STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
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July 27, 2012

TO: Parties and Intervenors

FROM: Linda Roberts, Executive Director

RE: **DOCKET NO. 426** – Third Taxing District Electric Department application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of an electrical substation located at 6 Fitch Street, Norwalk, Connecticut.

As stated at the hearing in Norwalk on June 14, 2012, after the Connecticut Siting Council (Council) issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Council on the Draft Findings of Fact issued on this docket by August 3, 2012.

LR/RDM/laf

Enclosure

DOCKET NO. 426 – Third Taxing District Electric Department application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of an electrical substation located at 6 Fitch Street, Norwalk, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	July 19, 2012

DRAFT Findings of Fact

Introduction

1. The Third Taxing District Electric Department (TTD), in accordance with provisions of Connecticut General Statutes (CGS) Sections 16-50g et seq., and Section 16-50j-1 et seq. of the Regulations of Connecticut State Agencies, applied to the Connecticut Siting Council (Council) on April 10, 2012 for the construction, operation, and maintenance of a bulk power substation at 6 Fitch Street, Norwalk, Connecticut (refer to Attachment 1). (TTD 1, p. 2)

2. TTD operates a citizen owned public power utility that serves approximately 3,800 customers, mostly residential, in a four square mile area in the East Norwalk section of Norwalk. (TTD 1, p. 1; TTD 3, R. 1)

3. The purpose of the proposed facility is to improve reliability and add capacity to the electric power distribution system in TTD's service area in Norwalk. (TTD 1, p.2)

4. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on June 14, 2012, beginning at 3:00 p.m. and continuing at 7:00 p.m. at the Norwalk City Hall, 125 East Avenue, Norwalk, Connecticut. (Transcript 1 – June 14, 2012 at 3:00 p.m. [Tr. 1], p. 3; Transcript 2 – June 14, 2012, at 7:00 p.m. [Tr. 2], p. 3)

5. The Connecticut Light and Power Company (CL&P) is a party to the proceeding. (Record)

6. The Council and its staff made an inspection of the proposed site on June 14, 2012, beginning at 2:00 p.m. (Council's Hearing Notice dated May 10, 2012)

7. Pursuant to CGS § 16-50*l*(b), public notice of the filing of the application to the Council was published in The Norwalk Hour on April 6 and April 9, 2012. (TTD 2b)

8. On June 1, 2012, TTD erected a four-foot by eight-foot sign at the front of the property describing the proposed project. The sign included the Applicant's name, type of facility proposed, the date and location of the Council's public hearing, and contact information for the Applicant and the Council. (Tr. 1, p. 62)

9. Pursuant to CGS § 16-50*l* (b), notice of the application was provided to all abutting property owners by certified mail. (TTD 2c)

10. Pursuant to CGS § 16-50*l*(b), TTD provided notice to all federal, state and local officials and agencies listed therein. (TTD 2a)

11. TTD provided a copy of the application to the Connecticut Energy Advisory Board (CEAB). Pursuant to CGS § 16-50*l*(a)(2), the project is exempt from the CEAB mandatory request for proposal process. No comment from the CEAB was received. (TTD, p. 41; Record)

State Agency Comment

12. Pursuant to CGS § 16-50j(h), on May 10 and June 15, 2012, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility: Department of Agriculture, Department of Energy & Environmental Protection (DEEP), Department of Public Health, Council on Environmental Quality, Public Utilities Regulatory Authority, Office of Policy and Management, Department of Economic and Community Development, the Department of Transportation (DOT), and the Department of Emergency Services and Public Protection. (Record)

13. The Council received written comment from the DOT, but the comment did not pertain to this project. (Record)

14. No other State agencies commented on the proposal. (Record)

Municipal Consultation

15. On February 22, 2012, TTD met with and submitted a technical report to the Norwalk City Mayor, Richard Moccia, Norwalk Corporate Counsel, Robert Maslan, and Norwalk Planning Director, Michael Greene. (TTD 1, p. 37)

16. On March 8, 2012 TTD representatives met with the Norwalk Planning and Zoning Plan Review Committee to discuss the facility. (TTD 1, p. 37)

17. On March 21, 2012 TTD met with the Norwalk Zoning Commission to discuss the facility. (TTD 1, p. 37)

18. On March 23, 2012, the Planning and Zoning Commission submitted written comment to the Council indicating support for the proposed project. The Commission made several recommendations including designing the control house as a wood frame building, modification of the landscaping, installation of screening on the substation fence, and keeping the substation gate closed at all times except during service. (Record)

