

January 5, 2016

Mr. Robert Stein
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Docket No. 461 - CSC 461 Greenwich Substation and Line Project

Dear Mr. Stein:

This letter provides the response to requests for the information listed below.

Response to CSC-03 Interrogatories dated 12/14/2015
CSC-001

Response to HD-02 Late Filed Exhibits dated 12/08/2015
LF-008, 009, 010, 011, 012, 013, 014

Response to OCC-05 Interrogatories dated 12/22/2015
OCC-064, 065, 066, 067, 068, 069, 070, 071, 072

Very truly yours,

John Morissette
Project Manager
Siting
As Agent for CL&P
dba EversourceEnergy

cc: Service List

Witness: Witness Panel
Request from: Connecticut Siting Council

Question:

In regards to Eversource Late File Exhibit 3, dated November 25, 2015, please provide the following:

- a) Please provide representative photo-simulations of the hybrid overhead/underground route as described on Page 4, last paragraph, and referenced on Transcript pp. 167-168 (December 1, 2015).
- b) Regarding Segment 1, is it feasible to install an underground XLPE cable from the Cos Cob Substation using the Application Preferred Route to Indian Field Road? If so, how much would this segment cost as compared to the overhead design?
- c) How much space is needed on both sides of a jack & bore XLPE installation under the railroad?
- d) Referring to the Segment 2A Route map, is Parcel1106 Town property? What is its use?
- e) As discussed at the December 1, 2015 hearing (pp. 137-138, 142-143), for Segment 2C, if it is technically possible to extend an underground route north on Indian Field Road to Morningside Drive, then to Circle Drive, what would be the estimated duration of construction for each road segment? What is the estimated cost of this potential alternative?

Response:

- a) Please see the attached photo-simulations of the Railroad South overhead/underground hybrid route included in the HD-001, Q-LF-003 segment matrix. This hybrid route is the least expensive of the three routes included in the segment matrix in that response.
- b) Yes, it is feasible. It should be noted that XLPE cable has a larger diameter than HPFF cable which in turn reduces the length of XLPE cable that can be transported on a cable reel. The maximum cable run using XLPE cable before a splice vault is required is approximately 2,500 feet. When a longer cable run is necessary, HPFF cable would be used to minimize the number of splice vaults.

The estimated cost of building 2,500 feet of a double circuit 115-kV XLPE transmission getaway with no vaults for Segment 1 is approximately \$19.5 million

compared to \$12.7 million using overhead construction. This underground option would cost approximately \$6.8 million more than the overhead option.

- c) A typical jacking pit is approximately 50 feet long, 15 feet wide, and 20 feet deep. Alongside the jacking pit, an area of approximately 100 feet by 150 feet would be required to accommodate various pieces of equipment, operators, and material during performance of required activities. The receiving pit is approximately 30 feet long, 12 feet wide, and 20 feet deep. Alongside the receiving pit, an area approximately 20 feet wide around the entire perimeter of the pit would be necessary to perform the required activities.
- d) Parcel 1106 is owned by the Town of Greenwich, Town Tax ID 1-4545, the deed reference is Greenwich Land Records vol. 438, p. 290. The Town's use of this parcel is unknown. The only improvements on the parcel appear to be an access road with gate, which Eversource uses to access the distribution line on the south portion of the southerly lots off Circle Drive.
- e) Yes, it would be technically feasible to extend an underground route north on Indian Field Road to Morningside Drive and then to Circle Drive. The distance from Cos Cob Substation to Indian Field Road is approximately 2,700 feet, a length that would require the use of HPFF cable to minimize the number of splice vaults, since XLPE cable is limited to lengths of approximately 2,500 feet or less between splice vaults. See response to part b) above.
- Trenching approximately 400 feet in Indian Field Road would take 3-4 weeks.
 - Trenching approximately 300 feet in Morningside Drive would take 2-3 weeks.
 - Trenching approximately 2,300 feet in Circle Drive would take 13-15 weeks.
 - Trenching across private properties (yellow line) would eliminate approximately 700 feet of trenching and reduce the time of construction by 5-6 weeks.

The estimated cost of building a double circuit 115-kV HPFF transmission line from Indian Field Road to Morningside Drive, staying within the roadways, to the end of Circle Drive for Segment 1 and 2 is approximately \$38.1 million compared to \$21.9 million using overhead construction. This underground option would cost approximately \$16.2 million more than the overhead option.

The estimated cost of building a double circuit 115-kV HPFF transmission line from Indian Field Road, crossing private properties, to the end of Circle Drive for Segment 1 and 2 is \$34.9 million compared to \$21.9 million using overhead construction. This underground option would cost approximately \$13.0 million more than the overhead option.

