BYLAW NO. 4052

A BYLAW OF THE CITY OF MEDICINE HAT to adopt the Airport Area Structure Plan.

WHEREAS a new Area Structure Plan has been prepared for the Airport area, to provide a framework for future subdivision and development;

AND WHEREAS an application has been made to adopt the Airport Area Structure Plan;

AND WHEREAS the Airport Area Structure Plan attached hereto as Schedule "A" applies to the land described as: Block 8, Plan 3278JK; Ptn of NE1/4 23-12-6-4; Lots 6-7, Block 6, Plan 0510749; Lot 1, Block 7, Plan 0510749; Lot 1, Block 5, Plan 4210JK; Lot 1, Block 6, Plan 4210JK; Lots 1-2, Block 6, Plan 4210JK; Lot 1, Block 6; Plan 5424JK; Lots1-3, Block 35, Plan 1550AK

AND WHEREAS it is deemed appropriate to adopt the Airport Area Structure Plan;

AND WHEREAS the requirements of the ***Municipal Government Act*** R.S.A. 2000, Chapter M-26 regarding the advertising of this Bylaw have been complied with;

AND WHEREAS copies of this Bylaw and related documents were made available for inspection by the public at the office of the City Clerk as required by the ***Municipal Government Act*** R.S.A. 2000, Chapter M-26;

AND WHEREAS a public hearing with respect to this Bylaw was held in the Council Chambers at City Hall on the 4 July 2011 at 6:30 p.m.;

NOW THEREFORE THE MUNICIPAL CORPORATION OF THE CITY OF MEDICINE HAT, IN COUNCIL ASSEMBLED, ENACTS AS FOLLOWS:

1. The Airport Area Structure Plan, attached as Schedule "A" to this Bylaw, is adopted.
2. This Bylaw shall come into force at the beginning of the day that it is passed.

READ A FIRST TIME in Open Council on: JUN 0 6 2011

READ A SECOND TIME in Open Council on: JUL 0 4 2011

READ A THIRD TIME in Open Council on: JUL 0 4 2011

SIGNED AND PASSED on: JUL 0 5 2011

Norm Boucher

MAYOR NORM BOUCHER

CITY OF MEDICINE HAT ANNO ET FIDE ALBERTA

Betty Koch

CITY CLERK DAVID S. LEFLAR

BETTY KOCH
ACTING CITY CLERK

MAY 2011

area structure plan

MEDICINE HAT REGIONAL AIRPORT

Medicine Hat
The Gas City

Scheffer Andrew Ltd.
Planners & Engineers

Patricia Maloney
& Associates

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introduction

1

The preparation of the Area Structure Plan (ASP) is consistent with the legislative requirements outlined in Section 633 of the Municipal Government Act, and the City of Medicine Hat standards and policies.

1.1 PURPOSE OF THE PLAN

The purpose of this ASP is to provide policy guidance to ensure efficient, orderly development while recognizing synergies between land uses and the Medicine Hat Regional Airport.

ASPs typically have a time horizon of approximately 20 years. It is anticipated that variables that shaped this plan will change over the 20 year horizon. Any future amendments to this plan should remain consistent with the broad intent of this plan.

This ASP also includes a Shadow Plan for some of the lands immediately outside the ASP boundary. The purpose of the Shadow Plan is to ensure planning and development within the ASP considers the long-term potential for runway extensions at the airport. The Shadow Plan and ASP boundaries are displayed in Figure 1 and discussed further in Section 5.

1.2 VISION

The Medicine Hat Regional Airport is a catalyst for growth in the City of Medicine Hat and the Region. With the development of available lands, it is well positioned to continue its support of growth in the traditional local industries while providing exciting new opportunities for aviation and technology-related industries. It also provides a vital transportation link for residents and businesses in Southeast Alberta and Southwest Saskatchewan.

The airport is a key gateway to the City and region for air transportation and is strategically located adjacent to Highway 3 which is the primary ground transportation corridor from the southwest.

1.3 PLAN INTERPRETATION

1.31 JURISDICTION

Compatibility of the airport and surrounding land uses is fundamental to the success of this Plan. On the one hand, it is critical that airport operations not be jeopardized by surrounding development. Equally important is the need to consider safety and quality of life from a land owner's perspective in all

decisions related to developments that are proposed in proximity to an airport. An example of an issue that needs careful consideration from a quality of life perspective is the impact of airport noise on adjacent developments.

It is recognized that regulatory oversight of airports and matters affecting airports is a matter of federal jurisdiction, while general land use regulation is a matter under provincial, and by extension, local jurisdiction. The intent of this Plan is to identify those matters that will need to be addressed in order to ensure the compatibility of the airport and adjacent land uses. The Plan is not intended to regulate those matters or to prescribe how those matters should be regulated. Options for addressing these matters may include, but are not necessarily limited to, land sales or leasing controls and restrictions, federal regulations and traditional zoning and land use governance.

1.3.2 FIGURES AND AREAS

The areas listed and the boundaries shown in this plan are approximate and minor deviations within the broad context are expected at the time of development.

1.3.3 POLICY STATEMENTS

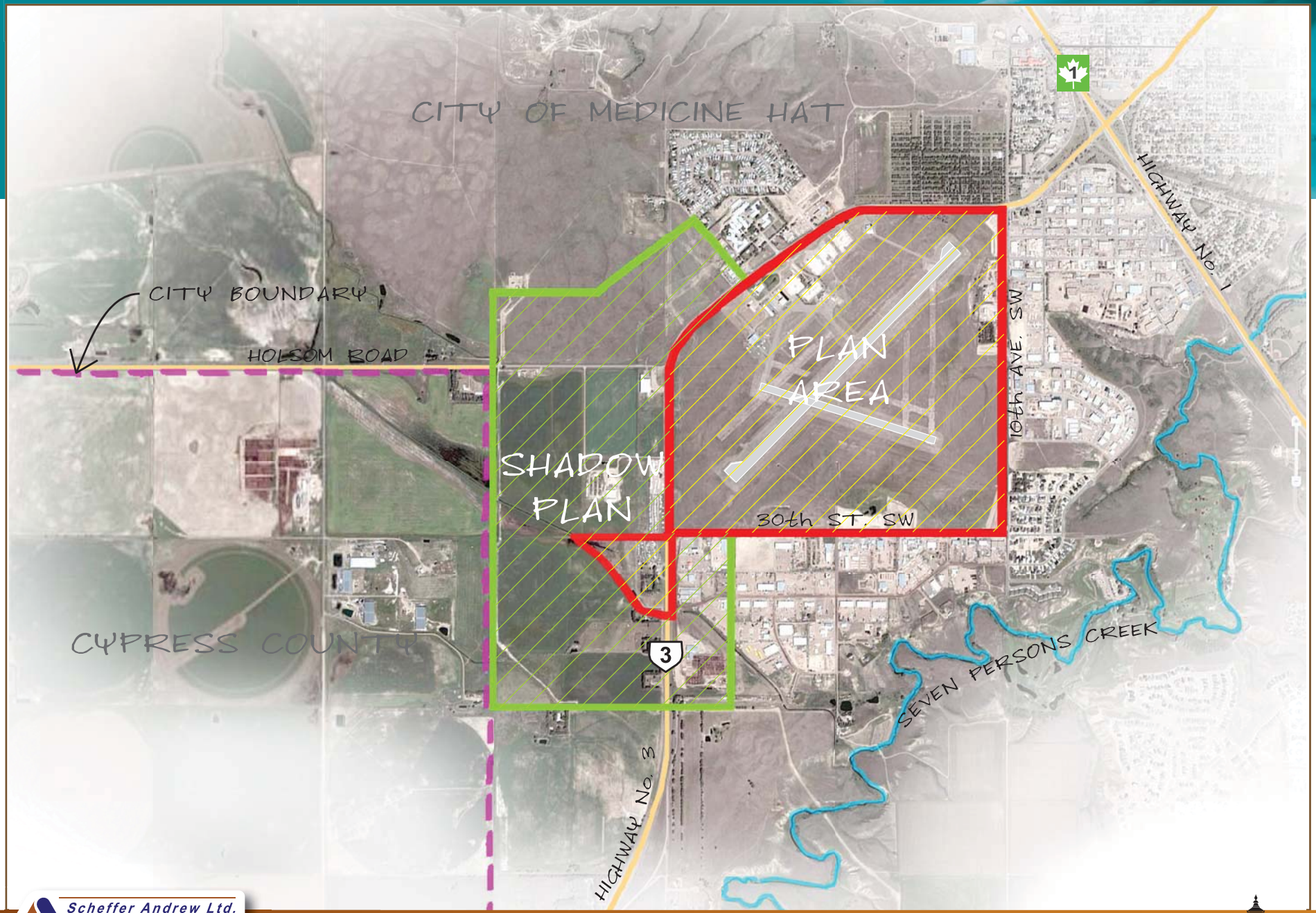
This plan includes 'shall' and 'should' statements to identify compliance requirements in the policies. 'Shall' policy statements are considered mandatory. It is anticipated that amendments to the Land Use Bylaw and/or federal regulations will be required to fully implement components of this ASP. If a 'shall' policy can only be implemented through a Land Use Bylaw amendment or federal regulation, it will be interpreted as a consideration and not a mandatory policy until such action is taken.

'Should' policy statements will be interpreted as compliance is generally expected, but there may be circumstances where compliance is not practical or technically possible.

Relevant policy documents, reports and studies which may impact the development of the plan area were reviewed and considered in the preparation of this ASP.

Relevant policies which impact the plan area is displayed graphically in Figure 2.

figure 1 plan area



Scheffer Andrew Ltd.
Planners & Engineers

SCALE 1:25,000 MAY 2011 Boundary containing approximately 226 hectares

policy context

2

2.1 INTERMUNICIPAL DEVELOPMENT PLAN

The City of Medicine Hat, Town of Redcliff and Cypress County have adopted an Intermunicipal Draft Plan (IDP) Bylaw #3938. This ASP is consistent with the vision and policies contained in the IDP.

2.2 MUNICIPAL DEVELOPMENT PLAN

The current Municipal Development Plan (MDP) Bylaw #3565 shows the airport as 'existing development and infill'. This ASP is consistent with the vision and policies contained in the MDP.

It should be noted that the City is undertaking a major MDP review which is anticipated to be adopted in 2011.

2.3 LAND USE BYLAW

The City of Medicine Hat Land Use Bylaw #3181 has established the following districts within the plan area:

- TU – Transportation and Utilities District
- M1 – General Light Industrial District

The current districts do not fully allow development of the plan area and an amendment to the Land Use Bylaw is required in order to allow development to occur.

2.4 AREA STRUCT URE PLANS

There are several adopted Area Structure Plans within the general vicinity of the plan area:

- Cimarron Area Structure Plan (City of Medicine Hat Bylaw No. 3940)
- Saamis Heights Area Structure Plan (City of Medicine Hat Bylaw No. 3374)
- Canyon Creek Area Structure Plan (City of Medicine Hat Bylaw No. 3734)
- Desert Blume Area Structure Plan (Cypress County)

The most significant constraint/opportunity contained in the above plans is the potential of a road connection across the Seven Persons Creek valley at 10th Avenue SW, which is referenced in the Cimarron Area Structure Plan.

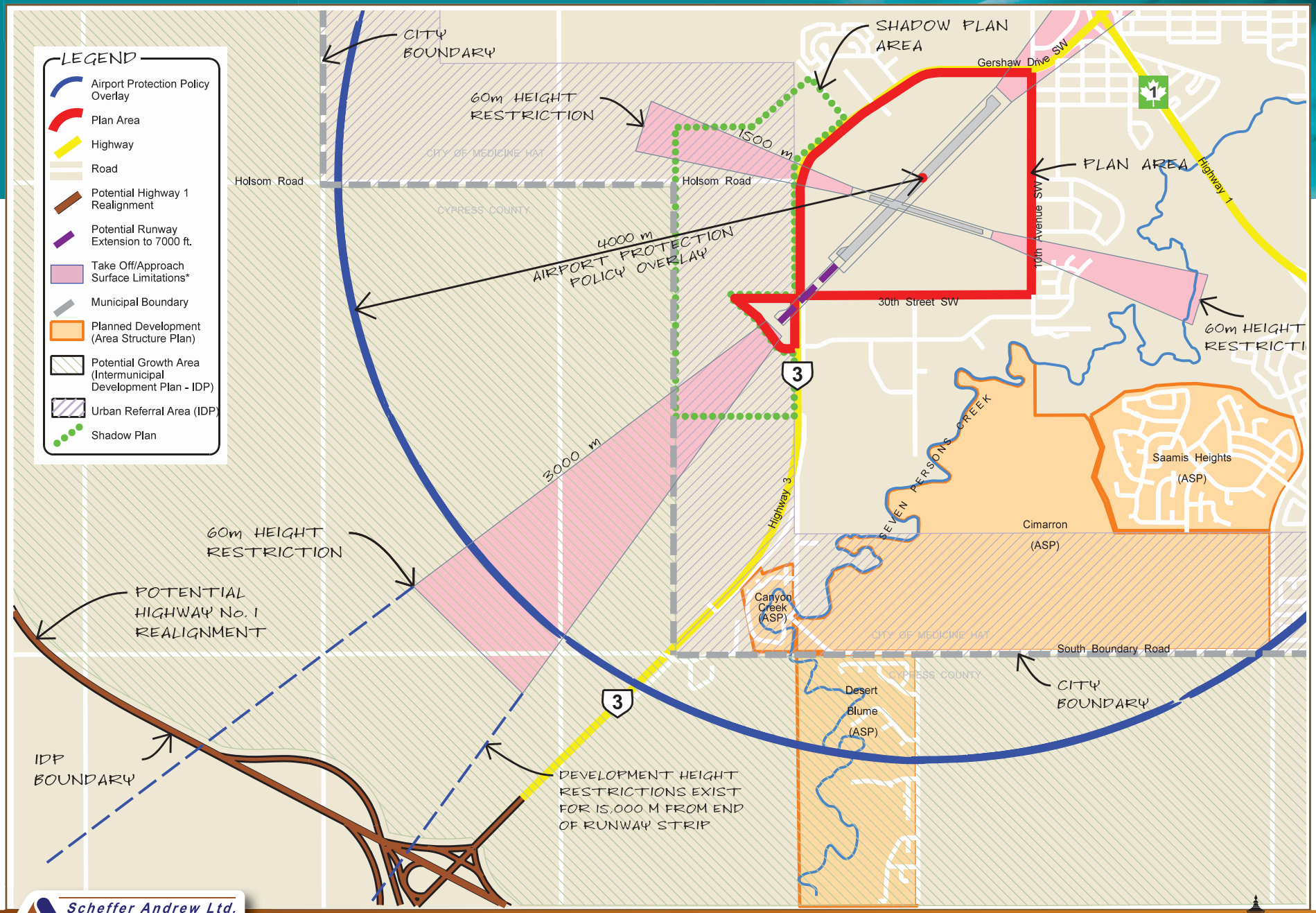
2.5 REPORTS AND STUDIES

There are a number of reports and studies, listed below, which have been reviewed to identify opportunities and constraints, and to ensure consistency between the ASP and the plans for adjacent lands. These include:

- Medicine Hat Regional Airport Strategic Master Plan (December 2006)
- 10th Avenue SW Reconstruction Roadway Functional Design Review (June 2004).
- Seven Persons Creek Stormwater Study (2006).
- 10th Avenue Stormwater Management Plan (May 2004).
- Saamis and Cottonwood Coulees Rehabilitation (February 2010).
- Medicine Hat Airport Land Development Constraint Assessment (May 2008).
- 10th Avenue S Functional Design Study Gershaw Drive to 30th Street – Final Report (November 2001).
- 10th Avenue Reconstruction Underground Utilities (July 2009).
- The City of Medicine Hat Southwest Light Industrial Areas Drainage Study (March 2009).
- Highways 1 & 3 Network Functional Planning Study Future Realignment (November 2008).
- South Sector Storm Trunks and Outfalls Study (2006).
- South Boundary Road Functional Study Update (2005).
- Cycling Master Plan (2010).
- Medicine Hat Leisure Trails Future Development Plan (2010).

In addition to the above noted studies, this plan was coordinated with the ongoing Municipal Development Plan and Roadway System Master Plan reviews

figure 2 policy context



Scheffer Andrew Ltd. Planners & Engineers

SCALE 1:36,000 MAY 2011 Boundary containing approximately 226 hectares

public consultation

3

The City of Medicine Hat is committed to an open and transparent public consultation process in the preparation of this ASP.

3.1 PROCESS

The comprehensive consultation program to gather information and input included interviews with stakeholders, two public open houses and a public hearing hosted by City Council.

3.1.1 STAKEHOLDER INTERVIEWS

Numerous interviews were held with stakeholders to identify specific opportunities and constraints to the development of the subject lands.

3.1.2 OPEN HOUSES

Open houses were held on May 18, 2010 and November 27, 2010 at the Fire Hall #3 located at the airport. The purpose of the open houses was to:

- inform the public that an ASP was being prepared;
- receive input from the public regarding opportunities and constraints; and
- receive comments from the public regarding the draft Plan.

The open houses were well attended with approximately a total of 130 participants attending either open house.

3.2 CONSULTATION INPUT

The input received from both the stakeholders and the general public was valuable and is reflected in the ASP.

Generally, all stakeholders view the airport as very important to the growth of the region.

The majority of the participant comments at the open houses were in regards to future airport expansion and/or relocation. The comments received about the proposed

ENGAGING THE PUBLIC:

Public open houses kept the community informed about the project's status and provided an opportunity for input from citizens.

development were positive and supportive of the concept contained in this ASP.

As part of the consultation each open house participant with concerns indicating they would like the opportunity for further input was contacted after the event to provide the opportunity for further discussion of their concerns or questions. All of the input received through the consultation process was considered and where appropriate included in some fashion within this ASP.

influencing factors

4

4.1 PLAN BOUNDARY

The ASP boundary is defined generally by Highway 3, 10th Avenue SW and 30th Street SW. The exception is the small extension of the plan area which crosses Highway 3 in the southwest. The ASP area is comprised of 225 ha.

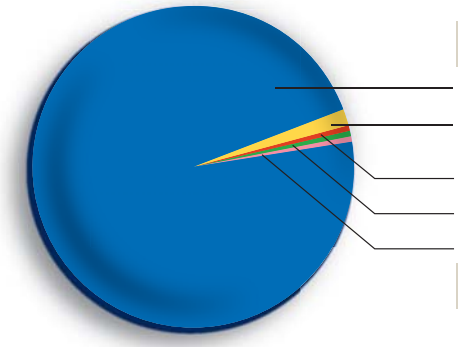
4.2 LAND OWNERSHIP

All of the lands within the plan area are owned by the City of Medicine Hat, except for several small private parcels adjacent to 10th Avenue SW. The land ownership is displayed in Table A. All land owners within the plan area were contacted and their input was considered in the preparation of the ASP.
The land ownership pattern is displayed in Figure 3.

4.3 EXISTING USES

The plan area is mostly comprised of airport operation lands including runways, taxiways, tarmac, terminal, parking, and other airport operation uses. Most of the airport lands currently being utilized are in the north end of the plan area. This area also includes the City of Medicine Hat Fire Station #3 and several aviation related businesses on leased land.
The east portion of the plan area is comprised of several industrial uses along 10th Avenue SW.
The south portion of the plan area is vacant.

TABLE A: AIRPORT LAND OWNERSHIP



Land Owner	Area (ha)	% of Plan Area
City of Medicine Hat	217.9	96.9%
City of Medicine Hat (road right-of-way)	3.8	1.7%
Petro Canada Inc.	1.2	0.5%
Shell Canada Products Ltd.	1.2	0.5%
Black Hat Holdings	0.8	0.4%
Total	224.9	100%

4.4 ADJACENT USES

The plan area is surrounded by existing development.

The uses north of the plan area include:

- commercial along Highway 3;
- an assisted living complex (Haven of Rest);
- a cemetery (Hillside); and
- a manufactured home community (Tower Estates).

The uses south of the plan area include:

- a significant light industrial community.

The uses east of the plan area include:

- a commercial and light industrial community; and
- a low density residential community (Cottonwood).

The uses west of the plan area include:

- low intensity commercial and industrial uses; and
- agricultural uses

Interface with the adjacent uses may require special consideration to mitigate any potential incompatible land use conflicts.

The existing and adjacent uses are displayed in Figure 4.

COTTONWOOD

This low-density residential district lies to the east of 10th Avenue SW, and is adjacent the Airport lands.

COMMERCIAL & LIGHT INDUSTRIAL

The east side of 10th Avenue SW is home to a variety of commercial and light industrial businesses.

4.5 ENVIRONMENTAL CONSIDERATIONS

Development considerations are displayed in Figure 5 and the airport operation considerations are displayed in Figure 6.

4.5.1 TOPOGRAPHY

Generally there are minimal grade changes within the plan, with the exception of a shallow low area (711 m) adjacent to 30th Street SW. A significant amount of area drains to this low point. The high point (717 m) is located in the north end of the plan area.

4.5.2 GEOTECHNICAL EVALUATION

A geotechnical evaluation was completed in June 2010 by AMEC Earth and Environmental for the plan area. The evaluation determined that the predominant soils within the plan area ranged between sand and silt. The topsoil layer ranged from 50 mm to 100 mm thick.

Groundwater within the plan area ranged between 0.9 m to 7.1 m below grade. Figure 5 displays the three locations where the groundwater is within 1.6 m of grade. With the exception of these three areas identified, groundwater will not be a development constraint. The three areas that have been identified to have high groundwater will require additional development and construction considerations as per the geotechnical evaluation.

The evaluation also discovered two fill areas. A small fill area is located in the north of the plan areas near existing airport facilities. The fill depth for the area is approximately 1.5 m. A much more significant fill area was also discovered in the south of the plan area near 30th Street SW. The depth of the fill in this area ranges from 0.5 m to 2.6 m, the contents of which is generally comprised of sand and silt to low plastic clay materials. The fill area includes occasional chunks of asphalt, bricks, and cobbles. Prior to development, the fill will have to be excavated and reconstructed with engineered fill.

4.5.3 BIOPHYSICAL ASSESSMENT

The entire plan area has been previously extensively disturbed, and therefore most of the plan area will not require a biophysical assessment. The exception are the lands north of 30th Street SW which, due to its large area and proximity to the Seven Persons Creek valley, will require a biophysical assessment prior to development occurring.

4.5.4 HISTORICAL RESOURCES IMPACT ASSESSMENT

Alberta Culture and Community Spirit have identified a known historical site in the vicinity of 30th Street SW. A historical resources impact assessment (HRIA) was completed by Bison Historical Services Ltd. in July 2010. The HRIA concluded that the previously identified site was not historically significant or valuable.

Alberta Culture and Community Spirit have granted Historical Resources Assessment clearance for the plan area.

4.6 MAN-MADE CONSIDERATIONS

4.6.1 MEDICINE HAT REGIONAL AIRPORT

The Medicine Hat Regional Airport is a significant and important gateway to the City and the region.

The airport consists of two runways, two taxiways, an apron, aircraft tie-down areas, and the Air Terminal Building. The airport provides regularly scheduled passenger flights, charter flights, just-in-time cargo delivery and private aircraft service. As a certified aerodrome the airport falls under federal Canadian Aviation Regulations (CARs). The categories of runways are:

Runway 03/21

- Certified as a Code 3C non-precision runway
- 1,524 m (5,000 ft) long and 45 m (150 ft) wide

Runway 09/27

- Certified as a Code 2B non-instrument runway
- 695 m (2,280 ft) long and 30 m (100 ft) wide

This ASP considers that the runway may at some point in the future be extended and as a result a greater setback from the existing runway was designed into the ASP concept to retain flexibility for future planning . The Land Use Concept discussed in Section 5 considers the potential for the runway to be certified as a Code 4D runway at some point in the future.

The existing terminal building accommodates a restaurant, concession areas for car rental, check-in counters and a secure departure lounge.

4.6.2 AIRPORT REGULATIONS

Aviation is regulated through the authority of federal agencies. Transport Canada and NavCanada regulate the federal land use restrictions with regard to airports including electronic interference and height of structures.

4.6.1.1 Electronic Interference

NAV Canada establishes and regulates the minimum standards required for the protection of navigation aids and other telecommunication systems (TP 1247 Land Use in the Vicinity of Airports 2005). Erected structures which contravene the required standards may be approved by NAV Canada, provided that analysis indicates that such approvals will be on a non-interfering basis.

NAV Canada implements different types of regulations on the following systems:

- Radar System
- Navigation Aid (Non-Directional Beacons, Distance Measuring Equipment, and VHF)
- VHF/UHF Radio Communication Systems
- Instrument Landing Systems (ILS)

4.6.1.2 Height Restrictions

Transport Canada regulates height restrictions through the implementation of the TP312E Aerodrome Standards and Recommended Practices.

The TP312E addresses height restrictions of buildings, structures and objects in regards to airport safety and operation.

In order to protect and mitigate the potential negative impacts of air traffic on adjacent

CODE 4D RUNWAY:

Runway codes refer to the technical specifications of a runway as established by Transport Canada. A code 4D refers to runways which are 1,800 m (5,940 ft) or greater in length.

LIGHT INDUSTRIAL:

The south side of 30th Street SW consists of largely light industrial uses.

developments, this ASP considers and is consistent with the Airport Vicinity Protection Overlay as contained in Schedule B of the Land Use Bylaw #3181. The height restrictions regulations indicate that heights of structures within the plan area should not exceed the height of any of the following surfaces:

- the take-off/approach surfaces;
- the transitional surfaces; or
- the outer surface.

Figure 2 illustrates the TP312E building height restrictions .

4.6.1.3 Airport Land Use Compatibility

Not all developments are compatible with airport operations. Incompatible uses adjacent to an airport create undesirable quality of life issues and safety concerns for the developments adjacent to an airport. In order to reduce the negative effect for development from airports this plan considers the following:

- Canadian Aviation Regulations.
- Dust control in the form of how developments are surfaced to storage piles of material.
- Glare in the form of reflective surfaces (i.e. windows, roof top equipment, etc.)
- Buildings and uses which may create smoke, steam, or fog.
- Lighting of the public streets, open space, buildings and yards.
- Minimizing the attraction of wildlife and birds through building designs, landscaping, and stormwater management facility designs.

4.6.1.4 Noise Exposure Forecast

Due to the noise associated with airports some uses are not ideal to be located in proximity. Airport noise is measured in Noise Exposure Forecast (NEF). NEF is calculated based on the number of aircraft movements, types of aircraft, time of day of the flights, prevailing wind direction and other factors.

