MUNICIPAL DISTRICT OF TABER
IN THE PROVINCE OF ALBERTA

BYLAW NO. 1825

BEING a bylaw of the Municipal District of Taber in the Province of Alberta for the purpose of adopting Bylaw No. 1825 being the Highway 3 West Business Park Area Structure Plan for Lot 1 Block 1 Plan 0710605 and Lot 2, Block 1, Plan 0912673 in the SE¼ 36-9-17-4.

WHEREAS the purpose of proposed Bylaw No. 1825 is to establish standards and requirements regarding the development and subdivision of lands described as Lot 1, Block 1, Plan 0710605 and Lot 2, Block 1, Plan 0912673 in the SE¼ 36-9-17-4 consistent with the Grouped Rural Industrial land use designation;

AND WHEREAS the municipality wishes to provide for orderly growth and development to occur while minimizing land use conflicts;

AND WHEREAS the municipality may adopt an area structure plan pursuant to section 633 of the Municipal Government Act, RSA 2000, Chapter M-26, as amended, and provide for its consideration at a public hearing.

NOW THEREFORE, under the authority and subject to the provisions of the Municipal Government Act, RSA 2000, Chapter M-26, as amended, the Council of the Municipal District of Taber in the Province of Alberta, duly assembled does hereby adopt Bylaw No. 1825 being the Highway 3 West Business Park Area Structure Plan for Lot 1, Block 1, Plan 0710605 and Lot 2, Block 1, Plan 0912673 in the SE¼ 36-9-17-4.

READ a **first** time this 10 day of May, 2011

Reeve – Brian Brewin *Municipal Administrator – Derrick Krizsan*

READ a **second** time this 12 day of July, 2011.

Reeve – Brian Brewin *Municipal Administrator – Derrick Krizsan*

READ a **third** time and finally PASSED this 12 day of July, 2011

Reeve – Brian Brewin *Municipal Administrator – Derrick Krizsan*

HIGHWAY 3

WEST BUSINESS PARK

(LOT 1, BLOCK 1, PLAN 0710605 AND
LOT 2, BLOCK 1; PLAN 0912673)

AREA STRUCTURE PLAN

Prepared by:

MARTIN
GEOMATIC CONSULTANTS

Project: 103261CE

JULY 2011

Municipal District of Taber
Highway 3 West Business Park Area Structure Plan

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I. INTRODUCTION

A. Purpose

1. Highway 3 West Business Park Area Structure Plan (ASP) has been produced in accordance with Section 633 of the Municipal Government Act. It is the intention of this plan to create a framework for the future subdivision of this Grouped Rural Industrial area.

2. This ASP is also intended to support a proposed reclassification to amend Municipal District Land Use Bylaw (LUB) 1722 from Rural Agricultural (RA) to Grouped Rural Industrial (GRI).

3. The purpose of the GRI District is to provide for Industrial development in areas where there is a minimum of conflict with adjacent land uses.

4. The proposed LUB amendment will establish Highway 3 West Business Park as an area to accommodate the location of grouped rural industrial land uses for agricultural and oilfield support services. This will be accomplished through planning and design of the site within the intent of the Municipal Development Plan (MDP and the GRI Land Use District).

5. The layout of the subdivision has been designed to fit into the irregular shape of the existing parcel. Through careful planning the future subdivision also intended to blend into the adjacent area.

B. Location

This document has been prepared as an ASP to establish the framework for subdivision and development of the following property:

- *Lot 1; Block 1; Plan 0710605*
- *Lot 2; Block 1; Plan 091 2673*

All of which is situated within the Southeast ¼ of Section 36 Township 9 Range 17 West of the 4th Meridian, in the Municipal District of Taber.[1] (r*efer to Figure 1*)

C. Land Ownership

The site is owned by Rodney and Laura Jensen, and 1540829 Alberta Ltd. (Lot 1, Blk.1; Plan #071 0605: and Blair Layton (Lot 2, Blk.1; Plan#091 2673). Other land ownership within the immediate area of the proposed Highway 3 West Business Park ASP is illustrated on *Figure 4.*

[1] Elevation: 1414 m; Latitude: 43.32°N; Longitude: 112.69°W

D. Goals

1. The first goal of the Highway 3 West Business Park ASP is to provide sufficient information to existing and future residents in the area to create certainty about the land use, subdivision design and other features of the proposed development.

E. Objectives

1. Highway 3 West Business Park ASP will respond to the needs, issues and requirements identified by the owners, the Municipal District of Taber and those agencies, organizations having an interest in the planning of this area.
2. When adopted by the Municipal District Council, this ASP will create the framework for subdividing the subject property.
3. This document will function as the required plan and as such will outline:
   (a) the sequence of development;
   (b) proposed land use;
   (c) proposed lot layout;
   (d) the access and circulation;
   (e) the location of public utilities;
   (f) other related matters.
4. Highway 3 West Business Park ASP will adhere to the following objectives:
   (a) mesh the development pattern and circulation system with that of surrounding, existing development;
   (b) maintain the functional and visual integrity of Highway 3;
   (c) establish the supporting internal transportation network and public utilities;
   (d) institute a storm water management system that responds to public utility functions.

II. SITE ANALYSIS

A. Site Characteristics

1. The 9.68-ha (23.92-acre) (more or less) site is located along the south side of Highway 3, south of the Hamlet of Johnson's Addition and just southwest of the Town of Taber *(see Figure 2)*.
2. Township Road 95A runs along the south boundary of the parcel. This road provides access to an existing country residential property located west of the

plan area. Shallow, gently sloped drainage ditches are present on either side of this road.

3. Range Road 170 runs along the east side of the property and provides an existing access to the site.
4. There is a mature farmstead in the northeast corner of the northerly parcel (Lot 2; Block 1; Plan 0912673) that is distinguished by a well-established tree line along its east boundary.
5. A buried TID irrigation line traverses the west side of the plan area.
6. An ATCO gas line runs along the east boundary of the project site.
7. Canadian Natural Resources Ltd. (CNRL) has a gas line traversing the middle of the project site.
8. Renaissance Energy gas line traverses the west side of the plan.

B. Soils

1. The site is within a Canada Land Inventory Class 1 category and is classified flat to slightly sloping.
2. Surficial soils on the site are generally described as lake deposited soil that is light brown in colour and consists of sandy-silt with a trace of clay. This top soil layer is generally 0.3 meters in depth and is underlain by approximately 3 meters of dark brown glacial clay till that is described as being silty with some sand and a trace of gravel.
3. These deposits underlay the subject parcel and influence ground water recharge and sewage disposal. Tests conducted by EBA Engineering Consultants Ltd. (EBA) indicate that lots would, generally, be amenable to installation and operation of private sewage systems under the previous (1999) *Alberta Private Sewage Systems*. The *Alberta Private Sewage Systems Standard of Practice* was changed in 2009. As such, additional analysis is required to confirm the previous findings.
4. Notwithstanding previous analyses, careful selection of sites for and design of private sewage systems is the responsibility of the individual installer. The installer must consider site soil and surface hydrologic conditions and development proposed for each lot. All systems (including holding tanks) must be installed under a valid permit issued consistent with the Safety Codes Act. All systems must conform to the latest edition of the *Alberta Private Sewage Systems Standard of Practice*[2]. Where variances are required, such variances must be approved by a Safety Codes Officer or Administrator as noted in the Act and pertinent Regulations.

[2] Safety Codes Council, *Alberta Private Sewage Systems Standard of Practice*, 2009, Alberta Municipal Affairs, Edmonton, AB. As of November 2010, this edition is current.

5. A summary of the soil assessment is appended. (*Refer to Appendix B*).

C. Topography

1. The development area itself is characterized by the following features:

   (a) The plan area is relatively flat with a slight topographic relief across the site.

   (b) The site has been graded for flood irrigation and gently slopes from south to north where it drains into the roadside ditch along the south side of Highway 3.

D. Water & Hydrology

1. The effects of water on the site are primarily those created by the irrigation system adjacent to and within the site area. The presence and longevity of the area's trees are attributable to their proximity to this old irrigation network.

2. There are no natural lakes or sloughs on the site however there is an existing dugout. It is expected that this dugout will ultimately be reclaimed and could be utilized as developable land. Reclamation of the dugout will be the responsibility of the landowner and an approved reclamation plan will be required to submit to the MD of Taber to demonstrate suitability for future development. The reclamation plan should include but not limited to a geotechnical report showing engineered fill and quality control and assurance monitoring, deposition of engineered fill, time lines for construction, and project inspector/engineer during construction.

3. Concern for water quality in the Oldman River drainage basin emphasizes the need to design a storm water management system that emphasizes water quality and minimizes run-off from the site.

4. As the soil tests indicate, no saturated soils were observed during the test hole drilling.

5. As is required by applicable Safety Codes, full design, including calculation of wastewater flows and quality based on development proposed and assessment of allowable soil loading rates using soil profiles (a minimum of two for each lot) will be required at the building permit stage to ensure the soils on each lot are satisfactory for treatment and dispersal of effluent. It must be noted that developments on individual lots may have constraints (soil characteristics, site uses, wastewater quantity or quality) that preclude effluent dispersal to soil. However, *suitability can only be determined by site-specific analyses for each lot based on soil characteristics and development proposed*.

6. The highest groundwater conditions are experienced during the months of June, July and August which are the normal periods of groundwater recharge.

E. Habitat & Vegetation

The plan area consists mainly of mixed grasses that produce a hay crop and is also used for grazing purposes. There is a mature tree row along the east site boundary which also encircles the farmstead buildings. A variety of grasses and brush are intermixed with the tree row, providing habitat for birds and small animals.

F. Environmental, Historical & Archaeological Significance

The "Environmentally Significant Areas in the Oldman River Region" report prepared for the Municipal District of Taber indicates:

(a) no environmentally significant sites within the plan area;

(b) no hazard lands; and

(c) no archaeologically significant sites.

G. Existing Land Use

1. Mixed farming operations, primarily irrigated crops, are evident in the surrounding area primarily to the south *(refer to Figure 3)*.

2. An approximate 3.0 acre parcel with a house was subdivided from the N.E. corner of the lot in 2009 to accommodate the existing homestead (Lot 2; Block 1; Plan 0912673).

3. A large Case farm equipment dealership, Hi-Way Service Inc., is situated directly east of the site.

   (a) Primary access for Hi-Way Service is by way of a service road along its northern property line while a minor access is provided from Range Road 170 along the west property line.

4. Several farmsteads are found along either side of most MD roads in the general vicinity of the plan area.

   (a) Adjacent to the west of the plan area is farmstead consisting of a home, accessory buildings (shop, barn and office), horse riding arena, corrals and a small fish pond.

   (b) Just beyond the farmstead noted above is the Grasslands grouped country residential subdivision. This subdivision consists of 23 lots, 4 of which are currently built or under construction and several more have been sold.

   (c) The Valhalla country residential estate lies to the east of the plan area near the south east corner.

5. Highway 3 is a divided 4-lane highway along the north boundary of the site and Range Road 170 intersects with it at the northeast corner of the plan

area.

6. Across Highway 3 to the north of the plan area, lies the Hamlet of Johnson's Addition.

7. A Town of Taber municipal boundary is located to the northeast of the plan area and forms the southwest limit of the Taber golf course.

H. Constraints & Opportunities

The Highway 3 West Business Park ASP area contains features which will influence the planning and design of future development. Opportunities must be maximized and constraints attenuated *(refer to Figure 2).*

1. Constraint Evaluation

(a) Farmland

The *Municipal Development Plan* states that "…subdivision for grouped or isolated rural industrial uses shall, wherever possible, be located on poor agricultural land…."[3] Due to the soil classification (CLI Class 1, flat to slightly sloping), the MD may consider this parcel "prime agricultural land." However, the parcel is small and, due to the bearing and location of Highway 3, irregularly-shaped. The presence of the existing dugout (as noted elsewhere in this document) further reduces the area available for cultivation and increases the irregularity of the parcel's shape. As such, this parcel is difficult to cultivate economically and is unlikely to be desirable for agricultural use. The subject property is separately owned from the property to the south and as such is not large enough to sustain any agricultural living.

(b) Proximity to Existing Development

The *Land Use Bylaw* states that Class B rural industrial development shall be discouraged within "one mile of […] a designated hamlet, locality or grouped country residential district" or "one half mile either side of a provincial highway, designated tourist scenic or recreational access road […] *unless the Development Authority is satisfied that adequate measures and high operational standards will be undertaken and maintained to minimize and nuisance, hazard or noxious effect on the vicinity land uses.*" The Highway 3 West Business Park is within 0.6 km [½ mile] of Johnson's Addition (a hamlet), Grasslands Estates (a grouped country residential district) and highways 3 and 864. However, this is mitigated by the following:

- Johnson's Addition is separated from the proposed industrial district by a busy four-lane divided highway (Highway 3) on an approximately 84-m (275-foot) wide road allowance, an active Canadian Pacific Railway

[3] MD of Taber, *Municipal Development Plan*, Policy 5.6.22

line as well as a farmstead (the portion of SE36-9-17-4 north of the CPR). Given this, there is more than adequate buffer between Johnson's Addition and the Highway 3 West Business Park to ensure any "nuisances, hazards or noxious activities" do not affect this hamlet.

- There is a sufficient buffer and no line-of-site between the Highway 3 West Business Park and Grasslands Estates. The major impact on development in Grasslands Estates is its proximity to Highway 3 (see below). The development of the Highway 3 West Business Park is unlikely to have any significant impact on the residences.

- Highway 3 is a busy trade corridor with average daily traffic volumes exceeding 10,000 vehicles per day. As such, any noises or disruptions due to industrial uses will be negligible when compared to the impact which already exists due to this busy highway.

- Through discussions with the owner of lot 2; Block 1, the existing farm house situated on the N.E. corner of the ASP area will have a sound continuation berm established along the west and south side of the property to isolate any noise or visual nuisance from the Highway 3 West Business Park. Presently the lot is zoned agricultural and will remain such until such time as future development of the lot is required and will be rezoned Group Rural Industrial.

In addition, the land use proposed for the Highway 3 West Business Park is consistent with or not in conflict with the existing intense agriculture, oil and gas development, highway commercial and industrial land uses in the area.

(c) Soil Capability for Development

The septic feasibility report prepared in 2008 by EBA Engineering (See Appendix B) was produced for an earlier rural residential proposal on the subject land and as such will be used only to demonstrate general septic suitability. Additional soils analysis will be required at subdivision phase.

Soil testing conducted by EBA indicates that private sewage treatment and dispersal is feasible. Confirmation of feasibility given the updates in the present *Alberta Private Sewage Standard of Practice* 2009, should be confirmed prior to subdivision. Each lot's system must be individually designed by a qualified installer and will require additional soil profiles. (Refer to Appendix B.)

As noted previously, an irrigation dugout presently exists in Lot 4. Until such time as the dugout is acceptably filled and reclaimed, this area is undevelopable. Future owners may wish to reclaim this land. Any reclamation should include recommendation from a geotechnical engineer as to method, fill types, structure and other issues which may be pertinent. This should be a condition of any development or building permit in Lot 4

which proposes to fill the dugout and reclaim the land for other uses.

(d) Topography

The relatively flat nature of the site will require careful grading and siting of buildings and siting of private sewage treatment and dispersal systems. This is to ensure that proper storm drainage is achieved and that sewage disposal systems do not adversely impact adjacent lots.

(e) Traffic Impact & Access Considerations

With continued growth in and around Taber, both Highway 3 and Range Road 170 are becoming busier. Direct access is not permitted to Highway 3, thus traffic must utilize the Range Road 170. Range Road 170 also intersects:

- Highway 864 (at its southern terminus at Highway 3 intersection), a rural two-lane highway that extends north to Vauxhall.
- Highway 36, approximately 4.5 km (2.8 miles) south. Highway 36 is a rural two-lane highway which extends south to Highway 4 at Warner and provides a direct route to the United States Border at Coutts.

In consideration of the above, HDR|iTRANS of Calgary were engaged to provide a traffic evaluation and forecast for traffic at the Range Road 170/ Township Road 95A intersection. This report considers the potential impact of a proposed subdivision and development on the existing local transportation network.

Based on HDR/iTrans conclusions and discussions with the MD of Taber, no significant improvements to the gravel road south of the proposed subdivision would be required at this time. However, Range Road 170 is presently surfaced with a cold mix and there is a load ban on it during certain times of the year. As this is the only access to the proposed development, discussions with the MD on upgrading the portion from Highway #3 south to the gravel road intersection are being endeavored in order to allow year round use of this section of Range Road 170. An upgrade agreement will be finalized prior to subdivision and will be secured in the Service Agreement with the MD of Taber.

Through discussions with Alberta Transportation, a Traffic Impact Analysis (TIA) would not be required at this time.

(f) Agricultural Considerations

The most widespread land use within a 0.8 km (½ mile) radius of the plan area is irrigated cropland of various types.

The proposed development of this site is not likely to constrain (and will likely complement) any existing agricultural land use.

(g) Commercial & Industrial Impact

The only evident commercial/industrial uses within a 0.8-km (½-mile) radius of the development area is the aforementioned Case farm implement dealership just east of the site. Rural industrial uses proposed for the subject lands are unlikely to constrain (and will likely complement) the existing commercial and industrial uses in the area.

(h) Natural Resource Development

i. Oil Well Locations

Two active oil well sites are situated in the vicinity of the proposed ASP site; one in the NW¼ 25-9-17-4 and the other in the NE¼ 25-9-17-4.

ii. Well operating

Regular operation/maintenance of these wells is normally conducted once or twice a day and entails a single person in a pick-up truck driving to the well site. During the work being conducted, some noise and occasional odours may arise.

iii. Oil Pipelines

There are two high pressure oil pipelines one in the NE¼ 25-9-17-4 and the other in the SW¼ 36-9-17-4; southwest and west of the ASP site respectively.

iv. Development Restrictions

Development in proximity to the two pipelines referred to above is regulated to some extent by the Energy Resources Conservation Board (ERCB), which regulates the oil and gas industry. A development control zone bordering either side of a pipeline right-of-way is required which means that when construction is proposed to occur within that area, the pipeline owner must be contacted and the line identified and marked before any digging can take place.

The minimum development setback from the Interpipeline pipeline is required to be a minimum of 15.25 meters from the center of the pipeline. Thus the pipelines and the associated development restrictions should have no impact on the proposed Highway 3 West Business Park ASP.

v. Emergency Response Plans

Emergency Response Plans (ERP's) have been prepared by oil companies operating in the area. In addition, an Emergency Planning Zone (EPZ) has been created to notify the public within 500 meters of the site. This plan will have to be updated as development takes

place in the Highway 3 West Business Park ASP area.

Oil companies work in conjunction with the Municipal District of Taber and Southern Alberta Disaster Services when dealing with emergency response planning.

2. Development Opportunities

(a) Location

Highway 3 West Business Park has a significant locational advantage because it is adjacent to the Town of Taber. Taber offers residential housing and amenities to support workers employed by businesses in the proposed development.

Highway 3 West Business Park is also near to and indirectly accessible via Highway 3, which is a 4-lane, divided provincial highway, a significant trade corridor and part of Canada's National Highway System.

Highway 3 West Business Park is within 0.8 km (½ mile) of Highway 36, a two-lane paved provincial highway which provides access to the United States Port of Entry at Sweetgrass, Montana, (via Highway 4), CANAMEX trade corridor (Alberta Highway 4/US Interstate 15), as well as points north in Alberta.

