

4.0 SERVICE CONNECTIONS

4.1 GENERAL

- 4.1.1 This section applies to each new service installation and to existing installations when changes and/or rearrangements are made. LIPA shall be notified before electrical work has begun. To avoid any misunderstanding, the applicant or contractor shall consult the Distribution Design Department and secure specifications before plans are completed or construction commenced.
- 4.1.2 Only one service drop or lateral will be made available to a customer's premises. Exceptions may be made where a customer requires services of different voltage characteristics, large service capacities or construction divided by a fire wall. Installation of more than one service to a building is subject to prior Distribution Design Department approval and the customer shall be responsible for all charges required for LIPA to perform the work.
- 4.1.3 The type of construction and route of service connection will be determined by Distribution Design Department in consultation with the customer.
- 4.1.4 Section 12 contains maps indicating certain areas which have been designated as Secondary Network Areas. In these areas, for all new service connections or changes to existing service connections, complete specifications should be requested from the Distribution Design Department before planning, estimating or starting any work.
- 4.1.5 LIPA services will not be run from building to building.
- 4.1.6 The minimum service entrance and service equipment acceptable by LIPA for a single meter service shall be single-phase, three-wire, 100 amperes. The minimum service entrance and service equipment acceptable by LIPA for a multi-meter service shall be single-phase, three-wire, 150 amperes. LIPA may permit a variance to this requirement for installations solely supplying loads for signs. All such variances must be requested by the customer in writing and approved by LIPA prior to installation.
- 4.1.7 LIPA will supply three-phase service when:
- A) Three-phase secondary is available at the pole (manhole) from which the service is to be taken, and the service has a single three-phase motor rated 3 HP or 25,000 BTU's/hr., or larger (*Commercial*) or 5 HP or 40,000 BTU's/hr. (*Residential*). Upon LIPA request, the customer shall provide a copy of the motor(s) specification. The customer must contact the appropriate ED&C office to determine if 120/208V or 120/240V service will be provided.
 - B) In the opinion of LIPA, three-phase service is desirable due to the size or characteristics of the load.
- 4.1.8 The customer shall furnish, install, own, and maintain all service entrance conductors, meter mounting equipment and service equipment.
- 4.1.9 If replacing service equipment without increasing service size, grounding must be provided as per NEC Article 250. An electrical inspection certificate from an approved Inspection Agency is also required.
- 4.1.10 LIPA will furnish, install, own and maintain adequate metering equipment to measure the energy and demand used in accordance with its tariffs.

- 4.1.11 The use of aluminum wiring may be restricted due to code or municipal ordinance. It is the contractor's and ultimately the property owner's responsibility to comply with such local ordinances.
- 4.1.12 Oxide inhibitor shall be used on all connections utilizing aluminum conductors.
- 4.1.13 All conductors and terminals in socket terminals and ground terminals of service switch or disconnecting means shall be cadmium plated bronze, cadmium plated copper, hot tin dipped copper or bimetallic connectors approved for connecting aluminum conductors to copper. Un-plated copper terminals or connectors will only be approved with copper conductors. At the point of connection of LIPA's wires to the customer's wires, all connectors used to connect aluminum to aluminum or aluminum to copper shall be of a material compatible for use with copper and aluminum and shall be compression type.

4.2 CHANGE OF SERVICE PROCEDURES

In recognition of the timing and coordination problems involved in the disconnect and reconnect of simple single phase residential overhead services, where modifications or upgrading of existing service entrances are involved, the procedure known as LIPA CONNECTS is to be used. The purpose of LIPA CONNECTS is to minimize the licensed electrical contractor's time and effort while affording them a measure of protection by authorization to handle specific LIPA facilities without fear of prosecution for tampering or diversion of current. It will also provide the LIPA with a control mechanism and minimize the estimating of unmetered consumption (Forms in front of book).

