FREDERICK COUNTY PLANNING COMMISSION
January 10, 2024

TITLE: **Bauxite Data Center**
Quantum Frederick Section 2, Lot 400

FILE NUMBER: **SP22-04, AP SP275808**

REQUEST: **Site Development Plan Approval**
The Applicant is requesting Site Development Plan approval for a 777,151 sq. ft. Critical Digital Infrastructure Facility located on a 151.17-acre Site.

PROJECT INFORMATION:

ADDRESS/LOCATION:	North and east of the intersection of Ballenger Creek Pike and Mountville Road
TAX MAP/PARCEL:	Tax Map 94, part of Parcel 9
COMP. PLAN:	General Industrial, Limited Industrial, and Natural Resource
ZONING:	General Industrial (GI) and Limited Industrial (LI)
PLANNING REGION:	Adamstown
WATER/SEWER:	W-5/S-5

APPLICANT/REPRESENTATIVES:

APPLICANT:	Rowan Frederick, LLC., c/o Xiomara Gerlach
OWNER:	Rowan Frederick, LLC., c/o Xiomara Gerlach
ENGINEER:	Rodgers Consulting
ARCHITECT:	HKS Architects, Inc
ATTORNEY:	Not Listed

STAFF: Graham T. Hubbard, Principal Planner II

RECOMMENDATION: **Conditional Approval**

Enclosures:
Exhibit #1 – Site Development Plan Rendering
Exhibit #2 – Modification Requests
Exhibit #3 – Environmental Noise Assessment

STAFF REPORT

ISSUE

Development Request

The Applicant is requesting Site Development Plan approval for a 777,151 sq. ft. Critical Digital Infrastructure Facility located on a 151.17-acre Site. The project features four (4) data center buildings, an auxiliary water building, a security building, and a guard house. The proposed use being reviewed is a **"Critical Digital Infrastructure Facility"** under the heading of **Industrial Uses** per § 1-19-5.310 of the Zoning Ordinance. The proposed use is a principal permitted use in the LI – Limited Industrial and GI – General Industrial Districts.

This project is also being reviewed and approved under the provisions of §1-19-8.402 for Critical Digital Infrastructure Facilities in the LI and GI Districts.

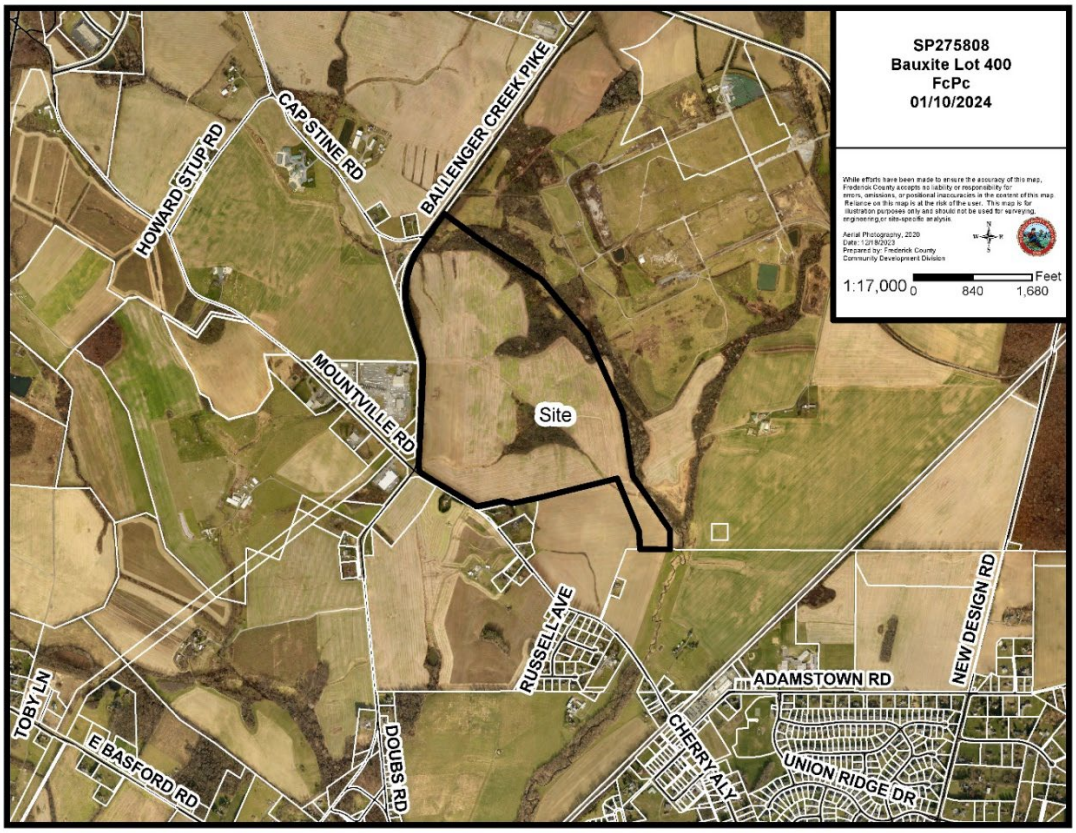
BACKGROUND

Development History

The subject area was the southwestern portion of the Eastalco Property, which was zoned Agricultural in 1959. The majority of the project area was rezoned to M-2 General Industrial on December 27, 1967 (Ordinance No. C-81). Through the 1977 Comprehensive Plan rezoning, the M-2 General Industrial District was rezoned to GI General Industrial, and the remaining Agricultural portion was rezoned to R1 Low Density Residential. Between 1977 and 1991, portions of the Site were rezoned to LI Limited Industrial.

The Site was approved for the Eastalco Aluminum Company Industrial Park on June 25, 1992, which replaced an already existing landfill that began in 1983. Expansions to the conference/meeting facility and later the maintenance building were approved by the Planning Commission on July 2, 1996, and February 28, 1997, respectively. The subject area has not been developed. See Graphic #1 below.

Graphic #1: Aerial

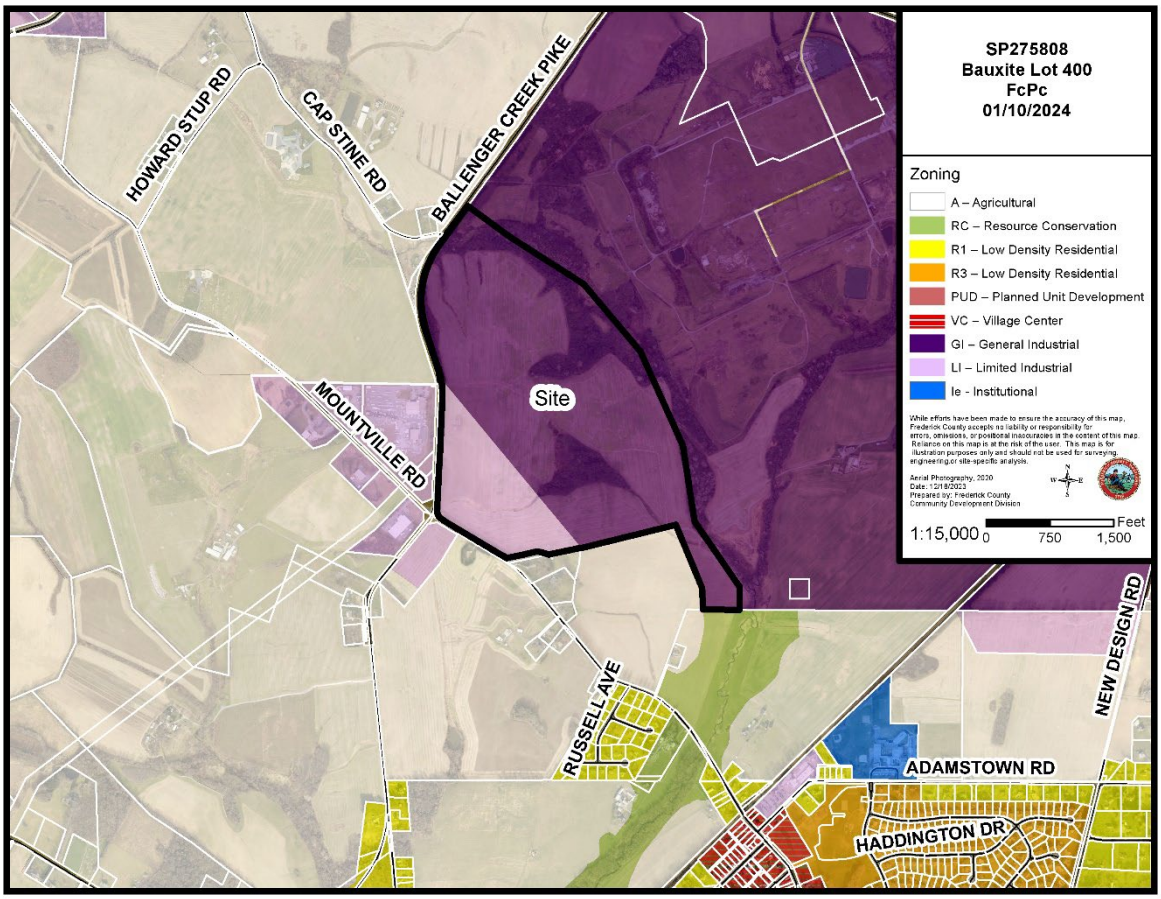


Existing Site Characteristics

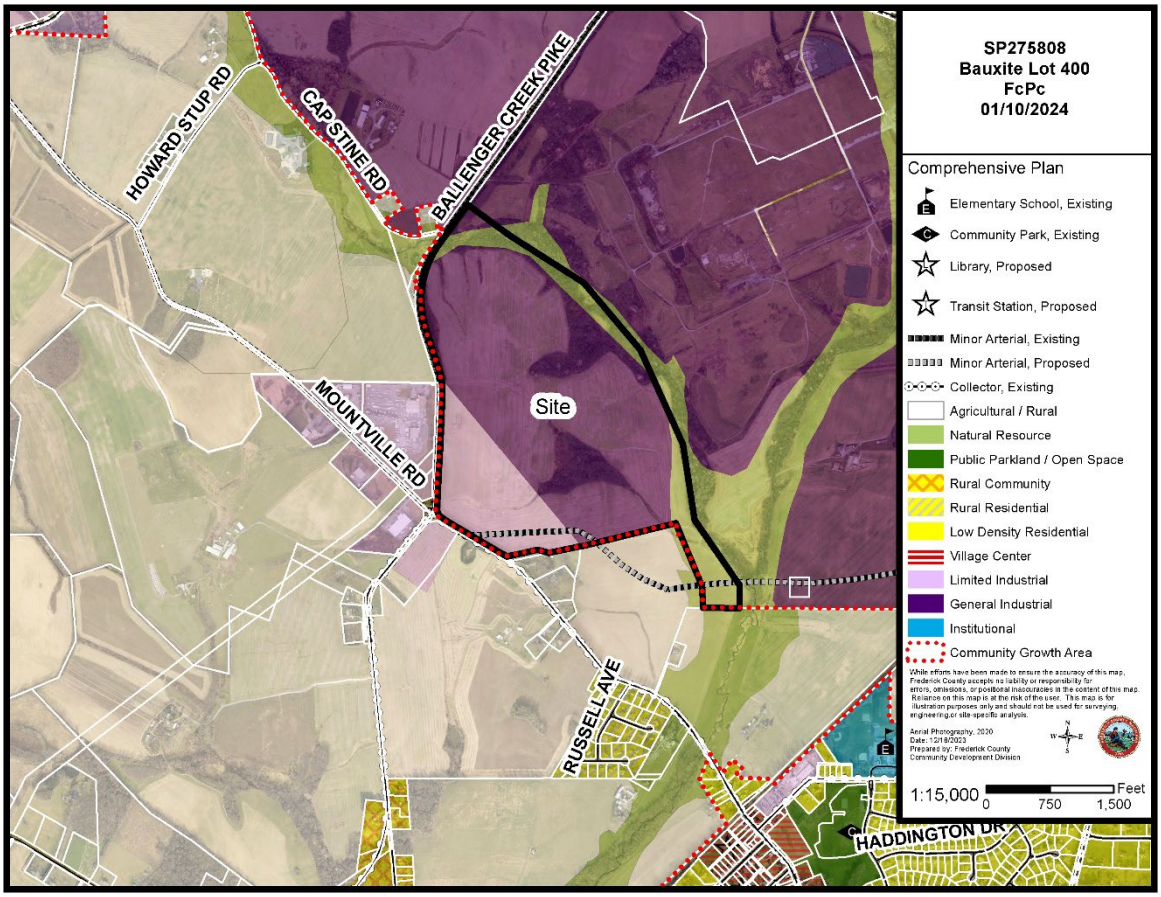
The Site is zoned General Industrial (GI) and Limited Industrial (LI). North of the Site are single family residences and farm operations in areas zoned Agricultural (A). West of the Site is a farm operation with a single family residence (A), additional residences (A), and industrial uses (LI). South of the Site are residences (A and R1) and farm operations. East of the Site is Section 1 of Quantum Frederick (GI). Beyond the immediate limits of the Site are more agricultural land, residences, Carroll Manor Elementary School, conservation area (along Tuscarora Creek), and additional nonresidential uses.

The Site has areas of vacant land, wooden areas, floodplain (FEMA and flooding soils), wet soils, and wetlands associated along the streams including Tuscarora Creek. The topography undulates with high points throughout the Site and steeper slopes within the environmentally sensitive areas.

Graphic #2: Zoning



Graphic #3: Comprehensive Plan



ANALYSIS

Detailed Analysis of Findings and Conclusions

Site Development Plan Approval shall be granted based upon the criteria found in:

Site Development §1-19-3.300.4 (A): *Existing and anticipated surrounding land uses have been adequately considered in the design of the development and negative impacts have been minimized through such means as building placement or scale, landscaping, or screening, and an evaluation of lighting. Anticipated surrounding uses shall be determined based upon existing zoning and land use designations.*

Findings/Conclusions

1. **Dimensional Requirements/Bulk Standards *§1-19-6.100:*** The setback requirements of a critical digital infrastructure use in the LI and GI districts are as follows:

Dimensional Standard	Required	Proposed
Front Yard	50’	269’
Side Yard	50’	225’
Rear Yard	50’	255’
Height	60’	42’-4”
Lot Area	80,000 sf	6,584,808 sf
Lot Width	200’	1,800’

   The proposed building height requirement for the proposed structure is as measured from the average finished grade ground level along the side of the building nearest the street to either the highest point of a flat roof or to the point one-half the distance between the eaves and the highest point of a pitched roof. The proposed development meets all dimensional lot and building height requirements.

2. **Signage *§1-19-6.320*:** No owner identification or business identification signage is proposed.

3. **Landscaping *§1-19-6.400*:**
   - **Street Trees *§1-19-6.400(A)*:** Street Trees are provided through a combination of phased plantings and existing canopy, as per the Preliminary Plan.
   - **Land Use Buffering and Screening *§1-19-6.400(B):*** The landscape buffer requirements for CDI Facilities per §1-19.8.402 will be discussed later under “Other Applicable Regulations”.
   - **Parking Area Buffering and Screening *§1-19-6.400(C)*:** The parking area buffer requirements for CDI Facilities per §1-19.8.402 will be discussed later under “Other Applicable Regulations”.
   - **Parking Area Landscaping *§1-19-6.400(D)*:** A minimum of 20% canopy coverage is required over the parking area. The Applicant is meeting this requirement by providing 20% canopy coverage.
   - **Landscaping, Screening, or Buffering *§1-19-6.400(E)*:** All landscape material must be maintained in a living condition. The proposed Site Plan specifies 100% native species,

and no invasive/exotic species are specified.

4. **Lighting *§1-19-6.500*:** The Ordinance allows a maximum height of 18 ft. for CDI facilities. The Applicant has submitted a lighting plan that proposes 18-foot-tall light poles and building mounted lights per the table below.

Lighting Type	Number	Maximum Height	Proposed Height
Pole Mounted Lights	252	18’	18’
Building Mounted Lights	227	18’	18’
Lighting Totals:	**479**	**18’**	**18’**

The proposed lighting will be directed downward so as not to create glare into streets, adjacent properties, or the nighttime sky, and light spillage does not exceed 0.5 footcandles at the property line.

Transportation and Parking §1-19-3.300.4 (B): *The transportation system and parking areas are adequate to serve the proposed use in addition to existing uses by providing safe and efficient circulation, and design consideration that maximizes connections with surrounding land uses and accommodates public transit facilities. Evaluation factors include: on-street parking impacts, off-street parking and loading design, access location and design, vehicular, bicycle, and pedestrian circulation and safety, and existing or planned transit facilities.*

Findings/Conclusions

1. **Access/Circulation:** Primary site access is achieved by a proposed 30’ wide Private Road (Digital Drive) onto Ballenger Creek Pike. Two proposed secondary 28’ wide unnamed Private Roads (one on Ballenger Creek Pike and the other on Mountville Road) will be used for construction, emergency access, and substation access only. The Applicant has provided full vehicular circulation around all buildings for ease of movement for large vehicles.

2. **Connectivity *§1-19-6.220(F)*:** The Site is a secure facility with controlled access points. No connectivity is proposed to adjacent parcels existing or proposed as part of this Site Plan.

3. **Public Transit:** This site is not served by Transit.

4. **Vehicle Parking and Loading *§1-19-6.200 through 1-19-6.220*:** The Ordinance requires 1 parking space per 2 employees at the largest shift plus 1 space for each business vehicle. This equates to 97 parking spaces (190/2 = 95 + 2 = 97). The Applicant is seeking a Parking Modification Request under 1-19-6.220(A)(2) to allow for 252 parking spaces, or 155 additional spaces than the required 97 parking spaces. See Exhibit #2.

Type	Required Spaces	Proposed Spaces
Parking	97	252 (+155)
Parking Space Totals:	**97**	**252 (+155)**

Loading Spaces:
The Ordinance requires 1 large loading space for each 10,000 sf of building area over 5,000 sf. This equates to 78 large loading spaces (777,151 – 5,000 = 772,151/10,000 = 78). The Applicant

is seeking a loading space modification under §1-19-6.210(D) to allow for 8 large loading spaces, or 70 fewer spaces than the required 78 large loading spaces. See Exhibit #2.

Type	Required Spaces	Proposed Spaces
Large Loading	78	8 (-70)
Small Loading	0	0
Loading Space Totals:	**78**	**8 (-70)**

5. **Pedestrian Circulation and Safety *§1-19-6.220 (G)*:** The Site is a secure facility with controlled access points, therefore significant pedestrian movement throughout the site is not expected. Sidewalks are provided from the parking areas to the buildings.

6. **Bicycle Parking *§1-19-6.220 (H)*:** The Ordinance requires 1 bicycle rack for each 40,000 sf of building area with a maximum requirement of 10 bike racks. This equates to 10 bike racks are required (1 rack / 40,000 SF GFA) = 777,151 / 40,000 = 20 (Max. 10 required). The Applicant is providing Twenty (20) bike racks. Unlike parking and loading, exceeding the maximum amount of bicycle spaces does not require a modification.

Type	Required Racks/Spaces	Proposed Racks/Spaces
Bicycle	10/20	20/40
Bicycle Rack/Space Totals:	**10/20**	**20/40**

Modification requests for this section:

1. **A parking space modification under 1-19-6.220(A)(2) to allow for 252 parking spaces, or 155 additional spaces than the required 97 parking spaces.**

2. **A loading space modification under §1-19-6.210(D) to allow for 8 large loading spaces, or 70 fewer spaces than the required 78 large loading spaces.**

Public Utilities §1-19-3.300.4 (C): *Where the proposed development will be served by publicly owned community water and sewer, the facilities shall be adequate to serve the proposed development. Where proposed development will be served by facilities other than publicly owned community water and sewer, the facilities shall meet the requirements of and receive approval from the Maryland Department of the Environment/the Frederick County Health Department.*

Findings/Conclusions

Utilities: The property is classified as W-5/S-5. Public water and sewer infrastructure will be constructed as noted in the APFO LOU.

Natural features §1-19-3.300.4 (D): *Natural features of the site have been evaluated and to the greatest extent practical maintained in a natural state and incorporated into the design of the development. Evaluation factors include topography, vegetation, sensitive resources, and natural hazards.*

Findings/Conclusions

1. **Topography:** The topography undulates with high points throughout the Site and steeper slopes within the environmentally sensitive areas.

2. **Vegetation:** The Site has areas of forest, in the south-central portion and along the northeastern boundary. Several hedgerows are featured along the public right-of-way.

3. **Sensitive Resources:** The Site has areas of floodplain (FEMA and flooding soils), wet soils, and wetlands associated along the streams including Tuscarora Creek.

4. **Natural Hazards:** There are no natural hazards located on this Site.

Common Areas §1-19-3.300.4 (E): *If the plan of development includes common areas and/or facilities, the Planning Commission as a condition of approval may review the ownership, use, and maintenance of such lands or property to ensure the preservation of such areas, property, and facilities for their intended purposes.*

Findings/Conclusions

There are no common areas required or proposed.

Other Applicable Regulations

Critical Digital Infrastructure Facilities –§1-19-8-402(B): The following provisions apply to critical digital infrastructure facility in the LI and GI Districts.

Findings/Conclusions

(B) Design requirements.

1) Buildings must be predominantly designed and constructed to include finishes and materials of consistent quality and design on all sides. All building facades that are in public view must avoid the use of undifferentiated facades and long, plain wall sections by including a combination of the following design elements: change in building height, building step-backs or recesses, windows, doors, changes in building material, patterns, textures, colors, or use of accent materials. Architectural renderings or plans must be submitted as part of the site development plan application for approval by staff and the Planning Commission to assure that the appearance, type of building materials, or other aspects of the building are consistent with the purposes and intent of the critical digital infrastructure design requirements.

   The Applicant has worked closely with staff on several revisions to the architecture to achieve this goal. The proposed building façade that is in public view features a variety of projections, recesses, and earth tones.

2) Building entrances must be designed and oriented in terms of their relationship to the human scale and must reflect this relationship through the inclusion of human-scaled architectural elements.

The only building that is accessible to the public is the security building (Building E). This building features human scale architectural elements such as canopies at the entrance, planters, and windows. The data center buildings also have canopies over their entrance doors.

3) Refuse and recycling dumpsters, service doors, and mechanical equipment must face away from roadways, pedestrian routes, and public areas.

   All dumpsters, service doors, and mechanical equipment areas will face away from the public way. The mechanical equipment located on the roofs will be recessed far enough back as to not be visible from sight lines to the public way.

4) In order to minimize visibility from adjacent roads and adjacent properties, ground level and roof top mechanical equipment, power generators, water cooling and storage facilities, utility substations, and other associated utility infrastructure to support sustained operations of the infrastructure must be screened. This screening may be provided by a principal building. Mechanical equipment not screened by a principal building must be screened by a visually opaque fence, screen wall or panel, parapet wall, or other visually opaque screen that must be constructed of materials compatible with those used in the exterior architectural finishes of the principal building.

   All proposed ground level mechanical equipment is located behind concrete panels. All rooftop mechanical equipment is recessed behind a parapet screen.

5) Staff shall refer site plans to the Architectural Review Committee for review prior to the site plan being scheduled for Planning Commission. The recommendations of the Architectural Review Committee may be considered by the Planning Commission.

   The Architectural Review Committee has not been formed. The CDI legislation included a provision that waives this requirement until such time as the committee is formed.

6) In addition to § 1-19.6.400 the following landscaping, screening, and buffering requirements must be met.

   a) Front yard(s) abutting a roadway must include a landscaped buffer.

      Landscaped buffers have been provided along all front yards.

   b) Except where adjoining a critical digital infrastructure use, side and rear yards must include a landscaped buffer.

      Forest Conservation Easements have been provided along all side and rear yards not adjoining a future CDI use.

   c) A landscaped buffer must include a four-season visual screen resulting in multi-layered, staggered rows of overstory and understory trees and shrubs that are a mix of evergreen and deciduous vegetation, with an emphasis on species that are native to Frederick County.

      All landscaped buffers propose a mix of overstory and understory native evergreens and hardwoods to provide a four-season visual screen.

   d) The minimum height of overstory trees within a landscape screen or buffer at planting must be a minimum of 6 feet with a minimum caliper of 2 inches. The minimum height of understory

trees and shrubs at the time of planting must be 3 gallon or larger. Trees and shrubs larger than the minimum sizes listed above will be required where the minimum planting sizes will not provide adequate screening or buffering within 2 years. Vegetation used to establish a visual screen shall not be trimmed so as to stunt upward and outward growth or to otherwise limit the effectiveness of the visual screen.

The Applicant has exceeded this requirement by specifying a minimum caliper of 2.5 inches for all overstory tree species.

e) A berm, wall, or fence may be used in combination with vegetation to satisfy the screening requirement where deemed appropriate by County Staff and the Planning Commission. Walls and fences must be made of quality materials and enhance rather than detract from the beautification of the site. Walls and fences that are in public view must avoid long, undifferentiated facades and long, plain sections by including a combination of the following design elements: variations in height, step-backs or recesses, changes in material, patterns, textures, colors, or use of accent materials.

A proposed double security perimeter fence is provided in combination with the landscaped buffer. Staff finds that the design of the 8' tall picket style metal fence, in combination with the landscaped buffer, meets the requirements of this section.

f) If security fencing is proposed, vegetative screening must be placed between the fence and the public view. Fencing must be made of high-quality materials. Chain-link and similar woven metal or plastic fencing shall not be used.

The proposed landscaped buffer has been placed between the perimeter fence and the public way. The Applicant is requesting a modification under §1-19-8.402(B)(6)(f) to allow a secondary inner security perimeter fence to be made of chain link or woven metal.

g) If forest or hedgerows exist where screening or buffering is required, it must be preserved to the maximum extent practicable and supplemented with new plantings where necessary to provide the desired screening or buffering.

The existing hedgerows along Ballenger Creek Pike and Mountville Road will be preserved to the maximum extent practicable. The proposed landscaped buffer will provide supplemental screening in areas where hedgerows must be impacted for grading.

h) All landscaping, screening, and buffering must be maintained in living condition.

The Applicant has provided this note on Sheet 43.

i) Applicant must submit a landscape, buffering, and screening plan as part of the site plan application addressing the requirements and timing of plantings. Screening and buffering must be installed as early in the development process as possible. Occupancy shall not be granted if screening and buffering requirements are not installed in accordance with the approved site plan.

All proposed landscaping will be planted during the first phase of construction once mass grading has been completed.

j) The Planning Commission may approve a modification to the landscaping, buffering, and screening standards where an alternate landscaping, buffering, and screening plan is provided that meets the purpose and intent of these design requirements.

The proposed landscaping meets the requirements of Chapter 1-19 of the County Code. No modifications are required.

7) Parking, loading, and signage must be provided in accordance with § 1-19-6.200 through § 1-19-6.340.

These requirements have been discussed under previous sections.

8) Lighting must comply with § 1-19-6.500, but light poles must not exceed a height of 18 feet. The Planning Commission may require more restrictive lighting heights where deemed appropriate by the Planning Commission.

The Applicant has proposed 18-foot-tall light poles.

9) Bicycle rack requirements shall be in accordance with industrial parks in table § 1-19-6.220 (H)(1). These requirements have been discussed under previous sections. (10) Critical digital infrastructure facilities must meet all criteria found in §§ 1-19-7.600 and 1-19-7.610.

These requirements have been discussed under previous sections.

(D) Performance standards. These performance standards for critical digital infrastructure facilities are intended to mitigate potential detrimental effects on adjacent properties and the neighborhood. All applications for site plan approval must be accompanied by a registered engineer's certification that the use complies with all of the performance standards. If, after occupancy of the structures, continuous or frequent (even if intermittent) violations of the performance standards occur, and after notice is given, bona fide and immediate corrective work is not performed which successfully prevents the violation(s) from reoccurring, the Zoning Administrator may suspend or revoke the Zoning Certificate and the Certificate of Occupancy and require the operations and occupancy to immediately cease. The Zoning Certificate and Certificate of Occupancy will be reinstated after the property owner demonstrates to the Zoning Administrator's satisfaction, that operation of the facilities is able to conform to these requirements.

1) Noise.

a) Noise must be measured with a sound level meter.

Noise was assessed through predictive acoustical modeling. See Environmental Noise Assessment (Exhibit #3).

b) The maximum sound pressure levels permitted from any source, measured within an adjacent property line, are set forth below:

Sound Measured To	Decibels Continuous Slow Meter Responses
Industrial uses	70
Commercial uses	64
Residential uses in any zoning district	55

Institutional uses	55
All other uses	55

c) The provisions of this section do not apply to:
   1) Transportation vehicles not under the control of the use.
   2) Occasionally used safety signals, warning devices, and emergency pressure relief valves.
   3) Temporary construction activity between 7:00 a.m. and 7:00 p.m.
   4) Other exemptions identified in § 1-11-6(F).

d) Air handlers, generators, and other mechanical devices must comply with subsection (1)(b) above.

Even during the worst-case scenario, the decibel levels from the study are within acceptable limits per the table above. See Environmental Noise Assessment (Exhibit #3, Emergency Scenario Modeling Results on page 31).

2) Vibration. No vibration may be produced which is transmitted through the ground and is discernible without the aid of instruments at any point beyond the property line; nor may any vibration produce a particle velocity of 2 inches per second measured at or beyond the property line. This provision does not apply between adjoining critical digital infrastructure facilities uses.

Not applicable since the Site adjoins CDI facilities uses.

APFO – Chapter 1-20:

Road Improvements: This development met the requirements of APFO at Preliminary Plan approval (PP266504 and PP273777) and is therefore exempt from further APFO testing and consideration at Site Plan (1-20-7(E)). The development will generate 85am and 70pm peak hour trips and is subject to an existing Letter of Understanding (LOU). Phase I of the LOU established a trip cap of 143am and 125pm peak hour trips. With the addition of the proposed development there will be 5am and 11pm peak hour trips remaining in Phase I.

Water and Sewer Improvements: The property is classified as W-5/S-5. Public water and sewer infrastructure will be constructed as noted in the APFO LOU. Plat recordation and building permit issuance are subject to compliance with the Annotated Code of Maryland, Environment Article Section 9-512, et seq. and all applicable County regulations, including but not limited to Sec. 1-16-106 of the Frederick County Subdivision Regulations.

Schools: The project is nonresidential and not subject to schools testing.

Validity Period: The APFO approval expires on December 15, 2035.

Forest Resource – Chapter 1-21:

A Preliminary Forest Conservation Plan has been approved (AP F273779) for Quantum Section 2. The plan set outlines the forest conservation mitigation requirements for the 151.17-acre property.

Condition of Approval: A Final FRO Plan must be approved and FRO mitigation must be provided prior to applying for grading or building permits, and prior to any earth disturbance or tree clearing activities.

Historic Preservation – Chapter 1-23: The Bauxite Lot 400 Site is not located on any surveyed historic sites, but it is situated between multiple national and state surveyed historic sites. There are two historic farm complexes located west of Ballenger Creek Pike from the proposed Bauxite Lot 400 Site, the J. Franklin Thomas Farmstead (F-1-190) and the Geisinger Farm (F-1-218). The J. Franklin Thomas Farmstead is eligible for listing on the State and National Register of Historic Places according to National Register Criteria A and C, due to its association with the early German settlement patterns of Frederick County and its influence on the local culture (A) and for its high level of integrity of architectural design and original construction (C). The Geisinger Farm was surveyed in 2019 and was determined ineligible for the National Register of Historic Places.

East of the proposed site is the Carrollton Manor Rural Historic District (F-1-134), which includes the St. Joseph's Church on Carrollton Manor (F-1-18) and the National Register of Historic Places property, Carrollton Manor (F-1-19). The Carrollton Manor Rural Historic District is an example of a rural historic district that possesses a significant concentration, linkage, or continuity of areas of land use, buildings and structures, and roads that illustrate the agricultural history and architectural history of Frederick County under National Register Criteria for Evaluation A and C. The Carrollton Manor Rural Historic District evolved as an agricultural area and most of it remains in agricultural production. This area retains a significant concentration of built resources and other landscape elements to illustrate the historical evolution of agriculture in Frederick County (Criterion A). Many historic farmsteads illustrate land uses and spatial patterns from ca. 1800-1940; the open fields and property boundaries reflect boundaries of the eighteenth-century tenant farms. New Design Road, an interior roadway, provided access to the tenant farms. The area also possesses a significant concentration of buildings, structures, and clusters with integrity to illustrate historic farming patterns under Criterion C.

There are no known archaeological sites within the proposed Bauxite Lot 400 Site.

Summary of Agency Comments

Other Agencies:	**Comment**
Office of Life Safety (DOLS)	*Approved*
Development Review Planning (DPZ)	*Approved*
Development Review Transportation Engineering (DRTE)	*Approved*
Division of Water and Sewer Utilities (DWSU)	*Approved*
Health Department (EH)	*Approved*
Public Works Development Review (PWDR)	*Approved*
Forest Conservation (FRO)	*Approved*
Adequate Public Facilities (APFO)	*Approved*
Street Name Review (STRNAME)	*Approved*
Historic Preservation (HISTORIC)	*Approved*
State Highway Administration (SHA)	*Not Applicable*
Board of Education (BOE)	*Not Applicable*

RECOMMENDATION

Staff has no objection to conditional approval of the Site Development Plan. If the Planning Commission conditionally approves the Site Development Plan, the Site plan is valid for a period of three (3) years from the date of Planning Commission approval (January 10, 2027).

Based upon the findings and conclusions as presented in the staff report the application meets or will meet all applicable Zoning, APFO, and FRO requirements once the following modifications are granted and conditions are met:

Planning Commission approval of the following modification request from the Applicant:

1. A parking space modification under 1-19-6.220(A)(2) to allow for 252 parking spaces, or 155 additional spaces than the required 97 parking spaces.
2. A loading space modification under §1-19-6.210(D) to allow for 8 large loading spaces, or 70 fewer spaces than the required 78 large loading spaces.
3. A modification under §1-19-8.402(B)(6)(f) to allow a secondary inner security perimeter fence to be made of chain link or woven metal.

Staff-proposed conditions of approval:

1. The Applicant shall comply with all Staff and agency comments through the completion of the plan.
2. A Final FRO Plan must be approved and FRO mitigation must be provided prior to applying for grading or building permits, and prior to any earth disturbance or tree clearing activities.
3. The Preliminary Plan must be approved, and a Final Plat must be recorded prior to Site Plan approval.

PLANNING COMMISSION ACTION

MOTION TO CONDITIONALLY APPROVE

I move that the Planning Commission **APPROVE** Site Development Plan SP22-04, AP SP275808 **with conditions and modifications** as listed in the staff report for the proposed Site plan, based on the findings and conclusions of the staff and the testimony, exhibits, and documentary evidence produced at the public meeting.

Exhibit #1 – Site Development Plan Rendering

BAUXITE RENDERED SITEPLAN

GRAPHIC SCALE

HKS rowan digital infrastructure

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November 7, 2023

Ms. Ashley Moore
Frederick County
Development Review Planning
30 North Market Street
Frederick, MD 21701

Re: Bauxite, Lot 400 Data Centers
Site Plan Modification Requests
SP275808

Dear Ashley,

On behalf of the applicant, Rowan Frederick, LLC, we are hereby submitting the following modification requests from the requirements for Critical Digital Infrastructure (CDI) projects. These requests are for SP275808, Bauxite, Lot 400 Data Centers.

1. **A modification to §1-19-6.210(B) to allow less than the required loading spaces**. Loading spaces required is calculated for industrial uses as 1 large for the first 5,000 sf building area + 1 large/additional 10,000 sf. The total building square footage is 777,155+/- sf for a total of 78 large loading spaces required. 8 large loading spaces are provided, 70 below the required number. The number of provided loading spaces is based on an industry standard for data centers of 2 large loading spaces per data center building. Data centers do not require a high volume of deliveries during regular operation. Providing 70 additional large loading spaces would be a substantial increase in impervious area and create a larger overall limit of disturbance for the project, for negligible use or benefit of the project.

2. **A modification to §1-19-6.220(A)(1) Parking Space Requirements to allow over the required number of parking spaces**. The requisite number is a target and a reduction or increase is determined based on the proposed use and hours of operation, among other factors.
   Code calculation is 1 space for every 2 employees at largest shift plus one space for each vehicle used in business. The proposed largest shift employee count is 190 employees, andtwo vehicles are proposed to be used in the business.
   190 Proposed Employees x 0.5 spaces per employee + 2 vehicles used in business = 97 required parking spaces.
   This plan proposes 252 total parking spaces, 155 spaces above the calculated number.
   The additional parking spaces are required as a result of a number of factors:
   1) Overlapping shifts times to ensure continuity of operations.
   2) Data centers have different industry standards for parking relative to other GI/LI uses, and the Planning Commission or authorized representative has the flexibility to determine parking requirements that deviate from the standard table as this is not a use included in the table.
   3) The data center operations and security requirements and the overall location of the site. While adequate/required bike racks are provided, it is expected that most or all employees will commute by car and ride sharing or bicycle commuters should not be assumed when determining parking needs.
   4) Due to the size of the site, some employees may need to travel to different buildings on site during their shift, requiring additional parking spaces.

3. **A modification to §1-19-8.402(B)(6)f to allow chain link or mesh fence in the CDI zone.** The program elements on site require several different types of fences. The exterior secure perimeter

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fencing proposed is not chain link or similar, but a decorative security fence with narrow gaps between the vertical pickets. All areas of the decorative security fence visible from the public right of way will be screened with landscaping to provide a four-season, multi-layered visual buffer, per the requirements of §1-19-8.402(B)(6)c. The secondary security fence will resemble chain link mesh but will be screened significantly by the exterior fence, proposed landscaping, and existing vegetation where possible. Interior to the site's secure perimeter, 9' chain link fence is proposed around the data center utility yards. These areas are screened from public view by virtue of distance to the right of way, existing vegetation, proposed vegetation, and the decorative security fence. Several other program areas, including SWM facilities, require fencing to meet the applicant's security and/or safety protocols. SWM fences are proposed to be chain link, but are 4' in height and are largely in areas not visible from the public right of way.

As always, your assistance in the processing of this application is greatly appreciated. Should you have questions regarding this modification, plan, or any other part of the Bauxite Plan, please feel free to contact us at 301-948-4700.

Sincerely,
Rodgers Consulting, Inc.

Phillip Wagner, P.E.

Cc: Xiomara Gerlach, Rowan
Kyle Hoover, Rowan
File

Intended for
Rowan Digital Infrastructure

Document type
Environmental Noise Assessment Report

Date
December 15, 2023

BAUXITE DATA CENTER
ENVIRONMENTAL NOISE ASSESSMENT

Frederick County, Maryland

RAMBOLL Bright ideas. Sustainable change.

Version	Date	Prepared by	Checked by	Approved by	Description
1.0	2023-11-07	Jeff Szymanski	Brent Ferren	Greg Mentel	Environmental Noise Assessment to accompany site permitting application.
1.1	2023-12-15	Jeff Szymanski	Brent Ferren	Greg Mentel	Updated to include up-to-date design information and to address comments from Rowan and Authority Having Jurisdiction (AHJ).

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Executive Summary

Rowan Digital Infrastructure retained Ramboll to conduct an environmental noise assessment for the proposed Bauxite data center site. The approximately 150-acre site is generally bounded by Ballenger Creek Pike and Mountville Road to the southwest, in Frederick County, Maryland.

The environmental noise assessment has been prepared at the request of Frederick County to support the permit application process. It presents the results of acoustical modeling for the conceptual design of the project and a summary of the proposed project's compliance with applicable regulatory requirements.

The Bauxite data center site will consist of three (3) 1-story 12-pod data halls, one (1) 1-story 6-pod data hall, an auxiliary water building (AWB), a central security building (CSB), and an associated substation surrounded by an 8-ft masonry wall. The data center will operate 24 hours per day, 7 days per week. The primary sources of sound from the facility are expected to include ventilation and air conditioning equipment. Additionally, the facility may include emergency generators (within acoustical enclosures) that would be operated occasionally during maintenance and testing activities.

The sound emissions associated with the proposed data center operation were assessed through predictive acoustical modeling. The project is expected to comply with the regulatory requirements of Frederick County Code of Ordinances during normal and generator maintenance testing scenarios. The projected is expected to comply with the requirements during an emergency scenario with incorporation of mitigation options such as acoustical barriers.

1. Introduction

An environmental noise assessment was conducted for the proposed Bauxite data center site within Frederick County, Maryland, to consider applicable regulations pertaining to sound emissions, and to inform the acoustical design of the project. This report, prepared in support of the permitting process at the request of Frederick County, summarizes the findings of the assessment and details a proposed acoustical design of the facility to ensure regulatory compliance.

2. Acoustical Principles and Terminology

To familiarize the reader with terminology used throughout this report, this section introduces general acoustical terminology and describes basic acoustical parameters.

2.1 Basics of Sound

Sound is the transmission of energy in the form of fluctuating pressure waves from a vibrating source through an elastic medium, such as air, that is detectable by the human ear. The pressure fluctuates above and below atmospheric pressure. The amplitude of the pressure fluctuation is typically described in terms of decibels (dB), while the rate of fluctuation per unit time (frequency) is described in hertz (Hz).

The decibel is a logarithmic ratio of a given sound pressure to a reference sound pressure. A logarithmic ratio is used for decibels since human hearing is roughly logarithmic, rather than linear. The reference sound pressure is roughly equal to the threshold of human hearing. Sound pressure levels below the human threshold of hearing are less than 0 dB, while levels above the human threshold of hearing are greater than 0 dB. Differences in sound level are also described in decibels. A 3-dB difference is considered "just noticeable", a 5-dB difference is considered "clearly noticeable", while a 10-dB difference is perceived as a doubling (or halving) in loudness. Table 2-1 provides a list of common noise sources, their sound level, and their subjective loudness.

Because the decibel is logarithmic, a doubling of sound energy from a noise source produces a 3-dB increase in sound level from that source, not a doubling of the loudness of the sound (which requires a 10-dB increase). For example, if a stationary lawn mower is creating a sound level of 60 dBA at 100 feet, adding a second lawn mower next to the first would cause the sound level at the same 100-foot location to increase to 63 dBA. Such an increase might not be discernible in a complex acoustical environment.

Equipment sound level data are often provided as sound power levels (L_w or L_{wA}), also expressed in decibels referenced to 1 picowatt (pW). L_w is the level resulting from sound energy produced by a source and is useful as acoustical modeling input. L_w does not require a distance reference since it is a physical property of the sound source.

The range of frequencies a healthy human ear can hear is approximately 20 Hz to 20,000 Hz. The human ear is not equally sensitive to all frequencies across the audible frequency spectrum. The human ear is most sensitive to mid frequencies (the frequency range associated with speech) and is less sensitive at low frequencies and very high frequencies. To account for this, frequency weighting networks have been developed to approximate the human ear's frequency response at different sound pressure levels. The A-weighting network is used to approximate the frequency response of the human ear at normal sound levels. Measurements using the A weighting network are described in terms of A-weighted decibels, often abbreviated colloquially as dBA or dB(A).

Table 2-1. Typical Sound Pressure Levels Associated with Common Noise Sources

Sound Pressure Level (dBA)	Subjective Evaluation	Environment	
		Outdoor	Indoor
140	Deafening	Jet aircraft at 75 ft	
130	Threshold of pain	Jet aircraft at 300 ft during takeoff	
120	Threshold of feeling		Rock band concert
110	Extremely Loud	Accelerating motorcycle at a few feet away.	
100	Very Loud	Auto horn at 10 ft	
90		Jackhammer at 50 ft	Noisy factory
80	Loud	Diesel truck (40 mph) at 50 ft Noisy urban street	Cafeteria with sound-reflecting surfaces
70	Moderately Loud	Busy highway at 100 ft	Vacuum cleaner at 10 ft
60	Moderate		Face-to-face conversation
50	Quiet	Small town residence	Open office area
40			Quiet dishwasher
30	Very quiet		Bedroom, typical residence (without TV or sound system)
20		Rustling leaves	Audiometric testing room Whisper
10	Just audible		Human breathing
0	Threshold of hearing		

Source: Adapted from *Architectural Acoustics*, M. David Egan (1988) and *Noise Control in Buildings*, Cyril M. Harris, (1994).

2.2 Environmental Sound Level Metrics

Noise in the environment is constantly fluctuating. In a neighborhood setting, this may occur due to traffic, overhead aircraft, barking dogs, etc. Noise metrics have been developed to quantify fluctuating environmental noise levels. Common environmental noise metrics include the equivalent-continuous sound level, the day-night sound level, and percentile sound levels.

Equivalent-Continuous Sound Level - The equivalent-continuous sound level, L_{eq}, is used to represent the equivalent sound pressure level over a specified time period. The L_{eq} metric is the sound level of a steady-state sound that has the same (equivalent) total energy as the time-varying sound of interest, taken over a specified time period and covering a specified set of conditions. Thus, L_{eq} is a single-value level that expresses the time-averaged total energy of a widely varying or fluctuating sound level.

Percentile Sound Level - The percentile sound level, L_x, is the sound level exceeded "x" percent of the sampling period and is referred to as a statistical sound level. Common percentile sound level metrics include L_{90}, L_{50}, and L_{10}. L_{90} is the sound level exceeded 90 percent of the sampling period. The L_{90} sound level represents the sound level without the influence of loud, transient noise sources and is therefore often referred to as the residual or background sound level. The L_{50} sound level is the sound level exceeded 50 percent of the sampling period or the median sound level. The L_{10} sound level is the sound level exceeded 10 percent of the sampling period. The L_{10} sound level represents the occasional louder noises and is often referred to as the intrusive sound level. The variation between the L_{90}, L_{50}, and L_{10} sound levels can provide an indication of the variability of the acoustical environment. If the acoustical environment is perfectly steady, all values are identical. A large variation between the values indicates the environment experiences highly fluctuating sound levels. For instance, measurements near a roadway with frequent passing vehicles may cause a large variation in the percentile sound levels.

3. Environmental Setting

The approximately 150-acre site is generally bounded by Ballenger Creek Pike and Mountville Road to the southwest, in Frederick County, Maryland. The project vicinity is generally rural / suburban in nature. The project site and vicinity include industrial and residential land uses, as shown in Figure 3.1.

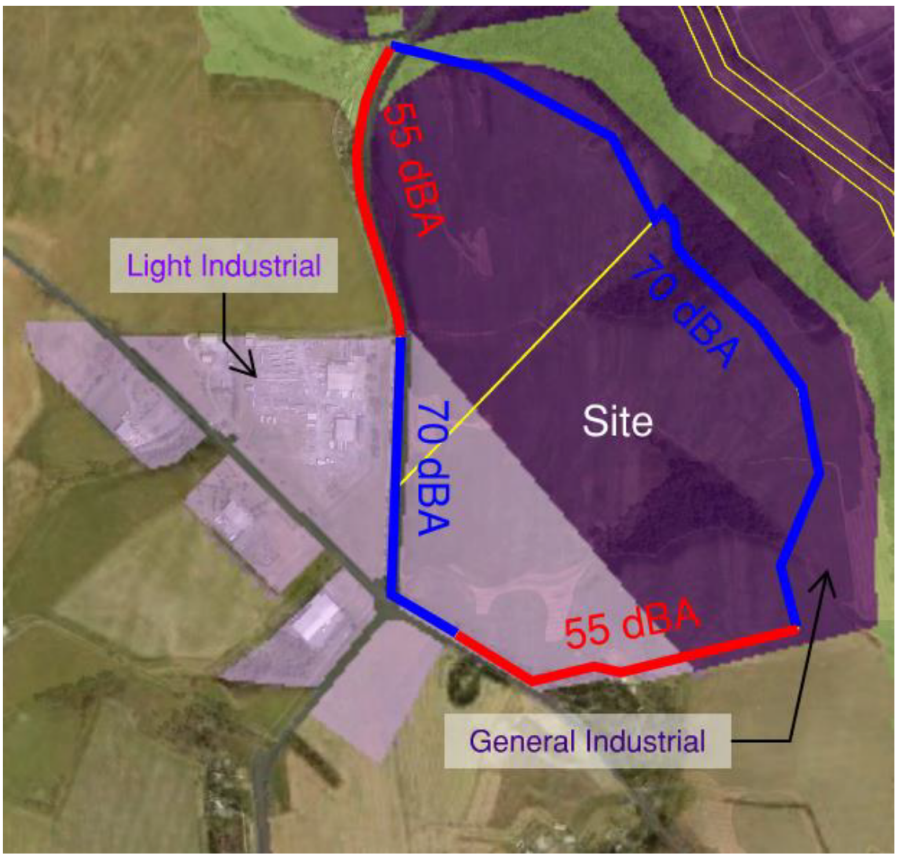


Figure 3.1. Bauxite data center project site and surrounding area showing land use (dark purple areas are "I – Industrial").

4. Regulatory Setting

4.1 State of Maryland

The Code of Maryland Regulations (COMAR), Section 26.02.03.02, provides sound level limits that are dependent on land use of the receiving property and time of day. However, Frederick County has established more stringent limits specific to Critical Digital Infrastructure ("CDI") land uses. The county requirements are discussed in detail in the next section.

4.2 Frederick County

The site is in unincorporated Frederick County. Frederick County has established sound level limits specific to CDI land uses, which include data centers. Section 1-19-8.402 (D) of the Frederick County Code of Ordinances establishes overall A-weighted sound pressure level limits dependent on land use and clarifies that generator operation is included. The maximum allowable sound levels (dBA) measured at a receiving property are listed in Table 4.1.

Table 4.1. Frederick County, Maryland Code of Ordinances – Section 1-19-8.402 (D)

CDI Maximum Permissible Sound Pressure Levels (dBA)	
Land Use Categories	**All Time**
Industrial	70
Commercial	64
Residential in any zoning district	55
Institutional	55
All other uses	55
Generator Testing, Maintenance, and Emergency Operation: No exemptions noted. **Construction Activities:** The provisions of this section do not apply to temporary construction activity between 7:00 a.m. and 7:00 p.m.	

5. Predicted Project Sound Levels

5.1 Project Description

The Bauxite data center site is expected to include four (4) data center buildings—three (3) 12-pod 1-story data halls and one (1) 6-pod 1-story data hall; an auxiliary water building (AWB), a central security building (CSB); and an associated substation surrounded by an 8-ft masonry wall. It is understood the data center will operate 24 hours per day, 7 days per week.

5.2 Methodology

Potential project-related noise emissions were evaluated using a sound prediction software package, Cadna/A, published by Datakustik GmbH, which is configured to implement the ISO 9613 environmental sound propagation algorithms. It allows the creation of complex acoustical models and predicts sound pressure levels due to sound emissions from a specific source(s). The modeling considers many factors that influence sound propagation including source sound level and directivity, distance attenuation, source-receptor geometry, barrier effects of buildings and topography, and ground and atmospheric attenuation. Modeling parameters are shown in Table 5-1.

Table 5-1. Model Setup

Parameter	Value
G (ground absorption)	0.6
Reflection Order	2
Receptor / Grid Height	~5 ft
Terrain	USGS data

Table 5-1. Model Setup	
Parameter	**Value**
Meteorology	ISO 9613 default augmented with regional 30-year wind data, and annual temperature and humidity averages: (56 F / 66% R.H. / ~7 mph avg. wind speed)

5.3 Modeling Input

The acoustical model included the following equipment assumptions, with mitigation measures as listed in Table 5-2.

Table 5-2. Acoustical Model Input Data				
Sound Source	**Location**	**Quantity [a]**	**Input Sound Level (L_{WA} re 1 picowatt [pW])**	**Mitigation Included**
Rooftop Exhaust Fans	Building roofs	520	L_{WA}: 92 dBA	None
Substation Transformer	Switchyards	4	L_{WA}: 83 dBA	None
Direct Air Handling Unit Inlets	Building facades	184	L_{WA}: 82 dBA / 88 dBA [b]	Acoustical duct liner; silencers; acoustical louvers
2.75-Megawatt (MW) Emergency Generators (if included)	Generator yard	92	L_{WA}: 105 dBA	Acoustical enclosures; exhaust silencers; acoustical "end cap" barrier walls
750-kilowatt (kW) House Generators (if included)	Generator yard	4 (1 per building)	L_{WA}: 105 dBA	Acoustical enclosures; exhaust silencers; acoustical "end cap" barrier walls
AWB Building 750-Kilowatt (kW) Generator (if included)	Adjacent to building	2	L_{WA}: 105 dBA	Acoustical enclosures; exhaust silencers
CSB 250-kW Generator (if included)	Adjacent to building	1	L_{WA}: 90 dBA	Acoustical enclosures; exhaust silencers
Note: [a] Determined from review of preliminary Site Plan and associated design drawings. [b] Level is dependent on side of building.				

For the potential generators, the relative capacity (in kW or MW above) should be noted. There are different sized generators, per the building design, which have different rated sound levels. In general, smaller capacity generators are quieter than larger capacity generators. Further, the IW Building Generator has been conservatively assumed to have the same sound power level as the larger Emergency Generators; the actual sound power level of the IW Building Generator will likely be lower, but the exact rating was not available at the time of preparing the acoustical model.

