SOMERSET SOLAR, LLC

MATTER NO. 22-00026

§900-2.17 Exhibit 16

Effects on Transportation

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ACRONYM LIST

§	Section
AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
BCSD	Barker Central School District
CR	Niagara County Route
cy	cubic yards
FAA	Federal Aviation Administration
lbs.	pounds
mph	miles per hour
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSDOT	New York State Department of Transportation
RUA	Road Use Agreement
USCs	Uniform Standards and Conditions

Glossary Terms

Applicant	Somerset Solar, LLC, a subsidiary of The AES Corporation, Inc. (AES), the entity seeking a siting permit for the Facility Site from the Office of Renewable Energy Siting (ORES) under Section (§) 94-c of the New York State Executive Law.
Application	Application under §94-c of the New York State Executive Law for review by the ORES for a Siting Permit.
Facility	The proposed components to be constructed for the collection and distribution of energy for the Somerset Solar Facility, which includes solar arrays, inverters, electric collection lines, and the collection substation.
Facility Site	The limit of disturbance (LOD) that will be utilized for construction and operation of the Facility, which totals about 693 acres on the Project Parcels in the Town of Somerset, Niagara County, New York (Figure 2-1).
Project Parcels	The parcels that are currently under agreement with the Applicant and Landowner, totaling about 1,784 acres in the Town of Somerset, Niagara County, New York, on which the Facility Site will be sited (Figure 3-1).
Project Site	The acreage of the Project Parcels under agreement between the Applicant and the Landowner, consisting of approximately 1,396 acres, in which the Applicant has performed diligence, surveys and assessments in support of Facility design and layout.

EXHIBIT 16 EFFECT ON TRANSPORTATION

This exhibit addresses the requirements specified in 19 New York Codes, Rules and Regulations (NYCRR) Section (§) 900-2.17. The Project Site is located in the Town of Somerset (Town), New York. The Town is a rural community located on the southern shore of Lake Ontario, Niagara County. The Facility Site has proposed access points along New York State (NYS) Route 18/Lake Road, and Niagara County Route (CR) 108/Hartland Road, and CR 65/Hosmer Road. The existing traffic circulation within these roads is controlled by stops signs. There are no existing traffic signals to mitigate traffic. No signalized intersections are present within the Facility Site; however, turning movement traffic counts were performed for several locations adjacent to the Project Site (Appendix 16-B). While a temporary increase in traffic in the vicinity of the Facility Site is anticipated during construction, this increase in traffic would be short-term, and would mostly be due to commuting personnel. Most equipment will stay on the Facility Site for the duration of time in which it is needed, to reduce the amount of equipment transportation trips. The Applicant will enter into Road Use Agreements (RUAs) with the New York State Department of Transportation (NYSDOT) and Niagara County (if necessary) concerning any necessary road repairs. There are no anticipated traffic impacts during Facility operation. The Facility has been designed to comply with 19 NYCRR §900-2.17 and the Uniform Standards and Conditions (USCs) and potential impacts related to transportation have been avoided and minimized to the maximum extent practicable.

16(a) Conceptual Site Plan

The Preliminary Design Drawings, including the Conceptual Site Plans for the Facility, are included in Appendix 5-A and Appendix 16-A. The conceptual site plans, drawn at an appropriate scale, depict all Facility Site driveways and roadway intersections, that show the following features.

(1) Horizontal and Vertical Geometry, Approach Lanes, Lane and Shoulder Widths, Traffic Control Devices, and Sight Distances

The Preliminary Design Drawings prepared in association with Exhibit 5 serve as the conceptual site plan for the purposes of this exhibit. These drawings identify future driveway and roadway intersections (Appendix 5-A, Sheets PV-C.02.01–PV-C.02.10), road profiles are provided in Appendix 5-A, Sheets PV-C.06.01–PV-C.06.04, and Sheets PV-C.07.01 and PV-C.07.02 (entrance and road details); and Appendix 16-A includes horizontal and vertical geometry, the number of approach lanes, lane widths, shoulder

widths, traffic control devices (if needed) and sight distances of all Facility Site driveway and roadway intersections. All construction storage and staging areas will be located within the Facility Site. Appendix 16-A includes sight distance figures and calculations for the Facility access points, as well as American Association of State Highway and Transportation Officials (AASHTO) tables. The Facility Site will utilize three public roads for access: NYS Route 18/Lake Road, CR 108/Hartland Road, and CR 65/Hosmer Road. It is anticipated that the delivery trucks will travel to the Facility Site's access roads via NYS Route 104, NYS Route 78, NYS Route 270, and NYS Route 18/Lake Road. A map identifying haul routes is provided in Appendix 16-A.

Sight distance figures were completed for the proposed haul roads at the entrances/exits for Facility Site entrances located off of public roadways. Site distance plans and profiles were developed for the Facility at CR 108/Hartland Road for stopping sight distances from the north and south (Appendix 16-A).

(2) Road locations and Widths and Road Intersection Suitability for Wind Facilities

According to the requirements of the §94-c regulations (§900-2.17[a][2]), characterization of public road intersection suitability is required for wind facilities. The proposed Facility is a solar facility, and therefore, characterization of the public road intersection suitability outside the Facility Site is not applicable. .