4.2.1 LIPA **CONNECTS** Procedure For Electrical Contractors.

- A) This procedure will be used by electrical contractors for the replacement and upgrading of all three (3) wire, single-phase, socket type meter, residential, overhead, electric services up to and including 200 amperes in size, including replacement of individual service entrance components. (i.e. *meter socket pan, distribution panel, or service entrance conductors*)
- B) LIPA Connects Procedure does not apply to **non-residential, multi-metered, three phase, underground (*existing or changing to*), services exceeding 200 amperes, new services or addition of meter(s).**
- C) The contractor is to provide LIPA with a completed LIPA Connects Form (Front of Book) and an electrical inspection agency temporary certificate. This information may be sent by mail, use of a facsimile machine or a visit to the appropriate office. (*See Division Map in front of book*)
- D) All authorized electrical contractors will receive an adequate supply of permanent connectors for use on LIPA Connects qualified change services in advance of starting work and will be re-supplied as required based on the volume of jobs reported to LIPA.
- E) The connectors that are provided by LIPA will be used by the contractor to make permanent conductor connections between the service drop and service entrance cable at the weather head. (See Drawing D9).
- F) The contractor shall leave the meter enclosure in a safe and secure condition including installing meter pan cover and re-setting meter or installing a clear plastic safety shield over the meter socket.
- G) Where it is necessary to parallel conductors when changing from a two to three-wire service, temporary connections may only be made at the service weather head.

H) The electrical contractor must notify the Distribution Design Department on the day work has been completed. The contractor must also provide the date the meter was removed and reset, as well as an approved inspection agency's certificate.

4.2.2 For the connection of all **commercial, three phase, underground, and residential change services that do not qualify for the LIPA Connects procedure**, the customer shall:

A) Provide LIPA the following information and documents prior to starting any electrical work: size of the proposed electric service, single or three phase, connected load, overhead or underground, electrical inspection certificate. This information shall be conveyed by utilizing the Job Notification Checklist located in the front of the Book.

4.3 OVERHEAD SERVICE CONNECTIONS

4.3.1 LIPA will install, own, and maintain the overhead service drop to supply service equipment. In those cases where the service drop exceeds one hundred feet (100'), the customer may be required to contribute towards the cost of the excess in accordance with LIPA's rate schedule. LIPA retains responsibility for the connection at the weather head.

4.3.2 For services up to 200 amps, where it is anticipated that the service drop will exceed 100 feet from pole to point of attachment, contact the Distribution Design Department for approval.

4.3.3 Mid-span service drops can be installed, but will require LIPA approval prior to construction and charges may apply.

4.3.4 Distribution Design reserves the right to designate the location at which its service drop will be attached to the customer's structure. This point of attachment (P.O.A.) will normally be not less than fifteen feet (15') or more than twenty-one feet (21') above final grade. Where the customer's building is too low to permit the installation of the service bracket or eye bolt at the minimum fifteen feet (15') above final grade, LIPA may, if municipal ordinances and field conditions permit, approve the attachment at a lower point, provided the minimum heights listed below for the lowest service drop conductor sag can be obtained, with the drop attached at normal height on LIPA's poles.

LOCATION OF CONDUCTORS	HEIGHT
Above public streets, alleys or roads, and over driveways other than to residential garages	18 feet
Above automobile parking lots, drive-in establishments and similar commercial areas	18 feet
Above driveways to residential garages not subject to commercial traffic	15 feet
Above spaces or walks accessible to pedestrians only: <i>(if more than 25 feet measured in any direction from swimming pool, swimming area or diving platform)</i>	
Conductors limited to 300 volts to ground	12 feet
Conductors exceeding 300 volts to ground	15 feet
<i>Attachments to chimneys are not allowed.</i>	

