

Consolidated Edison Company of New York, Inc.

M29 Transmission Line Project

Exhibit 3

Alternatives

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EXHIBIT 3: ALTERNATIVES

This Exhibit addresses the requirements of 16 NYCRR §86.4.

3.1 Introduction

Public Service Law §122.1(e) requires that an application include “a description of any *reasonable* alternative locations or routes for the facility” (emphasis added). The approximately 9.5-mile preferred route for the M29 345 kV transmission line is described in detail in Exhibit 2 of this Application. To identify the preferred route, Con Edison considered a series of routing criteria and evaluated several route alternatives between the Sprain Brook Substation and the new Academy Substation. In conjunction with the identification and evaluation of alternative routes, Con Edison also considered alternative locations to cross the Harlem River.

For reliability reasons, a primary objective was to identify a route for the M29 transmission line independent from other existing Con Edison transmission routes. Although alternative routes were considered, the selected route is preferred because it: 1) provides an independent route for the new 345 kV transmission line; 2) provides an optimum location for the crossing of the Harlem River; 3) makes extensive use of existing rights-of-way; 4) does not require the acquisition of extensive new rights-of-way from private property owners; and 5) avoids disturbance of natural habitat and the need for significant clearing of vegetation.

3.2 Alternative Transmission Line Technologies

The proposed M29 transmission line will be a 345 kV high-pressure fluid filled (HPFF pipe-type) feeder comprised of three, single-phase conductors (cables), each with a cross-sectional area of 2,500,000 circular mils (2,500 kcmil). The conductors for the three-phase circuit will be installed in a 10-inch diameter steel pipe filled with dielectric fluid that is kept under static pressure by pressurizing plants located at each of the two substations. The feeder section crossing the Harlem River will use 2,500 kcmil conductors within a 10 ¾ -inch diameter pipe.

HPFF pipe-type feeders are the backbone of the Con Edison system. Con Edison installed the first 345 kV, HPFF pipe-type system in 1964. Since then, Con Edison has added numerous 345 kV circuits, including several under the East and Hudson Rivers and a single circuit under Long Island Sound. Con Edison’s HPFF pipe-type feeder system is based upon a proven technology and has provided outstanding service and reliability for over 40 years.

For the M29 transmission line, Con Edison evaluated various cable system alternatives that would provide the same high standard of reliability as the HPFF pipe-type cable system. Although a 345 kV solid dielectric cable system was evaluated, this type system was not selected because of the as-yet limited in-service experience with such system's reliability in North America. While solid dielectric cable systems above 345 kV have been installed successfully overseas, Con Edison considers paper-insulated cable systems to be a proven and more reliable technology at these higher voltages. At a lower 138 kV voltage, Con Edison has adopted solid dielectric systems for shorter runs for both its Grasslands and Cedar Street PSL Article VII projects.

Con Edison is carefully considering the prospective installation of new 345 kV solid dielectric cable systems by installing small circuits lengths to gain field experience, splicer familiarity, and overall experience with operation and maintenance of these systems. Con Edison's first 345 kV solid dielectric cable circuit was installed within the Sprain Brook Substation in 2005, and its performance is currently being evaluated.

Additional benefits of HPFF pipe-type cable systems include:

- Lower magnetic fields in comparison to a single-circuit, with solid dielectric cables in a duct-bank installation;
- The capability to increase ampacity ratings by forced cooling methods;
- Con Edison workforce familiarity with splicing and system operation and maintenance;
- Pipe-type cable installation requires a smaller excavation and fewer and smaller manholes.