5.4 Acoustical Model Configuration & Results

The model included the implementation of acoustical mitigation measures as necessary to reduce the facility's overall sound emissions and support compliance with regulatory requirements—see

Table 5.2 above. Mitigation measures include air handling unit inlet duct lining, inlet silencers, and acoustical louvers; if utilized, improved generator acoustical performance, including acoustical enclosures, generator exhaust silencers, and noise barrier walls. Each building includes an "end cap" barrier wall for the generator yard at the end closest to the property boundary. The wall height is assumed to be approximately 20 to 30 feet tall. The purpose of the wall is to provide visual screening, as well as to provide some acoustical shielding. The walls interrupt the path of sound propagation. A generalized depiction of the function of an acoustical barrier is depicted in Figure 5.1. Note that barriers do not stop all sound energy. Some sound will diffract around the edges. However, the net effect is a reduction of sound level on the receiving side of the barrier wall.

Three (3) operational scenarios were evaluated:

- A normal operation, "full load" scenario including all normally operating mechanical and electrical equipment operating at 100% load. Equipment includes exhaust fans, transformers, and direct air handling units.
- A generator maintenance and testing scenario. Equipment includes exhaust fans, transformers, direct air handling units and one generator per data hall in operation. For "worst-case" modeling purposes, the potential generator for each building that is closest to the property boundary or noise-sensitive receptor is selected.
- A worst-case emergency scenario with all potential generators in operation at 100% load. Equipment includes exhaust fans, transformers, direct air handling units and all generators in operation.

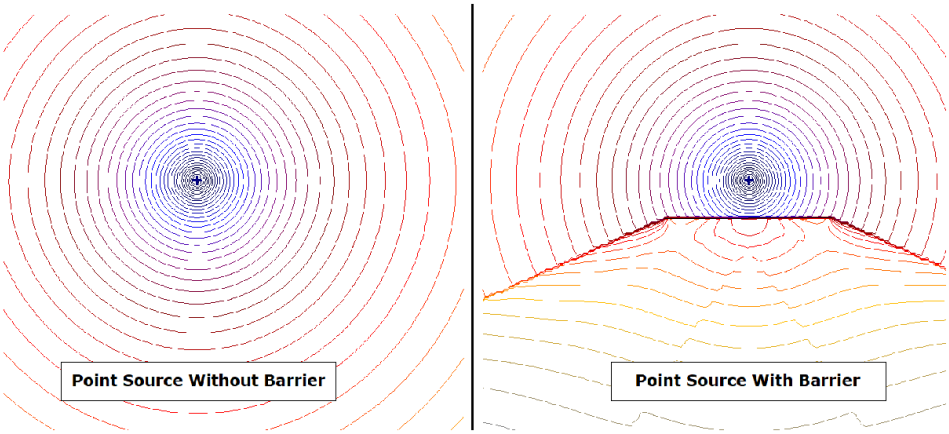


Figure 5.1. Generalized depiction of acoustical barrier wall function.

5.4.1 Normal "Full Load" Operation Scenario Modeling Results

Project-only sound levels during normal "full load" operation of the data centers with acoustical mitigation are not expected to exceed 55 dBA at the site property boundary in accordance with applicable regulatory property boundary limits. "Full load" assumes all mechanical and electrical equipment required for normal data center operation are operating at 100% load. Predicted sound level contours for the "full load" operations scenario are presented in Figure 5.2.

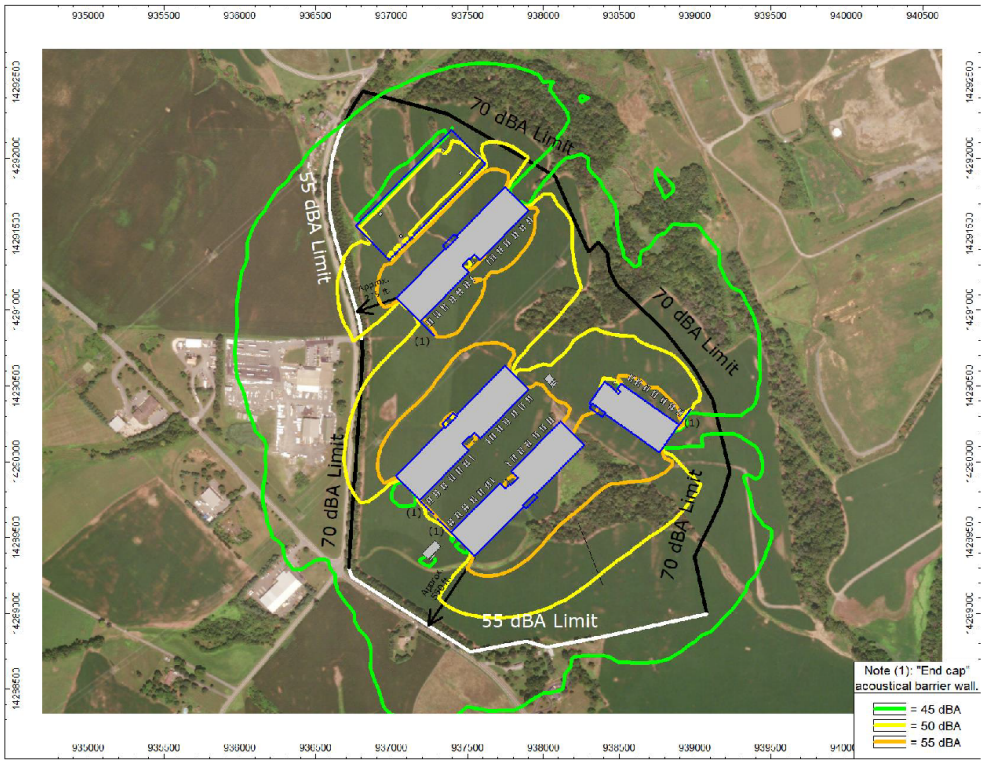


Figure 5.2. Predicted Sound Level Contours for Normal "Full Load" Operations.

5.4.2 Generator Testing and Maintenance Scenario Modeling Results

Generator testing is expected to take place infrequently and during daytime hours. The Generator Testing and Maintenance operating scenario includes the same modeling setup as Section 5.4.1 with the addition of one (1) generator for each building. The resulting sound levels along the property boundaries are not expected to exceed the applicable regulatory limits. Predicted sound level contours for the Generator Testing and Maintenance scenario are presented in Figure 5.3.

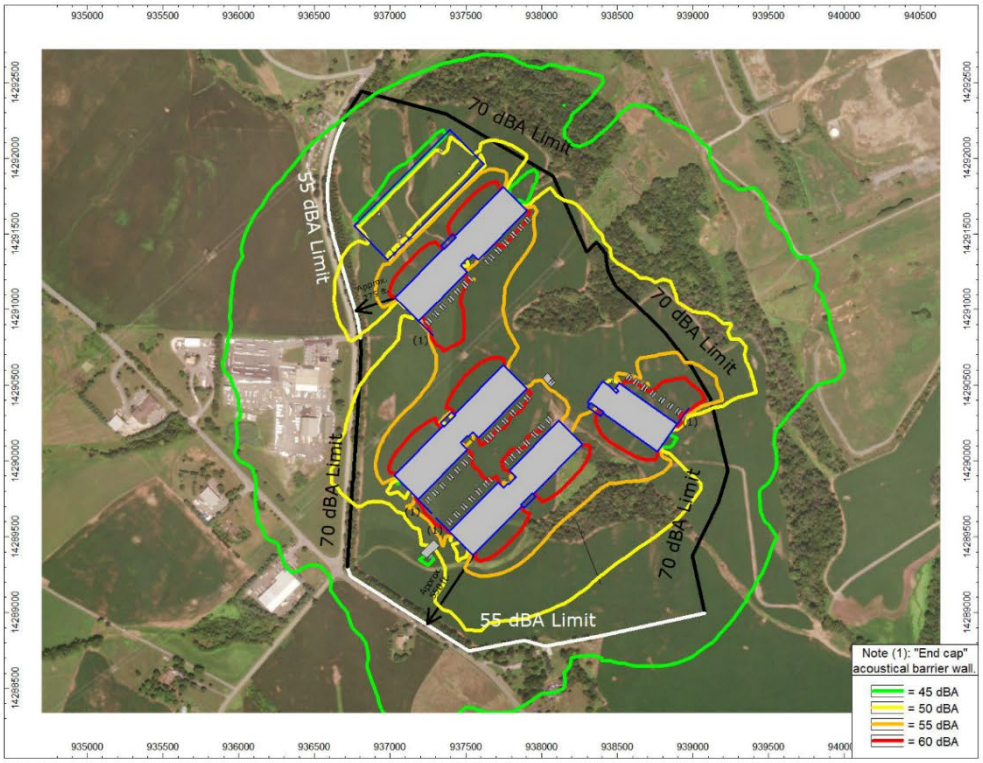


Figure 5.3. Predicted Sound Level Contours for Generator Testing & Maintenance.

5.4.3 Emergency Scenario Modeling Results

The Emergency scenario includes the same modeling setup as Section 5.4.1 with the addition of all potential generators operating at 100% load. It should be noted that if generators are utilized for the project, their combined use during an emergency power outage would be rare. Nonetheless, the resulting sound levels along the property boundaries are not expected to exceed the applicable regulatory limits with incorporation of generator acoustical enclosures and generator yard "end cap" barrier walls as shown in Figure 5.4. An elevation view of a typical "end cap" barrier wall is provided in Figure 5.5.

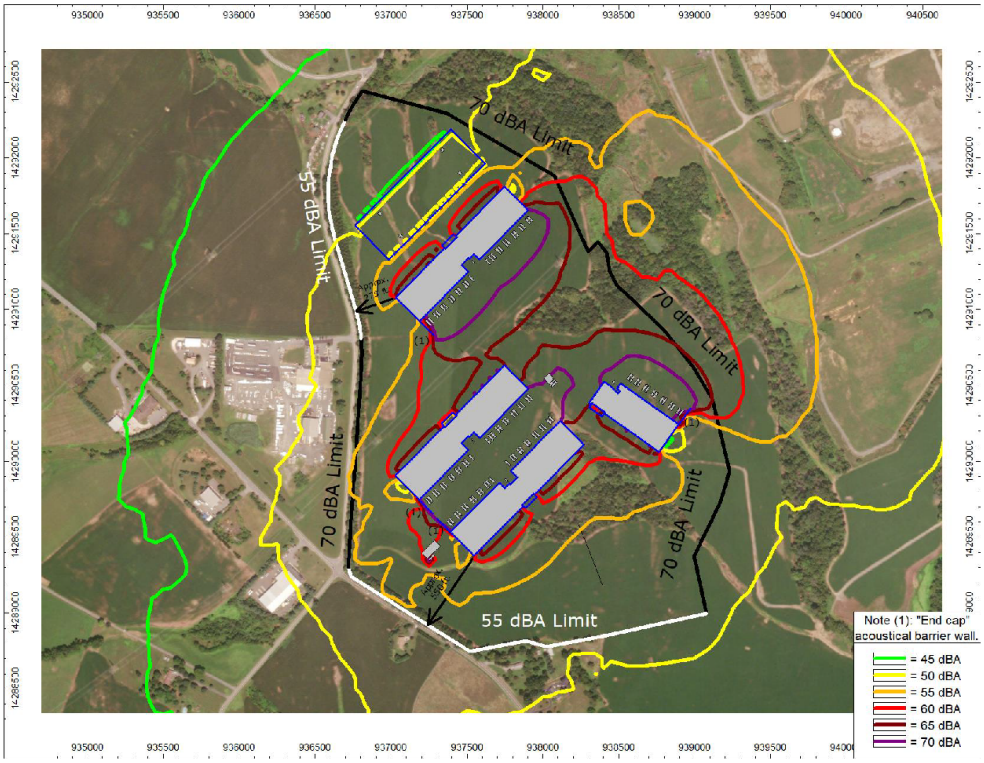


Figure 5.4. Predicted Sound Level Contours for Emergency Operations.

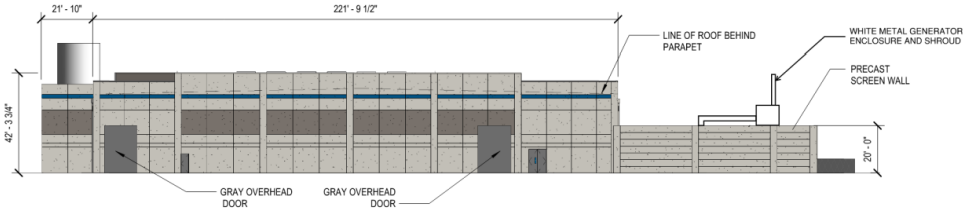


Figure 5.5. Elevation view of a typical "end cap" barrier wall ("Precast Screen Wall").

6. Conclusions

This environmental noise assessment has been prepared for Rowan Digital Infrastructure in support of the permit application process for the proposed Bauxite data center within Frederick County, Maryland. This report presents an assessment of the potential noise emissions from the proposed data center facility compared to applicable regulatory requirements. The assessment was prepared based on information available at the current stage of project design. Models have been completed in accordance with the methodologies outlined in ISO 9613. Given the preliminary stage of project design, the equipment modeled in this assessment represent reasonable assumptions for a typical data center facility and will be confirmed during the design engineering phase of the project.

The project is expected to comply with the regulatory requirements of Frederick County Code of Ordinances during normal and generator maintenance testing scenarios. The projected is expected to comply with the requirements during an emergency scenario with incorporation of mitigation options such as acoustical barriers.

AMENDED AND RESTATED

ADEQUATE PUBLIC FACILITIES LETTER OF UNDERSTANDING

Quantum Frederick

Preliminary Plan: PP266504 & PP273777 F266567, A273778

In General: The following Amended and Restated Letter of Understanding ("**Letter**") between the Frederick County Planning Commission ("**Commission**") and Quantum Maryland, LLC ("**Developer**"), together with its/their successors and assigns, sets forth the conditions and terms which the Commission deems to be the minimum necessary improvements dealing with school, water, sewer, and road improvements that must be in place for the property identified below to be developed, as proposed under the approved Quantum Frederick preliminary plan (the "**Project**"), in compliance with the Frederick County Adequate Public Facilities Ordinance ("**APFO**"). This Letter amends, restates, and replaces the original Letter of Understanding (A266569) dated December 15, 2021 (the "Original LOU").

The Developer, its successors and assigns, hereby agrees and understands that unless the required improvements (or contributions to road escrow accounts, as specified below) are timely provided in accordance with this Letter, APFO requirements will not be satisfied and development of the Project or a subsequent phase thereof will not be permitted to proceed.

1. This Letter concerns itself with the Developer's 1,053.78 +/- acre Project, which is zoned General Industrial (GI) and Agriculture/Rural (A) and located north of Adamstown, Maryland ("**Site**"). The Site is mainly bounded to the west by Ballenger Creek Pike, to the east by New Design Road, and bisected by Manor Woods Road. Future MD 80, a County Comprehensive Plan minor arterial roadway, is proposed to run east to west through the southern portion of the Site. Dedication of right-of-way and construction of this section of MD 80 will be required as part of the proposed development. This APFO approval will be effective for the development of up to 17,403,344 square feet of data center, 821,881 square feet of office, and 7,500 square feet of commercial use, as shown on the preliminary plan (PP266504) for the above-referenced Project, which was granted conditional approval by the Commission on December 15, 2021.
   The Traffic Impact Analysis prepared by Wells + Associates, Inc. for the Project, dated October 8, 2021, and revised November 11, 2021, ("TIA"), incorporates APFO traffic analysis assuming full phased buildout of the Project, background traffic, and pipeline projects. The timing of construction of the required road improvements for the Project are linked to the estimated overall morning (AM) and evening (PM) peak hour vehicle trips projected for the approved uses in the Project.

2. This Letter incorporates the Developer's 257.68 acres, which are zoned Limited Industrial (LI), GI, and A and located northwest of Adamstown, Maryland. This additional land is mainly bounded to the west by Ballenger Creek Pike and to the south by

Mountville Road, and will be combined with the 1,053.78 acres covered by the Original LOU for a total of 1,311.46 acres. This APFO approval does not propose any increase in the development square footage of data center, office or commercial uses from the original approval. The trip generation and phasing plan remain unchanged.

A Traffic Memorandum prepared by Wells + Associates, Inc, dated October 26, 2022, analyzed traffic forecasts, project phasing, and trip generation proposed in the original Traffic Impact Analysis. The original analysis was identified as a conservative development approach and the new acreage does not propose any increases in development density or intensity, and proposes the distribution of traffic on the roadway network in a manner consistent with the previous study. Therefore, no changes to the roadway mitigations or phasing plan are proposed.

The agricultural zoned portions of the Project, shown on the PP273777 and PP266504, cannot be developed until such a time that the appropriate zoning is applied to those areas.

I. PUBLIC WATER AND SEWER – SECTION 1

The Project Site is classified W-1/S-1 and W-5/S-5 as shown on the County Water and Sewerage Plan map. The Division of Water and Sewer Utilities (DWSU) has provided a recommendation of conditional approval regarding sewer and water facilities for service to the Project, based upon proposed improvements to be constructed by Developer, as described below and in a water and wastewater study provided by Whitman, Requardt & Associates, LLP (WR&A) dated November 2021.

The Project will be served by a network of public and private water and sewer mains and service connections generally depicted on the Preliminary Plans (PP273777 and PP266504) and various Phasing exhibits within the WR&A study mentioned above and attached (Exhibit 1 and 2). Proposed improvements to Frederick County's water and sewer systems serving this region will be provided to the Project through developer-funded improvements specified below and as shown on the Preliminary Plan.

While the public water/sewer facilities will be adequate upon completion of specified improvements to serve the Project, the Developer recognizes that capacity is not guaranteed until purchased. APFO approval for sewer and water does not guarantee that plats will be recorded and building permits will be issued. Plat recordation and building permit issuance are subject to compliance with the Annotated Code of Maryland, Environment Article Section 9-512, et. seq and all applicable County regulations, including but not limited to §1-16-106 of the Frederick County Subdivision Regulations.

The Project is proposed to be served by two separate water distribution systems; one for domestic and fire service (potable), and the other for cooling water only (cooling), sized in accordance with the WR&A APFO study and as approved by DWSU. Please note that Lots 112 A-D are electrical substation lots that are not intended to be served by public water or sewer.

Water and Sewer Phase 1 consists of those lots whose total (combined) domestic potable maximum day water demand does not exceed 0.2 million gallons per day (mgd) **and** whose total (combined) potable cooling water demand does not exceed a maximum day cooling demand of

1.3 mgd as determined and approved by DWSU. However, resultant sewage flows must not exceed the capacity of the IQFSPS as stipulated below. The attached *APFO/LOU PHASING* spreadsheet (Exhibit 3) will be used to establish and track maximum demands for platting purposes.

Phase 2 consists of the remaining Section 1 lots whose water demands exceed those maximums specified above.

I. Phase 1

A. Water:

The Developer shall construct or cause to be constructed the following water improvements listed below, which are necessary to provide water service to the first set of lots to be recorded within the Project, up to the maximum water demand restrictions described above. The diameter of the utility lines and other infrastructure is to be confirmed and approved during the design phase of the proposed infrastructure by DWSU and Developer's Engineer.

1. Design, permit, and construct 16-inch potable waterline from the existing 24-inch waterline west of the railroad tracks northward along proposed Happy Landing Road to the existing right of way of New Design Road.
2. Design, permit, and construct 16-inch potable waterline from the existing 24-inch waterline west of the railroad tracks westward to the proposed intersection of Quantum Place South and Manor Woods Road.
3. Design, permit, and construct 12-inch potable waterline from the existing 12-inch waterline located in Mountville Road (Frederick County Water & Sewer Contract # 035-W) to the existing 24-inch waterline starting point described above in Section A.1.
4. Design, permit, and construct 12" water line from the end of section A.2 described above at the proposed intersection of Quantum Place South and Manor Woods Road, southwesterly down the length of Quantum Place South to the end of the cul-de-sac.
5. Design, permit, and construct 12" water line from the end of section A.4 and continue along line A.5 as described in the APFO water phases exhibit to a point on section A.3 described above
6. Design, permit, and construct 8" water line from the south side of Manor Woods Road at the proposed intersection with Quantum Place South, to the north side of the cul-de-sac in proposed Quantum Place North.
7. Design, permit, and construct 16-inch potable waterline from the terminus at Quantum Place South northward and along Manor Woods Road to the intersection of Ballenger Creek Pike.
8. Design and construct 12-inch potable waterline from the intersection of Ballenger Creek Pike and Manor Woods Road southwest to a point opposite the intersection of Agro Drive and Ballenger Creek Pike.
9. Design, permit, and construct 8-inch potable waterline from the terminus of A.7 described above, continue along line A.9 as described in the APFO water phases exhibit to the terminus of the 12" line in at Quantum Loop South as described above as A.5,

10. Design, permit, and construct 16-inch cooling waterlines to run parallel to the lines described above in A.1-A.4, A.6, A.7 or as otherwise approved by DWSU required to provide cooling water to data center lots.

B. Sewer:
The Developer shall construct or cause to be constructed the following sewer improvements listed below, all of which are necessary to provide sewer service to Phase 1 of the Project.

1. Design, permit, and construct new interim 1 MGD (peak pumping rate) Interim Quantum Frederick Sewage Pump Station (IQFSPS) on Outlot 1 as shown on the approved preliminary plan. Construction must be completed on the replacement 5 MGD (peak pumping rate) Quantum Frederick Sewage Pump Station (QFSPS), as described in Phase 2 below (D.1.), within 3 years of the construction completion date of the 1 MGD IQFSPS, or prior to approval of total sewage flows to the IQFSPS exceeding the capacity limitations as determined by DWSU, whichever occurs first.
2. Design, permit, and construct a new 10-inch force main from the existing force main in New Design Road to the new IQFSPS or to new gravity sewer in Happy Landing Road that drains to the new IQFSPS, or as otherwise approved by DWSU. This force main will divert flows from the Adamstown Sewage Pumping Station to the new QFSPS.
3. Design, permit, and Construct upgrades to the existing Adamstown Sewage Pumping station, pumps and other existing station infrastructure as required due to the new hydraulic pumping parameters created by item B.2. above. The pumps will be replaced with new pumps designed for the new system head created by the new outfall to the QFSPS. The wastewater flows will then be pumped from the proposed IQFSPS, to the existing 10" force main in New Design Road.

   The proposed sewage flows (peak pump rate) from the QFSPS for this phase will not exceed 1.0 MGD, or as determined by a developer funded capacity analysis of the existing gravity outfall sewer system beginning in New Design Road, or as otherwise approved by DWSU.
4. Design, permit, and construct a gravity sewer collection system from the IQFSPS northward to support those lots that the applicant is seeking to record. See lines A-L~~H~~ as represented in the QF Sewer Phases Exhibit.

II. Phase 2

The Developer shall design, permit, and construct or cause to be constructed the following water improvements listed below, all of which are necessary to provide water service to Phase 2 of the Project. Note that waterlines installed for Phase 1 above will serve Phase 2 lots.

C. Water:
1. Prior to platting any lots upon which a 'data center' is to be constructed beyond those approved by DWSU under Phase 1 of the APFO/LOU Phasing table, the Developer will design, permit, and construct improvements required to obtain additional water capacity of remaining (Max Day) from the New Design Water Treatment Facility (NDWTF), or

study, design, permit, and construct the wastewater effluent supply system for use as cooling water to support remaining phases. The design shall ensure that the existing effluent outfall pipelines in New Design Road will remain functional to continue to convey effluent from the Ballenger-McKinney WWTP to the Potomac River.

2. If the additional NDWTF capacity option is selected, the Developer will prepare an engineering study to determine the need for additional public water storage as required and approved by DWSU. If required, design, permit, and construct an elevated public storage (potable or cooling) volume as approved by Developer's Engineer and DWSU.
3. If effluent water is being used for cooling Phase 2 lots, design, permit, and construct effluent lines (size as approved by Developer's Engineer and DWSU) parallel to the water lines described above in A.1-A.10 or other location as approved by DWSU.

The Developer shall design, permit, and construct or cause to be constructed the following sewer improvements listed below, all of which are necessary to provide sewer service to Phase 2 of the Project:

D. Sewer:

1. Design, permit, and construct new QFSPS and convert the IQFSPS to a manhole, and modify other existing station infrastructure, rerouting the wastewater flows to the existing Buckeystown Interceptor sewer, located near Michaels Mill Road near the Monocacy River. The pumps will require replacement for the change in system head from the existing connection to the gravity connection at New Design Road to the Buckeystown Sewage Interceptor. QFSPS upgrades and design flow rates shall be designed by developer's Engineer and approved by DWSU. QFSPS design shall include peak rate attenuation facilities, as otherwise approved by DWSU.

2. Design, permit and construct a force main system from QFSPS eastward to the Buckeystown Interceptor Sewer near Michaels Mill Road and the Monocacy River. Force main system shall be sized per the County Water and Sewer Design Manual for the full range of pumping rates and designed by Developer's Engineer and approved by DWSU.

II. ROADS

A. APFO ROAD IMPROVEMENTS

The road improvements program described in the following paragraphs are based on the TIA analysis, and these improvements are projected to provide capacity for 3,317 AM peak hour trips and 2,877 PM peak hour trips. The Developer will construct the road improvements in four (4) phases, with each phase of road improvements intended to allow an incremental increase in development in the Project based on the cumulative total trips shown on EXHIBIT 4.

The roadway impacts for each development phase of the Project will be mitigated through a combination of construction of improvements, or pro-rata contribution(s) to existing and/or future County-held escrow accounts (where applicable) in accordance with Frederick County APFO and Guidelines for Preparation of Traffic Impact Analyses for Development Applications, adopted September 6, 2011, by the BOCC by Resolution No. 11-24 ("TIA Guidelines").

The Developer agrees to construct or contribute to the following improvements and phasing schedule as identified in the TIA and LOU in order to mitigate the effects upon the transportation network serving the Project. An updated trip "scorecard" will be provided by the Developer with each development application within the Project, to track and document the approved capacity trips utilized by each development application.

PHASES I - 4

If a parcel of lot requires access to a proposed public road or street, the plat cannot be recorded until after an agreement(s) for road or street construction, along with financial guarantees have been provided and approved by the County. Further, the proposed roads or streets must be constructed and approved by the County to be open to traffic prior to the issuance of any certificates of occupancy for any site having direct access to said road.

The road improvements identified in the next phase must be constructed and open to traffic prior to site plan final approval for any use generating additional trips, (as tracked on the trip scorecard,) that would exceed the maximum cumulative trips permitted in the current phase and require use of trips associated with the next phase of development.

PHASE I
(up to 143 a.m. peak hour trips and 125 p.m. peak hour trips)

Phase I development will be limited to data center or office use. Commercial development will not be permitted during Phase I.

PHASE II
Up to 1,079 additional a.m. peak hour trips and 931 additional p.m. peak hour trips
Maximum Cumulative Trips - 1,222 a.m. peak hour and 1,056 p.m. peak hour

Prior to lot recordation or the issuance of any building permits for any uses utilizing Phase II trips, the Developer shall guarantee the following improvements:

a. Construct a roundabout at the intersection of Manor Woods Road and Quantum North/South Loop Roads. The roundabout is to be constructed with a single circulating lane.
b. Construct the Quantum South Loop Road prior to building permit issuance for any parcel requiring site access from this proposed roadway.
c. Construct the Quantum North Loop Road prior to building permit issuance for any parcel requiring Site access from this proposed roadway.
d. Install a roundabout at the intersection of Ballenger Creek Pike and Mountville Road. The roundabout will consist of two circulating lanes with the associated acceleration/deceleration lanes and tapers.
e. US 15/Mountville Road: Construct an exclusive right-turn lane and taper on the westbound approach, or as otherwise determined and approved, by MDOT SHA and the County, necessary to mitigate the traffic issue.
f. Construct required traffic signal improvements as identified in Section II.B, below.

PHASE III
Up to 1,045 a.m. additional peak hour trips and 855 additional p.m. peak hour trips
Maximum Cumulative Trips - 2,267 a.m. peak hour; 1,911 p.m. peak hour

Prior to the issuance of any building permits for any uses utilizing Phase III trips, the Developer shall guarantee the following improvements:

a. Construct future MD 80 and the proposed roundabout intersection, from New Design Road west to the proposed sewerage pump station. This construction will include a temporary cul-de-sac turnaround and be constructed and open to traffic prior to use of the Phase III trips or prior to the recordation of any lots that have direct access to this road (with the exception of the DWSU Outlot).
b. Construct and extend the westbound right-turn lane storage at Buckeystown Pike (MD 85)/Fingerboard Road/MD 80, or as otherwise determined and approved by MDOT SHA and the County, necessary to mitigate the traffic issue.
c. US 15/Mountville Road: Convert northbound right-turn lane into northbound shared through/right lane and carry through the intersection with an additional northbound receiving lane before tapering back to a two-lane section north of the intersection, or as otherwise determined and approved, by MDOT SHA and the County, necessary to mitigate the traffic issue.
d. Point of Rocks Rd/US 15: Construct an exclusive right-turn lane, an additional lane on the inbound westbound approach, and a second circulating lane on the northern portion of the roundabout, or as otherwise determined and approved, by MDOT SHA and the County, necessary to mitigate the traffic issues.

PHASE IV
Up to 1,050 additional a.m. peak hour trips and 966 additional p.m. peak hour trips
Maximum Cumulative Trips - 3,317 a.m. peak hour and 2,877 p.m. peak hour

Prior to the issuance of any building permits for any uses utilizing Phase IV trips, the Developer shall guarantee the following improvements:

a. Construct future MD 80 from the temporary cul-de-sac turnaround to its proposed intersection with Mountville Road.
b. Ballenger Creek Pike/Mountville Road: Construct a southbound right-turn associated with the roundabout with dedicated decel/accel lanes and tapers.
c. Point of Rocks Road/Ballenger Creek Pike: Construct an exclusive right turn lane on the southbound approach and an exclusive left turn lane on the eastbound approach, along with the necessary tapers.
d. US 15/Mountville Road: Extend the southbound left turn lane and extend westbound right turn lane, or as otherwise determined and approved, by MDOT SHA and the County, necessary to mitigate the traffic issue.
e. Ballenger Creek Pike from Manor Woods Road to Mountville Road Widening from two to four lanes, or as otherwise determined necessary, by the County, to mitigate road segment issues. The widening will include all identified median, turn lane, acceleration/deceleration lane, and bike/pedestrian improvements.
f. Mountville Road from US 15 to Ballenger Creek Pike Road Widening from two to

four lanes, or as otherwise determined necessary, by the County, to mitigate road segment issues. The widening will include all identified median, turn lane, acceleration/deceleration lane, and bike/pedestrian improvements.

g. Construct Manor Woods Road, a Comprehensive Plan collector roadway, realigned to intersect with Ballenger Creek Pike/Agro Drive as shown on the currently adopted Comprehensive Plan map, unless otherwise amended in future comprehensive plan revisions.

B. Traffic Signals

The Developer shall signalize the following off-Site intersections when warranted:

1. Buckeystown Pike (MD 85)/Manor Woods Road
   a. Approval of any signal design at this intersection will occur when an updated signal warrant analysis demonstrates that warrants are satisfied by actual traffic. Due to the current geometry of the intersection, and physical limitations, other intersection improvements may be required in lieu of a signal, as determined and approved by MDOT SHA and the County.
2. New Design Road/Manor Woods Road
3. Ballenger Creek Pike/Manor Woods Road

The Developer shall perform up to two signal warrant analysis for each of the above intersections when deemed necessary by MDOT SHA/County, with the first to occur no later than the issuance of the last building permit associated with Phase II trips and, if necessary, the last being no later than the last site plan application submitted for the Project. The Developer shall install a traffic signal at any of the above intersections within 12 months of receipt of a warrant analysis indicating that a signal is warranted. In the case of signals 1. through 3. above, should the signal still not be warranted and justified by the time of issuance of the last building permit for the Project, then others shall thereafter be fully responsible for construction and implementation of any such traffic signal.

C. Escrow Accounts:

In accordance with Section 1-20-12(H) of the APFO, the Developer is required to pay its proportionate contribution toward the following existing road escrow accounts in the Project area. The pro-rata escrow contributions have been phased and are correlated with the number of trips associated with each phase of development.

1. No. 3761: MD 85/English Muffin Way – Construction of a second eastbound left turn lane and associated pavement markings. The estimated cost of this improvement is $104,888. As determined by Traffic Engineering Staff, the Developer's proportionate share of this Road Improvement is 6.45%. Therefore, the Developer agrees to pay $9,646 to the escrow account for this Road Improvement.
2. No. 3286: New Design Rd/English Muffin Way Signal – The estimated cost of the intersection improvement is $350,000. As determined by Traffic Engineering Staff, the Developer's proportionate share of this Road Improvement is 4.5%. Therefore, the Developer hereby agrees to pay $15,750 to the escrow account for this Road Improvement.
3. No. 4412: Ballenger Creek Pike widening from north of Ballenger Creek to Crestwood

Boulevard. The estimated cost of this improvement is $6,000,000. As determined by Traffic Engineering Staff, the Developer's proportionate share of this Road Improvement is 0.33%. Therefore, the Developer hereby agrees to pay $19,800 to the escrow account for this Road Improvement.

4. No. 4053: US 15/340 Interchange – Construction of the US15/340 interchange. The estimated cost of this improvement is $22,060,865. As determined by Traffic Engineering Staff, the Developer's proportionate share of this Road Improvement is 3.92%. Therefore, the Developer hereby agrees to pay $864,785 to the escrow account for this Road Improvement.

Escrow Contribution by Phase

Phase I Escrow Contribution (up to 143 a.m. and 125 p.m. peak hour trips)

Escrow	Cost
No. 3761:	$9,646
No. 3286:	$15,750
No. 4412:	$19,800
Total	**$45,196**

Therefore, prior to the recordation of the first lot associated with the Project, a total of $45,196 for the escrow payments described above must be paid to the County by the Developer, its successors or assigns. Should this payment not be made within one year of the execution of this Letter, the County reserves the right to adjust this amount, based on an engineering cost index.

Phase II Escrow Contribution (up to 1,222 a.m. and 1,056 p.m. cumulative peak hour trips)

Escrow	Cost
No. 4053:	$319,883
Total	$319,883

Therefore, prior to the recordation of the 2nd lot associated with the Project, a total of $319,833 for the escrow payments described above must be paid to the County by the Developer, its successors or assigns. Should this payment not be made within one year of the execution of this Letter, the County reserves the right to adjust this amount, based on an engineering cost index.

Phase III Escrow Contribution (up to 2,267 a.m. and 1,911 p.m. cumulative peak hour trips)

Escrow	Cost
No. 4053:	$269,142
Total	**$269,142**

Therefore, prior to the recordation of the 10th lot associated with the Project, a total of $269,142 for the escrow payments described above must be paid to the County by the Developer, its successors or assigns. Should this payment not be made within one year of the execution of this Letter, the County reserves the right to adjust this amount, based on an engineering cost index.

Phase IV Escrow Contribution (up to cumulative 3,317 a.m. and 2,877 p.m. peak hour trips)

Escrow No. 4053:	Cost $275,760
Total	**$275,760**

Therefore, prior to the recordation of the 19th lot associated with the Project, a total of $275,760 for the escrow payments described above must be paid to the County by the Developer, its successors or assigns. Should this payment not be made within one year of the execution of this Letter, the County reserves the right to adjust this amount, based on an engineering cost index.

D. Surplus Capacity Reimbursement Improvements:

The Developer has agreed to construct or cause to construct certain infrastructure improvements to serve the Project which could result in the creation of excess capacity in such improvements that could benefit other development projects. The parties agree that the following road improvements have been determined to be "Surplus Capacity Reimbursement Improvements" ("SCR Improvements") as that term is defined in Chapter 12 of the TIA guidelines:

1. Buckeystown Pike (MD 85)/Manor Woods Road Signal
    a. Approval of any signal design at this intersection will occur when an updated signal warrant analysis demonstrates that warrants are satisfied by actual traffic. Due to the current geometry of the intersection, and physical limitations, other intersection improvements may be required in lieu of a signal, as determined and approved by MDOT SHA and the County.

2. Install a roundabout at the intersection of Ballenger Creek Pike and Mountville Road. The roundabout will consist of two circulating lanes with the associated acceleration/deceleration lanes and tapers.
3. Buckeystown Pike (MD 85)/Fingerboard Road/MD 80 westbound turn lane.
4. US 15/Mountville Road: Construct an exclusive right-turn lane and taper on the westbound approach, or as otherwise determined and approved, by MDOT SHA and the County, necessary to mitigate the traffic issue.
5. US 15/Mountville Road intersection improvements to convert northbound right-turn lane into northbound shared through/right lane and carry through the intersection with an additional northbound receiving lane before tapering back to a two-lane section north of the intersection, or as otherwise determined and approved, by MDOT SHA and the County, necessary to mitigate the traffic issue.
6. US 15/Mountville Road: Extend the southbound left turn lane and extend westbound right turn lane, or as otherwise determined and approved, by MDOT SHA and the County, necessary to mitigate the traffic issue.
7. Point of Rocks Road/US 15 roundabout improvement: Construct an exclusive right-turn lane, an additional lane on the inbound westbound approach, and a second circulating lane on the northern portion of the roundabout.
8. Ballenger Creek Pike from Manor Woods Road to Mountville Road Widening from two to four lanes, or as otherwise determined necessary, by the County, to mitigate road segment issues. The widening will include all identified median, turn lane, acceleration/deceleration lane, and bike/pedestrian improvements.

9. Mountville Road from US 15 to Ballenger Creek Pike Widening from two to four lanes, or as otherwise determined necessary, by the County, to mitigate road segment issues. The widening will include all identified median, turn lane, acceleration/deceleration lane, and bike/pedestrian improvements.

In the event that other approved development projects add "trips" to any of the offsite road improvements listed above and therefore are required to pay a pro rata share of the construction cost of said roads into escrow, the Developer shall be eligible for reimbursement of a portion of the cost of the SCR Improvements from available non-exempt developer projects identified by the County Traffic Engineer, up to but not beyond Developer's own pro rata share of the improvement, whether or not the SCR Improvements are located inside or outside of the contributing project's study area. Reimbursement may be accomplished either through reimbursement of actual construction costs incurred by the Developer if the Developer constructs said, in accordance with the requirements of Chapter 12 of the TIA Guidelines.

If any of the off-Site road improvements listed above as a construction obligation of the Developer are constructed or funded by others, then the Developer shall pay its pro rata share of the construction costs for each such road improvement constructed or funded by others into an escrow account based on the impact of trips generated by the Project on such road improvement. Prior to approvals being issued by the County to other developer(s) to construct any or all of the above-described road improvements Developer agrees to construct or cause to construct certain infrastructure improvements to serve the Project which could result in the creation of excess capacity in such improvements D.1 through D.9., the Developer will be given reasonable advance notice by the County Traffic Engineer and will be given the opportunity to review and comment on the County Traffic Engineer's calculation of the "pro rata share" of the cost of such improvements attributable to the Project relative to other developer(s).

E. Right-of-Way Acquisition Necessary for Roadway Improvement(s).

1. Most if not all of the roadway improvements required by this LOU to be made by the Developer will require the acquisition of public right-of-way from third party property owners, The Developer shall exercise commercially reasonable efforts to secure such right-of-way without the assistance of MDOT SHA or the County..
2. In the event that the Developer has demonstrated to MDOT SHA and the County that it is unable to secure any or all of such public right-of-way despite commercially reasonable efforts to do so in a timely manner consistent with the construction of public infrastructure improvements, the Developer may request MDOT SHA or the County to assist in the acquisition of the needed right-of-way at the Developer's sole cost and expense.

F. Improvements Requiring MDOT SHA or FHWA Approvals

The Developer's obligation to construct those road improvements described above that either require state or federal approval is subject to the following terms and conditions:

The Developer and the County acknowledge that these improvements (the "MDOT SHA improvements") will be reviewed and approved by the Maryland Department of Transportation State Highway Administration and possibly by the Federal Highway Administration ("FHWA"), and that such review and approval processes can be lengthy and are not within the control of the County or the Developer. Accordingly, the Developer agrees that it will diligently pursue the

design and approval of the MDOT SHA improvements in an effort to expedite construction of the MDOT SHA improvements as soon as practicable. To that end, the Developer agrees that it shall promptly, upon execution of this Letter of Understanding or at such time as is agreed by the County Traffic Engineer and the Developer, retain a qualified engineering firm to undertake the planning and design of the MDOT SHA improvements, in accordance with MDOT SHA and any other applicable governmental specifications, and shall submit initial design plans for the improvements to MDOT SHA for its review and approval.

The Developer shall not be required to design and submit all of the MDOT SHA improvements at the same time, but rather in accordance with the phasing schedule above. However, the Developer shall prepare and process the plans for the improvements listed in Phase I and II as soon as is practicable. Thereafter, the Developer shall promptly address all MDOT SHA, FHWA, and other agency comments and resubmit responsive design plans and other requested information to MDOT SHA, FHWA, or such other approving agency. Following the approval of the design plans for these improvements, The Developer agrees to promptly apply for an access permit from MDOT SHA and enter into a construction contract with a qualified contractor for construction of these improvements.

The County agrees that so long as the Developer diligently pursues all approvals of MDOT SHA improvements, including those referenced in this section, that may be required by MDOT SHA, FHWA or any other governmental agency in the manner described above, upon request the Developer may be permitted to proceed with development of the Project notwithstanding the fact that any of the required MDOT SHA Improvements in a particular Road Improvements Phase, including those listed in this section, are not completed in accordance with the phasing schedule. The Developer agrees that in the event MDOT SHA has not issued any required permit at such time as the Developer desires to proceed into subsequent phases of the Project, the Developer shall post an acceptable financial guarantee with Frederick County for the estimated cost of the construction of the MDOT SHA Improvements, plus an acceptable contingency, as determined by the County. The County agrees that this financial guarantee shall be released and returned to the Developer at such time as the Developer secures an access permit from SHA for the construction of the applicable MDOT SHA Improvement.

G. Transportation Facilities Mitigation Program

Quantum Frederick shall prepare a Transportation Facilities Mitigation Program ("TFMP") in accordance with the provisions of the TIA Guidelines. The TFMP shall be approved by the County Traffic Engineer and MDOT SHA, prior to the development of Improvement Plans.

III. SCHOOLS

The Project is non-residential and not subject to schools testing.

IV. VESTING

Roads

Upon full mitigation (construction of improvements or fair share contribution to escrow accounts of APFO road improvements as set forth in Section II above within the APFO approval period, the APFO road approval for the Project shall be vested for the capacity created by the improvements

and shall not be subject to further APFO roadway testing unless there is an increase in Site trips or a significant redistribution of Site traffic because of a change in land use or increase in Site density as defined in the TIA Guidelines (Section 1-20-31(H)).

Public Water and Sewer

Upon completion of the construction of the APFO public water and sewer improvements set forth in Section I above, the APFO water and sewer approvals for the Project shall be vested for the capacity created by the improvements constructed and shall not be subject to further APFO testing unless the density or intensity of water and sewer usage of the Project increases (Sections 1-20-41(E)) and 1-20-51(E)).

While the public water/sewer facilities are currently adequate, or will be adequate upon completion of specified improvements to serve the Project, the Developer recognizes that capacity is not guaranteed until purchased. APFO approval for sewer and water does not guarantee that plats will be recorded and building permits will be issued. Plat recordation and building permit issuance are subject to compliance with the Annotated Code of Maryland, Environment Article Section 9-512, et. seq and all applicable County regulations, including but not limited to §1-16-106 of the Frederick County Subdivision Regulations.

Nothing in this Section IV. shall override or modify the applicable provisions of the County Code.

V. PERIOD OF VALIDITY

The APFO approval is valid for fourteen (14) years from the date of Commission approval; therefore, the APFO approval expires on December 15, 2035.

VI. DISCLAIMER

This Letter pertains to APFO approval only, and shall not be construed to provide any express or implied rights to continue the development process. The Project remains subject to all applicable rules and regulations, including but not limited to those related to zoning, water and sewer, and subdivision. The Planning Commission's jurisdiction and authority is limited by State and County law, and approvals may be required from other local or state governmental agencies before the proposed development can proceed.

[Signatures Next Page]

DEVELOPER: Quantum Maryland, LLC

By: _____ Date: Jan 20, 2023

Developer

FREDERICK COUNTY PLANNING COMMISSION:

By: _____ Date: 2/15/23

Chair or Secretary

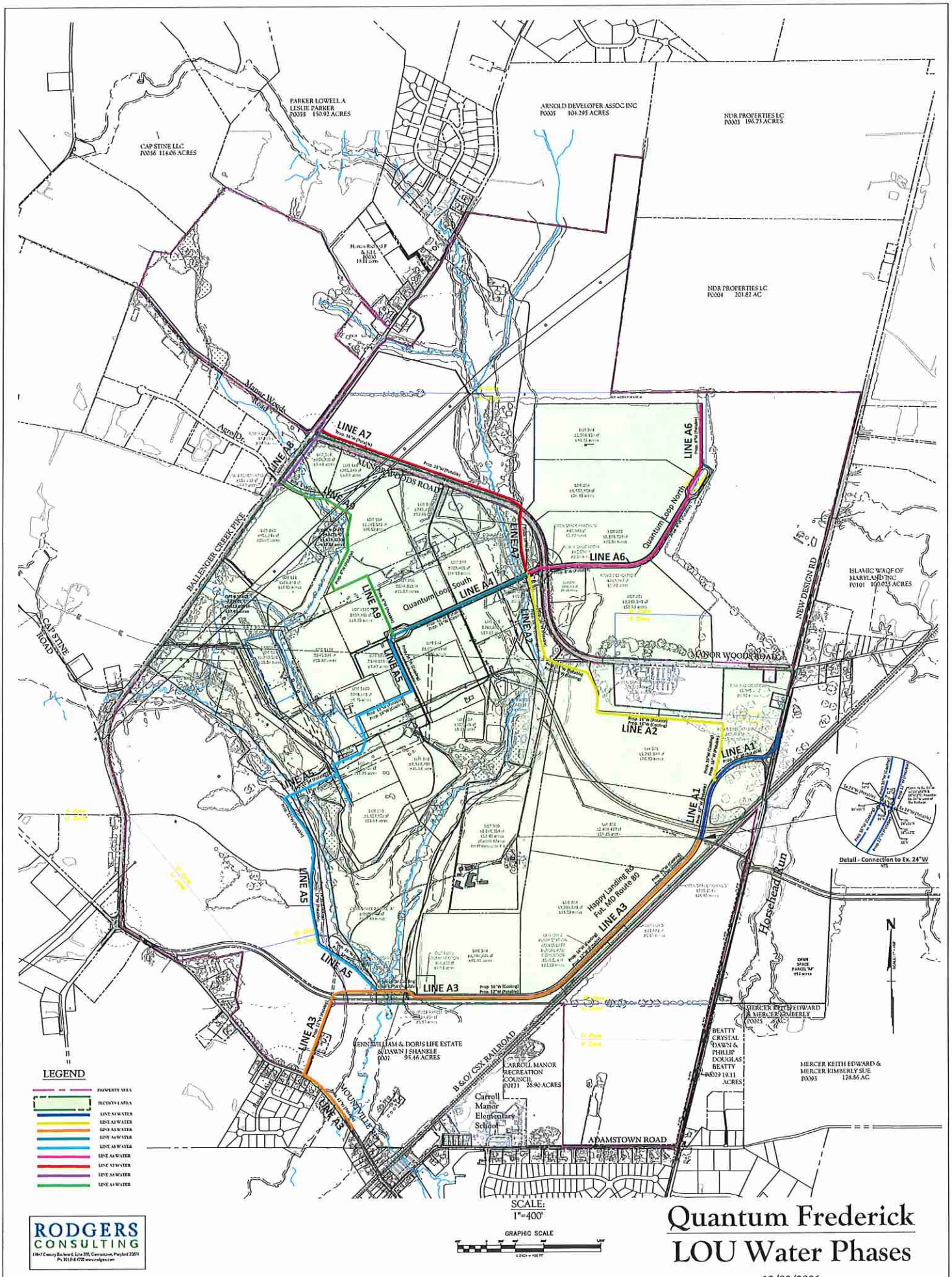
ATTEST:

By: _____ Date: 2/15/23.