19. On March 26, 2012, Honorable Richard Moccia submitted written comment to the Council indicating support for the proposed project. (Record)

Project Need

20. TTD is a member of the Connecticut Municipal Electric Energy Cooperative, allowing TTD to purchase electricity from The Connecticut Light and Power Company (CL&P) for its customers. TTD maintains two 27.6-kV to 4.16-kV substations within its service area. (TTD 1, p. 1)

21. CL&P provides power to TTD at a distribution system voltage of 27.6-kV via two underground circuits (9S-45 and S-46 circuits) originating at CL&P's 9S substation in Norwalk. One circuit serves TTD's Rowan Street substation and the other circuit serves TTD's East Avenue substation. (TTD 1, pp. 1-6)

22. The two CL&P circuits are over 60 years old and also supply other CL&P customers before entering TTD's service area. Ongoing maintenance and service issues associated with other CL&P customers frequently cause outages on one of the circuits, leaving only one to supply power to TTD. (TTD pp. 1-2, 5-6)

23. The frequent out-of-service condition does not allow TTD to operate a reliable system. (TTD 1, p. 2; TTD 3, R. 4)

24. The 9S-45 and the 9S-46 circuits have a capacity of 19.5 MW and 12.9 MW, respectively. (TTD 3, R. 7)

25. TTD's 2011 peak load was 16.1 MW. The existing CL&P circuits can provide sufficient capacity to TTD when both lines are in service. There is not sufficient capacity when the 9S-45 line is out of service. (TTD 3, R. 7; pp. 38-39)

26. The existing CL&P circuits have little capacity for anticipated load growth. TTD anticipates load growth of 5 MW by 2014 to serve the Waste Water Treatment Plant, a TTD customer. Additionally, a new data center will be joint customer of TTD and CL&P where TTD must contribute 8 MW by 2015. As part of the joint service agreement, TTD must also be able to provide CL&P's portion of the data center load (8 MW) in the event CL&P has an outage. TTD's anticipated load in 2016, including normal load growth, the Waste Water Treatment Plant, and the data center, with backup capability of CL&P's portion, is 36.16 MW. (TTD 3, R. 6)

27. The estimated load growth cannot be accommodated or delayed by energy efficiency or conservation and load management programs or by distributed generation. Currently, there are two residential scale solar installations within TTD's service area. (TTD 1, pp. 8-9; TTD 3, R. 16)

28. A new substation servicing the East Norwalk area was listed in the Council's 2010-2011 Forecast of Loads and Resources. (Council Administrative Notice item # 13)

Site Location

29. The 6 Fitch Street parcel consists of a 0.58-acre open lot, zoned Industrial No. 1. (TTD 1, p. 10)

30. TTD acquired the property in September 2010. Prior to the acquisition of the parcel, one other parcel on Goldstein Place was considered for a substation but abandoned due to soil conditions that would require structures on pilings. (TTD 1, pp. 10, 16; Tr. 1, pp. 24-25)

31. The parcel was used as a single-family residence that was demolished by TTD in 2010. (TTD 1, p. 10)

32. The parcel ranges in elevation from 24 to 30 feet above means sea level. (TTD 1, p. 10)

33. Abutting property includes TTD's existing East Avenue Substation and a commercial property to the west, an auto-body repair shop and several apartments to the east, the East Norwalk train station and railway to the south, and a church and residences to the north. (TTD 1, pp. 10-11; TTD 3, R. 10)

34. The nearest residential dwelling is located 15 feet to the east, at 8 Fitch Street. This property is also an auto body repair shop (refer to Attachment 1). (TTD 3, R. 10)

35. With exception of the church, all other parcels on the north side of Fitch Street are zoned residential. All properties on the south side of Fitch Street are zoned industrial. (TTD 1 bulk file, Norwalk Zoning Map)

36. CL&P's 115-kV no. 1415 transmission line is located south of the parcel, along the north side of the Metro North Railroad (refer to Attachment 1). The transmission monopoles in this area are approximately 115 feet in height. (TTD 1, p. 11, Tab B)

Proposed Substation Description

37. The proposed substation would encompass most of the parcel and would be enclosed by an eight-foot high chain link fence with one foot of barbed wire. Privacy slats would be installed on the north side of the fence, including the access gate. (TTD 1, Tab B; Tr. 1, pp. 18, 34)

