



**Project #20-032  
Deer Pen Substation  
Located at 1880 East 1500 North**

**REPORT SUMMARY...**

<i>Project Name:</i>	Deer Pen Substation
<i>Proponent/Owner:</i>	Logan City Light & Power/Logan City
<i>Project Address:</i>	1880 East 1500 North
<i>Request:</i>	Conditional Use Permit & Design Review
<i>Current Zoning:</i>	Recreation (REC)
<i>Date of Hearing:</i>	June 25, 2020
<i>Type of Action:</i>	Quasi-Judicial
<i>Submitted By:</i>	Mike DeSimone, Director

**RECOMMENDATION**

Staff recommends that the Planning Commission **conditionally approve** a Conditional Use Permit and Design Review for Project #20-032 Deer Pen Substation, located at approximately 1880 East 1500 North, TIN #05-109-0096.

*Land use adjoining the subject property*

<i>North:</i>	REC, NR-4: Residential	<i>East:</i>	NR-4: Residential
<i>South:</i>	REC, NR-4: Residential	<i>West:</i>	NR-6: Residential

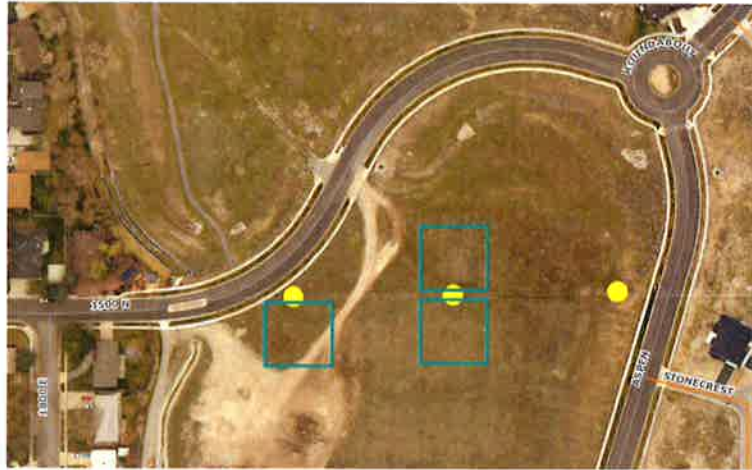
**Project Location**



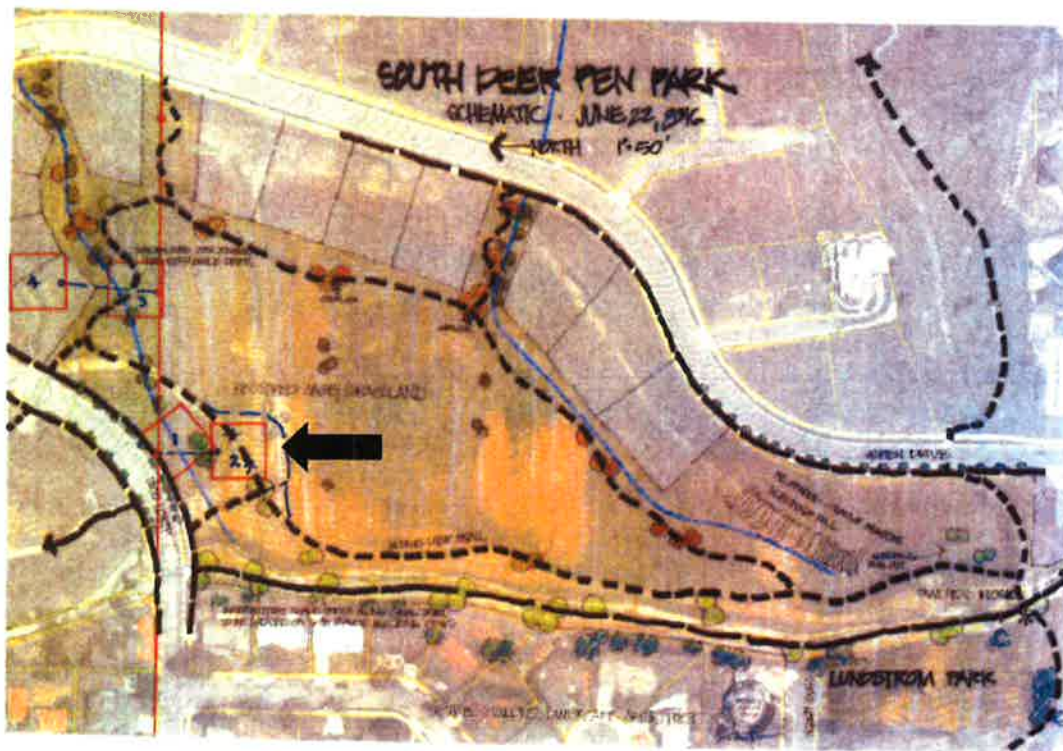
### **Request**

Logan City Light & Power is requesting a Conditional Use Permit and Design Review for a new power substation within an approximate 100' x 100' footprint (10,000 square feet) on the City's Deer Pen property. The proposed substation will serve new residential growth in the Hillcrest area as well as additional growth and demand at the USU Innovation Campus. The current demand for power is exceeding the City's capacity for power provision in this section of Logan, and the anticipated demand will severely tax the existing system. The proposed substation consists of a small building and electrical equipment contained within a walled and landscaped enclosure.

The placement of a substation is limited by a number of considerations, with proximity to an existing high voltage transmission line and adjacency to service delivery area as the most important factors. In the photo to the right, the yellow dots represent the three existing poles of the current high voltage transmission line that runs through Deer Pen and down 1500 North. These are specific points in the system that a new substation could tie into.



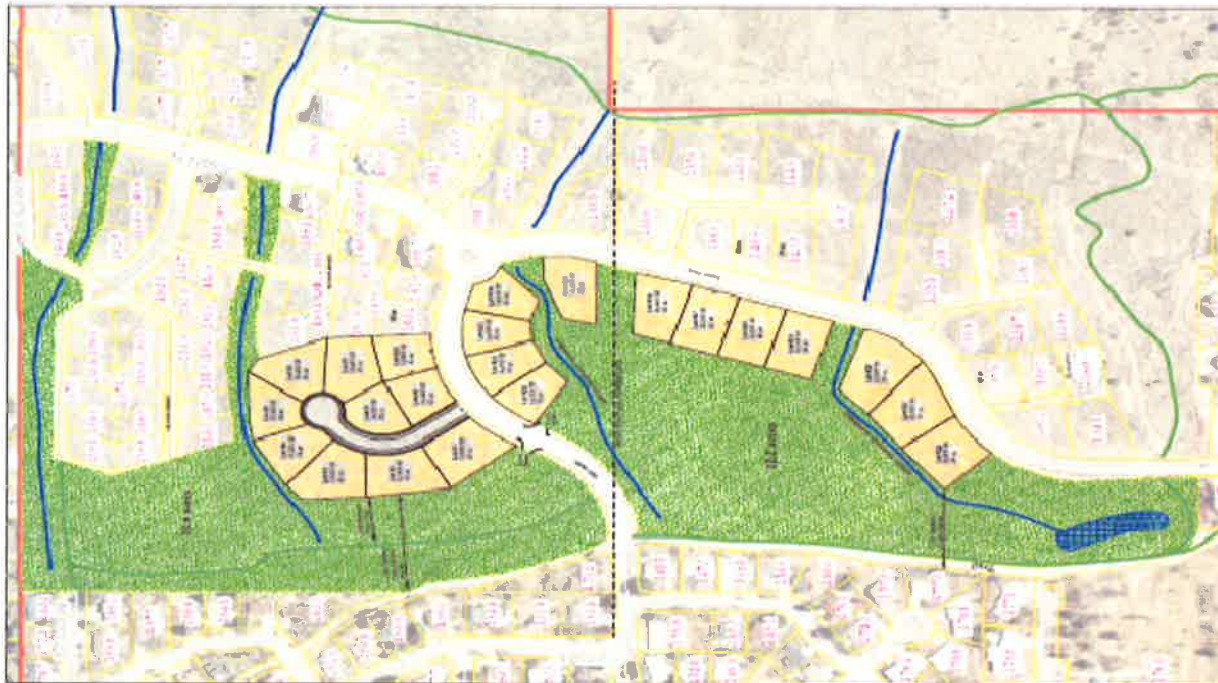
On this specific site, the preferred substation location is shown in the graphic below as options 1 & 2. This provides immediate adjacency to an existing pole and transmission lines, is located within the service delivery area, and is located on existing City owned property.





### **Background**

The Deer Pen property has undergone a series of changes over the past few years. In 2016, the 23.42 acres of the Deer Pen property was rezoned from Public to Recreation while 8.63 acres was zoned from Public to NR-4 and included a 22 lot residential subdivision. The remainder parcel on the south side of 15<sup>th</sup> North is 12.40 acres while the remainder parcel on the north side of 15<sup>th</sup> is 11.02 acres. In conjunction with these rezones, a conceptual parks plan was prepared for the remainder acreage (attached). However, this plan has not been formally adopted by the City's Parks & Recreation Commission so it has not been implemented.



**MAP 10.4 DEER PEN DEVELOPMENT PLAN**

Prior to this rezone and subdivision, the site was originally designated as the site for a future cemetery. In 2015, the City determined that the existing cemetery had adequate capacity to meet the demand over the next several decades and decided to rezone and subdivide in order to help re-pay the cemetery fund. The residential plat has not been finalized as of this date and the informal parks plan has not been adopted or implemented. The larger southerly parcel is currently used as an off-leash dog park and an informal park area. The entire area is used for passive recreation as several trails traverse through both areas of Deer Pen, along the Canal, and up through Deer Crest to the Bonneville Shoreline Trail.