16(b) Description of the Pre-Construction Characteristics of Public Roadways in the Vicinity of the Facility, as determined pursuant to Pre-Application Meetings

This section includes an analysis of traffic conditions for public roadways located in the vicinity of the Facility Site based on pre-Application meetings and discussions held with local officials, as well as conditions collected in the field and other publicly available data. Data on traffic volumes, accident history, school bus routes, emergency service provider information, load-restricted bridges/culverts, and roadway permits also are summarized below.

The Applicant has engaged with local transportation officials throughout the Pre-Application process, including outreach conducted to the Town of Somerset Supervisor, Highway Superintendent, and their hired engineer; and the Niagara County Commissioner for highways, bridges and structures (Appendix 2-D). At the direction of the Town of Somerset Highway Superintendent, the Applicant has been directing consultation and correspondence regarding the

Facility and public roadway matters to the Town of Somerset Supervisor and Deputy Supervisor. The only concern raised to date by the Town supervisors was whether haul trucks and equipment would be driving by the Barker School. Information was provided to the Town that confirmed construction deliveries and other related traffic during construction would not be using Haight Road where the school district facilities are located (none of the proposed haul routes or access points for the Facility are located on Haight Road). No road permits from the Town are anticipated to be needed, since all the access points for the Facility are located on NYS- (NYS Route 18/Lake Road) or Niagara County-managed roadways (CR 65/Hosmer Road and CR 108/Hartland Road).

(1) Traffic Volumes, Use Levels and Accident Data

Throughout the Facility planning process the Applicant has been coordinating with local Town and Niagara County transportation officials. In these discussions the Town and County have not identified the availability of local data to use in the traffic volume, use levels and accident data analysis, so this information was obtained from NYSDOT. Existing traffic volume data along proposed approach and departure routes for the Facility Site were obtained from the NYSDOT's Traffic Data Viewer and Highway Data Services website and are summarized in this section and shown in Table 16-1. The NYSDOT website provides hourly and Average Annual Daily Traffic (AADT) volumes, representing the total volume of both directions of traffic on the roadway. The NYSDOT AADT volumes varied on the evaluated haul routes, with the lowest volumes occurring on Lower Lake Road adjacent to the Facility Site's driveways (229 AADT), and the highest volumes occurring on NYS Route 18/Lake Road (1,748 AADT). The NYSDOT counts are provided in Table 16-1 below, which summarizes the NYSDOT AADT volume data in the vicinity of the Facility Site.

Table 16-1. Summary of Existing Traffic Volume

Roadway	Jurisdiction	AADT[1]	Year	From	To
New York State (NYS) Route 18/Lake Road	NYS Department of Transportation (NYSDOT)	1,432	2020	Niagara County Route (CR) 24	NYS Route 148
	NYSDOT	1,748	2018	NYS Route 78 Olcott	CR 24 Hess Road
CR 108/ Hartland Road	Niagara County	554	2020	Somerset Townline Road	NYS Route 18/Lake Road

Roadway	Jurisdiction	AADT[1]	Year	From	To
	Town of Somerset	391	2017	NYS Route 18/Lake Road	Lower Lake Road
Lower Lake Road	Town of Somerset	229	2018	CR 108/Hartland Road	Johnson Creek Road
CR 15/Quaker Road	Niagara County	372	2016	NYS Route 18/Lake Road (End) NYS Route 148	Lower Lake Road
	Niagara County	1,695	2017	Hartland/Somerset Townline Road	NYS Route 18/Lake Road (End) NYS Route 148 Lake Road
West Somerset Road	Niagara County	455	2017	Newfane Townline	CR 65/Hosmer Road
	Niagara County	541	2016	CR 65/Hosmer Road	CR 15/Quaker Road
CR 65/Hosmer Road	Niagara County	271	2016	West Somerset Road	NYS Route 18/Lake Road
CR 24 Hess Road	Niagara County	572	2020	West Somerset Road	NYS Route 18/Lake Road

1. AADT = Annual Average Daily Traffic. AADT represents the total of both directions on the roadway.

Turning movement traffic counts were collected on Tuesday, March 23, through Friday, March 26, 2021 by Tetra Tech. Traffic counts were conducted between 7:00-9:00 a.m. and 4:00-6:00 p.m. for the weekday commuter a.m. and p.m. peak hours. The peak hour traffic periods generally occurred between 8:00-9:00 a.m. and 4:45-5:45 p.m. The following unsignalized intersections that were counted include:

- NYS Route 18 (Lake Road)/Somerset Coal-Fired Plant Driveway
- NYS Route 18 (Lake Road)/CR 108 (Hosmer Road)
- NYS Route 18 (Lake Road)/CR 108 (Hartland Road)
- CR 108 (Hartland Road)/Lower Lake Road

All turning movement count data was collected on a typical weekday while local schools were in session and no adverse weather conditions impacted traffic. The counts are provided in Appendix 16-B.

Accident reports for the most recent 3-year period (2018 through 2021) were obtained via a Freedom of Information Law request to the NYSDOT which provided records from the NYSDOT Accident Location Information System. The data included information for all the roadways identified as haul routes for the Facility.

Based on the existing accident data and AADT for the roadway segment, the annual accident rates for NYS Route 18/Lake Road, CR 108/Hartland Road, Lower Lake Road, CR 15/Quaker Road, CR 24/Hess Road, and CR 65/Hosmer Road were calculated and then compared to the New York Statewide Average for similar types of roadways. A total of 14 accidents occurred on the local haul routes during the 3-year analysis period. Of the six roadway segments evaluated, all six have accidents rates that are below the statewide average. The increase in traffic associated with the Facility's construction period along these roadway segments is anticipated to be temporary, relatively modest, and likely to occur during off-peak hours. Therefore, is not considered to be significant. The accident reports and a table summarizing the accident rates are provided in Appendix 16-C, and an overview of the accident summary for the Facility area is provided in Table 16-2.

