EXHIBIT D

TRUMBULL SUBSTATION SITE SELECTION STUDY

The United Illuminating Company
Trumbull Substation Site Selection Study

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UNITED ILLUMINATING

TRUMBULL SUBSTATION SITE SELECTION STUDY

EXECUTIVE SUMMARY

This substation site selection study report identifies and evaluates possible sites for the construction of a new substation in the Trumbull, CT area. The study was performed in accordance with UI Transmission and Distribution Guideline TDG-002. A general geographical site selection area in the southeast portion of Trumbull was determined on the basis of the combined value of estimated transmission and distribution system interconnection costs. With the aid of a composite map of the geographical site selection area indicating property boundaries, topographic features and environmentally sensitive areas, and recent aerial photographs, nine possible site locations were initially identified within the boundaries of this area. In addition, through preliminary UI discussions with the Town of Trumbull, two more possible site locations were identified. One lying within the geographical site selection area boundaries, and one lying within a light industrial area that is located slightly to the west of the established site selection area. All sites fall within the targeted geographical area of Trumbull to alleviate the loading at Trap Falls and Old Town substations. Following a preliminary review of these site locations, four site locations were retained for detailed evaluation. Based on a detailed evaluation and comparison of possible site placement areas at each of the four site locations, a preferred site was identified. This preferred site is located on Wildflower Lane on property currently owned by United Illuminating. An alternate site on a parcel located off of Huntington Turnpike was also identified.

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THE UNITED ILLUMINATING COMPANY

TRUMBULL SUBSTATION SITE SELECTION STUDY

1. Introduction

This substation site selection study report identifies and evaluates possible sites for the construction of a new substation in the Trumbull, CT area. Based on a detailed evaluation of preferred sites, the report identifies and recommends the site most suitable for locating the substation. An alternate site is also identified. The study is performed in accordance with UI Transmission and Distribution Guideline TDG-002 – "Substation Site Selection", dated April 21, 1993. A copy of this guideline is included as **Exhibit 1.1**, appended to this report.

2. Geographical Site Selection Area

Consistent with the UI Substation Site Selection Guideline, the "geographical site selection area" for a substation is determined by transmission and distribution system access and cost considerations. All sites considered fall within the targeted geographical area of Trumbull to alleviate the loading at Trap Falls (Shelton) and Old Town (Bridgeport) substations.

The general territory within which a new substation will be required is shown on the map included as **Exhibit 2.1**. The geographical site selection area for this new substation is the geographical area within this territory that includes all possible economically viable substation sites. In this study, the geographical site selection area was established to be the geographical area, outside of which, all geographical points are estimated to have a combined transmission and distribution cost of $2,500,000 or more than the geographical point estimated to have the least transmission and distribution cost. The threshold value of $2,500,000 was selected considering that cost differences between possible sites other than transmission and distribution related costs (e.g., site and site access preparation costs, real estate costs, and costs related to environmental compatibility) are typically small in comparison.

2.1. Distribution System Access and Cost Considerations

The general need for the construction of the new substation is presented in a separate document entitled: *Capacity Expansion Alternatives For the Trumbull/Shelton Area*, prepared for The United Illuminating Company by EPRI Solutions Inc. This document is included as Exhibit C. To aid in the determination of the most suitable location for the new substation, six economically optimal locations for interconnecting the new substation to the distribution system were identified by UI Distribution Planning, all situated within the Town of Trumbull. These locations are coincident with portions of the routes of one or more feeders that will be relieved by the new substation:

1) Nichols Avenue and Huntington Turnpike between Route 8 and the Merritt Parkway.
2) White Plains Road between Route 8 and the Merritt Parkway.
3) Huntington Turnpike between the Merritt Parkway and North Street.
4) White Plains Road between the Merritt Parkway and Route 25.

5) Huntington Turnpike between North Street and McDonald Road.
6) Daniels Farm Road between Route 25 and Strobel Road.

A map showing these locations is included as **Exhibit 2.2**.

To aid in the establishment of the geographical site selection area, UI Distribution Planning also developed estimates of the present value of long-term distribution costs for each of the six economically optimal distribution interconnection locations. These estimates are indicated by respective location in **Exhibit 2.3**. The lowest present value of long-term distribution system capital cost is in the vicinity of Distribution Location 1.

2.2. Transmission System Access and Cost Considerations

The portion of the transmission system located in the general vicinity of the economically optimal distribution interconnection locations consists of: 1) the 115 kV CL&P 1710 and 1730 transmission lines that run from east to west through the area, south of the Merritt Parkway, and 2) the 115 kV UI 1710 and 1730 transmission lines which interconnect with the respective CL&P lines in the vicinity of the intersection of the Merritt Parkway and Route 8 in Trumbull (Trumbull Junction), and extend southward into the City of Bridgeport. The general location of these transmission lines is indicated on the map included as **Exhibit 2.1** and a schematic electrical one-line diagram of the transmission system in the general area is included as **Exhibit 2.4**.

A minimum of two independent transmission sources would be required to provide a reliable primary supply to the new substation. Due to transmission line loading restrictions, only the CL&P 1730 line or UI 1730 line may be used as a source of supply to the substation. To provide two independent primary sources to a substation from a single transmission line, the line would be routed into and out of the substation, and tapped on either side of a sectionalizing circuit breaker. Possible sites located at points that are remote from the existing CL&P and UI rights-of-way would require the extension of two 115kV transmission supply lines to the remote site location.

The CL&P 1730 transmission line occupies the north side of the CL&P right-of-way and the UI 1730 line occupies the west side of the UI right-of-way. Consequently, any supply to a possible substation site location to the south of the CL&P right-of-way, or to the east side of the UI right-of-way, must cross the 1710 line. In order to provide the necessary level of reliability, a secure 115kV line crossing arrangement would have to be constructed. A conceptual schematic plan of such a 115kV/115kV transmission line crossing arrangement on the CL&P 100 foot right-of-way is included as **Exhibit 2.5**.

UI Transmission and Substation Engineering provided the cost estimating data for the line crossing arrangement. The related cost estimate is included as **Exhibit 2.6.** Basic cost estimating data for overhead transmission line extensions to substations located at points remotely located from existing transmission lines were also provided. This data is included as **Exhibit 2.7**.

To assist in establishing the approximate boundaries of the geographical site selection area, transmission costs were calculated for points at various distances from the existing

transmission rights-of-way. Line-of-sight perpendicular distances from the existing transmission rights-of-way and double-circuit single steel pole construction were assumed in estimating these costs. These assumptions were intended to provide the most conservatively inclusive boundaries for the geographical site selection area. The transmission line cost gradients resulting from these calculations are plotted on the map included as **Exhibit 2.8**.

2.3. Establishment of the Geographical Site Selection Area

The cost data from the distribution cost map and the transmission cost map (**Exhibits 2.3 and 2.8**, respectively) was combined onto a single map, included as **Exhibit 2.9**. By inspection, the geographical point with the least combined transmission and distribution cost was determined to be the intersection of the locus of distribution interconnection Location 1 with the CL&P transmission line right-of-way. This geographical point is situated in the immediate vicinity of Trumbull Junction. The boundaries of the geographical site selection area, as shown in **Exhibit 2.9,** were established by identifying and delineating the geographical points with a combined transmission and distribution cost estimated to be equal to or greater than $2,500,000 more than the point with the least combined transmission and distribution cost. Due to the conservatism used in the establishment of the transmission cost estimates, some points with actual combined distribution and transmission greater than $2,500,000 are necessarily included within this geographical site selection area. The approximate geographical site selection area boundaries are shown in more detail, on a 1"=1000' scale map included as **Exhibit 2.10**.

3. Substation Site Size

The new substation is to be comprised of two 13.8 kV busses fed by two 24/32/40 MVA transformers, with a firm capacity of 58 MVA. A utility substation is not specifically listed as a compatible use within the Town of Trumbull Zoning Regulations. However, it is intended that the new substation will be designed in a manner consistent with Town zoning regulations. The greater part of the geographical site selection area is designated a "Residence AA" zone. The minimum lot size in a "Residence AA" zone is one acre. Two very small areas remaining in the geographical site selection area are designated "Residence A", requiring a minimum lot size of one-half acre. The zoning regulations throughout the geographical site selection area also require front and rear property line setbacks of 50 feet, side yard setbacks of 20 feet, and a minimum street frontage of 125 to 150 feet. One additional possible site, which was identified during the municipal consultation with the Town of Trumbull, is listed in the Town Assessor's records in an "IL-2" light industrial zone. The minimum lot size in an "IL-2" light industrial zone is two acres. The zoning regulations in an "IL-2" light industrial zone also require street setbacks of 100 feet, non-residential side and rear setbacks of 50 feet and minimum street frontage of 100 feet. Based on substation design, operating and zoning requirements, UI Substation Engineering has defined that the minimum site would be approximately one acre in area and generally square in shape (i.e., about 200 feet by 200 feet). The actual site size and configuration that would prove to be compatible with a particular site location would ultimately depend on a variety of factors including: transmission and distribution system and vehicular access constraints, topography, and environmental impact related factors.

4. Identification of Possible Sites

4.1. Composite Map

The locations of possible sites were identified with the aid of a detailed composite map of the geographical site selection area. The base of this composite map was assembled from copies of Town of Trumbull 100-foot scale "planimetric" and topographic map overlays. Included on the base map were: improved and unimproved roads, buildings and other structures, marshlands, water courses and water bodies, and elevation data at two foot gradients. The degree of detail provided on the base map is demonstrated on the sample 400-foot scale reduction of the overlay map section of the area, included as **Exhibit 4.1.** Map details were checked and updated using 200-foot scale aerial photographs taken in the year 2001, and through roadside inspection. A reduced copy (approximately 1200-foot scale) of the relevant portion of the aerial photographs is included as **Exhibit 4.2**. Zoning land-use zones and inland wetland and floodplain areas and were obtained from the Town of Trumbull and delineated on the composite map. Watercourses and water bodies, parks, schools, settled areas, daycare centers, recreational areas, existing transmission lines, cemeteries, land-use zones, inland wetland and floodplain areas and other significant features were highlighted for ease of identification.

4.2. Criteria for the Identification of Possible Sites

Consistent with the UI Site Selection Guideline, portions of one or more contiguous parcels of land within the geographical site selection area that provide the designated site size, and that appeared to be unoccupied or not actively utilized, were identified as possible site locations, subject to further evaluation. Suitably sized land areas containing, located within, or adjacent to: designated flood plain, inland wetlands, water bodies and watercourses, town parkland, church and school property were included for consideration as possible site locations. Adequately sized areas within the taking lines of limited access highways, and external to the boundaries of the traveled way, were also included for consideration. Unoccupied land areas of adequate size and configuration, comprised of portions of one or more residential parcels, where substation siting would necessarily place the substation in the immediate proximity of one or more of the associated residences, were not included as possible sites.

4.3 Preliminary Site Identification

Based on the foregoing criteria, ten possible site locations were identified within the geographical site selection area. At four of these site locations (Site Locations 4, 5, 6 and 8), the land parcels were found to be large enough to include two or more distinctly separate substation sites. Two separate land parcels exist at Site Location 7, each of these parcels large enough to accommodate a substation site. These parcels are designated Site Locations 7A and 7B. Site Location 10 was identified subsequent to the initial site identification process through discussions with a representative of the Armenian Church of the Holy Ascension, Inc. whose facilities are located on Huntington Turnpike near the CL&P 115 kV transmission line crossing. The unoccupied land area on the property is unsuitable for the placement of the substation. However, the church representative suggested that the church

might be willing to abandon the current location and sell the entire 2.8 acre parcel. As previously indicated, in preliminary discussions with UI, the Town of Trumbull identified an eleventh possible site, lying in a light industrial area slightly to the west of the established site selection area.

The general viability of all eleven possible site locations was evaluated by roadside inspection. Land area and ownership was determined through review of Trumbull land records. The eleven possible site locations are listed in **Exhibit 4.3**, and are also identified on the 1000-foot scale geographical site selection area map included as **Exhibit 4.4**. The property boundaries for each of these site locations are delineated on the 200-foot scale maps included as **Exhibits 4.5.1 through 4.5.11**.

Preliminary Evaluation of Possible Site Locations

5.1 Evaluation Considerations

A preliminary evaluation of the eleven possible site locations determined in the preliminary site identification process was conducted to determine which should be retained as possible site locations. Accordingly, each site location was reviewed in light of the following considerations:

1) Transmission and Distribution Considerations, including: interconnection costs, and related considerations, system impacts, system access problems and right-of-way requirements.

2) Substation Construction and Access Considerations, including: construction costs and constraints, vehicular access, the effects of site size and shape and topographical factors on use, present land uses, floodplain and zoning restrictions, and general encumbrances.

3) Environmental Considerations, including: site character, present and past land uses, inland wetlands, ponds, watercourses, public watershed, character of neighborhood, zoning and other permitting, and significant environmentally related costs.

4) Real Estate Considerations, including: site real estate cost, value of excess UI property, subdivision requirements and availability for purchase.

5.2 Preliminary Evaluation

To aid in the preliminary evaluation of the eleven identified possible site locations, general tables of comparison were compiled for each of the four areas of consideration defined in Part 5.1. These tabulations are included in **Exhibits 5.1.1 through 5.1.4**. Site Location 1, located at the UI Trumbull Junction site, was shown to have the least overall cost. To simplify cost comparisons, cost estimates for the eleven site locations were generated as differential costs in comparison to those at Site Location 1.

The information tabulated in **Exhibits 5.1.1 through 5.1.4**. was gathered from a variety of sources including: the site selection composite map described in Part 4.1 of this study, Town land records, recent aerial photographs and roadside site inspections. Representative distribution cost estimates for each of the possible site locations were provided by UI Distribution Engineering. These are identified on the map included as **Exhibit 5.2**. Transmission line cost estimates were derived as shown in **Exhibit 5.3**. Site and right-of-way development costs were estimated based on construction contractor estimating data from previous similar studies. These estimates are derived in **Exhibit 5.4**. Site and right-of-way real estate costs were estimated based on information obtained by UI Real Estate from a real estate consultant with substantial knowledge of the current property values in the Trumbull area. Based on this information, present or potential "buildable" residential lots in the geographical site selection area are estimated to have a minimum value of $500,000. Also based on this information, land in industrially zoned areas is estimated to have a value of approximately $500,000 per acre. Site and right-of-way land costs related to specific sites are developed in **Exhibit 5.5**. Estimated costs assume minimum site land acquisition requirements, the most direct transmission, distribution and vehicular access routes, and minimum site real estate requirements.

A summary tabulation of the total estimated differential costs relative to Site Location 1 for each of the eleven possible site locations is included as **Exhibit 5.6**.

5.3 Site Locations Not Selected for Further Consideration

In the preliminary review of possible site locations, Site Locations 2, 3, 5, 7B, 8, 9, 10 and 11 were all determined to have estimated overall costs somewhat in excess of $2,000,000 greater than those for Site Location 1, the site location with the lowest overall estimated cost. In addition, these site locations were found to have the following undesirable characteristics:

5.3.1 Site Location 2 - CDOT Property, Route 8 at the Merritt Parkway

1) Transmission and Distribution Considerations: Due to the location of existing transmission lines in relationship to the Route 8/Merritt Parkway interchange, the most viable transmission route to this site location would extend approximately 800 feet from a new line crossing structure on the CL&P right-of-way west of Nichols Avenue, traversing property of the State of Connecticut in a direction parallel to the Route 8 Exit Ramps D and E. (The required line crossing structure was inadvertently omitted from the transmission estimate in the previous revision of this report.)

2) Substation Construction and Access Considerations: Topographically, the site is a 70-foot deep basin. Most of the site is comprised of areas of extreme slope. The presence of substantial rock ledge is probable. Site preparation costs would be extraordinarily high. Due to the topography, the parcel is totally unsuitable for substation construction. Access right-of-way to the site would not provide adequate street frontage width.
3) Environmental Considerations: A pond and stream occupy the center of the useable portion of the parcel. To utilize this site location the stream would need to be diverted

and the pond filled. The transmission line extension to the site would be highly visible from Route 8.

4) Real Estate Considerations: It is not clear whether the all of necessary site area would fall outside of the official Route 8 non-access lines. It is really not very probable that the State of Connecticut would consider releasing the required property. Furthermore, it is doubtful that the State would or could consider the placement of a substation so close to the Route 8 traveled way.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

Transmission	$1,908,000
Distribution	$360,000
Site Preparation	$275,000
Right-of-way Preparation	$115,000
Substation Land	$150,000
Rights-of-way	$208,000
Total	**$3,016,000**

5.3.2 Site Location 3 - City Line Florist Property, 2878 Nichols Avenue

1) Transmission and Distribution Considerations: The most viable transmission line route to this site location would extend 1600 feet from a new line crossing structure on the CL&P right-of-way. The first 950 feet would exist along the same route as that described for Site Location 2. The remaining portion of the route would skirt the westerly boundary of the CDOT maintenance facility on land associated with Site Location 2. (The required line crossing structure was inadvertently omitted from the previous revision of this report.)

2) Substation Construction and Access Considerations: Much of the useable portion of the property is heavily sloped requiring a substantial amount of site preparation work. The presence of substantial subsurface rock ledge is probable. Access right-of-way to the site would not provide adequate street frontage width.

3) Environmental Considerations: A stream traverses the center of the useable portion of the parcel. To utilize this site location the stream would have to be diverted. It is likely that the substation and transmission line extension would be visible to Route 8, Merritt Parkway, Nichols Avenue and surrounding residential properties.

4) Real Estate Considerations: The site location is situated at the rear of a 3.73 acre parcel. The front portion of the parcel fronting on Nichols Avenue contains an active florist business. The use of only the rear portion of this site location would require a property subdivision. It is not known whether the owner would agree to a sale or to the subdivision and sale of the rear portion of the property.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

Transmission	$2,453,000
Distribution	$360,000
Site Preparation	$70,000
Right-of-way Preparation	$125,000
Substation Land	$500,000
Rights-of-way	$408,000
Total	**$3,916,000**

5.3.3 Site Location 5 –Bill Property, 1445 Huntington Turnpike

1) Transmission and Distribution Considerations: The site is south of the CL&P right-of-way. Consequently, a 115kV line crossing tap arrangement would be required. The shortest transmission supply route to a site at Site Location 5 would extend 200 feet southward from a tap of the CL&P transmission line on Site Location 6 property.

2) Substation Construction and Access Considerations: The only practical access to a site at this location would be placed along the present residential access road on the property.

3) Environmental Considerations: The major portion of the southern area of this property is designated inland wetland. The northern area of this property contains a residence, two sizeable ponds and a stream. Any substation site with direct transmission supply access would be in direct proximity to the residence and water bodies.

4) Real Estate Considerations: The use of only the rear portion of this site location would require a property subdivision. The owner of the property at Site Location 5 approached by a consultant engaged for that purpose by UI Real Estate, and expressed absolutely no interest in selling any of the property associated with that site location.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

Transmission	$1,646,000
Distribution	$360,000
Site Preparation	$0
Right-of-way Preparation	$105,000
Substation Land [unavailable]	$500,000
Rights-of-way	$220,000
Total	**$2,831,000**

5.3.4 Site Location 7B - Chisarik Property, White Plains Road

1) Transmission and Distribution Considerations: A 250 foot transmission line extension from the CL&P right-of-way to the site would be required. Extensive distribution ductline construction within residential streets in the vicinity of the site would be necessary.

2) Substation Construction and Access Considerations: The general topography of the land is extreme slope. The presence of substantial subsurface rock ledge is highly probable. Due to the topography, the parcel is not suitable for substation construction. For the same reason, the vehicular and distribution access routes would also be unsuitable.

3) Environmental Considerations: The transmission line extension to the site would be highly visible from White Plains Road and to surrounding residences.

4) Real Estate Considerations: A 250 foot long transmission line right-of-way would be required across Parcel 7A. The site location parcel appears to be annexed to a smaller parcel occupied by the Unity Hill Church. A portion of the site location parcel appears to be a church parking area. The use of this site location is likely to require a property subdivision. Street frontage is on a "paper street" (Foster Avenue). UI would have to coordinate its development with the Town of Trumbull.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

Transmission	$780,000
Distribution	$720,000
Site Preparation	$150,000
Right-of-way Preparation	$95,000
Substation Land	$500,000
Rights-of-way	$170,000
Total	**$2,415,000**

5.3.5 Site Location 8 - Town of Trumbull, Unity Park

1) Transmission and Distribution Considerations: The substation transmission tap and switchyard would be in the direct vicinity of Town of Trumbull outdoor recreational facilities.

2) Substation Construction and Access Considerations: Portions of the site location property are within a designated floodplain. Grading and foundation costs would be substantial.

3) Environmental Considerations: The usable site location area is adjacent to designated wetlands, ponds and watercourses. The transmission line crossing and extension to the site would be highly visible to surrounding residences. Proximity to a playground would raise public safety concerns.

4) Real Estate Considerations: The property is currently in active use as a public park. The prime site location on the property was recently delineated as a baseball field. It is highly doubtful that the Town would be willing to release the necessary land for a substation at this location.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

Transmission	$486,000
Distribution	$1,320,000
Site Preparation	($55,000)
Right-of-way Preparation	$40,000
Substation Land	$500,000
Rights-of-way	$60,000
Total	**$2,351,000**

5.3.6 Site Location 9 - CDOT Property, South of the Merritt Parkway

1) Transmission and Distribution Considerations: The most viable transmission route to this site location would extend approximately 1200 feet from a transmission line tap located within Site Location 6.

2) Substation Construction and Access Considerations: A marsh and a sizeable stream encumber the portion of the property where a substation might be accommodated. Access right-of-way to the site would not provide adequate street frontage width.

3) Environmental Considerations: Approximately 80% of the property is located within the boundaries of designated inland wetlands. The construction of the substation and associated access would necessitate wetlands encroachment, and most likely require the relocation of a stream located on the property.

4) Real Estate Considerations: The most viable transmission supply route would require the acquisition of right-of-way on the Site Location 6 property. This route would also necessitate the acquisition of transmission rights-of-way across portions of several residential properties to the south of Site Location 9. It is really not very probable that the State of Connecticut would consider releasing the required property. Furthermore, it is doubtful that the State would or could consider the placement of a substation so close to the Merritt Parkway.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

Transmission	$1,253,000
Distribution	$480,000
Site Preparation	$60,000
Right-of-way Preparation	$130,000
Substation Land	$150,000
Rights-of-way	$780,000
Total	**$2,853,000**

5.3.7 Site Location 10 – Armenian Church Property, 1460 Huntington Turnpike

1) Transmission and Distribution Considerations: Routing the double circuit transmission line supply to the site would require the longitudinal occupation of public roadways or the crossing of developed residential properties. Due to the limited width of roadways in this residential area, routing the lines overhead along public streets is not technically practical. Rerouting the 1730 line from any point along the south side of the CL&P right-of-way would require the erection of a 115 kV line crossing structure.

   The shortest and most direct overhead transmission route to the site, potentially presenting the least environmental impact, would extend from a point in the vicinity of the present UI switching structure on the UI right-of-way at Site Location 1, to the rear of 3-7 Wildflower lane. From a new transmission tap structure on the UI right-of-way, the most direct route would traverse the undeveloped UI residential property designated on Town Assessors maps as Lot 136/2. This line route would necessarily cross the southeast corner of the developed residential properties designated as Lot 137/3 on Wildflower Lane and the rear of Lot 148/4 on Stella Street. The feasibility of this route would rest on the willingness of residential owners to grant UI the necessary easements. No other overhead transmission routes on the easterly side of Huntington Turnpike appear to be feasible.

   The most direct route from a line tap on the westerly side of Huntington Turnpike would require the erection of a transmission line crossing structure on the Town property at Site Location 4. The double circuit supply line would then traverse a portion of Site Location 4 and/or Site Location 5, which is partially developed with a private residence and a plant nursery. However, there does not appear to be a suitable right-of-way to the site from Site Locations 4 or 5 to the site without a longitudinal occupation of Huntington Turnpike. Based on prior contacts with the owner of site location 5, it is doubtful that she would be willing to grant UI the necessary easement for such a route.

   Considering the constraints associated with routing an overhead transmission supply to the substation, an underground route was also considered. In this alternative scenario, two 115 kV underground transmission cables would extend from new cable riser structures located on the UI right-of way at the rear of Site Location 1, and run beneath Wildflower Lane and Huntington Turnpike to new cable risers at Site Location 10.

   Cost estimates were developed for both the most direct overhead transmission route and an underground transmission alternative route to this site location. The estimated cost for the underground transmission supply was derived and provided to UI by Black & Veatch, Inc. This estimate is included as Exhibit 4.6.

2) Substation Construction and Access Considerations: Due to the significant slope at the rear of the site property, and the highly irregular configuration of the site it would

be difficult to place the planned substation without demolishing the existing church building.

3) Environmental Considerations: The site is located in immediate proximity to a stream and to a sizeable inland wetland area to the north. Aerial photos and Town of Trumbull Planimetric maps indicate that this stream traverses the site property within an underground culvert. The approximately one-half acre "hanging" portion of the site location property fronting along Stella appears to be entirely encumbered by wetlands. Due to the relatively low elevation of this site location, it is likely that most substation structures would be visible from the residential properties at higher elevations on Wildflower Lane and Stella Street. An overhead transmission line to the site would also be highly visible to area residents.

4) Real Estate Considerations: Due to the irregular shape and the topography of the parcel, it is doubtful that there would be any usable excess land that could be resold after the placement of a substation. There appears to be insufficient site frontage on Huntington Turnpike to allow for residential development of that portion of the property. It is assumed that the frontage requirements to meet Zoning restrictions are met by the portion of the property along Stella Street.

   The shortest and most direct overhead transmission route to the site would require the acquisition of right-of-way across residential properties designated as Lot 137/3 on Wildflower Lane and Lot 148/4 on Stella Street. Acquisition of the necessary easements to accommodate this route is highly questionable. An overhead transmission crossing of the UI residential parcel designated as Lot 136/2 on Wildflower Lane would most likely render it unsuitable for resale.

   In the underground cable supply alternative, it is assumed that the remaining UI residential property would be suitable for resale encumbered with an easement for the occupation and maintenance of the cables.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

   a. Most Direct Overhead Transmission Route

Transmission	$871,000
Distribution	$0
Site Preparation	$100,000
Right-of-way Preparation	$15,000
Substation Land	$1,000,000
Rights-of-way	$ 60,000
Total	**$2,046,000**

b. Alternative Underground Transmission Route

Transmission	$6,260,000
Distribution	$0
Site Preparation	$100,000
Right-of-way Preparation	$ 0
Substation Land	$1,000,000
Rights-of-way	$0
Total	**$7,360,000**

5.3.8 Site Location 11 – D'Addario Property, Quarry Road (last parcel)

1) Transmission and Distribution Considerations: The transmission line interconnection to the substation would require the erection of two single-circuit deadend structures. A direct easterly routing by ductline from this site location to distribution system facilities on White Plains Road is technically and environmentally impractical due to the presence of the Pequonnock River and a substantial wetlands area lying between them. Such a ductline would also cross the athletic fields at Unity Park. As a practical alternative, a ductline interconnection to the distribution system would be provided along Quarry Road, southward to the vicinity of Old Town Road. Overhead cables would be extended to the vicinity of Huntington Turnpike. Differential distribution costs for this site relative to those at Site Location 1 were calculated by UI Distribution Engineering to be $3,612,000.

2) Substation Construction and Access Considerations: Portions of the site location property in the vicinity of the Pequonnock River may be within a designated floodplain area.

3) Environmental Considerations: The site is in the proximity of wetlands and the Pequonnock River.

4) Real Estate Considerations: During the municipal consultation the residents of the Stella Lane and Wildflower Lane area, as well as members of the Trumbull Town Council and the First Selectman, asked UI to investigate placing the proposed substation on undeveloped property at end of Quarry Road.. During a meeting at Trumbull Town Hall the owner of the undeveloped parcel indicated that the parcel in question is approximately five acres of land. Mr. Daddario indicated that he would be interested in a development agreement that utilized a 99-year lease. The United Illuminating Company does not build infrastructure on land that it does not own. To do so would interfere with long term planning of the electric grid. Mr. Daddario then asked UI to make a monetary offer on the parcel. Given the engineering cost differentials, and the fact that UI will not be puruing the Quarry Road option, we have not made a formal purchase offer to Mr. D'addario. Additionally, UI's investigation of the site indicates that the parcel in question is 3.8 acres.

5) Estimate of Minimum Differential Costs Relative to Site Location 1:

Transmission	$486,000
Distribution	$3,612,000
Site Preparation	$15,000
Right-of-way Preparation	$ 0
Substation Land	$1,900,000
Rights-of-way	$ 0
Total	**$6,013,000**

In light of the foregoing, Site Locations 2, 3, 5, 7B, 8, 9, 10 and 11 were not selected for further consideration.