(b) Future Land Use Classification

The types of businesses proposed for the Highway 3 West Business Park are consistent with other similar property along Highway 3. Specific businesses proposed within the area include but not limited to:

- *Trucking yards*
- *Oilfield maintenance*
- *Electrical, instrumentation sales*
- *Welding shops*
- *Mechanical repair shops*
- *Equipment sales and rentals*
- *Water hauling*
- *Farm equipment rentals, sales and repairs*
- *Construction equipment rentals, sales and repairs*
- *Irrigation equipment sales and repairs*
- *Mini Storage & RV Storage*
- *Vehicle/recreational vehicle sales and repairs*

Given the size of the proposed lots and the proximity to existing residential development and the Town of Taber, the following uses are not considered appropriate and should not be permitted:

- *Anhydrous ammonia storage*
- *Abattoir*

- *Oil and gas plant*
- *Bulk fuel depot*
- *Livestock sales yard*
- *Gravel/sand pits or stone quarries*
- *Asphalt plant*
- *Alfalfa dehydrating plant*
- *Sanitary landfill*
- *Sewage treatment plant or lagoon*
- *Auto wrecker*
- *Other uses deemed by the Development Authority to be similar in nature to these listed uses"*

Any proposed development that does not fall under the permitted land uses for Grouped Rural Industrial will require an amendment to the land use bylaw prior to development to include the uses in the Grouped Rural Industrial District

In considering both the ASP and the LUB reclassification of this property, the Municipal District of Taber will be requested to determine that the future industrial use:

i. would not conflict with the agricultural, recreational or industrial capability of lands in the vicinity;

ii. would not compromise the safe, efficient operation of the road network or urban expansion strategies; and

iii. would comply with the pertinent requirements of the LUB.

Once the ASP and the LUB reclassification are approved, if so determined by the MD Council, grouped rural industrial within the plan area will be enabled to take place.

(c) Ease of Development

All of the basic utilities are at or near the site boundary which will make it easier and less expensive to service and develop the new lots. Power lines extend across the eastern development area boundaries on the east side of Range Road 170. Buried telephone cable is also located along the east edge of the plan area. (See figure 8.0)

III. PROPOSED LAND USE & DESIGN

A. Proposed Land Use

The primary use of land within Highway 3 West Business Park will be rural industrial with supporting infrastructure. This concept is illustrated on *Figure 5*. The following section explains the concept in more detail.

1. Rural Industrial

   (a) The site will consist of 5 rural industrial lots ranging between 1.21 ha. (3.00 ac) to 2.45 ha. (6.04 ac).

   (b) Specific business proposed in this area may include but not limited to:

   - *Trucking yards*
   - *Oilfield maintenance*
   - *Electrical, instrumentation sales*
   - *Welding shops*
   - *Mechanical repair shops*
   - *Equipment sales and rentals*
   - *Water hauling*
   - *Farm equipment rentals, sales and repairs*
   - *Construction equipment rentals, sales and repairs*
   - *Irrigation equipment sales and repairs*
   - *Mini Storage & RV Storage*
   - *Vehicle/recreational vehicle sales and repairs*

   (c) The following uses are not considered appropriate and should not be permitted:
   - *Anhydrous ammonia storage*
   - *Abattoir*
   - *Oil and gas plant*
   - *Bulk fuel depot*
   - *Livestock sales yard*
   - *Gravel/sand pits or stone quarries*
   - *Asphalt plant*
   - *Alfalfa dehydrating plant*
   - *Sanitary landfill*
   - *Sewage treatment plant or lagoon*
   - *Auto wrecker*
   - *Other uses deemed by the Development Authority to be similar in nature to these listed uses"*

2. Rural Agricultural

   The lot in the north east corner of the ASP site [Lot 2, Block 1, Plan 0912673] will remain Rural-Ag until such time as the owners decide to develop the lot at which time it is expected to be rezoned GRI and will follow the ASP guidelines as per the approved bylaw. A fence or berm for sound continuation will be established by the developer along the west and south side of Lot 2, Block 1, Plan 0912673.

   The existing owners of Lot 2, Block 1, Plan 0912673 have consented to be part of the ASP and are in favor of the proposed rezoning of the "Group

Rural Industrial" lots next to them. (See consent letter in Appendix E).

3. Municipal Reserve

   Municipal reserve requirements have been met as part of the previously-approved subdivision of Lot 2, Block 1, Plan 0912673.

4. Environmental Reserve

   No environmental reserve is required nor provided.

5. Roadways & Utility Lots

   (a) Access to the proposed lots will be from the existing Township Road 9-5A, a gravel MD road located along the south boundary of the subject area.

   (b) The existing intersection of Twp. Rd. 9-5A and Rge. Rd. 170 may need to be upgraded to ensure that appropriate intersection geometry is provided.

   (c) As there is an existing access to the homestead on lot 2, Block 1 from Range road 170, access will continue to be from the Range road.

B. Densities

Five Industrial lots are proposed with one rural agricultural lot with one homestead.

C. Development Setbacks

1. Through discussions with Alberta Transportation, a 10-m (33-foot) setback from the property line of Highway 3 is acceptable as this highway is already four lanes, divided and no access is permitted from adjacent lots. A formal agreement allowing this setback will be obtained from AT when application is made by the developer for a Roadside Development Permit.

2. In accordance with the Municipal District of Taber LUB #1723, no part of any building or structure nor any trees will be located within 45.7 meters (150 feet) of the Range Road 170 or Township Road 95A, unless a setback waiver is granted by the Municipal District. Due to the existence of existing building and trees, and the unusual configuration of the parcel, a request is made to relax this setback to 15.24 meters (50 feet) from the property line of the roads. As trees die or are removed, they will not be replaced.

3. In accordance with the Municipal District of Taber LUB #1723, Vehicle access points and buildings, fences, trees or similar obstructions more than 2 feet above a rural road grade may be restricted by the municipality in the 350' "Intersection Site Triangle Setback" area or such greater distance from an intersection with a provincial highway as required by

Alberta Transportation. Due to the existence of existing buildings and trees, and the unusual configuration of the parcel, a request is made to relax the "Intersection Site Triangle Setback" to 45.72 meters (150 feet) from the corner property lines of the roads on lot 3 only (see figure 6.0 and 6.1).

4. All lots are intended to meet or exceed the MD minimum lot size for this land use.

IV. PROPOSED ROADWAYS & SERVICING

A. Roadways

1. Site Access & Circulation

   (a) Aside from proposed Lot 2; Block 1, no lots will have direct access to MD Range Road 170. The plan area would derive one access point from the MD road allowance along the east site boundary.

   (b) No internal local roads will be provided for the proposed subdivision.

2. Road Dimensions

   Township Road 95A will be maintained as a graveled Industrial roadway on a 30 meter right of way. The road top width will be 8 meters wide.

3. Road Construction

   (a.) Range Road 170 may require upgrading in the near future to remove the seasonal road ban as per an agreement with the MD of Taber.

4. Lot Approaches

   (a) Lots will be accessed by way of an approach to each individual lot.

   (b) Traffic movements are expected to be minimal at the intersection of the MD road and Highway 3 thus no conflict is anticipated.

5. Drainage

   Drainage swales will be constructed as part of the roadway as per MD of Taber standards.

B. Servicing

1. Potable Water

   (a) Each site will be serviced with its own cistern at the expense of the owner.

   (b) Cisterns will be installed in accordance with requirements of the Alberta Health Services and the Safety Codes Council of Alberta.

(c) Installation of cisterns will be the responsibility of each business owner.

2. Irrigation

Irrigation will be provided to the front of each industrial lot and to the rural agricultural lot to the north east through a buried pipeline tied into the existing TID irrigation pipeline located on the S.E. corner of Lot 1; Block 2, plan # 071 0605. The pipeline would run from the S.E. corner of SE 36-9-17 W4M, north through a 30' easement registered in December of 2010 to service all the lots in the proposed subdivision. (See Appendix A for description of easement).

Through discussions with TID (Kent Bullock), it will be the developers/owners responsibility to install the distribution system and to own, operate and maintain it. The connection of the distribution system to be the TID delivery point must be approved by the District and each lot that uses or plans to use irrigation water must sign a rural water use agreement and pay the annual fee that is in place at the time. (See TID comments Appendix C).

3. Fire Suppression

Although the development site is in the Municipal District of Taber it is within the Town of Taber fire response area. The Taber fire hall is approximately 4 kilometers, by paved roads, from the development area. The fire department has a full-time chief while the majority of the firefighters are volunteers.

4. Waste Disposal

(a) Sewage

EBA conducted a septic disposal field feasibility assessment on the property in September and November 2008 on the subject parcel and the parcel to the south (Lot 1, Block 2, Plan 0710605).[4] Three boreholes to 3 m deep and thirty percolation test holes to 1 m deep were drilled. Based on the results of the assessment, installation and operation of private sewage systems was generally considered feasible. A summary of the EBA report is attached as Appendix B.

The EBA report was completed prior to the release of a new *Alberta Private Sewage Systems Standard of Practice* (adopted by Alberta Regulation 485/2009 on 5 October 2009). Some recommendations with respect to private sewage system design noted in the report are no longer applicable. Percolation tests are no longer suitable for the selection of an allowable soil loading rate for private sewage systems. As such, it is suggested that, to confirm, in general, whether effluent dispersal to the soil is feasible and provide some general advice for individual developers, a

[4] Assessment of Septic Field Feasibility, Section 5 – Septic Disposal Fields, December 4, 2008 (EBA Engineering Consultants Ltd.)

Level 3 site assessment[5] be conducted to determine the soil profile and allowable loading rate for one test hole on each lot. This assessment would also address cumulative impacts of development with respect to private sewage. This analysis shall be submitted with the subdivision application. It is recognized that in accordance with the MD of Taber Municipal Development Plan and Land Use Bylaw, the type of private sewage disposal system serving the development will be a consideration of subdivision approval. The density proposed within this ASP may be reduced depending on the results of the analysis and the type of systems deemed feasible.

It must be stated, however, that final selection of the specific soil loading rate for individual lots (or whether a private sewage system can be installed on a site) are required to be based on a site assessment by the installer – including the description of soil profiles detailing soil horizons (soil texture, structure, colour, etc.) for at least two test holes on *each* lot. Details of the minimum requirements for an acceptable private sewage site assessment can be found in the *Alberta Private Sewage Systems Standard of Practice*.

If it is determined that any of the requirements of the relevant Safety Codes are not fulfilled and private sewage treatment and dispersal are not feasible, the use of sewage holding tanks may be considered in accordance with the MD of Taber Municipal Development Plan policies and the Land Use Bylaw requirements. In accordance with the Land Use Bylaw and the Alberta Private Sewage Systems Standards of Practice, the use of a sewage holding tank as a method of private sewage disposal requires approval of the MD of Taber. The use of a holding tank is typically discouraged except, where in the opinion of the approval authority, no other viable option exists and the volume of effluent produced by the proposed development is limited. Holding tanks are also regulated by the *Alberta Private Sewage Systems Standard of Practice*.

As per the *Safety Codes* Act, private sewage systems are inspected by Safety Codes Officers accredited by the Safety Codes Council.

(b) Solid Waste

Landowners will be responsible for their own solid waste disposal.

C. Storm Water Management

1. Off-site Runoff

The subject parcel is located at the low point of a 176-ha drainage catchment.

[5] Alberta Association of Municipal Districts and Counties, *Model Process Reference Document to Guide Municipal Consideration of Subdivision and Development Using Private Sewage Treatment Systems*, July 2004

This area drains to a low point located in the highway ditch at the southwest corner of Highway 3 and Range Road 170. This ditch is drained by a 600 mm diameter corrugated-metal culvert which discharges into a ditch located on the west side of Highway 864 north of the Canadian Pacific Railway. This culvert is approximately 68 m in length and has an invert slope of 0.3%. Should the culvert become inundated or blocked, the water level at this location could pond to an elevation of approximately 815 m, runoff will overtop Range Road 170 and flow eastward along the south side of Highway 3. Hydraulic analysis of the culvert indicates its maximum discharge capacity with headwater at elevation 815 m and the tailwater fixed at 913.4 m (just submerging the downstream end of the pipe) is 0.48 m^3/s.

2. Current On-site Drainage System

   The development area is in a somewhat unique situation relative to storm drainage because the plan area has been graded to drain towards the Highway 3 ditch. A 600 mm culvert at the north east property line carries runoff under Highway 3. As indicated previously, runoff flows north and east and eventually enters the Oldman River approximately 3 km north of the site.

3. Development Flows

   Industrial development will increase the impervious surface on-site considerably. As such, runoff volume and quantity will increase accordingly.

4. Future Storm Water Management System

   To offset the increase in runoff resulting from development, a linear stormwater facility will be provided along the north side of the proposed development. To ensure this site does not exacerbate any potential flooding upstream of the culvert under Highway 3, it is proposed that the site's discharge be fixed at not more than 2.7 L/s per hectare of tributary area. This is equivalent to the capacity of the culvert (0.48 m^3/s) divided over the area tributary to it (176 ha). As such, the area draining into the site (9.68 ha) will have a maximum release rate in a 100-year storm of 0.026 m^3/s. Given the assumed land use, it is estimated that, to reduce the rate of runoff to less than this amount, it is estimated that 8,000 m^3 will need to be stored during a 100-year storm. The developer will provide a stormwater management plan, operations plan, and detailed design at the subdivision stage, and will obtain all necessary approvals from Alberta Transportation and Alberta Environment and register an easement for the stormwater management plan on all lots as applicable (i.e. swales).

D. Public Utilities

1. Electricity

   Electrical power is available by means of an overhead power line along the east plan boundary. Arrangements will be made with Fortis Alberta United Inc. for access to this utility. It is the intention of the developer to provide the

power supply from underground lines. Power distribution will normally follow the road network however detailed design will be determined at the subdivision stage.

The power lines will be located within a registered utility easement or right-of-way on each lot (possibly 8m wide including irrigation line ROW adjacent to the internal roadway, to be determined at subdivision) as required by Fortis and agreed to by the MD of Taber.

2. Natural Gas

ATCO gas has a natural gas line along the eastern edge of the plan area. Gas distribution will normally follow the road network and detailed design will be determined at the subdivision stage as well.

3. Communications

Telephone service is also available along the east property line where a Telus buried cable is located.

E. Policing & Emergency Services

1. Police Service

Policing in the Municipal District of Taber is provided by the RCMP which has a detachment in the south end of Taber, approximately 1.6 kilometers from the plan area.

2. Emergency Medical Service

The Taber Hospital is approximately 1.6 km (1 mile) from the plan area. Emergency ambulance service is available through the Town of Taber Emergency Services which is located approximately 4 km from the plan area. The Municipal District of Taber has a 911 agreement with the Town of Taber.

V. SUBDIVISION & DEVELOPMENT STAGING

Highway 3 West Business Park will be serviced as a single phase.

VI. DEVELOPMENT CONTROL

Purchasers must apply for development approval according to the process in effect for the Grouped Rural Industrial Land Use District in the Municipal District of Taber Land Use Bylaw.

Garbage and debris shall be kept in a suitably sized enclosure and covered or roofed to reduce garbage and debris from being carried by the prevailing winds. A

restrictive covenant/architectural control will be registered at the time of subdivision regarding this matter.

Fencing requirements shall be determined by the Development Authority at the time of a development permit application in accordance with the Land Use Bylaw and should be consistent in style and height within the ASP boundary.

Lots, as well as any improvements thereon shall at all times, be kept in a safe, clean, neat and sanitary manner and comply with all applicable bylaws. A restrictive covenant/architectural control will be registered at the time of subdivision regarding this matter.

VII. DEVELOPMENT AGREEMENT

The Developer will enter into a Development Agreement with the Municipal District of Taber regarding the following matters:

- access and egress to the municipal road allowance along the east side of the development site;
- road construction;
- storm water facilities; and
- other services or matters considered necessary by the Municipal District of Taber.

VIII. IMPLEMENTATION

A. This ASP will become a Bylaw of the Municipal District of Taber.

B. The Developer will apply to the Municipal District to amendment its LUB, in accordance with the ASP to create the appropriate land use district to regulate land use matters within the ASP boundaries.

C. Any use proposed within the Area Structure Plan that is not classified as a permitted or discretionary use in the Grouped Rural Industrial land use district would require an amendment to the Land Use Bylaw prior to development to include such use in the district. The developer or applicant will be responsible for applying to amend the Land Use Bylaw accordingly.

D. All subsequent subdivision applications must adhere to provisions of this ASP Bylaw and the LUB.

E. Subdivision of land can only occur through established provincial (*Municipal Government Act* and *Subdivision Regulation*); and municipal processes that ensure appropriate fees, levies and service agreements are provided.

F. Development applications, within the boundaries of the plan area, must comply with the requirements of the respective land use districts for which they are proposed.

G. Building permits must be reviewed by the agency accredited to do so as per the *Safety Codes Act*.

H. The Municipal District of Taber may utilize other bylaws and policies that will regulate aspects of activity within the boundaries of the ASP.

I. Farming on adjacent lands is considered a compatible land use activity in the Municipal District of Taber and future purchasers will be advised of the types of agricultural activities that take place in the vicinity of the Highway 3 West Business Park.

MUNICIPAL DISTRICT OF TABER

Highway 3 West Business Park

AREA STRUCTURE PLAN

Maps

Figure 1 – General Location Plan

Figure 2 – Existing Land Conditions

Figure 3 – Existing Land Use Designation

Figure 4 – Land Ownership Map

Figure 5 – Proposed Land Use Designation

Figure 6 – Proposed Subdivision

Figure 6.1 – Proposed Subdivision [Aerial]

Figure 7.0 – Storm Water Management

Figure 8.0 – Underground Utilities

NW36
9-17-4

NW36
9-17-4

NE36
9-17-4

NE36
9-17-4

NW31
9-16-4

(081 1018)

851 0100

Roadway

700 L

Roadway

6987 JK

RY 21

CANADIAN PACIFIC RAILWAY

(Road Plan 6987 JK)

071 3841

Lot 3
Block 2
101 4167

SE36
9-17-4

7847 JK

RY 21

(Road Plan 001 1716)

PARCEL

3963 EK

SW36
9-17-4

Lot 2
Block 1
091 2673

Lot 1
Block 1
071 0605

3429 GW
PARCEL A

CANADIAN PACIFIC RAILWAY

Roadway

001 1716

001 1716

061 3903

Lot 1
Block 2
071 0605

Roadway Allowance

SW31
9-16-4

SW31
9-16-4

5345 JK

061 3903

061 3903

Area Structure Plan
boundary encompasses
9.68ha (23.92 ac.)