38. Access to the substation would be from a new 15-foot wide, 35-foot long access drive extending from Fitch Street. The new driveway would be across the street from the existing church parking lot. (TTD 1, Tab B)

39. The fenced substation area would measure approximately 106 feet by 180 feet. (TTD 1, p. 20)

40. Substation equipment would include two 115/27.6-kV transformers, a 115-kV loop feed with a single tie breaker and associated buswork, and a 25-foot wide, 42-foot long, 19-foot high control house. (TTD 1, Tab B; Tr. 1, p. 13)

41. Two line terminal structures, up to 40-feet in height (preliminary design), would be installed at the south end of the substation. (TTD 1, Tab B; Tr. 1, p. 20)

42. The preliminary transmission line interconnection design would require the installation of two new 90 degree dead end structures within CL&P's right-of-way on Metro North's property. Two new 115-foot tall structures would loop CL&P's 1415 line through the substation. An existing 115-foot transmission monopole southeast of the substation would be removed to provide adequate clearance for the new dead end structure. CL&P is analyzing whether it is possible to retain this structure as part of the interconnection. (TTD 1, Tab B, G; Tr. 1, p. 79)

43. The proposed substation would be connected to the existing East Avenue substation by two underground 23.6-kV feeders. (TTD 1, p. 33)

44. The construction phase of the project is expected to take approximately 12-18 months, with a tentative in-service date of December 2013. (TTD 1, p. 6, 22)

45. Construction would generally occur from 7:00 a.m. to 5:00 p.m. Monday through Friday except for work that needs to be scheduled at off-peak electrical demand hours such as installation of terminal structures and interconnections. (TTD 1, p. 22)

46. The nominal service life of the substation equipment is 40 years. (TTD 1, p. 7)

47. The estimated cost for the siting, design, construction of the proposed substation and interconnection is $9,000,000. CL&P would bear the cost of the interconnection, estimated to be $1,500,000. (TTD, 1, p. 7; Tr. 1, p. 20)

Environmental Considerations

48. TTD would grade the site and install fill to create a four-foot pitch from the south side of the site to the north. A phase one study conducted in 2010 identified no issues in relation to soil contamination. (Tr. 1, pp. 21-22, 38)

49. The site consists of an open lot with a few trees located along Fitch Street. An attempt would be made to keep the largest tree, located in the northeast corner of the lot, as it provides some screening from residential areas northeast of the site. (TTD 1, p. 23; Tr. 1, 18-19)

50. There are no wetlands at or adjacent to the site. The nearest wetland area is 2,000 feet to the northeast. (TTD 1, pp. 11, 21)

51. The site is not located within a 100 year or 500 year flood zone. (TTD 1, p. 22)

52. The site is not within the Coastal Area Management zone, established to protect coastal resources, and site construction and operation would not adversely affect coastal resources. (TTD 1, pp. 22-23; TTD 3, R. 12)

53. Construction of the site would not increase run-off for 5, 10 and 25 year storm events. Storm water would infiltrate into the ground or be directed into a rain garden on the north side of the property. The rain garden is approximately one-foot deep and would have appropriate landscape plantings within the basin. The rain garden was sized in accordance with the DEEP Storm Water Manual. (TTD 1, pp. 24-25; Tr. 1, pp. 16-17)

54. The site is an open lot, thus the project would have a minimal effect on wildlife and wildlife habitat. (TTD 1, pp. 21, 25)

55. There are no known state or federal endangered, or threatened, or species of special concern in the project area. (TTD 1, p. 21)

56. The site is not within any historic district and would have no impact on archeological or historic resources. An inquiry to the State Historic Preservation Office by TTD was not returned. (TTD 1, pp. 13-14; Tr. 1, pp. 23-24; Council Administrative Notice 4)

57. The transformers contain a mineral oil that serves as an insulator. The transformers feature a secondary containment system designed to hold 110 percent of the transformer oil capacity. Oil would collect in sumps and would be blocked from draining through the use of an Imbiber Bead containment system. Additionally, a low oil alarm would be installed as part of the substation control system. (TTD 1, p. 28)

58. Noise levels from normal substation operations would not exceed regulatory criteria at the property line. (TTD 1, pp. 21-22; Tr. 1, pp. 25-28)

Visibility

59. The site would be most visible from Fitch Street and the abutting properties, including the commercial properties to the east and west, the church parking lot, and an abutting residence to the northeast, across Fitch Street. (TTD 1, Figure A-2)