5.4 Availability of the Remaining Possible Site Location Properties

The property at Site Location 1 is currently owned by UI. The availability of the properties at the three other remaining possible site locations (Site Locations 4, 6, and 7A) was investigated in 2002 by a consultant engaged by UI Real Estate. At that time, the owners of the property at Site Location 7A expressed their willingness to sell the necessary property at that location. Also at that time, the Town of Trumbull indicated a tentative willingness to discuss the sale of the necessary property at Site Locations 4 and 6. Copies of letters from the consultant describing the results of the property availability investigation conducted by UI Real Estate are included as **Exhibit 5.7**. Based on the potential availability of substation land at Site Locations 1, 4, 6, 7A, these site locations were retained for further consideration.

6. Evaluation of Selected Sites

As a result of the preliminary evaluation of possible site locations, four possible site locations were selected for further consideration: Site Locations 1, 4, 6 and 7A. Two possible substation placement areas were identified at Site Location 4 (Sites 4A and 4B), and three possible substation placement areas were identified at Site Location 6 (Sites 6A, 6B and 6C), resulting in a total of seven specific site locations for detailed evaluation. Property maps of Site Locations 1, 4, 6 and 7A, showing the seven specific site locations, are provided as **Exhibits 6.1.1 through 6.1.4**. The optimal access routes to each of the sites are also identified on these maps.

General tables of comparison in each of the four areas of consideration described in Part 5.1 of this report were compiled to aid in the evaluation of the seven selected sites. These tabulations are included in **Exhibits 6.2.1 through 6.2.4**. UI Distribution Engineering provided the specific distribution estimates for each of the seven selected sites. Site and right-of-way preparation costs for each were derived as shown in **Exhibit 6.3**. Site and right-of-way real estate costs were derived as indicated in **Exhibit 6.4**. A summary of the total estimated differential costs associated with each of the selected sites relative to Site 1 is included as **Exhibit 6.5**. Alternate site reviews for the seven sites were performed and documented by UI Environmental Management in July of 2002. These site reviews were individually reconfirmed by field inspection in April of 2005. The alternate site reviews are included as **Exhibit 6.6.**

A detailed analysis of each of the seven selected sites by site location follows:

6.1 Site Location 1 (the preferred site):

Property Street Address:

3 –7 Wildflower Lane, Trumbull

Owner:

United Illuminating
P.O. Box 1564
New Haven, CT 06506

Property Description:

Site Location 1 is situated on a cul-de-sac at the easterly terminus of Wildflower Lane, within the triangular area bounded by Huntington Turnpike, Nichols Avenue and Route 8 in Trumbull. The site is irregular in shape and is comprised of three parcels with a total land area of 4.85 acres. The northerly portion of the site includes a portion of the CL&P 1710 and 1730 line right-of-way, including the tap structure to the UI 1710 and 1730 line. The easterly portion of the site is coincident with the UI 1710 and 1730 line right-of-way. The site provides only one basic location for substation placement ("Site 1"). This is shown in **Exhibit 6.1.1**.

Character of the Site Location Property:

The majority of the site location property is relatively flat and level. The easterly portion of the property exhibits a generally gentle slope to the south. Over half of the property falls within the established UI transmission right-of-way. A UI transmission line switching structure is located midway along the easterly property boundary. That section of the property is generally vegetated with grasses and low brush. An area of the westerly portion of the property has been cleared and set with multiple wooden utility poles for the purpose of electrical distribution line-person training. The remainder of the property near the westerly property boundary is largely wooded. There is evidence of subsurface rock ledge. There are no buildings on the property. There are no designated wetlands or floodplain areas on the site.

6.1.1 Evaluation of Site 1:

1) Transmission and Distribution Considerations:

   Site 1 is well suited for both transmission and distribution system access. Transmission system access would be accomplished by directly tapping the UI 1730 line. No line crossing arrangements are necessary for the transmission supply to this site. Due to the placement of the existing tap structure and the UI line switching structure relative the substation location, the transmission line could be tapped without the erection of new tap structures.

   The primary access to the distribution system would be by ductline, extending approximately 300 feet from the substation along Wildflower Lane to Huntington

Turnpike. The location of this site would also provide access to the existing overhead distribution line on the CL&P right-of-way.

This site was determined to have the lowest combined total transmission and distribution costs of all selected sites. *Consequently, the respective transmission and distribution costs for the other preferred sites are evaluated in comparison to the transmission and distribution costs for Site 1.*

Substation Construction and Access Considerations:

The size and shape of the property would be more than adequate for the substation to fit on the property with property line setbacks as required by Town of Trumbull zoning regulations. Consequently, the preparation of a detailed site layout drawing for this site was not necessary.

Due to the site topography and vegetation, minimal site preparation would be required. The probability of subsurface rock ledge at this site location is recognized in the site development and substation construction cost estimates.

Vehicular access to the substation would be directly by property frontage on Wildflower Lane. Street frontage width would be compatible with zoning regulations.

2) Environmental Considerations:

UI Environmental Management performed a site review of Site 1. It is documented in **Exhibit 6.6.**

The site has already been partially developed by UI. A CL&P transmission line support structure and a UI transmission switching structure are currently in existence on this site. No additional transmission line support or tap structures would be required at this site.

There are residential properties within one hundred yards of the site. However, the location of the site allows for some vegetative and topographic screening.

3) Real Estate Considerations:

UI is the current owner of all of the Site 1 property. No additional substation land or access rights-of-way would be required. Property and right of-way acquisition costs for individual sites at Site Locations 4, 6, and 7A are be evaluated in comparison to this site.

4) Summary of Differential Costs Relative to Site 1: Not Applicable

6.2 Site Locations 4A and 4B:

Property Street Address:

Huntington Turnpike, Trumbull

Owner:

Town of Trumbull
Town Hall
5866 Main Street
Trumbull, CT 06611

Property Description:

Site Location 4 fronts on the west side of Huntington Turnpike south of Rocky Ridge Drive. The site is comprised of one irregularly shaped parcel with a total land area of 13.08 acres. The Town of Trumbull apparently acquired this property in 1999 to hold as open space land. The site is bisected by the 100-foot wide CL&P 1710 and 1730 line right-of-way. A UI distribution line presently occupies the northern portion of the CL&P right-of-way. The site provides two possible alternate locations for substation placement ("Site 4A" and "Site 4B"). The site location property boundaries and the possible substation placement areas being evaluated are indicated in **Exhibit 6.1.2**.

Character of the Site Location Property:

The southwesterly quadrant of the Site Location 4 property is relatively flat and level. The southeasterly quadrant of the site location property is primarily marshland, apparently fed by storm runoff though a culvert traversing the property from Rocky Ridge Drive to the marshland. The marshland and some of the adjacent area are designated as inland wetland. Between the two southerly quadrants of the property is a hillock, approximately 20-feet high. The northern portion of the site slopes rather abruptly from the northerly property boundary. The right-of-way portion of the site is generally vegetated with grasses and low underbrush. Otherwise, the site appears to be mostly wooded.

6.2.1 Evaluation of Site 4A:

1) Transmission and Distribution Considerations:

   Site 4A provides a direct transmission system access to the substation. The CL&P 1730 Line would be dead-ended and redirected to the substation using a 115kV line crossing arrangement similar to that shown in **Exhibit 2.6**.

   The primary access to the distribution system would be by ductline. The most direct distribution access route would extend approximately 800 feet by right-of-way from the substation to the street frontage on Huntington Turnpike. The ductline would necessarily cross a portion of the designated wetlands area. The location of this site

would provide access to the existing overhead distribution line on the CL&P right-of-way.

UI Distribution Engineering estimates the differential distribution costs associated with this site relative to Site 1 to be $324,000. The estimated differential transmission cost associated with this site relative to Site 1 is $1,118,000.

2) Substation Construction and Access Considerations:

The size and shape of the property would be more than adequate for the substation to fit on the property with property line setbacks as required by Town of Trumbull zoning regulations. Consequently, the preparation of a detailed site layout drawing for this site was not necessary.

Due to the topography of the site and present site vegetation, site preparation costs are estimated to be $5,000 greater than those at Site Location 1. The probability of subsurface rock ledge at this site location is reflected in the site development and substation construction cost estimates.

The most direct vehicular access route would extend approximately 800 feet by right-of-way from the substation to the street frontage on Huntington Turnpike. The vehicular access would necessarily cross a portion of the wetlands area. Street frontage at this site location would not be compatible with Town zoning regulations.

The differential cost of the necessary vehicular and distribution ductline right-of-way preparation as compared to Site 1 is estimated to be $90,000.

3) Environmental Considerations:

A site review of Site 4A was performed by UI Environmental Management. It is documented in **Exhibit 6.6.**

The CL&P 1710 and 1730 transmission lines are already in existence on the site. A new 115kV/115kV line crossing arrangement would be needed for the supply to the new substation.

The site location is within fifty feet of a pond and within one hundred feet of a stream. A substation on this site would be partially visible from Hartford Turnpike. Direct vehicular and distribution ductline access from the substation to existing street frontage would necessarily be through an area of designated wetlands.

4) Real Estate Considerations:

The Town of Trumbull is the current owner of the site location property. Due to the irregular shape of the site property and the placement of the site, it is expected that a minimum of two acres of land would have to be purchased for the substation site. The minimum site land cost at Site 4A is estimated to be $500,000. The placement of the substation and associated access right-of-way, coupled with the existing wetlands on the property, would encumber much of the approximately six-acres of site location

land situated south of the transmission line. It is possible that the purchase of this entire portion of the property would be required. The vehicular and distribution right-of-way costs associated with this site are estimated to be $80,000. In 2002, the Town of Trumbull tentatively indicated a willingness to discuss the sale of a portion of the site location property.

5) Summary of Site 4A Differential Costs Relative to Site 1:

Transmission	$1,118,000
Distribution	$324,000
Site Preparation	$5,000
Right-of-way Preparation	$90,000
Substation Land	$500,000
Rights-of-way	$80,000
Total	**$2,117,000**

6.2.2 Evaluation of Site 4B (The Alternate Site):

1) Transmission and Distribution Considerations:

Site 4B provides a direct transmission system access to the substation. The CL&P 1730 Line would be redirected to the substation using single pole deadend structures.

The primary access to the distribution system would be by ductline. The most direct distribution access route would extend approximately 400 feet by right-of-way from the substation to the street frontage on Huntington Turnpike. The ductline would necessarily cross a portion of the wetlands area. The location of this site would provide access to the existing overhead distribution line on the CL&P right-of-way.

UI Distribution Engineering estimates the differential distribution costs associated with this site relative to Site 1 to be $300,000. The estimated differential transmission cost associated with this site relative to Site 1 is $486,000.

2) Substation Construction and Access Considerations:

The size and shape of the property would be more than adequate for the substation to fit on the property with property line setbacks as required by Town of Trumbull zoning regulations. Consequently, the preparation of a detailed site layout drawing for this site was not necessary.

Due to the topography of the site and present site vegetation, site preparation costs are estimated to be $70,000 greater than those at Site Location 1. The probability of subsurface rock ledge at this site location is reflected in the site development and substation construction cost estimates.

The most direct vehicular access route would extend approximately 400 feet by right-of-way from the substation to the street frontage on Huntington Turnpike. Street

frontage at this site location would not be compatible with Town zoning regulations. The differential cost of the necessary vehicular and distribution ductline right-of-ways preparation in comparison to Site 1 are estimated to be $45,000.

3) Environmental Considerations:

A site review of Site 4B was performed by UI Environmental Management. It is documented in **Exhibit 6.6.**

The CL&P 1710 and 1730 transmission lines are already in existence on the site. Two additional transmission line structures would be required for the supply to the new substation.

The site is directly adjacent to a designated wetland area. This site would provide very little buffer space for visual screening from residential properties on Rock Ridge Road. Direct vehicular and distribution ductline access from the substation to existing street frontage would necessarily be through an area of designated wetlands.

4) Real Estate Considerations:

The Town of Trumbull is the current owner of the site location property. Due to the irregular shape of the site property and the placement of the site, it is expected that a minimum of two acres of land would have to be purchased for the substation site. The minimum site land cost at Site 4B is estimated to be $500,000. The placement of the substation and associated access right-of-way, coupled with the existing wetlands on the property, would encumber much of the approximately six-acres of site location land situated north of the transmission line. It is possible that the purchase of this entire portion of the property would be required. The vehicular and distribution right-of-way cost associated with this site is estimated to be $80,000. In 2002, the Town of Trumbull tentatively indicated a willingness to discuss the sale of a portion of the site location property.

Summary of Site 4B Differential Costs Relative to Site 1:

Transmission	$486,000
Distribution	$300,000
Site Preparation	$70,000
Right-of-way Preparation	$45,000
Substation Land	$500,000
Rights-of-way	$40,000
Total	**$1,441,000**

6.3 Site Location 6A, 6B and 6C:

Property Street Address:

Rocky Ridge Drive, Trumbull

Owner:

Town of Trumbull
Town Hall
5866 Main Street
Trumbull, CT 06611

Property Description:

Site Location 6 is located immediately to the north and east of Site Location 4. The two parcels share an approximate 200-foot common boundary. Site Location 6 property is comprised of one irregularly shaped parcel having a total land area of 20.60 acres. The property boundaries coincide with the designated termini of Rollingwood Drive, Leffert Road, Quail Trail and Oak Ridge Road. The property location listed in the Town of Trumbull land records would also suggest a direct frontage on Rocky Ridge Drive. However, this was not apparent in the Town land records. The Town of Trumbull apparently acquired this property in 1999 for use as open space land. The southern portion of the site location property is bisected by the 100-foot wide CL&P 1710 and 1730 line right-of-way. A UI distribution line presently occupies the northern portion of the CL&P right-of-way. The site provides three possible alternate locations for substation placement ("Site 6A", "Site 6B" and "Site 6C"). The site location property boundaries and the possible substation placement areas being evaluated are indicated in **Exhibit 6.1.3**.

Character of the Site Location Property:

The character of the western portion of the site location property is gentle to moderate slope. The topography of the remainder of the site location property is substantially irregular, with several pronounced hillocks and areas of moderate to extreme slope. A stream traverses the easterly portion of the site location property. The right-of-way portion of the site is generally vegetated with grasses and low underbrush. Otherwise, the site appears to be mostly wooded.

6.3.1 Evaluation of Site 6A:

1) Transmission and Distribution Considerations:

Site 6A provides a direct transmission system access to the substation. The CL&P 1730 Line would be redirected to the substation using single pole deadend structures.

The primary access to the distribution system would be by ductline. The most direct distribution access route would extend approximately 100 feet by right-of-way from the substation across the property to the easterly terminus of Quail Trail. The ductline

would continue along Leffert Road, and terminate on Unity Road. The location of this site would provide access to the overhead distribution line on the CL&P right-of-way.

UI Distribution Engineering estimates the differential distribution costs associated with this site relative to Site 1 to be $540,000. The estimated differential transmission cost associated with this site relative to Site 1 is $486,000.

2) Substation Construction and Access Considerations:

The size and shape of the property would be more than adequate for the substation to fit on the property with property line setbacks as required by Town of Trumbull zoning regulations. Consequently, the preparation of a detailed site layout drawing for this site was not necessary.

Due to the topography of the site and present site vegetation, site preparation costs are estimated to be approximately $5,000 greater than those at Site Location 1. The probability of subsurface rock ledge at this site location is reflected in the site development and substation construction cost estimates.

Due to the site placement, the most direct vehicular access would extend approximately 100 feet from the substation to Quail Trail. From there, Unity Road would be accessed via Leffert Road. Street frontage at this site location would not be compatible with Town zoning regulations. The differential cost of the necessary vehicular and distribution ductline right-of-way preparation in comparison to Site 1 is estimated to be $16,000.

3) Environmental Considerations:

A site review of Site 6A was performed by UI Environmental Management. It is documented in **Exhibit 6.6.**

The CL&P 1710 and 1730 transmission lines are already in existence on the site. Two additional transmission line structures would be required for the supply to the new substation.

This site is close to residential properties on Oakridge Road. The site location will increase traffic on the residential streets in the area.

4) Real Estate Considerations:

The Town of Trumbull is the current owner of the site property. Due to the irregular shape of the site property and the placement of the site, it is expected that a minimum of two acres of land would have to be purchased for the substation site. The site land cost is estimated to be at least $500,000. Vehicular and distribution right-of-way cost is estimated to be $10,000. The Town of Trumbull is the current owner of the entire site location property. In 2002, the Town of Trumbull tentatively indicated a willingness to discuss the sale of a portion of the site location property.

5) Summary of Site 6A Differential Costs Relative to Site 1:

Transmission	$486,000
Distribution	$540,000
Site Preparation	$5,000
Right-of-way Preparation	$16,000
Substation Land	$500,000
Rights-of-way	$10,000
Total	**$1,557,000**

6.3.2 Evaluation of Site 6B:

1) Transmission and Distribution Considerations:

Site 6B provides a direct transmission system access to the substation. The CL&P 1730 Line would be dead-ended and redirected to the substation using a 115kV line crossing arrangement similar to that shown in **Exhibit 2.6**.

The primary access to the distribution system from this site would be by ductline. The most direct distribution access route would extend approximately 500 feet by right-of-way from the substation across the property to the easterly terminus of Quail Trail. The ductline would continue along Leffert Road, and terminate on Unity Road. The site location would provide access to the existing overhead distribution line on the CL&P right-of-way.

UI Distribution Engineering estimates the differential distribution costs associated with this site relative to Site 1 to be $564,000. The estimated differential transmission cost associated with this site relative to Site 1 is $1,118,000.

2) Substation Construction and Access Considerations:

The size and shape of the property would be more than adequate for the substation to fit on the property with property line setbacks as required by Town of Trumbull zoning regulations. Consequently, the preparation of a detailed site layout drawing for this site was not necessary.

Due to the topography of the site and present site vegetation, site preparation costs are estimated to be $25,000 greater than those at Site Location 1. The probability of subsurface rock ledge at this site location is reflected in the site development and substation construction cost estimates.

To be consistent with the choice of distribution access route, the vehicular access would extend approximately 500 feet from the substation to Quail Trail. From there, Unity Road would be accessed via Leffert Road. The differential cost of the necessary vehicular and distribution ductline right-of-way preparation as compared to Site 1 is estimated to be $60,000.

3) Environmental Considerations:

A site review of Site 6B was performed by UI Environmental Management. It is documented in **Exhibit 6.6.**

The CL&P 1710 and 1730 transmission lines are already in existence on the site. A new 115kV/115kV line crossing arrangement would be needed for the supply to the new substation.

The site location is within fifty feet of a pond and within one hundred feet of a stream. A substation on this site would be partially visible from Hartford Turnpike. Direct vehicular and distribution ductline access from the substation to existing street frontage would necessarily be through an area of designated wetlands.

4) Real Estate Considerations:

The Town of Trumbull is the current owner of the entire site property. Due to the irregular shape of the site property and the placement of the site, it is expected that a minimum of two acres of land would have to be purchased for the substation site. The minimum site land cost at Site 6B is estimated to be $500,000. The placement of the substation and associated access right-of-way on the property would encumber much of the approximately six-acres of site location land situated south of the transmission line. It is possible that the purchase of this entire portion of the property would be required. The vehicular and distribution right-of-way cost associated with this site is estimated to be $50,000. In 2002, the Town of Trumbull tentatively indicated a willingness to discuss the sale of a portion of the site location property.

5) Summary of Differential Costs Relative to Site 1:

Transmission	$1,118,000
Distribution	$564,000
Site Preparation	$25,000
Right-of-way Preparation	$60,000
Substation Land	$500,000
Rights-of-way	$50,000
Total	**$2,317,000**

6.3.3 Evaluation of Site 6C:

1) Transmission and Distribution Considerations:

Site 6C provides a direct transmission system access to the substation. The CL&P 1730 Line would be redirected to the substation using single pole deadend structures.

The primary access to the distribution system would be by ductline. The most direct distribution system access route would extend by right-of-way from the substation approximately 100 feet through a small parcel of privately owned vacant property fronting on Rocky Ridge Drive. A distribution ductline would be constructed along

Rocky Ridge Drive to Huntington Turnpike. An alternate distribution access route would extend by right-of-way from the substation approximately 1000 feet through the Site Location 4 property to Huntington Turnpike. This route would necessarily cross a portion of the wetlands area on the Site Location 4 property. The location of this site would provide access to the existing overhead distribution line on the CL&P right-of-way.

UI Distribution Engineering has estimated the differential distribution costs associated with this site relative to Site 1 to be $348,000. The estimated differential transmission cost associated with this site relative to Site 1 is $486,000.

2) Substation Construction and Access Considerations:

The size and shape of the property would be more than adequate for the substation to fit on the property with property line setbacks as required by Town of Trumbull zoning regulations. Consequently, the preparation of a detailed site layout drawing for this site was not necessary.

Due to the topography of the site and present site vegetation, site preparation is estimated to be $70,000 greater than that at Site Location 1. The probability of subsurface rock ledge at this site location is reflected in the site development and substation construction cost estimates.

The most direct route for vehicular access to a public street from this site would extend approximately 100 feet by right-of-way through a small parcel of vacant privately owned property fronting on Rocky Ridge Drive. The purchase of the entire 0.44 acre parcel would also provide the substation with a street frontage compatible with Town zoning regulations. An alternate, but less desirable, vehicular access route would extend by right-of-way from the substation approximately 1000 feet through the Site Location 4 property to Huntington Turnpike. This route would necessarily cross a portion of the wetlands area on the Site Location 4 property. The differential cost of the necessary access roadway relative to Site 1 is estimated to be $20,000.

3) Environmental Considerations:

A site review of Site 6C was performed by UI Environmental Management. It is documented in **Exhibit 6.6.**

The CL&P 1710 and 1730 transmission lines are already in existence on the site. Two additional transmission line structures would be required for the supply to the new substation.

This site is very close to residential properties on Rocky Ridge Drive. The site location will increase traffic on the residential streets in the area.

4) Real Estate Considerations:

The Town of Trumbull is the current owner of the site property. Due to the shape of the site property and the placement of the site, a minimum of two acres of land would need to be purchased for the substation site. The minimum site land cost is estimated to be $500,000. Vehicular and distribution right-of-way cost is estimated to be $10,000. In 2002, the Town of Trumbull tentatively indicated a willingness to discuss the sale of a portion of the site location property. The owner of the small parcel on Rocky Ridge Drive was not approached regarding its availability for purchase or release of right-of-way rights.

5) Summary of Site 6C Differential Costs Relative to Site 1:

Transmission	$486,000
Distribution	$348,000
Site Preparation	$70,000
Right-of-way Preparation	$20,000
Substation Land	$500,000
Rights-of-way	$10,000
Total	**$1,434,000**

6.4 Site Location 7A:

Property Street Address:

330-336 White Plains Road, Trumbull

Owner:

Stephen Chisarik
330 White Plains Road
Trumbull, CT 06611

Property Description:

Site Location 7A property fronts on the east side of White Plains Road south of the Unity Road intersection, and to the east of Quail Trail. Site Location 7A property is comprised of one basically rectangular parcel having a total land area of 4.82 acres. Another very small (0.29 Acre) land parcel is set into a portion of the street frontage. Both of these parcels have the same owner. Residential buildings occupy the front or westerly portion of the property. The 100-foot wide CL&P 1710 and 1730 transmission line right-of-way comprises the southernmost portion of the property. The site provides one viable location for substation placement at the rear or easterly portion of the property. The site location property boundaries and the optimal substation placement area are indicated in **Exhibit 6.1.4**.

Character of Site Location Property:

The general character of the westerly portion of the site location property is moderate to extreme slope. The topography of the easterly portion of the site location property, where the substation would be placed, is relatively flat and level. The right-of-way portion of the site is generally vegetated with grasses and low underbrush. The northeasterly portion of the site location property appears to be largely wooded.

6.4.1 Evaluation of Site 7A:

1) Transmission and Distribution Considerations:

Site 7A provides a direct transmission system access to the substation. The CL&P 1730 Line would be redirected to the substation using single pole deadend structures.

The primary access to the distribution system would be by ductline. Due to the dramatic difference in elevation between the site location and the property frontage on White Plains Road, the preferred distribution access to the substation would likely be by right-of-way, extending approximately 200 feet across the adjacent property (Site Location 7B), to Foster Avenue. A portion of Foster Avenue in this vicinity is currently a "paper street". The distribution ductline would continue from Foster Avenue, along Leffert Road, and terminate on Unity Road. Due to the topography, and the access rights required, this route is likely to prove impracticable. As with the other sites evaluated, this site would provide access to the existing overhead distribution line on the CL&P right-of-way.

UI Distribution Engineering estimates the differential distribution costs associated with this site relative to Site 1 to be $720,000. The estimated differential transmission cost associated with this site relative to Site 1 is $486,000.

2) Substation Construction and Access Considerations:

The size and shape of the property would be more than adequate for the substation to fit on the property with property line setbacks required by Town of Trumbull zoning regulations. Consequently, the preparation of a detailed site layout drawing for this site was not necessary.

Due to the topography of the site and present site vegetation, site preparation is estimated to be $25,000 greater than that at Site Location 1. The probability of subsurface rock ledge at this site location is reflected in the site development and substation construction cost estimates.

Because of the dramatic difference in elevation between the site location and the property frontage on White Plains Road, vehicular access to the substation would also extend by right-of-way across Site Location 7B approximately 200 feet from the substation to Foster Avenue. From Foster Avenue, Unity Road would be accessed via Leffert Road. Since a portion Foster Avenue to be used is currently "paper street", it would probably require development in accordance with Town of Trumbull standards. The street frontage at this site would not be compatible with Town zoning

regulations. The minimum differential cost of the necessary vehicular access roadway relative to Site 1 is estimated to be $90,000.

3) Environmental Considerations:

A complete site review of Site 6A was performed by UI Environmental Management. It is documented in **Exhibit 6.6.**

The CL&P 1710 and 1730 transmission lines are already in existence on the site. Two additional transmission line structures would be required for the supply to the new substation.

This site abuts residential properties on Oak Ridge Road. Due to limited buffer space visual screening will be limited. The substation is also expected to be visible from White Plains Road. Traffic on the residential streets in the area would be increased. The site is located adjacent to a designated wetland.

4) Real Estate Considerations:

In 2002, the owner of the property expressed a willingness to sell the entire property and related buildings for an asking price of $495,000. This offer apparently included the companion 0.29-acre parcel fronting on White Plains Road and its buildings. It is assumed that this land could be subdivided and the excess property resold. Despite the rugged topography of a considerable portion of this property, based on the current real estate values in this area, the current asking price for this approximately five-acres of land, and related structures, would likely be at least $1,000,000.

Due to the shape of the site property and the placement of the substation, a minimum of approximately two acres of land would need to be retained for the substation site. The resulting net land cost is estimated to be at least $500,000. Associated vehicular and distribution right-of-way cost is estimated to be $40,000. Since the main vehicular and distribution access would be via the "paper street" portion of Foster Avenue, UI would require authorization for any necessary development from the Town of Trumbull.

5) Summary of Site 7A Differential Costs Relative to Site 1:

Transmission	$486,000
Distribution	$720,000
Site Preparation	$25,000
Right-of-way Preparation	$90,000
Substation Land	$500,000
Rights-of-way	$40,000
Total	**$1,861,000**

7. Conclusions and Recommendations

7.1 The Most Suitable Site

The comparative evaluation of selected sites presented in Part 6 of this report shows Site 1 to be the most suitable site for the new Trumbull Substation. The significant factors supporting this conclusion are summarized below:

1) Transmission and Distribution Considerations:

Site 1 is the site best suited of all possible sites for both transmission and distribution system access. At Site 1, the substation would be supplied from the UI 1730 transmission line. This line is directly adjacent to the identified substation placement area. Consequently, no line crossing arrangements would be necessary. Furthermore, due to the placement of the existing CL&P tap structure and the UI line switching structure at this site location, the transmission line could be tapped without the construction of additional tap structures.

All other selected sites require either the installation of two new transmission line structures, or a special 115kV transmission line crossing arrangement, on the CL&P right-of-way.

Site 1 has the lowest distribution cost of any of the preferred sites. The site is located directly adjacent to Wildflower Lane and no distribution ductline right-of-way would be required. The site is within 300 feet of the existing distribution feeders on Huntington Turnpike. Consequently, Site 1 requires the least amount of ductline construction of the sites evaluated.

2) Substation Construction and Access Considerations:

Vehicular access to Site 1 would be through existing street frontage on Wildflower Lane. All other selected sites would require the construction of substantial access roads to the substation. The street frontage width at Site 1 would be compatible with Town zoning regulations. Street frontage at other selected sites is likely to be limited to the vehicular right-of-way width. Due to site topography, and existing site improvements, the least amount of site development work would be required at Site 1.

3) Environmental Considerations:

No new transmission tap or line crossing structures would be required at Site 1. Although there are residential properties in the immediate vicinity, there is adequate buffer area at Site 1 to provide visual screening. There are no wetlands or streams on, or adjacent to, the site property. There is no access road construction required. The UI distribution line on the north side of the CL&P right-of-way will not require relocation.

4) Real Estate Considerations:

UI is the current owner of all of the Site 1 property. No additional substation land or access rights-of-way would be needed for this site. All other preferred sites require the purchase of property for the site, and the acquisition of required land rights for the associated right-of-way. Real estate purchase negotiations could seriously delay substation construction.

