



## DEVELOPMENT and PLANNING SERVICES COMMITTEE

Tuesday, August 4, 2015

City of Salmon Arm

**Council Chamber**

City Hall, 500 - 2 Avenue NE

**8:00 a.m.**

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Page #	Section	Item#
	1.	<u>CALL TO ORDER</u>
	2.	<u>REVIEW OF THE AGENDA</u>
	3.	<u>DECLARATION OF INTEREST</u>
	4.	<u>PRESENTATIONS</u>
	5.	<u>REPORTS</u>
1 - 18	5.1	VP-421, Dan & Elaine Sewell, #1, 1581 – 20 Street NE – Zoning Bylaw Variances
19 - 46	5.2	Shuswap Regional Airport, Future Development Plan
47 - 50	5.3	Proposed Community Gardens at 2870 – 60 Avenue NE
	6.	<u>CORRESPONDENCE</u> n/a
	7.	<u>OTHER</u> n/a
	8.	<u>IN CAMERA</u> n/a
	9.	<u>LATE ITEM</u> n/a
	10.	<u>ADJOURNMENT</u>

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<http://www.salmonarm.ca/agendacenter>

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*City of Salmon Arm*

*Development Services Department Memorandum*

TO: Her Worship Mayor Cooper and Members of Council

DATE: July 16, 2015

SUBJECT: Variance Permit Application No. VP-421 (Height, Setback and Retaining Wall/Fence)  
 Legal: SL 1, Section 24, Township 20, Range 10, W6M, KDYD, Strata Plan KAS3061  
 Civic Address: #1, 1581 – 20 Street NE  
 Owner/Applicant: Dan & Elaine Sewell

**MOTION FOR CONSIDERATION**

**THAT:** Development Variance Permit No. VP-421 be authorized for issuance for Strata Lot 1, Section 24, Township 20, Range 10, W6M, KDYD, Strata Plan KAS3061, which will vary Zoning Bylaw No. 2303 as follows:

1. Section 4.12.1 (a) Fences and Retaining Walls - increase the maximum combined height of a fence in conjunction with a retaining wall from 2.0 m to 6.6 m.
2. Section 6.5 Maximum Height of Principle Building (R-1 Zone) - increase the maximum height of a single family dwelling from 10.0 m to 13.1 m.
3. Section 6.10.2 Minimum Setback of Principle Building (R-1 Zone) - reduce the rear parcel line setback from 6.0 m to 3.5 m.

**STAFF RECOMMENDATION**

**THAT:** The motion for consideration be adopted.

**PROPOSAL**

The subject property is located at #1 - 1581 - 20 Street NE within the Willow Cove strata development (APPENDICES 1 and 2). The proposal is to construct a single family on the vacant lot. The applicant is requesting three variances, first to increase the maximum permitted height of the dwelling from 10.0 m to 13.1 m, second to reduce the minimum rear parcel line setback from 6.0 m to 3.5 m and third to increase the maximum combined height of a fence in conjunction with a retaining wall to 6.6 m (4.6 m retaining wall + 2.0 m fence). The proposed siting and building elevations are shown in APPENDIX 3 and site photos are attached as APPENDIX 4. The applicant has provided a rationale letter in addition to support letters from the Willow Cove Strata Corporation attached as APPENDIX 5.

**BACKGROUND**

The subject property is located within the Willow Cove strata development and is currently vacant. The lot slopes significantly down from the access road with a decrease in elevation of approximately 8 m from the front parcel line to the rear.

5.1

An application by a previous owner for a Development Variance Permit (VP-265) had been approved for the subject property in 2006 to reduce the front parcel line setback from 6.0 m to 3.0 m to construct a single family dwelling. As a condition for that setback variance, Council required the registration of a Section 219 Land Title Act covenant prohibiting any building (other than encroachments as permitted in the Zoning Bylaw) within 9 m of the rear parcel line.

It seems as though Council's rationale at that time for requiring the covenant was due to opposition to that variance expressed by the owner of the neighbouring lot to the west - outside of the strata. The required covenant was never registered and therefore Permit VP-265 was never issued. Related to that, the current owner of the subject property had advised staff that the neighbour to the west has been consulted with this latest variance proposal.

The subject property is designated Low Density Residential in the City's Official Community Plan (OCP) and zoned R-1 (Single Family Residential) in the City's Zoning Bylaw. Adjacent land uses include the following:

North: Single Family Residential (R-1) - Willow Cove Strata Development  
South: Strata Common Property / Single Family Residential (R-1)  
East: Strata Access Road / 20 Street NE / Single Family Residential (R-1)  
West: Single Family Residential (R-1)

#### COMMENTS

##### Fire Department

No concerns.

##### Building Department

No concerns. Retaining wall will require a Building Permit and registered professional design and review.

##### Engineering Department

#### APPENDIX 6.

##### Planning Department

The applicant is requesting three Zoning Bylaw variances to allow for the construction of a single family dwelling. The variances include an increase to the maximum height of a retaining wall in conjunction with a fence, maximum height of a principle building, and minimum rear yard setback for a principle dwelling.

##### *Fence and Retaining Wall*

The Zoning Bylaw allows the combined height of a retaining wall and fence to be a maximum of 2.0 m in a rear yard of a residential zone. In this case, the proposed retaining wall is 4.6 m high with a 2.0 m high fence on top of the structure, all of which would be sited just over 1.0 m from the rear lot line. The purpose of the retaining wall is to raise the original grade by approximately 4.6 m to allow for a level construction site on an otherwise steep slope.

Due to the total height of the wall and potential fall hazard, constructing a fence line along the top of the wall would be beneficial for safety reasons. As can be seen in the appendices' photos, there is a wide swath of trees and other vegetation grown on the neighbouring lot to the west between that dwelling and the subject property.



### *Height of Principle Dwelling*

The applicant is requesting an increase to the maximum height of a principle dwelling from 10.0 m to 13.1 m, for a variance of 3.1 m. In general terms, building height is measured from the mid-point of the lowest existing grade adjacent to the building's foundation. For the proposed building site, that existing grade point is measured vertically from where the west facing foundation wall would be sited.

The height of the dwelling is 10.06 m; therefore, most of the variance (3.04 m) is to account for the raise in the grade caused by the retaining wall and to create a level building site. Additionally, the front elevation is only 7.0 m in height which gives the dwelling a single story look from the strata access road and allows the garage to be the same grade as the road.

### *Rear Yard Setback*


The rear property line setback is proposed to be reduced from 6.0 m to 3.5 m to allow for a deck which will protrude approximately 3.0 m further than the rest of the dwelling. Setbacks help ensure adequate separation between building sites on adjoining property for privacy, aesthetics and fire safety reasons. There are no privacy, aesthetics or fire safety concerns with the encroaching deck structure, in staff's opinion. Two dwellings are located to the rear of the subject property and are both approximately 30.0 m away with the heavily forested gully acting as a visual buffer.

Staff is recommending approval in consideration of the following:

1. The subject property is restricted by steep gradient and limited building envelope. The increased height in the retaining wall is reasonable to provide a suitable building grade for the dwelling. The increased fence height is directly related to the increased height of the retaining wall and will act to improve safety conditions on site.
2. A large forested gully exists to the west (rear) of the property acting as a visual buffer. Staff does not anticipate any negative impacts on the views of surrounding residences by the requested variances.
3. In the letter from the applicant, attached as APPENDIX 5, it is stated that they have discussed the building plans and variance requests with the neighbouring property to the west and they do not object to the proposal.
4. In staff's opinion, the proposed dwelling is similar in roof design, form and character to the already constructed dwellings to the north within the Willow Cove strata development.

### CONCLUSION

The requested variances for height, rear parcel line setback, and retaining wall/fence height are recommended for approval by staff for the above noted reasons.

  
Prepared by: Wesley Miles, MCIP, RPP  
Planning and Development Officer  
Reviewed by: Kevin Pearson, MCIP, RPP  
Director of Development Services

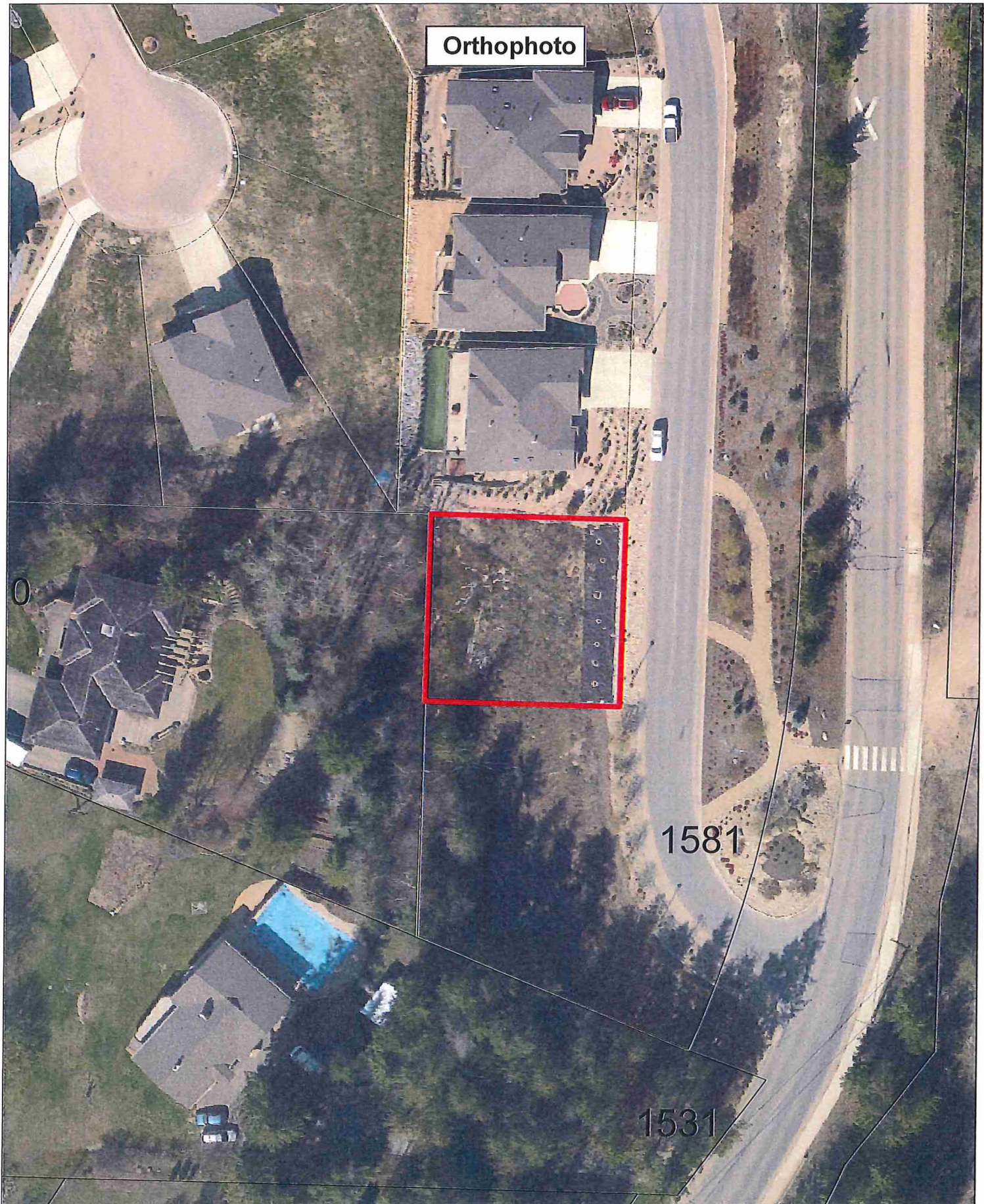




A horizontal scale bar with a black background and white markings. The markings are labeled 0, 40, 80, 120, and 160. Below the bar is the word "Meters".