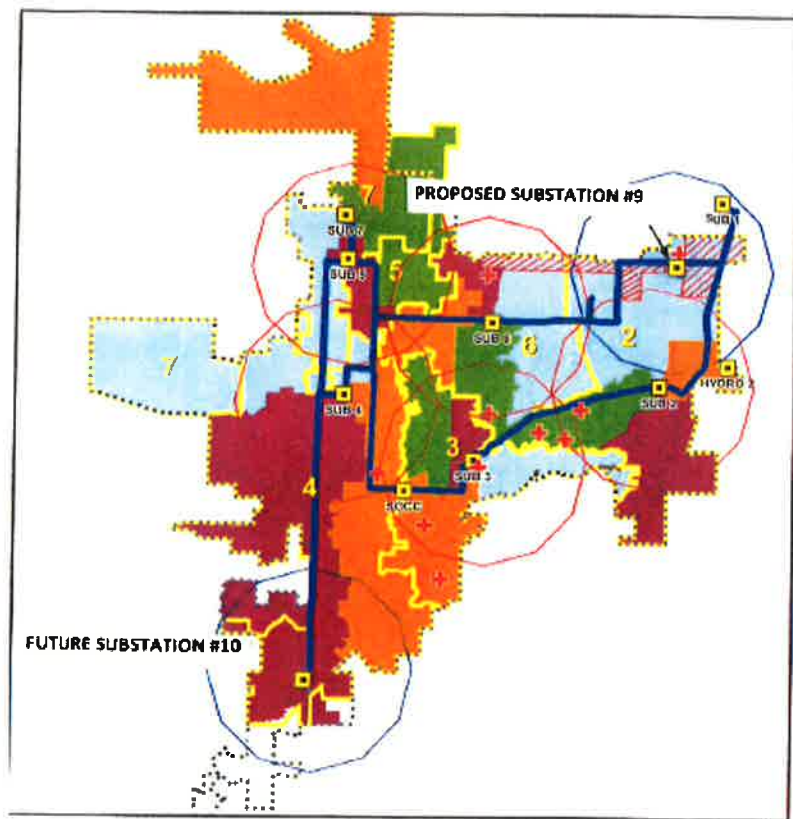
### **Alternative Locations**

The City's Light & Power (L&P) Department had been negotiating with USU for several months on a number of potential sites for a new substation on USU property. Ultimately, USU came back with a "no" forcing the City's L&P to evaluate alternative locations. In evaluating different areas within the Northeast portion of town, the Deer Pen site appears to be the most viable option for a new substation.

One of the primary challenges in siting this type of a use is the substation needs to be located close or within the area of service delivery. The delivery of power is similar to other utilities, yet is also unique in its own specific challenges. Sanitary sewer you can just flush and it ends up through a series of pipes in the treatment plan on the west side of town. Most of the water Logan uses originates up in the Logan Canyon, is delivered to a series of water tanks, treated and then delivered to homes & businesses through a series of lines. A variety of factors come

into play in each of these utilities, e.g., gravity, distance, existing development patterns, etc., that affect how each is delivered.

Electricity is similar in that the power we tap into is typically generated hundreds of miles away and is then transmitted regionally at very high voltages and low current in order to minimize loss of energy. The substation is where these voltages and currents are manipulated for distribution into local businesses and homes. Moving the voltages & currents that a typical household uses over long distances is very inefficient and very expensive, therefore the goal is to put a substation as close to the point of delivery as possible. Placing a new substation on the west side of town to serve the Hillcrest area doesn't work. Light & Power considered expanding the existing substation at the mouth of Green Canyon in North Logan, but the cost was prohibitive because new poles & lines would have to be installed. They also considered Lundstrom Park, but discounted that as we didn't want to see any formal park space taken away. The graphic above shows the City's existing substations (yellow squares), their service areas (red circles), and the areas currently deficient (blue circles). In light of the challenges of siting a new substation, the Deer Pen site became the best option (cost, proximity to high voltage lines, proximity to service area, ease of development, etc.)



Light & Power considered expanding the existing substation at the mouth of Green Canyon in North Logan, but the cost was prohibitive because new poles & lines would have to be installed. They also considered Lundstrom Park, but discounted that as we didn't want to see any formal park space taken away. The graphic above shows the City's existing substations (yellow squares), their service areas (red circles), and the areas currently deficient (blue circles). In light of the challenges of siting a new substation, the Deer Pen site became the best option (cost, proximity to high voltage lines, proximity to service area, ease of development, etc.)

On the Deer Pen site, the City's L&P considered a number of alternatives. These are shown as options 1 – 4 on the map on page 2. Staff from Light & Power, Parks & Recreation, Community Development, members of the Parks & Recreation Advisory Board, and the Mayor met on site to evaluate a variety of different alternatives. All options would work and all options have impacts or consequences. Options 3 & 4 are higher up on the hill, would impact the viewshed more significantly than Option 1 or 2, and would require significant grading to the site. Option 4 would require the placement of additional poles and power lines perpendicular to the existing lines which run east/west and which would have a significant impact on the viewshed. Options 1 & 2 would utilize the existing road while options 3 & 4 would require additional roadwork. All 4 options will have an impact on either a future park, the existing passive recreational area, or future buildable lots. After looking at all of the pros/cons, the consensus of the group that met on-site is that Option 1 & Option 2 are the most suitable locations with the least amount of impact to existing residential areas, future building lots, the existing trail network, and the existing off leash dog area.

### **Conditional Use Permit**

A substation is listed as a Conditional Use in the Use Table for the Recreation zone. The distinction between a Permitted Use and a Conditional Use is that while both are considered permitted uses allowed in the underlying zone, a Conditional Use may require additional



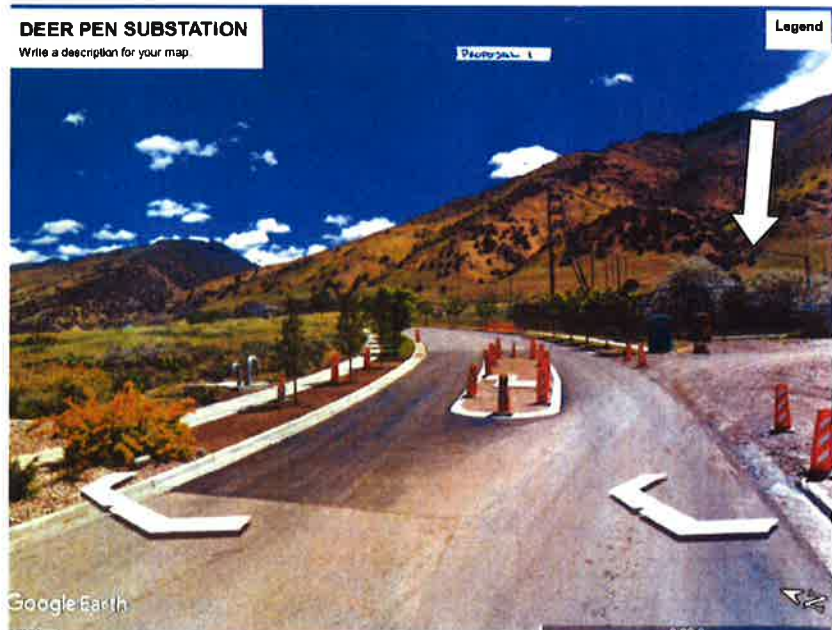
conditions of approval in order to mitigate any potential impacts. Section 17.42.050 in the LDC governs the approval criteria for Conditional Uses.

**§17.42.050 Planning Commission Action**

*The Commission may approve or conditionally approve a conditional use permit only upon substantiating the following findings:*

- A. The maximum established density has not been exceeded, unless a density bonus has been approved in conformance with General Plan policy and City ordinance.*
- B. The proposed use conforms to the requirements of Title 17 of the Logan Municipal Code and is listed as a conditional use in the Use Table.*
- C. The use is compatible with surrounding land uses and will not interfere with the use and enjoyment of adjoining or area properties.*
- D. The streets providing access and other infrastructure to the subject property have adequate capacities or a suitable level of service for the conditional use.*
- E. The proposed use is compatible with neighborhood uses and character while preserving and enhancing the character of the neighborhood.*
- F. Access to adjoining streets is designed to be constructed in conformance with City standards and specifications. Where adjoining streets are regulated by the Utah Department of Transportation, access to street(s) shall conform to the requirements of the Cache Access Management Plan.*
- G. The proposed use provides adequate off-street parking in conformance with this Title.*
- H. The project provides open space and landscaping in conformance with this Title.*

When approving a CUP, the Planning Commission needs to substantiate the above list of criteria many of which don't apply or are easily met. In this specific proposal, the core criteria is determining the compatibility of the proposed use and location within the existing neighborhood as well as its compatibility and or impact on future uses on or adjacent to the site. Unfortunately, outside the industrial areas, there are very few land uses that are aesthetically compatible with an electrical substation. This issue of compatibility becomes even more apparent when placing it within or adjacent to a residential area.



***How do you provide reliable and affordable electrical service in the same geographic area demanding that service in a way that is compatible with both existing and future uses?***

In this specific case, it involves strategic placement and adequate screening to ensure the site blends in with the surrounding landscape. The proposal is a 10,000 square foot enclosed site on approximately 12.40 acres. The preferred location, Option #1, is located adjacent to an existing

power pole and can easily tie into that structure. The equipment within the substation is generally low profile and is contained beyond an 8' high masonry wall. The street trees and existing vegetation help to screen the site from view as one travels east on 15<sup>th</sup> North. This site is approximately 250' east of the nearest residential structure. The sketch above shows how the substation blends in when viewing from west to east. The site will be landscaped to blend with the natural environment. Initially, the site will be visible from homes located to the east; however, that view will be tempered as landscaping and trees mature along the east wall.