Gary Hessong, Deputy Director

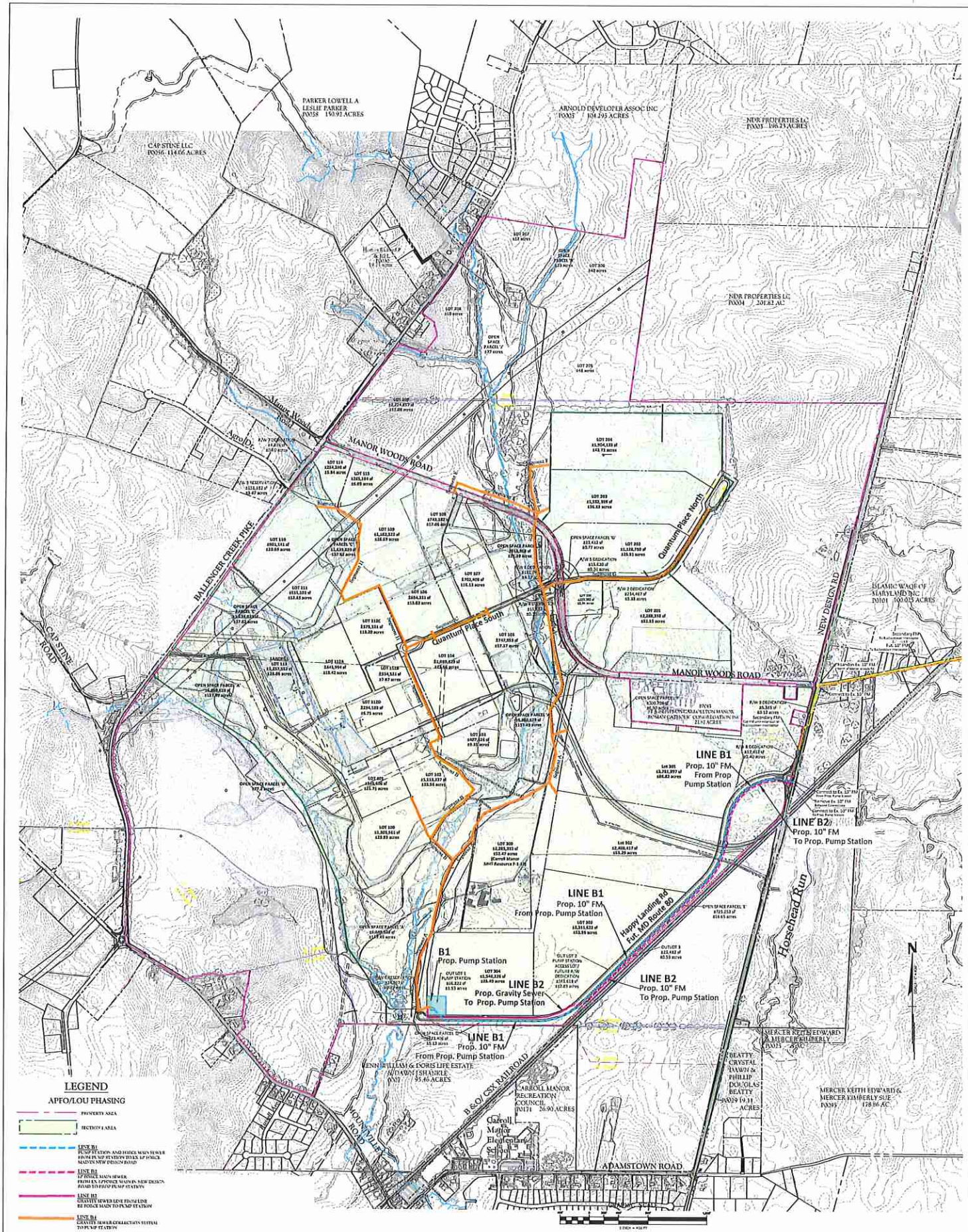
Planner's Initials / Date _____
(Approved for technical content)

County Attorney's Office Initials / Date _____
(Approved as to legal form)



Quantum Frederick
LOU Water Phases

12/03/2021



Quantum Frederick
LOU Sewer Phases

12/03/2021

Quantum Frederick (QF)
Water and Wastewater APFO

Exhibit 3
Water Demand and Wastewater Flow Estimates by Lot

Update
January 19, 2023

Lot Information						Evaporative Cooling					Domestic					Total Max Daily Water Demand	Total Max Daily Wastewater Flow
Lot Number	Usage	Lot Area (Acres)	Building Area (SF)	MW (critical)	Total Occupants	Cooling Water Demand [1]		Cooling Water Blowdown (Wastewater) Flow [2-3]			Water Demand & Wastewater Flow [4-6]				Wastewater Only [7]		
						Max Daily		Max Daily		Peak Hourly	Average Daily		Max Daily		Peak Hourly		
						GPD	GPM	GPD	GPM	GPM	GPD	GPM	GPD	GPM	GPM	MGD	MGD
106 [8]	DC - COLO	15	200,000	30	40	30,863	21.43	12,345	8.57	25.72	1,200	0.83	1,920	1.33	3.33	0.033	0.014
107 [8]	DC - COLO	16	213,333	32	43	32,920	22.86	13,168	9.14	27.43	1,280	0.89	2,048	1.42	3.56	0.035	0.015
108 [8]	DC - ENT	17	226,667	34	45	34,978	24.29	13,991	9.72	29.15	1,360	0.94	2,176	1.51	3.78	0.037	0.016
109 [8]	DC - COLO	27	360,000	54	72	55,553	38.58	22,221	15.43	46.29	2,160	1.50	3,456	2.40	6.00	0.059	0.026
400	DC - ENT	56	746,667	112	149	460,880	320.06	184,352	128.02	384.07	4,480	3.11	7,168	4.98	12.44	0.468	0.192
401	DC - HS	95	1,346,667	190	269	498,738	346.35	199,495	138.54	415.62	8,080	5.61	12,928	8.98	22.44	0.512	0.212
						1,113,931	**774**	**445,572**	**309**	**928**	**18,560**	**13**	**29,696**	**21**	**52**	**1.14**	**0.48**
100	DC - ENT	29	386,667	58	77	238,670	165.74	95,468	66.30	198.89	2,320	1.61	3,712	2.58	6.44	0.24	0.10
101	DC - ENT	22	293,333	44	59	181,060	125.74	72,424	50.29	150.88	1,760	1.22	2,816	1.96	4.89	0.18	0.08
102	DC - ENT	26	360,000	54	72	222,210	154.31	88,884	61.73	185.18	2,160	1.50	3,456	2.40	6.00	0.23	0.09
103	DC - ENT	9	213,333	32	43	131,680	91.44	52,672	36.58	109.73	1,280	0.89	2,048	1.42	3.56	0.13	0.05
104	DC - COLO	24	200,000	30	40	123,450	85.73	49,380	34.29	102.88	1,200	0.83	1,920	1.33	3.33	0.13	0.05
105	DC - COLO	17	213,333	32	43	131,680	91.44	52,672	36.58	109.73	1,280	0.89	2,048	1.42	3.56	0.13	0.05
112 A-D	Substation	47	NA	NA	0	N/A	N/A	N/A	N/A	N/A	0	0.00	0	0.00	0.00	0.00	0.00
						1,028,750	**714**	**411,500**	**286**	**857**	**10,000**	**7**	**16,000**	**11**	**28**	**1.04**	**0.43**
301	DC - HS	87	1,173,333	176	235	724,240	502.94	289,696	201.18	603.53	7,040	4.89	11,264	7.82	19.56	0.74	0.30
302	DC - COLO	55	706,667	106	141	436,190	302.91	174,476	121.16	363.49	4,240	2.94	6,784	4.71	11.78	0.44	0.18
303	DC - COLO	54	680,000	102	136	419,730	291.48	167,892	116.59	349.78	4,080	2.83	6,528	4.53	11.33	0.43	0.17
304	DC - ENT	36	480,000	72	96	296,280	205.75	118,512	82.30	246.90	2,880	2.00	4,608	3.20	8.00	0.30	0.12
						1,876,440	**1,303**	**750,576**	**521**	**1,564**	**18,240**	**13**	**29,184**	**20**	**51**	**1.91**	**0.78**
200	NW Center	5	10,000	2	8	N/A	N/A	N/A	N/A	N/A	240	0.17	384	0.27	0.67	0.00	0.00
201	DC - HS	53	706,667	106	141	436,190	302.91	174,476	121.16	363.49	4,240	2.94	6,784	4.71	11.78	0.44	0.18
202	DC - COLO	26	346,667	52	69	213,980	148.60	85,592	59.44	178.32	2,080	1.44	3,328	2.31	5.78	0.22	0.09
203	DC - ENT	36	346,667	52	69	213,980	148.60	85,592	59.44	178.32	2,080	1.44	3,328	2.31	5.78	0.22	0.09
204	DC - HS	44	586,667	88	117	362,120	251.47	144,848	100.59	301.77	3,520	2.44	5,632	3.91	9.78	0.37	0.15
						1,226,270	**852**	**490,508**	**341**	**1,022**	**12,160**	**8**	**19,456**	**14**	**34**	**1.25**	**0.51**
110	Office	21	180,228	2	601	N/A	N/A	N/A	N/A	N/A	36,046	25.03	57,673	40.05	100.13	0.06	0.06
111	Office	13	110,221	1	367	N/A	N/A	N/A	N/A	N/A	22,044	15.31	35,271	24.49	61.23	0.04	0.04
114	CMkt/Gas	6	7,500	1	8	N/A	N/A	N/A	N/A	N/A	1,350	0.94	2,160	1.50	3.75	0.00	0.00
115	NW Center	6	10,000	2	8	N/A	N/A	N/A	N/A	N/A	240	0.17	384	0.27	0.67	0.00	0.00
						0	**0**	**0**	**0**	**0**	**59,680**	**41**	**95,488**	**66**	**166**	**0.10**	**0.10**
						5,245,391	**3,643**	**2,098,156**	**1,457**	**4,371**	**118,640**	**94**	**189,824**	**132**	**330**	**5.44**	**2.29**
									MGD:	6.29	0.119		189,824		0.47	3.81	
402/403	Ag Lots	0	0	0	0	N/A	N/A	N/A	N/A	N/A	0	0.00	0	0.00	0.00	0.00	0.00

Assumptions/Notes:

1. Cooling water demand estimates were provided by the planning team
2. Cooling water blowdown (wastewater) flow is 40% of cooling water demand
3. The peak factor (PF) for cooling water blowdown (wastewater) is 3
4. Domestic water demands and wastewater flows are equivalen
5. Domestic average daily demands (ADD) & wastewater flows were estimated based on the following flow factors
   Service Stations (Gas): 0.18 GPD / SF of Building Area per Frederick County Design Manual
   Office Spaces: 0.2 GPD / SF of Building Area or 30 GPD / occupant (whichever is greater) per Frederick County Design Manua
   Data Centers: 30 GPD / Occupant
6. Domestic maximum daily demands (MDD) & wastewater flows are 1.6 x ADD
7. The peak factor (PF) for domestic wastewater flow is 4.0 x ADD per MDE guidelines.
8. Lots 106-109 are being developeed as a single entity; cooling water demands for each lot assumed to equal 25% of full buildout for that individual lot

Table 6-1A

Quantum Frederick

Trip Generation (Vehicle Trips) [1] Phase I

Land Use	Size	Units	AM Peak Hour			PM Peak Hour			Weekday ADT	SAT Peak Hour [5]			Saturday ADT
			In	Out	Total	In	Out	Total		In	Out	Total	
Proposed Program Phase I													
Data Center [2]	3,966,667	S.F.	243	193	436	107	248	355	3,925	114	83	196	1,963
Commercial Use [3]	16	VFP	225	224	449	184	183	367	3,688	186	186	372	4,667
Office Use [4]	290,449	S.F.	290	47	337	53	281	334	2,829	83	71	154	642
Total Proposed	4,264,615	S.F.	758	464	1,222	344	712	1,056	10,442	383	340	722	7,272
Overall Total	4,264,615	S.F.	758	464	1,222	344	712	1,056	10,442	383	340	722	7,272

Notes:

1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition.
2. ITE Land Use, Data Center (160), was used to determine vehicle trips for data center.
3. ITE Land Use, Super Convenience Market/Gas Station (960), was used to determine vehicle trips for commercial use.
4. ITE Land Use, General Office Building (710), was used to determine vehicle trips for office use.
5. Since Saturday data center trip generation rates are not available from ITE, it was assumed that Saturday daily trips were 50% of the weekday trips. Saturday midday peak hour trips were calculated based on ITE midday diurnal rates for office (10%).

Table 6-1B

Quantum Frederick

Trip Generation (Vehicle Trips) [1] Phase II

Land Use	Size	Units	AM Peak Hour			PM Peak Hour			Weekday ADT	SAT Peak Hour [3]			Saturday ADT
			In	Out	Total	In	Out	Total		In	Out	Total	
Proposed Program Phase II													
Data Center [2]	9,490,000	S.F.	574	471	1,045	256	599	855	9,396	258	212	470	4,698
Total Proposed	9,490,000	S.F.	574	471	1,045	256	599	855	9,396	258	212	470	4,698
Overall Total	13,754,615	S.F.	1,332	935	2,267	600	1,311	1,911	19,838	641	553	1,192	11,970

Notes:

1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition.
2. ITE Land Use, Data Center (160), was used to determine vehicle trips for data center.
3. Since Saturday data center trip generation rates are not available from ITE, it was assumed that Saturday daily trips were 50% of the weekday trips. Saturday midday peak hour trips were calculated based on ITE midday diurnal rates for office (10%).

Table 6-1C

Quantum Frederick

Trip Generation (Vehicle Trips) [1] Phase III

Land Use	Size	Units	AM Peak Hour			PM Peak Hour			Weekday ADT	SAT Peak Hour [4]			Saturday ADT
			In	Out	Total	In	Out	Total		In	Out	Total	
Proposed Program Phase III													
Data Center [2]	3,946,667	S.F.	238	196	434	105	250	355	3,907	108	87	195	1,954
Office Use [3]	531,432	S.F.	530	86	616	98	513	611	5,176	152	129	281	1,175
Total Proposed	4,478,099	S.F.	768	282	1,050	203	763	966	9,083	260	216	476	3,129
Overall Total	18,232,714	S.F.	2,100	1,217	3,317	803	2,074	2,877	28,921	901	769	1,668	15,098

Notes:

1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition.
2. ITE Land Use, Data Center (160), was used to determine vehicle trips for data center.
3. ITE Land Use, General Office Building (710), was used to determine vehicle trips for office use.
4. Since Saturday data center trip generation rates are not available from ITE, it was assumed that Saturday daily trips were 50% of the weekday trips. Saturday midday peak hour trips were calculated based on ITE midday diurnal rates for office (10%).

ATTACHMENT 1 ACCESS REVIEW AND TRIP SCORECARD SUMMARY

WELLS + ASSOCIATES

MEMORANDUM

1420 Spring Hill Road,
Suite 610,
Tysons, VA 22102
703-917-6620
WellsandAssociates.com

TO: Dylan Gardner
Xiomara Gerlach
Rowan Digital Infrastructure

FROM: Jim Watson, AICP, PTP
Nathaniel Selden, EIT
Wells + Associates, Inc.

RE: Proposed Bauxite Data Center Project
Frederick County, Maryland

Subject: Trip Scorecard Summary – Lots 400 and 401

DATE: October 1, 2023

INTRODUCTION

This memorandum summarizes a trip scorecard summary for Rowan's proposed Bauxite Data Center at Frederick. The purpose of the analysis is to determine if there is sufficient trip availability under Phase I of its current Adequate Public Facilities approvals to permit the new development of Lots 400 and 401 property with a total 772,362 S.F. of data center space. Previous Quantum Frederick trip generation analyses accounted for Phase I of Lots 106-109 with 450,000 S.F. of data center space.

Pursuant to regulatory approvals and Adequate Public Facilities Ordinance (APFO) Letter of Understanding (LOU) with Frederick County, as approved in December 2021 and amended February 2023, the Quantum Frederick development is considered one project for the purposes of determining the adequacy of roads and other facilities. The overall Quantum Frederick development is located on the east side of Ballenger Creek Pike and north of Mountville Road in Frederick County, Maryland, as shown on Exhibit 1. Specifically, Lots 400 and 401 occupy the southwestern most portion of the site, bordering the north side of Mountville Road and the east side of Ballenger Creek Pike.

For the purposes of determining availability of trips for ongoing development activities, the LOU establishes the trip capacity available at any given time through a "trip scorecard", which sets forth the number of AM and PM peak hour trips created by infrastructure improvements made by the developer, less the number of trips used by the developer for existing and planned development activities.

The purpose of this document is to identify the current trip capacity of the combined Quantum Frederick development for comparison against the thresholds established in the LOU to determine if an adequate number of trips are available under Phase I of the development of

772,362 S.F. of data center uses on Lots 400 and 401. This is the second development considered within the overall project. As approved in May 2023, Phase I of Quantum Lot 106 also contributed to the scorecard, generating 50 AM peak hour trips and 41 PM peak hour trips.

PHASE I TRIP THRESHOLD

The December 2021 LOU, amended in February 2023, established a vehicle trip threshold for Phase I of the combined properties as outlined in Table 1 (and referenced in Exhibit 4 of the LOU) and the associated road network improvements based on the anticipated development program. The LOU allows vehicle trips to be transferred among the various properties in order to respond to market conditions.

The LOU sets forth a phasing scheme that allocates new roadway capacity to the overall Quantum Frederick development as the infrastructure requirements listed in each phase are completed. As summarized in Table 1, Phase I permits up to **143 AM peak hour trips and 125 PM peak hour trips** (combined inbound and outbound) to be generated by development that occurs within the combined Quantum Frederick development.

TRIP SCORECARD ANALYSIS

The number of vehicle trips expected to be generated by planned development within the Quantum Frederick property was calculated using standard rates and equations in the Trip Generation Manual published by the Institute of Transportation Engineers (ITE) and consistent with the methodology required by Frederick County. Note that since trip thresholds were established through previous studies, the applicable edition of the trip generation data was applied where appropriate.

The number of peak hour trips expected to be generated by Lots 400 and 401 was estimated based on the development program outlined previously. The analysis is consistent with those utilized in previously approved studies. Based on ITE 10th Edition rates, 772,362 S.F. of data center uses would generate 86 AM peak hour trips and 69 PM peak hour trips. Previously approved development generates 50 AM peak hour trips and 41 PM peak hour trips.

As summarized on Table 1, the development program for the proposed uses, including the previously approved project plus the proposed Bauxite project, is estimated to generate a total of 136 AM peak hour trips and 110 PM peak hour trips. Thus, there is a surplus of 7 AM peak hour trips and 15 PM peak hour trips when compared to the Phase I trip threshold, subsequent to the development of Quantum Lots 400 and 401.

Therefore, the proposed uses can be adequately accommodated within the currently approved trip threshold without any additional road improvements being necessary.

Questions regarding this document should be directed to Wells + Associates.

O:\Projects\8501-9000\8530D Quantum Lots 400-401\Documents\Quantum Frederick Trip Scorecard Summary 10.01.2023.docx

Table 1
Lots 400 and 401
Trip Generation (Vehicle Trips) [1] Scorecard Phase I

Land Use		ITE Land Use Code	Size	Units	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Lots 106-109 Phase I										
Data Center	Data Center	160	450,000	S.F.	28	22	50	12	29	41
Lots 400 and 401										
Building A	Data Center	160	215,724	S.F.	13	11	24	6	13	19
Building B	Data Center	160	119,190	S.F.	7	6	13	3	8	11
Building C	Data Center	160	215,724	S.F.	13	11	24	6	13	19
Building D	Data Center	160	215,724	S.F.	13	11	24	6	13	19
Ancillary Uses	Data Center	160	6,000	S.F.	1	-	1	-	1	1
	Total New Development		772,362	S.F.	47	39	86	21	48	69
				Total All Developments	**75**	**61**	**136**	**33**	**77**	**110**
				Phase I Threshold[2]			**143**			**125**
				Remaining Phase I Trips			**7**			**15**

Notes:

1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition for consistency with approved LOU.
2. Phase I Threshold based on Approved Quantum Frederick APFO LOU.

WELLS + ASSOCIATES

MEMORANDUM

1420 Spring Hill Road,
Suite 610,
Tysons, VA 22102
703-917-6620
WellsandAssociates.com

TO: Dylan Gardner
Xiomara Gerlach
Rowan Digital Infrastructure

FROM: Jim Watson, AICP, PTP
Nathaniel Selden, EIT
Wells + Associates, Inc.

RE: Proposed Bauxite Data Center Project
Frederick County, Maryland

Subject: Access Review – Lots 400 and 401

DATE: October 1, 2023

INTRODUCTION

This memorandum presents a technical analysis of access to Rowan's proposed Bauxite Data Center, located in Frederick County, Maryland. Specifically, this memorandum examines the access requirements for the site to determine the need for deceleration, acceleration, left turn, and/or bypass lanes at the primary Lots 400 and 401 access points. The development is proposed as approximately 772,362 S.F. of data center in four buildings. As shown on Figure 1, the site is located on the southwestern portion of the overall Quantum Frederick site, bordering the north side of Mountville Road and the east side of Ballenger Creek Pike.

One primary access point is proposed to be constructed to serve the traffic to/from the site on Ballenger Creek Pike. Maryland State Highway Administration (SHA) guidelines for site access management were consulted to ensure the access points meet SHA requirements. Figure 2 shows the location and spacing of the access point in relation to nearby intersections. It should be noted that two (2) additional access points (one from Ballenger Creek Pike and one from Mountville Road) are expected to be gated and in use for emergency purposes only and are thus not included in this assessment since day-to-day traffic is not expected to use the additional access points.

TRAFFIC FORECASTS

Trips were generated for the proposed development plan using Institute of Transportation Engineers (ITE) Trip Generation 11th Edition rates. As shown on Table 1, the Lots 400 and 401 development is anticipated to generate 86 AM peak hour trips (47 inbound and 39 outbound) and 69 PM peak hour trips (21 inbound and 48 outbound). Base traffic forecasts pulled from the approved 2021 Transportation Impact Analysis.

SHA STANDARDS

SHA provides standards guiding access management in its Access Manual. Specifically, Sections 4.3, 4.4, and 4.5 of the Access Manual examine the requirements and standards for deceleration lanes, acceleration lanes, and left turn and bypass lanes, respectively. Generally, SHA's requirements for deceleration, acceleration, left turn, and bypass lanes are dictated by the following:

- Type of access (Controlled or Uncontrolled)
- Type of highway (Primary or Secondary)
- Type of property (Commercial or Residential)
- Type of Area (Rural or Developed)
- Speed limit
- Peak hour turning volume
- Traffic volume on highway (for left turn and bypass lanes only)

Further, Section 1.4 of SHA's Access Manual requires commercial entrances to maintain a minimum corner distance of 100 feet from adjacent intersections and interchanges.

LOTS 400 AND 401 ACCESS REQUIREMENTS

Ballenger Creek Pike is a Frederick County roadway classified as a Minor Arterial adjacent to the site. The proposed primary access point is anticipated to be a stop-controlled commercial entrance and the surrounding area is generally rural. The requirements are summarized on Figure 2 and the Attachments and show the following as necessary per SHA Access Manual standards:

- 250-foot Partial Deceleration Lane
  - 150-foot approach lane
  - 100-foot taper
- Approximate distance from nearby roadways:
  - 2,915 feet from Cap Stine Road
  - 485 feet from Mountville Road

While SHA standards for acceleration lanes and left turn or bypass lanes are not met with this access location, the following additional improvements at the primary access point are planned to be implemented per discussions with Frederick County staff:

- 250-foot Partial Acceleration Lane
  - 100-foot departure lane
  - 150-foot taper
- 250-foot Partial Deceleration Left Turn Lane
  - 150-foot approach lane
  - 100-foot taper

Improvement are not required for the secondary access points since they are expected to be gated and not used on a day-to-day basis.

CONCLUSIONS

The planned primary access point provides enough clearance from other intersections to accommodate the partial deceleration lane as outlined in SHA's Access Management requirements.

Questions regarding this document should be directed to Wells + Associates.

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Table 1
Lots 400 and 401
Trip Generation (Vehicle Trips) [1]

Land Use		ITE Land Use Code	Size	Units	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Lots 400 and 401										
Building A	Data Center	160	215,724	S.F.	13	11	24	6	13	19
Building B	Data Center	160	119,190	S.F.	7	6	13	3	8	11
Building C	Data Center	160	215,724	S.F.	13	11	24	6	13	19
Building D	Data Center	160	215,724	S.F.	13	11	24	6	13	19
Ancillary Uses	Data Center	160	6,000	S.F.	1	-	1	-	1	1
	Total New Development		**772,362**	**S.F.**	**47**	**39**	**86**	**21**	**48**	**69**

Notes:

1. Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition for consistency with approved LOU.

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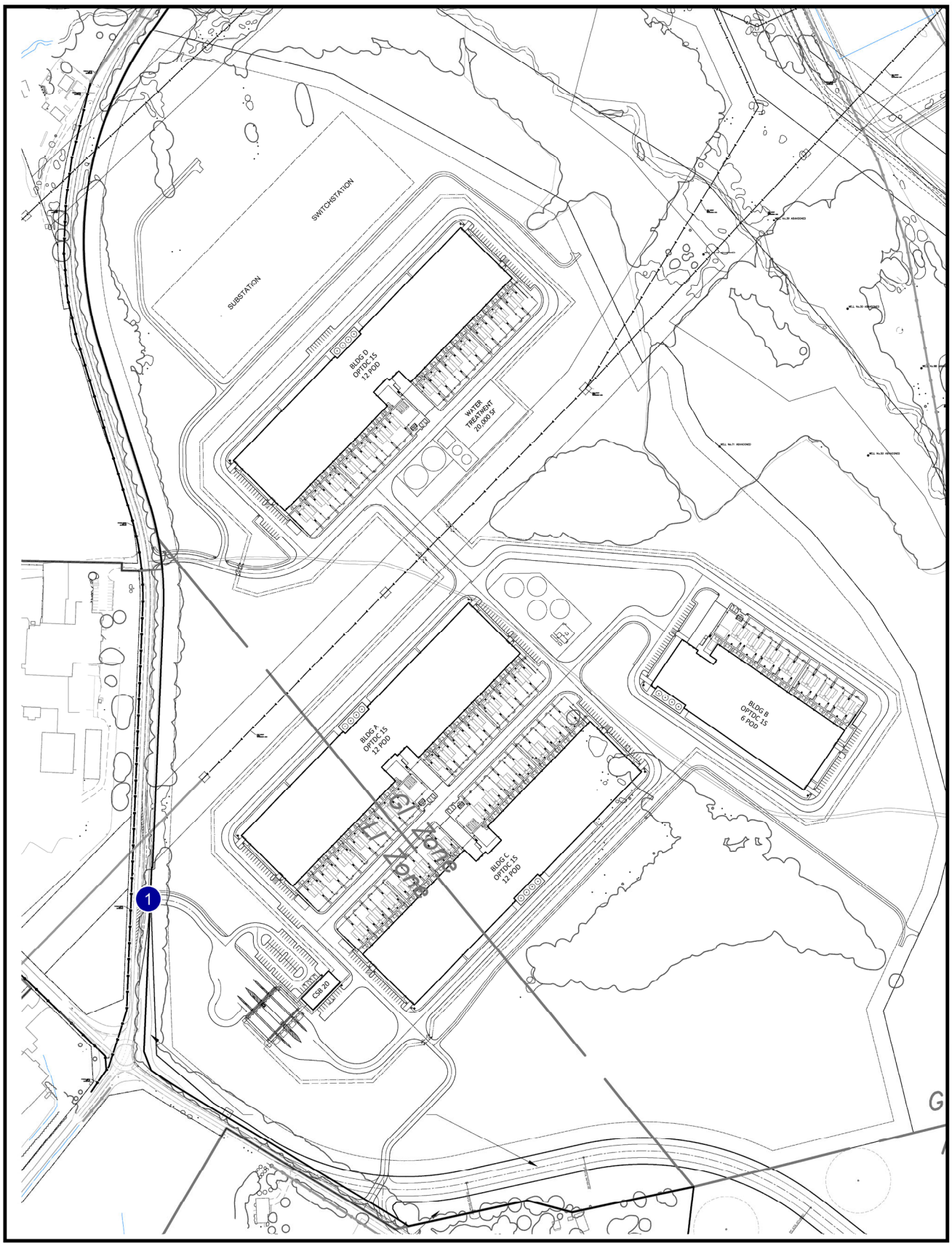


Figure 1
Site Location
Site plan provided by Rogers Consulting

X Study Intersection

NORTH

Lots 400 and 401
Frederick County, Maryland

O:\PROJECTS\8501-9000\8530D QUANTUM LOTS 400-401\GRAPHICS\LOTS 400 AND 401 SITE PLAN.2.DWG

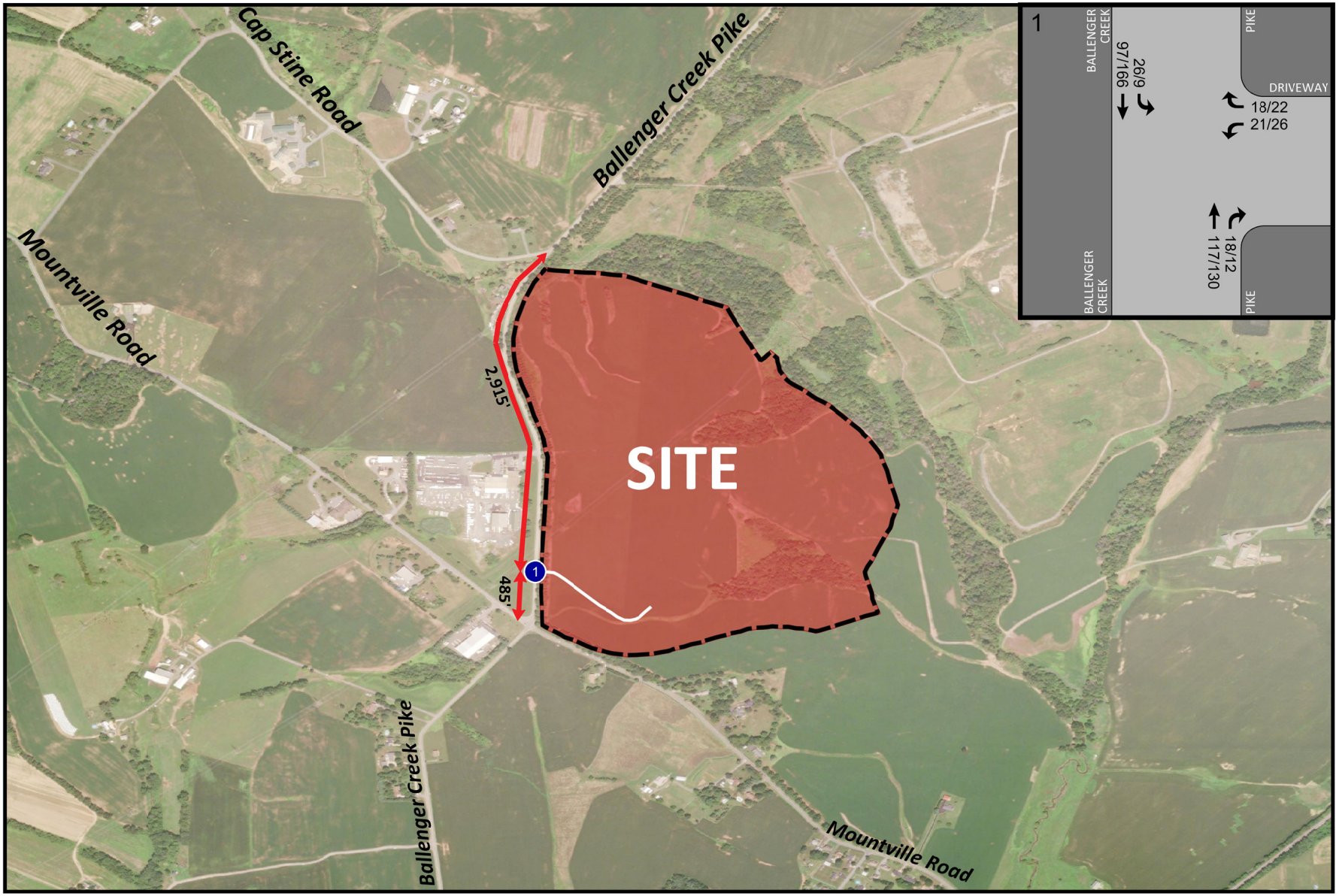
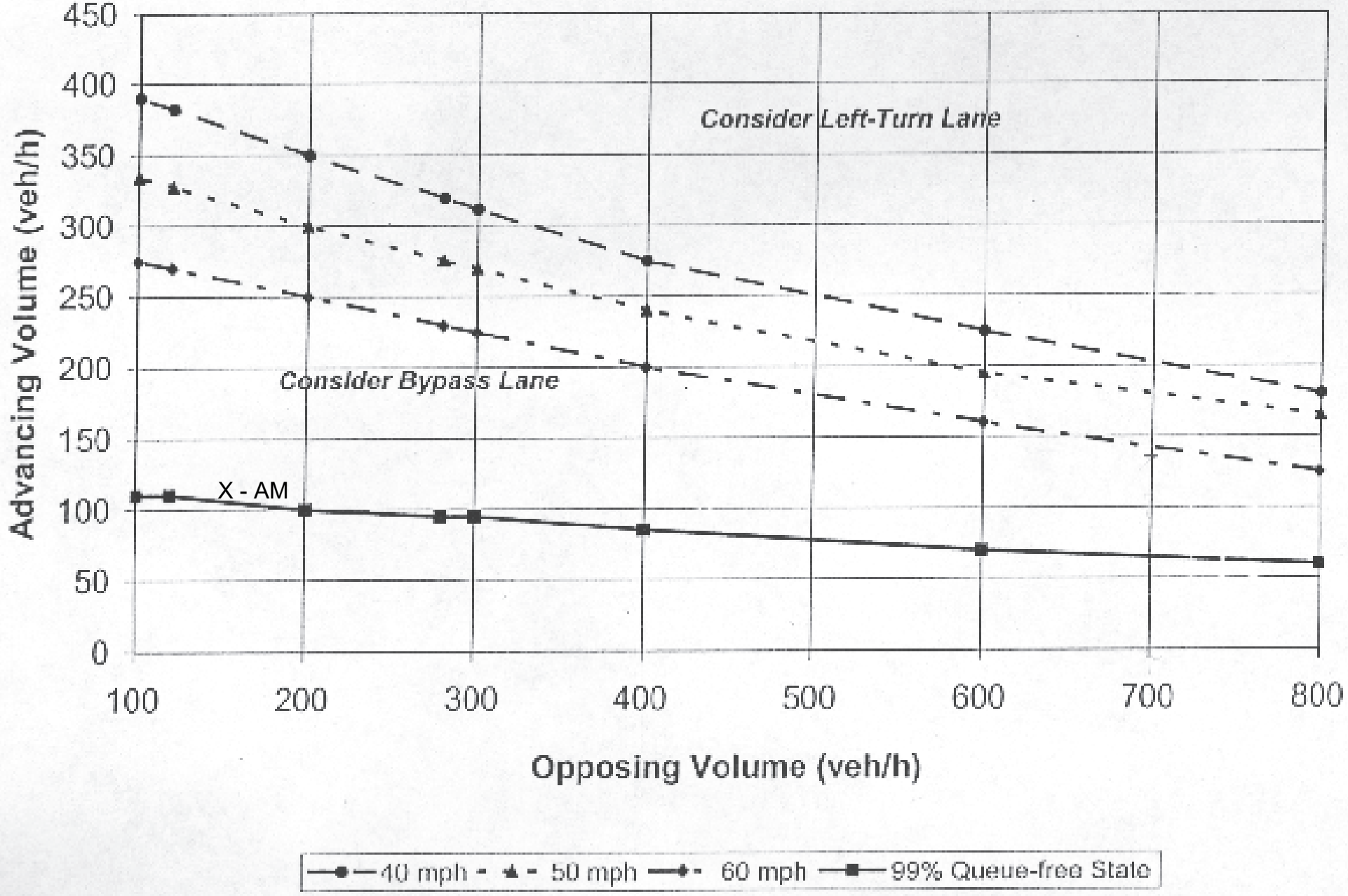


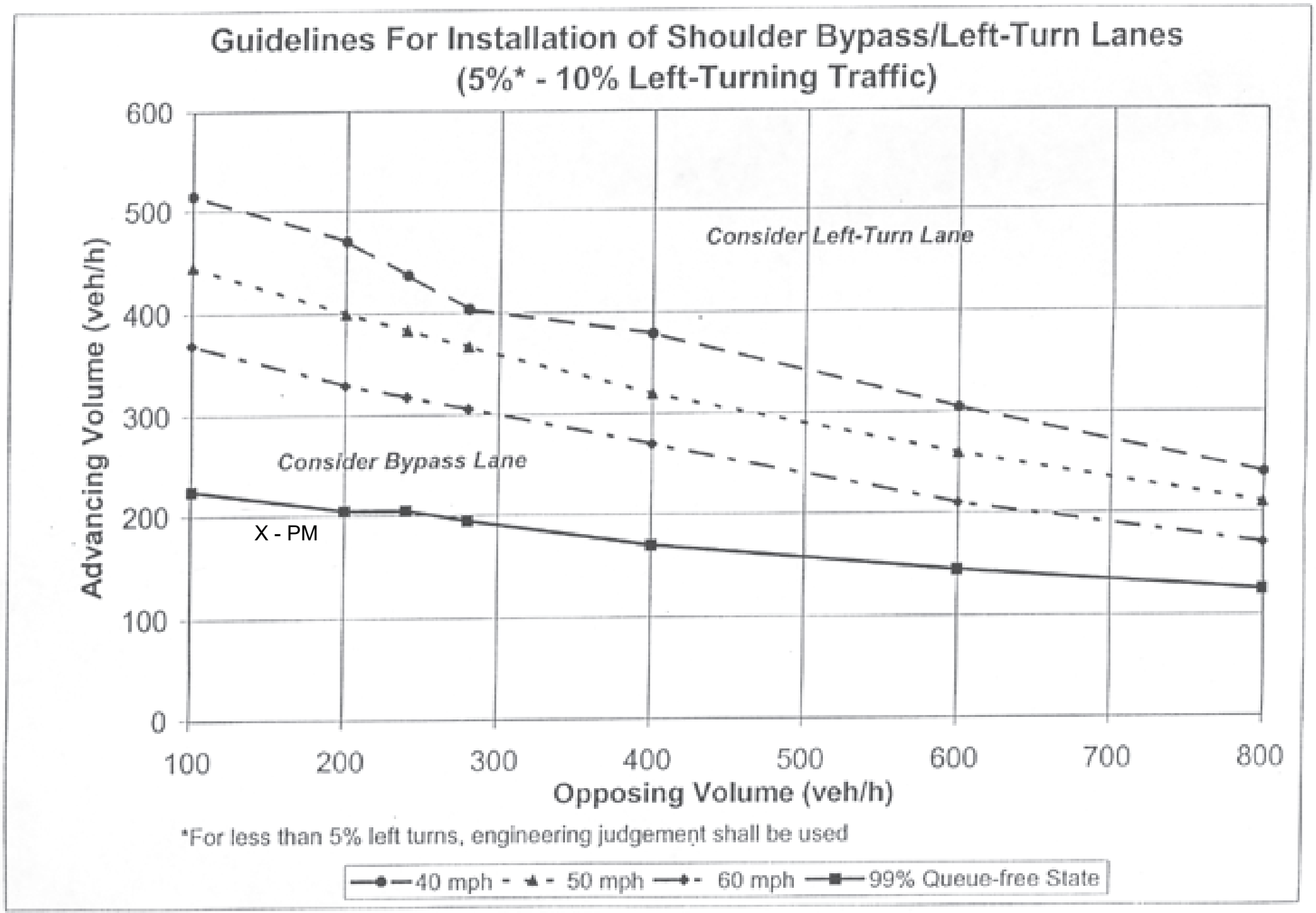
Figure 2
Roadway Conditions

Study Intersection
Distance to Adjacent Intersection
AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH
Lots 400 and 401
Frederick County, Maryland

Guidelines For Installation of Shoulder Bypass/Left-Turn Lanes
(10% - 20% Left-Turning Traffic)




Guidelines For Installation of Shoulder Bypass/Left-Turn Lanes
(5%* - 10% Left-Turning Traffic)
Advancing Volume (veh/h)
600
500
400
300
200
100
0
Consider Left-Turn Lane
Consider Bypass Lane
X - PM
100
200
300
400
500
600
700
800
Opposing Volume (veh/h)
*For less than 5% left turns, engineering judgement shall be used
40 mph
50 mph
60 mph
99% Queue-free State

rowan
digital infrastructure

Rowan Frederick - Bauxite Data Center

January 10, 2023

About Rowan

Rowan is a Build to Suit (BTS) data center developer delivering powered shells to hyperscale cloud customers who share our sustainability goals.

- **Industry Veterans**: Rowan's team includes decades of experience from hyperscale data center developers including the largest cloud companies.

- **Partners in Sustainability:** We advance our customers' net zero goals through 100% renewable energy access, responsible resource stewardship, and sustainable materials and construction practices. We are funded via an Article 9 Fund (European sustainability standard) and our sustainability efforts are ingrained in every facet of our delivery and operations.

Our Key Differentiator: Dark Green Standards & Social Responsibility

- The use of healthy materials is required for each data hall.
  - Interior materials will have low formaldehyde and volatile organic compounds.
- Develop waste management and reduction plans for every project:
  - Includes recycling of at least 70% of non-hazardous construction material.
- Avoid & mitigate negative impact to sensitive environmental areas, wetlands, or endangered flora/fauna
  - Additionally, there will be a net increase of trees on our land.
- Rowan maintains a strict Human Rights Policy, to ensure our supply chain is free from human rights violations.
- We have built and maintain a robust due diligence and reporting system to ensure all our vendors are socially responsible.

Rowan's Design Criteria – Prioritizing harmonic DC development in Frederick

Rowan's design focuses on sustainability and stewardship

- Before initiating project design, the project team conducted extensive studies and site characterization.
- Rowan voluntarily restricted its own use of all potentially buildable areas to mitigate potential negative impacts to neighbors and natural features:
  - Design criteria prioritized preservation and avoidance of existing natural features such as wetlands, forested areas, existing tree lines, and sensitive natural habitats.
  - To address potential neighbor concerns, expanded buffers were considered from adjacent residential properties.
- Careful consideration given to building orientation to minimize the public's visibility of unmitigated building facades.

Photo: Frederick News Post

Bauxite Data Center

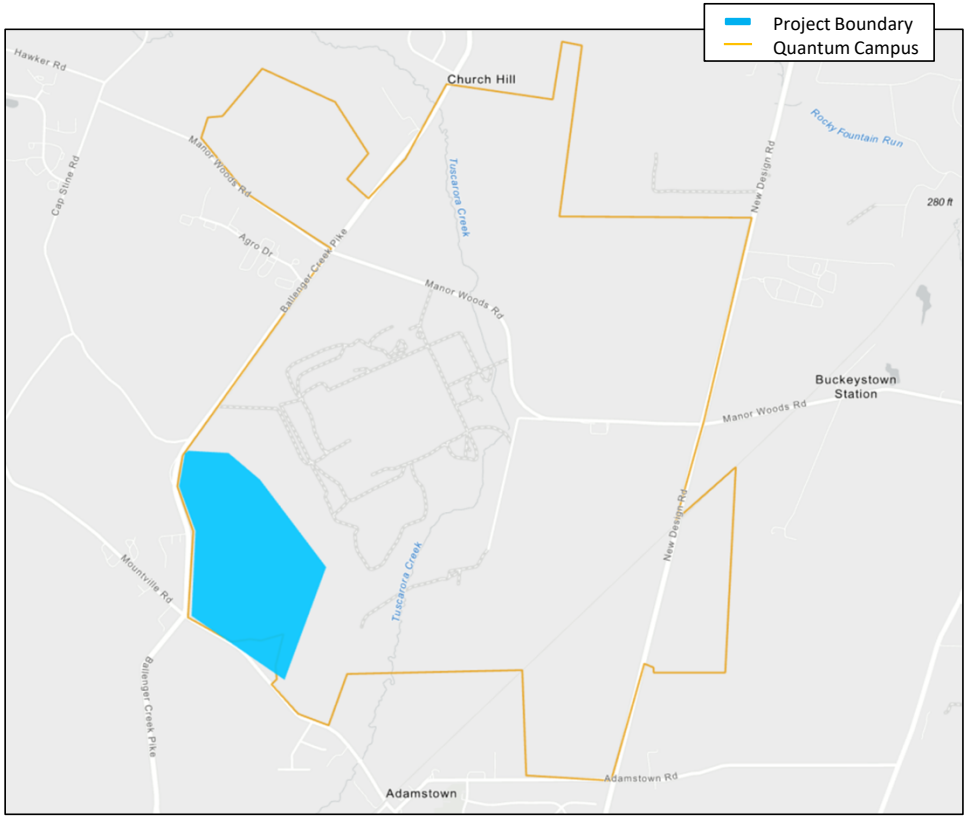
SITE LOCATION

Bauxite Data Center is a 151-acre site located north and east of the intersection of Ballenger Creek Pike and Mountville RD

SITE LAYOUT

Proposed infra utilizes ~53 acres of out a total of 151 acres at the site:

- 4 data center buildings
- 1 security building at the main site entrance
- 1 Auxiliary water building
- 777,000 SF of building footprint
- ~10.5 acres of new forest plantings
- Parking areas and driveways
- Water storage and blowdown attenuation facilities
- Utility yard for emergency back up generators (use subject to permitting)
- Stormwater management areas
- An adjacent 6-acre project substation (by Potomac Edison)



Bauxite Data Center- Site Plan

BAUXITE RENDERED SITEPLAN

GRAPHIC SCALE

HKS rowan digital infrastructure

Design and Impact Mitigation

Rowan is **committed to mitigating negative impacts** to the community & its natural resources:

DESIGN:

- Enhanced property line buffers and extensive native vegetation plantings
- Reduced project footprint from 5 to 4 single story buildings
- Preserve existing vegetation to the extent practicable
- Avoidance of natural features and sensitive areas to the extent practicable
- Berming along SE project boundary further minimizes visual and noise impacts
- Increased sizing of stormwater features to accommodate climate variances

AIR & SOUND:

- If utilized, emergency back up generators will be USEPA Tier 4 air emissions compliant with sound mitigation enclosures. Dedicated sound barriers will be implemented in the facility design
- Reduce dust emissions and noise during construction
- Transportation and delivery planning

WATER:

- Cooling system is designed to reuse water (2-3X)
- Utilize municipal (Frederick Co) water allocation and on site water storage to reduce daily water intake and meet water allocation
- Long term planning includes consideration of reclaimed industrial water usage

BUILDING MATERIALS:

- Recycled steel and green concrete (lower embodied carbon options) use when practicable

Design and Impact Mitigation (cont.)

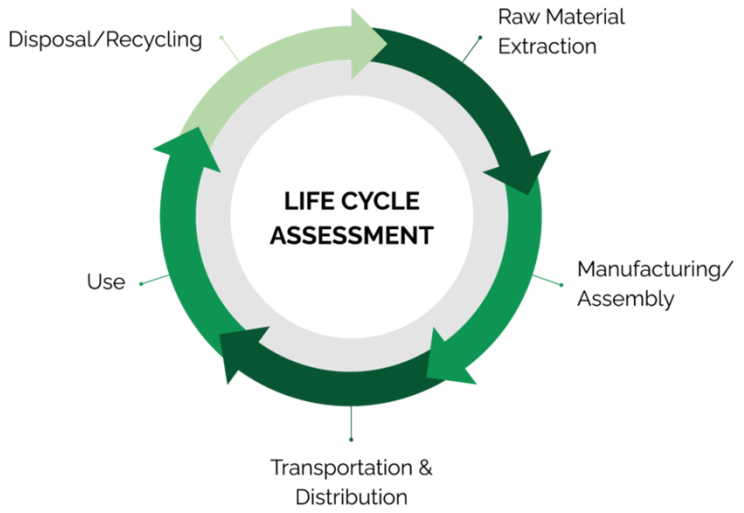
Rowan is **committed to mitigating negative impacts** to the community & its natural resources:

STORMWATER MANAGEMENT:

- Environmental site design includes planting of submerged gravel wetlands selected due to their excellent pollutant removal capabilities.
- Pollutant removal efficiencies removes 80% of sediments, 66% Phosphorus an 56% Nitrogen.
- These facilities are designed with oversized forebays to provide resiliency, better removal of solids and to provide attenuation for larger storms.
- To address runoff concerns from downstream property owners, large storm attenuation is provided to reduce the peak outflow from the site.
- At each discharge point (located at existing site discharge points) the proposed runoff rate is lower than the predeveloped (meadows) runoff for the 10-year and 100-year storms based on NOAAs updated runoff rates.
- These measures result in reduced runoff rates compared with the current land use and consistent with rates associated with meadows for design storms.

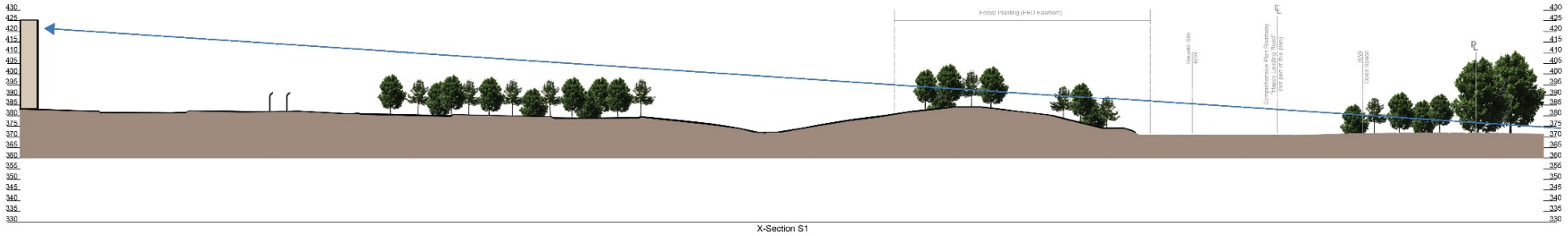
Dark Green Sustainability Standards

- The tenant will procure **100% renewable power** for the whole campus.
- Each data hall is being designed for maximum efficiency. Our goal is to comply with the **2018 International Energy Conservation Code**.
- **Low-carbon concrete** will be used to decrease the campus's carbon footprint.
- A Life Cycle Assessment will be done to **assess and verify our entire project's carbon footprint and overall sustainability,** from sourcing materials to deconstructing and reusing certain parts of the campus.
- Project layout allows sufficient space for future grey water use for the cooling system, which would significantly reduce our use of potable water.

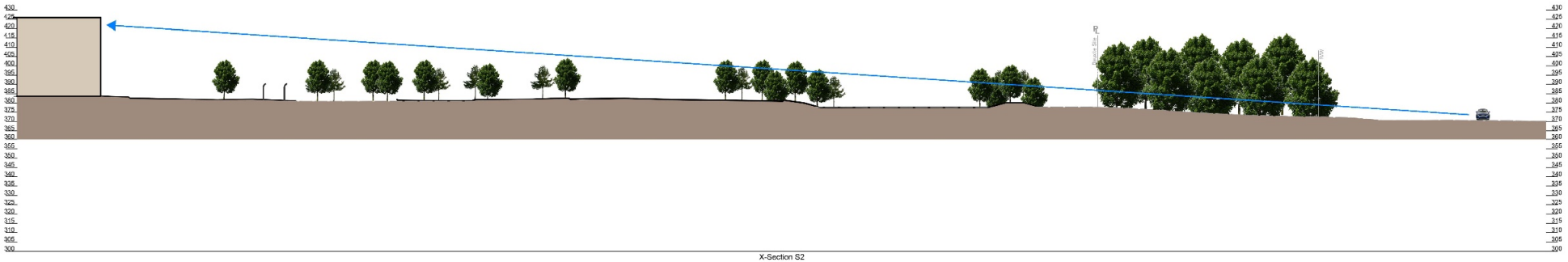


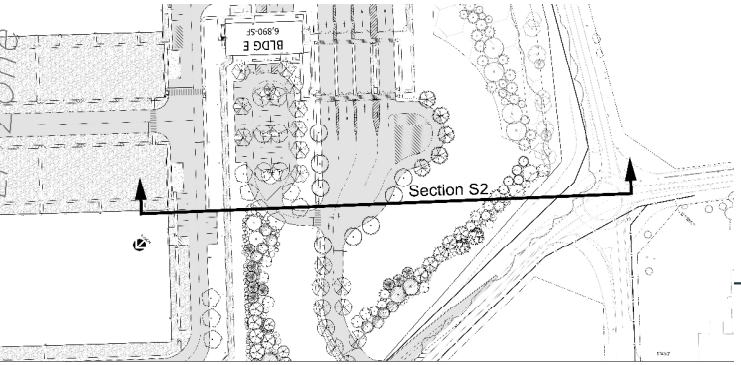
Visual Screenings

Section view of site – From adjacent property on SE Boundary

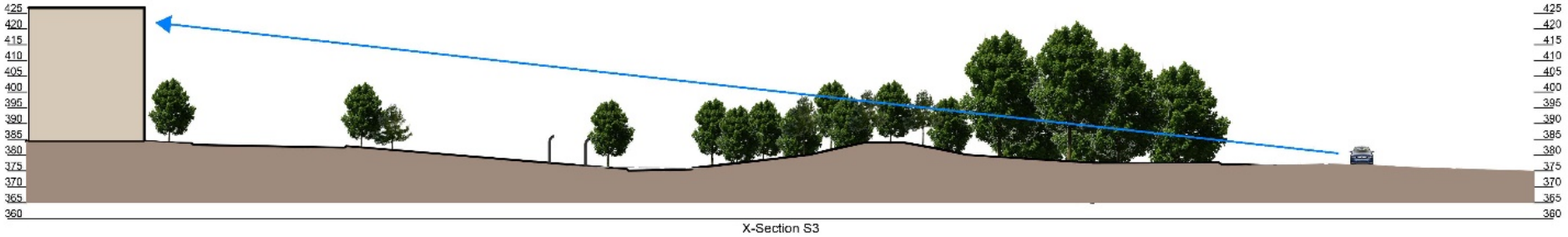


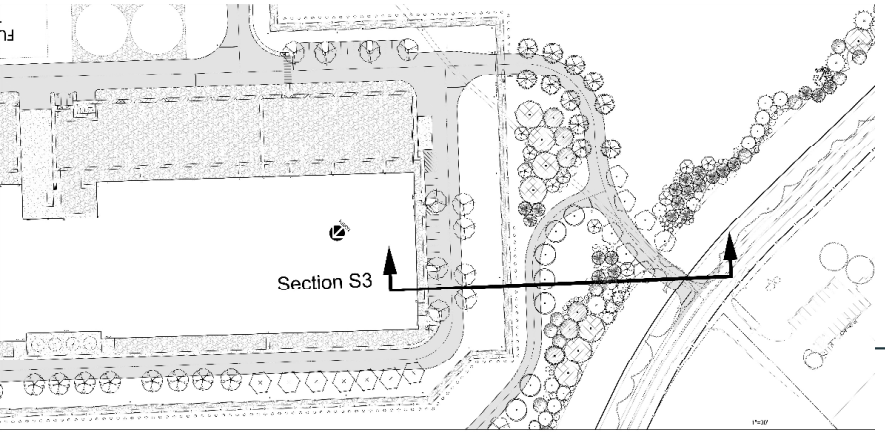
Section view of site – Along Site Entrance on Mountville Rd





Section view of site – Along Existing Power Line ROW from Mountville Rd





Community Engagement: We believe in transparency and open communication

- Early engagement with planning staff allowed Rowan to understand planning and community concerns.
- Rowan held a community open house on October 24, 2023 at Camp Shoresh, Adamstown, with 75 members of the community attending;
  - Post mailed nearly 600 notification letters to all landowners within a mile radius of project site;
  - Engaged many key stakeholders to hold meaningful conversations about the project and answer questions
- Rowan implemented additional mitigation measures along the SE project boundary (i.e. earth berming and additional vegetative screening) in response to feedback.

Community Engagement: We believe in transparency and open communication

- Building meaningful relationships in the community with **early** and **upfront** information sharing and engagement.
- Understand big issues facing community
- Address initial questions about project
- Explore opportunities to collaborate long-term
- Keep community up-to-date
- Developed information sharing website: www.rowanfrederick.com

DISCLAIMER: The above logos are intended to represent all organizations that Rowan conducted outreach to; their inclusion on this slide is not necessarily indicative of project support.

Positive Impacts to Community

LOCAL JOB CREATION

- The Frederick County region is a global leader in emerging technology and has a ready and talented workforce that can support this industry for decades to come. We plan to leverage that workforce to build and operate this data center.