VISUAL OBSTRUCTION:

For safety reasons, development around airports must consider buildings and uses which may create smoke, steam or fog.

Noise exposure contours in a range considered either dangerous or a nuisance to some uses do not extend off the airport property. Thus, with the limited air traffic at the airport commercial and industrial uses adjacent to the runways will not be negatively impacted from airport noise. As future air traffic grows, the NEF contours will be updated to reflect the growth.

Schedule B of the City's Land Use Bylaw #3181 illustrates the NEF contours for the Medicine Hat Regional Airport Strategic Master Plan. The NEF contours shown on Figure 6 are taken from the Airport Strategic Plan which assumes an expanded airport runway and movements in 2024.

Transport Canada's TP1247 document serves as a land use planning guideline for areas near airports. This ASP is consistent with the TP1247 guideline.

4.6.3 ACCESS

Access to the plan area is available from the roadways that bound the plan area. Additional access from Highway 3 is not required as the current access can accommodate future development. There are access considerations on 10th Avenue SW, but the access constraints will not limit development of the east node. There are fewer access considerations from 30th Street which will not pose development constraints. Access is further discussed in Section 8.

4.6.4 RESOURCE EXTRACTION

There is one active City of Medicine Hat sweet gas well within the plan area. The legislated setback from well heads is 100 m. It has been common practice in the region for the Energy Resources Conservation Board (ERCB) to grant a setback relaxation to 50 m.

The gas gathering line that serves the above noted well is a minor constraint to development and may need to be relocated.

According to ERCB records there are no abandoned wells or active sour gas wells that impact the plan area.

4.6.5 PUBLIC TRANSMISSION CORRIDORS

There are gas production transmission lines (50 mm, 200 mm & 75 mm) that traverse the plan area on the south and west sides of the plan area adjacent to 30th Street and Highway 3 respectively. The gas production transmission lines pose a minor constraint to future airport development.

There are high pressure gas distribution lines which are located on the perimeter

of the plan area. These distribution lines do not pose significant development constraints.

There is a planned water transmission line that will traverse the plan area on the west side adjacent to Highway 3. The water transmission line is currently only a minimal constraint, and to reduce the long-term impact on future airport development the water transmission line should be placed as close to the existing gas production transmission line as possible.

The gas production transmission and planned water transmission line constraint will be addressed in the future during the planning of the airport expansion.

4.6.6 PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

A Phase 1 environmental site assessment (ESA) was conducted for the plan area by Cirrus Environmental Services Inc. in June 2010. The ESA identified a number of areas that may present future development considerations. The ESA also included recommendations on how to mitigate the identified potential constraints. None the areas of potential concern represent a significant threat to development.

The identified on-site areas and their potential concern within the ESA include:

- a former shooting range (potential metal contamination);
- glycol barrel and empty barrel storage (potential glycol and/or hydrocarbon contamination);
- above ground fuel storage tanks (potential hydrocarbon contamination);
- snow dump sites (potential salt contamination);
- potentially hazardous building materials in older existing buildings; and
- an active gas well (potential hydrocarbon contamination and drilling waste).

Additionally, the ESA identified current and former fuel storage tanks adjacent to the plan area which could potentially contaminate lands within the plan area through migration.

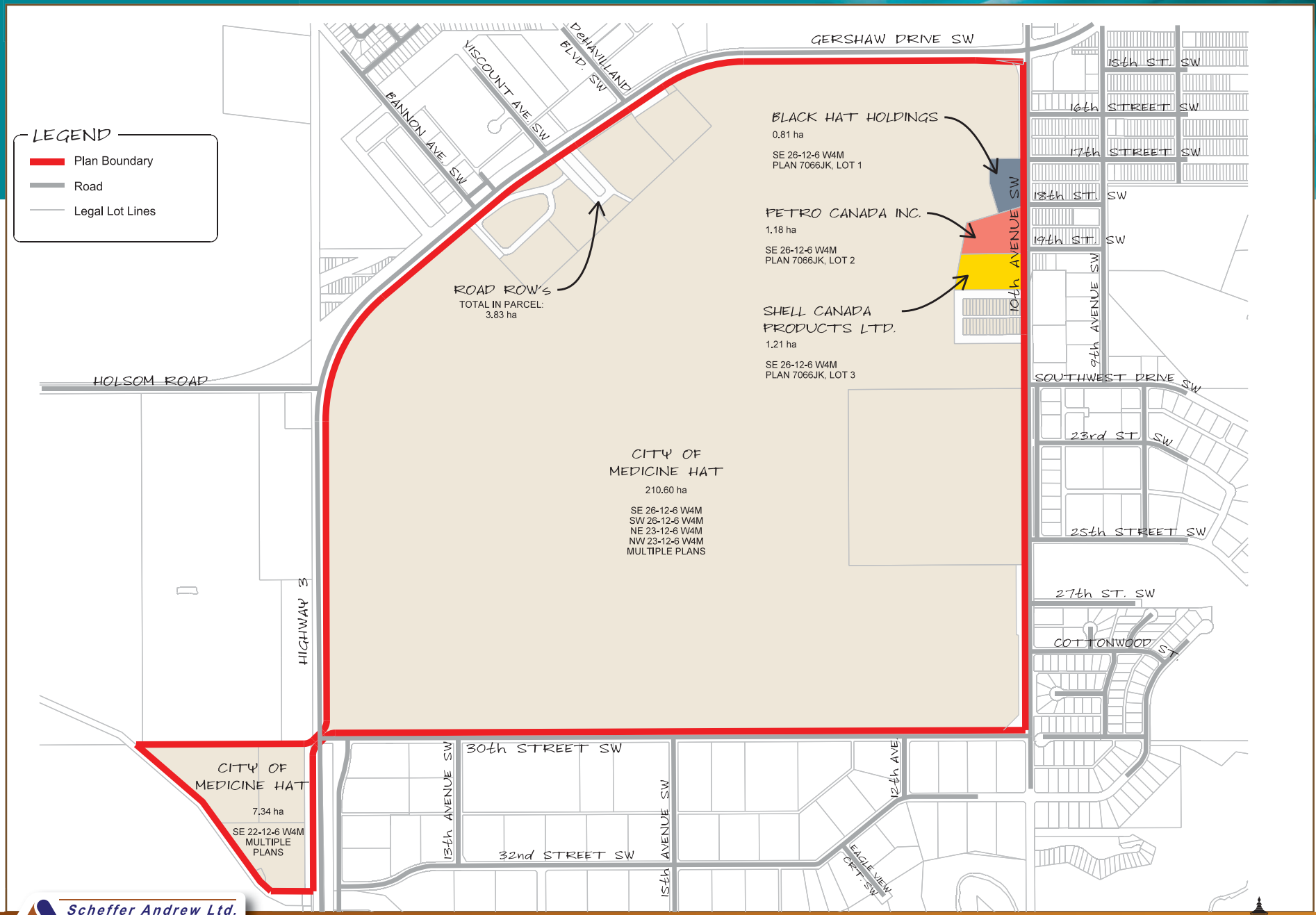
Not all of the above identified potential areas of concern are development constraints. Prior to the commencement of development, the recommendations in the ESA which immediately impact each phase of development will need to be implemented.

The areas of potential concern are identified on Figure 5.

AIRPORT HISTORY:

During the second world war the airport was operated by the Department of National Defence and was utilized as a Commonwealth Air Training Base.

figure 3 land ownership



Scheffer Andrew Ltd. Planners & Engineers

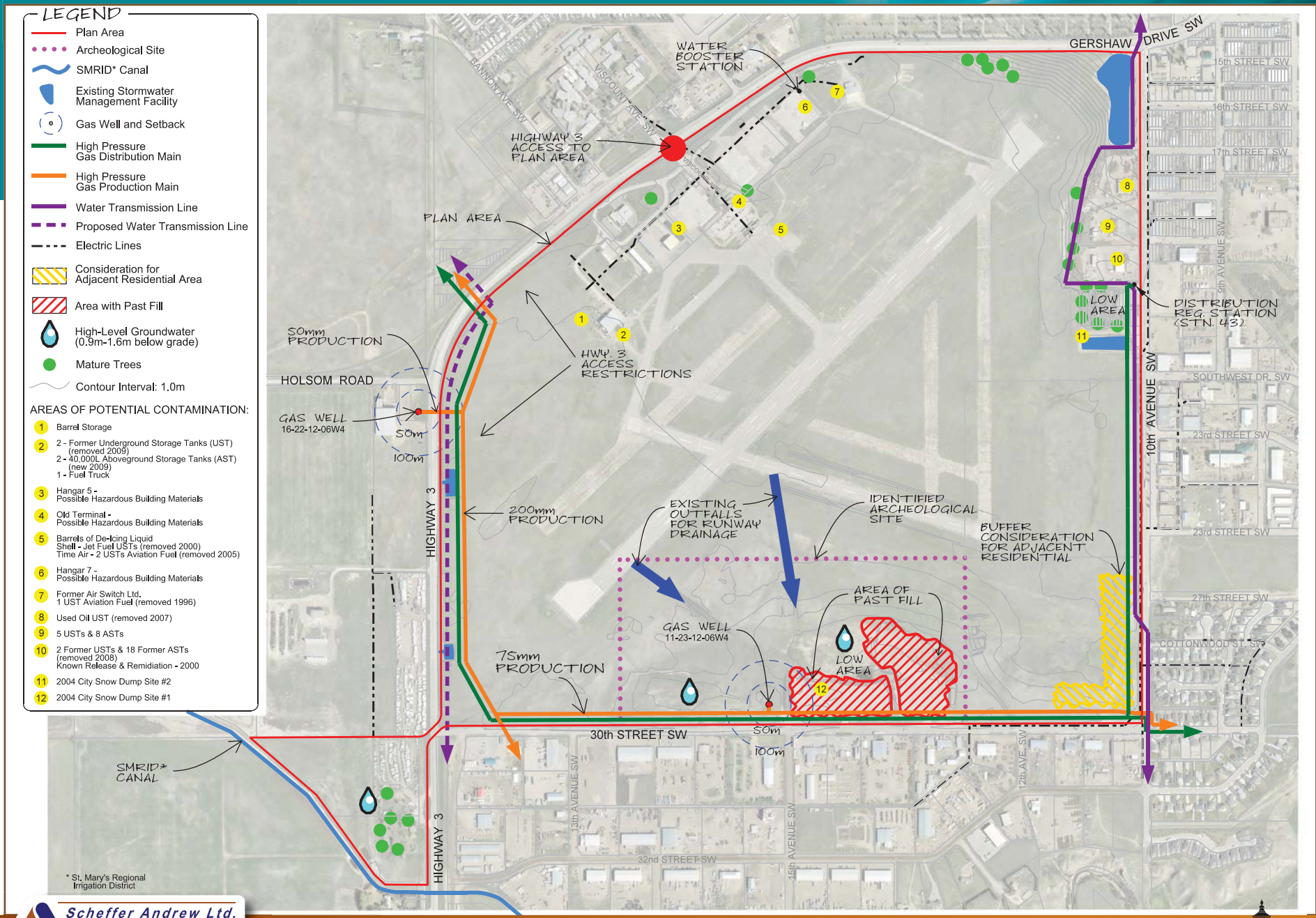
SCALE 1:12,000 MAY 2011 Boundary containing approximately 226 hectares