- 4.3.5 All service attachments must be directly accessible by a ladder in contact with the ground. Attachment height shall be no greater than 21 feet above grade. For commercial/industrial applications, where greater than 21 feet is required, contact the Distribution Design Department for approval.
- 4.3.6 On all overhead electric services, up to and including 320 amperes, the customer must, at his own expense, furnish and install a 1/2 inch steel eye-bolt with a 1 inch minimum inside diameter eye securely bolted with a backing plate and supported by a sound structural member of adequate strength to withstand safely the strain imposed by the service drop. In the event an eye-bolt cannot be used, a 1/2 inch screw eye-lag with a 1 inch minimum inside diameter eye and a minimum 2 1/2 inch thread length may be approved, if it can be shown the lag screw is supported by a sound structural member (*minimum of a 2 inch x 4 inch*). The eye bolt / lag shall be located at a point 6 inches minimum or 10 inches maximum below, and a maximum of 24 inches horizontally from, the weather head.
- 4.3.7 A mast type service may be utilized where the customer's structure is too low to provide a point of attachment that will assure the minimum service drop clearance required (see Drawing D4).
- 4.3.8 Due to wire size and weight, and other considerations, overhead services of 400 Amperes will be limited to pole lines on the "near side" of the road, or pole lines within 60 feet of the building. Therefore, it is important that the contractor contact Distribution Design before planning his work or commencing construction. Convenience service poles may be required.
- 4.3.9 For open wire service rated at 400 amperes or greater the customer's service head(s) shall be located above and within 10 inches of the point of attachment of LIPA's service drop. A minimum of 48 inches of slack shall be provided in each of the service entrance conductors, at the service head, for connection to the service drop (See Drawing D10).
- 4.3.10 A 600-ampere overhead open wire service may be approved on a case-by-case basis. Consult with Distribution Design on all such planned installations.
- 4.3.11 A maximum of three (3) weather heads will be permitted for connection to an overhead service drop. The maximum total ampacity is limited to 600 amperes.
- 4.3.12 PVC conduit used above grade must be schedule 80.

4.4 UNDERGROUND SERVICE CONNECTIONS

Underground installations by the customer, from his service equipment to his property line, must meet minimum requirements of LIPA, NEC and local municipal codes.

BEFORE YOU DIG

Call for a Mark-Out of Existing
UNDERGROUND FACILITIES
New York City and Long Island One Call Center

1-800-272-4480 or 811

One phone call will serve to notify utilities of your planned excavation in accordance with New York State law and Industrial Rule 753. This law requires excavators to notify the operators of underground facilities of their planned excavations two to ten days prior to starting work. Any person or contractor conducting excavation who has not called for a facilities mark out and damages LIPA facilities while excavating is financially liable for all costs of repair and other material damages.

4.5 UNDERGROUND CONDUITS – TYPES

Where it is required by the customer or applicant to install conduit, the following will apply:

- 4.5.1 Aluminum conduit will not be approved.
- 4.5.2 Flexible conduits will not be approved, only solid types.
- 4.5.3 Rigid metallic conduit (RMC) and rigid non-metallic conduit (RNC) (*Schedule 40 or 80 respectively, as required*), will be approved for below grade use when installed in accordance with the requirements of the latest issue of the National Electrical Code and local codes, including under highways and sidewalks unless prohibited by municipal ordinances.
- 4.5.4 The use of Electric Metallic Tubing (E.M.T.) or Intermediate Metallic Conduit (I.M.C.) will not be permitted for below grade installation.
- 4.5.5 Non-metallic conduit used above-grade must be Schedule 80.
- 4.5.6 Rigid non-metallic conduit (RNC) shall be clearly and permanently identified as to schedule and/or trademark and be installed so that that the markings can be easily seen.
- 4.5.7 All conduits shall be sized in accordance with the current edition of the National Electrical Code but in no case shall be less than 2 inches inside diameter.
- 4.5.8 For additional conduit requirements for 480Y/277 volt services, see section 6.

4.6 UNDERGROUND CONDUITS - INSTALLATION

- 4.6.1 In all Residential Underground Developments, all service laterals must be installed in a minimum two inch (2") metallic or non-metallic conduit. Multiple conduits may be necessary for larger services. (See Drawing D17)
- 4.6.2 All couplings or connections must be tight or cemented. The ends at the service conduit within the building and in the pull box nearest the building must be sealed with suitable compound (*compatible with the cable insulation*) to prevent the entrance of moisture or gases. The LIPA will not be liable for property damage resulting from the entry of moisture or gases due to inadequately sealed joints or ends of conduits.
- 4.6.3 Conduits for cables rated 600 volts and less shall be buried with a minimum cover of 24 inches and a maximum cover of 30 inches below final grade. Conduits containing service cables more than 600 volts and having a cover of less than 30 inches must be galvanized rigid metal (*Schedule 40 - UL approved*).
- 4.6.4 All conduit and/or direct buried runs in the public area must be at 90-degree angles (*to the curb and/or building*). Where unusual conditions exist, such as a long service run, abrupt changes of grade, sub-surface interference along the service path, or where more than two 45 degree bends are necessary, there may be additional requirements to facilitate initial or replacement of cable pulls.

