



MONTEZUMA CASTLE NATIONAL MONUMENT

PARKING LOT ADDITION AND REDESIGN

Presenters: Brian Hernandez-Ng
& Andrew McLaughlin

Team Members: Fahad Alkhalidi,
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and Cayla Washington

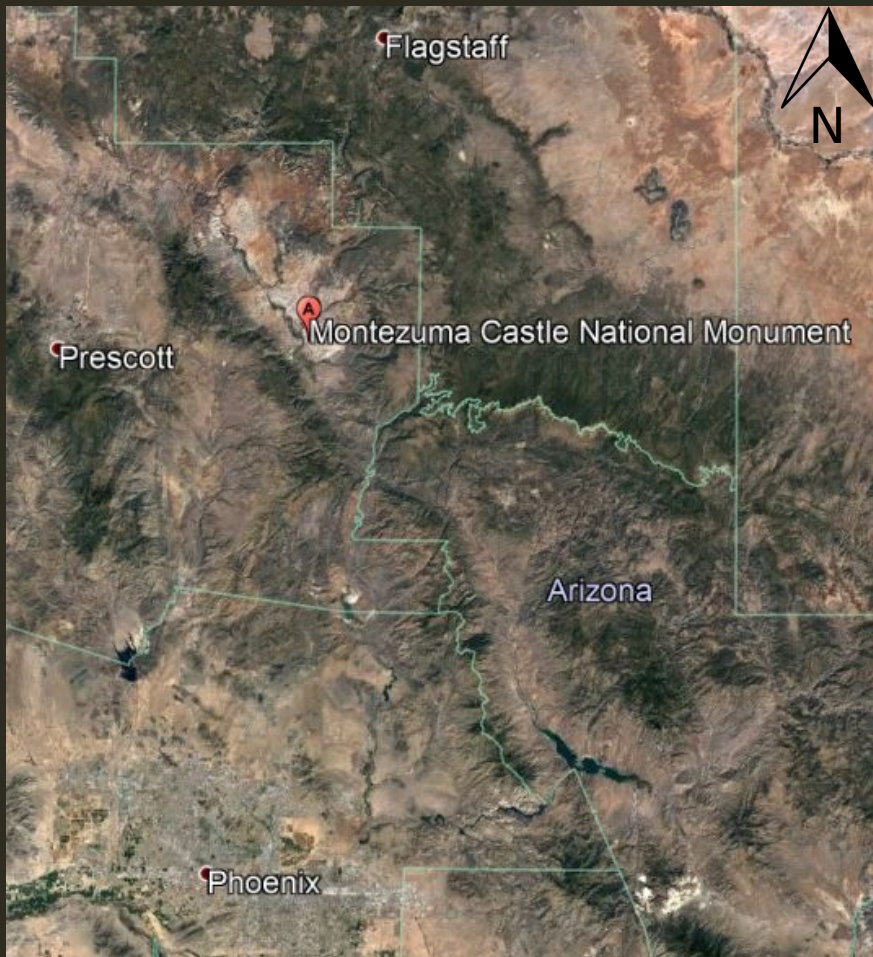


Figure 1. Location of Site in Arizona
(Picture taken using Google Earth Pro)



Figure 2. Path to Montezuma Castle National Monument off of I-17 Freeway
(Picture taken using Google Earth Pro)

PROJECT BACKGROUND

NOT OPTIMAL FOR VISITOR

USAGE

- Parking lot is reaching capacity, pedestrian facilities are poor, larger commercial vehicles do not have adequate infrastructure

OBJECTIVES

- Design new parking lot and drop off zone to meet the needs of buses and passenger cars
- Improve existing pedestrian facilities by adding sidewalk and designing a picnic area
- Improve existing parking lot by restriping to maximize capacity