figure 4 existing uses

Scheffer Andrew Ltd. Planners & Engineers

SCALE 1:12,000 MAY 2011 Boundary containing approximately 226 hectares

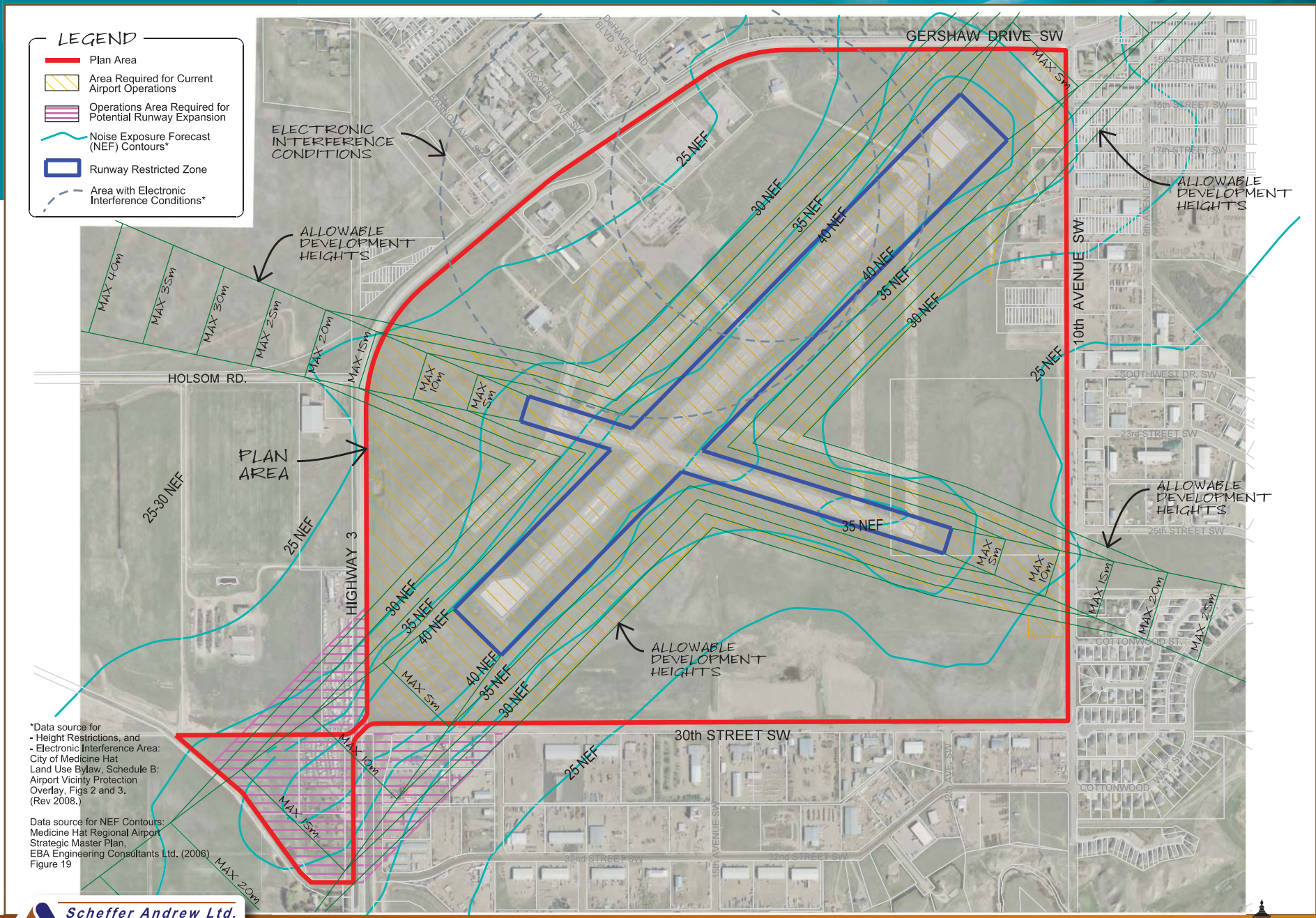
figure 5 development considerations



Scheffer Andrew Ltd. Planners & Engineers

SCALE 1:12,000 MAY 2011 Boundary containing approximately 226 hectares

figure 6 airport operations considerations



land use concept

5

This section of the Plan outlines the land use concept. The first portion of this section describes the land use designations envisioned., while the second half describes the land use concept and associated policies.

5.1 LAND USE DESIGNATIONS

5.1.1 TERMINAL COMMERCIAL

The area around the existing airport terminal is retained for future terminal commercial/industrial uses, including future terminal expansion and airport operation needs.

5.1.2 AIRSIDE INDUSTRIAL/COMMERCIAL

These lands have strategic benefits as they provide direct access to air transportation through a system of taxiways. The expected uses include transportation services, aviation related industries, aviation hangars, and technology industries.

5.1.3 TECHNOLOGY OFFICE/INDUSTRIAL

This land use is intended to accommodate industrial and office uses that produce low noise and emissions. The expected uses include; aviation related industries, technology and research industries, defense research and production, light manufacturing, and professional offices.

5.1.4 BUSINESS PARK CAMPUS

The business park campus will include the same uses as the technology office/industrial designations, but will be in the format of a campus. The campus will be a condominium development. The business park campus format will provide the following benefits:

- greater flexibility in site and building designs,
- allows space for small businesses to grow,
- increased security as campus can be gated,
- the opportunity for businesses to share space (i.e. parking, landscaped common areas, other buildings and facilities), and
- allows for a greater opportunity for the private sector to participate in the development of the airport lands as large parcels can be sold.

5.1.5 COMMERCIAL

Commercial uses are intended to support and compliment the other uses within the plan area and adjacent industrial and residential communities. The anticipated uses include hotels, restaurants, vehicle rentals, drug stores, coffee shops, and retail.

5.1.6 INDUSTRIAL

Land reserved for industrial use will be of a low intensity. The industrial development will generally be compatible and consistent with the development quality envisioned within this ASP. Thus, the expected development will be of a higher standard than the recently developed light industrial east and south of the plan area.

5.1.7 STORMWATER MANAGEMENT FACILITIES

There are four existing and two proposed stormwater management facilities (SWMF) within the plan boundary. Three of SWMFs will be sized marginally larger to accommodate both stormwater management and amenity space. The size increase required to provide the amenity/recreation aspects will receive municipal reserve credit. The facilities will be dedicated as public utility lot at the time of subdivision.

The stormwater management concept is discussed in Section 6.2.

5.1.8 INSTITUTIONAL

There is a 1 ha institutional site located adjacent to Highway 3 which accommodates the City's Fire Hall #3. The site is large enough to accommodate existing and future Fire Hall needs.

5.1.9 AIRPORT OPERATIONS

The largest land use within the plan is reserved for airport operations. These lands are required to provide a safe and functional airport. The lands include runways, aprons, taxiways and other uses specific to the operation of the airport.

AIRSIDE:

Expected uses for airside lands include transportation services, aviation related industries and technology industries.

5.1.10 PUBLIC UTILITY LOT

The public utility lot (PUL) designation is intended to recognize and protect public and private utilities.

5.2 LAND USE CONCEPT

The land use concept includes a shadow plan for the lands west of the airport which considers the potential for a future runway extension.

The lands within the ASP will be a significant growth area for the City in the future and an important employment node. It is estimated that when the plan area is fully developed there will be 1,500-5,000 employees within the plan area.

The plan area is divided into three development nodes described in this section.

5.2.1 SHADOW PLAN

Additional planning is required for the lands west of the ASP boundary to accommodate the potential extension of the main runway. Figure 7 generally shows the shadow plans that will require future planning. The lands to the west are not included in the scope of this plan, and are only highlighted to ensure appropriate planning is conducted for this area in the future.

5.2.2 NORTH NODE

The north node includes the airport terminal which is a major gateway to the City and region. The north node will include high quality developments and landscaping to ensure first impressions of the City and region are positive and memorable.

In addition, to the terminal commercial/industrial lands, the north node has airside commercial/industrial, business park, and commercial. The commercial area has excellent visibility from the highway and as a result is prime highway commercial land. It is expected that the commercial lands will include uses such as; hotels, restaurants, car rental depots, convenience stores, and other similar uses. It is estimated that the commercial in the north node will accommodate 11,680 m2 (125,000 ft2)of floor space.

There is a SWMF at the far east end of the north node which will provide

recreation and amenity space for area workers and visitors. The amenity area will include trails, benches, natural landscaping, interpretative signage, and viewing/lookout areas.

5.2.3 EAST NODE

The east node accessed from 10th Avenue SW is intended to primarily provide opportunity for light industrial development and airside industrial/commercial uses.

There is 12.7 ha of industrial land designated for the east node of which 3.4 ha is already developed. The light industrial uses are expected to be an extension in terms of use, form and quality to the recently developed industrial east of 10th Avenue SW. Industrial uses which compromise the safe operation and function of the airport will not be allowed.

The inclusion of conventional industrial uses in the plan will diversify the airport lands market and accommodate short to medium term demand for industrial lands in the area.

The SWMF will provide recreational and amenity space for area workers in addition to stormwater management. The open space is anticipated to include trails, natural landscaping, viewing/lookout areas, and benches.

The PUL will accommodate the existing south water transmission line. Additionally, a small PUL will accommodate a recycling depot.

5.2.4 SOUTH NODE

The south node will be a significant cluster of technology and aviation related businesses. The south node will be known as Medicine Hat's technology park and be home to many innovative 'clean' industries.

The south node will feature high quality developments with significant landscaping and amenities to attract clean industries and professional employees. The quality of the development will allow businesses to establish strong positive impressions for visiting clients and guests.

In addition to high quality development and landscaping, the south node will feature innovative sustainable designs. Cutting edge sustainable designs will compliment and further establish the theme of this node being the City's preeminent technology park. The specific sustainable designs are discussed in Section 6.

There are two small commercial sites within the south node adjacent to 30th Street SW. These commercial sites will compliment and support the working population of the south node, the existing adjacent industrial, and the Cottonwood residential community. The expected uses include restaurants, coffee shops, drug stores, and other similar uses. It is anticipated that the commercial area in the south node will accommodate approximately 3,250 m2 (35,000 ft2) of floor space.

The SWMF will be a multi-purpose facility that accommodates stormwater management and will provide amenity and recreational opportunities for workers, visitors, and nearby residents. The SWMF will be the major focal point of the south node and it will establish a strong sense of place. Development will utilize the SMWF as an amenity with patios, windows, and doors orientated to the open space. It is anticipated that the SWMF will generally include trails, boardwalks, benches, gazebos, hard surfaced plazas, natural landscaping, interpretative signs, and viewing/lookout areas.

In the extreme southwest area of the plan there is a short term commercial site. Ultimately these lands will be required for airport operations once the main runway is extended. The short term commercial uses should include low intensity commercial uses without permanent structures or public roads. Allowing the lands to have a short-term placeholder use allows for efficient and economical use of the land without comprising the ultimate long-term plan.

5.3 OPEN SPACE

As previously noted the recreation and open space requirements for the plan area are addressed through the enlarged multi-purpose SWMFs. These SWMFs will be nodes for recreational and social interaction within the plan area. The SWMF will serve the three development nodes well as the majority of development will be within a five minute walk of one of the recreation areas.

The SWMFs and their intended recreational/open space role along with their general amenities is displayed in Figure 9.

Due to the open space concept in the plan area there is no formal dedication of municipal reserve (MR). The portions of the SWMFs (1.5 ha) that have been enlarged to provide an amenity space for passive recreation and social interaction will receive MR credit. In addition, to the above noted amenity space 25% of the 11.2 ha utilized for dry pond operations will also receive MR

credit totalling 2.8 ha. Table B displays the anticipated MR credit. The MR credit accounts for approximately 4% of the developable area and thus the remaining 6% (7.0 ha) of MR will be provided as money in lieu of land dedication to attain the 10% MR. The City of Medicine Hat will maintain the SWMFs in both capacities as stormwater management facility and recreational/open space area.

Careful consideration of the design of the SWMFs will be completed to ensure that the amenity space is functional and provides an adequate passive recreational space.

5.4 LAND USE DISTRIBUTION

Table B below displays the land use statistics.

TABLE B - LAND USE STATISTICS

	Area (ha)	% GDA
Gross Developable Area	226.0	100%
Airport Operations	112.9	
Net Developable Area	113.1	
Stormwater Management Facilities		
Dry Pond Operations	8.4	7%
Dry Pond Operations (MR credit)	2.8	3%
Amenity Space (MR credit)	1.5	1%
Total	12.7	11%
Public Utility Lot	7.4	7%
Roads	7.9	7%
Institutional	1.3	1%
Terminal Commercial/Industrial	12.7	11%
Commercial	7.1	6%
Commercial (short-term)	8.0	7%
Light Industrial	12.4	11%
Airside Industrial/Commercial	24.2	22%
Technology Office/Industrial Park	10.4	9%
Business Park (campus)	9.0	8%
Total Developable Area	113.1	100%

5.5 OBJECTIVES AND POLICIES

Objectives:

- To establish a cluster of aviation and technology related industries.
- To strategically reserve land adjacent to the runways to provide direct access to air transportation.
- To establish an efficient land use concept.
- To provide adequate amenity and open space for passive recreation.
- To provide adequate land for public and private infrastructure.
- To provide a range of land uses to address market conditions.
- To make the airport and adjacent lands a gateway to the City and region.

General Development Policies (all nodes):

5.5.1 All development shall conform to federal Transport Canada regulation TP312E and any subsequent future regulations.

5.5.2 All developments shall consider safety hazards in regards to structure height, lighting, emissions, fog, glare, dust, and radar and electronic interference in their design.

5.5.3 The size and construction material of buildings and other structures shall be controlled to ensure that the radar coverage volume is not reduced and that the number of false targets detected is not increased.

5.5.4 Developments and amenity spaces shall include covered or enclosed waste disposal areas to reduce the bird hazard.

5.5.5 Access to airside lands shall be secured to ensure federal safety and security regulations are met.

5.5.6 All landscaping shall refrain from including densely branched or densely foliated trees to avoid bird nesting and perching.

5.5.7 All landscaping shall refrain from providing trees, shrubs, and plants that produce wildlife edible fruit and seeds that provides a food source for wildlife.

5.5.8 Trees shall be spaced at such distances that do not allow their canopies to grow together to reduce the attractiveness of the trees as bird habitat.

5.5.9 Trees and/or shrubs are not permitted within 200 m of the centre line of the two runways.

5.5.10 Consideration shall be given during the design of buildings to minimize nesting, roosting, and perching habitat.

5.5.11 Airside commercial/industrial uses should be reserved for those uses that will or have the potential to utilise the direct access to air transportation.

5.5.12 The stormwater management facilities in the north, east, and south nodes shall be designed and landscaped to provide a recreation and amenity space.

5.5.13 The oversizing of the stormwater management facilities, for the purpose of providing amenity space, shall be recognized as municipal reserve credit.

5.5.14 To achieve the 10% municipal reserve requirement money in place of reserve shall be paid excluding any SWMF amenity lands that are granted municipal reserve credit.

5.5.15 PULs in key gateway locations should be landscaped and maintained to complement the adjacent development.

5.5.16 All landscaping designs should frame good view corridors and screen poor views.

5.5.17 Signage, landscaping, and road design should establish important gateways to the development nodes.

5.5.18 Landscaping and road names should incorporate a local and/or Canadian aviation theme where possible to establish a unique sense of place.

