



February 28, 2014

RMEA Project 14-0022

Cedars Subdivision Owners Association, Inc.
c/o Thomas J. Holmes, Attorney
P.O. Box 967
Pocatello, ID 83204-0967

Re: Protest to Transfer Application for Water Right 29-4391

Dear Owners:

On February 26, 2014 I met with Mr. Terry Walsh and Mr. Rafael Duque of the Cedars Subdivision Owners Association, Inc. (Association), regarding the pending transfer application for Water Right 29-4391. Currently, this water right authorizes diversion of water from a spring located within the subdivision, to a pipeline that conveys water out of the subdivision to adjacent lands. The water right is in the name of "Donald D. Brown" and/or "Phyllis J. Brown" and the transfer application is in the name of "Donald D. Brown." The transfer proposes to add a second point of diversion, also located within the subdivision.

Observations and Review

With Mr. Walsh and Mr. Duque, I observed the current point of diversion from the spring. The spring is adjacent to an unnamed stream known locally as Buck Creek. I saw removed pipes and traces of an excavation that appear to be those shown in Exhibit H of the Association's protest to the transfer application. Exhibit H documents an effort attributed to Mr. Brown's agent Brad Christensen, to divert Buck Creek water into the spring.

With Mr. Duque holding the elevation rod, I used a hand level on a Jacob's staff to assess the approximate relative elevations of the spring box, adjacent land surface, and the bed of Buck Creek. With Mr. Duque operating a stopwatch, I used a five-gallon bucket to make four measurements of the flow rate of Buck Creek.

With Mr. Duque, I drove to the top of Johnny Creek Road to observe the lay of the land and to observe Cedar Lake, the spring-fed lake that is the source of Buck Creek. I measured the temperature of the discharge water from Cedar Lake and took a sample, which I later tested for pH and electrical conductivity. On my own, I walked a portion of Buck Creek with a Global Positioning System (GPS) unit, and a dry topographic draw that appears to have been the historical drainage of the spring, prior to its capture and delivery offsite by a pipeline. These GPS tracks are shown in Figure 1 (attached to this

letter). As I was leaving the site, I drove south along Bannock Highway past the authorized place of use for Water Right 29-4391.

I have reviewed the materials in the Idaho Department of Water Resources (IDWR) on-line file for Water Right 29-4391, driller's logs for nearby wells, and a 1976 USGS geologic map for the Pocatello area by Trimble. I also conferred with Mr. Gary Richardson, Street Department Supervisor for the City of Pocatello, regarding the fate of Buck Creek water once it passes under Bannock Highway from the Subdivision. I performed Geographic Information Systems (GIS) reconstruction of the likely historical path of the creek, using aerial photographs and maps provided by Mr. Walsh.

Findings

Based on my observations, I find the following:

- 1) The transfer application lists the elements of the water right that were claimed in the Snake River Basin Adjudication and not those that were decreed by the Adjudication court. The water right was not correctly represented.
- 2) The transfer application and advertisement represent that the transfer proposes a second point of diversion from a spring source. However, the narrative description (item two of the transfer application) states "I propose to divert surface water that has been the historic hydrology to the spring involved since pre-1939." My site observations are consistent with Mr. Walsh' and Mr. Duque's representation that the pipeline illustrated in Exhibit H (since removed) conveyed water from Buck Creek into the spring box for Water Right 29-4391. Mr. Walsh and Mr. Duque indicate that they understand that the purpose of the transfer is to authorize a similar diversion from Buck Creek into the spring box. This is consistent with the applicant's narrative under item two of the application. It is also consistent with the GIS representation of points of diversion in the transfer application.

This is problematic because it represents a change in source. The transfer application does not explicitly request a change in source, nor did IDWR advertise the transfer as a change in source. The water right decree lists the springs as tributary to "sinks," which means that, absent diversion under 29-4391, the flow of the springs would not be a surface tributary to the Portneuf River. Mr. Walsh reported that after passing under Bannock Highway, the waters of Buck Creek proceed east along Golf Drive to its T-intersection with a north-south road identified variously as Tech Farm Road and Turf Road. Mr. Walsh' understanding is that at this point the water is conveyed by pipeline to the Portneuf River. Mr. Richardson of the City of Pocatello confirmed that this water is piped to the river, initially flowing from Golf Drive north along Turf Road.

From a hydrologic water-supply standpoint, transferring the point of diversion to

Buck Creek, which we have confirmed is tributary to the Portneuf River and therefore tributary to the Snake River, is problematic. If the rights are administered according to priority, the 1940 priority date of 29-4391 will mean that except for a short period in the springtime runoff, the new point of diversion will be out of priority and the water will pertain to downstream senior appropriators.

Because the change in source was not represented on the transfer application nor advertised, downstream water users have not had the opportunity to protest this transfer and protect their interests.

- 3) The water-rights backfile from the IDWR website includes the 1983 Statutory Claim for the water right. The adjudication backfile includes a notarized 2001 statement from Wilhelm Johannes Christensen, who affirms personal knowledge of the spring and its use dating from 1940. It also includes notes of a field examination by IDWR employee Craig Saxton, performed in May 2001. All of these documents speak exclusively of the source as a "spring" and none make any mention of Buck Creek or of contributions from Buck Creek to the spring box or pipeline.

The USGS topographic map for the area is based upon 1969 aerial photography, which post dates the installation of the pipeline. Therefore, it is not useful to assess the location of the original discharge from the spring, or its relationship to Buck Creek. The spring is not mapped by USGS.

The lack of mention of Buck Creek and my site observations indicate that Buck Creek was not historically part of the supply to the spring box.