5) Site Differential Costs Relative to Site 1:

Site	Total Differential Cost
1	$0
4A	$2,117,000
4B	$1,441,000
6A	$2,057,000
6B	$2,317,000
6C	$1,434,000
7A	$1,861,000

It should be noted that these differential costs assume minimum substation site land area acquisition and market-level real estate costs. If additional land purchase and retention were required, or if above market asking prices were imposed, at one or more of these sites, the respective differential costs would be increased accordingly.

7.2 The Most Suitable Alternate Site

The comparative evaluation of selected sites provided in Part 6 of this report indicates Site 4B to be the most suitable alternate site.

In the summary comparison of differential costs of selected sites presented at the end of the foregoing section, the estimated costs of remaining selected Sites 4A, 6A, 6B and 7A are somewhat higher than those for Sites 4B and 6C. On the other hand, the evaluation of selected sites presented in Part 6 of this report does not indicate any notable advantages of Sites 4A, 6A, 6B and 7A over Sites 4B and 6C. Consequently, Sites 4B and 6C were selected as possible alternate sites.

Site 4B is in proximity to a designated inland wetland. The substation vehicular and distribution access road and ductline would cross the northern-most portion of the wetland area. Site 6C has the disadvantage of its proximity to a stream and a pond. Site 6C is also within 50 feet of a residence. Vehicular and distribution ductline access to Site 6C from Huntington Turnpike would be via Rocky Ridge Drive. This would involve substation construction and maintenance traffic through a residential area. Construction at Site 6C would be difficult due to the site topography. Site 6C is at a higher elevation than one at Site 4B. A substation constructed on this site would likely be more visible from surrounding residential properties.

Considering all of the foregoing, Site 4B was chosen as the most suitable alternate site.

7.3 Recommendations

Based on the substantial cost and other advantages described in Section 7.1 of this report, Site 1, located at 3-7 Wildflower Lane in Trumbull, is recommended as the location of the proposed Trumbull Substation. Based on the comparison of costs, and in consideration of the advantages and disadvantages described in Section 7.2, Site 4B (Huntington Turnpike) is recommended as an alternate site.

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Exhibit 6.1.3	Site Map Site Location 6
Exhibit 6.1.4	Site Map Site Location 7A
Exhibit 6.2.1	Comparison of Preferred Sites – Transmission and Distribution Considerations
Exhibit 6.2.2	Comparison of Preferred Sites – Substation Considerations
Exhibit 6.2.3	Comparison of Preferred Sites – Environmental Considerations
Exhibit 6.2.4	Comparison of Preferred Sites – Real Estate Considerations
Exhibit 6. 3	Site and Right-of-Way Preparation Cost Estimates
Exhibit 6. 4	Site and Right-of-Way Real Estate Cost Estimates
Exhibit 6. 5	Comparison of Estimated Preferred Site Differential Costs Relative to Site 1
Exhibit 6. 6	Trumbull Substation Alternate Site Review

4/8/06

Exhibit 1.1

Transmission & Distribution Guideline

for

Substation Site Selection

TDG-002

Transmission and Distribution Engineering Department

The United Illuminating Company

New Haven, CT

April 21, 1993

Rev. 0

UI TRANSMISSION AND DISTRIBUTION GUIDELINES

SUBSTATION SITE SELECTION

1.0 GENERAL

This guideline applies to the selection of all 115kV/13.8kV substation sites. The study is normally done by Substation Engineering, with appropriate input from other Departments discussed later in this guideline. The guideline defines the process through which site selection is made, and the factors upon which site selection is based. These factors include: geographical site selection area, site size requirements, environmental considerations, substation construction and access considerations, transmission and distribution construction and access considerations, and real estate considerations.

2.0 GEOGRAPHICAL SITE SELECTION AREA

The geographical site selection area is determined by transmission and distribution cost and system access considerations. One or more general geographical areas within which the new substation can provide the necessary load relief at minimum cost will be identified and provided by UI Distribution Planning. Where more than one geographical site selection area is designated, the evaluation of transmission cost and access considerations may allow the identification of one preferred geographical site selection area. The weight of transmission cost and access considerations may also result in the adjustment of the size and shape of the geographical areas identified by Distribution Planning. If changes are made, the resulting geographical site selection area(s) should be reviewed with Distribution Planning prior to proceeding with the identification of possible sites.

3.0 SITE SIZE REQUIREMENTS

The substation site size used in the site selection process should reflect the ultimate future plan for the substation. A one-line diagram indicating the ultimate development of the substation will be developed by UI Substation Engineering. This plan will include the possible future addition of transformers, 13.8kV buses, 115kV bus and breakers, transmission and substation capacitors, transmission line terminations, etc. This one-line diagram will be reviewed and approved by UI Engineering, Transmission Planning, Distribution Planning, Operations and Corporate Management. From this approved one-line diagram, one or more possible substation layouts will be developed and provided to aid in the identification of possible sites. The substation layouts will reflect the minimum fence line requirements for access, maintenance, replacement of equipment, and mobile transformer connection. The specific physical characteristics of the site, access considerations and property line setbacks required by zoning may increase substation land requirements on a site specific basis. Zoning setback requirements within each portion of the

geographical site selection area may be determined from applicable town/city planning and zoning documents.

4.0 IDENTIFICATION OF POSSIBLE SITES

4.1 COMPOSITE MAP

To aid in the identification of possible sites, a composite map of the geographical site selection area may be prepared from town/city assessors maps which delineate the boundaries of all land parcels. Also, to aid in the identification and evaluation of possible sites, the following features may be superimposed on this composite map: tidal and inland wetlands, ponds, lakes, watercourses, large hills, ridges and other significant topographical features, flood plains and land use zones from town/city zoning regulations. This information is available from various town/city, state and federal government sources. The designation of significant land use areas, such as factories, shopping centers, schools, parks, churches, and condominiums may also be advantageous. Large scale aerial photographs and topographic maps of the site selection area, often available from town/city engineering departments, also facilitate the preliminary site identification process.

4.2 PRELIMINARY SITE IDENTIFICATION

Possible sites may be identified using the composite assessors map and suitable reductions of possible substation layouts. Portions of one or more contiguous parcels of land which provide the designated site size located within the geographical site selection area, which are vacant or otherwise not presently being utilized, should be identified for further evaluation. Because of the large area of some sites identified in this manner, and the varying economic and other factors related to specific location within the sites, alternate substation locations within these sites should also be identified for evaluation. The possible effect of town/city zoning property line setbacks may also be considered in the preliminary site identification process. Based on preliminary site identification, a list of possible site locations, sizes and property owners should be prepared.

5.0 IDENTIFICATION OF PREFERRED SITES

If more than about ten possible sites are identified, it may be advantageous to identify those sites which appear to be preferred from the standpoints of overall cost and other considerations. To facilitate this process, a general evaluation of the significant considerations for each identified possible site should be performed. These considerations include:

1. Transmission and distribution interconnection costs and other considerations including system impacts, access problems and right-of-way requirements.

2. Substation construction and vehicular access costs and other related considerations including the effects of site size and shape, topographical factors, present land uses, floodplain and zoning requirements, potential environmental remediation, and encumbrances.

3. Site property cost and availability.

4. Environmental considerations including site character, present and past land uses of the site property, tidal or inland wetlands, ponds, watercourses, public watershed floodplains, character of the neighborhood, and town/city zoning and other permits required.

Representatives of UI Transmission Engineering, Substation Engineering, Distribution Planning, Transmission Planning, Real Estate, and Environmental Management will be required to participate in these general evaluations. A matrix presenting the significant results of this evaluation for each site may simplify the identification of preferred sites. Normally, no more than about ten preferred sites will be included in the detailed evaluation of individual sites.

6.0 EVALUATION OF INDIVIDUAL SITES

The evaluation of individual sites is based on a detailed review of environmental, substation construction and site access, transmission and distribution, and real estate considerations. To facilitate this evaluation, a general drawing, of suitable size, showing the ultimate substation layout should be prepared for each identified site and alternate location identified within that site. Substation access right-of-way for vehicles, transmission, and distribution should be shown. All identified site factors affecting permitting, construction and access, and site purchase should also be clearly indicated on the drawing. To facilitate a comparison of the costs associated with individual sites, one substation site may be chosen as a reference site, and differential costs relative to that site developed for the remaining sites.

6.1 TRANSMISSION AND DISTRIBUTION CONSIDERATIONS

The costs for transmission and distribution system interconnection and associated right-of-way requirements will be derived for each site with the assistance of UI Transmission Engineering, Transmission Planning and Distribution Planning. Significant qualitative factors pertaining to transmission and distribution interconnection should be identified.

6.2 SUBSTATION CONSTRUCTION AND SITE ACCESS CONSIDERATIONS

The costs for substation construction and vehicular access associated with site size, shape, access, topography, site preparation, anticipated soil conditions, potential environmental remediation and known encumbrances will be derived for each site with the assistance of UI Substation Engineering. Significant qualitative factors pertaining to substation construction and site access should be identified.

6.3 REAL ESTATE CONSIDERATIONS

The cost and availability of each site and the transmission, distribution and vehicular right-of-way for each site will be determined with the assistance of UI Real Estate. Where more property than required for the construction of the substation would have to be purchased, possible subdivision and resale should be evaluated. The disposition of residences and other buildings on a site should be considered in determining the net cost

of real estate. Where exact site costs appear to be a significant deciding factor in site evaluations and the values of the sites are questionable or unknown, appraisals should be obtained. Appraisals of one or two sites may be used for the rough valuation of other sites of the same general character.

6.4 ENVIRONMENTAL CONSIDERATIONS

An environmental assessment of identified sites, based on individual site inspections, will be performed by UI Environmental Management. A report of this assessment will be provided to the UI Project Engineer.

7.0 RECOMMENDATION OF SITE

The recommended site is chosen from the evaluation of overall costs and other considerations determined in Sections 6.1 through 6.4 above. A cost matrix simplifies evaluation. A separate summary of qualitative factors for competitive sites is also advantageous. A written report documenting the site selection process described in this standard will be prepared for the review and approval of UI Engineering, Transmission Planning, Operations, Environmental Management and Corporate Management.

Prepared By:

E. Kallaur

Transmission & Distribution Engineering

Approved By:

R Craig Pastore

Manager, T & S Engineering

Donna M Loon 4/21/93

Manager, Distribution Engineering

Manager, Transmission Planning

Director, Environmental Management

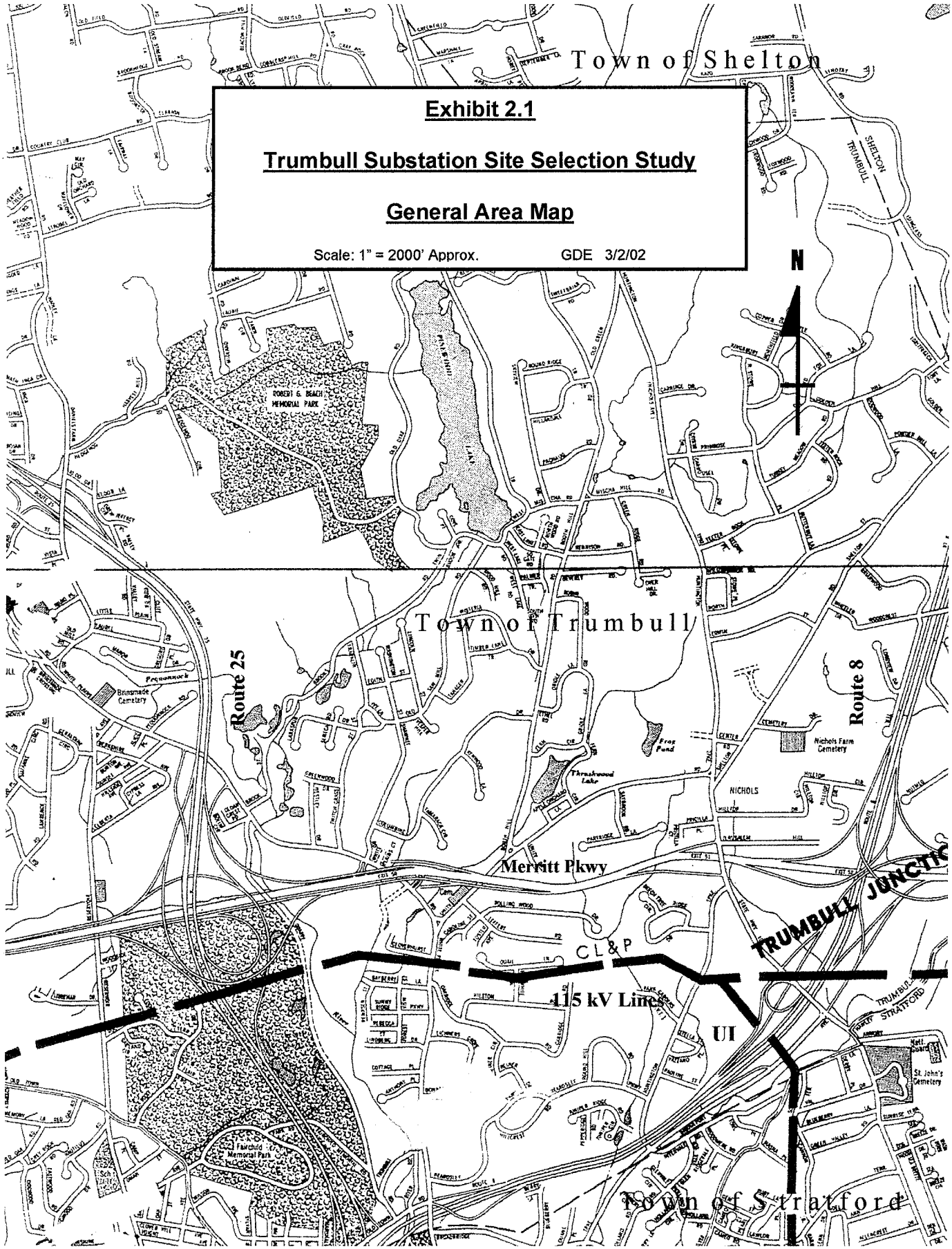


Exhibit 2.1
Trumbull Substation Site Selection Study
General Area Map
Scale: 1" = 2000' Approx.
GDE 3/2/02
N
Town of Shelton
Town of Trumbull
Town of Stratford
Route 25
Route 8
Merritt Pkwy
CL&P
115 kV Lines
UI
TRUMBULL JUNCTIO
NICHOLS
Nichols Farm Cemetery
Brinsmade Cemetery
St. John's Cemetery
Fairchild Memorial Park
ROBERT G. BEACH MEMORIAL PARK
Frog Pond
Throckwood Lake
SHELTON
TRUMBULL
STRATFORD

Exhibit 2.2

Trumbull Substation Site Selection Study

Optimal Distribution System Interconnection Locations

Scale: 1" = 2000' Approx. GDE 4/24/05

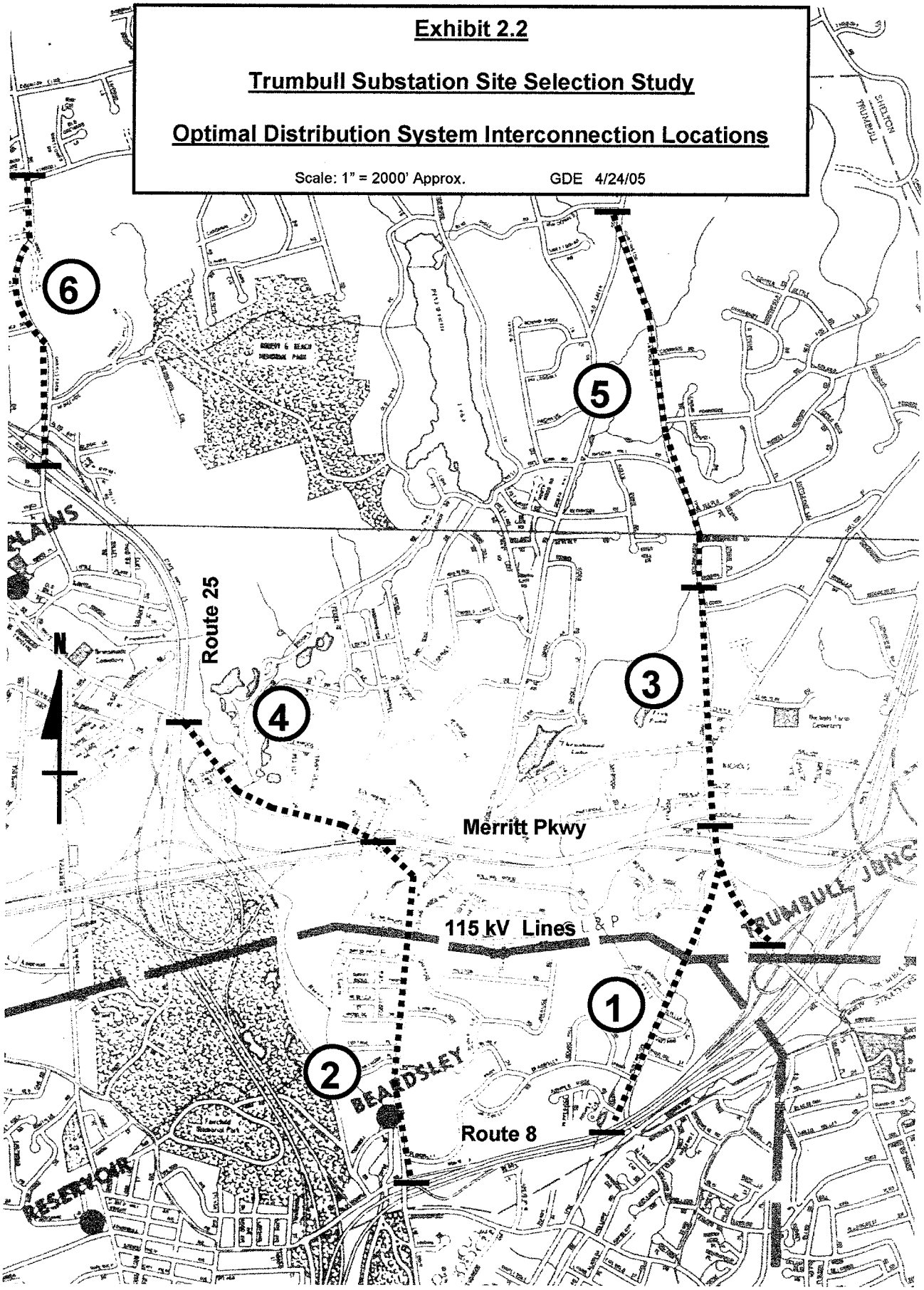
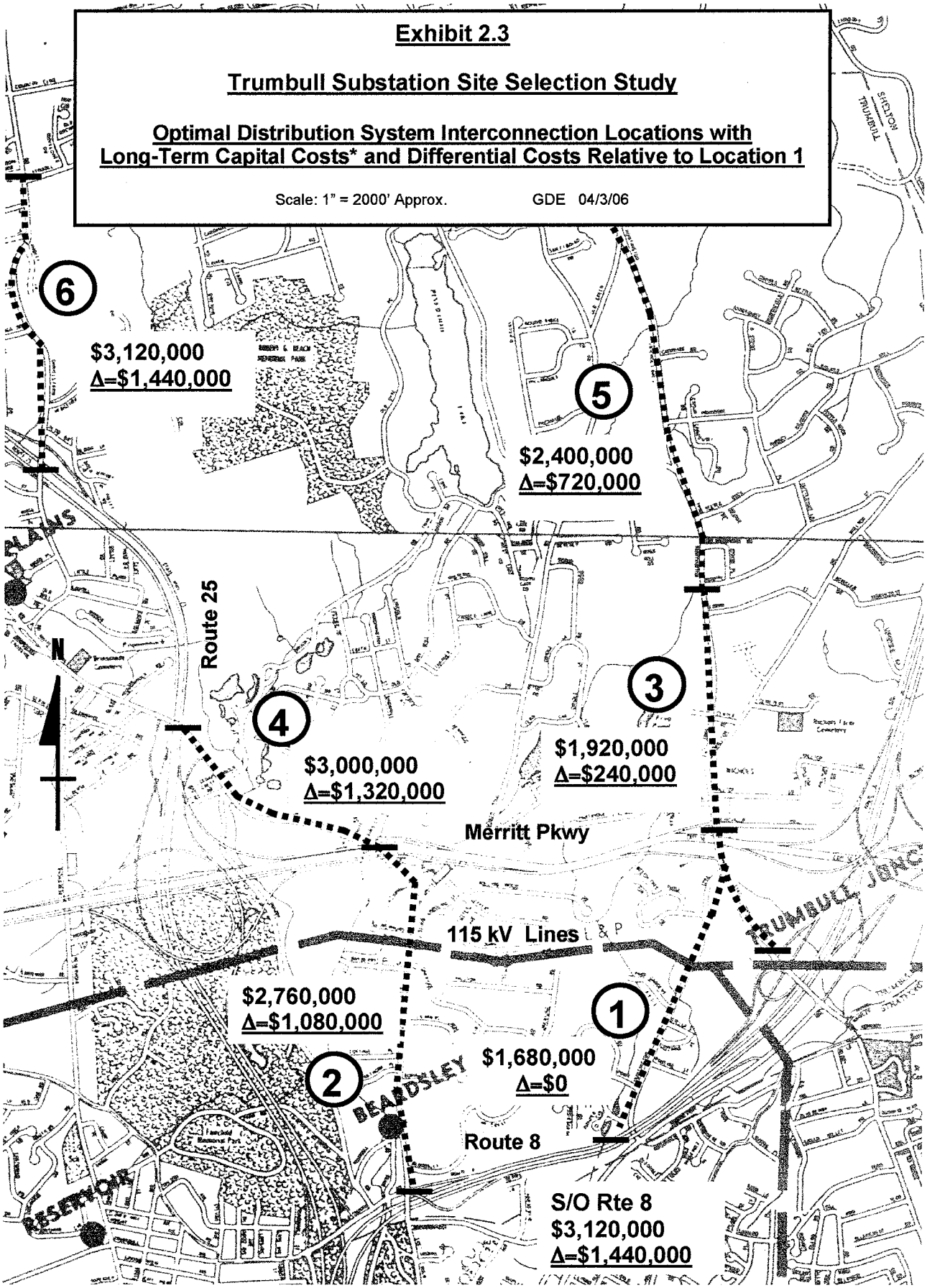


Exhibit 2.3

Trumbull Substation Site Selection Study

Optimal Distribution System Interconnection Locations with Long-Term Capital Costs* and Differential Costs Relative to Location 1

Scale: 1" = 2000' Approx. GDE 04/3/06



*All costs are 2002 estimated costs escalated to 2005 using Handy-Whitman total distribution plant cost escalation indices for the US Northeast Atlantic Region [+12.4%].

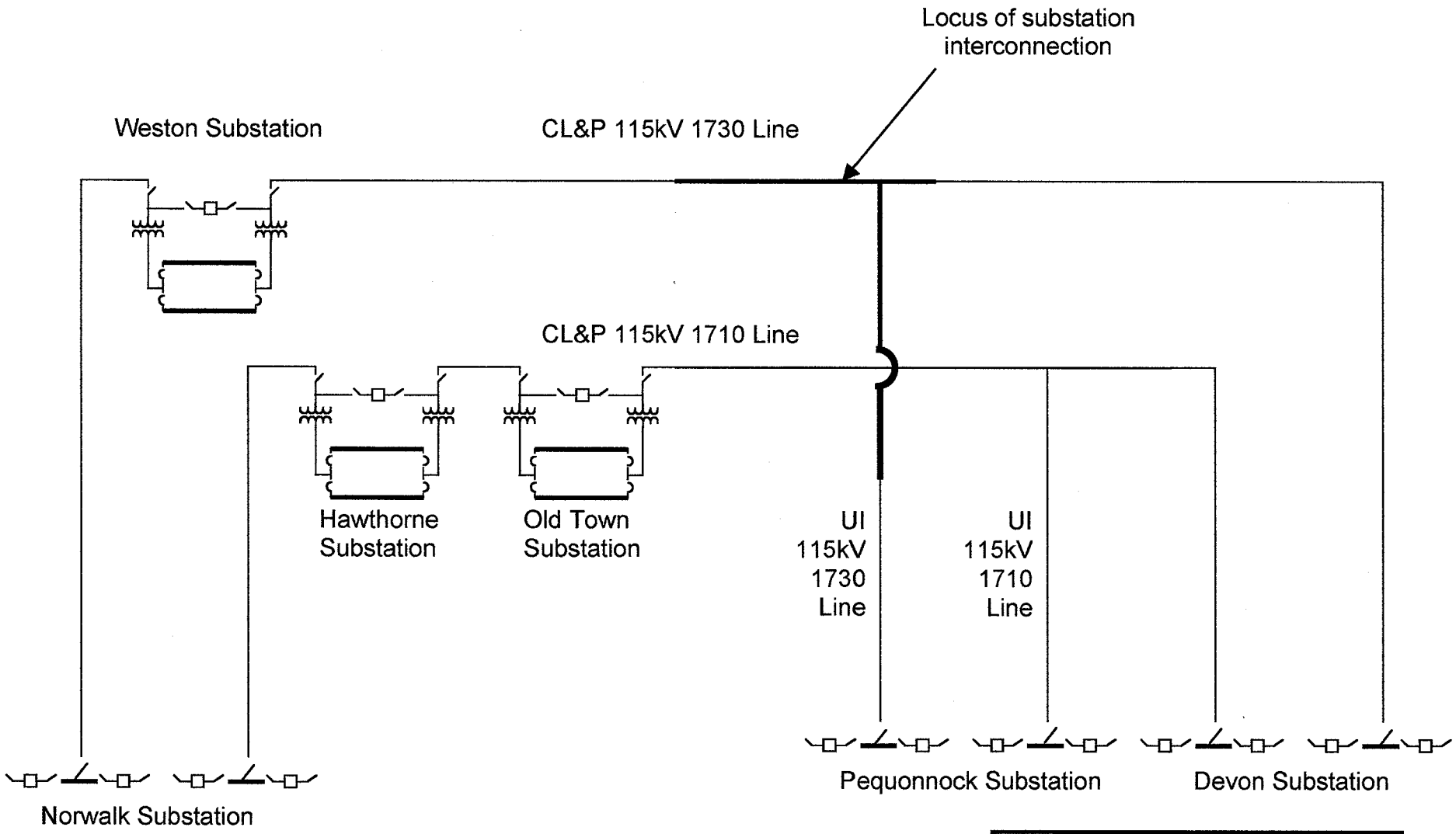


Exhibit 2.4

Trumbull Substation

Area Transmission System
One-Line Schematic Diagram

GDE 5/2/05

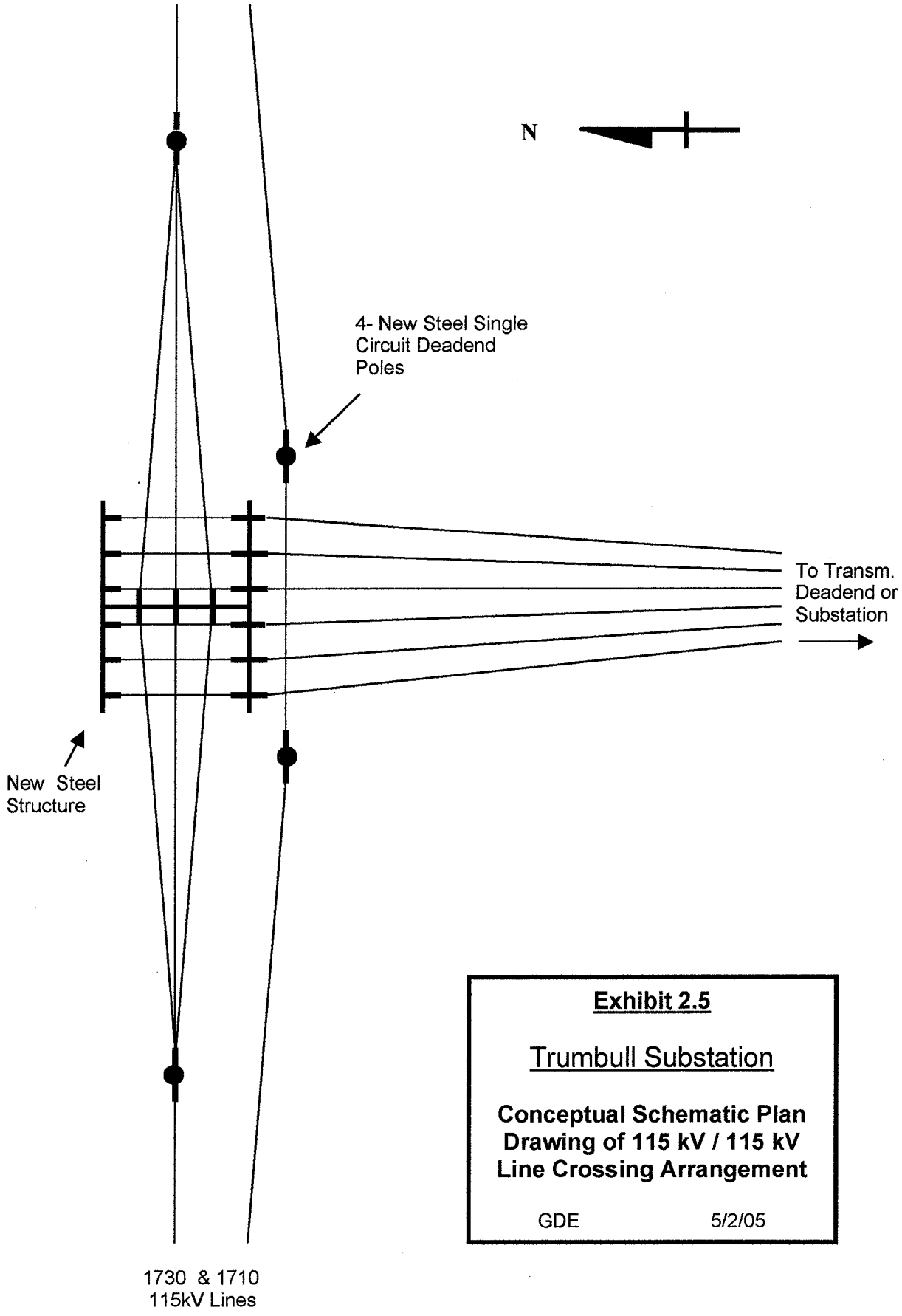


Exhibit 2.5

Trumbull Substation

Conceptual Schematic Plan Drawing of 115 kV / 115 kV Line Crossing Arrangement

GDE 5/2/05

Exhibit 2.6

Trumbull Substation
Cost Estimate for 115kV/115kV
Line Crossing Arrangement

(see Exhibit 2.5)

Item	Cost*
Steel Line Crossing Structure	$180,000
4 - 115 kV Single Circuit Steel Deadend Poles	$480,000
Foundations	$96,000
Insulators and Hardware	$24,000
Fencing and Grounding	$48,000
Subtotal	$828,000
Engineering, Contingencies and Overheads (35%)	$290,000
Total	$1,118,000

* All costs are UI Substation and Transmission Engineering 2002 cost estimates, escalated by 20% to reflect 2006 costs. This escalation factor is based on Handy-Whitman total transmission plant cost escalation indices for the US Northeast Atlantic Region. Engineering, To be consistent with other transmission cost calculations throughout the report, the factor for contingencies, engineering and overheads has been adjusted to be 35%.