~800
Peak Construction Jobs

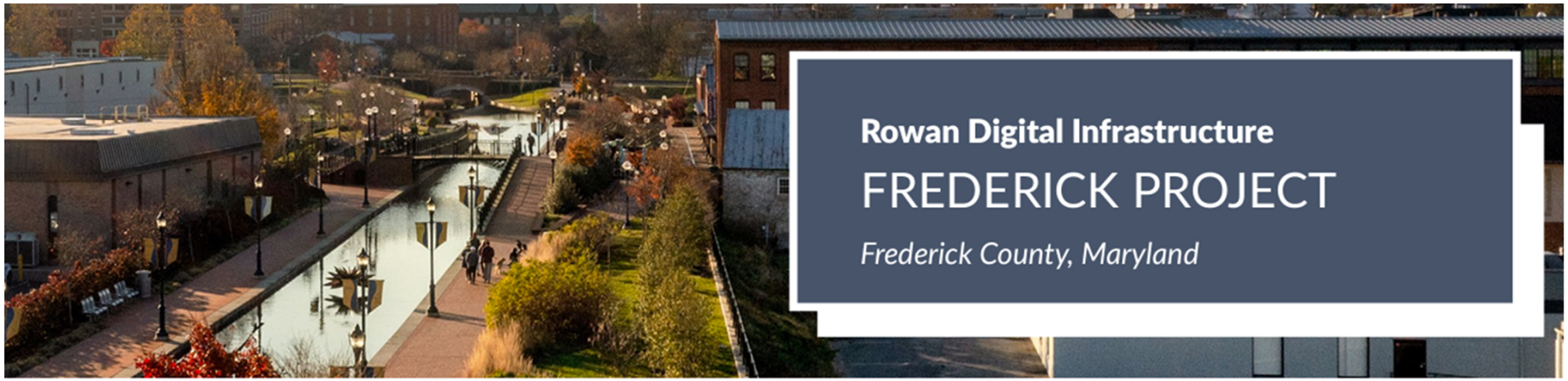
~100
Permanent Jobs

ECONOMIC & FISCAL BENEFITS

- Tax dollars from this project will support local schools, law enforcement, and other shared priorities. Third-party economic analysis suggests that projects like this can provide very significant economic and fiscal benefits to the region and state.

$775 Million+
Initial Investment

~$6.9 Million Annually
Frederick County Tax Revenue



rowan.digital • always on • always green

Bauxite Data Center

Narrative to Accompany Site Development Plan Application to Frederick County

PREPARED FOR
Rowan Digital Infrastructure

DATE
November 30, 2023

REFERENCE
0682878

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1. PROJECT AND APPLICANT OVERVIEW

TABLE 1 PROJECT OVERVIEW

Applicant	Rowan Frederick, LLC
Applicant Contact	Xiomara C. Gerlach, Director - Rowan Digital Infrastructure xgerlach@rowan.digital; 231-944-2013 Kyle Hoover, Senior Manager khoover@rowan.digital; 704-898-1636
Property Owner	Quantum Maryland, LLC
Proposed Action	Site plan approval to construct a Critical Digital Infrastructure Facility of 777,151 gross square feet on a property of approximately 151.27 acres.
Project Site	The Project Site is Lot 400 as shown on the First Revision to the Quantum Frederick Section 2 Preliminary Plan, under review concurrently with this Site Plan. The Project Site was previously designated as Lots 400 and 401 on the Quantum Frederick Section 2 Preliminary Plan PP273777, approved on February 8, 2023.
Project Footprint	Buildings, private roads, support infrastructure, parking and stormwater management will occupy approximately 53.23 acres of the 151.17-acre site.
Green Space	Landscaped areas, forest planting areas, forest preservation areas, and areas to be maintained as lawn between and around buildings will occupy approximately 91.78 acres of the site. In addition, a 6.16-acre site is reserved for a future substation.
Current Land Use	The Project Site is currently agricultural cropland, with treelines along the frontage of Ballenger Creek Pike and Mountville Road, and two forested areas interior to the site. The northern tip of the Site contains 100-year floodplain associated with a stream north and east of the Site. Two overhead transmission lines cross the site.

Rowan Frederick LLC (Rowan, Rowan Frederick, or the Applicant) is pleased to provide this narrative in support of its application to Frederick County for site development plan (Site Plan) approval for the Bauxite Data Center (the Project). The Site Plan and materials included with this application demonstrate compliance with applicable standards of the Frederick County Code, including 1-19-8.402, Critical Digital Infrastructure Facilities in the LI and GI District; other applicable sections of the Zoning Ordinance; the Adequate Public Facilities Ordinance; and the Forest Conservation Ordinance. Project design reflects the guidance provided by the Frederick County Building and Site Design Guidelines for Critical Digital Infrastructure (May 2022).

The Bauxite Data Center will consist of four data center buildings, a Security Building, an auxiliary water building, water storage facilities, 252 parking spaces, internal pedestrian and vehicle circulation, and three driveway entrances onto public roads. A fenced utility yard for potential

placement of emergency back-up power (i.e., emergency back-up generators) is shown adjacent to each of the six buildings. Additional information on potential back-up generators is provided in the Environmental Noise Assessment.

A separate Site Plan for a proposed substation on the Project Site will be submitted. The substation will include a connection to an existing overhead transmission line owned and operated by Potomac Edison that crosses the Site near the northern property line.

2. PROJECT CONTEXT

2.1 LAND USE AND ZONING

The Bauxite Data Center is proposed for a site of 151.17 acres within Quantum Frederick, a tract of approximately 2,125 acres intended for data center development. The preliminary subdivision plan for Section 2 of Quantum Frederick, approved by the Planning Commission on February 8, 2023, included 4 lots and 3 open space parcels on 258.67 acres (PP273777). A revised preliminary plan is in review concurrently with this Site Plan and combines Lots 400 and 401 on the approved plan into a single Lot 400 to support the proposed use. The Project occupies the proposed Lot 400 as shown on the preliminary plan revision.

Surrounding zoning and land uses include (see Site Plan Cover Sheet):

- Proposed open space within Quantum Frederick Section 1 to the east. Quantum Frederick Section 1, including the proposed open space lot, is in the GI (General Industrial) zoning district.
- Proposed Lot 402 of Quantum Frederick Section 2 to the southeast. Proposed Lot 402 is in the Agricultural zoning district.
- Mountville Road, the future right-of-way of MD Route 80 (Happy Landing Road), and rural residential and agricultural properties within the Agricultural zoning district to the southwest.
- Industrial land use within the LI (Light Industrial) zoning district across Ballenger Creek Pike to the west.
- Agricultural and rural residential land uses in the Agricultural zoning district across Ballenger Creek Pike to the northwest.

The Site Plan appropriately addresses the Project's land use context with protection of existing vegetation to the extent practicable and new landscape buffers where the Project site abuts or is across a road from rural residential and agricultural land uses. Visual simulations from public road viewpoints to the south and west of the Project Site are provided with the Site Plan and demonstrate that the Project structures will be substantially screened by existing vegetation, planned plantings, and topography.

The Project's site design avoids impacts to the forested areas and streams on the site, and minimizes negative impacts to neighboring properties through avoidance, minimization and mitigation strategies. For instance, the Applicant initially considered a concept plan for the Project Site with six data center buildings. Although this concept complied with required setbacks and avoided environmentally sensitive areas, Rowan Frederick voluntarily implemented deeper

setbacks, berms, and substantial landscape buffers. Accordingly, this Site Plan proposes four data center buildings and provides landscaped buffers wider than the required setbacks from adjoining roads and agriculturally zoned land. The Site Plan also maximizes the visual buffering of water storage tanks, utility yards, and the connection to the existing electric power line by placing these features in locations interior to the Project Site to the extent practicable.

2.2 LIVABLE FREDERICK MASTER PLAN

The Project site is suitably located for data center development based upon Frederick County planning policies and adopted plans. The property is part of the "Eastalco Growth Area" in the 2019 Livable Frederick Master Plan (LFMP) and is designated for industrial use on the County's Comprehensive Plan map. The LFMP notes: "This [Eastalco Growth] area is currently the largest concentration of undeveloped land in the county zoned for general and/or light industrial development and presents a unique opportunity for future development."

The LFMP notes the need for more detailed planning for the Eastalco Growth Area, reflected in the County's Livable Frederick Work Program (LFWP), which calls for commencement of work on a small area plan for the Eastalco Growth Area during the 2023-2025 time period. Although the Frederick County Planning Department has not publicly commenced work on this small area plan, the Site Plan, studies, and outreach efforts conducted for the Project contribute to planning goals recommended by the LFMP as described below.

2.2.1 COMMUNITY OUTREACH AND ENGAGEMENT

Rowan Frederick has established and will maintain ongoing avenues for community engagement.

Rowan Frederick hosted a community open house on October 24, 2023, at Camp Shoresh in Adamstown, Maryland. The open house was attended by approximately 75 community residents and others interested in the Project. The open house provided an opportunity to introduce the Project to the community, share information and receive feedback. Similar to a career fair or health fair, the open house included informational stations highlighting components of the Project such as the role of data centers; community benefits; environmental stewardship and management; architectural and landscape design; and Project timeline. Project representatives staffed the stations and were available to discuss the Project and respond to questions. Rowan advertised the open house through the local print newspaper (Frederick News-Post) and mailed nearly 400 invitation letters to property owners proximal to the Project site.

Rowan is committed to continuing engagement with residents, community leaders and other area stakeholders. To facilitate these efforts, Rowan has established a Project-specific website (www.rowanfrederick.com), which provides additional informational materials and provides an inquiry form to contact the Project team. Rowan will continue to meet with a variety of stakeholders throughout the planning, permitting, construction and operational phases of the Project.

2.2.2 INFRASTRUCTURE COMPONENT

The timing and funding of public facilities necessary to support development will be a key part of the Eastalco area plan. The Project site is part of the Quantum Frederick subdivision which was approved based upon extensive study of the necessary utilities and roads.

- The Adequate Public Facilities Ordinance Letter of Understanding (APFO LOU) for Quantum Section 1 was approved on December 15, 2021. An Amended and Restated APFO LOU was approved for Quantum Sections 1 and 2 on February 8, 2023, and includes the Project Site.
- The Amended and Restated APFO LOU establishes phased implementation of road, water, and sewer infrastructure based upon the results of detailed studies. The LOU provides for two phases of water and sewer infrastructure improvements and four phases of road improvements. The proposed Site Plan is tied to Phase 1 for both water and sewer infrastructure and roads.

2.2.3 POTENTIAL LAND USE MIX

The Eastalco area plan will provide an assessment of potential land use mix, including physical design, neighborhood impacts, public facility adequacy, alternate land use scenarios, opportunities to address countywide planning challenges, and development feasibility. The LFWP notes that the Eastalco/QL Planning Area could "accommodate growth in Frederick County in a sustainable and efficient form that supports overall conservation of rural land and minimizes public infrastructure investment."

- The Project site is zoned GI (General Industrial) and LI (Limited Industrial). Data centers are permitted by right in the GI and LI districts under the provisions for "Critical digital infrastructure facility" in § 1-19-5.310 and § 1-19-8.402 of the Zoning Ordinance. Section 3 addresses specific zoning requirements.
- The Project Site is within a context of industrial and rural land uses and has been zoned for industrial use since 1967. The proposed Project generates activity, noise, and traffic at a level lower than typical business and industrial land uses allowable within the GI and LI zoning districts. The GI and LI zoning districts allow office, manufacturing, warehouse and distribution uses as well as certain commercial uses such as gas stations, vehicle repair and medical offices. The LI zoning allows a wider range of commercial uses than GI, including commercial schools, health clubs, movie theaters, taverns and restaurants. LI zoning allows limited manufacturing and assembly, while GI zoning allows general manufacturing and outdoor materials or contractor storage yards.
- Project operations will not be open to the public and will generate only employee and occasional visitor traffic. The Project during operations will require very little truck traffic as compared to most manufacturing and warehouse uses, resulting in minimal impacts on vicinal roads and properties from engine noise, exhaust fumes and truck movements. An analysis by Wells + Associates dated August 25, 2023, estimates Project operational traffic at 86 vehicle trips during the morning peak hour and 69 vehicle trips during evening peak hour (See Attachment 1).
- The Site Plan reflects the land use context in providing substantial setbacks and well-designed landscaped buffers along the Project boundaries close to rural land uses.
- Adequate water and sewer utilities for the Site were planned as part of the Quantum Frederick preliminary subdivision plan, as explained in Section 5.2.
- The Project advances the goal of realizing the economic potential of the long-established industrial zoning within the Eastalco Growth Area.

2.2.4 HISTORIC AND CULTURAL COMPONENT

The LFMP calls for the Eastalco area plan to provide a preservation component, with a review of historic sites and archaeological resources, viewsheds and cultural characteristics (identification, documentation, and preservation when appropriate. The Applicant contracted with ERM, Inc. (ERM) to conduct a Cultural Resources Desktop Assessment prior to Site Plan submittal. The survey identified architectural resources within a one-mile radius that include Carrollton Manor and historic resources that are eligible or have been recommended as eligible for listing in the National Register of Historic Places. No archaeological sites or architectural resources were identified within the Project boundary. Architectural resources have limited views of the Site due to distance, topography, and existing vegetation. Proposed forest and landscape plantings within and along Site borders will further minimize the Project's visual impact on architectural resources that currently have views of the Site.

2.2.5 GREEN INFRASTRUCTURE COMPONENT

The green infrastructure component of the Eastalco Growth Area plan is to provide a detailed review of environmental systems and resources (hydrology, forests, habitat assessment), and integrate the built environment to the natural edges, through the placement and programming of open space and additional preservation areas.

- ERM, Inc., on behalf of the Applicant, conducted a Special Status Species and Habitat Assessment of the Project Site. The site has been highly altered by agricultural activities and wildlife habitat is present primarily within the existing forested areas, which will be retained and protected by forest preservation easements. New wildlife habitat will be created by the proposed establishment of 10.48 acres of new forest planting area.
- Streams and wetlands on the Project site were delineated in 2021 by Rodgers Consulting. The Project is designed to avoid impacts to wetlands, waterways, and forested areas. Streams are protected within proposed Forest Resource Ordinance easements.
- The final forest conservation plan for the Site conserves existing forest and provides over 10 acres of new forest plantings (see Final Forest Conservation Plan Section 2 – Phase 2). The plan:
    - Retains forested areas along the two streams identified by the Wetland and Waters Delineation, totaling 10.39 acres of preserved forest.
    - Provides 10.48 acres of new forest planting areas on the southern portion of the Site along Ballenger Creek Pike, Mountville Road, the future Route 80/Happy Landing Road, and south of the existing forested area to be preserved.
    - Requires unavoidable impacts to only 0.05 acres of existing forest within the site interior and within a power line right-of-way.
- Mature trees and shrubs along Ballenger Creek Pike and Mountville Road are protected. Proposed landscaping inside the tree line will be installed to reinforce the visual buffer provided by the existing vegetation.
- Substantial setbacks and vegetated buffers are provided parallel to the southern Site boundary along Mountville Road and future Route 80/Happy Landing Road, providing an effective buffer from rural residential properties and Adamstown. The vegetated buffer has a

depth of at least 125 feet and length of more than 1,300 feet. Proposed new plantings within this area include a landscape buffer consisting primarily of evergreen trees, as well as a forest planting area (100 feet deep) that will be protected by a Forest Resource Ordinance easement. The closest building is 527 feet from the southern Site boundary at its western (closest) corner and over 1,100 feet from the southern Site boundary at its eastern corner.

3. ZONING REQUIREMENTS FOR CRITICAL DIGITAL INFRASTRUCTURE

The Site Plan complies with all zoning requirements for the LI and GI zoning districts and for critical digital infrastructure uses as described below.

3.1 DIMENSIONAL REQUIREMENTS/BULK STANDARDS §1-19-6.100

The Project substantially exceeds required setbacks from property lines. The minimum required setback in the LI and GI zoning districts for a critical digital infrastructure facility is a distance equal to 50 feet or the height of structure, whichever is greater. The maximum structure height allowable by the Zoning Ordinance is 60 feet.

- The proposed campus consists of four data center buildings, each with a utility yard, and driveway/utility corridor, surrounded by fencing. The building height will not exceed 43 feet, including rooftop parapet walls, resulting in a 50-foot minimum setback. The campus also includes a Security Building, auxiliary water building, and water storage. Water storage tanks not to exceed 60 feet in height are adjacent to each building and 4 central water tanks, 38-foot high, are north of Building A in the site interior.
- The proposed structures exceed the 50-foot setback as measured from lot lines or the proposed right-of-way of adjacent roads. The buildings and water tanks closest to the site boundaries have the following minimum building setbacks:
  - 527 feet+/- from the southeastern Site boundary, abutting the future Happy Landing Road (MD Rt. 80) (Data Center Building C).
  - almost 400+/- feet from the southern Site boundary, abutting Mountville Road (Building E, Security Building).
  - Minimum building setback of 269+/- feet from the western Site boundary abutting Ballenger Creek Pike (Data Center Building A).
  - Minimum building setback of 225+/- feet from the northeastern Site boundaries, which abuts Quantum Frederick Section 1 (Data Center Building D).
  - Water tanks are in the interior of the site, at least 700 feet from the closest Site boundary.

3.2 PARKING AND LOADING §1-19-6.200

- **Loading**: §1-19-6.210 requires 78 loading spaces for the use (one space for the first 5,000 square feet of floor area plus one space per additional 10,000 square feet or part thereof over 5,000 square feet) based on the proposed 777,151 square feet of gross floor area. This Site Plan application requests a modification to reduce the number of loading spaces to 8 loading spaces (two for each data center building) based on the nature of the use and anticipated need for truck loading.

- **Parking**: §1-19-6.220(A) allows up to 1 parking space for every 2 employees (on the largest shift for which the building is designed) plus 1 for each motor vehicle used in the business. Rowan Frederick anticipates approximately 190 employees per shift, to include 44 employees per shift in data center buildings A, C and D; 33 employees in Building B; and 25 employees in the Security Building and guard booth. In addition, two security vehicles will be permanently parked on-site. The workforce plus security vehicles would result in an allowance of 97 parking spaces.

  The Site Plan submittal includes a modification request to allow a total of 252+/- parking spaces, inclusive of electric vehicle charging spaces and handicapped accessible spaces. Parking is distributed among parking areas adjacent to the buildings. The proposed parking plan allows sufficient parking to accommodate the workforce during employee shift changes as well as the anticipated parking need for visitors and frequent contractor trips to the site, including electrical and mechanical contractors. Based on the Project's location, limited potential is anticipated for employee commuting to occur by bicycle, ride sharing or public transit.

- **Parking Setbacks**: Parking area setback from property lines will substantially exceed the required setback of one-half of the required building setback (§1-19-6.200(B)). The parking area closest to a site boundary will be over 100 feet from the eastern lot line abutting the Quantum Frederick Section 1 open space lot. The closest parking area to site boundaries not adjacent to other Quantum Frederick lots will be over 200 feet from the right-of-way of Ballenger Creek Pike.

- **Pedestrian Access**: §1-19-6.220 (G) requires the following: Clearly delineated pedestrian crosswalks, sidewalks, and walkways shall be provided to allow safe, convenient, and direct access within the parking area, and from the parking area to building entrances.

  The Site Plan includes pedestrian circulation with sidewalks provided around each building, connecting parking areas with building entrances. Parking is distributed among multiple small parking areas near building entrances. Because the Project is a secure facility with controlled access points, pedestrian movement throughout the site from one building to another will be limited.

- **Bicycle Parking**: §1-19-6.220 (H) requires 10 bicycle racks for the site (one rack per 40,000 square feet of gross floor area, up to a maximum of 10 racks). The site plan complies with this requirement, proposing 20 bicycle racks, including two adjacent to the security check-in building and two for each data center building. Bicycle racks are located adjacent to sidewalks providing access to building entrances.

3.3 SIGNAGE §1-19-6.300

The proposed use will have no owner identification or business identification signage and will provide address signs as required by the Fire Prevention Code.

3.4 LANDSCAPING §1-19-6.400

- **Street Trees**: Public street tree requirements were addressed in the preliminary plans for Quantum Frederick Section 2.

- **Land Use Buffering and Screening**: §1-19-6.400(B)(2) requires the following:

  Where commercial or institutional uses are located adjacent to residential zoning districts: a mixture of plantings including predominantly evergreen shrubs or trees spaced at intervals which are expected to achieve a mixture of height at maturity between 6 feet and 15 feet and to provide effective buffering, as determined by the Planning Commission.

  The Project Site is adjacent to the A-1 zoning district to the northwest, southwest, and south. Landscape buffers are provided inside the existing line of trees and shrubs along Ballenger Creek Pike and Mountville Road. Proposed landscape plantings are predominantly evergreen trees in order to provide enhanced screening. A variety of species is proposed for visual enhancement, and to avoid the risks associated with single species plantings. Only species native to the region have been proposed for use in the landscaping plan. Tree clusters and varied landscaped edges are located to substantially buffer views at key viewpoint locations. The proposed landscaping is designed to reinforce the existing vegetation and provide year-round buffering. See Site Plan sheets 35 through 43.

  The proposed landscape buffer plantings will be adjacent to portions of the 10.48 acres of new forest planting areas as shown on the Final Forest Conservation Plan in the site plan set. As the forest planting areas mature, they will add substantially to the screening effect of the proposed landscape buffers and existing trees to be preserved along Ballenger Creek Pike, Mountville Road, and the future Route 80/Happy Landing Road.

  Landscaping will be integrated with berms, anticipated to be 4 to 10 feet in height and placed parallel to the public roads, for additional visual buffering. The proposed berms are shown conceptually on the site plan and will be finalized on the Improvement Plan.

- **Parking Area Buffering and Screening**: §1-19-6.400(C) requires the following:

  Parking areas shall be screened from roadways in accordance with the following minimum standards:

  (1) Where parking areas are adjacent to residential uses or zoning districts, or roadways with at least a collector status as designated on the County Comprehensive Plan: plantings of predominantly evergreen shrubs or trees spaced at intervals which may be expected to form effective buffering and screening at least 30 inches high at the time of planting.

  (2) All other parking areas: plantings of predominantly evergreen shrubs or trees spaced at intervals which may be expected to form effective buffering at least 30 inches high at the time of planting.

  Shade trees, ornamental trees and shrubs will be installed along site driveways and parking areas interior to the Site. Parking areas will be internal to the site, small in size, and screened from roadways by buildings, new landscape buffers, and retained mature vegetation along Ballenger Creek Pike, Mountville Road, and future Happy Landing Road (MD Route 80). Aa 42-space facility is outside the main gate, adjacent to the Security Building. This parking area is at least 300 feet from the closest public road (Ballenger Creek Pike near Mountville Road) and will be separated from Ballenger Creek Pike and Mountville Road by existing and proposed vegetation and berms along the public roads.

- **Parking Area Landscaping**: §1-19-6.400(D) requires the following:

  Within required parking areas landscaping shall be provided in accordance with the following minimum standards:

  (1) Parking areas shall be separated into bays with an average of no more than 10 parking spaces. Each parking bay shall contain no more than 15 continuous parking spaces. Between or at the end of each bay of parking spaces there shall be a planting area of at least 5 feet in width. Each planting area shall contain 1 tree at least 6 feet in height at the time of planting and groundcover containing at least two shrubs for every 100 square feet of landscape area.

  (2) Planting area trees shall be predominantly deciduous and provide at least 20% canopy cover at maturity.

  Proposed parking areas are divided into bays of 6 to 15 spaces, averaging 10 spaces, with deciduous trees on parking lot islands and along driveways providing access to parking spaces.

- **Landscaping, Screening, or Buffering**: In accordance with §1-19-6.400(E), proposed screening and buffering consists of existing vegetation and a predominantly evergreen buffer along road frontages. Only native landscape materials are selected, and no invasive/exotic species are proposed. Landscaping will not interfere with visibility at driveway entrances or intersections. See Site Plan sheet LA-9.

3.5 LIGHTING §1-19-6.500

§1-19-6.500 requires that lighting be fully shielded and directed downward to prevent glare and light trespass onto adjacent properties, roadways and the nighttime sky, and not exceed 0.50 foot-candles as measured from the property line. The maximum pole height of lighting fixtures for Critical Distribution Infrastructure Facilities is 18 feet per §1-19-8.402(B)(8).

A lighting plan is included as Site Plan sheets 26 through 28. The lighting will be fully shielded and directed downward and pole fixtures will be 18 feet high. The photometric analysis indicates that the Project will comply with the performance standard of 0.50 foot-candles at all points along the property line. Along most of the property boundary, the Project will have lighting levels lower than the County standard.

3.6 INDUSTRIAL DISTRICT STANDARDS §1-19-7.600

3.6.1 ACCESS REQUIREMENTS.

- §1-19-7.600(A) allows one combined entrance/exit for each 200 feet of frontage; access to corner lots must be at least 100 feet from intersecting street rights-of-way. Three proposed entrance exits are proposed, including one primary access to Ballenger Creek Pike and two secondary access driveways to Ballenger Creek Pike and Mountville Road. The main driveway entrance to Ballenger Creek Pike is opposite the industrial land use on the west side of Ballenger Creek Pike. The proposed access points are separated from each other by over 1,000 feet and are at least 400 feet from the intersection of Ballenger Creek Pike and

Mountville Road. The main driveway access is approximately 1,890+/- feet from Cap Stine Road and 485+/- feet from Mountville Road.

- An access review provided by Wells and Associates is provided in Attachment 1. A partial deceleration lane will be provided for the primary entrance pursuant to State Highway Administration (SHA) requirements. In addition, based upon Frederick County comments, a 250-foot partial acceleration lane and a left turn lane for southbound Ballenger Creek Pike will also be provided for the primary entrance. No road frontage improvements are proposed for the two secondary driveway access points, as these would not be used on a day-to-day basis.
- Sight distance analysis and profiles are provided on sheets 14, 15 and 16 of the Site Plan.

3.6.2 VEHICLE AND PEDESTRIAN CIRCULATION

§1-19-7.600(B) requires approval by the Department of Planning and Development Review of a plan for the internal circulation of vehicles and pedestrians. Pedestrian travel from one building to another is not generally part of the Project operations. However, the Site Plan provides a fully interconnected driveway network for the four proposed buildings and individual pedestrian sidewalks that completely circle each building, connecting parking areas to the corresponding building entrances.

3.6.3 SIGNS

No increase in sign area is requested pursuant to §1-19-7.600(C).

3.6.4 STORAGE AND OPERATIONS

As required by §1-19-7.600(D) and 1-19-7-610(A), all operations and storage will be conducted within buildings. Utility yards adjacent to the buildings will be screened from site boundaries by buildings or by walls with materials and finish comparable in quality and materials to the building facades.

3.6.5 REFUSE AND RECYCLING DUMPSTERS

As required by §1-19-7.600(E), dumpsters will be located away from public access areas and will be located adjacent to the utility yards, visually screened from roads or adjoining properties.

3.7 INDUSTRIAL DISTRICT PERFORMANCE STANDARDS §1-19-7.610

3.7.1 NOISE

Noise: §1-19-7.610(B) establishes noise limits from any industrial source as measured in an adjacent zoning district as listed in Table 2. The Site Plan submittal includes an Environmental Noise Assessment demonstrating compliance with these noise standards as well as the noise standards specific to critical digital infrastructure (Section 3.8.4). The Environmental Noise Assessment provides the following conclusions:

- The maximum permitted sound level at the property line is 55 dB(A) where the site is adjacent to Agricultural zoning to the south and northwest and 70 dB(A) along other property lines where the site adjoins LI or GI zoning.

- If the Project includes an emergency back-up power system (i.e., emergency back-up generators), in the event there is a critical power outage and that system is operating at 100% load (a rare occurrence), the resulting sound levels are not expected to exceed the regulatory limits. Additional information on potential emergency back-up generators is included in the Environmental Noise Assessment.

TABLE 2. NOISE STANDARDS, §1-19-7.610(B) OF FREDERICK COUNTY ZONING ORDINANCE

Maximum permitted sound levels, dB(A)				
Sound Measured to:	Decibels Continuous Slow Meter Responses		Impact Fast Meter Response	
	LI	GI	LI	GI
Residential District	55	55	60	60
LI District lot, adjacent to noise source	70	75	80	-

3.7.2 VIBRATION

Data center operations will comply with the requirements of §1-19-7.610(C); no equipment will produce vibration discernible without the aid of instruments at any point beyond the lot line or produce a particle velocity of 2 inches per second measured at or beyond the lot line. Mechanical and electrical equipment will be on rooftops or spring foundations and will not direct vibrations into the ground.

3.7.3 AIR EMISSIONS

The Project will conform to all Frederick County, Maryland and federal air emissions standards and will complete required reviews, permits and approvals prior to operation, as required based on the equipment selected (§1-19-7.610(D), (E), (F), (G), and (H)). If utilized, an emergency back-up power system will be appropriately permitted and meet air emission requirements. The Site Plan provides for all areas of the site to be covered with vegetation, gravel, pavement, or building footprint, with no bare soil areas that could result in windborne particulates.

3.7.4 DETONABLE MATERIALS

Pursuant to §1-19-7.610(I), Project operations will not require or result in storage, use, or manufacture of detonable materials.

3.7.5 FIRE HAZARDS

Pursuant to §1-19-7.610(J), the facility will meet standards of the Frederick County Fire Prevention Code requirements related to fire prevention and safety and will comply with required reviews, approvals, and permits. Fuel storage for emergency back-up power systems, if utilized by the Project's tenant, will be less than 300,000 gallons. The internal circulation system has been designed with drive aisle width and turning radii suitable for fire and emergency response

vehicles. Internal driveways are 30 to 40 feet wide. Fire lanes will be established as required by the Fire Marshall.

3.8 REQUIREMENTS FOR CRITICAL DIGITAL INFRASTRUCTURE FACILITIES IN THE LI AND GI DISTRICTS §1-19-8.402

Pursuant to Section 1-19-8.402, the Project meets and exceeds the required design standards for Critical Digital Infrastructure Facilities.

3.8.1 BULK REGULATIONS §1-19-8.402(A)

As noted in Section 3.1, the Project complies with all required setbacks.

3.8.2 STRUCTURE AND EQUIPMENT DESIGN REQUIREMENTS §1-19-8.402(B)

The Project architectural elevations, demonstrate compliance with the design requirements quoted below.

> *(1) Buildings must be predominantly designed and constructed to include finishes and materials of consistent quality and design on all sides. All building facades that are in public view must avoid the use of undifferentiated facades and long, plain wall sections by including a combination of the following design elements: change in building height, building step-backs or recesses, windows, doors, changes in building material, patterns, textures, colors, or use of accent materials.*

The building facades will be composed of composite materials with variation in color and texture and use of consistent quality and design on all sides of the buildings. Several elements of the building facades will help to provide visual interest and avoid monotonous facades. Facades are divided into bays through the use of rhythmic variations in height and vertical ribs. The exterior finish colors are primarily earth tones and are varied to provide visual interest.

> *(2) Building entrances must be designed and oriented in terms of their relationship to the human scale and must reflect this relationship through the inclusion of human-scaled architectural elements.*

The building entrance provides an accessible entrance path to a human scaled entry portal announced by a colorful protective canopy.

> *(3) Refuse and recycling dumpsters, service doors, and mechanical equipment must face away from roadways, pedestrian routes, and public areas.*

Dumpsters, loading docks and service doors are interior to the site and will not be visible from public roads or neighboring properties due to their location in relation to buildings and walls. These service features are screened on two sides by the concrete end walls that shield views of the utility yards (adjacent to each data center building) from the south. The dumpsters will additionally be within a high-quality walled enclosure. The finish on the concrete utility yard end walls will be consistent in texture and color with the building façade materials.

> *(4) In order to minimize visibility from adjacent roads and adjacent properties, ground level and roof top mechanical equipment, power generators, water cooling and storage facilities, utility substations, and other associated utility infrastructure to*

support sustained operations of the infrastructure must be screened. This screening may be provided by a principal building. Mechanical equipment not screened by a principal building must be screened by a visually opaque fence, screen wall or panel, parapet wall, or other visually opaque screen that must be constructed of materials compatible with those used in the exterior architectural finishes of the principal building.

All rooftop mechanical equipment is screened by a parapet wall complementary in quality and design to the building facades and set back at least 5 feet from the building facade. The primary central water storage tanks are located on the north side of Building A and will be screened from the view of adjacent roads and properties to the south, west and east by the buildings. The water storage tanks adjacent to each building will be screened from ground level view by buildings and the landscape buffers and forest conservation areas along the Site boundaries.

3.8.3 LANDSCAPE DESIGN REQUIREMENTS - §1-19-8.402(B)(6)

The Project landscape plan, (Site Plan sheets 35 through 43), demonstrates compliance with the design requirements quoted below.

(6) In addition to § 1-19.6.400 the following landscaping, screening, and buffering requirements must be met.

(a) Front yard(s) abutting a roadway must include a landscaped buffer.

(b) Except where adjoining a critical digital infrastructure use, side and rear yards must include a landscaped buffer.

A landscape buffer is provided along all roadway frontages as further described in Section 3.4.

Landscape buffers are proposed along all sides of the Project except to the north and east where the Site adjoins parcels within Quantum Frederick Section 1. A natural boundary between the Project Site and Quantum Frederick Section 1 is provided by the preserved, forested open space area adjacent to Tuscarora Creek. This boundary is reinforced in certain areas by the Forest Protection Area centrally located on the Project site.

A substation will be proposed on the northern portion of the Site. Landscape buffering along Ballenger Creek Pike for the substation will be proposed as part of the future substation site plan submission.

(c) A landscaped buffer must include a four-season visual screen resulting in multi-layered, staggered rows of overstory and understory trees and shrubs that are a mix of evergreen and deciduous vegetation, with an emphasis on species that are native to Frederick County.

The landscaping plan provides a four-season visual screen with clustered and multi-layered rows of trees and shrubs, including native evergreen and deciduous vegetation, to buffer the use from adjacent roads and rural residential properties. The proposed landscaping along Ballenger Creek Pike and Mountville Road protects and reinforces the existing mature tree lines along the roads.

(d) The minimum height of overstory trees within a landscape screen or buffer at planting must be a minimum of 6 feet with a minimum caliper of 2 inches. The

minimum height of understory trees and shrubs at the time of planting must be 3 gallon or larger. Trees and shrubs larger than the minimum sizes listed above will be required where the minimum planting sizes will not provide adequate screening or buffering within 2 years. Vegetation used to establish a visual screen shall not be trimmed so as to stunt upward and outward growth or to otherwise limit the effectiveness of the visual screen.

Healthy trees of the required size will be installed as detailed on Site Plan sheet LA-9. Existing mature vegetation in combination with the new plantings will provide adequate buffering within 2 years.

(e) A berm, wall, or fence may be used in combination with vegetation to satisfy the screening requirement where deemed appropriate by County Staff and the Planning Commission.

Proposed berms are shown conceptually on the Site Plan and will be finalized on the Improvement Plan. The proposed berms will be integrated with landscape plantings and new forest plantings and located parallel to Mountville Road, Ballenger Creek Pike and the future Happy Landing Road. Anticipated berm height varies from 4 to 10 feet.

(f) If security fencing is proposed, vegetative screening must be placed between the fence and the public view. Fencing must be made of high quality materials. Chain-link and similar woven metal or plastic fencing shall not be used.

Two layers of fencing are proposed around the data center building complex (see Site Plan sheet ND-1). The outer fence will be of high-quality black metal. The inner fence is proposed to be chain link, topped by three rows of barbed wire, as shown on Site Plan Sheet ND-1. This Site Plan application requests a modification to allow chain link fencing for security, 10 feet inside the primary black metal fence. Both the outer and inner fencing will be visually buffered from roads and rural residential properties by the landscape buffers, forest plantings and berms. At the closest point, the outer fence will be set back approximately 80 feet from the right-of-way of Ballenger Creek Pike.

(g) If forest or hedgerows exist where screening or buffering is required, it must be preserved to the maximum extent practicable and supplemented with new plantings where necessary to provide the desired screening or buffering.

Existing vegetation along the property boundaries and adjacent road rights-of-way will be preserved, protected, and supplemented with new plantings.

(h) All landscaping, screening, and buffering must be maintained in living condition.

(i) Applicant must submit a landscape, buffering, and screening plan as part of the Site Plan application addressing the requirements and timing of plantings. Screening and buffering must be installed as early in the development process as possible. Occupancy shall not be granted if screening and buffering requirements are not installed in accordance with the approved Site Plan.

(j) The Planning Commission may approve a modification to the landscaping, buffering, and screening standards where an alternate landscaping, buffering, and screening plan is provided that meets the purpose and intent of these design requirements.

All landscaping, screening and buffering will be installed prior to Project operations and maintained in living condition. The landscape, buffering and screening plan is included as LA-1 through LA-9 of the Site Plan. No modification to the standards is requested, as the Project will meet landscaping and buffering requirements.

3.8.4 NOISE AND VIBRATION - §1-19-8.402(D).

As noted in Section 3.7, the Project will not generate vibrations beyond the lot line. An Environmental Noise Assessment submitted with the Site Plan includes a registered engineer's certification that data center operations will comply with the noise standards listed in Table 3. Noise resulting from construction will be temporary and will occur only during the construction hours, which will not occur outside the limits provided for in the Zoning Ordinance (7 am – 7 pm).

TABLE 3. NOISE STANDARDS, §1-19-8.402(D) OF FREDERICK COUNTY ZONING ORDINANCE

Sound Measured To	**Decibels Continuous Slow Meter Responses**
Industrial uses	70
Commercial uses	64
Residential uses in any zoning district	55
Institutional uses	55
All other uses	55

4. FOREST CONSERVATION ORDINANCE

The Preliminary Forest Resource Ordinance (FRO) Plan for Quantum Section 2 provides required forest conservation mitigation for the 259-acre Net Tract Area, including 211 acres of industrial zoned property, including the Project Site, and 48 acres of agriculturally zoned property. The total forest mitigation provided is 40.03 acres, comprised of 20.48 acres of forest retention and 19.55 acres of reforestation planting which includes 0.37 acres of surplus reforestation planting.

The Final Forest Conservation Plan for the Project Site is included in the Site Plan and implements the forest mitigation areas shown on the Preliminary FRO Plan, resulting in protection of 10.39 acres of existing forest and provision of 10.48 acres of new forest planting areas. Forest retention and plantings preserve existing wildlife habitat, provide environmental buffers along streams, and add to existing vegetated edges along public roads.

5. ADEQUATE PUBLIC FACILITIES ORDINANCE

The Project site complies with the Adequate Public Facilities Ordinance (APFO) pursuant to the Amended and Restated Letter of Understanding (LOU) for the approved Quantum Frederick Section 2 preliminary plan. The Amended and Restated LOU combined the 257.68 acres in Quantum Frederick Section 2 with 1,053.78 acres from the original LOU for Quantum Frederick

Section 1. The APFO approval is valid for 14 years from the date of Planning Commission approval of the original APFO LOU on December 15, 2021, expiring on December 15, 2035.

5.1.1 ROADS

The Amended and Restated LOU establishes 4 phases of road improvements for Quantum Frederick Sections 1 and 2. Phase 1 accommodates up to 143 morning peak hour vehicle trips and 125 evening peak hour vehicle trips, is limited to data center or office uses, and requires no road improvements.

An analysis by Wells + Associates dated August 25, 2023, estimates Project operational traffic during peak hours at 86 vehicle trips during the morning peak hour and 69 vehicle trips during evening peak hour (Attachment 1). The analysis notes that previously approved development will generate 50 trips during the morning peak hour and 41 trips during the evening peak hour. The Project plus the previously approved development would total 136 trips during the morning peak hour and 110 trips during the evening peak hour. Accordingly, the Project will be accommodated under Phase 1 of the Roads section of the Amended and Restated LOU and will not require road improvements.

As described in the access review (Attachment 1), road frontage improvements to be installed for the main driveway access to the Project include a partial deceleration lane, a partial acceleration lane, and a left turn lane. See also Section 3.6.

5.1.2 WATER AND SEWER INFRASTRUCTURE

The Amended and Restated LOU for Quantum Frederick Sections 1 and 2 provides four phases of water and sewer improvements pursuant to a water and wastewater study provided by Whitman, Requardt & Associates, LLP (WR&A) dated November 2021. The Quantum Frederick development will be served by a network of public and private water and sewer mains and service connections generally depicted on the approved preliminary plans and various phasing exhibits within the WR&A study mentioned above. Proposed improvements to Frederick County's water and sewer systems serving this region will be provided to the Project through developer-funded improvements as approved in the Preliminary Plan for Phase 2 (PP273777).

County water will be supplied to the Project site from the west through two, 8-inch County water supply lines. One 8" line will supply the project with potable water for domestic consumption and fire protection. The second line will be for cooling water. The Project's cooling water system consists of the following components:

- The cooling water system has been designed to efficiently use and re-use water. All water used for cooling will be recirculated through the site two to three times before being discharged.
- Water entering the Site from the County water supply line will be collected in four water tanks located north of Building A, on the north side of the site (see Site Plan sheet SP-1 or SP-8). From these central tanks, Project water lines will distribute the water to storage tanks for each of the four buildings, located within a recessed portion of the building façade to reduce the visual prominence of these features.

- The amount of cooling water needed will vary depending on weather and atmospheric conditions, with more cooling water needed for hotter weather. The use of storage tanks will enable the facility to balance its need for greater amounts of water during hotter periods while withdrawing water in accordance with its County water allocation.
- Discharged cooling water will be held in on-site, underground wastewater storage vaults. From these vaults, the water will be discharged to the County's wastewater system at the correct rate and volume to comply with County requirements.

The APFO LOU provides for a potential upgrade to the New Design Water Treatment Facility to provide reclaimed industrial water for use as data center cooling water. If this alternative is selected and implemented by Quantum Frederick and the Frederick County Division of Water and Sewer Utilities, one of the water lines entering the Site would be used to transport the reclaimed industrial water for the cooling system. This system would also require implementation of an on-site water treatment system, shown as "Future Water Treatment" adjacent to Building D on the Site Plan. This potential future treatment facility is in the interior of the Site, about 800 feet from Ballenger Creek Pike.

6. WATER AND SEWER PLAN

The Project site is planned for public water and sewer service. The Frederick County Water and Sewerage Plan (amended through December 28, 2022) classifies the site as S-5 (Sewer Service) and W-5 (Water Service). The connection to the public water and sewer system will be approved and implemented in coordination with a Water and Sewerage Plan amendment for the proper water and sewer classification, subject to completion of required infrastructure per the APFO LOU.

Recent related County actions include:

- On August 9, 2023, the Planning Commission made a finding of consistency with the County Comprehensive Plan for the request made by Quantum Maryland LLC (Case WS-23-10) to reclassify the Project Site to W-3, S-3.
- On May 16, 2023, the Frederick County Council approved an update to the County's Priority Funding Area (PFA) to include the Project site, as well as other land within Quantum Frederick Sections 1 and 2, within the PFA. The revision aligns the PFA boundaries with the land in the LI and GI zoning districts and within the Eastalco Community Growth Area per the Comprehensive Plan Land Use Map. The County establishes PFA designations pursuant to Maryland regulations to reflect County policies indicated through the designation of growth areas and the subsequent application of zoning and water/sewer service classifications.

GRAPHIC SCALE

100' 0 50' 100' 200' 400'

1 INCH = 100 FT

N

BAUXITE RENDERED SITEPLAN

HKS

rowan digital infrastructure

WELLS + ASSOCIATES

MEMORANDUM

1420 Spring Hill Road,
Suite 610,
Tysons, VA 22102
703-917-6620
WellsandAssociates.com

TO: Mark Mishler
Frederick County

FROM: Jim Watson, AICP, PTP
Jake R. Tufts, EIT
Nathaniel Selden, EIT

RE: Mountville Road/Future Happy Landing Road Roundabout
Frederick County, Maryland

DATE: November 1, 2023

INTRODUCTION

This memorandum analyses the potential roundabout at Mountville Road and the planned Happy Landing Road in association with the overall Quantum Frederick development, located in Frederick County, Maryland. Specifically, this memorandum examines the level of service, delay, and queue for a potential 90-foot diameter roundabout during the AM and PM peak hours.

ANALYSIS

The analysis was performed using the 2035 Total Future Scenario volumes for the intersection of Mountville Road and the planned Happy Landing Road (shown as Intersection #23 on the attached Figure 7-3B of the previously approved November 11, 2021 Quantum Frederick Traffic Impact Analysis), using the "SIDRA Standard" capacity model within SIDRA 9. During the AM peak hour, the potential roundabout has an average level of service (LOS) of B, an average delay of 12.1 seconds, and a 95th percentile queue distance of 223.3 feet. During the PM peak hour, the roundabout has an average LOS B, an average delay of 10.0 seconds, and a 95th percentile queue of 120.5 feet. No individual movement in either the AM or PM exceeds a LOS B. For the full analysis, the SIDRA Movement Summary Tables for AM and PM are attached.

CONCLUSION

In conclusion, a potential 90-foot diameter roundabout at the intersection of Mountville Road and the planned Happy Landing Road would operate within acceptable levels of service and delay time. Questions should be directed to Wells + Associates.

O:\PROJECTS\8501-9000\8530 EASTALCO\GRAPHICS\21.1110 GRAPHICS - EXISTING INTERSECTIONS.DWG

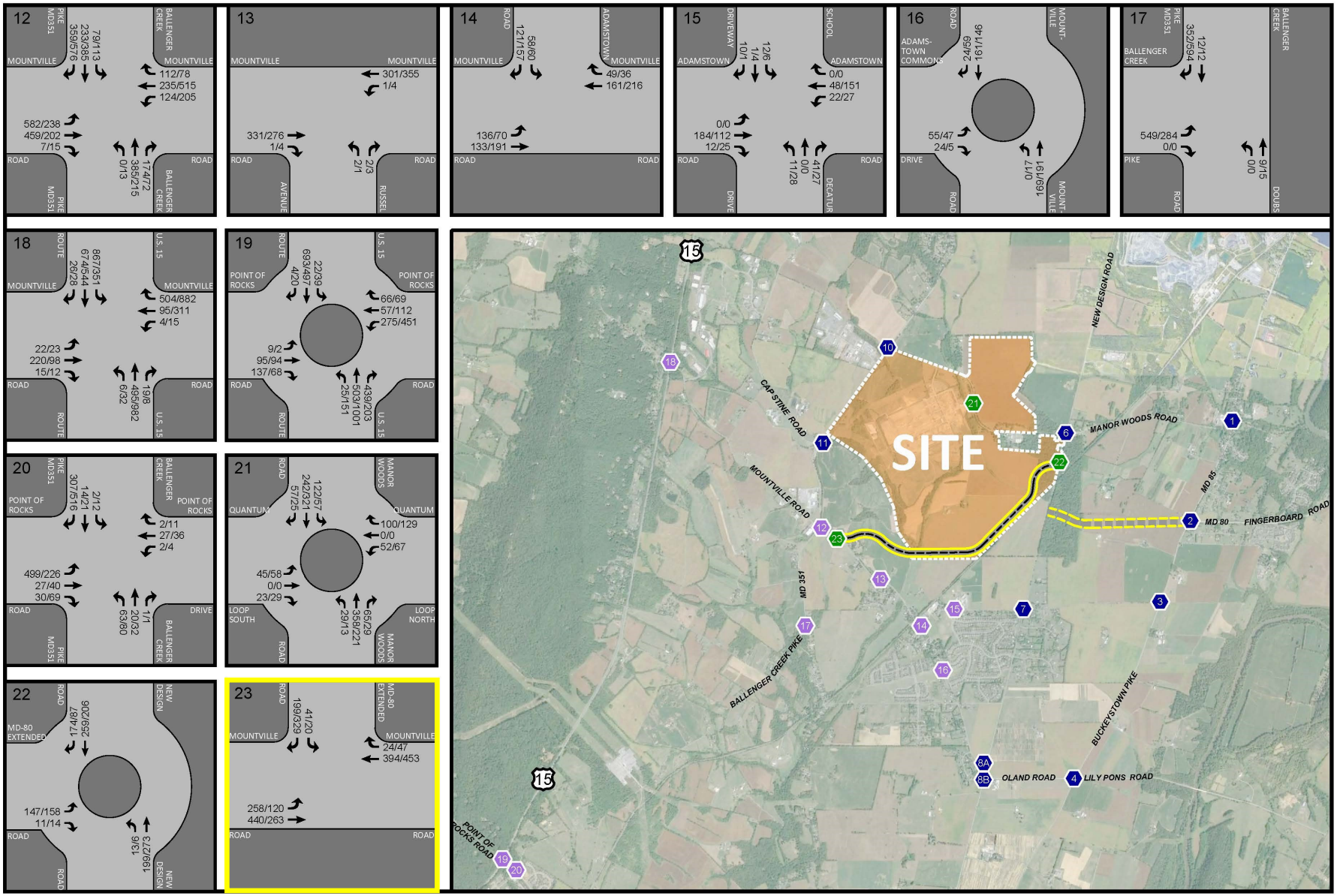


Figure 7-3B

2035 Total Future (Phase III) AM/PM Traffic Forecasts

Future Road Connection by Applicant (Phase III)
Planned Future Road Connection by Others
Study Intersection
AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH

Quantum Frederick
Frederick County, Maryland

MOVEMENT SUMMARY

Site: 101 [2035 AM (Site Folder: General)]

Mountville Road Roundabout (90')
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Mountville Road (WB Vol)														
3	L2	394	3.0	428	3.0	0.522	11.2	LOS B	4.0	103.0	0.66	0.55	0.70	29.3
18	R2	24	3.0	26	3.0	0.522	11.2	LOS B	4.0	103.0	0.66	0.55	0.70	28.9
Approach		418	3.0	454	3.0	0.522	11.2	LOS B	4.0	103.0	0.66	0.55	0.70	29.3
East: MD-80 Extension														
1	L2	41	3.0	45	3.0	0.352	9.3	LOS A	2.2	55.7	0.68	0.60	0.68	31.2
6	T1	199	3.0	216	3.0	0.352	9.3	LOS A	2.2	55.7	0.68	0.60	0.68	31.4
Approach		240	3.0	261	3.0	0.352	9.3	LOS A	2.2	55.7	0.68	0.60	0.68	31.4
West: Mountville Road (EB Vol)														
2	T1	258	3.0	280	3.0	0.689	13.6	LOS B	8.7	223.3	0.45	0.20	0.45	29.9
12	R2	440	3.0	478	3.0	0.689	13.6	LOS B	8.7	223.3	0.45	0.20	0.45	29.3
Approach		698	3.0	759	3.0	0.689	13.6	LOS B	8.7	223.3	0.45	0.20	0.45	29.5
All Vehicles		1356	3.0	1474	3.0	0.689	12.1	LOS B	8.7	223.3	0.56	0.38	0.57	29.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [2035 PM (Site Folder: General)]

Mountville Road Roundabout (90')
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Mountville Road (WB Vol)														
3	L2	453	3.0	492	3.0	0.534	10.2	LOS B	4.0	103.0	0.48	0.31	0.48	29.7
18	R2	47	3.0	51	3.0	0.534	10.2	LOS B	4.0	103.0	0.48	0.31	0.48	29.3
Approach		500	3.0	543	3.0	0.534	10.2	LOS B	4.0	103.0	0.48	0.31	0.48	29.7
East: MD-80 Extension														
1	L2	20	3.0	22	3.0	0.532	13.3	LOS B	4.7	120.5	0.79	0.85	1.03	29.7
6	T1	329	3.0	358	3.0	0.532	13.3	LOS B	4.7	120.5	0.79	0.85	1.03	29.9
Approach		349	3.0	379	3.0	0.532	13.3	LOS B	4.7	120.5	0.79	0.85	1.03	29.9
West: Mountville Road (EB Vol)														
2	T1	120	3.0	130	3.0	0.367	6.8	LOS A	2.8	71.2	0.18	0.06	0.18	32.9
12	R2	263	3.0	286	3.0	0.367	6.8	LOS A	2.8	71.2	0.18	0.06	0.18	32.2
Approach		383	3.0	416	3.0	0.367	6.8	LOS A	2.8	71.2	0.18	0.06	0.18	32.4
All Vehicles		1232	3.0	1339	3.0	0.534	10.0	LOS B	4.7	120.5	0.48	0.38	0.55	30.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

STATE OF MARYLAND
OFFICE OF THE GOVERNOR

Governor Wes Moore
100 State Circle
Annapolis, MD 21401

Frederick County Planning Commission
30 North Market Street
Frederick, MD 21701

December 18 2023

Chair Rensberger, Vice Chair Davis, members of the commission:

Sustainable digital infrastructure development represents boundless potential for communities throughout our state, particularly in Frederick County, and provides an opportunity for Maryland to set a high standard that balances necessary economic growth with meaningful environmental safeguards. This is why my administration has strongly supported attracting the technology industry, which is very committed to a sustainable approach to new development and operations.

Therefore, I encourage the Frederick County Planning Commission to approve Rowan Digital Infrastructure's application for the proposed Frederick Data Center. With this project, we have an opportunity to show the nation what community-driven sustainable digital infrastructure looks like.