60. TTD intends to retain the ornamental tree in the northeast corner of the property and install landscaping along the rain garden area to mitigate views of the lower portion of the substation from Fitch Street. (TTD 1, p. 25, Tab B; Tr. 1, p. 17)

61. In addition to landscaping, the control house would be oriented along the north side of the substation to prevent direct views of substation equipment from Fitch Street. The control house would be treated to appear as a wood frame structure. (Tr. 1, pp. 13-14, 19, 33; TTD 5)

62. TTD would examine screening options (privacy slats or landscaping) along the east side of the substation abutting the auto-body repair shop. (Tr. 1, pp. 18-20)

63. The site is not within any City of Norwalk scenic area. (TTD 1, p. 13)

64. The nearest park is Mill Pond Park, approximately 0.5 mile south of the site. (TTD 1, Tab E-10)

65. Low level lighting necessary for safety and security purposes would be recessed or have manual activation to minimize visual effects at night. (TTD 1, p. 28)

Magnetic Field Levels

66. Existing magnetic field (MF) sources in the project area are the existing 115-kV 1416 transmission line adjacent to the site and the existing underground 26.7-kV feeders west of the proposed site, with measured MF levels of 23 milliGauss (mG) and 75 mG, respectively. (TTD 1, p. 31)

67. Once constructed, the highest calculated MF levels around the substation under average load conditions would be less than 82 mG at the southeast corner of the substation, decreasing to 20 mG within 23 feet of the substation fence. This location is where the 1416 transmission line would cross into the substation. (TTD 1, p. 31; Tr. 1, pp. 45-46)

68. Under peak load conditions, the highest calculated MF level would be 186 mG in the southeast corner of the substation, decreasing to 20 mG within 60 feet of the substation fence. These levels are consistent with other substations where the transmission line crosses into the substation. (TTD 1, p. 31; Tr. 1, p. 46)

69. The calculated MF level under average load conditions at the abutting building east of the substation would be up to 18 mG, approximately 13 mG higher than existing conditions. The increase is due to the electric load delivered to the east side of the substation. (TTD 1, Tab G, p. 12)

70. International health and safety agencies, including the World Health Organization, the International Agency for Research on Cancer (IARC), and the International Commission on Non-Ionizing Radiation Protection (ICNIRP), have studied the scientific evidence regarding possible health effects from MF produced by non-ionizing, low-frequency 60-Hertz alternating currents in transmission lines. Two of these agencies attempted to advise on quantitative guidelines for mG limits protective of health, but were able to do so only by extrapolation from research not directly related to health: by this method, the maximum exposure advised by the International Committee on Electromagnetic Safety (part of IARC) is 9,040 mG, and the maximum exposure advised by the ICNIRP is 833 mG. Otherwise, no quantitative exposure standards based on demonstrated health effects have been set world-wide for 60-Hertz MF, nor are there any such state or federal standards in the U.S. The existing and calculated MF levels for this project are well below these recommended exposure levels. (Council Administrative Notice Item 10; TTD 1, Tab G, pp. 18-19)

Safety and Reliability

71. Construction of the proposed substation would be performed in full compliance with the standards of the National Electrical Safety Code. (TTD 1, Tab G, p. 20)

72. In the event of equipment failure, protective relaying equipment would remove the equipment from service, thereby protecting the public and other equipment within the substation. (TTD 1, p. 34)

73. Reliability would be improved by utilizing a loop-through design, transformer protection devices, and redundant automatic protective relaying equipment. Protective relaying equipment would provide automatic detection of abnormal conditions. If an abnormal condition occurred, a protective trip signal would be sent to the respective circuit breakers to isolate faulted equipment. TTD plans to install redundant protective relaying schemes with continuous monitoring. (TTD 1, p. 17)

