United Civil Group

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Subject: **Parking Evaluation – Edged Energy Data Center**
Mesa, Arizona

INTRODUCTION

This parking evaluation has been conducted for the Edged Energy Data Center development ("the Development"), planned for Lot 7 of the Warner Gateway 202 located on the southwest corner of Ellsworth Road & Warner Road. This parking evaluation and parking demand study is based on the final site plan, and site-specific operational and employee data planned for the Development, and is prepared in support of the Special Use Permit application for the Development.

The objectives of this parking evaluation are: to document the general gross on-site parking requirements of the subject site per the City of Mesa's *Code of Ordinances*; document the number of parking spaces provided on site; evaluate parking demand of the subject site per the Institute of Transportation Engineers (ITE) *Parking Generation* manual and site-specific operational/employee/shift data; compare the actual parking demand to the parking supply; and determine if the parking supply is sufficient to meet the parking demand of the Development.

CODE OF ORDINANCES PARKING REQUIREMENTS

The Edged Energy data center will include an overall 127,924 square foot building that includes the main data hall area (~111,524 square feet) and an administration/office area (~16,400 square feet). The on-site parking space requirement per Section 11-32-3 of the *Code of Ordinances City of Mesa* and based on the building plans for the site is provided below in *Table 1: Code On-Site Parking Requirements*. Due to "Data Center" not being a specific use within Table 11-32-3.A of the *Code of Ordinances*, the "Warehousing and Storage" use is assumed as the closest proxy for the data center hall area, and "General Offices" use is utilized for the general office/administration area.

TABLE 1: CODE ON-SITE PARKING REQUIREMENTS

Primary Use	Approximate Floor Area (square feet)	Minimum Parking Space Ratio per City Code	Minimum Parking Spaces Required per Code
General Data Hall Area	+/- 111,524	1 per 900 SF	124 spaces
General Admin/Office Area	+/- 16,400	1 per 375 SF	44 spaces
Total Gross Parking Spaces Required Per City Code			**168 spaces**

PARKING SUPPLY

The total number parking spaces being provided within the Edged Energy subject site is **93 spaces**.

No on-street parking is existing nor will be available within 300 feet of the subject site. Several private light industrial developments and their associated parking lots are existing or planned within the Warner Gateway 202 center adjacent to the Edged Energy subject site. However, these adjacent sites are separate private developments and no shared parking agreements will be assumed to be available.

PARKING DEMAND – ITE PARKING GENERATION MANUAL

Parking demand estimates were determined for the Development according to the ITE *Parking Generation* manual, 5th Edition. Due to "Data Center" not being a specific use within the Parking Generation manual, the Warehousing Land Use Code (LUC) was used in this analysis for the entire data center (overall 127,924 square feet). The following is the ITE description of this LUC:

> *Warehousing (LUC 150)* – A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas.

Table 2: Parking Demand - ITE Parking Generation presents the estimated parking demand spaces for a typical work day during the peak period for the subject site.

TABLE 2: PARKING DEMAND - ITE PARKING GENERATION

Land Use	ITE LUC	Units	Total Size	Peak Parking Demand (# of Parking Spaces) Typical Work Day
Warehousing	150	1000s SF	128	**50**
Warehousing – LUC 150 Typical Work Day		Equation/Rate P = 0.39 x (X)		

As shown in Table 2, per the ITE *Parking Generation* manual, the forecasted peak parking demand for the Development on a typical work day is **50 spaces**.

SITE-SPECIFIC PARKING DEMAND ANALYSIS

Specific operational data related to the planned number of shifts, shift times, and employees per shift were provided by Edged Energy representatives. This data was utilized to evaluate time-of-day parking demand of the Development and determine the peak parking demand on a typical work day. The following information and assumptions are utilized in this demand evaluation:

- A total of 3 separate shifts ("1st shift", "2nd Shift", and "3rd shift") will be utilized.

- 1st Shift is from 6:00am – 2:00pm. 2nd Shift is from 2:00pm – 10:00pm. 3rd shift is from 10:00pm – 6:00am.
- 8-12 employees per shift.
- Work activities and the associated peak parking demand occurs on any given typical work day (weekday or weekend).
- Reductions based on car-pooling or transit usage are not considered to provide a "worst case" approach; each employee is assumed to utilize a parking spot during each shift.
- Assumes 100% shift attendance with no employee sick, vacation, or other absence.
- Vehicles are assumed to be parked 30 minutes prior to shift start time and remain parked until 30 minutes after shift end time.

Table 3: Site-Specific Parking Demand presents the forecasted parking demand of the Development on a typical work day.