(2) Transit Facilities and School Bus Routes

No mass transit services have been identified for NYS Route 18/Lake Road, or other roads regional to the Facility.

The Applicant contacted the Barker Central School District (BCSD) to request:

- School bus route information, specifically, the identification of school bus routes in the vicinity of the Facility; and
- Number of buses.

Time of day when the buses travel along the possible haul roads needed for delivery trucks and construction vehicles, including drop off and pick up times noted below. The BCSD has a school bus facility located at 1692 Quaker Road (CR 15), approximately 2.5 miles (13,000 feet) via roadway travel, which is approximately 2 miles (9,450 feet) to the southeast of the nearest proposed Facility's access road. The closest Facility access road to the school bus facility is located off NYS Route 18/Lake Road which will provide access to Area 6 (Appendix 5-A, Sheets PV-C.02.00 and PV-C.02.06). The transportation dispatcher for the BCSD indicated that school buses depart to transport students via 15 bus routes in the morning starting at 6:30 a.m. and return to the bus facility by 9:00 a.m.

Table 16-2. Accident Summary Table

Roadway	Segment		Distance	Annual Average Daily Traffic[1]	Crashes within the Facility Area						
	From	To			2018	2019	2020	2021	Animal	Total No Animal	Total
New York State (NYS) Route 18/Lake Road	NYS Route 78 Olcott	NYS Route 148	4.8 miles	3,180	-	4	-	-	6	4	10
Niagara County Route (CR) 108/Hartland Road	Somerset Townline Road	NYS Route 18/Lake Road	3.0 miles	931	-	-	-	-	3	0	3
Lower Lake Road	CR 108/Hartland Road	Johnson Creek Road	1.6 miles	229	-	-	-	-	-	0	0
CR 15/Quaker Road	NYS Route 18/Lake Road End NYS Route 148	Hartland/Somerset Townline Road	4.1 miles	2,067	-	-	1	-	-	1	1
CR 65/Hosmer Road	West Somerset Road	NYS Route 18/Lake Road	1.5 miles	271	-	-	-	-	-	0	0
CR 24/Hess Road	West Somerset Road	NYS Route 18/Lake Road	1.3 miles	572	-	-	-	-	-	0	0

1. Annual Average Daily Traffic (AADT). AADT represents the total of both directions on the roadway.

In the afternoon, buses depart starting at 2:00 p.m. and return by 4:00 p.m., with additional afterschool bus activity between 5.00 p.m. and 6:15 p.m. (L. Walker, personal communication) communication) The following bus routes, number of bus stops and number of buses along the roads located in vicinity of the Facility are summarized below and the routes are depicted on Figure 16-2. Bus Routes 7 and 9 pass by the Facility Site.

- CR 24/Hess Road from Hoffman Road to NYS Route 18/Lake Road – 10 bus stops, one bus (Figure 16-2, Route 9)
- NYS Route 18/Lake Road from CR 24/Hess Road to CR 15/Quaker Road – 22 bus stops, two buses (Figure 16-2, Route 7)
- CR 108/Hartland Road from NYS Route 18/Lake Road to Lower Lake Road to CR 15/Quaker Road – Seven bus stops, one bus (Figure 16-2, Route 7)
- CR 65/Hosmer Road from NYS Route 104 to NYS Route 18/Lake Road – 16 bus stops, three buses (Figure 16-2, Route 5)
- CR 108/Hartland Road from NYS Route 104 to NYS Route 18/Lake Road – 22 bus stops, three buses (Figure 16-2, Route 5)
- CR 15/Quaker Road from NYS Route 104 to NYS Route 18/Lake Road – 50 bus stops, three buses (Figure 16-2, Route 4)

Based on the types and relatively low number of construction vehicles on the roadways, it is not anticipated that construction-related traffic will result in a noticeable delay to any bus routes. The Applicant will contact the BCSD again once the Facility's construction schedule has been finalized to determine if the district has modified the school bus routes or schedules based on changes in student demographics.

(3) Emergency Service Approach and Departure Routes

Maps depicting the emergency response routes are identified in Figure 16-1 and locations of the local emergency service providers are provided on Figure 6-2. Information was sent to local emergency responders that serve the vicinity of the Facility Site (i.e., Town of Somerset Police Department and Barker Fire Department, Tri-Town Volunteer Ambulance Services Inc.) (Appendix 2-C), which provided information describing the Facility and the §94-c Application process. A request for emergency service providers to review and verify the routes they would take to the Facility Site when responding to a possible emergency

was submitted. Several requests to hold a meeting with emergency service providers to discuss proposed emergency routes and procedures have been made throughout outreach efforts (Appendix 2-D). The Applicant will continue to coordinate with local first responders throughout the permitting and planning process prior to construction to address any potential concerns emergency service providers may have regarding access to the Facility Site during an emergency.

The Applicant has developed a Site Security Plan (Appendix 6-A) and Safety Response Plan (Appendix 6-B) for the Facility's construction and operational periods. During the Facility's construction phase, the Applicant will have employees on-site trained in responding to emergency situations, including having staff on-site at all times that are trained in first aid and Cardiopulmonary Resuscitation, and in the use of Automated External Defibrillators. The Applicant has been conducting outreach with local emergency responder organizations to conduct their review of the Site Security and Safety Response plans; however, no input from local emergency responder organizations has been received to date.