3.3 Consideration of Alternative Routes

In the urbanized area between the Sprain Brook Substation and the new Academy Substation, almost every roadway represents a potential routing opportunity for an underground electric transmission line. To identify and evaluate potential alternative routes, consideration was given to specific constraints that would preclude or significantly hinder construction and maintenance of the proposed 345 kV transmission line. Within the Project area, the most obvious constraints when evaluating direct routes between the two substations include: 1) the Harlem River; 2) limited access highways, such as the Henry Hudson Parkway, Major Deegan Expressway/New York State Thruway, and the Saw Mill River Parkway; and 3) sensitive land uses such as Van

Cortlandt Park and Woodlawn Cemetery. These major transportation corridors limit the routing opportunities for the proposed transmission line, and routes that make use of existing roadway crossings were considered preferable to those routes that required extensive new easements and specialized construction techniques (i.e., boring and jacking or horizontal directional drilling) to install the required pipe-type cable.

The following sections identify the route evaluation criteria that were used to determine the preferred route and describe the alternative routes that were identified and evaluated.

3.3.1 Route Evaluation Criteria

The proposed transmission line route, the major route alternatives, and route variations were developed through field evaluations by Con Edison staff responsible for transmission line engineering and construction. Several specific criteria were used by Con Edison to identify the optimum route, including:

- Maintaining a direct route between the two substations;
- Minimizing the number of bends and therefore manholes along the route;
- Minimizing use of roadways within which existing high-voltage feeders are located;
- Minimizing the number of bridge crossings;
- Avoiding constructibility issues and the need for specialized construction methods (e.g. boring and jacking, horizontal directional drilling, etc.); and
- Minimizing longitudinal placement of the transmission line within major transportation corridors.

3.3.2 Major Route Alternatives

Con Edison staff identified and evaluated six major route alternatives in addition to the preferred route. These route alternatives are shown on Figure 3-1 at the end of this exhibit and are described below.

a. Alternative 1

From Sprain Brook Substation, this route proceeds east on Tuckahoe Road, south on Wainwright Avenue, east on Burbank Street, east on Arlington Street, south on Central Park Ave (Route 100) to the Major Deegan Service Road. The route continues south on the Major Deegan Service

Road to the City of Yonkers/Bronx boundary and continues south through Van Cortlandt Park to Jerome Avenue. Continuing south, the route follows Jerome Avenue to Bainbridge Avenue, south on Bainbridge Avenue to Van Cortlandt Avenue, west on Van Cortlandt Avenue to Mosholu Parkway, and south on Mosholu Parkway to Bainbridge Avenue. Proceeding south on Bainbridge Avenue, the alternative route continues to East 198th Street, west on East 198th Street to Creston Avenue, south on Creston Avenue to West 181st Street, west on West 181st Street to Martin Luther King, Jr. Boulevard, and south on Martin Luther King, Jr. Boulevard to West 179th Street. The route continues west on West 179th Street to Osborne Place, south on Osborne Place to West Burnside Avenue, west on West Burnside Avenue to Sedgwick Avenue, south on Sedgwick Avenue to Cedar Street, then north on Cedar Street to Roberto Clemente State Park. This alternative would use a spare 12-inch pipe to cross the Harlem River to the new Academy Substation.

This route alternative was not considered preferable for the following considerations:

- Existing transmission feeders are located along the Major Deegan Expressway, which limits the location of the proposed M29 feeder to the service road on the opposite side;
- Jerome Avenue, between Van Cortlandt Park and Woodlawn Cemetery, is very congested with existing feeders;
- Boring would be required to cross the New York State Thruway and Metro North railroad tracks for access to Roberto Clemente Park;
- Con Edison requires that the spare 12-inch steel pipe through Roberto Clemente Park be maintained as a spare for other existing feeders; and
- Roadways between Jerome Avenue and the spare 12-inch pipe are very narrow, making construction difficult.

