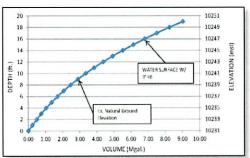
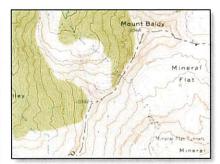
### MINERAL BASIN SNOWMAKING RESERVOIR SUMMARY PREDESIGN REPORT

#### **SNOWBIRD RESORT, UTAH**





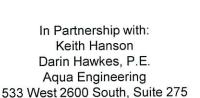




Prepared for:
Bob Bonar, General Manager
P.O. Box 929000
Snowbird, Utah 84092-9000

## snowbird >

Prepared by:
Van F. King, P.G.
Matt Lindon, P.E.
3100 W. Pinebrook Rd, Ste. 1100
Park City, UT 84098
(435) 649-4005



Bountiful, UT 84010





June 2014

#### **TABLE OF CONTENTS** Section Page INTRODUCTION AND BACKGROUND......4 HEC-I Unconsolidated Quaternary Deposits 9 Task 5 – DAM SAFETY PERMITTING......13 Task 6 – WATER RIGHTS......14 Existing and Future Water Right Needs ......14 Snowmaking Depletion......15 SUMMARY OF FINDINGS AND RECOMMENDATIONS......15 REFERENCES .......17 LIST OF FIGURES Figure 1; Site Vicinity Map Figure 2: Terrain Map Figure 3; Surface Water Basin Area of Contribution Figure 4; Geologic Map LIST OF TABLES

Table 1: Current and Future Potential Snowmaking Water Demands

Table 2: Current and Future Water Right Needs

Table 3: Summary of Published Snowmaking Depletion Studies

#### UTAH COUNTY BOARD OF ADJUSTMENT

51 S. University, #117 Provo, Utah 84601 (801) 851-8352 (801) 851-8359 (fax)

#### NOTICE TO PROPERTY OWNERS

May 23, 2013

**APPEAL #1525** 

As an adjoining property owner, you may be interested to know that the Utah County Board of Adjustment will consider the request of **Snowbird Resort**, who is requesting to amend the conditions of approval of Appeal #1522 for various accessory mountain resort facilities in the Critical Environmental (CE-1) Zone located in various Sections 17-30, T3S R3E, in the American Fork Canyon area of Utah County.

They will hear this matter at their regularly scheduled meeting on <u>Thursday</u>, <u>June 6</u>, <u>2013</u>, <u>at 5:15 p.m.</u> in Room 1400 of the Utah County Administration Building located at 100 East Center Street, Provo, Utah. You, or a representative, may express your views on this matter at that time, or you may submit your views in writing by letter or fax up until 3:00 p.m. that day. Any response will become part of the public comment portion of the meeting.

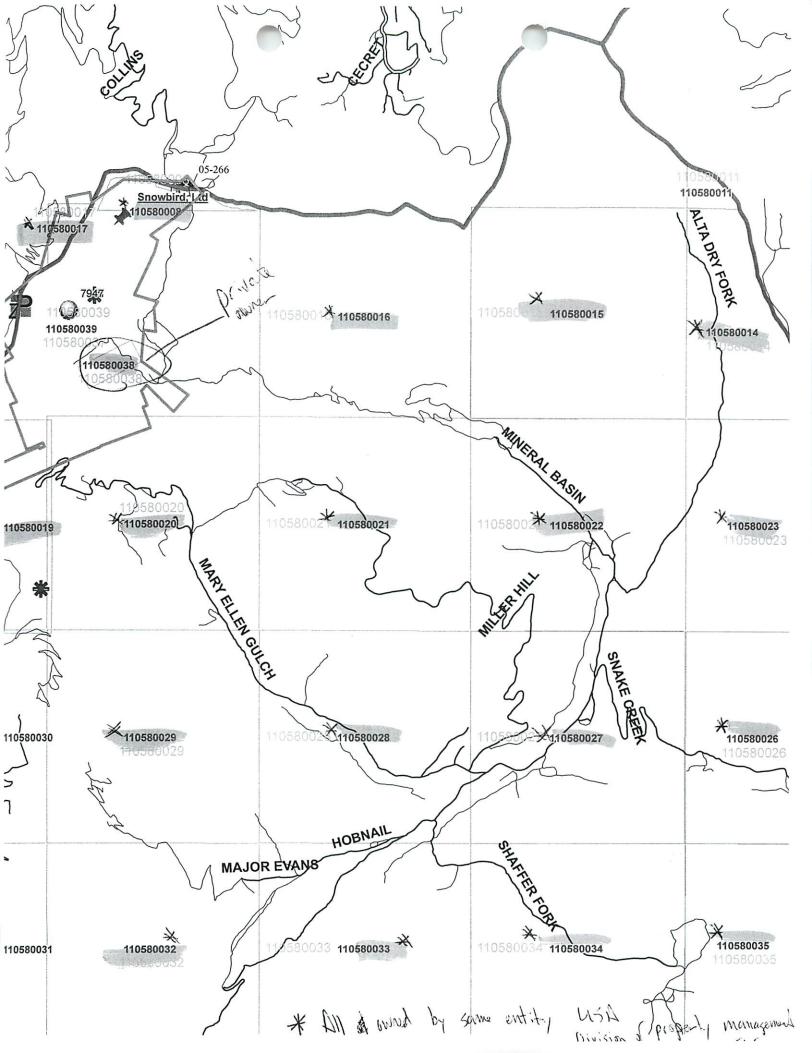
If you know of any interested property owner who for any reason has not received a copy of this notice, please advise him/her of the time and place of the hearing. If you have questions, you may contact the Community Development office at (801) 851-8343.