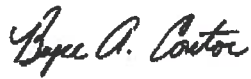
- 4) Figure 2 (following the letter) provides my best professional judgment of the original relationship and approximate historical locations of Buck Creek and the stream flowing from the spring. Figure 2 is based on a series of maps and aerial images also provided in the Appendix. Figure 3 provides the various traces of stream locations from all these sources, overlaid on 2013 aerial imagery.
- 5) The transfer application narrative asserts that the new point of diversion is from "surface water that has been the historic hydrology to the spring." While extensive and costly investigation would be required to adequately assess and demonstrate similarity or difference in sources, my investigation suggests that the 29-4391 spring and Buck Creek are likely not from the same source based upon the following:
 - a) The geologic map and cross section (see the Appendix) indicate the presence of faults in the general vicinity of the spring and Cedar Lake, but not at either location. Conceptually it is possible that both springs are from a common deep circulation pattern controlled by the same fault, and therefore do represent a common water source. The temperature of the Cedar Lake discharge was 47° F, its pH was 8.39 and its electrical conductivity was 380 uS/cm. Conductivity and pH were measured at a temperature of 16.7° C, within a few hours of sample

collection. These are values typical of short residence time in the subsurface and shallow circulation paths, casting doubt upon this potential mechanism for common source.

- b) The geologic cross section B - B' (see Appendix) is somewhat south of the site, in a similar landform. It shows unconsolidated materials overlying rock. This configuration and local topography suggest that Cedar Lake is a surface expression of shallow groundwater, intercepted by the lake's position at a break in slope and in a deeply-incised topographic draw (see photo 7819 in the Appendix). The 29-4391 spring is not at a break in slope, but it is somewhat incised (see photos 7810 and 7811). My hand-level measurements indicate that the top of the spring box is approximately 9.8 feet below adjacent land surface, with the water level in the box an additional 2.3 feet lower in elevation. The lake and spring appear to have somewhat similar but not identical relationships to the underlying shallow groundwater.
 - c) Mr. Duque reports that in the last two years, a number of local springs have gone dry, including the spring that serves 29-4391. Cedar Lake has continued to flow, as evidenced by the effort to divert it into the spring box, documented in Exhibit H of the Association protest. If these were from the same source they would be expected to behave similarly.
 - d) My GPS readings indicate that the spring box is laterally approximately 27 feet from Buck Creek. At this scale there is considerable imprecision in GPS data, but a visual estimate is that the horizontal distance is less than 50 feet. My hand-level measurements indicate that the bed of Buck Creek is approximately 10.0 feet above the water level in the spring box. While seepage from Buck Creek may contribute to the flow of the 29-4391 spring, if Buck Creek seepage were the primary supply of the spring, the expectation would be that the drying of the spring would have been preceded by a cessation of flow in Buck Creek and not the reverse. However, Buck Creek has continued to flow.
- 6) The transfer application requests authorization to divert up to 0.16 cfs, while the decreed water right authorizes diversion of only 0.12 cfs. The difference or additional 0.04 cfs would require a new water right by statute. My bucket-and-stopwatch measurements (four replicates) ranged from 0.091 to 0.095 cfs. This indicates that the water supply of Buck Creek alone is not sufficient for the proposed purposes of the transfer.

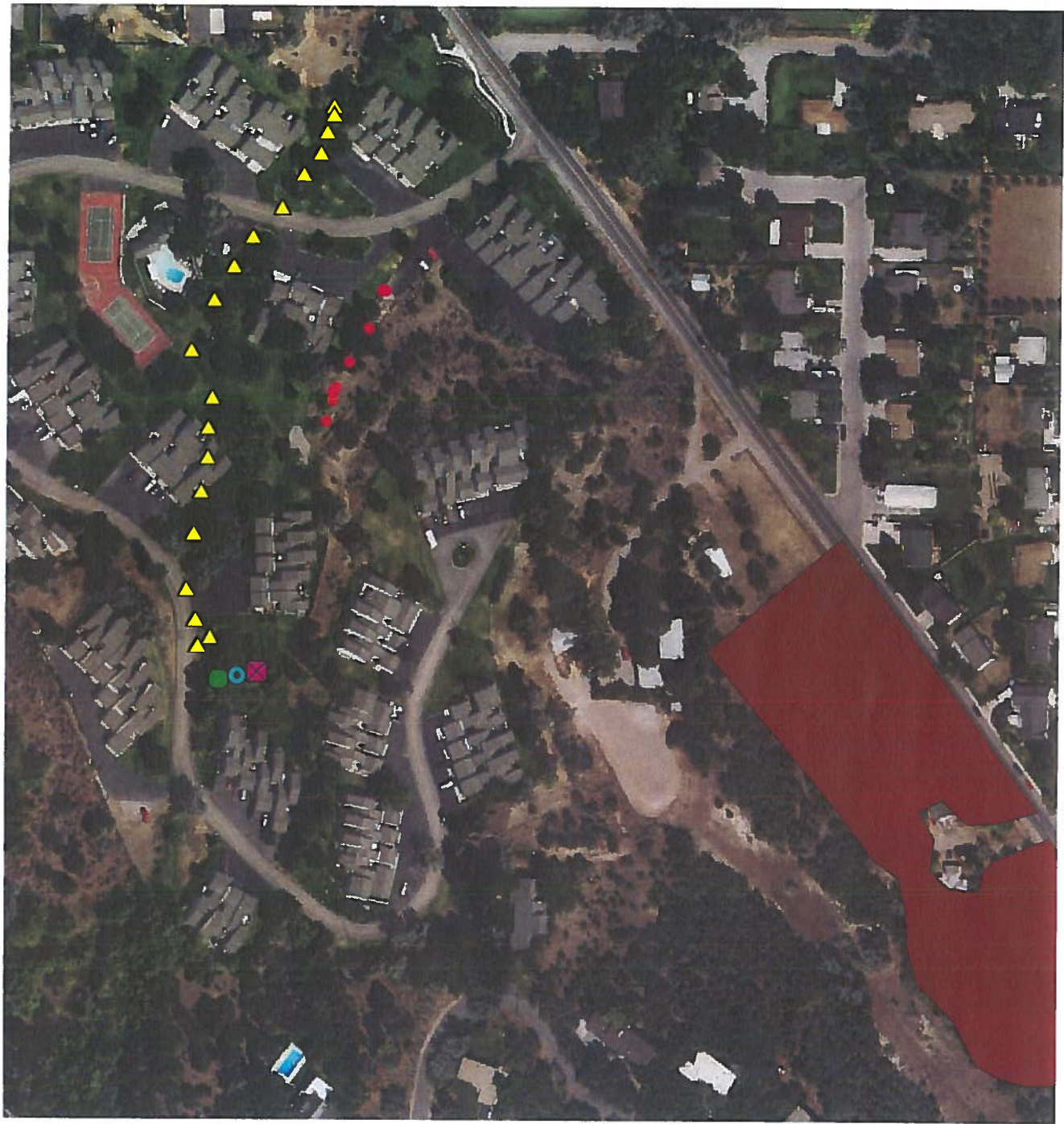
Please contact me if you have questions or would like to discuss this matter further.