During construction, a map of all emergency service provider locations and routes will be posted in the general contractor's trailer and provided to construction staff and local emergency service providers.

(4) Load Bearing Structural Rating Information

The Facility will have access along three public roadways: NYS Route 18/Lake Road, CR 108/Hartland Road, and CR 65/Hosmer Road. The particular vehicles involved in the construction of the Facility have not yet been determined, however, conventional construction vehicles are anticipated to be utilized, with the largest vehicle expected to be a semi-trailer (AASHTO WB-67), which has been identified as the design vehicle in the determination of potential restrictions on the haul routes to the site. Except for the delivery of the transformer, the delivery of solar components and construction materials are not anticipated to require oversize or overweight transport vehicles. Transformer delivery is expected to require a Special Hauling Permit from the NYSDOT for an oversize/overweight vehicle. The transformer will require two deliveries: one for the transformer radiators and one for the body of the transformer.

Existing restrictions regarding vehicle height, weight, and width along the potential haul routes to the three access roads were identified based on field observations and data

provided by the NYSDOT and the Town. Information pertaining to any load-restricted (R-posted) bridges and culverts along the proposed haul routes was obtained from NYSDOT Posted Bridge Interactive Map.

Based on a review of this information, there are no R-Posted Bridges or culverts along the suggested haul routes and bridge clearances (height and width) are sufficient to accommodate the design vehicle (WB-67). The NYSDOT website indicated a total of 10 bridges along the haul routes. For the transformer, the Special Hauling Permit will be the final determination of the designated route taken by the vehicle delivering the transformer.

Traffic Volume Counts

As the Facility is not located within a congested urbanized area, 24-hour traffic counts are not applicable, and are not included in this Application. Intersection turning movement counts were conducted at the intersections of:

- NYS Route 18 (Lake Road)/Somerset Coal-Fired Plant Driveway
- NYS Route 18 (Lake Road)/CR 65 (Hosmer Road)
- NYS Route 18 (Lake Road)/CR 108 (Hartland Road)
- CR 108 (Hartland Road)/Lower Lake Road

Tetra Tech conducted the turning movement counts during the a.m. and p.m. peak periods on a typical weekday in the week of March 23, 2021. The intersection count information is provided in Appendix 16-B.

16(c) Facility Trip Generation

(1) Number, Frequency, and Timing of Vehicle Trips

The following provides an estimated construction phasing sequence for the proposed Facility. A more detailed schedule with anticipated dates will be developed with the contractor after detailed engineering is completed and the Application process is complete.

- Construction begins – Notice to Proceed
- Site prep – implementation of the Facility's Stormwater Pollution Prevention Plan, followed by grading and clearing and roadway construction (gravel delivery); 3-4 months (weather dependent)

- Pile delivery – 2-3 months
- Driving steel – 3-4 months (1-2 month overlap with start of next activity)
- Racking installation (miscellaneous delivery) – 3-4 months (1-2 month overlap with start of next activity)
- Panel installation (panel delivery)– 3-4 months (1-2 month overlap with start of next activity)
- Balance of system electrical installation – 3-months
- Test and cold commission – 1-2 months
- Hot commissioning and capacity testing – 1-2 months

Conventional trucks are anticipated to be used to transport materials to the Facility Site. Except for the transformer delivery, it is not anticipated that any other oversize or overweight deliveries would be required. A summary of the numbers and types of construction vehicles that are anticipated to be used to transport the Facility components (solar panels, inverters) and construction materials/equipment is provided below in this section.

Three-axle dump trucks are anticipated to be used to haul materials (gravel) associated with construction of the access roads. The dump trucks typically have a capacity of approximately 16 cubic yards (cy) per truck and an estimated gross weight of 60,000 pounds (lbs.). It is estimated that approximately 5,184 cy of materials are needed or approximately 324 truck deliveries.

Concrete trucks are anticipated to deliver approximately 13 cy of concrete for the transformer pad, with a capacity of approximately 10 cy per truck and an estimated gross weight of 60,000 lbs. Additional concrete will be used elsewhere, such as for installation of the fence posts and construction of the Facility Substation sound barrier wall. It is anticipated that approximately three to five concrete truck deliveries will be required per day during peak construction.

Conventional semi-trailers of various sizes for delivery of solar panel arrays and components, and interconnection facility materials. As currently proposed, the Facility includes approximately 280,603 solar panels consisting of 26 modules per string for the fixed tilt racking and 27 modules per string for the single axis tracker racking (total of 10,450 strings). Solar modules include both fixed tilt (40,222) and tracker-style modules

(240,381) (Exhibit 5). The panels are anticipated to be delivered using 53-foot flatbed trucks (WB-67). Each truck can convey up to approximately 720 panels which equates to approximately 390 truck deliveries for solar panels. It is estimated that the remaining construction material needed (tracker, piles, wire) would add approximately 150 more truck deliveries using similar or smaller sized vehicles.

Conventional semi-trailer (WB-67) carrying the Facility's transformer. The transformer is anticipated to require two deliveries: one for the transformer radiators and one for the body of the transformer, and these deliveries are expected to be oversize/overweight requiring a Special Hauling Permit from NYSDOT.

Conventional vehicles carrying contractor's equipment and tools, for construction or operation of the Facility is anticipated to require 75 to 80 vehicles per day during construction activities. During ramp up and closure of construction the number of anticipated vehicles is expected to be less.