 Subject Parcel

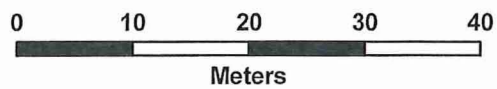




Orthophoto

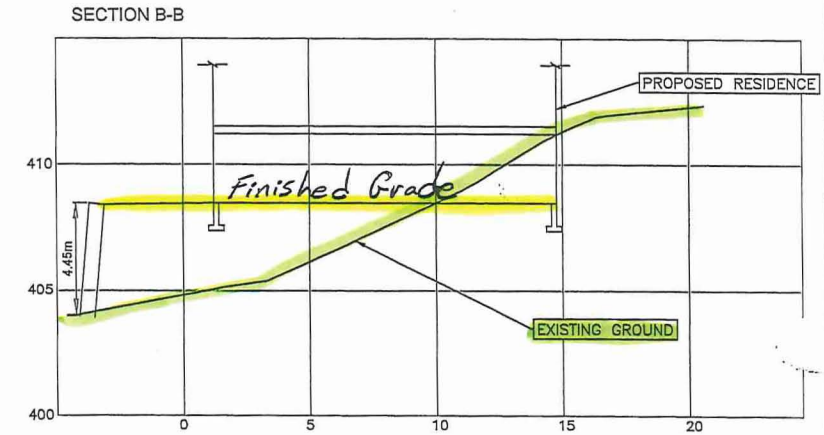
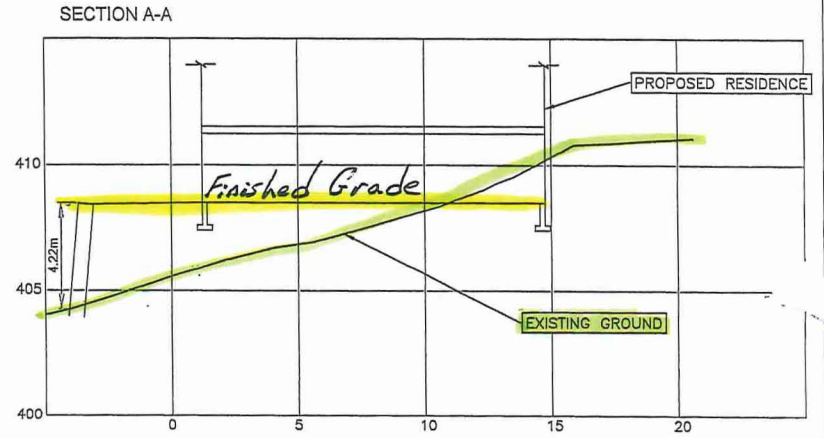
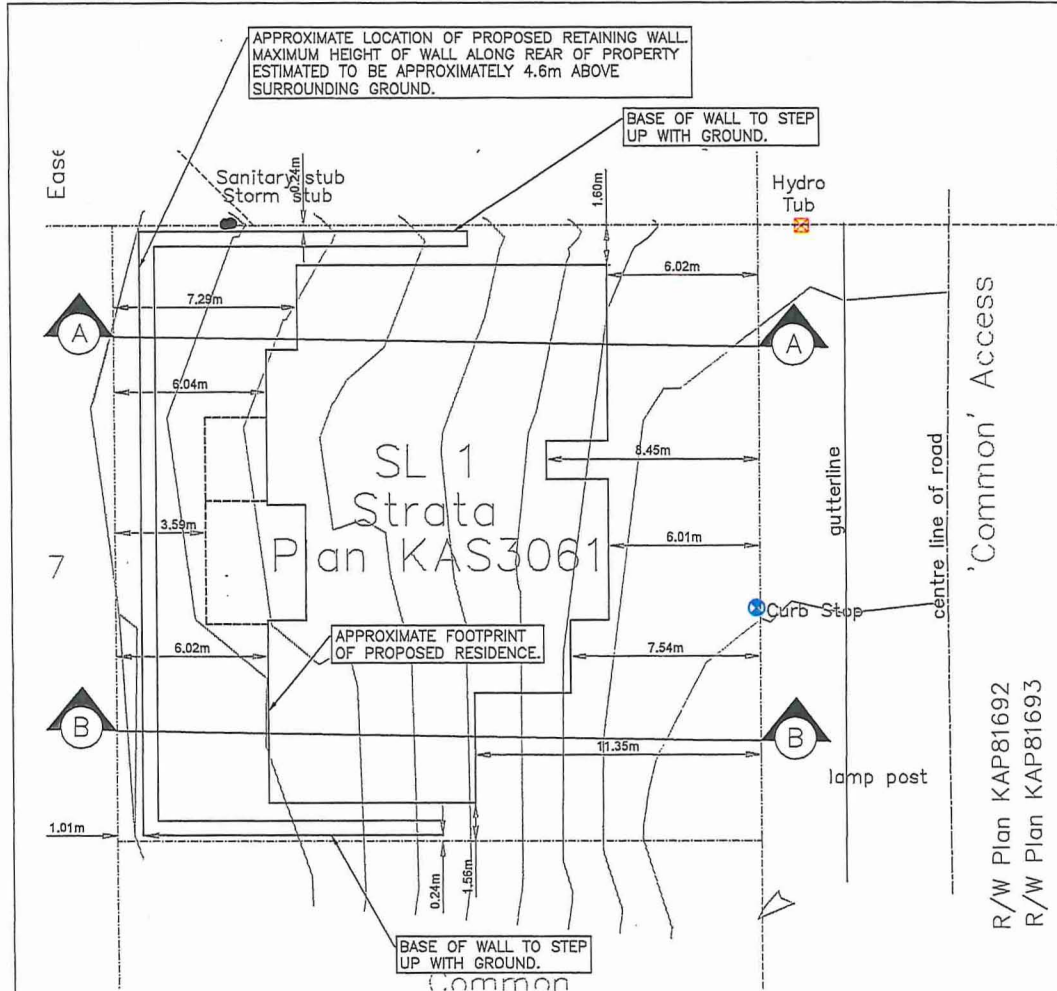
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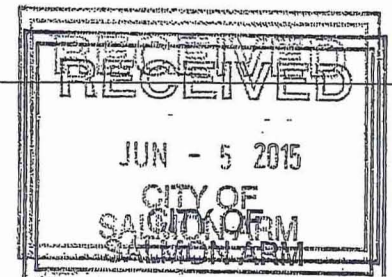


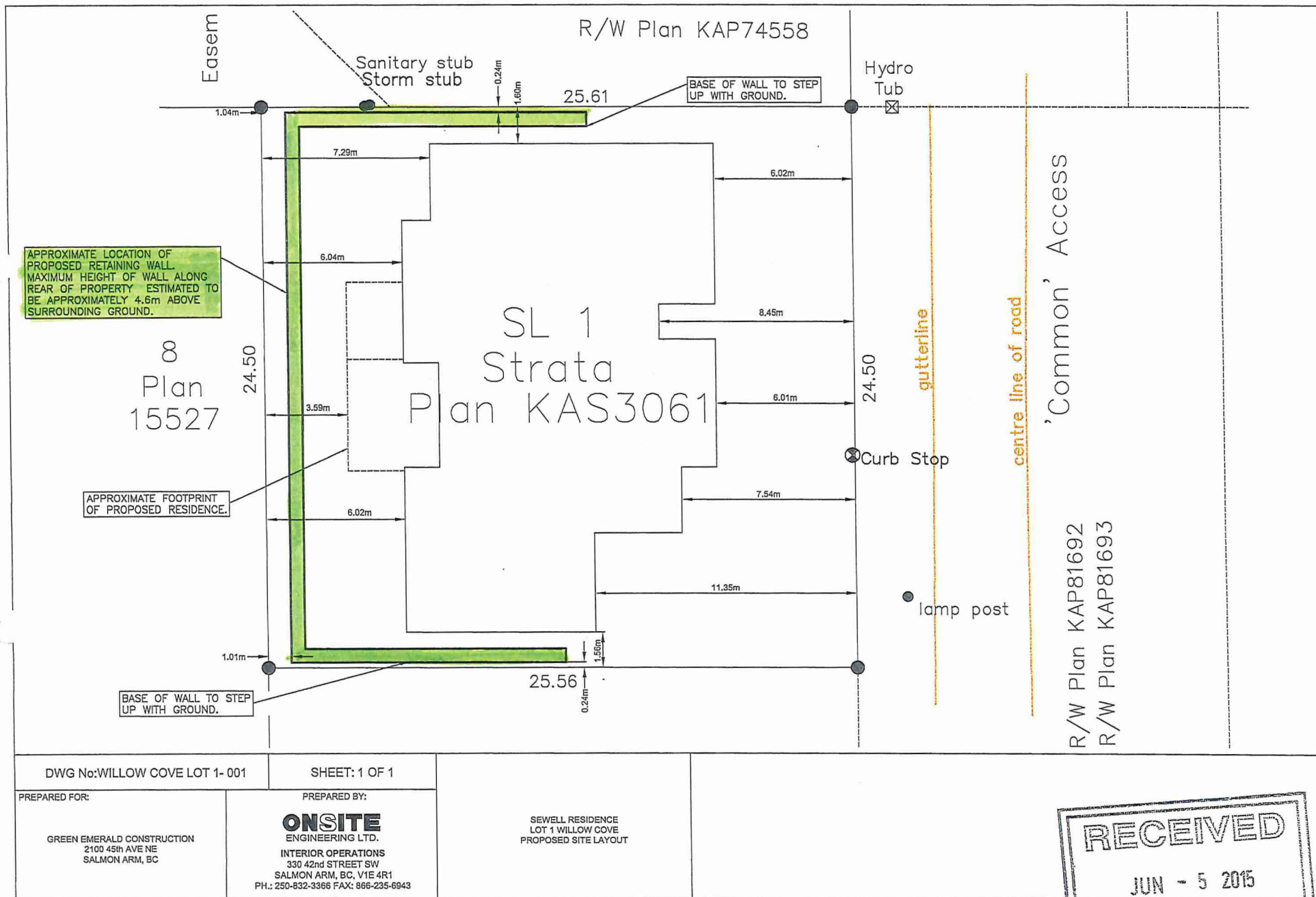
 Subject Parcel





<p>PREPARED FOR:</p> <p>GREEN EMERALD CONSTRUCTION 2100 45th AVE NE SALMON ARM, BC</p>	<p>PREPARED BY:</p> <p><b>ONSITE</b> ENGINEERING LTD.</p> <p>INTERIOR OPERATIONS 330 42nd STREET SW SALMON ARM, BC, V1E 4R1 PH.: 250-832-3365 FAX: 866-235-6943</p>	<p>SEWELL RESIDENCE LOT 1 WILLOW COVE PROPOSED SITE LAYOUT SKETCH</p> <p>SCALE: 1:200</p> <p>SHEET: 1 OF 1</p>	
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RECEIVED

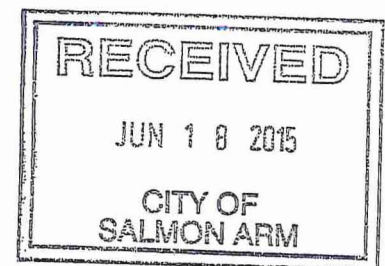
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CITY OF  
SALMON ARM





FRONT ELEVATION





REAR ELEVATION

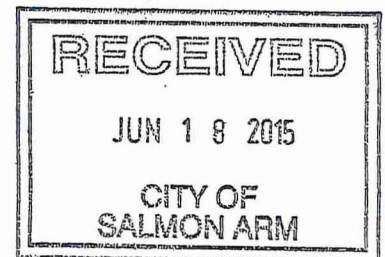






Photo 1: Photo looking south-east from within the Willow Cove Strata Development.