The other issue of compatibility is with a future park use on this site. The South Deer Park Plan Schematic on page 2 shows a conceptual layout of a future park on this site. The only immediate impact from any of the alternatives considered would be on a trail along the northern side of this site. With an appropriate site design, a trail could meander around the southern side of this facility without impacting the integrity of the park. Landscaping placed around the facility will also help to minimize the impact. From a size and contextual perspective, a 10,000 square site on 12 acres is a relatively minimal impact overall.

Enclosed with this packet are some photos of other substations located in Logan. These photos show the scale of the equipment, and with some minor exceptions, most equipment won't project above the top of the masonry wall. The landscape treatment in those substations tend to be more suburban in character whereas this one will require a different approach. We have tasked Russ Holley, Senior Planner and resident landscape architect, to work with Parks and Rec, Light & Power, and others to design an appropriate landscape plan that will screen the substation while blending in with the surrounding landscape.

### **Setbacks**

The Land Development Code (LDC) requirements for setbacks in the REC zone are as follows (as measured from property lines):

Front:	20'
Side:	20'
Rear:	10'

The proposed project will meet these setbacks.

### **Parking**

Any parking areas will be contained within the site. The LDC does not establish minimum parking standards for a substation.

### **Summary**

The ability to place a substation on the Deer Pen property is generally not up for debate as a Conditional Use is similar to an outright Permitted Use. The real question comes down to identifying any impacts and then minimizing and mitigating for those impacts. Comments the PC has and will receive about "not in my backyard" are not valuable nor are they productive. Comments that help the PC consider alternative methods to minimize the visual aspect of the substation are beneficial.

Light & Power evaluated other sites in the Northeast part of Logan with no success. Staff from a number of different City departments looked at other alternatives on the Deer Pen site and determined that Option 1 was the most viable with the least amount of impact. Staff considered placing the substation further east, but those options have more negative impacts on the viewshed, require additional grading, slopes, etc. Staff evaluated placing it to the north or to the south on the Deer Pen acreage, but those options would require the construction of access roads, additional poles and transmission lines to tie back into the system and would be closer to existing residential areas.

The preferred site is Option 1 as it has the least amount of visual and physical impact on both the Deer Pen property and adjoining residential uses. This site is immediately adjacent to the high voltage transmission lines and poles that the substation needs to tie into with a minimal extension of new infrastructure. The substation is located on publicly owned property minimizing the cost of land purchase for the consumer. And, this substation is located within the northeast part of town that is demanding the power. Conditions of approval requiring enhanced landscaping and screening will ensure compatibility with adjoining uses.

#### **AGENCY AND CITY DEPARTMENT COMMENTS**

As of the date this report was prepared, there were no comments from other City departments or agencies. We are anticipating a recommendation from the Logan City Parks and Recreation Commission in regard to Deer Pen which will be forwarded to the PC.

#### **PUBLIC COMMENTS**

Notices were mailed to property owners within 300 feet of the subject property. As of the time of this report, several comments have been received and are attached to this report. Any additional comments will be provided to the PC.

#### **PUBLIC NOTIFICATION**

Legal notices were published in the Herald Journal on 6/13/20 and the Utah Public Meeting website on 6/16/20. Public notices were mailed to all property owners within 300 feet of the project site on 6/5/20.

#### **RECOMMENDED CONDITIONS OF APPROVAL**

*This project is subject to the proponent or property owner agreeing to comply with the following conditions as written, or as may be amended by the Planning Commission.*

1. All standard conditions of approval will be recorded with the Design Review and are available in the Community Development Department.
2. A landscape plan shall be prepared that clearly screens the proposed substation on all 4 sides and blends in with the natural setting. The plan shall also include a trail segment around the substation on the south side.
3. The proposed masonry wall shall blend into the natural setting using a variety of texture and color. A standard masonry block wall is not permitted.
4. Low profile equipment shall be used whenever feasible. All exterior lighting inside the substation yard shall be designed to avoid any impacts to surrounding properties.
5. Any parking shall be contained within the substation.
6. The service road shall be improved per the Department of Public Works standards and shall utilize the existing curb cut located on 15<sup>th</sup> North.
7. The project shall meet any other requirements as established by the Fire Department, the Streets Department, the Engineering Department, and any other City Department.

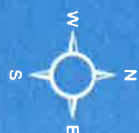
## **RECOMMENDED FINDINGS FOR APPROVAL FOR THE DESIGN REVIEW AND CONDITIONAL USE PERMIT**

*The Planning Commission bases its decisions on the following findings supported in the administrative record for this project:*

1. The proposed project as conditioned is compatible with surrounding land uses and will not interfere with the use and enjoyment of adjacent properties because of the site layout, landscaping and setbacks.
2. The Design Review and Conditional Use Permit conforms to the requirements of Title 17 of the Logan Municipal Code.
3. The proposed project provides open space and useable outdoor space in conformance with Title 17.
4. The proposed project provides off-street parking in compliance with the LDC.
5. The project met the minimum public noticing requirements of the Land Development Code and the Municipal Code.
6. The surrounding streets provide access, utilities and are adequate in size and design to sufficiently handle all traffic modes and infrastructure related to the land use.

This staff report is an analysis of the application based on adopted city documents, standard city development practices, and available information. The report is to be used to review and consider the merits of the application prior to and during the course of the Planning Commission meeting. Additional information may be revealed by participants at the Planning Commission meeting which may modify the staff report and become the Certificate of Decision. The Director of Community Development reserves the right to supplement the material in the report with additional information at the Planning Commission meeting.