TABLE 3: SITE-SPECIFIC PARKING DEMAND

Time-of-Day	1st shift *12 employees 6a-2p*	2nd shift *12 employees 2p-10p*	3rd Shift *12 employees 10p-6a*	TOTAL PARKING DEMAND (# of Spaces)
00	0	0	12	12
0030	0	0	12	12
1	0	0	12	12
130	0	0	12	12
2	0	0	12	12
230	0	0	12	12
3	0	0	12	12
330	0	0	12	12
4	0	0	12	12
430	0	0	12	12
5	0	0	12	12
530	**12**	**0**	**12**	**24**
6	**12**	**0**	**12**	**24**
630	12	0	0	12
7	12	0	0	12
730	12	0	0	12
8	12	0	0	12
830	12	0	0	12
9	12	0	0	12
930	12	0	0	12
10	12	0	0	12
1030	12	0	0	12
11	12	0	0	12

Table 3, continued

1130	12	0	0	12
12	12	0	0	12
1230	12	0	0	12
13	12	0	0	12
1330	**12**	**12**	**0**	**24**
14	**12**	**12**	**0**	**24**
1430	0	12	0	12
15	0	12	0	12
1530	0	12	0	12
16	0	12	0	12
1630	0	12	0	12
17	0	12	0	12
1730	0	12	0	12
18	0	12	0	12
1830	0	12	0	12
19	0	12	0	12
1930	0	12	0	12
20	0	12	0	12
2030	0	12	0	12
21	0	12	0	12
2130	**0**	**12**	**12**	**24**
22	**0**	**12**	**12**	**24**
2230	0	0	12	12
23	0	0	12	12
2330	0	0	12	12

As shown in Table 3, per the site-specific employee and shift data obtained, and utilizing the assumptions described above, the forecasted peak car parking demand for a typical work day for the subject site is **24 spaces**. This peak demand is forecasted to have the potential to occur for approximately 1 hour during the change of shift times on a typical work day.

CONCLUSIONS

The total on-site parking spaces being provided by the Development per the site plan is 93 spaces. This planned parking supply is greater than the typical peak parking demand per the ITE *Parking Generation* manual (50 spaces); and greater than the peak parking demand per a site-specific analysis of the Development's planned employee/operational activity (24 spaces). Minimal visitors to the site are expected on any given day; however, sufficient surplus parking is expected to be available as shown in the case of non-recurring, non-employee visitors requiring parking.