GDE
4/4/06

Exhibit 2.7

Trumbull Substation

Overhead Transmission Line Base Cost Estimates

1. Double Circuit Structure Construction

Line Characteristics:	115-kV, double circuit tubular steel poles, 1272 kcmil, 400' spans, located within UI R/W, foundation construction in normal soil conditions with occasional ledge.	
Structure costs* including foundations (each):	Double circuit tangent	$102,000
	Double circuit angle	$138,000
	Double circuit deadend	$180,000
Total cost* for one mile of straight transmission line:	Conductors, insulators & hardware	$810,000
	12-Double circuit tangent poles	$1,224,000
	2-Double circuit deadend poles	$583,000
	Engineering, contingencies, & overheads @ 35%	$916,000
	Total cost	$3,533,000
	Limited-access highway crossing adder	$150,000

*All costs are UI Substation and Transmission Engineering 2002 cost estimates, based on the Bridgeport Bridge Project & Trans-Energie D.C Cable Relocation Project escalated by 20% to reflect 2006 costs. This escalation factor is based on Handy-Whitman total transmission plant cost escalation indices for the US Northeast Atlantic Region.

M. A. Pasha – UI 2/19/02
Rev. 4/1/06

Trumbull Substation

Overhead Transmission Line Base Cost Estimates

2. Twin Single Circuit Structure Construction

Line Characteristics:	115-kV, 2-single circuit tubular steel poles, 1272 kcmil conductor, 400' spans, takeoff spans located within UI R/W, otherwise line located within the boundaries of public roadway, foundation construction in normal soil conditions with occasional ledge.	
Structure costs* including foundations (each):	Single circuit tangent	$66,000
	Single circuit angle	$93,000
	Single circuit deadend	$120,000
Total cost* for one mile of straight transmission line:	Conductors, insulators & hardware	$858,000
	24-Single circuit tangent poles	$1,900,800
	4-Single circuit deadend poles	$777,600
	Engineering, contingencies, & overheads @ 35%	$1,237,700
	Total cost	$4,774,100
	Limited-access highway crossing adder	$150,000

*All costs are UI Substation and Transmission Engineering 2002 cost estimates, based on the Bridgeport Bridge Project & Trans-Energie D.C Cable Relocation Project escalated by 20% to reflect 2006 costs. This escalation factor is based on Handy-Whitman total transmission plant cost escalation indices for the US Northeast Atlantic Region.

M. A. Pasha – UI 2/19/02
Rev. 4/01/06

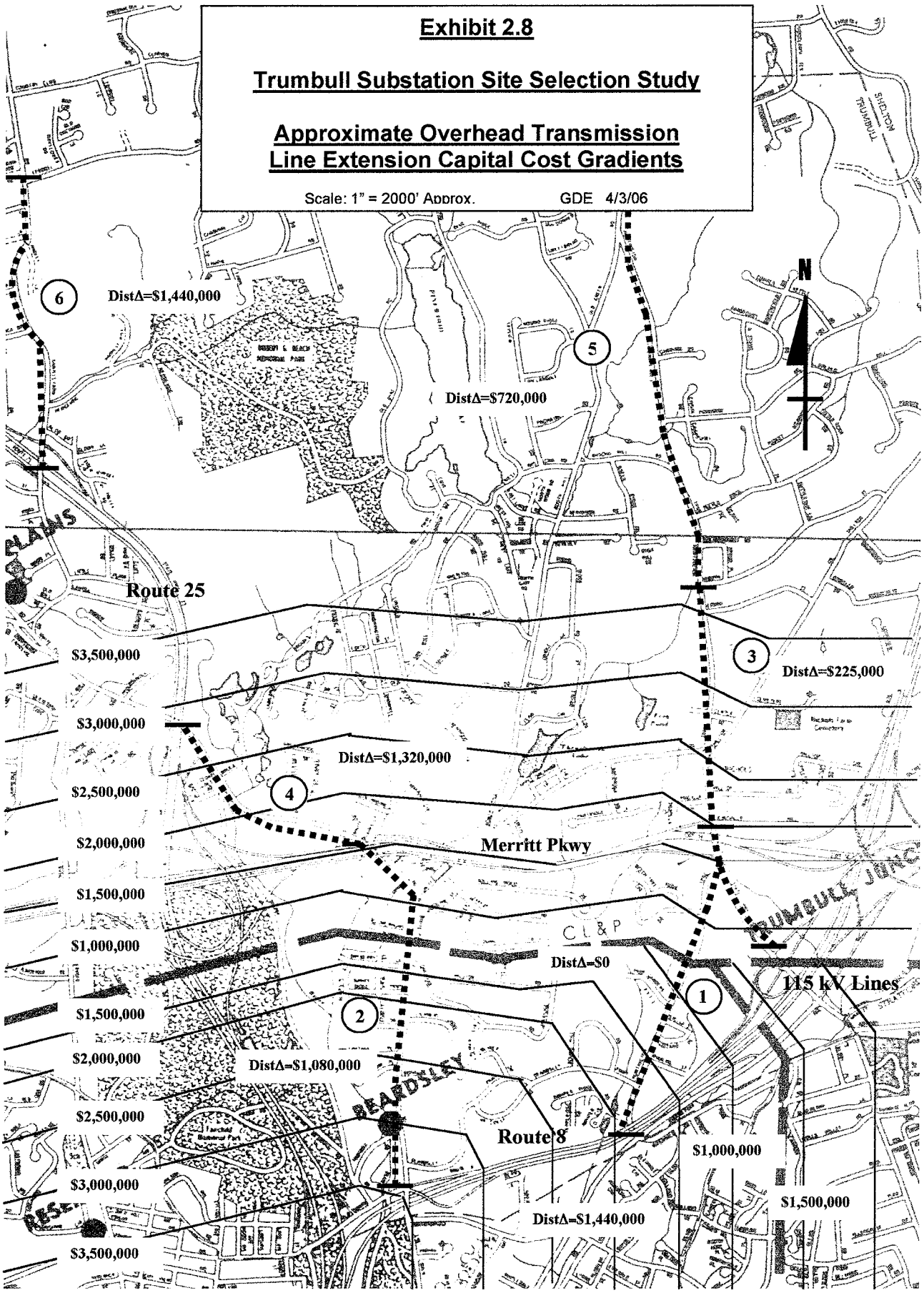


Exhibit 2.8
Trumbull Substation Site Selection Study
Approximate Overhead Transmission Line Extension Capital Cost Gradients
Scale: 1" = 2000' Approx.
GDE 4/3/06
N
6
DistΔ=$1,440,000
5
DistΔ=$720,000
Route 25
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$1,500,000
$2,000,000
$2,500,000
$3,000,000
$3,500,000
3
DistΔ=$225,000
DistΔ=$1,320,000
4
Merritt Pkwy
C L & P
DistΔ=$0
1
115 kV Lines
2
DistΔ=$1,080,000
BEARDSLEY
Route 8
$1,000,000
$1,500,000
DistΔ=$1,440,000

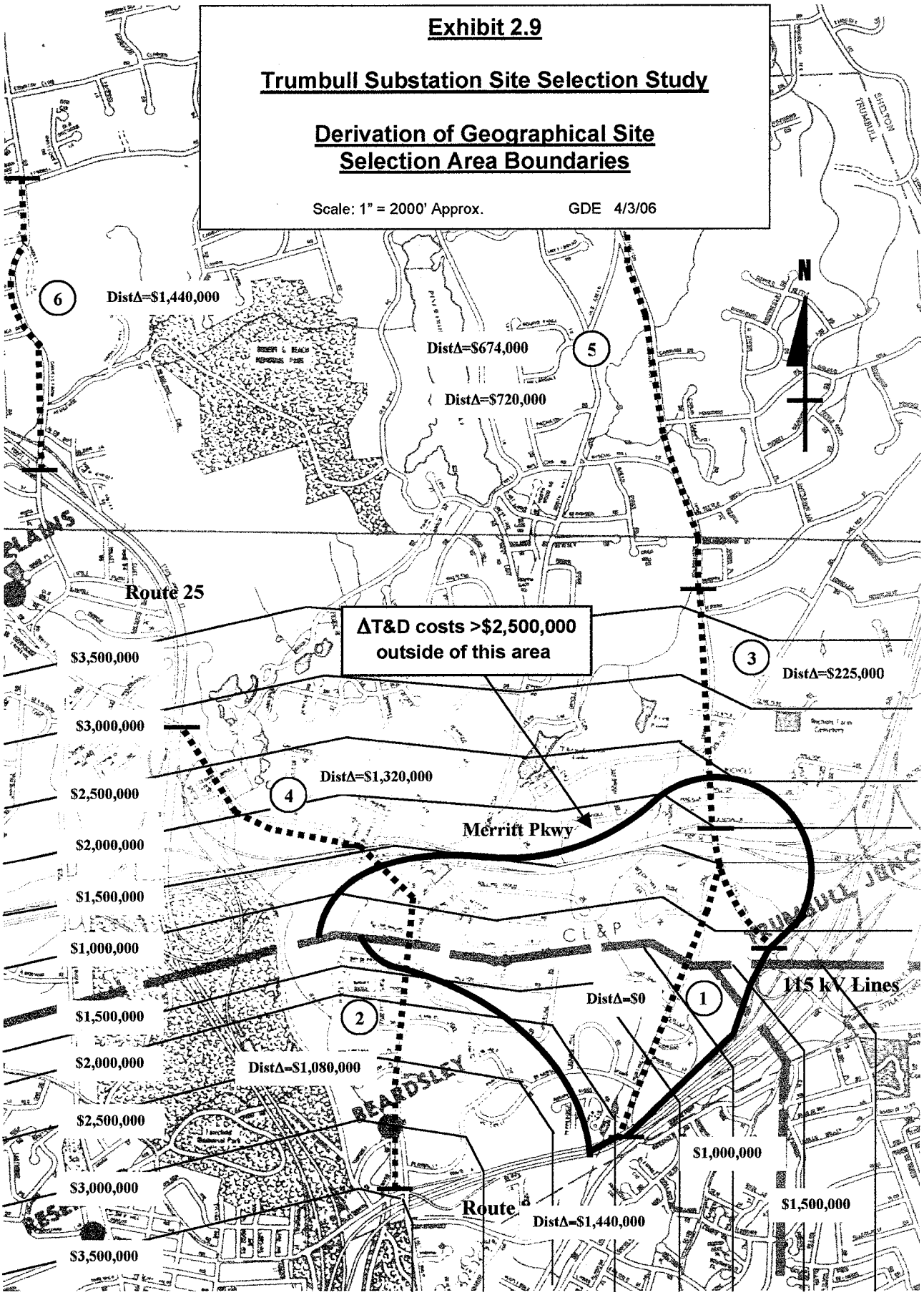


Exhibit 2.9
Trumbull Substation Site Selection Study
Derivation of Geographical Site Selection Area Boundaries
Scale: 1" = 2000' Approx.
GDE 4/3/06
N
6
DistΔ=$1,440,000
DistΔ=$674,000
5
DistΔ=$720,000
Route 25
ΔT&D costs >$2,500,000 outside of this area
3
DistΔ=$225,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$1,500,000
$2,000,000
$2,500,000
$3,000,000
$3,500,000
4
DistΔ=$1,320,000
Merritt Pkwy
C L&P
DistΔ=$0
1
115 kV Lines
2
DistΔ=$1,080,000
BEARDSLEY
$1,000,000
$1,500,000
Route 8
DistΔ=$1,440,000

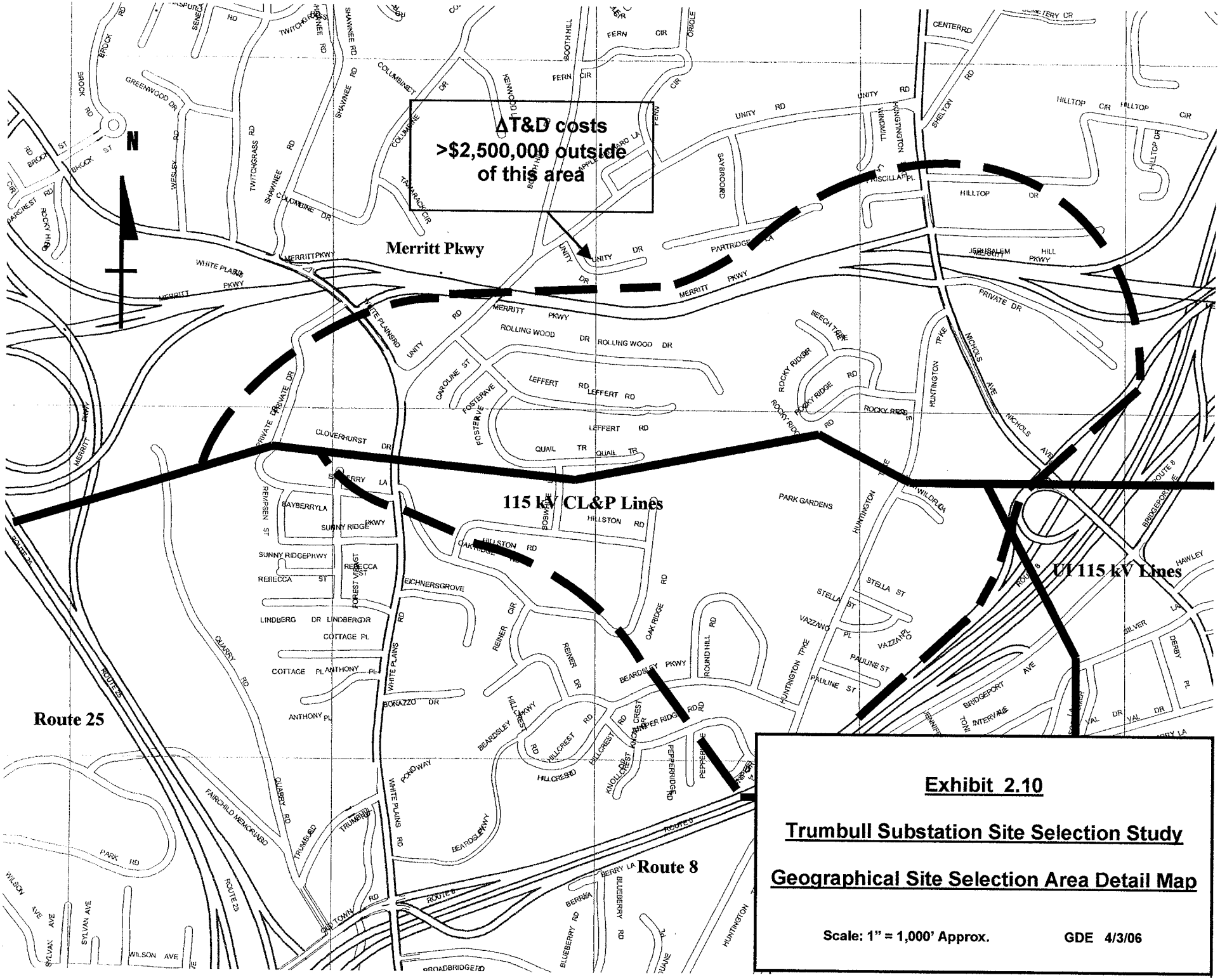


Exhibit 2.10

Trumbull Substation Site Selection Study

Geographical Site Selection Area Detail Map

Scale: 1" = 1,000' Approx. GDE 4/3/06

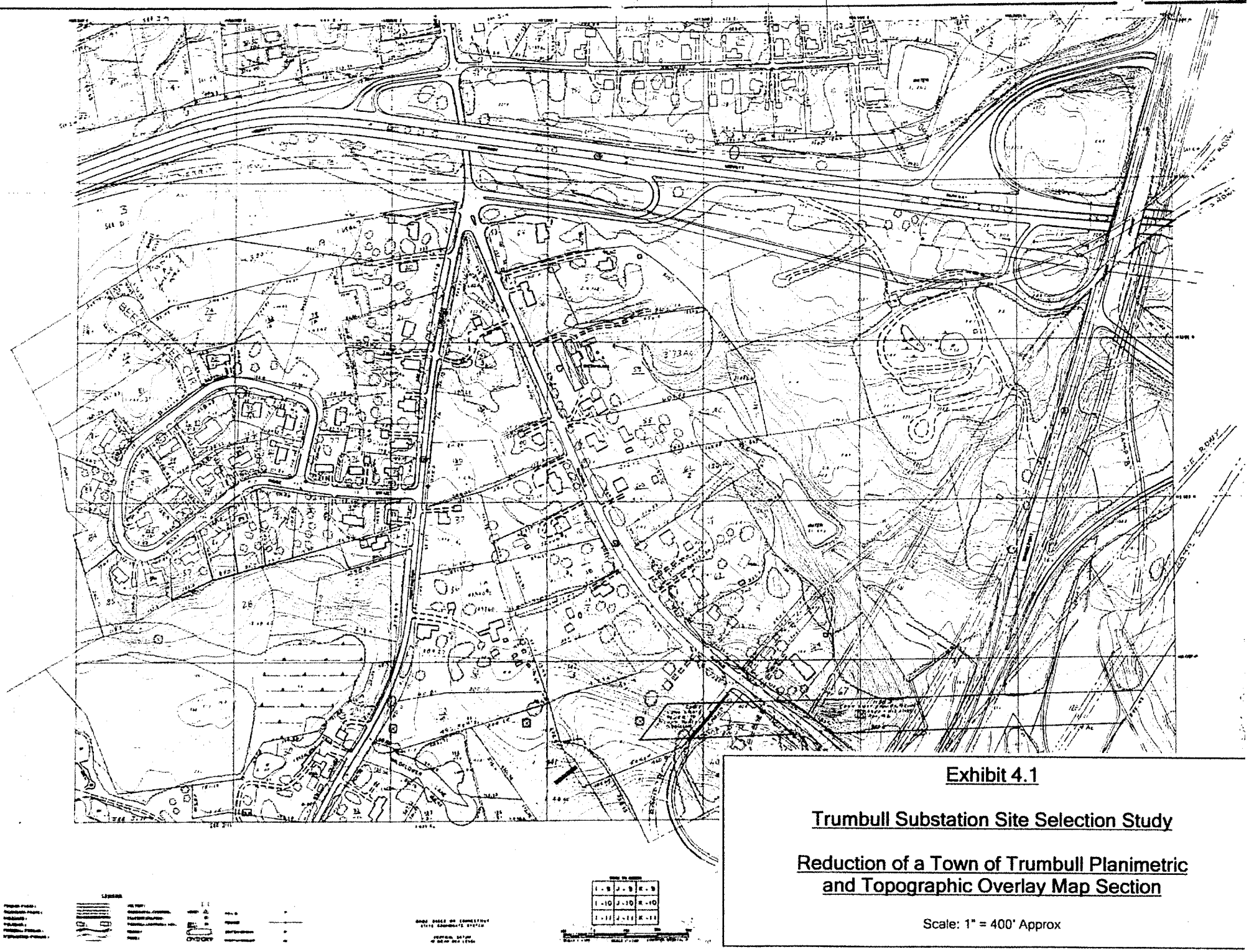


Exhibit 4.1

Trumbull Substation Site Selection Study

Reduction of a Town of Trumbull Planimetric and Topographic Overlay Map Section

Scale: 1" = 400' Approx

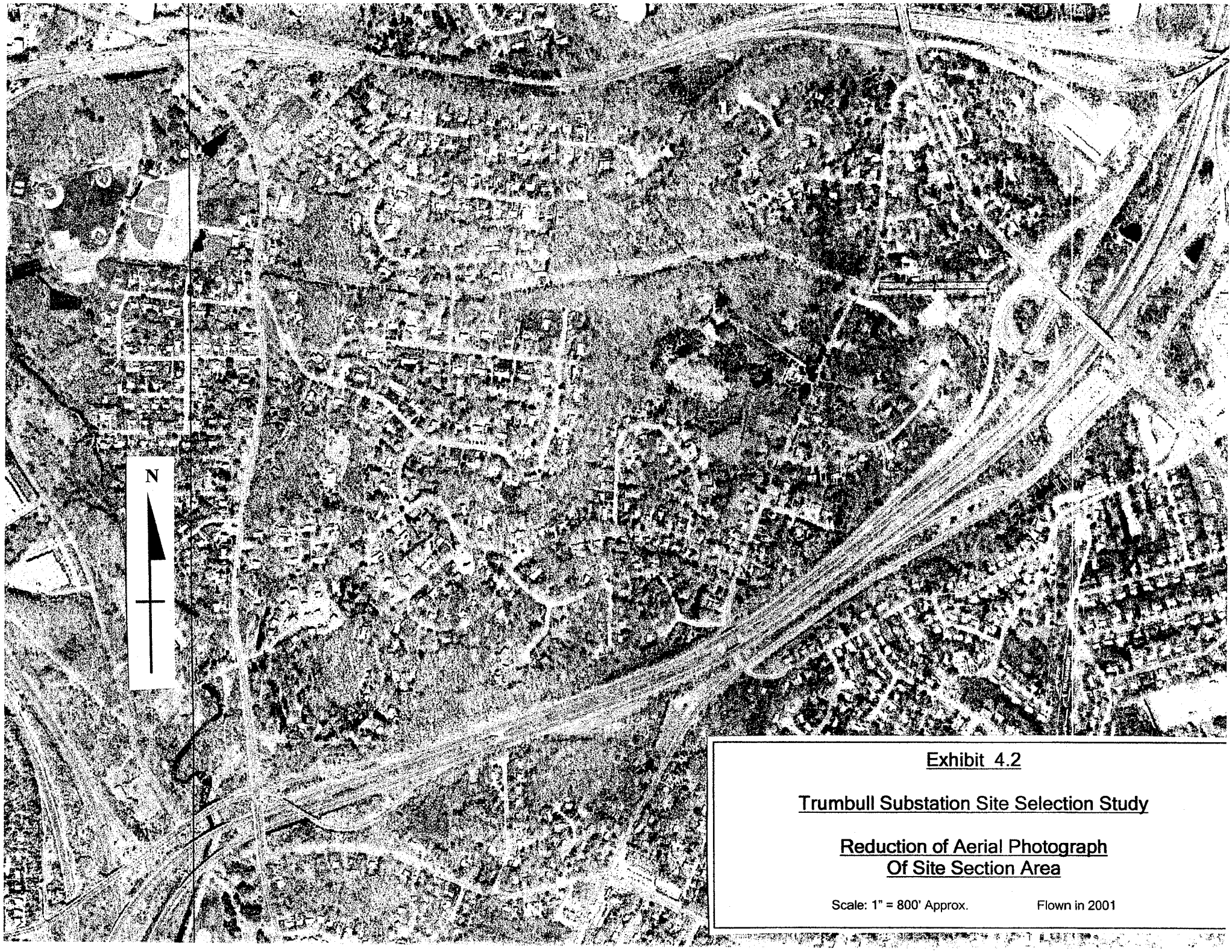


Exhibit 4.2

Trumbull Substation Site Selection Study

Reduction of Aerial Photograph
Of Site Section Area

Scale: 1" = 800' Approx. Flown in 2001

Exhibit 4.3

Trumbull Substation - Preliminary List of Possible Site Locations

Site Location Number	Street Address	Owner	Trumbull Assessors Map	Assessors Designation	Total Land Area at Location (Acres)
1	3-7 Wildflower Lane	UI	J10	141, 135/1, 136/2	4.85
2	CT Route 8	State of CT	J10	CT Rte 8	>>1
3	2878 Nichols Avenue	City Line Florist	J10	59	3.73
4	Huntington Turnpike	Town of Trumbull	J10	28	13.08
5	1445 Huntington Turnpike	n/f Mary Bill	J11	137	23.30
6	Rocky Ridge Drive	Town of Trumbull	I10	162	20.60
7A	330-336 White Plains Road	Stephen Chisarik	I10	14	4.82
7B	364 White Plains Road	Unity Hill Church	I10	12	2.52
8	Unity Park	Town of Trumbull	H10, I10	21, 185, 186	34.31
9	Huntington Turnpike	State of CT	J10, I10	Merritt Pkwy	>>1
10	1460 Huntington Turnpike	Armenian Church	J11	47	2.77
11	Quarry Road (Last parcel)	Francis F. & Joan D'Addario	H10	17	3.80