**Appox. 1880 E 1500 N**



**June 25, 2020**



**Deer Pen Substation**  
Appox. 1880 E 1500 N



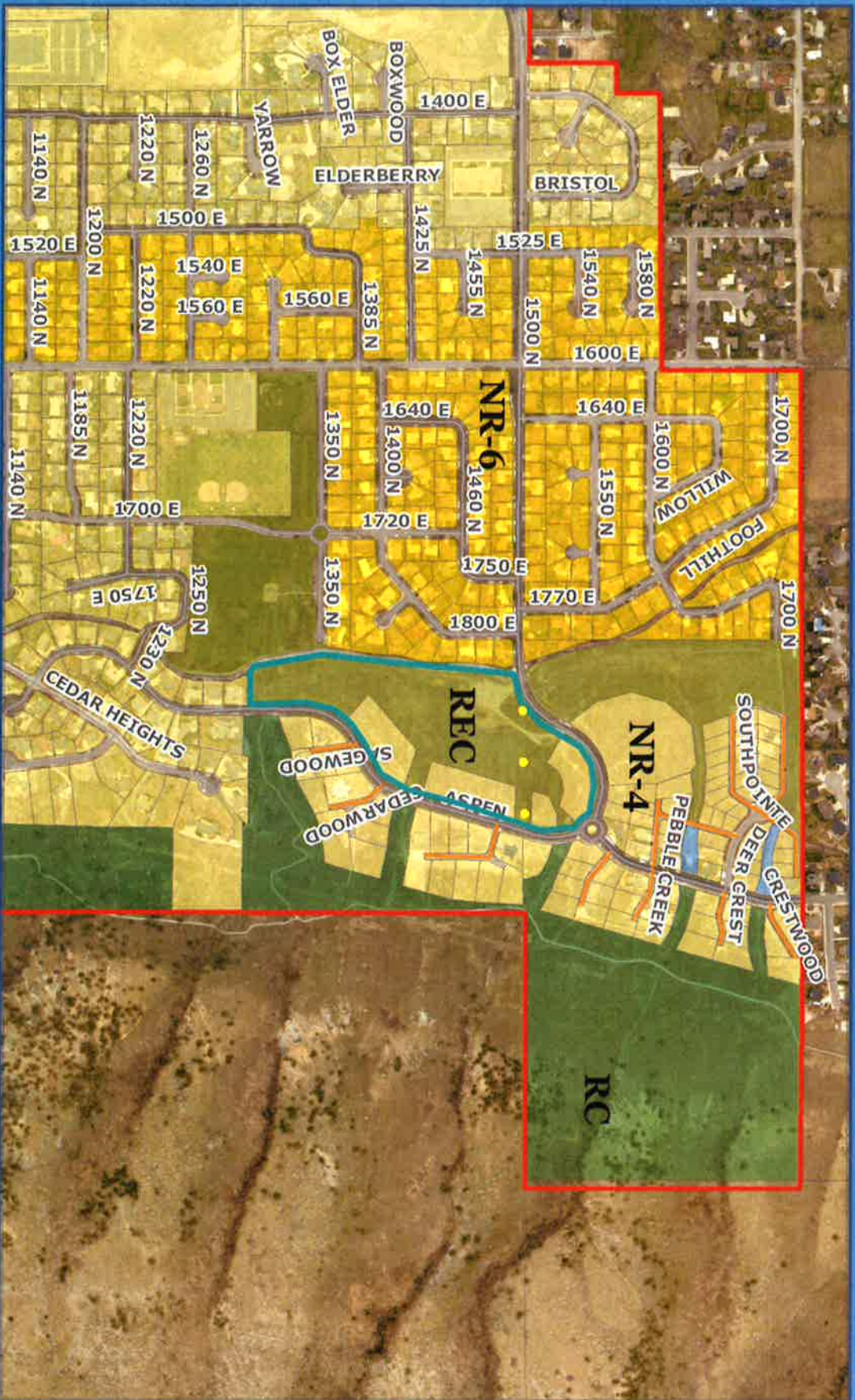


**Appox. 1880 E 1500 N**



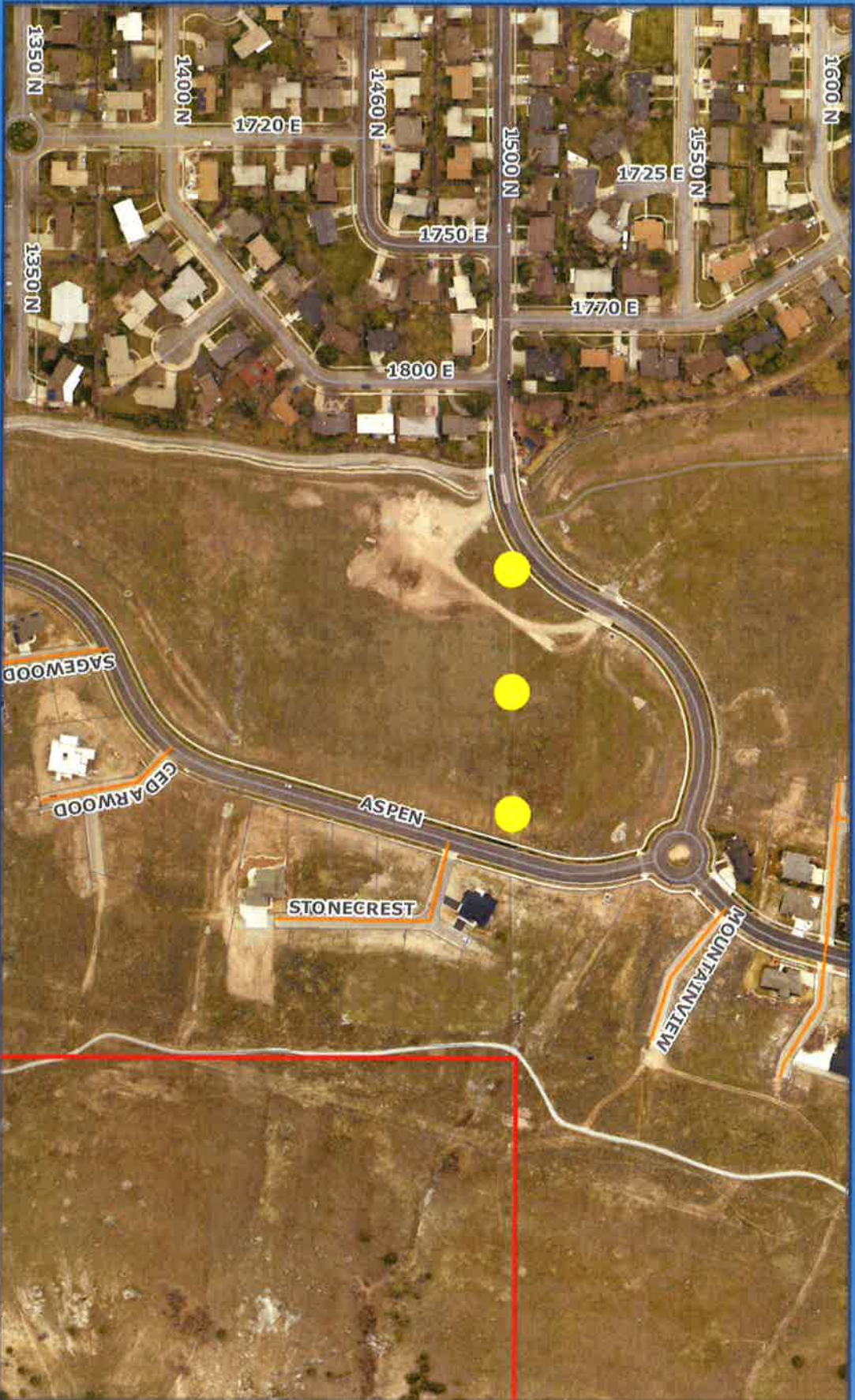
# Deer Pen Substation

Appox. 1880 E 1500 N



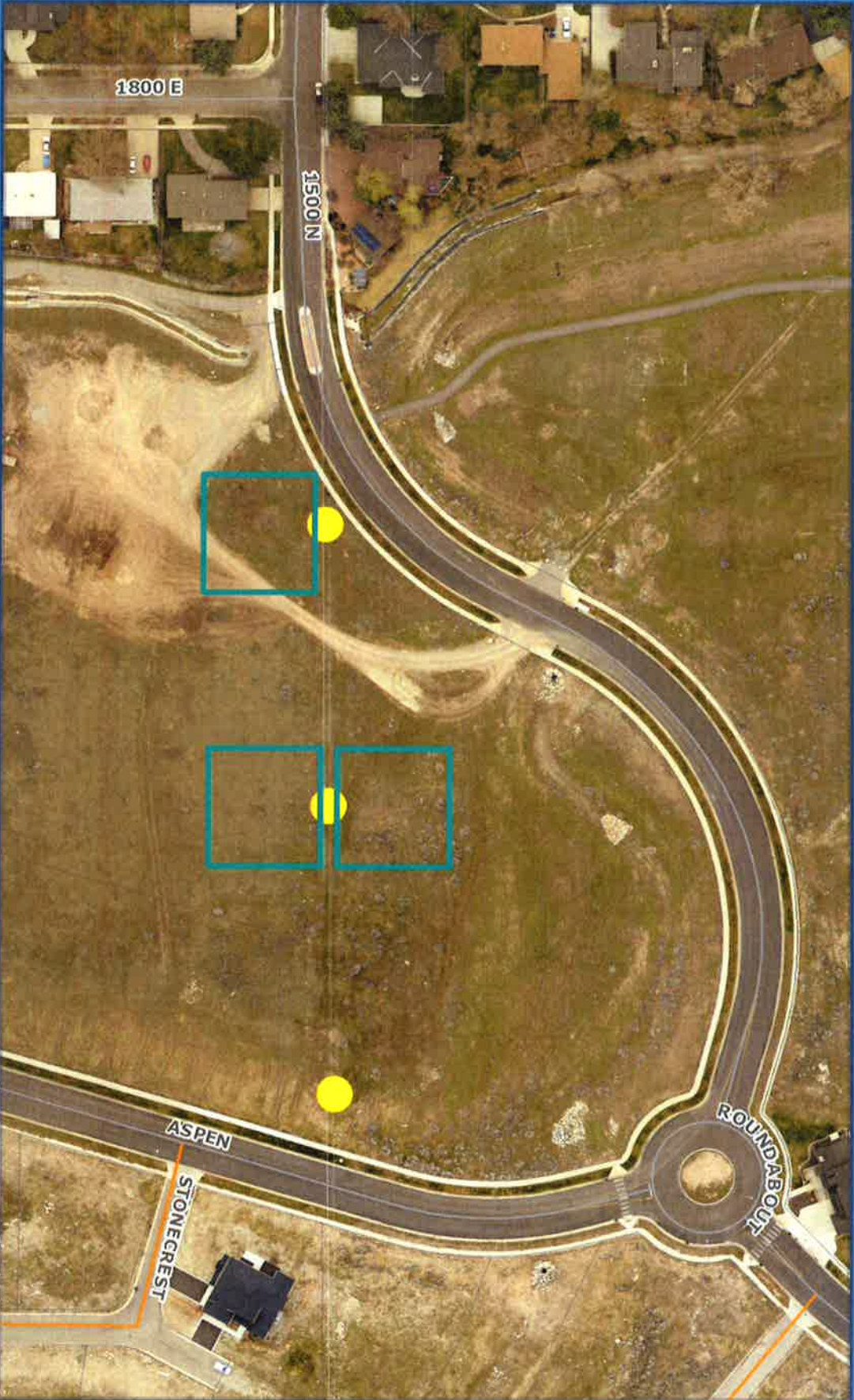


**Deer Pen Substation**  
Appox. 1880 E 1500 N

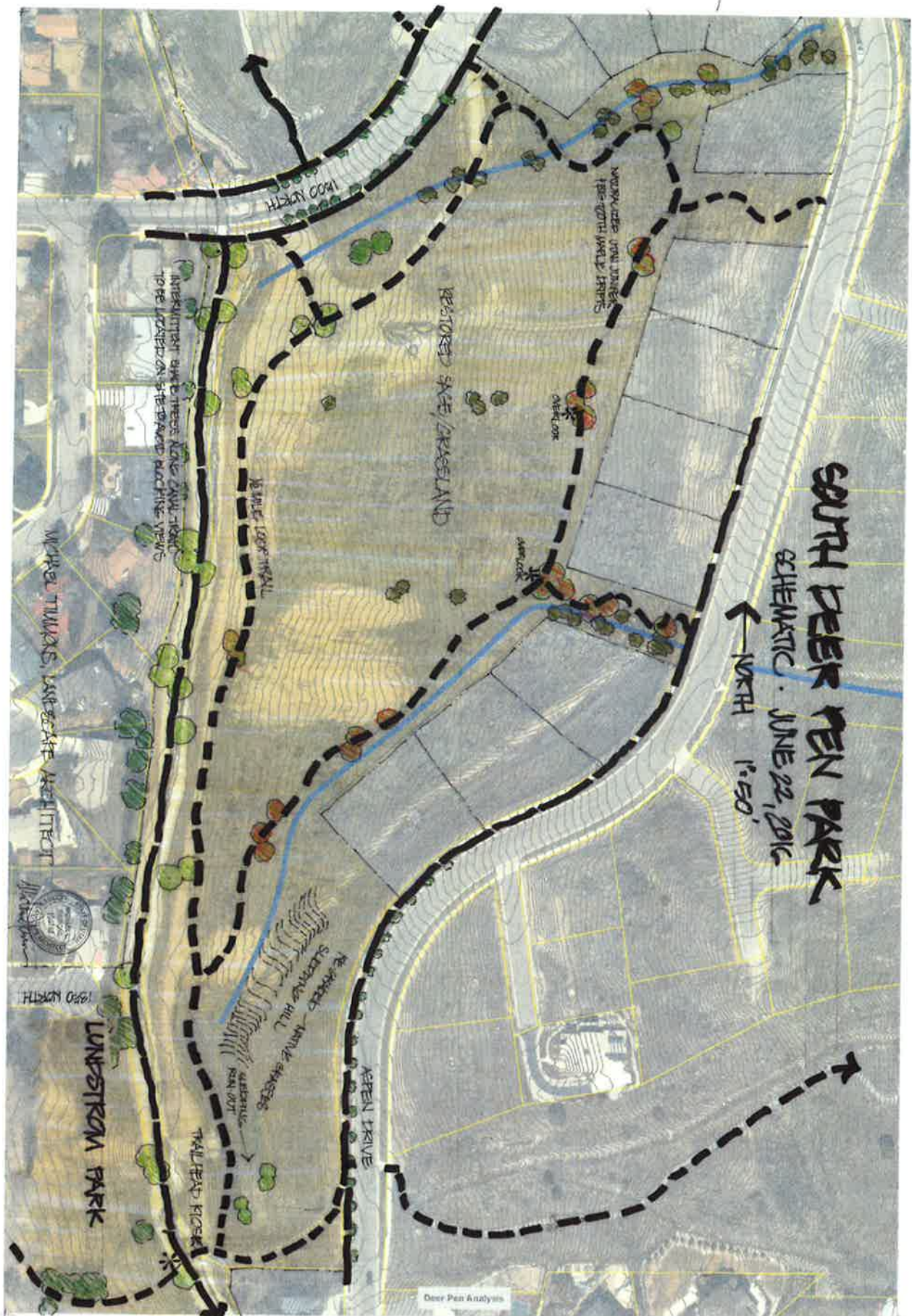




**Deer Pen Substation**  
Appox. 1880 E 1500 N







# SOUTH DEER PEN PARK

SCHEMATIC - JUNE 22, 2016