My office has met with representatives from Rowan several times and believes their company to be tremendously thoughtful in their approach to data center development and accountable to local stakeholders. Their proposal aims to use advanced technology and eco-friendly designs to significantly cut the data center's emissions, which will be coupled with the facility's net-zero carbon emission power usage strategy. This model is vital to reducing greenhouse gasses and protecting our cherished natural resources, a priority that I know my administration shares with the Frederick County community.

During construction, hundreds of jobs will boost our local economy, and the ongoing data center operations will require a skilled workforce — providing a leg up for local talent, attracting new families to the state, and enhancing our region's reputation for innovation and sustainability. Diversifying the tax base in this area of the state will fortify the local economy for decades to come, which allows local leaders to make investments in shared priorities like education, public safety, and community infrastructure.

Furthermore, I appreciate Rowan's proactive engagement with various stakeholders in Frederick County and beyond. They clearly value transparency and collaboration, and I firmly believe that these local partnerships with elected officials, businesses, residents, and community groups will ensure the project is successful in delivering on its promise of economic and environmental benefits to the community.

Thank you for your dedicated service to Frederick County. I trust your decision will serve the best interests of its residents.

Sincerely,

Governor Wes Moore

Bauxite

Lot 400 Type 1 Site Plan

Critical Digital Infrastructure Facilities

PRELIMINARY - NOT FOR CONSTRUCTION

GENERAL NOTES:

Site Notes

1. The purpose of this Type 1 Site Plan is for a proposed Critical Digital Infrastructure Facility. Four (4) data center buildings, an auxiliary water building, a security building, and a guard house are proposed for a total of six (6) buildings and 777,151+/- sf GFA and a prefabricated guard booth. Utilization of diesel generators is conditional and subject to separate permitting. This plan proposes 92 diesel/HVO capable generators, standby rated with EPA Tier 4 compliant emissions reduction system associated with buildings A,B,C and D. Those generators will be located in sound attenuated, walk-in style enclosures in white finish. Buildings E and F each have a single generator (Tier 2 Compliant or Tier 4 Compliant) in an acoustical enclosure with an exhaust silencer.
2. Total area of amended Preliminary Plan PP273777 is +/-258.67 Acres. This Site Plan falls within the approved preliminary plan area and includes +/-151.17 acres. The site plan is zoned GI & LI, has a land use designation of General Industrial & Limited Industrial per the 2010 Comprehensive Plan, and is in the Adamstown Planning Region.
3. The Site Plan is comprised of part of Parcel 9, Tax Map 94 recorded in Liber 15038 at folio 393.
4. The Site Plan is located on Frederick County Tax Map 94 and Frederick County Soils Map 94.
5. Boundary information as shown on this site plan was taken from August 2021 field boundary surveys conducted by Rodgers Consulting, Inc., and other available deed and plat information.
6. Topography is shown hereon at 2 foot contour intervals per photogrammetric mapping compiled by McKenzieSnyder, Inc., based on aerial photography and LiDAR data collected in April 2021.
7. Survey datum is the Maryland Coordinate System [NAD83(2011), SPCS zone 1900(MD), U.S. Survey Feet], based on static GPS observations post-processed by the National Geodetic Survey's Online Positioning User Service (OPUS). Measured points include RCI control points 9501 and 9504. The average combined (map scale x elevation) factor for the site is 0.99997061.
   9501 N 609450.579 E 1184241.605
   9504 N 604476.704 E 1174468.799
   Vertical datum is NAVD88, based on static GPS observations post-processed by the National Geodetic Survey's Online Positioning User Service (OPUS). Measured points include RCI control points 9501 and 9504.
   9501 NAVD88 orthometric height 300.656
   9504 NAVD88 orthometric height 377.729
8. This site plan will be served by public water & sewer. The current water & sewer classification is W5 and S5.

Environmental Notes

9. The 100 Year Floodplain is a compilation of several sources of data per Section 1-19-9.100 of the Frederick County Zoning Code. The extents of the floodplain includes the greatest extent of the following: FEMA (updated delineation adopted 8/1/23), Frederick County Floodplain Soils, and wetlands adjacent to other floodplain sources. A minimum setback of 25 feet shall be provided from all Floodplain district boundaries, except as otherwise approved through the mitigation process described in § 1-19-9.110(B)(7). All setback areas shall be maintained or planted with natural vegetation.
10. The waterbody buffers shown on this plan were delineated based on Section 1-19-9.400(C) of the Frederick County Code (the waterbody buffer ordinance). First, a minimum 100' buffer was delineated on each side of intermittent and perennial streams. Second, 175-foot cross-sections were taken at 50-foot intervals along each stream. The buffer was expanded to 150 feet along these cross sections when 60% of the cross-section contained slopes between 15%- >25%. The buffer was expanded to 175 feet along these cross sections when 60% of the cross-section contained slopes 25% and greater. The buffer was adjusted to the top of the crest per the waterbody buffer ordinance when applicable. After the cross-sections were taken the waterbody buffer was expanded to include wetlands and floodplains, including flooding soils, that extend outside of the calculated waterbody buffer area.
11. Wetlands were delineated in September of 1996 and reconfirmed in Spring 2021 by RCI staff, in conformance with the 1987 U.S. Corps of Engineers' delineation manual. No wetlands were delineated within the limits of this Site Plan. A site visit with USACE and MDE occurred on 2021.12.09. Additional site visits occurred on 2022.07.06 and Spring 2023 which resulted in some revisions to wetland delineations in conjunction with MDE review.
12. A Preliminary Forest Conservation Plan was approved under F273779 on 2023.02.08. A Final Forest Conservation Plan was approved under F275810 on 2023.xx.xx.
13. No buildings, structures, or impervious surfaces, and no activities requiring clearing or grading over 5,000 square feet will be permitted in waterbody buffers, except for stormwater management facilities, structures and appurtenant conveyances; environmental restoration or mitigation projects; utilities; public and private roads; driveways; bikeways, and trails unless otherwise permitted per 1-19-9.400.

Zoning Compliance Notes

14. Design Requirements 1-19-6.100:

	Min. Lot Area	Min. per unit	Lot Width	Front Yard	Side Yard	Rear Yard	Height
Use Classification: GI ZONE	80,000SF	---	200'	50'	50'	50'	60'*
Critical digital infrastr. facility	20,000SF		200'	50'	50'	50'	30'
Critical digital infrastr. substation							
	Min. Lot Area	Min. per unit	Lot Width	Front Yard	Side Yard	Rear Yard	Height
Use Classification: LI ZONE	80,000SF	---	200'	50'	50'	50'	60'*
Critical digital infrastr. facility	20,000SF	---	200'	50'	50'	50'	30'
Critical digital infrastr. substation							

*Building height is 42'-4"+/- for the facility.
Water tanks are exempt from the height requirement per 1-19-6.160(B); the tallest water tank is 60'+/-.

15. The proposed improvements meet performance standards associated with 1-19-7.600 (Industrial Districts).
16. Perimeter/screening landscaping will be installed as soon as the areas are on grade and stabilized. Internal landscaping adjacent to proposed improvements will be installed as those areas are completed.

Transportation/APFO Notes

17. This site met the requirements of APFO at preliminary plan (PP273777) approval and is therefore exempt from further APFO testing and consideration at site plan. (§1-20-7(E)). It is subject to an executed Letter of Understanding (A273778).
18. All signage and markings will be in accordance with Maryland MUTCD.
19. All proposed intersections meet the Intersection Design criteria as outlined in Frederick County Design Manual. All public road fillet radii at intersections will be 30 feet, unless otherwise shown on the plan.
20. Future development of this property may require road layback work to be done along previous dedicated road right of way.
21. Future access to the site plan area shall be in accordance with regulations in effect at the time of development.
22. Site Plans and Improvement Plans will comply with the Frederick County 2018 Bikeways and Trails Plan.

Parking and Loading (Section 1-19-6.210 and .220) Notes

23. Loading spaces required: 1 Large first 5,000 sf + 1 large/additional 10,000 sf; 777,155+/- sf = 78 spaces required. Large loading spaces are a minimum of 12'x50'.
    Loading spaces provided: 8 large
24. Parking spaces required: 1 for every 2 employees at the largest shift plus 1 for each business vehicle if parked on-site.
    190 employees = 95 spaces + 2 vehicles used in business = 97 spaces
    Parking spaces provided: 252 spaces, of which 14 are van-accessible spaces, and 16 are Electric Vehicle charging spaces.
25. Bicycle parking spaces required: 1 rack per 40,000 SF GFA, minimum 1, maximum 10.
    Bicycle parking spaces provided: 20 racks.

CDI Facility Performance Standard Notes (Section 1-19-8.402(D))

	Industrial	Commercial	Residential	Institutional	All Other
26. Noise: Max decibels allowed at adjacent use	70	64	55	NA	55
Max decibels provided at adjacent use	<70	NA	<55	NA	<55

27. Vibration: Data center operations will comply with the requirements of §1-19-7.610(C); no equipment will produce vibration discernible without the aid of instruments at any point beyond the lot line or produce a particle velocity of 2 inches per second measured at or beyond the lot line. Mechanical and electrical equipment will be on rooftops or spring foundations and will not direct vibrations into the ground.

Stormwater Management Notes

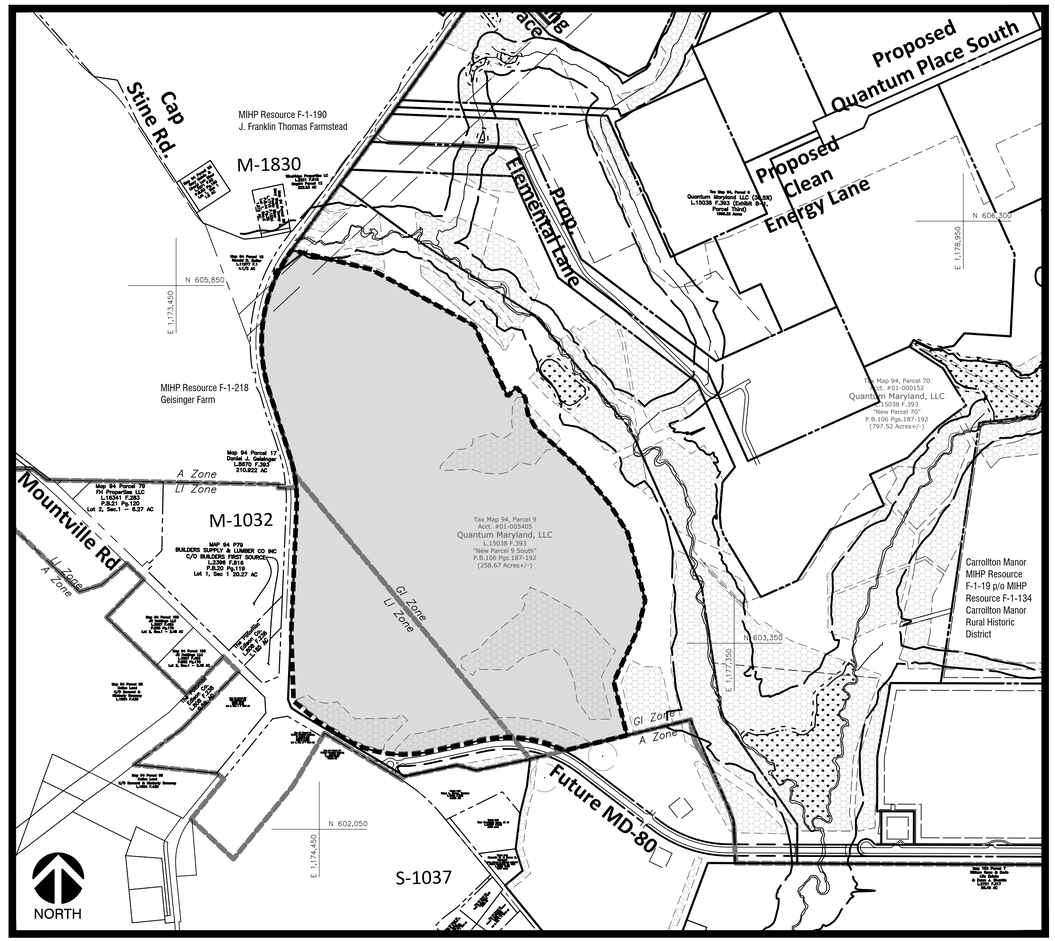
28. Environmental site design will be provided to the MEP for all improvements. End of line treatment of water quality (WQv) and channel protection (CPv) will be provided because many drainage areas associated with the permitted uses may be above thresholds for treatment by micro-scale practices. Qp10 Control will be provided in end of line facilities. ESDv will be proposed where practicable.

Lighting Notes

29. Lighting shall not exceed 0.50 foot-candles as measured from property line and shall be fully shielded and directed downward to prevent glare and light trespass onto adjacent properties, roadways, and the nighttime sky.
30. Total light fixtures: 252 light poles max height 18', 227 building mounted lights max mounting height 18'.

Other

31. All existing or proposed sidewalks, shared use paths, and trails will comply with all state and federal accessibility standards.
32. All easements necessary to provide public access/maintenance/etc are referenced on this site plan.
33. The approval of this site plan does not grant the right to, or set the precedent for, the use of shared utility easements. The location, orientation, and grading through and around all water and sewer easements outside of the public right of way are subject to approval by DWSU with the improvement plans. In the event of conflicting requirements between agencies, the developer agrees that a revision of this site plan may be necessary.
34. The alignments of the proposed utilities (dry utilities, storm drain) are preliminary and subject to change.
35. Final supporting site element (including but not limited to security fixtures, signs, plants, lights) locations to be determined at time of Improvement Plan or Building Permit to allow shifts for utility clearances, site security requirements, improved screening and constructability. Element location changes will not require site plan amendment provided the changes comply with the zoning ordinance and modifications as granted on the site plan approval.
36. Signage: No owner identification or business identification signage is proposed. Address signs will be provided where required and at the size required in § 1-2-69.1.G. County Fire Prevention Code.
37. Several MIHP mapped resources are in the vicinity of the project.
    37.1. F-1-134: Carrollton Manor Rural Historic District lies east of the site. The western limit of the district is the mainstem of the Tuscarora Creek
    37.2. F-1-190: J. Franklin Thomas Farmstead is at 3681 Cap Stine Road. MHT recommended against eligibility for historic status for this property in 2019.
    37.3. F-1-218: Geisinger Farm is at 3710 Cap Stine Road. MHT recommended against eligibility for historic status for this property in 2019.
    37.4. F-1-18 St. Joseph's Church on Carrollton Manor and F-1-19 Carrollton Manor and and east of the site and within the Carrollton Manor Rural Historic District.



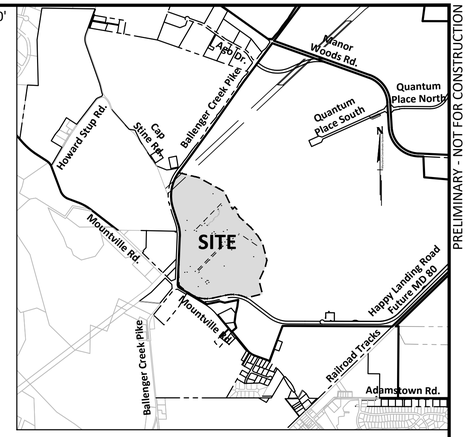
Location Map

0 500 1000 1500 2000 feet

1" = 500'

VICINITY MAP: 1"=2000'

Tax Map 94
Parcel 9 (Tax Acct. #01-005405)



LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- SOILS LINES
- SOIL TEXT TYPE (HcB)
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- 1,000' RADIUS FROM SITE
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

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Sheet 4	Notes and Details	C-002.03
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Sheet 6	Site Plan	C-050.02
Sheet 7	Site Plan	C-050.03
Sheet 8	Site Plan	C-050.04
Sheet 9	Site Plan	C-050.05
Sheet 10	Site Plan	C-050.06
Sheet 11	Site Plan	C-050.07
Sheet 12	Site Plan	C-050.08
Sheet 13	Site Plan	C-050.09
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Sheet 15	Sight Distance Ballenger Creek Pike Driveway 2	C-050.11
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Sheet 41	Landscaping, Screening and Buffering Plan	L-050.07
Sheet 42	Landscaping, Screening and Buffering Plan	L-050.08
Sheet 43	Landscaping, Screening and Buffering Plan and Details	L-050.09

Division of Water and Sewer Utilities Notes:

1. A waste fixture count must be prepared by the Frederick County DWSU, Division of Engineering and Planning before a building permit can be approved.
2. Each tenant or owner shall complete an industrial waste survey and comply with the Frederick County industrial waste ordinance. Furnishment and installation of monitoring manholes, grease taps and other pre treatment devices shall be the responsibility of the owner or contract purchaser of the lot. The final location of said devices are subject to review and approval by Frederick County DWSU as part of the site improvement plan.

Fire & Rescue Notes:

1. Fire Department access roads shall be accessible during all types of weather and at all times.
2. Fire Department access roads shall be capable of supporting Fire apparatus at all times and be a minimum of 20 feet wide.
3. Fire Department access shall be provided and maintained to all structures undergoing construction, alteration, or demolition.
4. The access roadways shall provide a minimum turning radii of 40 to 45 feet.
5. Fire lanes shall be established by the Fire Marshall.
6. Fire hydrants not at intersections shall be located in relation to property lines in order to avoid interference with driveways.
7. Fire hydrants shall be located at street intersections at the point of curvature or truncation of property line fillet.
8. Fire hydrants shall be located in the front and rear of buildings or complexes.
9. Fire hydrants shall not be more than 300 feet apart, as measured along an improved road (single family residential).
10. Each town house shall have a street address off the road which the front of the house faces.
11. Plowable fire hydrant markers will be located 6" from CL of roadway on side closest to fire hydrant. The reflector will be blue.
12. The property addresses and street signs and directional signs shall be fabricated and posted in accordance with the Frederick County Premise Identification Ordinance #05-01-362. A detail of a sample street sign shall be provided on the appropriate drawings, but no later than the Improvement Plans. A copy of the ordinance is available from the County Fire Marshal by contacting 301-600-1479 or at www.co.frederick.md.us/FED.
13. Fire lanes will be established by the Fire Marshal. Fire lanes will be required to be painted traffic yellow and with signs posted every 75' (minimum).

Water and Sewer Tracking Table

	Water (MGD)		Sewer (MGD)
Lot	Domestic Water Demand (Max. Daily)	Cooling Water Demand (Max. Daily)	Sewer Discharge
106 (ADC Bldg 1)	0.002 MGD	0 MGD	0.0012 MGD
400 (Bauxite)	0.008 MGD	0.392 MGD	0.29 MGD
Total	0.01 MGD	0.392 MGD	0.2912 MGD
Cap*	0.2 MGD	1.3 MGD	1.0 MGD**
Remaining	0.19 MGD	0.908 MGD	0.7088 MGD

* Cap is per APFO Letter of Understanding Dated 12/15/21.
** Or as determined by a developer funded capacity analysis of the existing gravity outfall sewer system beginning in New Design Road, or as otherwise approved by DWSU.

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

Development Summary

Type	SF	%	Acreage
Area of Lot 400	± 6,584,808 sf	100%	± 151.17 Acres
Area of Rooftops	± 777,155 sf	12%	± 17.84 Acres
GFA Building A	± 215,725 sf		
GFA Building B	± 119,190 sf		
GFA Building C	± 215,725 sf		
GFA Building D	± 215,725 sf		
GFA Building E	± 6,890 sf		
GFA Building F	± 3,900 sf		
Area of Private Roads, Parking & S/W	± 1,541,630 sf	23%	± 35.39 Acres
Area of Future Substation	± 268,278 sf	4%	± 6.16 Acres
Area of Green Space	± 3,997,745 sf	61%	± 91.78 Acres

Approved Modifications with PP273777:

1. A modification per § 1-19-6.400(A)(1) to allow less street trees than required.
2. A modification per § 1-19-6.400(A)(2)(c) for the approval of an alternate planting design by the Planning Commission.

Proposed Modifications as part of SP275808:

1. A modification to §1-19-6.210(B) to allow less than the required loading spaces.
2. A modification to §1-19-6.220(A)(1) to provide more parking spaces than required.
3. A modification to §1-19-8.402(B)(6)f to allow chain link fence in the CDI zone.

PROJECT HISTORY

Tax Map #	94
Parcels	9
Tax Account #	01-005405
County File	S-1179
PFCP for Prelim Plan Section 2	F273779
FFCP Section 2 Phase 1	F275516
FFCP Section 2 Phase 2	F275810
Section 2 PP NID	N273711
Section 2 Preliminary Plan	PP273777
Section 2 1st Preliminary Plan Revision	PP275802
SWM Concept Plan	PW273817
IP West Loop	PW275326
IP Mountville Road	PW275040
Lot 400 Site Plan	SP275808

INTERNAL USE ONLY
DEVELOPMENT REVIEW

FILE #: S-1179

A/P #: SP275808

DUE DATE:

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY _____ DATE

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

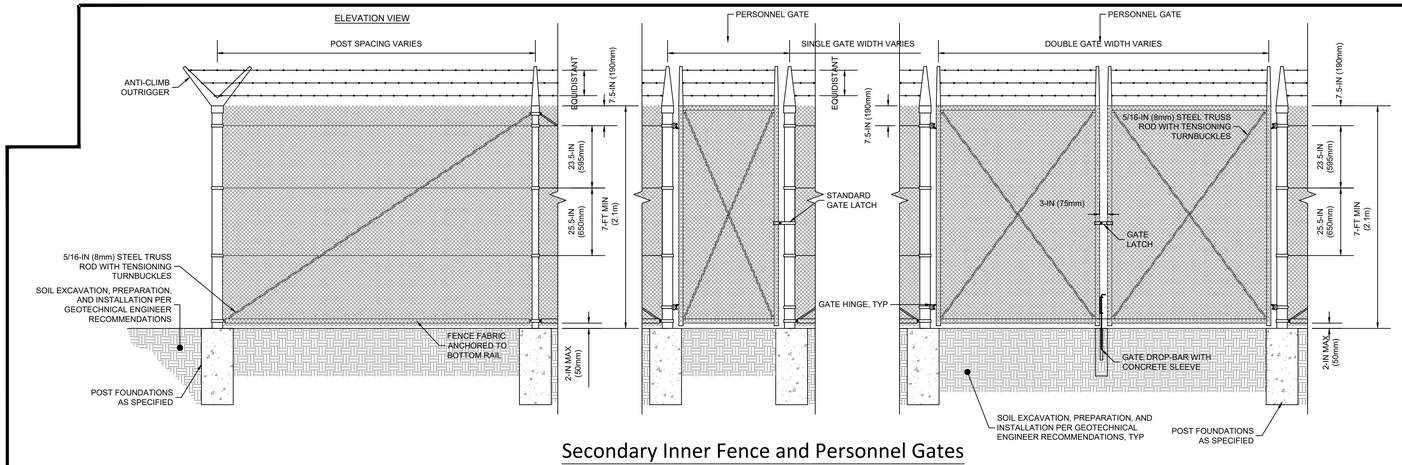
Cover Sheet

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

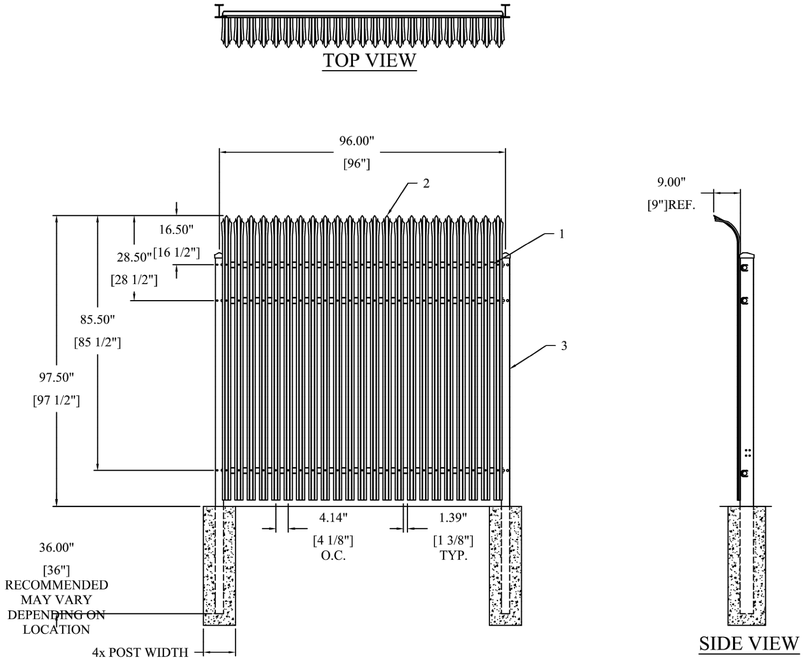
SCALE:	As Shown
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-000.01
SHEET No.	1 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-000.01-COVER SHEET.DWG



Secondary Inner Fence and Personnel Gates

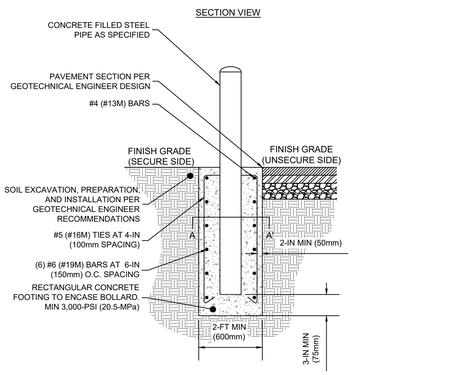
NTS



ELEVATION VIEW

Primary Outer Black Fence (or approved equal)

NTS

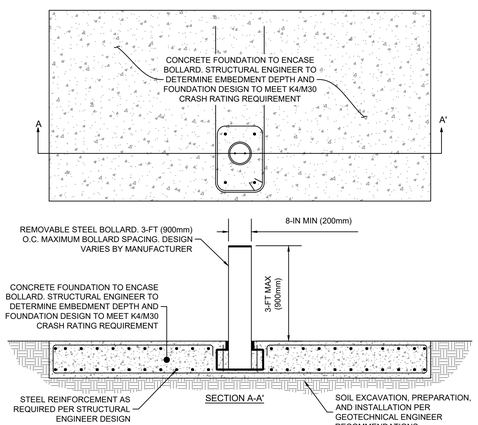


NOTES:
1. IN AREAS WITH MULTIPLE BOLLARDS, BOLLARDS ARE TO BE POSITIONED NO MORE THAN 3-FT CLEAR BETWEEN BOLLARDS AROUND ADA ACCESSIBLE PATHS/SIDEWALKS. PLACEMENT MAY BE IN A SINGLE LINE, SINGLE LINE WITH FOUNDATIONAL SUPPORT MEMBER (GRADE BEAM), OR IN TRIANGULAR FORMATIONS.
2. WHERE USED TO AUGMENT PERIMETER FENCING, BOLLARDS MUST BE SET BACK TO PREVENT USE OF BOLLARDS AS ENTRY AID. FOR MAIN ENTRANCES, BOLLARDS TO BE PLACED MINIMUM 6-FT FROM BUILDING EXTERIOR.
3. BOLLARD PLACEMENT SHALL NOT BLOCK OR HINDER ANY EGRESS PATH, GATE, OR PEDESTRIAN ENTRANCE AND SHALL MEET ADA REQUIREMENTS WHERE NECESSARY.

SECTION A-A'

Crash-Rated Site Bollard

NTS



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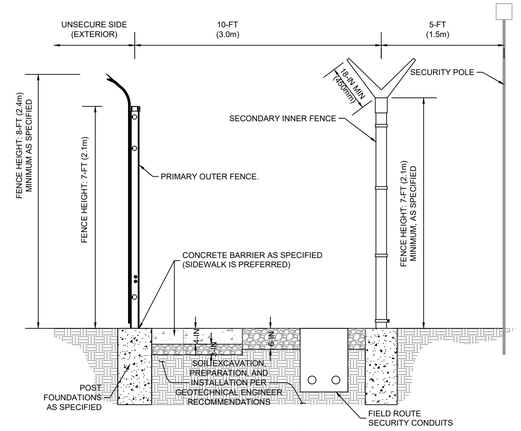
Removable Crash-Rated Site Bollard

NTS



Double Security Perimeter Fence Cross Section

NTS

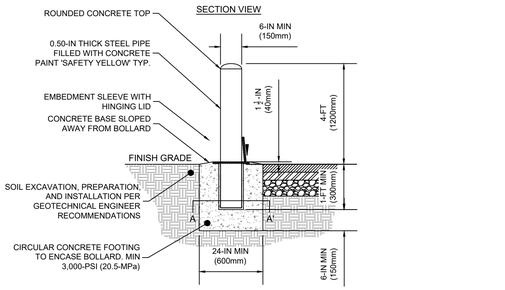
An anti-dig barrier consisting of a 4-foot (1.2-m) wide, 4-in. (100-mm) thick 3500 psi concrete sidewalk shall be installed on the secure side of the primary outer fence. This barrier must reach to within 2-in. (50-mm) of the bottom of the fence.
2-Where a sidewalk cannot be incorporated into the primary outer fence, an anti-dig barrier shall be incorporated to the below specifications:
i. Baseline Requirement:
Minimum of 12-in. (300-mm) width and 18-in. (450-mm) depth 3500 psi concrete anti-dig strip. This barrier must reach to within 2-in. (50-mm) of the bottom of the fence.

NOTES:
1. TYPICAL BOLLARD DETAIL SHOWN. DESIGN PARAMETERS TO BE DETERMINED BY THE A/E TEAM PER INDIVIDUAL PROJECT REQUIREMENTS.
2. BOLLARD PLACEMENT SHALL NOT BLOCK OR HINDER ANY EGRESS PATH, GATE, OR PEDESTRIAN ENTRANCE AND SHALL MEET ADA REQUIREMENTS WHERE NECESSARY.

SECTION A-A'

Exterior Bollard

NTS

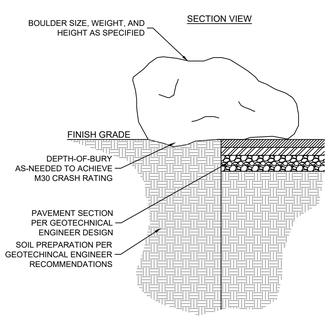


NOTES:
1. TYPICAL BOLLARD DETAIL SHOWN. DESIGN PARAMETERS TO BE DETERMINED BY THE A/E TEAM PER INDIVIDUAL PROJECT REQUIREMENTS.
2. BOLLARD PLACEMENT SHALL NOT BLOCK OR HINDER ANY EGRESS PATH, GATE, OR PEDESTRIAN ENTRANCE AND SHALL MEET ADA REQUIREMENTS WHERE NECESSARY.
3. BOLLARD MUST COMPLY WITH CFC312.2

SECTION A-A'

Removable Exterior Bollard

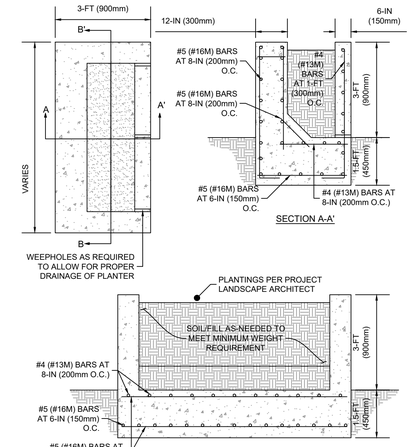
NTS



NOTES:
1. WHERE IMPLEMENTED, BOULDERS TO BE PLACED ALONG EXTERIOR (UNSECURE) SIDE OF THE PERIMETER SECURITY FENCE, AND POSITIONED IN A WAY THAT DOES NOT FACILITATE CLIMBING. IF THERE IS NO ROOM ON THE EXTERIOR SIDE OF THE FENCE, BOULDERS ARE PERMITTED TO BE POSITIONED ON THE INTERIOR (SECURE).
2. BOULDERS SHALL BE PLACES APPROXIMATELY 6-FT (1.80M) APART ALONG THE INTERIOR OR EXTERIOR LENGTH OF THE FENCE, AND SHALL BE NO CLOSER THAN 6-FT (1.80m) TO THE INTERIOR OR EXTERIOR OF THE FENCE
3. BOULDER PLACEMENT SHALL NOT BLOCK ANY EGRESS PATH, GATE, OR PEDESTRIAN ENTRANCE

Crash-Rated Site Bolulder

NTS



NOTES:
1. CONTAINERS/PLANTERS SHALL BE PLACED ON THE INTERIOR OR EXTERIOR SIDE OF THE PERIMETER FENCE OR RETAIL STORE FRONT AREAS, IN A WAY THAT DOES NOT AID IN CLIMBING THE FENCE.
2. CONTAINERS/PLANTERS PLACED ON THE INTERIOR SIDE OF THE PERIMETER FENCE WILL BE INSTALLED AT CURRENT GRADE.
3. CONTAINERS/PLANTERS SHALL BE 2,50 TONS (2,27 TONNES) IN WEIGHT, ±10%.
4. DEPTH OF BURY SHALL BE MINIMUM REQUIRED TO ACHIEVE K4/M30 CRASH RATING AS DETERMINED BY A LICENSED STRUCTURAL ENGINEER.
5. CONTAINERS SHALL EXTEND NO HIGHER THAN 3-FT (900mm) FROM GROUND LEVEL, AND SHALL BE SPACED 6-FT (1.8-M) APART ALONG THE PERIMETER FENCE. CONTAINERS SHALL BE NO CLOSER THAN 6-FT (1.8m) TO THE FENCE.
6. CONTAINER PLACEMENT SHALL NOT BLOCK ANY EGRESS PATH, GATE, OR PEDESTRIAN ENTRANCE.

Crash-Rated Site Planter

NTS

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR
_____ BY _____ DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Notes and Details

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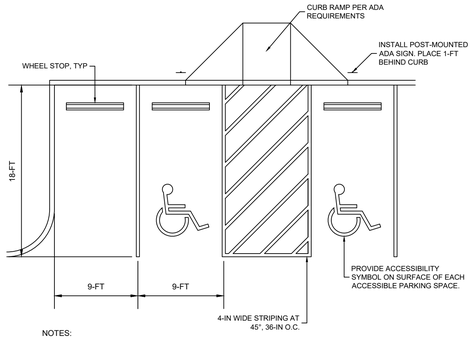
INDEX No.	C-002.01
SHEET No.	02 OF 43

N: \MD–FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C–002.01–NOTES AND DETAILS.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

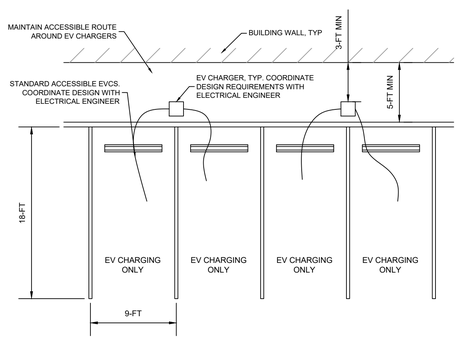


NOTES:

1. ADA PARKING REQUIREMENTS SHALL FOLLOW FEDERAL ADA GUIDELINES.
2. MAXIMUM GRADES WITHIN ADA PARKING SPACES SHALL BE 2.0% IN ALL DIRECTIONS. MAINTAIN MAXIMUM 2.0% CROSS SLOPES AND 5.0% LONGITUDINAL SLOPES ON ALL NON-RAMPED ADA-INTENDED PATHS.

Accessible Parking

NTS

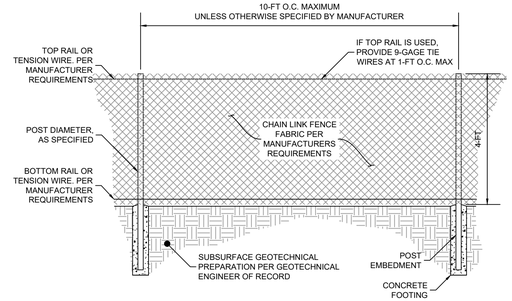


NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH MUTCD AND FREDERICK COUNTY REQUIREMENTS.

EV Parking

NTS



GATE LEAF WIDTH	GATE POST (OD)	FABRIC HEIGHT	FOUNDATION DIAMETER	FOUNDATION DEPTH	POST EMBEDMENT
3-FT TO 6-FT	2.875-IN	4-FT	12-IN	38-IN	36-IN
7-FT TO 12-FT	4-IN	4-FT	14-IN	38-IN	36-IN

NOTES:

1. 4-FT CHAIN LINK FENCE TO ENCOMPASS PROPOSED DETENTION PONDS AS A PUBLIC SAFETY MEASURE TO PREVENT ACCESS.
2. FOUNDATION DEPTHS, SIZES, AND POST EMBEDMENT SHALL FOLLOW MINIMUM SIZING REQUIREMENTS IN THE TABLE ABOVE, UNLESS OTHERWISE SPECIFIED BY THE SELECTED FENCE MANUFACTURER AND/OR GEOTECHNICAL ENGINEER OF RECORD.

4' Chain Line Fence Detail (Stormwater Pond Fencing)

NTS

A Submittal 2023.10.05
B Submittal 2023.11.08
C Submittal 2023.11.30

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR

BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

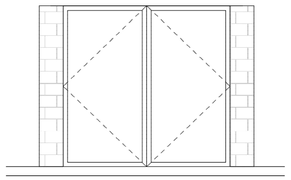
Notes and Details

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

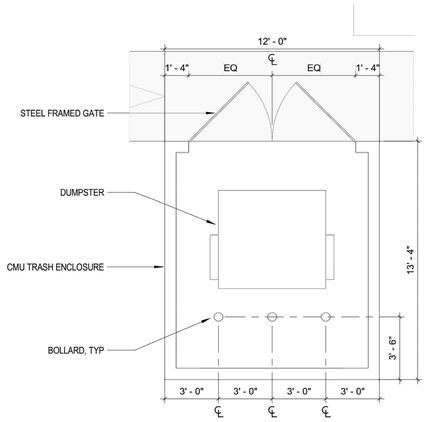
SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-002.02
SHEET No.	03 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-002.01-NOTES AND DETAILS.DWG



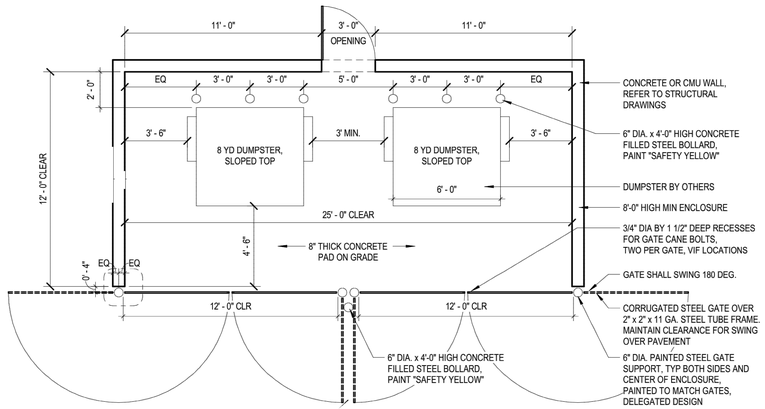
Building 'E' Trash Enclosure Elevation

NTS



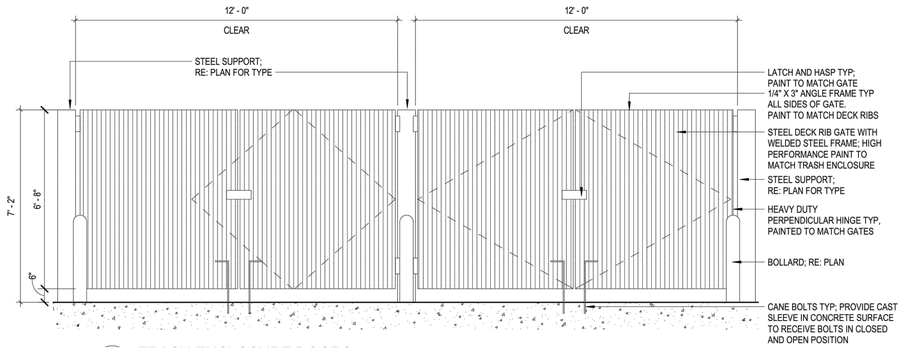
Building 'E' Trash Enclosure Detail

NTS



Buildings 'A' 'B' 'C' & 'D' Trash Enclosure Detail

NTS



Buildings 'A' 'B' 'C' & 'D' Trash Enclosure Elevation

NTS

Figure 1

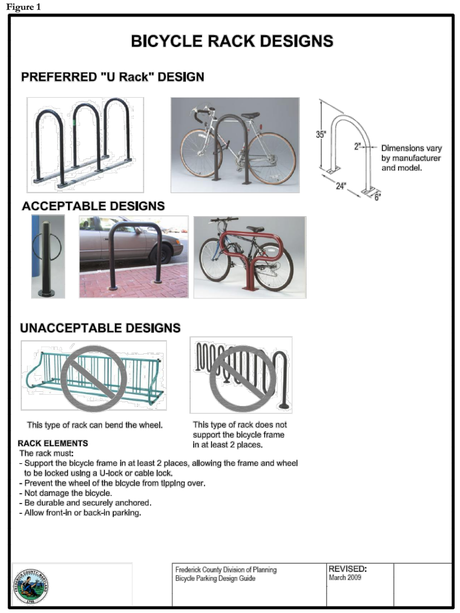
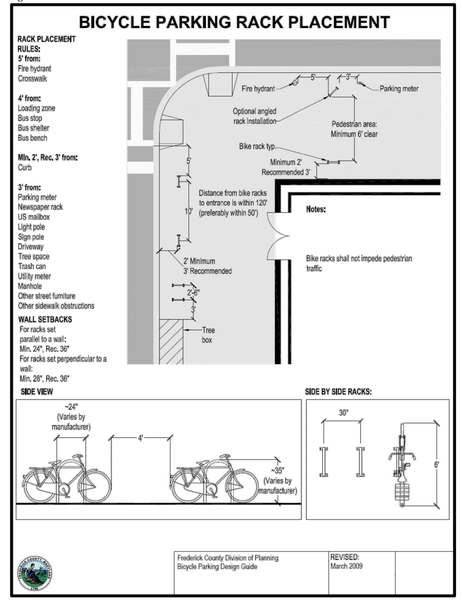


Figure 2



PRELIMINARY - NOT FOR CONSTRUCTION

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY _____ DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Notes and Details

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19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-002.03
SHEET No.	03 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-002.01-NOTES AND DETAILS.DWG

3 Submittal 2023.10.05
2 Submittal 2023.11.08
1 Submittal 2023.11.30

PRELIMINARY - NOT FOR CONSTRUCTION

C-050.02

C-050.03

C-050.04

C-050.05

C-050.06

C-050.07

C-050.08

C-050.09

Substation not part of this site plan

OPEN SPACE PARCEL 'O'
±2,330,460 sf
±53.50 acres

OPEN SPACE PARCEL 'A'
±6,867,637 sf
±157.66 acres

QUANTUM FREDERICK SECTION 1 PRELIMINARY PLAN PP266304

Lot 400
±6,584,808 sf
±151.17 acres

LOT 402
±526,183 sf
±12.08 acres
(Lot 402 is zoned A)

LOT 403
±1,445,541 sf
±33.19 acres
(Lot 403 is zoned A)

OPEN SPACE PARCEL 'Q'
±76,574 sf
±1.76 acres

R/W DEDICATION
±281,242 sf
±6.46 acres

NOTE:
Utilization of diesel generators is conditional, subject to permitting

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- SOILS LINES
- SOIL TEXT TYPE (HcB)
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT
- PROPOSED OUTER FENCE
- PROPOSED INNER FENCE
- PROPOSED CRASH RATED FENCE
- PROPOSED 9' CHAIN LINK FENCE

Soil Symbol	Soil Name	K Factor	Hydrological Soil Group	Ag. Soil Designation	Other Notes
CrB	Croton-Abbottstown silt loams, 3 to 8 percent slopes	0.37	D	None	H, W
KeC	Klinesville very channery loam, 8 to 15 percent slopes	0.20	D	Statewide Importance	
KeD	Klinesville very channery loam, 15 to 25 percent slopes	0.20	D	None	
LsA	Lindside silt loam, 0 to 3 percent slopes	0.37	C	Prime	F,H,W
MbB	Morven loam, 3 to 8 percent slopes	0.28	B	Prime	W
PaB	Penn loam, 3 to 8 percent slopes	0.32	B	Prime	
PrB	Penn-Reaville silt loams, 3 to 8 percent slopes	0.32	B	Statewide Importance	W
RgB	Readington silt loam, 3 to 8 percent slopes	0.37	C	Statewide Importance	W
RwA	Rowland silt loam, 0 to 3 percent slopes	0.37	C	Prime	F,H
SpB	Springwood gravelly loam, 3 to 8 percent slopes	0.24	C	Prime	
SpC	Springwood gravelly loam, 8 to 15 percent slopes	0.24	C	Statewide Importance	
W	Water	n/a		None	

F denotes Frederick County floodplain soil
H denotes hydric rating
W denotes Frederick County wet soil

NORTH

0 150 300 450 600 feet

1" = 150'

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Overall Site Plan & Sheet Key

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=150'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-050.01
SHEET No.	05 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-050.01-OVERALL SITE PLAN.DWG

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT
- PROPOSED OUTER FENCE
- PROPOSED INNER FENCE
- PROPOSED CRASH RATED FENCE
- PROPOSED 9' CHAIN LINK FENCE

0 50 100 150 200 feet

1" = 50'

NORTH

PROPOSED UTILITY LEGEND

- IW TO BLDG F — INDUSTRIAL WATER TO BLDG F
- W TO BLDG F — WATER MAIN TO BLDG F
- W — WATER SERVICE LINE- FROM BLDG F
- FIRE — FIRE LOOP - FROM BLDG F
- IW — INDUSTRIAL WATER LOOP- FROM BLDG F
- IW — INDUSTRIAL WATER SERVICE LINE
- IW-SEC — INDUSTRIAL WATER SECONDARY SERVICE LINE
- S — SEWER
- IWW — INDUSTRIAL WASTE WATER TO ATTENUATION TANK

Ex. Ballenger Creek Pike (Public - Minor Arterial)

Limits of Plan

Future Road Improvements (By Others)

Variable Width R/W

Ex. Potomac Edison Esm't L.804 F.268

50' BRL

R= 1045.23'
L=898.65'

Prop. FRO Esm't

Prop. SWM

SWM Safety Fence (Typ.)

Proposed Lot Line

Floodplain

Waterbody Buffer

Floodplain Setback

LOT 400
±6,584,805 sf
±151.17 acres

Prop SD

Future Substation
(Not part of this Site Plan)

Proposed Substation & First Energy Access Road

120'R
110'R
100'R

Double Security Fence (Typ.)

Match Line: See Sheet C-050.03

ST-212
ST-213
ST-214
ST-215
ST-216
ST-217
ST-218
ST-219
ST-220
ST-221
ST-222
ST-198
ST-199

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

NOTE:
Utilization of diesel generators is conditional, subject to permitting

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
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Contact: Xiomara Gerlach
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Site Plan

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Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-050.02
SHEET No.	6 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\DATABASE\PROP CONTOURS.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

Match Line: See Sheet C-050.02

Match Line: See Sheet C-050.04

Match Line: See Sheet C-050.05

Match Line: See Sheet C-050.08

Ex. Ballenger Creek Pike
(Public - Minor Arterial)

Proposed Substation & First Energy Access Road

Prop. SWM

Prop. SWM

Double Security Fence (Typ.)

Proposed Driveway 2
This is not a primary entrance and is to be used for construction, emergency access and substation access only.

Existing Driveway apron to be removed

Water Tanks

Prop. Building 'D'
One Story +/- 215,724 sf
S=384.40

Prop. Utility Yard

Prop. Screen Wall

Prop. 9' Chain Link Fence

Prop. Dumpster

Prop. Loading Dock
2 large spaces

Trench Drain

Prop. Utility Yard

LOT 400
±6,584,808 sf
±151.17 acres

SWM Safety Fence (Typ.)

Double Security Fence and Gate (Typ.)

Security Pole (Typ.)

Ex. Transmission Tower

Ex. Potomac Edison Esm't L.804 F.401

Possible Fut. Industrial Water Treatment Storage
(Not part of this site plan)

Possible Fut. Industrial Water Treatment Facility
(Not part of this site plan)

Future Fire Access Road

Proposed Pet. Ed. Access Road

Proposed Lot Line

Double Security Fence (Typ.)

SWM Safety Fence (Typ.)

Ex. Transmission Tower

Ex. Potomac Edison Esm't L.804 F.401

NOTE:
Utilization of diesel generators is conditional, subject to permitting

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- PROPOSED OUTER FENCE
- PROPOSED INNER FENCE
- PROPOSED CRASH RATED FENCE
- PROPOSED 9' CHAIN LINK FENCE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

PROPOSED UTILITY LEGEND

- IW TO BLDG F — INDUSTRIAL WATER TO BLDG F
- W TO BLDG F — WATER MAIN TO BLDG F
- W — WATER SERVICE LINE- FROM BLDG F
- FIRE — FIRE LOOP - FROM BLDG F
- IW — INDUSTRIAL WATER LOOP- FROM BLDG F
- IW — INDUSTRIAL WATER SERVICE LINE
- IW-SEC — INDUSTRIAL WATER SECONDARY SERVICE LINE
- S — SEWER
- IWW — INDUSTRIAL WASTE WATER TO ATTENUATION TANK

0 50 100 150 200 feet
1" = 50'

NORTH

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY _____ DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Site Plan

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19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

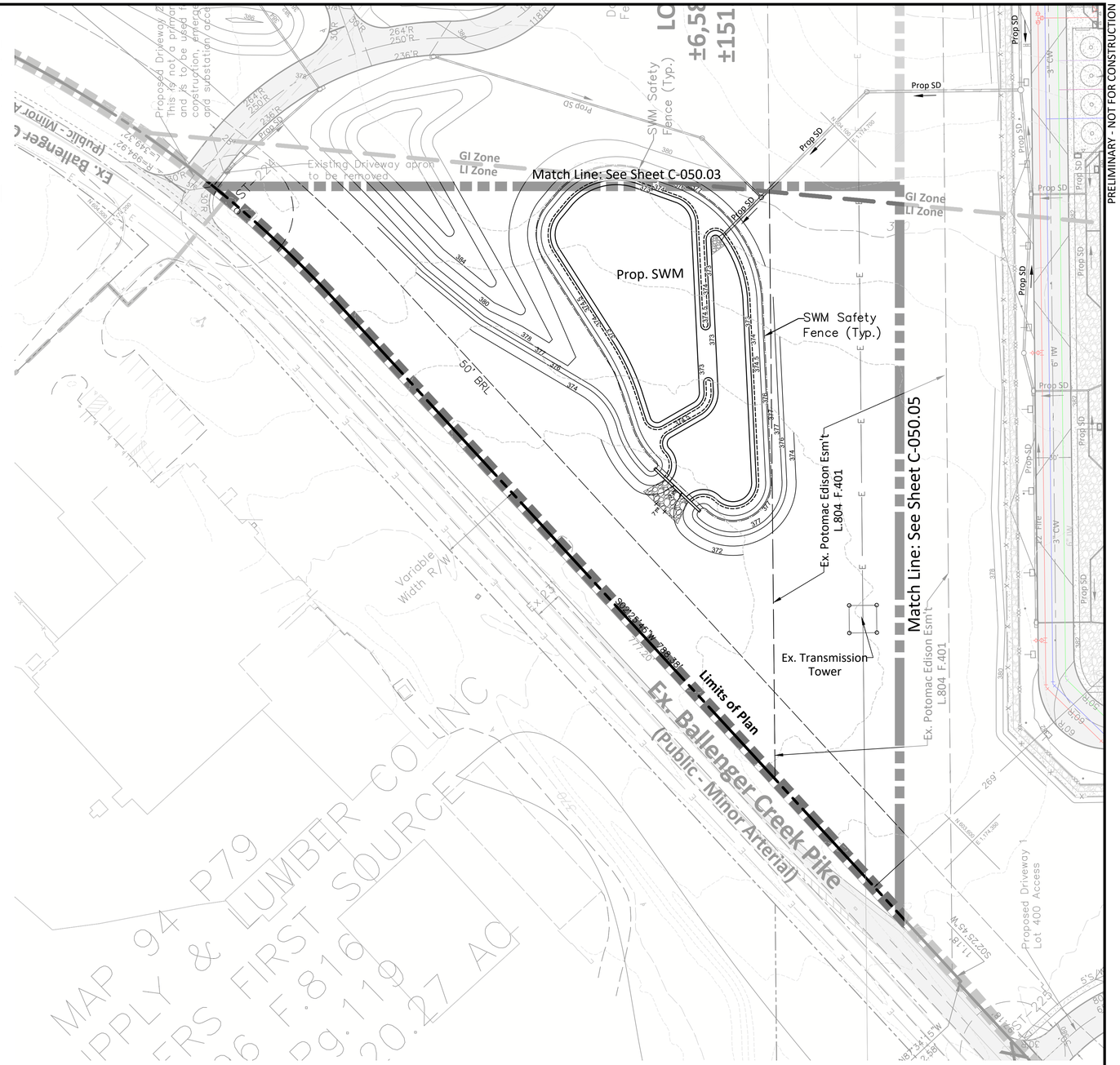
SCALE:	1"=50'
JOB No.	13648
DATE:	Oct 2023
INDEX No.	C-050.03
SHEET No.	7 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

N:\MD-FREDERICK\ALCOA\AUTOCAD\DATABASE\PROP CONTOURS.DWG

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT
- PROPOSED OUTER FENCE
- PROPOSED INNER FENCE
- PROPOSED CRASH RATED FENCE
- PROPOSED 5' CHAIN LINK FENCE



PRELIMINARY - NOT FOR CONSTRUCTION

NOTE:
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0 50 100 150 200 feet
1" = 50'

NORTH

CALL "MISS UTILITY" AT 1-800-257-7777
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SP275808
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Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	13648
DATE:	Oct 2023
INDEX No.	C-050.04
SHEET No.	8 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\DATABASE\PROP CONTOURS.DWG

Match Line: See Sheet C-050.04

Match Line: See Sheet C-050.03

Match Line: See Sheet C-050.06

Match Line: See Sheet C-050.07

Match Line: See Sheet C-050.08

PRELIMINARY - NOT FOR CONSTRUCTION

Ex. Potomac Edison Esm't
L.804 F.401

Ex. Ballenger Creek Pike
(Public - Minor Arterial)

Proposed Driveway 1
Lot 400 Access

Security Pole (TYP.)