Sincerely,



Bryce A. Contor
Senior Hydrologist

Attachments	Figure 1	2013 aerial image with GPS tracks
	Figure 2	Map of original stream alignment
	Figure 3	Map of alternate stream alignments
	Appendix	
		Excerpt from geologic map
		Excerpt from geologic cross section
		Excerpt from detailed 1975 City of Pocatello contour map
		Unmanipulated maps and aerial images
		Site photographs



200 0 200 400 Feet

- ▲ GPS track - stream
- GPS track - original spring discharge
- Place of Use
- IDWR POD 29-4391
- GPS Locations
- Existing POD
- Proposed POD

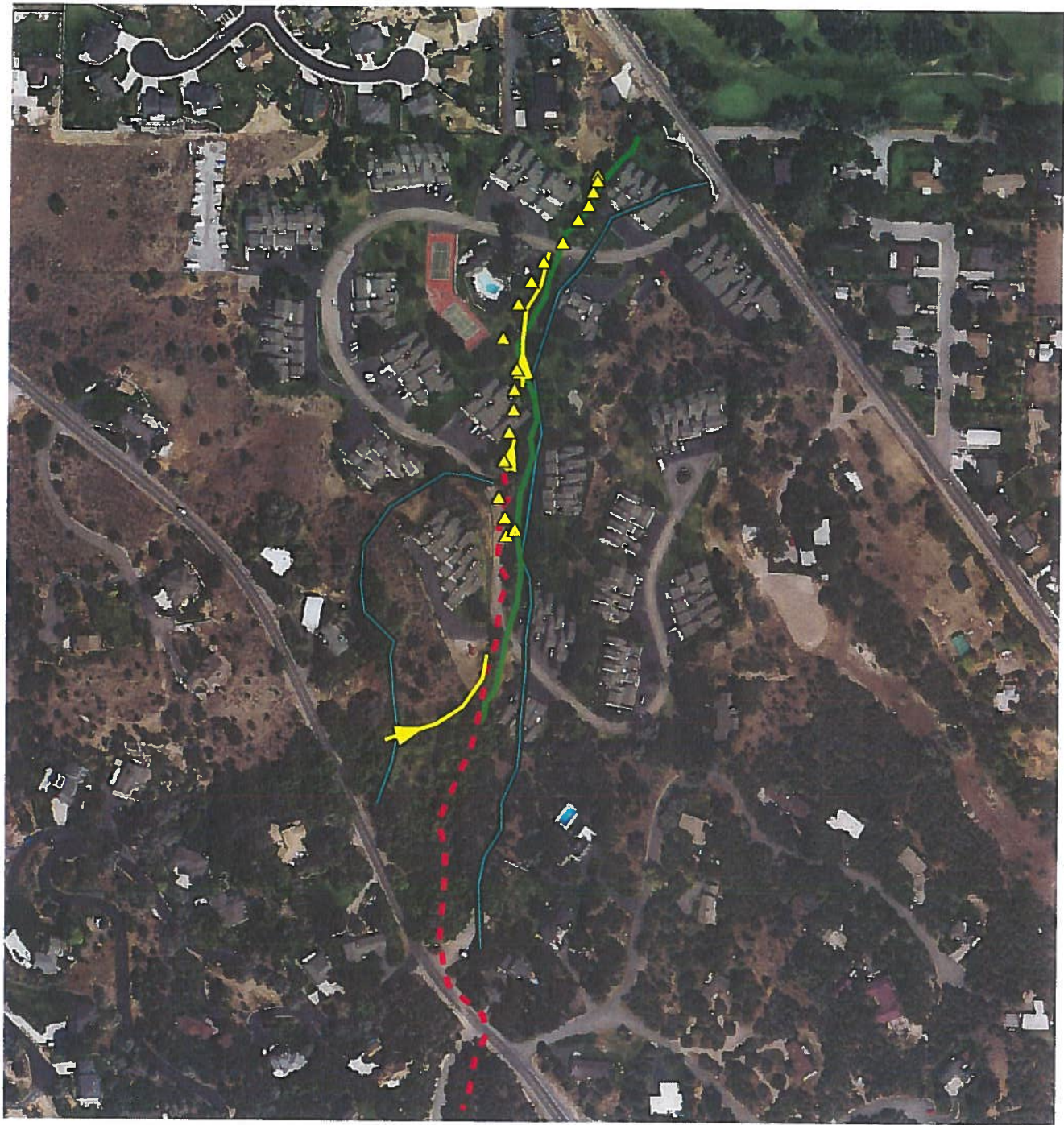


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*Figure 1. 2013 Aerial Imagery with
GPS Tracks, Water-right Points of
Diversion (POD) and Place of Use (POU)*

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200 0 200 400 Feet

-  GPS 2013
-  Circa 1985
-  USGS 1969
-  Sales Brochure Circa 1972
-  Pre Development