← NORTH 1" = 50'

WILLIAM TUMANS, LANDSCAPE ARCHITECT



12500 CALIF. 05/01

LONGBRAN PARK

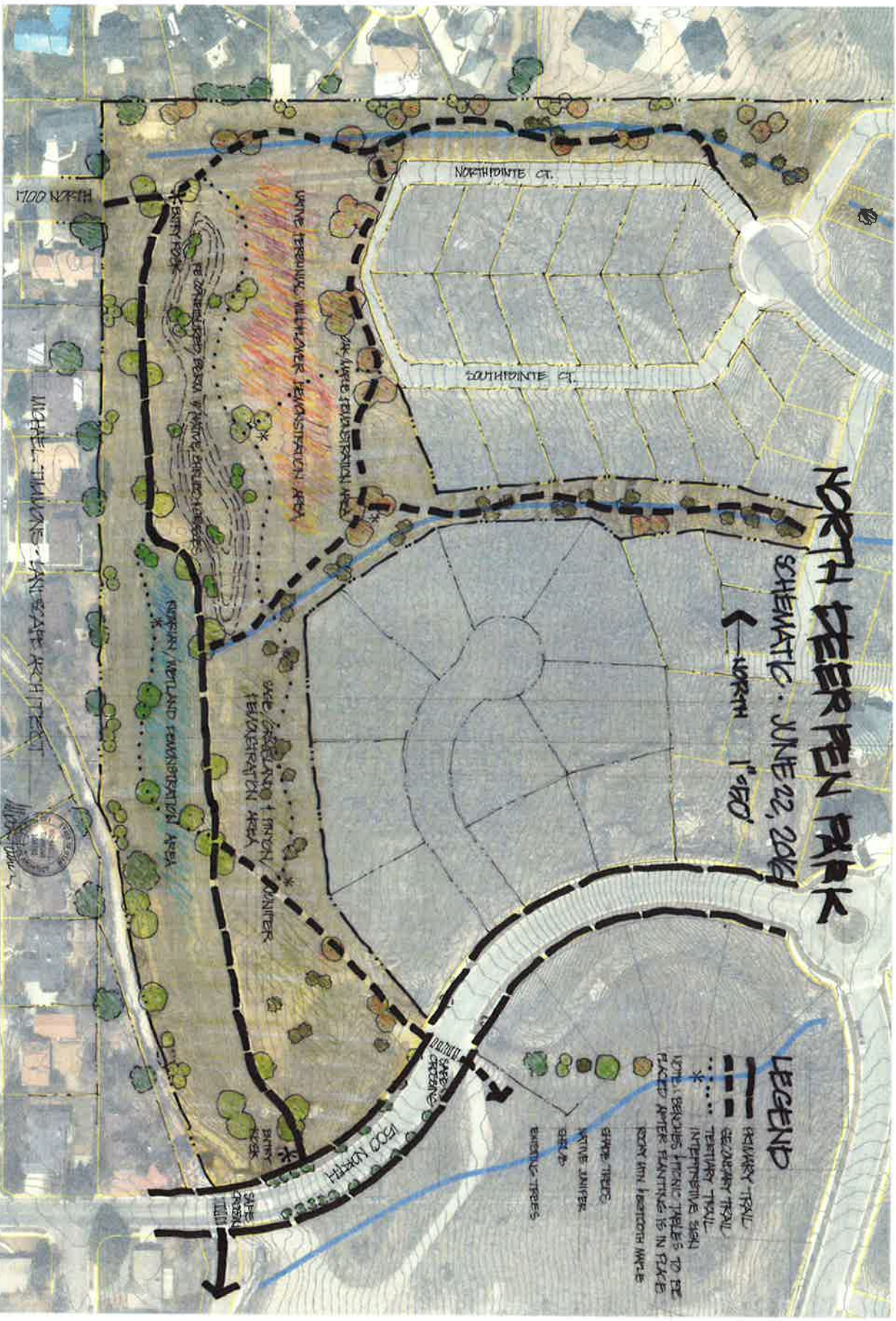
Deer Pen Analysis

⬆ NORTH

Scale: 1" = 50'

BBIG2016  
VERSION #1





# NORTH DEER PEN PARK

SCHEMATIC - JUNE 22, 2014

← NORTH 1" = 50'

## LEGEND

- PRIMARY TRAIL
- SECONDARY TRAIL
- SHRUB TREES
- NATIVE JUNIPER
- ENDEMIC TREES
- WETLAND/HERBACEOUS AREA
- WETLAND/HERBACEOUS AREA
- WETLAND/HERBACEOUS AREA

⬆ NORTH

Scale 1" = 50'