NW25
9-17-4

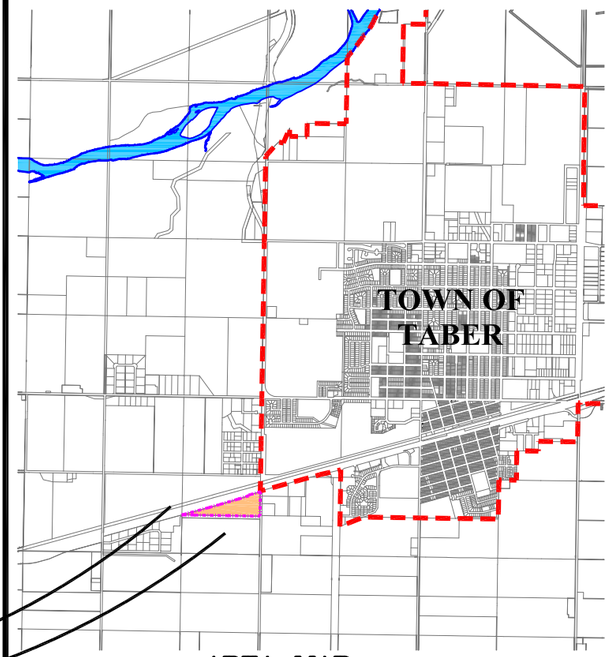
NE25
9-17-4

021 3658

NW30
9-16-4

LEGEND:

AREA STRUCTURE PLAN BOUNDARY



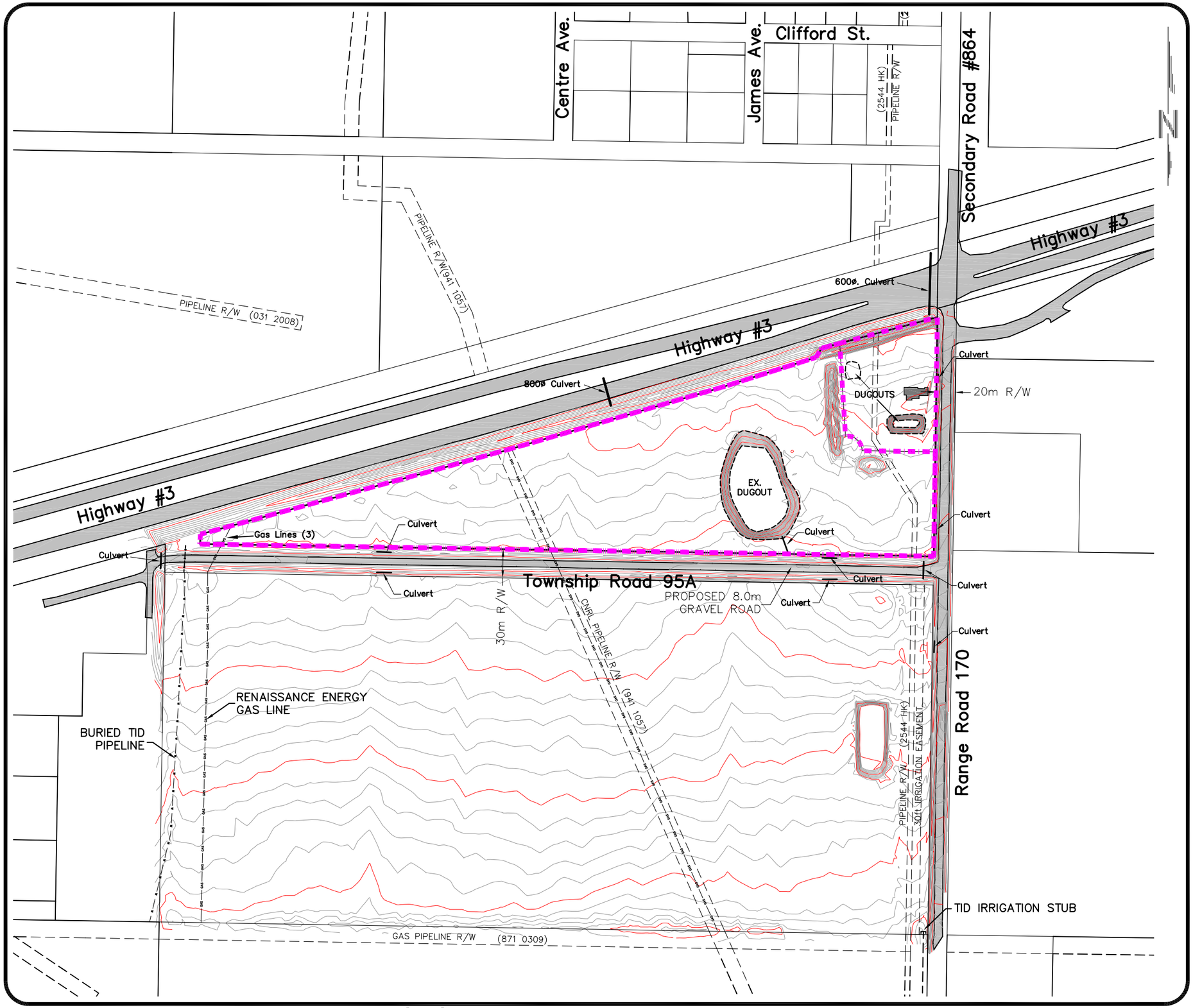
AREA MAP NOT TO SCALE

AREA STRUCTURE PLAN

GENERAL LOCATION PLAN
FIGURE 1.0

MARTIN
GEOMATIC CONSULTANTS LTD

SCALE:	1:10,000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE



LEGEND:

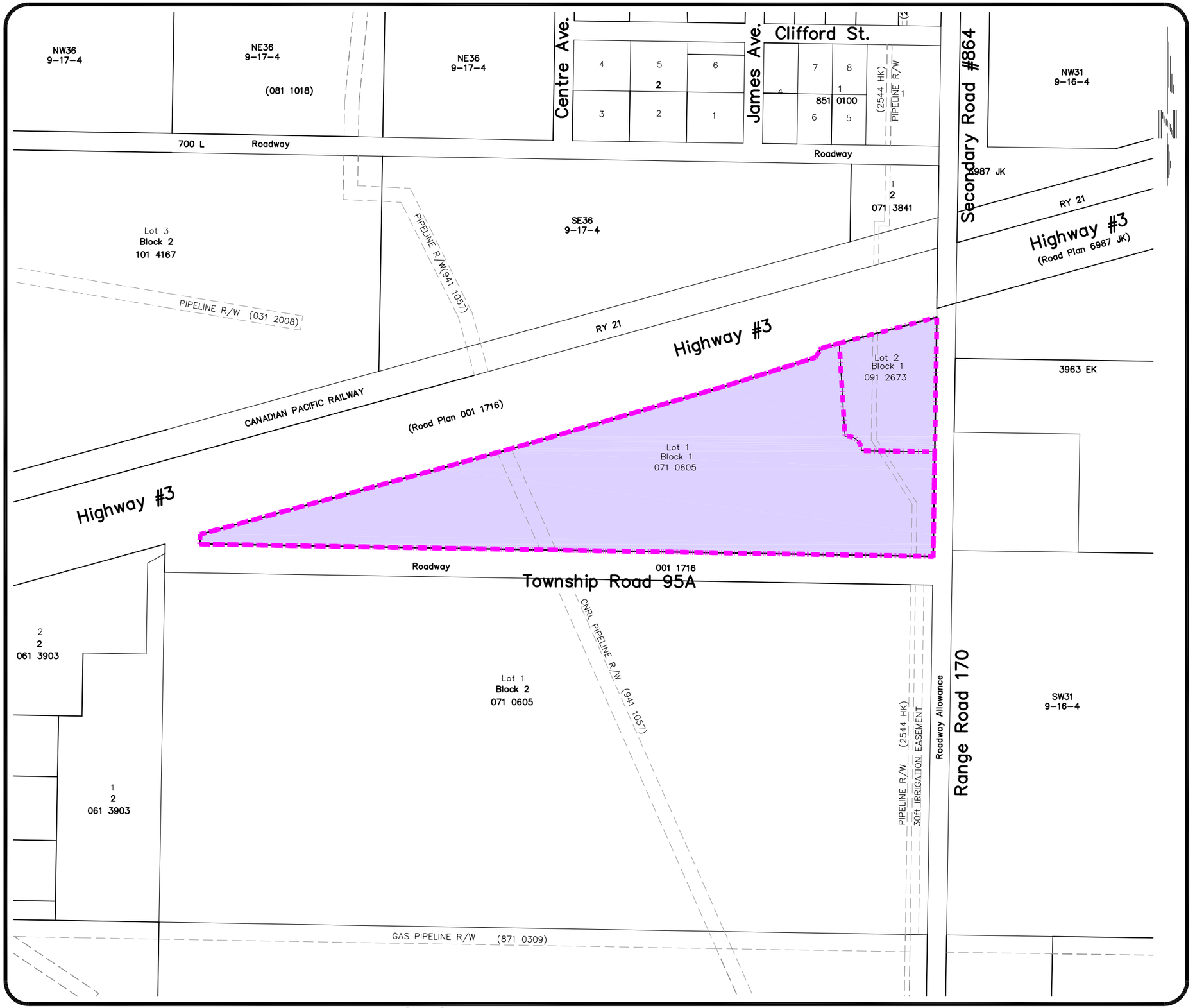
- AREA STRUCTURE PLAN BOUNDARY
- LS ☼ — LIGHT STANDARD
- PP — POWER POLE w/ OH LINE
- PED — TELEPHONE PEDESTALS
- EX.HOUSES/STRUCT.
- EX. C.S.P.
- GAS — EX. GAS LINE
- C — EX. TELUS LINE
- X — EX. FENCE LINE
- 911.0 — EX. CONTOUR LINE

AREA STRUCTURE PLAN

EXISTING LAND CONDITIONS
FIGURE 2.0

MARTIN GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE



LEGEND:

AREA STRUCTURE PLAN BOUNDARY

RA RURAL AGRICULTURAL

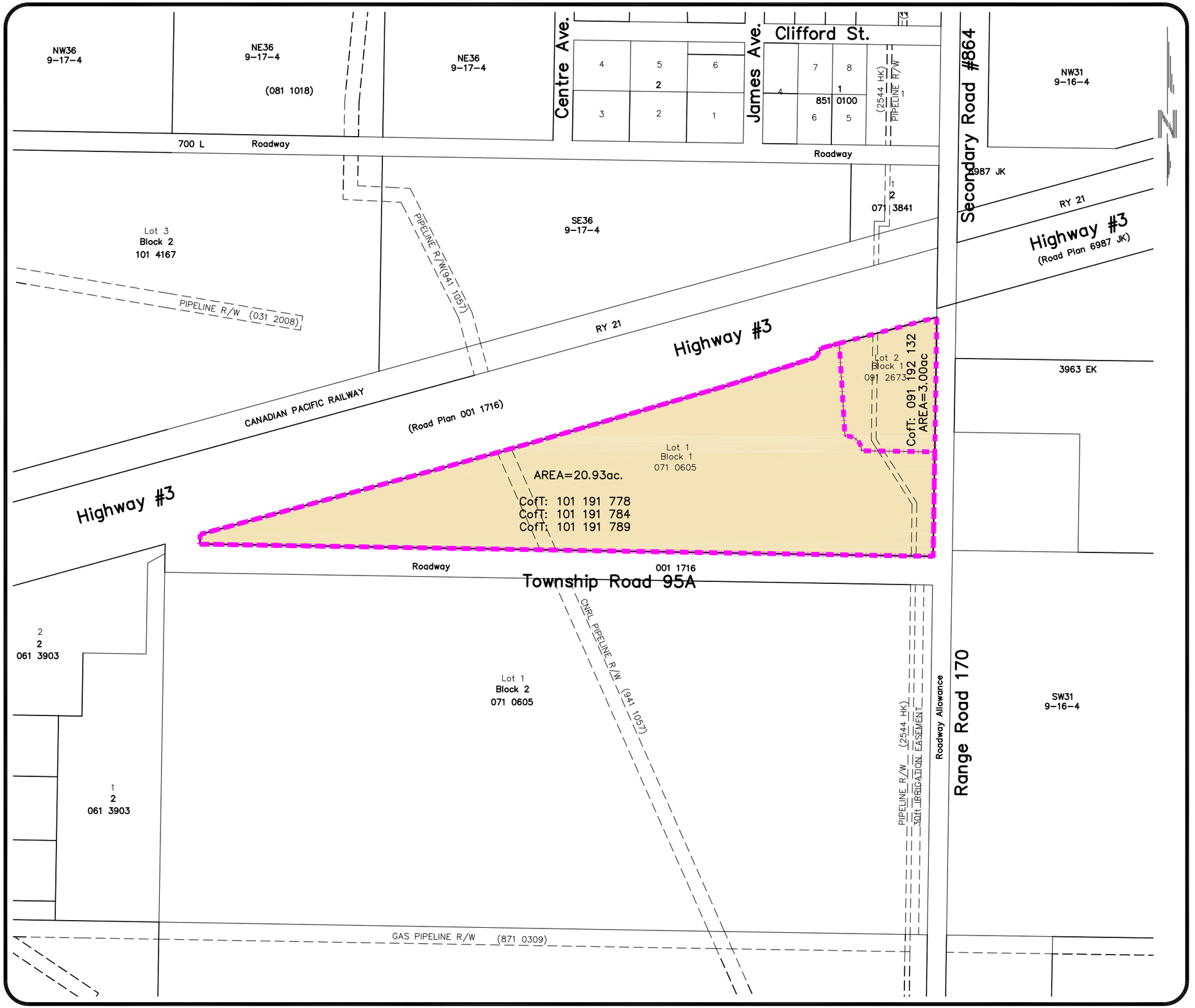
AREA STRUCTURE PLAN

EXISTING LAND USE DESIGNATION

FIGURE 3.0

MARTIN GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE



LEGEND:

AREA STRUCTURE PLAN BOUNDARY

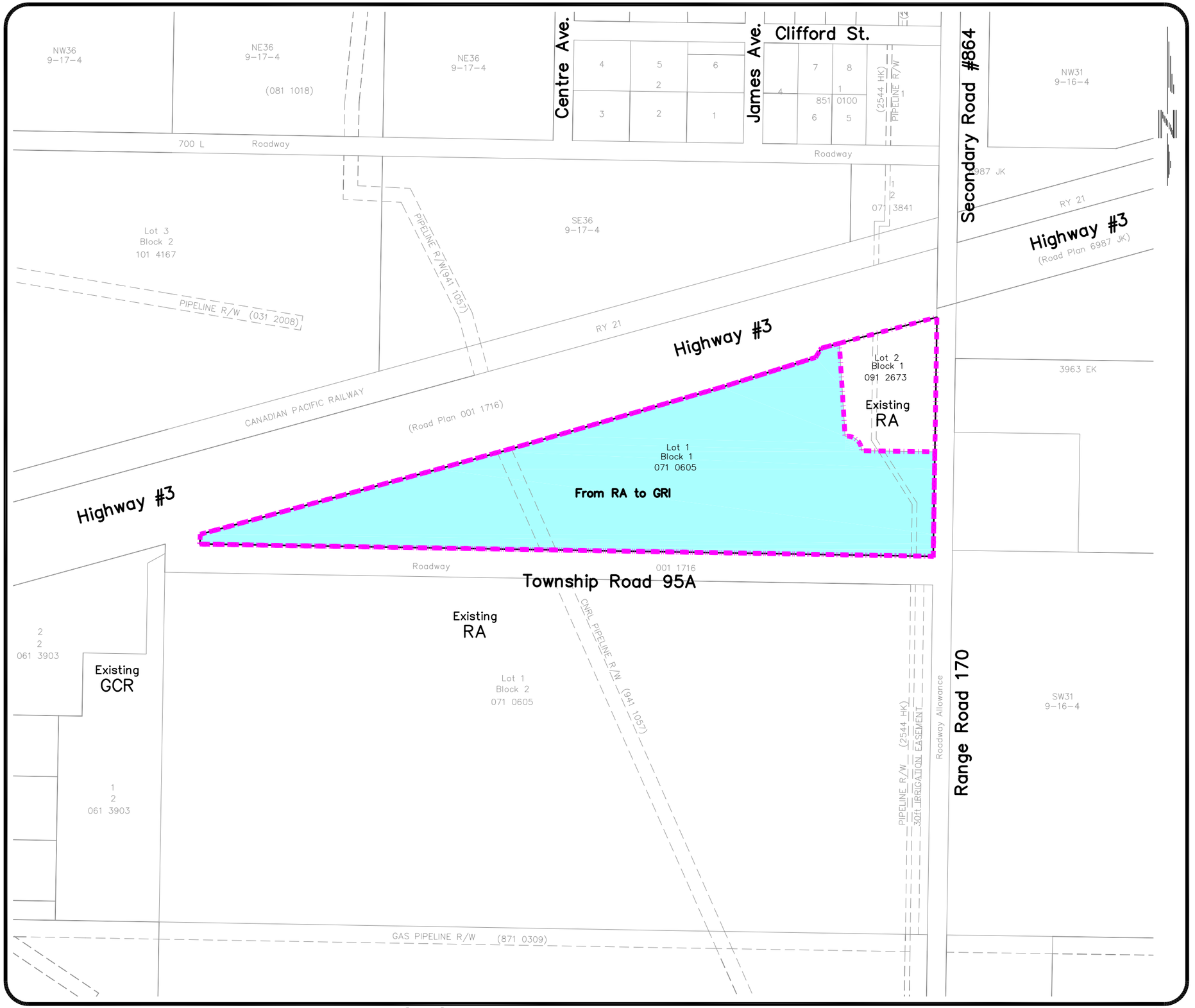
LEGAL DESCRIPTION	TITLE NUMBER	OWNER(S)
Lot 1, Block 1, Plan 071 0606	101 191 778	1540829 ALBERTA LTD..
	101 191 784	RODNEY B JENSEN
	101 191 789	LAURA V JENSEN
Lot 2, Block 1, Plan 091 2673	091 192 132	BLAIR BRADLEY LAYTON

AREA STRUCTURE PLAN

LAND OWNERSHIP MAP
FIGURE 4.0

MARTIN GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE



LEGEND:

AREA STRUCTURE PLAN BOUNDARY

FROM
RA (RURAL AGRICULTURAL) TO
GRI (GROUPED RURAL INDUSTRIAL)

AREA STRUCTURE PLAN

PROPOSED LAND USE DESIGNATION

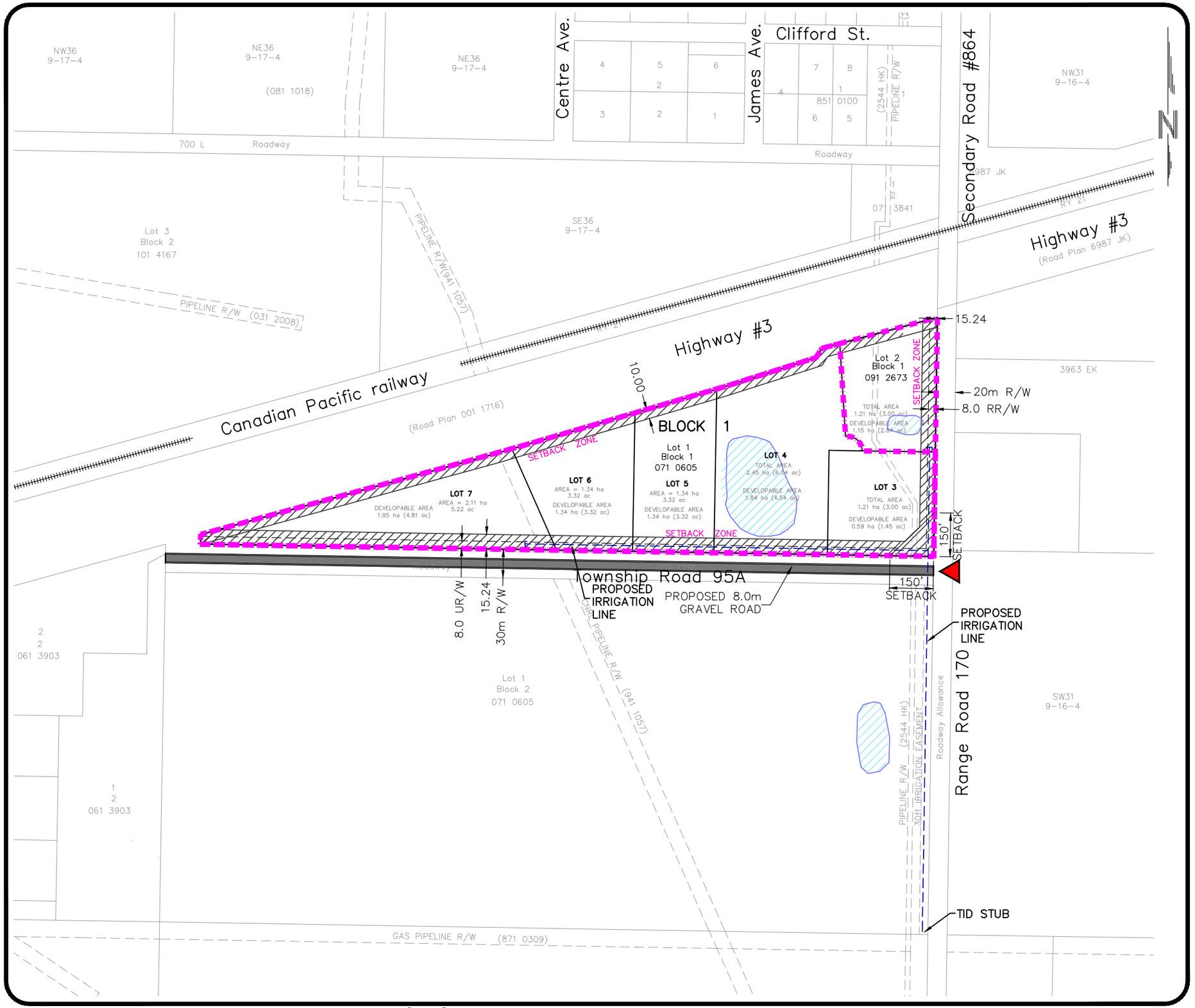
FIGURE 5.0

MARTIN
GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE

Last Saved Date: Thursday, March 24, 2011 3:26:04 PM – By: [robm]

z:\active projects\103261 rodwell-jensen\cadd\design\103261-rm-asp.dwg



LEGEND:

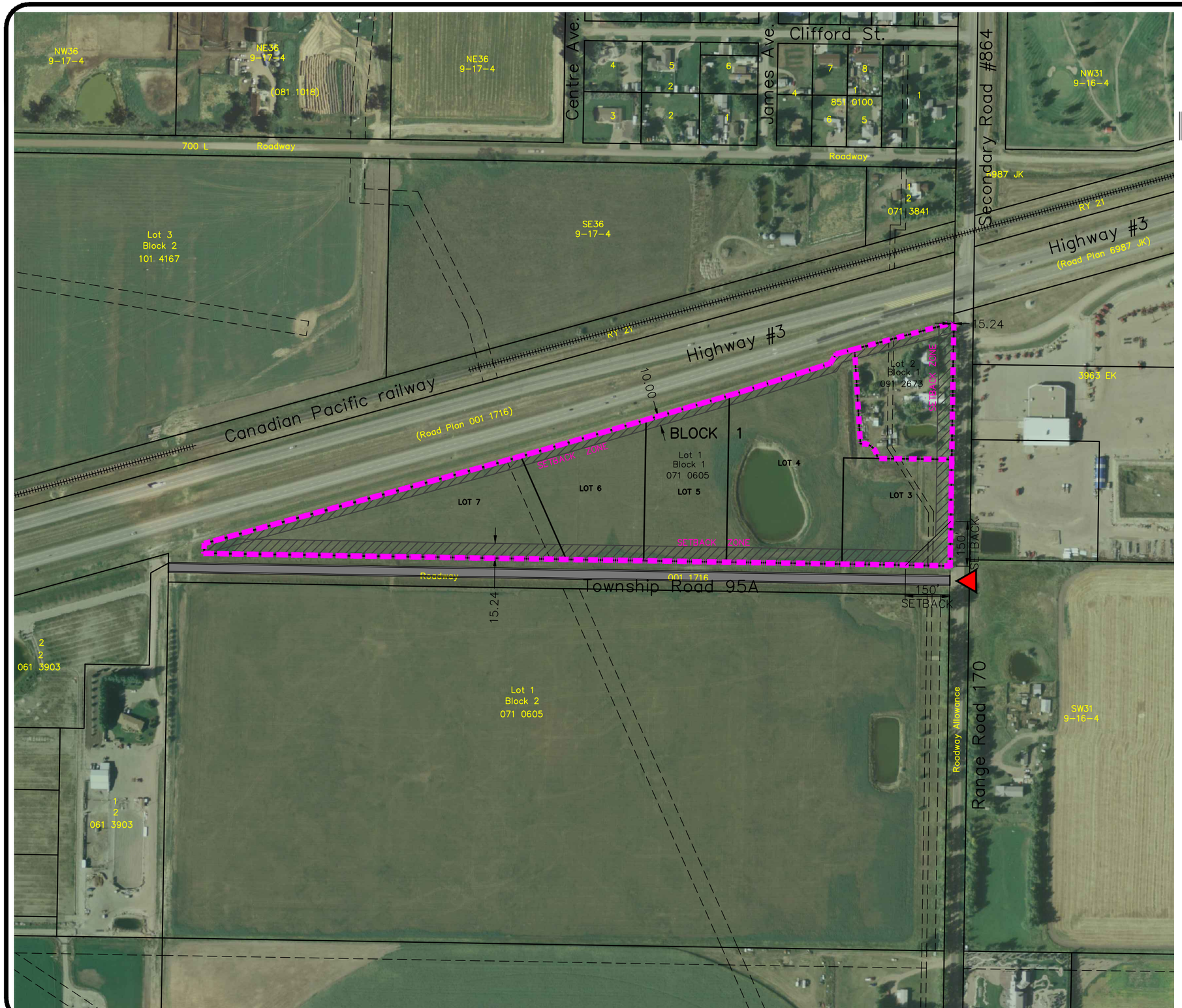
AREA STRUCTURE PLAN BOUNDARY

AREA STRUCTURE PLAN

PROPOSED SUBDIVISION
FIGURE 6.0

MARTIN GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE



LEGEND:

AREA STRUCTURE PLAN BOUNDARY

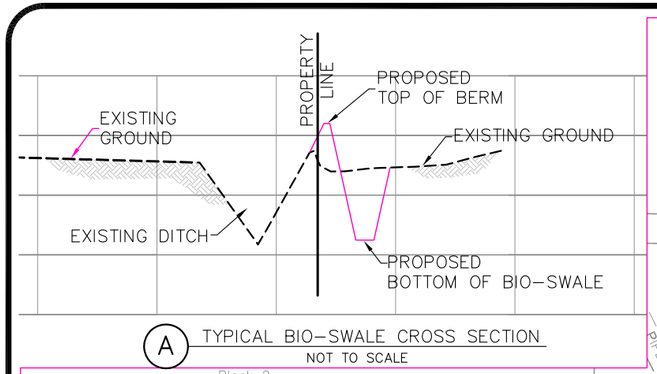
SUBDIVISION ENTRANCE

AREA STRUCTURE PLAN

PROPOSED SUBDIVISION
FIGURE 6.1

MARTIN GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE



A TYPICAL BIO-SWALE CROSS SECTION
NOT TO SCALE

LEGEND:

AREA STRUCTURE PLAN BOUNDARY

AREA STRUCTURE PLAN

STORM WATER MANAGEMENT FIGURE 7.0

MARTIN GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE

Last Saved Date: Thursday, March 24, 2011 3:26:04 PM – By: [robm]

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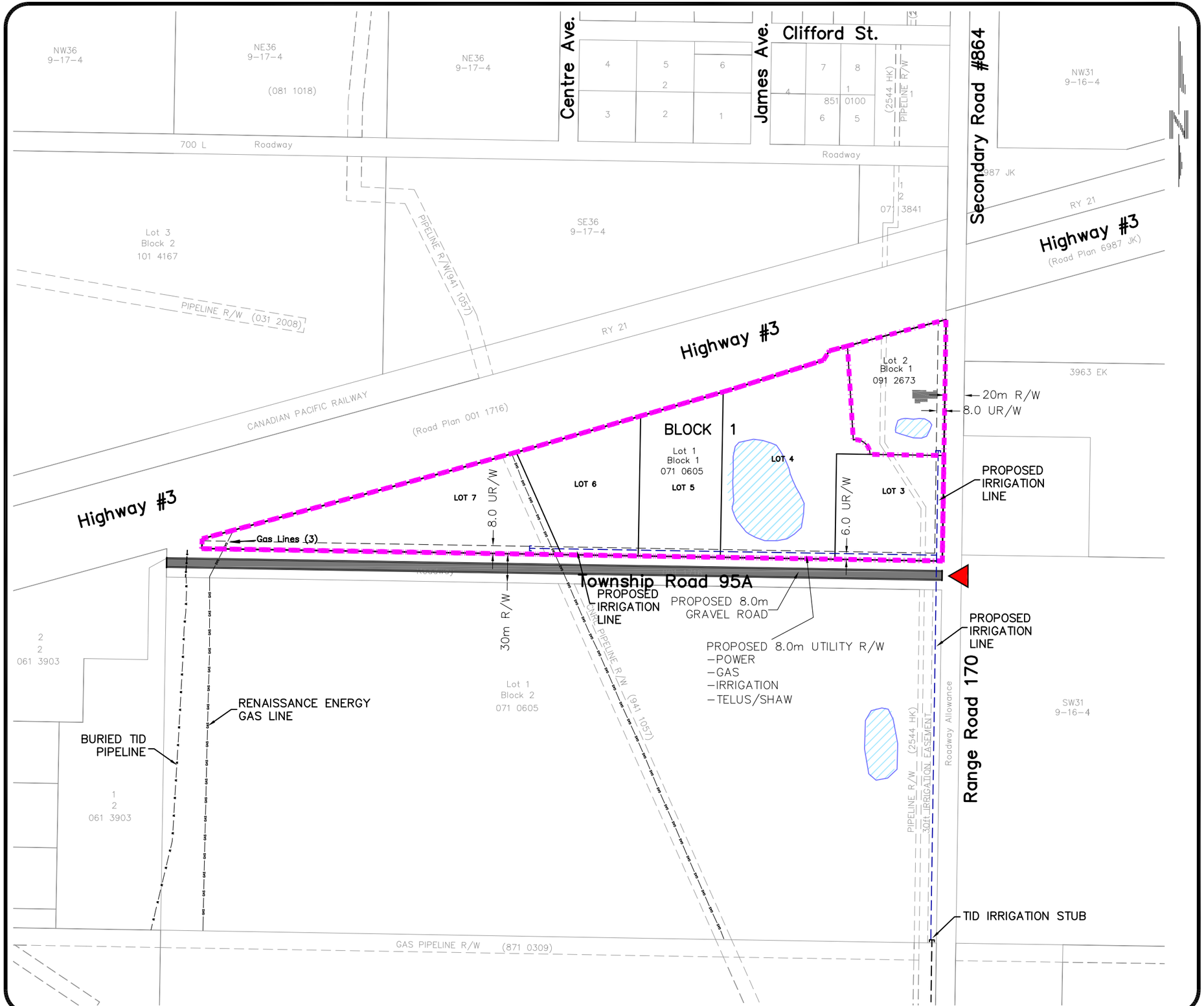

LEGEND:

AREA STRUCTURE PLAN BOUNDARY

SUBDIVISION ENTRANCE

AREA STRUCTURE PLAN

UNDERGROUND UTILITIES
FIGURE 8.0

MARTIN GEOMATIC CONSULTANTS LTD

SCALE:	1:4000
DRAWN:	Robert Martin
DATE:	Mar. 23rd, 2011
JOB #:	103261CE

Last Saved Date: Thursday, March 24, 2011 3:26:04 PM – By: [robm]

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MUNICIPAL DISTRICT OF TABER

Highway 3 West Business Park

AREA STRUCTURE PLAN

Appendix A

Land Titles

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0033 913 070	0710605;1;1	101 191 778

LEGAL DESCRIPTION

PLAN 0710605
BLOCK 1
LOT 1
CONTAINING 9.67 HECTARES(23.9 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES (ACRES) MORE OR LESS
SUBDIVISION	0912673	1.21 2.99

EXCEPTING THEREOUT ALL MINES AND MINERALS

ATS REFERENCE: 4;17;9;36;SE
ESTATE: FEE SIMPLE

MUNICIPALITY: MUNICIPAL DISTRICT OF TABER

REFERENCE NUMBER: 091 142 108 +4

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
101 191 778	28/06/2010	TRANSFER OF LAND	$156,250	SEE INSTRUMENT

OWNERS

1540829 ALBERTA LTD..
OF BOX 4564
TABER
ALBERTA T1G 2C9
AS TO AN UNDIVIDED 5/16 INTEREST

RODNEY B JENSEN

AND
LAURA V JENSEN
BOTH OF:
16 HORSESHOE ESTATES RD
TABER

(CONTINUED)

ALBERTA T1G 0A6
AS JOINT TENANTS AS TO AN UNDIVIDED 5/16 INTEREST

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
6767HI .	18/11/1957	CAVEAT CAVEATOR - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
1646IE .	10/04/1961	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED. AS TO PORTION OR PLAN:2544HK "AS TO AN UNDIVIDED 5/8 SHARES"
8025LI .	16/10/1972	IRRIGATION ORDER/NOTICE THIS PROPERTY IS INCLUDED IN THE TABER IRRIGATION DISTRICT
831 155 254	24/08/1983	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED.
861 040 632	10/03/1986	CAVEAT RE : EASEMENT CAVEATOR - BOARD OF DIRECTORS OF THE TABER IRRIGATION DISTRICT. ADMINISTRATION BUILDING, TABER ALBERTA AGENT - K E FRANCIS
931 044 294	01/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 (DATA UPDATED BY: TRANSFER OF CAVEAT 941108014) (DATA UPDATED BY: TRANSFER OF CAVEAT

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		031163729)
961 017 209	22/01/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM
101 372 045	23/12/2010	EASEMENT OVER AND FOR BENEFIT OF: SEE INSTRUMENT

TOTAL INSTRUMENTS: 008

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 17 DAY OF FEBRUARY, 2011 AT 03:56 P.M.

ORDER NUMBER:18359214

CUSTOMER FILE NUMBER: 103261

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0033 913 070	0710605;1;1	101 191 784

LEGAL DESCRIPTION

PLAN 0710605
BLOCK 1
LOT 1
CONTAINING 9.67 HECTARES(23.9 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES (ACRES) MORE OR LESS
SUBDIVISION	0912673	1.21 2.99

EXCEPTING THEREOUT ALL MINES AND MINERALS

ATS REFERENCE: 4;17;9;36;SE
ESTATE: FEE SIMPLE

MUNICIPALITY: MUNICIPAL DISTRICT OF TABER

REFERENCE NUMBER: 091 142 108 +3

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
101 191 784	28/06/2010	TRANSFER OF LAND	$62,500	SEE INSTRUMENT

OWNERS

1540829 ALBERTA LTD..
OF BOX 4564
TABER
ALBERTA T1G 2C9
AS TO AN UNDIVIDED 1/16 INTEREST

RODNEY B JENSEN

AND
LAURA V JENSEN
BOTH OF:
16 HORSESHOE ESTATES RD
TABER

(CONTINUED)

ALBERTA T1G 0A6
AS JOINT TENANTS AS TO AN UNDIVIDED 1/16 INTEREST

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
6767HI .	18/11/1957	CAVEAT CAVEATOR - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
8025LI .	16/10/1972	IRRIGATION ORDER/NOTICE THIS PROPERTY IS INCLUDED IN THE TABER IRRIGATION DISTRICT
841 158 797	24/09/1984	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED.
931 046 233	02/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 (DATA UPDATED BY: TRANSFER OF CAVEAT 941104197) (DATA UPDATED BY: TRANSFER OF CAVEAT 031163729)
961 027 719	05/02/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM
101 372 045	23/12/2010	EASEMENT OVER AND FOR BENEFIT OF: SEE INSTRUMENT

(CONTINUED)

TOTAL INSTRUMENTS: 006

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 17 DAY OF FEBRUARY, 2011 AT 03:56 P.M.

ORDER NUMBER:18359214

CUSTOMER FILE NUMBER: 103261

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0033 913 070	0710605;1;1	101 191 789

LEGAL DESCRIPTION

PLAN 0710605
BLOCK 1
LOT 1
CONTAINING 9.67 HECTARES(23.9 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES (ACRES) MORE OR LESS
SUBDIVISION	0912673	1.21 2.99

EXCEPTING THEREOUT ALL MINES AND MINERALS

ATS REFERENCE: 4;17;9;36;SE
ESTATE: FEE SIMPLE

MUNICIPALITY: MUNICIPAL DISTRICT OF TABER

REFERENCE NUMBER: 091 142 108 +5

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
101 191 789	28/06/2010	TRANSFER OF LAND	$31,250	SEE INSTRUMENT

OWNERS

1540829 ALBERTA LTD..
OF BOX 4564
TABER
ALBERTA T1G 2C9
AS TO AN UNDIVIDED 1/8 INTEREST

RODNEY B JENSEN

AND
LAURA V JENSEN
BOTH OF:
16 HORSESHOE ESTATES RD.
TABER

(CONTINUED)

ALBERTA T1G 0A6
AS JOINT TENANTS AS TO AN UNDIVIDED 1/8 INTEREST

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
6767HI .	18/11/1957	CAVEAT CAVEATOR - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
1646IE .	10/04/1961	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED. AS TO PORTION OR PLAN:2544HK "AS TO AN UNDIVIDED 1/8 INTEREST"
8025LI .	16/10/1972	IRRIGATION ORDER/NOTICE THIS PROPERTY IS INCLUDED IN THE TABER IRRIGATION DISTRICT
841 132 651	03/08/1984	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED. "AS TO AN UNDIVIDED 1/8 INTEREST"
841 158 798	24/09/1984	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED. "AS TO AN UNDIVIDED 1/8 INTEREST"
931 044 293	01/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 AFFECTED PARTY: GORDON C VALGARDSON (DATA UPDATED BY: TRANSFER OF CAVEAT 941104197) (DATA UPDATED BY: TRANSFER OF CAVEAT 031163729)

(CONTINUED)

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
931 046 234	02/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 AFFECTED PARTY: SANDRA LUE ANN CRARER (DATA UPDATED BY: TRANSFER OF CAVEAT 941104197) (DATA UPDATED BY: TRANSFER OF CAVEAT 031163729)
961 017 208	22/01/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM SEE CAVEAT FOR INTEREST
961 017 210	22/01/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM SEE INSTRUMENT FOR INTEREST
101 372 045	23/12/2010	EASEMENT OVER AND FOR BENEFIT OF: SEE INSTRUMENT

TOTAL INSTRUMENTS: 010

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 17 DAY OF FEBRUARY, 2011 AT 03:56 P.M.

ORDER NUMBER:18359214

CUSTOMER FILE NUMBER: 103261

END OF CERTIFICATE

(CONTINUED)

THIS ELECTRONICALLY TRANSMITTED LAND TITLES PRODUCT IS INTENDED FOR THE SOLE USE OF THE ORIGINAL PURCHASER, AND NONE OTHER, SUBJECT TO WHAT IS SET OUT IN THE PARAGRAPH BELOW.

THE ABOVE PROVISIONS DO NOT PROHIBIT THE ORIGINAL PURCHASER FROM INCLUDING THIS UNMODIFIED PRODUCT IN ANY REPORT, OPINION, APPRAISAL OR OTHER ADVICE PREPARED BY THE ORIGINAL PURCHASER AS PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0033 913 088	0912673;1;2	091 192 132

LEGAL DESCRIPTION
PLAN 0912673
BLOCK 1
LOT 2
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 1.21 HECTARES (2.99 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;17;9;36;SE

MUNICIPALITY: MUNICIPAL DISTRICT OF TABER

REFERENCE NUMBER: 091 191 851

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
091 192 132	07/07/2009	TRANSFER OF LAND	$260,000	CASH

OWNERS

BLAIR BRADLEY LAYTON
OF 71 MOUNT SELKIRK PLACE
CALGARY
ALBERTA T2Z 2P8

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
6767HI .	18/11/1957	CAVEAT CAVEATOR - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
1646IE .	10/04/1961	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED. AS TO PORTION OR PLAN:2544HK "AS TO AN UNDIVIDED 5/8 SHARES"
8025LI .	16/10/1972	IRRIGATION ORDER/NOTICE THIS PROPERTY IS INCLUDED IN THE TABER IRRIGATION DISTRICT
831 155 254	24/08/1983	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED.
841 132 651	03/08/1984	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED. "AS TO AN UNDIVIDED 1/8 INTEREST"
841 158 797	24/09/1984	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED.
841 158 798	24/09/1984	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED. "AS TO AN UNDIVIDED 1/8 INTEREST"
861 040 632	10/03/1986	CAVEAT RE : EASEMENT CAVEATOR - BOARD OF DIRECTORS OF THE TABER IRRIGATION DISTRICT. ADMINISTRATION BUILDING, TABER ALBERTA AGENT - K E FRANCIS
931 044 293	01/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 AFFECTED PARTY: GORDON C VALGARDSON
931 044 294	01/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 (DATA UPDATED BY: TRANSFER OF CAVEAT

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		941108014)
931 046 233	02/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 (DATA UPDATED BY: TRANSFER OF CAVEAT 941104197) (DATA UPDATED BY: TRANSFER OF CAVEAT 031163729)
931 046 234	02/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 AFFECTED PARTY: SANDRA LUE ANN CRARER
961 017 208	22/01/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM SEE CAVEAT FOR INTEREST
961 017 209	22/01/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM
961 017 210	22/01/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM SEE INSTRUMENT FOR INTEREST
961 027 719	05/02/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD..