4.7 CABLES - APPROVED TYPES 600V AND BELOW

- 4.7.1 A minimum of 3 conductors, of which all 3 must have a minimum voltage rating of 600 volts, shall be installed for all secondary underground service installations. Conductor sizes shall be in accordance with the requirements of the current edition of the NEC and

Municipal Codes, but shall have a minimum rating of 100 amperes. The neutral conductor must be insulated and clearly identified with white or gray tape at each end.

- 4.7.2 With the exception of Secondary Network Areas, only the following types of cable will be LIPA approved for 120/240 or 208Y/120 volt service and metering operation when properly installed in conduit. All insulation must be 90° C rated.

USE-2	XHHW-2
THW-2	RHW-2* * With neoprene or hypalon jacket only.
THWN-2	

See section 6.2 for 277/480v requirements

- 4.7.3 In secondary network areas, only copper type USE-2, or XHHW-2 cable will be approved for service and metering operation when installed in conduit. Aluminum cables in these areas will not be approved.
- 4.7.4 The applicant or customer may install direct buried conductors. Section 11 provides construction specifications and installation responsibilities. **DIRECT BURIAL OF 480Y/277 VOLT CABLES IS PROHIBITED.**
- 4.7.5 Service conductors approved for direct buried installation must be *USE-2* in accordance with the definition as stated in the latest edition of the NEC.
- 4.7.6 For direct buried installations, depth of earth cover shall not be less than 24 inches or as required in the latest edition of the NEC.
- 4.7.7 Except as noted in 4.7.3, either copper or aluminum conductors will be approved in the following sizes:
- #4 AWG (*Copper only*)
 - #2 AWG
 - #1/0 AWG
 - #2/0 AWG
 - #3/0 AWG
 - #4/0 AWG
 - #250 KCM
 - #350 KCM
 - #500 KCM
 - #750 KCM (*Only with Distribution Design Department Approval*)
- 4.7.8 On all poly-phase services, ALL conductors to the main switch must be of the same size and type. No downsizing of neutrals shall be allowed.
- 4.7.9 All underground electric service cables must be continuous and not spliced from LIPA's distribution system to the service equipment.
- 4.7.10 Cable ends must be sealed to prevent the entrance of moisture unless all splicing is completed immediately.
- 4.7.11 Maximum conductors permitted per phase, for connection to three phase pad mount and submersible transformer secondary terminals, shall be 8 conductors.
- 4.7.12 All connections to the pad-mounted transformer secondary terminals shall be made with a 2-hole "NEMA" compression terminal lug.

4.8 CABLES RATED ABOVE 600 VOLTS

4.8.1 All underground cable installations exceeding 600 volts shall have the following minimum cable specifications to meet LIPA requirements:

Each phase shall consist of a two-conductor #2 AWG copper or aluminum (minimum) 15kV shielded, tree-retardant cross-linked polyethylene insulation with an insulation thickness of 220 mils. Larger cable sizes may be installed with prior approval by Distribution Design. This cable must have a full concentric neutral of round or flatstrap copper wires applied spirally over insulation shield layer. The cable must also be jacketed with an extruded-to-fill encapsulating 50 mil LLDPE thermoplastic compound.

4.8.2 Only semi-conducting jacket material may be direct buried with other facilities (such as communications cables); cable with insulating jacket material must be installed in conduit on public highways and in the presence of direct buried communications facilities.

4.8.3 Detailed specifications for all cables and transformers above 600 V installation must be obtained from Distribution Design.

4.9 IDENTIFICATION OF CABLES

4.9.1 Primary cable shall, in all cases, be color coded with one or more parallel stripes for phase identification. Any contrasting color may be used except white or green.