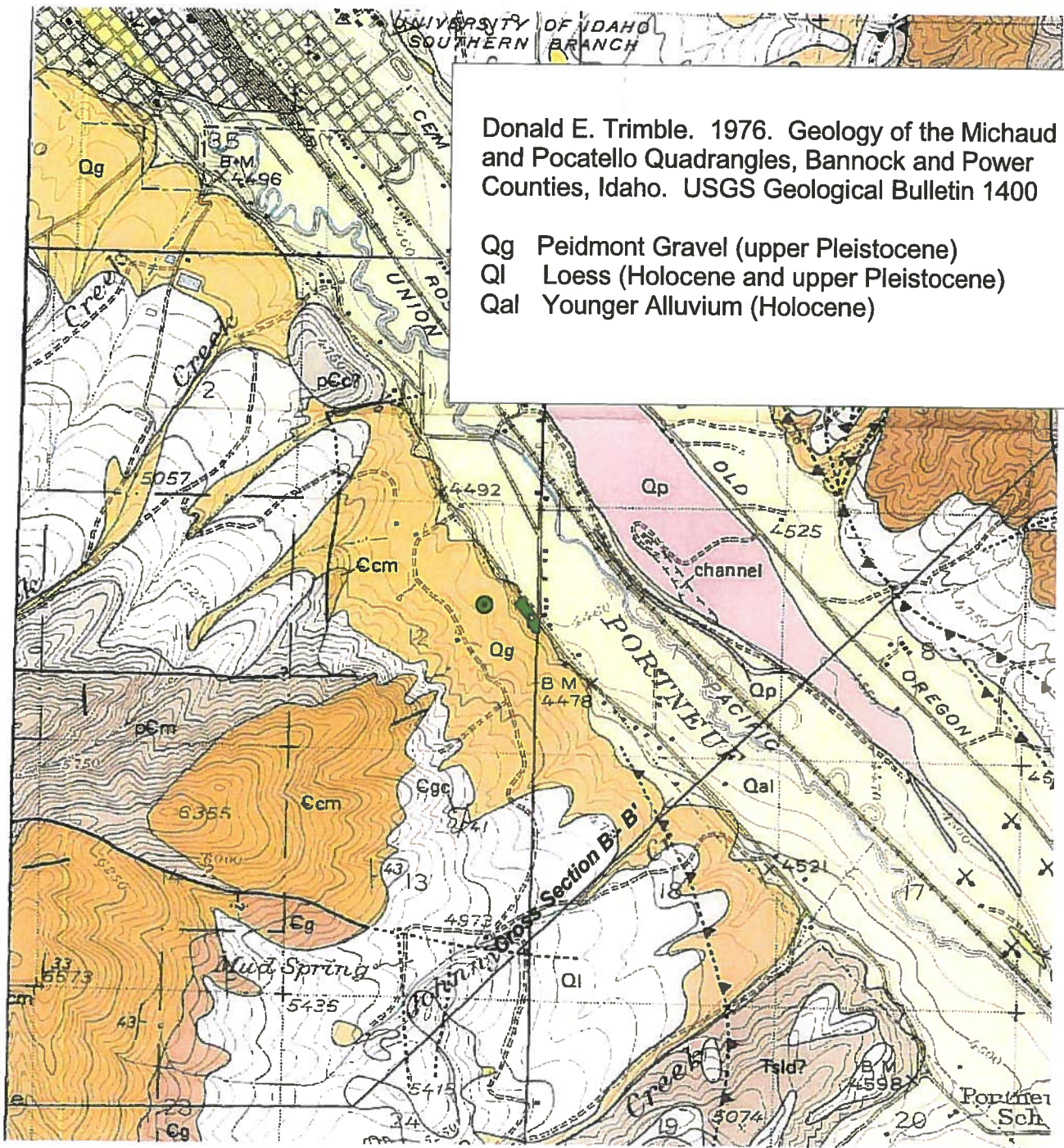


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*Figure 3. 2013 Aerial Imagery with
Alternate Stream Alignments*

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Donald E. Trimble. 1976. Geology of the Michaud and Pocatello Quadrangles, Bannock and Power Counties, Idaho. USGS Geological Bulletin 1400

Qg Peidmont Gravel (upper Pleistocene)
 Ql Loess (Holocene and upper Pleistocene)
 Qal Younger Alluvium (Holocene)



2000 0 2000 4000 Feet



● IDWR POD 29-4391
 ■ Place of Use



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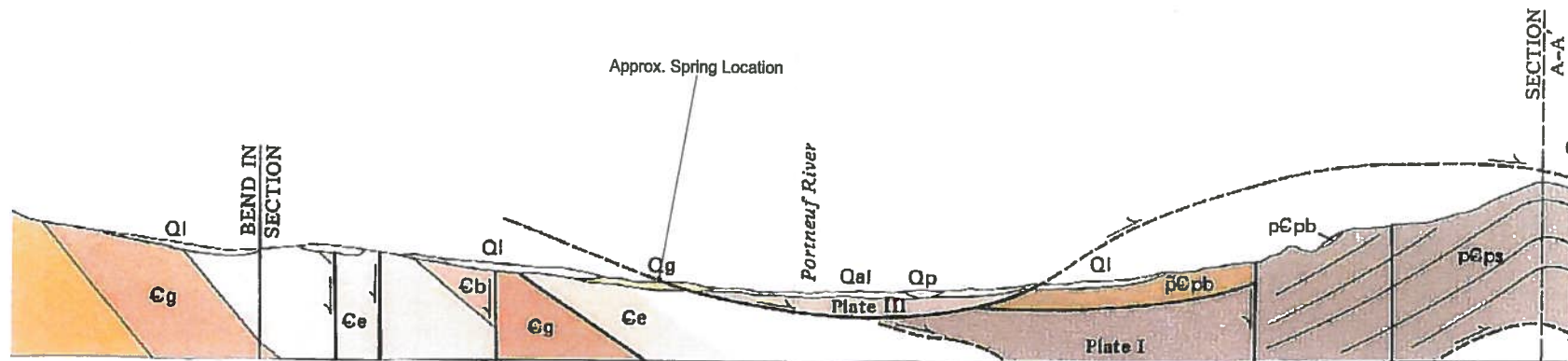
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Appendix Figure A1.
 Excerpt from Geologic Map