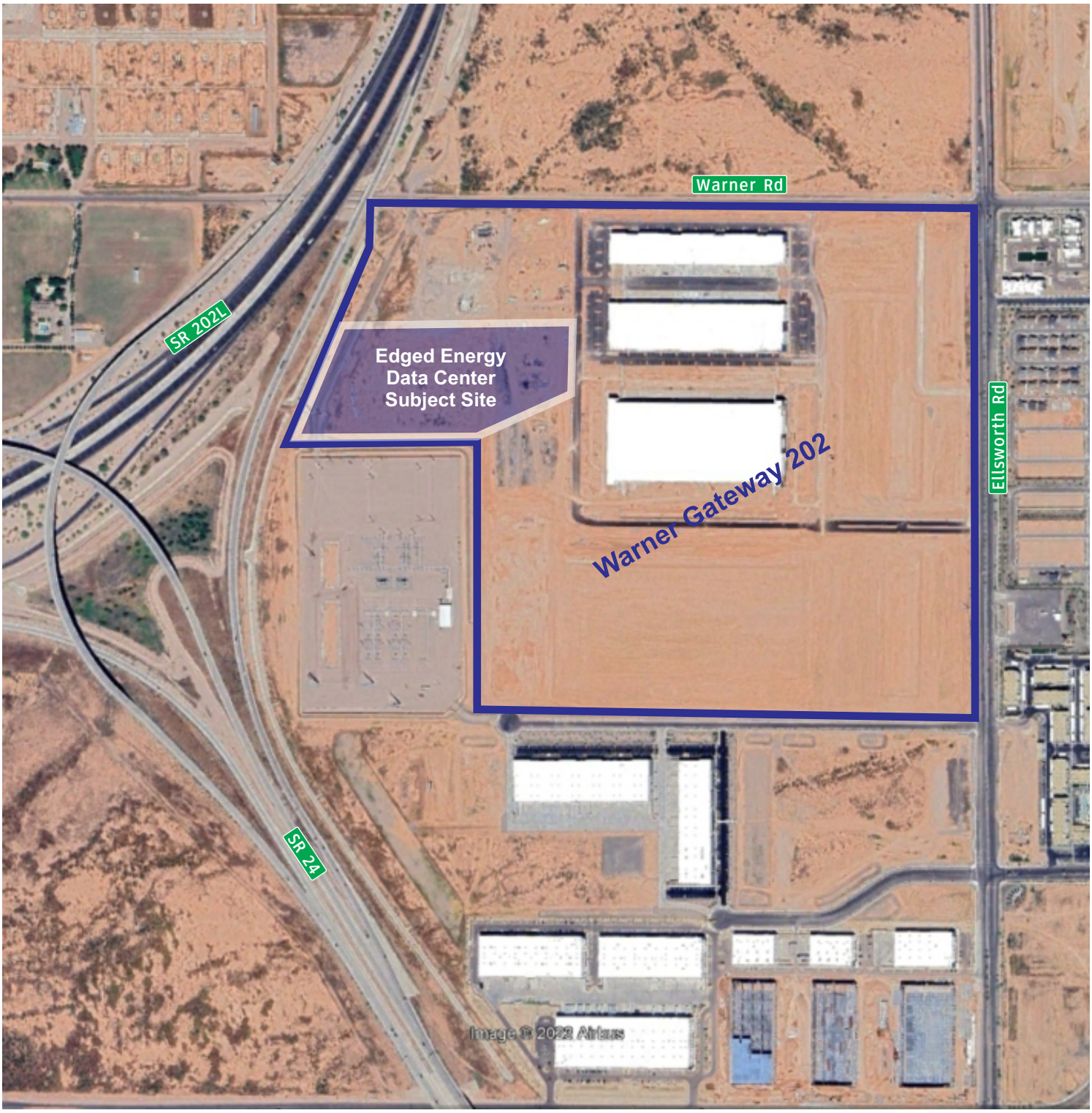
LIMITATIONS

This *parking evaluation* for the Edged Energy data center development is based on a variety of assumptions related to the site plan, land use, and planned operations of the Development. If a greater density or alternate land use is ultimately constructed or a new tenant ultimately utilizes the site, the parking calculations and evaluation may not remain valid. United Civil Group is not responsible for incorporating data made available after this document has been finalized.

Sincerely,

Keith A. Winney, PE
United Civil Group

Attachments:
Figure 1: Aerial View
Figure 2: Site Plan



not to scale

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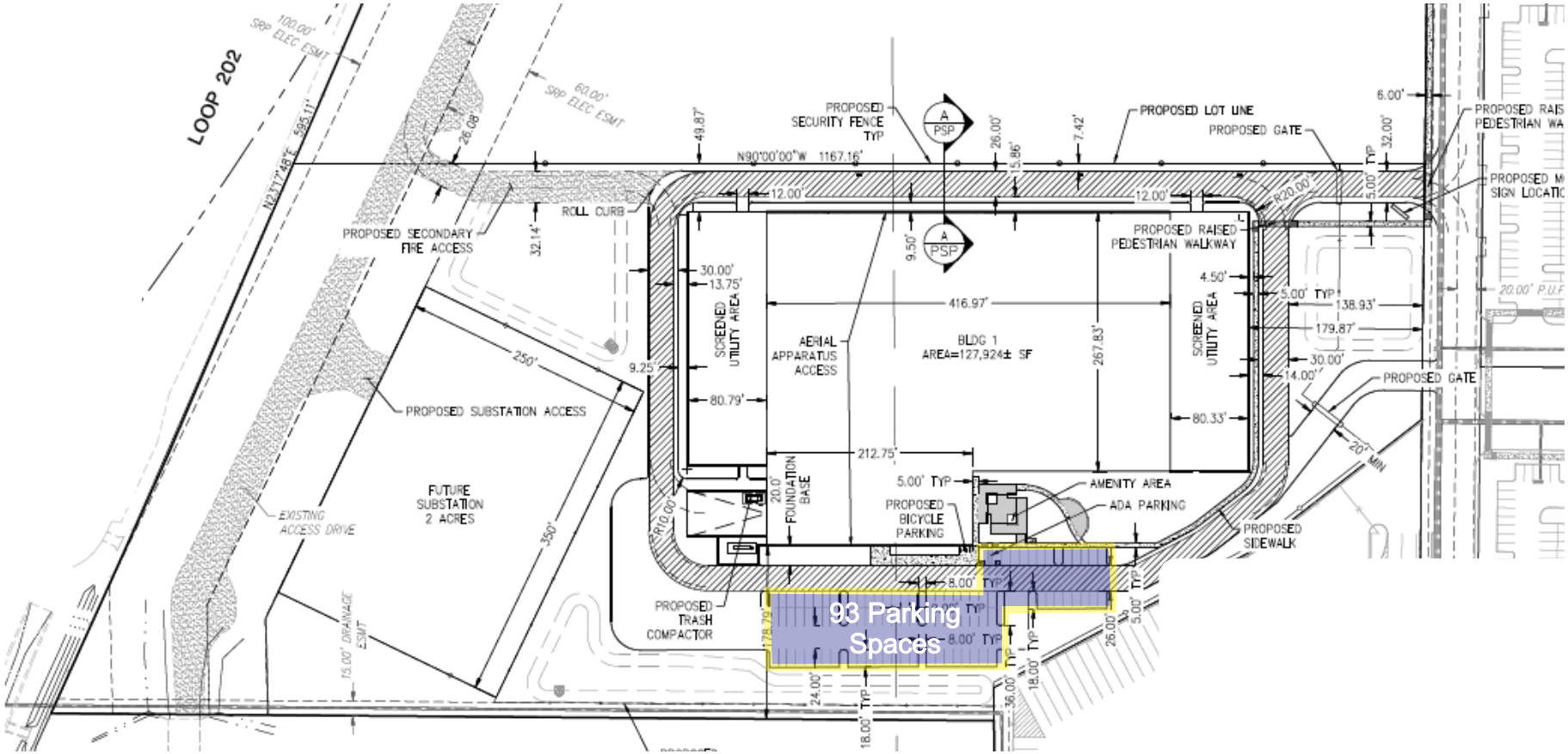
Figure 1: Aerial View



Note: 93 total parking spaces provided.

Figure 2: Site Plan

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