Sincerely,

Christina Sutton, Secretary Utah County Board of Adjustment

Map on reverse

P:\BOARD OF ADJUSTMENT\Legal Notices\Adjacent Pr-owner letter.wpd





Serial Number: 11:058:0020

Serial Life: 1989...

Property Address: ALPINE DIST

Mailing Address: %DIVISION OF PROPERTY MANAGEMENT 2370 S 2300 W SALT LAKE

CITY, UT 84119-2022

Acreage: 640

Last Document: 42-1988

Legal Description: ALL OF SECTION 20 TOWNSHIP 3 SOUTH RANGE 3 EAST SLM. TOTAL

AREA 640 ACRES M/L (MINING CLAIMS IN AREA)

Owner Names	Value History	Tax History	Location	Photos	Documents	Exp Legal	
1990 <u>UNIT</u>	ED STATES OF	AMERICA					
1989 UNIT	ED STATES OF	AMEDICA					

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<u>Address Change for Tax Notice</u>

This page was created on 5/8/2013 4:40:51 PM



Serial Number: 11:058:0038

Serial Life: 2005...

Property Address:

Mailing Address: 327 S 750 E LAYTON, UT 84041-4358

Acreage: 20.661157

Last Document: 89365-2010

**Legal Description:** FLORA LODE MINING CLAIM DESCRIBED AS FOLLOWS;; COM N 41 DEG 0' 28" E 1103.09 FT & S 41 DEG 19' 27" E 591.68 FT & S 30 DEG 14' 21" W 5600.68 FT FR N 1/4 COR. SEC. 17, T3S, R3E, SLSB&M; N 27 DEG 24' 48" W 600 FT; N 62 DEG 35' 12" E 1500 FT; S 27 DEG 24' 48" E 600 FT; S 62 DEG 35' 12" W 1500 FT TO BEG. AREA 20.661 AC.



Owner Name	s Value History	Tax History	Location	Photos	Documents	Exp Legal		
2013	CHRISTENSON, 1	NOLA NASH					IICHREL ELYNN	
2013	NASH, ANDREW			100				
2013	NASH, BRADLEY			4 <	Manuar 1	W 7 W	MCHAGELYNIA	J NASH
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2013	NASH, SANDRA M							FT AL
2013	NIELSEN, DEANN		/					
2013	WANNER, NATAL							
2012	CHRISTENSON, I							
2012	NASH, ANDREW							
2012	NASH, BRADLEY							
2012	NASH, MICHAEL							
2012	NASH, SANDRA							
2012	NIELSEN, DEANN							
2012	WANNER, NATAL							
2005-2011	NASH, ALTA A	TIL TUNOTT						
2005-2011	NASH, MICHAEL	F						
2005-2011	NASH, SANDRA							

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This page was created on 5/8/2013 4:40:00 PM

#### Bryce Armstrong - RE: Snowbird: Draft Application For Amendment To Conditional Use

From:

"Banks, Martin K." < MKBANKS@stoel.com> Bryce Armstrong <BRYCEA@utahcounty.gov>

To: Date:

4/23/2013 10:48 AM

Subject: RE: Snowbird: Draft Application For Amendment To Conditional Use

#### Thanks Bryce

Marty Banks Stoel Rives LLP (801) 578-6975

From: Bryce Armstrong [mailto:BRYCEA@utahcounty.gov]

Sent: Tuesday, April 23, 2013 8:46 AM To: Banks, Martin K.; Moore, Robert

Subject: RE: Snowbird: Draft Application For Amendment To Conditional Use

The May 2nd meeting deadline was a couple weeks ago.....at this point, the application would be on the June 6th meetina.

#### Bryce

>>> "Banks, Martin K." < MKBANKS@stoel.com> 4/22/2013 5:01 PM >>> Thanks Bryce. I'll revise the application to reflect your suggestions below, and submit tomorrow by email and hardcopy (along with check for \$400).

How soon can we get this on the Board of Adjustment's agenda?

Appreciatively,

Marty Banks Stoel Rives LLP (801) 578-6975

From: Bryce Armstrong [mailto:BRYCEA@utahcounty.gov]

Sent: Monday, April 22, 2013 11:11 AM To: Banks, Martin K.; Moore, Robert

Subject: RE: Snowbird: Draft Application For Amendment To Conditional Use

Marty,

I think Community Development would be agreeable to the following:

- 1) Amend Condition 4 to read, "That all zoning lots to be utilized for the proposed accessory mountain resort facilities be in the same ownership as the existing Snowbird Ski Resort", or something to the effect.
- 2) Delete Condition 5 in its entirety.

I think for administration purposes, we will create a new appeal # for these changes, and renumber the existing conditions, along with changes listed above, for clarification.

Bryce Armstrong Associate Director Utah County Community Development (801)851-8343



>>> "Banks, Martin K." <MKBANKS@stoel.com> 4/15/2013 1:53 PM >>>

Hi Bryce & Rob: Thanks for your reply email. The last sentence of Condition 4 addresses the same ownership requirement ("The zoning lot must be in the same ownership as the existing ski resort"), whereas Condition 5 addresses only the same lot issue ("That parcel 11:058:0038 be combined with the above-referenced zoning lot....")

The ordinance has been amended to now allow the accessory mountain resort facilities to be on multiple lots. As they must still be in the same ownership, I anticipated that Condition 4 would be revised to delete the first sentence (pertaining to same lot), but would retain the last sentence (pertaining to same ownership). Actually, the last sentence will probably need to be slightly tweaked to read "The zoning lot or lots must be in the same ownership as the existing ski resort." By deleting Condition 5 but retaining the last sentence of Condition 4, I believe the common ownership issue would remain in effect, and addresses the concern expressed in your email below. If you concur, I will go ahead and finalize and submit the formal Application for Amendment; if not, please give me a call to discuss.

Appreciatively,

Marty Banks Stoel Rives LLP

#### (801) 578-6975

From: Bryce Armstrong [mailto:BRYCEA@utahcounty.gov]

**Sent:** Friday, April 12, 2013 3:57 PM **To:** Banks, Martin K.; Moore, Robert

Subject: Re: Snowbird: Draft Application For Amendment To Conditional Use

Mr. Banks.

My only concern relates to the deletion of Condition #5, as that relates to the property being in a separate ownership (Nash) from the resort. The zoning lot issue was not the primary concern necessitating this condition. It would appear the common ownership issue still remains in effect, making Condition #5 still applicable.

Bryce Armstrong Associate Director Utah County Community Development (801)851-8343



>>> "Banks, Martin K." <MKBANKS@stoel.com> 4/12/2013 3:15 PM >>> Hi Rob and Bryce: Just following up on my earlier email below to see if either of you has had an opportunity yet to peruse our draft Application for Amendment to Conditional Use. Please let me know whether you have any comments and/or suggestions so that I can finalize and formally submit it as soon as possible.

Appreciatively,

Marty Banks Stoel Rives LLP (801) 578-6975

From: Banks, Martin K.