Figure 3. Team Selfie
Photo by: Jacob Robinson

SCHEDULE STATUS

			Start Date	Finish Date
22	Hydrology	47 days	Mon 1/22/18	Tue 3/27/18
23	2.1 Research Previous Studies	1 day	Mon 1/22/18	Mon 1/22/18
24	2.2 Existing Drainage Basin Mapping	14 days	Wed 1/31/18	Mon 2/19/18
25	2.3 Existing Stormwater Flow	14 days	Wed 1/31/18	Mon 2/19/18
26	2.4 Proposed Drainage Basin	26 days	Tue 2/20/18	Tue 3/27/18
27	2.5 Proposed Stormwater Flow	26 days	Tue 2/20/18	Tue 3/27/18
28				
29	Site Plan	60 days	Mon 1/22/18	Fri 4/13/18
30	3.1 Review As-Builts	1 day	Mon 1/22/18	Mon 1/22/18
31	3.2 Analyze Existing Conditions	2 days	Tue 2/20/18	Wed 2/21/18
32	3.3 Estimate Parking Lot Location and Size	7 days	Wed 2/7/18	Thu 2/15/18
33	3.5 Bus Turning Radii	2 days	Wed 1/31/18	Thu 2/1/18
34	3.6 Sidewalk Placement	3 days	Fri 2/16/18	Tue 2/20/18
35	3.7 Proposed Stormwater	6 days	Wed 3/28/18	Wed 4/4/18
36	3.7.1 Catch Basins (Detention)	6 days	Wed 3/28/18	Wed 4/4/18
37	3.7.2 CSP Culverts	6 days	Wed 3/28/18	Wed 4/4/18
38	3.8 Site Signage	5 days	Mon 4/9/18	Fri 4/13/18
39	3.9 Proposed Picnic Area	6 days	Wed 1/31/18	Wed 2/7/18