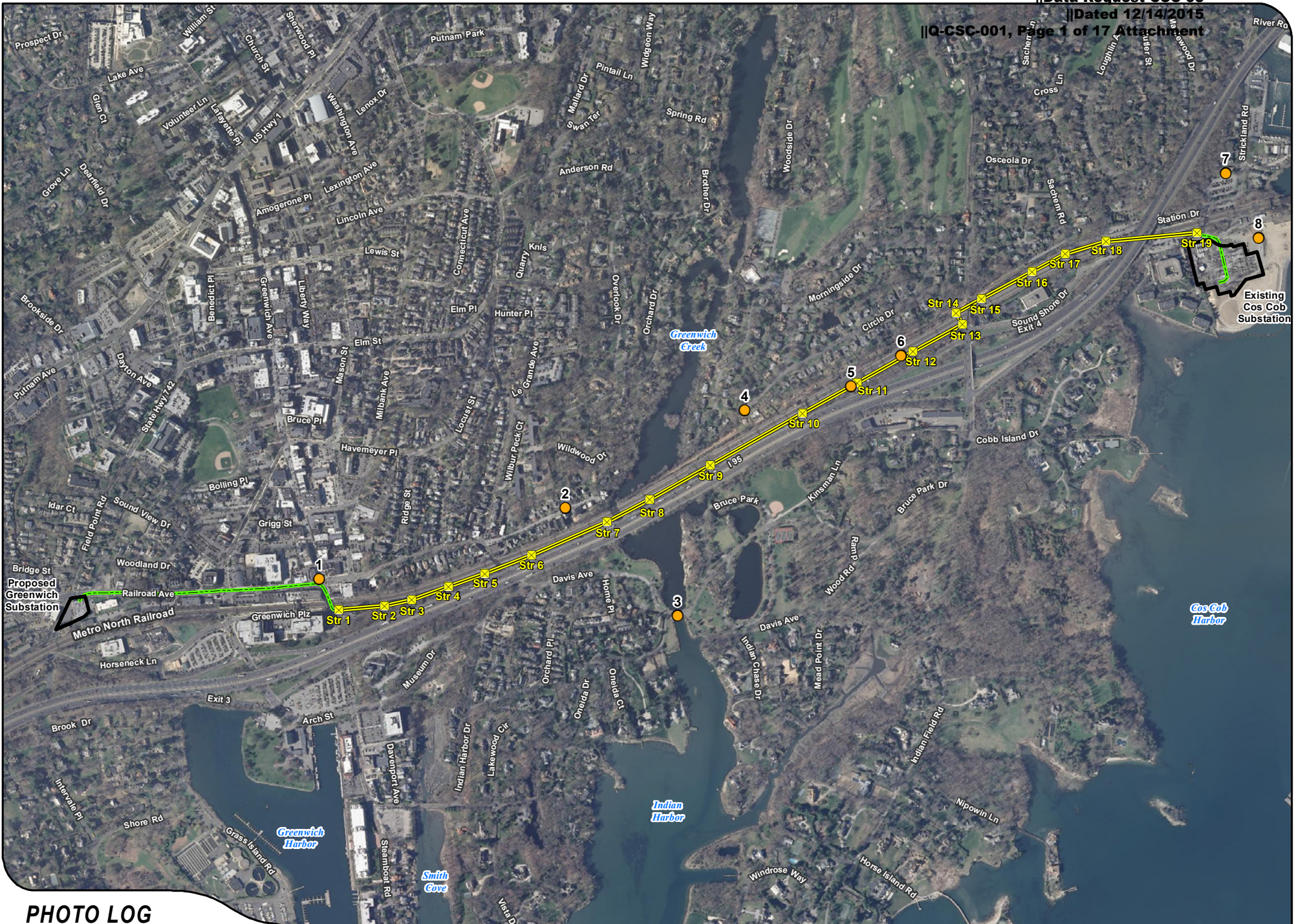
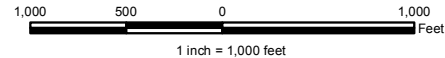


PHOTO LOG

Legend

- Photo Location
- ✕ Proposed Transmission Structure
- Proposed Overhead Route
- Proposed Underground Route





EXISTING

PHOTO

1

LOCATION

GREENWICH AVENUE AT RAILROAD AVENUE

ORIENTATION

SOUTHEAST



PROPOSED

PHOTO

1

LOCATION

GREENWICH AVENUE AT RAILROAD AVENUE

ORIENTATION

SOUTHEAST



EXISTING

PHOTO

2

LOCATION

BRUCE PARK AVENUE

ORIENTATION

SOUTHEAST



PROPOSED

PHOTO

2

LOCATION

BRUCE PARK AVENUE

ORIENTATION

SOUTHEAST



EXISTING

PHOTO

3

LOCATION

BRUCE PARK DRIVE

ORIENTATION

NORTH



PROPOSED

PHOTO

3

LOCATION

BRUCE PARK DRIVE

ORIENTATION

NORTH



EXISTING

PHOTO

4

LOCATION

CIRCLE DRIVE EXTENSION

ORIENTATION

SOUTHEAST



PROPOSED

PHOTO

4

LOCATION

CIRCLE DRIVE EXTENSION

ORIENTATION

SOUTHEAST



EXISTING

PHOTO

5

LOCATION

EVERSOURCE RIGHT OF WAY

ORIENTATION

NORTHEAST



PROPOSED

PHOTO

5

LOCATION

EVERSOURCE RIGHT OF WAY

ORIENTATION

NORTHEAST



EXISTING

PHOTO

6

LOCATION

EVERSOURCE RIGHT OF WAY

ORIENTATION

SOUTHWEST



PROPOSED

PHOTO

6

LOCATION

EVERSOURCE RIGHT OF WAY

ORIENTATION

SOUTHWEST



EXISTING

PHOTO

7

LOCATION

COS COB RAILROAD STATION PARKING LOT

ORIENTATION

SOUTHWEST



PROPOSED

PHOTO

7

LOCATION

COS COB RAILROAD STATION PARKING LOT

ORIENTATION

SOUTHWEST



EXISTING

PHOTO

8

LOCATION
COS COB PARK

ORIENTATION
WEST



PROPOSED

PHOTO

8

LOCATION
COS COB PARK

ORIENTATION
WEST