GDE4/13/06

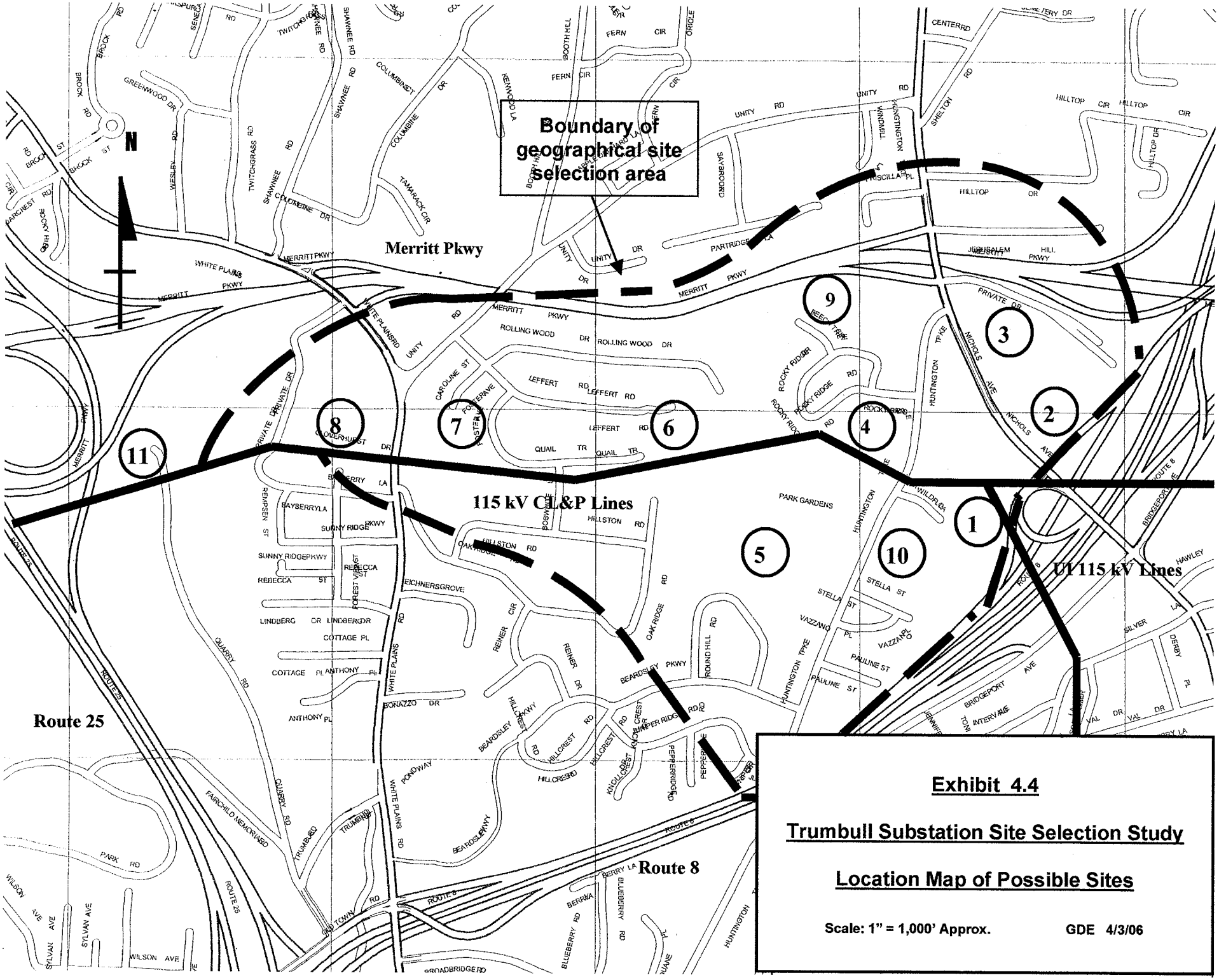


Exhibit 4.4

Trumbull Substation Site Selection Study

Location Map of Possible Sites

Scale: 1" = 1,000' Approx. **GDE 4/3/06**

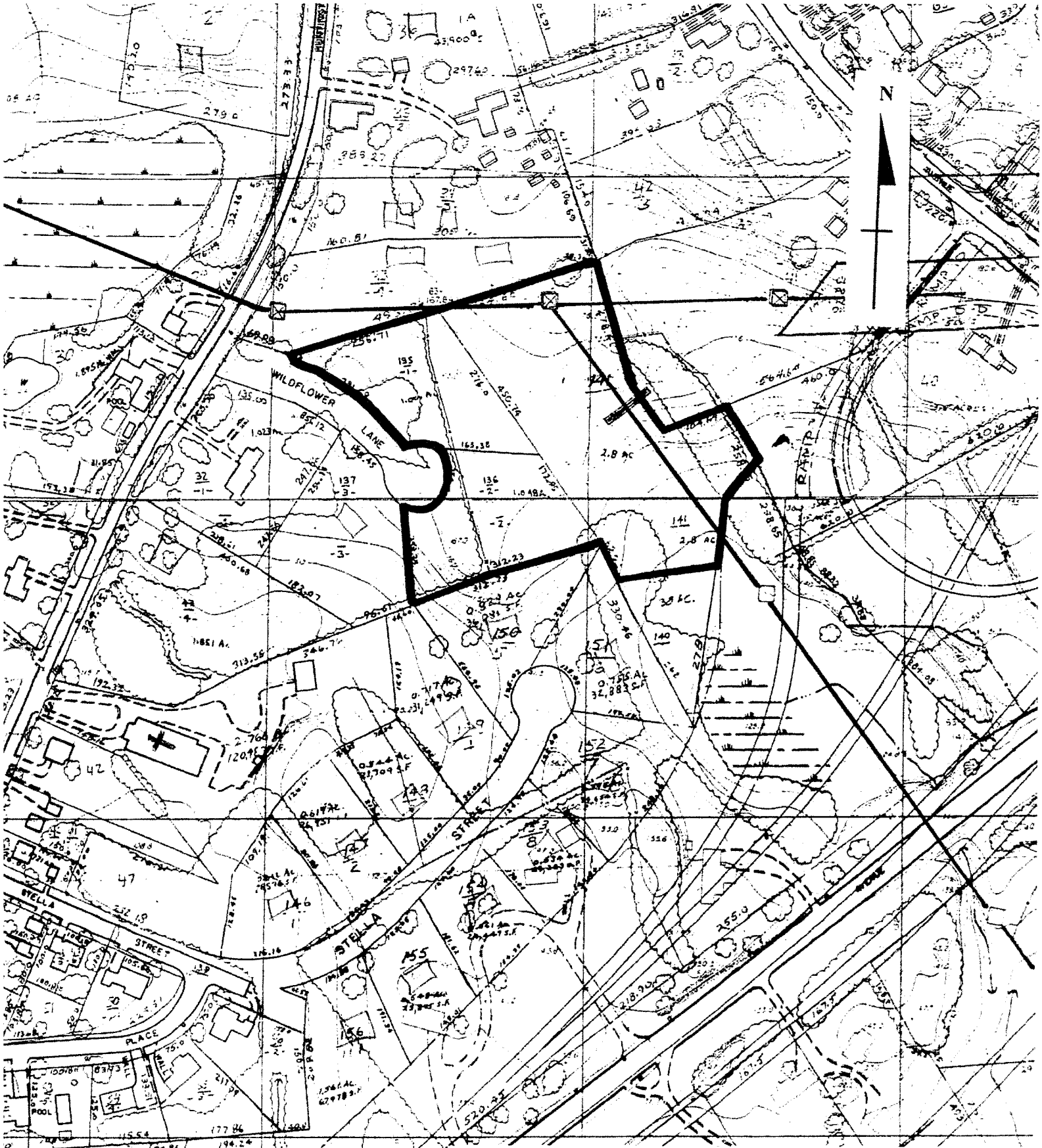


Exhibit 4.5.1

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 1

Scale: 1" = 200' Approx. GDE 7/10/02

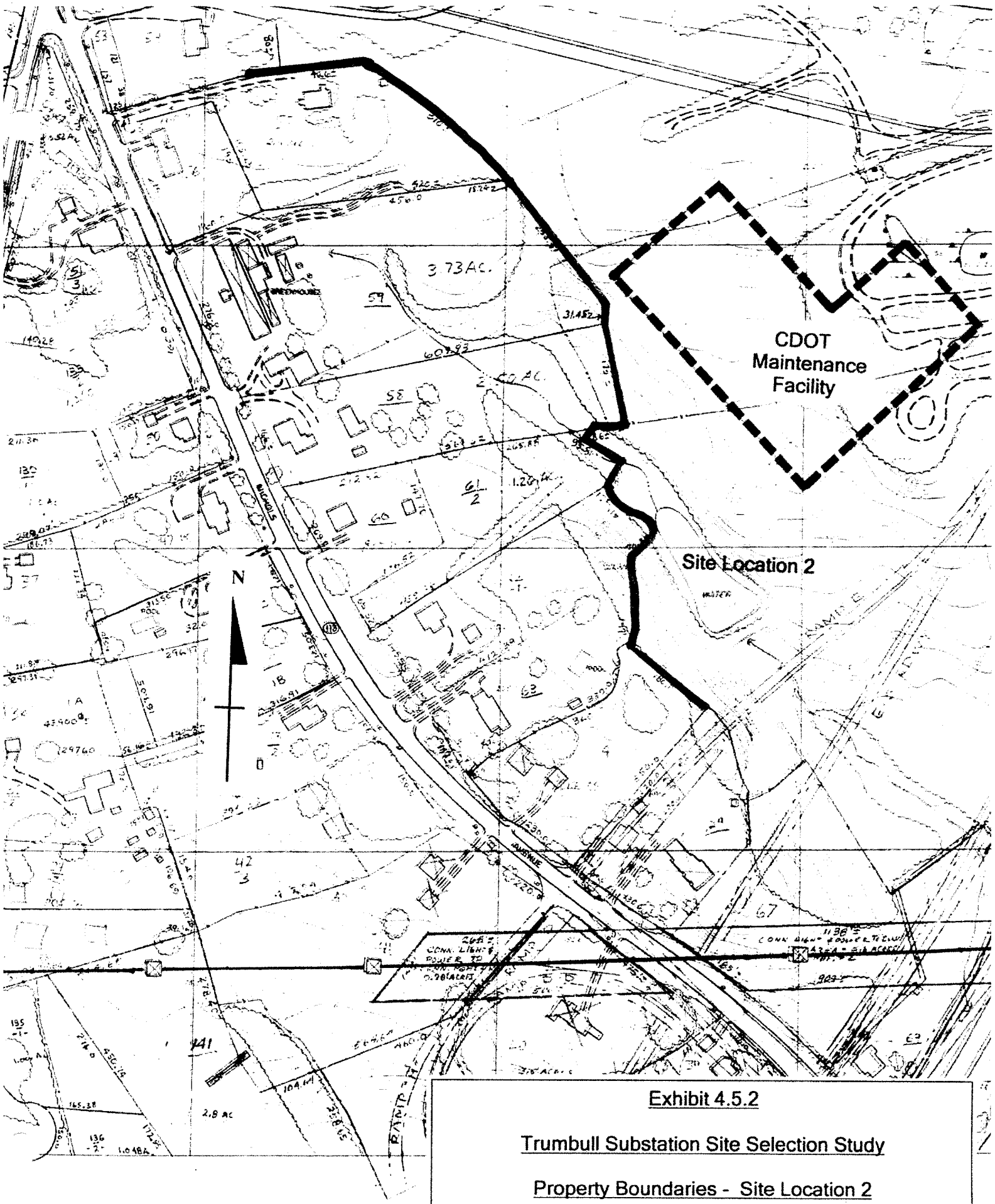


Exhibit 4.5.2

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 2

Scale: 1" = 200' Approx. GDE 7/10/02

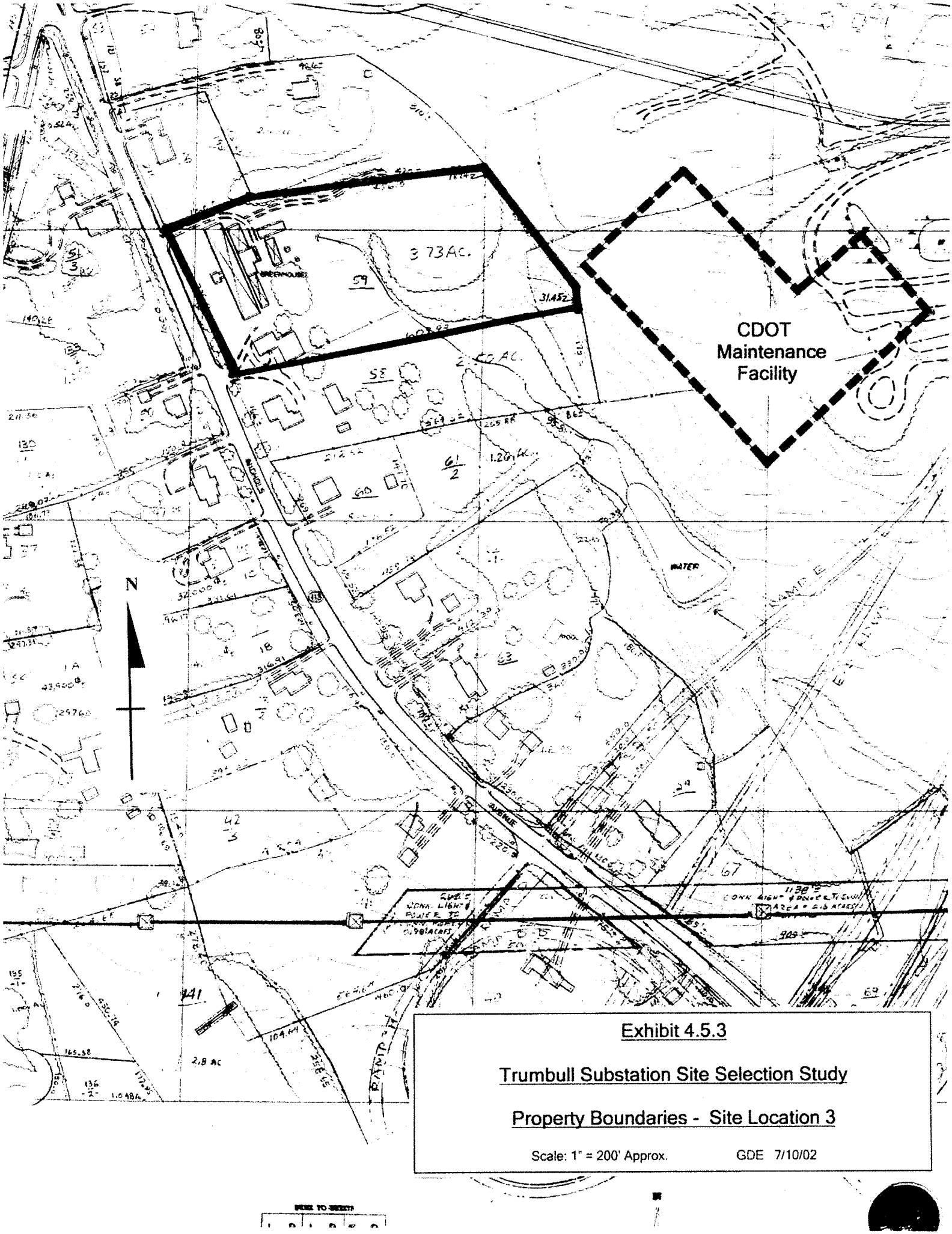


Exhibit 4.5.3

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 3

Scale: 1" = 200' Approx. GDE 7/10/02

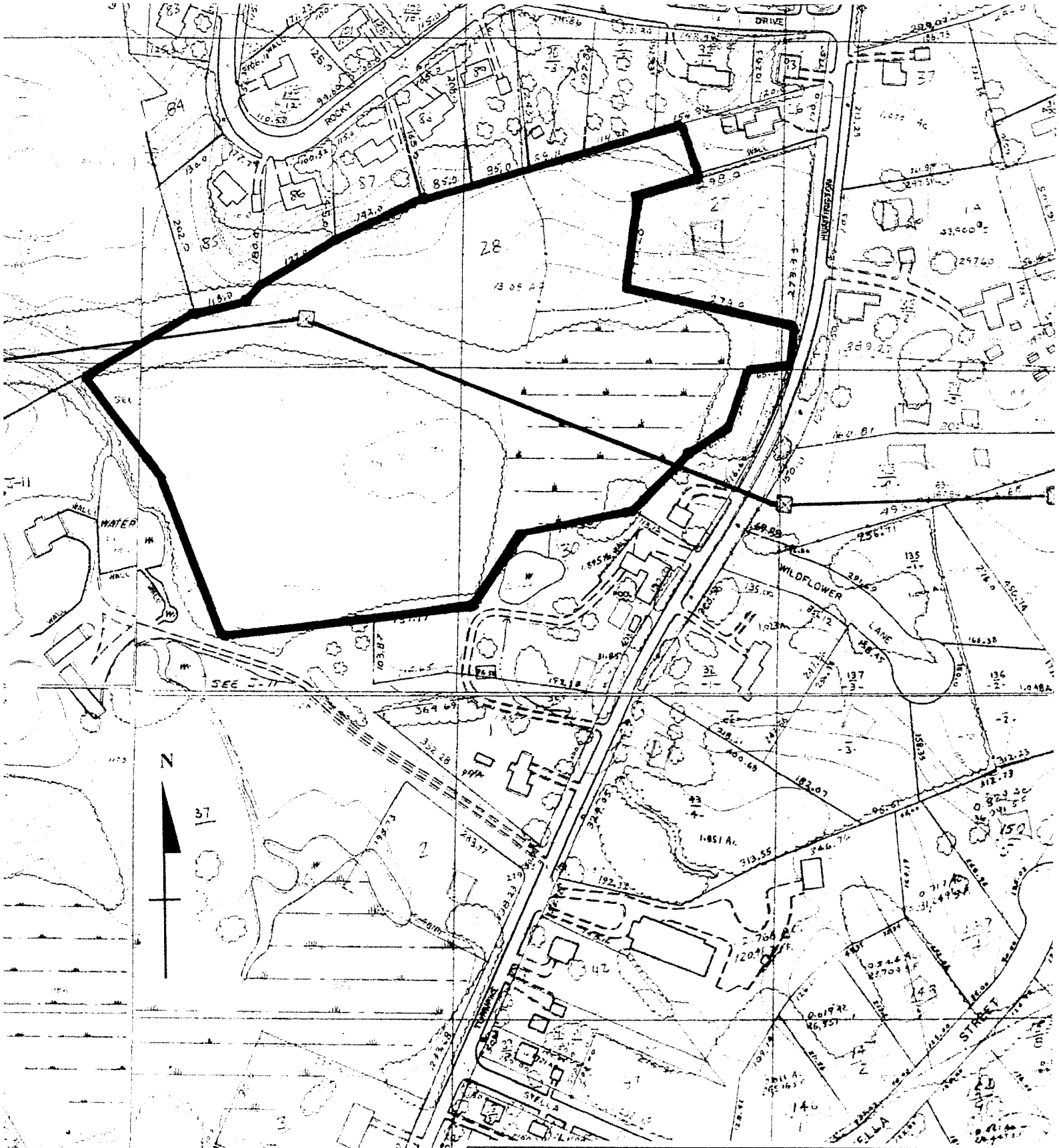


Exhibit 4.5.4

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 4

Scale: 1" = 200' Approx. GDE 7/10/02

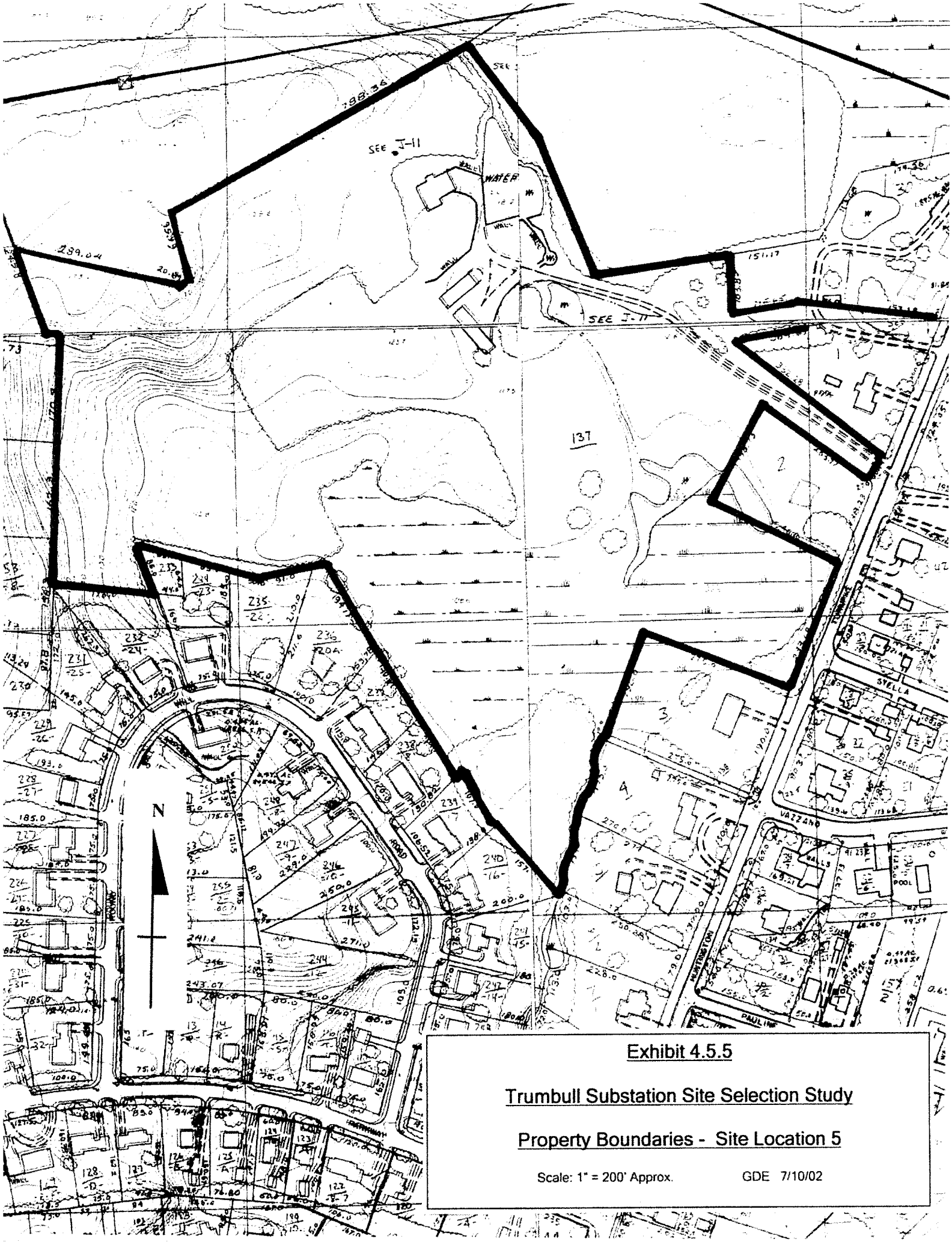


Exhibit 4.5.5

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 5

Scale: 1" = 200' Approx. GDE 7/10/02

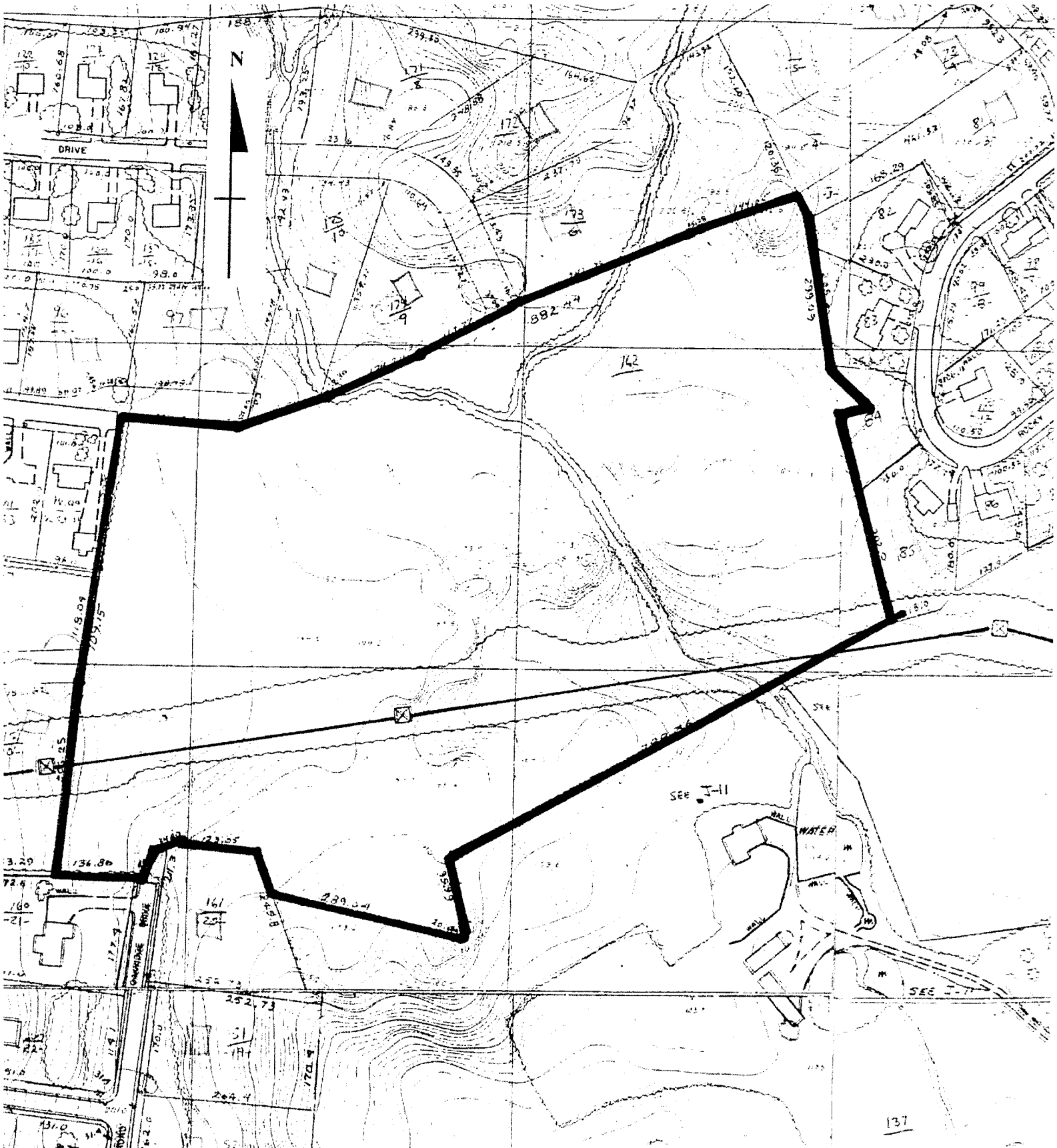
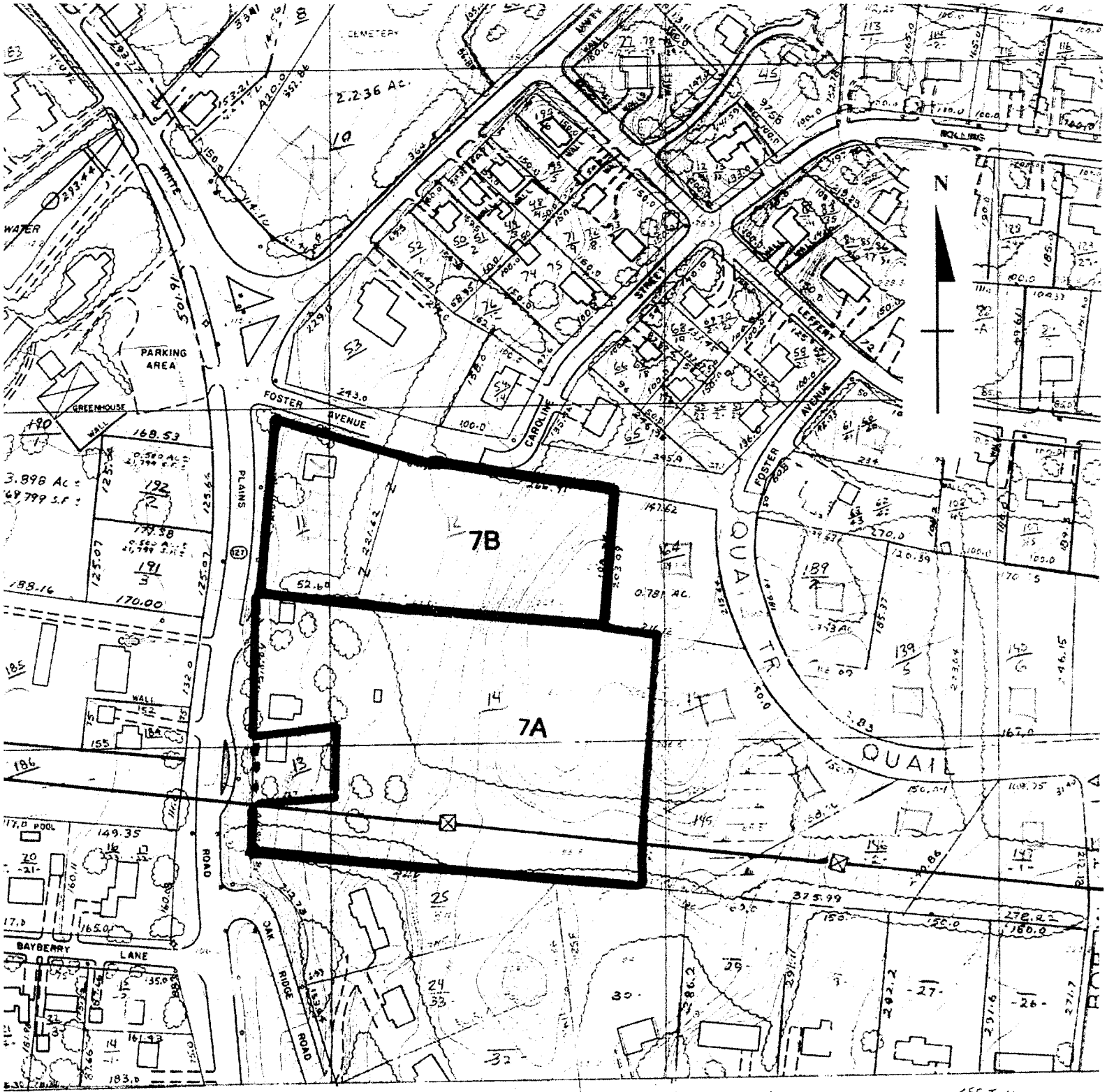


Exhibit 4.5.6

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 6

Scale: 1" = 200' Approx. GDE 7/10/02



LEGEND

CULVERT
BOREHOLE/ROCK CORE
TRAVERSE STATION
VERTICAL CONTROL - MBL
TREES
TREES
UTILITY POLE
FENCE
CATCH BASIN
FIRE HYDRANT