SWM Safety Fence (Typ.)

Prop. SWM

Guard Booth

Security Fence and Gate (Typ.)

Prop. Bldg 'E'
One Story +/- 6,890 sf
S=382.0

Prop. Generator

Prop. Dumpster

Prop. 9' Fence

LOT 400
±6,584,808 sf
±151.17 acres

Prop. FRO Esm't

GI Zone
LI Zone

Prop. Building 'A'
One Story +/- 215,724 sf
S=383.60

Prop. Utility Yard

Prop. Screen Wall

Prop. 9' Chain Link Fence

Prop. Dumpster

Prop. Loading Dock
2 large spaces

Trench Drain

Water Tanks

Double Security Fence (Typ.)

Prop. Utility Yard

Prop. Building 'C'
One Story +/- 215,724 sf
S=382.8

Prop. Industrial Water Storage Tanks (60'Ø x 38')

Prop. Bldg 'F'
One Story +/- 3,900 sf
S=382.0

NOTE:
Utilization of diesel generators is conditional, subject to permitting

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

LEGEND

LIMITS OF SITE PLAN	PROPOSED CRASH RATED FENCE
WATERBODY BUFFER	PROPOSED 9' CHAIN LINK FENCE
WETLANDS	FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
WETLAND 25' B.R.L.	FOREST CONSERVATION
100 YEAR FLOOD PLAIN	STREAMS
100 YEAR FLOOD PLAIN B.R.L.	FIRE HYDRANT MARKER
30" > DBH TREE	ENVIRONMENTAL COVENANT
EXISTING TREE LINE	SWM EASEMENT
PROPOSED OUTER FENCE	POTOMAC EDISON EASEMENT
PROPOSED INNER FENCE	AT&T EASEMENT
	SOIL EASEMENT

NORTH

0 50' 100 150 200 feet
1" = 50'

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE
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2 Submittal 2023.11.08	
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	BY	DATE
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Frederick County, Maryland

SCALE:	1"=50'
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INDEX No.	C-050.05
SHEET No.	9 OF 43

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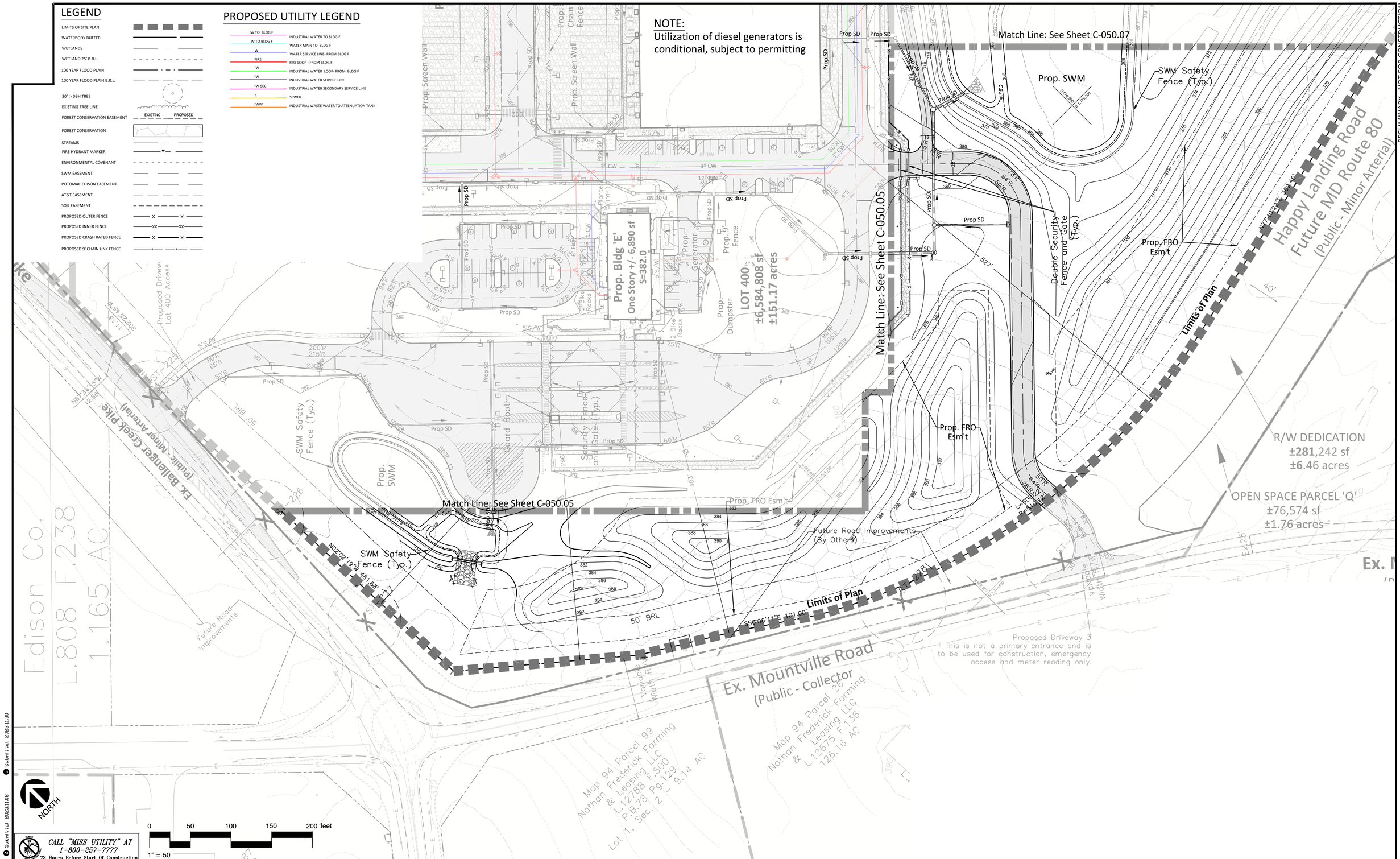

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		
RELEASE FOR		
BY	DATE	

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Site Plan

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-050.06
SHEET No.	10 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\DATABASE\PROP CONTOURS.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT
- PROPOSED OUTER FENCE
- PROPOSED INNER FENCE
- PROPOSED CRASH RATED FENCE
- PROPOSED 9' CHAIN LINK FENCE

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

Match Line: See Sheet C-050.08

Match Line: See Sheet C-050.09

Match Line: See Sheet C-050.05

Match Line: See Sheet C-050.06

Lot 400
±6,584,808 sf
±151.17 acres

Prop. Building 'C'
One Story +/- 215,724 sf
S=382.8

Prop. SWM

Prop. FRO Esm't

SWM Safety Fence (Typ.)

Gl Zone
Lt Zone

Proposed Lot Line

Happy Landing Road
Future MD Route 80
(Public - Minor Arterial)

R/W DEDICATION
±281,242 sf
±6.46 acres

OPEN SPACE PARCEL 'Q'
±76,574 sf
±1.76 acres

50' BRL

45' R/W

L=600.23'
R=5940.00'

N 22°22'26" W 736.54'

N 22°22'26" E 910.31'

0 50 100 150 200 feet
1" = 50'

NORTH

CALL "MISS UTILITY" AT 1-800-257-7777 72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Site Plan

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	13648
DATE:	Oct 2023
INDEX No.	C-050.07
SHEET No.	11 OF 43

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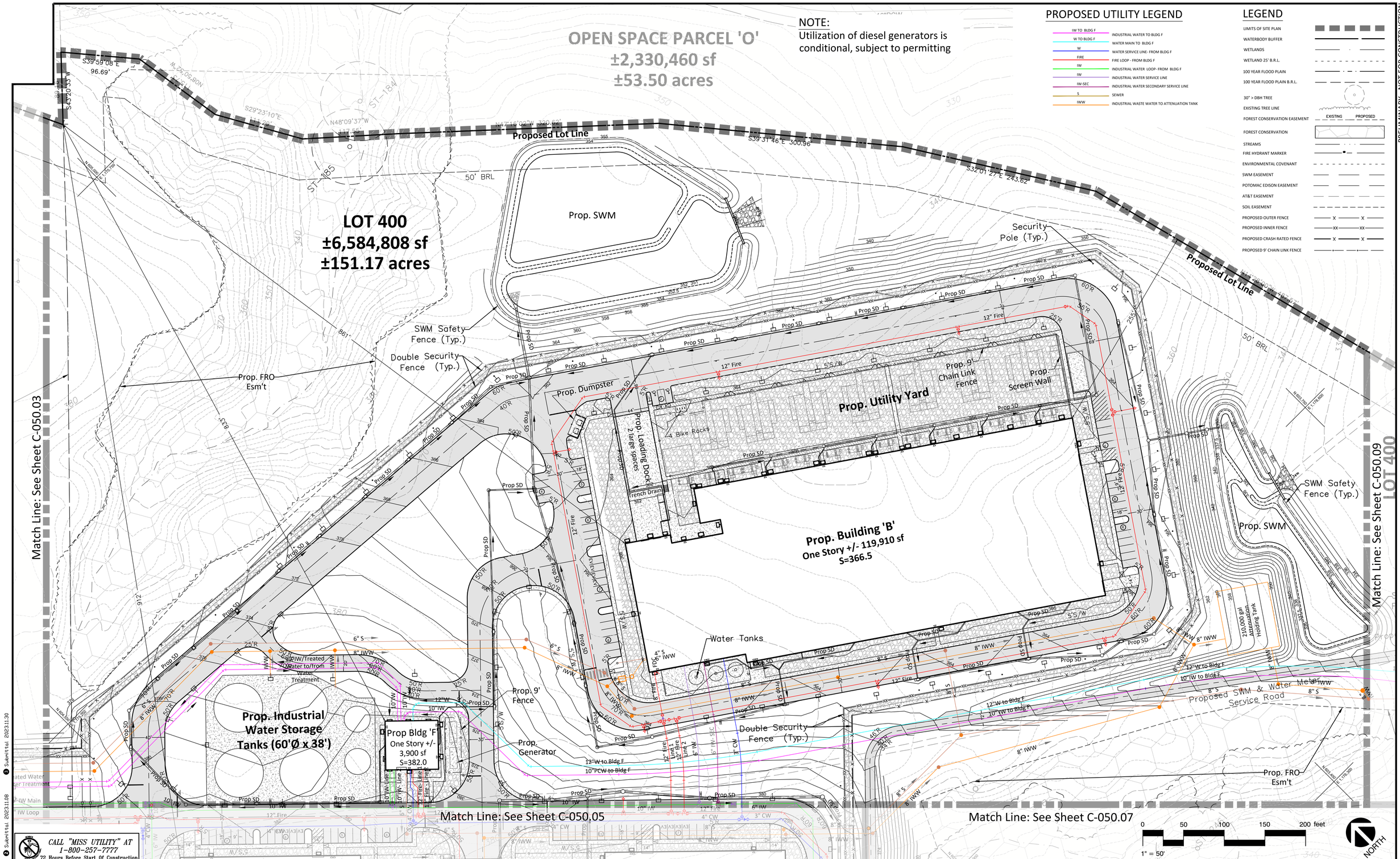
Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30



PRELIMINARY - NOT FOR CONSTRUCTION

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		
RELEASE FOR		
BY	DATE	

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Site Plan

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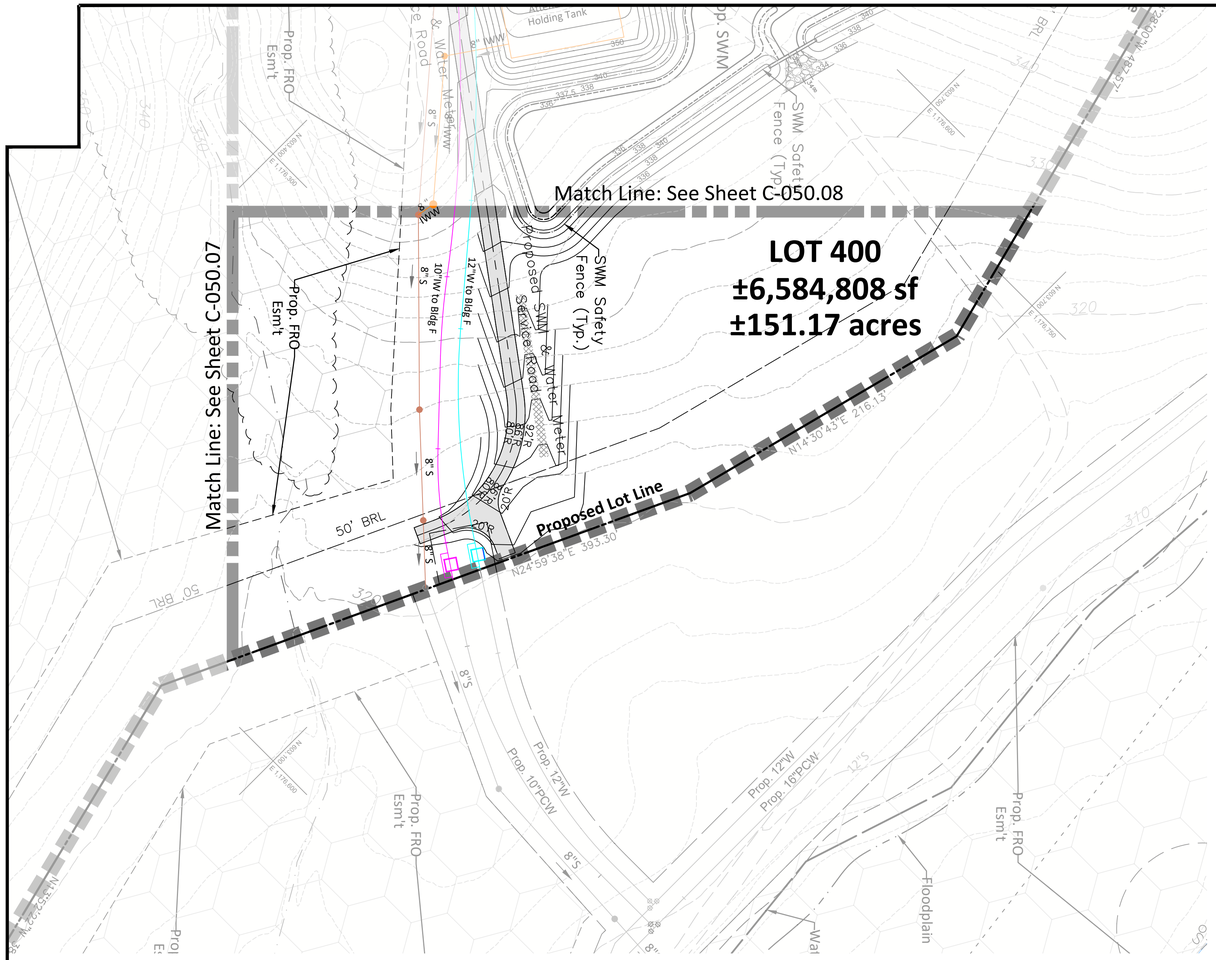
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-050.08
SHEET No.	12 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\DATABASE\PROP CONTOURS.DWG

Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05



LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT
- PROPOSED OUTER FENCE
- PROPOSED INNER FENCE
- PROPOSED CRASH RATED FENCE
- PROPOSED 9' CHAIN LINK FENCE

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
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IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

PRELIMINARY - NOT FOR CONSTRUCTION

NORTH

0 50 100 150 200 feet

1" = 50'

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Site Plan

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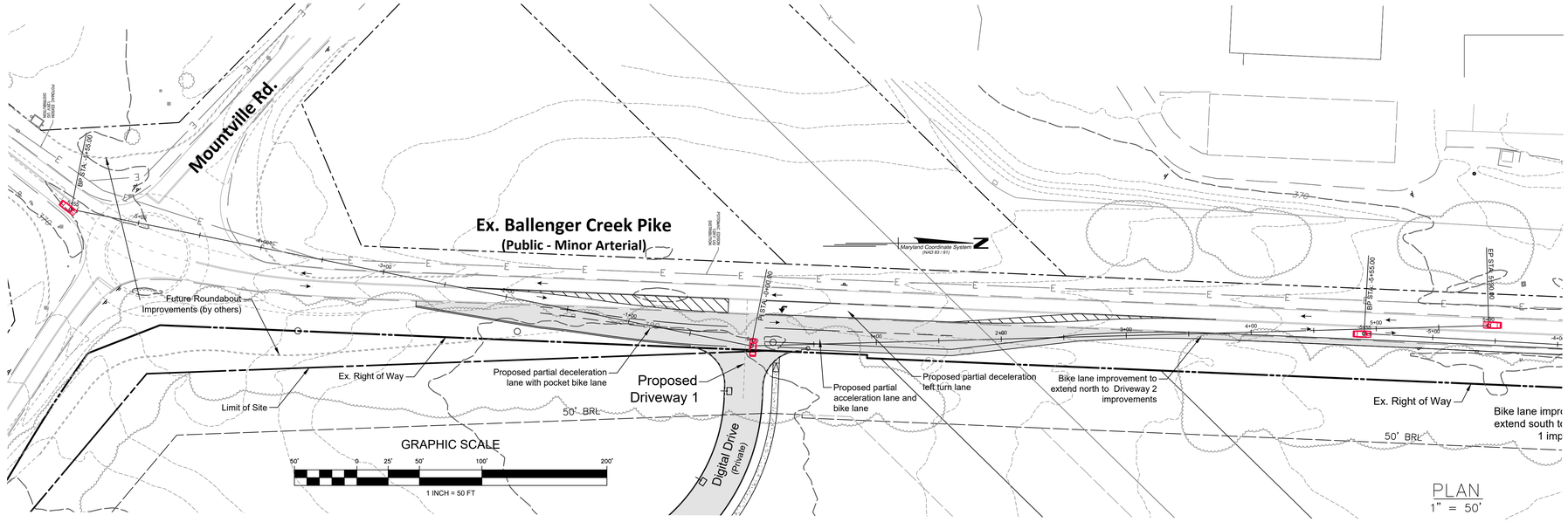
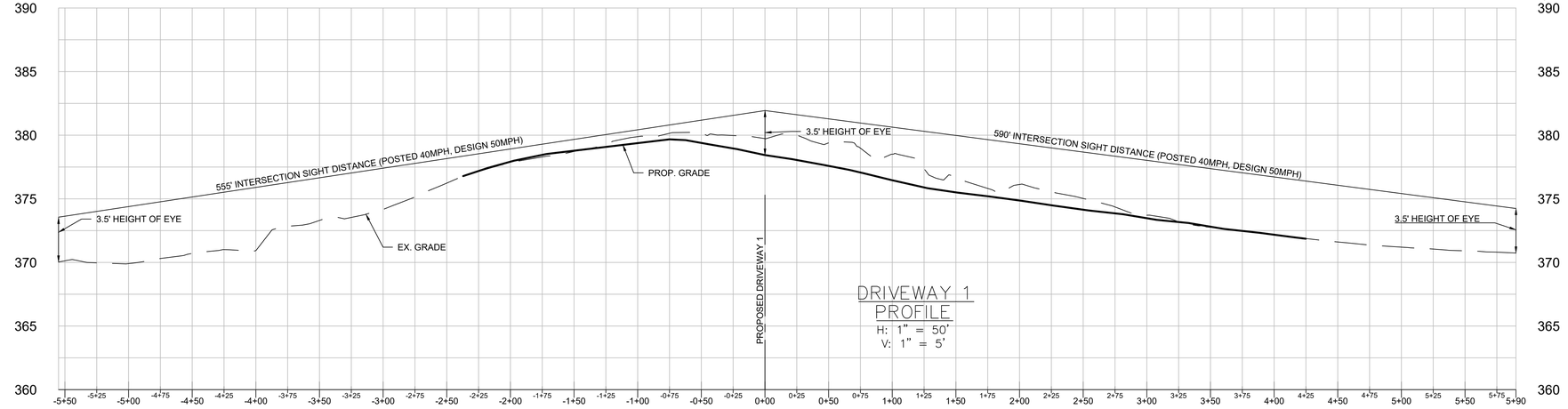
Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-050.09
SHEET No.	13 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30

N: \MD-FREDERICK\ALCOA\AUTOCAD\DATABASE\PROP CONTOURS.DWG





DIVISION OF PLANNING AND PERMITTING
FREDERICK COUNTY, MARYLAND
SIGHT DISTANCE ANALYSIS

PROJECT NAME Bauxite
MAJOR ROAD Ballenger Creek Pike
MINOR ROAD (DRIVEWAY) Driveway #1
INTERSECTION DRAWING:

VICINITY MAP

MAJOR ROAD POSTED SPEED 40
MAJOR ROAD SPEED 50 CALCULATED ☐ ESTIMATED [X] 85th PERCENTILE SPEED ☐
ACTUAL (MEASURED) SIGHT DISTANCE **: LEFT 600 FT., RIGHT >600 FT.
*MOST LIMITING - HORIZONTAL AND /OR VERTICAL

INTERSECTION SIGHT DISTANCE (ISD)

MINOR ROAD DRIVEWAY APPROACH GRADE <3%
NUMBER OF LANES LEFT TURNING VEHICLE MUST CROSS 2 including left turn lane
DESCRIPTION OF SUBSTANTIAL VOLUME OF MAJOR ROAD TRAFFIC MAKE-UP Passenger Cars
REQUIRED (CALCULATED) SIGHT DISTANCE: LEFT 555 FT., RIGHT 590 FT.

Notes: Intersection sight distance to the left extends through the intersection of Ballenger Creek Pike and Mountville Road. This intersection will be subject to future road improvements which will change the intersection into a roundabout +/-450' left of driveway #1. The roundabout condition should substantially lower design speeds at the intersection approach from the left.

I, Phillip Wagner , P.E., certify that the proposed entrance described above meets AASHTO standards for intersection sight distance.

Signed _____ PE/PLS/ MD Reg. No. 29782 Date 9/13/2023

STOPPING SIGHT DISTANCE (SSD)

REQUIRED (CALCULATED) SIGHT DISTANCE: LEFT 425 FT.; RIGHT 425

Notes:

I, Phillip Wagner , P.E., certify that the proposed entrance described above meets AASHTO standards for intersection sight distance.

Signed _____ PE/PLS/ MD Reg. No. 29782 Date 9/13/2023

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.11.08
Submittal 2023.10.05

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR ☐
BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

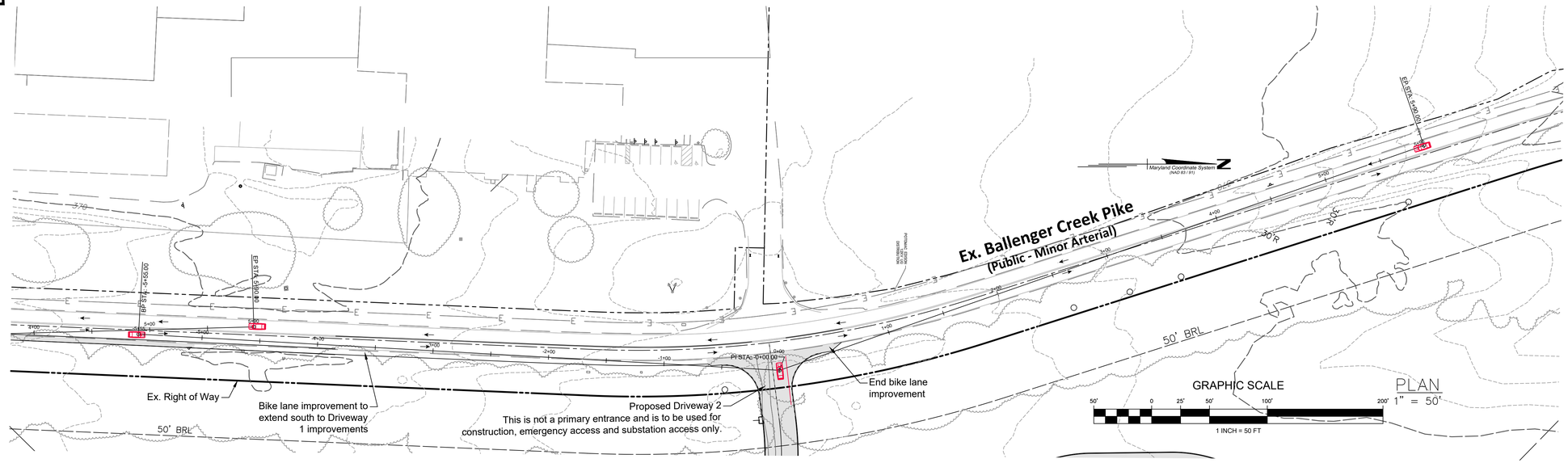
Ballenger Creek Pike
Sight Distance
Driveway 1

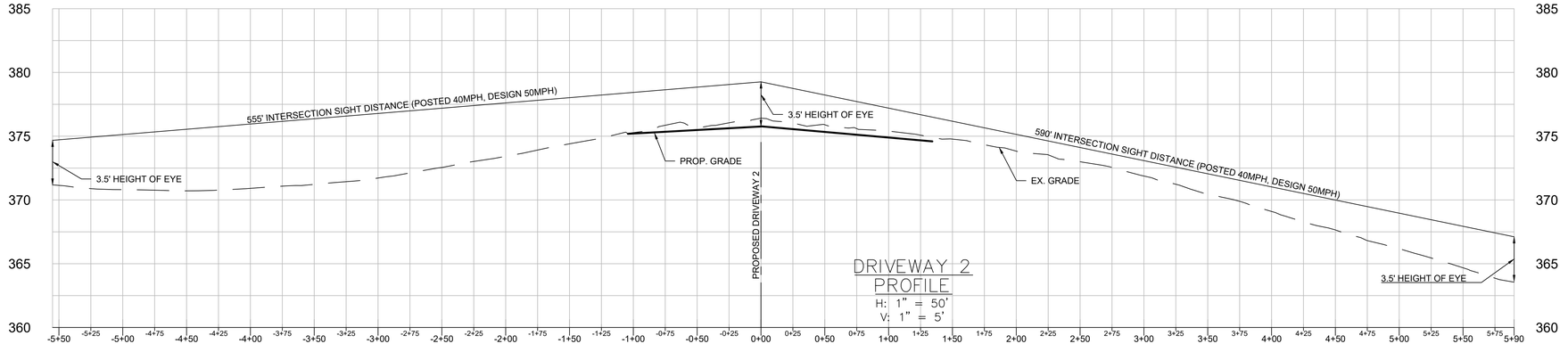
RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	AS SHOWN
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-050.10
SHEET No.	14 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-050.10-C-050-12-SIGHT DISTANCE PLANS.DWG





DIVISION OF PLANNING AND PERMITTING
FREDERICK COUNTY, MARYLAND
SIGHT DISTANCE ANALYSIS

PROJECT NAME Bauxite
MAJOR ROAD Ballenger Creek Pike
MINOR ROAD (DRIVEWAY) Driveway #2
INTERSECTION DRAWING:

VICINITY MAP

MAJOR ROAD POSTED SPEED 40
MAJOR ROAD SPEED 50 CALCULATED ☐ ESTIMATED ☒ 85th PERCENTILE SPEED ☐
ACTUAL (MEASURED) SIGHT DISTANCE **: LEFT >600 FT., RIGHT >600 FT.
*MOST LIMITING - HORIZONTAL AND /OR VERTICAL

INTERSECTION SIGHT DISTANCE (ISD)

MINOR ROAD DRIVEWAY APPROACH GRADE <3%
NUMBER OF LANES LEFT TURNING VEHICLE MUST CROSS 2 including left turn lane
DESCRIPTION OF SUBSTANTIAL VOLUME OF MAJOR ROAD TRAFFIC MAKE-UP Passenger Cars
REQUIRED (CALCULATED) SIGHT DISTANCE: LEFT 555 FT., RIGHT 590 FT.

Notes:

I, Phillip Wagner , P.E., certify that the proposed entrance described above meets AASHTO standards for intersection sight distance.

Signed [signature] PE/PLS/ MD Reg. No. 29782 Date 9/13/2023

STOPPING SIGHT DISTANCE (SSD)

REQUIRED (CALCULATED) SIGHT DISTANCE: LEFT 425 FT.; RIGHT 425

Notes:

I, Phillip Wagner , P.E., certify that the proposed entrance described above meets AASHTO standards for intersection sight distance.

Signed [signature] PE/PLS/ MD Reg. No. 29782 Date 9/13/2023

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.11.08
Submittal 2023.10.05

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		
RELEASE FOR		
BY	DATE	

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Ballenger Creek Pike
Sight Distance
Driveway 2

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE: AS SHOWN
JOB No. 1364B
DATE: Oct 2023
INDEX No. C-050.11
SHEET No. 15 OF 43

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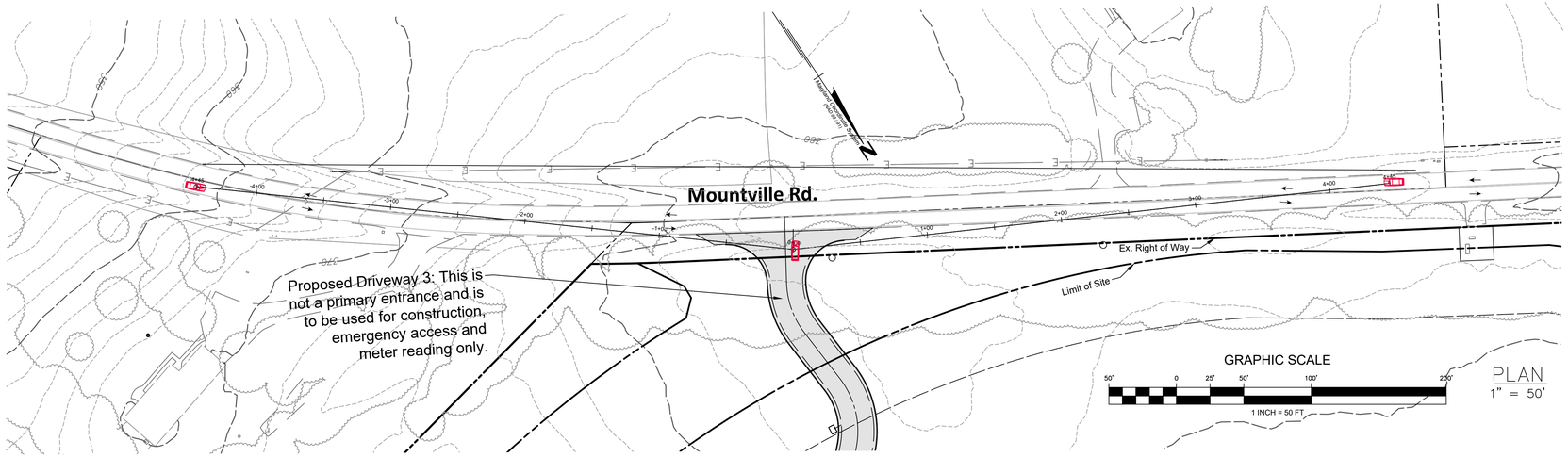

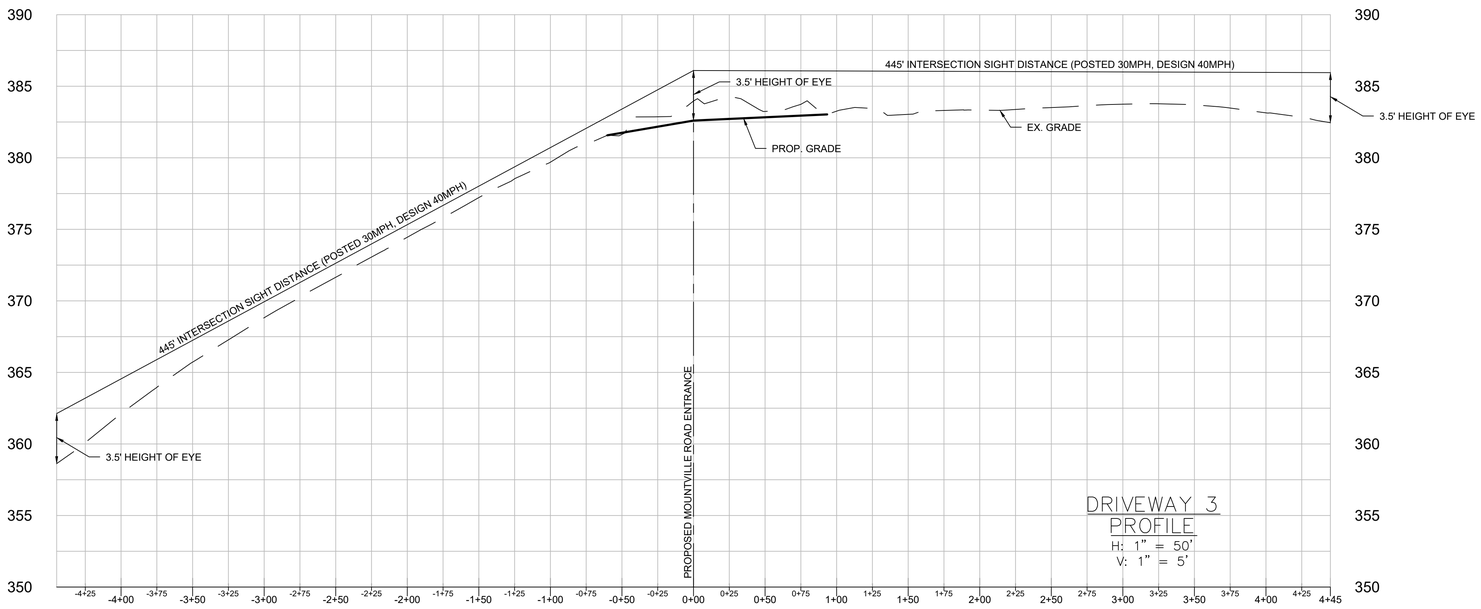

DIVISION OF PLANNING AND PERMITTING
FREDERICK COUNTY, MARYLAND
SIGHT DISTANCE ANALYSIS

PROJECT NAME Bauxite
MAJOR ROAD Mountville Road
MINOR ROAD (DRIVEWAY) Driveway 3
INTERSECTION DRAWING:

VICINITY MAP

MAJOR ROAD POSTED SPEED 30
MAJOR ROAD SPEED 40 CALCULATED ☐ ESTIMATED ☒ 85th PERCENTILE SPEED ☐
ACTUAL (MEASURED) SIGHT DISTANCE **: LEFT 565 FT., RIGHT 590 FT.
*MOST LIMITING - HORIZONTAL AND/OR VERTICAL

INTERSECTION SIGHT DISTANCE (ISD)

MINOR ROAD DRIVEWAY APPROACH GRADE 5.4% Left; <3% Right
NUMBER OF LANES LEFT TURNING VEHICLE MUST CROSS 1
DESCRIPTION OF SUBSTANTIAL VOLUME OF MAJOR ROAD TRAFFIC MAKE-UP Passenger Cars
REQUIRED (CALCULATED) SIGHT DISTANCE: LEFT 400 FT., RIGHT 445 FT.

Notes: The left approach has a grade of 5.4% which would reduce the intersection sight distance requirement to 400'. This intersection was conservatively analyzed without the reduction using the sight distance of 445'.

I, Phillip Wagner , P.E., certify that the proposed entrance described above meets AASHTO standards for intersection sight distance.

Signed _____ PE/PLS/ MD Reg. No. 29782 Date 9/13/2023

STOPPING SIGHT DISTANCE (SSD)

REQUIRED (CALCULATED) SIGHT DISTANCE: LEFT 425 FT.; RIGHT 425

Notes:

I, Phillip Wagner , P.E., certify that the proposed entrance described above meets AASHTO standards for intersection sight distance.

Signed _____ PE/PLS/ MD Reg. No. 29782 Date 9/13/2023

PRELIMINARY - NOT FOR CONSTRUCTION

2 Submittal 2023.11.08
1 Submittal 2023.10.05

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR ☐
BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Mountville Road Sight Distance
Driveway 3

RODGERS CONSULTING
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Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE: AS SHOWN
JOB No. 1364B
DATE: Oct 2023
INDEX No. C-050.12
SHEET No. 16 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-050.10-C-050-12-SIGHT DISTANCE PLANS.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

C-110.02

C-110.03

C-110.04

C-110.05

C-110.06

C-110.07

C-110.08

C-110.09

Substation to be part of separate site plan

Lot 400
±6,584,805 sf
±151.17 acres

OPEN SPACE PARCEL 'O'
±2,330,460 sf
±53.50 acres

OPEN SPACE PARCEL 'A'
±6,867,637 sf
±157.66 acres

OPEN SPACE PARCEL 'Q'
±2,198,667 sf
±50.47 acres

OPEN SPACE PARCEL 'Q'
±76,852 sf
±1.76 acres

LOT 402
±526,183 sf
±12.08 acres
(Lot 402 is zoned A)

LOT 403
±1,445,541 sf
±33.19 acres
(Lot 403 is zoned A)

R/W 12 DEDICATION
±129,776 sf
±2.98 acres

R/W 11 DEDICATION
±116,674 sf
±2.68 acres

QUANTUM FREDERICK
SECTION 1 PRELIMINARY PLAN
PP266304

Ex. Ballenger Creek Pike
(Public - Minor Arterial)

Happy Landing Road
Future MD Route 80
(Public - Minor Arterial)

Ex. Mountville Rd.
(Public -Collector)

Ex. Mountville Road
(Public - Collector)

Proposed Mountville Road

Digital Drive
(Private)

Proposed Bike Lane

Proposed Lot 400 Access

Proposed Lot 402 Access

Proposed Lot 403 Access

Existing Driveway apron to be removed

Future Road Improvements

Ex. Potomac Edison Esm't
L.804 F.401

Ex. Potomac Edison Esm't
L.804 F.268

The Potomac Edison Co.
L.808 F.238
1.165 AC

Windridge Properties LC
L.2221 F.518 12
Map94 Parcel 12
222.53 AC

Map 94 Parcel 92
Gary Wayne Toney &
Paula Beisner
L.2110 F.1224
Lot 1 Sec 2
1.512 AC

Map 94 Parcel 17
Geisinger
F.393
AC

MAP 94 P79
SUPPLY & LUMBER CO LLC
/O BUILDERS FIRST SOURCE
L.2396 F.816
PB20 P9,119
Lot 1, Sec 1 20.27 AC

Map 94 Parcel 15
Ronald D. Cutler
F.171
1/2
1/2

Map 94 Parcel 93
Cedar Creek Trustee
L.7609 F.352
4.086 AC

Map 94 Parcel 93
Kenneth Tyler Park &
Lauren D. Park
L.7609 F.230
1.000 AC

Map 94 Parcel 93
Cedar Creek Trustee
L.7609 F.352
1.000 AC

Map 94 Parcel 93
Robert L. & Carol A. Grabill
L.6979 F.
1.000 AC

Map 94 Parcel 93
Terry W. & Angela Grabill
L.6979 F.
1.000 AC

Map 94 Parcel 93
Robert L. & Carol A. Grabill
L.6979 F.
1.000 AC

Map 94 Parcel 93
Terry W. & Angela Grabill
L.6979 F.
1.000 AC

Lot 2

Lot 1

Ex. Soils Esm't
L.12205 F.1

Ex. Environmental Covenant
L. 12205 F.01

Wetlands

Floodplain

Floodplain Setback

Limits of Plan

Proposed Lot Line

Prop. FRO Esm't

SWM

FUTURE SWITCHSTATION

FUTURE SUBSTATION

FUTURE WATER TREATMENT

BLDG A
215,734 SF

BLDG B
119,910 SF

BLDG C
215,734 SF

BLDG D
215,734 SF

BLDG E
60,000 SF

GI Zone
LI Zone
A Zone

Existing Forest to Remain

Proposed Screening within FRO

Variable Width R/W Ex.23

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- 1,000' RADIUS FROM SITE
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT
- ACCESS EASEMENT

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

NORTH

0 150 300 450 600 feet

1" = 150'

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
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160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Overall Utility Plan & Sheet Key

RODGERS CONSULTING
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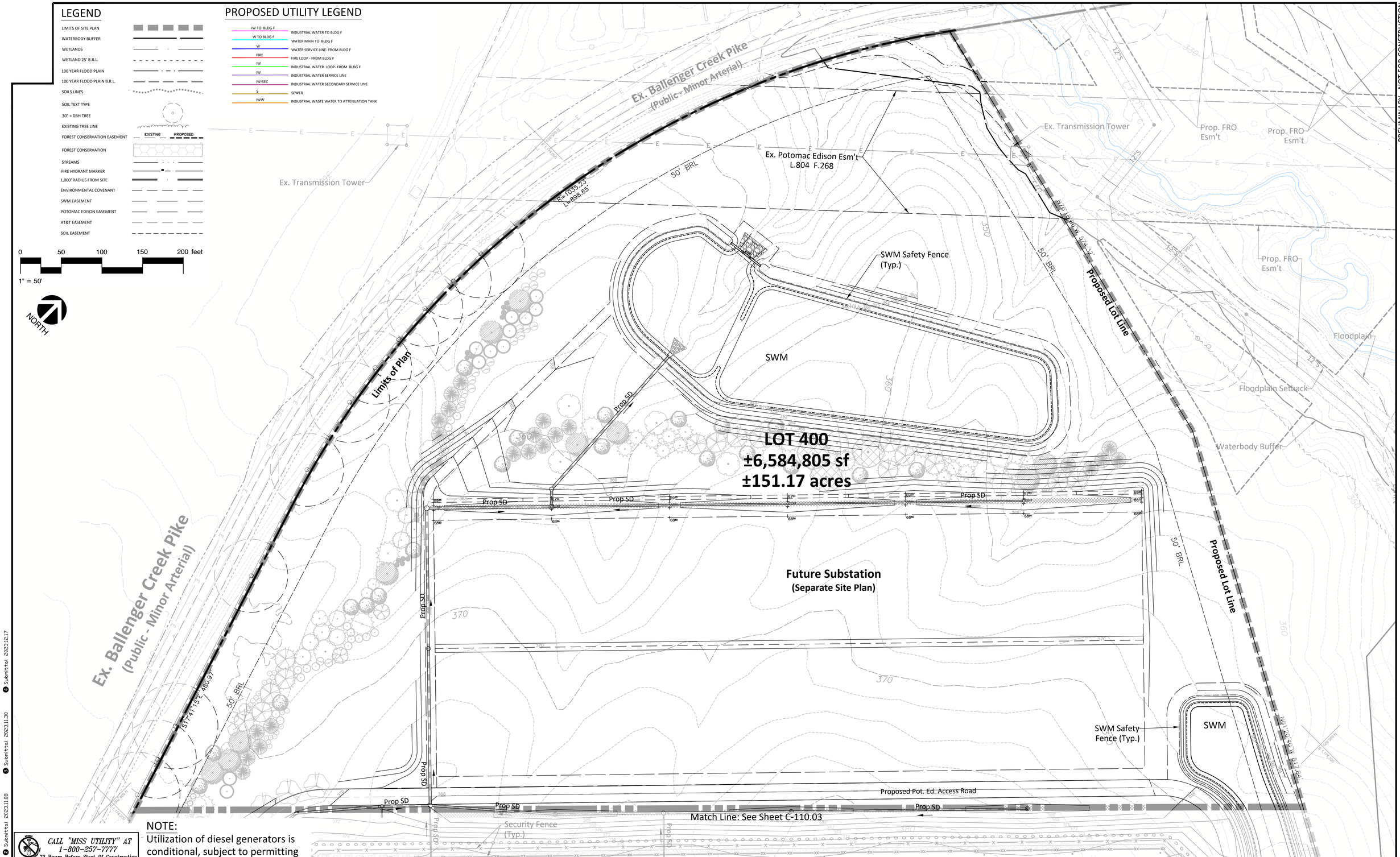
Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=150'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-110.01
SHEET No.	17 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.01-OVERALL UTILITY PLAN.DWG



NOTE:
Utilization of diesel generators is conditional, subject to permitting

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR
BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Utility Plan

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE: 1"=50'
JOB No. 1364B
DATE: Oct 2023
INDEX No. C-110.02
SHEET No. 18 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

Match Line: See Sheet C-110.02

Match Line: See Sheet C-110.04

Match Line: See Sheet C-110.05

Match Line: See Sheet C-110.08

LOT 400
±6,584,805 sf
±151.17 acres

GI Zone
LI Zone

Security Fence (Typ.)

SWM Safety Fence (Typ.)

SWM

Proposed Pot. Ed. Access Road

Proposed Lot Line

Prop. Building 'D'
One Story +/- 215,454 sf
S=384.40

Industrial Water Tanks (18'Ø x 55')

IWW Meter Vault

Trench Drain

Prop. Loading Dock

Prop. Dumpster

Prop. Utility Yard

Prop. Utility Yard

Possible Fut. Industrial Water Treatment Storage
(Not part of this site plan)

Possible Fut. Industrial Water Treatment Facility
(Not part of this site plan)

Future Fire Access Road

Prop. Crash-rated Boulders (Typ.)

Ex. Potomac Edison Esm't L.804 F.401

Ex. Transmission Tower

First Energy 230KV Transmission Line

NOTE:
Utilization of diesel generators is conditional, subject to permitting

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

0 50 100 150 200 feet
1" = 50'

NORTH

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
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Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	13648
DATE:	Oct 2023
INDEX No.	C-110.03
SHEET No.	19 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

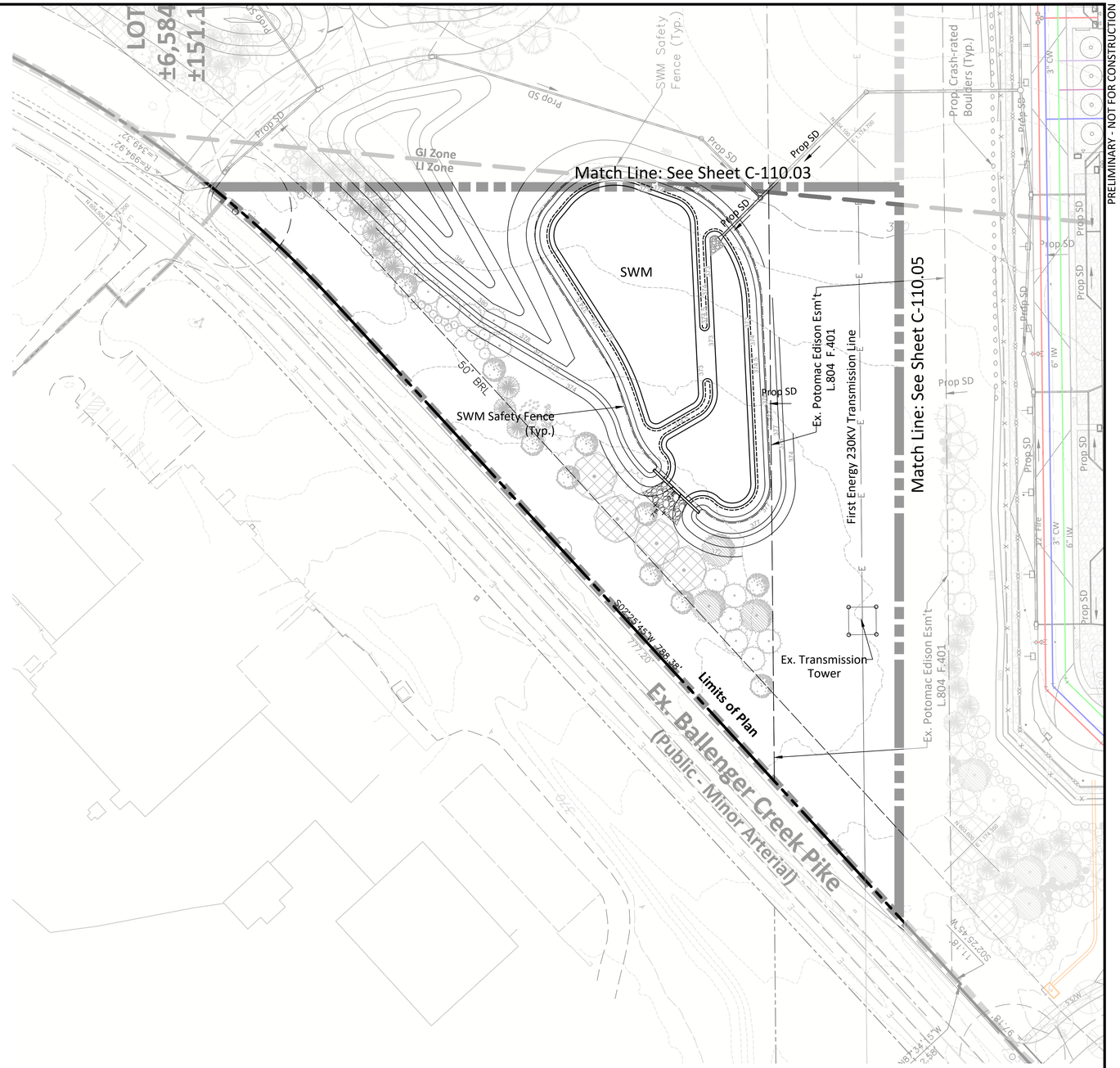
N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- SOILS LINES
- SOIL TEXT TYPE
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- 1,000' RADIUS FROM SITE
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK



NOTE:
Utilization of diesel generators is conditional, subject to permitting

0 50 100 150 200 feet
1" = 50'

NORTH

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____
BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

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Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	13648
DATE:	Oct 2023
INDEX No.	C-110.04
SHEET No.	20 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

PRELIMINARY - NOT FOR CONSTRUCTION

Match Line: See Sheet C-110.04
Ex. Potomac Edison Esm't
L.804 F.401

Match Line: See Sheet C-110.03

Prop. Crash-rated Boulders (Typ.)

Security Fence (Typ.)

Industrial Water Tanks (18'Ø x 55')

Prop. Building 'A'
One Story +/- 215,454 sf
S=383.60

GI Zone
LI Zone

SWM Safety Fence (Typ.)

SWM

Digital Drive (Private)

IWW Meter Vault

Trench Drain

Prop. Loading Dock

Prop. Dumpster

Prop. Utility Yard

Prop. Utility Yard

Guard Booth

Security Fence and Gate (Typ.)