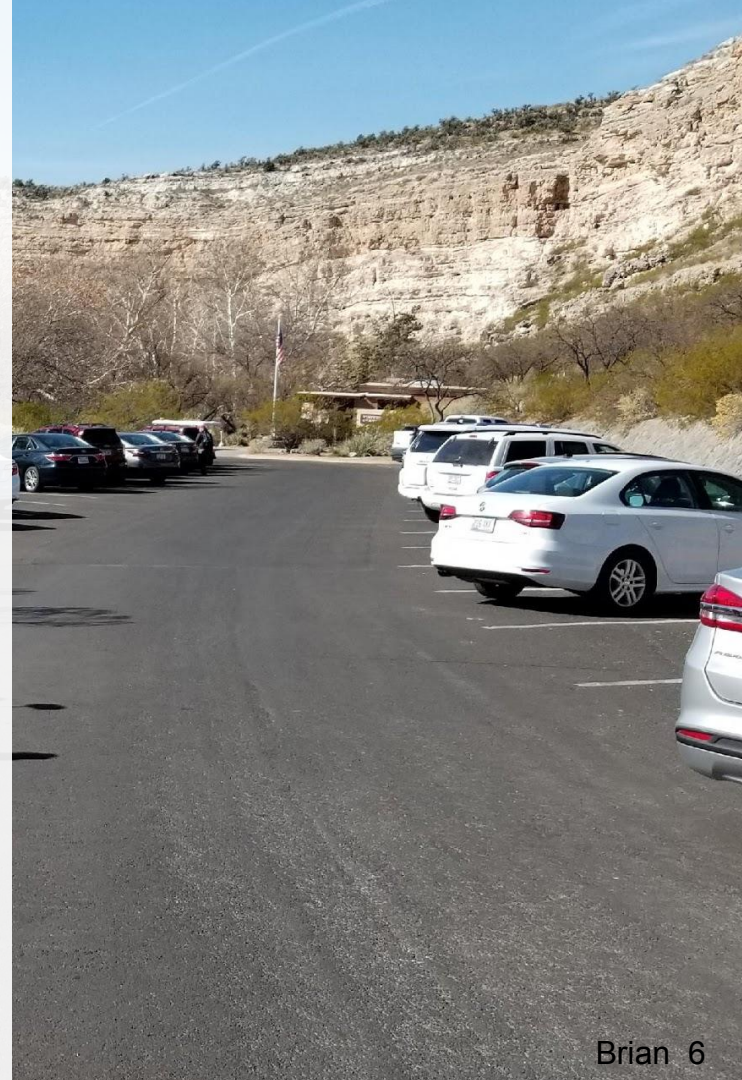
SCHEDULE STATUS

			Start Date	Finish Date
41	Impacts	46 days	Fri 2/16/18	Fri 4/20/18
42	5.1 Hydrology	5 days	Wed 3/28/18	Tue 4/3/18
43	5.2 Physical	46 days	Fri 2/16/18	Fri 4/20/18
44	5.2.1 Traffic Control/Movements	5 days	Fri 2/16/18	Thu 2/22/18
45	5.2.2 Aesthetics	5 days	Mon 4/9/18	Fri 4/13/18
46	5.2.3 Pedestrian Movement	5 days	Mon 4/16/18	Fri 4/20/18
47				
48	Construction Plans	63 days	Wed 1/31/18	Fri 4/27/18
49	6.1 Cover	14 days	Wed 1/31/18	Mon 2/19/18
50	6.2 Codes or Applicable Codes	30 days	Wed 1/31/18	Tue 3/13/18
51	6.3 Existing & Proposed Site Plan	24 days	Mon 2/5/18	Thu 3/8/18
52	6.4 Demo Sheet	16 days	Thu 4/5/18	Thu 4/26/18
53	6.5 Grading and Drainage Sheet Including Plan and Profile	16 days	Thu 4/5/18	Thu 4/26/18
54	6.7 Necessary Details	7 days	Thu 4/5/18	Fri 4/13/18
55	6.8 SWPPP/Safety/Risk Plan	9 days	Fri 3/9/18	Wed 3/21/18
56	50% Construction Drawings	0 days	Fri 3/16/18	Fri 3/16/18
57	100% Construction Drawings	0 days	Fri 4/27/18	Fri 4/27/18

WORK COMPLETED

- Final Design of Bus Drop Off Zone
- Final Design of Proposed Parking Lot
- Existing and Proposed Site Plan with Signage
- Google Sketch-Up Draft of Picnic Area