Sent: Thursday, March 28, 2013 5:48 PM

To: Bryce Armstrong (brycea@utahcounty.gov); Rob Moore (robertm@utahcounty.gov)

Subject: Draft Application For Amendment To Conditional Use

Hi Rob & Bryce: As a follow-up to our recent conversations regarding Utah County's approval of Snowbird's Conditional Uses in American Fork Canyon, you will recall that County's initial approval for Snowbird's activities contained Conditions 4 & 5, which would have required Snowbird to consolidate all the parcels in its western bloc of property into one single zoning lot. Of course, the County Commission has since amended the Ordinance so that Snowbird's proposed uses could be on "a zoning lot, or zoning lots." Hence, although consolidation is no longer required in order to comply with the Ordinance, the artifact (Conditions 4 & 5) remains in the written approval for Conditional Use. Attached is my draft Application to Amend the Conditional Use (to delete Conditions 4 & 5). As you will see, other than the Attachment (p. 4), the Application primarily just references back to Snowbird's original 10/2/12 Application for Conditional Use. I would welcome any comments and/or suggestions you may have as to the approach I have taken to address the now irrelevant Conditions 4 & 5, and any changes that you would suggest before I finalize and formally submit the Application.

Appreciatively,

Marty Banks Stoel Rives LLP (801) 578-6975



ENT 65176:2014 PG 1 of 2 JEFFERY SMITH UTAH COUNTY RECORDER 2014 Sep 12 12:28 pm FEE 0.00 BY SS RECORDED FOR UTAH COUNTY COMMUNITY D

Pursuant to Utah County Ordinance No. 2000-08, the following decision of the Utah County Board of Adjustment is recorded relative to the subject property.

#### ACTION BY BOARD OF ADJUSTMENT

Appeal No. 1540

Applicant: SNOWBIRD RESORT,

#### **CONDITIONAL USE**

When the Board of Adjustment acts under its power to hear and decide requests for conditional use, the Board shall comply with all the rules and standards of the Utah County Land Use Ordinance as found in Section 7-20.

The request of **Snowbird Resort**, **LLC** for a conditional use for an uncovered man-made reservoir with a capacity over 10 acre-feet, is **granted** based on the following motion:

That the Utah County Board of Adjustment **approve** the request for a conditional use for an uncovered man-made reservoir with a capacity over 10 acre-feet, subject to the following:

- 1. That the application meet all the criteria for approving a conditional use as per Section 7-20-C(1) through (7) of the Utah County Land Use Ordinance, to the extent required in Section 7-20-D;
- 2. That building and land use permits for the reservoir and all applicable associated facilities be obtained from Utah County that meet all applicable zoning, building, health, and fire-safety requirements;
- 3. That construction and operation of the reservoir comply with all applicable mitigation strategies of the "Potential Impacts and Mitigation Strategies from Reservoir Construction and Operation" included as part of this application by the applicant;
- 4. That construction and operation of the reservoir comply with all applicable recommendations of the "Mineral Basin Snowmaking Reservoir Summary Predesign Report" dated June 2014 and was included as part of this application;
- 5. That the proposed source(s) of water for the reservoir be approved for such use by all applicable agencies;
- 6. That approval of a "Low Hazard Dam" application by the Office of the State Engineer of Utah be obtained prior to construction of the reservoir;
- 7. That the overall capacity of the reservoir be limited to a maximum of 25 acre-feet.

#### IF PERMIT NOT OBTAINED WITHIN ONE (1) YEAR, THIS APPROVAL IS VOID

The decision of the Utah County Board of Adjustment may be appealed to the Fourth District Court within 30 days from the date this Action Report is filed with the Utah County Recorder.

Vote Record:	AYE	NAY	ABSTAINED
Randy Christiansen	X		
James A Dain	X		
Larry Ballard	X		

I, Joshua Ivie, certify the voting record shown above to be true and correct, and a copy of this Action Report was recorded and filed in the Utah County Community Development Department on the 12<sup>th</sup> day of September, 2014.