It is expected that two water trucks will be in use at the Facility Site at one time to truck water to the site for dust suppression. Each of these vehicles are anticipated to need two trips for each of the phases described in Table 16-3 for site preparation and grading, trenching and road construction, and equipment and installation activities. Commercial vehicles needed for carrying chemicals for construction or operation of the Facility are not anticipated to be required.

Trucks carrying fuel for the on-site construction equipment is anticipated to require four vehicles, and these deliveries are not expected to be limited to use of the identified haul routes.

Deliveries of equipment and Facility supplies are anticipated to occur during daylight hours.

The trips listed above are anticipated to be spread out over the length of the construction period which is expected to last approximately 18 months with construction activity anticipated to occur on weekdays only, although some construction activity may occur on Saturdays to maintain the overall schedule. The deliveries are anticipated to be distributed to the Facility's proposed site access driveways using three specific haul routes. A more detailed schedule is to be developed with the contractor after detailed engineering Is completed.

The construction delivery trips by component and truck type are provided in Table 16-3. As shown in the table, the total number of entering and exiting (two-way) truck trips over the 18-month construction period is estimated to be 1,510 trips.

Table 16-3. Estimated Construction Vehicle Trips

Equipment/Activity	Construction Equipment	Trips Per Piece of Equipment[1]	Weight
Site Preparation and Grading	Graders (174 hp[2])	2	57,250 lbs[2]
	Rubber-Tired Loaders (164 hp)	2	28,193 lbs
	Scrapers (313 hp)	3	92,980 lbs
	Water Trucks (189 hp)	2	115,217 lbs
	Generator Sets	2	
	Roller/Compactor	1	22,050 lbs
Trenching and Road Construction	Excavators (168 hp)	3	49,600 lbs
	Graders (174 hp)	3	57,250 lbs
	Water Trucks (189 hp)	2	115,217 lbs
	Trencher (63 hp)	4	1,100 lbs
	Rubber-Tired Loader (164 hp)	2	28,193 lbs
	Generator Sets	2	
Equipment and Installation	Crane (399 hp)	1	105,100 lbs
	Crane (165 hp)	1	81,200 lbs
	Forklifts (145 hp)	8	10,200 lbs
	Pile Drivers	10	10,330 lbs
	Pickup Trucks/All-Terrain-Vehicles (ATVs)	45	4,000 lbs
	Water Trucks (189 hp)	2	115,217 lbs
	Generator Sets	2	
Commissioning	Pickup Trucks/ATVs	5	4,000 lbs
Haul Roads (and other uses for crushed stone) [includes 819 exiting trips for removal]	Dump Trucks (22 cubic yards)	1,997	22,000 lbs

1. Total trips represent the two-way trips (entering and exiting) for the length of the construction period.

2. hp = horsepower; lbs = pounds

Workers and employees in passenger vehicles (pick-up truck size or smaller) would not be limited to using the identified haul routes. During the busiest construction period, there is anticipated to be approximately 150 workers each day operating in one shift from 7:00 a.m. to 4:00 p.m. During an average construction period, is anticipated that there will be

approximately 50 construction workers on site each day during the 7:00 a.m. to 4:00 p.m. shift.

The construction delivery and employee trips were further broken down into daily trips and peak hour trips during the average and busiest construction periods. The estimated daily construction trips and weekday peak hour construction trips are summarized in Tables 16-4 and Table 16-5, respectively.

Table 16-4. Daily Construction Vehicle Trips

Vehicle Type	Total Daily Trips[1]	
	During Busiest Period	During Average Period
Deliveries	40	6
Employee[2]	300	100
Total Daily Trips	**340**	**106**

1. Total trips represent the daily two-way trips (entering and exiting). The number of vehicles is half of the values shown.

2. 150 employees during the busiest construction period; 50 employees during average period.

Table 16-5. Weekday Peak Hour Construction Vehicle Trips

Vehicle Type	Weekday a.m. Peak Hour		Weekday p.m. Peak Hour	
	Enter	Exit	Enter	Exit
Busiest Construction Period				
Delivery Trips	5	1	1	5
Employee Trips	126	14	14	126
Total	**131**	**15**	**15**	**131**
Average Construction Period				
Delivery Trips	1	0	0	1
Employee Trips	45	5	5	45
Total	**46**	**5**	**5**	**46**

For the post-construction period when the Facility is operational, it is expected that the Facility will generate approximately one or two trips per week (by passenger vehicles or pickup trucks), which is significantly fewer trips than currently generated by the existing business at the site.

(2) Cut-and-Fill Activity

The employee trips will generally occur at the beginning and end of the workday. The employees will likely work one shift from 7:00 a.m. to 4:00 p.m. It is anticipated that most employees will arrive in the morning before 7:00 a.m. and depart in the afternoon between 4:00 and 4:30 p.m. Thus, the peak hour volumes shown in Table 16-5 above will likely occur from 6:30 to 7:30 a.m. and from 4:00 to 5:00 p.m., generally prior to the highway peak hours of 8:00 to 9:00 a.m. and 4:30 to 5:30 p.m. (the data indicate that the busiest 15-minute periods are from 7:45 a.m. to 8:00 a.m. and 5:15 p.m. to 5:30 p.m.).