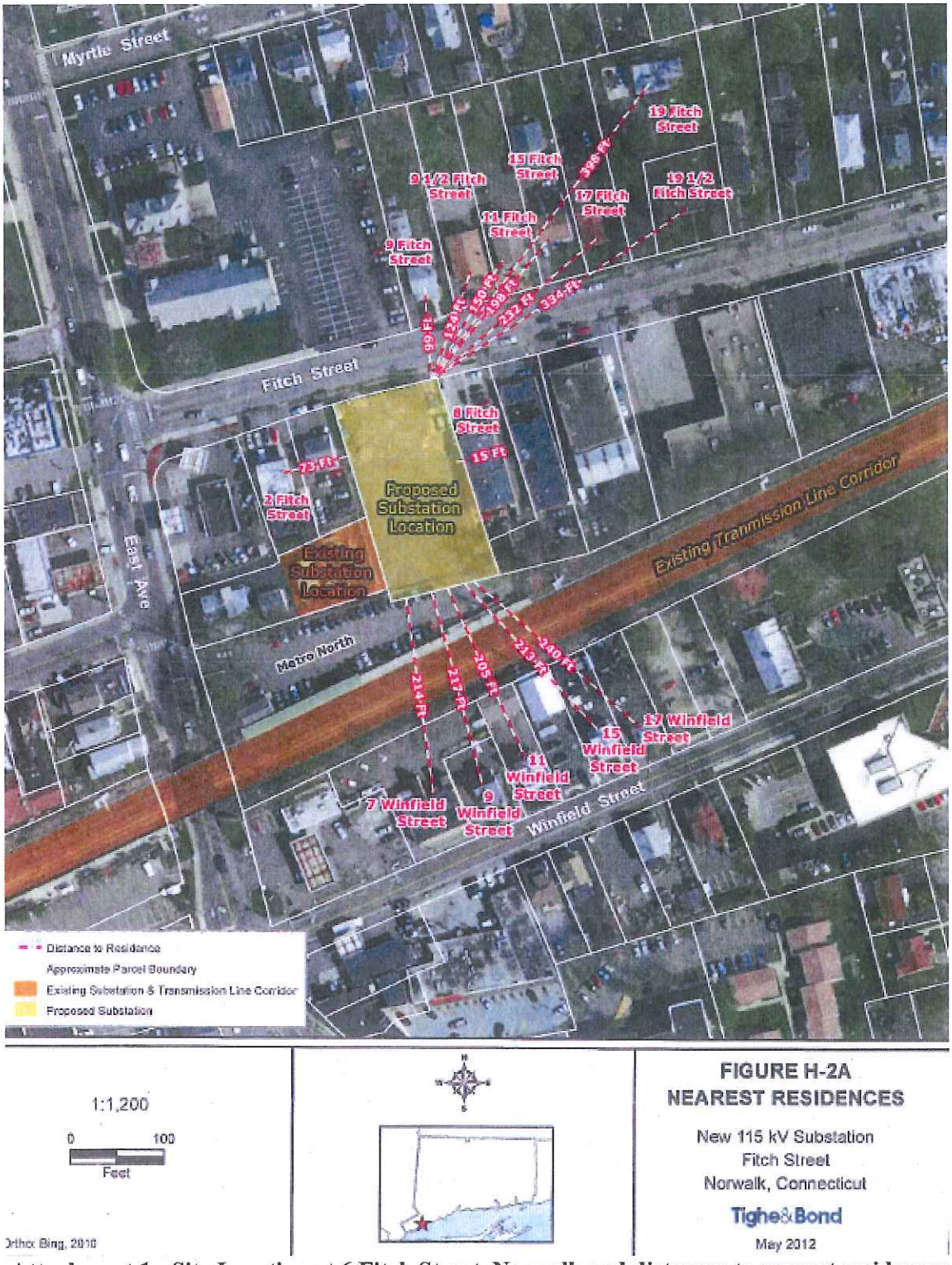
74. The substation would be remotely controlled and monitored by the Connecticut Valley Electric Exchange System Operator using digital metering systems and a Supervisory Control and Data Acquisition system. (TTD 1, pp. 17-18)

75. Appropriate signage would be posted at the substation to alert the public of a high voltage facility and the access gate locked to prevent unauthorized access. (TTD 1, p. 34)