Figure 4: Parking Lot
Photo by: Jacob Robinson



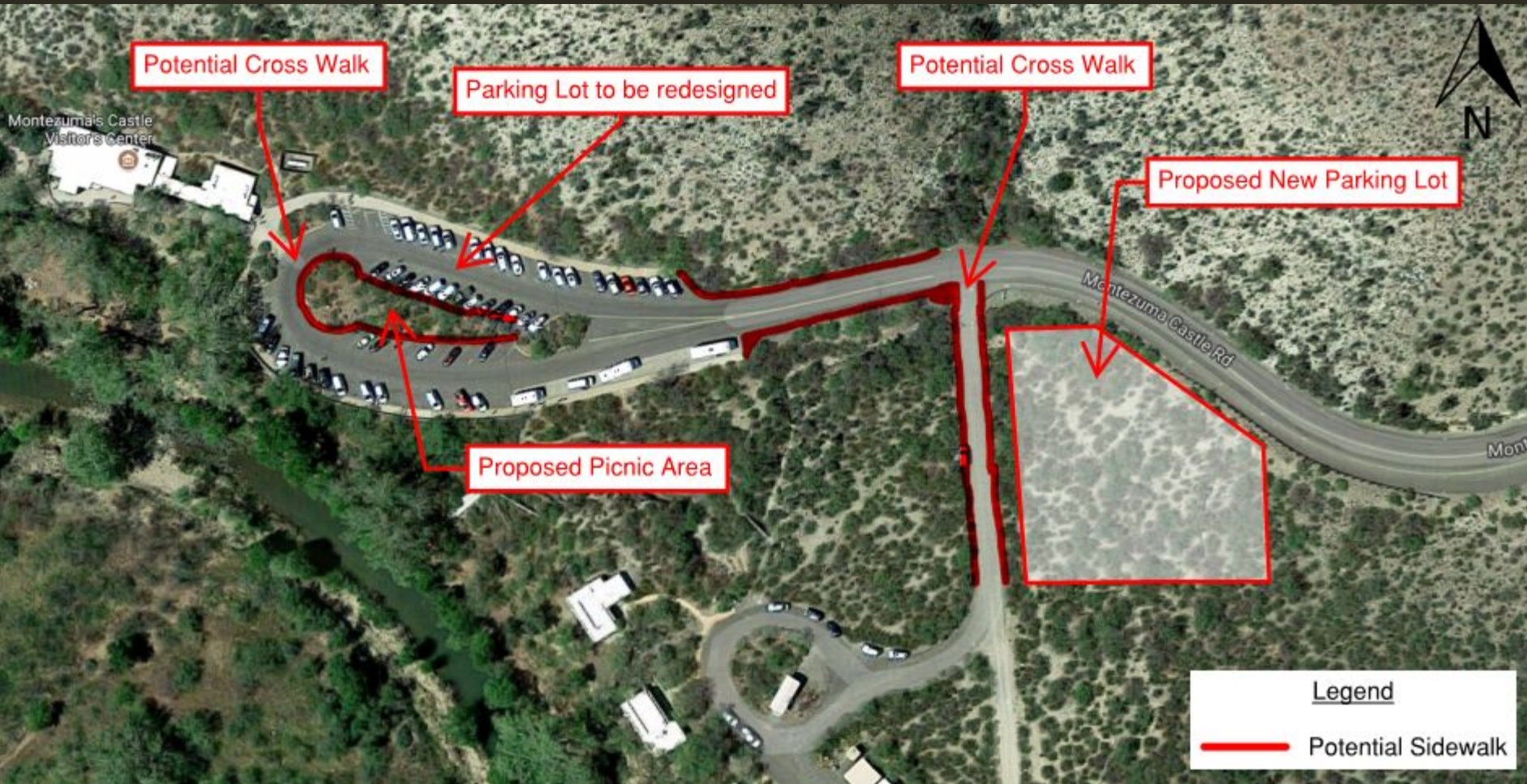


Figure 5: Site Map

Proposed Lot Design Information

Table 1. Summary of Proposed Parking Lot Design Requirements and Final Design Components

Item Name	Design Requirements	Final Design Components
# of Passenger Spots	32	34
# of Bus Spots	4	4
# of Motorcycle Spots	1	1
ADA	2	4