b. Alternative 2

From the Sprain Brook Substation, this alternative route proceeds west on Tuckahoe Road to Mile Square Road, south on Mile Square Road to Lockwood Avenue, and west on Lockwood Avenue to Saw Mill River Road (Route 9A). The route continues south on Saw Mill River Road, which turns into Walnut Street. The route continues south on Walnut Street to Van Cortlandt Park Avenue, south to Lawrence Street, west on Lawrence Street to Leighton Avenue, and south on Leighton Avenue. The route then crosses from Yonkers to the Bronx on Leighton Avenue, continues to West 261st Street, west on West 261st Street to Fieldston Road, south on Fieldston Road to West 250th Street, and east on West 250th Street to Waldo Avenue. The route continues

from Waldo Avenue east on West 240th Street to Van Cortlandt Park South to Bailey Avenue, south on Bailey Avenue to Sedgwick Avenue, south on Sedgwick Avenue to West Fordham Road, west on West Fordham Road to Cedar Street, and south on Cedar Street to Roberto Clemente Park. This alternative would also use the spare 12-inch pipe to cross the Harlem River to the new Academy Substation.

This route alternative was not preferred for the following considerations:

- The route includes a one-lane bridge at the top of a hill on Mile Square Road. The bridge crosses a small ravine, has a shallow roadway, and a four-inch gas line is mounted on the side of the bridge;
- Mile Square Road is narrow and curvy with large elevation change between Tuckahoe Road (160 feet) and the top of the hill (260 feet);
- Boring would be required to cross the New York State Thruway and Metro North railroad tracks for access to Roberto Clemente Park; and
- Con Edison requires that the spare 12-inch steel pipe through Roberto Clemente Park be maintained as a spare for other existing feeders.

c. Alternative 3

From the Sprain Brook Substation, this alternative route proceeds west on Tuckahoe Road to Mile Square Road, south on Mile Square Road to Lockwood Avenue, and west on Lockwood Avenue to Saw Mill River Road (Route 9A). The route continues south on Saw Mill River Road, which turns into Walnut Street. The route then continues south on Walnut Street to Van Cortlandt Park Avenue, south to Caryl Avenue, and west on Caryl Avenue to Broadway (U.S. Route 9). The route turns south on Broadway, crosses from Yonkers to the Bronx, and continues through the Bronx on Broadway to a retired feeder easement. The route crosses the Harlem River within an existing ten-foot wide retired feeder easement to New York-Presbyterian Hospital property in Manhattan. From the boring location exit point, the route continues south on Ninth Avenue to West 218th Street, west on West 218th Street to Broadway, south on Broadway to West 204th Street, east on West 204th Street to Tenth Avenue, and finally south on Tenth Avenue to the new Academy Substation.

This route alternative was not preferred for the following considerations:

- The route includes a one-lane bridge at the top of a hill on Mile Square Road. The bridge crosses a small ravine, has a shallow roadway, and a four-inch gas line is mounted on the side of the bridge;
- Mile Square Road is narrow and curvy with large elevation change between Tuckahoe Road (160 feet) and the top of the hill (260 feet);
- In the Bronx, Broadway has elevated train tracks with only a parking lane to the east and west of the elevated structure. Clearance under the elevated tracks is approximately ten feet;
- Installing manholes adjacent to the elevated tracks would be difficult, and placement of cable tub for cable installation would be difficult; and
- A consultant's study concluded that a horizontal directional drill ("HDD") crossing of the Harlem River using the retired feeder easement is not feasible.

d. Alternative 4

From the Sprain Brook Substation, this alternative route proceeds west on Tuckahoe Road and south on Saw Mill River Road to Old Nepperhan Avenue, proceeds west on Old Nepperhan Avenue to Nepperhan Avenue, south on Nepperhan Avenue to New Main Street, and south on New Main Street to the Broadway (U.S. Route 9) merge. The route continues south on Broadway (U.S. Route 9), crosses from Yonkers to the Bronx, and continues through the Bronx on Broadway to West 238th Street. The route then turns briefly west on West 238th Street to Kingsbridge Avenue, continues south on Kingsbridge Avenue to West 230th Street, turns briefly east on West 230th Street, and continues south on Exterior Street. The route alternative proceeds south across West 225th Street and continues parallel to the train tracks through the access ramp of Kingsbridge Associates property to the back area adjacent to the Metro North railroad tracks. This route crosses the Harlem River within an existing ten-foot wide retired feeder easement to New York-Presbyterian Hospital property in Manhattan. From the boring exit location, the route continues south on Ninth Avenue to West 218th Street, west on West 218th Street to Broadway, south on Broadway to West 204th Street, east on West 204th Street to Tenth Avenue, and finally south on Tenth Avenue to the new Academy Substation.