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Donald E. Trimble. 1976. Geology of the Michaud and Pocatello Quadrangles, Bannock and Power Counties, Idaho. USGS Geological Bulletin 1400

- Qg Peidmont Gravel (upper Pleistocene)
- Ql Loess (Holocene and upper Pleistocene)
- Qal Younger Alluvium (Holocene)
- Ce Middle Cambrian Rock
- Eg Lower Cambrian Rock

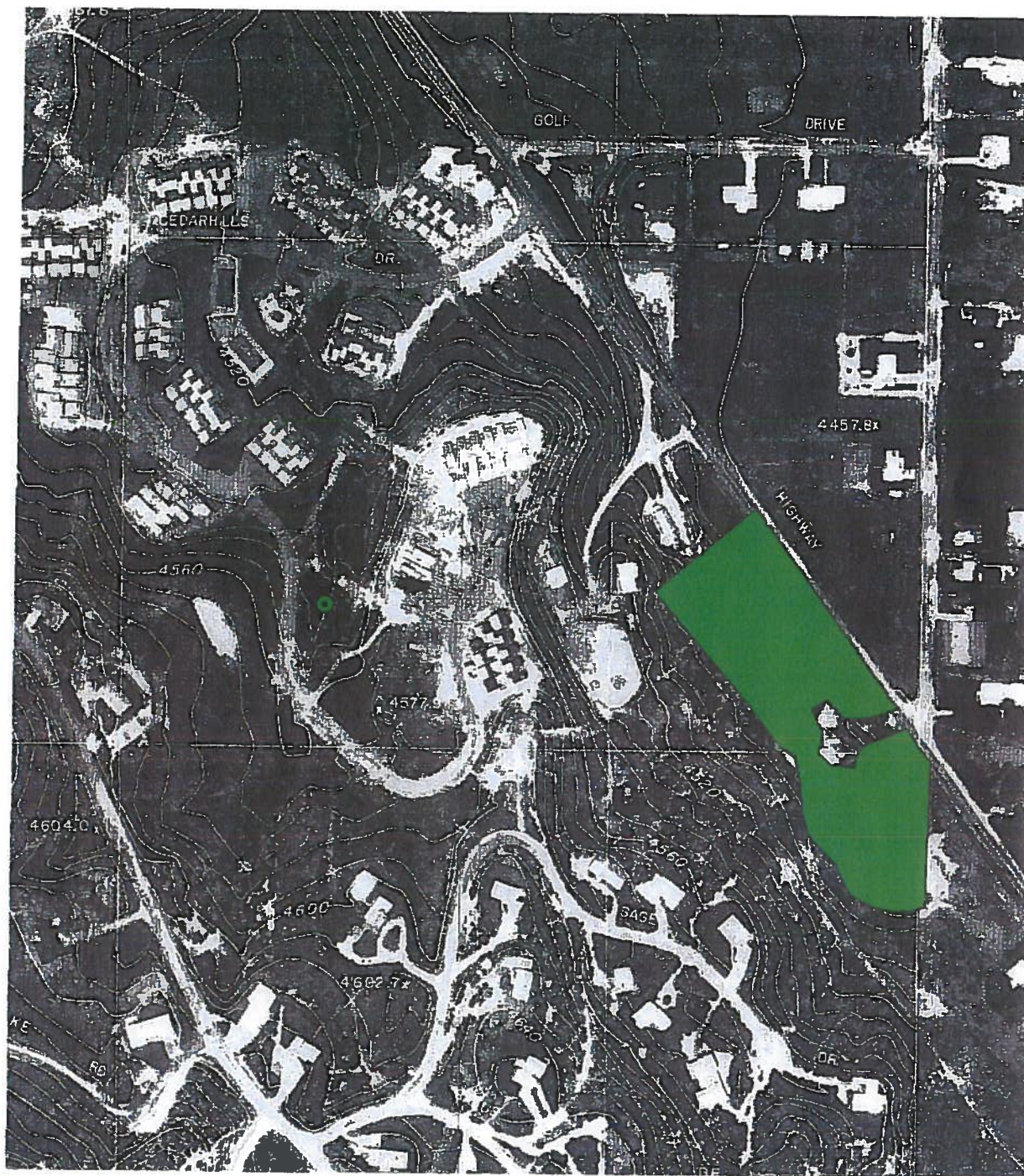


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Appendix Figure A-2
Excerpt from Cross Section B - B'

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MATCH TO SEC. 7 T7S. R35E. B.M.