Exhibit 4.5.7

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 7

Scale: 1" = 200' Approx. GDE 7/10/02

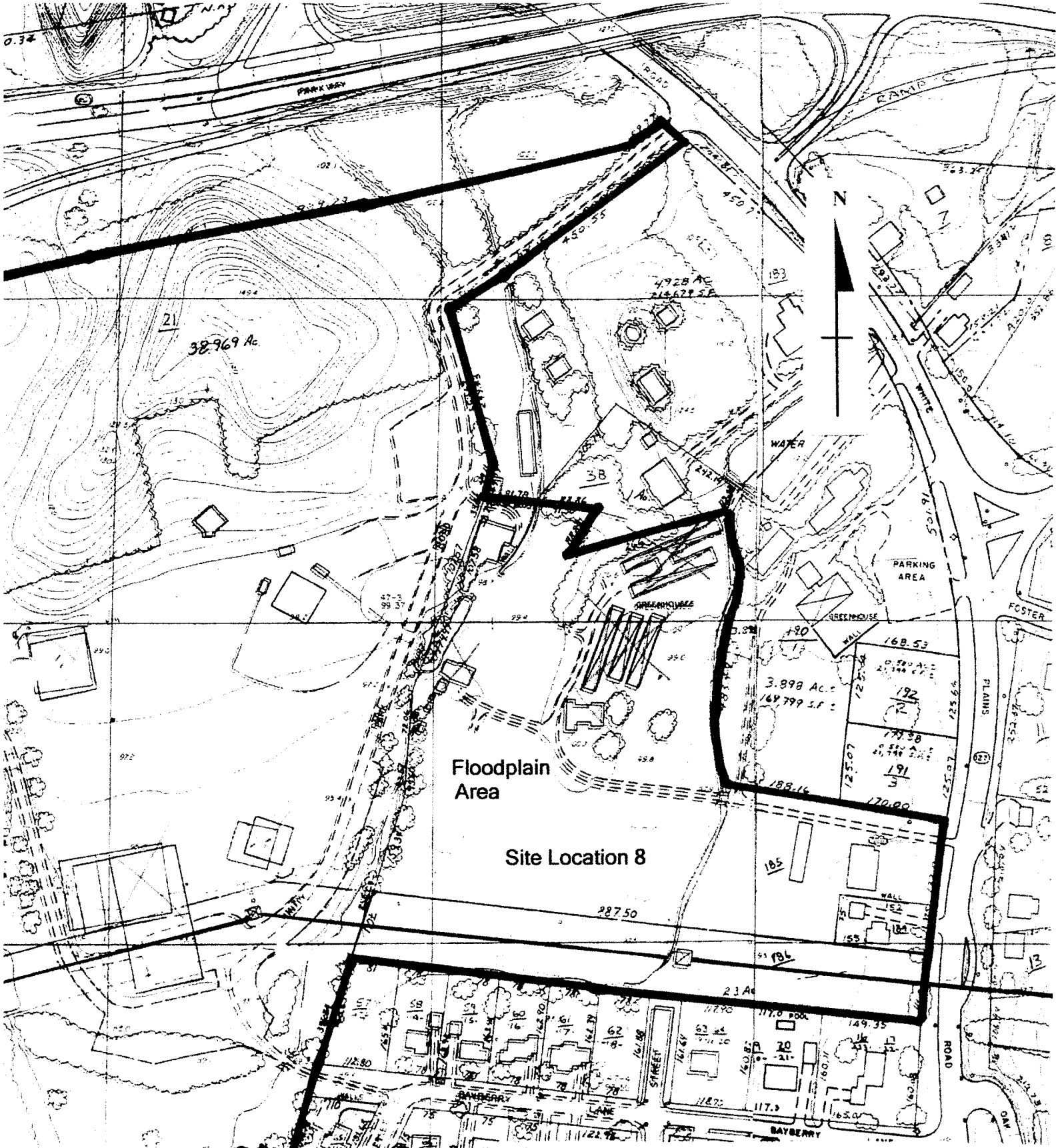


Exhibit 4.5.8

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 8

Scale: 1" = 200' Approx. GDE 7/10/02

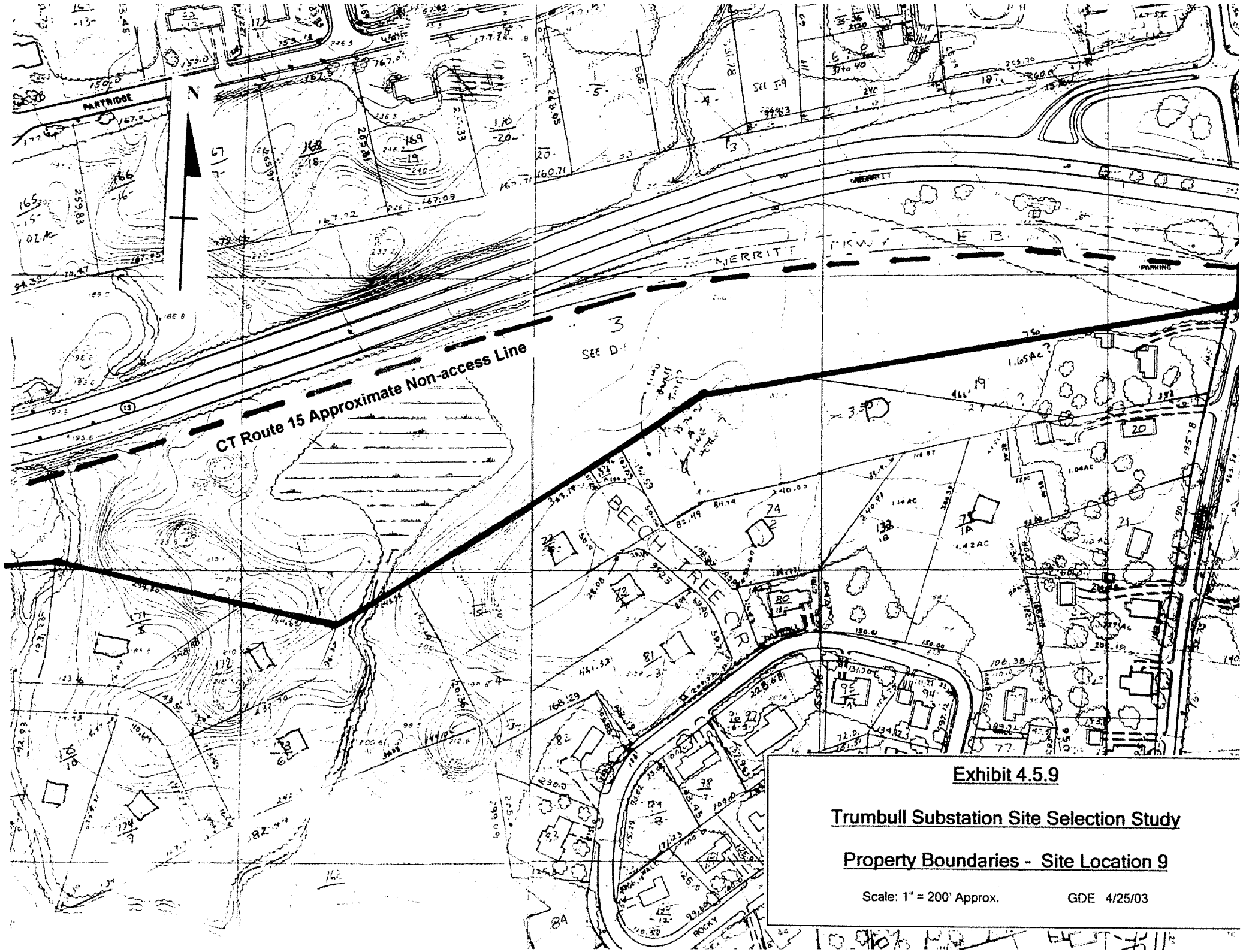


Exhibit 4.5.9

Trumbull Substation Site Selection Study

Property Boundaries - Site Location 9

Scale: 1" = 200' Approx. GDE 4/25/03

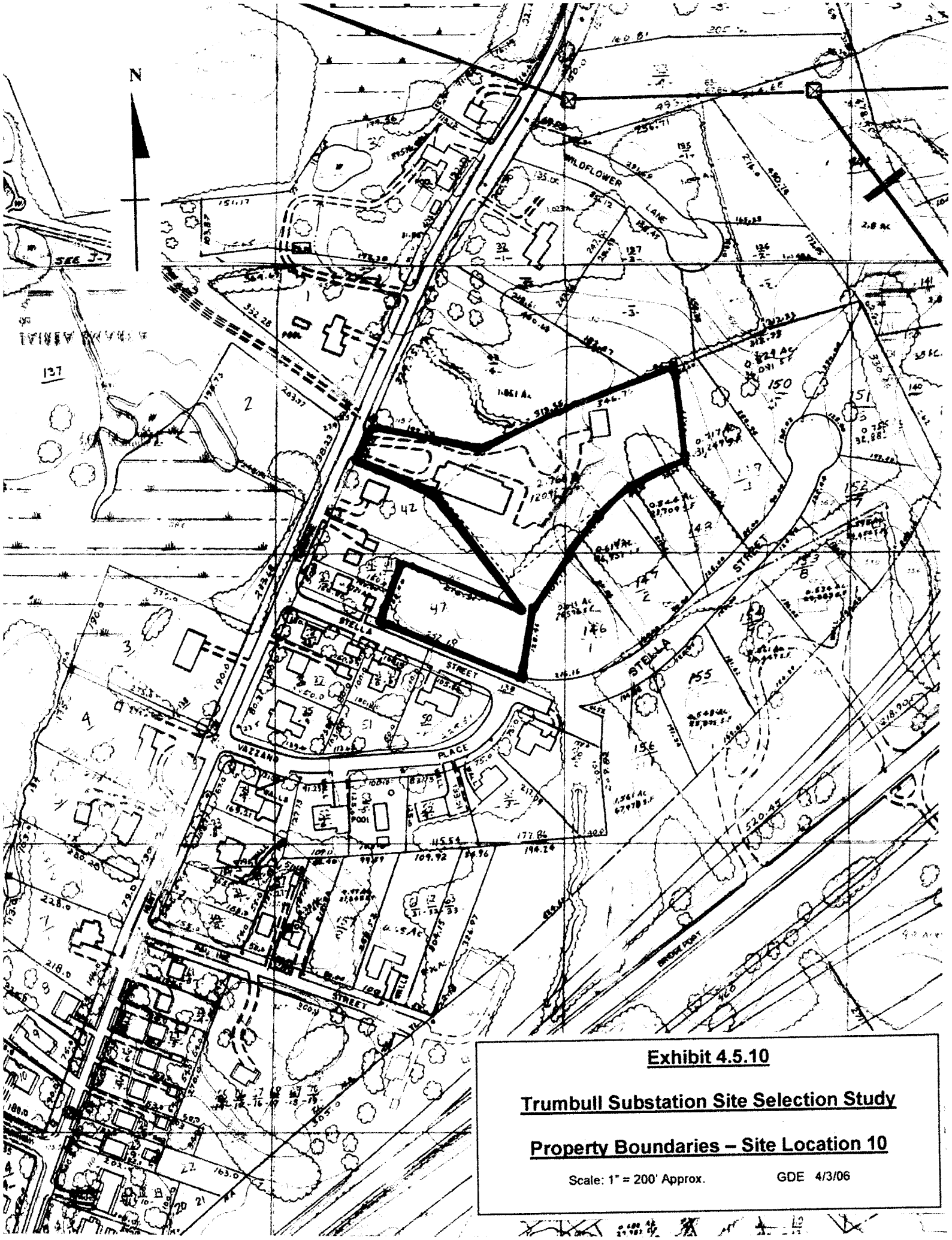


Exhibit 4.5.10

Trumbull Substation Site Selection Study

Property Boundaries – Site Location 10

Scale: 1" = 200' Approx. GDE 4/3/06

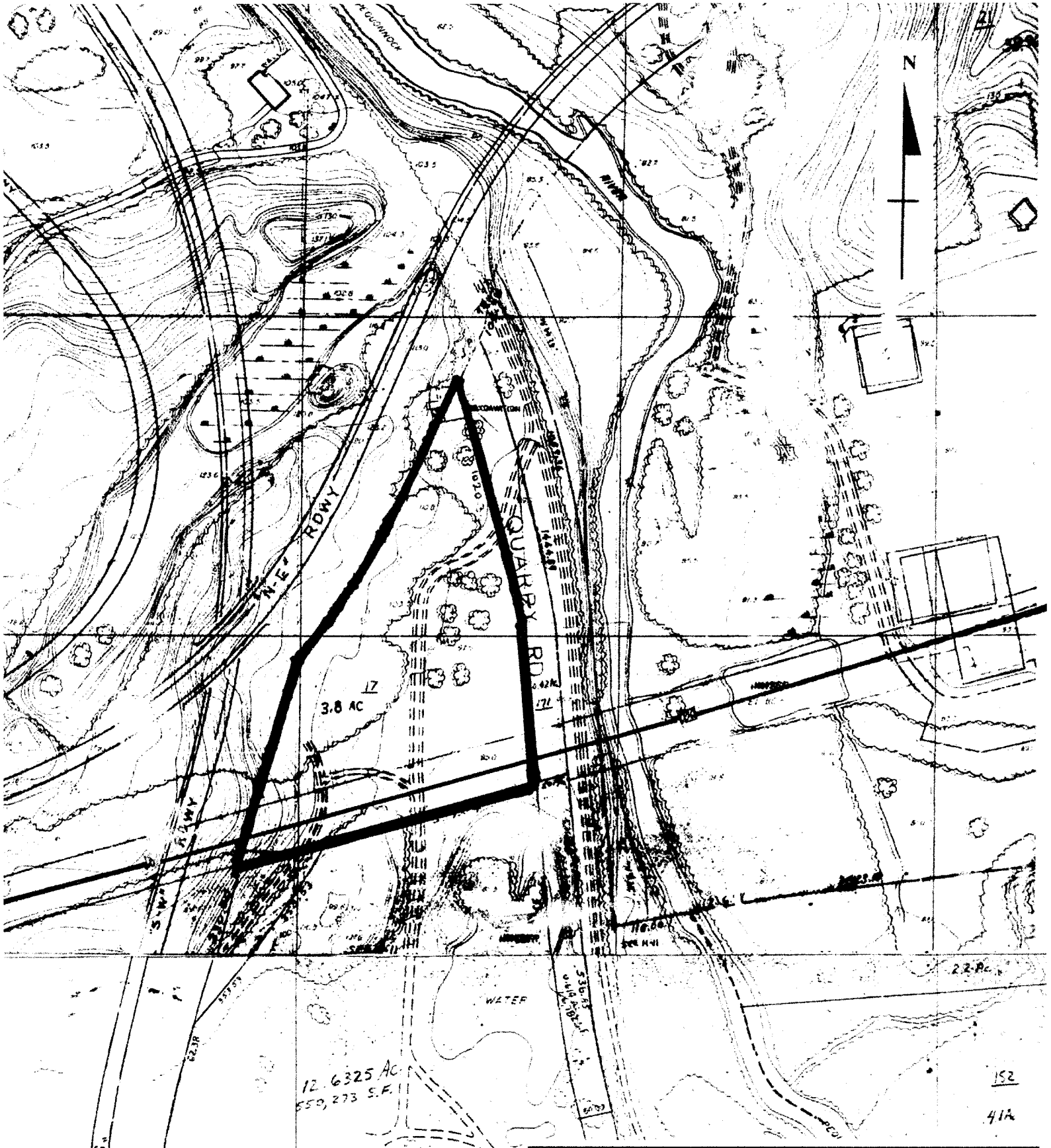


Exhibit 4.5.11

Trumbull Substation Site Selection Study

Property Boundaries – Site Location 11

Scale: 1" = 2000' Approx. GDE 4/3/06

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11401 Lamar Avenue
Overland Park, KS 66211

Date: 04/11/2006
By: Shane Miller
Energy Dept.
Project: 141417.23.0000

Exhibit 4.6

Trumbull Substation Site Selection Study

Estimate of Underground Transmission Supply to Site 10

UI
Trumbull
115kV HPGF
141417.23.0000
11-Apr-06

HPGF TRANSMISSION LINE
COST ESTIMATE - CLIENT SUMMARY

Site Location 10

CODE	CATEGORY	MATERIAL	LABOR	TOTAL
T1	SURVEYING (includes construction staking)	$0	$9,848	$9,848
T2	SOIL INVESTIGATION	$0	$22,800	$22,800
T7	RISER STRUCTURES	$114,400	$78,000	$192,400
T8	TRENCHING / DUCTBANK / CIVIL WORK	$229,701	$791,919	$1,021,620
T9B	PIPE TYPE CABLE SYSTEM AND PIPE	$1,191,644	$1,552,669	$2,744,313
T10	COMMUNICATION FIBER OPTIC CABLE SYSTEM	$5,000	$4,500	$9,500
T14	RISER FOUNDATIONS	$29,322	$33,510	$62,832
	SUBTOTAL	$1,570,066	$2,493,247	$4,063,313
	25% CONTINGENCY	$392,516	$623,312	$1,015,828
	SUBTOTAL	$1,962,582	$3,116,559	$5,079,141
	MATERIAL TAX			$122,661
	ENGINEERING			$242,799
	CONSTRUCTION MANAGEMENT			$323,325
	GENERAL EXPENSES (Insurance & Direct Cost Overheads)			$28,382
	SUBTOTAL	$1,962,582	$3,116,559	$5,796,309
	8% PROFIT MARGIN	$157,007	$249,325	$463,705
	TOTAL	$1,962,582	$3,116,559	$6,260,014

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Project: 141417.23.0000

UI
Trumbull
115kV HPGF
141417.23.0000
11-Apr-06

Site Location 10

HPGF TRANSMISSION LINE
COST ESTIMATE
CLARIFICATIONS & ASSUMPTIONS

Electrical Transmission System

1.) Based on first quarter 2006 dollar values.

2.) Based on a total route length of .76 miles.

3.) Does not include permitting, ROW or Land Acquisition costs.

4.) Includes 0% rock for trench and 0% for splice chambers.

5.) Assumes 100% of the route will require shoring.

6.) Based on using a lean concrete Flowable backfill with a 100-250 psi rating.

7.) No contaminated soil or water was included.

8.) No utility relocations were included.

9.) Based on 150' per day of trenching.

10.) 20' width is included for refinishing of road for 1000' of trench.

11.) Includes General Expences: Builders Risk Insurance, General Liability Insurance and Bid Bond.

12.) Includes no HDD or J&B.

13.) Riser structures are included.

Cost Code	Description	Unit	Qty	Total Cost
T1	**SURVEYING**			
	AERIAL	MI	0.38	$7,576
	CONSTRUCTION STAKING	LOT	0.38	$2,273
	Subtotal			$9,848
T2	**SOIL INVESTIGATION**			
	SOIL BORINGS	EA	4	$2,400
	TESTING ALLOWANCE	LOT	4	$8,400
	MOBILIZATION	EA	1	$5,000
	Geotherm Testing	EA	4	$7,000
	Subtotal			$22,800

Job Account	Description	Unit	Qty	Total Cost
T7	**STRUCTURES**			
	TRANSITION STRUCTURE - RISER POLE			
	115kV STEEL POLE	EA	4	$124,000
	CONDUIT RISER ASSEMBLY	EA	4	$60,000
	CONDUCTOR DEADEND ASSEMBLY	EA	4	$4,600
	CONDUCTOR JUMPER ASSEMBLY	EA	4	$3,800
	Subtotal			$192,400

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Date: 04/11/2006
By: Shane Miller
Energy Dept.
Project: 141417.23.0000

Job Account	Description	Unit	Qty	Total Cost
T8	**TRENCHING**			
	SubContractor Mobilization/Demobilization	ea	1	$100,000
	Potholing	ea	25	$23,775
	Excavation - Manholes (Type 1)	cyd	231	$40,560
	Manhole (Type 1)	ea	2	$118,000
	Saw Cutting, Asphalt	ft	2,000	$5,800
	Pavement Demolition	sft	4,000	$8,000
	Dewatering - Clean Groundwater	lft	2,000	$6,000
	Excavation Duct Bank (Urban, 100'/day)	cyd	556	$20,833
	Excavation Duct Bank (Suburban, 150'/day)	cyd	556	$37,500
	Shoring for trench	sft	24,000	$180,000
	Shoring for Manhole	sft	1,520	$22,800
	Haul and Dispose Class 3	cyd	787	$31,467
	Plating	LOT	1,000	$6,000
	Traffic Control (Suburban)	days	60	$78,000
	4" SCH 40 PVC Conduit	ft	4,120	$33,990
	4" PVC Elbow, 6' Minimum Radius	ea	4	$2,640
	2" SCH 40 PVC Conduit	ft	4,120	$22,660
	2" PVC Elbow, 6' Minimum Radius	ea	4	$2,560
	Concrete Encasement (less conduit area)	cyd	197	$23,118
	Backfill (FTB)	cyd	833	$97,917
	Pavement/Concrete Repair	sft	2,500	$5,000
	Hand Excavation Premium (6' deep)	ft	100	$6,750
	Cable Marking Tape	ft	2,000	$1,000
	Backfill Testing (1 test every 100')	mi	20	$30,000
	Road Pavement Refinishing	sft	20,000	$80,000
	Fencing	ft	50	$1,250
	Police Protection	Day	60	$36,000
	Subtotal			$1,021,620

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11401 Lamar Avenue
Overland Park, KS 66211

Date: 04/11/2006
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Project: 141417.23.0000

Cost Code	Description	Unit	Qty	Total Cost
T9A	**PIPE TYPE CABLE SYSTEM**			
	UNDERGROUND CABLE AND ACCESSORIES - PIPE TYPE			
	115kV Cable 1750 KCMIL Cu, HPGF	LF	**13,054**	$713,980
	Spare 115kV Cable 1750 KCMIL Cu, HPGF	LF	700	$35,700
	Joint Repair Sleeves	EA	50	$2,610
	Vertical Spreaderheads	EA	4	$59,520
	Stainless Steel Riser Pipe	LF	300	$49,200
	8" Grade "A" Pre coated and flared Pipe	LF	**4,000**	$656,000
	Gas Pressurization Control Unit	EA	1	$50,000
	Nitrogen Gas	CF	13,000	$10,660
	345 kV Pipe-Type Cable Terminator	EA	12	$458,434
	Spare 115kV Pipe-Type Cable Terminator	EA	1	$20,000
	115 kV Pipe-Type Cable Joint	EA	4	$460,315
	Spare 115 kV Pipe-Type Cable Joint	EA	1	$18,000
	DC Hi POT Test	EA	2	$12,134
	Manufacturer's Services	EA	**35**	$42,000
	2" GAS line	EA	400	$10,400
	Field Flairs	EA	4	$3,200
	8" pipe weld, including chill rings	EA	50	$20,000
	Certify Pipe	EA	6	$60,000
	CATHODIC PROTECTION			
	2" Conduit for TC wire (includes trenching costs)	EA	60	$5,160
	Thermocouple wire	FT	100	$1,500
	Test Stations	EA	2	$1,000
	Protection Anodes	EA	2	$4,500
	Rectifyer	EA	1	$5,000
	Anode Bed	EA	1	$35,000
	AC/DC Blocking Devise	EA	1	$10,000
	Subtotal			$2,744,313

Cost Code	Description	Unit	Qty	Total Cost
T10	**FIBER SYSTEM**			
	Fiber Optic Cable (48 Fiber)	ft	**2,000**	$9,500
	Subtotal			$9,500

Job Account	Description	Unit	Qty	Total Cost
T14	**FOUNDATIONS DRILLED PIER (W/Anchor Bolts or Stubs)**	CUYDS	**56**	$62,832
	Subtotal			$62,832

Exhibit 5.1.1

Trumbull Substation Site Selection

Comparison of Possible Site Locations

T & D Considerations

Site Loc #	Transm. Line Tap Structure	Transm Access to Subst*	Distrib Access to Street*	Transm. Supply Line	Transm. Line Tap	Estimated Total Transm.	Distrib. System	Total T&D
1	None	Direct	Direct	$0	$0	$0	$0	**$0**
2	DE Poles	800' on R/W	400' on R/W	$790,000	$1,118,000	$1,908,000	$360,000	**$2,268,000**
3	DE Poles	1600' on R/W	400' on R/W	$1,335,000	$1,118,000	$2,453,000	$360,000	**$2,813,000**
4	DE Poles	Direct	400' on R/W	$0	$486,000	$486,000	$300,000	**$786,000**
5	115kV/115kV	200' on R/W	1000' on R/W	$528,000	$1,118,000	$1,646,000	$360,000	**$2,006,000**
6	DE Poles	Direct	100' on R/W	$0	$486,000	$486,000	$540,000	**$1,026,000**
7A	DE Poles	Direct	200' on R/W	$0	$486,000	$486,000	$720,000	**$1,206,000**
7B	DE Poles	250' on R/W	Direct	$294,000	$486,000	$780,000	$720,000	**$1,500,000**
8	DE Poles	Direct	600' on R/W	$0	$486,000	$486,000	$1,320,000	**$1,806,000**
9	DE Poles	1200' on R/W	Direct	$767,000	$486,000	$1,253,000	$480,000	**$1,733,000**
10 OH	DE Poles	200' on R/W	Direct	$547,000	$324,000	$871,000	$0	**$871,000**
10 UG	Riser Struct	1400' on Road	Direct	$6,260,000	$0	$6,260,000	$0	**$6,260,000**
11	DE Poles	Direct	Direct	$0	$486,000	$486,000	$3,612,000	**$4,098,000**

Notes

All estimated costs are differential costs vs Site Location 1
All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
* Most direct R/W routes.

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Exhibit 5.1.2

Trumbull Substation Site Selection

Comparison of Possible Site Locations

Substation and Access Considerations

Site Loc #	Topo-graphy	Flood-plain on Site	Vehicular Access to Street (ft)*	Minimum Site Prepar. Cost	Est Min Transm. R/W Prep Cost	Est Min Vehicular & Distrib. R/W Dev. Cost	Minimum Site & R/W Prep. Costs	Est Min Site & R/W Prep. Costs vs. Site 1
1	Light slope	No	Direct	$75,000	$0	$0	$75,000	**$0**
2	Extreme slope	No	400' on R/W	$350,000	$25,000	$90,000	$465,000	**$390,000**
3	Heavy slope	No	400' on R/W	$145,000	$50,000	$75,000	$270,000	**$195,000**
4	Flat to mod slope	No	400' on R/W	$75,000	$0	$55,000	$130,000	**$55,000**
5	Flat to hvy slope	No	1000' on R/W	$75,000	$15,000	$90,000	$180,000	**$105,000**
6	Lt to hvy slope	No	100' on R/W	$75,000	$0	$25,000	$100,000	**$25,000**
7A	Lt to V hvy slope	No	400' ***	$100,000	$0	$90,000	$190,000	**$115,000**
7B	Extreme slope	No	200' ***	$225,000	$15,000	$80,000	$320,000	**$245,000**
8	Generally Flat	Appx 50%	600' on R/W	$20,000	$0	$40,000	$60,000	**($15,000)**
9	Lt to hvy slope	No	1000' on R/W	$135,000	$40,000	$90,000	$265,000	**$190,000**
10 OH	Flat to mod slope	No	Direct	$175,000	$15,000	$0	$190,000	**$115,000**
10 UG	Flat to mod slope	No	Direct	$175,000	$0	$0	$175,000	**$100,000**
11	Flat to light slope	?	Direct	$90,000	$0	$0	$90,000	**$15,000**

Notes

All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
* Most direct R/W routes.
** Costs include site clearance, grading and rock ledge removal
*** Length includesR/W and 200 feet of undeveloped public street

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Exhibit 5.1.3

Trumbull Substation Site Selection

Comparison of Possible Site Locations

Environmental Considerations

Site Loc #	Building Zone*	Site Frontage	Neighbor-Hood	Current Land Uses	General Vegetative Character of Site	Marshes, Ponds or Watercourses	Property Inland Wetland Area	Trans. Supply Line Required
1	AA	300'	Residential	Transm. Line	Mixed Veg.	None	None	None
2	N/A	25' Access R/W	Resid/Hwy	CDOT Svc Ctr	Mixed Veg.	Pond & stream	Downstream	Yes
3	AA	20' Access R/W	Resid/Hwy	Nursery?	Mixed Veg.	Stream	None	Yes
4	AA	20' Access R/W	Resid/Comcl?	Transm. Line	Wooded	Apx 20% Marsh	Appx 30%	No
5	AA	Access R/W	Residential	Nursery?	Wooded	Ponds & stream	Appx 30%	Yes
6	AA	Access R/W	Residential	Transm. Line	Wooded	Stream	None	No
7A	AA	Access R/W	Residential	Transm. Line	Wooded	None	Adjacent	No
7B	AA	Access R/W	Church	None	Wooded	None	None	Yes
8	A	Access R/W	Res/Com/Ind	Park/Transm.	Cleared	All	Appx 30%	No
9	AA	Access R/W	Resid/Hwy	Merrit Pkwy	Wooded	All	Appx 80%	Yes
10 OH	A	60'/100'	Residential	Church	Developed	Stream	20% and Adj.	Yes
10 UG	A	60'/100'	Residential	Church	Developed	Stream	20% and Adj.	Yes
11	IL-2	500'	Light Industrial	None	Clear/mixed	Adjacent	Adjacent	No

Notes

* Substations not specifically listed as a permitted use in Trumbull

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Exhibit 5.1.4

Trumbull Substation Site Selection

Comparison of Preferred Sites

Real Estate Considerations

Site Loc #	Site Location Street Address	Property Owner	Town Map	Property Designation	Prop. Sub-div'n Rqd?	Site Loc. Prop.Land Area (Acres)	Expected Minimum Site Land Needed (Acres)	Estimated Minimum Site Land Cost	Estimated Minimum T, D&V R/W Cost	Estimated Minimum Total Site and R/W Cost
1	3-7 Wildflower Lane	UI	J10	141, 135/1 &136/2	No	4.85	0	$0	$0	**$0**
2	CT Route 8	State of CT	J11	N/A	Yes	>>2	1.5	$150,000	$208,000	**$358,000**
3	2878 Nichols Ave.	C. L. Florist	J10	59	Yes	3.73	1.5	$500,000	$408,000	**$908,000**
4	Huntington Turnpike	Town of Trumbull	J10	28	Yes?	13.08	1.5	$500,000	$40,000	**$540,000**
5	1445 Huntington Tpk	Mary Bill	J11	137	Yes	23.30	1.5	$500,000	$220,000	**$720,000**
6	Rocky Ridge Drive	Town of Trumbull	J10	162	Yes?	20.60	1.5	$500,000	$10,000	**$510,000**
7A	330-336 White Plains Rd	Stephen Chisarik	I10	14	Yes	4.82	1.5	$500,000	$40,000	**$540,000**
7B	364 White Plains Road	Unity Hill Church	I10	11 & 12	Yes?	2.52	1.5	$500,000	$170,000	**$670,000**
8	Unity Park	Town of Trumbull	H10, I10	21, 185 & 186	Yes	34.31	1.5	$500,000	$60,000	**$560,000**
9	Huntington Turnpike	State of CT	J10, I10	N/A	Yes	>>2	1.5	$150,000	$780,000	**$930,000**
10 OH	1460 Huntington Turnpike	Armenian Church	J11	47	No	2.77	1.5	$1,000,000	$60,000	**$1,060,000**
10 UG	1460 Huntington Turnpike	Armenian Church	J11	47	No	2.77	1.5	$1,000,000	$0	**$1,000,000**
11	Quarry Road (end)	F & J D'Addario	H10	17	No	3.80	1.5	$1,900,000	$0	**$1,900,000**

Notes

All estimated costs are also differential costs vs Site Location 1
All estimates rounded to nearest $1,000
Estimated costs are present value and include all overheads.
Costs based on minimum site requirements and most direct RW routes.