Photo 2: Photo looking south-east from approximate bottom corner of subject property.





Photo 3: Photo looking west at subject property and vegetated buffer at the rear of the parcel.



From: Dan Sewell  
Subject: Re: Letter of Rationale Lot 1 Willow Cove  
Date: June 3, 2015 at 11:30 AM  
To: Dan Sewell

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Dear Salmon Arm City Council:

This letter of rationale is in conjunction with our Variance Permit Application Form to extend the rear deck 8 feet beyond the building envelope and to construct a retaining wall to level Lot 1 in Willow Cove.

My family moved to Salmon Arm in 2007, after being transferred by Canadian Pacific Railway to Revelstoke, B.C. as the Service Area Manager for the B.C. Interior in November of 2006. Although the commute to Revelstoke each day was difficult at times, the commute was something that I was prepared to do to afford a better quality of life for my family.

At that time, we purchased our home in Salmon Arm, which was located on Lot 2 in the Willow Cove subdivision. The subdivision at that time was relatively new, and we quickly fell in love with Salmon Arm and all it had to offer. In May of 2008, we purchased the vacant lot next to our home, which is the Lot we are planning to build on once the variance and building applications are approved.

In November of 2010, I was again transferred from Revelstoke to Vancouver, as the General Manager for the Pacific Division, responsible for CP's entire operation for B.C. In February 2011 we moved from Salmon Arm and since that time, we have retained ownership of Lot 1, which we planned to return to upon our retirement. Salmon Arm seemed like the perfect place for us to retire, as we had 2 of our children living in Calgary while the other child lived in Vancouver - Salmon Arm was centrally located between the two cities.

Shortly after that time, our children in Calgary moved to the lower mainland of Vancouver, and it was at that time that we decided to sell our lot in Salmon Arm. Lot 1 was on the market for almost 3.5 years (late 2011 to spring 2015), and during that time, we had no enquires or interest from anyone with respect



to purchasing our lot. It became very evident, that we were not likely able to sell Lot 1 as the lot is small and very steep, and it requires a great deal of improvement in order to build on it. That said, we are prepared to take on these additional costs, and make Lot 1 a very desirable location to live. We are planning to build our dream home where we plan to spend our retirement even though Lot 1 is restrictive in both size and building flexibility.

At the time we purchased Lot 1 in 2007, we were told by the developer that this was a very desirable lot, and because it was steep, an approved variance existed on the lot which would allow us to build the house 10 feet closer to the street. This seemed appealing to us at the time, and we paid full asking price of \$130,000.00. There was no mention from Ron Harder (developer) at the time that if we built a home 10 feet closer to the front of the lot, we would have to offset that same distance from the rear of the lot.

Even though we paid full asking price of \$130,000.00, Lot 1 is actually 5 meters smaller than all the other lots. The building envelope on Lot 1 is also very small, and as a result, we have had to retain a home designer (Dean Jenson of Jenish Homes in Kelowna) to design a home that fits within the building envelope (only 45 feet deep). Dean designed a "Custom" home for us that fits on Lot 1, which has cost us an additional \$4,757.75 for the plans.

Furthermore, in order for us to fully utilize the lot, we are having to build a very expensive retaining wall across the back and sides in order to raise the lot so that we can walk outside the basement on to a small flat backyard. We are working with a local engineering company (Onsite Engineering) and local building contractor (Blackburn Excavating Limited) to engineer the basement foundation and retaining wall, as the concrete blocks will be purchased in Salmon Arm from Salmon Ready Mix. The cost to construct this retaining wall will be between \$50K and \$70K.

The home building contractor is also a local resident of Salmon Arm, and his name is Gary Arsenault of Green Emerald Home Construction.



In closing, the Willow Cove Strata Council supports the house and retaining wall plans that we have submitted, and we have a letter of support from President Doug Caruthers which we have included. Additionally, we met with and spoke with our neighbours Tina and Chris Letham on May 2nd, who live directly behind Lot 1. (Note - it should be recognized that the only people who may be remotely impacted by this request to extend our deck out 8 feet, are the Letham's. It is also worthy to note, that between the rear property line of Lot 1 and the rear backyard of the Letham's, stands a forest of trees on their property that provides them with privacy). We spent an hour with Chris and Tina at their home, reviewing the house plans that we have, and we also discussed the retaining wall that we would be constructing at the back of our property line. They were both appreciative of the fact that we came to them with our plans, and the fact that they knew that their former neighbours would be moving back to Salmon Arm. Although Tina had been rather vocal in the past with respect to the Willow Cove development, both she and Chris indicated to Elaine and I their issues were with Ron Harder, and they indicated to us that they would not oppose our variance application in order for us to enjoy the view of the lake. They also indicated to us that they would talk to their neighbours and inform them that it was our intention to commence building this summer, and they can expect a letter from the city with respect to this application. We also left our contact information with the Letham's in the event they had any further questions or concerns from them or the neighbours, and to date we have not received any calls. It should also be noted that many homes in Willow Cove have had Variance applications for larger decks approved, including our former home on Lot 2, as well as our former neighbours on Lot 3.

To summarize, we have been the owners of Lot 1 since 2007 at which time we paid full asking price of \$130K; we attempted for 3.5 years to sell the lot unsuccessfully; after deciding to build we learned that the lot was 5M smaller in size than most lots in Willow Cove; we spent an additional \$5K on a Custom home design as a result; and we will be spending an additional \$50K to \$70K on a retaining wall to make the lot construction friendly. In total, these additional costs once finalized, will total over \$205k for the Lot alone.

For the above mentioned reasons, we are seeking the approval from Salmon Arm City Council to approve the Variance Application to allow us to extend the rear deck on our new home construction by 8 feet, and to build a retaining wall on the back and sides of the lot, so that we can enjoy the beautiful scenery that Salmon Arm has to offer for many years as we enter into retirement.

Sincerely,

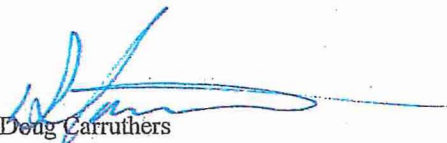
Dan and Elaine Sewell

June 4, 2015

To the City of Salmon Arm

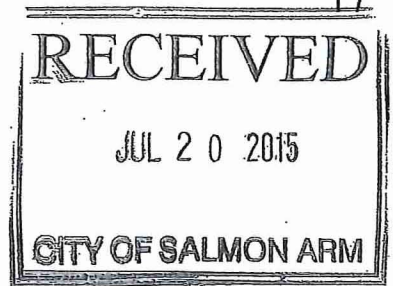
Variance Application for Strata Plan 3061, Lot 1, Willow Cove, 1581 20 St. NE, Salmon Arm, BC

Please be advised that Willow Cove Strata Corporation fully supports the variance application for an eight foot extension to their deck, and the retaining wall that is required to allow for the house to be placed on lot #1 in our bare land strata. This lot is owned by Dan and Elaine Sewell.



Doug Carruthers  
President  
Willow Cove Strata Corporation.





July 20, 2015

To the City of Salmon Arm

Variance Application for Strata Plan 3061, Lot 1, Willow Cove, 1581 20 St. NE, Salmon Arm, BC

Please be advised that Willow Cove Strata Corporation fully supports the variance application for a height variance for the principle dwelling from 10.0 meters to 13.1 meters. This will create a level building site for the proposed house and should allow the proposed garage to be the same grade as the strata road.

This variance is being requested by Dan and Elaine Sewell, who have kept Willow Cove Strata Corporation fully advised throughout this process



Doug Carruthers

President

Willow Cove Strata Corporation.





*City of Salmon Arm*  
*Memorandum from the Engineering*  
*and Public Works Department*

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**TO:** Kevin Pearson, Director of Development Services  
**DATE:** July 14, 2015  
**PREPARED:** Chris Moore, Engineering Assistant  
**OWNER:** Dan & Elaine Sewell, 16314 – 26 B Avenue, Surrey, BC V1Z 6Z2  
**APPLICANT:** same  
**SUBJECT:** **DEVELOPMENT VARIANCE PERMIT APPLICATION NO. VP-421**  
**LEGAL:** Strata Lot 1, Section 24, Township 20, Range 10, W6M, KDYD, Strata Plan KAS3061  
**CIVIC:** #1, 1581 – 20 Street NE  
**ASSOCIATED:** n/a  
**PREVIOUS:** n/a

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Further to the above referral, the Engineering Department has thoroughly reviewed the site and offers the following comments and recommendations, relative to the variances requested to Zoning Bylaw No. 2303:

- 1) Section 4.12.1(a) – combined height of retaining wall & fence from 2.0 metres to 6.6 metres
- 2) Section 6.10.2 – rear parcel line from 6.0 metres
- 3) Section 6.5 – height variance from 10 metres of principal building to 13.06 metres.

The Engineering department does not have any objections to these variance requests, but would recommend the following:

- The base of the proposed retaining wall on the northern property line is to be founded below the level of the adjacent Storm sewer.
- Sanitary and Storm sewer clean outs are to be installed to finished grade and accessible from within the existing right of way.

Chris Moore  
Engineering Assistant

Rob Nieuwenhuizen, ASCT  
Director of Engineering and Public Works



*City of Salmon Arm*  
*Memorandum from the Engineering*  
*& Public Works Department*

File: 8400.01.02

TO: Her Worship Mayor Cooper and Members of Council

FROM: Robert Niewenhuizen, Director of Engineering and Public Works

DATE: July 21, 2015

SUBJECT: **SHUSWAP REGIONAL AIRPORT, FUTURE DEVELOPMENT PLAN**

**RECOMMENDATION:**

**THAT: Council adopt the Shuswap Regional Airport Development Plan (2015) as prepared by WSP Canada Inc.;**

**BACKGROUND:**

The Airport Development Plan for the Shuswap Regional Airport in Salmon Arm was initially completed by Pryde Schropp McCombs Inc. (PSMI) in 2007. PSMI was originally chosen for this task based on their expertise in municipal land planning and development with specialties in airport planning. In 2012 PSMI was acquired by WSP Canada Inc. (WSP), a leading Canadian engineering service firm. At the Regular Council Meeting of August 25, 2014, WSP was hired to update and complete the Airport Development Plan.

The primary goal of the Plan was to identify and preserve the land for aviation and non-aviation related activities and to guide for future development in an efficient and cost effective manner, while recognizing the airport's operational and business objectives. The following areas of development were of specific interest:

1. Runway
2. Taxiway
3. Apron
4. General Aviation Development
5. Commercial Development
6. Airport Maintenance
7. Winter Operations

WSP was tasked with identifying other opportunities and constraints associated with the development of the airport lands. They also reviewed and incorporated several new items which were identified by the City's Airport Operations and Safety Committees during a strategic planning session held on September 16, 2014.

The Plan has been updated to comply with Transport Canada's *Aerodrome Standards and Recommended Practices TP312 4th Edition and draft TP312 5<sup>th</sup> Edition* and *international Civil Aviation Organization (ICAO) Annex 14 Aerodromes – Volume 1 Aerodrome Design and Operations*.