- IDWR POD 29-4391
- Place of Use

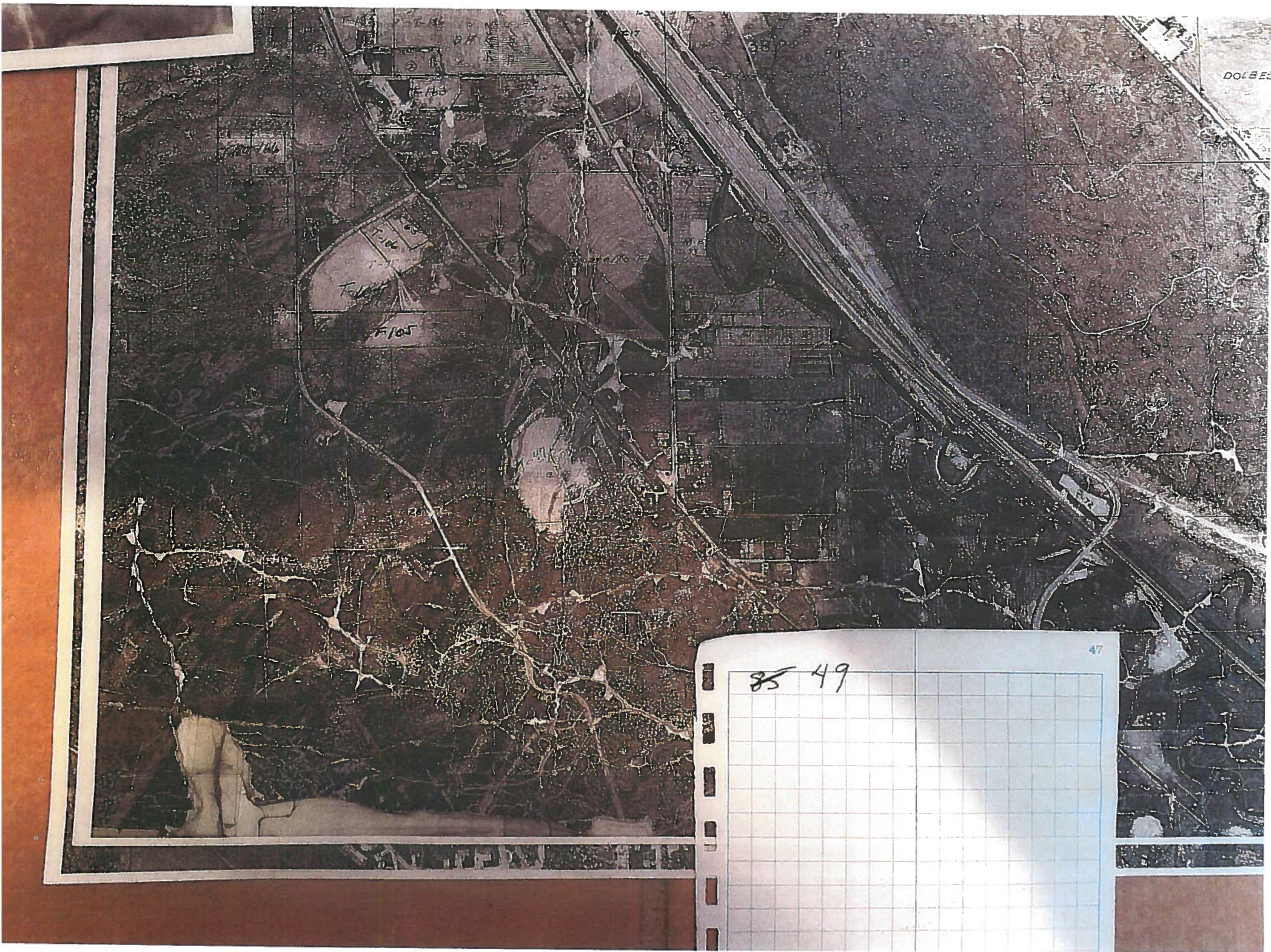


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Appendix Figure A3.
Excerpt from City of Pocatello
Contour Map 1975
Four-foot and Eight-foot Contours
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APPENDIX: Item 4, Unmanipulated Images

- Item 1: Pre-development photograph. Note the label indicating "49." This was the notation on the back of the image, but the presence of Interstate Highway 15 in the image suggests that "49" is not an indication of date.
- Item 2: Undated pre-development photograph.
- Item 3: Sales brochure, believed to date from circa 1971/1972
- Item 4: City of Pocatello contour map based on 1975 aerial imagery
- Item 5: Circa 1985 aerial image. This is based on a hand-written notation on the back of the image. All that is known for certain is that this post-dates construction of the Cedars Subdivision.