This route alternative was not preferred for the following considerations:

- In the Bronx between West 242nd Street and West 238th Street, Broadway has elevated train tracks with only a parking lane to the east and west of the elevated structure. Clearance under the elevated tracks is approximately ten feet;

- A new easement would be required parallel to the Metro North railroad tracks from Exterior Street to the river bulkhead; and
- A consultant’s study concluded that a horizontal directional drill (“HDD”) crossing of the Harlem River using the retired feeder easement is not feasible.

e. Alternative 5

From the Sprain Brook Substation, this alternative route proceeds west on Tuckahoe Road and south on Saw Mill River Road to Old Nepperhan Avenue, proceeds west on Old Nepperhan Avenue to Nepperhan Avenue, south on Nepperhan Avenue to New Main Street, and south on New Main Street to the Broadway (U.S. Route 9) merge. The route continues south on Broadway (U.S. Route 9), crosses from Yonkers to the Bronx, and continues through the Bronx on Broadway to West 238th Street. The route turns briefly west on West 238th Street to Kingsbridge Avenue, continues south on Kingsbridge Avenue to West 231st Street, east on West 231st Street to Godwin Terrace, south on Godwin Terrace to West 230th Street, east on West 230th Street and then south on Exterior Street. The route alternative then proceeds south across West 225th Street, and continues parallel to the train tracks through the access ramp of Kingsbridge Associates property to the back area adjacent to the Metro North railroad tracks. This route crosses the Harlem River within an existing ten-foot wide retired feeder easement to New York-Presbyterian Hospital property in Manhattan. From the boring exit location, the route continues south on Ninth Avenue to West 215th Street, west on West 215th Street to Tenth Avenue, then south on Tenth Avenue to the new Academy Substation.

This route alternative was not preferred for the following considerations:

- In the Bronx, between West 242nd Street and West 238th Street, Broadway has elevated train tracks with only a parking lane to the east and west of the elevated structure. Clearance under the elevated tracks is approximately ten feet;
- A new easement would be required parallel to the Metro North railroad tracks from Exterior Street to the river bulkhead; and
- A consultant’s study concluded that a horizontal directional drill (“HDD”) crossing of the Harlem River using the retired feeder easement is not feasible.

f. Alternative 6

From the Sprain Brook Substation, this alternative route proceeds west on Tuckahoe Road and south on Saw Mill River Road to Old Nepperhan Avenue, proceeds west on Old Nepperhan Avenue to Nepperhan Avenue, south on Nepperhan Avenue to Broadway (U.S. Route 9). The route continues south on Broadway (U.S. Route 9), crosses from Yonkers to the Bronx, and continues through the Bronx on Broadway to West 230th Street, east on West 230th Street and then south on Exterior Street. The route then proceeds south across West 225th Street, and continues parallel to the train tracks through the access ramp of Kingsbridge Associates property to the back area adjacent to the Metro North railroad tracks. This route crosses the Harlem River within an existing ten-foot wide retired feeder easement to New York-Presbyterian Hospital property in Manhattan. From the boring exit location, the route continues south on Ninth Avenue to West 215th Street, west on West 215th Street to Tenth Avenue, then south on Tenth Avenue to the new Academy Substation.