5.5.19 All outdoor storage should be screened and buffered from the perimeter of the site.

5.5.20 A phase II environmental site assessment shall be completed for the lands identified in the phase I environmental site assessment prior to the time of subdivision and/or development.

5.5.21 All developments shall be in accordance with the Airport Vicinity Protection Overlay contained in the Land Use Bylaw.

5.5.22 All subdivision and development applications shall be referred to the Airport Manager and NavCanada for their respective comments and approvals.

5.5.23 Architectural controls should be designed and implemented by the Airport Authority.

North Node Development Policies

5.5.24 Apron, terminal building expansion, and parking should take priority over other airside and/or groundside uses within the Terminal Commercial/ Industrial Area.

5.5.25 Development should be of a high quality to establish a significant and impressive gateway to the airport terminal, and the City of Medicine Hat.

5.5.26 Development immediately adjacent to a SWMF should orientate buildings, windows, doors, patios, private open space to the SWMF to create a strong focal point and sense of place.

East Node Development Policies

5.5.27 Industrial uses shall be assessed individually to consider prevailing winds, anticipated emissions and the potential negative impact on the safety of air transportation.

South Node Development Policies

5.5.28 Development should be of a high quality to establish a technology business park.

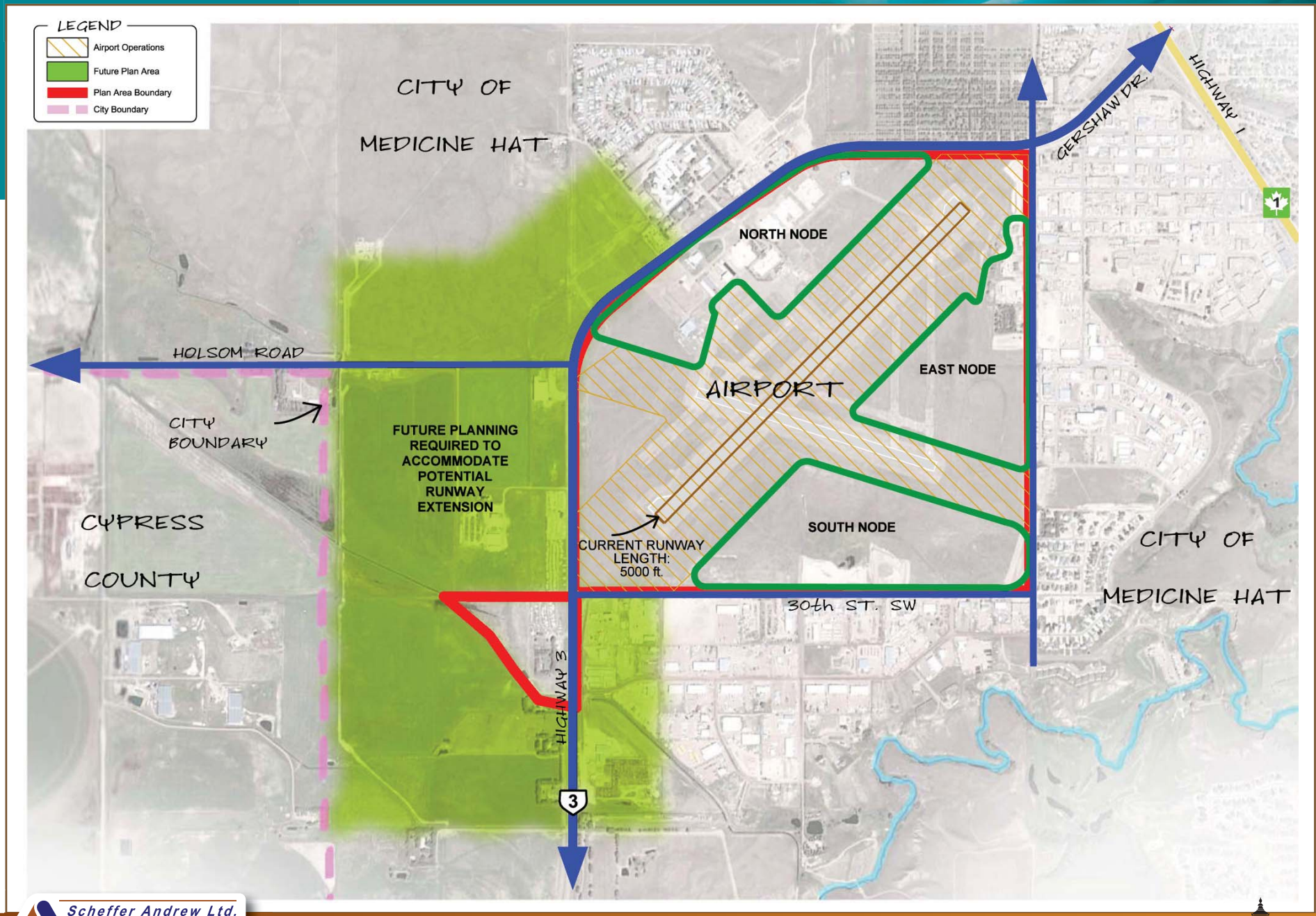
5.5.29 Development immediately adjacent to a SWMF should orientate buildings, windows, doors, patios, private open space to the SWMF to create a strong focal point and sense of place.

5.5.30 Development adjacent to the community of Cottonwood should have additional landscaping to the satisfaction of the City of Medicine Hat to provide a buffer between residential and commercial/industrial uses.

5.5.31 The development of the short term commercial site should be of low intensity and of a temporary nature to retain the option of extending the main runway.

5.5.32 A biophyiscal assessment to the satisfaction of the City of Medicine Hat shall be completed prior to the subdivision and development of the south node.

figure 7 shadow plan concept



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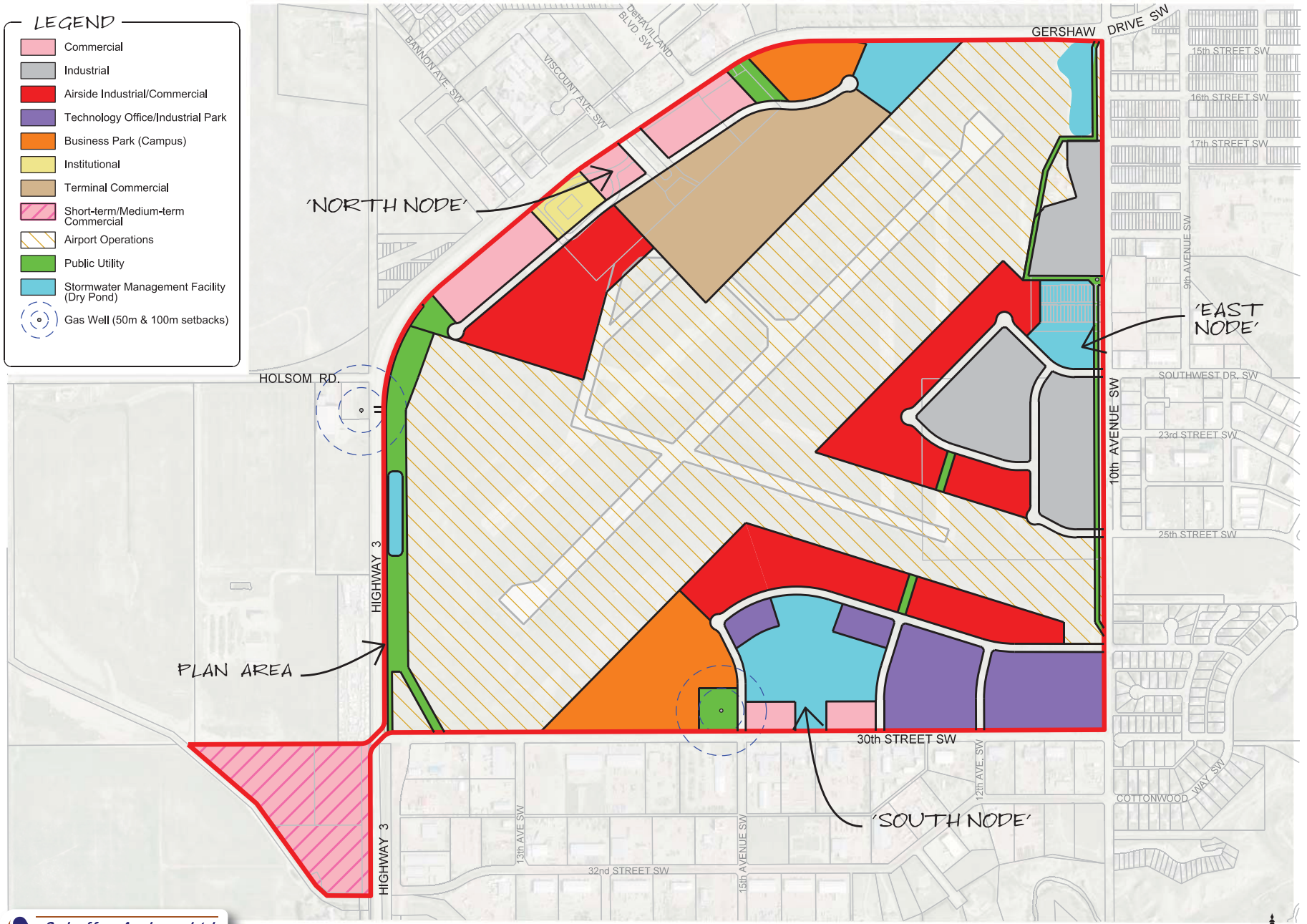
SCALE 1:18,000 MAY 2011 Boundary containing approximately 226 hectares

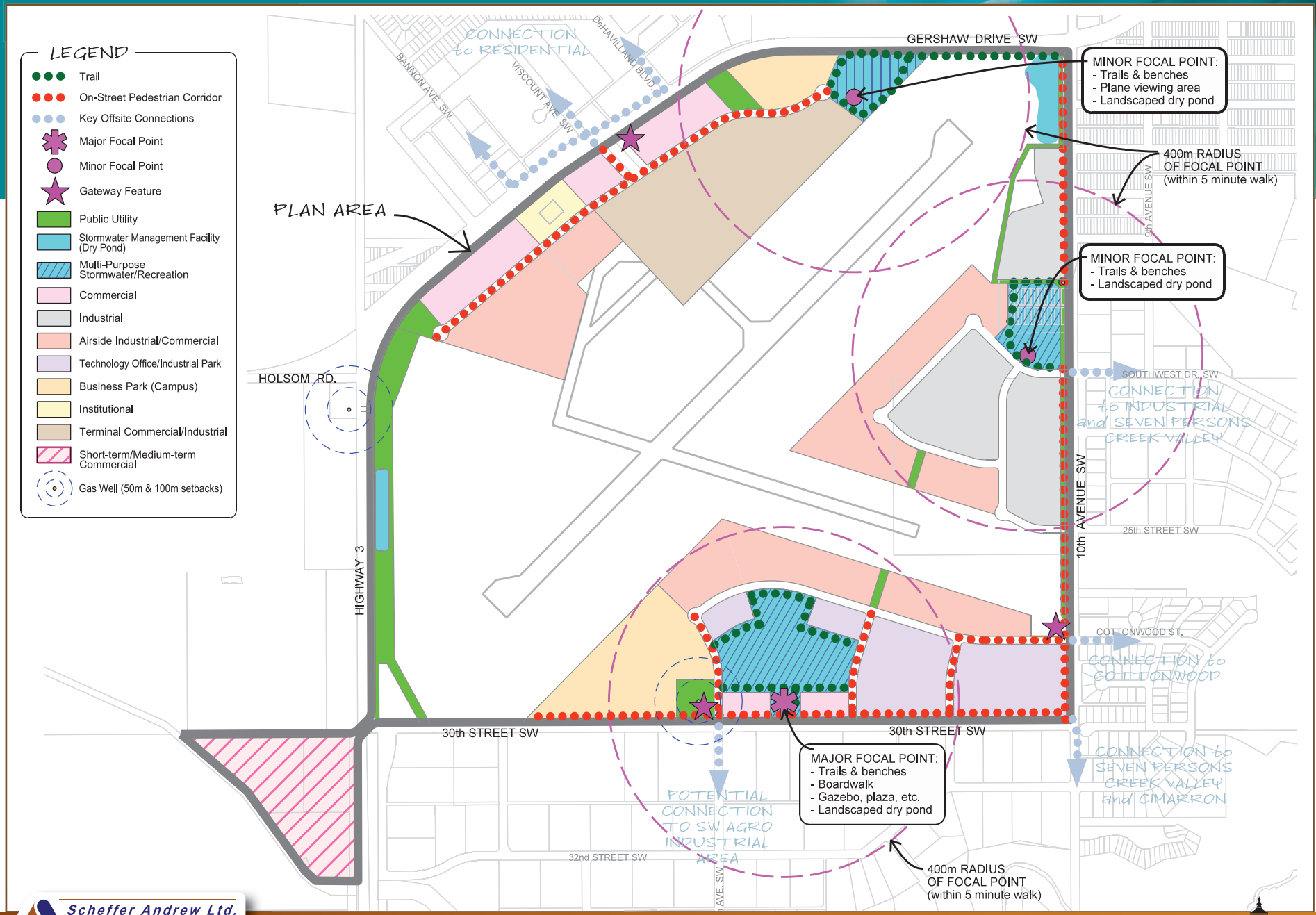
figure 8 land use concept



Scheffer Andrew Ltd. Planners & Engineers

SCALE 1:12,000 MAY 2011 Boundary containing approximately 226 hectares

figure 9 open space and trails



community sustainability

6

The Medicine Hat Regional Airport community aims to incorporate sustainability principles into all developments to provide:

- a reduced impact on the local environment,
- a reduction in operating and maintenance costs, and
- a healthier and higher quality of life for workers and visitors to the community.