85 49

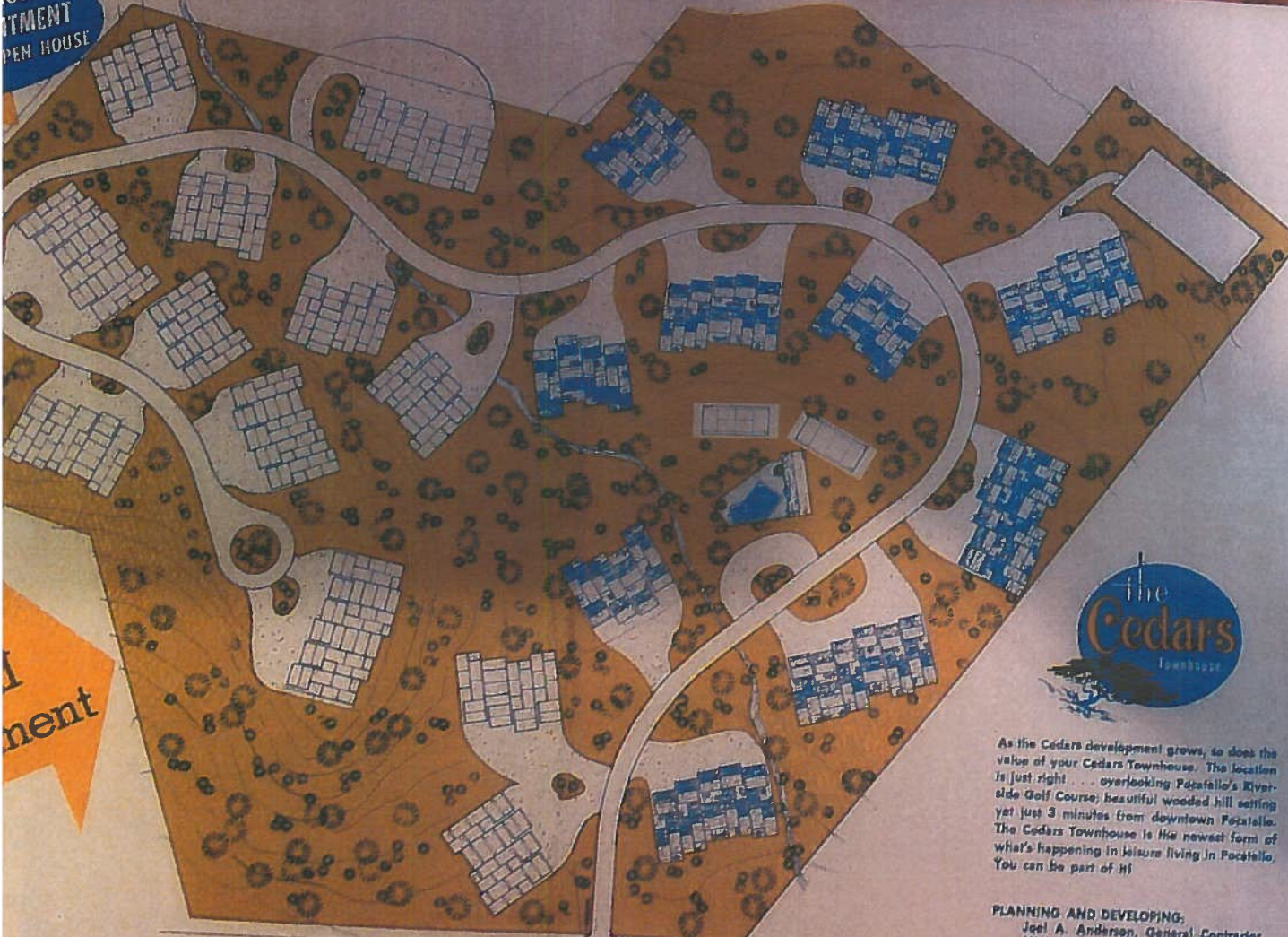


DOLBEER TRACT

85 49 No Date

47

ON
TMENT
PEN HOUSE



ment

BANNOCK AVE

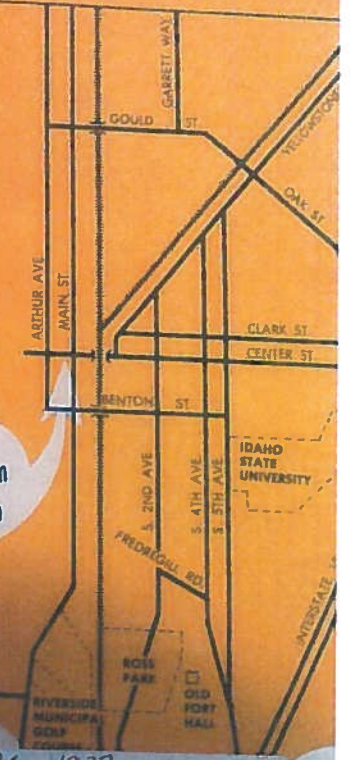


As the Cedars development grows, so does the value of your Cedars Townhouse. The location is just right . . . overlooking Pocatello's Riverside Golf Course; beautiful wooded hill setting yet just 3 minutes from downtown Pocatello. The Cedars Townhouse is the newest form of what's happening in leisure living in Pocatello. You can be part of it!

PLANNING AND DEVELOPING:
Joel A. Anderson, General Contractor
Mink Creek Road
Pocatello, Idaho