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
		BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM
091 192 133	07/07/2009	MORTGAGE MORTGAGEE - CIBC MORTGAGES INC.. 5TH FLOOR, 400 BURRARD ST VANCOUVER BRITISH COLUMBIA V6C3A6 ORIGINAL PRINCIPAL AMOUNT: $195,000

TOTAL INSTRUMENTS: 017

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 17 DAY OF FEBRUARY, 2011 AT 03:56 P.M.

ORDER NUMBER:18359214

CUSTOMER FILE NUMBER: 103261

END OF CERTIFICATE

LAND TITLE CERTIFICATE

S

LINC	SHORT LEGAL	TITLE NUMBER
0032 234 775	0710605;2;1	101 270 308

LEGAL DESCRIPTION
PLAN 0710605
BLOCK 2
LOT 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 29.34 HECTARES (72.5 ACRES) MORE OR LESS

ESTATE: FEE SIMPLE
ATS REFERENCE: 4;17;9;36;SE

MUNICIPALITY: MUNICIPAL DISTRICT OF TABER

REFERENCE NUMBER: 071 283 531

REGISTERED OWNER(S)

REGISTRATION	DATE(DMY)	DOCUMENT TYPE	VALUE	CONSIDERATION
101 270 308	10/09/2010	TRANSFER OF LAND	$160,000	$160,000

OWNERS

RODNEY JENSEN

AND
LAURA JENSEN
BOTH OF:
BOX 4367
TABER
ALBERTA T1G 2C8
AS JOINT TENANTS AS TO AN UNDIVIDED 10/16 INTEREST

(CONTINUED)

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
6767HI .	18/11/1957	CAVEAT CAVEATOR - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED.
1646IE .	10/04/1961	UTILITY RIGHT OF WAY GRANTEE - CANADIAN WESTERN NATURAL GAS COMPANY LIMITED. AS TO PORTION OR PLAN:2544HK "AS TO AN UNDIVIDED 5/8 SHARES"
8025LI .	16/10/1972	IRRIGATION ORDER/NOTICE THIS PROPERTY IS INCLUDED IN THE TABER IRRIGATION DISTRICT
831 155 254	24/08/1983	UTILITY RIGHT OF WAY GRANTEE - CHIN COULEE GAS CO-OP LIMITED.
861 040 632	10/03/1986	CAVEAT RE : EASEMENT CAVEATOR - BOARD OF DIRECTORS OF THE TABER IRRIGATION DISTRICT. ADMINISTRATION BUILDING, TABER ALBERTA AGENT - K E FRANCIS
881 205 906	10/11/1988	UTILITY RIGHT OF WAY GRANTEE - THE TABER IRRIGATION DISTRICT. "PORTION DESCRIBED"
931 044 294	01/03/1993	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - CANADIAN NATURAL RESOURCES LIMITED. 2500, 855-2 ST SW CALGARY ALBERTA T2P4J8 (DATA UPDATED BY: TRANSFER OF CAVEAT 941108014) (DATA UPDATED BY: TRANSFER OF CAVEAT 031163729)
961 017 209	22/01/1996	CAVEAT RE : RIGHT OF WAY AGREEMENT CAVEATOR - RENAISSANCE ENERGY LTD.. BOX 1120, STATION "M", CALGARY ALBERTA T2P2K9 AGENT - TERESA LUNAM

(CONTINUED)

ENCUMBRANCES, LIENS & INTERESTS

REGISTRATION NUMBER	DATE (D/M/Y)	PARTICULARS
091 142 983	26/05/2009	CAVEAT RE : EASEMENT IRRIGATION WORKS EASEMENT AGREEMENT
101 270 311	10/09/2010	MORTGAGE MORTGAGEE - ALBERTA TREASURY BRANCHES. 727-4TH AVENUE S LETHBRIDGE ALBERTA T1J0P1 ORIGINAL PRINCIPAL AMOUNT: $471,500
101 366 069	17/12/2010	CAVEAT RE : VENDOR'S LIEN CAVEATOR - RODNEY JENSEN CAVEATOR - LAURA JENSEN BOTH OF: C/O BALDRY SUGDEN LLP 5401A - 50 AVE TABER ALBERTA T1G1V2 AGENT - MARK A BALDRY
101 372 045	23/12/2010	EASEMENT OVER AND FOR BENEFIT OF: SEE INSTRUMENT

TOTAL INSTRUMENTS: 012

THE REGISTRAR OF TITLES CERTIFIES THIS TO BE AN ACCURATE REPRODUCTION OF THE CERTIFICATE OF TITLE REPRESENTED HEREIN THIS 13 DAY OF JANUARY, 2011 AT 11:07 A.M.

ORDER NUMBER:18126612

CUSTOMER FILE NUMBER: 103261CE

END OF CERTIFICATE

(CONTINUED)

THE ABOVE PROVISIONS DO NOT PROHIBIT THE ORIGINAL PURCHASER FROM INCLUDING THIS UNMODIFIED PRODUCT IN ANY REPORT, OPINION, APPRAISAL OR OTHER ADVICE PREPARED BY THE ORIGINAL PURCHASER AS PART OF THE ORIGINAL PURCHASER APPLYING PROFESSIONAL, CONSULTING OR TECHNICAL EXPERTISE FOR THE BENEFIT OF CLIENT(S).

ALBERTA GOVERNMENT SERVICES
LAND TITLES OFFICE

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EASE 1

EASEMENT AGREEMENT made this 20 day of December, A.D. 2010.

BETWEEN:

RODNEY JENSEN and LAURA JENSEN, as joint tenants as to an undivided 2/8 Interest, and RODNEY JENSEN and LAURA JENSEN, as joint tenants as to an undivided 2/16 Interest, and RODNEY JENSEN and LAURA JENSEN, as joint tenants as to an undivided 10/16 interest
Box 4367, Taber, AB T1G 2C8
(hereinafter referred to as "the Grantor")

OF THE FIRST PART

- and -

1540829 ALBERTA LTD. of Box 4564, Taber, AB, T1G 2C9 as to an undivided 5/16 Interest and RODNEY B. JENSEN and LAURA V. JENSEN, both of 16 Horseshoe Estates Road, Taber, AB, T1G 0A6 as Joint Tenants as to an undivided 5/16 interest and
1540829 ALBERTA LTD. of Box 4564, Taber, AB, T1G 2C9 as to an undivided 1/16 Interest and RODNEY B. JENSEN and LAURA V. JENSEN, both of 16 Horseshoe Estates Road, Taber, AB, T1G 0A6 as Joint Tenants as to an undivided 1/16 interest and
1540829 ALBERTA LTD. of Box 4564, Taber, AB, T1G 2C9 as to an undivided 1/8 Interest and RODNEY B. JENSEN and LAURA V. JENSEN, both of 16 Horseshoe Estates Road, Taber, AB, T1G 0A6 as Joint Tenants as to an undivided 1/8 interest
(hereinafter referred to as "the Grantee")

OF THE SECOND PART

WHEREAS the Grantor is the owner of an estate in fee simple subject however to the encumbrances, liens and interests as are notified by memorandum endorsed thereon in those lands legally described as follows:

PLAN 0710605
BLOCK 2
LOT 1
EXCEPTING THEREOUT ALL MINES AND MINERALS
AREA: 29.34 HECTARES (72.5 ACRES) MORE OR LESS

which lands are hereinafter referred to as "Servient Tenement".

AND WHEREAS the Grantee is the owner of an estate in fee simple subject however to the encumbrances, liens and interests as are notified by memorandum endorsed thereon in those lands legally described as follows:

PLAN 0710605
BLOCK 1
LOT 1
CONTAINING 9.67 HECTARES (23.9 ACRES) MORE OR LESS
EXCEPTING THEREOUT:

PLAN	NUMBER	HECTARES	(ACRES) MORE OR LESS
SUBDIVISION	0912673	1.21	2.99

EXCEPTING THEREOUT ALL MINES AND MINERALS

which lands are hereinafter referred to as "Dominant Tenement".

SEE ALSO EASEMENT OF: SEE INSTRUMENT.

AND WHEREAS the Grantee desires to have water delivered to the Dominant Tenement through means of a buried pipeline (hereinafter referred to as "the water delivery system") to be located across and through the most easterly 30 feet of the Servient Tenement which system consists of a buried pipeline with the said water delivery system to be owned in whole by the Grantee.

The party of the first part hereby agrees to grant an Easement across and through the Servient Tenement for the purposes aforesaid.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the sum of One ($1.00) Dollar paid by the Grantee to the Grantor, receipt whereof is hereby acknowledged, and of the covenants, conditions and stipulations herein contained, the Grantor hereby grants to the Grantee an Easement across and through the most easterly 30 feet of the Servient Tenement, for the purposes of delivering water from the Servient Tenement to the Dominant Tenement by way of buried pipeline which will cross the Servient Tenement and further an Easement for the purposes of installing, maintaining, repairing, replacing and operating any part of the said water delivery system and any appurtenances as may be necessary which easement located on the Servient Tenement incidental thereto subject only to the following terms and conditions namely:

1. The Grantor Covenants and Agrees with the Grantee as follows:

   (a) the Grantor shall not by any of its actions or act over which it has control, obstruct or damage the water delivery system, nor construct or cause to be erected any buildings or works or fixtures upon the Servient Tenement that would interfere with the Grantees rights aforesaid.

   (b) the Grantee performing and observing the covenants and conditions hereincontained shall peaceably hold and enjoy all the rights, privileges, liberties and covenants hereby granted without any hindrance and interruptions from the Grantor or person or persons claiming by, through, under or in trust for it or any person or persons whatsoever.

   (c) the Grantor will not grant to any person, firm or corporation other than the Grantee any easement, license or right of entry to or affecting the Grantee's rights aforesaid.

   (d) the Grantor further grants to the Grantee the right of ingress and egress to the Servient Tenement in carrying out the above noted purposes and will have access to operate the said pump for the purpose of obtaining water from the dugout located on the Servient Tenement.

2. The Grantee covenants and agrees with the Grantor:

   (a) the Grantee will not fence any of the Servient Tenement without permission from the Grantor, or any person firm or corporation acting on his behalf, and if the Grantee moves any fence adjoining the Servient Tenement for the purpose of repairing the water delivery system or otherwise, he will replace the said fence in the same position and in as good condition as the same was prior to being moved.

   (b) that he will make compensation to the Grantor for any and all damages that may be done to any building, fence or growing plants belonging to the Grantor and arising out of or by

reason of, or in the course of construction, maintenance, operation, repair and/or replacement and renewal of the water delivery system and appurtenances. The Grantee shall not be liable for any damage caused through interference by anyone other than the Grantee, his agents or employees or persons acting under the authority of the Grantee, to the water delivery system constructed on the Servient Tenement.

(c) that the Grantor shall have the right to use the respective Servient Tenement for his own rights and uses and shall have the right of ingress and egress over the same.

(d) that nothing herein contained shall be deemed to vest in the Grantee any right, title or interest in any mines or minerals in and under any Servient Tenements, except only the parts thereof that are necessary to be dug, carried away, or used in the construction, maintenance or repair of the water delivery system of the Grantee.

Wherever the singular or masculine pronouns are used throughout this agreement the same shall be construed as meaning the plural, feminine or neuter where the context or the parties hereto so require.

The Agreement shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, executors, administrators, successors in title and assigns; and shall run with the lands.

IN WITNESS WHEREOF the Grantor and the Grantee have executed the within Easement as of the day and year first above written by their duly appointed officers.

Witness

RODNEY JENSEN

Witness

LAURA JENSEN

Witness

RODNEY B. JENSEN

Witness

LAURA V. JENSEN

1540829 ALBERTA LTD.

Per:

THOMAS RODWELL – Director

AFFIDAVIT OF EXECUTION

CANADA)
)
Province of Alberta)
)
TO WIT:)

I, MARK A. BALDRY,
of the Town of Taber
in the Province of Alberta, Solicitor
make oath and say:

1. THAT I was personally present and did see RODNEY JENSEN and LAURA JENSEN and RODNEY B. JENSEN and LAURA V. JENSEN named in the within instrument, who is personally known to me to be the person named therein, duly sign and execute the same for purposes named therein.

2. THAT the same was executed at the Town of Taber, in the Province of Alberta, and that I am the subscribing witness thereto.

3. THAT I know the said parties and they are in my belief of the full age of eighteen years.

SWORN BEFORE ME at the Town)
of Taber, in the Province of)
Alberta, this 21 day of)
December, A.D., 2010.)

MARK A. BALDRY

A COMMISSIONER FOR OATHS
in and for the Province of Alberta

TAMMY L. JENSEN
Commission Expires: July 29, 2012

101372045

101372045 REGISTERED 2010 12 23
EASE - EASEMENT
DOC 1 OF 1 DRR#: D08F06D ADR/GMCGEACH
LINC/S: 0033913070 +

MUNICIPAL DISTRICT OF TABER

Highway 3 West Business Park

AREA STRUCTURE PLAN

Appendix B

Soil Test Report

December 5, 2008

EBA File: L12101441

Martin Geomatic Consultants Ltd.
255 – 31 Street North
Lethbridge AB T1H 3Z4

Attention: Mr. Ray Martin, P.Eng.

Dear Sir:

Subject: Rural Residential Subdivision
Assessment of Septic Field Feasibility
SE ¼ Sec 36 – 9 – 17 W4M
Taber, Alberta

1.0 INTRODUCTION

This letter report presents the results of an assessment conducted by EBA Engineering Consultants Ltd. (EBA) of the feasibility of septic disposal fields for a proposed rural residential subdivision development to be located in the western outskirts of Taber, Alberta.

The property proposed for the subdivision is located in the SE ¼ Sec. 36 – 9 – 17 W4M, south of Highway 3, west of Taber, Alberta. The site is bounded to the north by Highway 3, and to the east by Range Road 17-0. Township Road 9-5AA crosses the property in an east to west direction, as shown in the site plan (Figure 1).

Based on a preliminary development concept provided by Martin Geomatic Consultants Ltd. (MGCL), presented as Figure 1, it is understood that the proposed development is divided into 30 lots. The lot sizes are shown on the Figure 1, generally ranging between approximately 2.0 and 3.5 acres, excepting the larger lot 24.

Authorization to proceed with this assessment was provided by Mr. Ray Martin, on behalf of Mr. Rod Jensen and Mr. Larry Van Orman.

2.0 FIELDWORK

The proposed subdivision property is shown on Figure 1, inclusive of a total of 30 rural residential lots under consideration at this time. In September of 2008, EBA selected a total of seven locations for the purpose of a preliminary percolation testing program. There were also three separate locations selected for the purpose of ground water elevation analysis. In November of 2008, EBA was requested to conduct percolation tests on the remaining 23 lots. All locations from both investigations are shown on Figure 1.

EBA Engineering Consultants Ltd.
p. 403.329.9009 • f. 403.328.8817
442 - 10 Street N • Lethbridge, Alberta T1H 2C7 • CANADA

EBA staff Mr. Jackson Meadows, arranged for the fieldwork to be performed on September 10, 2008 and November 26, 2008 using a drill rig contracted from Chilako Drilling Services Ltd of Coaldale, Alberta. The drill setup was equipped with a 150 mm diameter flight auger. In September the drilling program included three boreholes drilled to depths of approximately 3 m (BH001 through BH003) across the property and seven percolation test holes (200 mm diameter) drilled to depths of approximately 0.9 m (PH001 through PH007). In November, the remaining 23 untested lots were drilled with percolation test holes (200 mm diameter) drilled to depths of approximately 0.9 m (PH008 through PH030). The soil conditions were visually classified at the time of drilling.

The percolation test at each location included half filling the percolation testhole with water and allowing the testhole to saturate for a period of approximately 24 hours. On September 11, 2008, the percolation holes (PH001 through PH007) and on November 27 the percolation holes (PH008 through PH030) were refilled with water to approximately 0.45 m below existing ground surface and maintained at 0.45 m below existing ground surface for 2 hours. Commencing directly after this, the subsidence of the water was measured versus time by EBA (refilling to the same level every 30 minutes and measuring the drop in water level).

3.0 SOIL AND GROUNDWATER CONDITIONS

The soil conditions encountered included a surface covering of topsoil with a thickness of generally 0.15 m with some thicker locations (see BHlogs). The topsoil was described as clay, silty, sandy, moist and dark brown, with trace roots and organics. Underlying the topsoil, a layer of clay was encountered, generally extending to the percolation test hole termination depths (0.9 m). The clay was described was silty, some sand to sandy, damp, medium plastic, very stiff to hard and light brown, with white precipitates and occasional sand lenses.

The exception was at PH006 and PH007, where a layer of gravel was encountered below depths of 0.8 m to the test hole termination depths of 0.9 m. In PH020 the gravel extended from 0.3 m to 0.9 m. The gravel was sandy, silty, trace clay, well graded, sizes to 25 mm, damp and compact and grey brown.

In the borehole locations the soil conditions at the surface and subsurface layers were generally the same as the percolation holes. Underlying the clay layers in the borehole locations, below depths of 1 m to 1.3 m, was a layer of clay till that extended to termination depths (3.0 m) at the borehole locations. The clay till layer was described as silty, some sand, trace gravel, damp, very stiff to hard, medium plastic, light brown with dark brown mottling, coal and oxide specks, thin sand lenses and white precipitates.

At the time of the field program, seepage and sloughing was generally not encountered at the borehole locations. Groundwater levels at the borehole locations were noted to be dry.

The borehole and percolation testhole logs are presented in Appendix B, including a description of the terms used on the logs.

4.0 PERCOLATION TEST RESULTS

The following table provides the results of the field program and percolation test results.