The Plan is configured in such a way that it can be implemented in phases. The plan recommends development be implemented in six (6) phases, shown on Exhibit 5 of the plan. Actual phasing of the plan will be dictated by demand.

The Plan was reviewed by the Airport Operations Committee at their regular meeting on June 24, 2014 and a motion was made to recommend that the Airport Development Plan as prepared by WSP Canada Inc. be considered for adoption by City Council, Staff are in support of this recommendation.

Respectfully submitted,



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Robert Niewenhuizen  
Director of Engineering and Public Works



# AIRPORT DEVELOPMENT PLAN



REPORT N° 141-21519-00

## AIRPORT DEVELOPMENT PLAN SHUSWAP REGIONAL AIRPORT

SALMON ARM, BRITISH COLUMBIA







## AIRPORT DEVELOPMENT PLAN

SHUSWAP REGIONAL AIRPORT,  
SALMON ARM, BRITISH COLUMBIA

Project N° 141-21519-00

Prepared for:  
**City of Salmon Arm**

Date: March 24, 2015

Prepared by:

—  
**WSP Canada Inc.**  
1300 Yonge Street, Suite 801  
Toronto, Ontario M4T 1X3

Phone: 647-789-3550  
Fax: 647-789-3560  
[www.wspgroup.com](http://www.wspgroup.com)





March 24, 2015

Mr. Robert Niewenhuizen  
Director of Engineering & Public Works  
City of Salmon Arm  
Box 40, 500-2nd Avenue NE  
Salmon Arm, BC, V1E 4N2

P: 250-803-4017  
F: 250-803-4041  
E: [rniewenhuizen@salmonarm.ca](mailto:rniewenhuizen@salmonarm.ca)

**Subject:        Airport Development Plan  
                 Shuswap Regional Airport, Salmon Arm, British Columbia**

Dear Mr. Niewenhuizen,

WSP Canada Inc. is pleased to submit the final Airport Development Plan for the Shuswap Regional Airport.

The primary goal for the future Airport Development Plan is to identify and preserve the land for aviation and non-aviation related uses and to guide for future development in an efficient and cost effective manner, while recognizing the airport's operational and business objectives.

It is important to note that some the existing hangar development at the airport, specifically minimum geometric setbacks, are less than required based on existing Transport Canada TP 312 4<sup>th</sup> edition airport design guidance. Future development at the airport must be in compliance with the current at that time TP 312 (5<sup>th</sup> Edition), where minimum standards are provided and thus providing a safe and efficient aviation facility for the local citizens, businesses and the air traveling public in the City of Salmon Arm and the region.

Should you have any questions with this airport development plan, please do not hesitate to contact us at your convenience.

Sincerely

**WSP Canada Inc.,**

A handwritten signature in black ink, appearing to read "P. Mankowski".

Pawel R. Mankowski, B.Sc.  
Aviation Consultant

WSP Canada Inc.  
1300 Yonge Street, Suite 801  
Toronto, Ontario M4T 1X3

Phone: 647-789-3550  
Fax: 647-789-3560  
[www.wspgroup.com](http://www.wspgroup.com)

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## APPENDICES

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# 1

## INTRODUCTION AND SCOPE OF WORK

### 1.1

#### INTRODUCTION

The Shuswap Regional Airport (formerly known as Salmon Arm Airport) is a general aviation airport located in the City of Salmon Arm, British Columbia. The airport is owned and operated by the City of Salmon Arm. The airport has a single paved runway, Runway 14-32 that is 1,299m (4,260ft) long and 23m (75ft) wide. The airport is certified for day and night flights, supporting Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) operations. The Cessna Citation aircraft (Code B) is designated as the design aircraft for the Shuswap Regional Airport.

The official published geodetic location of the Shuswap Regional Airport as indicated in the Canadian Flight Supplement is latitude N 50° 40' 57", longitude W 119° 13' 43". The airport identifier code for the Shuswap Regional Airport is CZAM.

Development at the Shuswap Regional Airport has been in the past completed on an ad-hoc basis. In recent years the City of Salmon Arm has prepared lot plans on properties that border the airport property. These lots are, however, off-site and provide no real guided plan on future developments on airport property.

The existing on-site developments mostly consist of private hangars where the hangars are constructed on long-term leased lands. The hangars range from small single hangars to long multiple aircraft storage hangars. There are also a number of aircraft tie-down areas on-site.

There is however only a limited number of hangars and aircraft tie-down areas available. As such the occupancy rate has been quite high creating demand for additional developments. It is the demand for additional developments that has for the most part triggered the requirement for the Future Development Plan. During peak summer periods the airport operator has noticed aircraft congestion in the vicinity of the main apron area. This is due to the fact that there is only a single (main) access point to the apron (Taxiway Alpha) and no parallel taxiway. Therefore, the airport management and the City of Salmon Arm staff would like to have provisions for an apron expansion and a full-length parallel taxiway within the Future Development Plan.

### 1.2

#### SCOPE OF WORK

WSP Canada, Inc. was retained by the City of Salmon Arm to complete a future Airport Development Plan. The following requirements were identified by the City of Salmon Arm to be included within the Airport Development Plan:

- Determine the feasibility of extending Runway 14-32 from the existing length of 1,299m (4,260') to a length of approximately 1,372m (4,500ft) and ultimately to 1,524m (5,000ft). As part of the original investigation of the runway extension, WSP will review and finalize the findings. Currently, however, the City of Salmon Arm is not planning to extend the runway but rather maintaining its existing length at 1,299m (4,260ft).
- Determine the feasibility of constructing a full length (in stages) parallel taxiway.
- Identify an area available for expansion of the Apron "1" area and as a result identify relocation of airport fuel services. This area would be primarily located south of the main apron area, east of the existing fuel facilities.



- Allocate an area near the main apron area for hangar developments (with stub taxiway access to the parallel taxiway) and provide vehicle access.
- Allocate an area at the north end of the airport for aviation-related commercial development with taxiway access.
- Identify potential secondary airport access road from the south of the airport (30<sup>th</sup> Ave. SE)
- Identify an area for future development of fire services.
- There is to be no provisions for an expanded Air Terminal Building.
- There are no provisions for expanded site servicing.

### 1.3 AIRPORT PLANNING GUIDANCE AND REFERENCES

All standards and recommended practices used in the airport development plan are in accordance with the current TP312 4<sup>th</sup> Edition *Aerodrome Standards and Recommended Practices* and draft TP312 5<sup>th</sup> Edition, and International Civil Aviation Organization (ICAO) Annex 14 *Aerodromes – Volume 1 Aerodrome Design and Operations*.

### 1.4 DRAFT TP312 5TH EDITION COMPLIANCE

Released on January 17, 2014 by Transport Canada the draft version of TP312 5th Edition became available for industry practitioners to provide comments for consideration during the Canadian Aviation Regulatory Advisory Council (CARAC) review process. In the previous editions of TP312, including the current 4th Edition, airport design/infrastructure requirements were specified based on the physical characteristics of runway length and aircraft size. The proposed 5th Edition of TP312 revises this approach to associate airport design/infrastructure requirements with aircraft performance and type of operation in addition to the physical characteristics of aircraft size.

Transport Canada has indicated that the 5th Edition of TP312 aims to address issues commonly experienced at Canadian aerodromes. These include challenges associated with changing levels of service and the type of traffic using airport facilities. The modifications contained in TP312 5th Edition were done to ensure consistency in the operational concepts within North America and to harmonize where possible with current ICAO specifications, the latest in instrument procedure design criteria, and advances in airfield technology.

It is important to note that the 5th Edition of TP312 contains 'Standards' only. The recommendations previously contained in TP312 4th Edition have either been removed or adopted as standards. Where certain recommendations are found to be of use to airports in adopting a best practices approach, the information will be released in the form of Advisory Circulars or simply by reference to ICAO Annexes and Aerodrome Design/Service Manuals.

The key principle of 5th Edition is that the certification level of service will be established based on the aircraft using the site (dimensions and approach speed) or in some cases planned usage as declared by the airport operator. Runway length will no longer be of prime consideration in the overall concept. In the future the certification level of service will be published in Aeronautical Information Publications for use by aircrews in determining the suitability of the aerodrome for the intended operation pursuant to CARs 602.96(2b).

#### 1.4.1 IMPLEMENTATION SCHEDULE

Transport Canada is proposing to implement TP312 5<sup>th</sup> Edition over a three (3) year period as follows commencing with its official publication in the Canadian Aviation Regulations:

Year 1 – 2015 (est.)

- Operator to inform users of the certification level
- Identification of current aircraft size group (AGN)

Year 2 – 2016 (est.)

- Transport Canada to issue/update Advisory circulars to CARs Parts III, VI, and VII
- Aeronautical Information Manual (AIM) updates

Year 3 – 2017 (est.)

- AIM Updates
- Publication of certification level (aircraft size group, level of service, aerodrome visibility) in the Canada Flight Supplement (CFS)

Transport Canada has indicated that TP312 5<sup>th</sup> Edition will be enacted via CARs Section 302.07 which states:

302.07 (1) The operator of an airport shall

- a) comply
  - i. subject to subparagraph (ii) with the standards set out in the aerodrome standards and recommendation practices publications, as they read on the date on which the airport certificate was issued,
  - ii. in respect of any part or facility of the airport that has been replaced or improved, with the standards set out in the aerodrome standards and recommended practices publications, as they read on the date on which the part or facility was returned to service, and
  - iii. with any conditions specified in the airport certificate by the Minister pursuant to subsection 302.03(3).

Section 302.07 is generally referred to as the “grandfathering” clause. Compliance with the most recent edition of TP312 has not typically been required until such time as the operator undertakes the reconstruction, replacement or improvement of the specific facility (i.e. airfield electrical rehabilitation, taxiway reconstruction). Transport Canada has indicated that routine maintenance activities such as crack sealing and repaving are not considered triggers for compliance with the latest edition of TP312. Transport Canada has indicated that clarification will be issued in the form of an Advisory Circular as to what specific activities will trigger compliance with the TP312 5<sup>th</sup> Edition.



## 2 EXISTING CONDITIONS

### 2.1 RUNWAY

The Shuswap Regional Airport has a single paved runway, Runway 14-32 that is 1,299m (4,260ft) long and 23m (75ft) wide and is classified as Code 3B Non-Instrument. However, according to the Airport Operations Manual (AOM) the airport is declaring a reference Code of 2B.

Transport Canada has acknowledged the variation and has recommended the Shuswap Regional Airport apply for an exemption. The inspection carried out by Transport Canada in 2004 the airport was recognized as Code 2 Non-Instrument. For the purpose of this Future Development Plan, it will be assumed Runway 14-32 is a Code 2B Non-Instrument as well as it will be evaluated to include the recently introduced draft of TP312 5<sup>th</sup> Edition.

The runway strip for Runway 14-32 has a length of 1,419m (60m beyond each runway end) and a width of 152.4m (76.2m on each side of runway centerline). The width of the strip is according to the AOM. This unusually wide runway strip allows for no transitional Obstacle Limitation Surface (OLS) along the side of the runway (TP312 4th Edition – 4.2.2.4).

The Shuswap Regional Airport is certified for Visual Flights Rules (VFR) - Visual Meteorological Conditions (VMC) and Instrument Flight Rules (IFR) - Instrument Meteorological Conditions (IMC).

The following **Table 1** summarizes the physical characteristics of Runway 14-32 at the airport:

**Table 1**  
**Physical Characteristics – Runway 14-32**

ITEM	RUNWAY 14-32
Reference Code	2B Non-Instrument
Length	1,299m
Width	23m
Threshold Elevation	527.6m (RW14) / 533.7m (RW32)
Strip – Length	60m
Strip – Width	76.2m

Source: Shuswap Regional Airport – Airport Operations Manual 03/31/2010.