This alternative was not preferred for the following considerations:

- In the Bronx, Broadway has elevated train tracks with only a parking lane to the east and west of the elevated structure. Clearance under the elevated tracks is approximately ten feet;
- Installing manholes adjacent to the elevated tracks, and placement of cable tub for cable installation, would be difficult;
- A new easement would be required parallel to the Metro North railroad tracks from Exterior Street to the river bulkhead; and
- A consultant's study concluded that a horizontal directional drill ("HDD") crossing of the Harlem River using the retired feeder easement is not feasible.

g. Alternative 7

This alternative would use an abandoned railroad corridor beginning at the crossing of Tuckahoe Road, west of the NYS Thruway and continuing on a somewhat circuitous route south through Yonkers and into the Bronx. From Tuckahoe Road, the railroad corridor proceeds to the southeast generally parallel to and west of the NYS Thruway before turning southwest at the edge of the residential neighborhood of Bryn Mawr Park. The railroad corridor continues south along the eastern edge of the Dunwoodie County Golf Course, crosses Yonkers Avenue and the Cross County Parkway, and continues south parallel to and east of the Saw Mill River Parkway

within Tibbetts Brook County Park. The railroad corridor crosses the Yonkers-New York City line and enters Van Cortlandt Park. The railroad corridor traverses Van Cortlandt Park in a north-south orientation, continues south across Van Cortlandt Park South, and continues parallel to and west of the Major Deegan Expressway (Interstate 87). From this point this alternative could link with the preferred route or several of the other alternatives to continue across the Harlem River to the Academy Substation in upper Manhattan.

The abandoned railroad corridor that comprises the majority of this alternative route is part of the former Putnam Division of the New York Central Railroad. Passenger service along this rail corridor ceased in 1958, but freight service continued into the 1970's. The tracks in the Bronx were removed sometime in the late 1980's, and the tracks paralleling the Saw Mill River Parkway were removed in sections for use as a bike trail.

A variation of this alternative would follow the Old Croton Trail Way through Tibbetts Brook County Park, generally between the Cross County Parkway and the Yonkers-New York City line. The Old Croton Trail Way State Park is an approximately 26-mile linear trail that runs between Cortlandt and the Yonkers-New York City line. The NYS Office of Parks, Recreation and Historic Preservation manages the trail as a hiking and cycling trail. The Old Croton Aqueduct has been designated a National Historic Landmark.

This alternative and the associated variation were not preferred for the following considerations:

- Extensive new easements would be required to construct, operate and maintain the transmission line along this route;
- Construction and maintenance access would be difficult along many sections of this narrow, isolated corridor;
- Extensive vegetation clearing would be required where this corridor has overgrown;
- Security of the transmission line would be difficult to protect from inadvertent or intentional disruptions along this lengthy, unpaved and isolated corridor; and
- Potential adverse impacts to water resources and protected species could be significant in Van Cortlandt Park

3.3.3 *Alternative Harlem River Crossing Locations*

Con Edison staff identified and evaluated six major alternatives for crossing the Harlem River in addition to the selected crossing location. These alternatives are shown on Figure 3-2 of this exhibit and are described below:

- **Option 1A** – Initial design using the selected river crossing, with boring initiating in the Applebee’s parking lot on the Bronx side. Enter Manhattan on New York - Presbyterian Hospital property.
- **Option 1B** – Initial design using the best identified river crossing, with boring initiating in New York City Housing Authority Marble Hill Houses complex on the Bronx side. Route would cross under the parking lot access drive. Enter Manhattan on New York - Presbyterian Hospital property.
- **Option 2** – Follow Exterior Street to MTA property. Cross Harlem River at MTA property on the Bronx side. Enter Manhattan on New York - Presbyterian Hospital property.
- **Option 3** – Utilize existing cast iron gas main installed under the Harlem River. Use new boring under I-87 and MTA railroad on the Bronx side to meet up with gas main. Bore under train yard on Manhattan side. Deep shafts needed on both the Bronx and Manhattan sides of the crossing to tie into the existing gas main. In Manhattan, the gas main terminates in the train yard, complicating construction and access out of the yard.
- **Option 4** – Use new boring under I87 on the Bronx side at Landing Road. Enter Manhattan at West 208th Street.
- **Option 5A** – Use new boring under Harlem River on the Bronx side at Teumissin Place, entering Manhattan in Inwood Park. Follow park edge to West 204th Street and link with Option 1 route to new Academy Substation.
- **Option 5B** - Use new boring under Harlem River on the Bronx side at Teumissin Place, entering Manhattan in Inwood Park. Turn west on West 218th Street and link with Option 1 route to new Academy Substation.
- **Option 6** – Utilize existing pipe installed as a spare for a future feeder. (A consultant’s study concluded that a horizontal directional drill (“HDD”) crossing of the Harlem River using the retired feeder easement is not feasible.) Use new boring under I87 on the Bronx side.
- **Option 7** – Use a new tunnel for river crossing. On the north side of the Harlem River, a tunnel shaft would be located in a parking lot on the southeast corner of Broadway and W. 225th Street, on Kingsbridge Associates property. On the south side of the Harlem River, a tunnel shaft would be located between 9th Avenue and the Harlem River, on New York Presbyterian Hospital property. *Option 7 is the selected alternative.*

Based on consideration of several factors, including the **potential impacts associated with an HDD crossing of the Harlem River crossing**, required easements, constructibility, and cost, Con Edison has selected the Option 7 crossing option.

3.4 Expansion of Existing Rights-of-Way

The proposed M29 345 kV underground feeder would be installed almost entirely within public roadway rights-of-way, and no expansion of these existing rights-of-way would be needed to accommodate the proposed facility.

3.5 Alternate Methods to Fulfill Energy Requirements

As presented in Exhibit E-4, the proposed Project will enhance reliability of load supply into the upper Manhattan and Bronx load area served by Con Edison's electrical distribution system, which has seen rapid and significant load growth over the last few years. Con Edison considered alternates to the Project to fulfill energy requirements that would be met by the proposed M29 transmission line, including a "no-action" alternative, other electric transmission interconnections (i.e., system alternatives), and the feasibility of demand side management ("DSM") and distributed generation. Con Edison, in its recent electrical load projections, evaluated the contributions of DSM and distributed generation programs and determined that these programs would not be sufficient, either due to financial, permitting, timing, and/or siting concerns, to meet its electric transmission and distribution obligations. Further discussion of these alternate methods to fulfill energy requirements is provided in the following sections.

3.5.1 No-Action Alternative

The no-action alternative is not considered viable because Con Edison's most recent electrical load projections indicate that the potential exists for development of a near-term overload situation in the East 179th Street load area comprising upper Manhattan and portions of the Bronx (see Exhibit E-4). An overload in this area would, in turn, have the potential to negatively impact existing substations servicing portions of southern Westchester County and electric system reliability to Westchester County residents and businesses served by these substations. Moreover, significant new construction currently underway or planned will substantially increase electric demand and further strain existing electrical supply transmission and distribution facilities. Selecting the no-action alternative would not satisfactorily address the increasing

electrical demands in upper Manhattan, the Bronx and Westchester County and Con Edison's ability and obligation to meet these demands.

3.5.2 System Alternatives

Alternative means of reinforcing the transmission and distribution system to reinforce the East 179th Street load area were evaluated before a determination was made to seek Commission approval of the Project. In addition to the no-action alternative, three other electric transmission reinforcements were considered:

- A new 345 kV tie from Sprain Brook Substation to Tremont Substation;
- A third 138 kV tie from Hell Gate Annex solid bus to East 179th Street; and
- A new regulated 138 kV tie between Astoria East and East 179th Street.

The Project is preferable to these system alternatives because the proposed 345 kV transmission line between the Sprain Brook Substation and the new Academy Substation is the only option that would provide multiple benefits. In addition to enhancing load supply to the East 179th Street load area, it also provides enhanced load supply to the Dunwoodie North/Sherman Creek load area as well as providing additional transfer capacity across the Sprain Brook/Dunwoodie Cable interface.