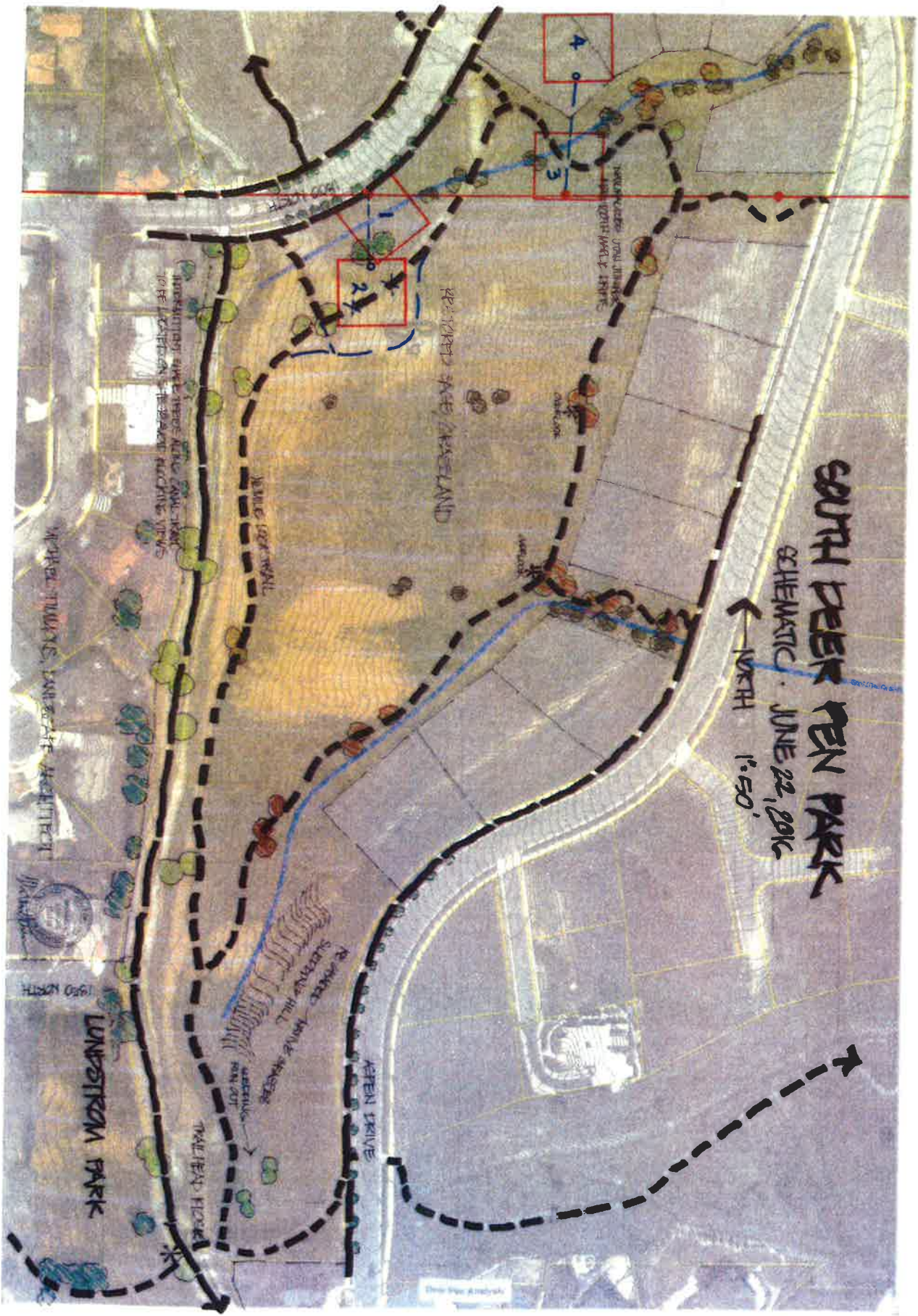
6/22/2014  
version 01



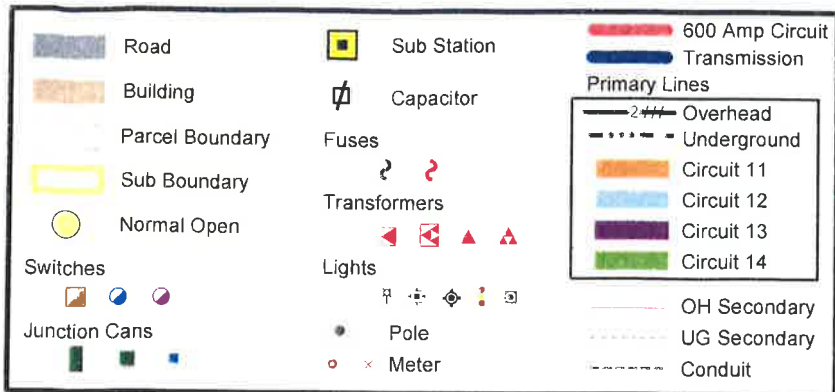




1:50' NORTH

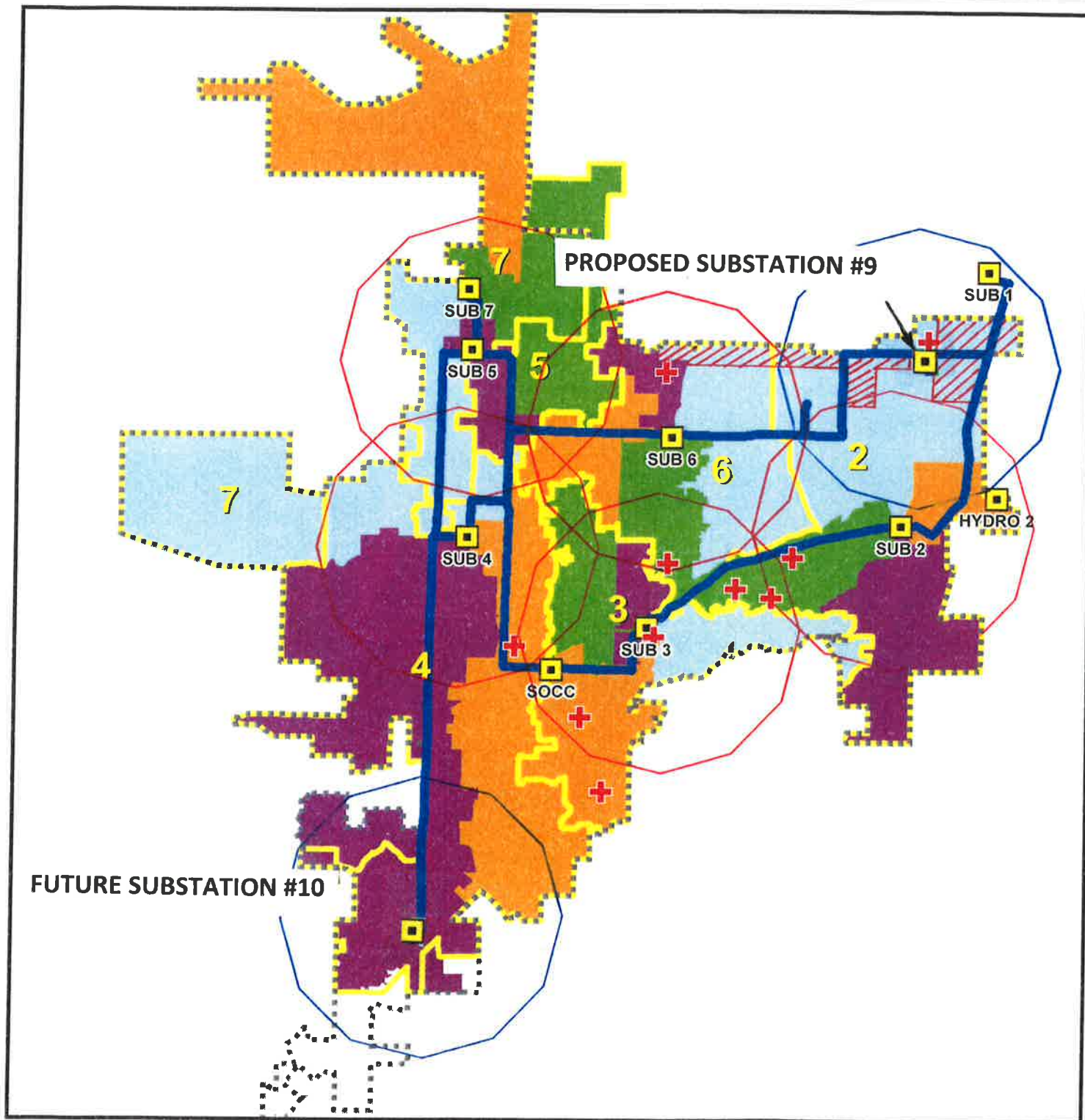
 NORTH





# NOTES:

1 inch = 5,000 feet



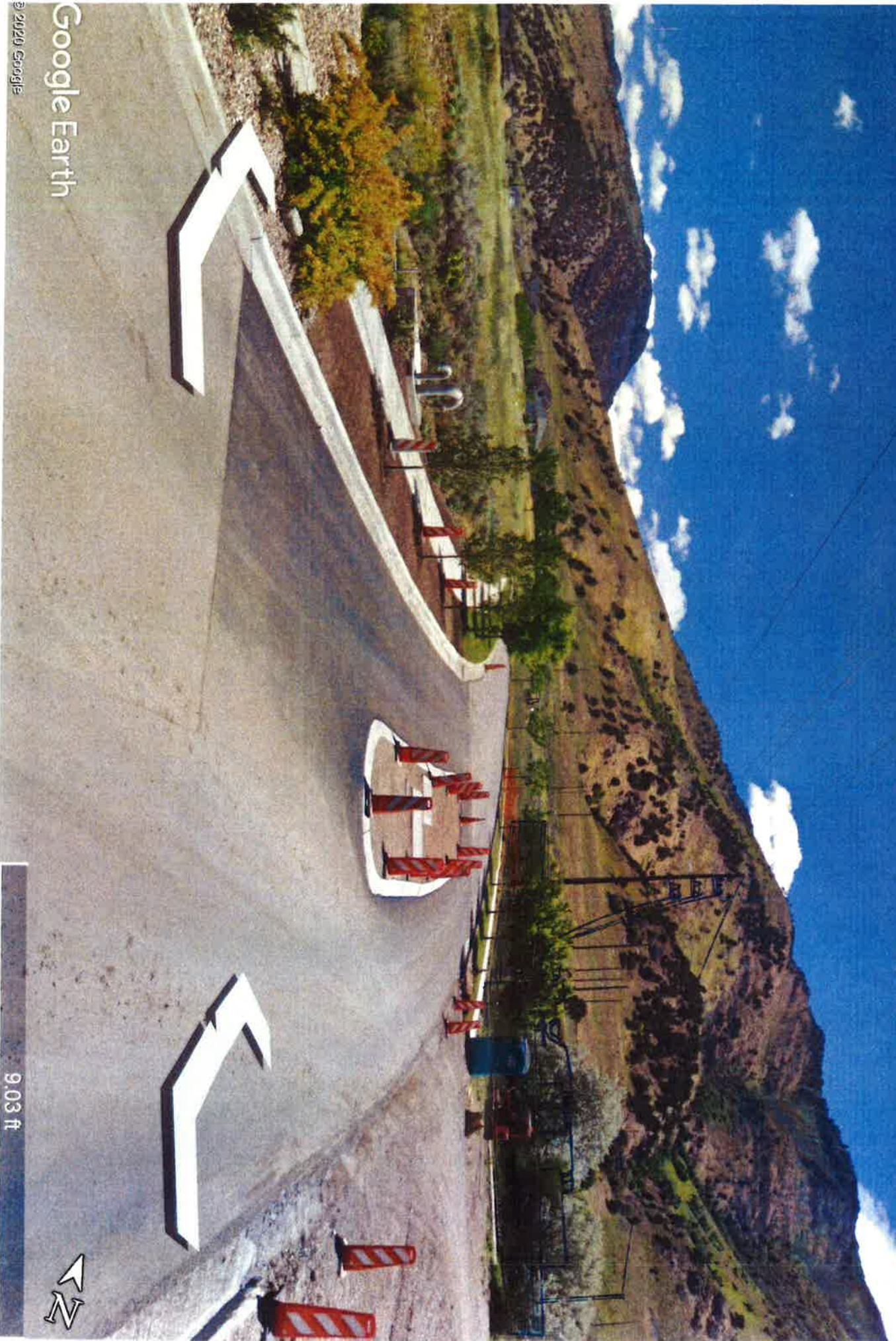


# DEER PEN SUBSTATION

Write a description for your map.