The following **Table 2** summarizes the OLS at the airport:

**Table 2**  
**Obstacle Limitation Surfaces (Code 2B) – Runway 14-32**

ITEM	RUNWAY 14-32
<b>Outer Surface</b>	
Radius	4,000m
Elevation	578.7m
<b>Approach Surface</b>	
Length	2,500m
Width (at Inner Edge)	152.4m
Divergence	0%
Slope	4.0% (1:25)
<b>Transitional Surface</b>	
Slope	Vertical

*Source: Shuswap Regional Airport – Airport Operations Manual 03/31/2010.*

**Exhibit 1**, included in **Appendix A** of the report, depicts the Existing Airport Conditions.

## 2.2 TAXIWAYS

There are currently two taxiways at the Shuswap Regional Airport. Taxiway Alpha runs from the main runway (approximately 175m south of the threshold of Runway 14) westward towards the main apron area. Based on AOM, Taxiway Alpha is a paved Code C taxiway with a width of 15m. This taxiway is lighted.

Taxiway Bravo runs from the main apron area in a southeasterly direction for approximately 415m at which point it turns east towards and intersects Runway 14-32 (approximately 610m north of the threshold of Runway 32). Taxiway Bravo is a gravel Code A taxiway with a width of 7.5m. This taxiway is not lighted, and is closed during the winter months.

There are no threshold turning pads and no taxiways which provide access to the thresholds of Runway 14-32. There is a paved pre-threshold area at the threshold of Runway 14. This area is marked with chevrons, and is typically used by pilots for 180° turnarounds.

It was noted by the airport staff that during peak periods, especially during the firefighting season, there is congestion at the airport. The Shuswap Regional Airport would like provisions for a full-length phased parallel taxiway in an effort to relieve some of this congestion.

The existing taxiway layout is shown on **Exhibit 1**.

## 2.3 APRON

There is only a single apron area at the Shuswap Regional Airport. Apron "1" is a paved apron area located west of Taxiway Alpha. This area is approximately 7,400m<sup>2</sup> and provides access to the Air Terminal Building (ATB), aircraft fueling area, and the general aviation area. Apron "1" is lighted with both edge lighting and general flood-lighting. Adjacent to the fuelling area on Apron "1" a helipad is identified.

The existing apron area is shown on **Exhibit 1**.



## 2.4 AIR TERMINAL BUILDING

The existing ATB is located on the north side of the main apron area. The existing and future ATB demand is sufficient and therefore is satisfactory for the foreseeable future with regular maintenance and upkeep.

The existing ATB and associated vehicular access and parking are shown on **Exhibits 1 and 2**.

## 2.5 FACILITIES

The Shuswap Regional Airport has services and facilities similar to most typical general aviation airports. The Shuswap Regional Airport provides a Universal Communication (UNICOM) on 122.9 assigned frequency during typical business hours, and is available by phone outside of normal hours of operation. As with most typical general aviation airports, fuel and oil services are available on-site. The Shuswap Regional Airport is also served by a private Non-Directional Beacon (NDB).

## 2.6 GENERAL AVIATION DEVELOPMENT

There are number of general aviation developments located at the Shuswap Regional Airport. These developments include both fix-wing and rotary-wing aircraft tie-down parking areas and enclosed hangar developments. There is approximately 450 equivalent linear meters of general aviation hangars at the Shuswap Regional Airport. According to the airport's staff, the occupancy rate of the existing general aviation developments; both private and airport owned, is quite high. During recent discussions with the City of Salmon Arm staff it was noted that the airport would like to have provisions for additional general aviation developments, such as hangar lots and aircraft tie-down areas.

The general aviation development area is shown on **Exhibit 2**.

## 2.7 COMMERCIAL DEVELOPMENT

Similar to the general aviation developments, there are number of existing commercial developments. According to the airport staff, the majority of these developments are leased to various companies and individuals. During recent discussions with the City of Salmon Arm staff it was noted that the airport would like to have airport lands identified and reserved for additional commercial use.

The commercial development area is shown on **Exhibit 2**.

## 2.8 WINTER OPERATIONS

During winter operations, most of the snow clearing operations is contracted out. The contractor utilizes a grader and loader which is stored off-airport. Additionally, a large tractor with a blade and a tow behind sweeper also assist in the snow clearing operations, however, this equipment is stored in the airport maintenance building.

Typically, the snow is pushed to the side of taxiway and apron. During major snow events the excess snow is blown and pushed into the open areas of the airport. Those areas are located south of existing fueling and helicopter pad, and in the triangular in shape open area between Taxiway Alpha, Taxiway Bravo and the runway. Two additional areas are located southwest of the aircraft storage buildings, behind the long T-hangar and adjacent to the private single-unit hangars.

## 3 SITE CONSTRAINTS

### 3.1 AIRPORT PROPERTY BOUNDARY

The Shuswap Regional Airport is located approximately 4.0 km from the Salmon Arm city centre. The airport sits on an odd-shaped lot that is 43.3 ha (106.9 acres) in size. The existing runway configuration is such that the entire east side of the runway strip borders the edge of the property boundary. A site plan of the Shuswap Regional Airport is shown in **Exhibit 1**.

Significant land uses located directly adjacent to the airport are a golf course (Salmon Arm Golf Club) and the Salmon Arm Landfill solid waste disposal site. These two sites are a potential hazard to airport operations due to their inherent attraction of wildlife activity. This report however, focuses solely on on-site land-uses and developments. No analysis was completed concerning any off-site land uses including both the Salmon Arm Golf Club and the Salmon Arm Landfill.

The airport property boundary is shown on all exhibits.

### 3.2 RUNWAY

There are a number of constraints with respect to Runway 14-32 at the Shuswap Regional Airport. The most significant constraint is the configuration of the runway within the property boundary. As discussed in Section 3.1 (above) the property boundary is oddly shaped which significantly limits any possibility of extending the runway. The runway strip, extending 60m beyond the runway ends, is located within 100-200m of the property boundary along the extended centerline. Any extension to the runway would push the runway into a reference code of Code 3B over the existing Code 2B.

Runways with a reference code of Code 3 have much more restrictive OLS requirements. According to TP312 4<sup>th</sup> Edition, only runways with a reference Code of 1 or 2 can have a vertical OLS transitional surface (in conjunction with an oversized runway strip). Another developmental constraint to maintaining the vertical OLS transitional surface is the need to maintain a non-instrument operational classification.

Although the runway length is no longer a concern under TP312 5th Edition, as described in Section 1.4, it is important to maintain a non-instrument operational classification in order to remain in the vertical OLS transitional surface classification as identified in Table 4-1 (e).

According to TP312 4<sup>th</sup> Edition and draft 5<sup>th</sup> Edition, a runway with an operational classification of instrument, non-precision or precision, cannot have a vertical OLS transitional surface.

Maintaining the vertical OLS transitional surface is of key importance as there is a significant difference in OLS approach surface slope for a Code 2 runway compared to a Code 3 as well as Aircraft Group Number (AGN) II. The following Table 3 highlights the differences between the existing OLS at the Shuswap Regional Airport per runway codes and classifications.



**Table 3**  
**Obstacle Limitation Surfaces Comparison – Code 2B/Code 3B/AGN II**

ITEM	TP312 4 <sup>TH</sup> ED. CODE 2	TP312 4 <sup>TH</sup> ED. CODE 3	DRAFT TP312 5 <sup>TH</sup> ED. AGN II <sup>(1)</sup>
<b>Outer Surface</b>			
Radius	4,000m	4,000m	4,000m
<b>Approach Surface</b>			
Length	2,500m	2,500m	2,500m
Width (at Inner Edge)	150m	90m	150m
Distance from Threshold	60m	60m	60m
Point of Origin Divergence beyond the Strip End	N/A	N/A	450m
Divergence	0%	10%	10%
Slope	4.0% (1:25)	2.5% (1:40)	4.0% (1:25)
<b>Transitional Surface</b>			
Slope	Vertical	14.3% (1:7)	Vertical

<sup>(1)</sup> Note - Draft TP312 5<sup>th</sup> Edition, Table 4-1(e) Modified Obstacle Limitation Surfaces for Non-Instrument Runway, 2014.  
AGN II in draft TP312 5<sup>th</sup> Edition is equivalent to Code 2 as per TP312 4<sup>th</sup> Edition.

Although the City of Salmon Arm has a comprehensive property easement program with surrounding properties, there is no protection for a transitional surface on any of the adjacent properties. This includes the Salmon Arm Golf Club which is directly bounded by the runway strip on the east side of the airport property. Furthermore, at the southeast corner of the runway strip, the golf course (and playing surface) is located within the runway strip by approximately 50m. In fact there is approximately 0.78 ha (1.93 acres) of golf course (including fairways, sand traps and cart paths) located within the airport property some of which are within the runway strip.

As a result, and based on current TP312 4<sup>th</sup> Edition design standards and recommendations, any extension of the runway would result in a runway reference code of Code 3B requiring compliance to more restrictive OLS approach and transitional surfaces. Consequently, the more stringent OLS approach and transitional surface slopes would result in a number of off-site surface penetrations (trees). These additional penetrations would need to be either trimmed or removed. A number of the additionally impacted lands do not fall within the existing easement program, resulting in legal implications with the impacted property owners.

There is also the cost implication of extending the existing runway to a Code 3B runway. Transport Canada recommends Code 3B runways have a minimum width of 30m versus 23m for a Code 2B. There are significant costs associated with widening the runway 7m (3.5m on each side). This is because it would require the relocation of all runway edge light fixtures in addition to the expanded pavement structures.

An analysis was completed in 2006 by Pryde Schropp McComb Inc., concerning a runway extension which is attached as **Appendix B**. As a result of the above, there is no provision within this Future Development Plan for an extension of Runway 14-32. Additionally, the City of Salmon Arms desires to maintain its existing runway length at the airport.

**Figure 2** summarizes existing development and site constraints highlighting the runway, runway strip and the areas of the golf course that is located within the property boundary.

### 3.3 EXISTING DEVELOPMENTS

There are a number of existing developments located within the Shuswap Regional Airport. At present all of the existing developments are located in the vicinity of the main apron area. These developments, according to the airport are all fairly new and in good condition. These areas will be identified as Commercial – Long-term Lease and will remain as per existing. The Future Development Plan will integrate the existing developments with the proposed developments in an effort to maximize the limited available space.

The total existing development area at the Shuswap Regional Airport is approximately 26.99 ha (67.00 acres). Included within this area are the following:

- Runway 14-32 and runway strip
- Taxiway Alpha and taxiway strip
- Taxiway Bravo and taxiway strip
- Main apron area
- ATB and airport operations area
- Existing general aviation and commercial development area.

The above mentioned constraints are shown on **Figure 2**.

### 3.4 OLS APPROACH SURFACE

Extending beyond the runway strip off the ends of the runway is the OLS approach surface. Due to the proximity of the runway strip with respect to the property boundary (as described in Section 3.2) there is little change in OLS approach surface elevation between the edge of the runway strip and the property boundary. As a result of this, no developments will be proposed under the approach surface. The total area is approximately 3.21 ha (7.94 acres) in size.

The area under the OLS approach surface within the airport property is shown on **Figure 2**.

