ALL-POINTS
TECHNOLOGY CORPORATION

December 14, 2016

ORIGINAL

RECEIVED
DEC 15 2016
Connecticut Siting Council

Via FedEx

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Petition No. 1247 - C-TEC Solar, LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance, and operation of a 3.75 MW solar photovoltaic electric generating facility located at 1 Ballard Road, Thompson, Connecticut

Dear Ms. Bachman:

Enclosed please find the second phase of the Development and Management ("D&M") Plan for the approved Project referenced above. In this filing we have enclosed fifteen (15) reduced sets of project plans, one (1) full size set of the plan, and digital copies.

This submission represents the second of three (3) Project phases we intend to submit to the Connecticut Siting Council. The initial phase of the Project was submitted on November 30, 2016 for approval at the December 8th Connecticut Siting Council meeting. At the public meeting of the Connecticut Siting Council proposed the following conditions for which we have the included responses:

1. *The next phase of the D&M Plan includes an accurate delineation of the 100-year flood zone:* **The 100-year flood zone has been digitized from the attached FEMA Firm Map Community Panel Number 090117 0014 B, dated November 1, 1984. The flood zone on the site is Zone A for which Areas of 100-year flood; base flood elevations and flood hazard factors not determined. The Firm map does not denote an elevation for the Zone A floodplain on the site. We understand that it does not follow along the flagged wetland boundaries, however there is no additional FEMA information available on the 100-Year Floodplain other than the 1984 map.**
2. *Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;* **Noted Contractor will be notified.**
3. *Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;* **Noted Contractor will be notified.**
4. *Compliance with the reporting requirements under Section 16-50j-62 of the Regulations of Connecticut State Agencies;* **Noted Contractor will be notified.**

5. *The Petitioner shall install straw wattles at the toe of the slope along the entire area of disturbance; and* **Noted Contractor will be notified.**
6. *A Professional Engineer, duly licensed in the State of Connecticut, shall review the proposed access to ensure that the existing 36-inch concrete pipes can support the construction traffic.* **The existing 36-inch concrete pipes can support the construction traffic, per Bradley J. Parsons, PE, CT# 26025. See attached supporting calculations.**

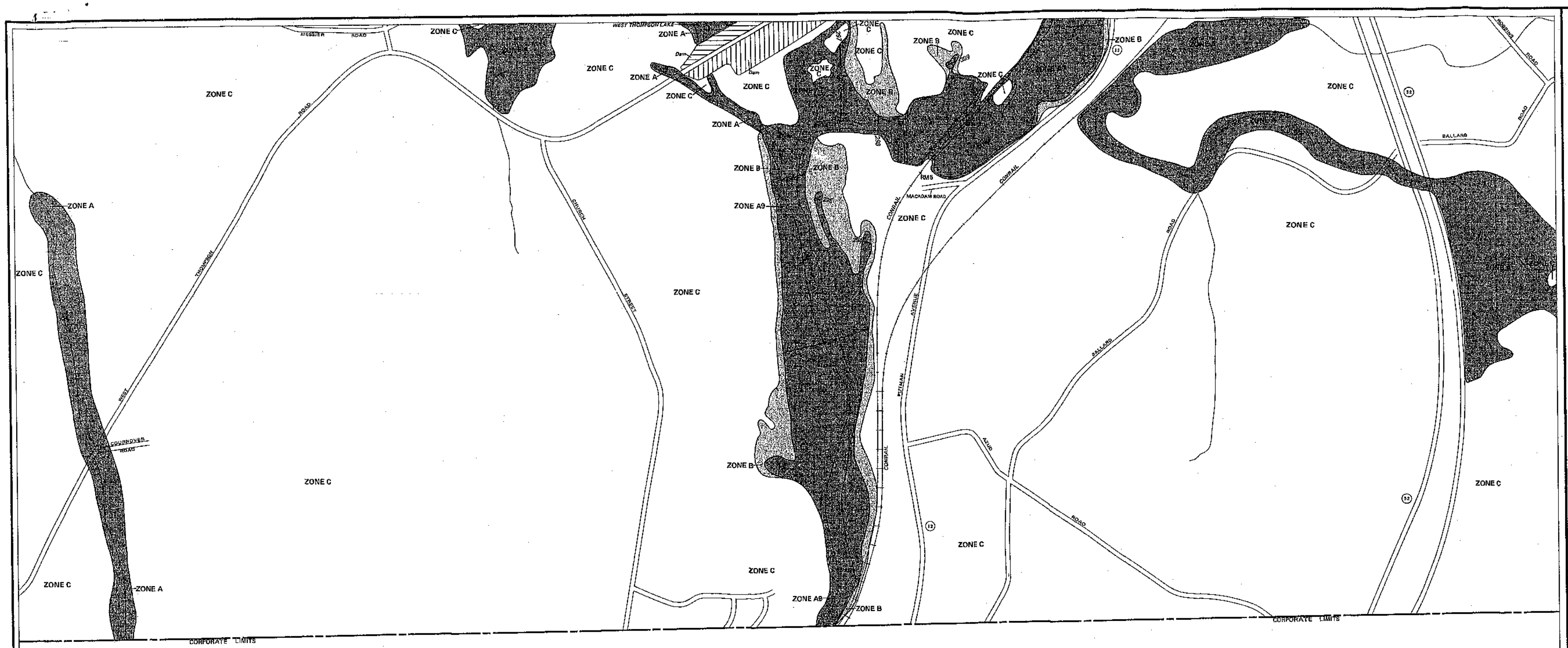
At this time, we respectfully request that the enclosed information (Phase 2 D&M Plan) be reviewed and this matter placed on the December 22th Siting Council agenda for approval. Please feel free to contact me if you have any questions or require additional information.

