 2004

EXISTING LAND USE

Residential		Municipal Reserve	
Environmental Reserve		Road Plan	
PUL		ASP Boundary	

STRATHCONA COUNTY – Planning and Development Services | DRAWN: M.Bohme | DATE: 05/06/09 | SCALE: NTS | DWG NAME: D23H0015