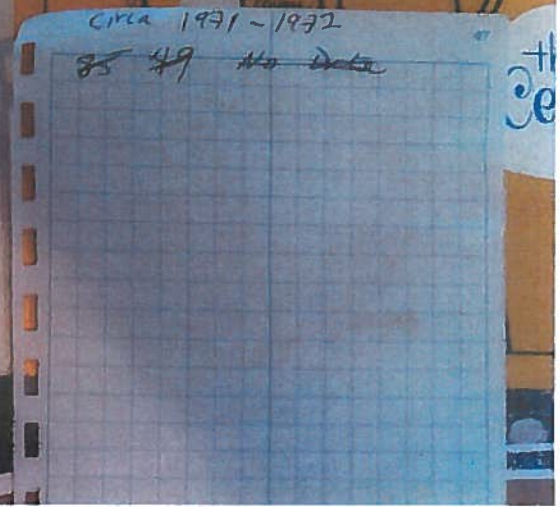
the Cedars & Vicinity

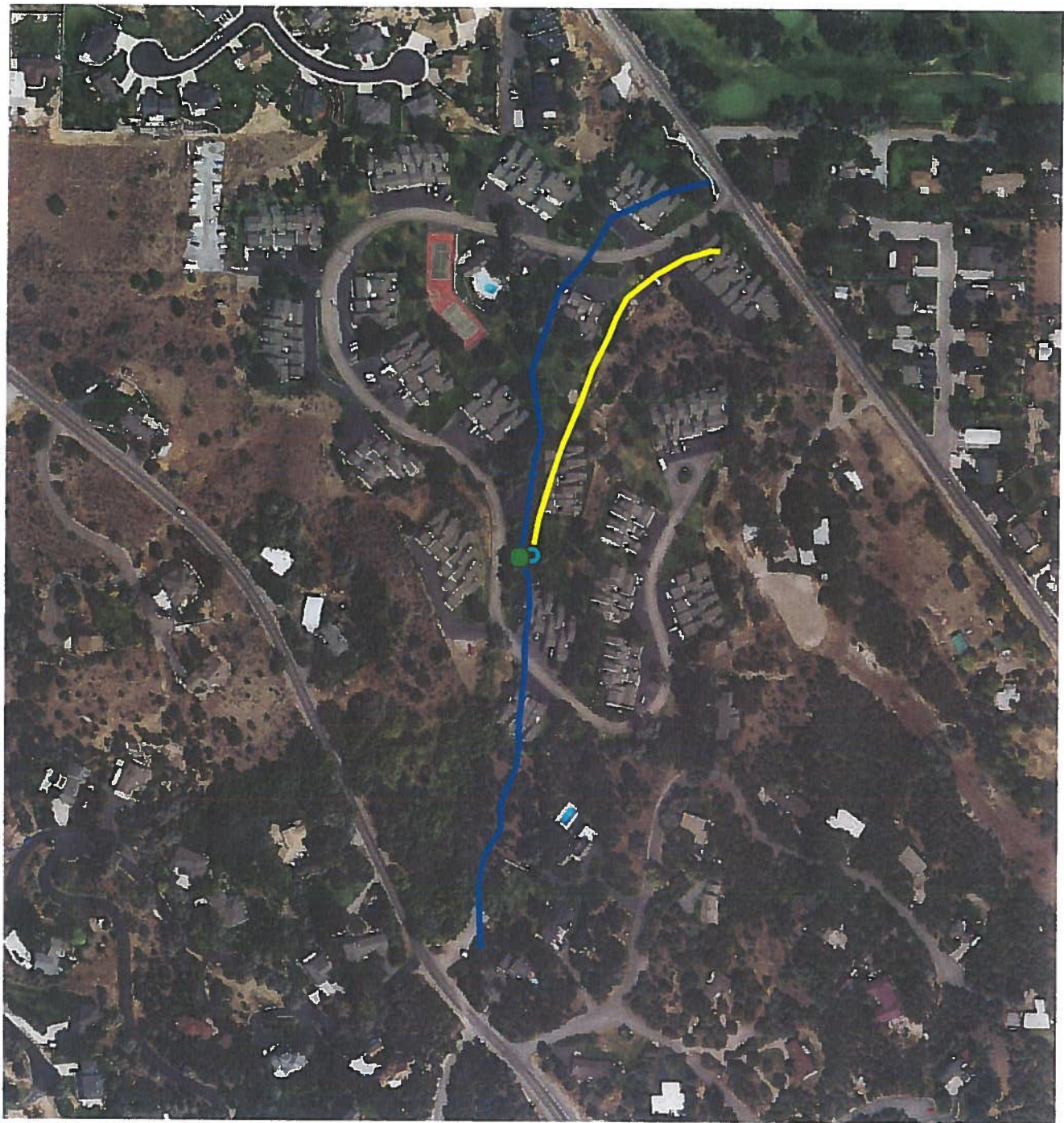
3 Minutes to downtown Pocatello



CIRCA 1971-1972

85 49





200 0 200 400 Feet

GPS Locations

-  Existing POD
-  Proposed POD
-  Spring Discharge
-  Buck Creek



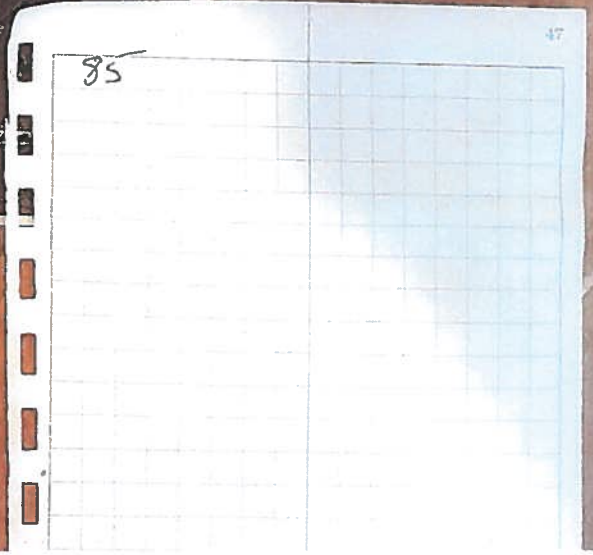
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Figure 2. 2013 Aerial Imagery with Original Stream Locations

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APPENDIX: Item 5, Site Photographs, February 26, 2014



Photo 7809. Location of Bucket-and-stopwatch flow measurement. A small rock was placed after taking the photograph, to deflect the stream to be narrow enough for bucket capture.



Photo 7810. Looking downstream (approximately north) at proposed new point of diversion. Buck Creek is on the left, with the proposed point of diversion approximately at the base of the tree. The green box at far right is the control box for the existing point of diversion.



Photo 7811. Looking down into the depression where the existing point of diversion is located, from the same location as Photo 7810. The point of diversion is just beyond the base of the tree that is in the foreground, approximately 11 to 12 feet lower in elevation.

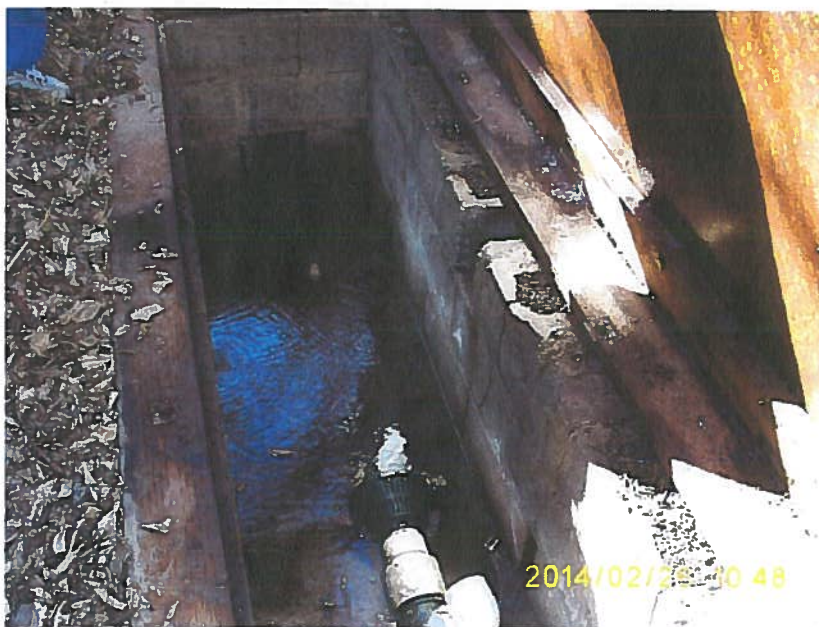


Photo 7817. Looking into spring box at existing Point of Diversion.



Photo 7819. Looking down (approximately south) into Cedar Lake, which is on private property. The lake is just beyond the cedar trees at the bottom of the mowed grassy area. A sharp topographic break is just to the left of the photo, marking an increase in steepness of slope.



Photo 7824. Looking downhill (approximately north) at dry topographic draw which appears to be the original discharge channel from the spring.