- A ϕ = 1 Stripe
- B ϕ = 2 Stripes
- C ϕ = 3 Stripes

4.9.2 Secondary color coding of three phase conductors at the service connection and meter enclosure shall be marked as follows:

VOLTAGE	A ϕ	B ϕ	C ϕ
208Y/120	Blue	Black	Red
240/120 delta	Blue	Black	Orange
480Y/277	Brown	Orange	Yellow
216Y/125 (Network Areas)	Red	Blue	Black

4.9.3 All secondary neutral conductors shall be marked at the service connection and meter enclosure with white or gray tape.

4.9.4 When two or more units of a building are supplied from the same transformer, in accordance with Article 230-40 of the NEC (*latest edition*), the contractor shall label the service cables within the transformer enclosure or adjacent manhole to identify the unit supplied.

4.10 SERVICE END BOXES

4.10.1 Where LIPA's distribution system is underground and LIPA elects to provide cables to and within the building, a service end box will be required.

4.10.2 LIPA will make all connections in service end boxes mounted externally on the building. LIPA does not complete nor is it responsible for connections to be made when it runs cable into a service end box mounted inside a building.

- 4.10.3 Service end box size shall comply with all requirements of the NEC and shall be installed in accordance with the manufacturers requirements
- 4.10.4 All service end boxes must be installed in an accessible location. Areas such as crawl space, space under show window, etc., will not be considered accessible. The service end box must be mounted in a vertical rain-tight position when utilized outdoors.
- 4.10.5 If aluminum conductors are used within a service end box, lug type compression connectors or internally fired lugs are required and shall be of the two-bolt type.

4.11 UNDERGROUND SERVICE CONNECTION FROM OVERHEAD DISTRIBUTION

- 4.11.1 Where an underground secondary service is to be supplied from an overhead distribution line on the public highway or on an easement, Distribution Design Department will identify the pole to be used for the underground connection. It is the customer's responsibility to extend his cable across the roadway to LIPA pole lines on the opposite side of the street. In areas where both overhead and underground distribution facilities exist, LIPA must be consulted in order to designate a service point for the applicant.
- 4.11.2 When the underground service is installed in a conduit system a manhole or pullbox shall be installed, owned, and maintained by the customer. The pull box shall be located on the customer's property immediately adjacent to the property line or rear property LIPA easement line. See drawing D13 for pull box specifications.
- 4.11.3 The customer will furnish and install the necessary cable system between the meter location and the utility pole and provide sufficient cable for termination at LIPA's overhead conductors. Approved conduit will be required when cable runs under roadway/highways. Approved conduit and a sweep will be required when the utility pole is surrounded by concrete.
- 4.11.4 Where a LIPA manhole or pull box exists at the base of a pole or when LIPA elects to install a manhole or pull box at the base of the service pole, LIPA will furnish and install the conduit and cable between the box and the point of termination on the pole. The customer's installation shall terminate in LIPA's pull box or manhole.
- 4.11.5 All splicing in LIPA's pull box will be performed by LIPA.
- 4.11.6 Upon acceptance and energization of the service, LIPA will assume ownership of the cable systems between the base of the pole and the customer's property line. LIPA will, thereafter, own and maintain the portion of the service lateral between the distribution line and the customer's property line. The customer shall, thereafter, own and maintain the balance of the service lateral to the meter location.
- 4.11.7 For safety measures and to deter cable theft, the following installation is required by LIPA on all primary or secondary installations:

The customer/contractor shall coil and attach the service cable 15 feet above ground level, and install 10' of service U-guard over it. Existing overhead service shall not be tied in to the new underground service on the pole. It is of the utmost importance for the customer/contractor to consult with the Electric Design and Construction Department in advance on such planned installations. LIPA shall designate the pole quadrant for the U-guard and decide whether the pole is to be replaced prior to running cable. In all cases, Distribution Design Department will designate the riser pole location and equipment (see drawing D11).

Note: Under no circumstances should anyone remove existing overhead service drops and energize new underground service or connect overhead service drops to new underground service.

- 4.11.8 For an existing underground service lateral where the customer requires a change in service characteristic and/or service capacity, it is the customer's responsibility to install these facilities under the same requirements as a new service.
- 4.11.9 Charges, payable by the customer prior to construction, may be required for the remaining work performed by LIPA's construction crews to complete the secondary riser.