The entire plan area will incorporate sustainable and innovative design elements. The south node is intended to be a unique cluster of innovative clean industries and to complement these uses the sustainability principles in this node will be more aggressive and original. Although the intent is to achieve a higher level of sustainability in the south node, inclusion of sustainable designs anywhere in the community is encouraged.

6.1 COMMUNITY STRATEGIES

All developments in the three nodes will consider the following design elements.

Street Trees reduce the temperature of the adjacent buildings, roads and sidewalks. This reduces energy consumption by cooling the surrounding area, and provides a more comfortable pedestrian environment. Additionally, street trees act as noise buffer and improve air quality. The street trees need to be selected and placed without obstruction to infrastructure and airport safety.

Energy Efficient Mechanical Systems reduce the amount of energy waste and consumption which lowers operating costs and production requirements.

Low Flow Water Fixtures reduce the amount of water used which lowers operating costs and production requirements.

Passive Solar Energy Building Designs reduce energy consumption and operating costs by strategically utilizing solar heating/cooling generally through building siting, window placement, eaves and canopies, and site landscaping.

Sustainable Landscaping Designs for public and private spaces reduce irrigation requirements (i.e. incorporating xeriscaping principles).

DROUGHT RESISTANCE:

Developments will include sustainable landscaping (xeriscaping) which reduces need for irrigation.

Reducing Light Pollution for public and private spaces, reduces sky glow and distractions for approaching/departing planes, and improves general visibility by reducing glare. Exterior lighting should be directed downward as opposed to flooding to ensure light does not trespass from the intended site.
Solid Waste Management and Diversion is intended to divert material from the landfill. As previously, noted there will be a recycling depot within the east node to serve the plan area.

6.2 SOUTH NODE STRATEGIES

In addition to all the above community strategies to create a sustainable leading edge technology park the south node will consider the following design elements.
Green and/or High Reflectance Roofs (without causing glare) reduce the solar heating of buildings resulting in lower energy consumption and costs.
District Heating and Cooling is the sharing of energy between separate buildings which better utilizes waste energy and reduces consumption.
Geothermal Cooling and Heating uses the earth's natural stable underground temperature to reduce energy consumption and costs.
Micro Energy Production (wind and solar) reduces the energy required from the grid as portions of the required energy for buildings is generated with small on-site facilities.
Rain Water Capture and Reuse in cisterns (no ponds to avoid attracting wildlife) reduces the potable water requirement for irrigation of landscaped areas.
Reduction of Impervious Surfaces reduces the rain and snow runoff from sites by allowing the water to soak into the ground which recharges the groundwater and reduces the usage of stormwater management facilities.
Bike Storage at all buildings provides a component of the necessary infrastructure to encourage a sustainable mode of transportation.

Note: Utilization of the above or other innovative strategies in the north and east nodes is encouraged, but not mandated.

6.3 OBJECTIVES AND POLICIES

Objectives:

- To provide basic sustainability requirements for the plan area, and to provide additional requirements for the south node.

General Sustainability Policies

6.3.1 All airport safety and function considerations shall govern over community sustainability considerations if the two are inconsistent.
6.3.2 All principal buildings should have an energy- efficient mechanical system and low flow water fixtures.
6.3.3 All developments should consider passive solar heating in their design.
6.3.4 All public and private landscaping should feature Chinook and drought-tolerant plantings and design.
6.3.5 All public and private landscaping should be designed to minimize potential negative impact and the sustainability of infrastructure.
6.3.6 The species of street trees should be selected in accordance with the City of Medicine Hat's Land Use Bylaw and local best practices. The locations of the street trees will be completed on a comprehensive basis and determined at the detailed design stage.
6.3.7 All public and private exterior lighting should be designed to reduce light pollution and feature energy- efficient lighting.

South Node Sustainability Policies

6.3.8 All principle buildings should have 50% of their roof surface constructed with either a green roof or a high reflective roof which does not produce glare.
6.3.9 Developments should explore the potential to share waste energy through district heating and cooling.
6.3.10 Developments should explore the potential of alternative energy and heating through micro energy generation and geothermal heating and cooling.
6.3.11 All developments should consider reducing the stormwater runoff and reuse through permeable surfaces and cisterns for reuse.
6.3.12 Developments should provide bicycle storage facilities.

community health and safety

7

7.1 EMERGENCY & PROTECTIVE SERVICES

The plan area is well serviced in terms of fire protective services with the presence of Fire Station #3. Emergency medical and police services will adequately service the plan area from their existing locations.

An important aspect to safe communities is ensuring that safety is considered in the design of public and private spaces within the plan area. The recognized principles for designing safe spaces is Crime Prevention Through Environmental Design (CPTED). Elements of CPTED include the consideration of providing spaces with natural surveillance, appropriate landscaping, lighting and other design components.

7.2 RESOURCE EXTRACTION

7.2.1 ACTIVE GAS WELLS

Within the plan there is one active gas well and several gas production lines. These resource extraction facilities are important to the City and need to be protected to ensure public safety and the continued viability of the infrastructure.

The Municipal Government Act Subdivision and Development Regulation state:

Gas and Oil Wells

11(1) A subdivision application or development application shall not be approved if it would result in a permanent additional overnight accommodation or public facility, as defined by the ERCB, being located within 100 meters of gas or oil well or within a lesser distance approved in writing by the ERCB.

(2) For the purposes of this section, distances are measured from the well head to the building or proposed building site.

(3) In this section, "gas or oil well" does not include an abandoned well as defined by the ERCB.

(4) An approval by the ERCB under subsection (1) may refer to applications for subdivision or development generally or to a specific application. (MGA Subdivision and Development Regulation 2002, p.12)

This ASP designates stormwater management facility, PUL, commercial and Business Park within an anticipated relaxed setback (i.e. 50 m - 100 m). This is consistent with the Subdivision and Development Regulation stating that no permanent overnight accommodation or public facility will be created within the setback area. A setback relaxation request will be forwarded to the ERCB for consideration prior to an application for subdivision. All applications are reviewed individually, must be approved in writing by the ERCB (who has the

sole discretion to either approve or refuse), and be acceptable to the well's licensee.

Proposed uses within the 50 m setback include road right-of-way and a PUL.

7.2.2 ABANDONED WELLS

There are currently no abandoned wells within the plan area, but with one active well there is the need for guidance on abandoned wells within this ASP. The ERCB recommends that permanent structures are setback at least 5 m from the abandoned wells, and underground utilities setback at least 3 m.

The City requires both a registered easement and an access to the abandoned well to ensure the well could be serviced if required.

7.2.3 PIPELINES

For all ERCB licensed pipelines the minimum setback distance is the edge of the right-of-way. Acceptable pipeline uses within pipeline right-of-ways include natural areas, some stormwater management facilities, storage yards, parking lots, certain road right-of-ways, pathways, playgrounds, berms, and certain landscaping. The pipeline licensee must first approve any use within the pipeline right-of-way.

FIRE STATION No.3:

The area is well serviced in terms of fire protective services with the presence of this station.

7.3 OBJECTIVES AND POLICIES

Objectives:

- Ensure that the plan area is adequately served by protective and emergency services.
- Ensure developments are designed to consider and provide safe places.
- Coordinate the location, spacing and buffering of resource extraction infrastructure to ensure public safety and orderly development.

Policies:

7.3.1 CPTED principles shall be considered in the design of public and private spaces.

7.3.2 In accordance with the Alberta Subdivision and Development Regulation development shall respect the setbacks from resource extraction infrastructure and the processes outlined for setback relaxation requests.

7.3.3 Gas distribution and production infrastructure should be relocated where possible to allow for efficient urban development. The cost of the relocated infrastructure shall be at the expense of the developer.

7.3.4 The owner of the affected resource extraction infrastructure shall be consulted during the detailed design process to ensure continued maintenance access is accommodated.

7.3.5 ERCB minimum recommendations, along with the City of Medicine Hat requirements regarding setbacks from abandoned wells shall be maintained.

7.3.6 An easement shall be granted to the resource extract owner to ensure continued access to the abandoned well.

7.3.7 At the time of subdivision and development application the proposed uses shall be reviewed by the City of Medicine Hat and the well licensee to ensure consistency with this ASP and the Subdivision and Development Regulation.

transportation network

8

The transportation network is generally consistent with current functional road plans and the City's Roadway System Master Plan (RSMP). Note that the RSMP is currently undergoing a review.
The transportation network is displayed in Figure 10.

8.1 HIGHWAY 3

Highway 3 is an important corridor within the City. The Province has a number of short term improvements proposed for the highway within the vicinity of the plan area. The proposed improvements are minor and do not impact the proposed access for this ASP.
It is anticipated that the Highway 3 corridor in the long term will be impacted by the Province's Highway 1 South Bypass route and a potential main runway extension for the airport.
This plan is consistent with the Province's and City's plans for the Highway 3 corridor.

8.2 10TH AVENUE SW

This ASP is generally consistent with 10th Avenue SW Functional Design Study (2001). The long term plan for 10th Avenue SW is for the roadway to be a 4-lane divided arterial road with direct driveway access restricted to right-in and right-out and 150 m spacing of local road intersections.
Portions of the 10th Avenue SW corridor require additional road right-of-way to accommodate the long term functional plan. The extent of road dedication will be governed by the functional requirements of the 10th Avenue SW corridor. The land required will be dedicated at the time of subdivision or acquired at the time of the corridor upgrade.

8.3 30TH STREET SW

30th Street SW is currently designated as an undivided arterial. In the long term as the plan area develops the road is expected to function as a 4 lane major collector.
The intersection spacing on 30th Street SW will be 200 m and direct driveway access will be allowed and controlled.

This is consistent with the existing intersection spacing on 30th Street SW and the existing direct driveway accesses along the south side of the roadway.

8.4 LOCAL ROADS

Several new local roads will be developed to provide access to the majority of the parcels. The local roads will be designed to accommodate light industrial and commercial developments. Additionally, some of the local roads will be key pedestrian corridors. These pedestrian corridors will incorporate design elements to enhance the attractiveness and safety of the corridor for pedestrians. Some of the design elements may include boulevard trees and landscaping, benches, way-finding markers, and sidewalks/trails separated from the street.

8.5 PEDESTRIAN/BICYCLE TRAILS

As previously stated in Section 5, the three development nodes are connected via a system of pedestrian/bicycle trails and on-street pedestrian corridors. The connectivity of the plan provides a walkable development in which recreation and commuter users can easily and safely travel through the plan area.

The trail and pedestrian corridor locations are displayed in Figure 9.

8.6 PUBLIC TRANSIT

The plan area is intended to be a unique sustainable high technology cluster within the City and region employing a significant number of professionals. In order to provide commuting options for the employees, a public transit route(s) should service the plan area. Additionally, as air traffic at the airport increases, a substantial transit station or transfer point should be located at or within proximity of the airport terminal.

8.7 ROAD CLOSURES

Several existing roads will need to be closed and redeveloped in order to implement the land use concept. The road closures will occur as the respective phase is being planned and designed. The required road closures include:

- 29th and 30th Street and the lane between the roads west of 10th Avenue. These roads legally exist but have never been constructed.
- Portions of Halifax Way which legally exist as road and have been constructed.
- A small portion of road east of Viscount Avenue SW which legally exists and has been developed.

Note: The existing private access east of Viscount Avenue SW will be redeveloped.

The transportation network concept is displayed in Figure 10.

8.8 OBJECTIVES AND POLICIES

Objectives:

- To establish a safe, efficient and walkable transportation network.
- Provide local roads to service the majority of the individual lots.
- Ensure the development is accessible to a variety of transportation modes.
- To ensure that all internal roads maintain appropriate security access.
- To maintain excellent public access to the Medicine Hat Regional Airport.

Policies:

8.8.1 No direct driveway access to Highway 3 shall be permitted unless an exemption is granted by Alberta Transportation and City Council.

8.8.2 Direct driveway access to 10th Avenue SW shall be controlled to the satisfaction of the City of Medicine Hat.

10th AVENUE SW:

A long term plan dictates that 10th Avenue SW will become a 4 lane divided arterial.

8.8.3 Direct driveway access to 30th Street SW shall be controlled to the satisfaction of the City of Medicine Hat.

8.8.4 The three development nodes should be linked by a series of trails and on-street pedestrian corridors.

8.8.5 Roads which are pedestrian corridors as indicated on Figure 9 should include street trees, benches, and way- finding markers..

8.8.6 Public transit routes should be provided within 400 m of 95% of businesses within the plan area.

8.8.7 Land as determined by the City of Medicine Hat shall be dedicated as road right-of-way to establish the required right-of-way for 10th Avenue SW at the time of subdivision.

8.8.8 Roadway cross-sections shall be consistent with the Municipal Servicing Standards, but alternative designs that accommodate airport safety and function and sustainability considerations shall be considered.