### 3.5 SOLID WASTE DEPOSITS

There are a number of solid waste deposits located within the airport property. These deposits are located in an area that was formally part of the Salmon Arm Landfill solid waste disposal site. This area is limited to the open undeveloped lands located south and east of the general aviation area off the main apron. Currently this area is considered not suitable for development.

In October 2013, SLR Consulting (Canada) Ltd., completed a Stage I Preliminary Site Investigation on a northern section of land at the Shuswap Regional Airport. The report was intended to identify significant areas of potential concern (APECs) and discussed environmental contamination risks based on site visit, airport staff interviews and historical document's review. SLR identified a total of six (6) APECs sites that pose a risk to the site. Two (2) APECs sites were identified within airport property and four (4) adjacent to the airport. **Exhibits 2 through 5** reference all APECs sites on and off airport property boundary. Refer to Stage I Preliminary Site Investigation Report completed by SLR for details of APECs investigation. A Stage II Site Investigation has been recommended providing more intrusive investigation of identified APECs sites.



### 3.6 TREE GROWTH AREAS

There are a number of areas within the Shuswap Regional Airport property that have extensive tree growth. Although tree growth areas do not inhibit airport development, there is an additional cost associated with development of those areas. There are approximately 7.14 ha (17.65 acres) of potential development land that has significant tree growth.

**Figure 2** highlights the area within the property boundary with existing tree growth.

### 3.7 FUTURE DEVELOPMENT AREA

As described in Section 3.1 the total property area of the Shuswap Regional Airport is 43.3 ha (106.9 acres). The total area of the above mentioned constraints is 30.98 ha (76.87 acres) excluding the tree growth areas. As a result of these constraints the total remaining area available for future development is 12.32 ha (30.03 acres). The following Figure 4 summarizes the development area:

**Table 4**  
**Shuswap Regional Airport Development Area**

PROPERTY IDENTITY	AREA (HA)	AREA (ACRES)
Total Airport Property	43.30	106.90
Development Constraints	30.98	76.87
<b>Total Remaining Development Area</b>	<b>12.32</b>	<b>30.03</b>

# 4 FUTURE DEVELOPMENT PLAN

## 4.1 RUNWAY

For the purpose of future development planning with respect to runway environment, the Aircraft Group Number (AGN) II is determined as per draft TP312 5<sup>th</sup> Edition. This classification is based on Cessna Citation design aircraft as specified in the most current AOM for the Shuswap Regional Airport.

As identified in Section 2.1 and Section 3.2, Runway 14-32 is to remain as per existing. The airport property boundary does not extend enough beyond the end of the runway to protect against object penetrations within the OLS approach surface. Therefore, the runway is to remain 1,299m x 23m (4,260ft x 75ft) Code 2B non-instrument.

However, as defined in TP312 4<sup>th</sup> Edition (as recommendation), and draft TP312 5<sup>th</sup> Edition (as standard), each runway end should provide Runway End Safety Area (RESA) that extends 90m beyond runway strip or 150m extending beyond each runway threshold and twice the width of the runway. The requirement of implementing RESA standard per draft TP312 5<sup>th</sup> Edition would be when the new portion of parallel taxiway is constructed connecting to Runway 14 end.

The purpose of RESA is to reduce the severity of damage to an aircraft undershooting or overrunning the runway. RESA must have an area free of objects, other than frangible visual and navigational aids required to be there by function and support the movement of rescue and fire fighting vehicles.

Currently, the runway does not meet RESA's minimum standards at Runway 14 end (as per TP312 5<sup>th</sup> Edition). In order to provide Runway 14 end with appropriate RESA within the airport property, the runway length would need to be reduced to 1,257m (4,114ft) which is 42m (138ft) shorter than current runway length. However, an option is available to acquire land beyond Runway 14 end of approximately 0.29 ha (0.71 ac). Having acquired that land, Runway 14 threshold can remain at existing location providing minimum RESA standards and maintaining runway length at 1,312m (4,305ft). The slight difference of 13m in runway length is noticed that the airport would benefit under TP312 5<sup>th</sup> Edition. **Exhibits 3 and 4** depict runway length with future development of the airport.

It is important to note that in case the land beyond Runway 14 end is not acquired to satisfy RESA standard requirements as per Transport Canada TP312, the Runway 14 end (threshold 14) would need to be shifted 43m to the south. This change in runway length would also impact few elements of the runway, approach procedures and equipment relocation. The following items associated with relocating Runway 14 threshold are listed below:

- Precision Approach Path Indicator (PAPI) located on left side of Runway 14 to be relocated and recalibrated,
- Runway Identification Lights (RILS) located at Runway 14 end to be relocated,
- Runway Markings to be repainted (including centerline), and
- Instrument flight procedures to be revised. (Based on instrument approach chart, RNAV approach, circling and miss approach way point is based on Runway Threshold 14 therefore, the procedures would need to be revised).



## 4.2 TAXIWAY

For the purpose of future development planning with respect to taxiway/taxilane environment, the Aircraft Group Number (AGN) II is determined as per draft TP312 5th Edition. This classification is based on Cessna Citation design aircraft as specified in the most current AOM for the Shuswap Regional Airport.

One of the main concerns of the Shuswap Regional Airport is apron congestion during peak periods. During the discussion with the airport management and City of Salmon Arm staff, it was noted that the airport would require a full-length parallel taxiway that would be constructed in sections, as required.

To alleviate the above noted congestion, Taxiway Charlie is proposed which is a full-length parallel taxiway with four (4) 90° entrance and exit points to Runway 14-32. The offset distance from Taxiway Charlie to Runway 14-32 is 52m from the centerline to centerline as specified in draft TP312 5<sup>th</sup> Edition.

The following provide the minimum planning criteria when considered future general aviation/ corporate side development:

- Minimum separation between the taxilane centreline to an object for Code A/ AGN I = 12.0m
- Minimum separation between the taxiway centreline to an object for Code A/ AGN I = 16.25m
- Minimum separation between the taxilane centreline to an object for Code B/ AGN II = 16.5m
- Minimum separation between the taxiway centreline to an object for Code B/ AGN II = 21.5m

As described above, there are four (4) 90° entrance and exit taxiways proposed along Taxiway Charlie. Beginning from the north, the first is located at the threshold of Runway 14. The second is the existing Taxiway Alpha which is to remain as per existing. The third is a 90° access point at the mid-point of the runway. And finally the fourth is a 90° access point at the threshold of Runway 32.

Taxiway Bravo is proposed to be abandoned during future development as it is in poor condition and is not properly configured to allow future development along the parallel taxiway.

The existing and future taxiway system is depicted in **Exhibits 3 and 4**.

## 4.3 APRON

According to the airport management, the main apron also becomes congested during peak periods. As noted in Section 2.3 the existing main apron is approximately 7,400m<sup>2</sup>. Expansion of the main apron was to occur to the east of the fuel facilities and south of Taxiway Alpha. As shown on **Exhibit 4** the proposed apron expansion is to comprise of an addition 2,707m<sup>2</sup> for a total apron area of 10,200m<sup>2</sup>.

Expansion of the main apron is to primarily occur by expanding the apron east from the existing fuel facilities. The main limiting factor in the expansion was a general aviation hangar development that is proposed to the south. The general aviation development will be discussed further in Section 4.4.

Until the additional apron space is required, the area can be used as an aircraft tie-down area.

Due to the expansion of the main apron, the existing helipad and fuel facility needed to be relocated. The helipad is proposed to be relocated east, south of Taxiway Alpha and the fueling facility is proposed to be relocated to the west side of the existing apron, adjacent to the main airport access gate. An alternative fuel facility is also shown adjacent to the existing Air Terminal Building. Either site will provide above-ground fuel storage tanks as indicated by the City of Salmon Arm staff. The



new expanded apron provides space for a mix of aircraft and helicopter types depending on its parking configuration. The exact number of helicopter parking positions will vary depending if the helicopters are to taxi ('hover') to and from the parking positions.

#### 4.4 GENERAL AVIATION DEVELOPMENT

It was noted during the discussions with the airport management and City of Salmon Arm staff that the existing general aviation facilities are near capacity and those additional facilities should be included within the Future Development Plan.

The proposed general aviation development is comprised mostly of hangar developments located south of the proposed apron expansion, between the existing general aviation developments and the proposed Taxiway Charlie. The proposed hangars shown are based on the existing hangar development currently at the airport. As noted in Section 2.6 there is approximately 450 equivalent linear metres of single occupancy hangar developments. It is proposed to add approximately an additional 590 equivalent linear metres for a total of 1,040 linear meters of single occupancy hangar developments.

The proposed hangar developments are to be for the most part oriented at a right angle to the proposed Taxiway Charlie. The hangars would be accessed by four (4) stub Code B / AGN II taxilanes stemming from the proposed Taxiway Charlie. The most northerly taxilane would be the only taxilane with access to both the proposed Taxiway Charlie at the east and the existing general aviation area to the west. The stub taxilanes and the hangars are all designed based on standards and recommendations specified in TP312 5<sup>th</sup> Edition guidelines.

A second vehicle access road to the airport connecting to the existing and future development area has been identified from the south via 30<sup>th</sup> Ave. SE or 50<sup>th</sup> St. SE. With the second access road, the vehicle parking has also been identified for the airport tenant.

The general aviation development area is shown on **Exhibits 3 and 4**.

#### 4.5 COMMERCIAL DEVELOPMENT

Similar to the general aviation development, the commercial development area is at or near capacity and the airport management and City of Salmon Arm staff indicated that additional areas are to be identified as reserved areas in the Future Development Plan.

Due to the odd shape of the airport property, the proposed commercial development areas are located at various places around the airport where space is available. Starting from the north end of the airport is an area approximately 1.69 ha (4.16 acres) which is to also include a Code B / AGN II taxiway. This taxiway is shown as Taxiway Delta. Within that area the land is reserved for future development of fire services. There is also allocation for a 15m groundside road right-of-way with cul-de-sac.

The second commercial area is a stub taxiway located at approximately the mid-point between the threshold of Runway 14 and Taxiway Alpha. There is not sufficient width within the 'notch' in the airport property to allow for a Code B / AGN II taxilane, therefore a Code A / AGN I taxilane is shown. However if there was an easement arrangement with the impacted property owners, a Code B / AGN II taxilane could be accommodated.

The third commercial development area is reserved along the south portion of the proposed Taxiway Charlie. This area is located south of the proposed general aviation hangar developments. In order to accommodate a 15m groundside roadway right-of-way for a secondary access road from the south of the airport, a depth of approximately 40m is available. This reserved area is approximately 2.91 ha (7.20 acres) in size.



The fourth and final potential commercial/corporate development area is identified as reserved land located adjacent to the threshold of Runway 32. Remaining clear of the approach surface for Runway 32 the potential commercial/corporate area can be configured based on future demand.

Similar to general aviation development, same secondary vehicle access identified to support future commercial/corporate development. With the second access road, the vehicle parking would also be available for future airport tenant.

The commercial reserved area is shown on **Exhibits 3 and 4**.

The City of Salmon Arm bylaws for airport zoning and industrial development permit area with respect to airport are provided for reference in **Appendices C and D**.

#### **4.6 AIRPORT MAINTENANCE FACILITY**

As indicated by the airport management and City of Salmon Arm staff, the airport maintenance building is in poor condition and will be subject to demolition and relocation to a new recommended site.

It is recommended that the City of Salmon Arm construct an airport maintenance/shop that is at least 300m<sup>2</sup> in size to house dedicated airport maintenance equipment. The space can also be used as an enclosed workshop. It is recommended that the new airport maintenance facility be constructed east of the existing airport vehicle access gate off 20<sup>th</sup> Ave. SE. This area will provide sufficient space for the maintenance building, vehicle parking and access on and off airport.