Percolation Test	Location	Soil Texture Analysis (0.45 m to 0.9 m)	Percolation Test Result (min/cm)
PH001	Lot 16, Block 2	Clay, silty, some sand, damp, hard, medium plastic, dark brown	6
PH002	Lot 13, Block 2	Clay, silty, some sand, damp, hard, medium plastic, dark brown	3
PH003	Lot 21, Block 2	Clay, silty, some sand, damp, hard, medium plastic, dark brown	3
PH004	Lot 29, Block 3	Clay, silty, some sand, damp, hard, medium plastic, dark brown	4
PH005	Lot 10, Block 2	Clay, silty, some sand, damp, hard, medium plastic, dark brown	3
PH006	Lot 8, Block 1	Clay, silty, some sand, damp, hard, medium plastic, dark brown 0.8 – 0.9 – Gravel, sandy, silty, trace clay, well graded, sizes to 25mm, damp, compact, grey	7
PH007	Lot 3, Block 1	Clay, silty, some sand, damp, hard, medium plastic, dark brown 0.8 – 0.9 – Gravel, sandy, silty, trace clay, well graded, sizes to 25mm, damp, compact, grey	5
PH008	Lot 2, Block 1	Clay, silty, trace to some sand, damp to moist, very stiff, medium plastic, light brown	50
PH009	Lot 1, Block 1	Clay, silty, trace to some sand, damp to moist, very stiff, medium plastic, light brown	5
PH010	Lot 4, Block 1	Clay, silty, some sand, trace gravel, damp, very stiff, medium plastic, light brown	4
PH011	Lot 5, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	2
PH012	Lot 6, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	4
PH013	Lot 7, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3
PH014	Lot 9, block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3

Percolation Test	Location	Soil Texture Analysis (0.45 m to 0.9 m)	Percolation Test Result (min/cm)
PH015	Lot 25, Block 3	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3
PH016	Lot 26, Block 3	Clay, silty, some sand, damp, very stiff to hard, medium plastic, light brown	3
PH017	Lot 27, Block 3	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3
PH018	Lot 14, Block 2	Clay, silty, some sand, damp, very stiff, medium plastic, light grey to brown	3
PH019	Lot 11, Block 2	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3
PH020	Lot 12, Block 2	Gravel, sandy, silty, trace clay, well graded, sizes to 25mm, damp, compact, light brown	4
PH021	Lot 28, Block 3	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	4
PH022	Lot 30, Block 3	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	4
PH023	Lot 15, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	4
PH024	Lot 19, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3
PH025	Lot 18, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	5
PH026	Lot 17, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	2
PH027	Lot 20, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3
PH028	Lot 22, Block 1	Clay, silty, some sand, damp, very stiff to hard, medium plastic, light brown	4
PH029	Lot 23, Block 1	Clay, silty, some sand, damp, very stiff to hard, medium plastic, light brown	14
PH030	Lot 24, Block 1	Clay, silty, some sand, damp, very stiff, medium plastic, light brown	3

5.0 SEPTIC DISPOSAL FIELDS

The Safety Codes Council's, Alberta Private Sewage Systems Standard of Practice 1999, states that a subsurface effluent disposal system that uses the absorption of effluent into the soil for treatment and disposal, should absorb the effluent into the soil at a rate of:

- not faster than 5 minutes per 2.5 cm (2 minutes / cm); and
- not slower than 60 minutes per 2.5 cm (24 minutes / cm),

as determined by a percolation test. In addition, the natural separation between the point of effluent infiltration into the soil and the groundwater should be a minimum of 1.5 m.

The percolation test results generally ranged between 2 and 14 minutes/cm for most of the lots, which would comply with these guidelines. It is noted however, that at test location PH008, the test results was outside of the Safety Code Council's guidelines, i.e. test in this location was slower than the minimum rate of 24 minutes/cm, attributed to a high clay content in the soil.

It is also noted that groundwater at the time of testing was dry in all test locations to a minimum depth of 3 m.

It is therefore recommended that the specific site selection of the proposed fields needs to be carefully considered by the septic field installer to satisfy the requirements of the Regulations Having Jurisdiction (Municipality, AENV, Alberta Labour). This requirement is in accordance with the provincial regulations, which state that two percolation tests are required within the final footprint of the field by the installer. Following the site-specific testing, the septic disposal field should be designed and sized accordingly by the disposal field designer. It is further recommended that the design footprint of the residential buildings be determined once the final disposal field is selected, to ensure the appropriate gravity flow or pumping requirements are satisfied.

During installation of the weeping trenches, the installer should pay close attention to the soil conditions, to define the extent of any areas of higher or slower percolation rates. These should be immediately reported to the disposal field designer for review prior to completion of the septic disposal field.

The information provided herein is intended to be a preliminary assessment of the feasibility of septic disposal fields for the proposed rural industrial subdivision development as per the provincial regulations. Site specific municipal regulations or siting requirement guidelines with respect to the local health unit, if applicable, have not been addressed.

6.0 CLOSURE

This report has been prepared for the exclusive use of Rod Jensen, Larry Van Orman, Martin Geomatic Consultants Ltd., and their agents, for specific application to the development described in Section 1.0. It has been prepared in accordance with generally accepted soil engineering practices. No warranty is either express or implied.

We trust this report satisfies your present requirements. Should you require additional information, please contact our office.

Respectfully submitted,
EBA Engineering Consultants Ltd.

Prepared by:

John Christensen
Senior Technologist

Reviewed by:

PROFESSIONAL ENGINEER ALBERTA
JAMES A. RYAN

J.A. (Jim) Ryan, M.Eng., P.Eng.
Project Director

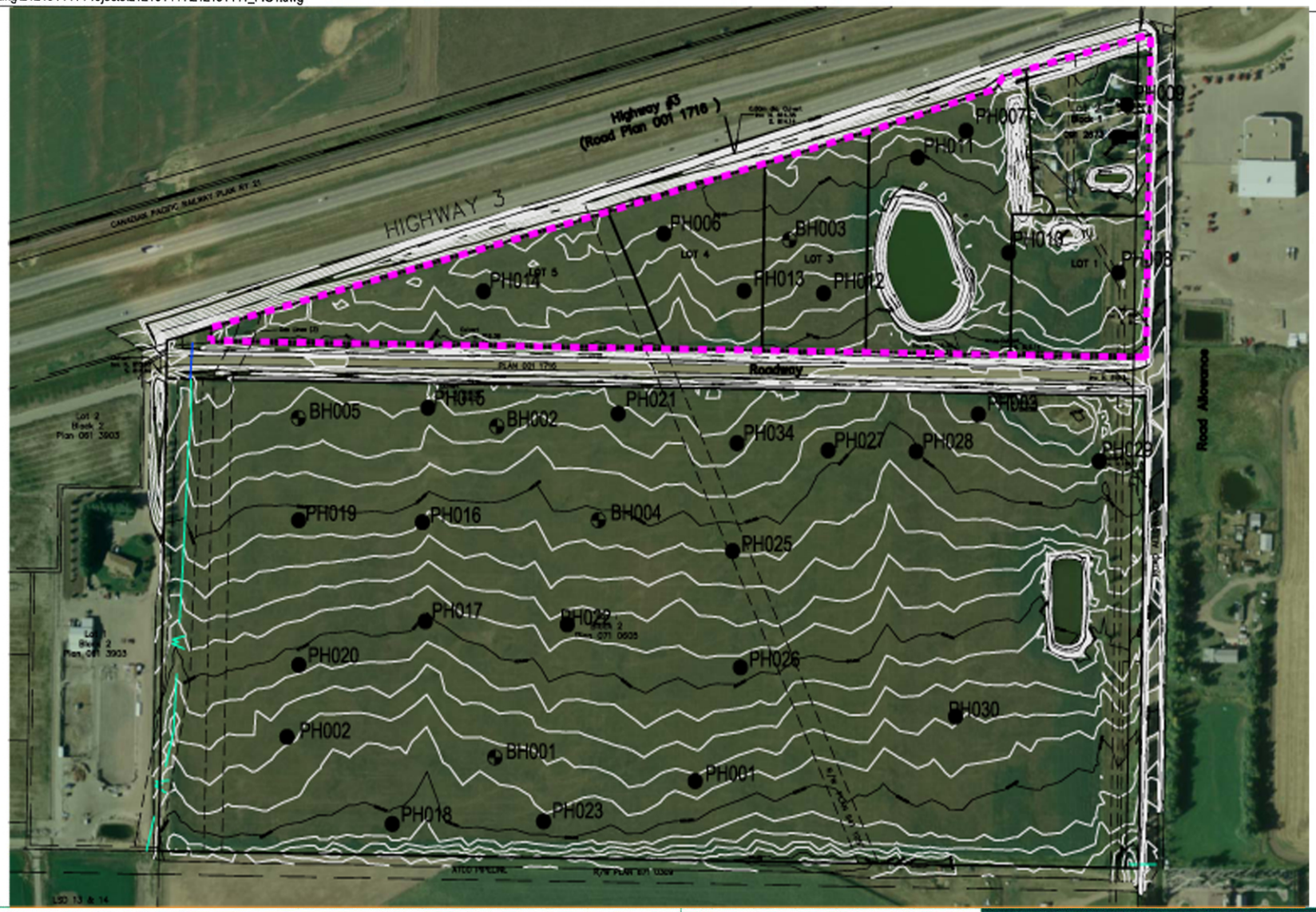
/sdt

Attachments Figure 1
Appendix A - General Conditions
Appendix B – Borehole and Percolation Testhole Logs

PERMIT TO PRACTICE
EBA ENGINEERING CONSULTANTS LTD.
Signature _____
Date December 5, 2008
PERMIT NUMBER: P245
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

FIGURES

\\lethbridge\drafting\L12101441 Projects\L12101441\L12101441_FIG1.dwg



LEGEND

BH# BOREHOLE LOCATION

PH# PERCOLATION HOLE LOCATION

NOTE
NOT TO SCALE

CLIENT

Martin Geomatic Consultants Ltd.

RURAL RESIDENTIAL SUBDIVISION
GEOTECHNICAL EVALUATION - SEPTIC FIELD ANALYSIS

BOREHOLE LOCATION PLAN

EBA Engineering Consultants Ltd.

PROJECT NO.	DWN	CKD	REV
L12101441	LCH	JM	0
OFFICE: LETH	DATE: September 14, 2008		

Figure 1

APPENDIX

APPENDIX A GEOTECHNICAL REPORT – GENERAL CONDITIONS

GEOTECHNICAL REPORT – GENERAL CONDITIONS

This report incorporates and is subject to these "General Conditions".

1.0 USE OF REPORT AND OWNERSHIP

This geotechnical report pertains to a specific site, a specific development and a specific scope of work. It is not applicable to any other sites nor should it be relied upon for types of development other than that to which it refers. Any variation from the site or development would necessitate a supplementary geotechnical assessment.

This report and the recommendations contained in it are intended for the sole use of EBA's Client. EBA does not accept any responsibility for the accuracy of any of the data, the analyses or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than EBA's Client unless otherwise authorized in writing by EBA. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of EBA. Additional copies of the report, if required, may be obtained upon request.

2.0 ALTERNATE REPORT FORMAT

Where EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EBA's instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of EBA's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except EBA. EBA's instruments of professional service will be used only and exactly as submitted by EBA.

Electronic files submitted by EBA have been prepared and submitted using specific software and hardware systems. EBA makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

3.0 ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, EBA has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.

4.0 NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems and methods employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned.

Classification and identification of geological units are judgmental in nature as to both type and condition. EBA does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice.

Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

5.0 LOGS OF TESTHOLES

The testhole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

6.0 STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historic environment. EBA does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

7.0 SURFACE WATER AND GROUNDWATER CONDITIONS

Surface and groundwater conditions mentioned in this report are those observed at the times recorded in the report. These conditions vary with geological detail between observation sites; annual, seasonal and special meteorologic conditions; and with development activity. Interpretation of water conditions from observations and records is judgemental and constitutes an evaluation of circumstances as influenced by geology, meteorology and development activity. Deviations from these observations may occur during the course of development activities.

8.0 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

9.0 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

10.0 INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known.

11.0 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, as well as the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

12.0 DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

13.0 BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions assumed in this report in fact exist at the site.

14.0 SAMPLES

EBA will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the Client's expense upon written request, otherwise samples will be discarded.

APPENDIX

APPENDIX B BOREHOLE AND PERCOLATION TESTHOLE LOGS

TERMS USED ON BOREHOLE LOGS

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (major portion retained on 0.075mm sieve): includes (1) clean gravels and sands, and (2) silty or clayey gravels and sands. Condition is rated according to relative density, as inferred from laboratory or in situ tests.

DESCRIPTIVE TERM	RELATIVE DENSITY	N (blows per 0.3m)
Very Loose	0 to 20%	0 to 4
Loose	20 to 40%	4 to 10
Compact	40 to 75%	10 to 30
Dense	75 to 90%	30 to 50
Very Dense	90 to 100%	greater than 50

The number of blows, N, on a 51mm O.D. split spoon sampler of a 63.5kg weight falling 0.76m, required to drive the sampler a distance of 0.3m from 0.15m to 0.45m.

FINE GRAINED SOILS (major portion passing 0.075mm sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as estimated from laboratory or in situ tests.

DESCRIPTIVE TERM	UNCONFINED COMPRESSIVE STRENGTH (kPa)
Very Soft	Less Than 25
Soft	25 to 50
Firm	50 to 100
Stiff	100 to 200
Very Stiff	200 to 400
Hard	Greater Than 400

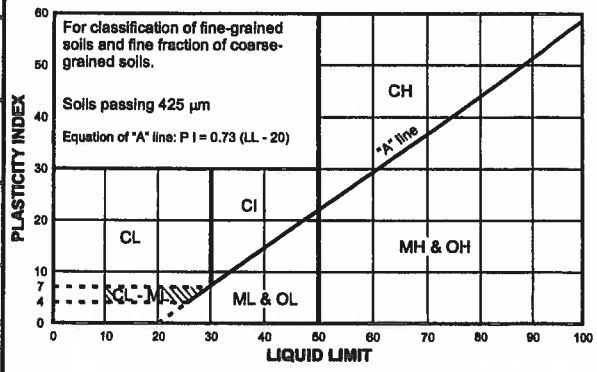
NOTE: Slickensided and fissured clays may have lower unconfined compressive strengths than shown above, because of planes of weakness or cracks in the soil.

GENERAL DESCRIPTIVE TERMS

Slickensided	- having inclined planes of weakness that are slick and glossy in appearance.
Fissured	- containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.
Laminated	- composed of thin layers of varying colour and texture.
Interbedded	- composed of alternate layers of different soil types.
Calcareous	- containing appreciable quantities of calcium carbonate.
Well Graded	- having wide range in grain sizes and substantial amounts of intermediate particle sizes.
Poorly graded	- predominantly of one grain size, or having a range of sizes with some intermediate size missing.

MODIFIED UNIFIED SOIL CLASSIFICATION †

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA		
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	Classification on basis of percentage of fines GW, GP, SW, SP GM, GC, SM, SC Bordering Classification requiring use of dual symbols	$C_U = D_{60}/D_{10}$ Greater than 4 $C_U = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines		Not meeting both criteria for GW	
		GRAVELS WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures		Atterburg limits plot below "A" line or plasticity index less than 4	Atterburg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures		Atterburg limits plot above "A" line or plasticity index greater than 7	
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW	Well-graded sands and gravelly sands, little or no fines	Less than 5% Pass No. 200 sieve More than 12% Pass No. 200 sieve 5% to 12% Pass No. 200 sieve	$C_U = D_{60}/D_{10}$ Greater than 6 $C_U = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3	
			SP	Poorly graded sands and gravelly sands, little or no fines		Not meeting both criteria for SW	
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures		Atterburg limits plot below "A" line or plasticity index less than 4	Atterburg limits plotting in hatched area are borderline classifications requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures		Atterburg limits plot above "A" line or plasticity index greater than 7	
FINE-GRAINED SOILS 50% or more passes No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	PLASTICITY CHART		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL	Organic silts and organic silty clays of low plasticity			
	SILTS AND CLAYS Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts			
			CH	Inorganic clays of high plasticity, fat clays			
			OH	Organic clays of medium to high plasticity			
HIGHLY ORGANIC SOILS			PT	Peat, muck and other highly organic soils			



*Based on the material passing the 3 in. (75 mm) sieve
†ASTM Designation D 2487, for identification procedure see D2488

SOIL COMPONENTS

FRACTION	SIEVE SIZE		DEFINING RANGES OF PERCENTAGE BY WEIGHT OF MINOR COMPONENTS	
	PASSING	RETAINED	PERCENTAGE	DESCRIPTOR
GRAVEL				
coarse	75 mm	19 mm	>35 %	"and"
fine	19 mm	4.75 mm	21 to 35 %	"y-adjective"
SAND				
coarse	4.75 mm	2.00 mm	10 to 20 %	"some"
medium	2.00 mm	425 µm	>0 to 10 %	"trace"
fine	425 µm	75 µm		
SILT (non plastic) or CLAY (plastic)	75 µm		as above but by behavior	

OVERSIZE MATERIAL

Rounded or subrounded

COBBLES 75 mm to 200 mm
BOULDERS > 200 mm

Not rounded

ROCK FRAGMENTS >75 mm
ROCKS > 0.76 cubic metre in volume

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 15, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08BH001
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics						0
	CLAY - silty, some sand, damp, hard, medium plastic, light brown, occasional white precipitates						
			B1	7.8	●	▲	
1							
			B2	8	●	▲	
	CLAY (TILL) - silty, some sand, trace gravel, damp, hard, medium plastic, light brown with dark brown mottling, coal and oxide specks, thin sand lenses, white precipitates						5
	... oxide staining, weathered		B3	9	●	▲	
2	... occasional gravel pockets to 50mm						
			B4			▲	
3			B5	9.1	●	▲	10
	End of Borehole @ 3.0m						
	No Seepage or Sloughing on Completion Slotted PVC Pipe Installed to 3.0m Borehole Measured Dry on September 11, 2008						
4							15
5							16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 3m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B1	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 28, BLK 3, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08BH002
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics						0
	CLAY - silty, some sand, damp, hard, medium plastic, light brown, white precipitates						
			B1	6.2			
	... 200mm gravel inclusion @ 0.7m						
1	CLAY (TILL) - silty, some sand, trace gravel, damp, very stiff to hard, medium plastic, light brown with dark brown mottling, coal and oxide specks, thin sand lenses						5
	... oxide staining, slightly weathered		B2	6.3			
			B3	8.3			
2							
			B4				
3			B5	9			10
	End of Borehole @ 3.0m						
	No Seepage or Sloughing on Completion Slotted PVC Pipe Installed to 3.0m Borehole Measured Dry on September 11, 2008						
4							15
5							16

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LOGGED BY: JKM	COMPLETION DEPTH: 3m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B2	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 6, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08BH003
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics						0
	CLAY - silty, some sand, damp to moist, very stiff to hard, medium plastic, light brown, thin sand lenses, white precipitates		B1	7.4			
1	CLAY (TILL) - silty, some sand, trace gravel, damp, hard, medium plastic, light brown with dark brown mottling, coal and oxide specks, thin sand lenses, occasional high plastic clay inclusions		B2	7.2			5
			B3	8.4			
2	... 150mm gravel inclusion @ 1.9m ... soluble sulphate content = 0.14% @ 2.0m ... oxide staining, weathered		B4				
3			B5	8.3			10
	End of Borehole @ 3.0m						
	No Seepage or Sloughing on Completion Slotted PVC Pipe Installed to 3.0m Borehole Measured Dry on September 11, 2008						
4							15
5							16

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LOGGED BY: JKM	COMPLETION DEPTH: 3m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B3	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 16, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH001
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC / M.C. / LIQUID)	STANDARD PENETRATION (N) / UNCONFINED (kPa) / POCKET PEN. (kPa)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, hard, medium plastic, light brown, white precipitates				
	... gravel inclusions to 50mm				
1	End of Borehole @ 0.9m				5
2					
3					10
4					15
5					16

STANDARD PENETRATION (N): 20 40 60 80

UNCONFINED (kPa): 50 100 150 200

POCKET PEN. (kPa): 100 200 300 400

PLASTIC M.C. LIQUID: 20 40 60 80

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B4	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 13, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH002
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID 20 40 60 80	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, trace gravel, damp, hard, medium plastic, light brown with dark brown mottling, white precipitates					
1	End of Borehole @ 0.9m					5
2						
3						10
4						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B5	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 21, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH003
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID 20 40 60 80	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff to hard, light brown, occasional white precipitates					
1	End of Borehole @ 0.9m					5
2						
3						10
4						
5						15
						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B6	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 30, BLK 3, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH004
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC — M.C. — LIQUID; 20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff to hard, medium plastic, light brown, white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
5					15
					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B7	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 10, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH005
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC — M.C. — LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff to hard, medium plastic, light brown				
	... occasional white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
					15
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B8	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 7, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH006
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC / M.C. / LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, hard, medium plastic, light brown, thin sand lenses, white precipitates				
	GRAVEL - sandy, silty, trace clay, well graded, sizes to 20mm, damp, compact, brown				
1	End of Borehole @ 0.9m				
2					5
3					10
4					15
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 3, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH007
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, hard, medium plastic, light brown, thin sand lenses, white precipitates					
	GRAVEL - sandy, silty, trace clay, well graded, sizes to 300mm, damp, compact, brown					
1	End of Borehole @ 0.9m					5
2						
3						10
4						
						15
5						16