8.8.9 Roads shall be designed to accommodate solid waste collection, emergency service, maintenance, and transit vehicles.

8.8.10 Airside access shall be limited to maintain security.

8.8.11 Public parking at the airport should be provided and shall include both short and long term parking options.

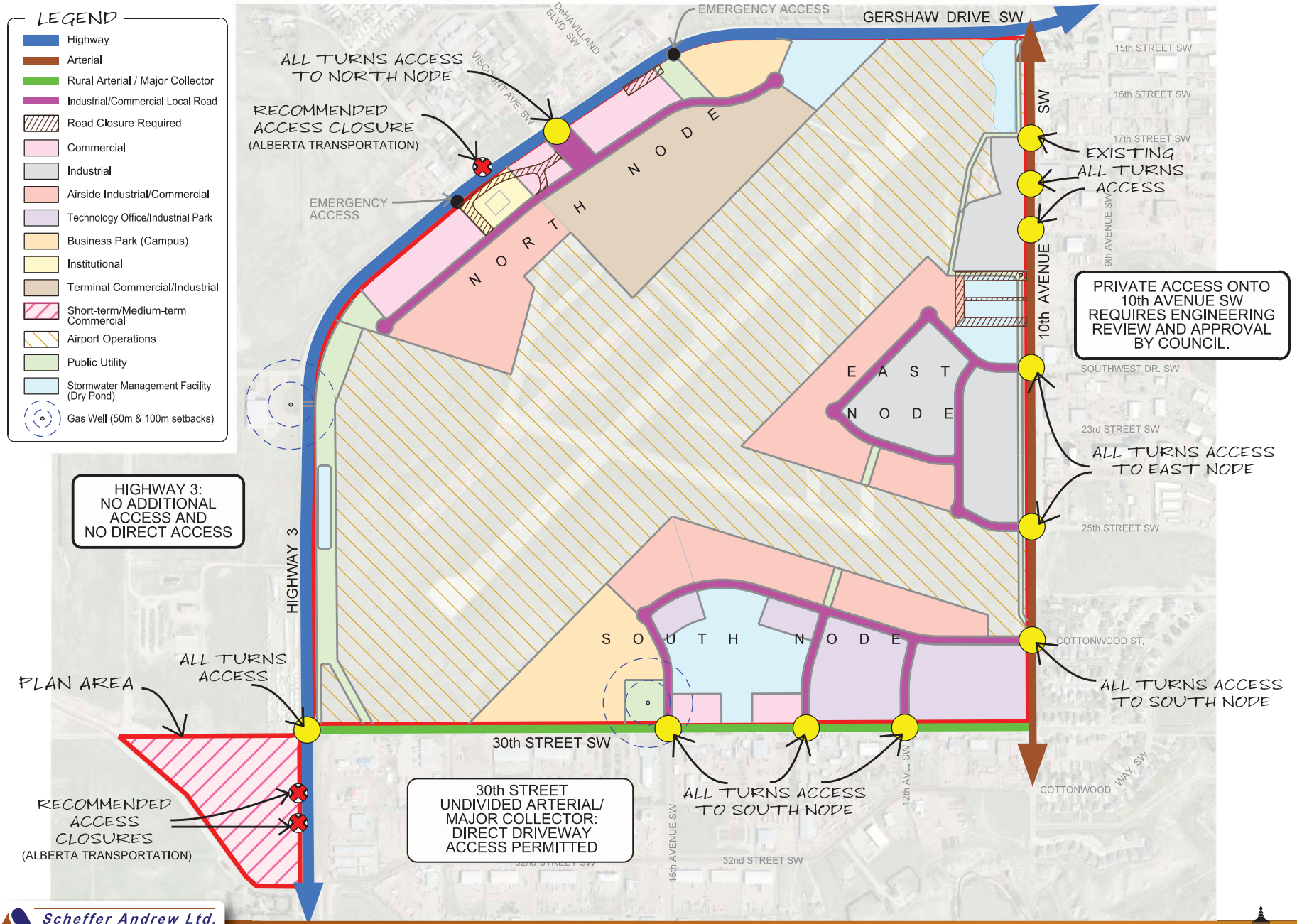
8.8.12 All developments should provide off-street parking for employees and visitors.

8.8.13 Large parking lots should be sited, partitioned, and landscaped to visually break up the appearance of the parking lot.

8.8.14 The main entrance to the airport should be enhanced to create a landmark and gateway.

8.8.15 All roadways within the plan area shall be considered for designation as Heavy Truck and Dangerous Goods routes.

figure 10 transportation network



Scheffer Andrew Ltd. Planners & Engineers

SCALE 1:12,000 MAY 2011 Boundary containing approximately 226 hectares

servicing

9

9.1 WATER

The three development nodes will be serviced from the existing 300 mm main located in 10th Avenue SW, the existing 250 mm main located in 30th Street SW, and the existing 250 mm and 300 mm mains located in the local roads adjacent to the airport terminal building.

The north node will require a connection to the City's 750 mm southwest sector water transmission main which the City will be constructing to service lands in the southwest sector and Cypress County. This connection is needed in order to meet the design criteria under fire flow conditions.

If the north node is developed prior to construction, commissioning, and connection to the South West Sector water transmission main and booster station, the existing water main from the airport booster station to the west end of the north node (approximately 800 m) will need to be upgraded at the developer's cost in order to meet Municipal Servicing standards under fire flow conditions.

Once the South West Sector booster station has been constructed and commissioned the potential conversion of the airport booster station to a potable water filling station may be explored.

The water system concept is displayed in Figure 11.

9.2 SANITARY

The three development nodes will be serviced by the following existing mains:

- 200 mm main located in 10th Avenue SW
- 450 mm and 200 mm mains located in 30th Street SW, and
- 300 mm, 350 mm, and 375 mm mains located in the local roads adjacent to the airport terminal building and Highway 3:

In the south node, as large of a proportion of the flow as possible should be directed to the 450 mm sanitary sewer located in 30th Street SW east of 12th Avenue SW. It is expected that some of the flow will have to be directed into the existing 200 mm main west of 12th Avenue SW.

There are no lift stations required to service the development areas. However, four upgrades to the existing downstream system are required to service the development areas: one on Redcliff Drive SW, one on 17th Street SW, and two on the South West trunk main. These upgrades will be completed by the Environmental Utilities Department.

The sanitary system concept is displayed in Figure 11.

9.3 STORMWATER

There will be two new stormwater management facilities (SWMF): one each for the north and south nodes. The existing stormwater facility along 10th Avenue SW can be modified to provide stormwater management for the east node.

The new south SWMF can service the south node and the majority of the runway, which currently drains to the area, and will also be sized to accommodate drainage from a portion of the lands south of 30th Street SW. A new outfall will be required to the Seven Person's Creek. This new outfall may ultimately be shared with the drainage system for the south-west agro-industrial area.

The north SWMF can service both the existing development north of the airport, and new development within the north node. There is potential to increase the size of this facility to provide stormwater attenuation and treatment for the upstream Tower Estates area at this facility as well. This facility will outfall at a controlled rate into the existing storm sewer which flows into the Saamis Coulee.

The existing SWMF along 10th Avenue SW will be expanded and a new control structure will be constructed to ensure that the release rate to the downstream coulees and creek is not increased by the new development. This facility will outfall at a controlled rate into the existing storm sewer which flows into the Saamis Coulee.

10th AVENUE `DRY POND`

This existing SWMF will be expanded and a new control structure will be constructed to ensure that the release rate to the downsteam coulees and creek is not increased by the new development.

9.3.1 AVIATION CONSIDERATIONS

Stormwater management within an airport context requires unique design considerations. Some traditional SWMF designs provide attractive habitat to birds and wildlife. Birds, especially large birds in flocks, present safety hazards to air transportation. Thus, all SWMFs will incorporate best management practices for airports in order to minimize the creation of bird and wildlife habitat near the airport. Some of the considerations include:

Dry Ponds - eliminating the presence of permanent water reduces the attractiveness of the SWMF to birds and wildlife.

Landscaping - planting vegetation that does not provide a food source to birds and wildlife (i.e. fruit, nuts, seeds).

Disrupt Sight Lines - breaking up large open spaces into small narrow corridors with plantings, berms, and fencing reduces the attractiveness of the SWMF to birds and wildlife.

The stormwater management concept is shown in Figure 12.

9.4 SHALLOW UTILITIES

Gas distribution can be provided through connections to the existing mains in 10th Avenue SW, 30th Street SW, and adjacent to the existing terminal building. New internal gas distribution mains will be required within each development node.

Electric distribution can be provided through connections to the existing systems adjacent to each development node and through new distribution lines within each development node. An upgrade to the electric line crossing Highway 3 will be required in order to service the expanded north node. The east node can be serviced off the existing electric infrastructure in 10th Avenue SW and the south node requires new electric cables to be installed on the existing poles south of 30th Street SW.

BIRD HAZARDS:

For reasons of aviation safety, SWMFs will incorporate measures to minimize the attraction to birds.

9.5 SOLID WASTE COLLECTION

Solid waste for the sites within this ASP can be serviced by both public and private solid waste collection providers dependent on individual site layouts and level of service requirements. The roads and lanes will be designed to accommodate solid waste collection vehicles.

9.6 OBJECTIVES AND POLICIES

Objectives:

- Ensure the development has adequate and reliable servicing infrastructure.
- Ensure that the servicing systems meet the level of service envisioned by the City of Medicine Hat and Alberta Environment standards.
- Provide the servicing infrastructure in an economically efficient manner.
- Ensure that the servicing systems recognize the unique requirements associated with airports and air transportation.

Policies:

9.6.1 Servicing infrastructure shall be designed to the level of service envisioned in the City of Medicine Hat and Alberta Environment standards.

9.6.2 The developer shall take into consideration the long term operation and maintenance cost, to the City when evaluating servicing options.

9.6.3 Infrastructure shall be designed to accommodate lands outside of the plan area where appropriate.

9.6.4 The design of the SWMFs shall be in accordance with best management practices for airports. Airport and air transportation safety considerations shall govern the design of the facilities.

9.6.5 All waste containers shall be enclosed and maintained to reduce food sources for wildlife and birds.

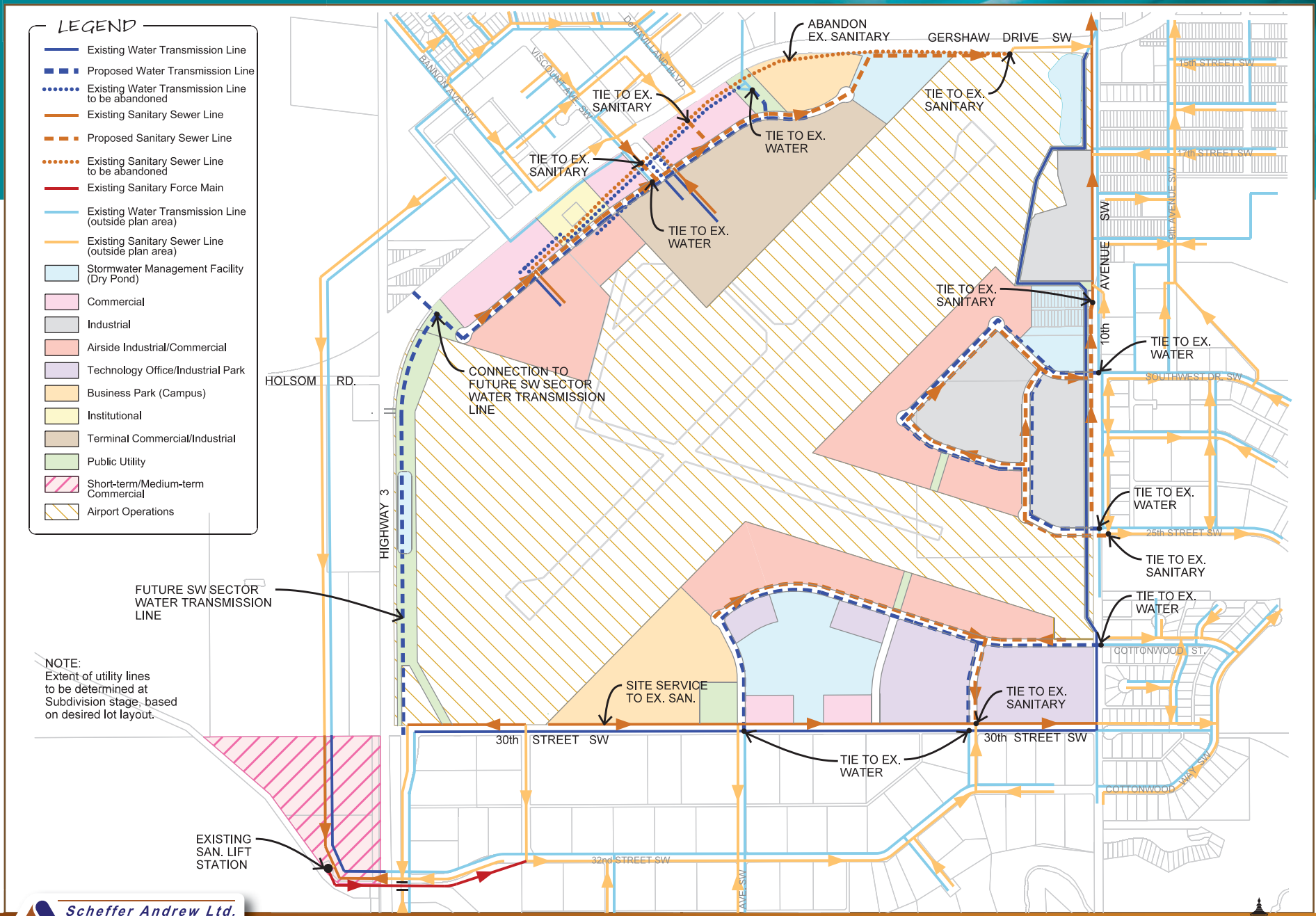
9.6.6 The recycling depot shall be designed to minimize windblown litter and debris, while also reducing the attractiveness of the depot to wildlife and birds.