When the construction schedule is finalized, the actual time of day and day of the week will be determined for the delivery/removal of any cut and fill as will the delineation of approach and departure routes. The routes will likely be similar to those described in section 16(c)(3) of this exhibit. Trucks carrying any cut/fill would handle 22 cubic yards of material and weigh 80,000 lbs. To be conservative, the capacity analyses contain a high percentage of trucks/equipment in the peak hour calculations to ensure that there is no traffic impact (Table 16-5). Table 16-6 and Appendix 16-A describes the proposed haul routes.

Estimates using the Preliminary Design Drawings (Appendix 5-A) indicate the soil fill (not gravel) will be derived from excavations associated with Facility construction. Excess material from excavations will be distributed across the disturbed areas and blended into existing topography to return each area to its approximate original condition. Approximately 25,920 cy of gravel fill will be imported to the Facility Site for roads, inverter pads, and substation/switchyard pads. There will also be approximately 220 cy of concrete for the fence posts and 1,770 cubic yards of concrete for the slabs and foundations. The grading plans provided in Appendix 5-A, Sheets PV-C.03.01–PV-C.03.10 and Sheet PV-C.00.02 provide additional information on cut and fill activity.

The deliveries involving heavy trucks are anticipated to occur outside of peak periods. Based on the low volume of construction deliveries (six peak hour trips) during the busiest

construction activity period, there should be no noticeable increase in delays to existing traffic on the construction haul routes. The replacement of the existing businesses (primarily agricultural and activities associated with the former coal plant) associated with the proposed Facility Site is not expected to result in a significant increase in truck traffic during the a.m. and p.m. peak hours on area roadways during the proposed Facility's construction phase.

For the post-construction period when the Facility is operational, it is expected that the Facility will generate approximately one or two trips per week (by passenger vehicles or pickup trucks), which is significantly fewer trips than currently generated by the existing business at the site.

i. Approach and Departure Routes for Trucks Carrying Water, Fuels, or Chemicals

Water from off-site sources is anticipated to be trucked on to the Facility Site for dust suppression and compaction measures. The number of daily round trips will vary based on site conditions. Trucks carrying fuel to be used for on-site construction equipment will not be limited to the identified haul routes. It is expected that there will be two water trucks in use at the Facility Site. Each truck will likely be equipped with a 189-horsepower engine. Depending on the size of the tank, the average weight can be 50,000 lbs. to 75,000 lbs. For every 2,500 gallons of liquid, the average approximate weight will be an additional 25,000 lbs. over the weight of the vehicle carrying the tank, which can range from 17,000 lbs. to 25,000 lbs.

ii. Estimate of Earthwork and Materials

Based on the Preliminary Design Drawings prepared in association with Exhibit 5, an excess of approximately 25,933 cubic yards of cut material is anticipated. Excess material from excavations will be distributed across the disturbed areas and blended into existing topography to return each area to its approximate original condition. Approximately 25,920 cy of gravel fill will be imported to the Facility Site for roads, inverter pads, and substation/switchyard pads. The Preliminary Design Drawings provide details on the cut and fill activity proposed for the Facility (Appendix 5-A, Sheets PV-C.03.01–PV-C.03.10 and Sheet PV-C.00.02). The number of materials for the solar components is provided section 16(c)(1) of this exhibit.

(3) Conceptual Employee Approach and Departure Routes

All temporary construction storage and staging areas will be located within the Facility Site. The Facility will have three access roads: NYS Route 18/Lake Road, CR 108/Hartland Road, and CR 65/Hosmer Road. Existing restrictions regarding vehicle height, weight and width along the potential haul routes to the three access roads were assessed based on field observations, data provided by the NYSDOT and discussion with the Town Highway Superintendent and Town of Somerset Supervisors. Based on this evaluation, there are no posted bridges or load restricted bridges along the travel routes to the Facility, and bridge clearances (height and width) are sufficient to accommodate the design vehicle (WB-67). For the expected oversize/overweight transformer delivery, the NYSDOT Special Hauling Permit process will determine an appropriate haul route for the transformer deliveries.

Truck turning analyses were conducted to identify any locations which the design vehicle (WB-67) would have difficulty negotiating. Based on this evaluation, three haul routes were identified that will be able to safely accommodate a WB-67 truck and smaller vehicles. The haul routes are described below in Table 16-6. A turning analysis has been completed for proposed Facility Site roads, which are designed to accommodate WB-67 vehicles. Road details are provided in Appendix 5-A (Sheets PV-C.07.01 and PV-C.07.02). Workers and employees in passenger vehicles (pick-up truck size or smaller) will not be limited to the identified haul routes.

Table 16-6. Proposed Haul Routes

Proposed Haul Routes to the Facility Site
Haul Route #1 – New York State (NYS) Route 104 to Niagara County Route (CR) 65/Hosmer Road
• NYS Route104 west bound make right onto CR 15/Quaker Road
• Turn left onto NYS Route 18/Lake Road
• Turn left onto CR 65/Hosmer Road
Haul Route #2 – NYS Route 104 to Lake Road
• NYS Route 104 west bound make right onto CR 15/Quaker Road
• Turn left onto NYS Route 18/Lake Road
• The remaining access roads branch off NYS Route 18/Lake Road

Haul Route #3 – NYS Route 104 to CR 108/Hartland Road (north parcel)
• NYS Route 104 west bound make right onto CR 15/Quaker Road
• Turn left onto NYS Route 18/Lake Road
• Turn right on to CR 108/Hartland Road to the Facility access road on CR 108/Hartland Road

16(d) Traffic and Transportation Impacts

(1) Analysis of Future Traffic Conditions for Wind Facilities

The proposed Facility is a solar facility. Therefore, this section is not applicable.