3.5.3 Demand Side Management

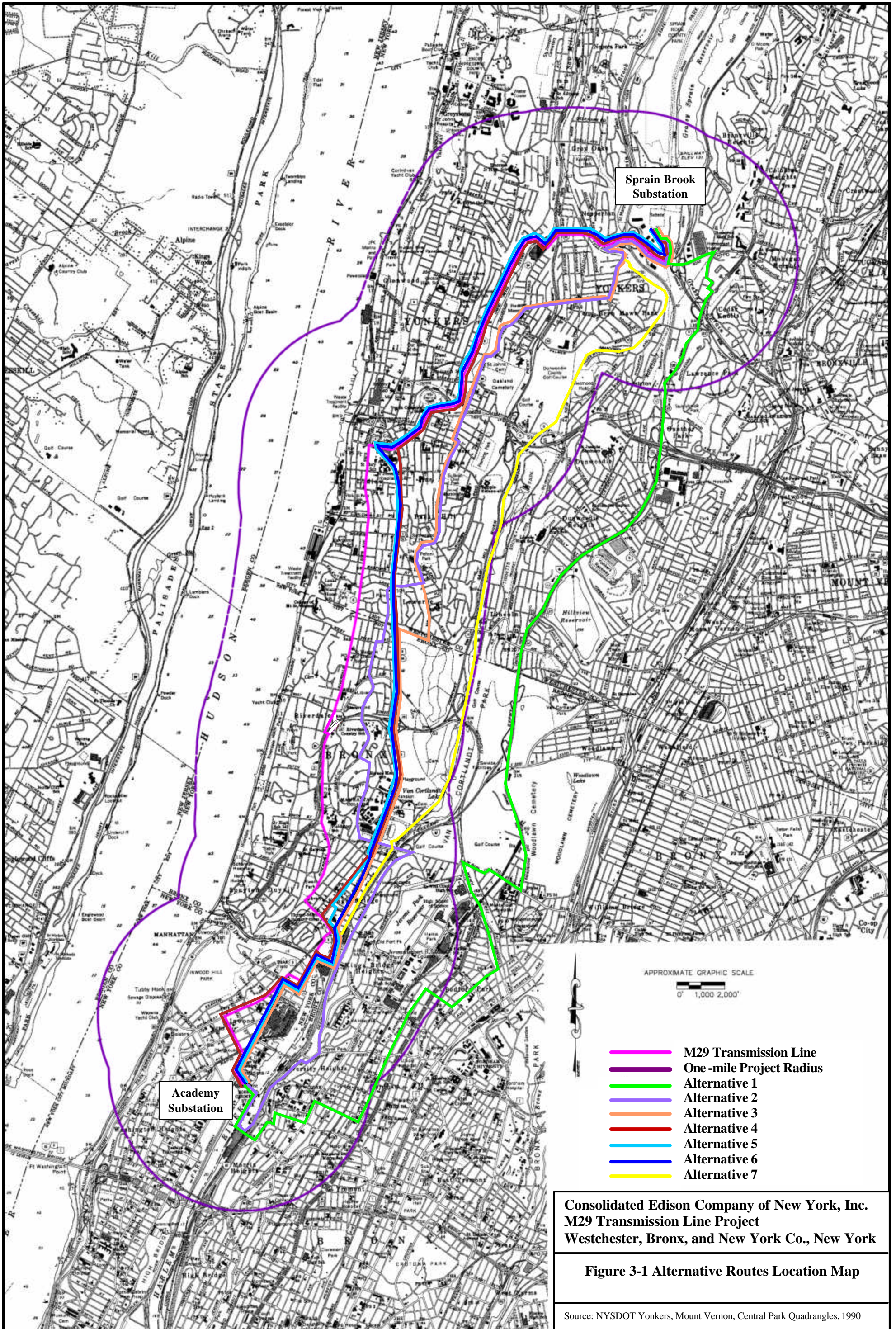
DSM is a component of Con Edison's current electric supply mix, as its current electric rate plan contains a DSM goal of 675 MW. Nevertheless, the increased electric demand in the Bronx and upper Manhattan, as described above and detailed in Exhibit E-4, necessitates the proposed transmission line and ancillary substation improvements. DSM may have the potential to defer the Project's need for the short-term, and it can also be a temporary solution during peak demand periods to a potential overload situation, but it will not eliminate the long-term need for this Project. The Project, however, is intended as a long-term solution in the public interest, needed by Con Edison to meet its obligations under the PSL to provide reliable and essential electric service to customers within its service territory.