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 9/10/2008
DRAWING NO: B10	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 2, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH008
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC / M.C. / LIQUID)	STANDARD PENETRATION (N) / UNCONFINED (kPa) / POCKET PEN. (kPa)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, trace to some sand, damp to moist, very stiff, medium plastic, light brown, thin silt lenses, white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
					15
5					16

STANDARD PENETRATION (N): 20 40 60 80

UNCONFINED (kPa): 50 100 150 200

POCKET PEN. (kPa): 100 200 300 400

PLASTIC M.C. LIQUID: 20 40 60 80

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 1, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH009
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC / M.C. / LIQUID)	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, trace to some sand, damp to moist, very stiff, medium plastic, light brown, thin silt lenses, white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
5					15
					16

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 4, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH010
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC / M.C. / LIQUID)	STANDARD PENETRATION (N) / UNCONFINED (kPa) / POCKET PEN. (kPa)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, trace gravel, damp, very stiff, medium plastic, light brown, occasional white preicpitates				
	... 100mm gravel inclusion				
1	End of Borehole @ 0.9m				5
2					10
3					
4					15
5					16

STANDARD PENETRATION (N): 20 40 60 80

UNCONFINED (kPa): 50 100 150 200

POCKET PEN. (kPa): 100 200 300 400

PLASTIC M.C. LIQUID: 20 40 60 80

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 5, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH011
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC — M.C. — LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
5					15
					16

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 6, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH012
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC — M.C. — LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
	... occasional white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
					15
5					16

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 8, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH013
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC / M.C. / LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
	... some sand to sandy, occasional silt lenses				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
					15
5					16

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LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 9, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH014
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID 20 40 60 80	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown					
1	End of Borehole @ 0.9m					5
2						
3						10
4						
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 25, BLK 3, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH015
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC / M.C. / LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff to hard, medium plastic, light brown				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
5					15
					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 26, BLK 3, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH016
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID 20 40 60 80	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff to hard, medium plastic, light brown					
	... white precipitates					
1	End of Borehole @ 0.9m					5
2						
3						10
4						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B19	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 27, BLK 3, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH017
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC M.C. LIQUID 20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
5					15
					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B20	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 14, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH018
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown to grey					
1	End of Borehole @ 0.9m					5
2						
3						10
4						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B21	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 11, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH019
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC / M.C. / LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
5					15
					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B22	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 12, BLK 2, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH020
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown					
	GRAVEL - sandy, silty, trace clay, well graded, sizes to 25mm, compact, light brown, damp					
1	End of Borehole @ 0.9m					5
2						
3						10
4						
5						15
						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
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PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 28, BLK 3, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH021
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC — M.C. — LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80); UNCONFINED (kPa) (50 100 150 200); POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
	... white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
					15
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B24	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 30, BLK 3, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH022
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID 20 40 60 80	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown, white precipitates					
1	End of Borehole @ 0.9m					5
2						
3						10
4						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B26	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 15, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH023
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown					
	... white precipitates, occasional silt pockets					
1	End of Borehole @ 0.9m					5
2						
3						10
4						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B27	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 19, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH024
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80) / UNCONFINED (kPa) (50 100 150 200) / POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown					
1	End of Borehole @ 0.9m					5
2						
3						10
4						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B28	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 18, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH025
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC M.C. LIQUID 20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
	... white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
					15
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B29	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 17, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH026
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC M.C. LIQUID (20 40 60 80)	STANDARD PENETRATION (N) (20 40 60 80); UNCONFINED (kPa) (50 100 150 200); POCKET PEN. (kPa) (100 200 300 400)	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown, white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					15
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B30	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 20, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH027
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT: PLASTIC — M.C. — LIQUID (20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80; UNCONFINED (kPa) 50 100 150 200; POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff, medium plastic, light brown				
	... white precipitates				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B31	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 22, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH028
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT (PLASTIC M.C. LIQUID 20 40 60 80)	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics				0
	CLAY - silty, some sand, damp, very stiff to hard, medium plastic, light brown				
1	End of Borehole @ 0.9m				5
2					
3					10
4					
					15
5					16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B32	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 23, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH029
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID 20 40 60 80	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, some sand to sandy, damp, very stiff to hard, light brown					
	... white precipitates					
1	End of Borehole @ 0.9m					5
2						
3						10
4						
						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B33	Page 1 of 1

PROJECT: RURAL RESIDENTIAL SUBDIVISION	CLIENT: MARTIN GEOMATIC CONSULTANTS LTD.	PROJECT NO. - BOREHOLE NO.
LOCATION: LOT 24, BLK 1, PL 071 0605	DRILL METHOD: 150mm SOLID STEM AUGER	L12101441 - 08PH030
CITY: TABER, AB	PROJECT ENGINEER: JIM RYAN	

SAMPLE TYPE: DISTURBED | NO RECOVERY | SPT | A-CASING | SHELBY TUBE | CORE

BACKFILL TYPE: BENTONITE | PEA GRAVEL | SLOUGH | GROUT | DRILL CUTTINGS | SAND

Depth (m)	SOIL DESCRIPTION	SAMPLE TYPE	MOISTURE CONTENT	PLASTIC M.C. LIQUID 20 40 60 80	STANDARD PENETRATION (N) 20 40 60 80 / UNCONFINED (kPa) 50 100 150 200 / POCKET PEN. (kPa) 100 200 300 400	Depth (ft)
0	TOPSOIL - clay, silty, sandy, moist, dark brown, roots, organics					0
	CLAY - silty, trace to some sand, damp, very stiff, medium plastic, light brown, occasional silt lenses					
	... white precipitates					
1	End of Borehole @ 0.9m					5
2						
3						10
4						15
5						16

EBA Engineering Consultants Ltd.

LOGGED BY: JKM	COMPLETION DEPTH: 0.9m
REVIEWED BY: JAR	COMPLETE: 11/26/2008
DRAWING NO: B34	Page 1 of 1

MUNICIPAL DISTRICT OF TABER

Highway 3 West Business Park

AREA STRUCTURE PLAN

Appendix C

Taber Irrigation District Comments

Taber Irrigation District

TID

Specialty Crop Country

4420 - 44th Street
Taber, Alberta T1G 2J6
Telephone: (403) 223-2148
Fax: (403) 223-2924
Email: tid@telusplanet.net

February 17, 2011

Martin Geomatic Consultants Ltd.
255 - 31st Street North
Lethbridge, Alberta
T1H 3Z4

By Fax: (403) 329-6594
Hard Copy to Follow

Attention: Ray E. Martin, P. Eng.

RE: Highway 3 - West Business Park Proposed Subdivision - SE 36-9-17 W4M

With relationship to the proposed development, irrigation water may be used on the proposed lots. Water is in our pipeline during the irrigation season. It is the developers/owners responsibility to install the distribution system and to own, operate and maintain it. The delivery point of water for this land is in the SE corner of SE 36-9-17 W4M. The connection of a distribution system to the TID delivery point must be approved by the District and each lot that uses or plans to use irrigation water must sign a rural water use agreement and pay the annual fee that is in place at the time.

The Taber Irrigation District would like to be able to drain its pipeline that delivers water to the SE corner of SE 36-9-17 W4M by installing a pipeline to the north parallel to your proposed pipeline. TID would take an additional easement for the drain line from the official point of water delivery in the SE corner for a distance of 145 meters to the north as shown on the attached plan. The ability to drain our pipeline rather than pumping it out in the fall helps insure that our pipeline remains drained through the winter so that there is not water freezing against your valve or other valves along the pipeline.

If you have any questions, please contact me.

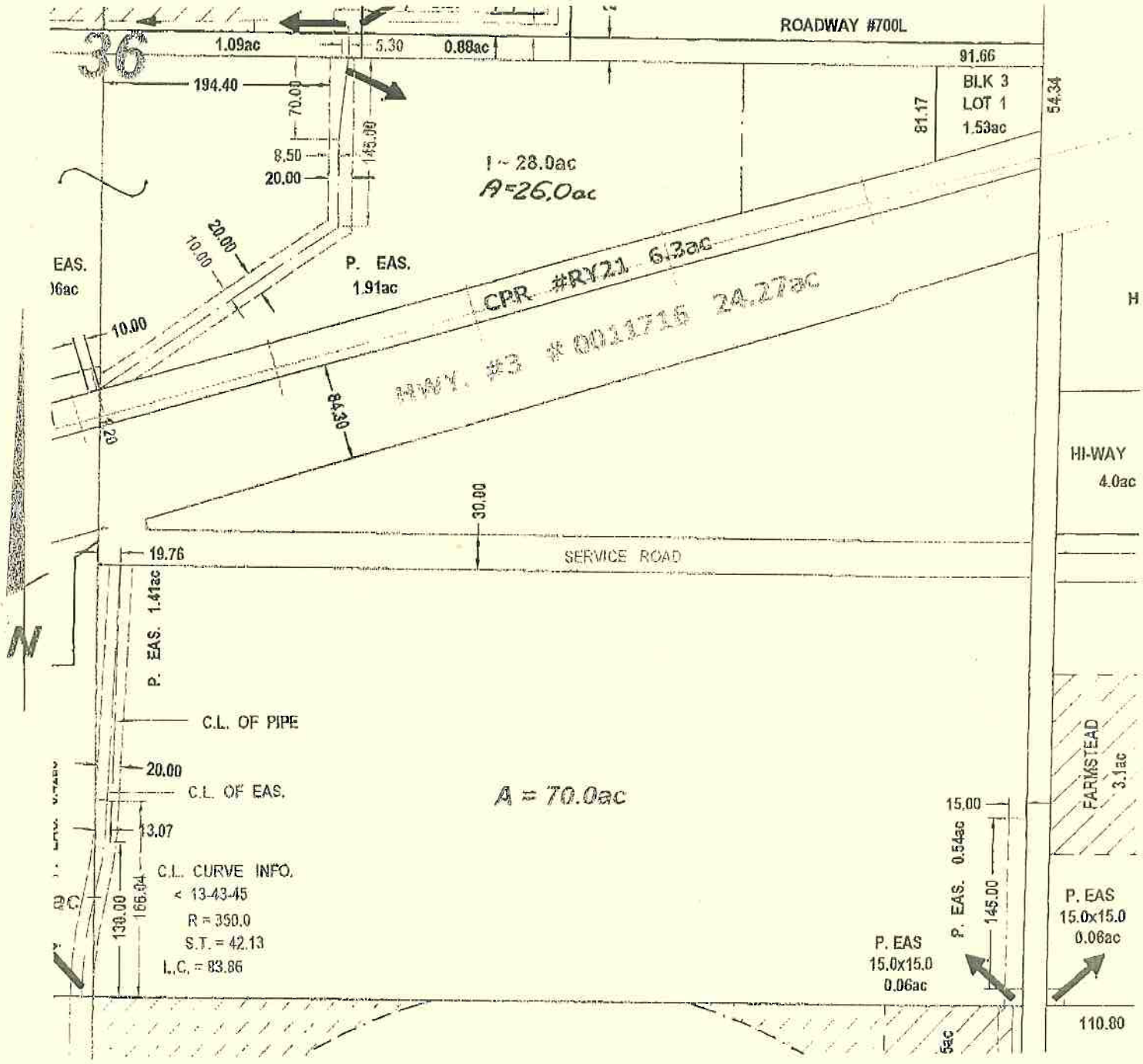
Yours truly,

M. Kent Bullock, P. Eng.
District Manager

MKB/pg
encl.

TABER IRRIGATION DISTRICT

SE 36 - 09 - 17 - 4



APPROVED BY: TABER IRRIGATION DISTRICT _____

CHAIRMAN

SCALE 1 : 5,000

LEGEND

- DELIVERY POINT
- C.D. CONV. DEL.
- G.D. GRAVITY DEL.
- FARM PIPELINE
- IRR. UNIT
- ONE TITLE
- NO BDRY.

DATE _____ _____

MANAGER

LAND OWNER

DATE _____ _____

MUNICIPAL DISTRICT OF TABER

Highway 3 West Business Park

AREA STRUCTURE PLAN

Appendix D

HDR|iTrans Traffic Evaluation – Site Traffic Forecast

ONE COMPANY | *Many Solutions*℠

September 2, 2010

Project # 6251

Tom Rodwell
Highway 3 Developments
Box 4564
Taber, Alberta T1G 2C9

Dear Mr. Rodwell:

Re: Taber Traffic Evaluation
Site Traffic Forecasts

1. INTRODUCTION

HDR Corporation (HDR | iTRANS) was retained by Highway 3 Developments and Martin Geomatic Consultants Ltd. to prepare a traffic forecast for the proposed rural industrial development (Site) in the southwest quadrant of the intersection of Highway 3 and Highway 864 (Range Road 170) west of Taber, Alberta (**Exhibit 1**).

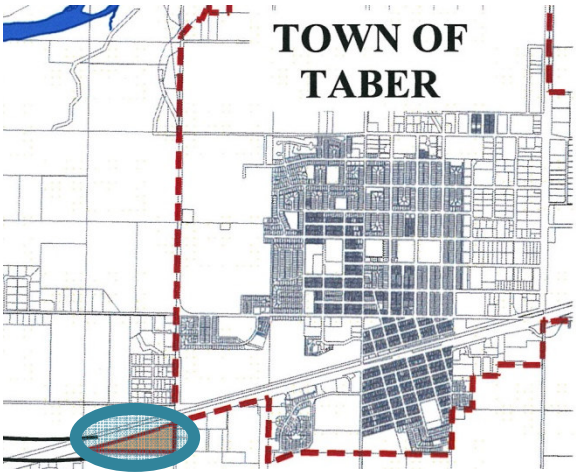


Exhibit 1: Study Location

From Martin Geomatic Consultants Ltd., June 29, 2010

HDR | iTRANS
HDR Corporation

4838 Richard Road SW
Suite 140
WestMount Corporate Campus
Calgary, AB T3E 6L1
Canada

Phone: (403) 537-0250
Fax: (403) 537-0251
www.hdrinc.com

2. PROPOSED SITE

The Site is located south of Highway 3, which is aligned parallel to, and south of, an existing Canadian Pacific Railway line. The proposed Site is composed of seven individual lots, totalling 23.91 acres (1,041,520 ft^2) with access via a gravel road aligned adjacent to the southern boundary of the Site (**Exhibit 2**). The proposed development is classified as Rural Industrial for agriculture and oilfield support services; each use is expected to include a shop, office area, yard storage, and parking.

There are pockets of existing residential and commercial (i.e., CASE Hi-Way Services) south of Highway 3 and east/west of the Site. The traffic generated by these pockets are captured using the intersection traffic counts at Highway 3 and Highway 864 (Range Road 170), from Alberta Transportation's online traffic count database (AT Website). The existing a.m. and p.m. peak hour intersection traffic volumes, and the daily traffic volumes, at Highway 3 and Highway 864 (Range Road 170) are attached in **Appendix A**.

The gravel road along the southern boundary of the Site is currently a two-lane, gravel road, providing access to one existing property. For this evaluation, the vehicle trips generated from the existing property were negligible compared to the proposed rural industrial development.

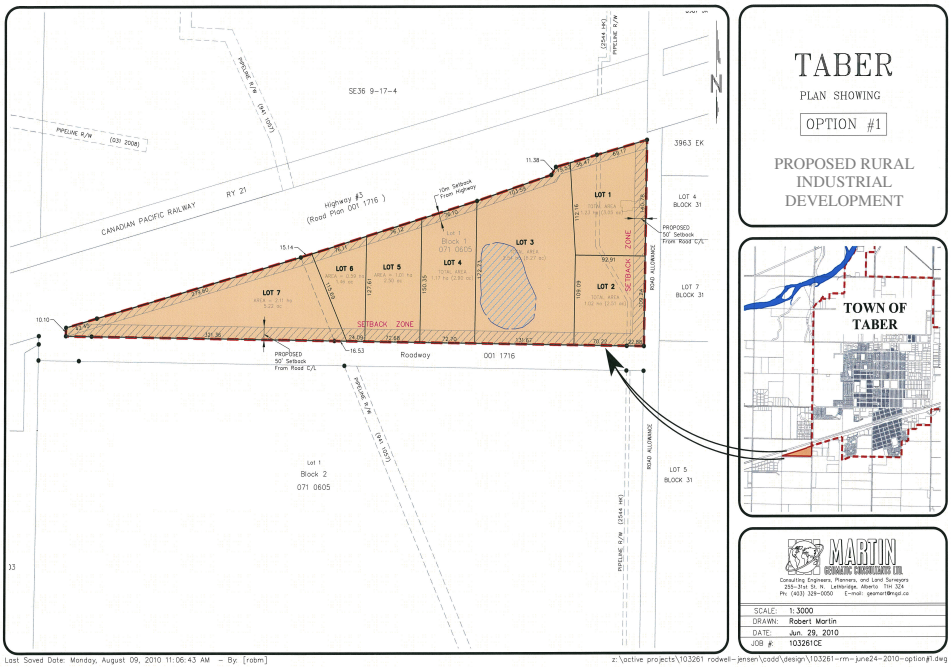


Exhibit 2: Proposed Taber Rural Industrial Site Plan

From Martin Geomatic Consultants Ltd., June 29, 2010 – title modified

3. SITE TRAFFIC

3.1 Trip generation

Traffic volumes generated by the Site were calculated using trip generation rates published in the *Institute of Transportation Engineers Trip Generation (8th Edition) Handbook* (ITE Handbook).

Land Use 130 Industrial Park from the ITE Handbook was used to approximate the traffic generated by the Site once built out.

The total Site would employ an estimated 70 employees (ten employees per lot). The vehicular traffic generated by the development during the a.m. peak hour, p.m. peak hour, and daily period for full build-out of the Site is summarized in **Table 1**.

Table 1: Site Trip Generation Summary

Industrial Park (LU130)	Number of Employees per Lot * 10						Number of Lots 7		
	a.m. Peak Hour			p.m. Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Gross Trip Generation Rate	0.47 vph/employee			0.46 vph/employee			3.34 vpd/employee		
Gross Vehicle Trips	33 vph			32 vph			234 vpd		
Directional Split	86%	14%	100%	20%	80%	100%	50%	50%	100%
Gross Vehicle Trips	**28**	**5**	**33**	**6**	**26**	**32**	**117**	**117**	**234**

vph - vehicles per hour
vpd - vehicles per day
* assumed staffing per lot as per Highway 3 Developments

It is not expected the land use proposed for the Site will generate any pass-by or interaction vehicle trips. In consideration of this assumption, and in order to provide a more conservative estimate of the traffic volumes generated, no pass-by or interaction trips were assumed.

3.2 Trip Distribution

Based on the traffic information from the AT Website, it is anticipated 98% of trips leaving and entering the site would originate from Highway 3, and approximately 2% would be destined to, and from the south along Range Road 170.

The anticipated traffic volumes resulting from the Site are illustrated in **Exhibit 3**.