(2) Evaluation of the Road System to Accommodate the Projected Traffic

An arterial capacity analyses is not required. The construction traffic is not anticipated to have a significant adverse impact on traffic conditions along the study roadways or intersection. The proposed traffic volumes mentioned in Table 16-4 and Table 16-5 does not create a need for traffic mitigation to the Facility.

(3) Route Evaluation – Over-Size Load Deliveries and Roadway Restrictions

No bridge weight limits were identified within the vicinity of the Facility Site that construction vehicles would use. RUAs will be sought with the appropriate agencies, as necessary, to use local roadways. Turning movement diagrams are contained in Appendix 16-D. The roadway system is adequate to accommodate oversize and overweight vehicles without additional mitigation. For the expected oversize/overweight transformer delivery, the NYSDOT Special Hauling Permit process will determine an appropriate haul route for the transformer delivery. No other improvements are expected to be necessary to accommodate oversize/overweight vehicles that will be used.

Road conditions were evaluated by visual inspection and then rated with an excellent/good/fair/poor designation based on the criteria from the NYSDOT's *2017 Pavement Data Report* for Region 10, as shown in Table 16-7.

Table 16-7. NYSDOT's 2017 Pavement Data Report for Region 10

Rating	Condition	Description
9-10 (K)	Excellent	No significant surface distress
7-8	Good	Surface distress beginning to show
6	Fair	Surface distress is clearly visible
1-5	Poor	Distress is frequent and severe
U	Under Construction	Not rated due to ongoing work

The potential construction and vehicle delivery routes ("haul routes") that construction vehicles will travel to the site are NYS Route 18/Lake Road, CR 108/Hartland Road, and CR 65/Hosmer Road. The following provides a description of each roadway evaluated:

NYS Road 18/Lake Road is classified as a rural minor arterial and has generally level terrain. From CR 24/Hess Road to NYS Route 148, NYS Route 18/Lake Road is a NYS roadway consisting of two travel lanes (one lane in each direction) with center striping. Lane widths range from 11 to 13 feet and paved shoulders measure from 1 to 2 feet. The posted speed limit is 55 miles per hour (mph). Parking is not permitted along NYS Route 18/Lake Road.

CR 108/Hartland Road is classified as a rural local roadway, with a weight limit of 10 tons and has generally level terrain. From NYS Route 18/Lake Road to Lower Lake Road, CR 108/Hartland Road consists of two travel lanes (one lane in each direction) with center striping. The lane width of CR 108/Hartland Road is approximately 12 feet and paved shoulders measure from 1 to 2 feet. The posted speed limit is 55 mph. Parking is not permitted along CR 108/Hartland Road.

CR 65/Hosmer Road is classified as a rural local roadway and has generally level terrain. From NYS Route 18/Lake Road to West Somerset Road, the road consists of two travel lanes (one lane in each direction) with center striping. The lane width of CR 65/Hosmer Road is approximately 9 feet and paved shoulders measure approximately 1 ½ feet. The posted speed limit is 55 mph. Parking is not permitted along CR 65/Hosmer Road.

Once the Facility is commissioned and construction activities are concluded, traffic associated with Facility operation is anticipated to be negligible and limited to occasional trips (one or two trips per week, using passenger vehicles or pickup trucks) associated with routine maintenance activities.

i. Over-sized Deliveries

Except for the delivery of the transformer, the delivery of solar components and construction materials are not anticipated to require oversize or overweight transport vehicles. The transformer delivery is expected to require a Special Hauling Permit from the NYSDOT for an oversize/overweight vehicle. As such, the Special Hauling Permit will identify the final determination of the route taken by the vehicle delivering the transformer. During the evaluation of haul routes for all other material deliveries, a truck turning analysis was conducted to ensure that the WB-67 design vehicle (the largest delivery vehicle to be utilized) will be able to make the required turns on the proposed haul routes without impeding on opposing traffic flows. Figures depicting intersection turning movements on the turning count diagrams are included in Appendix 16-D. Improvements to roadways, including the proposed haul routes, are not anticipated.

(4) Measures to Avoid or Minimize Impacts to Traffic and Transportation and Road Use and Restoration Agreements

The construction deliveries are anticipated to utilize conventional vehicles (WB-67 and smaller) that are able to navigate the haul routes without requiring modifications to the roadway geometry. At the proposed access driveways, it is recommended that preventative measures be implemented to provide for safer operation during the construction phase. Such measures include installing temporary signage such as "Construction Vehicles Entering and Exiting Roadway" and "Construction Entrance Ahead" on NYS Route 18/Lake Road, CR 108/Hartland Road, and CR 65/Hosmer Road to alert motorists to the construction entrances. In addition to signs, construction vehicles will have the correct warning lights when within the Facility's location. For right turn movements exiting the driveways, a wide turning radius will be installed as a temporary measure for the construction phase of the development to facilitate exiting truck movements. To the extent practicable, truck deliveries will be scheduled during off-peak hours. If needed, the Applicant will repair damage to NYS Route 18/Lake Road, CR 108/Hartland Road, or CR 65/Hosmer Road sustained during the construction of the Facility's access roads to a condition equal or better than the roadway's condition prior to the Facility construction.