Proposal 1

Legend



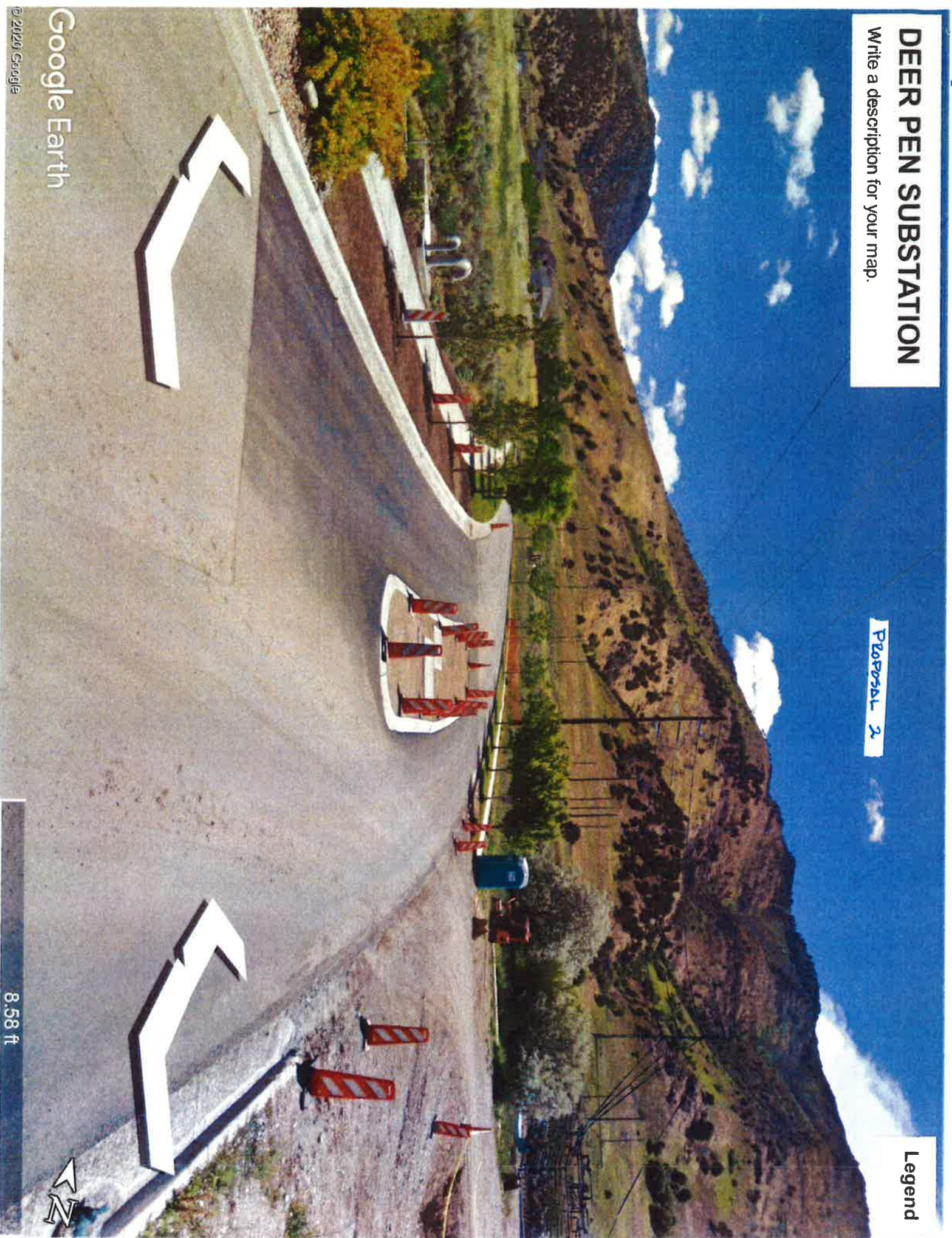


# DEER PEN SUBSTATION

Write a description for your map.