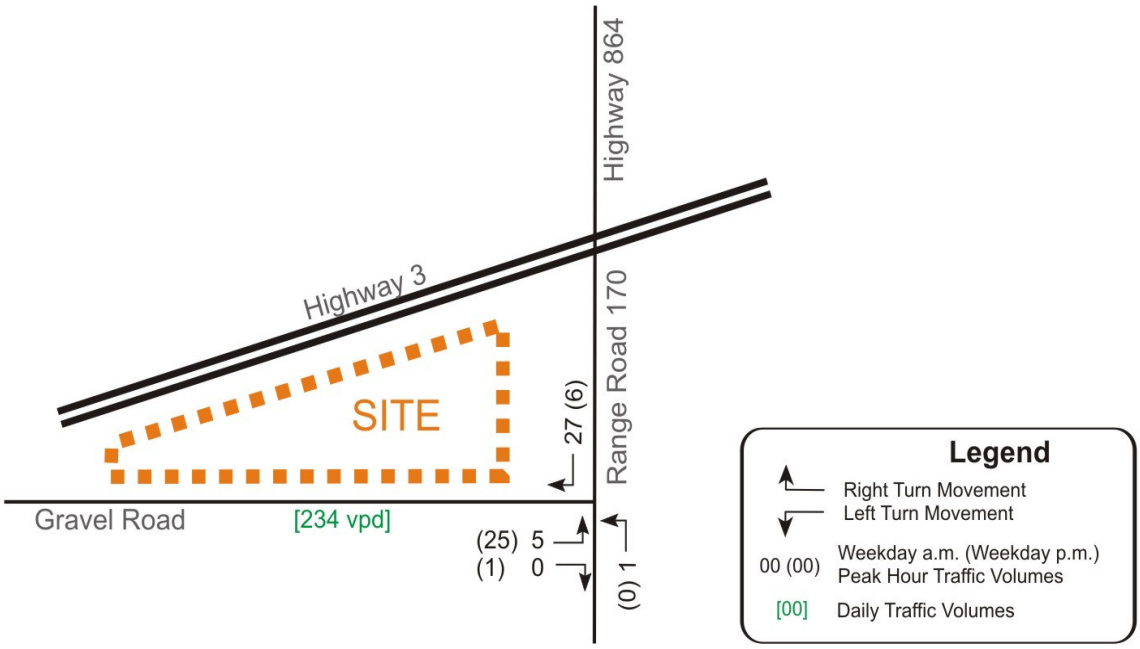


Exhibit 3: Site Traffic Volumes

4. CONCLUSIONS

From this trip generation evaluation and based on the assumption of ten employees per lot, it is anticipated the proposed Site will generate approximately:

- 33 trips in the a.m. peak hour
- 32 trips in the p.m. peak hour
- 234 trips on a daily basis

These trips are expected to use the gravel road to access Range Road 170.

Should you have any further questions or require additional information regarding the above analysis, please do not hesitate to contact me at (403) 537-0250 extension 5717.

Yours truly,

HDR Corporation

PERMIT TO PRACTICE
ITRANS CONSULTING INC.
Signature
Date September 2, 2010
PERMIT NUMBER: P 07086
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Megan Fernandes, P.Eng.
Project Manager

Encl. Appendix A – Alberta Transportation Traffic Counts

cc: Ray Martin – Martin Geomatic Consultants Ltd.

Turning Movement Summary Diagram

Reference No.: 117080

Intersection of:
3 & 864 W OF TABER

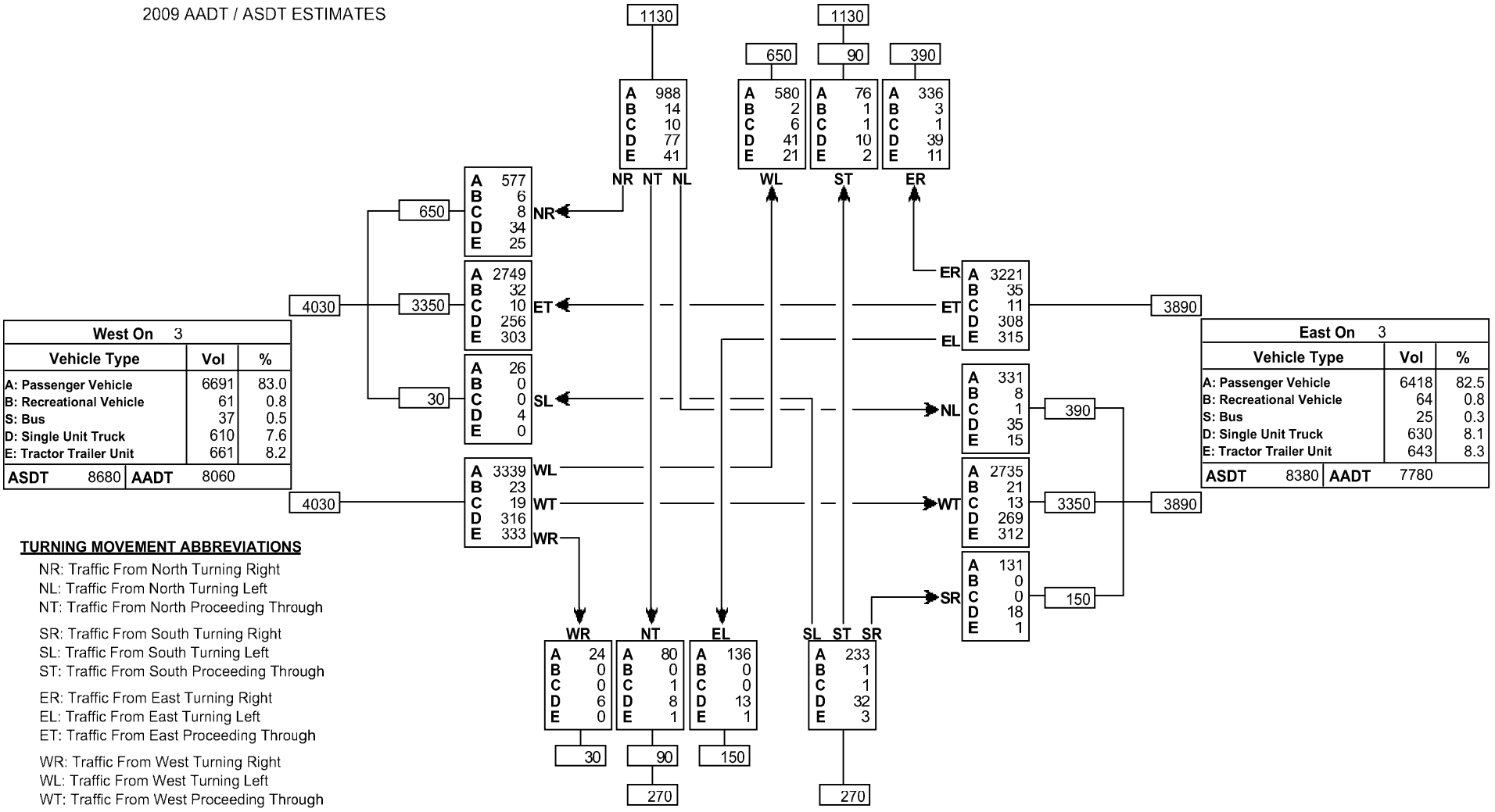
2009 AADT / ASDT ESTIMATES

North On 864		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1980	87.6
B: Recreational Vehicle	20	0.9
S: Bus	18	0.8
D: Single Unit Truck	167	7.4
E: Tractor Trailer Unit	75	3.3
ASDT 2430	**AADT** 2260	

West On 3		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	6691	83.0
B: Recreational Vehicle	61	0.8
S: Bus	37	0.5
D: Single Unit Truck	610	7.6
E: Tractor Trailer Unit	661	8.2
ASDT 8680	**AADT** 8060	

East On 3		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	6418	82.5
B: Recreational Vehicle	64	0.8
S: Bus	25	0.3
D: Single Unit Truck	630	8.1
E: Tractor Trailer Unit	643	8.3
ASDT 8380	**AADT** 7780	

South On Local Rd		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	473	87.6
B: Recreational Vehicle	1	0.2
S: Bus	2	0.4
D: Single Unit Truck	59	10.9
E: Tractor Trailer Unit	5	0.9
ASDT 580	**AADT** 540	



TURNING MOVEMENT ABBREVIATIONS

NR: Traffic From North Turning Right
NL: Traffic From North Turning Left
NT: Traffic From North Proceeding Through

SR: Traffic From South Turning Right
SL: Traffic From South Turning Left
ST: Traffic From South Proceeding Through

ER: Traffic From East Turning Right
EL: Traffic From East Turning Left
ET: Traffic From East Proceeding Through

WR: Traffic From West Turning Right
WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

TURNING MOVEMENT ABBREVIATIONS

AADT: Average Annual Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of January 1 to December 31 (365 days)

ASDT: Average Summer Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of May 1 to September 30 (153 days)

Turning Movement Summary Diagram

Reference No.: 117080

Intersection of:
3 & 864 W OF TABER

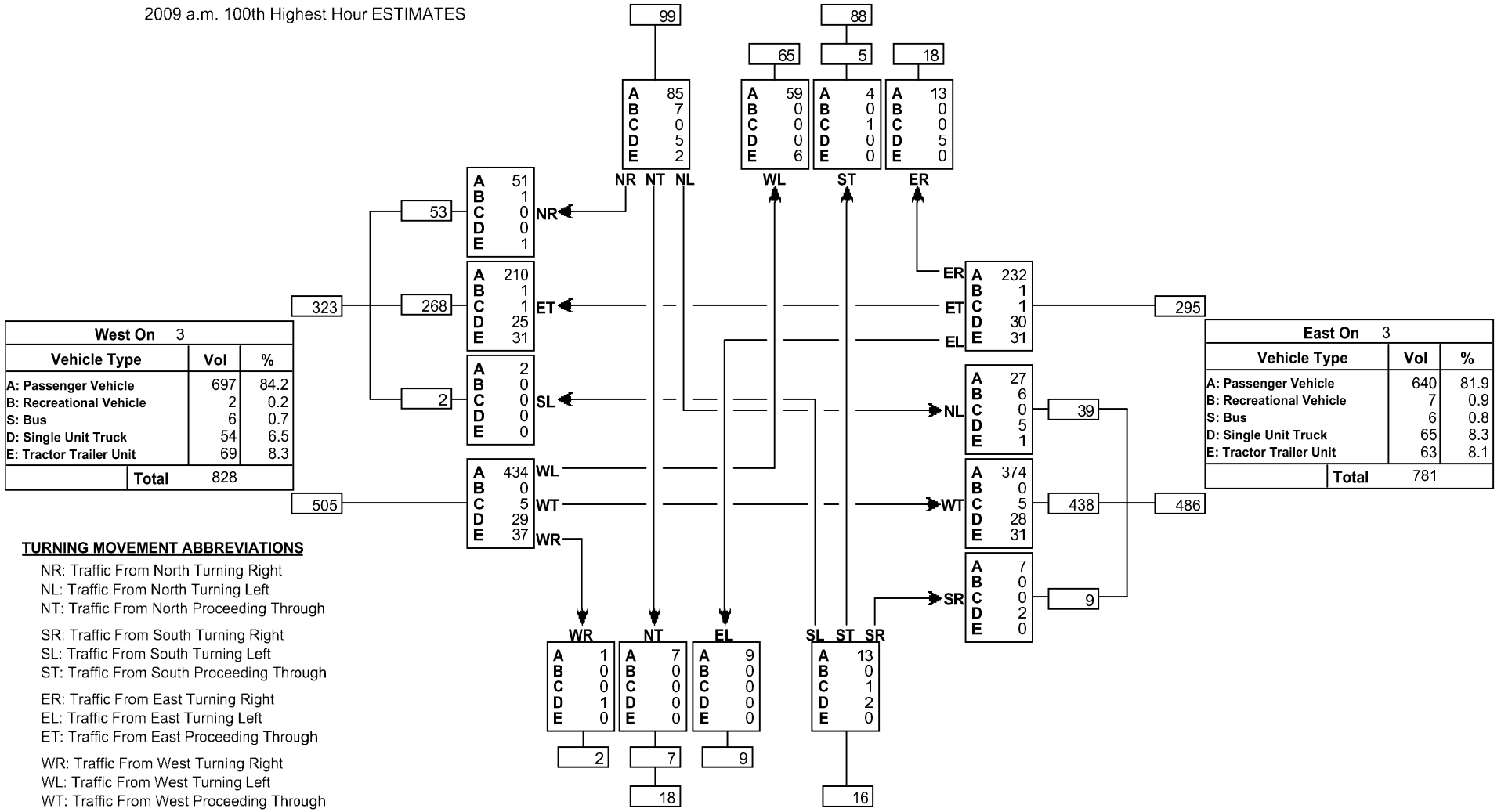
2009 a.m. 100th Highest Hour ESTIMATES

North On 864		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	161	86.1
B: Recreational Vehicle	7	3.7
S: Bus	1	0.5
D: Single Unit Truck	10	5.3
E: Tractor Trailer Unit	8	4.3
Total	187	

West On 3		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	697	84.2
B: Recreational Vehicle	2	0.2
S: Bus	6	0.7
D: Single Unit Truck	54	6.5
E: Tractor Trailer Unit	69	8.3
Total	828	

East On 3		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	640	81.9
B: Recreational Vehicle	7	0.9
S: Bus	6	0.8
D: Single Unit Truck	65	8.3
E: Tractor Trailer Unit	63	8.1
Total	781	

South On Local Rd		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	30	88.2
B: Recreational Vehicle	0	0.0
S: Bus	1	2.9
D: Single Unit Truck	3	8.8
E: Tractor Trailer Unit	0	0.0
Total	34	



TURNING MOVEMENT ABBREVIATIONS

NR: Traffic From North Turning Right
NL: Traffic From North Turning Left
NT: Traffic From North Proceeding Through

SR: Traffic From South Turning Right
SL: Traffic From South Turning Left
ST: Traffic From South Proceeding Through

ER: Traffic From East Turning Right
EL: Traffic From East Turning Left
ET: Traffic From East Proceeding Through

WR: Traffic From West Turning Right
WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

Turning Movement Summary Diagram

Reference No.: 117080

Intersection of:
3 & 864 W OF TABER

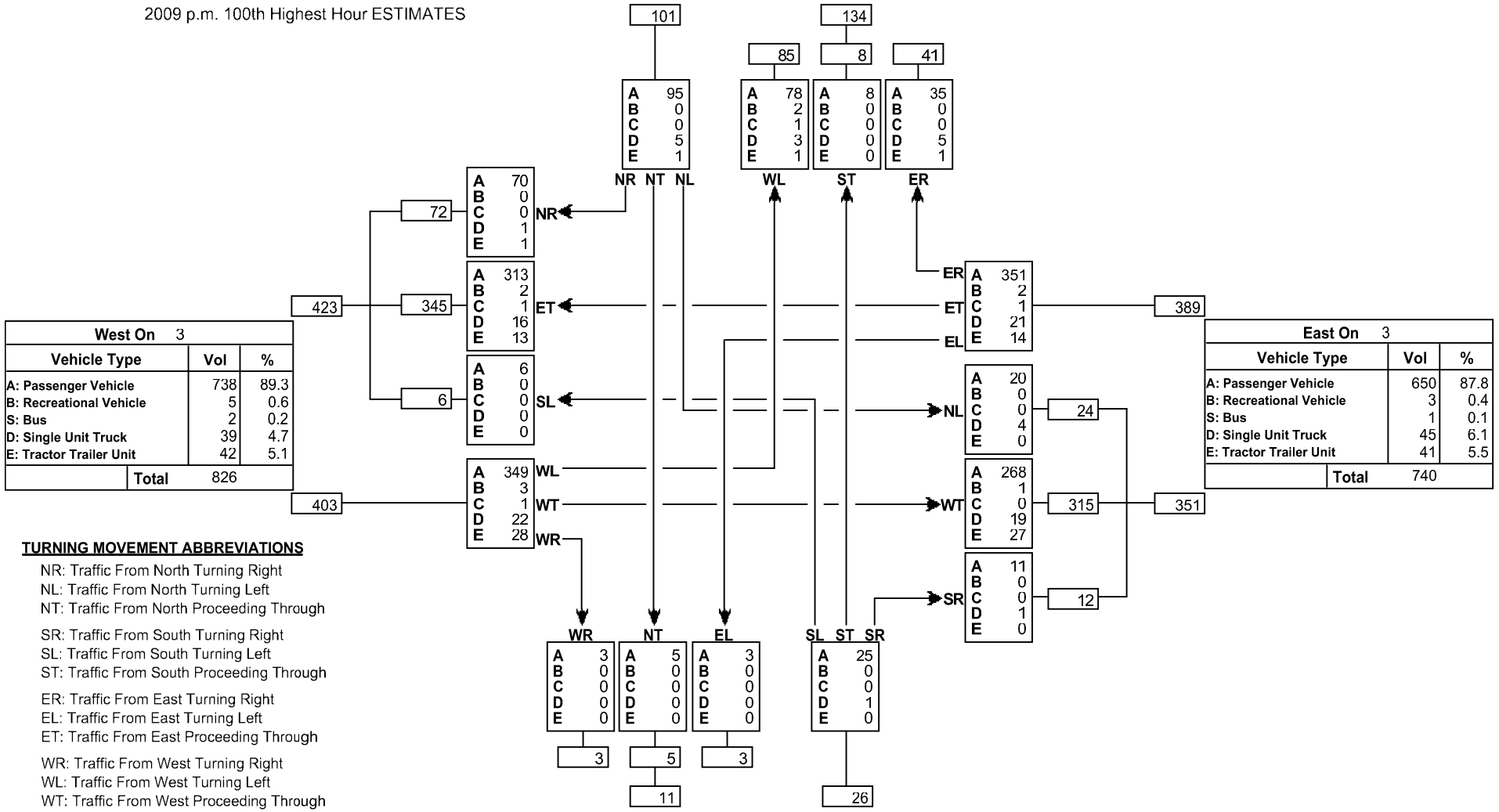
2009 p.m. 100th Highest Hour ESTIMATES

North On 864		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	216	91.9
B: Recreational Vehicle	2	0.9
S: Bus	1	0.4
D: Single Unit Truck	13	5.5
E: Tractor Trailer Unit	3	1.3
Total	235	

West On 3		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	738	89.3
B: Recreational Vehicle	5	0.6
S: Bus	2	0.2
D: Single Unit Truck	39	4.7
E: Tractor Trailer Unit	42	5.1
Total	826	

East On 3		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	650	87.8
B: Recreational Vehicle	3	0.4
S: Bus	1	0.1
D: Single Unit Truck	45	6.1
E: Tractor Trailer Unit	41	5.5
Total	740	

South On Local Rd		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	36	97.3
B: Recreational Vehicle	0	0.0
S: Bus	0	0.0
D: Single Unit Truck	1	2.7
E: Tractor Trailer Unit	0	0.0
Total	37	



TURNING MOVEMENT ABBREVIATIONS

NR: Traffic From North Turning Right
NL: Traffic From North Turning Left
NT: Traffic From North Proceeding Through

SR: Traffic From South Turning Right
SL: Traffic From South Turning Left
ST: Traffic From South Proceeding Through

ER: Traffic From East Turning Right
EL: Traffic From East Turning Left
ET: Traffic From East Proceeding Through

WR: Traffic From West Turning Right
WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

MUNICIPAL DISTRICT OF TABER

Highway 3 West Business Park

AREA STRUCTURE PLAN

Appendix E

Blair Layton Landowner Consent ~ Lot 2, Block 1, Plan 0912673

March 15, 2011

M.D. of Taber
4900 – 50 Street
Taber, AB T1G 1T3

Oldman River Regional Service Commission
3105 – 16th Avenue North
Lethbridge, AB T1H 5E8

Dear Sir or Madam:

Re: Proposed Rezoning and Proposed Subdivision of plan 0710605
Located in SE ¼ of Section 36-9-17 W4M

I am the registered owner of the lands and premises legally described as Plan 0912673, Block 1, Lot 2 being an acreage of 2.99 acres located in the SE ¼ of Section 36-9-17 W4M. I am aware of the proposed rezoning and proposed subdivision being sought on the neighbouring parcel as described as Plan 0710605, Block 1 and 2 by the registered owners and developers thereof, namely Rodney Jensen, Laura Jensen and 1540829 Alberta Ltd. (Rodwell) who are doing business as a partnership under the name of "Highway 3 Developments".

I herby consent to the proposed rezoning to "Group Rural Industrial" and agree to be part of the Structure Plan, and further undertake to execute and deliver such further documents and forms of consent as may be required in order to effectuate the proposed rezoning. It is not my intent to rezone my property at this time.

Yours truly,

Blair Bradley Layton