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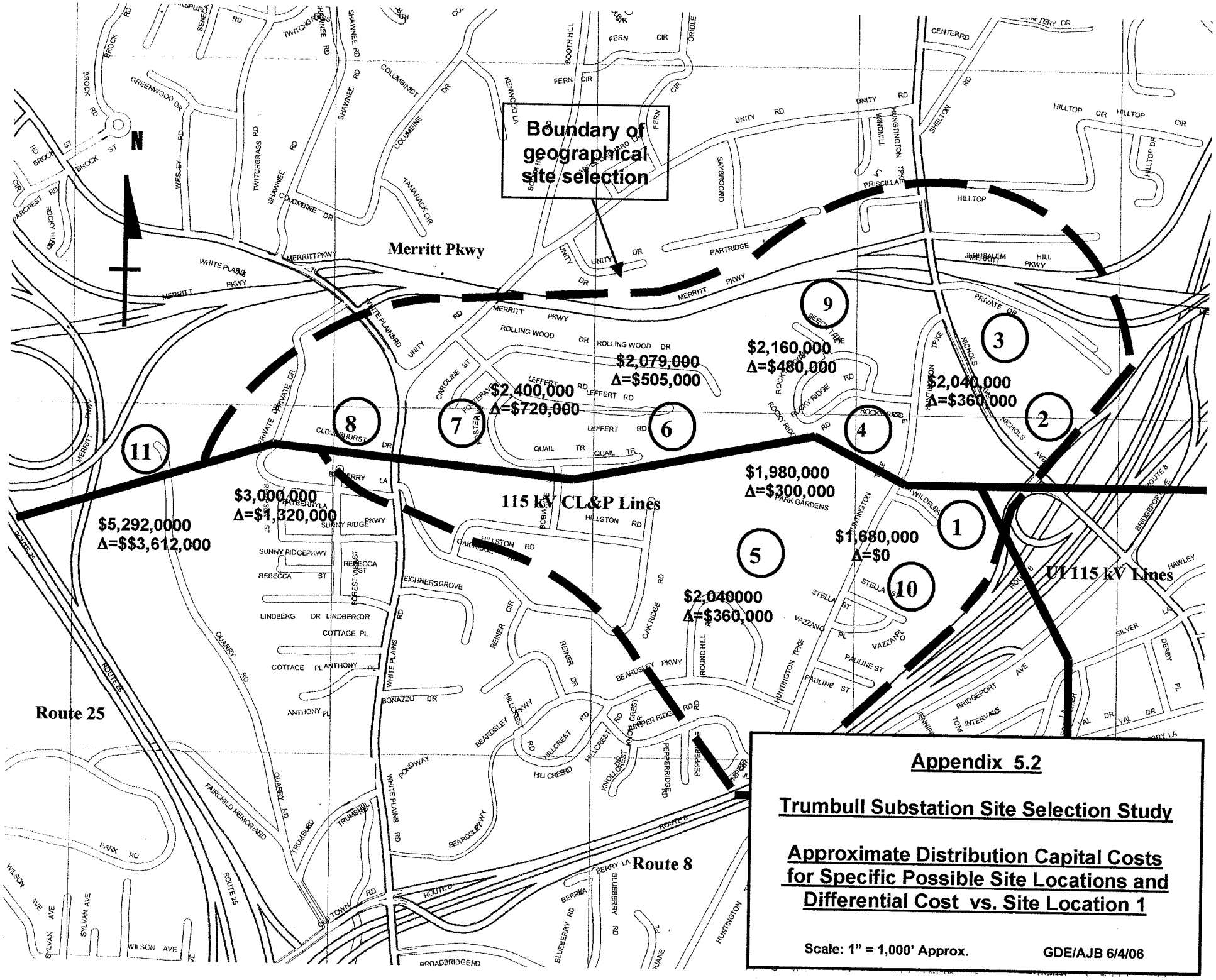

Appendix 5.2

Trumbull Substation Site Selection Study

Approximate Distribution Capital Costs for Specific Possible Site Locations and Differential Cost vs. Site Location 1

Scale: 1" = 1,000' Approx.

GDE/AJB 6/4/06

Exhibit 5.3

Trumbull Substation Site Selection Study

Preliminary Transmission Line Cost Estimates

Site Loc #	Transmission tap location for most direct supply route to substation	Most direct transmission line route from transm. tap to substation	Appx Line Length (ft)	Cond'r Insul Hdwre Cost	Line Double Cir Deadend Poles	Line Double Cir Deadend Cost	Line Double Cir Tangent Poles	Line Tangent Poles Cost	Transm. Supply Line Cost	Transm. Line Tap Structures	Transm. Line Tap Cost	Eng'g Contng & OH's (@.35)	Est. Min Total Transm.
1	Direct access at site location	Direct connection	0	$0	0	$0	0	$0	$0	Existing	$0	$0	$0
2	CL&P line NE of Trumbull Jct and SW of Huntington Tpke.	Parallel to Rte 8 ramps	800	$123,000	2	$360,000	1	$102,000	$585,000	115X115*	$828,000	$494,000	$1,907,000
3	CL&P line NE of Trumbull Jct and SW of Huntington Tpke	Parallel to Rte 8 ramps to Site Loc 2 then NW along CDOT P/L	1600	$245,000	3	$540,000	2	$204,000	$989,000	115X115*	$828,000	$636,000	$2,453,000
4	Direct access at site location	Direct connection	0	$0	0	$0	0	$0	$0	SCDE Poles	$360,000	$126,000	$486,000
5	CL&P line on Site Loc 6	Directly north	200	$31,000	2	$360,000	0	$0	$391,000	115X115*	$828,000	$427,000	$1,646,000
6	Direct access at site location	Direct connection	0	$0	0	$0	0	$0	$0	SCDE Poles	$360,000	$126,000	$486,000
7A	Direct access at site location	Direct connection	0	$0	0	$0	0	$0	$0	SCDE Poles	$360,000	$126,000	$486,000
7B	CL&P line on Site Loc 7A and just south of Site Loc 7B	Directly north	250	$38,000	1	$180,000	0	$0	$218,000	SCDE Poles	$360,000	$202,000	$780,000
8	Direct access at site location	Direct connection	0	$0	0	$0	0	$0	$0	SCDE Poles	$360,000	$126,000	$486,000
9	CL&P line on Site Loc 6	Through Site 6 & Residential Properties	1200	$184,000	1	$180,000	2	$204,000	$568,000	SCDE Poles	$360,000	$325,000	$1,253,000
10 OH	UI 1730 Line, rear of Site 1 Vicinity of switching structure	Through UI & private Residential Properties	800	$123,000	1	$180,000	1	$102,000	$405,000	SCDE Poles	$240,000	$226,000	$870,000
10 UG	UI 1730 Line, rear of Site 1 Vicinity of switching structure	Beneath Wildflower Lane and Huntington Turnpike	1400	N/A	N/A	N/A	N/A	N/A	$6,260,000	Included	Included	Included	$6,260,000 See Exhibit 4.6
11	Direct access at site location	Direct connection	0	$0	0	$0	0	$0	$0	SCDE Poles	$360,000	$126,000	$486,000

Notes:

All costs reflect differential costs relative to site Location 1.
All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
Costs are based on most direct R/W routes
*** 115 kV line crossing structure**

GDE 4/13/06

Exhibit 5.4

Trumbull Substation Site Selection Study

Preliminary Site and Right-of-Way Preparation Cost Estimates

Site Loc #		General Site Character	General Site Topography		Estimated Minimum Clearance Cost** 1 Ac Site		Estimated Minimum Grading Cost 1 Ac Site	Estimated Minimum Site Prepar. Cost	Most Direct Transm. R/W (ft)	General Transm. R/W Character	Estimated Minimum Transm. R/W Prep. Cost	Most Direct Vehicular & Distr. R/W to Street (ft)		General Vehicular & Distrib. R/W Character	General Vehicular & Distrib. R/W Topography	Estimated Minimum Vehicular & Distrib. R/W Clearance Cost		Est. Min Vehicular & Distrib. R/W Grading Cost	Vehicular & Distrib. R/W Devel & Paving Cost	Est. Min Total Vehicular & Distrib. R/W Dev. Cost	Est. Min Total Site & R/W Development Cost	Est. Min Differential Total Site & R/W Development Cost
1		Mixed Veg.	Light slope		$15,000		$60,000	**$75,000**	0	-	**$0**	None		-	-	**$0**		$0	$0	**$0**	**$75,000**	**$0**
2		Wooded	Extreme slope		$50,000	*	$300,000	**$350,000**	750	Wooded	**$25,000**	400		Wooded	Heavy slope	**$15,000**	*	$60,000	$15,000	**$90,000**	**$465,000**	**$390,000**
3		Wooded	Heavy slope		$25,000	*	$120,000	**$145,000**	1550	Wooded	**$50,000**	400		Mixed Veg.	Heavy slope	**$10,000**	*	$50,000	$15,000	**$75,000**	**$270,000**	**$195,000**
4		Wooded	Flat to hvy slope		$25,000		$50,000	**$75,000**	0	N/A	**$0**	400		Wooded	Lt to hvy slope	**$15,000**		$25,000	$15,000	**$55,000**	**$130,000**	**$55,000**
5		Wooded	Flat to hvy slope		$25,000		$50,000	**$75,000**	200	Wooded	**$15,000**	1000		Mixed Veg.	Flat to hvy slope	**$15,000**		$35,000	$40,000	**$90,000**	**$180,000**	**$105,000**
6		Wooded	Mod to hvy slope		$25,000		$50,000	**$75,000**	0	N/A	**$0**	100		Wooded	Lt to hvy slope	**$5,000**		$10,000	$10,000	**$25,000**	**$100,000**	**$25,000**
7A		Wooded	Lt to V hvy slope		$25,000		$75,000	**$100,000**	0	N/A	**$0**	400	**	Wooded	Heavy slope	**$15,000**	*	$60,000	$15,000	**$90,000**	**$190,000**	**$115,000**
7B		Wooded	Extreme slope		$25,000	*	$200,000	**$225,000**	250	Wooded	**$15,000**	200	**	Wooded	Heavy slope	**$10,000**	*	$60,000	$10,000	**$80,000**	**$320,000**	**$245,000**
8		Clear	Generally Flat		$0	***	$20,000	**$20,000**	0	N/A	**$0**	600		Clear	Generally Flat	**$15,000**		$0	$25,000	**$40,000**	**$60,000**	**($15,000)**
9		Wooded	Flat to hvy slope		$25,000	****	$110,000	**$135,000**	1200	Wooded	**$40,000**	1200		Mixed Veg.	Flat to hvy slope	**$15,000**		$25,000	$50,000	**$90,000**	**$265,000**	**$190,000**
10	OH	Developed	Flat to hvy slope	*****	$100,000	****	$75,000	**$175,000**	**900**	**Lt Wooded**	**$15,000**	None		N/A	N/A	**$0**		$0	$0	$0	**$190,000**	**$115,000**
10	UG	Developed	Flat to hvy slope	*****	$100,000	****	$75,000	**$175,000**	**0**	N/A	**$0**	None		N/A	N/A	**$0**		$0	$0	$0	**$175,000**	**$100,000**
11		Clear/mixed	Flat to mod slope		$15,000		$75,000	**$90,000**	0	N/A	**$0**	None		N/A	N/A	**$0**		$0	$0	$0	**$90,000**	**$15,000**

Notes:

All estimates rounded to nearest $1,000

Estimated costs are present value and include all contingencies, engineering and overheads.

Costs are based on minimum site requirements and most direct R/W routes.

* **Extreme elevation differentials and anticipated rock ledge**

** **Length includes 200 feet of undeveloped public street**

*** **Floodplain adjustments**

**** **Wetland & stream accomodation**

***** **Includes church building demolition and vegetation clearance**

GDE 4/13/06

Exhibit 5.5

Trumbull Substation Site Selection Study

Preliminary Site and R/W Real Estate Cost Estimates

Site Loc #	Site Location Property Area (Acres)	Site Property Owner	Minimum Site Land Required (Acres)	Estimated Minimum Site Land Cost		Most Direct Transm. R/W (ft)	Transm R/W Property Owner	Minimum Expected 100 ft Wide R/W Cost per Foot	Estimated Minimum Transm. R/W Cost		Most Direct Vehicular & Distr. R/W (ft)		Vehicular & Distr. R/W Property Owner	Minimum Expected 20 ft Wide R/W Cost per Foot	Estimated Minimum Vehicular & Distr. R/W Cost	Minimum Expected Total R/W Cost	Estimated Minimum Total Site and R/W Cost
1	4.85	UI	0	**$0**		0	-	-			0		-	-	$0	**$0**	**$0**
2	N/A	State of CT	1.5	**$150,000**		750	State of CT	$250.00	**$188,000**		400		State of CT	$50.00	$20,000	**$208,000**	**$358,000**
3	3.73	C. L. Florist	1.5	**$500,000**		1550	State of CT	$250.00	**$388,000**		400		C. L. Florist	$50.00	$20,000	**$408,000**	**$908,000**
4	13.08	Town of Trumbull	1.5	**$500,000**		None	-	-	**$0**		400		Town of Trumbull	$100.00	$40,000	**$40,000**	**$540,000**
5	23.30	Mary Bill	1.5	**$500,000**		200	Town of Trumbull	$600.00	**$120,000**		1000		Town of Trumbull	$100.00	$100,000	**$220,000**	**$720,000**
6	20.60	Town of Trumbull	1.5	**$500,000**		None	-	-	**$0**		100		Town of Trumbull	$100.00	$10,000	**$10,000**	**$510,000**
7A	4.82	Stella Chisarik	1.5	**$500,000**	*	None	-	-	**$0**		400	**	Stephen Chisarik	$100.00	$40,000	**$40,000**	**$540,000**
7B	2.52	Unity Hill Church	1.5	**$500,000**		250	Unity Hill Church	$600.00	**$150,000**		200	**	Unity Hill Church	$100.00	$20,000	**$170,000**	**$670,000**
8	34.31	Town of Trumbull	1.5	**$500,000**		None	-	-	**$0**		600		Town of Trumbull	$100.00	$60,000	**$60,000**	**$560,000**
9	N/A	State of CT	1.5	**$150,000**		1200	Town of Trumbull	$600.00	**$720,000**		1200		State of CT	$50.00	$60,000	**$780,000**	**$930,000**
10 OH	2.77	Armenian Church	1.5	**$1,000,000**		100	UI/Private residentia	$600.00	**$60,000**		0		-	-	$0	**$0**	**$1,060,000**
10 UG	2.77	Armenian Church	1.5	**$1,000,000**		1400	City Street	N/A	**$0**	***	0		-	-	$0	**$0**	**$1,000,000**
11	3.80	F. & J. D'Addario	1.5	**$1,900,000**		None	-	-	**$0**		0		-	-	$0	**$0**	**$1,900,000**

Notes:

All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
Costs assume minimum site requirements and most direct RW routes.
*** Assuming land subdivision and resale of excess land and buildings.**
**** Length includes 200 feet of undeveloped public street**
***** Assumes Undergound transmission along public roadways**

GDE 4/13/06

Exhibit 5.6

Trumbull Substation Site Selection

Preliminary Comparison of Differential Cost Estimates for Possible Site Locations Relative to Site Location 1

Site Loc #	Transm. Line Tap	Transm. Supply Line	Total Transm.	Distrib. System	Total T&D	Minimum Site Prep Cost	T, D&V R/W Prep Cost	Total Site&R/W Prep Cost	Minimum Site Land Cost	Minimum T, D&V R/W Cost	Minimum Total Site and R/W Cost	Minimum Total Differential Cost
1	$0	$0	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**	**$0**
2	$1,118,000	$790,000	$1,908,000	$360,000	**$2,268,000**	$275,000	$115,000	**$390,000**	$150,000	$208,000	**$358,000**	**$3,016,000**
3	$1,118,000	$1,335,000	$2,453,000	$360,000	**$2,813,000**	$70,000	$125,000	**$195,000**	$500,000	$408,000	**$908,000**	**$3,916,000**
4	$486,000	$0	$486,000	$300,000	**$786,000**	$0	$55,000	**$55,000**	$500,000	$40,000	**$540,000**	**$1,381,000**
5	$1,118,000	$528,000	$1,646,000	$360,000	**$2,006,000**	$0	$105,000	**$105,000**	$500,000	$220,000	**$720,000**	**$2,831,000**
6	$486,000	$0	$486,000	$540,000	**$1,026,000**	$0	$25,000	**$25,000**	$500,000	$10,000	**$510,000**	**$1,561,000**
7A	$486,000	$0	$486,000	$720,000	**$1,206,000**	$25,000	$90,000	**$115,000**	$500,000	$40,000	**$540,000**	**$1,861,000**
7B	$486,000	$294,000	$780,000	$720,000	**$1,500,000**	$150,000	$95,000	**$245,000**	$500,000	$170,000	**$670,000**	**$2,415,000**
8	$486,000	$0	$486,000	$1,320,000	**$1,806,000**	($55,000)	$40,000	**($15,000)**	$500,000	$60,000	**$560,000**	**$2,351,000**
9	$486,000	$767,000	$1,253,000	$480,000	**$1,733,000**	$60,000	$130,000	**$190,000**	$150,000	$780,000	**$930,000**	**$2,853,000**
10 OH	$324,000	$547,000	$871,000	$0	**$871,000**	$100,000	$15,000	**$115,000**	$1,000,000	$60,000	**$1,060,000**	**$2,046,000**
10 UG	$0	$6,260,000	$6,260,000	$0	**$6,260,000**	$100,000	$0	**$100,000**	$1,000,000	$0	**$1,000,000**	**$7,360,000**
11	$486,000	$0	$486,000	$3,612,000	**$4,098,000**	$15,000	$0	**$15,000**	$1,900,000	$0	**$1,900,000**	**$6,013,000**

Notes

All estimates rounded to nearest $1,000

Estimated costs are present value and include all contingencies, engineering and overheads.

* Differential costs for sites other than Site 1 reflect the sale of two one-acre residential lots currently owned by UI on Wildflower Lane.

RSC *Realty Services & Consultants, LLC*

Mail: P.O. Box 92, Southport, Connecticut 06490 *129 Hillside Road, Fairfield, Connecticut 06430*
Phone: 203-261-4545 *Fax: 203-268-8856* *Email: rscct@earthlink.net*

Exhibit 5.7

May 16, 2002

United Illuminating
Bridgeport Avenue
Shelton, Connecticut 06037

FAX TRANSMISSION

Attn: Patricia Massey
Manager, Real Estate

Re: **Possible Sub-Station Sites**
Trumbull, Connecticut

Dear Pat;

The following reflects the results of my investigation into to possibility of procuring sites in Trumbull, Connecticut for use as future sub-station locations:

1. Property located adjacent to 1446 Huntington Turnpike;
Owner: Mary Bill

Absolutely not interested in selling any property. Will pass property to her children when she dies.

2. Property located adjacent to White Plains Road;
Owner: Stella Chisarik

Not interested in selling her family's property. No money in the world can change her mind.

3. Properties located Huntington Turnpike and Rocky Ridge Road;
Owner: Town of Trumbull

Spoke with Mr. Paul Kallmeyer, Director of Public Works. He indicated he is aware that UI is looking for additional property in conjunction with its efforts to upgrade its existing facilities.

Indicated that the Town would consider a proposal from UI as long as said proposal does not include development of the property for any type of activity not in keeping with the purposes and aesthetic requirements of "Open Space" principals. This would not be a slam-dunk undertaking and would require serious and above board negotiations on the part of UI.

If you have any questions concerning the above information or need additional help please feel free to contact me at your convenience.

Best Regards,

George Linardos, Jr.
Managing Member

C: file

RSC ***Realty Services & Consultants, LLC***

Mail: P.O. Box 92, Southport, Connecticut 06490 *129 Hillside Road, Fairfield, Connecticut 06430*
Phone: 203-261-4545 *Fax: 203-268-8856* *Email: rscct@earthlink.net*

July 16, 2002

United Illuminating
801 Bridgeport Avenue
Shelton, Connecticut 06037

FAX TRANSMISSION

Attn: Patricia Massey
Real Estate Analyst

Re: **Additional Trumbull Substation Site - Chisarik Parcel**
Site Location 7A – Exhibit ~~6.2.7~~ 5.7

Dear Pat;

Mr. Steve Chisarik called to inform me that his mother, Stella Chisarik, passed away and the property is now owned by himself and his sister. They had an appraisal performed last summer (01) by a realtor. The estimated value of the parcel, 5 (+-) acres plus two houses [one being an antique - mid 1800's)], is approximately $495,000.00.

I explained that if we pursued purchasing said property we would procure an appraisal performed by a duly licensed Connecticut appraiser. He understood and indicated he would prefer to sell the parcel as a whole, including the two houses, but would consider splitting the property if it did not constitute too much involvement and costs with the Town of Trumbull's interested agencies and commissions.

The ground is high and dry with existing lines running through it. It would be a natural for expansion consideration.