#### **4.7 WINTER OPERATIONS**

Section 2.8 describes winter operations with respect to snow clearing and locations of snow storage. As the future development is phase out and currently two (2) areas become unavailable for snow storage, south of the main apron, the future snow collection should be relocated to the north side of Taxiway Alpha and area north of existing apron. An area proposed for helicopter landing, south of Taxiway Alpha, could potentially be utilized for snow collection during winter season when traffic is slow helicopter parking needs are minimal. The areas that are currently utilized, southwest of the aircraft storage buildings, and that are identified as potential future grass tie-downs can still be utilized for snow storage as the number of tie-down aircraft during the winter season will be minimal. Another option is to remove the excess snow off airport via dump trucks.

# 5

## DEVELOPMENT PHASING PLAN

### 5.1 GENERAL

Future Development Plan for the Shuswap Regional Airport is configured in such a way that it can be implemented in phases. Actual phasing of the airport development plan will be dictated by demand. Where demand increases above anticipated levels, Phases I through VI development may be done concurrently. The following describes a recommended six (6) phase plan for the Future Development Plan.

### 5.2 PHASE I

Phase I includes the portion of parallel Taxiway Charlie south of Taxiway Alpha to the mid-point of Runway 14-32. This will allow the majority of landing aircraft in both directions to exit the runway. This will reduce the total time an aircraft occupies the runway, increasing runway capacity. Additionally, this phasing includes the land acquisition north of the airport and secondary roadway access from the south of the airport. The secondary roadway access will also provide vehicle parking spaces for the existing as well as the future airport tenants. The land acquisition is essential to provide a RESA to Runway 14 end, while timing is ideal to secure this site for that specific purpose before the City of Salmon Arm zones this land for industrial park purposes. In this phase a new airport maintenance facility is to be constructed and relocated near the main airport entrance road.

### 5.3 PHASE II

Phase II of the Future Development Plan is expansion of the Apron "1" area. This phase in conjunction with Phase I will, according to the airport, significantly reduce congestion during peak periods. During this phase the fuel farm storage tanks are anticipated to be removed from underground and relocated to the west side of the existing apron. The tie-down area is also shown to be relocated southwest of the existing aircraft storage buildings.

### 5.4 PHASE III

Phase III includes construction of Taxiway Charlie from the pre-threshold area of Runway 14 to the existing Taxiway Alpha. This will allow aircraft to circulate to the threshold of Runway 14 without impacting runway operations.

### 5.5 PHASE IV

Phase IV includes the construction of the stub taxilanes providing access to the proposed general aviation hangar developments. This will likely occur in stages as there are four (4) proposed stub taxilanes. Beginning with the northern most stub taxilane, as more hangar developments are required additional stub taxilanes can be constructed. It is important to note that even though the future stub taxilanes are identified in Phase IV, they can be constructed in any phase based on demand.

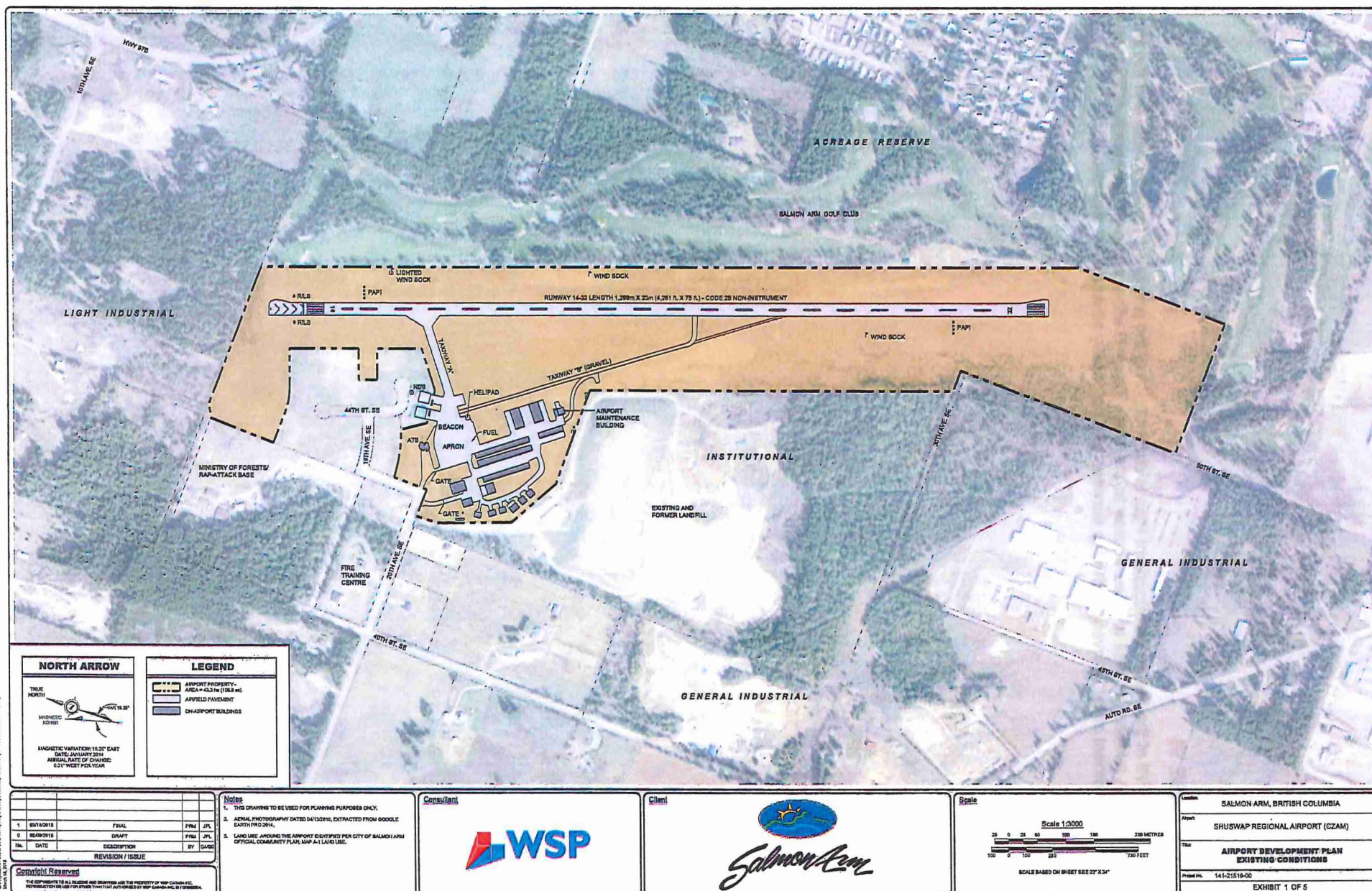
### 5.6 PHASE V

Phase V consist of completing the full-length parallel taxiway Charlie. This will be from the mid-point of Runway 14-32 to the threshold of Runway 32. This will provide access to the reserved commercial/corporate development area located on the west side of the airport property.