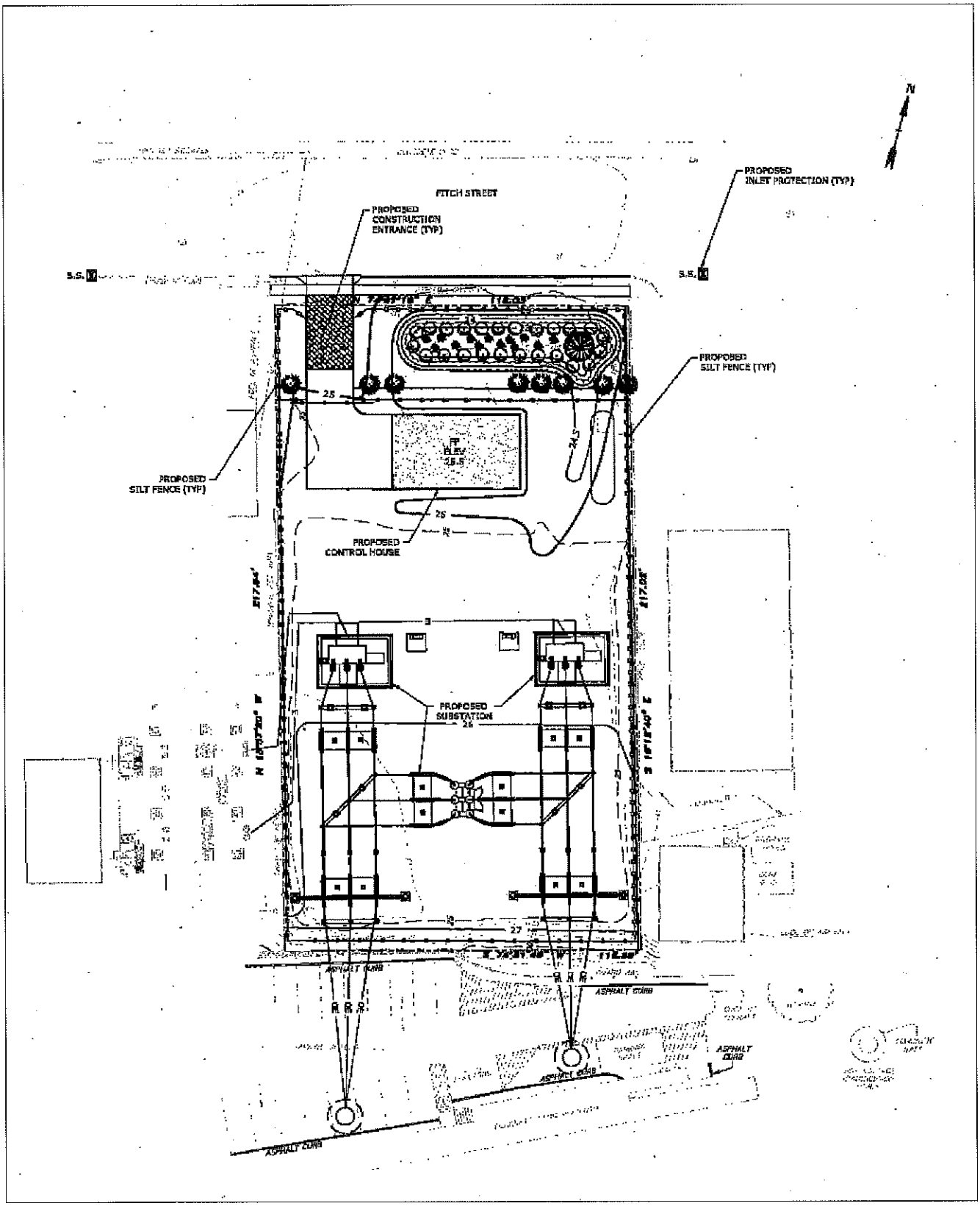
76. TTD would meet Norwalk law enforcement and emergency response personnel to discuss substation security and emergency response issues. TTD would also establish off-duty police protection during major construction activity. (TTD 1, p. 18)

77. TTD would incorporate appropriate standards for fire protection in the design of the substation. TTD personnel and local fire responders would be trained in the proper methods in extinguishing a substation fire. (TTD 1, p. 18)

78. The proposed substation would be constructed in accordance with applicable codes, including provisions for seismic loading, wind loading, and snow and ice loading. (TTD 1, p. 22)



Attachment 1: Site Location at 6 Fitch Street, Norwalk and distances to nearest residences. (TTD 3, R. 10)



Attachment 2: Proposed Site Plan. (TTD 1, Tab B)

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

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Party (granted 5/10/12)	☒ E-mail	The Connecticut Light and Power Company (CL&P)	John R. Morissette Manager – Transmission Siting and Permitting Northeast Utilities Service Co. P.O. Box 270 Hartford, CT 06141-0270 (860) 665-2036 (860) 665-6933 fax morisjr@nu.com
	☒ U.S. Mail		Christopher C. Swan Director Municipal Relations & Siting Northeast Utilities Service Company 9 Tindall Avenue Norwalk, CT 06851 (203) 845-3421 (203) 845-3628 swancc@nu.com

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