Best regards,

George Linardos, Jr.
Managing Member

GL/pt

C: file

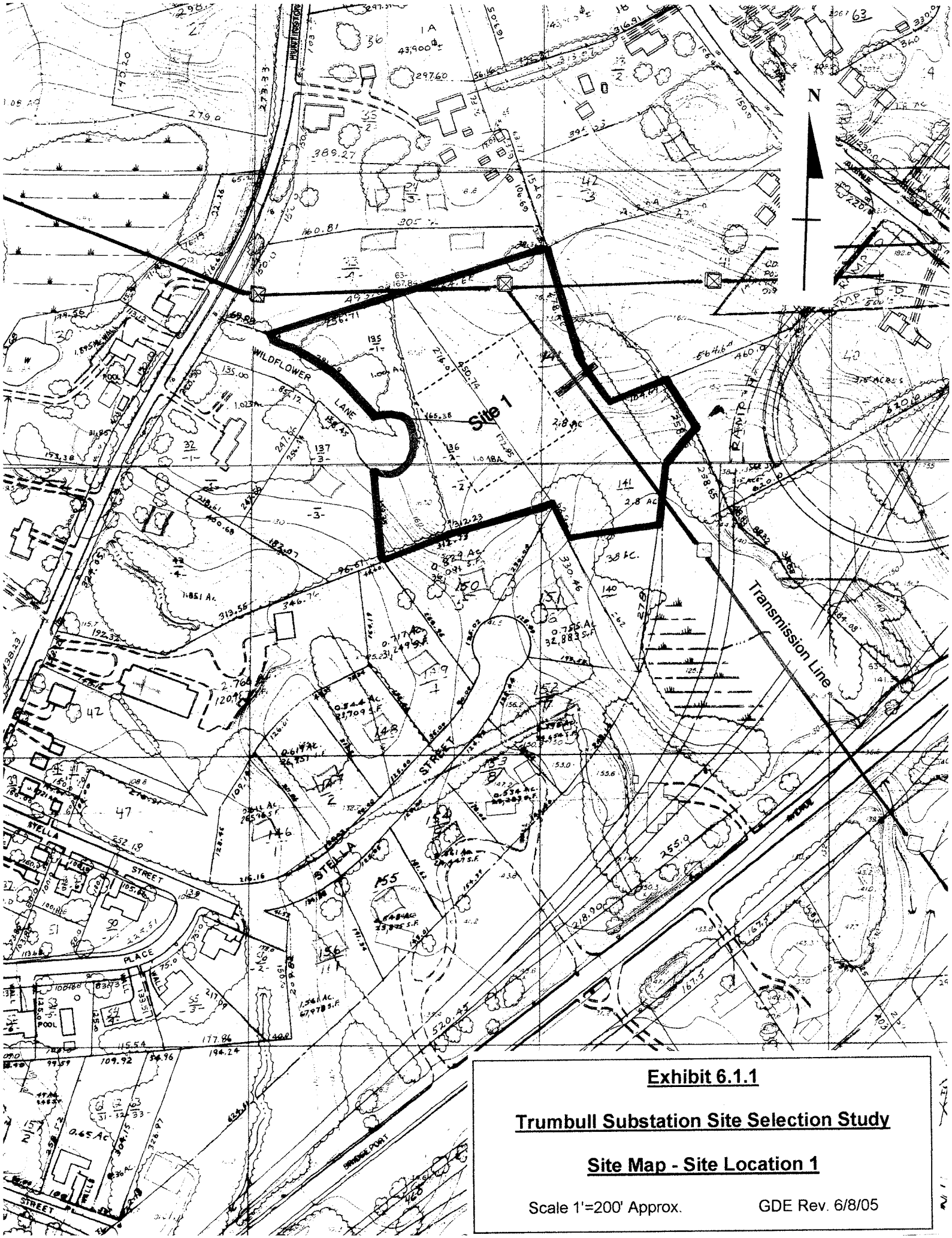

Exhibit 6.1.1

Trumbull Substation Site Selection Study

Site Map - Site Location 1

Scale 1'=200' Approx. GDE Rev. 6/8/05

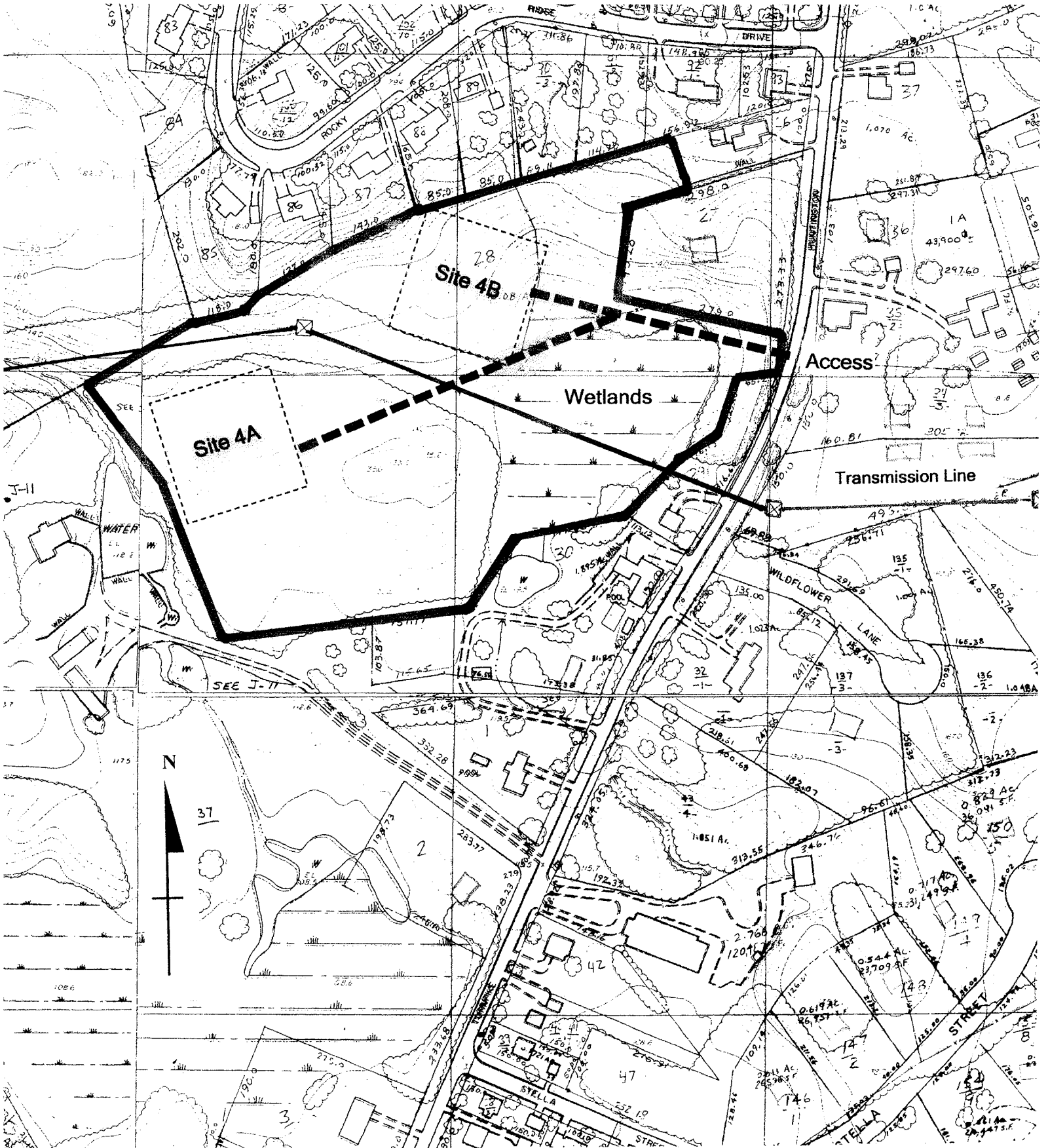

Exhibit 6.1.2

Trumbull Substation Site Selection Study

Site Map - Site Location 4

Scale 1'=200' Approx. GDE Rev. 6/8/05

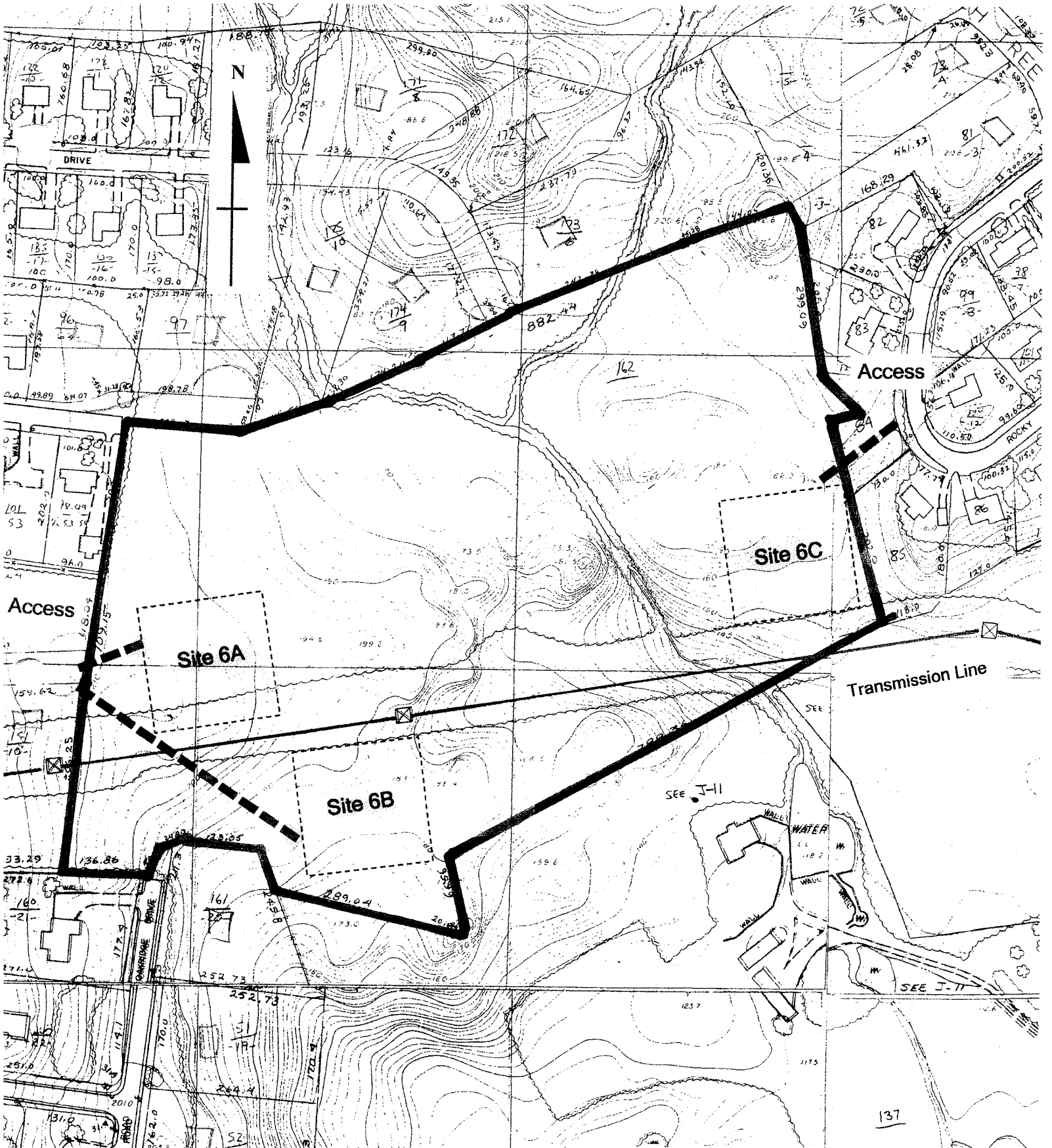

Exhibit 6.1.3

Trumbull Substation Site Selection Study

Site Map - Site Location 6

Scale 1'=200' Approx. GDE Rev. 6/8/05

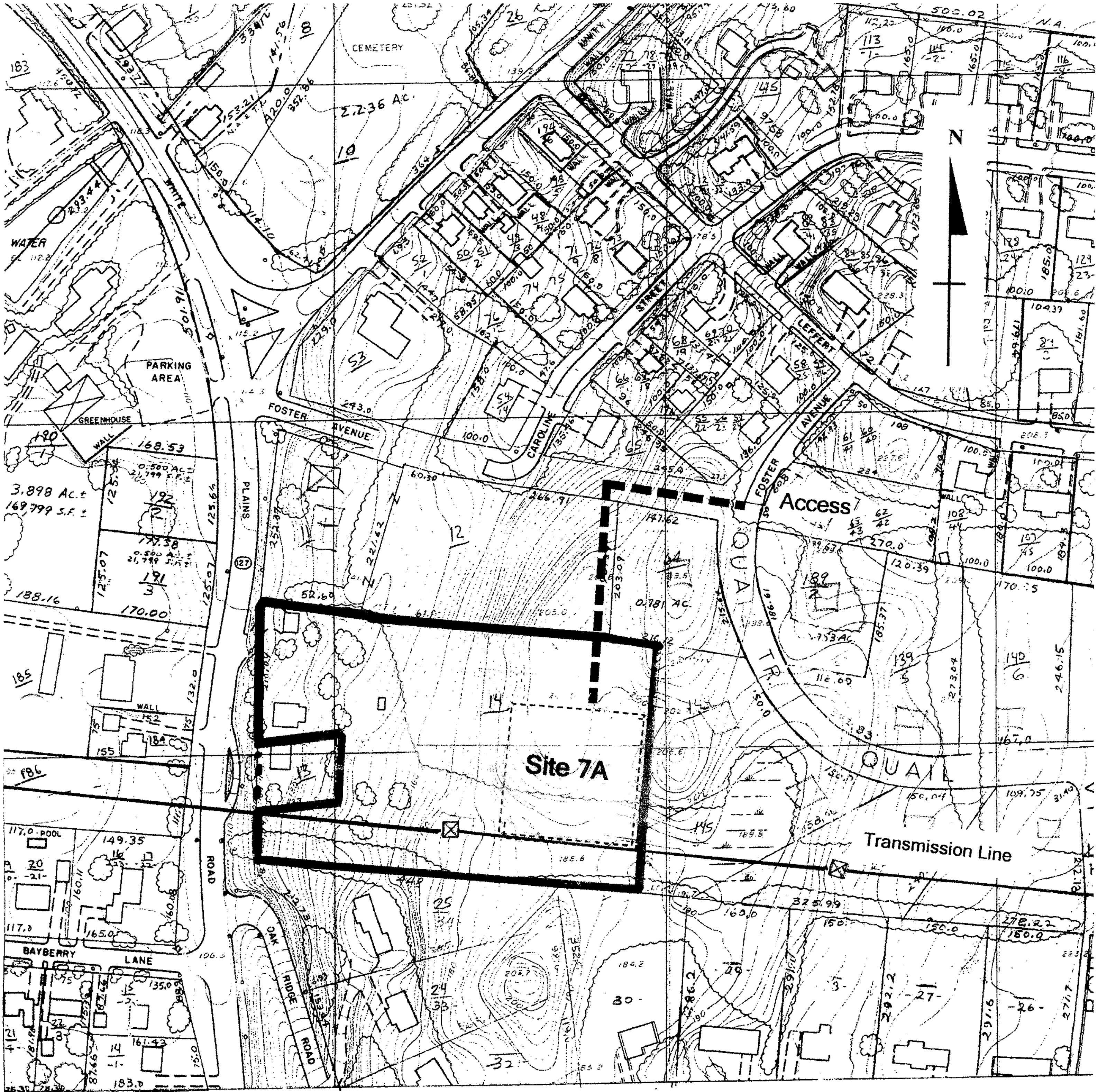

Exhibit 6.1.4

Trumbull Substation Site Selection Study

Site Map - Site Location 7

Scale 1'=200' Approx. GDE Rev. 6/8/05

LEGEND

CULVERT

POLE

FENCE

CATCH BASIN

FIRE HYDRANT

AREAS OBSCURED BY HEAVY VEGETATION SHOWN WITH DASHED CONTOURS AND UNDERLINED ELEVATIONS

VERTICAL DATUM IS MEAN SEA LEVEL

Exhibit 6.2.1

Trumbull Substation Site Selection

Comparison of Selected Sites

T & D Considerations

Estimated Differential Costs vs Site 1

Site #	Transm. Line Xing Structure	Transm Access to Subst*	Distrib Access to Street*	Transm. Line Tap	Transm. Supply Line	Estimated Total Transm.	Distrib. System	Total T&D
1	None	Direct tap	Direct	$0	$0	$0	$0	$0
4A	115kV/115kV	Direct tap	800' R/W	$1,118,000	$0	$1,118,000	$324,000	$1,442,000
4B	2 DE Poles	Direct tap	400' R/W	$486,000	$0	$486,000	$300,000	$786,000
6A	2 DE Poles	Direct tap	100' R/W	$486,000	$0	$486,000	$540,000	$1,026,000
6B	115kV/115kV	Direct tap	500' R/W	$1,118,000	$0	$1,118,000	$564,000	$1,682,000
6C	2 DE Poles	Direct tap	1000' R/W	$486,000	$0	$486,000	$348,000	$834,000
7A	2 DE Poles	Direct tap	200' R/W	$486,000	$0	$486,000	$720,000	$1,206,000

Notes:

All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.

GDE 4/8/06

Exhibit 6.2.2

Trumbull Substation Site Selection

Comparison of Selected Sites

Substation Considerations

Site #	Site Location Topography	Flood-plain on Site	Vehicular Access to Street (ft)*		Site Prepar. Cost**	Est Total Vehicular & Distrib. R/W Prep. Cost	Min. Site & R/W Prep. Costs	Site & R/W Prep. Costs vs. Site 1
1	Light slope	No	Direct		$75,000	$0	$75,000	**$0**
4A	Light slope	No	800' R/W		$80,000	$90,000	$170,000	**$95,000**
4B	Heavy slope	No	400' R/W		$145,000	$45,000	$190,000	**$115,000**
6A	Moderate slope	No	100' R/W		$80,000	$16,000	$96,000	**$21,000**
6B	Moderate slope	No	500' R/W		$100,000	$60,000	$160,000	**$85,000**
6C	Heavy slope	No	1000' R/W		$145,000	$20,000	$165,000	**$90,000**
7A	Lt to V hvy slope	No	400' R/W	***	$100,000	$90,000	$190,000	**$115,000**

Notes

All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
* Based on minimum route
** Costs include site clearance, grading and rock ledge removal
*** Length includes 200 feet of undeveloped public street

GDE 4/8/06

Exhibit 6.2.3

Trumbull Substation Site Selection

Comparison of Selected Sites

Environmental Considerations

Site #	Building Zone*	Site Frontage	Neighbor-Hood	Adjacent Resid	Current Land Uses	General Vegetative Character of Site	Marshes, Ponds or Watercourses	Inland Wetland Area	NewTap Structures Required	Trans. Xing Structure Required
1	AA	300'	Resid.	Yes	Transm. Line	Mixed Veg.	None	None	No	No
4A	AA	20' R/W	Resid.	Yes	Transm. Line	Wooded	Marsh on R/W	On R/W	Yes	Yes
4B	AA	20' R/W	Resid.	Yes	Transm. Line	Wooded	Stream/Marsh Adj	On R/W	Yes	Yes
6A	AA	20' R/W	Resid.	Yes	Transm. Line	Wooded	No	No	Yes	Yes
6B	AA	20' R/W	Resid.	Yes	Transm. Line	Wooded	No	No	Yes	Yes
6C	AA	20' R/W	Resid.	Yes	Transm. Line	Wooded	No	No	Yes	Yes
7A	AA	20' R/W	Resid.	Yes	Transm. Line	Wooded	No	Adjacent	Yes	Yes

Notes

* Substations not a specific permitted use in Trumbull

GDE 4/8/06

Exhibit 6.2.4

Trumbull Substation Site Selection

Comparison of Selected Sites

Real Estate Considerations

Site #	Site Location Street Address	Property Owner	Town Map	Property Designation	Prop. Sub-div'n Rqd?	Avail-able?	Site Loc. Prop.Land Area (Acres)	Expected Min. Site Purchase Required (Acres) *	Minimum Expected Site Land Cost*	T, D&V R/W Cost	Total Site and R/W Cost
1	3-7 Wildflower Lane	UI	J10	141, 135/1 &136/2	No	Owned	4.85	0.0	$0	$0	$0
4A	Huntington Turnpike	Town of Trumbull	J10	28	Yes?	Tentat.	13.08	2.0	$500,000	$80,000	$580,000
4B	Huntington Turnpike	Town of Trumbull	J10	28	Yes?	Tentat.	13.08	2.0	$500,000	$40,000	$540,000
6A	Rocky Ridge Drive	Town of Trumbull	J10	162	Yes?	Tentat.	20.60	2.0	$500,000	$10,000	$510,000
6B	Rocky Ridge Drive	Town of Trumbull	J10	162	Yes?	Tentat.	13.08	2.0	$500,000	$50,000	$550,000
6C	Rocky Ridge Drive	Town of Trumbull	J10	162	Yes?	Tentat.	13.08	2.0	$500,000	$10,000	$510,000
7A	330-336 White Plains Rd	Stella Chisarik	I10	14	Yes	Yes	4.82	2.0	$500,000	$40,000	$540,000

Notes

All estimates rounded to nearest $1,000

* Assuming land subdivision or resale of excess land and buildings.

** Differential costs for sites other than Site 1 reflect the sale of two one-acre residential lots currently owned by UI on Wildflower Lane.

GDE 4/8/06

Exhibit 6.3

Trumbull Substation Site Selection Study

Site and Right-of-Way Preparation Cost Estimates

Site #	General Site Character	General Site Topography	Clearance Cost 1 Acre Site	Grading Cost 1 Acre Site	Site Prepar. Cost	Most Direct Transm. R/W(ft)	Trans R/W Prep. Cost	Vehic. & Distr. R/W(ft)		Vehicular & Distrib. R/W Character	General Vehicular & Distrib. R/W Topography	Vehicular & Distrib. R/W Clearance Cost	Vehicular & Distrib. R/W Grading Cost	Vehicular & Distrib. R/W Devel & Paving Cost	Total Vehicular & Distrib. R/W Prep. Cost	Total Site & R/W Development Cost	Total Diff. Site & R/W Devel. Cost vs. Site 1
1	Mixed Veg.	Light slope	$15,000	$60,000	**$75,000**	0	**$0**	None		N/A	N/A	$0	$0	$0	**$0**	**$75,000**	**$0**
4A	Wooded	Light slope	$20,000	$60,000	**$80,000**	0	**$0**	800		Woods/marsh	Lt to mod slope	$20,000	$40,000	$30,000	**$90,000**	**$170,000**	**$95,000**
4B	Wooded	Heavy slope	$25,000	$120,000	**$145,000**	0	**$0**	400		Woods/marsh	Lt to mod slope	$10,000	$20,000	$15,000	**$45,000**	**$190,000**	**$115,000**
6A	Wooded	Light slope	$20,000	$60,000	**$80,000**	0	**$0**	100		Wooded	Mod slope	$5,000	$6,000	$5,000	**$16,000**	**$96,000**	**$21,000**
6B	Wooded	Moderate slope	$25,000	$75,000	**$100,000**	0	**$0**	500		Wooded	Lt to mod slope	$15,000	$25,000	$20,000	**$60,000**	**$160,000**	**$85,000**
6C	Wooded	Heavy slope	$25,000	$120,000	**$145,000**	0	**$0**	100		Wooded	mod to hvy slope	$5,000	$10,000	$5,000	**$20,000**	**$165,000**	**$90,000**
7A	Wooded	Lt to V hvy slope	$25,000	$75,000	**$100,000**	0	**$0**	400	*	Wooded	Heavy slope	$15,000	$60,000	$15,000	**$90,000**	**$190,000**	**$115,000**

Notes:

All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
Costs are based on minimum site requirements and most direct R/W routes.
* **Length includes 200 feet of undeveloped public street**

GDE 4/8/06

Exhibit 6.4

Trumbull Substation Site Selection Study

Site and R/W Real Estate Costs Estimates

Site #	Site Location Property Area (Acres)	Property Owner	Expected Min. Site Purchase Required (Acres)	Minimum Expected Site Land Cost		Transm. R/W (ft)	Transm. R/W Cost	Vehicular & Distr. R/W (ft)		Property Owner	Expected 20 ft Wide R/W Cost per Foot	Vehicular & Distr. R/W Cost	Total R/W Cost	Minimum Total Site and R/W Cost
1	4.85	UI	0	**$0**		0	$0	0		-	-	$0	**$0**	**$0**
4A	13.08	Town of Trumbull	2	**$500,000**		0	$0	800		Town of Trumbull	$100.00	$80,000	**$80,000**	**$580,000**
4B	13.08	Town of Trumbull	2	**$500,000**		0	$0	400		Town of Trumbull	$100.00	$40,000	**$40,000**	**$540,000**
6A	20.60	Town of Trumbull	2	**$500,000**		0	$0	100		Town of Trumbull	$100.00	$10,000	**$10,000**	**$510,000**
6B	20.60	Town of Trumbull	2	**$500,000**		0	$0	500		Town of Trumbull	$100.00	$50,000	**$50,000**	**$550,000**
6C	20.60	Town of Trumbull	2	**$500,000**		0	$0	100		n/f Ann Morris	$100.00	$10,000	**$10,000**	**$510,000**
7A	4.82	Stella Chisarik	2	**$500,000**	*	0	$0	400	***	Unity Hill Church	$100.00	$40,000	**$40,000**	**$540,000**

Notes:

All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
Costs based on minimum site requirements and most direct RW routes.
* Assuming approved Town approved land subdivision and resale of excess land and buildings.
** Assumes any land rendered unusable and unsalable by substation placement would be included in purchase
*** Length includes 200 feet of undeveloped public street

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Exhibit 6.5

Trumbull Substation Site Selection

Comparison of Estimated Differential Costs of Selected Sites Relative to Site 1

Site #	Transm. Line Tap	Transm. Supply Line	Total Transm.	Distrib. System	Total T&D	Site Prep Cost		R/W Prep Cost	Total Site&R/W Prep Cost	Site Land Cost	T, D&V R/W Cost	Total Site and R/W Cost	Total Differential Cost	Deduction for UI Sale of Excess Land*	Total Differential Cost With UI Sale of Excess Land *
1	$0	$0	$0	$0	**$0**	$0		$0	**$0**	$0	$0	**$0**	**$0**	$0	**$0**
4A	$1,118,000	$0	$1,118,000	$324,000	**$1,442,000**	$5,000		$90,000	**$95,000**	$500,000	$80,000	**$580,000**	**$2,117,000**	$1,000,000	**$1,117,000**
4B	$486,000	$0	$486,000	$300,000	**$786,000**	$70,000		$45,000	**$115,000**	$500,000	$40,000	**$540,000**	**$1,441,000**	$1,000,000	**$441,000**
6A	$486,000	$0	$486,000	$540,000	**$1,026,000**	$5,000		$16,000	**$21,000**	$500,000	$10,000	**$510,000**	**$1,557,000**	$1,000,000	**$557,000**
6B	$1,118,000	$0	$1,118,000	$564,000	**$1,682,000**	$25,000		$60,000	**$85,000**	$500,000	$50,000	**$550,000**	**$2,317,000**	$1,000,000	**$1,317,000**
6C	$486,000	$0	$486,000	$348,000	**$834,000**	$70,000		$20,000	**$90,000**	$500,000	$10,000	**$510,000**	**$1,434,000**	$1,000,000	**$434,000**
7A	$486,000	$0	$486,000	$720,000	**$1,206,000**	$25,000	>	$90,000	**$115,000**	$500,000	$40,000	**$540,000**	**$1,861,000**	$1,000,000	**$861,000**

Notes

All estimates rounded to nearest $1,000
Estimated costs are present value and include all contingencies, engineering and overheads.
Costs are based on minimum site land acquisition, most direct T&D access routes, and minimum expected land costs.
> Greater than.
* Differential costs for sites other than Site 1 reflect the sale of two one-acre residential lots currently owned by UI on Wildflower Lane.

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Exhibit 6.6

Trumbull Substation Alternate Site Review

On Thursday, July 11, 2002, seven alternate sites for the proposed Trumbull Substation were reviewed by Environmental Management. Each site was evaluated for areas of existing environmental concern or potential environmental impact to the vicinity from the construction and operation of an electrical substation.

The sites reviewed were:

- Wildflower Lane (Site no. 1)
- Huntington Turnpike (Site nos. 4A & 4B)
- Rocky Ridge Drive (Site nos. 6A, 6B, &6C)
- White Plains Road (Site no. 7A)

Wildflower Lane (Site no. 1)

This site consists of approximately 4.8 acres zoned as Residential AA. The property is bordered on most of the East by Route 8; North by a Connecticut Light and Power (CL&P) 1710/1730 right-of-way (ROW); and to the South by residents. Wildflower Lane forms most of the border to the West. The site is accessed from the East by Nichols Avenue.

This site is the existing UI Trumbull Junction switching structure, which is located in a UI right-of–way (ROW) near Nichols Avenue in Trumbull. The site is partially developed in addition to the structure mentioned above. This site had been partially constructed for a UI training yard. The interior of the property has been cleared of vegetation and fourteen wooden utility poles have been erected; thirteen 50' poles and one 70' pole. A new training yard has since been built in Milford. The perimeter of the

lot is characterized by mature trees with woodland undergrowth typical of eastern deciduous forests. Dominant tree species are maple and oak. The areas in the ROW contain various tall grasses and knee high vegetation.

There is no obvious source of contamination at the site, though there is some miscellaneous debris and several piles of chipped wood waste. Worn footpaths are evident in the southern portion of the property.

Advantages 1

- No obvious site contamination.
- No designated wetlands on site or adjacent to the site.
- The site has already been partially developed by UI, so additional tree removals will be minimized.
- No known previous industrial or manufacturing use of the site.
- Location allows for some screening from the adjacent residential properties.
- Adjacent to existing transmission line.

Disadvantages 1

- Zoned Residential AA.
- Resident within one-hundred yards of site.

Huntington Turnpike (sites 4A & 4B)

These sites are contained within a sizeable property of approximately 13 acres owned by the Town of Trumbull. The property is bordered to the North and South by private residents. Along the Eastern border are Huntington Turnpike and some

residential properties. To the Northwest is another parcel owned by the Town of Trumbull, which will be the subject of, site number 6 audit. The property contains a CL&P ROW and a UI distribution line. The ROW roughly bisects the property.

The property is zoned residential AA and contains approximately thirty percent designated inland wetlands. The wetlands cover the southeast portion of the property making access to either site 4A or 4B difficult from Huntington Turnpike without disturbing the wetland. The only other means of access is a possible ROW through lot # 84 on Rocky Ridge Road. The site is mostly wooded except for in the ROW and wetlands. Dominant tree species are beech and maple. The ROW contains tall grasses and a few slower growing trees such as red cedar. A well-worn footpath runs through the ROW. Cattails and phragmites inhabit the wetlands. There is no obvious source of contamination at the site.

Advantages 4A

- No designated wetlands on site or adjacent to the site.
- No obvious site contamination.
- UI distribution line doesn't have to be relocated.

Disadvantages 4A

- Zoned Residential AA.
- Site is within fifty feet of a pond and one hundred feet from a stream.
- Substation will be partially visible from Huntington Turnpike.
- Access is difficult due to the need to traverse wetland.
- Additional structures would be required in the ROW to tap off the existing line.

Advantages 4B

- Location of site near transmission line.
- No obvious site contamination.

Disadvantages 4B

- Zoned Residential AA.
- Site adjoins a designated wetland.
- Substation will be visible from Huntington Turnpike.
- Access is difficult due to the need to traverse wetland.
- Residents on Rocky Ridge Road will have very little visual screening from the substation due to the limited amount of buffer space.
- UI distribution line will have to be relocated.
- Additional structures would be required in the ROW to tap off the existing line.

Rocky Ridge Drive (Site nos. 6A, 6B, & 6C)

This site is a large parcel, approximately 20 acres, owned by the Town of Trumbull. It is zoned Residential AA. Rocky Ridge Drive borders the East side of the property. A CL&P ROW crosses the Southern portion of the site. UI has a distribution line at the Northern edge of the CL&P ROW. A residential neighborhood surrounds much of the property. A stream runs North to South through the site into a culvert under the ROW and drains into a pond less than 200 feet down stream of the site. Two other small drainage culverts are on the property to help with runoff.

The site is mostly wooded with beech, ash, maple and a few oak trees. Underbrush within the ROW is mostly knee high grasses and smaller brush and bramble. Several wild turkeys were seen during the audit. Along both the Northern and Southern borders are several areas of encroachment. There are many worn footpaths and in the

Northeast corner a BMX track has been setup. Some dumping of yard and household wastes, bicycles, cart and a few cans and bottles.

Advantages 6A

- Access off of Quail Drive.
- Site is flat.
- No designated wetland or stream onsite.
- No obvious site contamination.

Disadvantages 6A

- Less than 50 feet from residents.
- Zoned Residential AA.
- UI distribution line will have to be relocated.
- Increased traffic in a very residential area.
- Additional structures would be required in the ROW to tap off the existing line.

Advantages 6B

- No designated wetland or stream onsite.
- No obvious site contamination.
- Site is relatively flat.

Disadvantages 6B

- Less than 50 feet from resident and pool.
- Zoned Residential AA.
- Increased traffic in a residential area.

- Access off of Oak Ridge Drive, may not be possible.
- Additional structures would be required in the ROW to tap off the existing line.

Advantages 6C

- Location of site near transmission line.
- No obvious site contamination.

Disadvantages 6C

- Less than 50 feet to resident.
- Zoned Residential AA.
- Substation will be visible from pond.
- Less than 50 feet from stream.
- Steep slope making it more difficult for construction.
- Access is very difficult, would have to cross a stream or obtain a ROW through Lot #84 on Rocky Ridge Road.
- UI distribution line will have to be relocated.
- Additional structures would be required in the ROW to tap off the existing line.

White Plains Road (Site no. 7A)

This site is approximately 4.8 acres with a CL&P ROW running through it East to West. Along the edge of the ROW is a UI distribution line. The property is very steeply sloped down to White Plains Road. The Eastern and Southern borders are residential homes on Quail Trail and Oakridge Road. The Western border is residential except for

the CL&P ROW. To the North is Unity Hill Church and parking lot. The property is zoned Residential AA.

The site is mostly tall grasses, brush and brambles. The exposed slope is rock with very little soil coverage. The Northeastern portion of the site is tree covered with beech and maple the predominate species. The site is relatively free of debris and encroachment.

Advantages 7A

- Location of site near transmission line.
- No obvious site contamination.

Disadvantages 7A

- Less than 50 feet to resident.
- Zoned Residential AA.
- UI distribution line will have to be relocated.
- Substation will be visible from White Plains Road.
- Site is adjacent to wetlands.
- Steep slope making it more difficult for construction.
- Access is very difficult up the CL&P ROW.
- Residents on Quail Trail will have very little visual screening from the substation due to the limited amount of buffer space.
- Additional structures would be required in the ROW to tap off the existing line.