Prop. Building 'E'

Prop. Dumpster

Prop. 9' Fence

Prop. Generator

LOT 400
±6,584,805 sf
±151.17 acres

NOTE:
Utilization of diesel generators is conditional, subject to permitting

Prop. Building 'C'
One Story +/- 215,454 sf
S=382.80

Industrial Water Tanks (18'Ø x 55')

IWW Meter Vault

Match Line: See Sheet C-110.06

Match Line: See Sheet C-110.07

Match Line: See Sheet C-110.08

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

NORTH

0 50 100 150 200 feet
1" = 50'

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Utility Plan

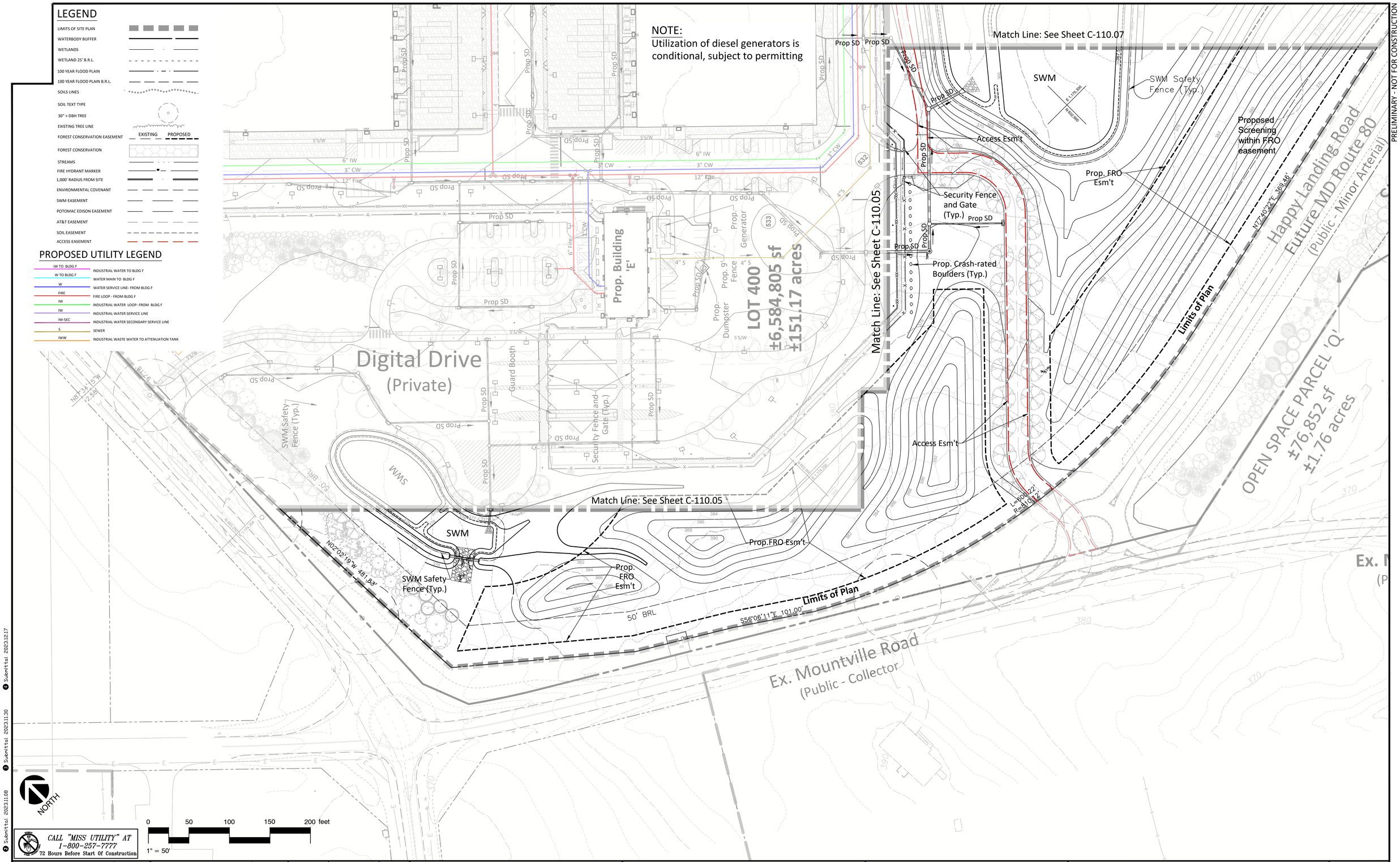
RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-110.05
SHEET No.	21 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG



PRELIMINARY - NOT FOR CONSTRUCTION

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR

BY DATE

OWNER/DEVELOPER:
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160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

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Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-110.06
SHEET No.	22 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG

Submittal 2023.12.17
Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- SOILS LINES
- SOIL TEXT TYPE
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT — EXISTING — PROPOSED
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- 1,000' RADIUS FROM SITE
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT
- ACCESS EASEMENT

PROPOSED UTILITY LEGEND

- IW TO BLDG F — INDUSTRIAL WATER TO BLDG F
- W TO BLDG F — WATER MAIN TO BLDG F
- W — WATER SERVICE LINE- FROM BLDG F
- FIRE — FIRE LOOP - FROM BLDG F
- IW — INDUSTRIAL WATER LOOP- FROM BLDG F
- IW — INDUSTRIAL WATER SERVICE LINE
- IW-SEC — INDUSTRIAL WATER SECONDARY SERVICE LINE
- S — SEWER
- IWW — INDUSTRIAL WASTE WATER TO ATTENUATION TANK

Match Line: See Sheet C-110.08

Match Line: See Sheet C-110.09

Match Line: See Sheet C-110.05

Match Line: See Sheet C-110.06

OPEN SPACE PARCEL 'O'
±2,330,460 sf
±53.50 acres

LOT 400
±6,584,805 sf
±151.17 acres

Prop. Building 'C'
One Story +/- 215,454 sf
S=382.80

Happy Landing Road
Future MD Route 80
(Public - Minor Arterial)

Proposed Lot Line

Prop. FRO Esm't

Access Esm't

SWM

SWM Safety Fence (Typ.)

GI Zone
LI Zone

50' BRL

N 15°22'25" W 390.54'

N 74°14'46" E 910.31'

451.99'

T=500.73'
R=890.00'

Prop SD

Prop. FRO Esm't

0 50 100 150 200 feet
1" = 50'

NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

CALL "MISS UTILITY" AT 1-800-257-7777 72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Utility Plan

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19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-110.07
SHEET No.	23 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG

NOTE:
Utilization of diesel generators is conditional, subject to permitting

PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

LEGEND

LIMITS OF SITE PLAN	
WATERBODY BUFFER	
WETLANDS	
WETLAND 25' B.R.L.	
100 YEAR FLOOD PLAIN	
100 YEAR FLOOD PLAIN B.R.L.	
SOILS LINES	
SOIL TEXT TYPE	
30" > DBH TREE	
EXISTING TREE LINE	
FOREST CONSERVATION EASEMENT	EXISTING / PROPOSED
FOREST CONSERVATION	
STREAMS	
FIRE HYDRANT MARKER	
1,000' RADIUS FROM SITE	
ENVIRONMENTAL COVENANT	
SWM EASEMENT	
POTOMAC EDISON EASEMENT	
AT&T EASEMENT	
SOIL EASEMENT	
ACCESS EASEMENT	

PRELIMINARY - NOT FOR CONSTRUCTION

LOT 400
±6,584,805 sf
±151.17 acres

Proposed Lot Line
S39°59'08"E 96.69'
S43°20'33"W 89.10'
S29°23'10"E 111.69'
N48°09'37"W 111.59'
N47°16'02"W 320.62'
S39°31'46"E 300.96'
S32°01'27"E 243.62'
50' BRL
N42°58'00"W 437.57'
N 695,800 E 1,176,500
N 695,700 E 1,176,600
M-22-0680N
M-71 ABANDONED

SWM
SWM Safety Fence (Typ.)
Security Fence (Typ.)
Prop. FRO Esm't
Prop. Dumpster
Prop. Loading Dock
Trench Drain
Prop. Utility Yard
Prop. Building 'B'
One Story +/- 119,775 sf
S=366.50
Prop. Industrial Water Storage Tanks (60'Ø x 38')
Prop. Building 'F'
Industrial Water Tanks (18'Ø x 55')
IWW Meter Vault
Security Fence (Typ.)
Prop. SWM & Water Meter Service Road
Access Esm't
Prop. Crash-rated Boulders (Typ.)
Prop. FRO Esm't
210,000 gal Attenuation Holding Tank
10"IW/Treated Water to/from Water Treatment
12" Fire
Prop SD
8" IWW
10" IW
12"W to Bldg F
10"W to Bldg F
10"PCW to Bldg F
8" Fire
10" Fire - Line 1
12" Fire - Line 2
6" IW-SEC
3" CW
6" S
4" S
8" S
10"W - Line 1
10"W - Line 2

Match Line: See Sheet C-110.03
Match Line: See Sheet C-110.05
Match Line: See Sheet C-110.07
Match Line: See Sheet C-110.09
LOT 400

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

0 50 100 150 200 feet
1" = 50'
NORTH

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
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160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Utility Plan

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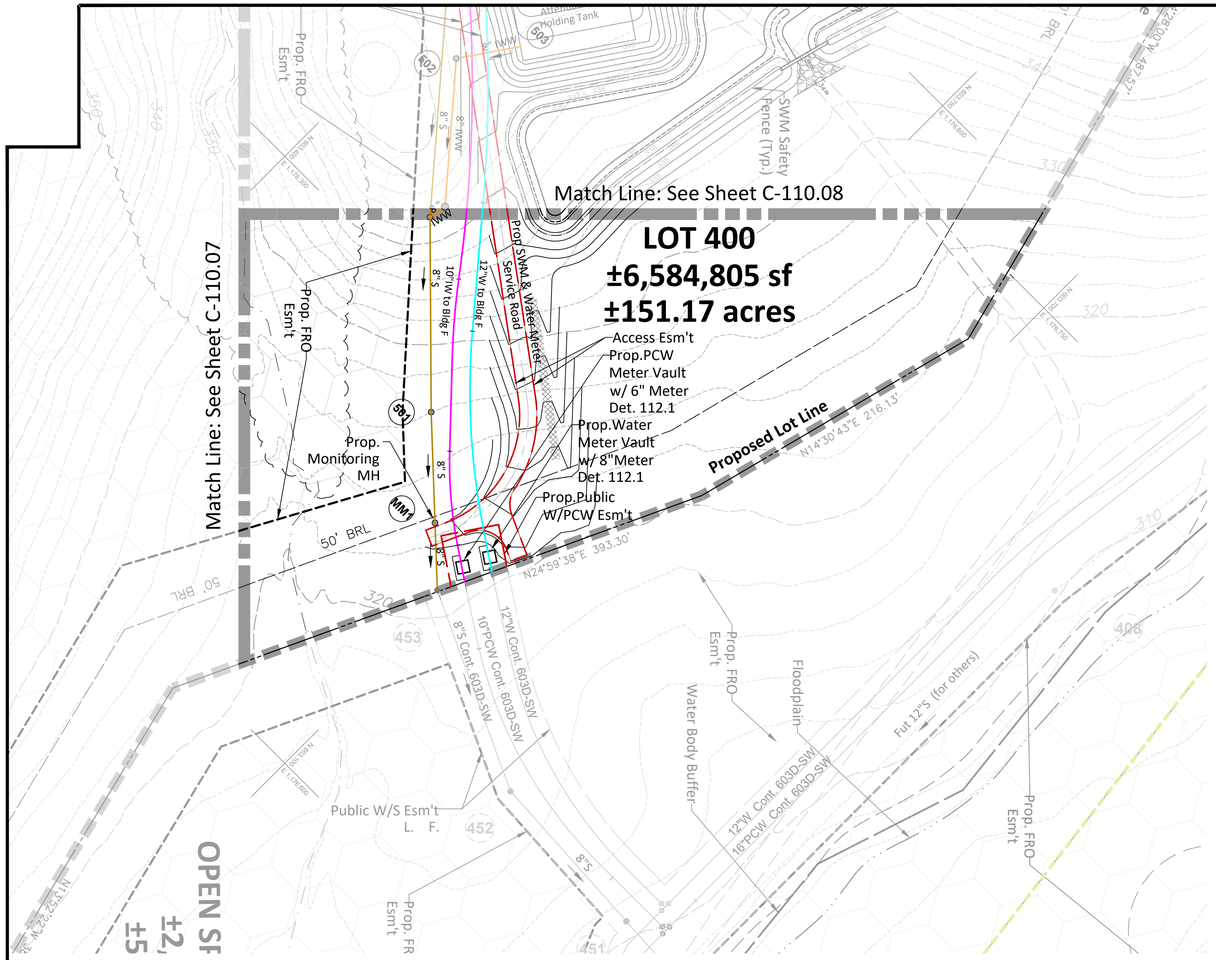
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-110.08
SHEET No.	24 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG



PROPOSED UTILITY LEGEND

IW TO BLDG F	INDUSTRIAL WATER TO BLDG F
W TO BLDG F	WATER MAIN TO BLDG F
W	WATER SERVICE LINE- FROM BLDG F
FIRE	FIRE LOOP - FROM BLDG F
IW	INDUSTRIAL WATER LOOP- FROM BLDG F
IW	INDUSTRIAL WATER SERVICE LINE
IW-SEC	INDUSTRIAL WATER SECONDARY SERVICE LINE
S	SEWER
IWW	INDUSTRIAL WASTE WATER TO ATTENUATION TANK

LEGEND

LIMITS OF SITE PLAN	
WATERBODY BUFFER	
WETLANDS	
WETLAND 25' B.R.L.	
100 YEAR FLOOD PLAIN	
100 YEAR FLOOD PLAIN B.R.L.	
SOILS LINES	
SOIL TEXT TYPE	
30" > DBH TREE	
EXISTING TREE LINE	
FOREST CONSERVATION EASEMENT	EXISTING / PROPOSED
FOREST CONSERVATION	
STREAMS	
FIRE HYDRANT MARKER	
1,000' RADIUS FROM SITE	
ENVIRONMENTAL COVENANT	
SWM EASEMENT	
POTOMAC EDISON EASEMENT	
AT&T EASEMENT	
SOIL EASEMENT	
ACCESS EASEMENT	

NORTH

0 50 100 150 200 feet

1" = 50'

CALL "MISS UTILITY" AT 1-800-257-7777 72 Hours Before Start Of Construction

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY _____ DATE _____

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
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Contact: Xiomara Gerlach
Phone: (231) 769-2938

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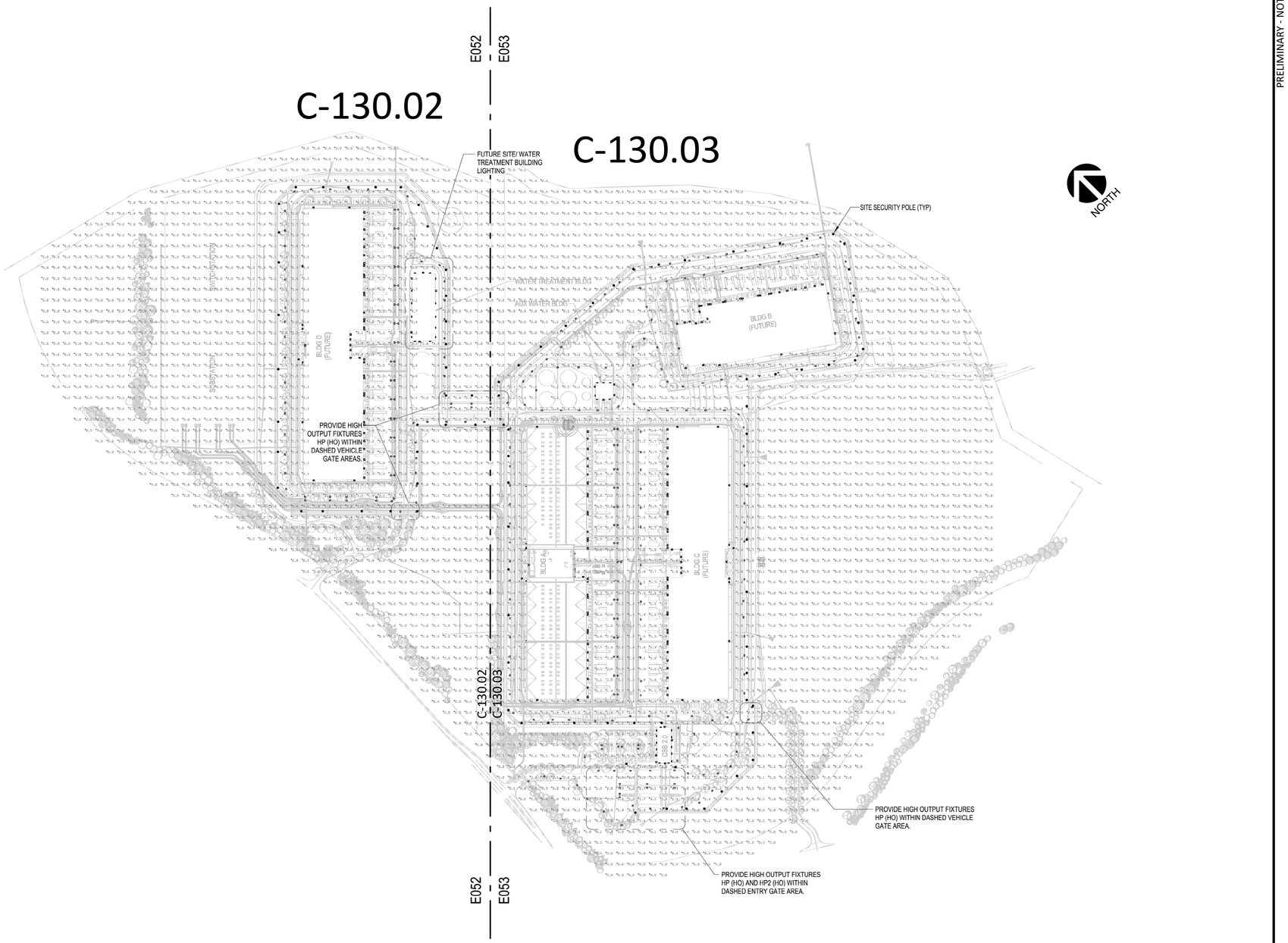
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-110.09
SHEET No.	25 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-110.02-110.09-UTILITY PLAN.DWG

PRELIMINARY - NOT FOR CONSTRUCTION



LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER:CATALOG#	LAMP TYPE	VOLT
H	EXTERIOR ARCHITECTURAL AREA LUMINAIRE	LITHONIA: DSX0 LED 40C 700 40K T4M MVOLT PER7 WBA DDBXD	LED 11400 LUMENS 4000K	277
HE (DATA CENTER ONLY)	EXTERIOR ARCHITECTURAL WALL-PACK	LITHONIA: WST LED P2 40K VF MVOLT PE E7WC	LED 3000 LUMENS 4000K	277
HP	EXTERIOR ARCHITECTURAL AREA LUMINAIRE - POLE MOUNT	LITHONIA: DSX0 LED 40C 700 40K T4M MVOLT PER7 SPA DDBXD	LED 11400 LUMENS 4000K	277
HP2	DUAL HEAD EXTERIOR ARCHITECTURAL AREA LUMINAIRE MOUNTED 180-DEGREE APART - POLE MOUNT	LITHONIA: DSX0 LED 40C 700 40K T4M MVOLT PER7 SPA DDBXD	LED 11400 LUMENS 4000K	277
HP	EXTERIOR ARCHITECTURAL AREA LUMINAIRE - POLE MOUNT	LITHONIA: DSX0 LED P6 40K T4M MVOLT PER7 SPA DDBXD	LED 11400 LUMENS 4000K	277
HP2	DUAL HEAD EXTERIOR ARCHITECTURAL AREA LUMINAIRE MOUNTED 180-DEGREE APART - POLE MOUNT	LITHONIA: DSX0 LED P6 40K T4M MVOLT PER7 SPA DDBXD	LED 11400 LUMENS 4000K	277
L (ANCILLARY BUILDINGS ONLY)	EXTERIOR WALL-PAK	LITHONIA: DSXW1 LED 20C 530 40K T3M PE MVOLT DDBXD LUMARK (COOPER): LDWP-FC-6B-ED-7040 47W 4000K CRI 73 UNV PE GE: EWS30B7D1403DKBZ	LED 3500 LUMENS 70CRI 4000K LED 3500 LUMENS 70CRI 4000K LED 3700 LUMENS 70CRI 4000K	UNV
LE (ANCILLARY BUILDINGS ONLY)	EXTERIOR ARCHITECTURAL WALL-PAK	LITHONIA: WST LED P2 40K VF MVOLT PE E7WC MCGRAW-EDISON (COOPER): IST-AF-450-LED-E1-T4FT-BZ-P GE: EWLS01040AF740N3CBDKBZ	LED 3000 LUMENS 4000K LED 3000 LUMENS 4000K LED 4000 LUMENS 4000K	277

1 SITE LIGHTING ILLUMINATION CALCULATION OVERALL PLAN
E051 1" = 200'-0"

0 200 400 600 800 feet
1" = 200'

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
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Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Overall Lighting Plan

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

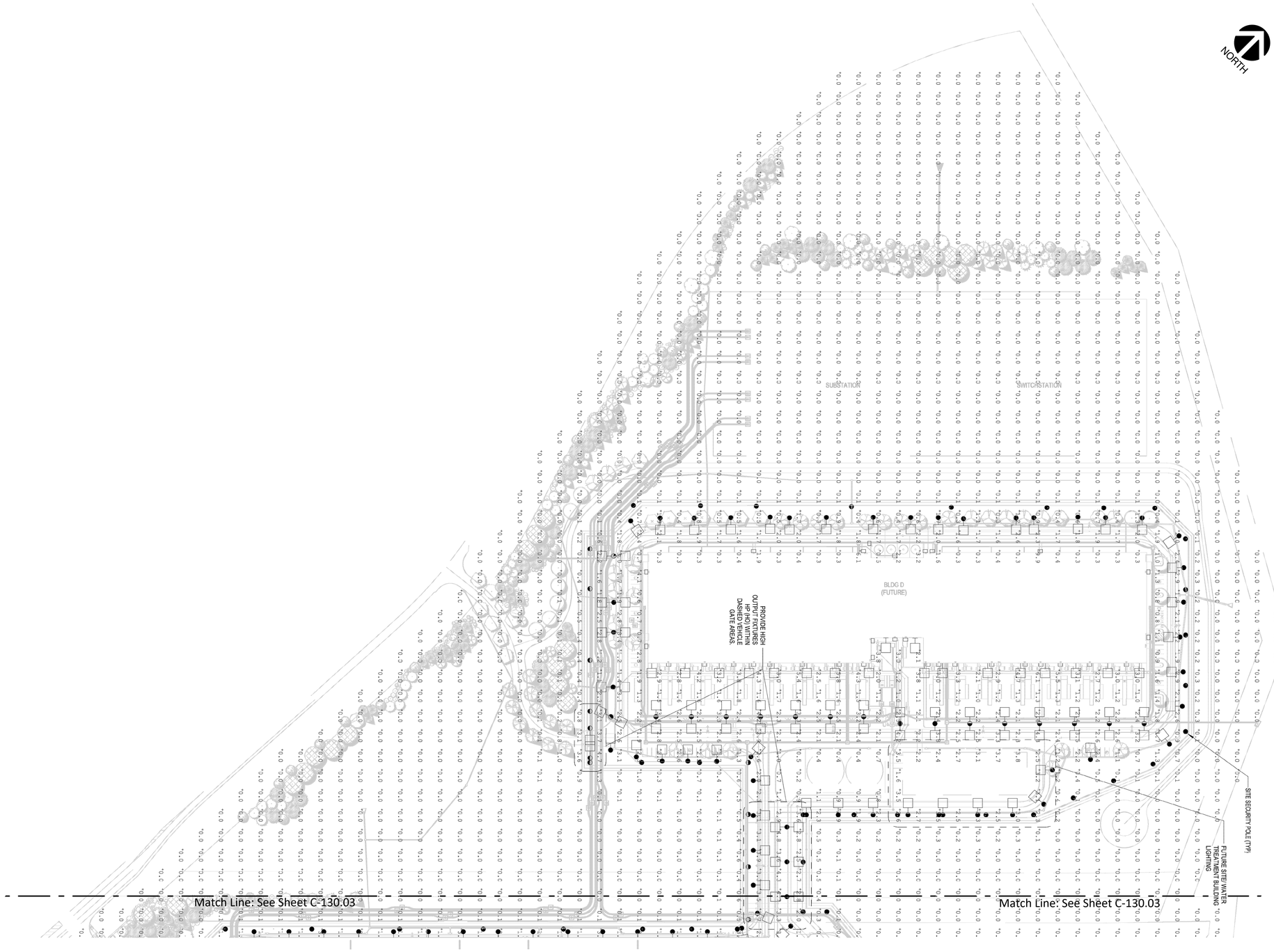
SCALE:	1"=200'
JOB No.	13648
DATE:	Oct 2023
INDEX No.	C-130.01
SHEET No.	26 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-130.01-OVERALL LIGHTING PLAN.DWG

3 Submittal 2023.11.30
2 Submittal 2023.11.08
1 Submittal 2023.10.05

PRELIMINARY - NOT FOR CONSTRUCTION

NORTH



0 100 200 300 400 feet

1" = 100'

1 SITE LIGHTING ILLUMINATION CALCULATION - NE CAMPUS
E052 1" = 100'-0"

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Lighting Plan

RODGERS CONSULTING
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Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-130.02
SHEET No.	27 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-130.02-130.04-LIGHTING PLAN.DWG

1 Submittal 2023.10.05
2 Submittal 2023.11.08
3 Submittal 2023.11.30

Match Line: See Sheet C-130.02

Match Line: See Sheet C-130.02

PROVIDE HIGH OUTPUT FIXTURES HP (HO) AND HP2 (HO) WITHIN DASHED ENTRY GATE AREA

BLDG A

CSB 2.0

BLDG C (FUTURE)

BLDG B (FUTURE)

NORTH

PROVIDE HIGH OUTPUT FIXTURES HP (HO) WITHIN DASHED VEHICLE GATE AREA

SITE SECURITY POLE (TYP)

0 100 200 300 400 feet

1" = 100'

1 E053 SITE LIGHTING ILLUMINATION CALCULATION - SW CAMPUS

1" = 100'-0"

CALL "MISS UTILITY" AT 1-800-257-7777 72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE ☐

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Lighting Plan

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Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

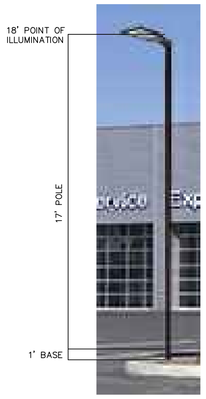
SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-130.03
SHEET No.	28 OF 43

1 Submittal 2023.10.05
2 Submittal 2023.11.08
3 Submittal 2023.11.30

PRELIMINARY - NOT FOR CONSTRUCTION

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-130.02-130.04-LIGHTING PLAN.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

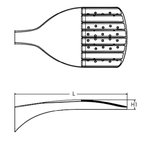


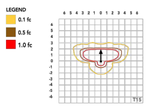
D-Series Size 0
LED Area Luminaire

d-series

Specifications

EPA:	0.44 ft² (0.04 m²)
Length:	26.18" (66.5 cm)
Width:	14.06" (35.7 cm)
Height H1:	2.26" (5.7 cm)
Height H2:	7.46" (18.9 cm)
Weight:	23 lbs (10.4 kg)



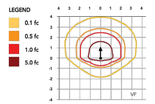


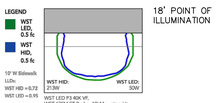
WST LED
Architectural Wall Sconce

Specifications

Luminaire

Height:	8-1/2" (21.59 cm)
Width:	17" (43.18 cm)
Depth:	10-3/16" (25.9 cm)
Weight:	20 lbs (9.1 kg)





D-Series Size 1
LED Wall Luminaire

d-series

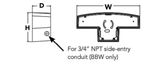
Specifications

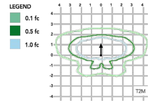
Luminaire

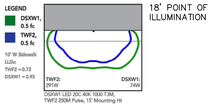
Width:	13-3/4" (34.9 cm)	Weight:	12 lbs (5.4 kg)
Depth:	10" (25.4 cm)		
Height:	6-3/8" (16.2 cm)		

Back Box (BBW, E20WC)

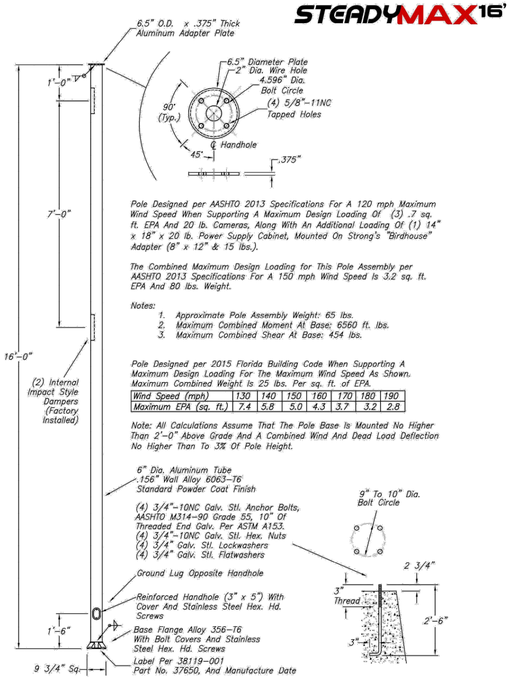
Width:	13-3/4" (34.9 cm)	BBW Weight:	5 lbs (2.3 kg)
Depth:	4" (10.2 cm)	E20WC Weight:	10 lbs (4.5 kg)
Height:	6-3/8" (16.2 cm)		







STEADYMAX16'



Pole Designed per AASHTO 2013 Specifications For A 120 mph Maximum Wind Speed When Supporting A Maximum Design Loading Of (3) .7 sq. ft. EPA And 20 lb. Cameras, Along With An Additional Loading Of (1) 14" x 18" x 20 lb. Power Supply Cabinet, Mounted On Strong's "Birdhouse" Adapter (8" x 12" & 15 lbs.).

The Combined Maximum Design Loading for This Pole Assembly per AASHTO 2013 Specifications For A 150 mph Wind Speed Is 3.2 sq. ft. EPA And 80 lbs. Weight.

Notes:
1. *Approximate Pole Assembly Weight: 65 lbs.*
2. *Maximum Combined Moment At Base: 6560 ft. lbs.*
3. *Maximum Combined Shear At Base: 454 lbs.*

Pole Designed per 2015 Florida Building Code When Supporting A Maximum Design Loading For The Maximum Wind Speed As Shown. Maximum Combined Weight Is 25 lbs. Per sq. ft. of EPA.

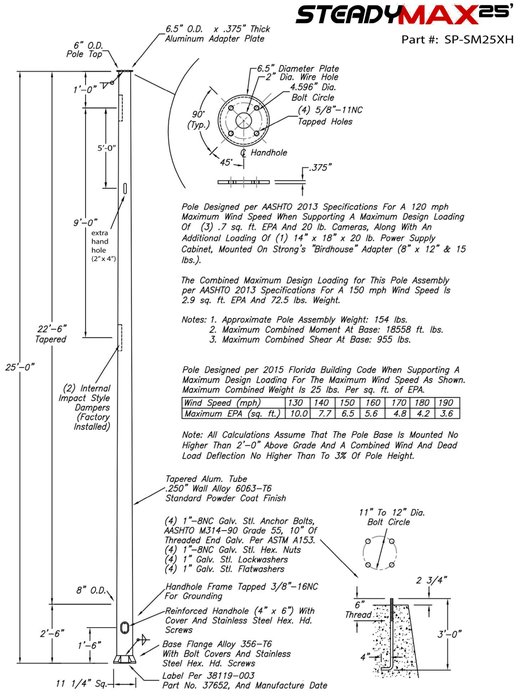
Wind Speed (mph)	130	140	150	160	170	180	190
Maximum EPA (sq. ft.)	7.4	5.8	5.0	4.3	3.7	3.2	2.8

Note: All Calculations Assume That The Pole Base Is Mounted No Higher Than 2'-0" Above Grade And A Combined Wind And Dead Load Deflection No Higher Than To 3% Of Pole Height.

STRONGPOLES *Part # SP-SM16*

STEADYMAX25'

Part #: SP-SM25XH



Pole Designed per AASHTO 2013 Specifications For A 120 mph Maximum Wind Speed When Supporting A Maximum Design Loading Of (3) .7 sq. ft. EPA And 20 lb. Cameras, Along With An Additional Loading Of (1) 14" x 18" x 20 lb. Power Supply Cabinet, Mounted On Strong's "Birdhouse" Adapter (8" x 12" & 15 lbs.).

The Combined Maximum Design Loading for This Pole Assembly per AASHTO 2013 Specifications For A 150 mph Wind Speed Is 2.9 sq. ft. EPA And 72.5 lbs. Weight.

Notes: 1. Approximate Pole Assembly Weight: 154 lbs.
2. Maximum Combined Moment At Base: 18558 ft. lbs.
3. Maximum Combined Shear At Base: 955 lbs.

Pole Designed per 2015 Florida Building Code When Supporting A Maximum Design Loading For The Maximum Wind Speed As Shown. Maximum Combined Weight Is 25 lbs. Per sq. ft. of EPA.

Wind Speed (mph)	130	140	150	160	170	180	190
Maximum EPA (sq. ft.)	10.0	7.7	6.5	5.6	4.8	4.2	3.6

Note: All Calculations Assume That The Pole Base Is Mounted No Higher Than 2'-0" Above Grade And A Combined Wind And Dead Load Deflection No Higher Than To 3% Of Pole Height.

NOTE:
Light source on security poles shall not exceed 18' above ground.

VARIO2 IP PoE White-Light

Technical Specifications

Integrated Command and Control Technology

Hardware Features	• In-built photocell for automatic on/off operation • Photocell following output • External telemetry input
Quick Access Software Features (provided as standard via integrated web interface)	• Individual or group control (Groups up to 16 units) • Power On/Off • Power control: 20-100% • Boost: 120% power for 10 seconds • Deterrent feature with selectable patterns and speeds
Advanced User Defined Software Features (provided as standard via integrated web interface)	• Timer functions • Soft start turn on • 3 x deterrent patterns • 3 x deterrent speeds • Selectable external telemetry input: volt – free or TTL • Photocell sensitivity trigger level • Assign illuminator to group for collective control • Administrator and user access levels • Password Protection: create user and administrator passwords • Assign name, group name and IP address • Restore factory defaults • Restart/reboot • Software upgrade • Standard and advanced diagnostics • Supported protocols include HTTP, Local and VMS operating modes (including combinations) • Ping command functionality
System Integration (Application Programming Interface)	• API for integration into 3rd party platforms • API for integration into network devices via HTTP commands

New Features

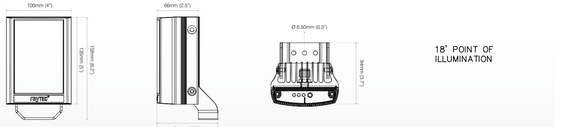
VARIO2 IP PoE White-Light	• Advanced security • Secondary HTTP port access • Lifetime diagnostics • Advanced diagnostics with health monitoring • 802.3bt PoE standard compatible for w8 units

New Features only available on Vario2 IPPoE with serial numbers from 1210000 onwards

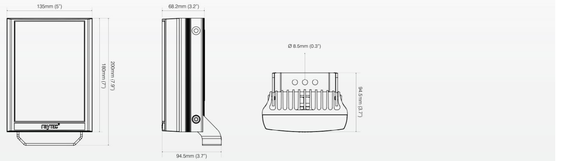
POWERS – The Open Lighting Standard

Specifications and distances based on the POWERS lighting standard.
For full POWERS data and A&E specifications please contact
sales@rayteccctv.com

VARIO2 IPPoE w4-1

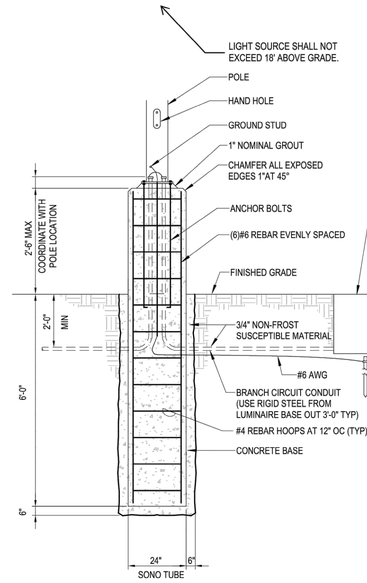


VARIO2 IPPoE w8-1



18' POINT OF ILLUMINATION

Raytec Global (excluding Americas): +44 (0) 01670 520055 • sales@rayteccctv.com
Raytec Americas: +1 613 270 9990 • ussales@rayteccctv.com
Version 1
www.rayteccctv.com



4 E703 **TYPICAL POLE BASE DETAIL**
NOT TO SCALE

NOTE TO CONTRACTOR: PRECAST LIGHT POLE BASE (OLD CASTLE 24R-7LB-7'0" OR SIMILAR) OR POURED POLE BASE IS ACCEPTABLE. FOR 7' PRECAST OPTION, PROVIDE 6' BELOW GRADE AND MINIMUM 1' ABOVE GRADE. CONTRACTOR SHALL COORDINATE ANCHOR BOLT SPACING WITH EXTERIOR POLES.

CALL "MISS UTILITY" AT 1-800-257-7777 72 Hours Before Start Of Construction

16' Security Pole Detail
NTS

25' Security Pole Detail
NTS

Security Pole Light Detail
NTS

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Lighting Plan Notes & Details

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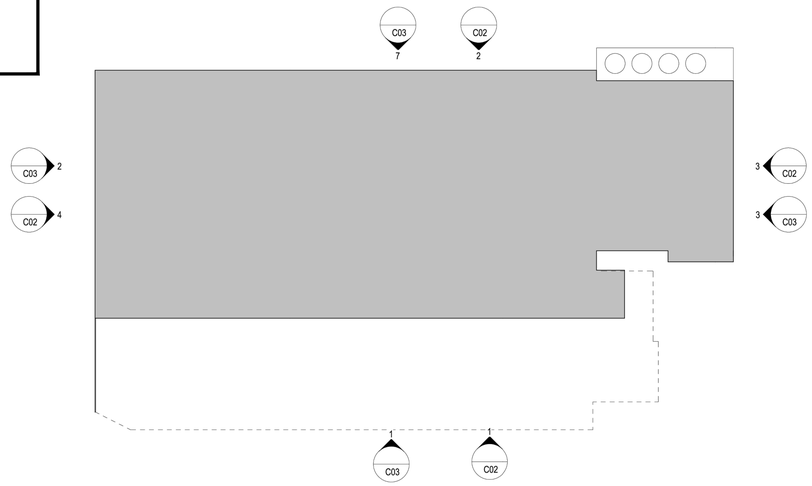
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

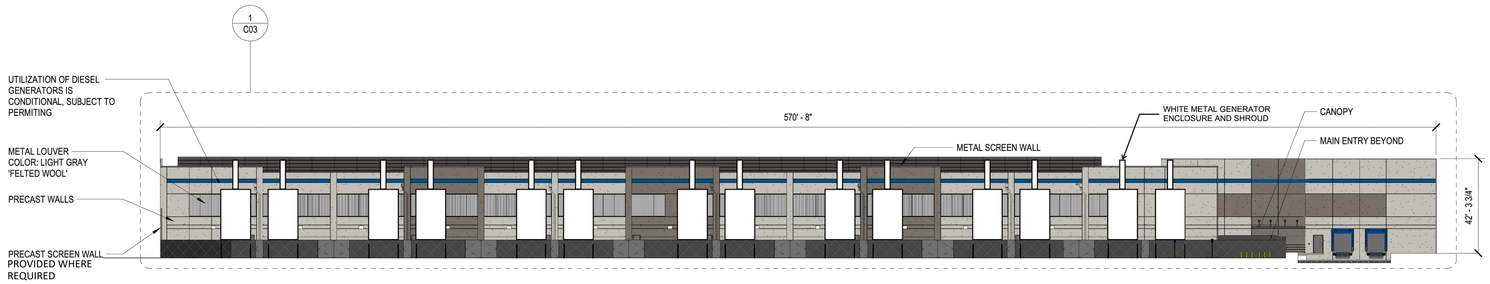
SCALE:	AS NOTED
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-130.04
SHEET No.	29 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-130.02-130.04-LIGHTING PLAN.DWG

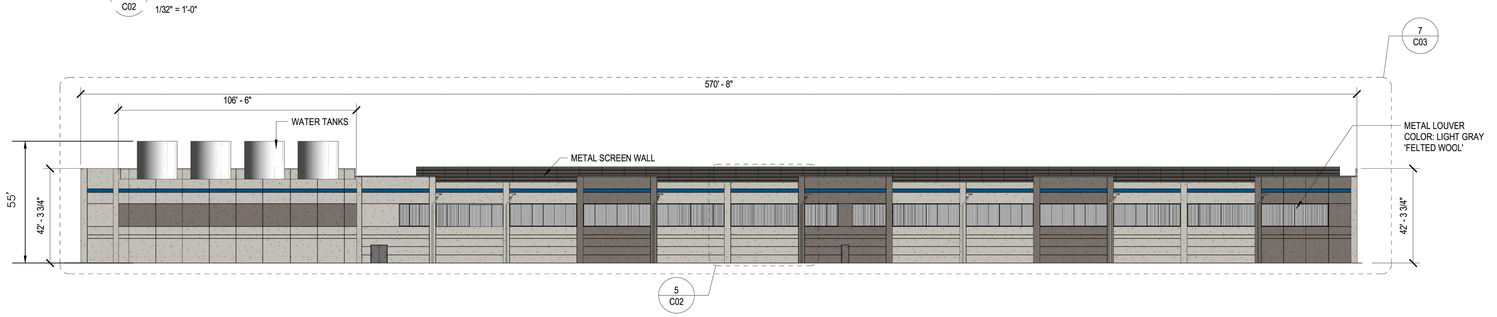
1 Submittal 2023.10.05
2 Submittal 2023.11.09
3 Submittal 2023.11.30



6 KEYPLAN
C02 1/64" = 1'-0"



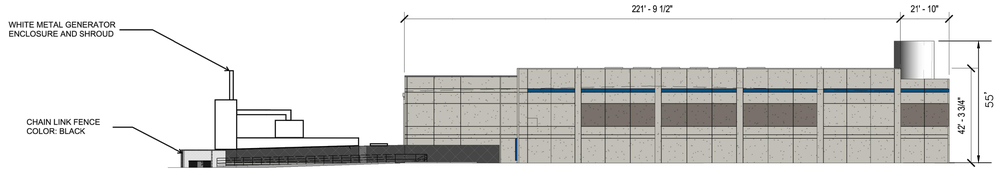
1 ARCHITECTURAL SOUTH ELEVATION
C02 1/32" = 1'-0"



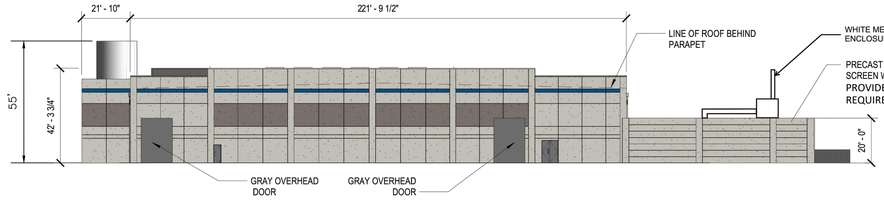
2 ARCHITECTURAL NORTH ELEVATION
C02 1/32" = 1'-0"

EXTERIOR FINISH LEGEND

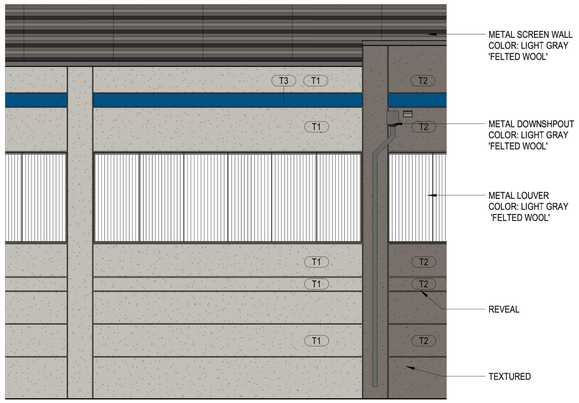
T1	GROUND FACE STRUCTURAL CMU WITH CLEAR ACRYLIC SEALANT TRENDSTONE - BUTTERBRICKLE MIDWEST
T2	GROUND FACE STRUCTURAL CMU WITH CLEAR ACRYLIC SEALANT TRENDSTONE - SUNDOWN MIDWEST
T3	BLUE ACCENT COLOR EXTERIOR TEXTURE ACRYLIC COATING SW 6790 'ADRIATIC SEA'



3 ARCHITECTURAL EAST ELEVATION
C02 1/32" = 1'-0"

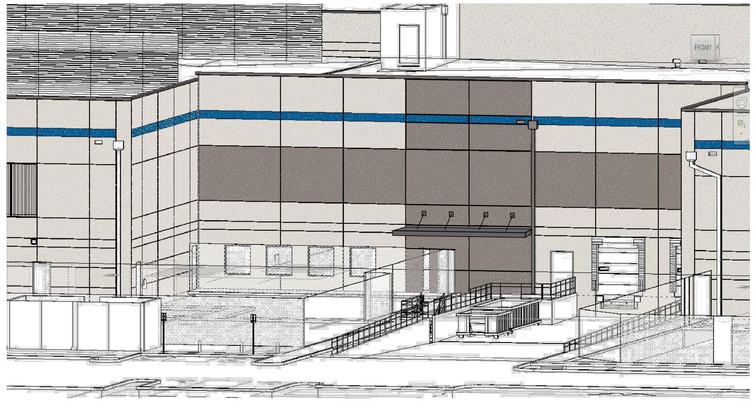


4 ARCHITECTURAL WEST ELEVATION
C02 1/32" = 1'-0"



5 TYPICAL PANEL ELEVATION
C02 1/8" = 1'-0"

NOTE: WHERE PRECAST SCREEN WALLS ARE NOT REQUIRED, 9-FT CHAIN LINK FENCE WILL BE PROVIDED AROUND THE UTILITY YARDS



PROPOSED ENTRY TYP. BUILDINGS A,B,C,D

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
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160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Architecture
Building 'B'

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Lot 400 Data Centers
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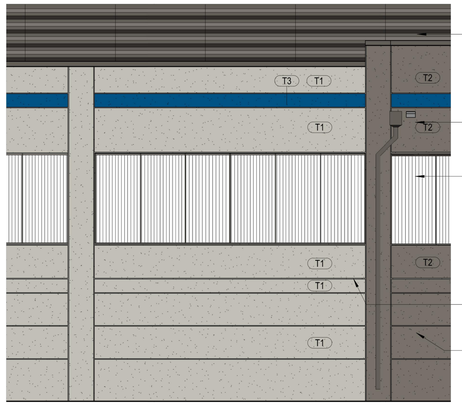
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	As Shown
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-500.01
SHEET No.	30 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-500.01-C-500.06-ARCHITECTURE.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2024.01.02
Submittal 2023.12.17
Submittal 2023.11.30
Submittal 2023.11.09
Submittal 2023.10.05



EXTERIOR FINISH LEGEND

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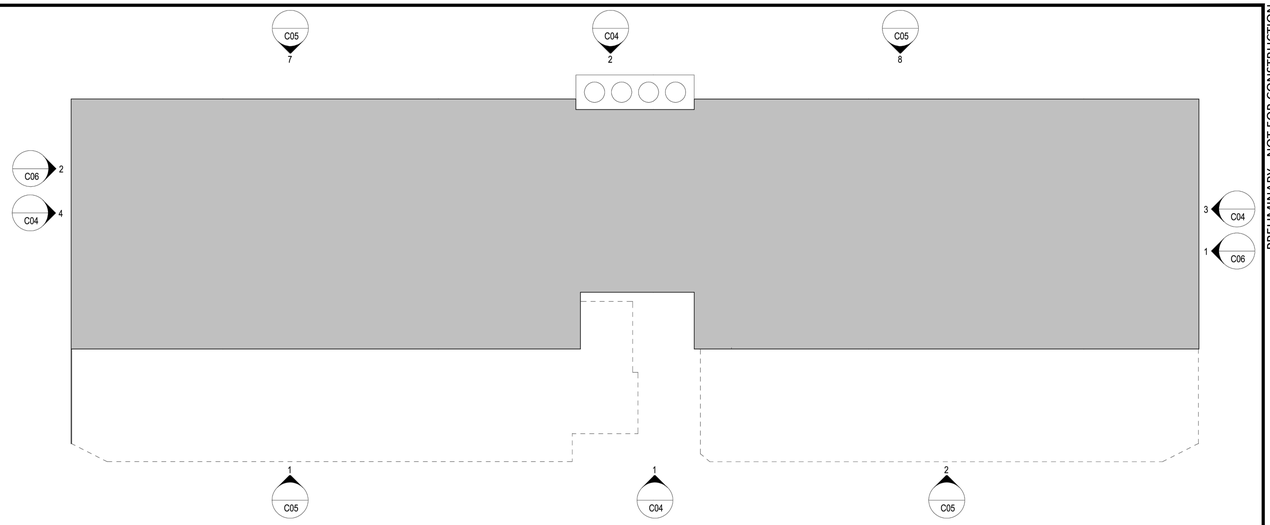
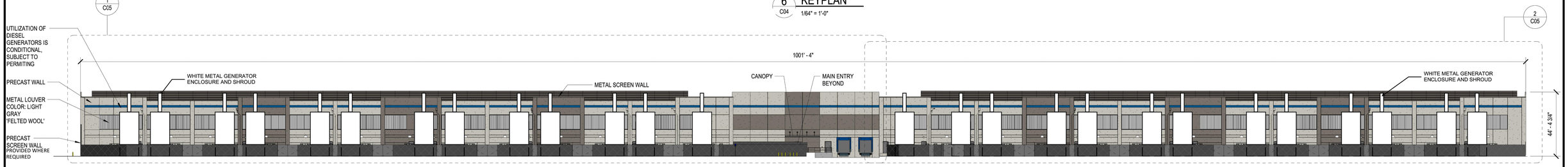
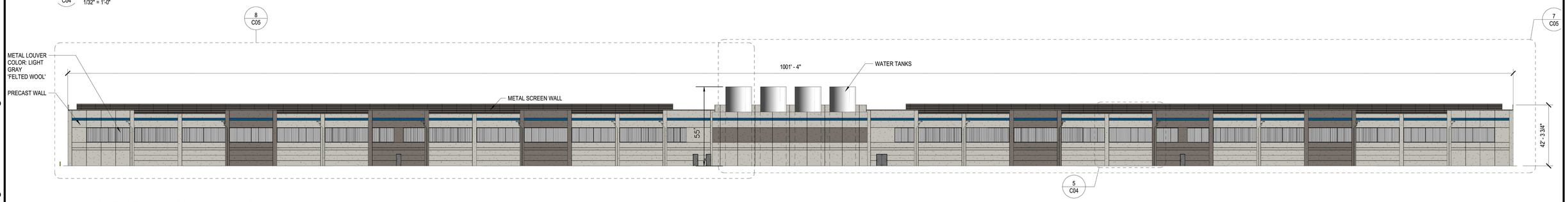


5 TYPICAL PANEL ELEVATION
C04 — 1/8" = 1'-0"

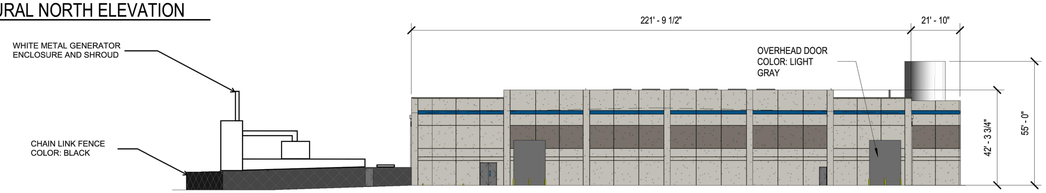
6 KEYPLAN
C04 — 1/64" = 1'-0"

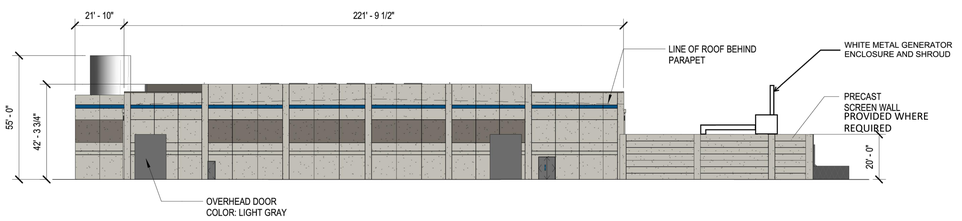


1 ARCHITECTURAL SOUTH ELEVATION
C04 — 1/32" = 1'-0"



2 ARCHITECTURAL NORTH ELEVATION
C04 — 1/32" = 1'-0"





3 ARCHITECTURAL EAST ELEVATION
C04 — 1/32" = 1'-0"

4 ARCHITECTURAL WEST ELEVATION
C04 — 1/32" = 1'-0"

NOTE: WHERE PRECAST SCREEN WALLS ARE NOT REQUIRED, 9-FT CHAIN LINK FENCE WILL BE PROVIDED AROUND THE UTILITY YARDS

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Architecture
Buildings 'A', 'C', & 'D'

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

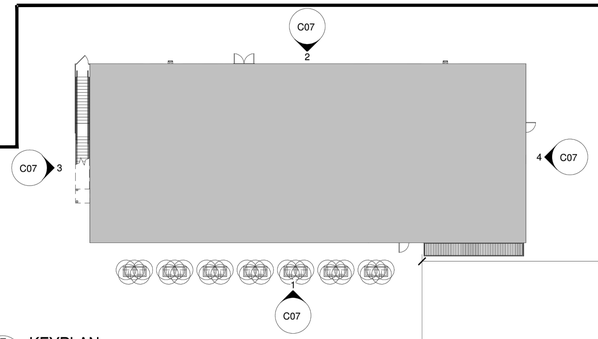
Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	As Shown
JOB No.	13648
DATE:	Oct 2023
INDEX No.	C-500.02
SHEET No.	31 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-500.01-C-500.06-ARCHITECTURE.DWG