Joshya Ivie, Secretary

UTAH COUNTY BOARD OF ADJUSTMENT

UTAH COUNTY, UTAH

SECRETARY

BOARD OF ADJUSTMENT

#### **EXHIBIT A**

#### 11:058:0039

COM N 41 DEG 0' 28" E 1103.09 FT FR N 1/4 COR. SEC. 17, T3S, R3E, SLB&M.; S 41 DEG 19' 27" E 591.68 FT; S 50 DEG 16' 44" W 331.6 FT; S 50 DEG 16' 44" W 623.4 FT; S 54 DEG 31' 44" W 500 FT; S 54 DEG 31' 44" W 202.7 FT; S 55 DEG 10' 2" E 226.82 FT; S 15 DEG 36' 46" W 300.48 FT; S 24 DEG 11' 46" W 1176.79 FT; S 74 DEG 23' 14" E 605.37 FT; S 74 DEG 47' 11" E 1.33 FT; S 33 DEG 11' 12" W 175.8 FT; S 5 DEG 0' 48" E 600 FT; N 81 DEG 51' 48" W 309.95 FT; S 4 DEG 3' 44" W 783.89 FT; S 54 DEG 32' 43" E 1439.53 FT; S 40 DEG 38' 25" W 557.66 FT; N 45 DEG 36' 13" W 941.01 FT; S 43 DEG 18' 47" W 195.63 FT; S 22 DEG 28' 33" E 390.74 FT; S 69 DEG 25' 43" W 113.39 FT; S 20 DEG 16' 40" E 2.65 FT; S 20 DEG 16' 40" E 542.82 FT; S 69 DEG 51' 36" W 1323.73 FT; S 23 DEG 10' 15" E 17 FT; S 67 DEG 31' 27" W 1466 FT; S 67 DEG 31' 27" W 1500 FT; N 22 DEG 28' 33" W 600 FT; N 67 DEG 31' 27" E 1500 FT; S 22 DEG 28' 33" E 49.14 FT; N 68 DEG 12' 34" E 135.29 FT; N 22 DEG 28' 33" W 98.55 FT; S 68 DEG 20' 0" W 459.28 FT; N 21 DEG 14' 0" W 397 FT; N 21 DEG 40' 0" W 800 FT; N 68 DEG 20' 0" E 189.9 FT; N 27 DEG 8' 44" W 559.23 FT; N 15 DEG 18' 55" W 470.56 FT; N 60 DEG 31' 12" E 313.28 FT; N 33 DEG 37' 1" W 1246.27 FT; N 51 DEG 49' 12" E 442.9 FT; N 51 DEG 49' 12" E 209.32 FT; N 49 DEG 57' 47" E 1149.06 FT; N 15 DEG 53' 17" E 86.21 FT; N 15 DEG 53' 17" E 1407.32 FT; S 74 DEG 4' 42" E 358.46 FT; N 11 DEG 18' 11" W 480.84 FT; N 78 DEG 41' 12" E 600 FT; S 11 DEG 18' 11" E 256.23 FT; N 53 DEG 45' 10" E 967.56 FT; S 88 DEG 28' 48" E 749.9 FT; S 88 DEG 28' 48" E 705.7 FT; N 50 DEG 16' 44" E 199.89 FT TO BEG LESS 20.66 ACRES PER 146460-2004 WHICH IS FLORA LODE TO BEG. AREA 503,955 AC.

#### UTAH COUNTY BOARD OF ADJUSTMENT

51 S. University, #117 Provo, Utah 84601 (801) 851-8352 (801) 851-8359 (fax)

#### NOTICE TO PROPERTY OWNERS

August 21, 2014

**APPEAL #1540** 

As an adjoining property owner, you may be interested to know that the Utah County Board of Adjustment will consider the request of **Snowbird**, **Ltd.**, who is requesting a conditional use for a man-made, uncovered water reservoir with a capacity over ten(10) acre-feet in the Critical Environment (CE-1) Zone located in Section 17, T3S R3E, in the Mineral Basin area of American Fork Canyon in Utah County.

They will hear this matter at their regularly scheduled meeting on <u>Thursday</u>, <u>September 4</u>, <u>2014</u>, <u>at 5:15 p.m.</u> in Room 1400 of the Utah County Administration Building located at 100 East Center Street, Provo, Utah. You, or a representative, may express your views on this matter at that time, or you may submit your views in writing by letter or fax up until 3:00 p.m. that day. Any response may become part of the public comment portion of the meeting.