Proposal 2

Legend

















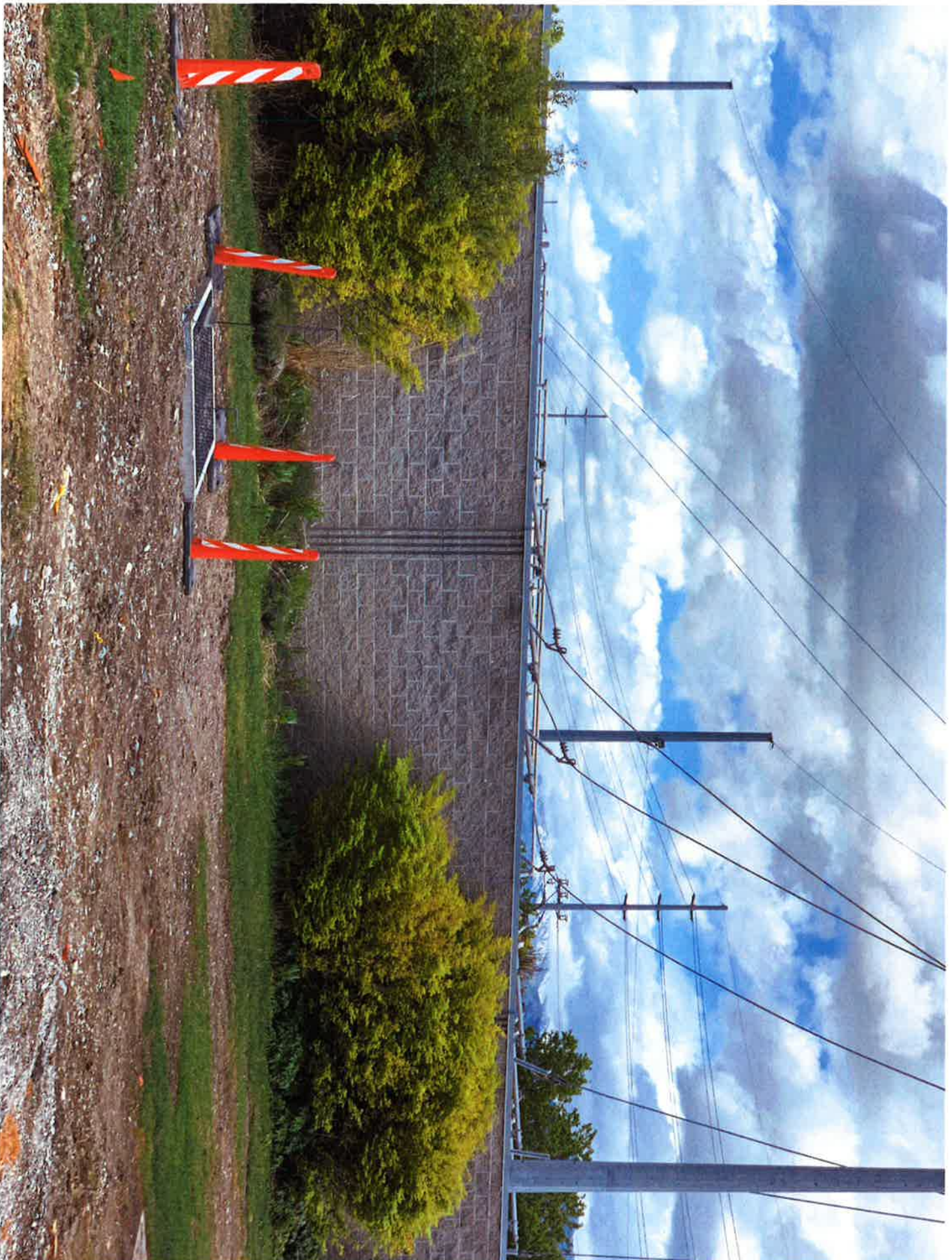
# Deer Pen Substation



Legend













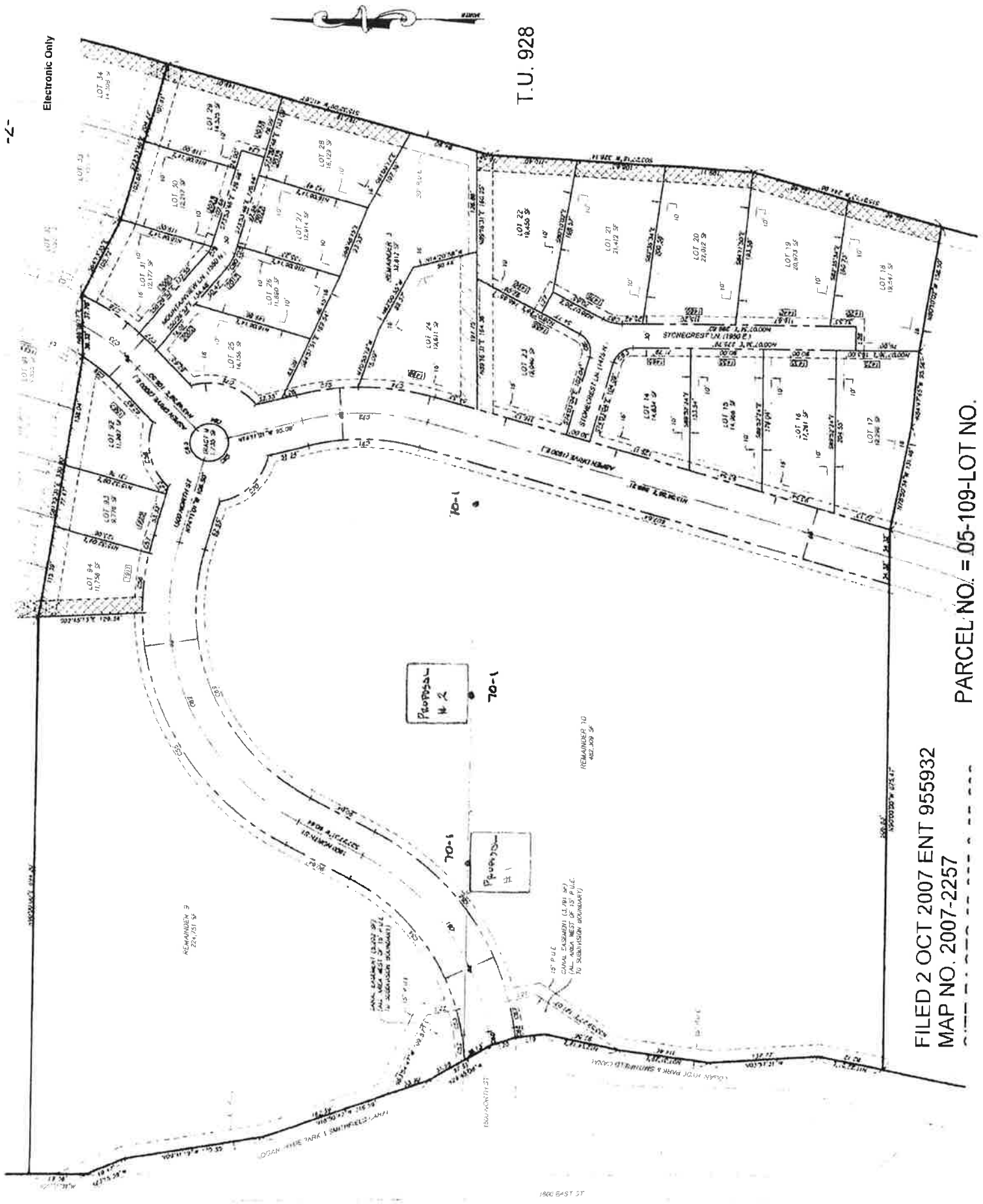


# APPLICATION FOR PROJECT REVIEW

☒ Planning Commission    ☐ Land Use Appeal Board    ☐ Administrative Review

Date Received <b>5-22-20</b>	Received By	Scheduled Meeting Date <b>June 25</b>	Zone	Application Number <b>PC 20-032</b>
Type of Application (Check all that apply): <input checked="" type="checkbox"/> Design Review <input checked="" type="checkbox"/> Conditional Use <input type="checkbox"/> Subdivision <input type="checkbox"/> Zone Change <input type="checkbox"/> Code Amendment <input type="checkbox"/> Appeal <input type="checkbox"/> Other <input type="checkbox"/> Administrative Design Review				
PROJECT NAME <b>DEER TEN SUBSTATION</b>				
PROJECT ADDRESS <b>APPROX 1880 E. 1500 N.</b>			COUNTY PLAT TAX ID # -- --	
AUTHORIZED AGENT FOR PROPERTY OWNER (Must be accurate and complete) <b>LOGAN CITY</b>			MAIN PHONE # <b>435-716-9744</b>	
MAILING ADDRESS <b>290 N 100W</b>		CITY <b>LOGAN CITY</b>	STATE <b>UT</b>	ZIP <b>84321</b>
EMAIL ADDRESS <b>mark.montgomery@loganutah.org</b>				
PROPERTY OWNER OF RECORD (Must be listed) <b>CITY OF LOGAN</b>			MAIN PHONE # <b>435-716-9240</b>	
MAILING ADDRESS <b>290 N 600W</b>		CITY <b>LOGAN</b>	STATE <b>UT</b>	ZIP <b>84321</b>
EMAIL ADDRESS				
DESCRIBE THE PROPOSED PROJECT AS IT SHOULD BE PRESENTED (Include as much detail as possible - attach a separate sheet if needed)			Total Lot Size (acres) <b>23 ACRES</b>  Size of Proposed New Building (square feet) <b>N/A</b>  Number of Proposed New Units/Lots <b>N/A</b>	
<b>- NO SITE ACTIVITY MAY OCCUR UNTIL AFTER APPROPRIATE COMMITTEE APPROVAL -</b>				
I certify that the information contained in this application and all supporting plans are correct and accurate. I also certify that I am authorized to sign all further legal documents and permits on behalf of the property owner.			Signature of Property Owner's Authorized Agent 	
I certify that I am the property owner on record of the subject property and that I consent to the submittal of this project. I understand that all further legal documents and permits will be sent to my authorized agent listed above.			Signature of Property Owner 	





T.U. 928

FILED 2 OCT 2007 ENT 955932  
MAP NO. 2007-2257

PARCEL NO. = 05-109-Lot NO.




Road	Sub Station	600 Amp Circuit
Building	Capacitor	Transmission
Parcel Boundary	Fuses	<b>Primary Lines</b>
Sub Boundary	Transformers	Overhead
Normal Open	Lights	Underground
Switches	Pole	Circuit 11
Junction Cans	Meter	Circuit 12
		Circuit 13
		Circuit 14
		OH Secondary
		UG Secondary
		Conduit

**NOTES:**

DEER PEN SUBSTATION

46/125 KV

1 inch = 100 feet



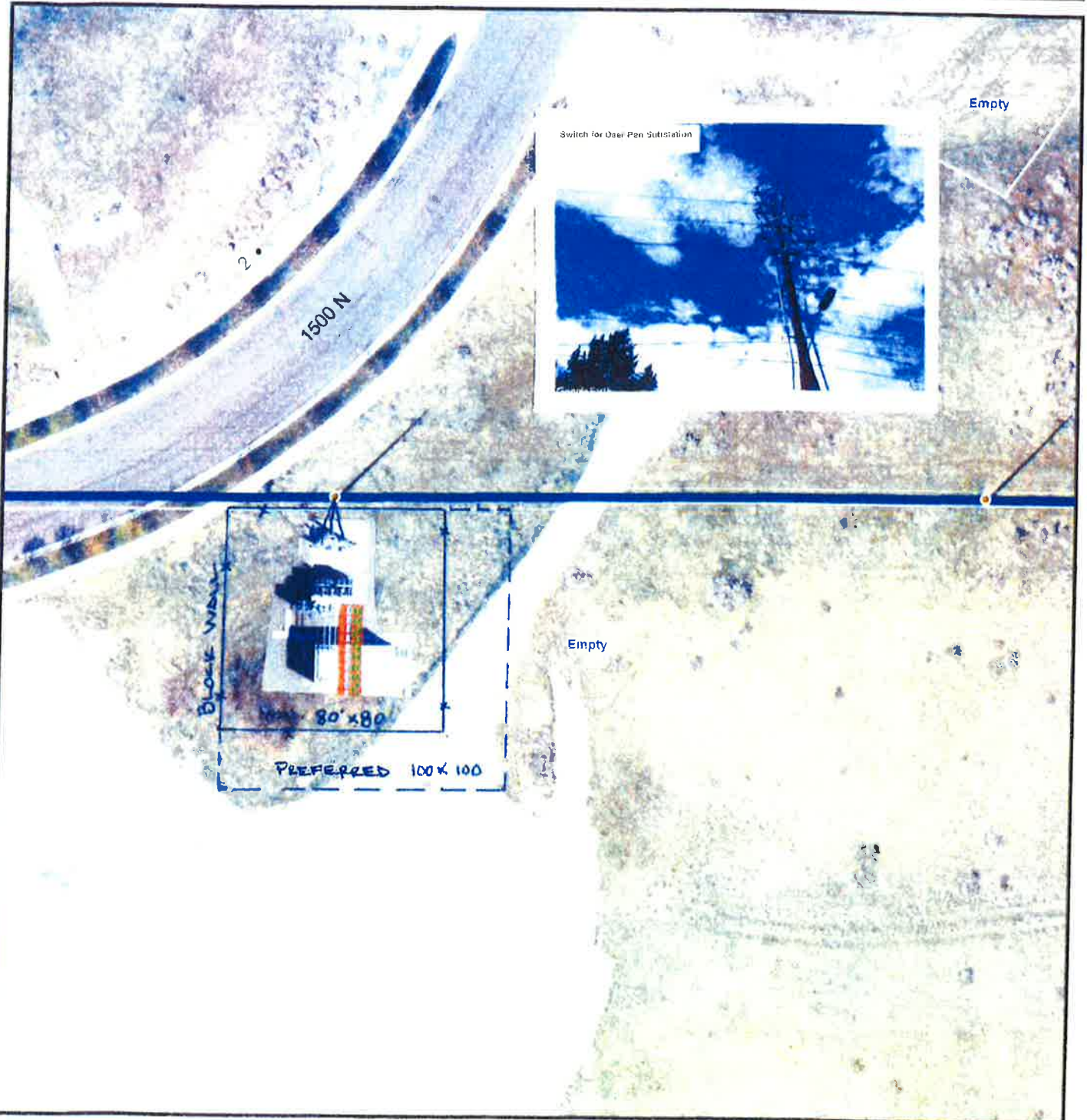



Road	Sub Station	600 Amp Circuit
Building	Capacitor	Transmission
Parcel Boundary	Fuses	<b>Primary Lines</b>
Sub Boundary	Transformers	Overhead
Normal Open	Lights	Underground
Switches	Pole	Circuit 11
Junction Cans	Meter	Circuit 12
		Circuit 13
		Circuit 14
		OH Secondary
		UG Secondary
		Conduit

**NOTES:**

PROPOSED DEEP PEN  
SUBSTATION

1 inch = 50 feet





# Switch for Deer Pen Substation

Legend



Google Earth

© 2020 Google



100 ft



# Deer Pen Substation



Legend

Google Earth

© 2020 Google



8:03 PM