4.12 UNDERGROUND SERVICE CONNECTION FROM UNDERGROUND DISTRIBUTION

- 4.12.1 Where LIPA's distribution facilities are underground it will install, own and maintain, the necessary cable system from the designated underground distribution line which is part of its distribution system in the public highway to the applicant's point of service connection. In areas where both overhead and underground distribution facilities exist, LIPA must be consulted in order to designate a service point for the applicant. The applicant will install, own, and maintain at his own expense the required service lateral from this point to his service equipment. LIPA does not extend underground electric facilities onto private property, except under certain circumstances, in designated Residential Underground Distribution (RUD) areas and Commercial / Industrial Primary Underground Distribution (CIPUD) areas.
- 4.12.2 Where the point of entrance through the building wall is within 10 feet of the property line and there is difficulty in providing a suitable location for a pull box, LIPA may elect to waive the installation of the property line pull box and install, own, and maintain the service conduit to the street property line. The applicant must then provide an opening in the building wall and install conduit, matching LIPA's conduit in number, size, and specifications, from the street property line to the interior of the building. The customer/contractor shall install the proper service end box and main switch just inside the building wall.
- 4.12.3 Where the building wall borders upon the street property line, the applicant must extend his conduit a minimum of 6 inches outside the building wall along with a service end box or switch. Metal conduit must be properly bonded. LIPA will furnish, own and maintain the service cables from the street to the service end box and the applicant will furnish, own and maintain the remaining cables necessary to complete the installation from the service end box to his service equipment.

4.13 UNDERGROUND EXTENSIONS FOR NEW RESIDENTIAL SUB-DIVISIONS

- 4.13.1 Extensions of electric distribution lines necessary to furnish permanent electric service to new residential buildings within a sub-division on which it is planned to construct five (5) or more such buildings or to new multiple occupancy residential buildings of four (4) or more family units on the same parcel, shall be made underground by LIPA. Exceptions to these requirements are listed in LIPA's Tariff for Electric Service.
- 4.13.2 Service laterals may be installed:
 - A) By the applicant, in accordance with Section 11. When energized, LIPA will own and maintain the service lateral if requested by the property owner in writing to LIPA before installation and the service conductors are installed in accordance with LIPA specifications. It is the property owner's responsibility to obtain any site-specific LIPA specifications for the service lateral installation. LIPA may not assume ownership of the service lateral if it is not installed in accordance with the proper LIPA specifications. There will be no reimbursement by LIPA to the applicant.
 - B) By LIPA in accordance with its filed tariff. Services greater than 400 amperes must be installed and owned by the customer.

C) In either case above, LIPA reserves the right to determine the points of connection of the service lateral to LIPA's facilities and to the termination on the building.

4.13.3 To avoid any misunderstanding, the applicant or contractor shall consult the Distribution Design Department and secure specifications before plans are completed or construction commenced.

4.14 UNDERGROUND EXTENSIONS FOR NEW COMMERCIAL-INDUSTRIAL DEVELOPMENTS OR SHOPPING CENTERS

4.14.1 Extensions of electric distribution lines necessary to furnish permanent electric service to new buildings within a proposed Commercial-Industrial Development or Shopping Center may be installed underground at the option of LIPA.

4.14.2 Where all primary facilities are to be established by LIPA on a secured easement, obtained from the developer, LIPA will provide, install, own and maintain the necessary distribution lines to a pad mount type transformer (*location to be determined by Distribution Design Department*) and in addition, prepare all primary terminations. It will be the applicant's responsibility to install, own and maintain, at his expense, the concrete transformer pad, and in addition, the service lateral and its components from this point to his service equipment.

4.14.3 To avoid any misunderstanding, the applicant or contractor shall consult the Distribution Design Department and secure specifications before plans are completed or construction commenced.

4.15 UNDERGROUND SERVICE IN ZONED NETWORK AREAS

4.15.1 In those areas which are zoned as Secondary Network Areas, underground services will be required. Refer to the maps in Section 12 to ascertain whether a particular work location falls into a Zoned Network Area.