Submittal 2024.01.02
Submittal 2023.12.17
Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05

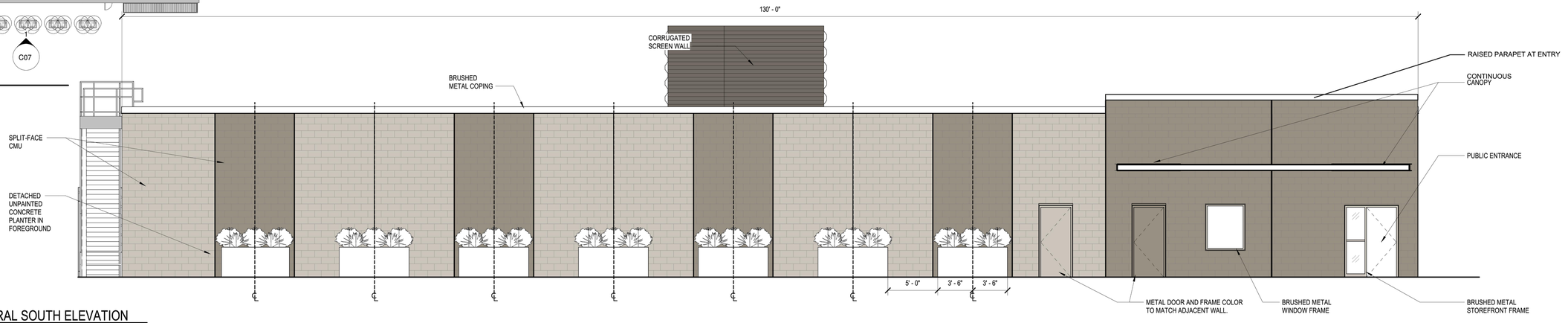
PRELIMINARY - NOT FOR CONSTRUCTION



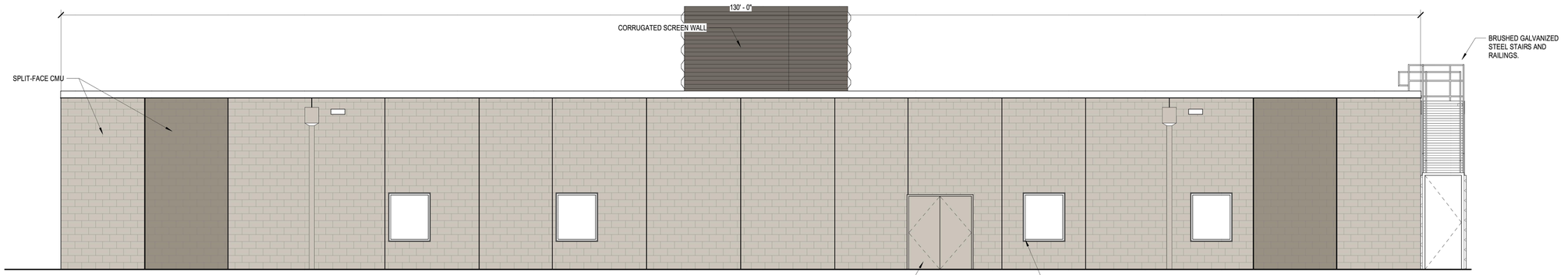
EXTERIOR FINISH LEGEND

T1	GROUND FACE STRUCTURAL CMU WITH CLEAR ACRYLIC SEALANT TRENDSTONE - BUTTERBRICKLE MIDWEST
T2	GROUND FACE STRUCTURAL CMU WITH CLEAR ACRYLIC SEALANT TRENDSTONE - SUNDOWN MIDWEST

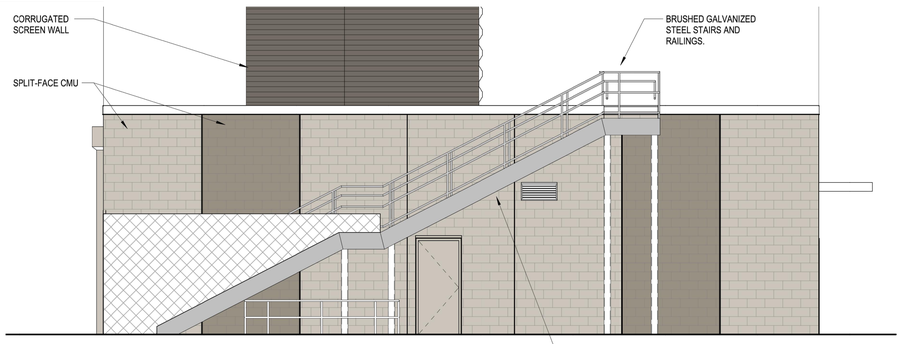
5 C07 KEYPLAN
3/64" = 1'-0"



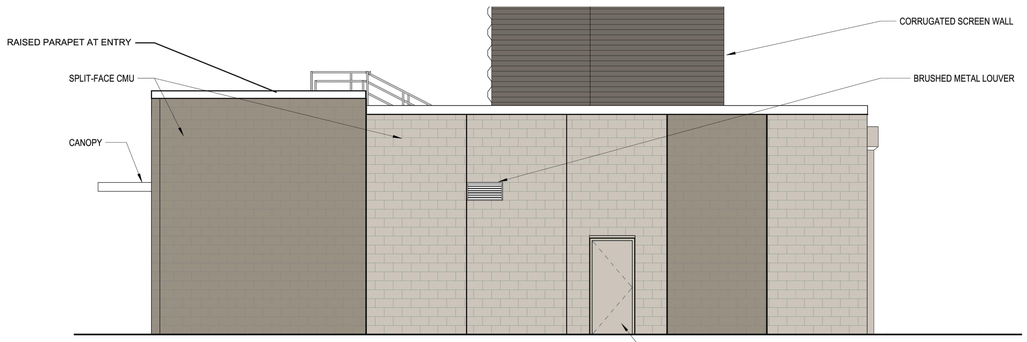
1 C07 ARCHITECTURAL SOUTH ELEVATION
3/16" = 1'-0"



2 C07 ARCHITECTURAL NORTH ELEVATION
3/16" = 1'-0"



3 C07 ARCHITECTURAL WEST ELEVATION
3/16" = 1'-0"



4 C07 ARCHITECTURAL EAST ELEVATION
3/16" = 1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2024.01.02
Submittal 2023.12.17
Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY _____ DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

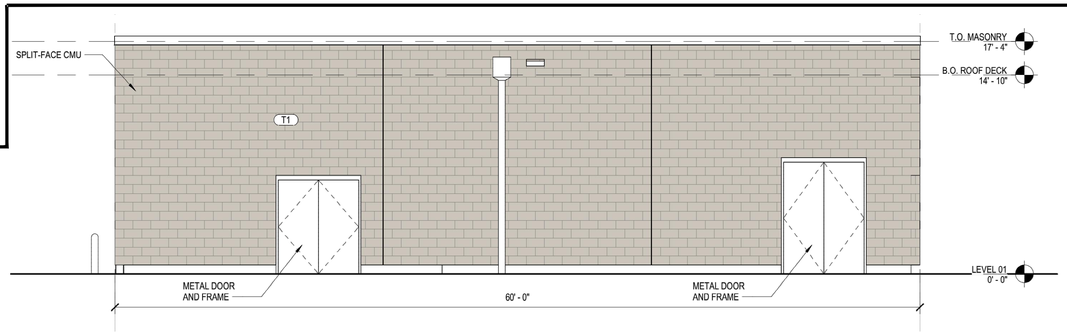
Architecture
Building 'E'

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

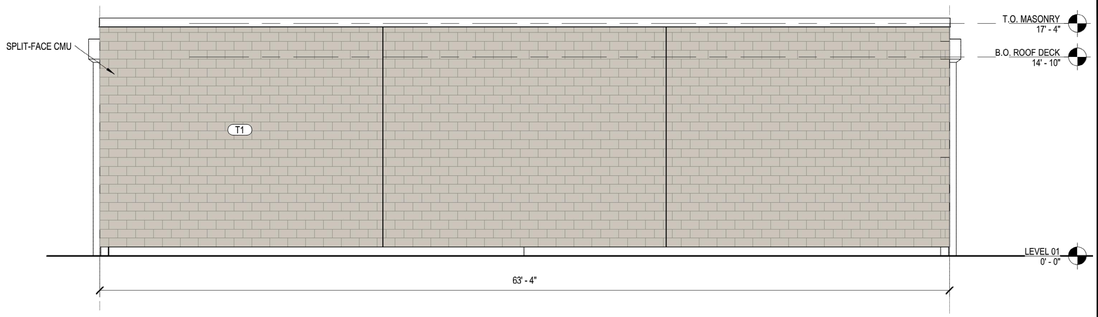
Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	As Shown
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-500.03
SHEET No.	32 OF 43

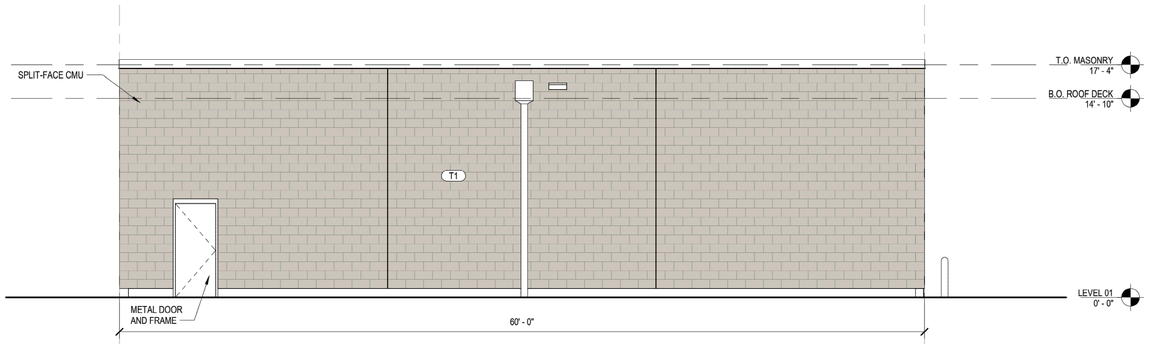
N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-500.01-C-500.06-ARCHITECTURE.DWG



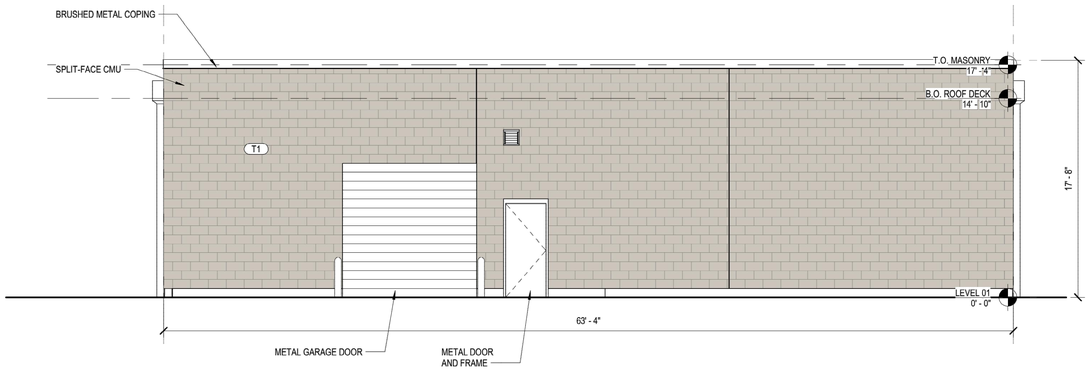
1 C08 **EAST ELEVATION**
3/16" = 1'-0"



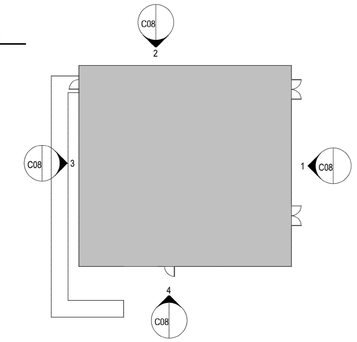
2 C08 **NORTH ELEVATION**
3/16" = 1'-0"



3 C08 **WEST ELEVATION**
3/16" = 1'-0"



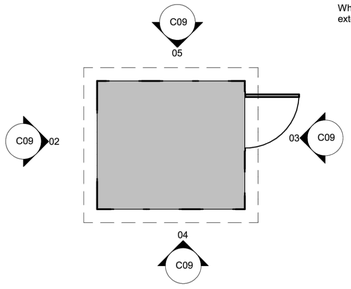
4 C08 **SOUTH ELEVATION**
3/16" = 1'-0"



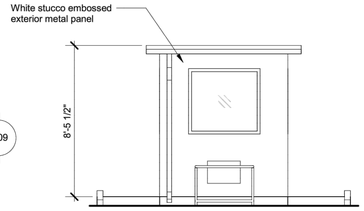
EXTERIOR FINISH LEGEND

T1	GROUND FACE STRUCTURAL CMU WITH CLEAR ACRYLIC SEALANT TRENDSTONE - BUTTERBRICKLE MIDWEST
T2	GROUND FACE STRUCTURAL CMU WITH CLEAR ACRYLIC SEALANT TRENDSTONE - SUNDOWN MIDWEST

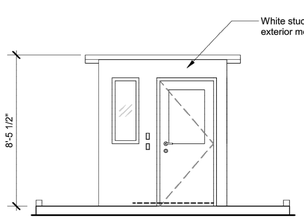
Building 'F'
NTS



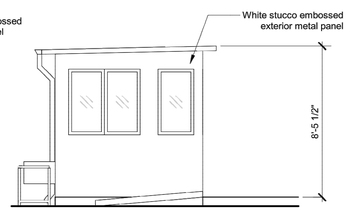
01 **KEY PLAN**
SCALE: 1/4" = 1'-0"



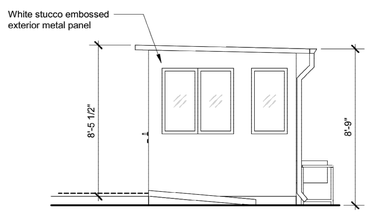
02 **Exterior Elevation West**
SCALE: 1/4" = 1'-0"



03 **Exterior Elevation East**
SCALE: 1/4" = 1'-0"

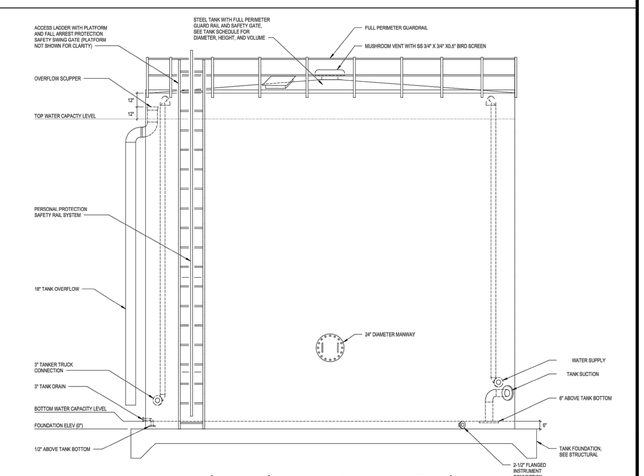


04 **Exterior Elevation South**
SCALE: 1/4" = 1'-0"



05 **Exterior Elevation North**
SCALE: 1/4" = 1'-0"

Guard Booth
NTS



Industrial Water Storage Tanks
NTS

EPT-1	TYPICAL OFF-WHITE FIELD COLOR EXTERIOR TEXTURE ACRYLIC COATING SW 7043 'WORLDLY GRAY' (Non-Reflective)

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____
BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Architecture
Building F, Industrial Water Storage Tank & Guard Booth

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

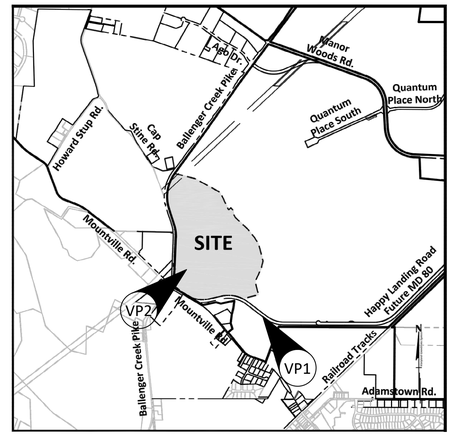
SCALE:	As Shown
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-500.04
SHEET No.	33 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30

PRELIMINARY - NOT FOR CONSTRUCTION

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\BASE\24X36_BASE.DWG

Building 'E' Perspective
NTS



Key Sheet

Vantage Point #1

Vantage Point #2

RENDERINGS AFTER PROJECT COMPLETION
NTS

PRELIMINARY - NOT FOR CONSTRUCTION

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY _____ DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Renderings

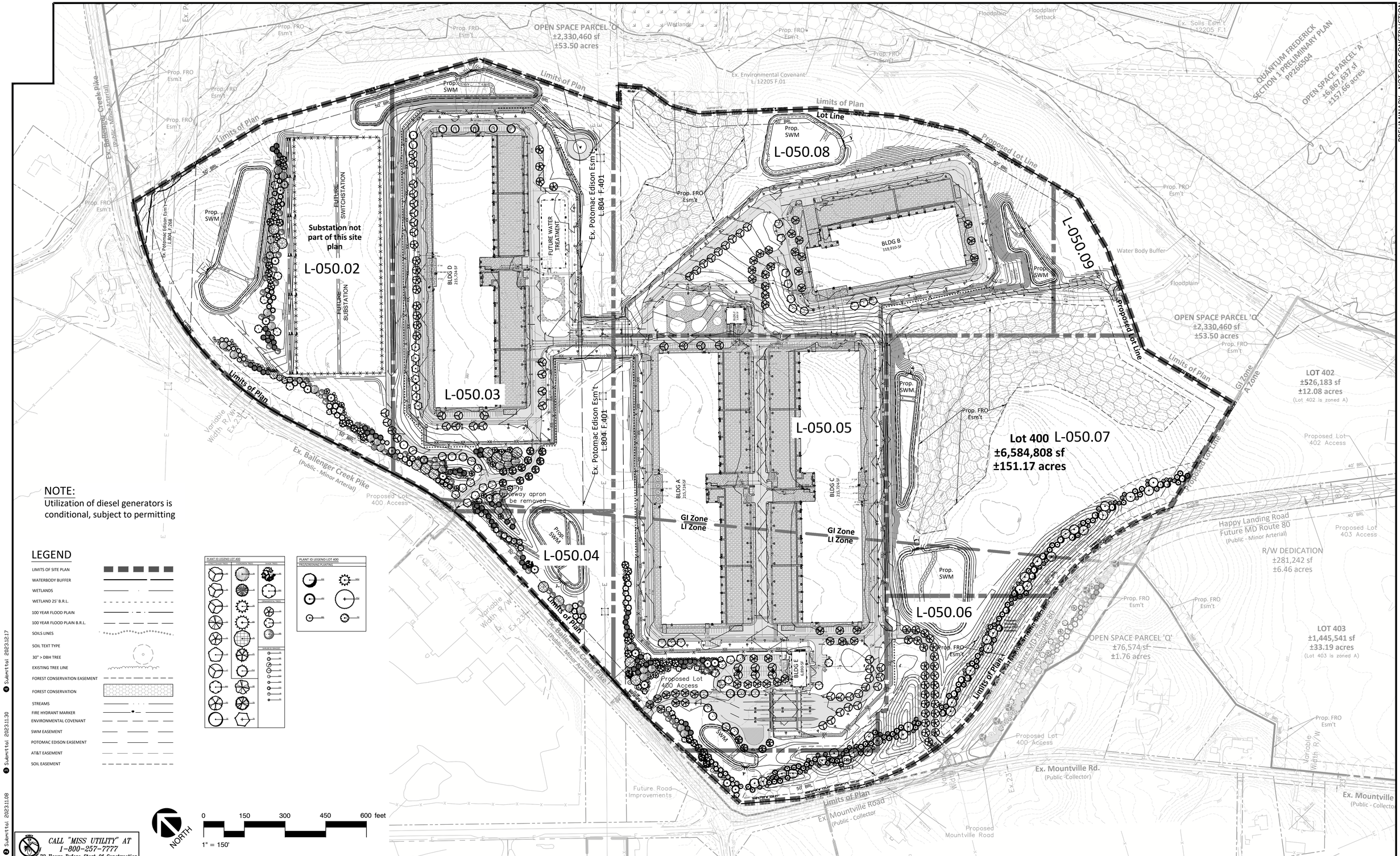
RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	As Shown
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	C-500.05
SHEET No.	34 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\C-500.01-C-500.06-ARCHITECTURE.DWG

1 Submittal 2023.10.05
2 Submittal 2023.11.08
3 Submittal 2023.11.30



NOTE:
Utilization of diesel generators is conditional, subject to permitting

LEGEND

- LIMITS OF SITE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- SOILS LINES
- SOIL TEXT TYPE
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

PRELIMINARY - NOT FOR CONSTRUCTION

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		
RELEASE FOR		
BY	DATE	

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Overall Landscape, Buffering & Screening Plan & Sheet Key

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=150'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.01
SHEET No.	35 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.01-OVERALL LANDSCAPE PLAN.DWG

Submittal 2023.12.17
Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05

LEGEND

- LIMITS OF LANDSCAPE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

0 50 100 150 200 feet

1" = 50'

NORTH

PLANT ID LEGEND LOT 400 (SEE KEY ON L.050.09)

STREET/SHADE TREES	EVERGREEN TREES	SHADE TREES
AG, AS, CS, CO, CC, LS, LT, NS3, PO, QP	IA, IE, MB, PR, PS, PT, PV3, QR, TD, TR	BC, NS2

ORNAMENTAL TREES: CE, CC, MS

SHRUBS & GRASSES: IA, MC, RA, VA, CA3, CS4, CSS, IG, PV

Ex. Ballenger Creek Pike
(Public - Minor Arterial)

Limits of Plan

Ex. Potomac Edison Esm't
L.804 F.268

Prop. FRO Esm't

Proposed Lot Line

PROP. SWM

LOT 400
±6,584,808 sf
±151.17 acres

Future Substation
(not part of this Site Plan)

PROP. SWM

Proposed Substation & First Energy Access Road

Match Line: See Sheet L-050.03

50' BRL

NOTE:
Utilization of diesel generators is conditional, subject to permitting

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

PRELIMINARY - NOT FOR CONSTRUCTION

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Landscape, Buffering & Screening Plan

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.02
SHEET No.	36 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

Match Line: See Sheet L-050.02

Proposed Substation & First Energy Access Road

Match Line: See Sheet L-050.04

GI Zone
LI Zone

Prop. Building 'D'
One Story +/- 215,454 sf
S=383.50

Prop. Utility Yard

Prop. Dumpster

Prop. Loading Dock

Prop. Utility Yard

Water Tanks

Prop. SWM

Possible Fut. Industrial Water Treatment Storage
(Not part of this site plan)

Possible Fut. Industrial Water Treatment Facility
(Not part of this site plan)

Ex. Transmission Tower

Ex. Potomac Edison Esm't L.804 F.401

LOT 400
±6,584,808 sf
±151.17 acres

Ex. Transmission Tower

Proposed Lot Line

Match Line: See Sheet L-050.05

Match Line: See Sheet L-050.08

PLANT ID LEGEND LOT 400 (SEE KEY ON L.050.09)

STREET/SHADE TREES: AG, AS, CS, CO, GC, LI, LT, NS3, PO, QP

EVERGREEN TREES: IA, IR, MB, PA, PS, PT, PV3, QB, TD, TR

SHADE TREES: BC, NS2

ORNAMENTAL TREES: CE, CZ, MS

SHRUBS & GRASSES: VS, MF, BA, VA, CA3, CS4, CS5, IG, PV

NOTE:
Utilization of diesel generators is conditional, subject to permitting

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

LEGEND

- LIMITS OF LANDSCAPE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

0 50 100 150 200 feet
1" = 50'

NORTH

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Landscape, Buffering & Screening Plan

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.03
SHEET No.	37 OF 43

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG

LEGEND

LIMITS OF LANDSCAPE PLAN
WATERBODY BUFFER
WETLANDS
WETLAND 25' B.R.L.
100 YEAR FLOOD PLAIN
100 YEAR FLOOD PLAIN B.R.L.
30" > DBH TREE
EXISTING TREE LINE
FOREST CONSERVATION EASEMENT — EXISTING / PROPOSED
FOREST CONSERVATION
STREAMS
FIRE HYDRANT MARKER
ENVIRONMENTAL COVENANT
SWM EASEMENT
POTOMAC EDISON EASEMENT
AT&T EASEMENT
SOIL EASEMENT

PLANT ID LEGEND LOT 400 (SEE KEY ON L.050.09)

STREET/SHADE TREES	EVERGREEN TREES	SHADE TREES
AG, AS, CS, CO, CC, LS, LT, NS3, PO, OP	IA, JC, MB, PR, PS, PT, PV3, QR, TD, TB	BC, BO2
ORNAMENTAL TREES		
CE, CF, MS		
SHRUBS & GRASSES		
HL, MC, RA, VA, GA3, CS4, CSS, IG, PV		

GI Zone
LI Zone
Match Line: See Sheet L-050.03
Prop. SWM
Ex. Potomac Edison Esm't
L.804 F.401
50' ERL
Ex. Transmission Tower
Match Line: See Sheet L-050.05
Limits of Plan
Ex. Ballenger Creek Pike
(Public - Minor Arterial)
PRELIMINARY - NOT FOR CONSTRUCTION

NOTE:
Utilization of diesel generators is conditional, subject to permitting

0 50 100 150 200 feet
1" = 50'
NORTH

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY _____ DATE _____

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Landscape, Buffering & Screening Plan

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	13648
DATE:	Oct 2023
INDEX No.	L-050.04
SHEET No.	38 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG

1 Submittal 2023.10.05
2 Submittal 2023.11.08
3 Submittal 2023.11.30
4 Submittal 2023.12.17

Match Line: See Sheet L-050.04

Match Line: See Sheet L-050.03

Match Line: See Sheet L-050.06

Match Line: See Sheet L-050.07

Match Line: See Sheet L-050.08

PRELIMINARY - NOT FOR CONSTRUCTION

PLANT ID LEGEND LOT 400 (SEE KEY ON L050.09)

STREET/SHADE TREES: AG, AS, CS, CO, CC, LS, LT, MS3, PO, QZ

EVERGREEN TREES: IA, JE, MB, PR, PS, PT, PV3, QR, TD, TR

SHADE TREES: BC, NS2

ORNAMENTAL TREES: CE, CT, MS

SHRUBS & GRASSES: HL, MC, RA, VA, CA3, CS4, CS5, IG, PX

PLANT ID LEGEND LOT 400

FRO/SCREENING PLANTING: XO2, MS2, PI2, PS2, MC, TO

Prop. Building 'A'
One Story +/- 215,454 sf
S=382.50

Water Tanks

Prop. Water Storage Tanks

Prop. Bldg 'F'
One Story +/- 3,900 sf
S=382.0

Prop. Utility Yard

Prop. Loading Dock

Prop. Dumpster

Prop. SWM

Prop. Bldg 'E'
One Story +/- 6,890 sf
S=382.0

LOT 400
±6,584,808 sf
±151.17 acres

Proposed Screening within FRO easement

NOTE:
Utilization of diesel generators is conditional, subject to permitting

GI Zone
LI Zone

Prop. Building 'C'
One Story +/- 215,454 sf
S=381.70

Water Tanks

Prop. Utility Yard

Prop. Dumpster

Prop. Loading Dock

Prop. Utility Yard

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

0 100 150 200 feet
1" = 50'

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

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Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.05
SHEET No.	39 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND

- LIMITS OF LANDSCAPE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

NOTE:
Utilization of diesel generators is conditional, subject to permitting

Match Line: See Sheet L-050.07

Prop. SWM

Proposed Screening within FRO easement

Prop. FRO Esm't

Happy Landing Road
Future MD Route 80
(Public - Minor Arterial)

Limits of Plan

N 74°42'25" E 89.15'

Prop. Bldg 'E'
One Story +/- 6,890 sf
S=382.0

LOT 400
±6,584,808 sf
±151.17 acres

Match Line: See Sheet L-050.05

Match Line: See Sheet L-050.05

Proposed Screening within FRO easement

Proposed Screening within FRO easement

Prop. FRO Esm't

Limits of Plan

S56°06'11"E 101.00'

50' BRL

Prop. SWM

N87°34'15"W 2,458'

N02°26'45"E 257.82'

Ex. Mountville Road
(Public - Collector

Ex. M
(P

5'S/W
6" IW
3" CW
12" Fire
4" S
6" Fire
4" CW

PLANT ID LEGEND LOT 400 (SEE KEY ON L-050.09)

STREET/SHADE TREES	EVERGREEN TREES	SHADE TREES
AG	VA	BC
AS	IE	NS2
CS	MB	ORNAMENTAL TREES
CO	PR	CE
CC	PS	CF
LS	PT	MS
LT	PV3	SHRUBS & GRASSES
NS3	QR	HL
PO	TD	MF
QP	TR	RA
		VS
		CA3
		CS4
		CS5
		IG
		PV

PLANT ID LEGEND LOT 400
FRO/SCREENING PLANTING

IO2, MS2, IF2, PS2, MC, TO

NORTH

0 50 100 150 200 feet

1" = 50'

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

Submittal 2023.10.05
Submittal 2023.10.08
Submittal 2023.11.30
Submittal 2023.12.17

OWNER/DEVELOPER:
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Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.06
SHEET No.	40 OF 43

N: \MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG

LEGEND

- LIMITS OF LANDSCAPE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

PLANT ID LEGEND LOT 400 (SEE KEY ON L.050.09)

STREET/SHADE TREES: AG, AS, CS, CO, CC, LS, LT, NS3, RO, OP

EVERGREEN TREES: VA, JE, MB, PR, PS, RT, PV3, QB, TD, TB

SHADE TREES: BC, NS2

ORNAMENTAL TREES: CE, CF, MS

SHRUBS & GRASSES: HL, MF, RA, VA, CA3, CS4, CS5, IG, PV

Match Line: See Sheet L-050.08

Match Line: See Sheet L-050.09

Match Line: See Sheet L-050.05

Match Line: See Sheet L-050.06

Prop. FRO Esm't

Prop. SWM

Prop. SWM

Prop. SWM

Prop. FRO Esm't

Prop. FRO Esm't

Prop. FRO Esm't

Proposed Screening within FRO easement

LOT 400
±6,584,808 sf
±151.17 acres

Proposed Lot Line

GI Zone
LI Zone

GI Zone
LI Zone

GI Zone
LI Zone

Happy Landing Road
Future MD Route 80
(Public - Minor Arterial)

50' BRL

50' BRL

50' BRL

N 53°21'22" W 396.52'

N 36° 38' 38" E 910.31'

45°-00'

R=600.23'
L=390.00'

0 50 100 150 200 feet
1" = 50'

NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

Submittal 2023.12.17
Submittal 2023.11.30
Submittal 2023.11.08
Submittal 2023.10.05

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
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160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Landscape, Buffering & Screening Plan

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Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.07
SHEET No.	41 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG

NOTE:
Utilization of diesel generators is conditional, subject to permitting

LEGEND

- LIMITS OF LANDSCAPE PLAN
- WATERBODY BUFFER
- WETLANDS
- WETLAND 25' B.R.L.
- 100 YEAR FLOOD PLAIN
- 100 YEAR FLOOD PLAIN B.R.L.
- 30" > DBH TREE
- EXISTING TREE LINE
- FOREST CONSERVATION EASEMENT (EXISTING / PROPOSED)
- FOREST CONSERVATION
- STREAMS
- FIRE HYDRANT MARKER
- ENVIRONMENTAL COVENANT
- SWM EASEMENT
- POTOMAC EDISON EASEMENT
- AT&T EASEMENT
- SOIL EASEMENT

PLANT ID LEGEND LOT 400 (SEE KEY ON L.050.09)

STREET/SHADE TREES: AG, AS, CS, CO, CC, LS, LT, NS3, RO, QP

EVERGREEN TREES: IA, JE, MB, PR, PS, PT, PV3, QR, TD, TR

SHADE TREES: BC, NS2

ORNAMENTAL TREES: CE, CI, MS

SHRUBS & GRASSES: BA, MT, RA, VA, CA3, CS4, CS5, IG, PV

Ex. Environmental Covenant L. 12205 F.01

Ex. Transmission Tower

±151.17 acres

Match Line: See Sheet L-050.03

S39°59'08"E 96.69'

S42°03'33"W 89.78'

N 29°05'50" W 67.51'

S29°23'10"E 111.28'

N48°09'37"W 117.55'

N47°16'02"W 320.62'

Proposed Lot Line

S39°31'46"E 300.96'

S32°01'27"E 243.62'

50' BRL

Prop. SWM

LOT 400
±6,584,808 sf
±151.17 acres

Prop. FRO Esm't

Ex. Ephemeral Stream

Prop. Dumpster

Prop. Utility Yard

Prop. Loading Dock

Prop. Building 'B'
One Story +/- 119,775 sf
S=365.00

Water Tanks

Prop. Water Storage Tanks

Prop Bldg 'F'
One Story +/-
3,900 sf
S=382.0

Prop. SWM

Proposed SWM Service Road

210,000 gal Attenuation Holding Tank

Water Meter Prop.

Match Line: See Sheet L-050.05

Match Line: See Sheet L-050.07

Match Line: See Sheet L-050.09

PRELIMINARY - NOT FOR CONSTRUCTION

0 50 100 150 200 feet
1" = 50'

NORTH

CALL "MISS UTILITY" AT 1-800-257-7777 72 Hours Before Start Of Construction

REVISION	DATE

REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17

OWNER/DEVELOPER:
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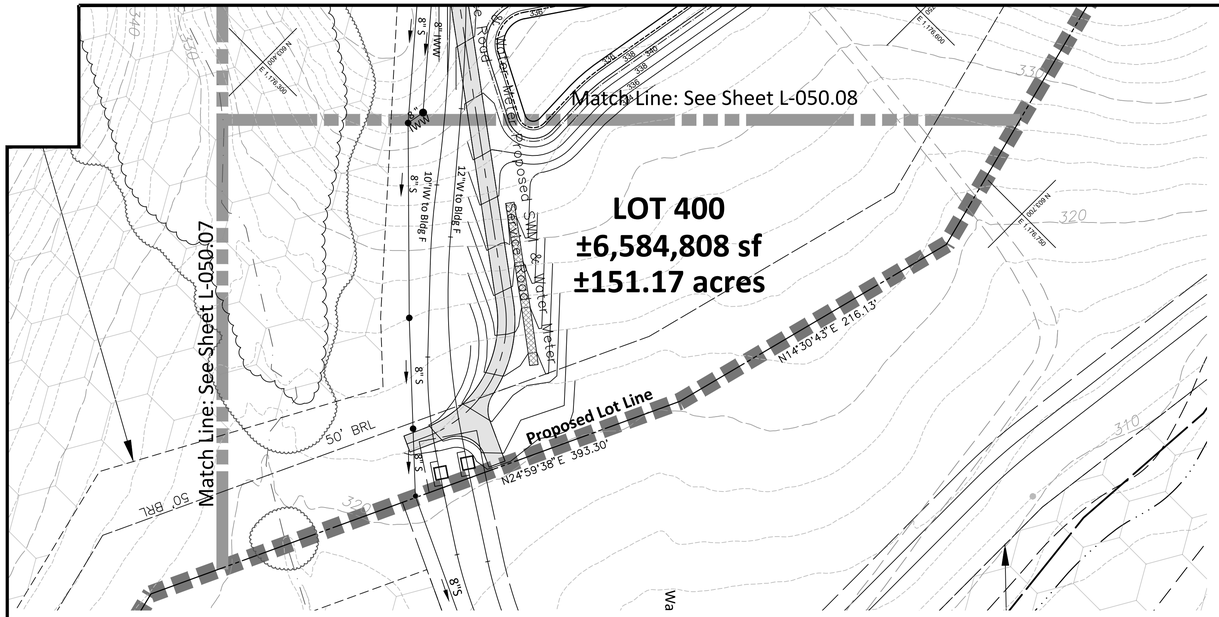
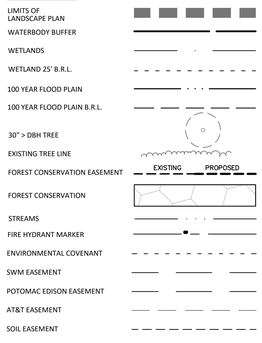
Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

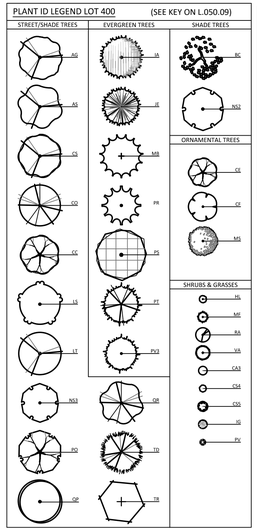
SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.08
SHEET No.	42 OF 43

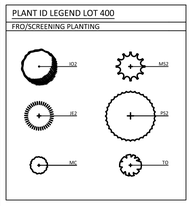
N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG



LEGEND







Landscape Notes:

1. See approved Preliminary Plan PP273777 for required public street trees.
2. 100% (1,185 / 1,185) of woody and grass plant material on this plan are native or climate adapted to the Frederick County and the Chesapeake Bay Watershed.
3. Keep street trees limbed/pruned so street signs are visible at all times and so they do not interfere with street lights, sight distance or pedestrian access.
4. Final improvement plan landscape locations will vary based on final utility design, orientation of the amenities and screening needs.
5. All landscaping must be maintained in a living condition.
6. 20% of the parking lots are shaded. (18,096 tree canopy shading sf/ 89,605 parking lot sf = 20%).

LANDSCAPE NOTES

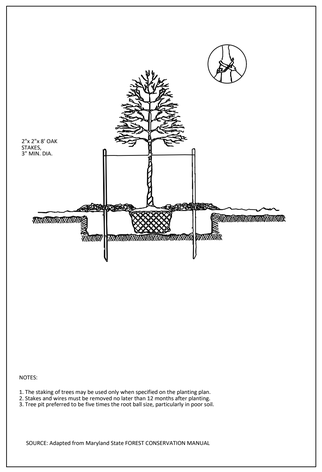
1. Plants shall conform to current "American Standards for Nursery Stock" by American Association of Nurserymen (AAN), particularly with regards to site, growth, and size of ball and density of branch structure. Contractor to insure conformance to national and local building codes and ordinances.
2. All plants (B&B or container) shall be properly identified by weatherproof labels securely attached hereto before delivery to project site. Labels shall identify plants by name, species and size. Labels shall not be removed until the final inspection by the owners representative.
3. Any material and/or work may be rejected by the owners representative if it does not meet the requirements of the specifications. The contractor shall remove all rejected materials from the site.
4. The contractor shall furnish all plants in quantities and sizes to complete the work as specified in plant schedule. The landscape contractor shall be responsible to verify all plant quantities on the plans prior to commencement of work. Quantities in the plant schedule are for the contractors convenience only and do not constitute the final count.
5. Substitutions in plant species or size shall not be permitted except with the written approval of the owners and Frederick County representative. No plants shall be used that are on the Frederick County Invasive Plants List.
6. Plants shall be located as shown on the drawings and by scaling or as designated in the field by the owners representative. All locations are to be approved by the owners representative before excavation. Contractor to adjust plant location based on sight distance, utilities, and drainage swales.
7. Contractor shall locate and mark all underground utility lines and irrigation systems prior to excavating plant beds or pits. All utility easement areas where no planting shall take place shall also be marked on the site, prior to locating and digging the tree pits. If utility lines are encountered in excavation of tree pits, other locations for the trees shall be selected by the owners representative and City of Frederick representative. Such changes shall be made by the contractor without additional compensation. No changes of location shall be made without the approval of the owners representative and Frederick County representative.
8. All equipment and tools shall be placed so as not to interfere or hinder the pedestrian and vehicular traffic flow.
9. During planting operations, excess and waste materials shall be promptly and frequently removed from the site.
10. All plant shrub beds are to be dug to a minimum of 48" deep and all existing soil, construction debris, roots and other foreign material are to be removed and discarded off site. All plant shrub beds are to be excavated to the width shown on the plans.
11. All tree pits are to be excavated to a minimum depth to allow the tree root ball to be a minimum of 4" higher than finish grade. The tree root ball is to rest on undisturbed soil, or a compacted bed must be prepared for the tree root ball to rest on and which will not subside causing the tree to sink below finish grade. All tree pits are to be a minimum of 12" larger on every side of the trees root ball.
12. The planter beds are to be entirely cleaned out to the undisturbed soil level. All existing soil, construction debris, roots and other foreign material are to be removed and discarded offsite.
13. The topsoil to be used to fill the tree pits, shrub beds and planters is to be plant specific. The topsoil for the trees, shrubs and planter shall consist of a maximum 2/3 existing topsoil from the site, which is cleaned and free of clay, a minimum of 1/3 peat moss, or other approved organic material or imported new loamy topsoil and 10% composted cow manure. All of these materials are to be mixed prior to back filling.
14. The contractor is responsible to ensure that all tree pits, shrub beds and planter are well drained. The landscape contractor without cost to the owner will replace all plant material, which is affected by poor drainage.
15. All lawn areas are to be seeded with grass seed appropriate for each of the sunlight conditions, which exist on the site.
16. All lawn areas are to be tilled to a depth of 6" and all foreign material removed which will inhibit the healthy growth of the lawn. All old grass and grass roots are to be removed from the site. New topsoil of a minimum 4" is to be placed over the areas to be sodded. The grass areas are to be fine graded to ensure that no undulations occur in the lawn. The lawns are to be graded in such a way as to appear perfectly well tailored and even. The lawn topsoil is to be rolled and lightly irrigated prior to placing of the seed. The seed is not to be laid on frozen or soaked soil.
17. Existing trees are to be protected during the preparation of the all planting areas, including lawns. The roots of the trees are to be undisturbed during the cleaning of the topsoil.
18. The trees and shrubs are to be handled with the best care and attention to ensure that the plants are not bruised, broken, torn, damaged in any way which will affect the plants general appearance and well being.
19. The trees and shrubs are to be planted with the accepted standards of the American Association of Nurserymen. The plants are to be properly watered and back filled during the planting. All care must be taken to ensure that the plants are upright, a plant's best side is exposed to the point of the plants greatest visibility.
20. The trees must be staked in accordance with acceptable nursery practice to ensure that they are secure in the ground and will grow straight and uniform. The trees are to be wrapped if the contractor deems it necessary to protect the trees from sun scald or insect attack.
21. The Landscape Contractor is to provide a 1-year guarantee for all plant material and other work done on site, and owner shall comply with County maintenance and repair of landscaping requirements.
22. Large growing plants are not to be planted in front of windows, under building overhangs, or in drainage swales. Shrubs planted near H.V.A.C units to be located so that shrubs at maturity will maintain 1 foot airspace between unit and plant.
23. Contractor to slightly adjust plant locations in the field as necessary to be clear of drainage swales and utilities. Finished planting beds shall be graded so as not to impede drainage away from buildings.
24. Trees shall be located a minimum of 20 feet from fences, 3' from sidewalks, and 10' from all utilities.
25. Quantities as shown on the plan shall govern over plant list quantities. Contractor to verify plant list totals with quantities shown on plan.
26. Groups of shrubs shall be placed in a continuous mulch bed with smooth continuous lines. All mulched bed edges shall be curvilinear in shape following the contour of the plant mass. Trees located within 4 feet of shrub beds shall share same mulch bed.

PRELIMINARY - NOT FOR CONSTRUCTION

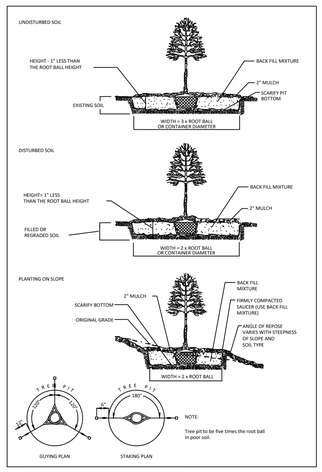
LOT 400 LANDSCAPE SCHEDULE

Street Trees	Quantity	Scientific Name	Common Name	Root	Caliper	Height	Native	Notes
AG	21	Acer rubrum `October Glory` TM	October Glory Maple	B&B	2.5"-3"		Yes	Street Tree, Match
AS	21	Acer saccharum	Sugar Maple	B&B	2.5"-3"		Yes	Street Tree, Match
CO	25	Celtis occidentalis	Common Hackberry	B&B	2.5"-3"		Yes	Street Tree, Match
LS	26	Liquidambar rotundiloba	Sweet Gum	B&B	2.5"-3"		Yes	Street Tree, Match
LT	16	Liriodendron tulipifera	Tulip Tree	B&B	2.5"-3"		Yes	Street Tree, Match
NS3	2	Nyssa sylvatica	Tupelo	B&B	2.5"-3"		Yes	Street Tree, Match
PO	26	Platanus occidentalis	American Sycamore	B&B	2.5"-3"		Yes	Street Tree, Match
QUP	13	Quercus palustris	Pin Oak	B&B	2.5"-3"		Yes	Street Tree, Match
QP	22	Quercus phellos	Willow Oak	B&B	2.5"-3"		Yes	Street Tree, Match
QR	18	Quercus rubra	Red Oak	B&B	2.5"-3"		Yes	Street Tree, Match
TD	15	Taxodium distichum	Bald Cypress	B&B	2.5"-3"		Yes	Street Tree, Match
TR	7	Tilia americana 'Redmond'	Redmond American Linden	B&B	2.5"-3"		Yes	Street Tree, Match
TOTAL	**212**				**212**	**/ 212**	**100%**	**Native Trees**
Shade Trees	**Quantity**	**Scientific Name**	**Common Name**	**Root**	**Caliper**	**Height**	**Native**	**Notes**
BD	9	Betula nigra 'BNMTF'	Dura Heat® River Birch	B&B		6'-8' H	Yes	3 Trunks, Match
NS2	11	Nyssa sylvatica	Tupelo	B&B	2.5"-3"		Yes	Match
TOTAL	**20**				**20**	**/ 20**	**100%**	**Native Trees**
Evergreen Trees	**Quantity**	**Scientific Name**	**Common Name**	**Root**	**Caliper**	**Height**	**Native**	**Notes**
IA	33	Ilex opaca	American Holly	B&B		6'-8' H	Yes	Full to Ground, Match
JE	74	Juniperus virginiana	Eastern Red Cedar	B&B		6'-8' H	Yes	Full to Ground, Match
MB	18	Magnolia grandiflora 'Brackens Brown Beauty'	Bracken's Beauty Southern Magnolia	B&B		6'-8' H	Adapted	Full to Ground, Match
PR	37	Pinus rigida	Pitch Pine	B&B		6'-8' H	Yes	Full to Ground, Match
PS	24	Pinus strobus	White Pine	B&B		6'-8' H	Yes	Full to Ground, Match
PT	36	Pinus taeda	Loblolly Pine	B&B		6'-8' H	Yes	Full to Ground, Match
PV3	37	Pinus virginiana	Virginia Pine	B&B		6'-8' H	Yes	Full to Ground, Match
TG	27	Thuja occidentalis 'Green Giant'	Green Giant Arborvitae	B&B		6'-8' H	Yes	Full to Ground, Match
TOTAL	**286**				**286**	**/ 286**	**100%**	**Native Trees**
Ornamental Trees	**Quantity**	**Scientific Name**	**Common Name**	**Root**	**Caliper**	**Height**	**Native**	**Notes**
CE	23	Cercis canadensis	Eastern Redbud	15 gal		6'-8' H	Yes	Single Trunk, Match
CF	23	Cornus florida	Eastern Dogwood	15 gal		6'-8' H	Yes	Match
MS	51	Magnolia virginiana	Sweet Bay	15 gal		6'-8' H	Yes	Match
TOTAL	**97**				**97**	**/ 97**	**100%**	**Native Trees**
Shrubs & Grasses	**Quantity**	**Scientific Name**	**Common Name**	**Root**	**Caliper**	**Height**	**Native**	**Notes**
CA3	38	Callicarpa americana	American Beautyberry	#3 cont			Yes	Prune as needed, Match
CS5	48	Cornus sericea 'Cardinal'	Cardinal Red Twig Dogwood	#3 cont			Yes	Prune as needed, Match
HL	23	Hamamelis virginiana	Common Witch Hazel	#3 cont			Yes	Match
HW	35	Hydrangea quercifolia	Oakleaf Hydrangea	#3 cont			Yes	Match
IG	68	Ilex glabra	Inkberry Holly	#3 cont			Yes	Full to Ground, Match
MF	67	Myrica cerifera	Southern Wax Myrtle	#3 cont			Yes	Full to Ground, Match
PV	20	Panicum virgatum	Switch Grass	#3 cont			Yes	Cut back in late winter
RA	41	Rhus aromatica Gro-low	Gro-Low Fragrant Sumac	#3 cont			Yes	Match
VA	46	Viburnum dentatum	Arrowwood Viburnum	#3 cont			Yes	Match
TOTAL	**386**				**386**	**/ 386**	**100%**	**Native Shrubs & Grasses**
FRO / Screening	**Quantity**	**Scientific Name**	**Common Name**	**Root**	**Caliper**	**Height**	**Native**	**Notes**
IA	17	Ilex opaca	American Holly	B & B		6'-8' H	Yes	Full to Ground, Match
JE2	40	Juniperus virginiana	Eastern Redcedar	B & B		6'-8' H	Yes	Full to Ground, Match
MS2	28	Magnolia virginiana	Sweetbay Magnolia	B & B		6'-8' H	Yes	Full to Ground, Match
MC	35	Myrica cerifera	Southern Wax Myrtle	#3 cont			Yes	Full to Ground, Match
PS2	32	Pinus strobus	White Pine	B & B		6'-8' H	Yes	Full to Ground, Match
TO	32	Thuja occidentalis	American Arborvitae	B & B		6'-8' H	Yes	Full to Ground, Match
TOTAL	**184**				**184**	**/ 184**	**100%**	**Native Shrubs & Grasses**

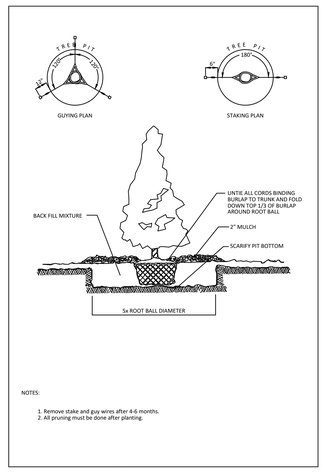
STAKED TREE SPECIFICATION (2)



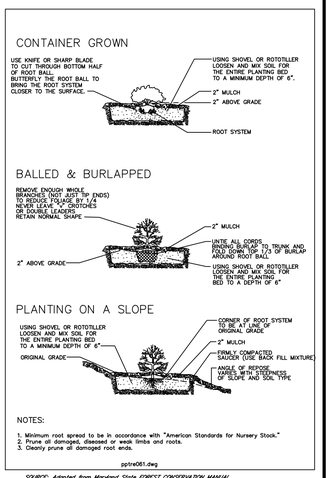
DECIDUOUS TREE PLANTING
CONTAINER GROWN AND BALLED & BURLAPPED STOCK



EVERGREEN TREE PLANTING



SHRUB PLANTING



CALL "MISS UTILITY" AT 1-800-257-7777
72 Hours Before Start Of Construction

0 50 100 150 200 feet
1" = 50'

NORTH

REVISION	DATE	REVISION	DATE

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED		

RELEASE FOR _____ BY DATE

OWNER/DEVELOPER:
Rowan Frederick, LLC.
160 E State Street, Suite 120
Traverse City, MI 49686

Contact: Xiomara Gerlach
Phone: (231) 769-2938

Landscape, Buffering & Screening Plan & Notes & Details

RODGERS CONSULTING
19847 Century Boulevard, Suite 200, Germantown, Maryland 20874
Ph: 301.948.4700 Fx: 301.948.6256 www.rodgers.com

Lot 400 Data Centers
Type 1 Site Plan
Bauxite
SP275808
Liber 15038, Folio 393
Election District No. 1
Frederick County, Maryland

SCALE:	1"=50'
JOB No.	1364B
DATE:	Oct 2023
INDEX No.	L-050.09
SHEET No.	43 OF 43

N:\MD-FREDERICK\ALCOA\AUTOCAD\PLOT PLANS\SITE PLAN BAUXITE\L-050.02-050.09-LANDSCAPE PLAN.DWG

Submittal 2023.10.05
Submittal 2023.11.08
Submittal 2023.11.30
Submittal 2023.12.17