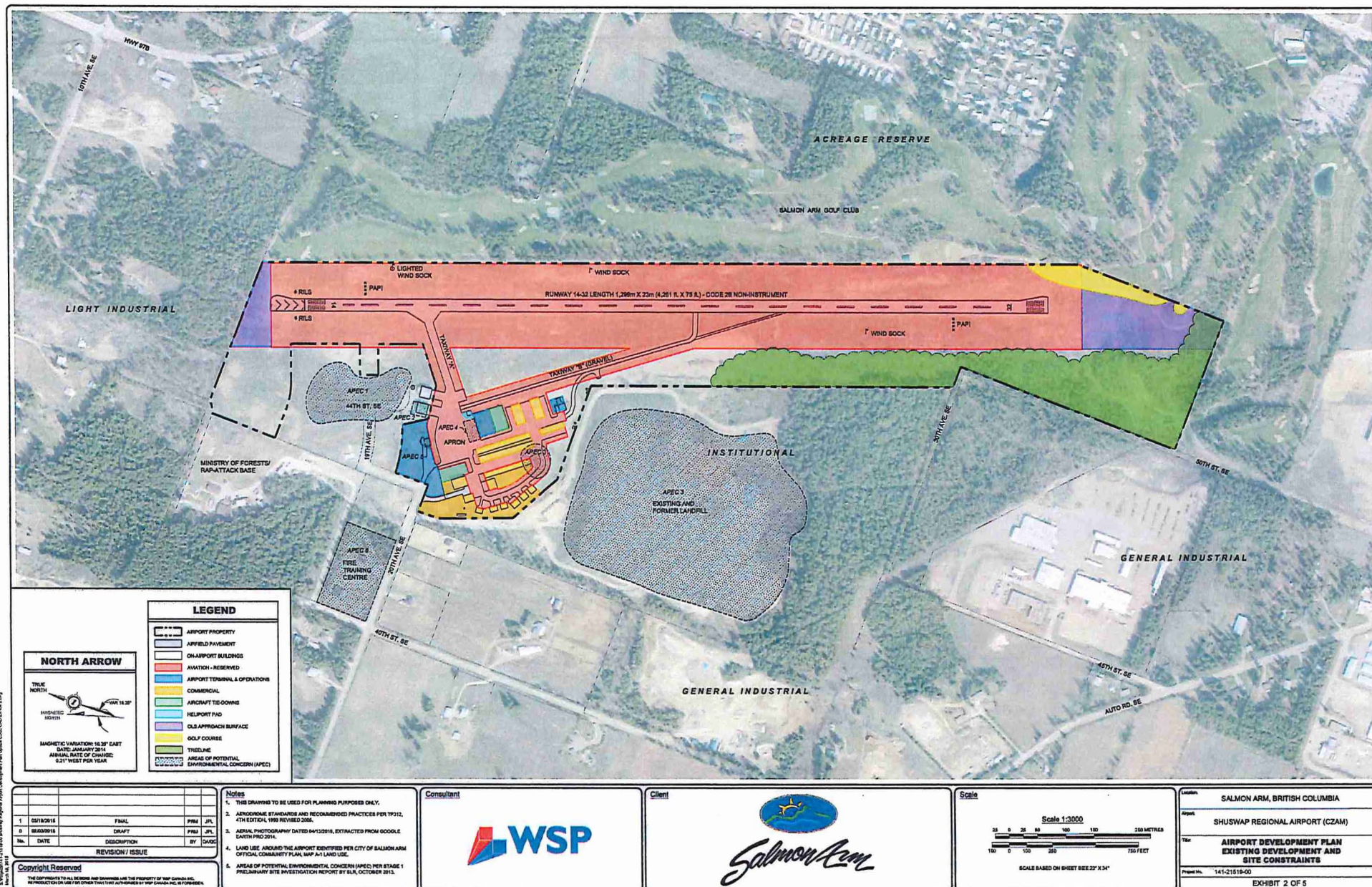


## 5.7 PHASE VI

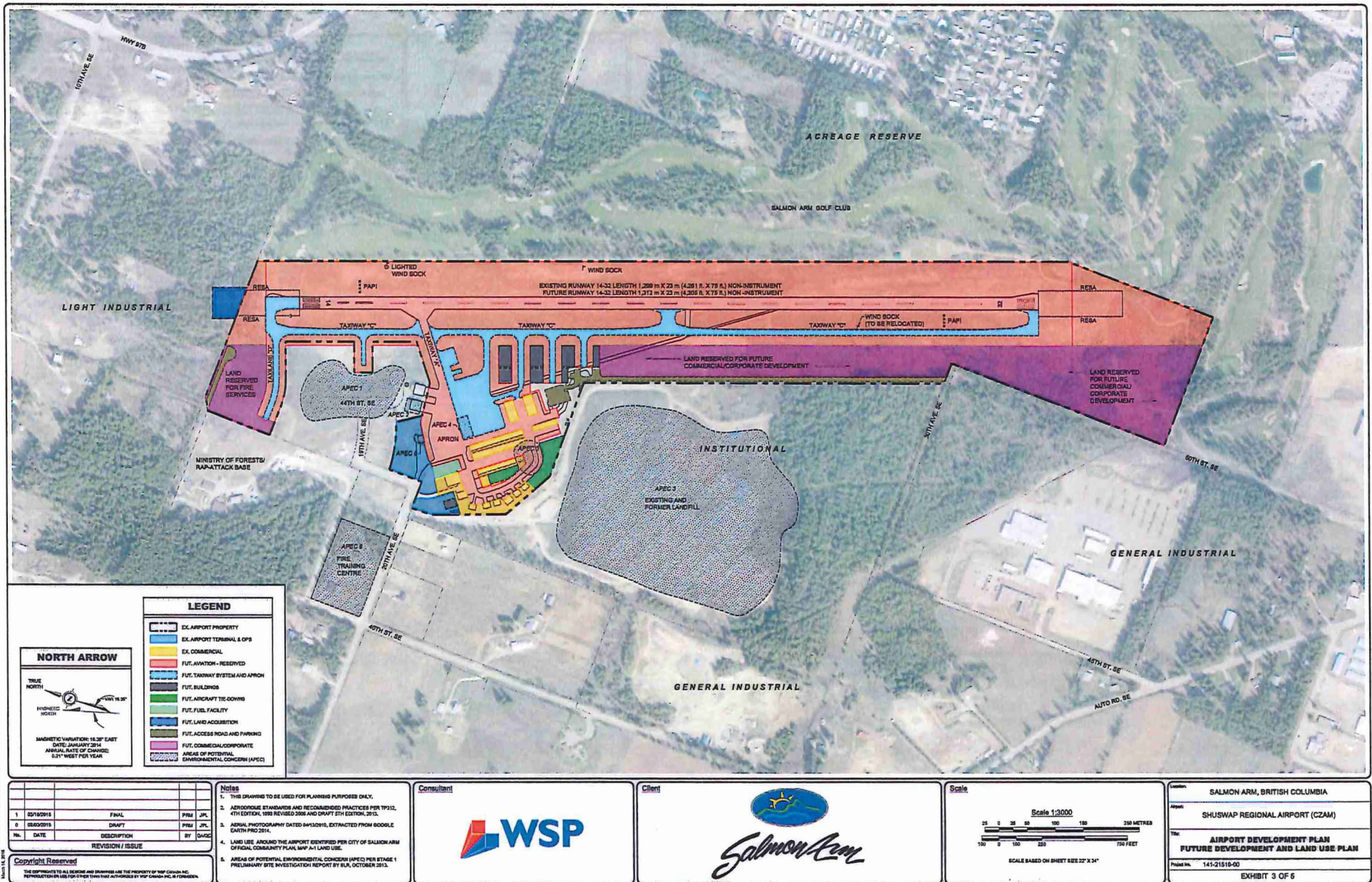
Phase VII of the Future Development Plan is construction of the proposed Taxiway Delta and the stub Code A taxilane as well as road access to the site. This will allow access to the north commercial development area reserved for the fire services and potentially other airport tenants.







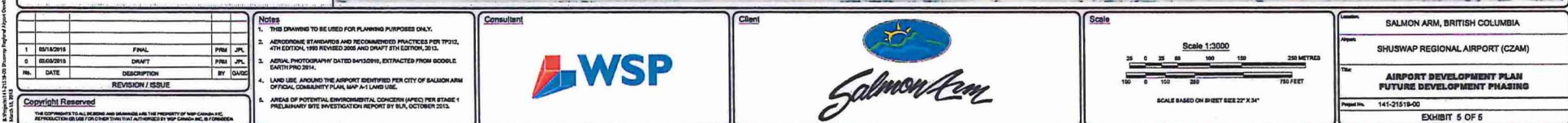
















*City of Salmon Arm  
Memorandum from the Engineering and  
Public Works Department*

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TO: Her Worship Mayor Cooper and Members of Council

FROM: Rob Niewenhuizen, Director of Engineering and Public Works

PREPARED BY: Darin Gerow, Engineering Assistant

DATE: July 3, 2015

SUBJECT: **Proposed Community Gardens at 2870 – 60 Avenue NE**

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This report was prepared as a result of the following council resolution made during the regular council meeting on Monday, June 22, 2015:

**THAT: Staff be directed to examine the various options and costs associated with connecting water from the Zone 3-A Water Service to the community garden proposed at 2870 – 60 Avenue NE and bring a report back to council;**

City of Salmon Arm Engineering Department have reviewed three options, costs and feasibility of the proposed water service to the community garden proposed at 2870 – 60 Avenue NE.

The following is a breakdown of each option, keeping in mind that the cost associated with these types of installations are typically at the owners expense.

1) Providing a third water service to the subject property

This option would require tying into the existing Zone 3-A water main that exists along the eastern boulevard of 30 Street NE. Installation would entail trenching across the road, which had been asphalt overlaid in 2010. Costs involved would be the supply and installation of a 25mm diameter water service complete with a water meter installed in a meter pit at property line. These works are estimated to be \$9,500.00. It would then be the owner's responsibility to connect the water service and extend a private line to the location necessary, approximately 30 meters.

2) Connecting to the Zone 3-A existing service

Although not a standard of construction or good engineering practice tying on to the existing Zone 3-A water service would have a substantial cost savings. These works would involve excavation at the existing water service location, placing a

water meter in a meter pit at property line and installing a tee and stub to property line. These works are estimated to cost \$2,500.00. It would then be the owner's responsibility to connect the water service and extend a private line to the location necessary, approximately 50 meters.

3) Connecting to the Zone 3 existing service

This option is the same as the one above, except servicing off the Zone 3 watermain, which has known pressure issues. These works are estimated to cost \$2,500.00. This option would not require any installation of private water line.

As mentioned in the previous report to Council, Staff do not have any concerns with the proposed use; however, Staff are not in support of the installation of a third water service to this property as it is in contravention of the City's *Subdivision and Development Services Bylaw No. 3596, Schedule B, Part 1, 3.14.5*, which states that only one meter and water service connection will be permitted per legal lot. Water used for the purpose of irrigation could be utilized off an existing water service complete with a meter installation and backflow prevention in a pit setter at property line to protect the City's water system by preventing possible contaminations and increases our water conservation by limiting possible points of water loss.

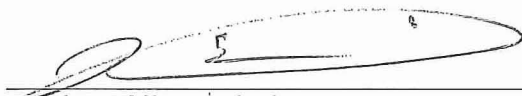
Further to the above items, the City's *Water Rates and Waterworks Regulations Bylaw No. 1274* states that the domestic water supply shall not be used for irrigating of parcels of land in excess of ½ acre. The lands being proposed for this garden is 1 acre.

Staff were also asked by Council if there were other possible locations for a community garden on City owned property. Staff reviewed several properties that were in close proximity to residential areas and that have access to City's water system. The following locations meet these criteria and may be of consideration:

- Fall Fair Grounds
- Blackburn Park
- Peter Jannick Park
- Vacant property, west of Recreation Centre (corner 8 Ave NE & 24 Street NE)

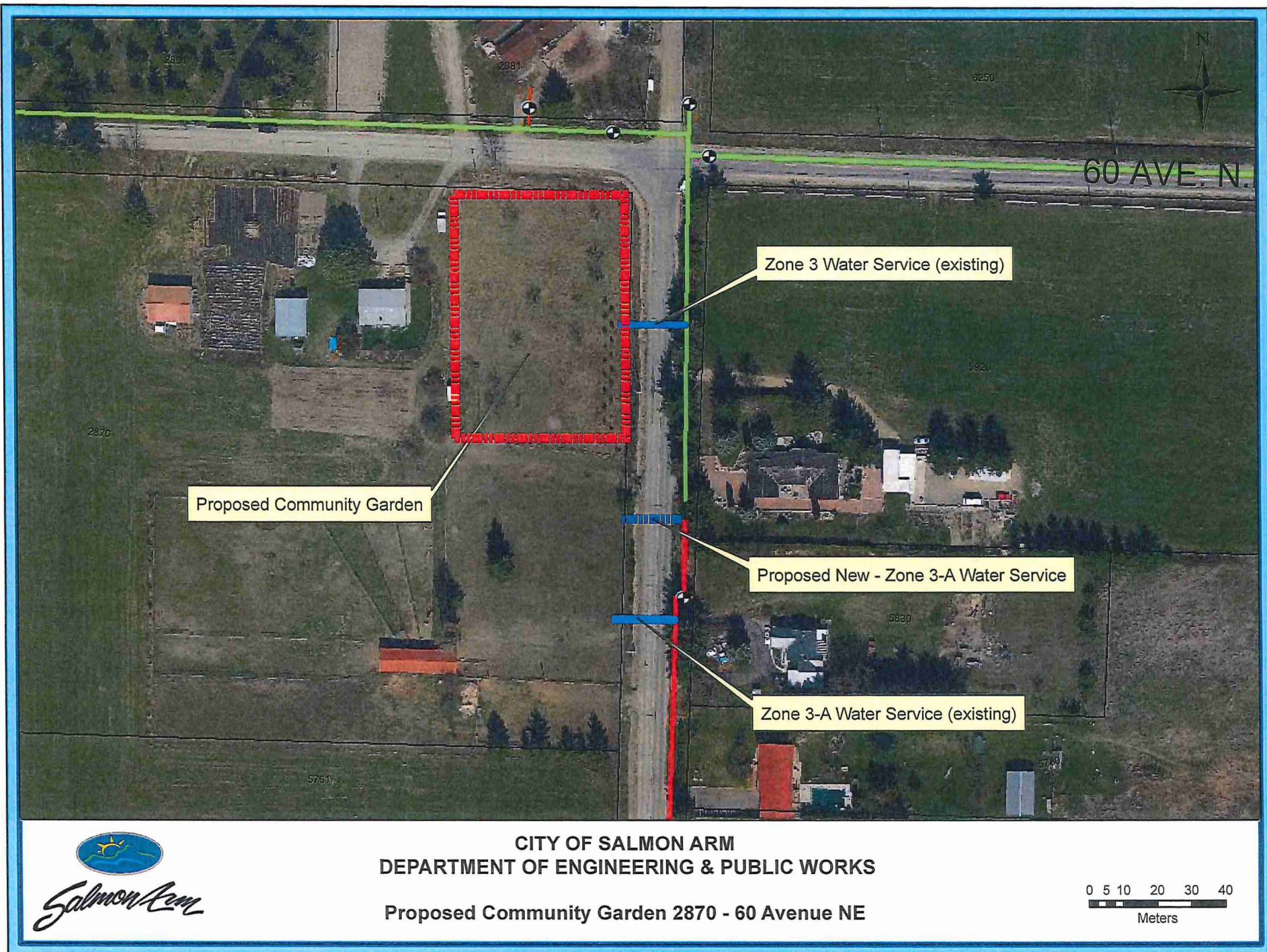
As no budget has been approved for any of the servicing options discussed, Staff are recommending that this request be referred to the specific referral process of the 2016 budget process.

Respectfully submitted,



Robert Niewenhuizen,  
Director of Engineering and Public Works





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