4.15.2 Where LIPA's distribution facilities are in a zoned network area, it will install, own and maintain, at its own expense, the necessary cable system from the underground distribution line which is part of its distribution system in the public highway to the applicant's point of service connection.

The applicant will install, own and maintain at his own expense the required service lateral from this point to his service equipment. The customer shall be responsible for collector buss construction as required. Under certain circumstances a service end box must be provided by the customer, see section 4.12.2 for details.

4.15.3 All new or upgraded services in a zoned Network area shall require a single main switch before the metering equipment.

4.15.4 In secondary network areas, only copper type USE-2, or XHHW-2 cable will be approved. Aluminum cables will not be approved.

4.15.5 In Secondary Network Areas service cable must be installed in conduit, direct burial of cable in zoned network areas is prohibited.

- 4.15.6 In Secondary Network Areas, whenever the size of a 216Y/125 load requires two or more sets of conductors installed in separate pipes or conduits to supply a common bus, the customer must install suitable limiters as specified by LIPA. (See table below)

Limiter Assemblies		
Manufacturer	Cable to Lug Limiter Assembly	Cable to Cable Limiter Assembly
Burndy	YFA-CR	YFS-CR
Richards	CLLA	CCLA
Dossert	LLA-2R123	NRLA-R123

Note: In the event the use of a limiter assembly other than the above listed, LIPA approval will be required. Catalog cuts must be provided for approval review.

4.16 PRIMARY UNDERGROUND SERVICE FROM OVERHEAD LINES

- 4.16.1 Where underground primary service is to be supplied from an overhead distribution line, LIPA may require the customer to install a manhole at his street property line or LIPA's easement line.
- 4.16.2 It is the customer's responsibility to extend his cable and conduit across the roadway to pole lines on the opposite side of the street.
- 4.16.3 Upon acceptance and energization of the service, LIPA will assume ownership of the cable systems between the base of the pole and the customer's property line. LIPA will thereafter own and maintain the portion of the cable system between the distribution line and the customer's property line, or property line manhole, and the customer shall thereafter own and maintain the balance of the cable system to its terminus on his property.

4.17 PRIMARY UNDERGROUND SERVICE FROM UNDERGROUND LINES

- 4.17.1 Where LIPA's primary distribution facilities are underground, it will install, own, and maintain the necessary cable system to the applicant's property line or point of service connection.
- 4.17.2 Distribution Design will specify customer manhole requirements. Where LIPA elects to waive the requirement of the manhole and to install, own and maintain at its own expense the cable system to the point of service connection, such point of connection shall be the customer installed transformer pad, vault, or enclosure. Connections at this point, which are not part of LIPA's distribution system, are to be made by the applicant's contractor and LIPA will handle all connections in the street.

4.18 TRANSFORMER INSTALLATIONS

All existing transformer vaults constructed in the past on customer property, owned and maintained by the customer, including but not limited to transformer vault enclosures located in basements, within the building and on-grade, outside of the building on or below grade, and all fenced enclosures, are a construction practice discontinued by LIPA. Therefore, any premises having these structures and upgrading electric service must abandon these vault enclosures and construct to LIPA's current transformer specifications, which are pad mounted transformers, on grade, outside of the building, and accessible by truck.

- 4.18.1 The customer shall provide at their cost, an area suitable for the installation of a transformer or switchgear, should the service requirements dictate such equipment.
- 4.18.2 LIPA may require each applicant to furnish the necessary easement suitable and adequate in the judgement of LIPA, to permit the installation and maintenance of the service lateral, together with such additional facilities as it may require to serve the applicant.
- 4.18.3 LIPA must have the right of 24 hour unobstructed LIPA truck access to all locations in which its equipment is installed in order to assure the continuity of service and that the equipment is properly maintained and operated.
- 4.18.4 The choice of transformer installation arrangements will depend on specific conditions. The customer shall in all cases consult Distribution Design regarding the location, selection and details of the installation prior to finalizing work plans. See transformer specification package for additional details.

4.19 PRIMARY METERED SERVICE CONNECTIONS 4,160 OR 13,200 VOLTS

For detailed specifications regarding primary metered installations, contact your local Distribution Design office.