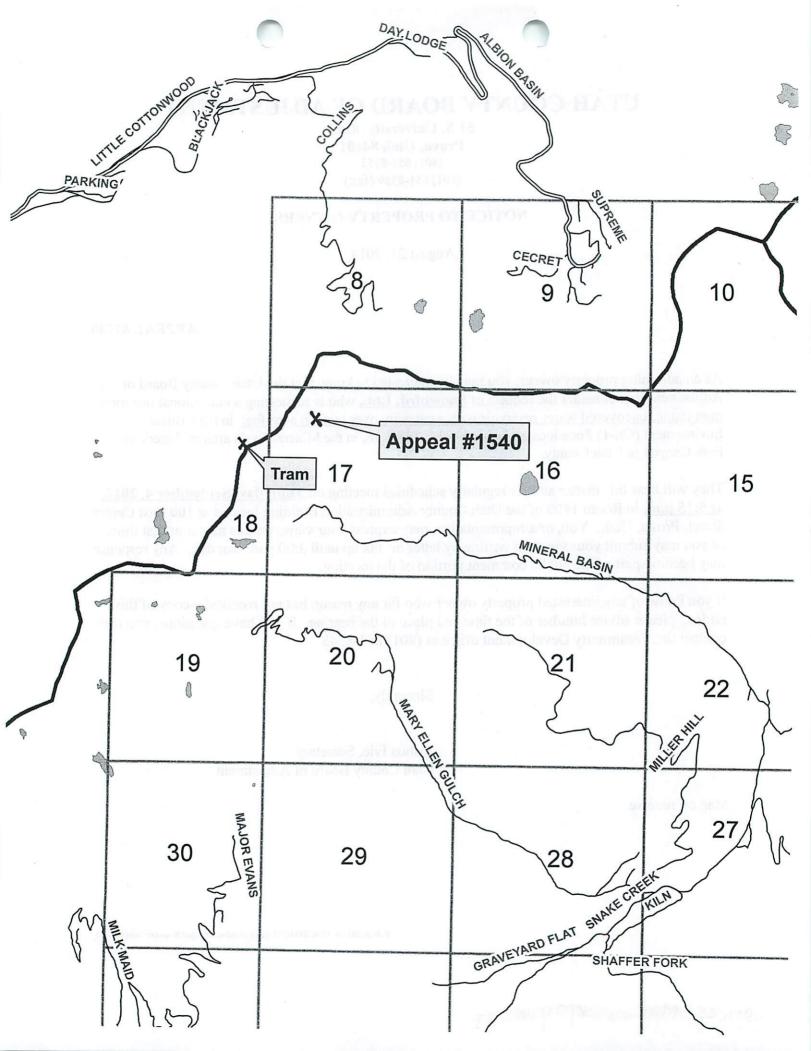
If you know of any interested property owner who for any reason has not received a copy of this notice, please advise him/her of the time and place of the hearing. If you have questions, you may contact the Community Development office at (801) 851-8343.

Sincerely,

Joshua Ivie, Secretary Utah County Board of Adjustment

Map on reverse

P:\BOARD OF ADJUSTMENT\Legal Notices\Adjacent Pr-owner letter #2.wpd



# Notice - Appeal 1540

Offiled States of Affielica	Nasn, Sanora W and Wichael Elynn (Et Al)	Name1
%Division of Floperty Mariagement 23/0 3 2300		Name2
11 2370 3 2300 VV	32/ 5/50 E	Address
Salt Lake City	Layton	City

**Zip** 84041 84119



Serial Number: 11:058:0038 Serial Life: 2005...

Property Address:

Mailing Address: 327 S 750 E LAYTON, UT 84041-4358

Acreage: 20.661157 Last Document: 89365-2010

**Legal Description:** FLORA LODE MINING CLAIM DESCRIBED AS FOLLOWS:; COM N 41 DEG 0' 28" E 1103.09 FT & S 41 DEG 19' 27" E 591.68 FT & S 30 DEG 14' 21" W 5600.68 FT FR N 1/4 COR. SEC. 17, T3S, R3E, SLSB&M; N 27 DEG 24' 48" W 600 FT; N 62 DEG 35' 12" E 1500 FT; S 27 DEG 24' 48" E 600 FT; S 62 DEG 35' 12" W 1500 FT TO BEG. AREA 20.661 AC.