Thank you for your consideration.

Sincerely,

Bradley J. Parsons, PE
Project Manager

Enclosures



ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION IN FT. (NGVD)¹	DESCRIPTION OF LOCATION
RM 5	310.131	USC&GS standard bronze disk stamped K10 1935 set in fourth step of Post Office: 90 feet north of Macadam Road; 12 feet east of centerline of CONRAIL track; 2 feet above top of rail; in Mechanicsville, Connecticut.

¹National Geodetic Vertical Datum of 1929

KEY TO MAP

500-Year Flood Boundary	ZONE B
100-Year Flood Boundary	
Zone Designations*	ZONE A
100-Year Flood Boundary	
500-Year Flood Boundary	ZONE B
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7×
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
MAY 17, 1974
FLOOD HAZARD BOUNDARY MAP REVISIONS:
JULY 28, 1977

FLOOD INSURANCE RATE MAP EFFECTIVE:
NOVEMBER 1, 1984
FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE
400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
THOMPSON,
CONNECTICUT
WINDHAM COUNTY

PANEL 14 OF 20
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
090117 0014 B

EFFECTIVE DATE:
NOVEMBER 1, 1984

Federal Emergency Management Agency

ALL-POINTS
TECHNOLOGY CORPORATION

JOB: C-TEC THOMPSON PROJECT NO. CT481111 PAGE: 2 OF 2
DESCRIPTION: 36" PIPE LOADING COMPUTED BY: BJP DATE: 12/12/16
CON'T CHECKED BY: SMC DATE: 12/12/16

CALCULATIONS CON'T

LIVE LOAD BEDDING FACTOR - FROM CPDM ILLUSTRATION 4.25

$\boxed{B_{FLL} = 2.2}$

FACTOR OF SAFETY

FS = 1.0 FACTOR OF SAFETY OF 1.0 BASED ON THE 0.1 IN CRACK

D-LOAD

$$D_{0.01} = \left[\left(\frac{W_E + W_F}{B_F}\right) + \frac{W_L}{B_{FLL}}\right] \times \frac{F.S.}{D}$$

$$= \left[\left(\frac{3566 + 441}{1.7}\right) + \frac{670}{2.2}\right] \times \frac{1}{3}$$

$$= [(2357.06) + 304.55] \times .333$$

$$= 886.32 \text{ LB/FT/FT}$$

PER AASHTO M170 CLASS IV RCP (CT DOT STANDARD)
THE D_{LOAD} CAPACITY IS 2000 LB/FT/FT

EXISTING PIPES ARE OK

886.32 < 2000 LB/FT/FT

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JOB: C-TEC THOMPSON PROJECT NO. CT481111 PAGE: 1 OF 2
DESCRIPTION: 36" PIPE LOADING COMPUTED BY: BJP DATE: 12/12/16
CHECKED BY: SMC DATE: 12/12/16

EXISTING 36" RCP, CLASS IV, 5' OF COVER
TYPE 4 INSTALLATION ASSUMED – NO BEDDING

EARTH LOAD

$D_o = 45.5" \rightarrow 3.79'$ (FROM UNITED CONC)

$w = 120$ UNIT WT SOIL IN LBS PER CF

$H = 5$ FT – COVER

$$PL = w\left[H + \frac{D_o(4-\pi)}{8}\right]D_o$$

$$PL = 120\left[5 + \frac{3.79(4-\pi)}{8}\right]3.79$$

$PL = 2459$ LBS/FT

$VAF = 1.45$

$W_E = 1.45 \times 2459$

$\boxed{W_E = 3566 \text{ LB/FT}}$

$$W_F = 62.4 \times \frac{\pi(3)^2}{4}$$

$\boxed{W_F = 441 \text{ LB/FT}}$

LIVE LOAD

FROM TABLE 42 OF CONC PIPE DESIGN MANUAL (HWY LOADS CIR PIPE)

$\boxed{W_L = 670}$

BEDDING FACTOR – FROM CPDM ILLUSTRATION 4.22

$\boxed{B_{FE} = 1.7}$