9.6.7 De-icing agents shall be disposed of in accordance to Alberta Environment standards.

9.6.8 The developer shall be responsible for the servicing costs associated with the development.

9.6.9 The developer shall provide the required utility rights-of-way to service the development.

figure 11 sanitary & water servicing concept



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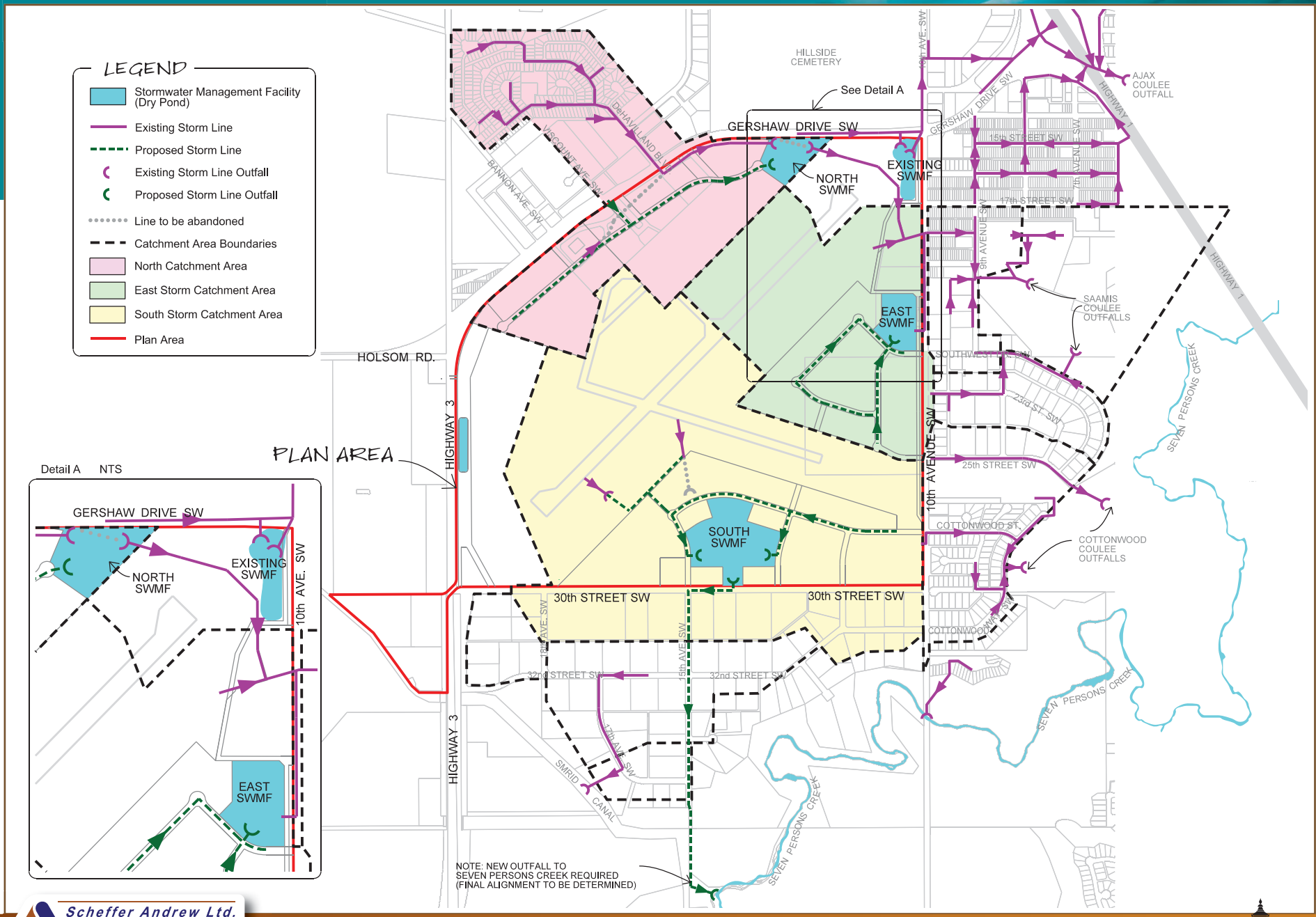
SCALE 1:12,000 MAY 2011 Boundary containing approximately 226 hectares

figure 12 storm drainage concept



implementation strategy

10

10.1 IMPLICATIONS FOR BYLAWS & PLANS

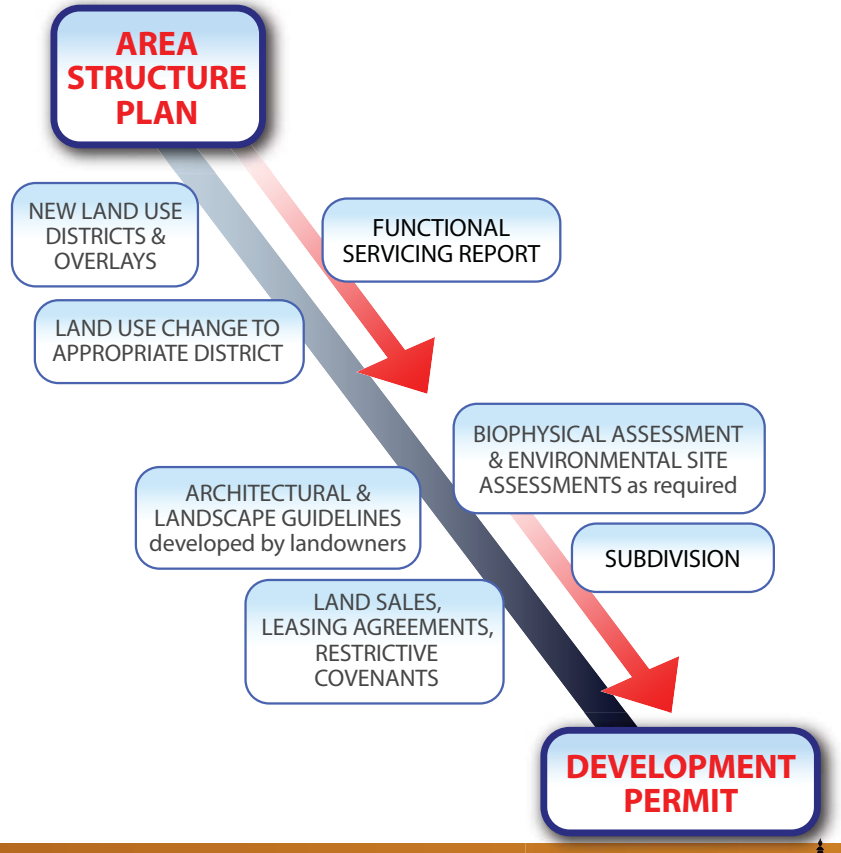
Due to the small plan area size and detail contained within this ASP a conceptual scheme is not required to proceed with subdivision and development of the plan area.

In order to fully implement this ASP , it is envisioned that an additional two to three land use districts or overlays will be required. It is anticipated that the new land use districts or overlays will be needed for:

- Airside Commercial/Industrial
- Technology Office/Industrial Park
- Business Park (campus)

The new land use districts or overlays will be established prior to subdivision and/or development. If the districts or overlays are not available prior to subdivision and development, a direct control district may be considered to bridge the implementation gap. In addition, land sales or leasing controls and restrictions and federal regulations as required will need to be implemented prior to subdivision and development.

The adjacent graphic shows the expected process that will generally be followed to accommodate development.



10.2 DEVELOPMENT SEQUENCE

The development sequence is displayed in Figure 13.

The three nodes can be developed and serviced independent of each other and therefore there is no priority sequence to the development of the plan area. Although there is no proposed development sequence, phasing should consider:

- development costs;
- servicing and infrastructure requirements;
- industry trends and local market conditions;
- flexibility for potential users;
- providing a mix of land uses available for end users; and
- strategic airport marketing goals.

Portions of the three nodes may be developed concurrently to address the above considerations. It is anticipated the development of the nodes will be completed in multiple small phases.

10.3 OBJECTIVES AND POLICIES

Objectives:

- To ensure that prior to subdivision and development an implementation mechanism exists within the Land Use Bylaw.
- To ensure that development occurs in an efficient manner while addressing market conditions.

Policies:

10.3.1 A conceptual scheme is not required to proceed with subdivision and development of the plan area.

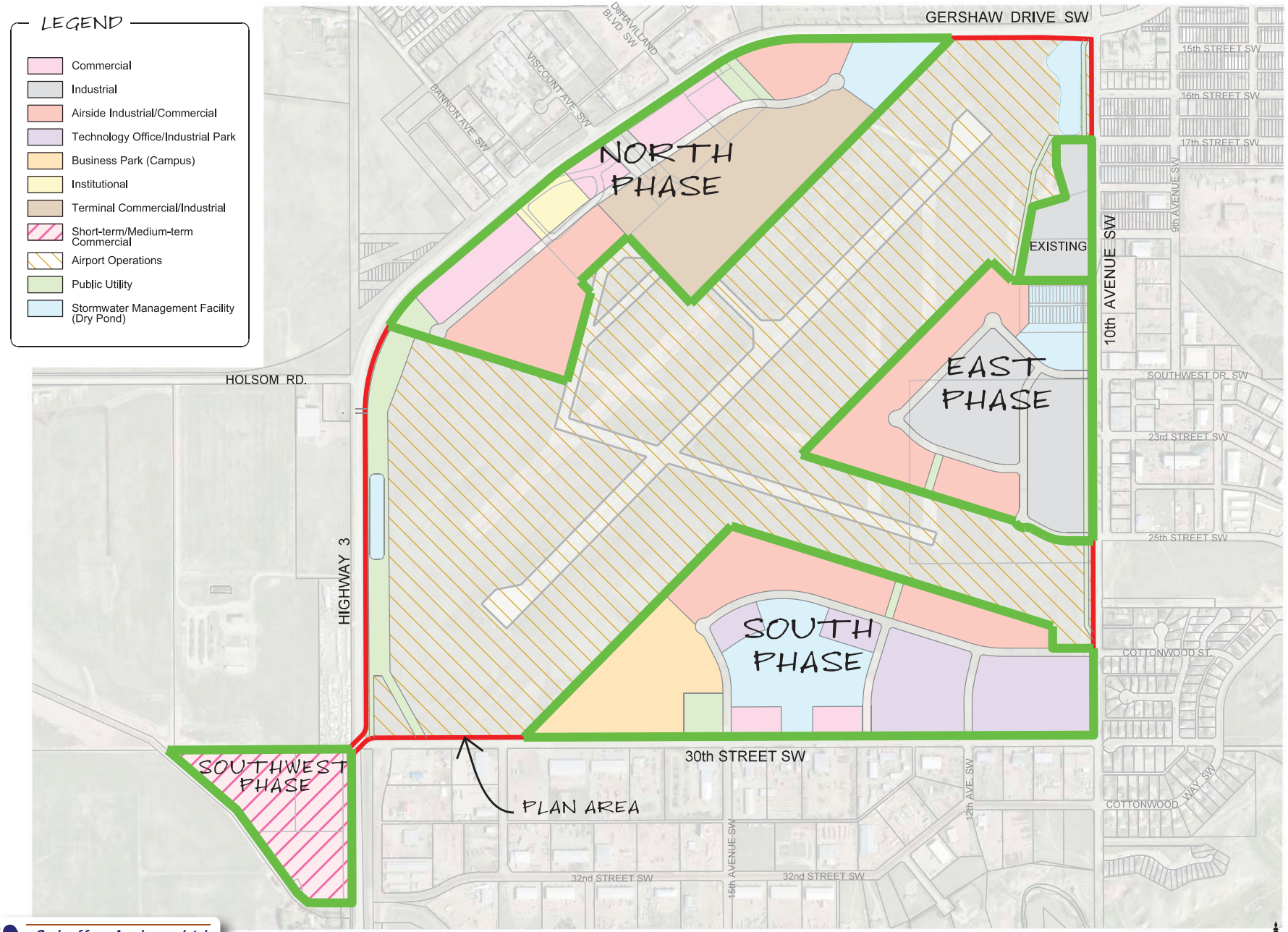
10.3.2 A Functional Servicing Report to the satisfaction of the Approving Authority shall be approved prior to subdivision and development of the plan area.

10.3.3 Prior to subdivision and/or development new land use districts or district overlays that can accommodate the intended land use designations of this ASP shall be created with exceptions being at the discretion of the City of Medicine Hat.

10.3.4 Development should recognize and address servicing constraints and market conditions.

10.3.5 The developer should develop a landscaping guideline prior to the development of the first phase to the satisfaction of the Development Authority, Parks and Outdoor Recreation Department and the Airport Manager.

figure 13 development sequence



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