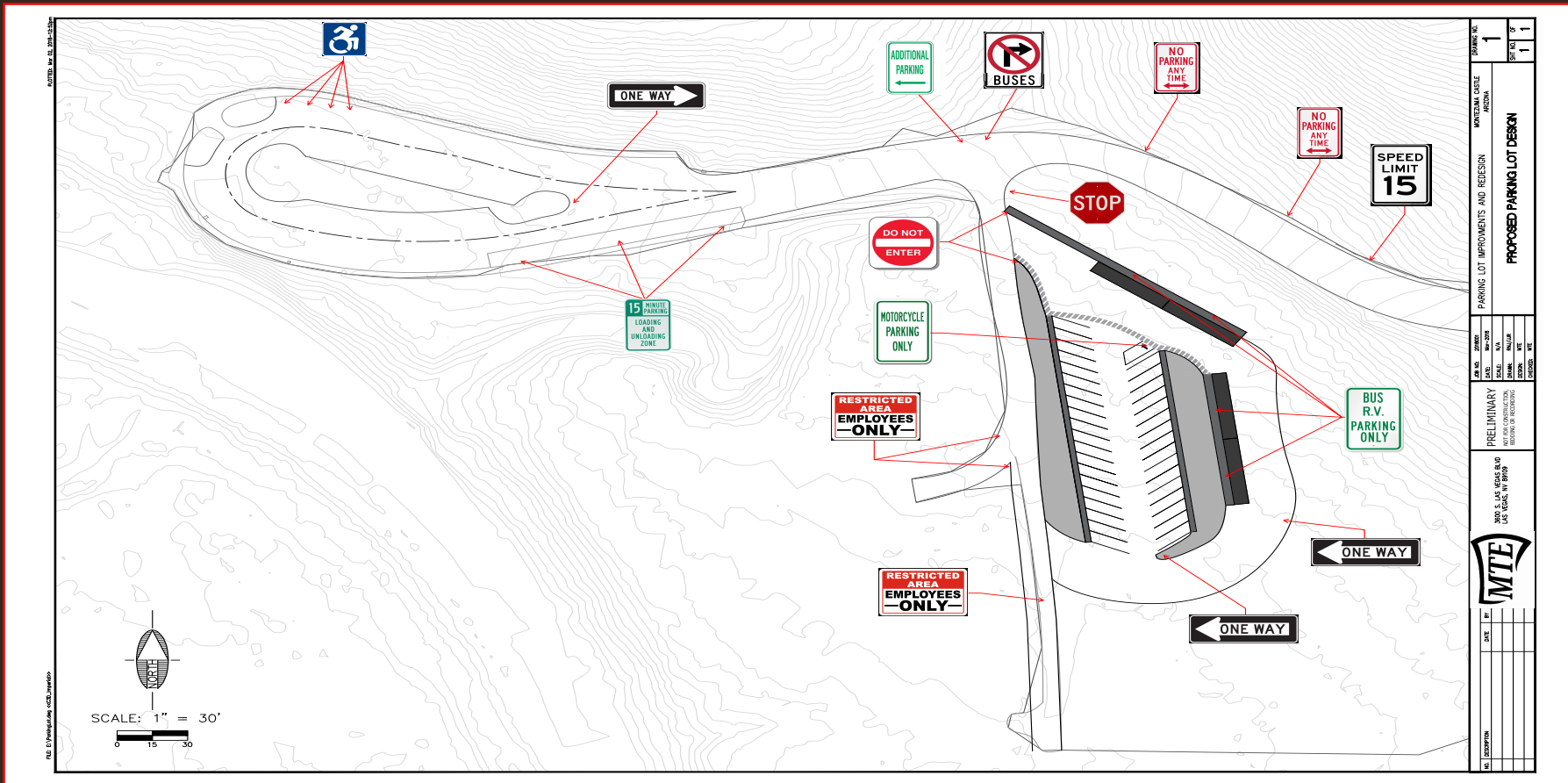


Figure 6. Existing and Proposed Site Plan with Signage

First Draft of Proposed Picnic Area



Figure 7. Google Sketch-Up of Proposed Picnic Area (Front View)

First Draft of Proposed Picnic Area

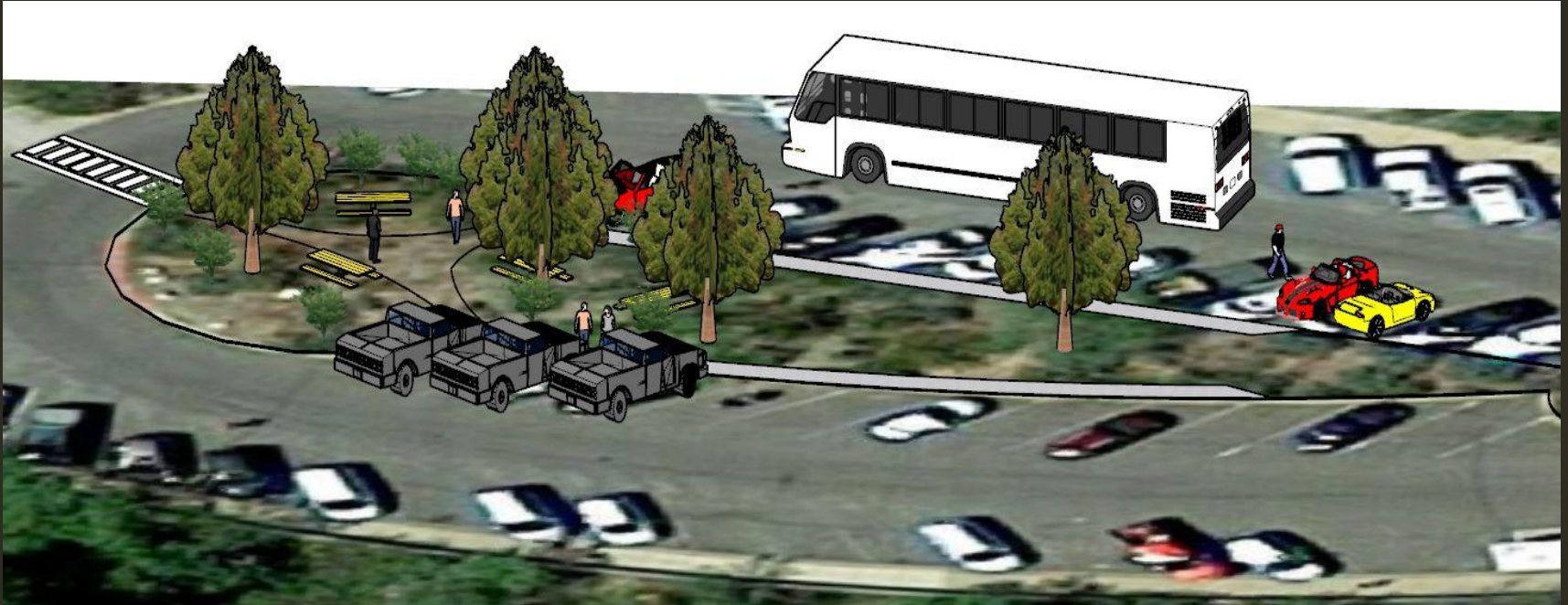


Figure 8. Google Sketch-Up of Proposed Picnic Area (Side View)

Future Tasks

- Stormwater Pollution Prevention Plan (SWPPP)/Safety/Risk Plan
- Finalize Design of Proposed Picnic Area
- Sidewalk Placement
- 50 % Construction Drawings
- Client Meeting (March 30 , 2018)

Questions?