During normal operation of the Facility, the negligible traffic volumes added (1 or 2 passenger vehicle/pick-up truck trips per week) is not anticipated to cause damage to the roadways or require mitigation.

The Applicant will continue to coordinate with the Town of Somerset Supervisor and Deputy Supervisor, Town of Somerset Highway Superintendent, and their hired engineer; the Niagara County Commissioner and NYSDOT regarding the Application process, construction deliveries and scheduling.

i. Road Use and Restoration Agreement

In conjunction with this Application, the Applicant has consulted with the Town of Somerset Supervisor and Deputy Supervisor, Town of Somerset Highway Superintendent, and their hired engineer; the Niagara County Commissioner, the Niagara County Department of Public Works Highway Division, and the NYSDOT Region 5 Permit office to identify all required Town, Niagara County and New York State (NYSDOT) permits. None of the access points are located along Town maintained roads, and no road permits from the Town are anticipated to be required (M. Flint, personal communication). For access points located along CR 65/Hosmer Road and CR 108/Hartland Road, a driveway permit will be required from Niagara County Department of Public Works Highway Division and a Highway Work Permit will be required from the NYSDOT for work in the NYS right-of-way at the proposed NYS Route 18/Lake Road driveway locations.

For deliveries of construction materials, other than the transformer, deliveries to the Facility are not expected to be oversized or overweight, thus, permits for deliveries would not be required. The transformer delivery will require Special Hauling Permits from the NYSDOT due to the large dimensions of the transformer. The type of permits required will depend on the vehicle and cargo characteristics, the distance travelled and trip duration. At this time, the specific characteristics of the transformer and the vehicle's point of origin are not known. The NYSDOT Permit Office (https://www.dot.ny.gov/nypermits/special-hauling-permits) provides the procedures required to apply for the various Special Hauling Permits. The NYSDOT Highway Work Permit includes a provision for a Road Use Agreement in which the Applicant provides a bond to allow for restoration for any damages within the NYS right-of-way after the Facility is completed.

Table 16-8 lists the anticipated roadway permits for the NYSDOT and Niagara County. No roadway permits are anticipated to be needed from the Town. A copy of the NYSDOT instructions and sample for PERM 33 for Highway Work Permits and

Table 16-8. Roadway Agreement and Permit Table

Government Agency	Road Use Agreement	Highway Work Permit for Work Within Public Right-of-Way or Special Hauling Permit	Permit Type	Contact Information
Town of Somerset	N/A[1]	Road Opening Permit	N/A	Highway Superintendent Michael Flint 716-795-3866
Niagara County	N/A	Driveway Permit	N/A	Niagara County Department of Public Works, Highway Division Assistant Civil Engineer Mark Wiesner 716-439-7363 Richard.Wiesner@niagaracounty.com
New York State Department of Transportation	N/A[2]	PERM 33	Highway Work Permit for Non-Utility Work	NYSDOT – Highway Work Permits John Billittier 716-847-3271 John.Billittier@dot.ny.gov
New York State Department of Transportation	N/A[2]	PERM 39	Special Hauling Permit for Oversize/ Overweight Vehicles	NYSDOT Central Permit Office 518-485-2999 permits@dot.ny.gov Apply online at OSACAR: https://www.oscar.ny.gov/OSCR/OSCRCarrierHome

1. Road use agreement contained within the Road Opening Permit.

2. A road use agreement is included in the New York State Department of Transportation Highway Work Permit

N/A = Permit not applicable.

driveway permit instructions provided by Niagara County are included in Appendix 16-E.

No improvements to public roadways are anticipated to be required as a result of construction of the Facility. Given the limited work required for the access driveways located along NYS Route 18/Lake Road, CR 108/Hartland Road, CR 65/Hosmer Road, and that only two deliveries to the Facility are expected to be required for oversized or overweight materials, there is no need to enter into a RUA with the Town for the Facility. There is no access proposed via Town roads and therefore a draft RUA is not included as an appendix to this Application.

The use of private property adjacent to public roads will be permitted through a lease or easement agreement executed between the Applicant and landowner.

16(e) Public Transportation, School Bus Routes, and Aeronautical and Military Operations

There are no public transit service providers that operate within vicinity of the Facility.

16(f) FAA Notice of Proposed Construction

(1) Statements of Review

A Facility review was submitted to the Federal Aviation Administration's (FAA's) Notice Criteria Tool. Results of this FAA review determined that Facility components do not exceed Notice Criteria. Therefore, there is no FAA Notice of Proposed Construction required for the proposed Facility (Appendix 8-A, Attachment 8, Appendix A, Attachment C).

(2) Wind Facility Location Requiring FAA Review

The proposed Facility is a solar facility. Therefore, this section is not applicable.

(3) Responses to FAA Facility Operator Reviews and Consultation

As noted above Facility structure information was entered into FAA's Notice Criteria Tool, which determined the Facility does not exceed the Notice Criteria. Therefore, there is no FAA Notice of Proposed Construction required for the proposed Facility (Appendix 8-A, Attachment 8, Appendix A, Attachment C).

References

Walker, L. 2023. Personal communication via email between Lynn Walker (Manager, Barker Central School District Transportation Office) and Linda Rivard (Tetra Tech, Inc.) on February 6, 2023 related to bus route information for the Facility Site and vicinity.

Flint, M. 2023. Personal communication via phone between Michael Flint (Town of Somerset Highway Superintendent) and Linda Rivard (Tetra Tech, Inc.) on February 22, 2023 regarding roadway permits that may be required for the Facility.