Owner Name	s Value History	Tax History	Location	Photos	Documents	Exp Legal	
2013	CHRISTENSON, I	NOLA NASH					
2013	NASH, ANDREW	BLAINE					
2013	NASH, BRADLEY	FORREST					
2013	NASH, MICHAEL	ELYNN					
2013	NASH, SANDRA	<u>M</u>					
2013	NIELSEN, DEANN	NA NASH					
2013	WANNER, NATAL	IE NASH					
2012	CHRISTENSON, I	VOLA NASH					
2012	NASH, ANDREW	BLAINE					
2012	NASH, BRADLEY	FORREST					
2012	NASH, MICHAEL	ELYNN					
2012	NASH, SANDRA	<u>M</u>					
2012	NIELSEN, DEANN	NA NASH					
2012	WANNER, NATAL	IE NASH					
2005-2011	NASH, ALTA A						
2005-2011	NASH, MICHAEL	E					
2005-2011	NASH, SANDRA	M					

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This page was created on 8/21/2014 2:43:56 PM



Serial Number: 11:058:0017

Serial Life: 1989...

Property Address: ALPINE DIST

Mailing Address: %DIVISION OF PROPERTY MANAGEMENT 2370 S 2300 W SALT LAKE

CITY, UT 84119-2022

Acreage: 645

Last Document: 42-1988

**Legal Description:** ALL OF SECTION 17 TOWNSHIP 3 SOUTH RANGE 3 EAST NOT WITHIN SALT LAKE COUNTY. TOTAL AREA 645 ACRES M/L (LOTS OF MINING CLAIMS IN THE

AREA)

Owner Names Value History Tax History Location Photos Documents Exp Legal

1990... UNITED STATES OF AMERICA
1989 UNITED STATES OF AMERICA
Additional Information

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This page was created on 8/21/2014 2:41:26 PM

#### Bryce Armstrong - Re: Fwd: Snowbird - Application for Conditional Use Permit

From:

Glen Tanner

To:

Armstrong, Bryce

Date:

8/8/2014 1:59 PM

Subject: Re: Fwd: Snowbird - Application for Conditional Use Permit

Bryce,

I have done a review of the technical report and see know overwhelming issues.

**Thanks** 

Glen G. Tanner Senior Engineering Technician **Utah County Public Works** 801-851-8622>>> Bryce Armstrong 8/4/2014 2:07 PM >>> Glen.

Here is the technical report on the reservoir we discussed. See the link in the paragraph below. Thanks for your help on this.

Bryce

>>> "Bell, Adrienne J." <AJBELL@stoel.com> 7/17/2014 10:20 AM >>> Bryce,

Per my voicemail yesterday, attached please find a copy of the CUP application that we submitted for Snowbird's proposed reservoir in Mineral Basin. Below is a link to the technical report, a hard copy of which was included with our application.

https://www.dropbox.com/s/3if4qlhhiw6om94/SNOWBIRD%20SumPreDesRpt%20071114.pdf

Please let me know if you have any questions about the project or need additional information. Please also let me know when the hearing is scheduled.

Many thanks, Adrienne

Adrienne J. Bell | Attorney



August 26, 2014

Sent Via Email: brycea@utahcounty.gov

Mr. Bryce Armstrong
Utah County Planning Department
51 S. University Avenue, #117
Provo, Utah 84601

Subject:

Maximum Potential Storage of Proposed Mineral Basin

Snowmaking Reservoir, Snowbird Resort, Utah

Dear Bryce:

As a follow up to our discussions in the field on August 18, 2014 regarding maximum potential storage of the proposed Mineral Basin Reservoir, we have performed some additional analysis of the site. Recall that we are not suggesting that the dam structure be enlarged from our previous engineering estimates, however if the materials in the natural depression are unconsolidated facilitating easy excavation, we may want to excavate to deeper depths. Excavating to deeper depths will not expand the volume of water behind the engineered structure, which remains at 11.68 ac-ft (3.80 MG).

We believe that **25 ac-ft (8.15 MG)** is a reasonable upper-limit potential storage volume for the reservoir as we consider the geologic conditions, storage volumes and our goal to minimize impacts during construction.



If you have any questions or need more information, please do not hesitate to call me at (435) 649-4005 (office) or (801) 842-3495 (mobile).

**Loughlin Water Associates, LLC** 

Van F. King, P.G. Senior Hydrogeologist

J -- 8----8

Cc: Bob Bonar, Snowbird Resort Martin K. Banks, Stoel Rives

Darin Hawkes, Aqua Engineering