3.5.4 Distributed Generation

Distributed generation ("DG") is also not considered a viable alternative to the Project. First, virtually all customers with DG require Con Edison to supply them with standby service, i.e., Con Edison must have the facilities to serve that customer's peak demand if the DG is not operating. Accordingly, Con Edison must design its system as if the DG was not operating and the DG was unavailable to meet peak system demand. DG therefore cannot address the need that would be met by the proposed M29 transmission line. Moreover, typical DG projects range from 2 to 10 MW. With the projected load growth and a potential overload of the Sherman Creek Substation, the East 179th Street load area would require several individual DG projects in the next ten years. Typically, these projects take approximately two years to license, design, finance and construct. Even assuming that sufficient hosts and suitable sites could be identified, DG alone is not a viable alternative to the Project considering the potential environmental impacts (i.e., construction, traffic, air quality and visual impacts) associated with the siting, construction, and operation of such a large number of small generating units in New York City.

This conclusion is supported by the NYSERDA report, *Combined Heat and Power Market Potential for New York State* (Final Report, October 2002). Combined Heat and Power (CHP – also known as cogeneration) is considered a form of DG, which also includes technologies that generate electricity only, such as fuel cells, emergency diesel generators, and photovoltaics. Although the NYSERDA report identifies statewide potential of nearly 8,500 MW for new CHP projects at 26,000 sites in New York, close to 74 percent of this potential is derived from plants below 5 MW, primarily at commercial and institutional facilities, which to date have seen low market penetration due to a combination of factors, including deficiencies in small CHP

technologies and systems, lack of adequate sales and service infrastructure, low familiarity of users and building owners, and a number of critical market and regulatory hurdles, such as stand-by charges and interconnection issues. The Base Case market penetration scenario presented in the NYSERDA report indicates that 764 MW of CHP is projected to be installed in New York State by 2012; with 70 percent of this capacity – approximately 535 MW – projected to be in downstate New York (consisting of the LIPA, Con Edison and Orange and Rockland service areas). The NYSERDA report does not provide a breakdown of this projected installed capacity into individual service areas or by county. A review of net remaining CHP potential in the Con Edison service area (see Tables A-7 and A-8 of the NYSERDA report) indicates a total of 85 commercial locations and seven industrial locations that could support CHP projects greater than 5 MW for a total of approximately 830 MW. A closer review of the data indicates that most of the potential sites (75 out of 92) consist of office buildings, colleges and universities, hotels/motels, and apartment buildings. Considering the general land uses and development density within the Project area versus the overall Con Edison service area, it is likely that only a small number of the potential CHP sites are located in proximity to the Project area. Accordingly, CHP alone will not satisfy the projected load growth that will be addressed by the Project.



Sprain Brook Substation

Academy Substation

- M29 Transmission Line
- One-mile Project Radius
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5
- Alternative 6
- Alternative 7

Consolidated Edison Company of New York, Inc.
 M29 Transmission Line Project
 Westchester, Bronx, and New York Co., New York

Figure 3-1 Alternative Routes Location Map

Source: NYSDOT Yonkers, Mount Vernon, Central Park Quadrangles, 1990

